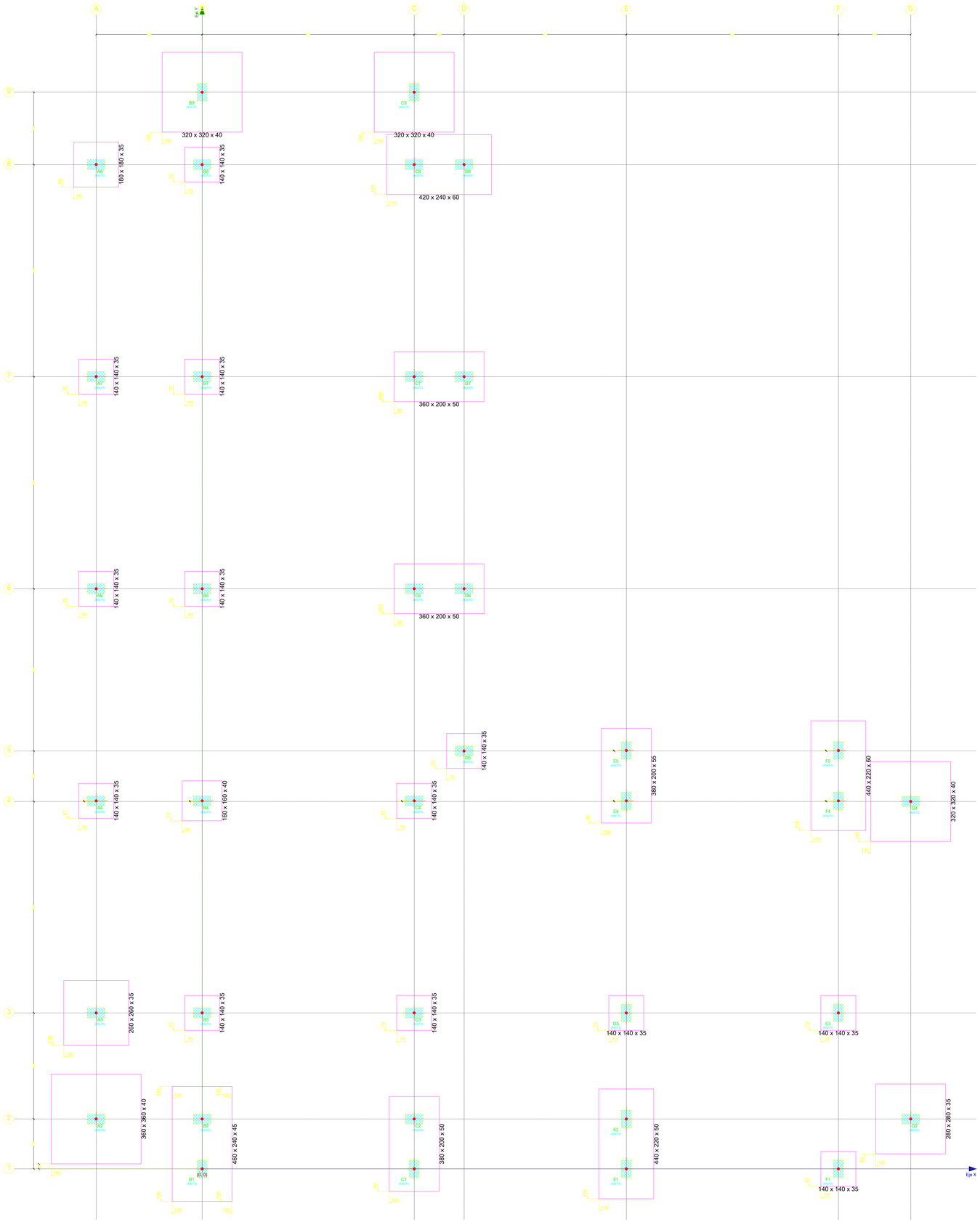
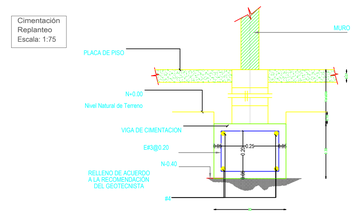



| Replanteo de pilares - Cimentación | | | | |
|---|---|---|---|---|
| Pilar | Dimensión (cm) | Coordenadas del centro | | Ángulo (grados) |
| | | Coordenada X (cm) | Coordenada Y (cm) | |
| A2 | 40x70 | -425 | 200 | 90.000 |
| A3 | 40x70 | -425 | 625 | 90.000 |
| A4 | 40x70 | -425 | 1475 | 90.000 |
| A6 | 40x70 | -425 | 2325 | 90.000 |
| A7 | 40x70 | -425 | 3175 | 90.000 |
| A8 | 40x70 | -425 | 4025 | 90.000 |
| B1 | 40x70 | 0 | 0 | 0.000 |
| B2 | 40x70 | 0 | 200 | 90.000 |
| B3 | 40x70 | 0 | 625 | 90.000 |
| B4 | 40x70 | 0 | 1475 | 90.000 |
| B6 | 40x70 | 0 | 2325 | 90.000 |
| B7 | 40x70 | 0 | 3175 | 90.000 |
| B8 | 40x70 | 0 | 4025 | 90.000 |
| B9 | 40x70 | 0 | 4315 | 0.000 |
| C1 | 40x70 | 850 | 0 | 0.000 |
| C2 | 40x70 | 850 | 200 | 90.000 |
| C3 | 40x70 | 850 | 625 | 90.000 |
| C4 | 40x70 | 850 | 1475 | 90.000 |
| C6 | 40x70 | 850 | 2325 | 90.000 |
| C7 | 40x70 | 850 | 3175 | 90.000 |
| C8 | 40x70 | 850 | 4025 | 90.000 |
| C9 | 40x70 | 850 | 4315 | 0.000 |
| D3 | 40x70 | 1700 | 625 | 0.000 |
| D5 | 40x70 | 1050 | 1675 | 90.000 |
| D6 | 40x70 | 1050 | 2325 | 90.000 |
| D7 | 40x70 | 1050 | 3175 | 90.000 |
| D8 | 40x70 | 1050 | 4025 | 90.000 |
| E1 | 40x70 | 1700 | 0 | 0.000 |
| E2 | 40x70 | 1700 | 200 | 0.000 |
| E3 | 40x70 | 2550 | 625 | 0.000 |
| E4 | 40x70 | 1700 | 1475 | 0.000 |
| E5 | 40x70 | 1700 | 1677 | 0.000 |
| F1 | 40x70 | 2550 | 0 | 0.000 |
| F4 | 40x70 | 2550 | 1475 | 0.000 |
| F5 | 40x70 | 2550 | 1677 | 0.000 |
| G2 | 40x70 | 2840 | 200 | 90.000 |
| G4 | 40x70 | 2840 | 1472 | 90.000 |
| Cota de arranque de los pilares: -3.00 m | | | | |

Cimentación
Replanteo
Escala: 1:75




CIMIENTO MUROS QUE NO COINCIDAN CON VIGAS DE ENLACE
ESCALA: SIN

GOBERNACIÓN DE
CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO


OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 COR



Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.


CONTIENE

BLOQUE COMEDOR N°1
PLANTA DE CIMENTACION

OBSERVACIONES

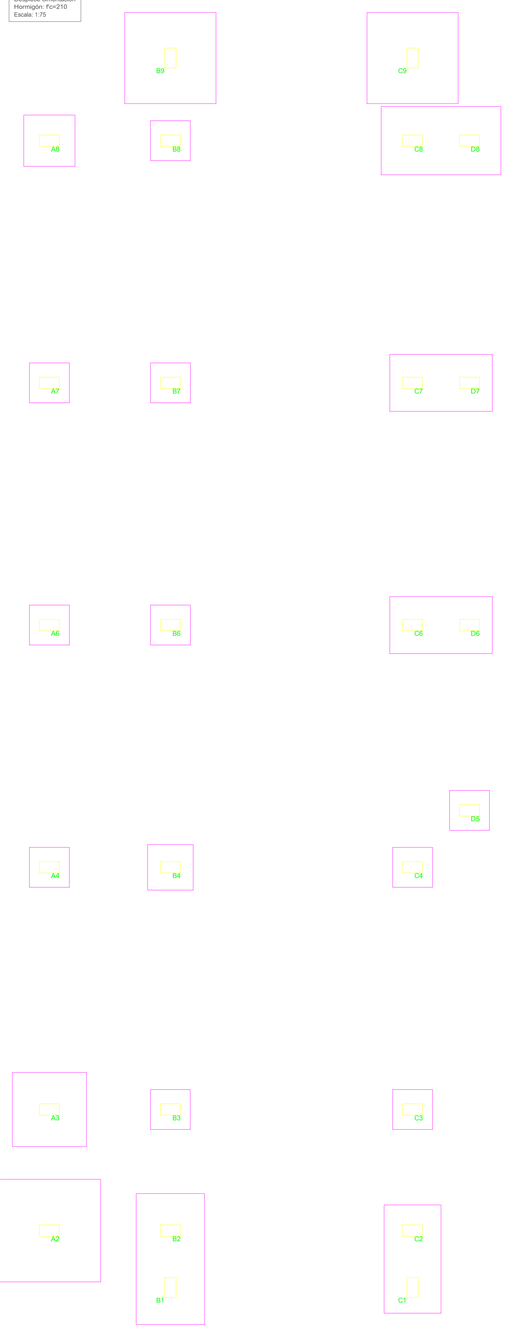
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

| FECHA | ESCALA |
|---|---|
| MARZO 2025 | INDICADA |

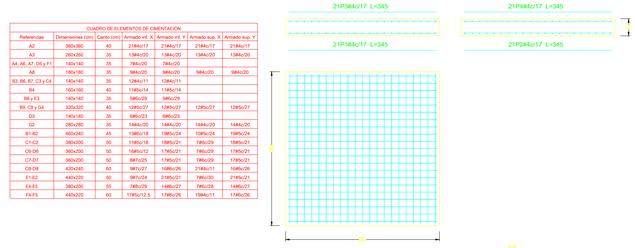
PLANO DE
1/20

Cimentación
Despiece cimentación
Hormigón: f'c=210
Escala: 1:75

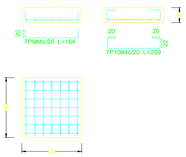



| CUADRO DE ELEMENTOS DE CIMENTACIÓN | | | | | | |
|---|---|---|---|---|---|---|
| Referencias | Dimensiones (cm) | Canto (cm) | Armado inf. X | Armado inf. Y | Armado sup. X | Armado sup. Y |
| A2 | 300x300 | 40 | 21#4c/17 | 21#4c/17 | 21#4c/17 | 21#4c/17 |
| A3 | 260x260 | 35 | 13#4c/20 | 13#4c/20 | 13#4c/20 | 13#4c/20 |
| A4, A6, A7, D5 y F1 | 140x140 | 35 | 7#4c/20 | 7#4c/20 | | |
| A8 | 180x180 | 35 | 9#4c/20 | 9#4c/20 | 9#4c/20 | 9#4c/20 |
| B3, B6, B7, C3 y C4 | 140x140 | 35 | 13#4y/11 | 13#4c/11 | | |
| B4 | 160x160 | 40 | 11#5c/14 | 11#5y/14 | | |
| B8 y E3 | 140x140 | 35 | 5#6c/29 | 5#6c/29 | | |
| B9, C9 y G4 | 320x320 | 40 | 13#5c/27 | 13#5c/27 | 12#5c/27 | 12#5c/27 |
| D3 | 140x140 | 35 | 6#6c/23 | 6#6c/23 | | |
| G2 | 280x280 | 35 | 14#4c/20 | 14#4c/20 | 14#4c/20 | 14#4c/20 |
| B1-B2 | 460x240 | 45 | 13#6c/18 | 10#5c/24 | 10#5c/24 | 19#5c/24 |
| C1-C2 | 380x200 | 50 | 11#5c/18 | 19#5c/21 | 7#5c/29 | 18#5c/21 |
| C6-D6 | 360x200 | 50 | 16#5c/12 | 17#5c/21 | 7#5c/29 | 17#5c/21 |
| C7-D7 | 360x200 | 50 | 8#7c/25 | 17#5c/21 | 7#5c/29 | 17#5c/21 |
| C8-D8 | 420x240 | 60 | 9#7c/27 | 19#6c/26 | 21#4c/11 | 16#6c/26 |
| E1-E2 | 440x220 | 50 | 9#7c/24 | 21#5c/21 | 7#5c/30 | 21#5c/21 |
| E4-E5 | 380x200 | 55 | 7#8c/29 | 14#6c/27 | 7#8c/28 | 14#6c/27 |
| F4-F5 | 440x220 | 60 | 17#5c/12.5 | 17#6c/26 | 19#4c/11 | 17#6c/26 |

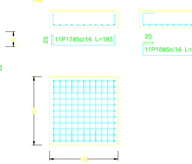
A2



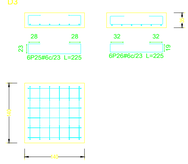

A4, A6, A7, D5 y F1




B4

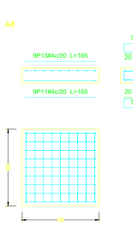



D3

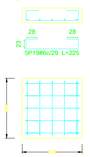



| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 40 (kg) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| A2 | 1 | #4 | 21 | 345 | 7245 | | 72.1 |
| | 2 | #4 | 21 | 345 | 7245 | | 72.1 |
| | 3 | #4 | 21 | 345 | 7245 | | 72.1 |
| | 4 | #4 | 21 | 345 | 7245 | | 72.1 |
| | | | | | Total | | 288.4 |
| A3 | 5 | #4 | 13 | 245 | 3185 | | 31.7 |
| | 6 | #4 | 13 | 245 | 3185 | | 31.7 |
| | 7 | #4 | 13 | 245 | 3185 | | 31.7 |
| | 8 | #4 | 13 | 245 | 3185 | | 31.7 |
| | | | | | Total | | 126.8 |
| A4=A6=A7=D5=F1 | 9 | #4 | 7 | 164 | 1148 | | 11.4 |
| | 10 | #4 | 7 | 209 | 1463 | | 14.6 |
| | | | | | Total | | 26.0 |
| | | | | | (x2) | | 130.0 |
| A8 | 11 | #4 | 9 | 165 | 2156 | | 21.5 |
| | 12 | #4 | 9 | 244 | 2156 | | 21.5 |
| | 13 | #4 | 9 | 165 | 1485 | | 14.8 |
| | 14 | #4 | 9 | 244 | 2156 | | 21.5 |
| | | | | | Total | | 73.2 |
| B3=B6=B7=C3=C4 | 15 | #4 | 12 | 164 | 1968 | | 19.6 |
| | 16 | #4 | 12 | 209 | 2508 | | 24.9 |
| | | | | | Total | | 44.5 |
| | | | | | (x3) | | 133.5 |
| B4 | 17 | #5 | 11 | 193 | 2123 | | 33.0 |
| | 18 | #5 | 11 | 247 | 2717 | | 42.2 |
| | | | | | Total | | 75.2 |
| B8=E3 | 19 | #6 | 5 | 225 | 1125 | | 25.2 |
| | 20 | #6 | 5 | 225 | 1125 | | 25.2 |
| | | | | | Total | | 50.4 |
| | | | | | (x2) | | 100.8 |
| B9=C9=G4 | 21 | #5 | 12 | 305 | 3660 | | 56.9 |
| | 22 | #5 | 12 | 305 | 3660 | | 56.9 |
| | 23 | #5 | 12 | 305 | 3660 | | 56.9 |
| | 24 | #5 | 12 | 305 | 3660 | | 56.9 |
| | | | | | Total | | 227.6 |
| | | | | | (x2) | | 455.8 |
| B1-B2 | 25 | #5 | 6 | 225 | 1350 | | 30.2 |
| | 26 | #5 | 6 | 225 | 1350 | | 30.2 |
| | | | | | Total | | 60.4 |
| | 27 | #4 | 14 | 265 | 3710 | | 36.9 |
| | 28 | #4 | 14 | 265 | 3710 | | 36.9 |
| | 29 | #4 | 14 | 265 | 3710 | | 36.9 |
| | 30 | #4 | 14 | 265 | 3710 | | 36.9 |
| | | | | | Total | | 147.6 |
| | 31 | #5 | 10 | 330 | 7260 | | 162.9 |
| | 32 | #5 | 10 | 330 | 6270 | | 97.4 |
| | 33 | #5 | 19 | 330 | 6270 | | 97.4 |
| | 34 | #5 | 19 | 330 | 6270 | | 97.4 |
| | | | | | Total | | 443.1 |
| C1-C2 | 35 | #5 | 11 | 428 | 4708 | | 73.1 |
| | 36 | #5 | 18 | 243 | 4374 | | 68.0 |
| | 37 | #5 | 18 | 243 | 4374 | | 68.0 |
| | 38 | #5 | 18 | 243 | 4374 | | 68.0 |
| | | | | | Total | | 277.1 |
| C6-D6 | 39 | #5 | 16 | 403 | 6448 | | 100.3 |
| | 40 | #5 | 17 | 185 | 3145 | | 48.9 |
| | 41 | #6 | 7 | 403 | 2821 | | 63.1 |
| | 42 | #5 | 17 | 185 | 3145 | | 48.9 |
| | | | | | Total | | 261.1 |
| C7-D7 | 43 | #7 | 8 | 480 | 3840 | | 116.9 |
| | 44 | #6 | 7 | 403 | 2821 | | 63.1 |
| | 45 | #6 | 7 | 403 | 2821 | | 63.1 |
| | 46 | #5 | 17 | 185 | 3145 | | 48.9 |
| | | | | | Total | | 292.4 |
| C8-D8 | 47 | #7 | 9 | 475 | 4275 | | 130.2 |
| | 48 | #6 | 10 | 225 | 3602 | | 80.5 |
| | 49 | #6 | 10 | 225 | 3602 | | 80.5 |
| | 50 | #6 | 10 | 225 | 3602 | | 80.5 |
| | | | | | Total | | 368.1 |
| E1-E2 | 51 | #7 | 9 | 560 | 5040 | | 153.5 |
| | 52 | #5 | 21 | 205 | 4305 | | 66.9 |
| | 53 | #5 | 7 | 486 | 3402 | | 76.1 |
| | 54 | #5 | 21 | 205 | 4305 | | 66.9 |
| | | | | | Total | | 363.4 |
| E4-E5 | 55 | #8 | 7 | 518 | 3626 | | 127.6 |
| | 56 | #6 | 14 | 243 | 3402 | | 76.1 |
| | 57 | #6 | 7 | 423 | 2961 | | 66.2 |
| | 58 | #6 | 14 | 243 | 3402 | | 76.1 |
| | | | | | Total | | 342.6 |
| F4-F5 | 59 | #5 | 17 | 483 | 8211 | | 127.6 |
| | 60 | #6 | 10 | 205 | 3485 | | 78.0 |
| | 61 | #6 | 17 | 205 | 3485 | | 78.0 |
| | 62 | #6 | 17 | 205 | 3485 | | 78.0 |
| | | | | | Total | | 370.1 |
| | | | | #4 | 0.0 | | 1176.9 |
| | | | | #5 | 0.0 | | 1817.1 |
| | | | | #6 | 0.0 | | 1408.6 |
| | | | | #7 | 0.0 | | 408.6 |
| | | | | #8 | 0.0 | | 144.2 |
| | | | | Total | 0.0 | | 4977.3 |

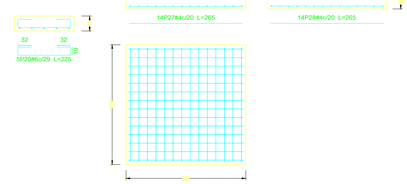
A8




B8 y E3

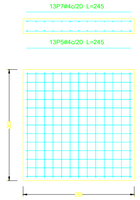



G2

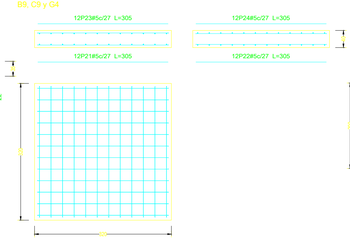



Posición
Unidades en cm
Cant. B8
Cant. G2
Posición B8
Cantidad
40 cm
80 cm
120 cm
225 R.S.

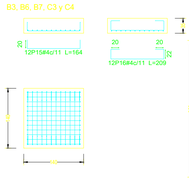
A3



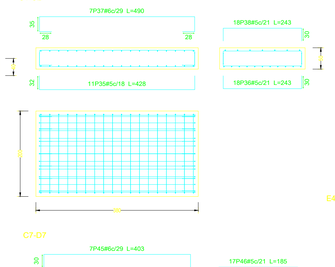

B9, C9 y G4



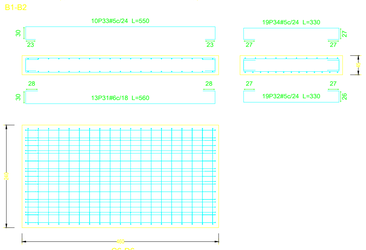

B3, B6, B7, C3 y C4



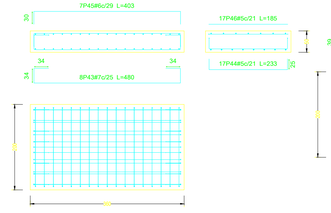

C1-C2



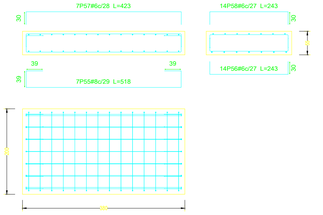

B1-B2



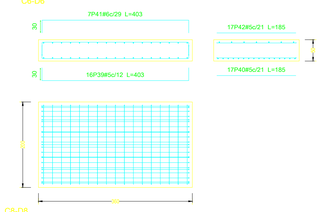

C7-D7



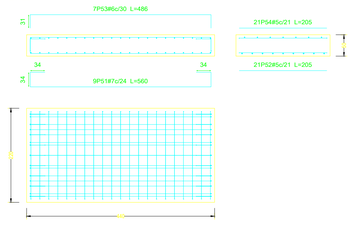

E4-E5



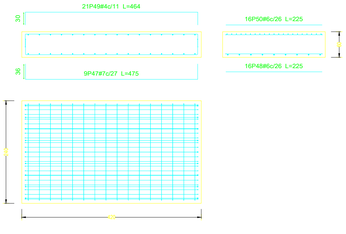

C6-D6



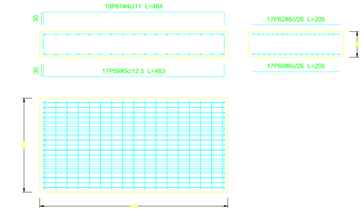

E1-E2




C8-D8




F4-F5




GOBERNACIÓN DE
CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221686 COR

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CONTIENE

BLOQUE COMEDOR N°1
DESPIECE DE ZAPATAS

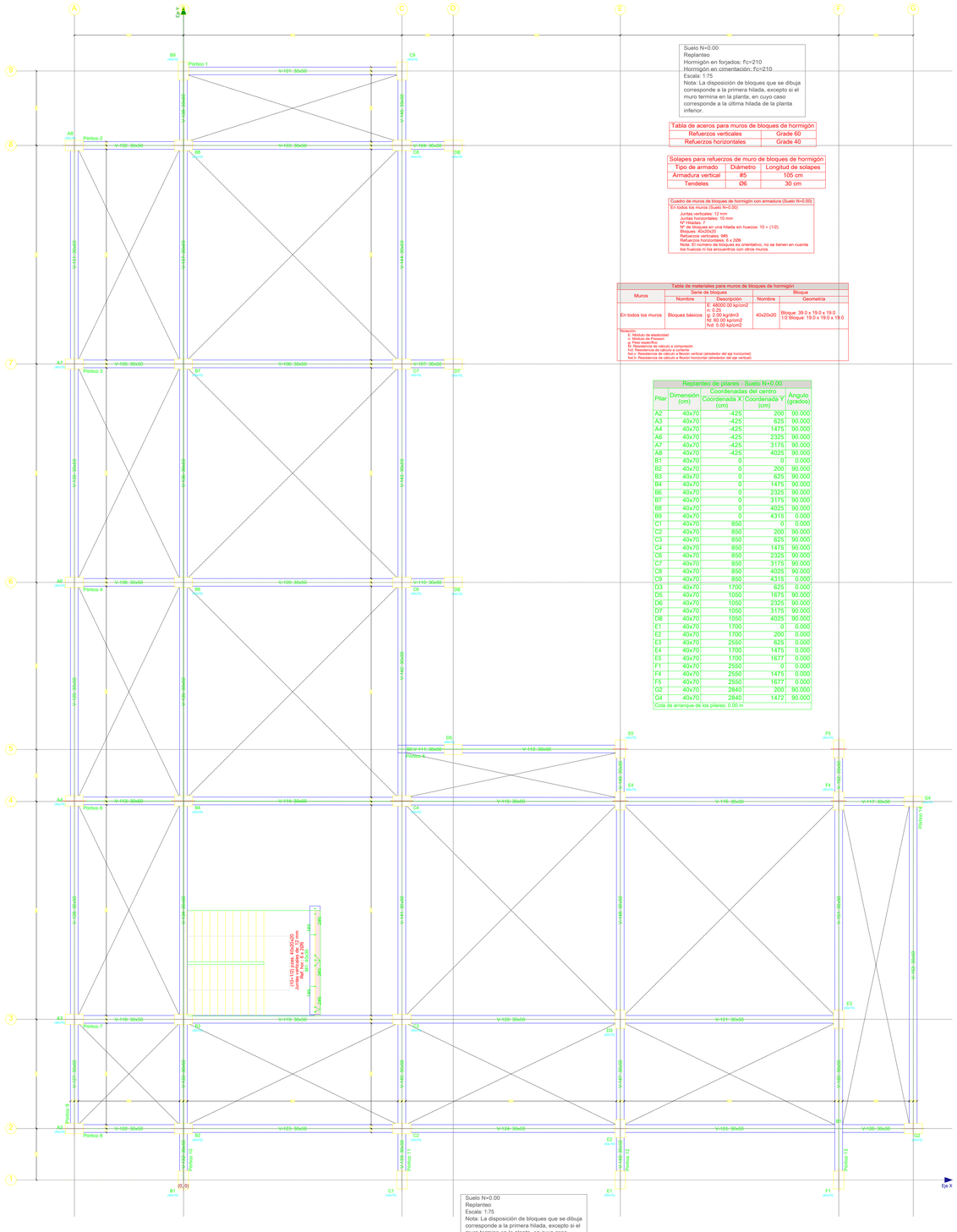
OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
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NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
2/20




Suelo N+0.00
Replanteo
Hormigón en forjados: f'c=210
Hormigón en cimentación: f'c=210
Escala: 1:75
Nota: La disposición de bloques que se dibuja corresponde a la primera hilada, excepto si el muro termina en la planta, en cuyo caso corresponde a la última hilada de la planta inferior.

| Tabla de aceros para muros de bloques de hormigón | |
|---|---|
| Refuerzos verticales | Grade 60 |
| Refuerzos horizontales | Grade 40 |

| Solapes para refuerzos de muro de bloques de hormigón | | |
|---|---|---|
| Tipo de armado | Diámetro | Longitud de solapes |
| Armadura vertical | #5 | 105 cm |
| Tendeles | Ø6 | 30 cm |

Cuadro de muros de bloques de hormigón con armadura (Suelo N+0.00)
En todos los muros (Suelo N+0.00):
- Juntas verticales: 12 mm
- Juntas horizontales: 10 mm
- Bloque: 40x20x20
- N° de bloques en una hilada sin huecos: 10 = (1/2)
- Bloques: 40x20x20
- Refuerzos verticales: 9#5
- Refuerzos horizontales: 6 x 2@6
- Nota: La disposición de bloques es orientativo, no se tienen en cuenta los huecos ni los encuentros con otros muros.

| Tabla de materiales para muros de bloques de hormigón | | | | |
|---|---|---|---|---|
| Muros | Serie de bloques | | Bloque | |
| | Nombre | Descripción | Nombre | Geometría |
| En todos los muros | Bloques básicos | E: 68000.00 kp/cm2<br>u: 0.20<br>g: 2.00 kg/dm3<br>fb: 60.00 kp/cm2<br>fvd: 5.00 kp/cm2 | 40x20x20 | Bloque: 39.0 x 19.0 x 19.0<br>1/2 Bloque: 19.0 x 19.0 x 19.0 |

Notación:
E: Módulo de elasticidad
u: Módulo de Poisson
g: Peso específico
fb: Resistencia de cálculo a compresión
fvd: Resistencia de cálculo a cortante
fvd,v: Resistencia de cálculo a flexión vertical (alrededor del eje horizontal)
fvd,h: Resistencia de cálculo a flexión horizontal (alrededor del eje vertical)

| Replanteo de pilares - Suelo N+0.00 | | | | |
|---|---|---|---|---|
| Pilar | Dimensión (cm) | Coordenadas del centro | | Ángulo (grados) |
| | | Coordenada X (cm) | Coordenada Y (cm) | |
| A2 | 40x70 | -425 | 200 | 90.000 |
| A3 | 40x70 | -425 | 625 | 90.000 |
| A4 | 40x70 | -425 | 1475 | 90.000 |
| A6 | 40x70 | -425 | 2325 | 90.000 |
| A7 | 40x70 | -425 | 3175 | 90.000 |
| A8 | 40x70 | -425 | 4025 | 90.000 |
| B1 | 40x70 | 0 | 0 | 0.000 |
| B2 | 40x70 | 0 | 200 | 90.000 |
| B3 | 40x70 | 0 | 625 | 90.000 |
| B4 | 40x70 | 0 | 1475 | 90.000 |
| B6 | 40x70 | 0 | 2325 | 90.000 |
| B7 | 40x70 | 0 | 3175 | 90.000 |
| B8 | 40x70 | 0 | 4025 | 90.000 |
| B9 | 40x70 | 0 | 4315 | 0.000 |
| C1 | 40x70 | 850 | 0 | 0.000 |
| C2 | 40x70 | 850 | 200 | 90.000 |
| C3 | 40x70 | 850 | 625 | 90.000 |
| C4 | 40x70 | 850 | 1475 | 90.000 |
| C6 | 40x70 | 850 | 2325 | 90.000 |
| C7 | 40x70 | 850 | 3175 | 90.000 |
| C8 | 40x70 | 850 | 4025 | 90.000 |
| C9 | 40x70 | 850 | 4315 | 0.000 |
| D3 | 40x70 | 1700 | 625 | 0.000 |
| D5 | 40x70 | 1050 | 1675 | 90.000 |
| D6 | 40x70 | 1050 | 2325 | 90.000 |
| D7 | 40x70 | 1050 | 3175 | 90.000 |
| D8 | 40x70 | 1050 | 4025 | 90.000 |
| E1 | 40x70 | 1700 | 0 | 0.000 |
| E2 | 40x70 | 1700 | 200 | 0.000 |
| E3 | 40x70 | 2550 | 625 | 0.000 |
| E4 | 40x70 | 1700 | 1475 | 0.000 |
| E5 | 40x70 | 1700 | 1677 | 0.000 |
| F1 | 40x70 | 2550 | 0 | 0.000 |
| F4 | 40x70 | 2550 | 1475 | 0.000 |
| F5 | 40x70 | 2550 | 1677 | 0.000 |
| G2 | 40x70 | 2840 | 200 | 90.000 |
| G4 | 40x70 | 2840 | 1472 | 90.000 |

Cota de arranque de los pilares: 0.00 m



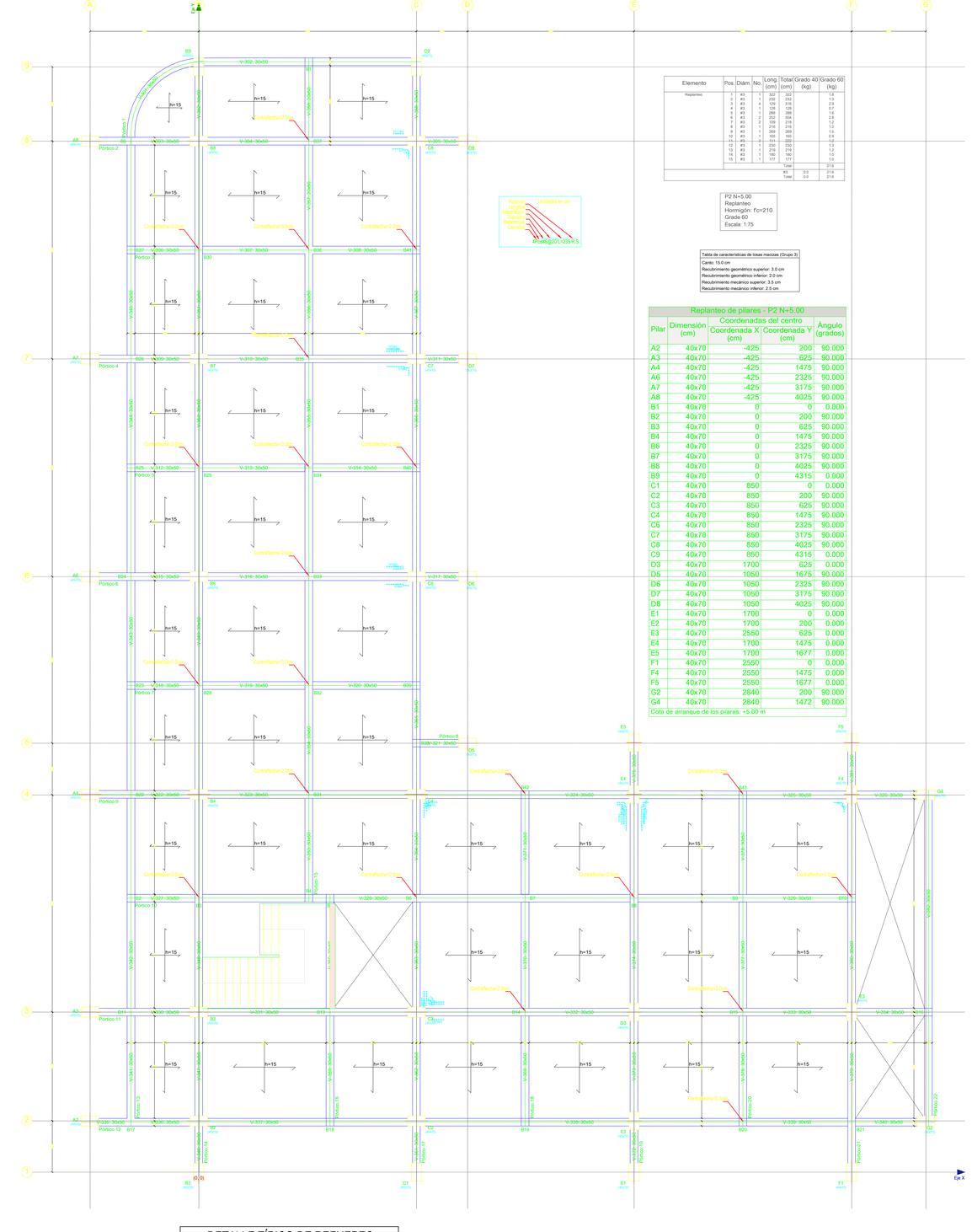

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 40 (kg) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Replanteo | 1 | #3 | 1 | 322 | 322 | | 1.8 |
| | 2 | #3 | 1 | 332 | 332 | | 1.8 |
| | 3 | #3 | 4 | 129 | 516 | | 2.9 |
| | 4 | #3 | 1 | 126 | 126 | | 0.7 |
| | 5 | #3 | 1 | 288 | 288 | | 1.6 |
| | 6 | #3 | 1 | 298 | 298 | | 1.6 |
| | 7 | #3 | 2 | 108 | 216 | | 1.2 |
| | 8 | #3 | 1 | 216 | 216 | | 1.2 |
| | 9 | #3 | 1 | 269 | 269 | | 1.5 |
| | 10 | #3 | 1 | 165 | 165 | | 0.9 |
| | 11 | #3 | 1 | 1677 | 1677 | | 9.3 |
| | 12 | #3 | 1 | 230 | 230 | | 1.3 |
| | 13 | #3 | 1 | 219 | 219 | | 1.2 |
| | 14 | #3 | 1 | 180 | 180 | | 1.0 |
| | 15 | #3 | 1 | 177 | 177 | | 1.0 |
| | | | | | Total: | | 21.6 |
| | | | | | #3 | 0.0 | 21.6 |
| | | | | | Total: | 0.0 | 21.6 |

P2 N+5.00
Replanteo
Hormigón: f'c=210
Grade 60
Escala: 1:75

Tabla de características de losas macizas (Grupo 3)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm

| Replanteo de pilares - P2 N+5.00 | | | | |
|---|---|---|---|---|
| Pilar | Dimensión (cm) | Coordenadas del centro | | Ángulo (grados) |
| | | Coordenada X (cm) | Coordenada Y (cm) | |
| A2 | 40x70 | -425 | 200 | 90.000 |
| A3 | 40x70 | -425 | 625 | 90.000 |
| A4 | 40x70 | -425 | 1475 | 90.000 |
| A6 | 40x70 | -425 | 2325 | 90.000 |
| A7 | 40x70 | -425 | 3175 | 90.000 |
| A8 | 40x70 | -425 | 4025 | 90.000 |
| B1 | 40x70 | 0 | 0 | 0.000 |
| B2 | 40x70 | 0 | 200 | 90.000 |
| B3 | 40x70 | 0 | 625 | 90.000 |
| B4 | 40x70 | 0 | 1475 | 90.000 |
| B6 | 40x70 | 0 | 2325 | 90.000 |
| B7 | 40x70 | 0 | 3175 | 90.000 |
| B8 | 40x70 | 0 | 4025 | 90.000 |
| B9 | 40x70 | 0 | 4315 | 0.000 |
| C1 | 40x70 | 850 | 0 | 0.000 |
| C2 | 40x70 | 850 | 200 | 90.000 |
| C3 | 40x70 | 850 | 625 | 90.000 |
| C4 | 40x70 | 850 | 1475 | 90.000 |
| C6 | 40x70 | 850 | 2325 | 90.000 |
| C7 | 40x70 | 850 | 3175 | 90.000 |
| C8 | 40x70 | 850 | 4025 | 90.000 |
| C9 | 40x70 | 850 | 4315 | 0.000 |
| D3 | 40x70 | 1700 | 625 | 0.000 |
| D5 | 40x70 | 1050 | 1675 | 90.000 |
| D6 | 40x70 | 1050 | 2325 | 90.000 |
| D7 | 40x70 | 1050 | 3175 | 90.000 |
| D8 | 40x70 | 1050 | 4025 | 90.000 |
| E1 | 40x70 | 1700 | 0 | 0.000 |
| E2 | 40x70 | 1700 | 200 | 0.000 |
| E3 | 40x70 | 2550 | 625 | 0.000 |
| E4 | 40x70 | 1700 | 1475 | 0.000 |
| E5 | 40x70 | 1700 | 1677 | 0.000 |
| F1 | 40x70 | 2550 | 0 | 0.000 |
| F4 | 40x70 | 2550 | 1475 | 0.000 |
| F5 | 40x70 | 2550 | 1677 | 0.000 |
| G2 | 40x70 | 2840 | 200 | 90.000 |
| G4 | 40x70 | 2840 | 1472 | 90.000 |

Cota de arranque de los pilares: +5.00 m

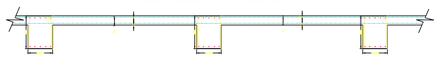



Suelo N+0.00
Replanteo
Escala: 1:75
Nota: La disposición de bloques que se dibuja corresponde a la primera hilada, excepto si el muro termina en la planta, en cuyo caso corresponde a la última hilada de la planta inferior.

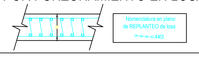
NOTA:

1. DEJAR CONTRAFLECHAS INDICADAS

DETALLE TÍPICO DE LOSA



DETALLE TÍPICO DE REFUERZO POR PUNZONAMIENTO EN LOSA




GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO

INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 COR

*Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.*

CONTIENE

BLOQUE COMEDOR N°1
PLANTA N + 0.00
PLANTA N + 5.00

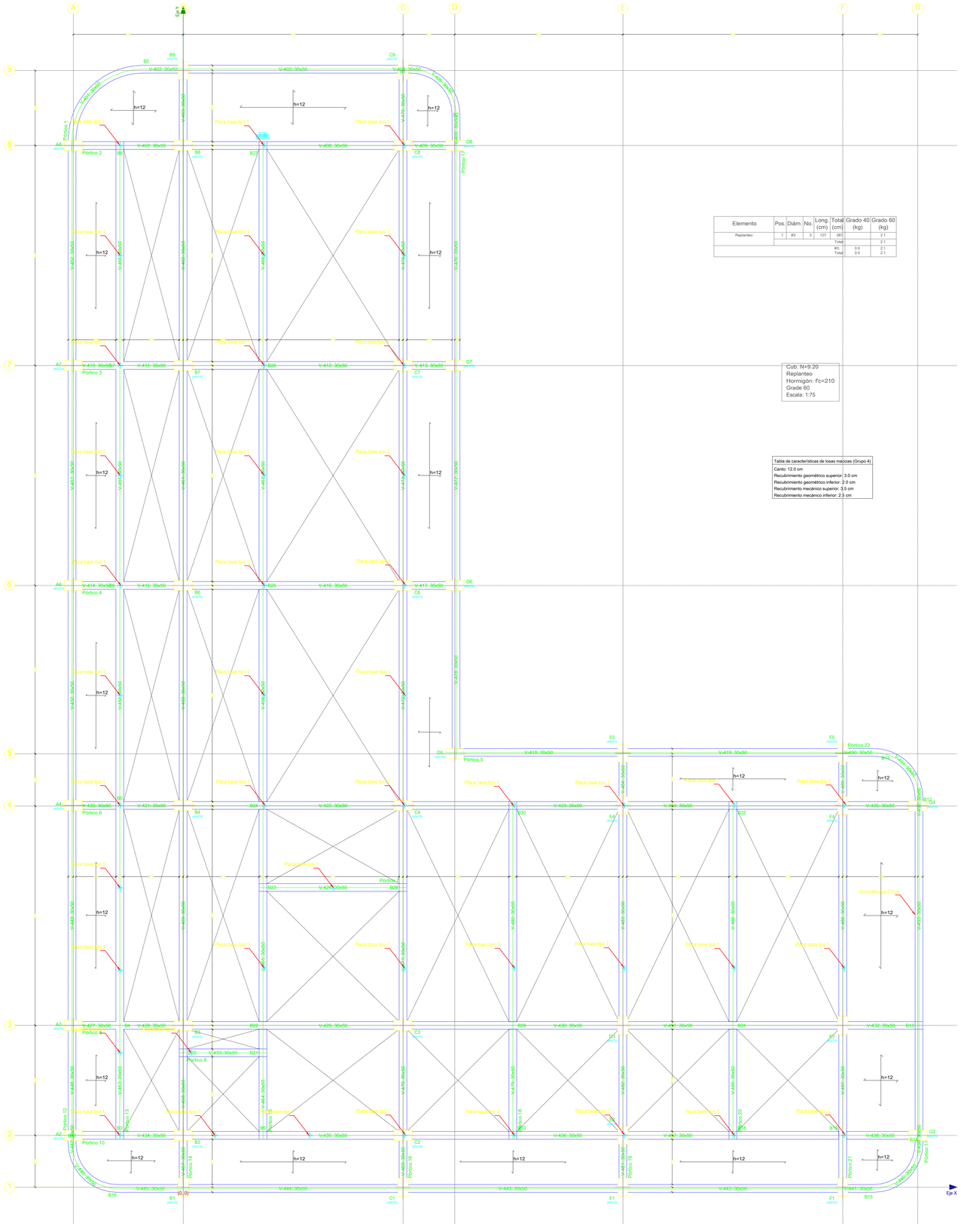
OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será aclarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

| FECHA | ESCALA |
|---|---|
| MARZO 2025 | INDICADA |

PLANO 3/20 DE

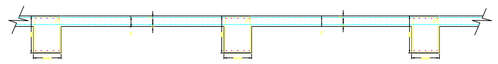



| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 40 (kg) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Replanteo | 1 | #3 | 3 | 127 | 381 | | 2.1 |
| | | | | | Total: | | 2.1 |
| | | | | | #3 | 0.0 | 2.1 |
| | | | | | Total: | 0.0 | 2.1 |

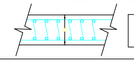
Cub: N+9.20
Replanteo
Hormigón: f'c=210
Grade 60
Escala: 1:75

Tabla de caracteristicas de losas macizas (Grupo 4)
Canto: 12.0 cm
Recubrimiento geometrico superior: 3.0 cm
Recubrimiento geometrico inferior: 2.0 cm
Recubrimiento mecanico superior: 3.5 cm
Recubrimiento mecanico inferior: 2.5 cm

## DETALLE TÍPICO DE LOSA



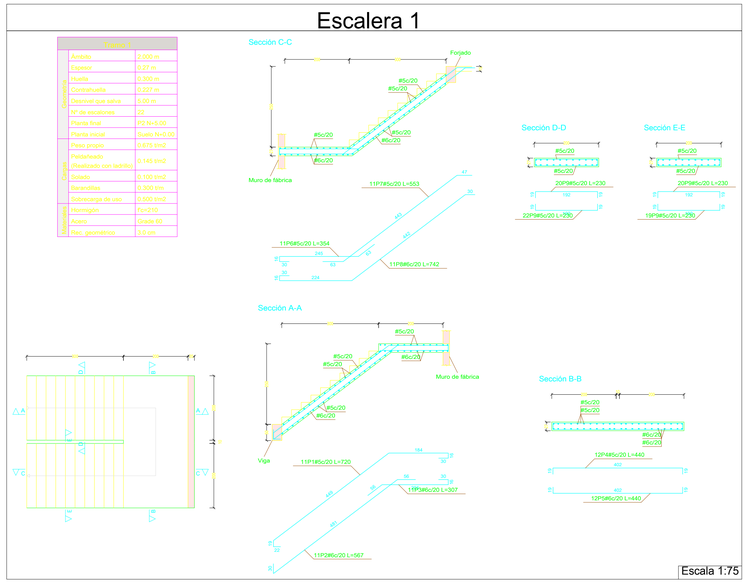
## DETALLE TÍPICO DE REFUERZO POR PUNZONAMIENTO EN LOSA



Nomenclatura en plano de REPLANTEO de losa
P=q=c=d&3

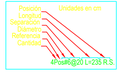
## Escalera 1

| Tramo 1 | |
|---|---|
| Ancho | 2.000 m |
| Cepeton | 0.27 m |
| Huella | 0.300 m |
| Contrahuella | 0.227 m |
| Desnivel que salva | 5.00 m |
| Nº de escalones | 22 |
| Planta final | PZ N+5.00 |
| Planta inicial | Cielo N+0.00 |
| Peso propio | 0.575 t/m2 |
| Pedestalado | 0.165 t/m2 |
| Ufilladado con ladrillo | 0.100 t/m2 |
| Estado | 0.100 t/m2 |
| Barandillas | 0.300 t/m |
| Sobrecarga de uso | 0.500 t/m2 |
| Hormigón | f'c=210 |
| Acero | Grado 60 |
| Rec. geométrico | 3.0 cm |




Escala 1:75

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 40 (kg) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Escalera 1-Tramo 1 | 1 | #5 | 11 | 720 | 7920 | | 123.0 |
| | 2 | #6 | 11 | 567 | 6237 | | 139.5 |
| | 3 | #6 | 11 | 307 | 3377 | | 75.6 |
| | 4 | #5 | 12 | 440 | 5280 | | 82.0 |
| | 5 | #6 | 12 | 440 | 5280 | | 118.1 |
| | 6 | #5 | 11 | 354 | 3894 | | 60.5 |
| | 7 | #5 | 11 | 562 | 6183 | | 96.0 |
| | 8 | #5 | 11 | 583 | 6413 | | 99.6 |
| | 9 | #5 | 81 | 230 | 18630 | | 289.4 |
| | | | | | Total: | | 1185.2 |
| | | | | | #5 | 0.0 | 649.4 |
| | | | | | #6 | 0.0 | 535.8 |
| | | | | | Total: | 0.0 | 1185.2 |




OMNIA PRO IUSTA PRO SANCTA

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221858 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisado y aprobado por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE COMEDOR N°1
PLANTA N + 9.20

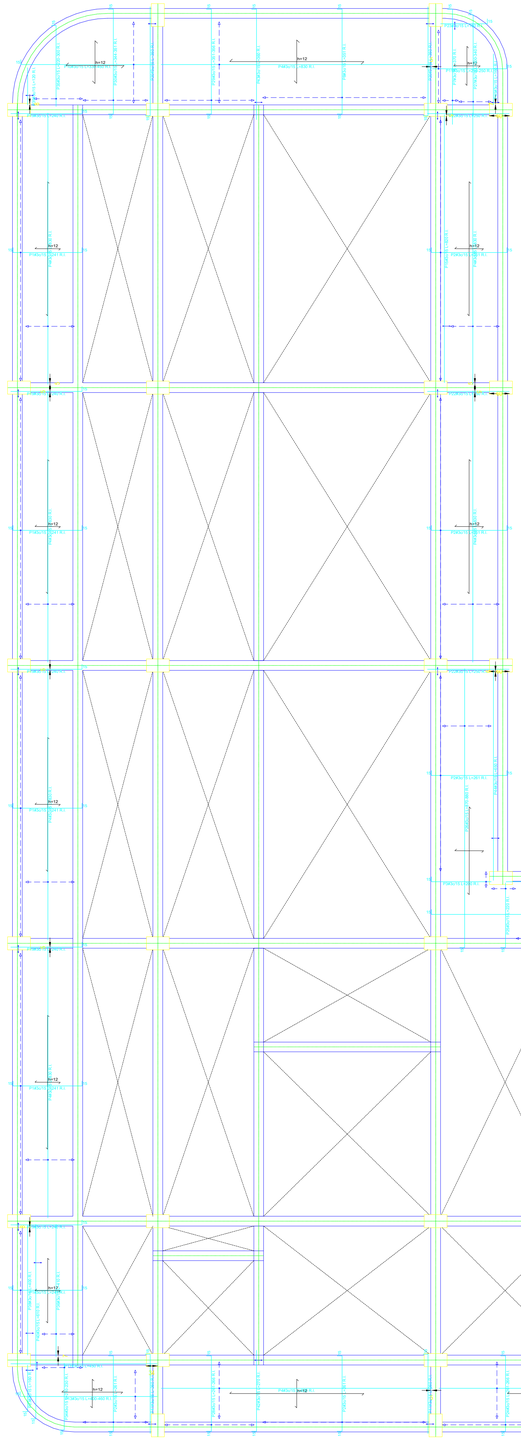
OBSERVACIONES

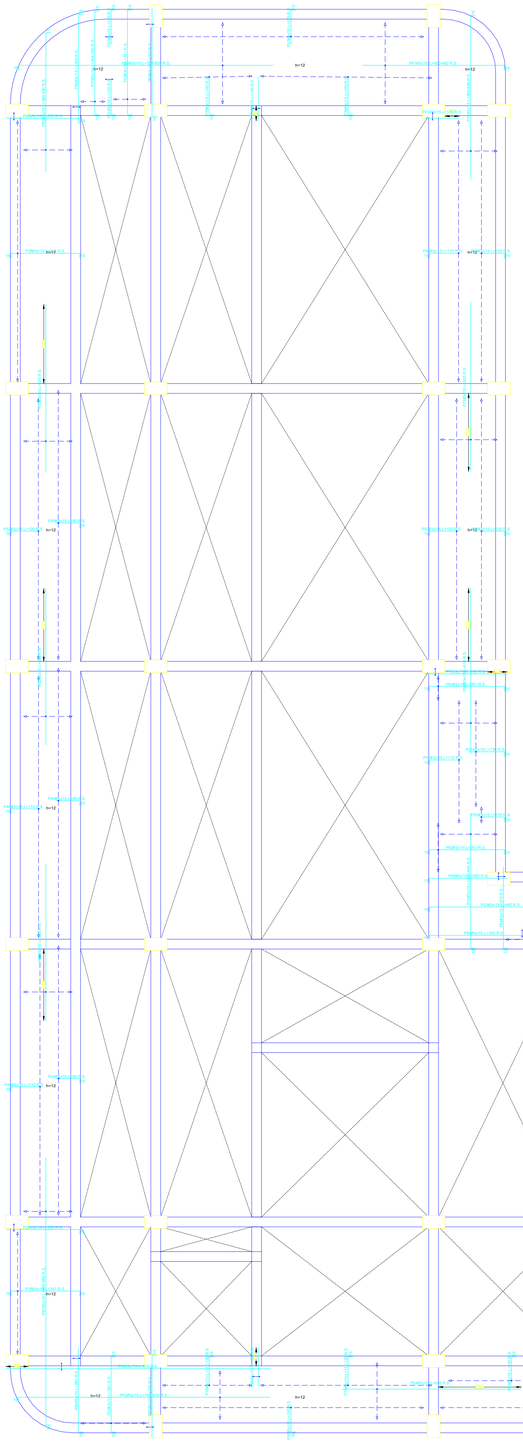
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO 4/20 DE





Cub. N+9.20
Armadura longitudinal inferior
Hormigón: f'c=210
Grade 60

R.I. Refuerzo inferior

Escala: 1:75

| Tabla de características de losas macizas (Grupo 4) |
|---|
| Canto: 12.0 cm |
| Recubrimiento geométrico superior: 3.0 cm |
| Recubrimiento geométrico inferior: 2.0 cm |
| Recubrimiento mecánico superior: 3.5 cm |
| Recubrimiento mecánico inferior: 2.5 cm |

Cub. N+9.20
Armadura longitudinal superior
Hormigón: f'c=210
Grade 60

R.S. Refuerzo superior

Escala: 1:75

| Tabla de características de losas macizas (Grupo 4) |
|---|
| Canto: 12.0 cm |
| Recubrimiento geométrico superior: 3.0 cm |
| Recubrimiento geométrico inferior: 2.0 cm |
| Recubrimiento mecánico superior: 3.5 cm |
| Recubrimiento mecánico inferior: 2.5 cm |

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 40 (kg) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Armadura longitudinal inferior | 1 | #3 | 241 | 241 | 58081 | | 329.1 |
| | 2 | #3 | 362 | 261 | 94482 | | 528.9 |
| | 3 | #3 | 4 | 200 | 800 | | 4.5 |
| | 4 | #3 | 130 | 830 | 107900 | | 603.9 |
| | 5 | #3 | 7 | VAR. | 2065 | | 11.6 |
| | 6 | #3 | 10 | 870 | 8700 | | 49.7 |
| | 7 | #3 | 10 | 370 | 4440 | | 24.9 |
| | 8 | #3 | 12 | VAR. | 10134 | | 56.8 |
| | 9 | #3 | 27 | VAR. | 9477 | | 53.5 |
| | 10 | #3 | 17 | VAR. | 6987 | | 39.1 |
| | 11 | #3 | 15 | VAR. | 3615 | | 20.2 |
| | 12 | #3 | 10 | 870 | 8700 | | 49.7 |
| | 13 | #3 | 10 | VAR. | 4380 | | 24.5 |
| | 14 | #3 | 6 | VAR. | 1920 | | 10.7 |
| | 15 | #3 | 6 | VAR. | 1920 | | 10.7 |
| | 16 | #3 | 2 | 330 | 660 | | 3.7 |
| | 17 | #3 | 2 | 450 | 900 | | 5.0 |
| | 18 | #3 | 2 | 360 | 720 | | 4.0 |
| | 19 | #3 | 12 | 240 | 2880 | | 16.1 |
| | 20 | #3 | 2 | 670 | 1340 | | 7.5 |
| | 21 | #3 | 2 | 620 | 1240 | | 6.9 |
| | 22 | #3 | 8 | 250 | 2000 | | 11.2 |
| | 23 | #3 | 4 | 160 | 640 | | 3.6 |
| | 24 | #3 | 27 | VAR. | 7047 | | 39.4 |
| | 25 | #3 | 5 | 220 | 1100 | | 6.2 |
| | 26 | #3 | 10 | VAR. | 8720 | | 48.8 |
| | 27 | #3 | 5 | VAR. | 4960 | | 27.8 |
| | 28 | #3 | 19 | VAR. | 4959 | | 27.8 |
| | 29 | #3 | 19 | VAR. | 6669 | | 37.3 |
| | 30 | #3 | 14 | VAR. | 4900 | | 27.4 |
| | 31 | #3 | 5 | 280 | 1400 | | 7.8 |
| | 32 | #3 | 11 | 430 | 7310 | | 40.9 |
| | 33 | #3 | 15 | VAR. | 3496 | | 19.6 |
| | 34 | #3 | 5 | VAR. | 1305 | | 7.3 |
| | 35 | #3 | 10 | VAR. | 2880 | | 13.0 |
| | 36 | #3 | 7 | 410 | 2870 | | 16.1 |
| | 37 | #3 | 12 | VAR. | 2520 | | 14.1 |
| | 38 | #3 | 2 | 400 | 800 | | 4.5 |
| | 39 | #3 | 2 | 610 | 1220 | | 6.8 |
| | 40 | #3 | 2 | 610 | 1220 | | 6.8 |
| | 41 | #3 | 6 | 260 | 1560 | | 8.7 |
| | 42 | #3 | 8 | 270 | 2160 | | 12.1 |
| | 43 | #3 | 2 | 360 | 720 | | 4.0 |
| | 44 | #3 | 2 | 650 | 1300 | | 7.3 |
| | 45 | #3 | 2 | 160 | 320 | | 1.8 |
| | 46 | #3 | 2 | 170 | 340 | | 1.9 |
| | 47 | #3 | 2 | 170 | 340 | | 1.9 |
| | | | | | Total | | 2368.8 |
| Armadura longitudinal superior | 48 | #3 | 293 | 110 | 32230 | | 180.4 |
| | 49 | #3 | 46 | 261 | 12006 | | 67.2 |
| | 50 | #3 | 46 | 261 | 12006 | | 67.2 |
| | 51 | #3 | 50 | 130 | 6500 | | 36.4 |
| | 52 | #3 | 486 | 100 | 48600 | | 272.0 |
| | 53 | #3 | 10 | 460 | 4600 | | 25.7 |
| | 54 | #3 | 24 | 600 | 13200 | | 73.9 |
| | 55 | #3 | 12 | VAR. | 6094 | | 34.1 |
| | 56 | #3 | 12 | VAR. | 6094 | | 34.1 |
| | 57 | #3 | 130 | 120 | 15600 | | 87.3 |
| | 58 | #3 | 79 | 241 | 19039 | | 106.6 |
| | 59 | #3 | 34 | VAR. | 11934 | | 66.8 |
| | 60 | #3 | 17 | VAR. | 13277 | | 74.3 |
| | 61 | #3 | 12 | VAR. | 6480 | | 36.3 |
| | 62 | #3 | 12 | 540 | 6480 | | 36.3 |
| | 63 | #3 | 10 | VAR. | 7880 | | 44.1 |
| | 64 | #3 | 10 | VAR. | 4920 | | 27.5 |
| | 65 | #3 | 2 | 810 | 1620 | | 9.1 |
| | 66 | #3 | 14 | 510 | 7140 | | 40.0 |
| | 67 | #3 | 4 | 250 | 1000 | | 5.6 |
| | 68 | #3 | 2 | 260 | 520 | | 2.9 |
| | 69 | #3 | 2 | 260 | 520 | | 2.9 |
| | 70 | #3 | 2 | 250 | 500 | | 2.8 |
| | 71 | #3 | 8 | 110 | 880 | | 4.9 |
| | 72 | #3 | 12 | VAR. | 5172 | | 28.9 |
| | 73 | #3 | 22 | VAR. | 11440 | | 64.0 |
| | 74 | #3 | 12 | VAR. | 6156 | | 34.5 |
| | 75 | #3 | 54 | 140 | 7560 | | 42.3 |
| | 76 | #3 | 54 | 140 | 7560 | | 42.3 |
| | 77 | #3 | 5 | VAR. | 1735 | | 9.7 |
| | 78 | #3 | 19 | VAR. | 2109 | | 11.8 |
| | 79 | #3 | 17 | VAR. | 14212 | | 79.5 |
| | 80 | #3 | 17 | VAR. | 14212 | | 79.5 |
| | 81 | #3 | 10 | VAR. | 8380 | | 46.9 |
| | 82 | #3 | 20 | 480 | 9600 | | 53.7 |
| | 83 | #3 | 10 | VAR. | 4000 | | 29.2 |
| | 84 | #3 | 2 | 280 | 560 | | 3.1 |
| | 85 | #3 | 4 | 270 | 1080 | | 6.0 |
| | 86 | #3 | 4 | 120 | 480 | | 2.7 |
| | 87 | #3 | 2 | 130 | 260 | | 1.5 |
| | 88 | #3 | 2 | 130 | 260 | | 1.5 |
| | 89 | #3 | 2 | 260 | 520 | | 2.9 |
| | | | | | Total | | 1890.2 |
| | | | | | #3 | 0.0 | 4269.0 |
| | | | | | Total | 0.0 | 4269.0 |

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO


OSCAR DAVID MORENO COGOLLO

INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221669 COR



*Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.*


CONTIENE

BLOQUE COMEDOR N°1
REFUERZO LOSA + 9.20

OBSERVACIONES

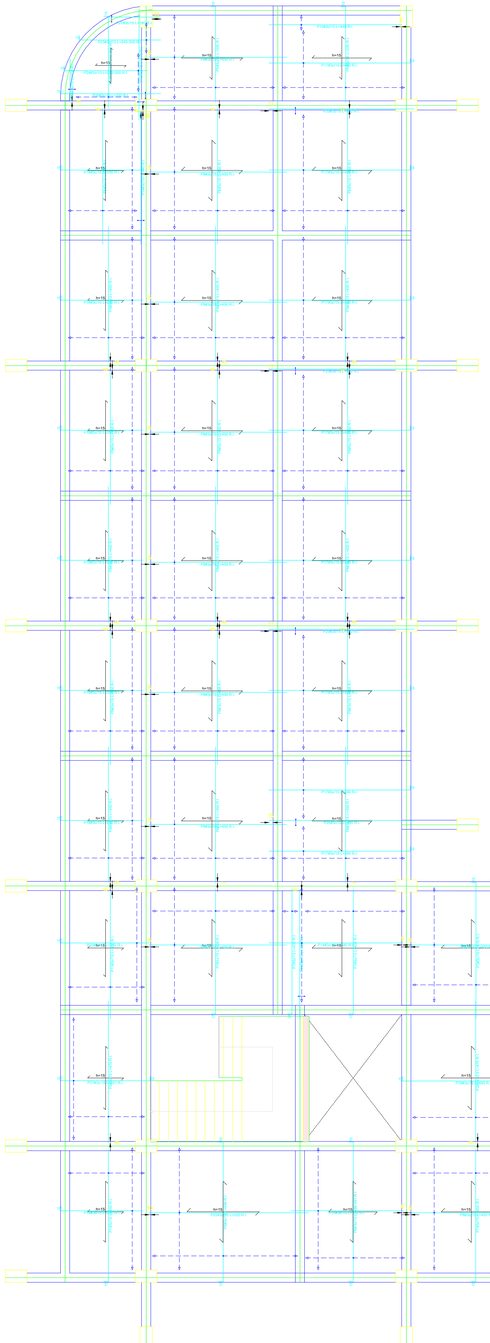
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
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5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

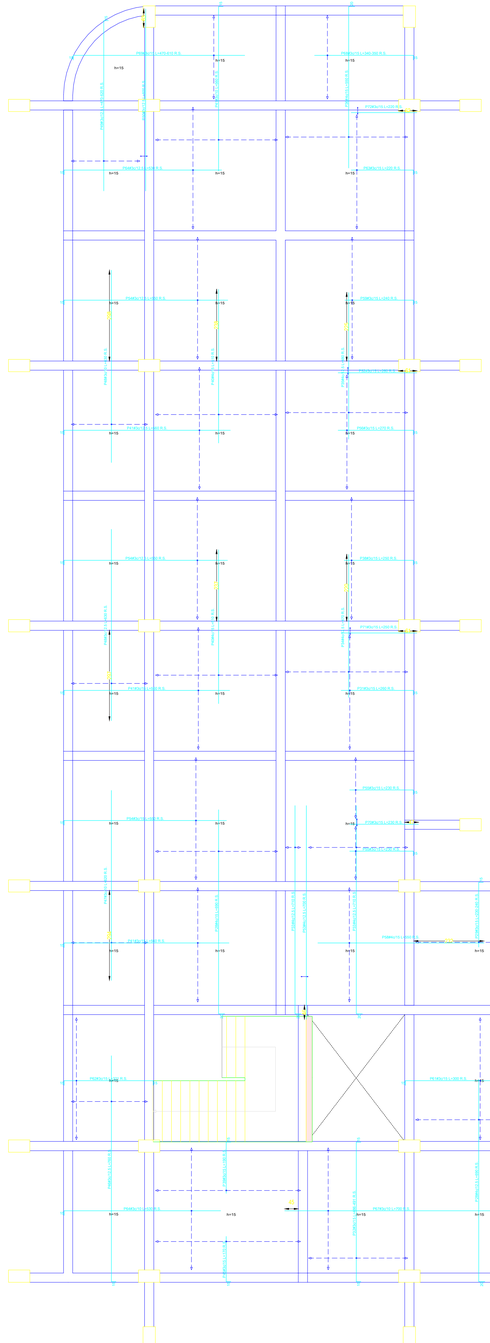
NOMBRE DEL ARCHIVO

FECHA: MARZO 2025

ESCALA: INDICADA

PLANO 5/20 DE





P2 N+5.00
Armadura longitudinal inferior
Hormigón: f'c=210
Grade 60

R.I. Refuerzo inferior

Escala: 1:75

Tabla de caracteristicas de losas macizas (Grupo 3)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm

P2 N+5.00
Armadura longitudinal superior
Hormigón: f'c=210
Grade 60

R.S. Refuerzo superior

Escala: 1:75

Tabla de caracteristicas de losas macizas (Grupo 3)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 40 (kg) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Armadura longitudinal inferior | 1 | #3 | 98 | 450 | 44100 | | 246.6 |
| | 2 | #3 | 130 | 470 | 61100 | | 340.0 |
| | 3 | #3 | 27 | 470 | 12690 | | 71.0 |
| | 4 | #3 | 27 | 470 | 12690 | | 71.0 |
| | 5 | #3 | 25 | VAR. | 11573 | | 64.8 |
| | 6 | #3 | 54 | 486 | 26244 | | 146.9 |
| | 7 | #3 | 53 | 430 | 22790 | | 127.5 |
| | 8 | #3 | 840 | 450 | 378000 | | 2115.7 |
| | 9 | #3 | 84 | 450 | 37800 | | 211.6 |
| | 10 | #3 | 53 | 460 | 23920 | | 133.9 |
| | 11 | #3 | 19 | 430 | 8170 | | 45.7 |
| | 12 | #3 | 14 | VAR. | 4886 | | 27.3 |
| | 13 | #3 | 1 | 486 | 486 | | 2.7 |
| | 14 | #3 | 31 | 440 | 13640 | | 76.3 |
| | 15 | #3 | 29 | 370 | 10730 | | 60.1 |
| | 16 | #3 | 2 | 150 | 300 | | 1.7 |
| | 17 | #3 | 1 | 1000 | 1000 | | 5.6 |
| | 18 | #3 | 189 | 790 | 149310 | | 836.0 |
| | 19 | #3 | 106 | 490 | 51940 | | 290.7 |
| | 20 | #3 | 25 | 315 | 7750 | | 43.4 |
| | 21 | #3 | 27 | 321 | 8667 | | 48.5 |
| | 22 | #3 | 27 | 321 | 8667 | | 48.5 |
| | 23 | #3 | 7 | VAR. | 1911 | | 10.7 |
| | 24 | #3 | 9 | VAR. | 2592 | | 14.5 |
| | 25 | #3 | 8 | 480 | 3840 | | 21.5 |
| | 26 | #3 | 2 | 350 | 700 | | 3.9 |
| | 27 | #3 | 2 | 180 | 360 | | 2.0 |
| | | | | | Total | | 4913.2 |
| Armadura longitudinal superior | 28 | #4 | 59 | 690 | 40710 | | 404.9 |
| | 29 | #3 | 27 | VAR. | 6210 | | 34.8 |
| | 30 | #3 | 40 | 150 | 26200 | | 146.6 |
| | 31 | #3 | 50 | 290 | 13900 | | 77.8 |
| | 32 | #3 | 22 | 486 | 10692 | | 59.8 |
| | 33 | #3 | 27 | 321 | 8667 | | 48.5 |
| | 34 | #4 | 32 | 470 | 15040 | | 149.6 |
| | 35 | #4 | 32 | 480 | 15360 | | 152.8 |
| | 36 | #4 | 27 | 550 | 14850 | | 147.7 |
| | 37 | #3 | 32 | 740 | 23680 | | 132.5 |
| | 38 | #3 | 27 | 321 | 8667 | | 48.5 |
| | 39 | #3 | 10 | 190 | 6080 | | 34.0 |
| | 40 | #4 | 54 | 510 | 27540 | | 273.9 |
| | 41 | #3 | 124 | 560 | 69440 | | 388.7 |
| | 42 | #3 | 27 | 160 | 4320 | | 24.2 |
| | 43 | #3 | 27 | 321 | 8667 | | 48.5 |
| | 44 | #3 | 77 | 250 | 19400 | | 98.2 |
| | 45 | #3 | 32 | 170 | 5440 | | 30.4 |
| | 46 | #3 | 20 | 760 | 15200 | | 85.1 |
| | 47 | #3 | 25 | 630 | 15500 | | 86.8 |
| | 48 | #3 | 27 | 321 | 8667 | | 48.5 |
| | 49 | #3 | 18 | VAR. | 10152 | | 56.8 |
| | 50 | #3 | 2 | 600 | 1200 | | 6.7 |
| | 51 | #3 | 2 | 200 | 400 | | 2.2 |
| | 52 | #3 | 4 | 260 | 1040 | | 5.8 |
| | 53 | #3 | 2 | 220 | 440 | | 2.5 |
| | 54 | #3 | 91 | 550 | 50050 | | 280.1 |
| | 55 | #3 | 26 | 230 | 5980 | | 33.5 |
| | 56 | #3 | 25 | 270 | 6750 | | 37.8 |
| | 57 | #4 | 38 | 490 | 18620 | | 186.2 |
| | 58 | #3 | 27 | 321 | 8667 | | 48.5 |
| | 59 | #3 | 27 | 240 | 6480 | | 36.3 |
| | 60 | #4 | 40 | 540 | 21600 | | 314.8 |
| | 61 | #3 | 27 | 321 | 8667 | | 48.5 |
| | 62 | #3 | 27 | 321 | 8667 | | 48.5 |
| | 63 | #3 | 25 | 350 | 8500 | | 50.5 |
| | 64 | #3 | 72 | 530 | 38160 | | 213.6 |
| | 65 | #3 | 27 | VAR. | 6777 | | 37.9 |
| | 66 | #3 | 27 | 321 | 8667 | | 48.5 |
| | 67 | #3 | 46 | 700 | 39500 | | 198.7 |
| | 68 | #3 | 19 | VAR. | 9498 | | 36.4 |
| | 69 | #3 | 19 | VAR. | 10735 | | 60.1 |
| | 70 | #3 | 2 | 230 | 460 | | 2.6 |
| | 71 | #3 | 2 | 200 | 400 | | 2.2 |
| | 72 | #3 | 2 | 220 | 440 | | 2.5 |
| | | | | | Total | | 4725.8 |
| | | | | | #3 | 0.0 | 7442.7 |
| | | | | | #4 | 0.0 | 1196.3 |
| | | | | | Total | 0.0 | 9639.0 |

GOBERNACIÓN DE
CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221656 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE COMEDOR N°1
REFUERZO LOSA N + 5.00

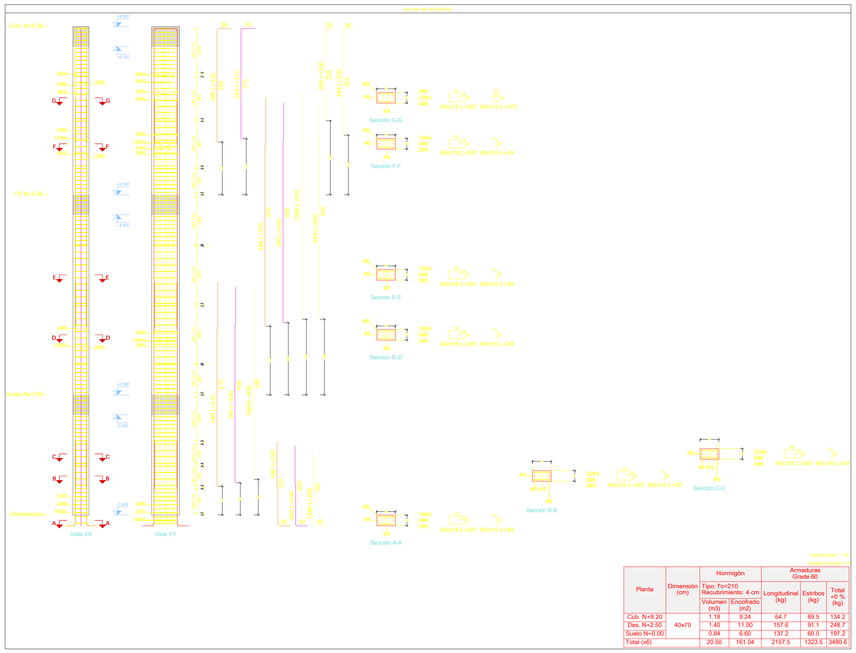
OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA.
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

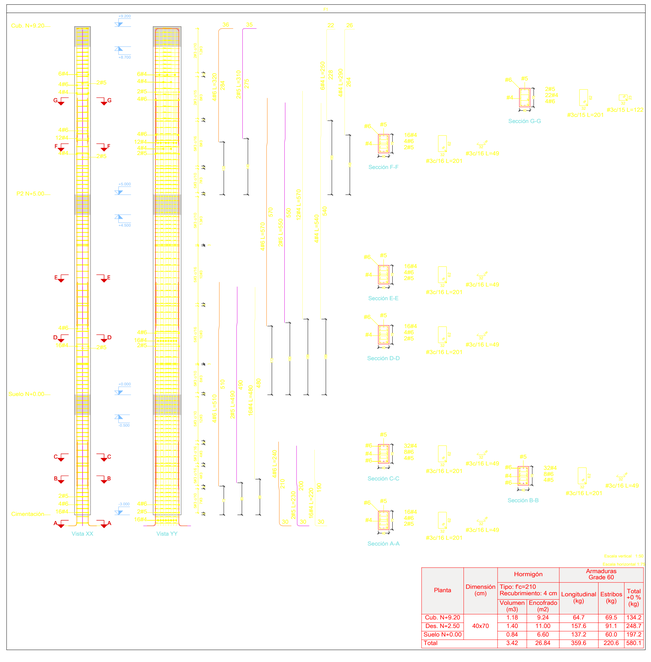
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO 6/20 DE

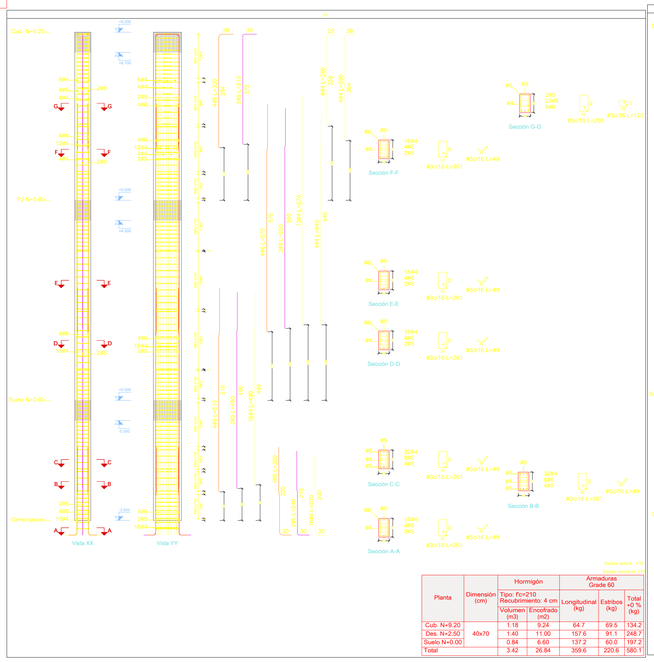



| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 69.5 | 134.2 |
| Des. N+2.50 | | 1.40 | 11.00 | 157.6 | 91.1 | 248.7 |
| Suelo N+0.00 | | 0.84 | 6.60 | 137.2 | 60.0 | 197.2 |
| Total (x6) | | 20.50 | 161.04 | 2157.5 | 1323.5 | 3480.6 |

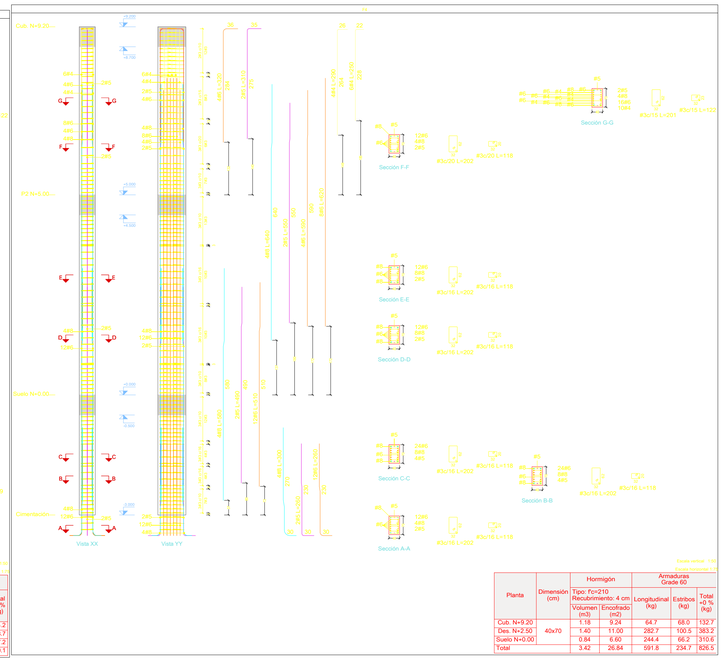
Pilares que nacen en Cimentación y mueren en Cub. N+9.20
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60




| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 69.5 | 134.2 |
| Des. N+2.50 | | 1.40 | 11.00 | 157.6 | 91.1 | 248.7 |
| Suelo N+0.00 | | 0.84 | 6.60 | 137.2 | 60.0 | 197.2 |
| Total | | 3.42 | 26.84 | 359.6 | 220.6 | 580.1 |




| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 69.5 | 134.2 |
| Des. N+2.50 | | 1.40 | 11.00 | 157.6 | 91.1 | 248.7 |
| Suelo N+0.00 | | 0.84 | 6.60 | 137.2 | 60.0 | 197.2 |
| Total | | 3.42 | 26.84 | 359.6 | 220.6 | 580.1 |




| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 68.0 | 132.7 |
| Des. N+2.50 | | 1.40 | 11.00 | 282.7 | 100.5 | 383.2 |
| Suelo N+0.00 | | 0.84 | 6.60 | 244.4 | 66.2 | 310.6 |
| Total | | 3.42 | 26.84 | 591.8 | 234.7 | 826.5 |

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO


OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221859 COR



Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.


CONTIENE

BLOQUE COMEDOR N°1
DESPIECE COLUMNAS (1)

OBSERVACIONES

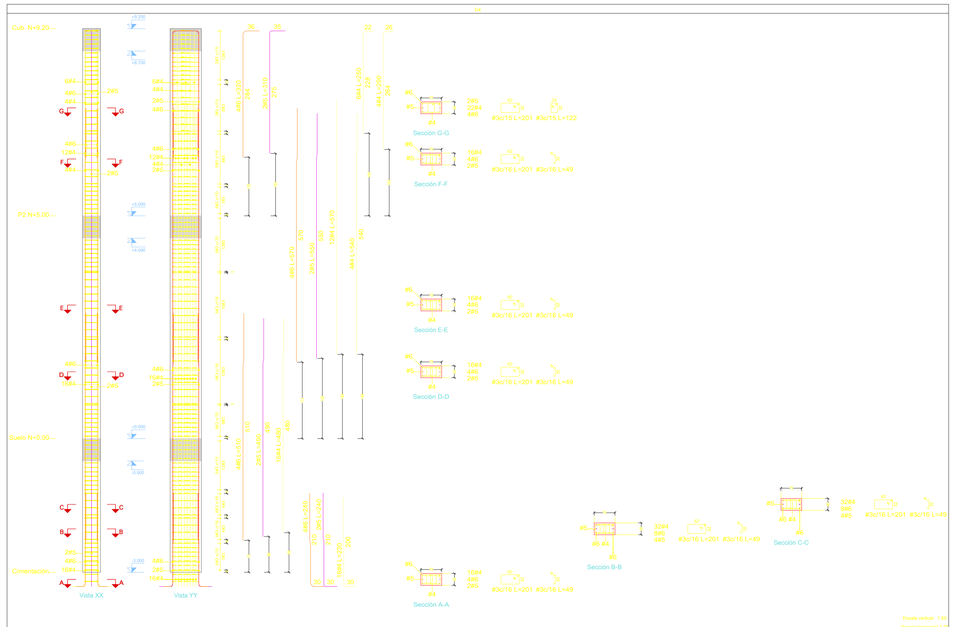
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4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

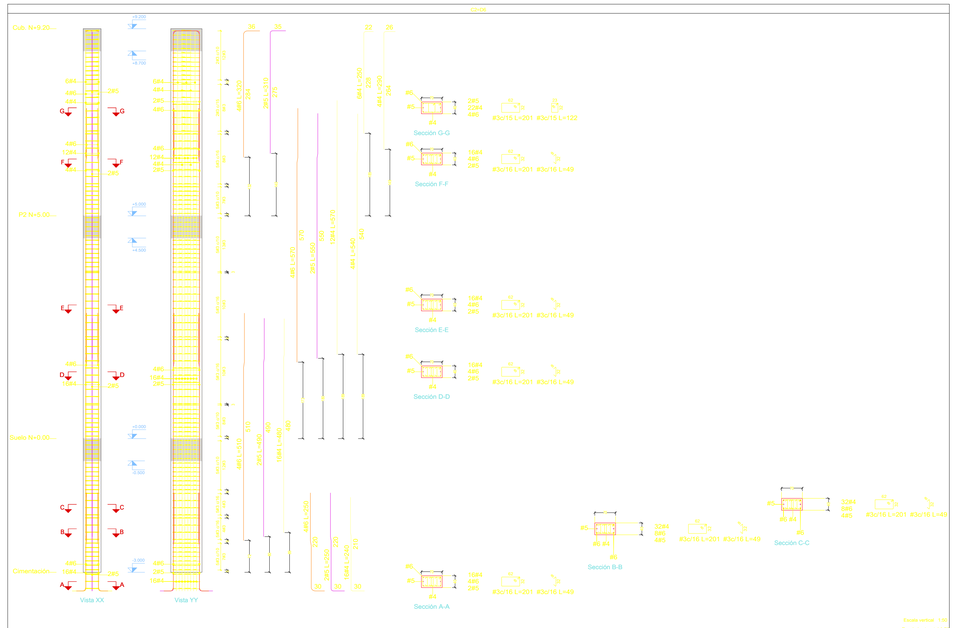
FECHA: MARZO 2025

ESCALA: INDICADA

PLANO 7/20 DE

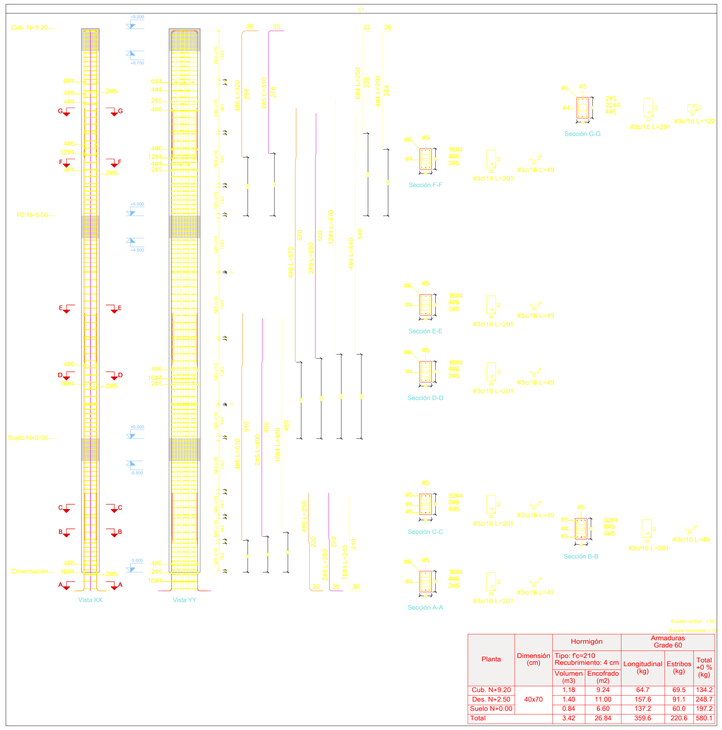



| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 69.5 | 134.2 |
| Des. N+2.50 | | 1.40 | 11.00 | 157.6 | 91.1 | 248.7 |
| Suelo N+0.00 | | 0.84 | 6.60 | 137.2 | 60.0 | 197.2 |
| Total | | 3.42 | 26.84 | 359.6 | 220.6 | 580.1 |

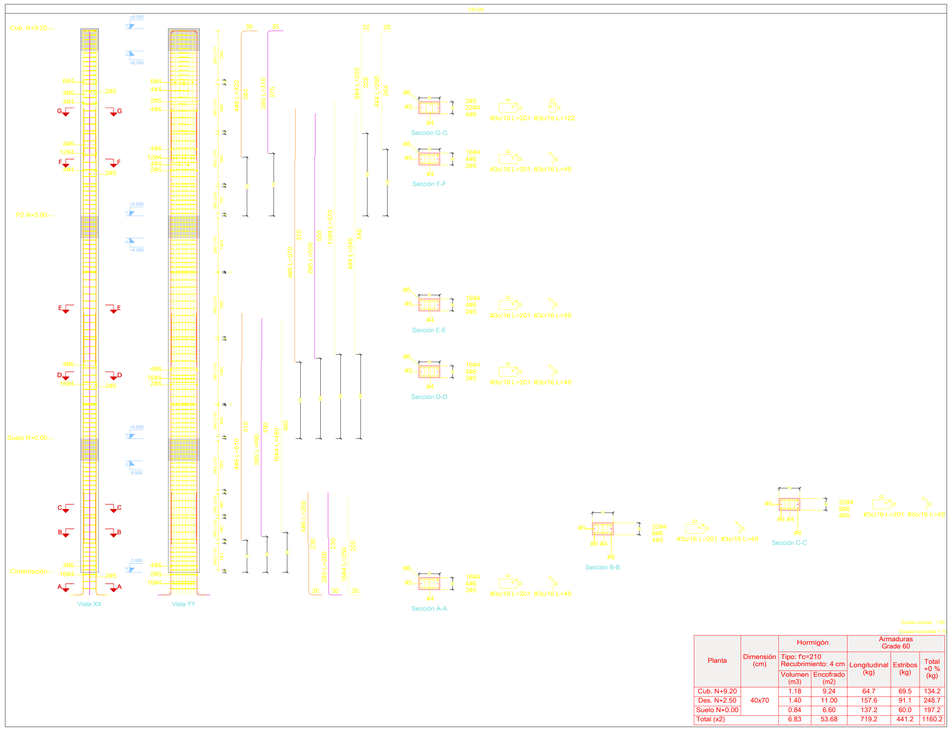



| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 69.5 | 134.2 |
| Des. N+2.50 | | 1.40 | 11.00 | 157.6 | 91.1 | 248.7 |
| Suelo N+0.00 | | 0.84 | 6.60 | 137.2 | 60.0 | 197.2 |
| Total (x2) | | 6.83 | 53.68 | 719.2 | 441.2 | 1160.2 |

Pilares que nacen en Cimentación y mueren en Cub. N+9.20
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60




| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 69.5 | 134.2 |
| Des. N+2.50 | | 1.40 | 11.00 | 157.6 | 91.1 | 248.7 |
| Suelo N+0.00 | | 0.84 | 6.60 | 137.2 | 60.0 | 197.2 |
| Total | | 3.42 | 26.84 | 359.6 | 220.6 | 580.1 |




| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 69.5 | 134.2 |
| Des. N+2.50 | | 1.40 | 11.00 | 157.6 | 91.1 | 248.7 |
| Suelo N+0.00 | | 0.84 | 6.60 | 137.2 | 60.0 | 197.2 |
| Total (x2) | | 6.83 | 53.68 | 719.2 | 441.2 | 1160.2 |

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO

INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221668 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE COMEDOR N°1
DESPIECE COLUMNAS (2)

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
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5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

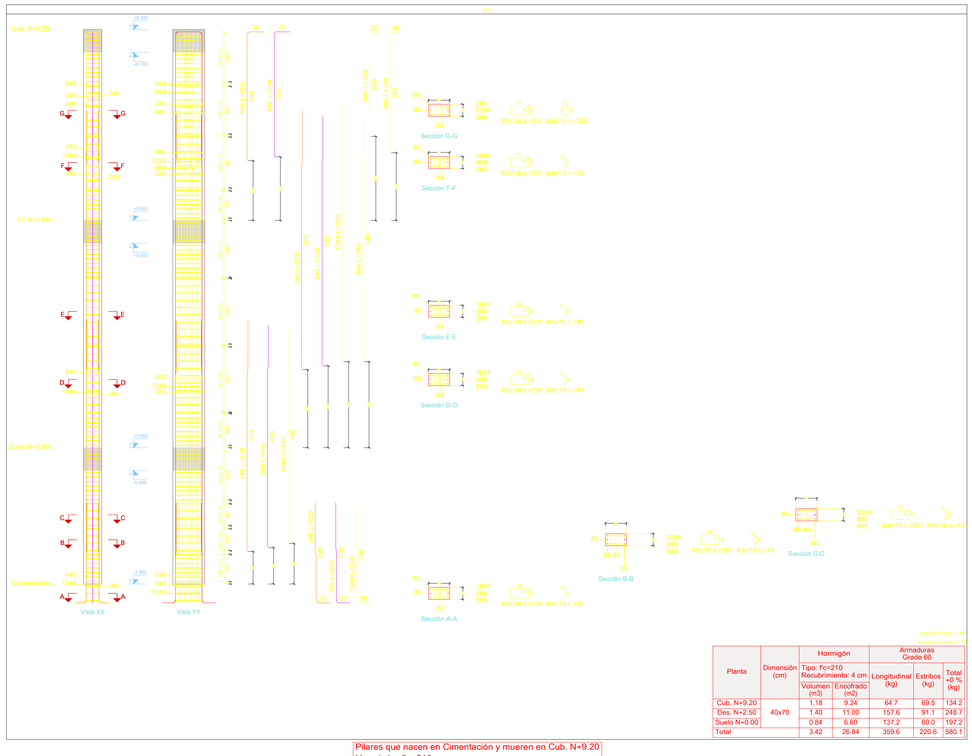
NOMBRE DEL ARCHIVO

FECHA: MARZO 2025

ESCALA: INDICADA

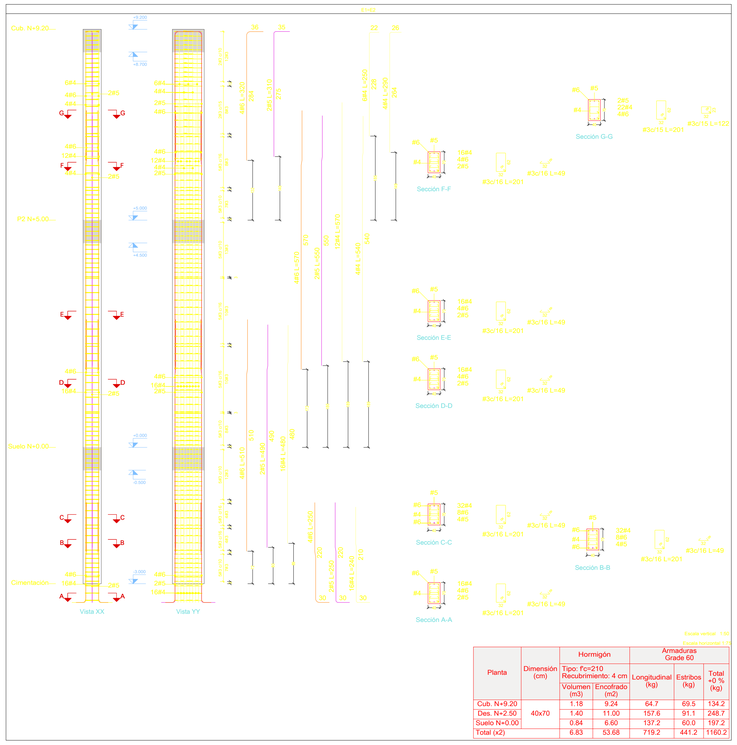
PLANO DE

8/20

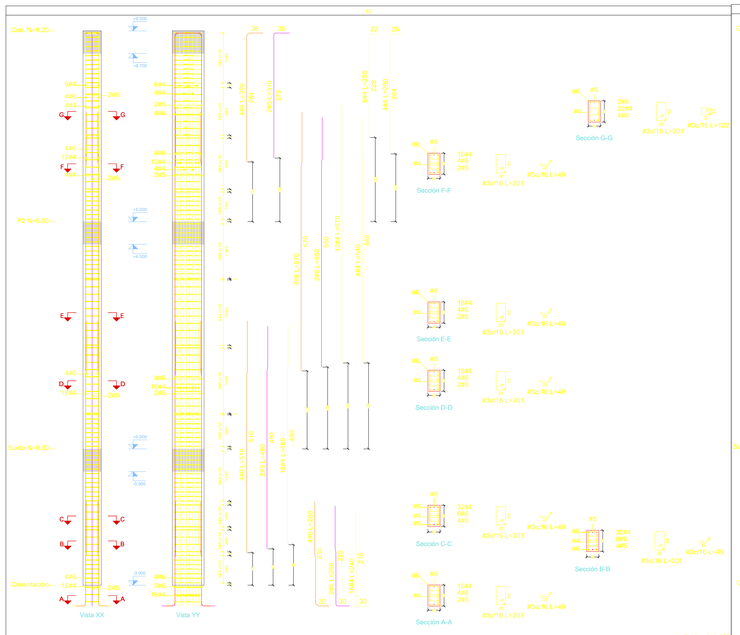



| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | | | |
| | | Volumen (m3) | Encofrado (m2) | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 69.5 | 134.2 |
| Des. N+2.50 | | 1.40 | 11.00 | 157.6 | 91.1 | 248.7 |
| Suelo N+0.00 | | 0.84 | 6.60 | 137.2 | 60.0 | 197.2 |
| Total | | 3.42 | 26.84 | 359.6 | 220.6 | 580.1 |

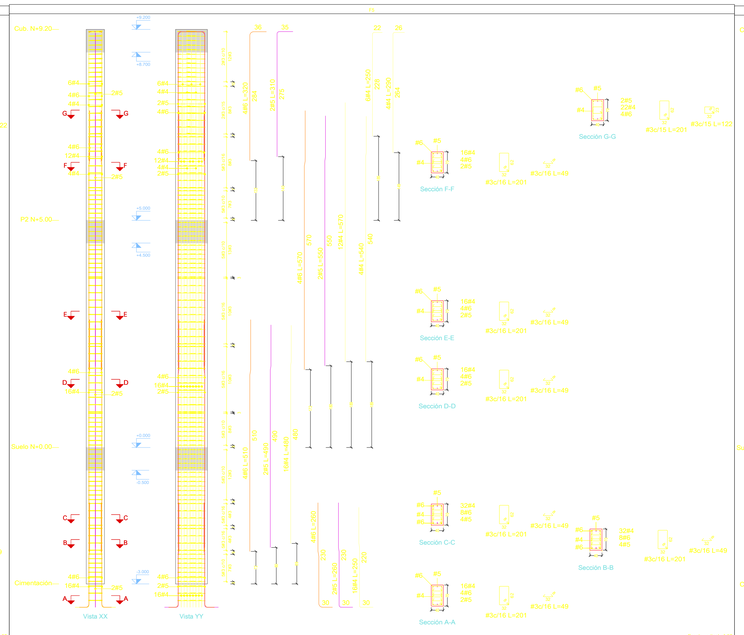
Pilares que nacen en Cimentación y mueren en Cub. N+9.20
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60



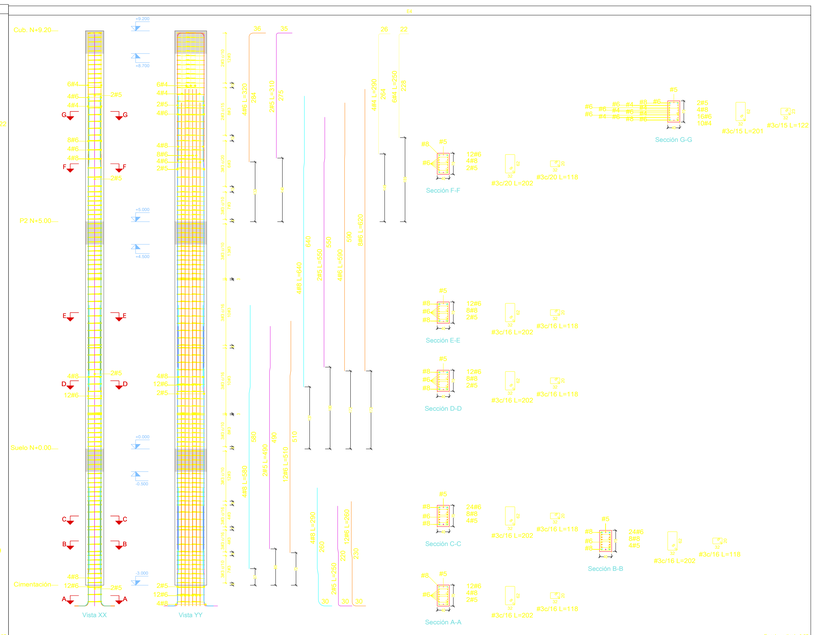

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | | | |
| | | Volumen (m3) | Encofrado (m2) | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 69.5 | 134.2 |
| Des. N+2.50 | | 1.40 | 11.00 | 157.6 | 91.1 | 248.7 |
| Suelo N+0.00 | | 0.84 | 6.60 | 137.2 | 60.0 | 197.2 |
| Total (x2) | | 6.83 | 53.68 | 719.2 | 441.2 | 1160.2 |




| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | | | |
| | | Volumen (m3) | Encofrado (m2) | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 69.5 | 134.2 |
| Des. N+2.50 | | 1.40 | 11.00 | 157.6 | 91.1 | 248.7 |
| Suelo N+0.00 | | 0.84 | 6.60 | 137.2 | 60.0 | 197.2 |
| Total | | 3.42 | 26.84 | 359.6 | 220.6 | 580.1 |




| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | | | |
| | | Volumen (m3) | Encofrado (m2) | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 69.5 | 134.2 |
| Des. N+2.50 | | 1.40 | 11.00 | 157.6 | 91.1 | 248.7 |
| Suelo N+0.00 | | 0.84 | 6.60 | 137.2 | 60.0 | 197.2 |
| Total | | 3.42 | 26.84 | 359.6 | 220.6 | 580.1 |




| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | | | |
| | | Volumen (m3) | Encofrado (m2) | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 68.0 | 132.7 |
| Des. N+2.50 | | 1.40 | 11.00 | 282.7 | 100.5 | 383.2 |
| Suelo N+0.00 | | 0.84 | 6.60 | 244.4 | 66.2 | 310.6 |
| Total | | 3.42 | 26.84 | 591.8 | 234.7 | 826.5 |

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-227668 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE COMEDOR N°1
DESPIECE COLUMNAS (3)

OBSERVACIONES

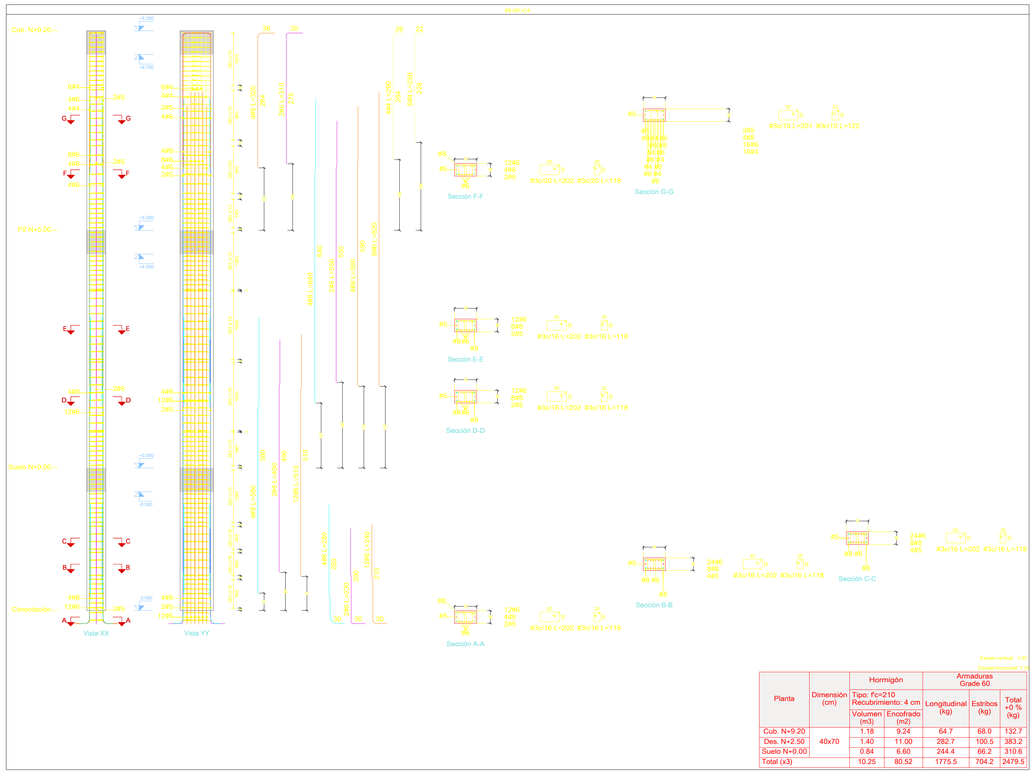
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

| FECHA | ESCALA |
|---|---|
| MARZO 2025 | INDICADA |

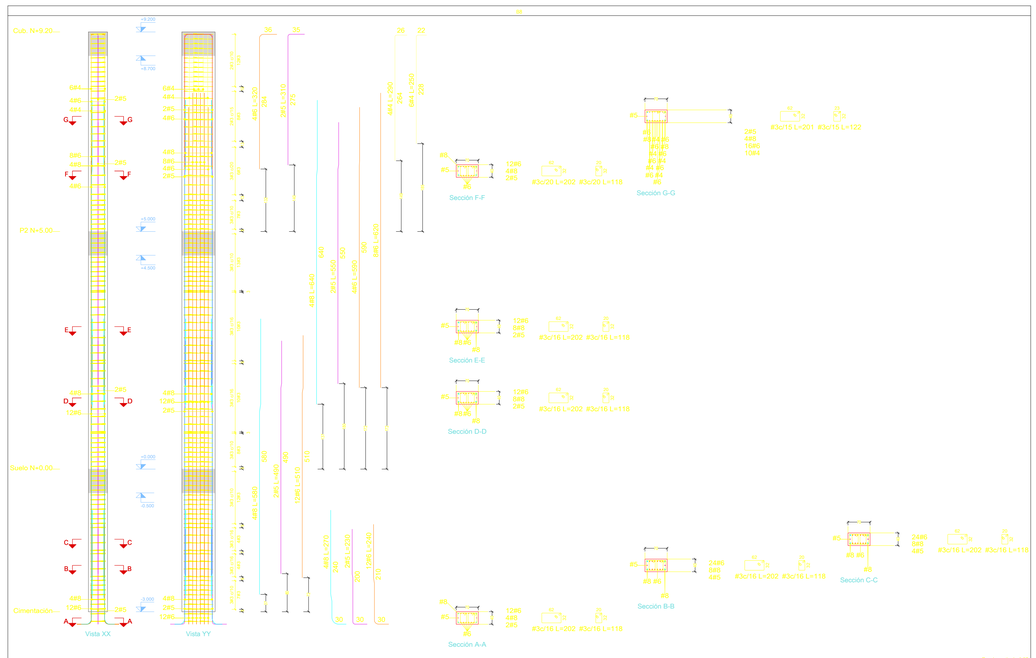
PLANO DE

9/20

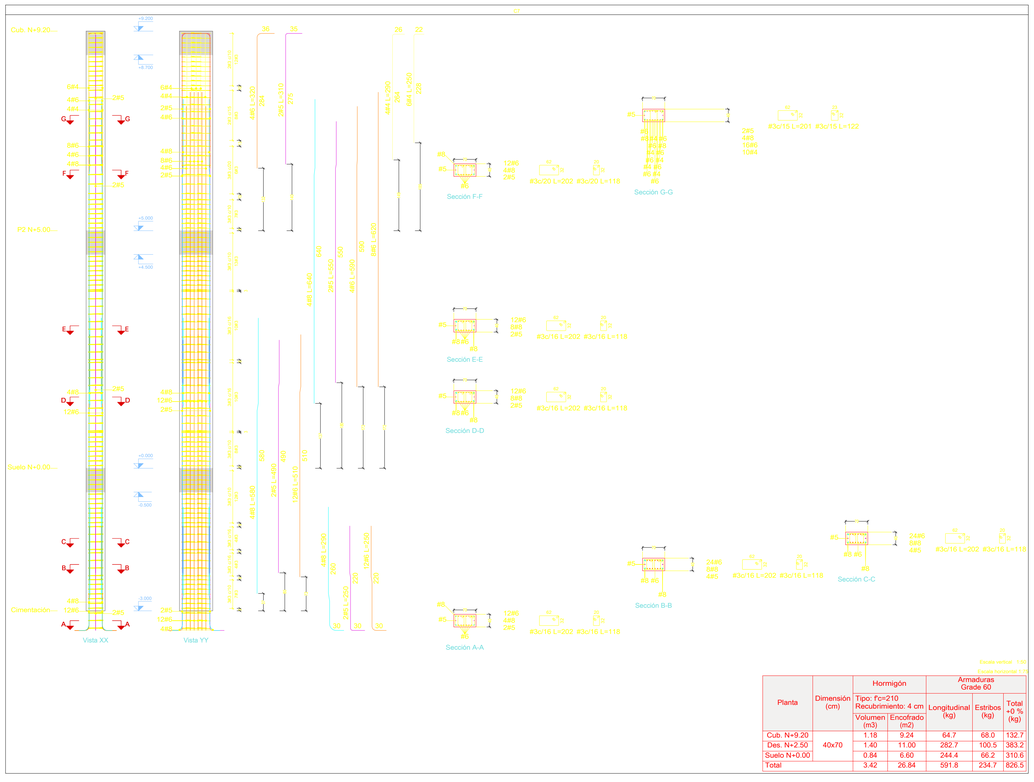



| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 68.0 | 132.7 |
| Des. N+2.50 | | 1.40 | 11.00 | 282.7 | 100.5 | 383.2 |
| Suelo N+0.00 | | 0.84 | 6.60 | 244.4 | 66.2 | 310.6 |
| Total (x3) | | 10.25 | 80.52 | 1775.5 | 704.2 | 2479.5 |

Pilares que nacen en Cimentación y mueren en Cub. N+9.20
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60




| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 68.0 | 132.7 |
| Des. N+2.50 | | 1.40 | 11.00 | 282.7 | 100.5 | 383.2 |
| Suelo N+0.00 | | 0.84 | 6.60 | 244.4 | 66.2 | 310.6 |
| Total | | 3.42 | 26.84 | 591.8 | 234.7 | 826.5 |




| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 68.0 | 132.7 |
| Des. N+2.50 | | 1.40 | 11.00 | 282.7 | 100.5 | 383.2 |
| Suelo N+0.00 | | 0.84 | 6.60 | 244.4 | 66.2 | 310.6 |
| Total | | 3.42 | 26.84 | 591.8 | 234.7 | 826.5 |

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO


OSCAR DAVID MORENO COGOLLO

INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 COR



Cualquier modificación parcial o total del diseño estructural debe ser supervisado y aprobado por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.


CONTIENE

BLOQUE COMEDOR N°1
DESPIECE COLUMNAS (4)

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñañres del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

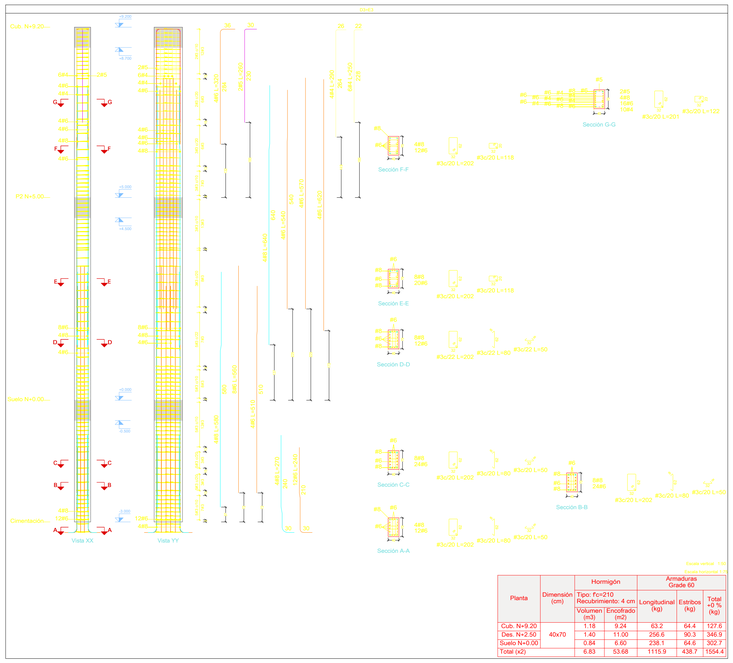
NOMBRE DEL ARCHIVO

FECHA: MARZO 2025

ESCALA: INDICADA

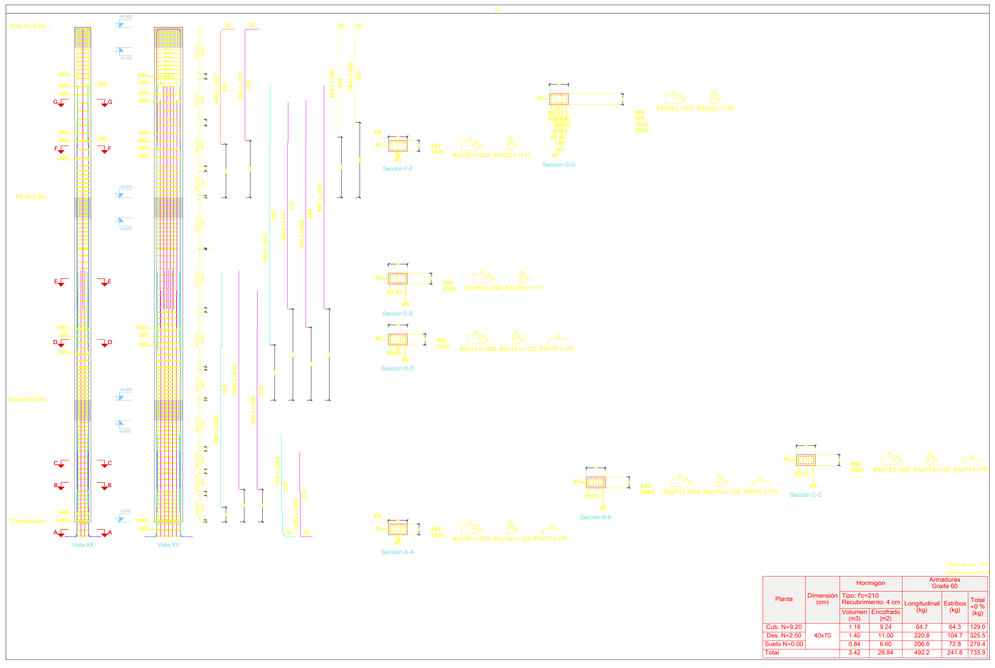
PLANO DE

10/20

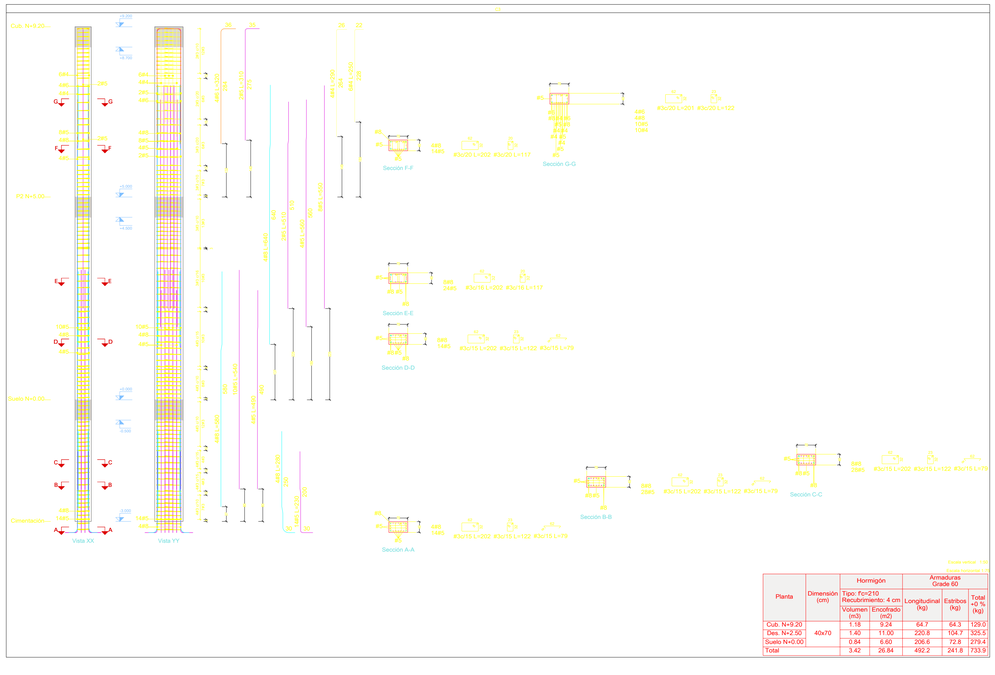



| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 63.2 | 64.4 | 127.6 |
| Des. N+2.50 | | 1.40 | 11.00 | 256.6 | 90.3 | 346.9 |
| Suelo N+0.00 | | 0.84 | 6.60 | 238.1 | 64.6 | 302.7 |
| Total (x2) | | 5.83 | 53.68 | 1115.9 | 438.7 | 1554.4 |

Pilares que nacen en Cimentación y mueren en Cub. N+9.20
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60




| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 64.3 | 129.0 |
| Des. N+2.50 | | 1.40 | 11.00 | 220.8 | 104.7 | 325.5 |
| Suelo N+0.00 | | 0.84 | 6.60 | 206.6 | 72.8 | 279.4 |
| Total | | 3.42 | 26.84 | 492.2 | 241.8 | 733.9 |




| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 64.3 | 129.0 |
| Des. N+2.50 | | 1.40 | 11.00 | 220.8 | 104.7 | 325.5 |
| Suelo N+0.00 | | 0.84 | 6.60 | 206.6 | 72.8 | 279.4 |
| Total | | 3.42 | 26.84 | 492.2 | 241.8 | 733.9 |

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO


OSCAR DAVID MORENO COGOLLO

INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221666 COR



Cualquier modificación parcial o total del diseño estructural debe ser supervisado y aprobado por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.


CONTIENE

BLOQUE COMEDOR N°1
DESPIECE COLUMNAS (5)

OBSERVACIONES

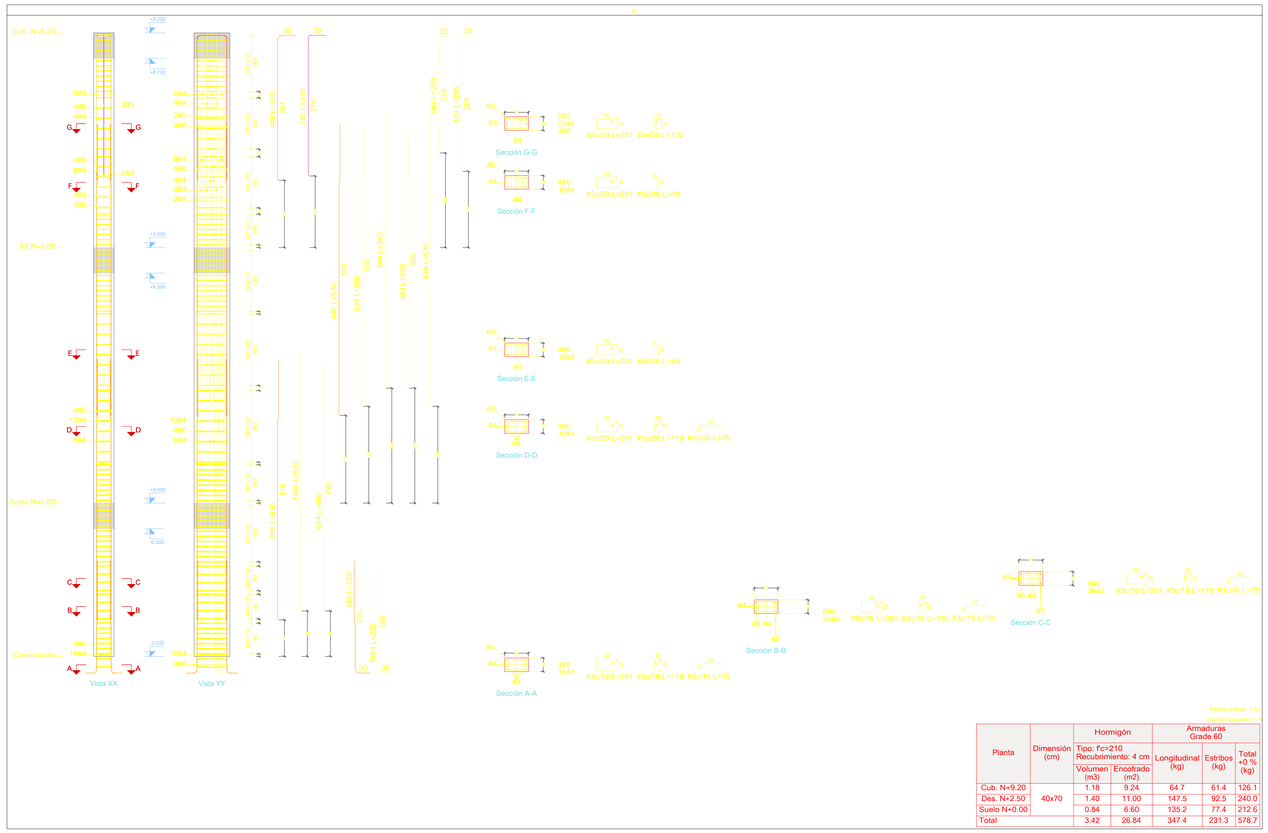
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será añarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025

ESCALA: INDICADA

PLANO 11/20 DE

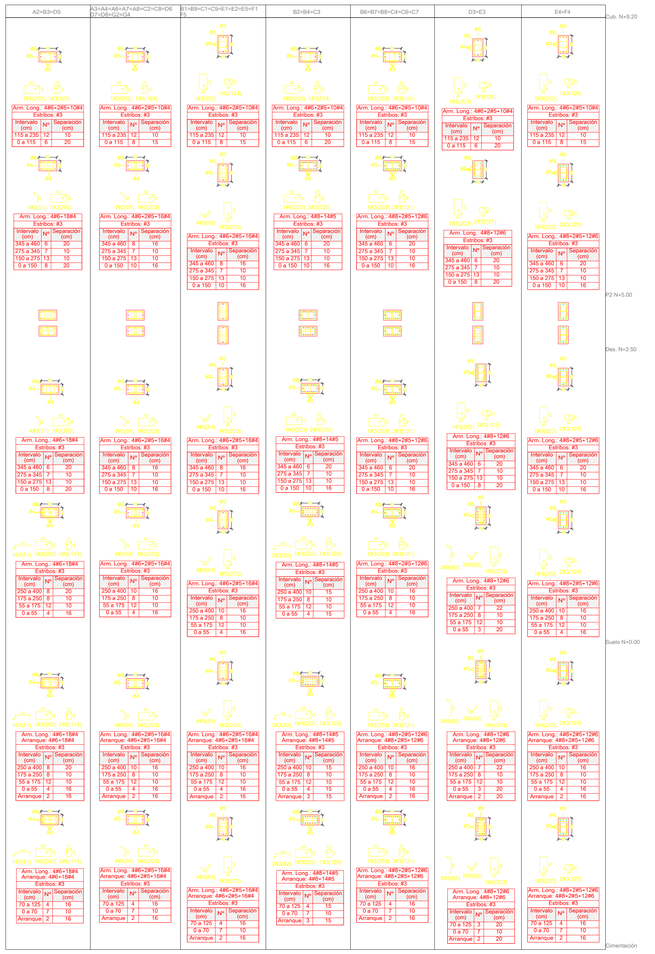


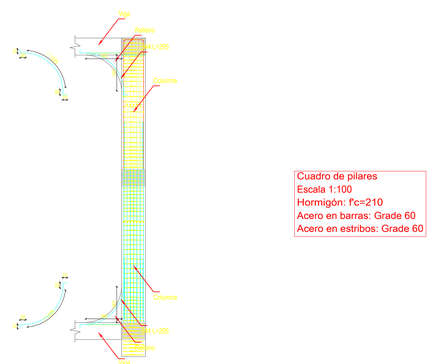

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 61.4 | 126.1 |
| Des. N+2.50 | | 1.40 | 11.00 | 147.5 | 92.5 | 240.0 |
| Suelo N+0.00 | | 0.84 | 6.60 | 135.2 | 77.4 | 212.6 |
| Total | | 3.42 | 26.84 | 347.4 | 231.3 | 578.7 |

Pilares que nacen en Cimentación y mueren en Cub. N+9.20
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60




| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| | | Volumen (m3) | Encofrado (m2) | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 64.7 | 61.4 | 126.1 |
| Des. N+2.50 | | 1.40 | 11.00 | 147.5 | 92.5 | 240.0 |
| Suelo N+0.00 | | 0.84 | 6.60 | 135.2 | 77.4 | 212.6 |
| Total (x2) | | 6.83 | 53.68 | 694.7 | 462.6 | 1157.4 |




DETALLE RELLENOS EN COLUMNAS
ESCALA: SIN


GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221864 COR



Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.


CONTIENE

BLOQUE COMEDOR N°1
DESPIECE COLUMNAS (6)

OBSERVACIONES

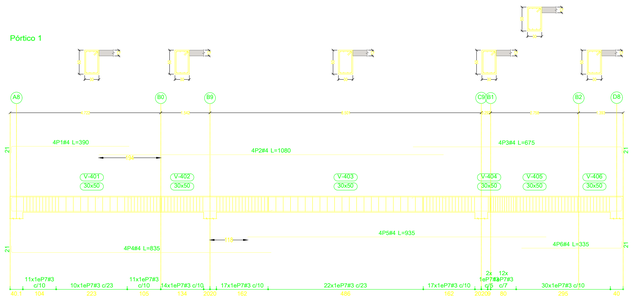
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
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4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

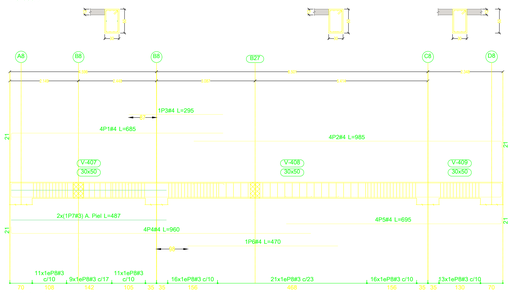
| FECHA | ESCALA |
|---|---|
| MARZO 2025 | INDICADA |

PLANO 12/20 DE

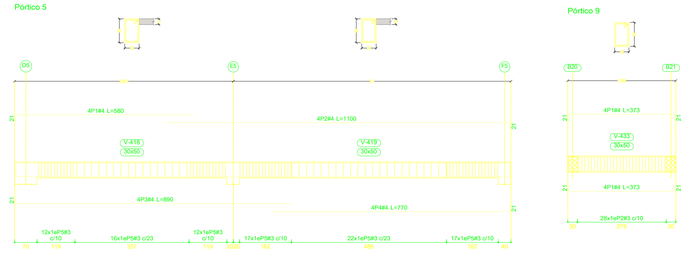
## Pórtico 1




## Pórtico 2



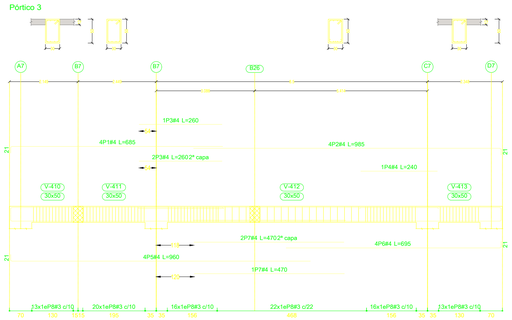

## Pórtico 5



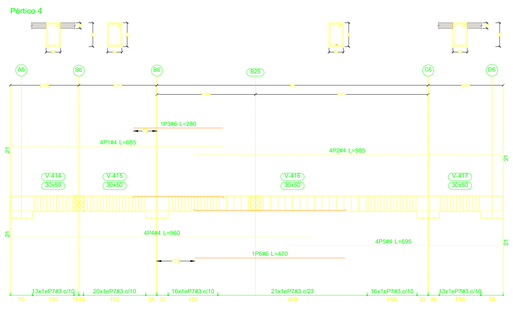

## Pórtico 9



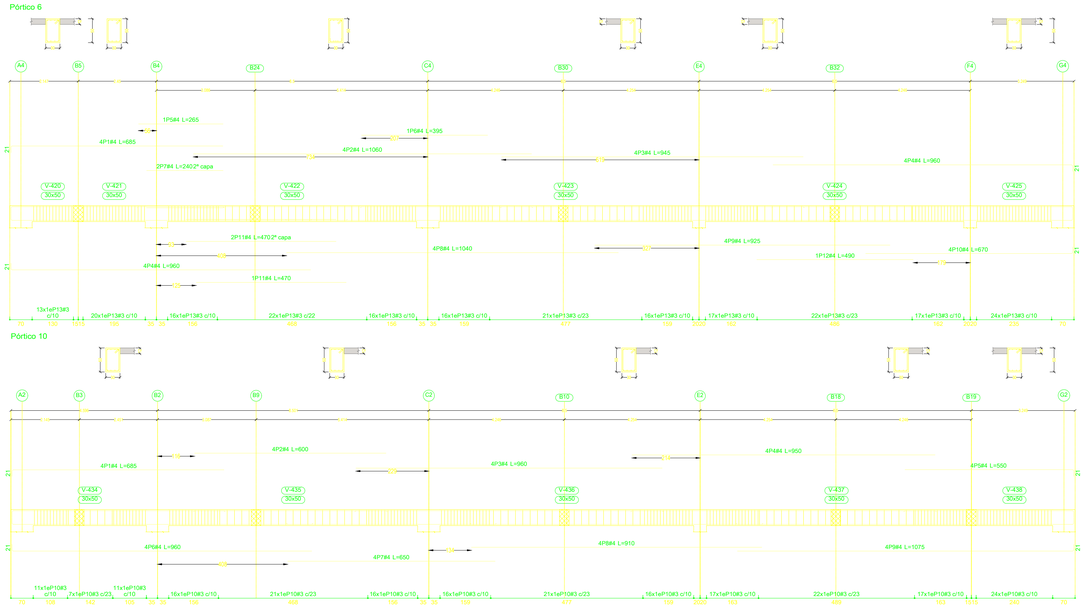

## Pórtico 3




## Pórtico 4



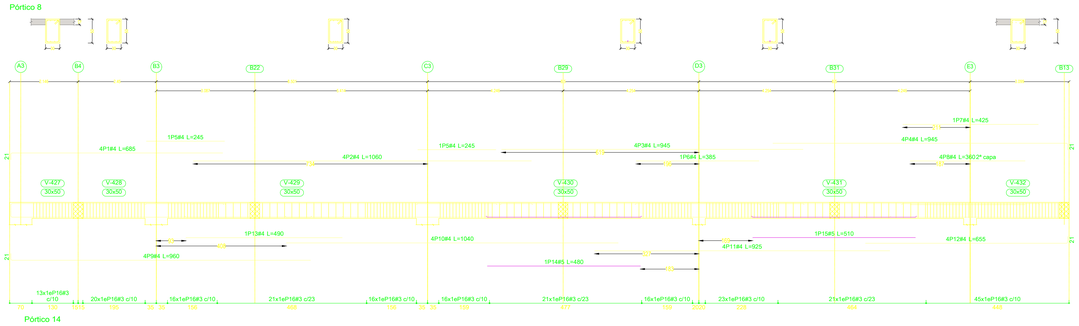

## Pórtico 6



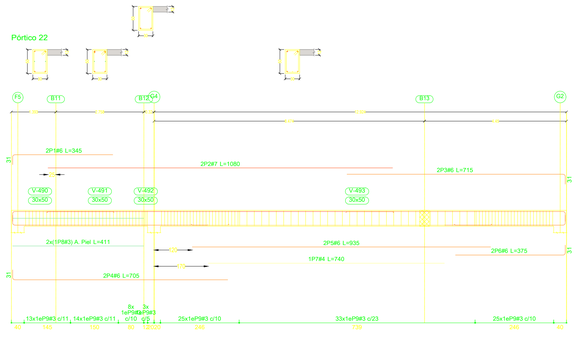

## Pórtico 10



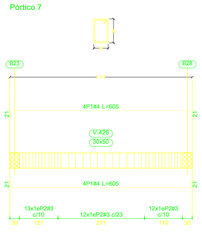

## Pórtico 8



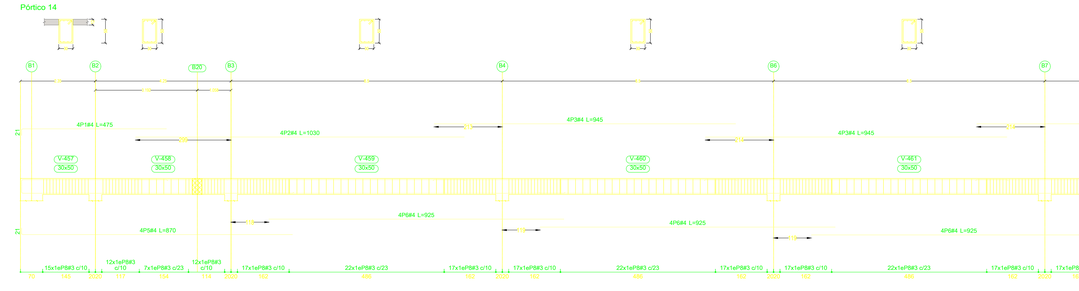

## Pórtico 22




## Pórtico 7




## Pórtico 14




| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 40 (kg) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 4 | 365 | 390 | 1560 | | 15.5 |
| | 2 | #4 | 4 | 1080 | 1080 | 4320 | | 43.0 |
| | 3 | #4 | 4 | 664 / 675 | 675 | 2700 | | 26.9 |
| | 4 | #4 | 4 | 814 / 814 | 835 | 3340 | | 33.2 |
| | 5 | #4 | 4 | 935 | 935 | 3740 | | 37.2 |
| | 6 | #4 | 4 | 314 / 314 | 335 | 1340 | | 13.3 |
| | 7 | #3 | 146 | 125 / 25 | 159 | 23214 | | 129.9 |
| | | | | | | Total | | 299.0 |
| Pórtico 2 | 1 | #4 | 4 | 664 / 664 | 685 | 2740 | | 27.3 |
| | 2 | #4 | 4 | 964 / 964 | 985 | 3940 | | 39.2 |
| | 3 | #4 | 1 | 295 | 295 | 295 | | 2.9 |
| | 4 | #4 | 4 | 935 / 935 | 960 | 3840 | | 38.2 |
| | 5 | #4 | 4 | 674 / 674 | 695 | 2780 | | 27.6 |
| | 6 | #4 | 1 | 470 | 470 | 470 | | 4.7 |
| | 7 | #3 | 2 | 487 | 487 | 974 | | 5.5 |
| | 8 | #3 | 97 | 125 / 25 | 159 | 15423 | | 86.3 |
| | | | | | | Total | | 231.7 |
| Pórtico 5 | 1 | #4 | 4 | 559 / 559 | 580 | 2320 | | 23.1 |
| | 2 | #4 | 4 | 1079 / 1079 | 1100 | 4400 | | 43.8 |
| | 3 | #4 | 4 | 868 / 868 | 890 | 3560 | | 35.4 |
| | 4 | #4 | 4 | 749 / 749 | 770 | 3080 | | 30.6 |
| | 5 | #3 | 96 | 125 / 25 | 159 | 15264 | | 85.4 |
| | | | | | | Total | | 218.3 |
| Pórtico 6 | 1 | #4 | 4 | 664 / 664 | 685 | 2740 | | 27.3 |
| | 2 | #4 | 4 | 1060 / 1060 | 1060 | 4240 | | 42.2 |
| | 3 | #4 | 4 | 945 / 945 | 945 | 3780 | | 37.6 |
| | 4 | #4 | 8 | 939 / 939 | 960 | 7680 | | 76.4 |
| | 5 | #4 | 1 | 265 | 265 | 265 | | 2.6 |
| | 6 | #4 | 1 | 395 | 395 | 395 | | 3.9 |
| | 7 | #4 | 2 | 240 / 240 | 240 | 480 | | 4.8 |
| | 8 | #4 | 4 | 1045 / 1045 | 1040 | 4160 | | 41.4 |
| | 9 | #4 | 4 | 925 | 925 | 3700 | | 36.8 |
| | 10 | #4 | 4 | 649 / 649 | 670 | 2680 | | 26.7 |
| | 11 | #4 | 3 | 470 / 470 | 470 | 1410 | | 14.0 |
| | 12 | #4 | 1 | 490 | 490 | 490 | | 4.9 |
| | 13 | #3 | 220 | 125 / 25 | 159 | 34980 | | 195.8 |
| | | | | | | Total | | 514.4 |
| Pórtico 7 | 1 | #4 | 8 | 563 / 563 | 605 | 4840 | | 48.1 |
| | 2 | #3 | 37 | 125 / 25 | 159 | 5883 | | 32.9 |
| | | | | | | Total | | 81.0 |
| Pórtico 8 | 1 | #4 | 4 | 664 / 664 | 685 | 2740 | | 27.3 |
| | 2 | #4 | 4 | 1060 / 1060 | 1060 | 4240 | | 42.2 |
| | 3 | #4 | 4 | 945 / 945 | 945 | 3780 | | 37.6 |
| | 4 | #4 | 4 | 924 / 924 | 945 | 3780 | | 37.6 |
| | 5 | #4 | 2 | 245 / 245 | 245 | 490 | | 4.9 |
| | 6 | #4 | 1 | 385 / 385 | 385 | 385 | | 3.8 |
| | 7 | #4 | 1 | 425 / 425 | 425 | 425 | | 4.2 |
| | 8 | #4 | 4 | 360 / 360 | 360 | 1440 | | 14.3 |
| | 9 | #4 | 4 | 939 / 939 | 960 | 3840 | | 38.2 |
| | 10 | #4 | 4 | 1045 / 1045 | 1040 | 4160 | | 41.4 |
| | 11 | #4 | 4 | 925 / 925 | 925 | 3700 | | 36.8 |
| | 12 | #4 | 4 | 634 / 634 | 655 | 2620 | | 26.1 |
| | 13 | #4 | 1 | 490 | 490 | 490 | | 4.9 |
| | 14 | #5 | 1 | 480 | 480 | 480 | | 7.5 |
| | 15 | #5 | 1 | 510 / 510 | 510 | 510 | | 7.9 |
| | 16 | #3 | 228 | 125 / 25 | 159 | 36252 | | 202.9 |
| | | | | | | Total | | 537.6 |
| Pórtico 10 | 1 | #4 | 4 | 664 / 664 | 685 | 2740 | | 27.3 |
| | 2 | #4 | 4 | 600 / 600 | 600 | 2400 | | 23.9 |
| | 3 | #4 | 4 | 960 / 960 | 960 | 3840 | | 38.2 |
| | 4 | #4 | 4 | 950 / 950 | 950 | 3800 | | 37.8 |
| | 5 | #4 | 4 | 529 / 529 | 550 | 2200 | | 21.9 |
| | 6 | #4 | 4 | 939 / 939 | 960 | 3840 | | 38.2 |
| | 7 | #4 | 4 | 650 / 650 | 650 | 2600 | | 25.9 |
| | 8 | #4 | 4 | 910 / 910 | 910 | 3640 | | 36.2 |
| | 9 | #4 | 4 | 1054 / 1054 | 1075 | 4300 | | 42.8 |
| | 10 | #3 | 215 | 125 / 25 | 159 | 34185 | | 191.3 |
| | | | | | | Total | | 483.5 |
| Pórtico 14 | 1 | #4 | 4 | 464 / 464 | 475 | 1900 | | 18.9 |
| | 2 | #4 | 4 | 1030 / 1030 | 1030 | 4120 | | 41.0 |
| | 3 | #4 | 12 | 945 / 945 | 945 | 11340 | | 112.8 |
| | 4 | #4 | 4 | 534 / 534 | 555 | 2220 | | 22.1 |
| | 5 | #4 | 4 | 849 / 849 | 870 | 3480 | | 34.6 |
| | 6 | #4 | 12 | 925 | 925 | 11100 | | 110.4 |
| | 7 | #4 | 4 | 1054 / 1054 | 1075 | 4300 | | 42.8 |
| | 8 | #3 | 294 | 125 / 25 | 159 | 46746 | | 261.6 |
| | | | | | | Total | | 644.2 |
| Pórtico 22 | 1 | #6 | 2 | 314 | 345 | 690 | | 15.4 |
| | 2 | #7 | 2 | 1080 | 1080 | 2160 | | 65.8 |
| | 3 | #6 | 2 | 664 / 664 | 715 | 1430 | | 32.0 |
| | 4 | #6 | 2 | 674 / 674 | 705 | 1410 | | 31.5 |
| | 5 | #6 | 2 | 935 / 935 | 935 | 1870 | | 41.8 |
| | 6 | #6 | 2 | 344 / 344 | 375 | 750 | | 16.8 |
| | 7 | #4 | 1 | 740 | 740 | 740 | | 7.4 |
| | 8 | #3 | 2 | 411 | 411 | 822 | | 4.6 |
| | 9 | #3 | 121 | 125 / 25 | 159 | 19239 | | 107.7 |
| | | | | | | Total | | 323.0 |
| Pórtico 3 | 1 | #4 | 4 | 664 / 664 | 685 | 2740 | | 27.3 |
| | 2 | #4 | 4 | 964 / 964 | 985 | 3940 | | 39.2 |
| | 3 | #4 | 3 | 260 | 260 | 780 | | 7.8 |
| | 4 | #4 | 1 | 240 | 240 | 240 | | 2.4 |
| | 5 | #4 | 4 | 939 / 939 | 960 | 3840 | | 38.2 |
| | 6 | #4 | 4 | 674 / 674 | 695 | 2780 | | 27.6 |
| | 7 | #4 | 3 | 470 | 470 | 1410 | | 14.0 |
| | 8 | #3 | 100 | 125 / 25 | 159 | 15900 | | 89.0 |
| | | | | | | Total | | 249.5 |
| Pórtico 4 | 1 | #4 | 4 | 664 / 664 | 685 | 2740 | | 27.3 |
| | 2 | #4 | 4 | 964 / 964 | 985 | 3940 | | 39.2 |
| | 3 | #6 | 1 | 280 | 280 | 280 | | 6.3 |
| | 4 | #4 | 4 | 939 / 939 | 960 | 3840 | | 38.2 |
| | 5 | #4 | 4 | 674 / 674 | 695 | 2780 | | 27.6 |
| | 6 | #6 | 1 | 470 | 470 | 470 | | 10.5 |
| | 7 | #3 | 99 | 125 / 25 | 159 | 15741 | | 88.1 |
| | | | | | | Total | | 237.2 |
| Pórtico 9 | 1 | #4 | 8 | 331 / 331 | 373 | 2984 | | 29.7 |
| | 2 | #3 | 28 | 125 / 25 | 159 | 4452 | | 24.9 |
| | | | | | | Total | | 54.6 |
| | | | | | #3 | 0.0 | | 1505.9 |
| | | | | | #4 | 0.0 | | 2128.6 |
| | | | | | #5 | 0.0 | | 15.4 |
| | | | | | #6 | 0.0 | | 164.3 |
| | | | | | #7 | 0.0 | | 53.5 |
| | | | | | Total | 0.0 | | 3870.0 |

Cub. N+9.20
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisado y aprobado por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE COMEDOR N°1
DESPIECE DE VIGAS N + 9.20 (1)

OBSERVACIONES

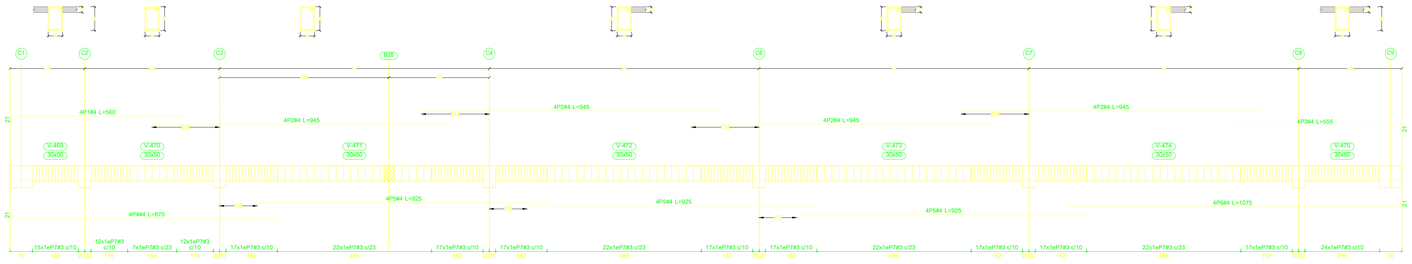
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será añarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

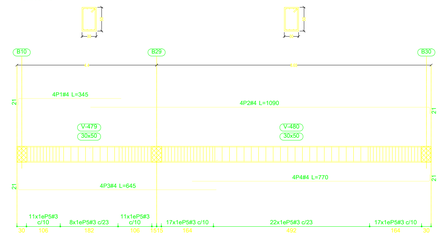
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
13/20

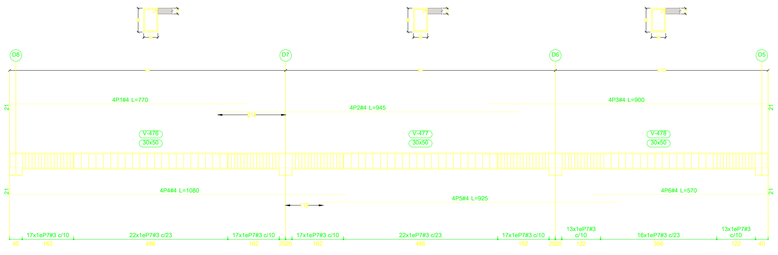
## Pórtico 16



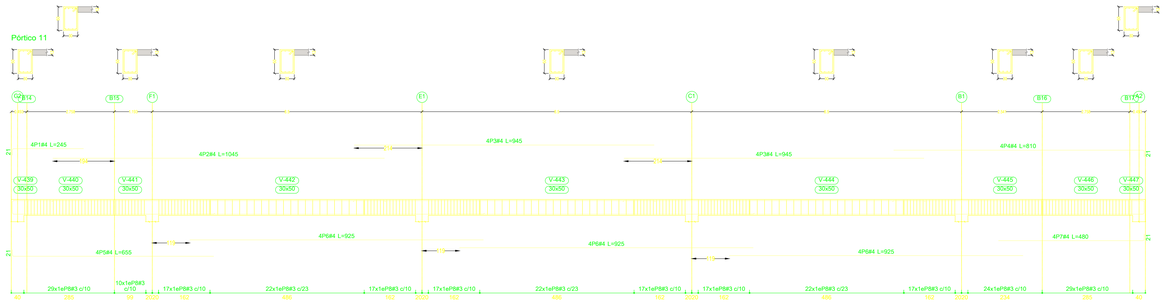

## Pórtico 18



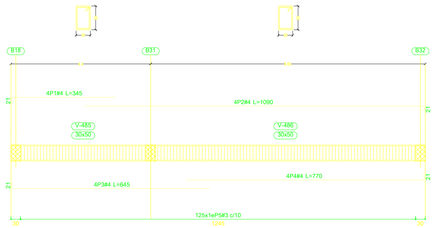

## Pórtico 17



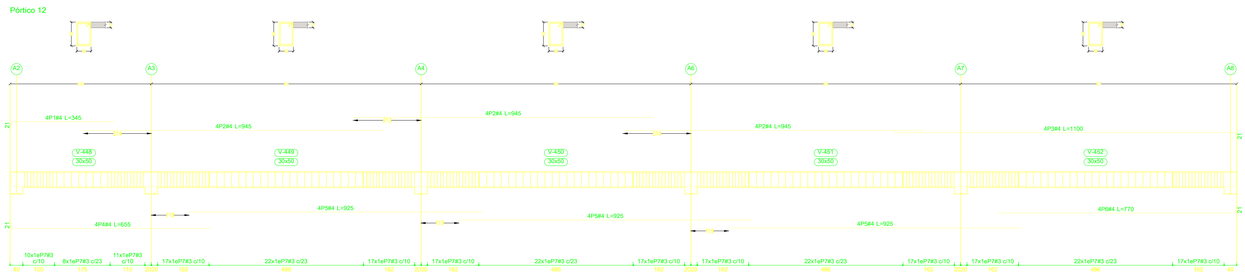

## Pórtico 11



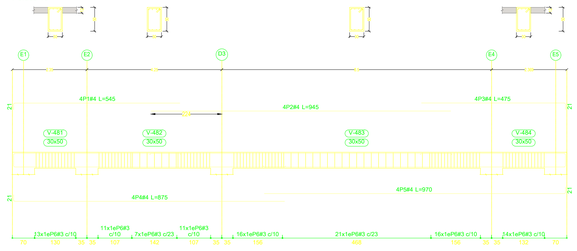

## Pórtico 20



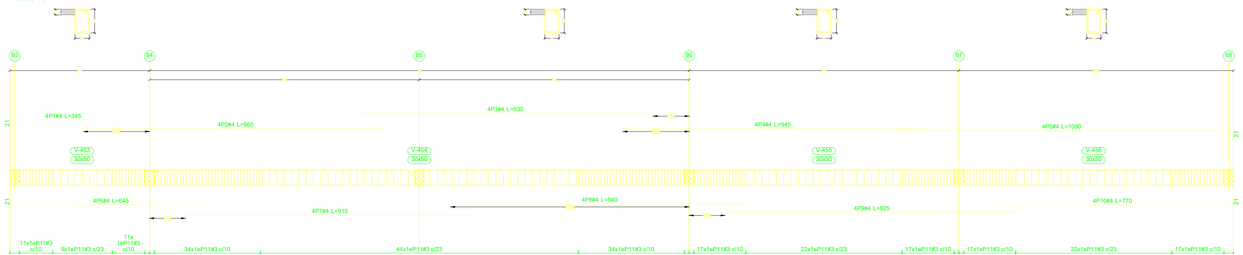

## Pórtico 12



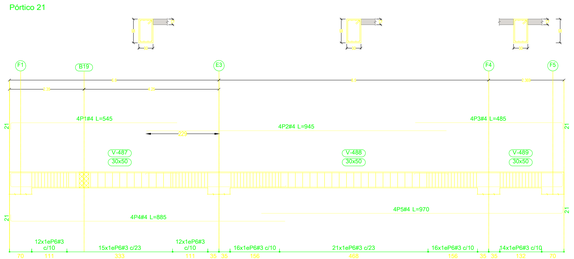

## Pórtico 19



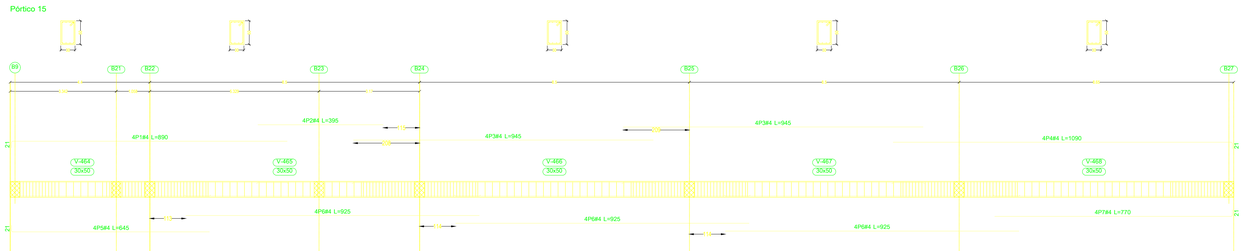

## Pórtico 13




## Pórtico 21




## Pórtico 15




| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 40 (kg) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|
| Pórtico 16 | 1 | #4 | 4 | 530 | 580 | 2240 | | 22.3 |
| | 2 | #4 | 16 | 945 | 945 | 15120 | | 150.4 |
| | 3 | #4 | 4 | 534 / 21 | 555 | 2220 | | 22.1 |
| | 4 | #4 | 4 | 849 / 21 | 870 | 3480 | | 34.6 |
| | 5 | #4 | 12 | 925 | 925 | 11100 | | 110.4 |
| | 6 | #4 | 4 | 1054 / 21 | 1075 | 4300 | | 42.8 |
| | 7 | #3 | 294 | 159 / 35 | 159 | 46746 | | 261.6 |
| | | | | | Total: | | | 644.2 |
| Pórtico 17 | 1 | #4 | 4 | 749 | 770 | 3080 | | 30.6 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | | 37.6 |
| | 3 | #4 | 4 | 879 / 21 | 900 | 3600 | | 35.8 |
| | 4 | #4 | 4 | 1059 / 21 | 1080 | 4320 | | 43.0 |
| | 5 | #4 | 4 | 925 | 925 | 3700 | | 36.8 |
| | 6 | #4 | 4 | 549 / 21 | 570 | 2280 | | 22.7 |
| | 7 | #3 | 154 | 159 / 35 | 159 | 24486 | | 137.0 |
| | | | | | Total: | | | 343.5 |
| Pórtico 18 | 1 | #4 | 4 | 324 | 345 | 1380 | | 13.7 |
| | 2 | #4 | 4 | 1069 / 21 | 1090 | 4360 | | 43.4 |
| | 3 | #4 | 4 | 624 / 21 | 645 | 2580 | | 25.7 |
| | 4 | #4 | 4 | 749 / 21 | 770 | 3080 | | 30.6 |
| | 5 | #3 | 86 | 159 / 35 | 159 | 13674 | | 76.6 |
| | | | | | Total: | | | 189.9 |
| Pórtico 19 | 1 | #4 | 4 | 524 | 545 | 2180 | | 21.7 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | | 37.6 |
| | 3 | #4 | 4 | 454 / 21 | 475 | 1900 | | 18.9 |
| | 4 | #4 | 4 | 854 / 21 | 875 | 3500 | | 34.8 |
| | 5 | #4 | 4 | 949 / 21 | 970 | 3880 | | 38.6 |
| | 6 | #3 | 109 | 159 / 35 | 159 | 17331 | | 97.0 |
| | | | | | Total: | | | 248.6 |
| Pórtico 20 | 1 | #4 | 4 | 324 | 345 | 1380 | | 13.7 |
| | 2 | #4 | 4 | 1069 / 21 | 1090 | 4360 | | 43.4 |
| | 3 | #4 | 4 | 624 / 21 | 645 | 2580 | | 25.7 |
| | 4 | #4 | 4 | 749 / 21 | 770 | 3080 | | 30.6 |
| | 5 | #3 | 125 | 159 / 35 | 159 | 19875 | | 111.2 |
| | | | | | Total: | | | 224.6 |
| Pórtico 21 | 1 | #4 | 4 | 524 | 545 | 2180 | | 21.7 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | | 37.6 |
| | 3 | #4 | 4 | 454 / 21 | 475 | 1900 | | 18.9 |
| | 4 | #4 | 4 | 864 / 21 | 885 | 3540 | | 35.2 |
| | 5 | #4 | 4 | 949 / 21 | 970 | 3880 | | 38.6 |
| | 6 | #3 | 106 | 159 / 35 | 159 | 16854 | | 94.3 |
| | | | | | Total: | | | 246.7 |
| Pórtico 11 | 1 | #4 | 4 | 224 / 21 | 245 | 980 | | 9.7 |
| | 2 | #4 | 4 | 1045 | 1045 | 4180 | | 41.6 |
| | 3 | #4 | 8 | 945 | 945 | 7560 | | 75.2 |
| | 4 | #4 | 4 | 789 | 810 | 3240 | | 32.2 |
| | 5 | #4 | 4 | 634 / 21 | 655 | 2620 | | 26.1 |
| | 6 | #4 | 12 | 925 | 925 | 11100 | | 110.4 |
| | 7 | #4 | 4 | 459 / 21 | 480 | 1920 | | 19.1 |
| | 8 | #3 | 260 | 159 / 35 | 159 | 41340 | | 231.4 |
| | | | | | Total: | | | 545.7 |
| Pórtico 12 | 1 | #4 | 4 | 324 | 345 | 1380 | | 13.7 |
| | 2 | #4 | 12 | 945 | 945 | 11340 | | 112.8 |
| | 3 | #4 | 4 | 1073 / 21 | 1100 | 4400 | | 43.8 |
| | 4 | #4 | 4 | 634 / 21 | 655 | 2620 | | 26.1 |
| | 5 | #4 | 12 | 925 | 925 | 11100 | | 110.4 |
| | 6 | #4 | 4 | 749 / 21 | 770 | 3080 | | 30.6 |
| | 7 | #3 | 253 | 159 / 35 | 159 | 40227 | | 225.2 |
| | | | | | Total: | | | 562.6 |
| Pórtico 13 | 1 | #4 | 4 | 324 | 345 | 1380 | | 13.7 |
| | 2 | #4 | 4 | 960 | 960 | 3840 | | 38.2 |
| | 3 | #4 | 4 | 930 | 930 | 3720 | | 37.0 |
| | 4 | #4 | 4 | 945 | 945 | 3780 | | 37.6 |
| | 5 | #4 | 4 | 1069 / 21 | 1090 | 4360 | | 43.4 |
| | 6 | #4 | 4 | 624 / 21 | 645 | 2580 | | 25.7 |
| | 7 | #4 | 4 | 910 | 910 | 3640 | | 36.2 |
| | 8 | #4 | 4 | 940 | 940 | 3760 | | 37.4 |
| | 9 | #4 | 4 | 925 | 925 | 3700 | | 36.8 |
| | 10 | #4 | 4 | 749 / 21 | 770 | 3080 | | 30.6 |
| | 11 | #3 | 255 | 159 / 35 | 159 | 40545 | | 226.9 |
| | | | | | Total: | | | 563.5 |
| Pórtico 15 | 1 | #4 | 4 | 869 / 21 | 890 | 3560 | | 35.4 |
| | 2 | #4 | 4 | 395 / 21 | 395 | 1580 | | 15.7 |
| | 3 | #4 | 8 | 945 | 945 | 7560 | | 75.2 |
| | 4 | #4 | 4 | 1069 / 21 | 1090 | 4360 | | 43.4 |
| | 5 | #4 | 4 | 624 / 21 | 645 | 2580 | | 25.7 |
| | 6 | #4 | 12 | 925 | 925 | 11100 | | 110.4 |
| | 7 | #4 | 4 | 749 / 21 | 770 | 3080 | | 30.6 |
| | 8 | #3 | 266 | 159 / 35 | 159 | 40704 | | 227.8 |
| | | | | | Total: | | | 564.2 |
| | | | | | #3 | 0.0 | | 1688.9 |
| | | | | | #4 | 0.0 | | 2444.6 |
| | | | | | Total: | 0.0 | | 4133.5 |

Recubrimiento
Longitud
Separación
Diámetro
Refuerzo
Cantidad

Unidades en cm

4P584@20 L=235 R.5

Cub. N+9.20
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

VoBo:

**PROYECTO:** Bloque comedor #1

**SOLICITANTE:** Gobernación de Córdoba

**CONTIENE:** Despiece vigas N+9.20 (2)

| MATERIALES | |
|---|---|
| Concreto (MPa) | 21 MPa |
| Acero (MPa) | 420 MPa |
| **CARGAS** | |
| Muertas | 325 kg/m2 |
| Vivas | 500 (Cubierta) y 600 kg/m2 |
| **SISMICIDAD** | |
| Disipación | DMO |
| Grupo de uso | III |
| Aa | 0.10 |
| Av | 0.10 |

| | |
|---|---|
| Calculó | MAT. MO RLV |
| Dibujo CAD | DPR-ARQ |
| Escala | Indicada |
| Fecha | Mar. 2025 |
| Plancha No. | E-14 |
| Total Planchas | 20 |

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 COR

CONTIENE

BLOQUE COMEDOR N°1
DESPIECE DE VIGAS N + 9.20 (2)

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

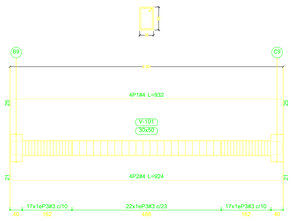
Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

NOMBRE DEL ARCHIVO

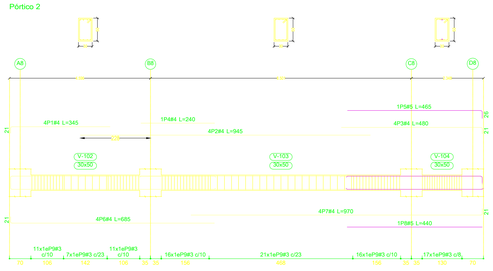
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO 14/20 DE

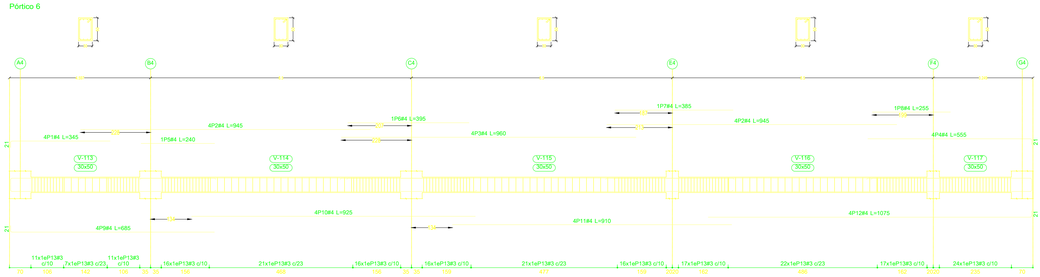
## Pórtico 1



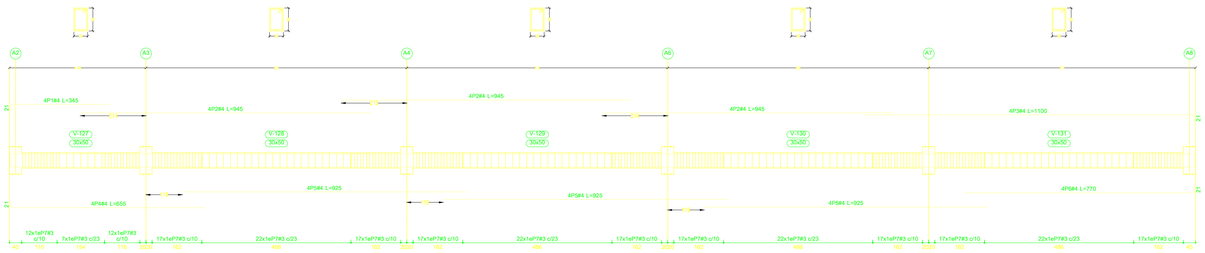

## Pórtico 2



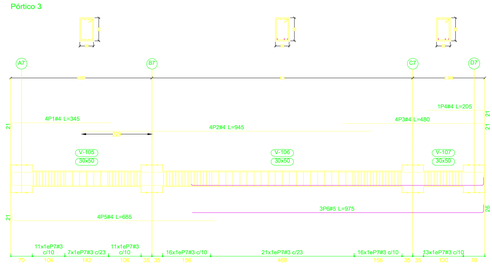

## Pórtico 6




## Pórtico 9




## Pórtico 3




## Pórtico 8

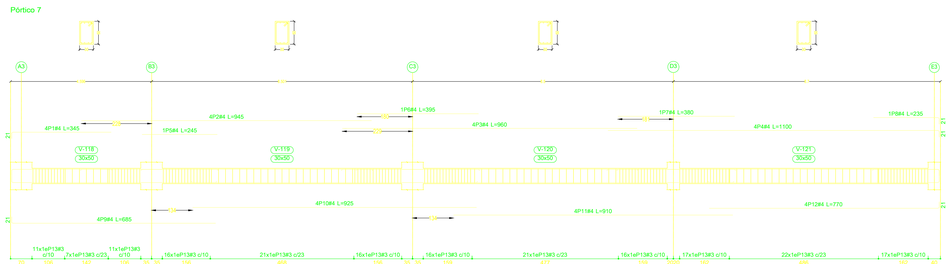



## Pórtico 4

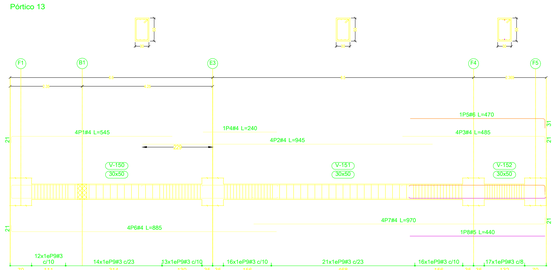


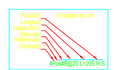

Suelo N+0.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

## Pórtico 7

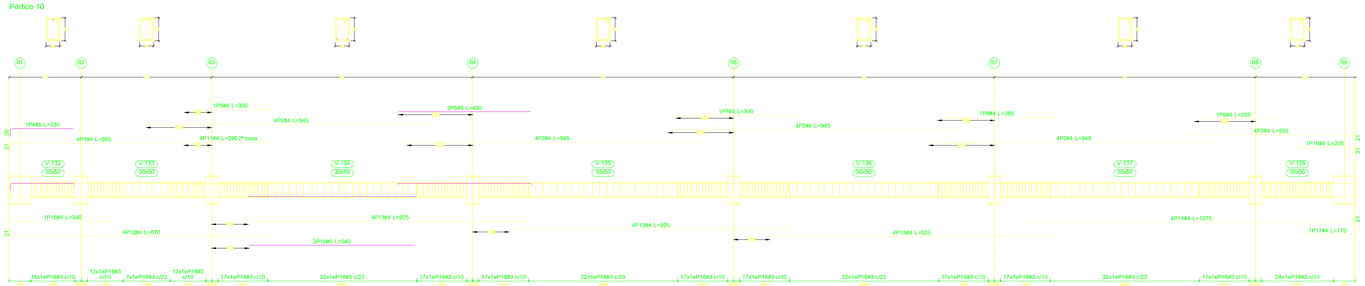



## Pórtico 13

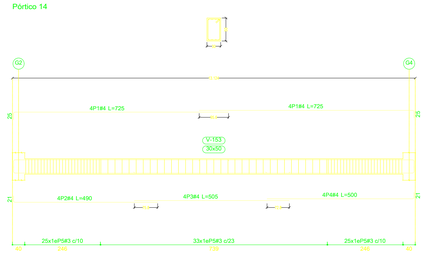



## Pórtico 10




## Pórtico 14




| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long (cm) | Total (cm) | Grado 40 (kg) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 4 | 882 | 932 | 3728 | | 37.1 |
| | 2 | #4 | 4 | 882 | 924 | 3696 | | 36.8 |
| | 3 | #3 | 56 | 108 / 35 | 159 | 8904 | | 49.8 |
| | | | | | | Total | | 123.7 |
| Pórtico 2 | 1 | #4 | 4 | 324 | 345 | 1380 | | 13.7 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | | 37.6 |
| | 3 | #4 | 4 | 459 | 480 | 1920 | | 19.1 |
| | 4 | #4 | 1 | 240 | 240 | 240 | | 2.4 |
| | 5 | #5 | 1 | 670 | 465 | 465 | | 7.2 |
| | 6 | #4 | 4 | 664 | 685 | 2740 | | 27.3 |
| | 7 | #4 | 4 | 949 | 970 | 3880 | | 38.6 |
| | 8 | #5 | 1 | 440 | 440 | 440 | | 6.8 |
| | 9 | #3 | 99 | 108 / 35 | 159 | 15741 | | 88.1 |
| | | | | | | Total | | 240.8 |
| Pórtico 3 | 1 | #4 | 4 | 324 | 345 | 1380 | | 13.7 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | | 37.6 |
| | 3 | #4 | 4 | 459 | 480 | 1920 | | 19.1 |
| | 4 | #4 | 1 | 194 | 205 | 205 | | 2.0 |
| | 5 | #4 | 4 | 664 | 685 | 2740 | | 27.3 |
| | 6 | #5 | 3 | 969 | 975 | 2925 | | 45.4 |
| | 7 | #3 | 96 | 108 / 35 | 159 | 15105 | | 84.5 |
| | | | | | | Total | | 229.6 |
| Pórtico 4 | 1 | #4 | 4 | 324 | 345 | 1380 | | 13.7 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | | 37.6 |
| | 3 | #4 | 4 | 459 | 480 | 1920 | | 19.1 |
| | 4 | #5 | 1 | 199 | 225 | 225 | | 3.5 |
| | 5 | #4 | 4 | 664 | 685 | 2740 | | 27.3 |
| | 6 | #5 | 3 | 969 | 975 | 2925 | | 45.4 |
| | 7 | #3 | 97 | 108 / 35 | 159 | 15423 | | 86.3 |
| | | | | | | Total | | 232.9 |
| Pórtico 6 | 1 | #4 | 4 | 324 | 345 | 1380 | | 13.7 |
| | 2 | #4 | 8 | 345 | 945 | 7560 | | 75.2 |
| | 3 | #4 | 4 | 960 | 960 | 3840 | | 38.2 |
| | 4 | #4 | 4 | 559 | 565 | 2220 | | 22.1 |
| | 5 | #4 | 1 | 240 | 240 | 240 | | 2.4 |
| | 6 | #4 | 1 | 395 | 395 | 395 | | 3.9 |
| | 7 | #4 | 1 | 385 | 385 | 385 | | 3.8 |
| | 8 | #4 | 1 | 255 | 255 | 255 | | 2.5 |
| | 9 | #4 | 4 | 664 | 685 | 2740 | | 27.3 |
| | 10 | #4 | 4 | 925 | 925 | 3700 | | 36.8 |
| | 11 | #4 | 4 | 910 | 910 | 3640 | | 36.2 |
| | 12 | #4 | 4 | 1054 | 1075 | 4300 | | 42.8 |
| | 13 | #3 | 215 | 108 / 35 | 159 | 34185 | | 191.3 |
| | | | | | | Total | | 496.2 |
| Pórtico 7 | 1 | #4 | 4 | 324 | 345 | 1380 | | 13.7 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | | 37.6 |
| | 3 | #4 | 4 | 960 | 960 | 3840 | | 38.2 |
| | 4 | #4 | 4 | 1019 | 1100 | 4400 | | 43.8 |
| | 5 | #4 | 1 | 245 | 245 | 245 | | 2.4 |
| | 6 | #4 | 1 | 395 | 395 | 395 | | 3.9 |
| | 7 | #4 | 1 | 380 | 380 | 380 | | 3.8 |
| | 8 | #4 | 1 | 214 | 235 | 235 | | 2.3 |
| | 9 | #4 | 4 | 664 | 685 | 2740 | | 27.3 |
| | 10 | #4 | 4 | 925 | 925 | 3700 | | 36.8 |
| | 11 | #4 | 4 | 910 | 910 | 3640 | | 36.2 |
| | 12 | #4 | 4 | 749 | 770 | 3080 | | 30.6 |
| | 13 | #3 | 191 | 108 / 35 | 159 | 30369 | | 170.0 |
| | | | | | | Total | | 446.6 |
| Pórtico 8 | 1 | #4 | 4 | 324 | 345 | 1380 | | 13.7 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | | 37.6 |
| | 3 | #4 | 4 | 960 | 960 | 3840 | | 38.2 |
| | 4 | #4 | 4 | 950 | 950 | 3800 | | 37.8 |
| | 5 | #4 | 4 | 529 | 550 | 2200 | | 21.9 |
| | 6 | #4 | 1 | 195 | 205 | 205 | | 2.0 |
| | 7 | #4 | 1 | 165 | 185 | 185 | | 1.8 |
| | 8 | #4 | 4 | 664 | 685 | 2740 | | 27.3 |
| | 9 | #4 | 4 | 925 | 925 | 3700 | | 36.8 |
| | 10 | #4 | 4 | 910 | 910 | 3640 | | 36.2 |
| | 11 | #4 | 4 | 1054 | 1075 | 4300 | | 42.8 |
| | 12 | #4 | 4 | 749 | 770 | 3080 | | 30.6 |
| | 13 | #3 | 191 | 108 / 35 | 159 | 30369 | | 170.0 |
| | | | | | | Total | | 446.6 |
| Pórtico 9 | 1 | #4 | 4 | 324 | 345 | 1380 | | 13.7 |
| | 2 | #4 | 12 | 945 | 945 | 11340 | | 112.8 |
| | 3 | #4 | 4 | 1100 | 1100 | 4400 | | 43.8 |
| | 4 | #4 | 4 | 634 | 655 | 2620 | | 26.1 |
| | 5 | #4 | 12 | 925 | 925 | 11100 | | 110.4 |
| | 6 | #4 | 4 | 749 | 770 | 3080 | | 30.6 |
| | 7 | #3 | 255 | 108 / 35 | 159 | 40545 | | 226.9 |
| | | | | | | Total | | 564.3 |
| Pórtico 10 | 1 | #4 | 4 | 539 | 560 | 2240 | | 22.3 |
| | 2 | #4 | 16 | 945 | 945 | 15120 | | 150.4 |
| | 3 | #4 | 4 | 534 | 555 | 2220 | | 22.1 |
| | 4 | #5 | 1 | 204 | 230 | 230 | | 3.6 |
| | 5 | #4 | 1 | 300 | 300 | 300 | | 3.0 |
| | 6 | #5 | 2 | 430 | 430 | 860 | | 13.4 |
| | 7 | #4 | 1 | 390 | 390 | 390 | | 3.9 |
| | 8 | #4 | 1 | 385 | 385 | 385 | | 3.8 |
| | 9 | #4 | 1 | 255 | 255 | 255 | | 2.5 |
| | 10 | #4 | 1 | 191 | 205 | 205 | | 2.0 |
| | 11 | #4 | 4 | 290 | 290 | 1160 | | 11.5 |
| | 12 | #4 | 4 | 849 | 870 | 3480 | | 34.6 |
| | 13 | #4 | 12 | 925 | 925 | 11100 | | 110.4 |
| | 14 | #4 | 4 | 1054 | 1075 | 4300 | | 42.8 |
| | 15 | #4 | 1 | 340 | 340 | 340 | | 3.4 |
| | 16 | #5 | 2 | 540 | 540 | 1080 | | 16.8 |
| | 17 | #4 | 1 | 170 | 170 | 170 | | 1.7 |
| | 18 | #3 | 294 | 108 / 35 | 159 | 46746 | | 261.6 |
| | | | | | | Total | | 709.8 |
| Pórtico 13 | 1 | #4 | 4 | 524 | 545 | 2180 | | 21.7 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | | 37.6 |
| | 3 | #4 | 4 | 456 | 485 | 1940 | | 19.3 |
| | 4 | #4 | 1 | 240 | 240 | 240 | | 2.4 |
| | 5 | #6 | 1 | 439 | 470 | 470 | | 10.5 |
| | 6 | #4 | 4 | 864 | 885 | 3540 | | 35.2 |
| | 7 | #4 | 4 | 949 | 970 | 3880 | | 38.6 |
| | 8 | #5 | 1 | 440 | 440 | 440 | | 6.8 |
| | 9 | #3 | 109 | 108 / 35 | 159 | 17331 | | 97.0 |
| | | | | | | Total | | 269.1 |
| Pórtico 14 | 1 | #4 | 8 | 700 | 725 | 5800 | | 57.7 |
| | 2 | #4 | 4 | 469 | 490 | 1960 | | 19.5 |
| | 3 | #4 | 4 | 505 | 505 | 2020 | | 20.1 |
| | 4 | #4 | 4 | 479 | 500 | 2000 | | 19.9 |
| | 5 | #3 | 83 | 108 / 35 | 159 | 13197 | | 73.9 |
| | | | | | | Total | | 191.1 |
| | | | | | #3 | 0.0 | | 1520.7 |
| | | | | | #4 | 0.0 | | 2211.4 |
| | | | | | #5 | 0.0 | | 148.9 |
| | | | | | #6 | 0.0 | | 10.5 |
| | | | | | Total | 0.0 | | 3991.5 |


GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221855 COR



Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.


CONTIENE

BLOQUE COMEDOR N°1
DESPIECE DE VIGAS N + 0.00 (1)

OBSERVACIONES

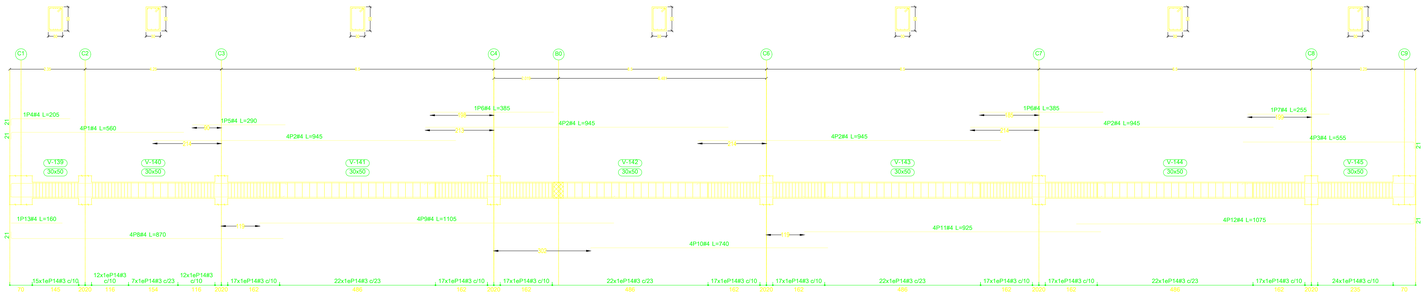
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será aclarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

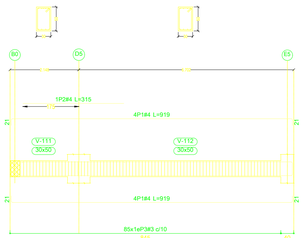
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE 15/20

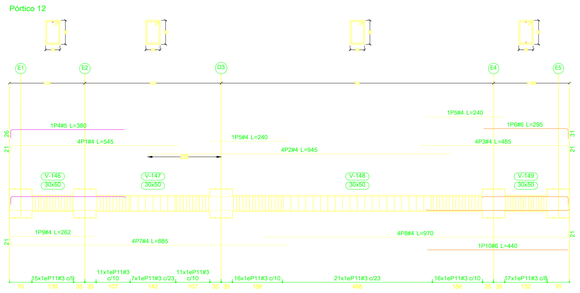
## Pórtico 11




## Pórtico 5

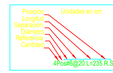


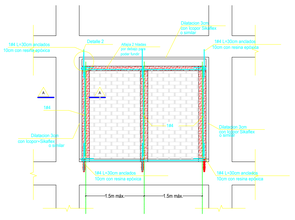

## Pórtico 12



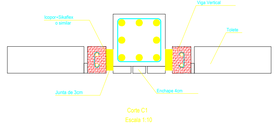

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 40 (kg) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|
| Pórtico 11 | 1 | #4 | 4 | 539 | 560 | 2240 | | 22.3 |
| | 2 | #4 | 16 | 945 | 945 | 15120 | | 150.4 |
| | 3 | #4 | 4 | 534 | 555 | 2220 | | 22.1 |
| | 4 | #4 | 1 | 184 | 205 | 205 | | 2.0 |
| | 5 | #4 | 1 | 290 | 290 | 290 | | 2.9 |
| | 6 | #4 | 2 | 385 | 385 | 770 | | 7.7 |
| | 7 | #4 | 1 | 255 | 255 | 255 | | 2.5 |
| | 8 | #4 | 4 | 849 | 870 | 3480 | | 34.6 |
| | 9 | #4 | 4 | 1105 | 1105 | 4420 | | 44.0 |
| | 10 | #4 | 4 | 740 | 740 | 2960 | | 29.4 |
| | 11 | #4 | 4 | 925 | 925 | 3700 | | 36.8 |
| | 12 | #4 | 4 | 1094 | 1075 | 4300 | | 42.8 |
| | 13 | #4 | 1 | 160 | 160 | 160 | | 1.6 |
| | 14 | #3 | 294 | 159 | 159 | 46746 | | 261.6 |
| | | | | | | Total | | 660.7 |
| Pórtico 12 | 1 | #4 | 4 | 524 | 545 | 2180 | | 21.7 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | | 37.6 |
| | 3 | #4 | 4 | 464 | 485 | 1940 | | 19.3 |
| | 4 | #5 | 1 | 354 | 380 | 380 | | 5.9 |
| | 5 | #4 | 2 | 240 | 240 | 480 | | 4.8 |
| | 6 | #6 | 1 | 294 | 295 | 295 | | 6.6 |
| | 7 | #4 | 4 | 864 | 885 | 3540 | | 35.2 |
| | 8 | #4 | 4 | 949 | 970 | 3880 | | 38.6 |
| | 9 | #4 | 1 | 262 | 262 | 262 | | 2.6 |
| | 10 | #6 | 1 | 440 | 440 | 440 | | 9.8 |
| | 11 | #3 | 114 | 159 | 159 | 18126 | | 101.5 |
| | | | | | | Total | | 283.6 |
| Pórtico 5 | 1 | #4 | 8 | 877 | 919 | 7352 | | 73.1 |
| | 2 | #4 | 1 | 315 | 315 | 315 | | 3.1 |
| | 3 | #3 | 85 | 159 | 159 | 13515 | | 75.6 |
| | | | | | | Total | | 151.8 |
| | | | | | | #3 | 0.0 | 639.7 |
| | | | | | | #4 | 0.0 | 835.1 |
| | | | | | | #5 | 0.0 | 5.9 |
| | | | | | | #6 | 0.0 | 16.4 |
| | | | | | | Total | 0.0 | 1096.1 |

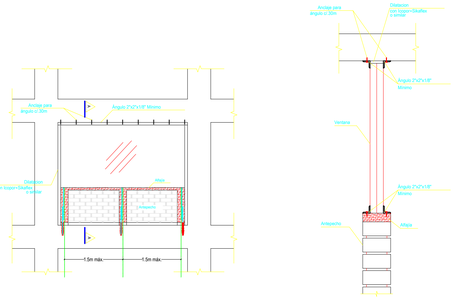
Suelo N+0.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm



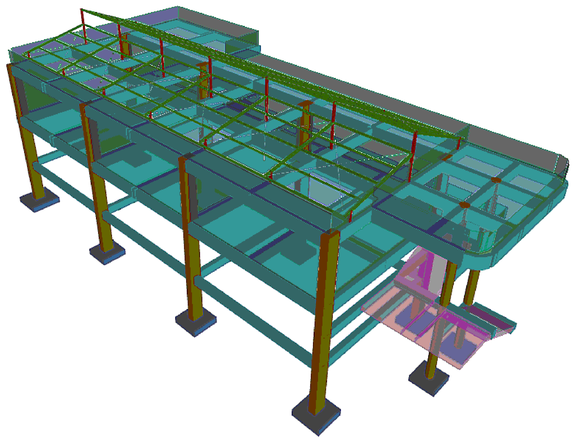




ELEMENTO DE FACHADA CON BLOQUE PAÑETADO
ESCALA SIN




ANCLAJE VENTANA EN ANTEPECHO
ESCALA SIN



VISTA ISOMÉTRICA
ESCALA: SIN

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221656 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE COMEDOR N°1
DESPIECE DE VIGAS N + 0.00 (2)
ELEMENTOS NO ESTRUCTURALAES

OBSERVACIONES

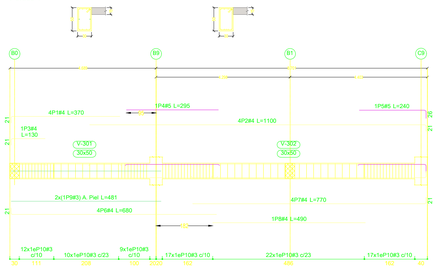
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

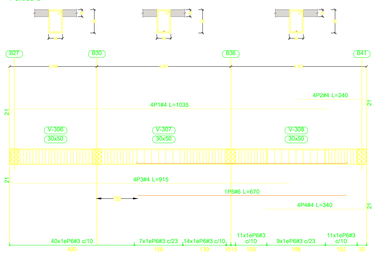
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO 16/20 DE

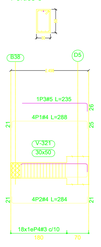
## Pórtico 1



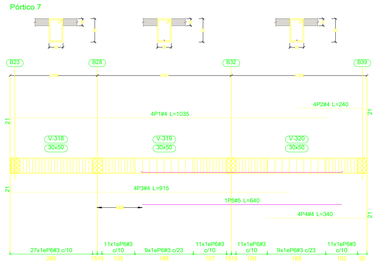

## Pórtico 3



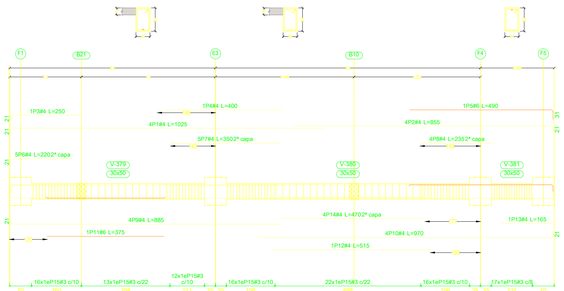

## Pórtico 8



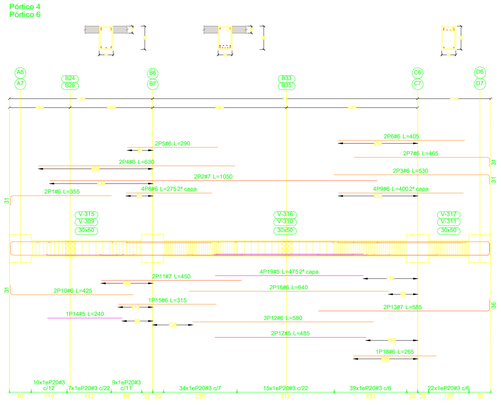

## Pórtico 7



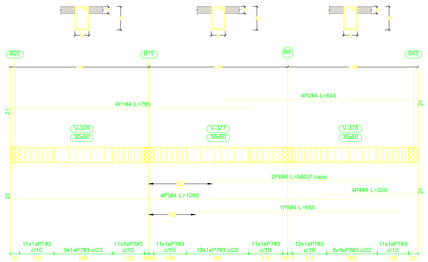

## Pórtico 21



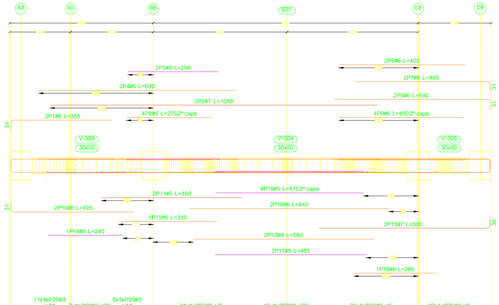

## Pórtico 4
## Pórtico 6



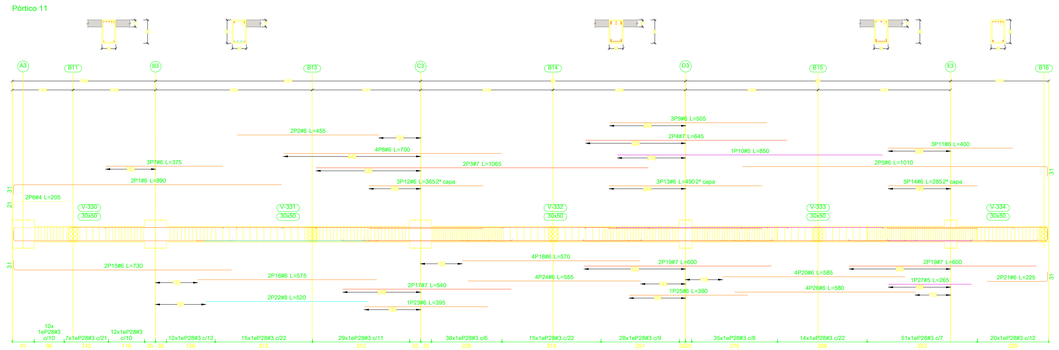

## Pórtico 20



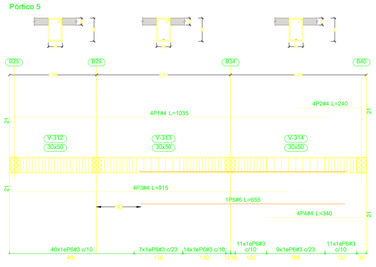

## Pórtico 2



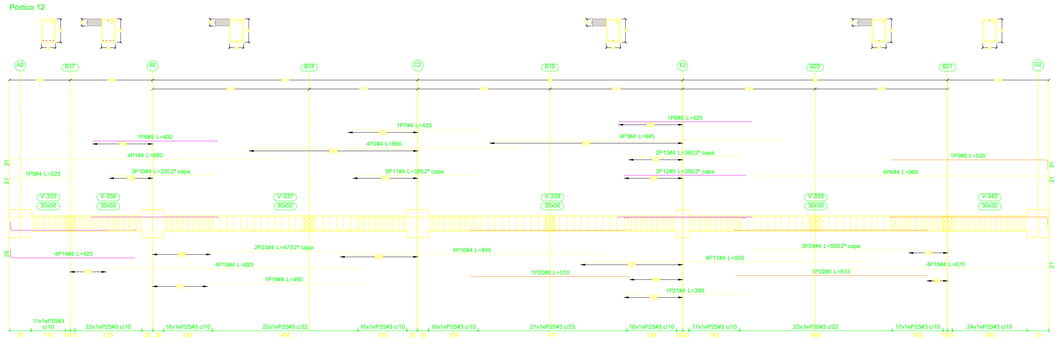

## Pórtico 11




## Pórtico 5




## Pórtico 12




P2 N+5.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

Proyecto Unidades en cm
Longitud
Separación
Diámetro
Referencia
Cantidad
6#5@@30 L=23 R.S.

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 40 (kg) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|
| Pórtico 11 | 1 | #6 | 2 | 809 | 890 | 1780 | | 39.8 |
| | 2 | #6 | 2 | 455 | 455 | 910 | | 20.4 |
| | 3 | #7 | 2 | 1065 | 1065 | 2130 | | 64.9 |
| | 4 | #7 | 2 | 645 | 645 | 1290 | | 39.3 |
| | 5 | #6 | 2 | 505 | 1010 | 2020 | | 45.2 |
| | 6 | #4 | 2 | 184 | 205 | 410 | | 4.1 |
| | 7 | #6 | 3 | 375 | 375 | 1125 | | 25.2 |
| | 8 | #6 | 4 | 700 | 700 | 2800 | | 62.6 |
| | 9 | #6 | 3 | 505 | 505 | 1515 | | 33.9 |
| | 10 | #5 | 1 | 850 | 850 | 850 | | 13.2 |
| | 11 | #6 | 3 | 400 | 400 | 1200 | | 26.8 |
| | 12 | #6 | 3 | 365 | 365 | 1095 | | 24.5 |
| | 13 | #6 | 3 | 490 | 490 | 1470 | | 32.9 |
| | 14 | #6 | 5 | 285 | 285 | 1425 | | 31.9 |
| | 15 | #6 | 2 | 859 | 730 | 1460 | | 32.7 |
| | 16 | #6 | 2 | 575 | 575 | 1150 | | 25.7 |
| | 17 | #7 | 2 | 540 | 540 | 1080 | | 32.9 |
| | 18 | #6 | 4 | 570 | 570 | 2280 | | 51.0 |
| | 19 | #7 | 4 | 600 | 600 | 2400 | | 73.1 |
| | 20 | #6 | 4 | 585 | 585 | 2340 | | 52.4 |
| | 21 | #6 | 2 | 184 | 235 | 470 | | 10.1 |
| | 22 | #6 | 2 | 520 | 520 | 1040 | | 41.4 |
| | 23 | #6 | 1 | 395 | 395 | 395 | | 8.8 |
| | 24 | #6 | 4 | 555 | 555 | 2220 | | 49.7 |
| | 25 | #6 | 1 | 380 | 380 | 380 | | 8.5 |
| | 26 | #6 | 4 | 580 | 580 | 2320 | | 51.9 |
| | 27 | #5 | 1 | 265 | 265 | 265 | | 4.1 |
| | 28 | #3 | 286 | 159 | 159 | 45474 | | 254.5 |
| | | | | | Total | | | 1161.5 |
| Pórtico 21 | 1 | #4 | 4 | 1004 | 1025 | 4100 | | 40.8 |
| | 2 | #4 | 4 | 834 | 855 | 3420 | | 34.0 |
| | 3 | #4 | 1 | 329 | 250 | 250 | | 2.5 |
| | 4 | #4 | 1 | 400 | 400 | 400 | | 4.0 |
| | 5 | #5 | 1 | 459 | 490 | 490 | | 11.0 |
| | 6 | #4 | 5 | 199 | 220 | 1100 | | 10.9 |
| | 7 | #4 | 5 | 350 | 350 | 1750 | | 17.4 |
| | 8 | #4 | 4 | 235 | 235 | 940 | | 9.3 |
| | 9 | #4 | 4 | 864 | 885 | 3540 | | 35.2 |
| | 10 | #4 | 4 | 363 | 970 | 3880 | | 38.6 |
| | 11 | #5 | 1 | 375 | 375 | 375 | | 8.4 |
| | 12 | #4 | 1 | 515 | 515 | 515 | | 5.1 |
| | 13 | #4 | 1 | 165 | 165 | 165 | | 1.6 |
| | 14 | #4 | 4 | 470 | 470 | 1880 | | 18.7 |
| | 15 | #3 | 112 | 159 | 159 | 17808 | | 99.7 |
| | | | | | Total | | | 337.2 |

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 40 (kg) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 4 | 349 | 370 | 1480 | | 14.7 |
| | 2 | #4 | 4 | 1079 | 1100 | 4400 | | 43.8 |
| | 3 | #4 | 1 | 109 | 130 | 130 | | 1.3 |
| | 4 | #5 | 1 | 290 | 295 | 295 | | 4.6 |
| | 5 | #5 | 1 | 214 | 240 | 240 | | 3.7 |
| | 6 | #4 | 4 | 669 | 680 | 2720 | | 27.1 |
| | 7 | #4 | 4 | 749 | 770 | 3080 | | 30.6 |
| | 8 | #4 | 1 | 490 | 490 | 490 | | 4.9 |
| | 9 | #3 | 2 | 481 | 481 | 962 | | 5.4 |
| | 10 | #3 | 87 | 159 | 159 | 13833 | | 77.4 |
| | | | | | Total | | | 213.5 |
| Pórtico 2 | 1 | #5 | 2 | 324 | 355 | 710 | | 15.9 |
| | 2 | #7 | 2 | 1050 | 1050 | 2100 | | 63.9 |
| | 3 | #5 | 2 | 499 | 530 | 1060 | | 23.7 |
| | 4 | #5 | 2 | 630 | 630 | 1260 | | 28.2 |
| | 5 | #5 | 2 | 290 | 290 | 580 | | 9.0 |
| | 6 | #5 | 2 | 405 | 405 | 810 | | 18.1 |
| | 7 | #6 | 2 | 434 | 465 | 930 | | 20.8 |
| | 8 | #6 | 4 | 275 | 275 | 1100 | | 24.6 |
| | 9 | #6 | 4 | 450 | 450 | 1600 | | 35.8 |
| | 10 | #5 | 2 | 394 | 425 | 850 | | 19.0 |
| | 11 | #7 | 2 | 450 | 450 | 900 | | 27.4 |
| | 12 | #6 | 2 | 580 | 580 | 1160 | | 26.0 |
| | 13 | #7 | 2 | 549 | 585 | 1170 | | 35.6 |
| | 14 | #5 | 1 | 240 | 240 | 240 | | 3.7 |
| | 15 | #5 | 1 | 315 | 315 | 315 | | 7.0 |
| | 16 | #6 | 2 | 640 | 640 | 1280 | | 28.6 |
| | 17 | #5 | 2 | 486 | 485 | 970 | | 15.1 |
| | 18 | #6 | 1 | 265 | 265 | 265 | | 5.9 |
| | 19 | #5 | 4 | 475 | 475 | 1900 | | 29.5 |
| | 20 | #3 | 137 | 159 | 159 | 21783 | | 121.9 |
| | | | | | Total | | | 509.7 |
| Pórtico 3 | 1 | #4 | 4 | 1014 | 1035 | 4140 | | 41.2 |
| | 2 | #4 | 4 | 219 | 240 | 960 | | 9.5 |
| | 3 | #4 | 4 | 894 | 915 | 3660 | | 36.4 |
| | 4 | #4 | 4 | 319 | 340 | 1360 | | 13.5 |
| | 5 | #5 | 1 | 670 | 670 | 670 | | 16.0 |
| | 6 | #3 | 92 | 159 | 159 | 14628 | | 81.9 |
| | | | | | Total | | | 197.5 |
| Pórtico 4=Pórtico 6 | 1 | #6 | 2 | 329 | 355 | 710 | | 15.9 |
| | 2 | #7 | 2 | 1050 | 1050 | 2100 | | 63.9 |
| | 3 | #5 | 2 | 499 | 530 | 1060 | | 23.7 |
| | 4 | #5 | 2 | 630 | 630 | 1260 | | 28.2 |
| | 5 | #5 | 2 | 290 | 290 | 580 | | 13.0 |
| | 6 | #5 | 2 | 405 | 405 | 810 | | 18.1 |
| | 7 | #6 | 2 | 434 | 465 | 930 | | 20.8 |
| | 8 | #5 | 4 | 275 | 275 | 1100 | | 24.6 |
| | 9 | #5 | 4 | 425 | 425 | 1700 | | 38.0 |
| | 10 | #5 | 2 | 394 | 425 | 850 | | 19.0 |
| | 11 | #7 | 2 | 450 | 450 | 900 | | 27.4 |
| | 12 | #6 | 3 | 580 | 580 | 1740 | | 38.9 |
| | 13 | #7 | 2 | 549 | 585 | 1170 | | 35.6 |
| | 14 | #5 | 1 | 240 | 240 | 240 | | 3.7 |
| | 15 | #5 | 1 | 315 | 315 | 315 | | 7.0 |
| | 16 | #6 | 2 | 640 | 640 | 1280 | | 28.6 |
| | 17 | #5 | 2 | 486 | 485 | 970 | | 15.1 |
| | 18 | #6 | 1 | 265 | 265 | 265 | | 5.9 |
| | 19 | #5 | 4 | 475 | 475 | 1900 | | 29.5 |
| | 20 | #3 | 136 | 159 | 159 | 21624 | | 121.0 |
| | | | | | Total (x2) | | | 575.7 153.4 |
| Pórtico 5 | 1 | #4 | 4 | 1014 | 1035 | 4140 | | 41.2 |
| | 2 | #4 | 4 | 219 | 240 | 960 | | 9.5 |
| | 3 | #4 | 4 | 894 | 915 | 3660 | | 36.4 |
| | 4 | #4 | 4 | 319 | 340 | 1360 | | 13.5 |
| | 5 | #6 | 1 | 655 | 655 | 655 | | 14.7 |
| | 6 | #3 | 92 | 159 | 159 | 14628 | | 81.9 |
| | | | | | Total | | | 197.2 |
| Pórtico 7 | 1 | #4 | 4 | 1014 | 1035 | 4140 | | 41.2 |
| | 2 | #4 | 4 | 219 | 240 | 960 | | 9.5 |
| | 3 | #4 | 4 | 894 | 915 | 3660 | | 36.4 |
| | 4 | #4 | 4 | 319 | 340 | 1360 | | 13.5 |
| | 5 | #5 | 1 | 640 | 640 | 640 | | 9.9 |
| | 6 | #3 | 89 | 159 | 159 | 14151 | | 79.2 |
| | | | | | Total | | | 189.7 |
| Pórtico 8 | 1 | #4 | 4 | 242 | 288 | 1152 | | 11.5 |
| | 2 | #4 | 4 | 242 | 284 | 1136 | | 11.3 |
| | 3 | #5 | 1 | 209 | 235 | 235 | | 3.7 |
| | 4 | #3 | 16 | 159 | 159 | 2862 | | 16.0 |
| | | | | | Total | | | 42.5 |
| Pórtico 12 | 1 | #4 | 4 | 899 | 880 | 3520 | | 36.0 |
| | 2 | #4 | 4 | 865 | 865 | 3460 | | 34.4 |
| | 3 | #4 | 4 | 943 | 940 | 3760 | | 37.6 |
| | 4 | #4 | 4 | 839 | 960 | 3840 | | 38.2 |
| | 5 | #4 | 1 | 222 | 223 | 223 | | 2.2 |
| | 6 | #5 | 1 | 406 | 400 | 400 | | 6.2 |
| | 7 | #4 | 1 | 425 | 425 | 425 | | 4.2 |
| | 8 | #5 | 1 | 425 | 425 | 425 | | 6.6 |
| | 9 | #6 | 1 | 504 | 535 | 535 | | 12.0 |
| | 10 | #4 | 3 | 330 | 330 | 990 | | 9.8 |
| | 11 | #4 | 5 | 396 | 395 | 1975 | | 19.6 |
| | 12 | #5 | 3 | 390 | 390 | 1170 | | 18.2 |
| | 13 | #4 | 2 | 360 | 360 | 720 | | 7.2 |
| | 14 | #5 | 4 | 399 | 425 | 1700 | | 26.4 |
| | 15 | #4 | 4 | 805 | 825 | 3300 | | 32.8 |
| | 16 | #4 | 4 | 845 | 845 | 3380 | | 33.6 |
| | 17 | #4 | 4 | 925 | 925 | 3700 | | 36.8 |
| | 18 | #4 | 4 | 649 | 670 | 2680 | | 26.7 |
| | 19 | #4 | 1 | 490 | 490 | 490 | | 4.9 |
| | 20 | #6 | 1 | 510 | 510 | 510 | | 11.4 |
| | 21 | #4 | 1 | 390 | 390 | 390 | | 3.9 |
| | 22 | #6 | 1 | 615 | 615 | 615 | | 13.8 |
| | 23 | #4 | 2 | 470 | 940 | 940 | | 9.3 |
| | 24 | #4 | 3 | 500 | 500 | 1500 | | 14.9 |
| | 25 | #3 | 221 | 159 | 159 | 35139 | | 196.7 |
| | | | | | Total | | | 642.4 |
| Pórtico 20 | 1 | #4 | 4 | 774 | 795 | 3180 | | 31.6 |
| | 2 | #4 | 4 | 624 | 645 | 2580 | | 25.7 |
| | 3 | #4 | 4 | 1074 | 1095 | 4380 | | 43.6 |
| | 4 | #4 | 4 | 299 | 320 | 1280 | | 12.7 |
| | 5 | #4 | 1 | 655 | 655 | 655 | | 6.5 |
| | 6 | #4 | 2 | 960 | 560 | 1120 | | 11.1 |
| | 7 | #3 | 94 | 159 | 159 | 14946 | | 83.7 |
| | | | | | Total | | | 214.9 |
| | | | | | #3 | 0.0 | 1340.3 | |
| | | | | | #4 | 0.0 | 1153.4 | |
| | | | | | #5 | 0.0 | 358.5 | |
| | | | | | #6 | 0.0 | 1532.9 | |
| | | | | | #7 | 0.0 | 360.9 | |
| | | | | | #8 | 0.0 | 41.4 | |
| | | | | | Total | 0.0 | 4997.5 | |

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221185 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE
BLOQUE COMEDOR N°1
DESPIECE DE VIGAS N + 5.00 (1)

OBSERVACIONES

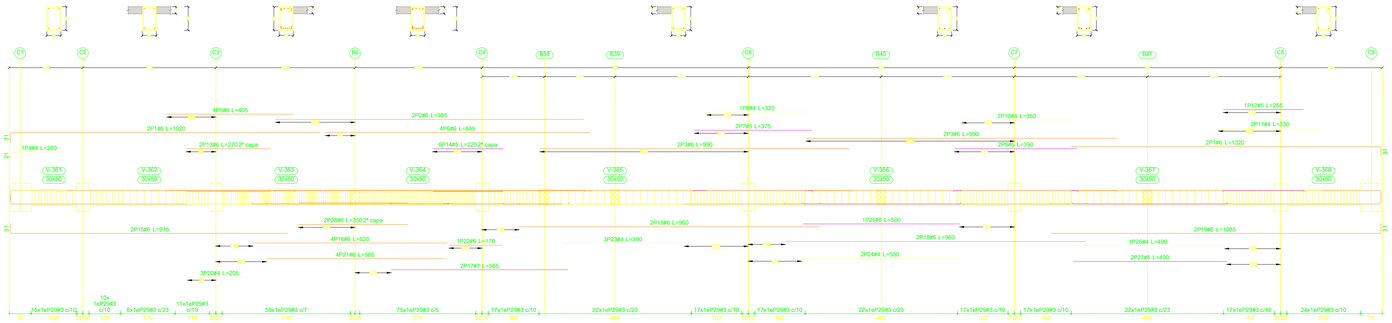
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será añarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

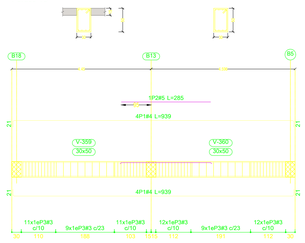
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
17/20

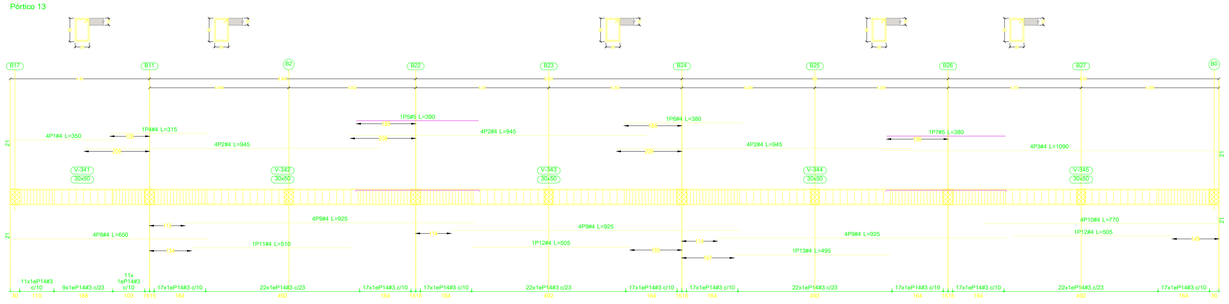
## Pórtico 17



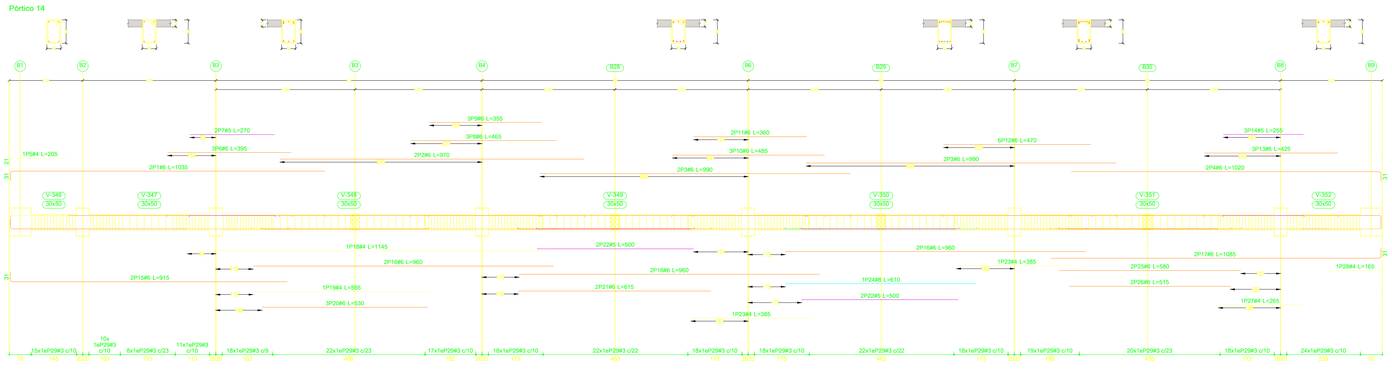

## Pórtico 16




## Pórtico 13

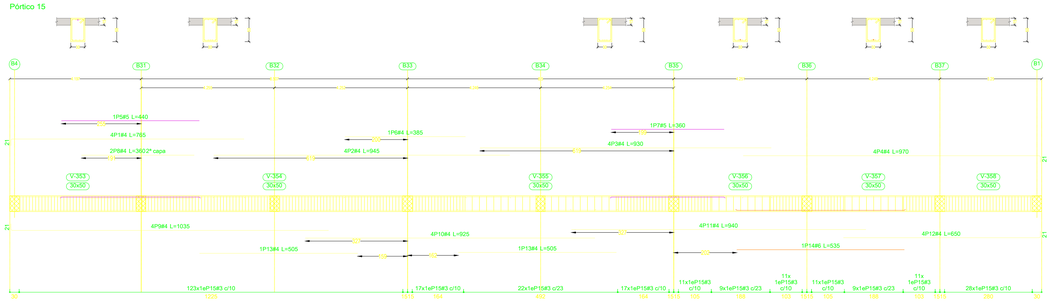



## Pórtico 14

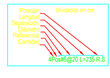



P2 N+5.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

## Pórtico 15




| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 40 (kg) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|
| Pórtico 13 | 1 | #4 | 4 | 329 | 350 | 1400 | | 13.9 |
| | 2 | #4 | 12 | 945 | 945 | 11340 | | 112.8 |
| | 3 | #4 | 4 | 1069 | 1090 | 4360 | | 43.4 |
| | 4 | #4 | 1 | 315 | 315 | 315 | | 3.1 |
| | 5 | #5 | 1 | 300 | 380 | 380 | | 6.1 |
| | 6 | #4 | 1 | 380 | 380 | 380 | | 3.8 |
| | 7 | #5 | 1 | 380 | 380 | 380 | | 5.9 |
| | 8 | #4 | 4 | 629 | 650 | 2600 | | 25.9 |
| | 9 | #4 | 12 | 925 | 925 | 11100 | | 110.4 |
| | 10 | #4 | 4 | 749 | 770 | 3080 | | 30.6 |
| | 11 | #4 | 1 | 510 | 510 | 510 | | 5.1 |
| | 12 | #4 | 2 | 505 | 505 | 1010 | | 10.0 |
| | 13 | #4 | 1 | 495 | 495 | 495 | | 4.9 |
| | 14 | #3 | 255 | 109 | 109 | 40945 | | 226.9 |
| | | | | | | Total | | 622.8 |
| Pórtico 14 | 1 | #6 | 2 | 1004 | 1035 | 2070 | | 46.3 |
| | 2 | #6 | 2 | 970 | 970 | 1940 | | 43.4 |
| | 3 | #6 | 4 | 990 | 990 | 3960 | | 88.6 |
| | 4 | #6 | 2 | 989 | 1020 | 2040 | | 45.6 |
| | 5 | #4 | 1 | 184 | 205 | 205 | | 2.0 |
| | 6 | #6 | 3 | 399 | 399 | 1185 | | 26.5 |
| | 7 | #5 | 2 | 270 | 270 | 540 | | 8.4 |
| | 8 | #6 | 3 | 465 | 465 | 1395 | | 31.2 |
| | 9 | #6 | 3 | 365 | 365 | 1065 | | 23.8 |
| | 10 | #6 | 3 | 485 | 485 | 1455 | | 32.6 |
| | 11 | #6 | 2 | 360 | 360 | 720 | | 16.1 |
| | 12 | #6 | 6 | 470 | 470 | 2820 | | 63.1 |
| | 13 | #6 | 3 | 425 | 425 | 1275 | | 28.5 |
| | 14 | #5 | 3 | 255 | 255 | 765 | | 11.9 |
| | 15 | #6 | 2 | 864 | 915 | 1830 | | 40.9 |
| | 16 | #6 | 6 | 960 | 960 | 5760 | | 128.9 |
| | 17 | #6 | 2 | 1054 | 1085 | 2170 | | 48.5 |
| | 18 | #4 | 1 | 1145 | 1145 | 1145 | | 11.4 |
| | 19 | #4 | 1 | 565 | 565 | 565 | | 5.6 |
| | 20 | #6 | 3 | 530 | 530 | 1590 | | 35.6 |
| | 21 | #6 | 2 | 615 | 615 | 1230 | | 27.5 |
| | 22 | #5 | 4 | 500 | 500 | 2000 | | 31.1 |
| | 23 | #4 | 2 | 385 | 385 | 770 | | 7.7 |
| | 24 | #8 | 1 | 610 | 610 | 610 | | 24.3 |
| | 25 | #6 | 2 | 580 | 580 | 1160 | | 26.0 |
| | 26 | #5 | 2 | 515 | 515 | 1030 | | 23.0 |
| | 27 | #4 | 1 | 265 | 265 | 265 | | 2.6 |
| | 28 | #4 | 1 | 165 | 165 | 165 | | 1.6 |
| | 29 | #3 | 268 | 109 | 159 | 47382 | | 265.2 |
| | | | | | | Total | | 1147.8 |
| Pórtico 15 | 1 | #4 | 4 | 744 | 765 | 3060 | | 30.4 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | | 37.6 |
| | 3 | #4 | 4 | 930 | 930 | 3720 | | 37.0 |
| | 4 | #4 | 4 | 949 | 970 | 3880 | | 38.6 |
| | 5 | #5 | 1 | 440 | 440 | 440 | | 6.8 |
| | 6 | #4 | 1 | 360 | 385 | 385 | | 3.8 |
| | 7 | #5 | 1 | 360 | 360 | 360 | | 5.6 |
| | 8 | #4 | 2 | 360 | 360 | 720 | | 7.2 |
| | 9 | #4 | 4 | 1014 | 1035 | 4140 | | 41.2 |
| | 10 | #4 | 4 | 925 | 925 | 3700 | | 36.8 |
| | 11 | #4 | 4 | 940 | 940 | 3760 | | 37.4 |
| | 12 | #4 | 4 | 629 | 650 | 2600 | | 25.9 |
| | 13 | #4 | 2 | 505 | 505 | 1010 | | 10.0 |
| | 14 | #5 | 1 | 535 | 535 | 535 | | 12.0 |
| | 15 | #3 | 269 | 109 | 159 | 42771 | | 239.4 |
| | | | | | | Total | | 569.7 |
| Pórtico 17 | 1 | #6 | 4 | 969 | 1020 | 4080 | | 91.3 |
| | 2 | #6 | 2 | 985 | 985 | 1970 | | 44.1 |
| | 3 | #6 | 4 | 950 | 990 | 3960 | | 88.6 |
| | 4 | #4 | 1 | 179 | 200 | 200 | | 2.0 |
| | 5 | #6 | 4 | 405 | 405 | 1620 | | 36.2 |
| | 6 | #6 | 4 | 845 | 845 | 3380 | | 75.6 |
| | 7 | #5 | 2 | 375 | 375 | 750 | | 11.7 |
| | 8 | #4 | 1 | 320 | 320 | 320 | | 3.2 |
| | 9 | #5 | 2 | 390 | 390 | 780 | | 12.1 |
| | 10 | #4 | 2 | 350 | 350 | 700 | | 7.8 |
| | 11 | #4 | 2 | 330 | 330 | 660 | | 6.6 |
| | 12 | #5 | 1 | 255 | 255 | 255 | | 4.0 |
| | 13 | #6 | 2 | 270 | 270 | 540 | | 12.1 |
| | 14 | #5 | 6 | 225 | 225 | 1350 | | 21.0 |
| | 15 | #6 | 2 | 894 | 915 | 1830 | | 40.9 |
| | 16 | #6 | 4 | 620 | 620 | 2480 | | 55.5 |
| | 17 | #7 | 2 | 565 | 565 | 1130 | | 34.4 |
| | 18 | #6 | 4 | 960 | 960 | 3840 | | 85.9 |
| | 19 | #6 | 2 | 1054 | 1085 | 2170 | | 48.5 |
| | 20 | #4 | 3 | 205 | 205 | 615 | | 6.1 |
| | 21 | #6 | 4 | 565 | 565 | 2260 | | 50.6 |
| | 22 | #5 | 1 | 170 | 170 | 170 | | 3.8 |
| | 23 | #4 | 3 | 390 | 390 | 1170 | | 11.6 |
| | 24 | #4 | 2 | 500 | 500 | 1000 | | 9.9 |
| | 25 | #5 | 1 | 500 | 500 | 500 | | 7.8 |
| | 26 | #4 | 1 | 490 | 490 | 490 | | 4.9 |
| | 27 | #5 | 2 | 490 | 490 | 980 | | 15.2 |
| | 28 | #6 | 2 | 350 | 350 | 700 | | 15.7 |
| | 29 | #3 | 370 | 109 | 159 | 58830 | | 329.3 |
| | | | | | | Total | | 1135.6 |
| Pórtico 16 | 1 | #4 | 8 | 897 | 939 | 7512 | | 74.7 |
| | 2 | #5 | 1 | 285 | 285 | 285 | | 4.4 |
| | 3 | #3 | 64 | 109 | 159 | 10176 | | 57.0 |
| | | | | | | Total | | 136.1 |
| | | | | | | #3 | 0.0 | 11173.8 |
| | | | | | | #4 | 0.0 | 1777.8 |
| | | | | | | #5 | 0.0 | 162.0 |
| | | | | | | #6 | 0.0 | 1436.9 |
| | | | | | | #7 | 0.0 | 34.4 |
| | | | | | | #8 | 0.0 | 24.3 |
| | | | | | | Total | 0.0 | 3450.1 |




GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisado y aprobado por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE COMEDOR N°1
DESPIECE DE VIGAS N + 5.00 (2)

OBSERVACIONES

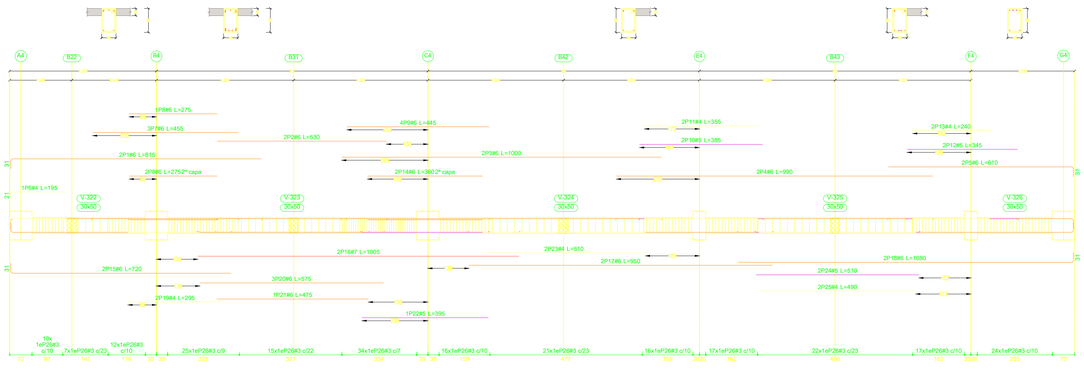
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
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5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

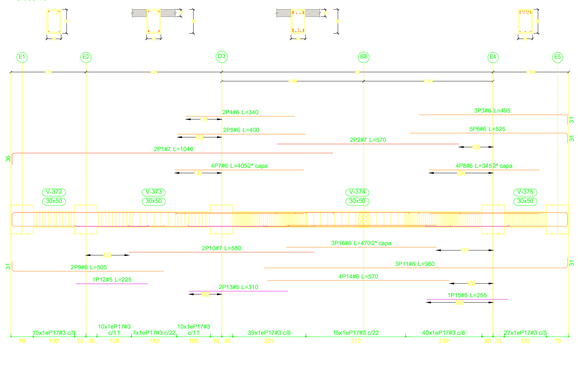
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE 18/20

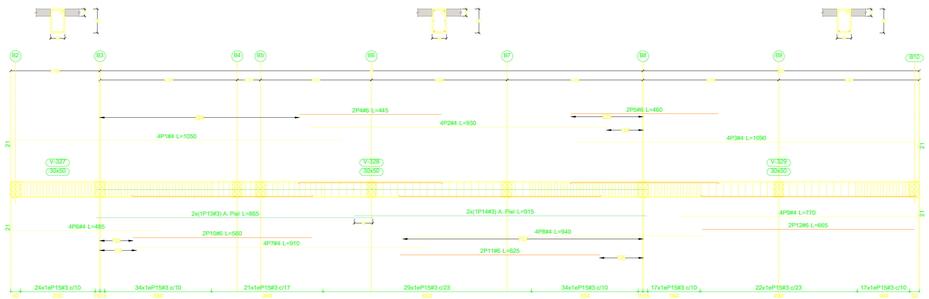
## Pórtico 9



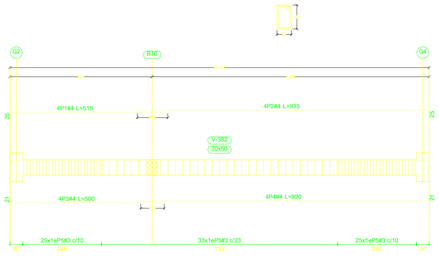

## Pórtico 19



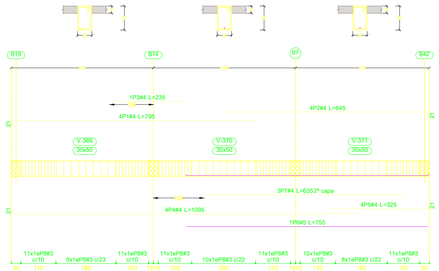

## Pórtico 10



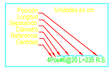

## Pórtico 22




## Pórtico 18




P2 N+5.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm




| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 40 (kg) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|
| Pórtico 9 | 1 | #6 | 2 | 784 | 815 | 1630 | | 36.5 |
| | 2 | #6 | 2 | 530 | 530 | 1060 | | 23.7 |
| | 3 | #6 | 2 | 1000 | 1000 | 2000 | | 44.7 |
| | 4 | #6 | 2 | 990 | 990 | 1980 | | 44.3 |
| | 5 | #6 | 2 | 570 + 40 | 610 | 1220 | | 27.3 |
| | 6 | #4 | 1 | 174 | 195 | 195 | | 1.9 |
| | 7 | #6 | 3 | 455 | 455 | 1365 | | 30.5 |
| | 8 | #6 | 3 | 275 | 275 | 825 | | 18.5 |
| | 9 | #6 | 4 | 445 | 445 | 1780 | | 39.8 |
| | 10 | #5 | 2 | 385 | 385 | 770 | | 12.0 |
| | 11 | #4 | 2 | 355 | 355 | 710 | | 7.1 |
| | 12 | #5 | 2 | 345 | 345 | 690 | | 10.7 |
| | 13 | #4 | 2 | 240 | 240 | 480 | | 4.8 |
| | 14 | #6 | 2 | 360 | 360 | 720 | | 16.1 |
| | 15 | #6 | 2 | 72 / 689 | 720 | 1440 | | 32.2 |
| | 16 | #7 | 2 | 1005 | 1005 | 2010 | | 61.2 |
| | 17 | #6 | 2 | 990 | 990 | 1980 | | 42.5 |
| | 18 | #6 | 2 | 1045 + 40 | 1090 | 2180 | | 48.3 |
| | 19 | #4 | 2 | 295 | 295 | 590 | | 5.9 |
| | 20 | #6 | 3 | 575 | 575 | 1725 | | 38.6 |
| | 21 | #6 | 1 | 475 | 475 | 475 | | 10.6 |
| | 22 | #5 | 1 | 395 | 395 | 395 | | 6.1 |
| | 23 | #4 | 2 | 510 | 510 | 1020 | | 10.1 |
| | 24 | #5 | 2 | 510 | 510 | 1020 | | 15.8 |
| | 25 | #4 | 2 | 490 | 490 | 980 | | 9.7 |
| | 26 | #3 | 236 | 40 / 159 / 35 | 159 | 37524 | | 210.0 |
| | | | | | Total | | | 808.9 |
| Pórtico 10 | 1 | #4 | 4 | 1029 | 1050 | 4200 | | 41.8 |
| | 2 | #4 | 4 | 930 | 930 | 3720 | | 37.0 |
| | 3 | #4 | 4 | 1065 + 40 | 1090 | 4360 | | 43.4 |
| | 4 | #6 | 2 | 445 | 445 | 890 | | 19.9 |
| | 5 | #6 | 2 | 460 | 460 | 920 | | 20.6 |
| | 6 | #4 | 4 | 72 / 464 | 485 | 1940 | | 19.3 |
| | 7 | #4 | 4 | 910 | 910 | 3640 | | 36.2 |
| | 8 | #4 | 4 | 940 | 940 | 3760 | | 37.4 |
| | 9 | #4 | 4 | 749 + 40 | 770 | 3080 | | 30.6 |
| | 10 | #6 | 2 | 560 | 560 | 1120 | | 25.1 |
| | 11 | #6 | 2 | 625 | 625 | 1250 | | 28.0 |
| | 12 | #6 | 2 | 665 | 665 | 1330 | | 29.8 |
| | 13 | #3 | 2 | 865 | 865 | 1730 | | 9.7 |
| | 14 | #3 | 2 | 915 | 915 | 1830 | | 10.2 |
| | 15 | #3 | 198 | 40 / 159 / 35 | 159 | 31482 | | 176.2 |
| | | | | | Total | | | 565.2 |
| Pórtico 19 | 1 | #7 | 2 | 1004 | 1040 | 2080 | | 63.3 |
| | 2 | #7 | 2 | 570 | 570 | 1140 | | 34.7 |
| | 3 | #6 | 3 | 464 + 40 | 496 | 1485 | | 33.2 |
| | 4 | #6 | 2 | 340 | 340 | 680 | | 15.2 |
| | 5 | #6 | 2 | 400 | 400 | 800 | | 17.9 |
| | 6 | #6 | 5 | 484 + 40 | 525 | 2625 | | 58.7 |
| | 7 | #6 | 4 | 405 | 405 | 1620 | | 36.2 |
| | 8 | #6 | 4 | 345 | 345 | 1380 | | 30.9 |
| | 9 | #6 | 2 | 72 / 474 | 505 | 1010 | | 22.6 |
| | 10 | #7 | 2 | 580 | 580 | 1160 | | 35.3 |
| | 11 | #6 | 3 | 949 + 40 | 980 | 2940 | | 65.8 |
| | 12 | #5 | 1 | 225 | 225 | 225 | | 3.5 |
| | 13 | #5 | 2 | 310 | 310 | 620 | | 9.6 |
| | 14 | #6 | 4 | 570 | 570 | 2280 | | 51.0 |
| | 15 | #5 | 1 | 255 | 255 | 255 | | 4.0 |
| | 16 | #6 | 3 | 470 | 470 | 1410 | | 31.5 |
| | 17 | #3 | 163 | 40 / 159 / 35 | 159 | 25917 | | 145.1 |
| | | | | | Total | | | 656.9 |
| Pórtico 22 | 1 | #4 | 4 | 490 | 515 | 2060 | | 20.5 |
| | 2 | #4 | 4 | 910 + 40 | 959 | 3740 | | 37.2 |
| | 3 | #4 | 4 | 72 / 479 | 500 | 2000 | | 19.9 |
| | 4 | #4 | 4 | 899 + 40 | 920 | 3680 | | 36.6 |
| | 5 | #3 | 83 | 40 / 159 / 35 | 159 | 13197 | | 73.9 |
| | | | | | Total | | | 188.1 |
| Pórtico 18 | 1 | #4 | 4 | 774 | 795 | 3180 | | 31.6 |
| | 2 | #4 | 4 | 604 + 40 | 645 | 2580 | | 25.7 |
| | 3 | #4 | 1 | 235 | 235 | 235 | | 2.3 |
| | 4 | #4 | 4 | 72 / 1074 | 1095 | 4380 | | 43.6 |
| | 5 | #4 | 4 | 306 + 40 | 325 | 1300 | | 12.9 |
| | 6 | #5 | 1 | 705 | 755 | 755 | | 11.7 |
| | 7 | #4 | 3 | 505 | 635 | 1905 | | 18.9 |
| | 8 | #3 | 94 | 40 / 159 / 35 | 159 | 14946 | | 83.7 |
| | | | | | Total | | | 230.4 |
| | | | | | #3: | 0.0 | | 708.8 |
| | | | | | #4: | 0.0 | | 1154.9 |
| | | | | | #5: | 0.0 | | 73.4 |
| | | | | | #6: | 0.0 | | 940.0 |
| | | | | | #7: | 0.0 | | 194.5 |
| | | | | | Total: | 0.0 | | 2451.1 |

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO


OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221869 COR



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CONTIENE

BLOQUE COMEDOR N°1
DESPIECE DE VIGAS N + 5.00 (3)

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
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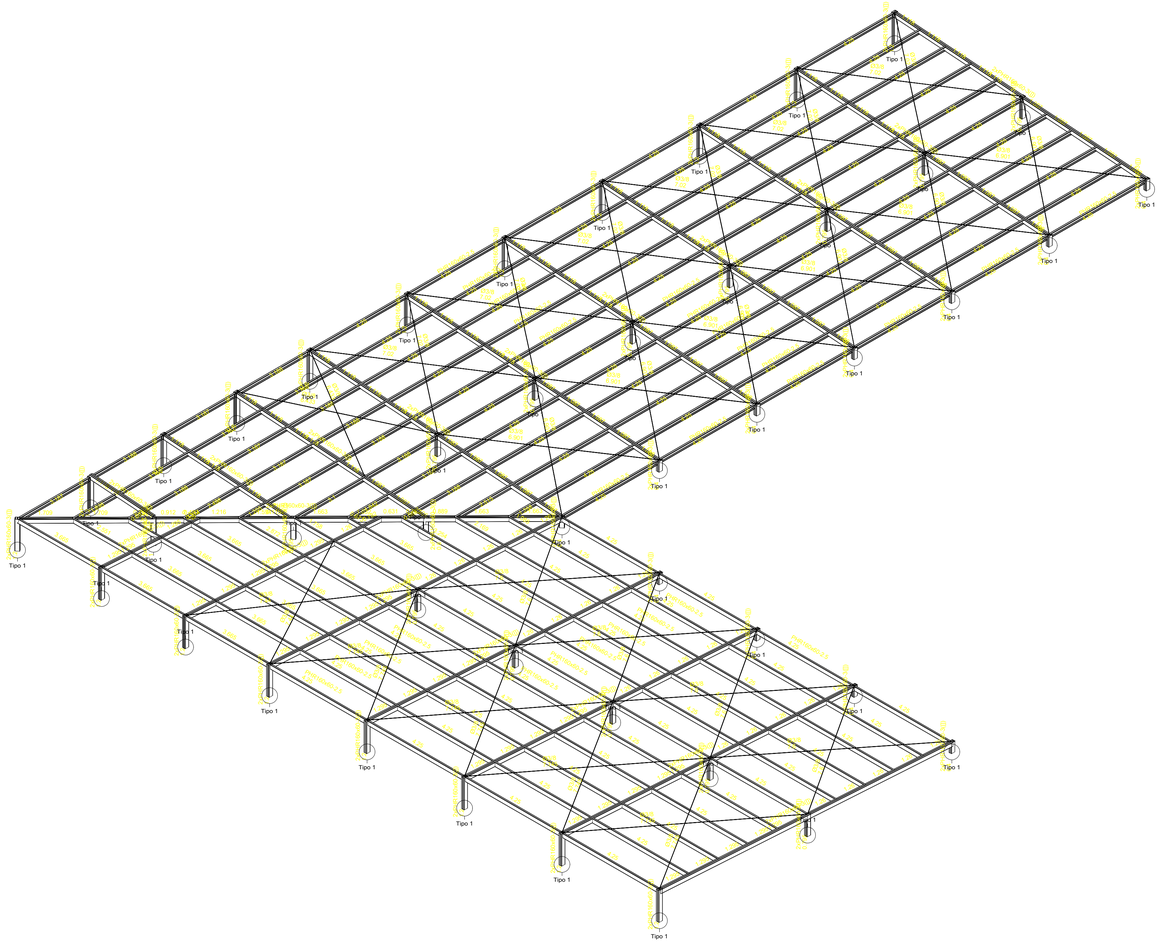
NOMBRE DEL ARCHIVO

FECHA: MARZO 2025

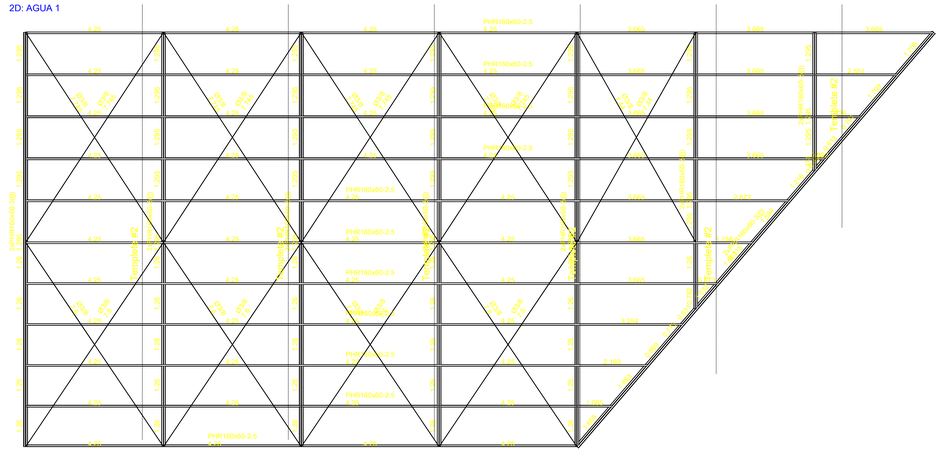
ESCALA: INDICADA

PLANO 19/20 DE

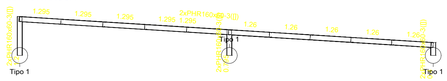
3D



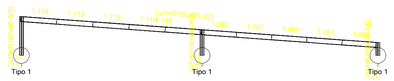

2D: AGUA 1



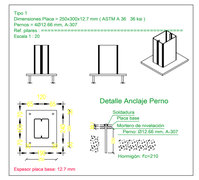

2D: PÓRT AGUA 1




2D: PÓRT AGUA 2




Bloque comedor 1 Tuchin
Norma de acero laminado: ANSI/AISC 360-10 (LRFD)
Norma de acero conformado: AISI S100-2007 (LRFD)
Acero laminado: A572 50ksi
Acero conformado: A572 50ksi
Escala: 1:75

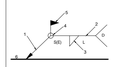



## REFERENCIAS Y SIMBOLOGÍA

Para la representación de los símbolos de soldaduras se consideran las indicaciones de la norma ANSI/AWS A2.4-98 'STANDARD SYMBOLS FOR WELDING, BRAZING, AND NONDESTRUCTIVE EXAMINATION'.

MÉTODO DE REPRESENTACIÓN DE SOLDADURAS

Conforme a la figura 2 de ANSI/AWS A2.4-98 y a los tipos de soldaduras empleadas en este proyecto, se desarrolla el siguiente esquema de representación de una soldadura:




Referencias:
1: flecha (conexión entre 2 y 6)
2: línea de referencia
3: símbolo de soldadura
4: símbolo soldadura perimetral.
5: símbolo de soldadura en el lugar de montaje.
6: línea del dibujo que identifica la unión propuesta.
S: profundidad del bisel. En soldaduras en ángulo, es el lado del cordón de soldadura.
(E): tamaño del cordón en soldaduras a tope.
L: longitud efectiva del cordón de soldadura
D: dato suplementario. En general, la serie de electrodo a utilizar y el proceso precualificado de soldeo.

La información relacionada con el lado de la unión soldada a la que apunta la flecha, se coloca por debajo de la línea de referencia, mientras que para el lado opuesto, se indica por encima de la línea de referencia:




Donde:

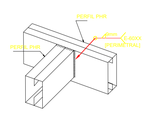
OS(Other Side): es el otro lado de la flecha

AS(Arrow Side): es el lado de la flecha

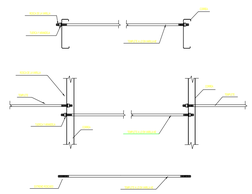
Referencia 3

| Designación | Ilustración | Símbolo |
|---|---|---|
| Soldadura en ángulo | | |
| Soldadura a tope en "V" simple (con chaflán) | | |
| Soldadura a tope en bisel simple | | |
| Soldadura a tope en bisel doble | | |
| Soldadura a tope en bisel simple con talón de raíz amplio | | |
| Soldadura combinada a tope en bisel simple y en ángulo | | |
| Soldadura a tope en bisel simple con lado curvo | | |

| Placas de anclaje | | | | |
|---|---|---|---|---|
| Material | Elementos | Cantidad | Dimensiones (mm) | Peso (kg) |
| A36 | Placa base | 44 | 250x300x12.7 | 328.99 |
| | | | Total | 328.99 |
| A-307 (liso) | Pernos de anclaje | 176 | Ø 12.7 - L = 245 | 42.67 |
| | | | Total | 42.67 |




UNIÓN TÍPICA PERFILES PHR
ESCALA SIN




TEMPLETES
ESCALA SIN

Bloque comedor 1 Tuchin

OMNIA SUNT PRO JUSTA PACE

GOBERNACIÓN DE
CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221868 CSR

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CONTIENE

BLOQUE COMEDOR N°1
ESTRUCTURA METALICA CUBIERTA

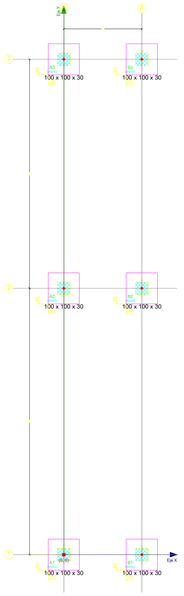
OBSERVACIONES

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NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
20/20




Cimentación
Replanteo
Hormigón: f'c=210
Escala: 1:75

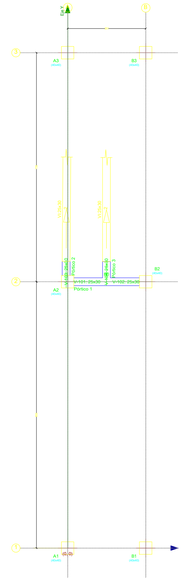
Replanteo de pilares - Cimentación

| Pilar | Dimensión (cm) | Coordenadas del centro | |
|---|---|---|---|
| | | Coordenada X (cm) | Coordenada Y (cm) |
| A1 | 40x40 | 0 | 0 |
| A2 | 40x40 | 0 | 855 |
| A3 | 40x40 | 0 | 1590 |
| B1 | 40x40 | 251 | 0 |
| B2 | 40x40 | 251 | 855 |
| B3 | 40x40 | 251 | 1590 |

Cota de arranque de los pilares: -3.00 m

CUADRO DE ELEMENTOS DE CIMENTACIÓN

| Referencias | Dimensiones (cm) | Canto (cm) | Armado inf. X | Armado inf. Y |
|---|---|---|---|---|
| A1, A3 y B1 | 100x100 | 30 | 9Ø6c/10 | 9Ø6c/10 |
| A2, B2 y B3 | 100x100 | 30 | 5Ø4c/20 | 5Ø4c/20 |

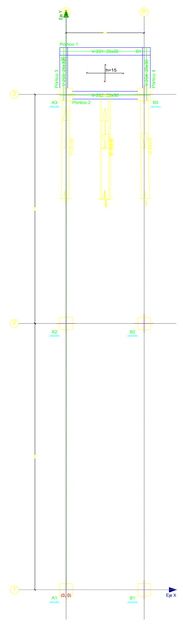



Suelo N+0.00
Replanteo
Hormigón: f'c=210
Escala: 1:75

Replanteo de pilares - Suelo N+0.00

| Pilar | Dimensión (cm) | Coordenadas del centro | |
|---|---|---|---|
| | | Coordenada X (cm) | Coordenada Y (cm) |
| A1 | 40x40 | 0 | 0 |
| A2 | 40x40 | 0 | 855 |
| A3 | 40x40 | 0 | 1590 |
| B1 | 40x40 | 251 | 0 |
| B2 | 40x40 | 251 | 855 |
| B3 | 40x40 | 251 | 1590 |

Cota de arranque de los pilares: 0.00 m




N+0.56
Replanteo
Hormigón: f'c=210
Escala: 1:75

Replanteo de pilares - N+0.56

| Pilar | Dimensión (cm) | Coordenadas del centro | |
|---|---|---|---|
| | | Coordenada X (cm) | Coordenada Y (cm) |
| A1 | 40x40 | 0 | 0 |
| A2 | 40x40 | 0 | 855 |
| A3 | 40x40 | 0 | 1590 |
| B1 | 40x40 | 251 | 0 |
| B2 | 40x40 | 251 | 855 |
| B3 | 40x40 | 251 | 1590 |

Cota de arranque de los pilares: +0.56 m

Tabla de características de losas macizas (Grupo 2)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm

N+1.11
Replanteo
Hormigón: f'c=210
Escala: 1:75

Replanteo de pilares - N+1.11

| Pilar | Dimensión (cm) | Coordenadas del centro | |
|---|---|---|---|
| | | Coordenada X (cm) | Coordenada Y (cm) |
| A1 | 40x40 | 0 | 0 |
| A2 | 40x40 | 0 | 855 |
| A3 | 40x40 | 0 | 1590 |
| B1 | 40x40 | 251 | 0 |
| B2 | 40x40 | 251 | 855 |
| B3 | 40x40 | 251 | 1590 |

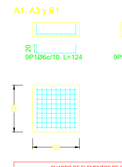
Cota de arranque de los pilares: +1.11 m

Tabla de características de losas macizas (Grupo 3)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm



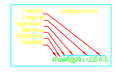


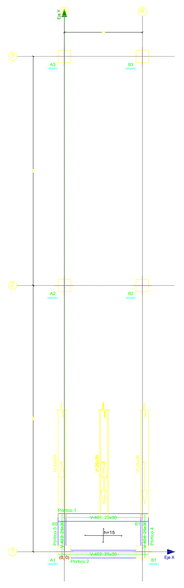





| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| A1=A3=B1 | 1 | Ø6 | 9 | 124 | 1116 | 2.5 |
| | 2 | Ø6 | 9 | 123 | 1107 | 2.5 |
| | | | | | Total | 5.0 |
| | | | | | (x3) | 15.0 |
| A2=B2=B3 | 3 | #4 | 5 | 159 | 795 | 7.9 |
| | 4 | #4 | 5 | 159 | 795 | 7.9 |
| | | | | | Total | 15.8 |
| | | | | | (x3) | 47.4 |
| | | | | | Ø6: | 15.0 |
| | | | | | #4: | 47.4 |
| | | | | | Total: | 62.4 |

Cimentación
Despiece cimentación
Hormigón: f'c=210
Escala: 1:75



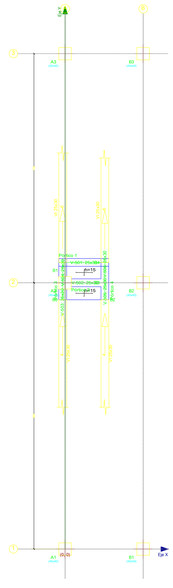

N+1.67
Replanteo
Hormigón: f'c=210
Escala: 1:75

Replanteo de pilares - N+1.67

| Pilar | Dimensión (cm) | Coordenadas del centro | |
|---|---|---|---|
| | | Coordenada X (cm) | Coordenada Y (cm) |
| A1 | 40x40 | 0 | 0 |
| A2 | 40x40 | 0 | 855 |
| A3 | 40x40 | 0 | 1590 |
| B1 | 40x40 | 251 | 0 |
| B2 | 40x40 | 251 | 855 |
| B3 | 40x40 | 251 | 1590 |

Cota de arranque de los pilares: +1.67 m

Tabla de características de losas macizas (Grupo 4)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm



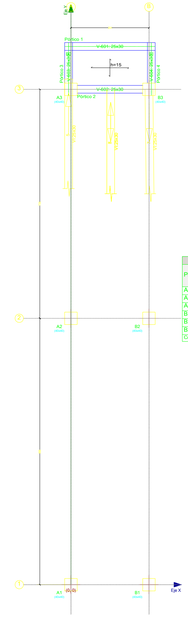

N+2.22
Replanteo
Hormigón: f'c=210
Escala: 1:75

Replanteo de pilares - N+2.22

| Pilar | Dimensión (cm) | Coordenadas del centro | |
|---|---|---|---|
| | | Coordenada X (cm) | Coordenada Y (cm) |
| A1 | 40x40 | 0 | 0 |
| A2 | 40x40 | 0 | 855 |
| A3 | 40x40 | 0 | 1590 |
| B1 | 40x40 | 251 | 0 |
| B2 | 40x40 | 251 | 855 |
| B3 | 40x40 | 251 | 1590 |

Cota de arranque de los pilares: +2.22 m

Tabla de características de losas macizas (Grupo 5)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm



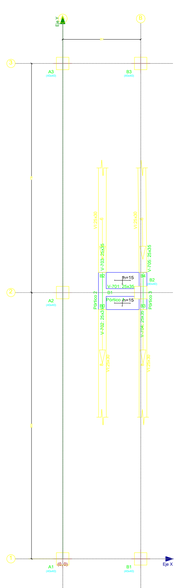

N+2.78
Replanteo
Hormigón: f'c=210
Escala: 1:75

Replanteo de pilares - N+2.78

| Pilar | Dimensión (cm) | Coordenadas del centro | |
|---|---|---|---|
| | | Coordenada X (cm) | Coordenada Y (cm) |
| A1 | 40x40 | 0 | 0 |
| A2 | 40x40 | 0 | 855 |
| A3 | 40x40 | 0 | 1590 |
| B1 | 40x40 | 251 | 0 |
| B2 | 40x40 | 251 | 855 |
| B3 | 40x40 | 251 | 1590 |

Cota de arranque de los pilares: +2.78 m

Tabla de características de losas macizas (Grupo 6)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm



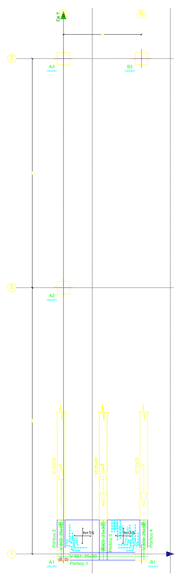

N+3.33
Replanteo
Hormigón: f'c=210
Escala: 1:75

Replanteo de pilares - N+3.33

| Pilar | Dimensión (cm) | Coordenadas del centro | |
|---|---|---|---|
| | | Coordenada X (cm) | Coordenada Y (cm) |
| A1 | 40x40 | 0 | 0 |
| A2 | 40x40 | 0 | 855 |
| A3 | 40x40 | 0 | 1590 |
| B1 | 40x40 | 251 | 0 |
| B2 | 40x40 | 251 | 855 |
| B3 | 40x40 | 251 | 1590 |

Cota de arranque de los pilares: +3.33 m

Tabla de características de losas macizas (Grupo 7)
Canto: 10.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm




| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Replanteo | 1 | Ø6 | 7 | 198 | 1386 | 3.1 |
| | 2 | Ø6 | 7 | 198 | 1386 | 3.1 |
| | 3 | Ø6 | 7 | 124 | 868 | 1.9 |
| | 4 | Ø6 | 7 | 123 | 861 | 1.9 |
| | 5 | Ø6 | 7 | 124 | 868 | 1.9 |
| | 6 | Ø6 | 7 | 123 | 861 | 1.9 |
| | 7 | Ø6 | 7 | 198 | 1386 | 3.1 |
| | 8 | Ø6 | 7 | 198 | 1386 | 3.1 |
| | | | | | Total | 20.0 |
| | | | | | (x3) | 60.0 |
| | | | | | Ø6: | 60.0 |
| | | | | | Total: | 60.0 |

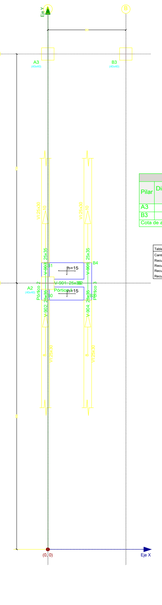
N+3.89
Replanteo
Hormigón: f'c=210
Escala: 1:75

Replanteo de pilares - N+3.89

| Pilar | Dimensión (cm) | Coordenadas del centro | |
|---|---|---|---|
| | | Coordenada X (cm) | Coordenada Y (cm) |
| A2 | 40x40 | 0 | 855 |
| A3 | 40x40 | 0 | 1590 |
| B3 | 40x40 | 251 | 1590 |

Cota de arranque de los pilares: +3.89 m

Tabla de características de losas macizas (Grupo 8)
Canto: 10.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm



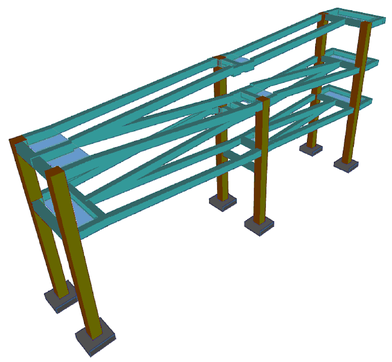

N+4.44
Replanteo
Hormigón: f'c=210
Escala: 1:75

Replanteo de pilares - N+4.44

| Pilar | Dimensión (cm) | Coordenadas del centro | |
|---|---|---|---|
| | | Coordenada X (cm) | Coordenada Y (cm) |
| A3 | 40x40 | 0 | 1590 |
| B3 | 40x40 | 251 | 1590 |

Cota de arranque de los pilares: +4.44 m

Tabla de características de losas macizas (Grupo 9)
Canto: 10.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm



VISTA ISOMÉTRICA
ESCALA: SIN

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO ZOGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 CDR

Cualquier modificación parcial o total del diseño estructural debe ser supervisado y aprobado por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobados exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE COMEDOR N°1
PLANTA DE CIMENTACION
TODAS LAS PLANTAS
DEPIECE DE ZAPATAS

OBSERVACIONES

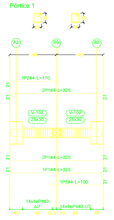
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acfarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

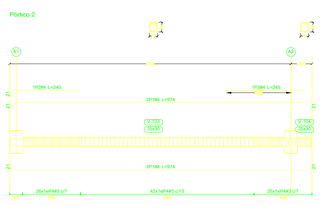
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO 1/4 DE

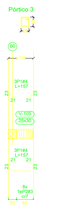
Pórtico 1



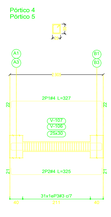

Pórtico 2




Pórtico 3



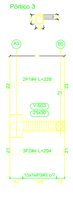

Pórtico 4
Pórtico 5



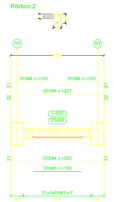

| Elemento | Pos. | Diám. | No. | Esquema | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 2 | | 828 | 1656 | 16.5 |
| | 2 | #6 | 3 | | 787 | 2361 | 36.7 |
| | 3 | #5 | 3 | | 867 | 2601 | 40.4 |
| | 4 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 127.2 |
| Pórtico 2 | 5 | #4 | 3 | | 727 | 2181 | 21.7 |
| | 6 | #4 | 3 | | 775 | 2325 | 23.1 |
| | 7 | #3 | 135 | | 109 | 14715 | 82.4 |
| | | | | | | Total | 127.2 |
| Pórtico 3 | 8 | #4 | 3 | | 725 | 2175 | 21.6 |
| | 9 | #4 | 3 | | 779 | 2337 | 23.2 |
| | 10 | #3 | 134 | | 109 | 14606 | 81.8 |
| | | | | | | Total | 126.6 |
| | | | | | | #3 | 164.2 |
| | | | | | | #4 | 89.6 |
| | | | | | | Total | 253.8 |

Suelo N=0.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escalá pórticos 1:75
Escala secciones 1:75
Escala huecos 1:20
Recubrimientos: 2.0 cm

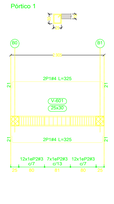
Pórtico 3



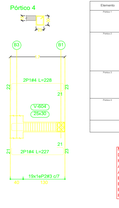

Pórtico 2




Pórtico 1



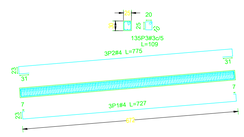

Pórtico 4



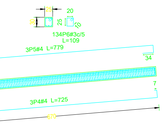

| Elemento | Pos. | Diám. | No. | Esquema | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 3 | 1 | #4 | 2 | | 828 | 1656 | 16.5 |
| | 2 | #6 | 3 | | 787 | 2361 | 36.7 |
| | 3 | #5 | 3 | | 867 | 2601 | 40.4 |
| | 4 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 178.4 |
| Pórtico 2 | 5 | #4 | 2 | | 827 | 1654 | 16.5 |
| | 6 | #6 | 2 | | 768 | 1536 | 34.4 |
| | 7 | #5 | 2 | | 844 | 1688 | 39.4 |
| | 8 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 176.1 |
| | | | | | | #3 | 169.6 |
| | | | | | | #4 | 16.5 |
| | | | | | | #5 | 77.1 |
| | | | | | | #6 | 74.8 |
| | | | | | | Total | 354.5 |

N=2.78
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:75
Escala huecos 1:20
Recubrimientos: 2.0 cm

Suelo N=0.00 (Pórtico 2) - N+0.56 (A3)




Suelo N=0.00 (Pórtico 3) - N+0.56 (Pórtico 2(1.25,15.88))



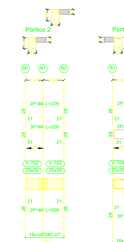

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Suelo N=0.00 (Pórtico 2) - N+0.56 (A3) | 1 | #4 | 3 | 727 | 2181 | 21.7 |
| | 2 | #4 | 3 | 775 | 2325 | 23.1 |
| | 3 | #3 | 135 | 109 | 14715 | 82.4 |
| | | | | | Total | 127.2 |
| Suelo N=0.00 (Pórtico 3) - N+0.56 (Pórtico 2(1.25,15.88)) | 4 | #4 | 3 | 725 | 2175 | 21.6 |
| | 5 | #4 | 3 | 779 | 2337 | 23.2 |
| | 6 | #3 | 134 | 109 | 14606 | 81.8 |
| | | | | | Total | 126.6 |
| | | | | | #3 | 164.2 |
| | | | | | #4 | 89.6 |
| | | | | | Total | 253.8 |

Suelo N=0.00
Despiece de vigas
Hormigón: f'c=210
Acero: Grade 60
Escala: 1:75

Pórtico 1




Pórtico 2



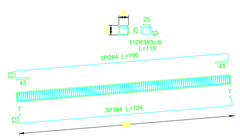

Pórtico 3



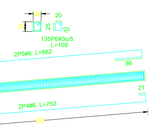

| Elemento | Pos. | Diám. | No. | Esquema | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 2 | | 828 | 1656 | 16.5 |
| | 2 | #6 | 3 | | 787 | 2361 | 36.7 |
| | 3 | #5 | 3 | | 867 | 2601 | 40.4 |
| | 4 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 178.4 |
| Pórtico 2 | 5 | #4 | 2 | | 827 | 1654 | 16.5 |
| | 6 | #6 | 2 | | 768 | 1536 | 34.4 |
| | 7 | #5 | 2 | | 844 | 1688 | 39.4 |
| | 8 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 176.1 |
| | | | | | | #3 | 169.6 |
| | | | | | | #4 | 16.5 |
| | | | | | | #5 | 77.1 |
| | | | | | | #6 | 74.8 |
| | | | | | | Total | 354.5 |

N=1.11
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:75
Escala huecos 1:20
Recubrimientos: 2.0 cm

N+0.56 (Pórtico 2(1.27,15.88)) - N+1.11 (Pórtico 2(1.26,9.21))




N+0.56 (B3) - N+1.11 (Pórtico 3(2.58,9.21))




| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| N+0.56 (Pórtico 2(1.27,15.88)) - N+1.11 (Pórtico 2(1.26,9.21)) | 1 | #4 | 3 | 726 | 2178 | 21.6 |
| | 2 | #4 | 4 | 774 | 3096 | 30.8 |
| | 3 | #3 | 119 | 13328 | 74.6 | |
| | | | | | Total | 120.0 |
| N+0.56 (B3) - N+1.11 (Pórtico 3(2.58,9.21)) | 4 | #6 | 2 | 752 | 1504 | 33.4 |
| | 5 | #6 | 2 | 882 | 1764 | 39.5 |
| | 6 | #3 | 135 | 109 | 14715 | 82.4 |
| | | | | | Total | 155.5 |
| | | | | | #3 | 167.6 |
| | | | | | #4 | 30.8 |
| | | | | | #6 | 73.1 |
| | | | | | Total | 275.5 |

N+0.56
Despiece de vigas
Hormigón: f'c=210
Acero: Grade 60
Escala: 1:75

Pórtico 1



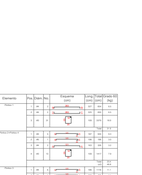

Pórtico 2




Pórtico 3



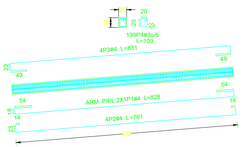

Pórtico 4



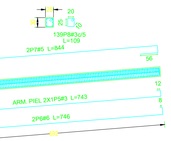

| Elemento | Pos. | Diám. | No. | Esquema | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 2 | | 828 | 1656 | 16.5 |
| | 2 | #6 | 3 | | 787 | 2361 | 36.7 |
| | 3 | #5 | 3 | | 867 | 2601 | 40.4 |
| | 4 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 178.4 |
| Pórtico 2 | 5 | #4 | 2 | | 827 | 1654 | 16.5 |
| | 6 | #6 | 2 | | 768 | 1536 | 34.4 |
| | 7 | #5 | 2 | | 844 | 1688 | 39.4 |
| | 8 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 176.1 |
| | | | | | | #3 | 169.6 |
| | | | | | | #4 | 16.5 |
| | | | | | | #5 | 77.1 |
| | | | | | | #6 | 74.8 |
| | | | | | | Total | 354.5 |

N=1.67
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:75
Escala huecos 1:20
Recubrimientos: 2.0 cm

N+1.11 (Pórtico 3(2.58,8)) - N+1.67 (Pórtico 4)



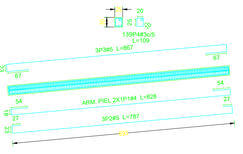

N+1.11 (Pórtico 2(1.26,8)) - N+1.67 (Pórtico 1(1.26,1.1))



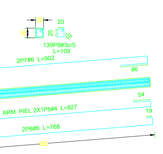

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| N+1.11 (Pórtico 3(2.58,8)) - N+1.67 (Pórtico 4) | 1 | #4 | 2 | 828 | 1656 | 16.5 |
| | 2 | #4 | 2 | 787 | 2361 | 36.7 |
| | 3 | #6 | 2 | 884 | 1768 | 39.6 |
| | 4 | #3 | 135 | 109 | 14715 | 82.4 |
| | | | | | Total | 164.7 |
| N+1.11 (Pórtico 2(1.26,8)) - N+1.67 (Pórtico 1(1.26,1.1)) | 5 | #3 | 2 | 743 | 1486 | 8.3 |
| | 6 | #6 | 2 | 748 | 1496 | 33.4 |
| | 7 | #6 | 2 | 844 | 1688 | 37.8 |
| | 8 | #3 | 139 | 109 | 15151 | 84.8 |
| | | | | | Total | 132.7 |
| | | | | | #3 | 172.8 |
| | | | | | #4 | 16.5 |
| | | | | | #6 | 29.2 |
| | | | | | #6 | 33.4 |
| | | | | | Total | 317.4 |

N+1.11
Despiece de vigas
Hormigón: f'c=210
Acero: Grade 60
Escala: 1:75

N+1.67 (Pórtico 3) - N+2.22 (-0.075, 8.002)



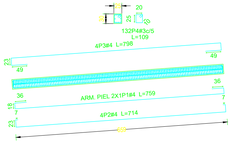

N+1.67 (Pórtico 1(1.29,1.1)) - N+2.22 (Pórtico 4)



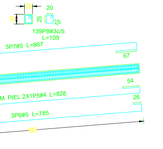

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| N+1.67 (Pórtico 3) - N+2.22 (-0.075, 8.002) | 1 | #4 | 2 | 828 | 1656 | 16.5 |
| | 2 | #6 | 2 | 787 | 2361 | 36.7 |
| | 3 | #5 | 2 | 867 | 2601 | 40.4 |
| | 4 | #3 | 139 | 109 | 15151 | 84.8 |
| | | | | | Total | 178.4 |
| N+1.67 (Pórtico 1(1.29,1.1)) - N+2.22 (Pórtico 4) | 5 | #4 | 2 | 827 | 1654 | 16.5 |
| | 6 | #6 | 2 | 768 | 1536 | 34.4 |
| | 7 | #5 | 2 | 844 | 1688 | 39.4 |
| | 8 | #3 | 139 | 109 | 15151 | 84.8 |
| | | | | | Total | 176.1 |
| | | | | | #3 | 169.6 |
| | | | | | #4 | 16.5 |
| | | | | | #5 | 77.1 |
| | | | | | #6 | 74.8 |
| | | | | | Total | 354.5 |

N+1.67
Despiece de vigas
Hormigón: f'c=210
Acero: Grade 60
Escala: 1:75

N+2.22 (1.27732, 9.325) - N+2.78 (Pórtico 2)




N+2.22 (Pórtico 3) - N+2.78 (Pórtico 3)



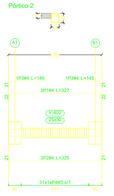

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| N+2.22 (1.27732, 9.325) - N+2.78 (Pórtico 2) | 1 | #4 | 2 | 759 | 1518 | 15.1 |
| | 2 | #4 | 4 | 714 | 2856 | 28.4 |
| | 3 | #4 | 4 | 798 | 3192 | 31.7 |
| | 4 | #3 | 120 | 109 | 14388 | 80.5 |
| | | | | | Total | 155.7 |
| N+2.22 (Pórtico 3) - N+2.78 (Pórtico 3) | 5 | #4 | 2 | 828 | 1656 | 16.5 |
| | 6 | #6 | 3 | 785 | 2355 | 36.6 |
| | 7 | #6 | 3 | 867 | 2601 | 40.4 |
| | 8 | #3 | 139 | 109 | 15151 | 84.8 |
| | | | | | Total | 178.3 |
| | | | | | #3 | 165.3 |
| | | | | | #4 | 91.7 |
| | | | | | #6 | 77.0 |
| | | | | | Total | 334.0 |

N+2.22
Despiece de vigas
Hormigón: f'c=210
Acero: Grade 60
Escala: 1:75

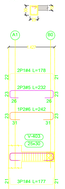
Pórtico 1



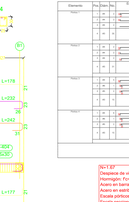

Pórtico 2




Pórtico 3



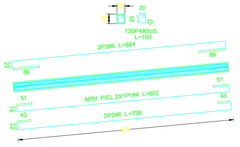

Pórtico 4



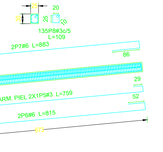

| Elemento | Pos. | Diám. | No. | Esquema | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 2 | | 828 | 1656 | 16.5 |
| | 2 | #6 | 3 | | 787 | 2361 | 36.7 |
| | 3 | #5 | 3 | | 867 | 2601 | 40.4 |
| | 4 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 178.4 |
| Pórtico 2 | 5 | #4 | 2 | | 827 | 1654 | 16.5 |
| | 6 | #6 | 2 | | 768 | 1536 | 34.4 |
| | 7 | #5 | 2 | | 844 | 1688 | 39.4 |
| | 8 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 176.1 |
| | | | | | | #3 | 169.6 |
| | | | | | | #4 | 16.5 |
| | | | | | | #5 | 77.1 |
| | | | | | | #6 | 74.8 |
| | | | | | | Total | 354.5 |

N=1.67
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:75
Escala huecos 1:20
Recubrimientos: 2.0 cm

N+2.78 (B3) - N+3.33 (2.58, 9.196)




N+2.78 (Pórtico 2) - N+3.33 (1.27482, 9.196)



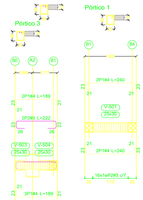

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| N+2.78 (B3) - N+3.33 (2.58, 9.196) | 1 | #4 | 2 | 802 | 1604 | 16.0 |
| | 2 | #6 | 2 | 798 | 1596 | 35.7 |
| | 3 | #6 | 2 | 884 | 1768 | 39.6 |
| | 4 | #3 | 135 | 109 | 14715 | 82.4 |
| | | | | | Total | 173.7 |
| N+2.78 (Pórtico 2) - N+3.33 (1.27482, 9.196) | 5 | #3 | 2 | 759 | 1518 | 8.5 |
| | 6 | #6 | 2 | 815 | 1630 | 36.5 |
| | 7 | #6 | 2 | 883 | 1766 | 39.5 |
| | 8 | #3 | 139 | 109 | 14715 | 82.4 |
| | | | | | Total | 166.9 |
| | | | | | #3 | 173.3 |
| | | | | | #4 | 16.0 |
| | | | | | #6 | 151.3 |
| | | | | | Total | 340.6 |

N+2.78
Despiece de vigas
Hormigón: f'c=210
Acero: Grade 60
Escala: 1:75

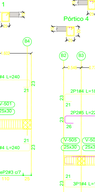
Pórtico 1



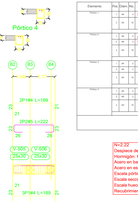

Pórtico 2
Pórtico 3




Pórtico 1



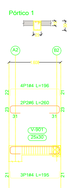

Pórtico 4



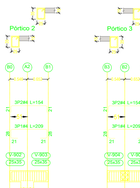

| Elemento | Pos. | Diám. | No. | Esquema | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 2 | 1 | #4 | 2 | | 828 | 1656 | 16.5 |
| | 2 | #6 | 3 | | 787 | 2361 | 36.7 |
| | 3 | #5 | 3 | | 867 | 2601 | 40.4 |
| | 4 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 178.4 |
| Pórtico 3 | 5 | #4 | 2 | | 827 | 1654 | 16.5 |
| | 6 | #6 | 2 | | 768 | 1536 | 34.4 |
| | 7 | #5 | 2 | | 844 | 1688 | 39.4 |
| | 8 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 176.1 |
| | | | | | | #3 | 169.6 |
| | | | | | | #4 | 16.5 |
| | | | | | | #5 | 77.1 |
| | | | | | | #6 | 74.8 |
| | | | | | | Total | 354.5 |

N=2.22
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:75
Escala huecos 1:20
Recubrimientos: 2.0 cm

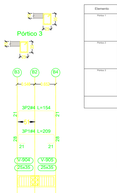
Pórtico 1




Pórtico 2




Pórtico 3




| Elemento | Pos. | Diám. | No. | Esquema | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 2 | | 828 | 1656 | 16.5 |
| | 2 | #6 | 3 | | 787 | 2361 | 36.7 |
| | 3 | #5 | 3 | | 867 | 2601 | 40.4 |
| | 4 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 178.4 |
| Pórtico 2 | 5 | #4 | 2 | | 827 | 1654 | 16.5 |
| | 6 | #6 | 2 | | 768 | 1536 | 34.4 |
| | 7 | #5 | 2 | | 844 | 1688 | 39.4 |
| | 8 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 176.1 |
| | | | | | | #3 | 169.6 |
| | | | | | | #4 | 16.5 |
| | | | | | | #5 | 77.1 |
| | | | | | | #6 | 74.8 |
| | | | | | | Total | 354.5 |

N=4.44
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:75
Escala huecos 1:20
Recubrimientos: 2.0 cm

Pórtico 1




Pórtico 2




Pórtico 3




Pórtico 4




| Elemento | Pos. | Diám. | No. | Esquema | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 2 | | 828 | 1656 | 16.5 |
| | 2 | #6 | 3 | | 787 | 2361 | 36.7 |
| | 3 | #5 | 3 | | 867 | 2601 | 40.4 |
| | 4 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 178.4 |
| Pórtico 2 | 5 | #4 | 2 | | 827 | 1654 | 16.5 |
| | 6 | #6 | 2 | | 768 | 1536 | 34.4 |
| | 7 | #5 | 2 | | 844 | 1688 | 39.4 |
| | 8 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 176.1 |
| | | | | | | #3 | 169.6 |
| | | | | | | #4 | 16.5 |
| | | | | | | #5 | 77.1 |
| | | | | | | #6 | 74.8 |
| | | | | | | Total | 354.5 |

N=1.67
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:75
Escala huecos 1:20
Recubrimientos: 2.0 cm

N+2.78 (B3) - N+3.33 (2.58, 9.196)




N+2.78 (Pórtico 2) - N+3.33 (1.27482, 9.196)




| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| N+2.78 (B3) - N+3.33 (2.58, 9.196) | 1 | #4 | 2 | 802 | 1604 | 16.0 |
| | 2 | #6 | 2 | 798 | 1596 | 35.7 |
| | 3 | #6 | 2 | 884 | 1768 | 39.6 |
| | 4 | #3 | 135 | 109 | 14715 | 82.4 |
| | | | | | Total | 173.7 |
| N+2.78 (Pórtico 2) - N+3.33 (1.27482, 9.196) | 5 | #3 | 2 | 759 | 1518 | 8.5 |
| | 6 | #6 | 2 | 815 | 1630 | 36.5 |
| | 7 | #6 | 2 | 883 | 1766 | 39.5 |
| | 8 | #3 | 139 | 109 | 14715 | 82.4 |
| | | | | | Total | 166.9 |
| | | | | | #3 | 173.3 |
| | | | | | #4 | 16.0 |
| | | | | | #6 | 151.3 |
| | | | | | Total | 340.6 |

N+2.78
Despiece de vigas
Hormigón: f'c=210
Acero: Grade 60
Escala: 1:75

Pórtico 2
Pórtico 3




Pórtico 1




Pórtico 2
Pórtico 4




| Elemento | Pos. | Diám. | No. | Esquema | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 3 | 1 | #4 | 2 | | 828 | 1656 | 16.5 |
| | 2 | #6 | 3 | | 787 | 2361 | 36.7 |
| | 3 | #5 | 3 | | 867 | 2601 | 40.4 |
| | 4 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 178.4 |
| Pórtico 1 | 5 | #4 | 2 | | 827 | 1654 | 16.5 |
| | 6 | #6 | 2 | | 768 | 1536 | 34.4 |
| | 7 | #5 | 2 | | 844 | 1688 | 39.4 |
| | 8 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 176.1 |
| Pórtico 2 | 9 | #4 | 2 | | 827 | 1654 | 16.5 |
| Pórtico 4 | 10 | #6 | 2 | | 768 | 1536 | 34.4 |
| | 11 | #5 | 2 | | 844 | 1688 | 39.4 |
| | 12 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 175.1 |
| | | | | | | #3 | 169.6 |
| | | | | | | #4 | 16.5 |
| | | | | | | #5 | 77.1 |
| | | | | | | #6 | 149.5 |
| | | | | | | Total | 412.7 |

N=2.39
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:75
Escala huecos 1:20
Recubrimientos: 2.0 cm

Pórtico 3
Pórtico 4




Pórtico 1



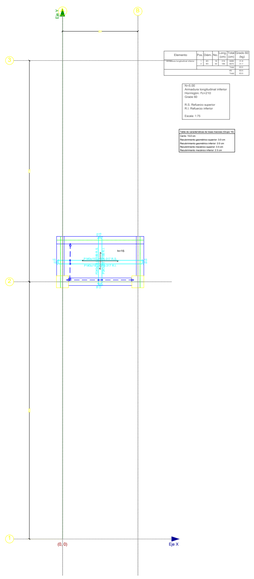

Pórtico 2




| Elemento | Pos. | Diám. | No. | Esquema | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 3 | 1 | #4 | 2 | | 828 | 1656 | 16.5 |
| Pórtico 4 | 2 | #6 | 3 | | 787 | 2361 | 36.7 |
| | 3 | #5 | 3 | | 867 | 2601 | 40.4 |
| | 4 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 178.4 |
| Pórtico 1 | 5 | #4 | 2 | | 827 | 1654 | 16.5 |
| | 6 | #6 | 2 | | 768 | 1536 | 34.4 |
| | 7 | #5 | 2 | | 844 | 1688 | 39.4 |
| | 8 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 176.1 |
| Pórtico 2 | 9 | #4 | 2 | | 827 | 1654 | 16.5 |
| | 10 | #6 | 2 | | 768 | 1536 | 34.4 |
| | 11 | #5 | 2 | | 844 | 1688 | 39.4 |
| | 12 | #3 | 139 | | 109 | 15151 | 84.8 |
| | | | | | | Total | 175.1 |
| | | | | | | #3 | 169.6 |
| | | | | | | #4 | 16.5 |
| | | | | | | #5 | 77.1 |
| | | | | | | #6 | 149.5 |
| | | | | | | Total | 412.7 |

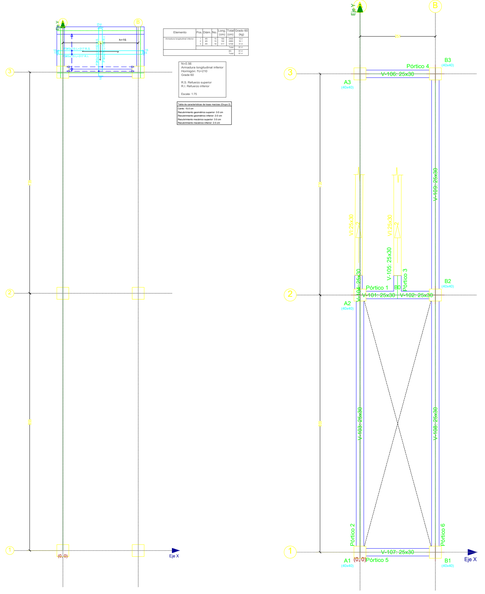
N=3.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:75
Escala secciones 1:75
Escala huecos 1:20
Recubrimientos: 2.0 cm

Posición
Longitud
Cuantía/Cant.
Diámetro
Ref

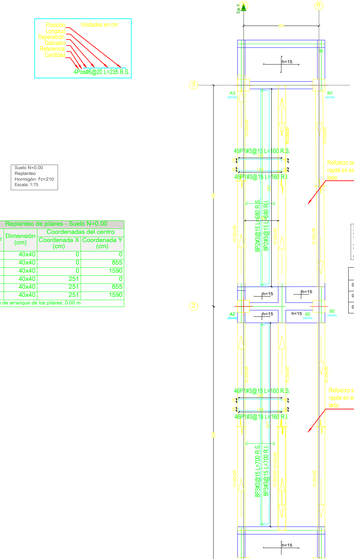


| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Pórtico 1 (Pórtico 1) - N+3.33 | 1 | #3 | 4 | 750 | 3000 | 16.6 |
| | 2 | #6 | 2 | 829 | 1658 | 37.1 |
| | 3 | #5 | 2 | 903 | 1806 | 69.6 |
| | 4 | #3 | 139 | 109 | 15151 | 84.8 |
| | | | | | Total | 208.1 |
| Pórtico 2 (Pórtico 2) - N+3.33 | 5 | #3 | 2 | 270 | 540 | 3.0 |
| | 6 | #6 | 2 | 830 | 1660 | 37.1 |
| | 7 | #5 | 2 | 904 | 1808 | 40.4 |
| | 8 | #3 | 139 | 109 | 15151 | 84.8 |
| | | | | | Total | 170.9 |
| | | | | | #3 | 204.8 |
| | | | | | #5 | 110.0 |
| | | | | | #6 | 188.4 |
| | | | | | Total | 380.3 |

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Pórtico 3 (Pórtico 3) - N+3.33 | 1 | #3 | 4 | 750 | 3000 | 16.6 |
| | 2 | #6 | 2 | 829 | 1658 | 37.1 |
| | 3 | #5 | 2 | 903 | 1806 | 69.6 |
| | 4 | #3 | 139 | 109 | 15151 | 84.8 |
| | | | | | Total | 208.1 |
| Pórtico 4 (Pórtico 4) - N+3.33 | 5 | #3 | 2 | 270 | 540 | 3.0 |
| | 6 | #6 | 2 | 830 | 1660 | 37.1 |
| | 7 | #5 | 2 | 904 | 1808 | 40.4 |
| | 8 | #3 | 139 | 109 | 15151 | 84.8 |
| | | | | | Total | 170.9 |
| | | | | | #3 | 204.8 |
| | | | | | #5 | 110.0 |
| | | | | | #6 | 188.4 |
| | | | | | Total | 380.3 |



| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Viga de amarre N+3.33 | 1 | #3 | 4 | 750 | 3000 | 16.6 |
| | 2 | #6 | 2 | 829 | 1658 | 37.1 |
| | 3 | #5 | 2 | 903 | 1806 | 69.6 |
| | 4 | #3 | 139 | 109 | 15151 | 84.8 |
| | | | | | Total | 208.1 |
| Viga de amarre N+3.33 | 5 | #3 | 2 | 270 | 540 | 3.0 |
| | 6 | #6 | 2 | 830 | 1660 | 37.1 |
| | 7 | #5 | 2 | 904 | 1808 | 40.4 |
| | 8 | #3 | 139 | 109 | 15151 | 84.8 |
| | | | | | Total | 170.9 |
| | | | | | #3 | 204.8 |
| | | | | | #5 | 110.0 |
| | | | | | #6 | 188.4 |
| | | | | | Total | 380.3 |

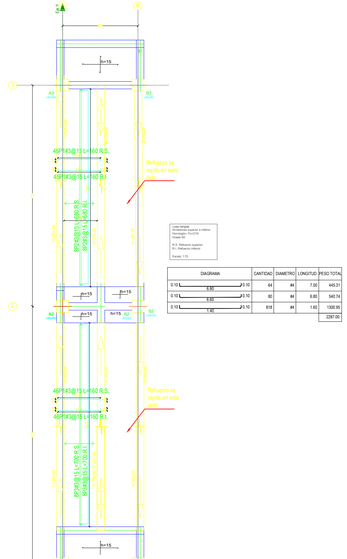


Suelo N+0.00
Replanteo
Hormigón: f'c=210
Escala: 1:75

**Replanteo de pilares - Suelo N+0.00**

| Pilar | Dimensión (cm) | Coordenadas del centro | |
|---|---|---|---|
| | | Coordenada X (cm) | Coordenada Y (cm) |
| A1 | 40x40 | 0 | 0 |
| A2 | 40x40 | 0 | 855 |
| A3 | 40x40 | 0 | 1590 |
| B1 | 40x40 | 251 | 0 |
| B2 | 40x40 | 251 | 855 |
| B3 | 40x40 | 251 | 1590 |

Cota de arranque de los pilares: 0.00 m



Unidades en cm
Posición: Longitud: Separación: Diámetro: Refuerzo: Cantidad:
4Pos#@20 L=235 R.S.

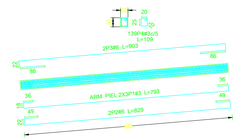


45P1#3@15 L=160 R.S.
45P1#3@15 L=160 R.I.
2P2#5 L=805 R.S.
2P2#5 L=805 R.I.
Refuerzo en nodo en este lado
Refuerzo en nodo en este lado
45P3#3@15 L=160 R.S.
45P3#3@15 L=160 R.I.
2P3#5@15 L=1170 R.S.
2P3#5@15 L=1170 R.I.

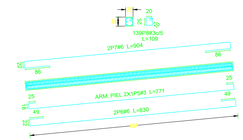
Losa aligerada
Armadura longitudinal inferior
Hormigón: f'c=210
Grada 60
R.S. Refuerzo superior
R.I. Refuerzo inferior
Escala: 1:75

| DIAGRAMA | CANTIDAD | DIAMETRO | LONGITUD | PESO TOTAL |
|---|---|---|---|---|
| 0.10 0.85 0.10 | 64 | #4 | 7.05 | 445.31 |
| 0.10 0.85 0.10 | 80 | #4 | 6.85 | 540.74 |
| 0.10 1.40 0.10 | 816 | #4 | 1.65 | 1388.86 |
| | | | | 2387.00 |

N+3.33 (Pórtico 3) - N+3.89 (Pórtico 4)

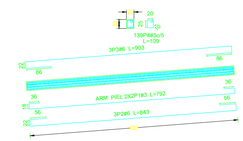



N+3.33 (Pórtico 2) - N+3.89 (1.27976, 1.09364)

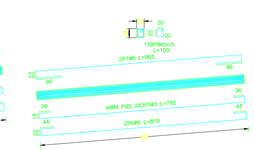



N+3.33
Despiece de vigas
Hormigón: f'c=210
Acero: Grade 60
Escala: 1:75

N+3.89 (Pórtico 2) - N+4.44 (Pórtico 2(-0.07,8))

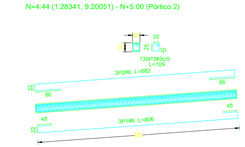



N+3.89 (1.27976, 1.09364) - N+4.44 (1.28341, 8.002)

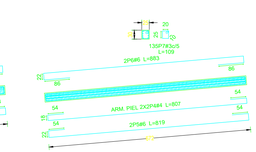



N+3.89
Despiece de vigas
Hormigón: f'c=210
Acero: Grade 60
Escala: 1:75

N+4.44 (1.28341, 9.20051) - N+5.00 (Pórtico 2)




N+4.44 (Pórtico 2(-0.07,9.2)) - N+5.00 (A3)




N+4.44
Despiece de vigas
Hormigón: f'c=210
Acero: Grade 60
Escala: 1:75

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| N+3.89 (Pórtico 2) - N+4.44 (Pórtico 2(-0.07,8)) | 1 | #3 | 4 | 750 | 3168 | 17.7 |
| | 2 | #6 | 3 | 843 | 2529 | 56.6 |
| | 3 | #5 | 2 | 903 | 1808 | 69.6 |
| | 4 | #3 | 139 | 109 | 15151 | 84.8 |
| | | | | | Total | 228.7 |
| N+3.89 (1.27976, 1.09364) - N+4.44 (1.28341, 8.002) | 5 | #3 | 5 | 750 | 4752 | 26.6 |
| | 6 | #6 | 2 | 819 | 1638 | 36.6 |
| | 7 | #5 | 2 | 903 | 1808 | 40.4 |
| | 8 | #3 | 139 | 109 | 15151 | 84.8 |
| | | | | | Total | 188.4 |
| | | | | | #3 | 213.9 |
| | | | | | #5 | 194.2 |
| | | | | | #6 | 408.1 |

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| N+4.44 (1.28341, 9.20051) - N+5.00 (Pórtico 2) | 1 | #6 | 3 | 806 | 2418 | 54.1 |
| | 2 | #6 | 3 | 882 | 2646 | 59.2 |
| | 3 | #3 | 135 | 109 | 14715 | 82.4 |
| | | | | | Total | 195.7 |
| N+4.44 (Pórtico 2(-0.07,9.2)) - N+5.00 (A3) | 4 | #4 | 4 | 807 | 3228 | 32.1 |
| | 5 | #6 | 2 | 819 | 1638 | 36.6 |
| | 6 | #6 | 2 | 883 | 1766 | 39.5 |
| | 7 | #3 | 135 | 109 | 14715 | 82.4 |
| | | | | | Total | 190.8 |
| | | | | | #3 | 82.4 |
| | | | | | #4 | 32.1 |
| | | | | | #6 | 189.4 |
| | | | | | Total | 386.3 |

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

**ESPACIO PÚBLICO**

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221595 COR

*Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.*

CONTIENE

BLOQUE COMEDOR N°1
REFUERZO VIGA TODOS LOS NIVELES
REFUERZO LOSA RAMPA
REFUERZO DESCANSOS

OBSERVACIONES

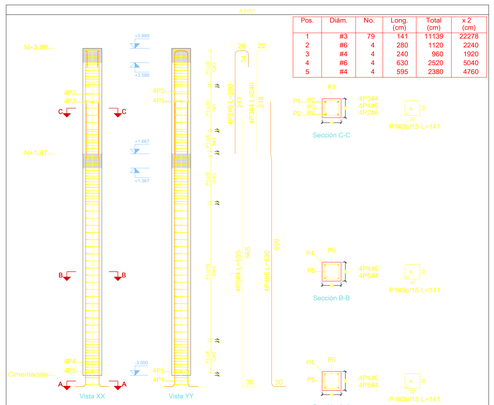
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acharada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
3/4

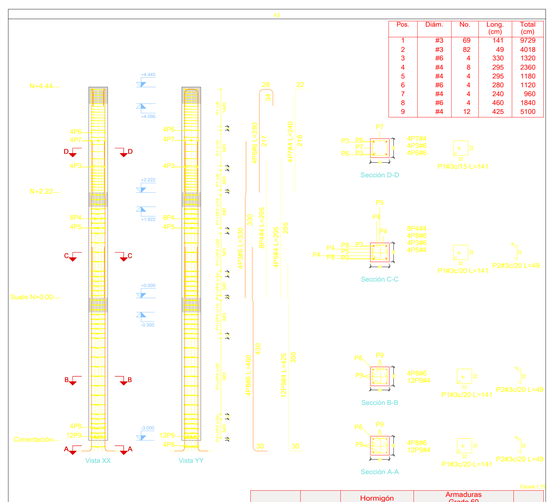
Pilares que nacen en Cimentación y mueren en N+5.00
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60




| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 2 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 79 | 141 | 11139 | 22278 |
| 2 | #6 | 4 | 280 | 1120 | 2240 |
| 3 | #4 | 4 | 240 | 960 | 1920 |
| 4 | #6 | 4 | 630 | 2520 | 5040 |
| 5 | #4 | 4 | 595 | 2380 | 4760 |

Escala 1:25

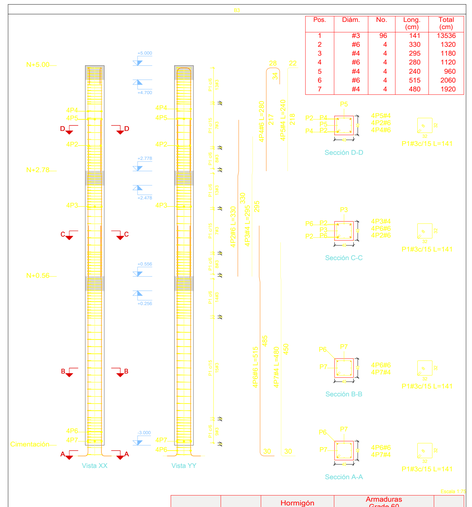
| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| N+2.22 | 40x40 | 0.36 | 3.56 | 34.6 | 22.1 | 56.7 | 159.46 |
| Suelo N+0.00 | | 0.75 | 7.47 | - | 38.7 | 38.7 | 51.83 |
| Total (x2) | | 2.20 | 22.05 | 69.2 | 121.5 | 190.8 | 86.55 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 69 | 141 | 9729 |
| 2 | #3 | 82 | 49 | 4018 |
| 3 | #6 | 4 | 330 | 1320 |
| 4 | #4 | 8 | 295 | 2360 |
| 5 | #4 | 4 | 295 | 1180 |
| 6 | #6 | 4 | 280 | 1120 |
| 7 | #4 | 4 | 240 | 960 |
| 8 | #6 | 4 | 460 | 1840 |
| 9 | #4 | 12 | 425 | 5100 |

Escala 1:25

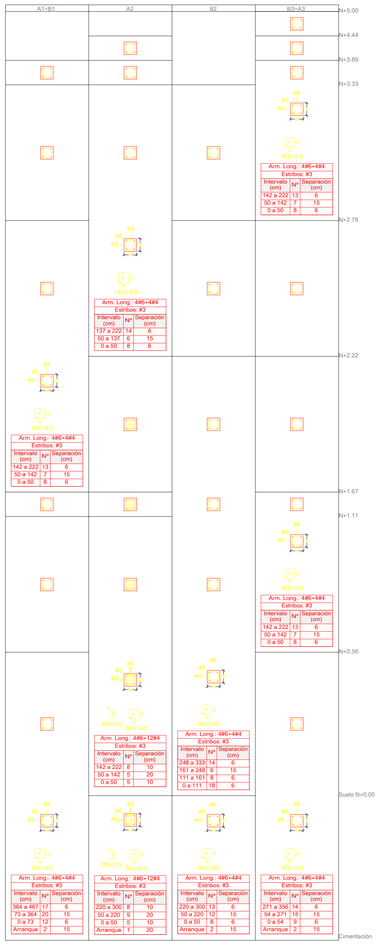
| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| N+2.78 | 40x40 | 0.36 | 3.56 | 34.6 | 22.1 | 56.7 | 159.46 |
| N+0.56 | | 0.36 | 3.56 | 64.7 | 24.1 | 88.8 | 249.73 |
| Suelo N+0.00 | | 0.48 | 4.80 | - | 29.4 | 29.4 | 61.25 |
| Total | | 1.19 | 11.91 | 99.3 | 75.6 | 174.9 | 146.83 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 96 | 141 | 13536 |
| 2 | #6 | 4 | 330 | 1320 |
| 3 | #4 | 4 | 295 | 1180 |
| 4 | #6 | 4 | 280 | 1120 |
| 5 | #4 | 4 | 240 | 960 |
| 6 | #6 | 4 | 515 | 2060 |
| 7 | #4 | 4 | 480 | 1920 |

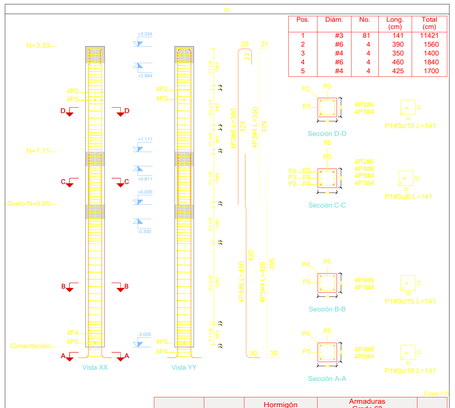
Escala 1:25

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| N+3.33 | 40x40 | 0.36 | 3.56 | 34.6 | 22.1 | 56.7 | 159.46 |
| N+1.11 | | 0.36 | 3.56 | 41.3 | 22.1 | 63.4 | 178.30 |
| Suelo N+0.00 | | 0.57 | 5.69 | - | 30.0 | 30.0 | 52.73 |
| Total | | 1.28 | 12.80 | 75.9 | 74.2 | 150.1 | 117.26 |




| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| A1=B1 | 1 | #3 | 79 | 32 | 141 | 11139 | 62.3 |
| | 2 | #6 | 4 | 32 280 32 | 280 | 1120 | 25.1 |
| | 3 | #4 | 4 | 218 32 | 240 | 960 | 5.5 |
| | 4 | #6 | 4 | L2 479 32 126 | 630 | 2520 | 56.4 |
| | 5 | #4 | 4 | L2 483 74 | 595 | 2380 | 23.7 |
| | | | | | Total | 11739 | 177.2 |
| | | | | | Total (x2) | | 354.0 |
| B2 | 1 | #3 | 81 | 32 | 141 | 11421 | 63.9 |
| | 2 | #6 | 4 | 32 108 32 | 280 | 1560 | 34.9 |
| | 3 | #4 | 4 | 329 32 | 350 | 1400 | 13.9 |
| | 4 | #6 | 4 | L2 311 32 107 | 460 | 1840 | 41.2 |
| | 5 | #4 | 4 | L2 315 72 | 425 | 1700 | 16.9 |
| | | | | | Total | | 170.8 |
| A2 | 1 | #3 | 69 | 32 | 141 | 9729 | 54.5 |
| | 2 | #3 | 82 | 32 | 49 | 4018 | 22.5 |
| | 3 | #6 | 4 | 32 211 32 108 | 330 | 1320 | 29.5 |
| | 4 | #4 | 8 | 295 | 295 | 2360 | 23.5 |
| | 5 | #4 | 4 | 215 73 | 295 | 1180 | 11.7 |
| | 6 | #6 | 4 | 32 217 32 | 280 | 1120 | 25.1 |
| | 7 | #4 | 4 | 218 32 | 240 | 960 | 9.5 |
| | 8 | #6 | 4 | L2 311 32 107 | 460 | 1840 | 41.2 |
| | 9 | #4 | 12 | L2 315 72 | 425 | 5100 | 50.7 |
| | | | | | Total | | 268.2 |
| B3 | 1 | #3 | 96 | 32 | 141 | 13536 | 75.8 |
| | 2 | #6 | 4 | 32 211 32 108 | 330 | 1320 | 29.5 |
| | 3 | #4 | 4 | 215 73 | 295 | 1180 | 11.7 |
| | 4 | #6 | 4 | 32 217 32 | 280 | 1120 | 25.1 |
| | 5 | #4 | 4 | 218 32 | 240 | 960 | 9.5 |
| | 6 | #6 | 4 | L2 367 32107 | 515 | 2060 | 46.1 |
| | 7 | #4 | 4 | L2 370 72 | 480 | 1920 | 19.1 |
| | | | | | Total | | 216.8 |
| A3 | 1 | #3 | 96 | 32 | 141 | 13536 | 75.8 |
| | 2 | #6 | 4 | 32 211 32 108 | 330 | 1320 | 29.5 |
| | 3 | #4 | 4 | 215 73 | 295 | 1180 | 11.7 |
| | 4 | #6 | 4 | 32 217 32 | 280 | 1120 | 25.1 |
| | 5 | #4 | 4 | 218 32 | 240 | 960 | 9.5 |
| | 6 | #6 | 4 | L2 368 32115 | 520 | 2080 | 46.5 |
| | 7 | #4 | 4 | L2 372 76 | 485 | 1940 | 19.3 |
| | | | | | Total | | 217.4 |
| | | | | | #3: | | 417.1 |
| | | | | | #4: | | 273.4 |
| | | | | | #6: | | 536.7 |
| | | | | | Total | | 1227.2 |

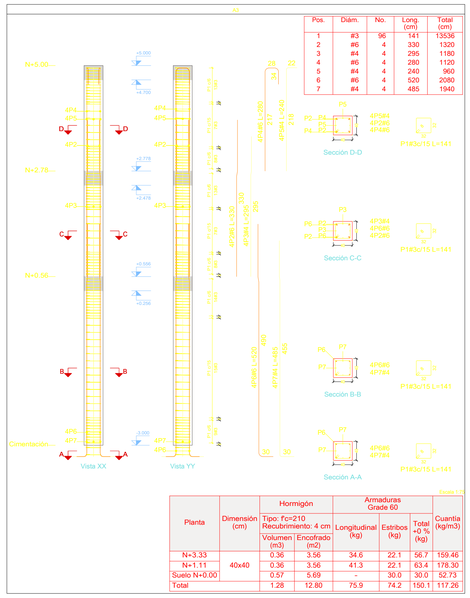
Precisión: Unidades en cm
Longitud
Separación
Concreto
Referencia
Cantidad
4P1#3@20 L=226 R:3




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 81 | 141 | 11421 |
| 2 | #6 | 4 | 350 | 1400 |
| 3 | #4 | 4 | 460 | 1840 |
| 4 | #6 | 4 | 630 | 2520 |
| 5 | #4 | 4 | 595 | 2380 |

Escala 1:25

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| N+1.67 | 40x40 | 0.36 | 3.56 | - | 22.1 | 22.1 | 62.15 |
| N+0.56 | | 0.18 | 1.78 | 48.8 | 14.2 | 63.0 | 354.35 |
| Suelo N+0.00 | | 0.48 | 4.80 | - | 26.0 | 26.0 | 54.17 |
| Total | | 1.01 | 10.13 | 48.8 | 62.3 | 111.1 | 109.63 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 96 | 141 | 13536 |
| 2 | #6 | 4 | 330 | 1320 |
| 3 | #4 | 4 | 295 | 1180 |
| 4 | #6 | 4 | 280 | 1120 |
| 5 | #4 | 4 | 240 | 960 |
| 6 | #6 | 4 | 520 | 2080 |
| 7 | #4 | 4 | 485 | 1940 |

Escala 1:25

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| N+3.33 | 40x40 | 0.36 | 3.56 | 34.6 | 22.1 | 56.7 | 159.46 |
| N+1.11 | | 0.36 | 3.56 | 41.3 | 22.1 | 63.4 | 178.30 |
| Suelo N+0.00 | | 0.57 | 5.69 | - | 30.0 | 30.0 | 52.73 |
| Total | | 1.28 | 12.80 | 75.9 | 74.2 | 150.1 | 117.26 |

Cuadro de pilares
Escala 1:50
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO


OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 CDR



Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.


CONTIENE

BLOQUE COMEDOR N°1
DESPIECE COLUMNAS

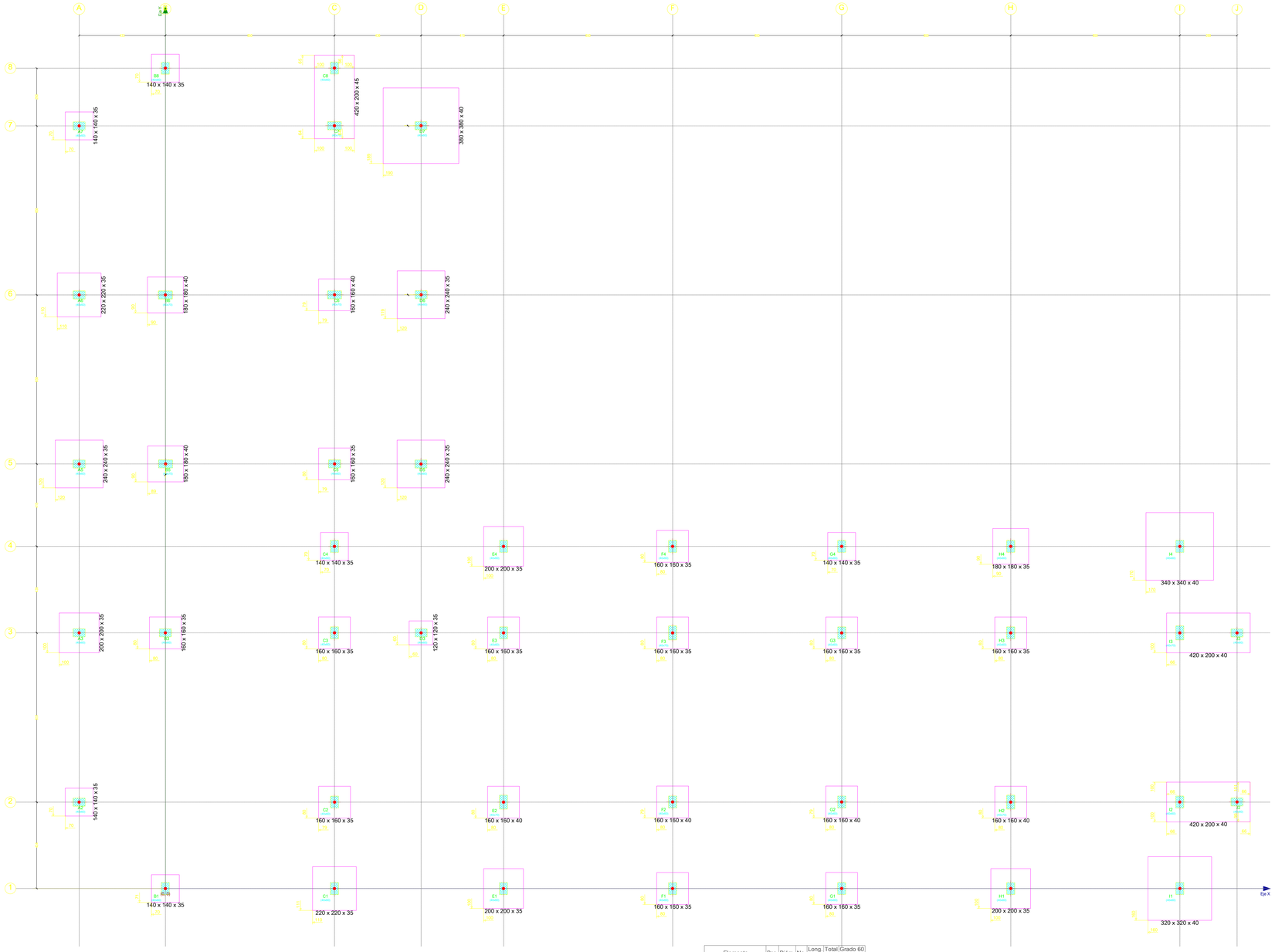
OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE 4/4




| CUADRO DE ELEMENTOS DE CIMENTACIÓN | | | | | | |
|---|---|---|---|---|---|---|
| Referencias | Dimensiones (cm) | Canto (cm) | Armado inf. X | Armado inf. Y | Armado sup. X | Armado sup. Y |
| A2 | 140x140 | 35 | 5#5c/30 | 5#5c/30 | | |
| A3, E1, E4 y H1 | 200x200 | 35 | 10#4c/20 | 10#4c/20 | 10#4c/20 | 10#4c/20 |
| A5 y D6 | 240x240 | 35 | 12#4c/20 | 12#4c/20 | 12#4c/20 | 12#4c/20 |
| A6 | 220x220 | 35 | 8#5c/27 | 8#5c/27 | 11#4c/20 | 11#4c/20 |
| A7 y G4 | 140x140 | 35 | 7#4c/20 | 7#4c/20 | 7#4c/20 | 7#4c/20 |
| B1 | 140x140 | 35 | 5#5c/30 | 5#5c/30 | 7#4c/20 | 7#4c/20 |
| B3, F3 y G3 | 160x160 | 35 | 7#6c/23 | 7#6c/23 | | |
| B5 | 180x180 | 40 | 7#6c/26 | 7#6c/26 | | |
| B6 | 180x180 | 40 | 11#5c/16 | 11#5c/16 | | |
| B8 | 140x140 | 35 | 6#5c/24 | 6#5c/24 | | |
| C1 | 220x220 | 35 | 12#4c/18 | 12#4c/18 | 11#4c/20 | 11#4c/20 |
| C2, C5 y H3 | 160x160 | 35 | 9#5c/17 | 9#5c/17 | | |
| C3 | 160x160 | 35 | 6#6c/27 | 6#6c/27 | | |
| C4 | 140x140 | 35 | 6#5c/24 | 6#5c/24 | 7#4c/20 | 7#4c/20 |
| C6 | 160x160 | 40 | 9#5c/17 | 9#5c/17 | | |
| D3 | 120x120 | 35 | 5#5c/25 | 5#5c/25 | | |
| D5 | 240x240 | 35 | 12#4c/20 | 12#4c/20 | 12#4c/20 | 12#4c/20 |
| D7 | 380x380 | 40 | 14#5c/27 | 14#5c/27 | 14#5c/27 | 14#5c/27 |
| E2 y H2 | 160x160 | 40 | 6#6c/27 | 6#6c/27 | | |
| E3 | 160x160 | 35 | 6#6c/26 | 6#6c/26 | | |
| F1, F4 y G1 | 160x160 | 35 | 8#4c/20 | 8#4c/20 | 8#4c/20 | 8#4c/20 |
| F2 y G2 | 160x160 | 40 | 8#5c/20 | 8#5c/20 | | |
| H4 | 180x180 | 35 | 9#4c/20 | 9#4c/20 | 9#4c/20 | 9#4c/20 |
| I1 | 320x320 | 40 | 13#5c/27 | 13#5c/27 | 12#5c/27 | 12#5c/27 |
| I4 | 340x340 | 40 | 13#5c/26 | 13#5c/26 | 13#5c/26 | 13#5c/26 |
| C8-C7 | 420x200 | 45 | 7#8c/29 | 27#4c/15 | 9#6c/22 | 27#4c/15 |
| I2-J2 | 420x200 | 40 | 7#7c/29 | 24#4c/17 | 10#6c/19 | 24#4c/17 |
| I3-J3 | 420x200 | 40 | 10#6c/19 | 24#4c/17 | 7#7c/28 | 24#4c/17 |

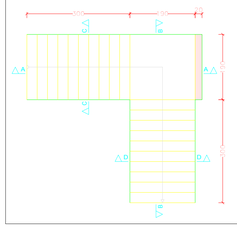
| Replanteo de pilares - Cimentación | | | | |
|---|---|---|---|---|
| Pilar | Dimensión (cm) | Coordenadas del centro | | Ángulo (grados) |
| | | Coordenada X (cm) | Coordenada Y (cm) | |
| A2 | 40x60 | -433 | 435 | 90.000 |
| A3 | 40x60 | -433 | 1286 | 90.000 |
| A5 | 40x60 | -433 | 2135 | 90.000 |
| A6 | 40x60 | -433 | 2985 | 90.000 |
| A7 | 40x60 | -433 | 3835 | 90.000 |
| B1 | 40x60 | 0 | 0 | 0.000 |
| B3 | 40x60 | 0 | 1286 | 90.000 |
| B5 | 40x70 | 1 | 2135 | 90.000 |
| B6 | 40x70 | 0 | 2985 | 90.000 |
| B8 | 40x60 | 0 | 4125 | 0.000 |
| C1 | 40x60 | 850 | 0 | 0.000 |
| C2 | 40x60 | 851 | 435 | 0.000 |
| C3 | 40x60 | 850 | 1286 | 0.000 |
| C4 | 40x60 | 850 | 1721 | 0.000 |
| C5 | 40x60 | 851 | 2135 | 90.000 |
| C6 | 40x70 | 851 | 2986 | 90.000 |
| C7 | 40x70 | 850 | 3836 | 90.000 |
| C8 | 40x60 | 850 | 4126 | 0.000 |
| D3 | 40x60 | 1286 | 1286 | 90.000 |
| D5 | 40x60 | 1285 | 2135 | 90.000 |
| D6 | 40x60 | 1286 | 2986 | 90.000 |
| D7 | 40x60 | 1285 | 3836 | 90.000 |
| E1 | 40x60 | 1700 | 0 | 0.000 |
| E2 | 40x70 | 1700 | 435 | 0.000 |
| E3 | 40x60 | 1700 | 1286 | 0.000 |
| E4 | 40x60 | 1700 | 1721 | 0.000 |
| F1 | 40x60 | 2550 | 0 | 0.000 |
| F2 | 40x60 | 2550 | 436 | 0.000 |
| F3 | 40x70 | 2550 | 1286 | 0.000 |
| F4 | 40x60 | 2550 | 1721 | 0.000 |
| G1 | 40x60 | 3400 | 1 | 0.000 |
| G2 | 40x60 | 3400 | 436 | 0.000 |
| G3 | 40x60 | 3400 | 1286 | 0.000 |
| G4 | 40x60 | 3400 | 1721 | 0.000 |
| H1 | 40x60 | 4250 | 0 | 0.000 |
| H2 | 40x70 | 4250 | 435 | 0.000 |
| H3 | 40x60 | 4250 | 1286 | 0.000 |
| H4 | 40x60 | 4250 | 1721 | 0.000 |
| I1 | 40x60 | 5100 | 0 | 0.000 |
| I2 | 40x60 | 5100 | 435 | 0.000 |
| I3 | 40x70 | 5100 | 1286 | 0.000 |
| I4 | 40x60 | 5100 | 1721 | 0.000 |
| J2 | 40x60 | 5388 | 436 | 90.000 |
| J3 | 40x60 | 5388 | 1286 | 90.000 |
| Cota de arranque de los pilares: -3.00 m | | | | |

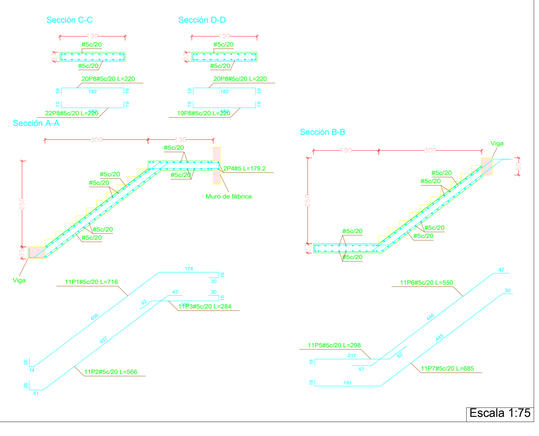



Cimentación
Replanteo
Hormigón: f'c=210
Escala: 1:100

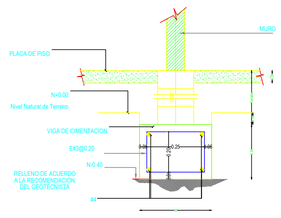
# Escalera 1

| Tramo 1 | | |
|---|---|---|
| Geometría | Ancho | 1.000 m |
| | Espesor | 0.27 m |
| | Huella | 0.300 m |
| | Contrahuella | 0.227 m |
| | Desnivel que salva | 5.00 m |
| | Nº de escalones | 22 |
| | Planta final | PZ N+5.00 |
| | Planta inicial | Suelo N+0.00 |
| Cargas | Peso propio | 0.675 t/m2 |
| | Pelda?eado (Hormigonado con la losa) | 0.226 t/m2 |
| | Solado | 0.100 t/m2 |
| | Ravandillas | 0.200 t/m |
| | Sobrecarga de uso | 0.500 t/m2 |
| Materiales | Hormigón | f'c=210 |
| | Acero | Grado 60 |
| | Rec. geométrico | 3.0 cm |






| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Escalera 1-Tramo 1 | 1 | #5 | 11 | 716 | 7876 | 122.4 |
| | 2 | #5 | 11 | 566 | 6226 | 96.7 |
| | 3 | #5 | 11 | 284 | 3124 | 48.5 |
| | 4 | #5 | 2 | 179 | 358 | 5.6 |
| | 5 | #5 | 11 | 298 | 3278 | 50.9 |
| | 6 | #5 | 11 | 550 | 6050 | 94.0 |
| | 7 | #5 | 11 | 685 | 7535 | 117.1 |
| | 8 | #5 | 81 | 220 | 17820 | 276.8 |
| | | | | | Total: | 812.0 |
| | | | | | #5: | 812.0 |
| | | | | | Total: | 812.0 |




CIMIENTO MUROS QUE NO COINCIDAN CON VIGAS DE ENLACE
ESCALA: SIN

OMNIA SANCTI FACIUNT IN TUTIN FACIUNT

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221884 COR

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CONTIENE

BLOQUE 3X5 AULAS
PLANTA CIMENTACION

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
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3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
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5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

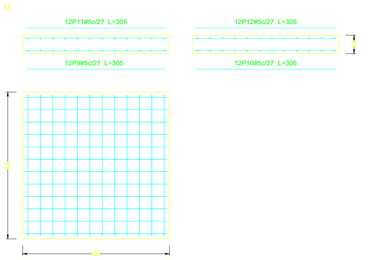
NOMBRE DEL ARCHIVO

FECHA: MARZO 2025

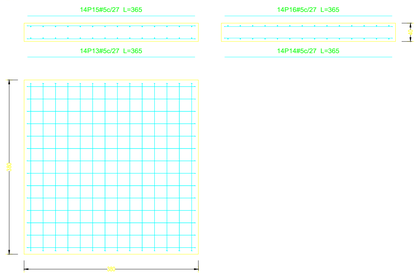
ESCALA: INDICADA

PLANO 1/21 DE

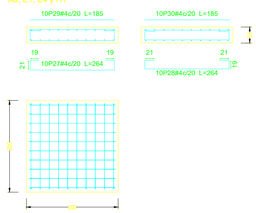
I1



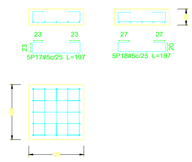

D7



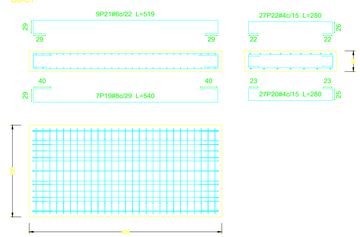

A3, E1, E4 y H1



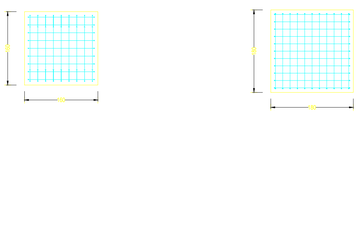

D3



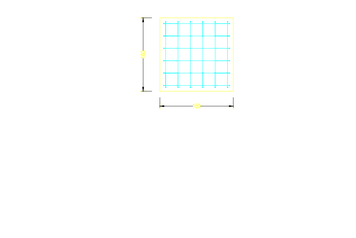

C8-C7



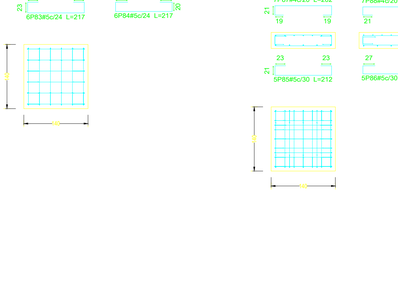

I2-J2




I3-J3




I4




A6




F2 y G2




| CUADRO DE ELEMENTOS DE CIMENTACIÓN | | | | | | |
|---|---|---|---|---|---|---|
| Referencias | Dimensiones (cm) | Canto (cm) | Armado inf. X | Armado inf. Y | Armado sup. X | Armado sup. Y |
| A2 | 140x140 | 35 | 5#5c/30 | 5#5c/30 | | |
| A3, E1, E4 y H1 | 200x200 | 35 | 10#4c/20 | 10#4c/20 | 10#4c/20 | 10#4c/20 |
| A5 y D6 | 240x240 | 35 | 12#4c/20 | 12#4c/20 | 12#4c/20 | 12#4c/20 |
| A6 | 220x220 | 35 | 9#5c/27 | 9#5c/27 | 11#4c/20 | 11#4c/20 |
| A7 y G4 | 140x140 | 35 | 7#4c/20 | 7#4c/20 | 7#4c/20 | 7#4c/20 |
| B1 | 140x140 | 35 | 5#5c/30 | 5#5c/30 | 7#4c/20 | 7#4c/20 |
| B3, F3 y G3 | 160x160 | 35 | 7#6c/23 | 7#6c/23 | | |
| B5 | 180x180 | 40 | 7#6c/26 | 7#6c/26 | | |
| B6 | 180x180 | 40 | 11#5c/16 | 11#5c/16 | | |
| B8 | 140x140 | 35 | 6#5c/24 | 6#5c/24 | | |
| C1 | 220x220 | 35 | 12#4c/18 | 12#4c/18 | 11#4c/20 | 11#4c/20 |
| C2, C5 y H3 | 160x160 | 35 | 9#5c/17 | 9#5c/17 | | |
| C3 | 160x160 | 35 | 6#6c/27 | 6#6c/27 | | |
| C4 | 140x140 | 35 | 6#5c/24 | 6#5c/24 | 7#4c/20 | 7#4c/20 |
| C6 | 160x160 | 40 | 9#5c/17 | 9#5c/17 | | |
| D3 | 120x120 | 35 | 5#5c/25 | 5#5c/25 | | |
| D5 | 240x240 | 35 | 12#4c/20 | 12#4c/20 | 12#4c/20 | 12#4c/20 |
| D7 | 380x380 | 40 | 14#5c/27 | 14#5c/27 | 14#5c/27 | 14#5c/27 |
| E2 y H2 | 160x160 | 40 | 6#6c/27 | 6#6c/27 | | |
| E3 | 160x160 | 35 | 6#6c/26 | 6#6c/26 | | |
| F1, F4 y G1 | 160x160 | 35 | 8#4c/20 | 8#4c/20 | 8#4c/20 | 8#4c/20 |
| F2 y G2 | 160x160 | 40 | 8#5c/20 | 8#5c/20 | | |
| H4 | 180x180 | 35 | 9#4c/20 | 9#4c/20 | 9#4c/20 | 9#4c/20 |
| I1 | 320x320 | 40 | 12#5c/27 | 12#5c/27 | 12#5c/27 | 12#5c/27 |
| I4 | 340x340 | 40 | 13#5c/25 | 13#5c/26 | 13#5c/26 | 13#5c/26 |
| C8-C7 | 420x200 | 40 | 7#6c/29 | 2?#4c/15 | 9#6c/22 | 2?#4c/15 |
| I2-J2 | 420x200 | 40 | 7#7c/29 | 24#4c/17 | 10#6c/19 | 24#4c/17 |
| I3-J3 | 420x200 | 40 | 10#6c/19 | 24#4c/17 | 7#7c/28 | 24#4c/17 |

H4




F1, F4 y G1




A7 y G4




A2




A5 y D6




C1




| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| I2-J2 | 1 | #7 | 7 | 521 | 3647 | 111.1 |
| | 2 | #4 | 24 | 270 | 6480 | 64.4 |
| | 3 | #6 | 10 | 510 | 5100 | 114.1 |
| | 4 | #4 | 24 | 270 | 6480 | 64.4 |
| | | | | | Total | 354.0 |
| I3-J3 | 5 | #6 | 10 | 510 | 5100 | 114.1 |
| | 6 | #4 | 24 | 270 | 6480 | 64.4 |
| | 7 | #7 | 7 | 521 | 3647 | 111.1 |
| | 8 | #4 | 24 | 270 | 6480 | 64.4 |
| | | | | | Total | 354.0 |
| I1 | 9 | #5 | 12 | 305 | 3660 | 56.9 |
| | 10 | #5 | 12 | 305 | 3660 | 56.9 |
| | 11 | #5 | 12 | 305 | 3660 | 56.9 |
| | 12 | #5 | 12 | 305 | 3660 | 56.9 |
| | | | | | Total | 227.6 |
| D7 | 13 | #5 | 14 | 365 | 5110 | 79.4 |
| | 14 | #5 | 14 | 365 | 5110 | 79.4 |
| | 15 | #5 | 14 | 365 | 5110 | 79.4 |
| | 16 | #5 | 14 | 365 | 5110 | 79.4 |
| | | | | | Total | 317.6 |
| D3 | 17 | #5 | 5 | 197 | 985 | 15.3 |
| | 18 | #5 | 5 | 197 | 985 | 15.3 |
| | | | | | Total | 30.6 |
| C8-C7 | 19 | #6 | 7 | 540 | 3780 | 152.4 |
| | 20 | #4 | 27 | 280 | 7560 | 79.2 |
| | 21 | #6 | 9 | 519 | 4671 | 104.5 |
| | 22 | #4 | 27 | 280 | 7560 | 79.2 |
| | | | | | Total | 415.3 |
| I4 | 23 | #5 | 13 | 325 | 4225 | 65.6 |
| | 24 | #5 | 13 | 325 | 4225 | 65.6 |
| | 25 | #5 | 13 | 325 | 4225 | 65.6 |
| | 26 | #5 | 13 | 325 | 4225 | 65.6 |
| | | | | | Total | 262.4 |
| A3=E1=E4=H1 | 27 | #4 | 10 | 264 | 2640 | 26.7 |
| | 28 | #4 | 10 | 264 | 2640 | 26.3 |
| | 29 | #4 | 10 | 185 | 1850 | 18.4 |
| | 30 | #4 | 10 | 185 | 1850 | 18.4 |
| | | | | | Total | 89.4 |
| | | | | | (x4) | 357.6 |
| A6 | 31 | #5 | 8 | 282 | 2336 | 36.3 |
| | 32 | #5 | 8 | 282 | 2336 | 36.3 |
| | 33 | #4 | 11 | 209 | 2255 | 22.4 |
| | 34 | #4 | 11 | 209 | 2255 | 22.4 |
| | | | | | Total | 117.4 |
| F2=G2 | 35 | #5 | 8 | 193 | 1544 | 24.0 |
| | 36 | #5 | 8 | 193 | 1544 | 24.0 |
| | | | | | Total | 48.0 |
| | | | | | (x2) | 96.0 |
| H4 | 37 | #4 | 9 | 244 | 2196 | 21.8 |
| | 38 | #4 | 9 | 244 | 2196 | 21.8 |
| | 39 | #4 | 9 | 165 | 1485 | 14.8 |
| | 40 | #4 | 9 | 244 | 2196 | 21.8 |
| | | | | | Total | 80.2 |
| F1=F4=G1 | 41 | #4 | 8 | 224 | 1792 | 17.8 |
| | 42 | #4 | 8 | 224 | 1792 | 17.8 |
| | 43 | #4 | 8 | 224 | 1792 | 17.8 |
| | 44 | #4 | 8 | 224 | 1792 | 17.8 |
| | | | | | Total | 71.2 |
| | | | | | (x2) | 213.8 |
| A7=G4 | 45 | #4 | 7 | 204 | 1428 | 14.2 |
| | 46 | #4 | 7 | 204 | 1428 | 14.2 |
| | 47 | #4 | 7 | 204 | 1428 | 14.2 |
| | 48 | #4 | 7 | 204 | 1428 | 14.2 |
| | | | | | Total | 56.8 |
| | | | | | (x2) | 113.6 |
| A2 | 49 | #5 | 5 | 217 | 1085 | 16.9 |
| | 50 | #5 | 5 | 217 | 1085 | 16.9 |
| | | | | | Total | 33.8 |
| A5=D6 | 51 | #4 | 12 | 225 | 2700 | 26.7 |
| | 52 | #4 | 12 | 304 | 3649 | 36.3 |
| | 53 | #4 | 12 | 225 | 2700 | 26.9 |
| | 54 | #4 | 12 | 225 | 2700 | 26.9 |
| | | | | | Total | 117.2 |
| | | | | | (x2) | 234.0 |
| C1 | 55 | #4 | 12 | 205 | 2460 | 24.5 |
| | 56 | #4 | 12 | 284 | 3409 | 33.9 |
| | 57 | #4 | 11 | 209 | 2255 | 22.4 |
| | 58 | #4 | 11 | 209 | 2255 | 22.4 |
| | | | | | Total | 103.3 |
| E3 | 59 | #6 | 6 | 245 | 1470 | 32.9 |
| | 60 | #6 | 6 | 245 | 1470 | 32.9 |
| | | | | | Total | 65.8 |
| B3=F3=G3 | 61 | #6 | 7 | 245 | 1715 | 38.4 |
| | 62 | #6 | 7 | 245 | 1715 | 38.4 |
| | | | | | Total | 76.8 |
| | | | | | (x3) | 230.4 |
| B5 | 63 | #6 | 7 | 275 | 1925 | 43.1 |
| | 64 | #6 | 7 | 275 | 1925 | 43.1 |
| | | | | | Total | 86.2 |
| E2=H2 | 65 | #6 | 6 | 255 | 1530 | 34.2 |
| | 66 | #6 | 6 | 255 | 1530 | 34.2 |
| | | | | | Total | 68.4 |
| | | | | | (x2) | 136.8 |
| C4 | 67 | #5 | 6 | 212 | 1272 | 19.8 |
| | 68 | #5 | 6 | 212 | 1272 | 19.8 |
| | 69 | #4 | 7 | 202 | 1414 | 14.1 |
| | 70 | #4 | 7 | 202 | 1414 | 14.1 |
| | | | | | Total | 67.9 |
| D5 | 71 | #4 | 12 | 225 | 2700 | 26.7 |
| | 72 | #4 | 12 | 225 | 2700 | 26.9 |
| | 73 | #4 | 12 | 225 | 2700 | 26.9 |
| | 74 | #4 | 12 | 225 | 2700 | 26.9 |
| | | | | | Total | 107.6 |
| C2=C5=H3 | 75 | #5 | 9 | 237 | 2133 | 33.1 |
| | 76 | #5 | 9 | 237 | 2133 | 33.1 |
| | | | | | Total | 66.2 |
| | | | | | (x3) | 198.6 |
| C6 | 77 | #5 | 9 | 193 | 1737 | 27.0 |
| | 78 | #5 | 9 | 247 | 2223 | 34.5 |
| | | | | | Total | 61.5 |
| B6 | 79 | #5 | 11 | 213 | 2343 | 36.4 |
| | 80 | #5 | 11 | 213 | 2343 | 36.4 |
| | | | | | Total | 72.8 |
| C3 | 81 | #6 | 6 | 245 | 1470 | 32.9 |
| | 82 | #6 | 6 | 245 | 1470 | 32.9 |
| | | | | | Total | 65.8 |
| B8 | 83 | #5 | 6 | 217 | 1302 | 20.2 |
| | 84 | #5 | 6 | 217 | 1302 | 20.2 |
| | | | | | Total | 40.4 |
| B1 | 85 | #5 | 5 | 212 | 1060 | 16.5 |
| | 86 | #5 | 5 | 212 | 1060 | 16.5 |
| | 87 | #4 | 7 | 202 | 1414 | 14.1 |
| | 88 | #4 | 7 | 202 | 1414 | 14.1 |
| | | | | | Total | 61.2 |
| | | | | | #4 | 1719.0 |
| | | | | | #5 | 1496.5 |
| | | | | | #6 | 917.7 |
| | | | | | #7 | 222.2 |
| | | | | | #8 | 150.4 |
| | | | | | Total | 4505.8 |

E3




B3, F3 y G3




B5




E2 y H2




C4




D5




C2, C5 y H3




C6




B6




C3




B8




B1




Cimentación
Despiece cimentación
Hormigón: f'c=210
Escala: 1:100

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221183 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
PLANTA CIMENTACION
DESPIECE DE ZAPATAS

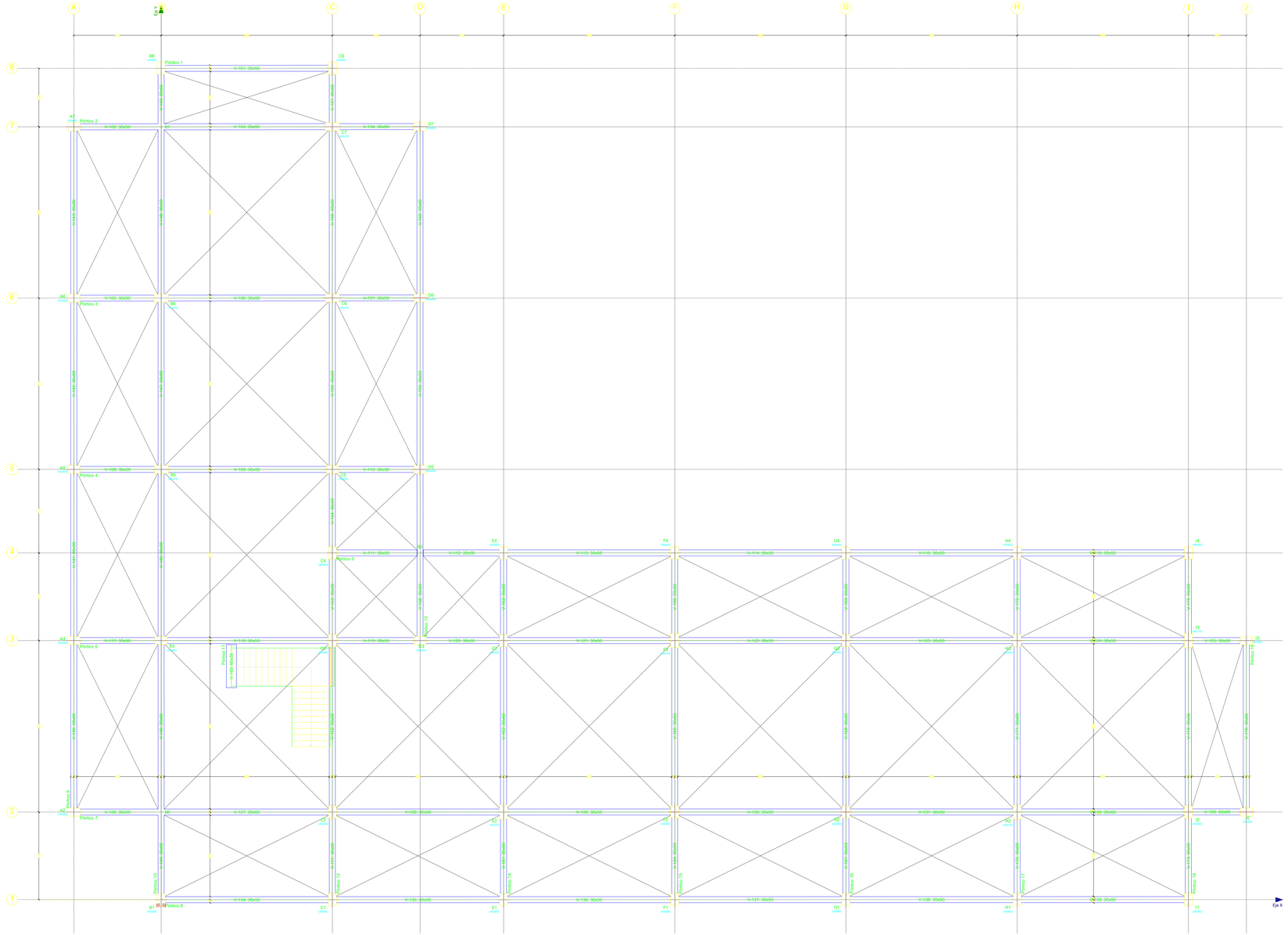
OBSERVACIONES

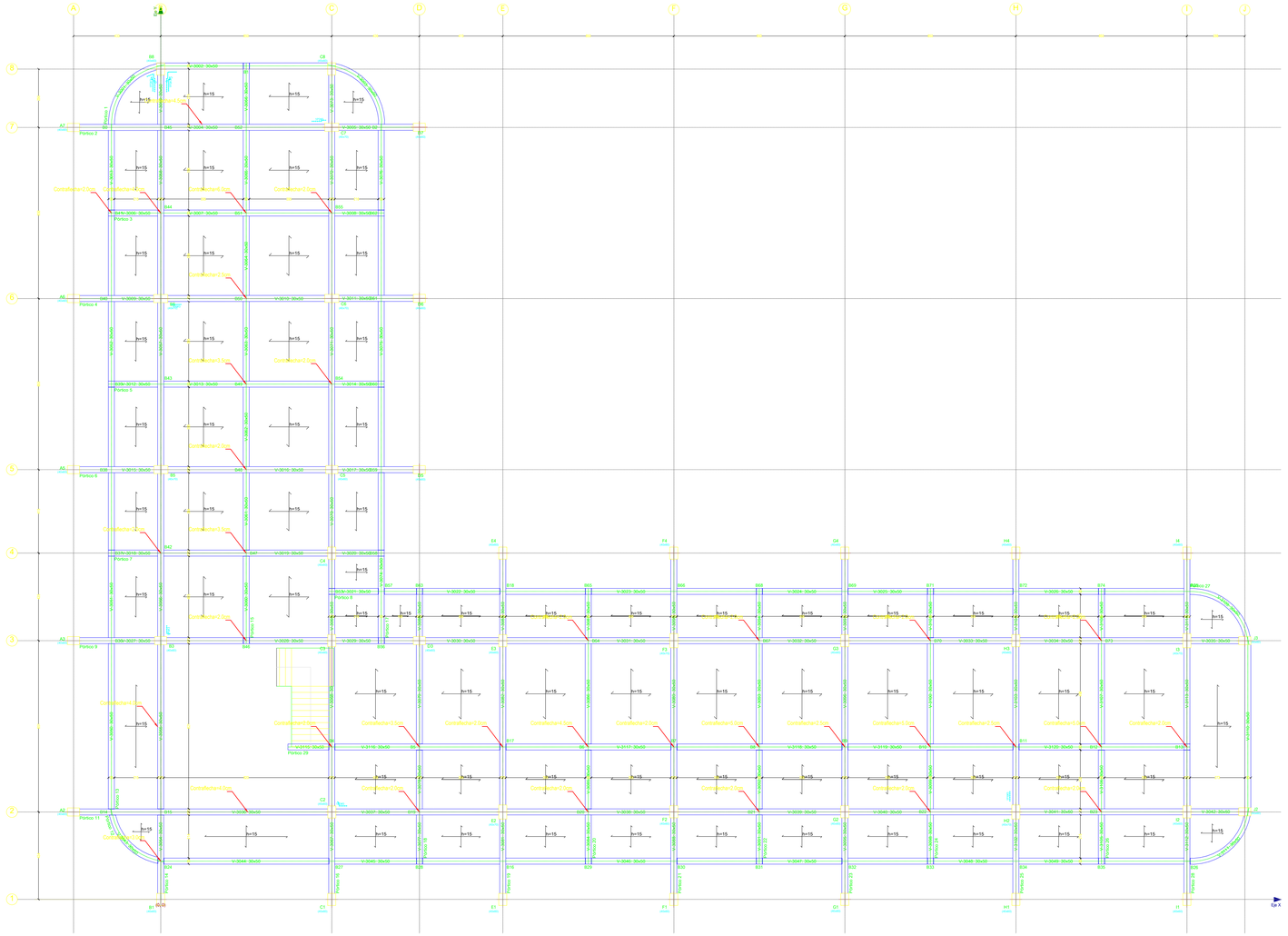
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será aclarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
2/21


A
B
C
D
E
F
G
H
I
J
8
7
6
5
4
3
2
1
Eje Y
Eje X
Pórtico 1
Pórtico 2
Pórtico 3
Pórtico 4
Pórtico 5
Pórtico 6
Pórtico 7
Pórtico 8
Pórtico 9
Pórtico 10
Pórtico 11
Pórtico 12
Pórtico 13
Pórtico 14
Pórtico 15
Pórtico 16
Pórtico 17
Pórtico 18
Pórtico 19
V-101-30x50
V-102-30x50
V-103-30x50
V-104-30x50
V-105-30x50
V-106-30x50
V-107-30x50
V-108-30x50
V-109-30x50
V-110-30x50
V-111-30x50
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V-134-30x50
V-135-30x50
V-136-30x50
V-137-30x50
V-138-30x50
V-139-30x50
V-140-30x50




| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Replanteo | 1 | #3 | 1 | 140 | 140 | 0.3 |
| | 2 | #3 | 3 | 186 | 557 | 1.5 |
| | 3 | #3 | 1 | 160 | 160 | 0.4 |
| | 4 | #3 | 1 | 322 | 322 | 0.8 |
| | 5 | #3 | 1 | 144 | 144 | 0.4 |
| | 6 | #3 | 2 | 129 | 258 | 0.7 |
| | | | | | Total | 3.5 |
| | | | | | #3 | 3.5 |
| | | | | | Total | 3.5 |

Tabla de características de losas macizas (Grupo 3)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm

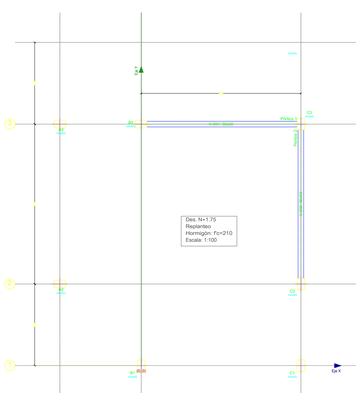
| Replanteo de pilares - P2 N+5.00 | | | | |
|---|---|---|---|---|
| Pilar | Dimensión (cm) | Coordenadas del centro | | Ángulo (grados) |
| | | Coordenada X (cm) | Coordenada Y (cm) | |
| A2 | 40x60 | -433 | 435 | 90.000 |
| A3 | 40x60 | -433 | 1286 | 90.000 |
| A5 | 40x60 | -433 | 2135 | 90.000 |
| A6 | 40x60 | -433 | 2985 | 90.000 |
| A7 | 40x60 | -433 | 3835 | 90.000 |
| B1 | 40x60 | 0 | 0 | 0.000 |
| B3 | 40x60 | 0 | 1286 | 90.000 |
| B5 | 40x70 | 1 | 2135 | 90.000 |
| B6 | 40x70 | 0 | 2985 | 90.000 |
| B8 | 40x60 | 0 | 4125 | 0.000 |
| C1 | 40x60 | 850 | 0 | 0.000 |
| C2 | 40x60 | 851 | 435 | 0.000 |
| C3 | 40x60 | 850 | 1286 | 0.000 |
| C4 | 40x60 | 850 | 1721 | 0.000 |
| C5 | 40x60 | 851 | 2135 | 90.000 |
| C6 | 40x70 | 851 | 2986 | 90.000 |
| C7 | 40x70 | 850 | 3836 | 90.000 |
| C8 | 40x60 | 850 | 4126 | 0.000 |
| D3 | 40x60 | 1286 | 1286 | 90.000 |
| D5 | 40x60 | 1285 | 2135 | 90.000 |
| D6 | 40x60 | 1286 | 2986 | 90.000 |
| D7 | 40x60 | 1285 | 3836 | 90.000 |
| E1 | 40x60 | 1700 | 0 | 0.000 |
| E2 | 40x70 | 1700 | 435 | 0.000 |
| E3 | 40x60 | 1700 | 1286 | 0.000 |
| E4 | 40x60 | 1700 | 1721 | 0.000 |
| F1 | 40x60 | 2550 | 0 | 0.000 |
| F2 | 40x60 | 2550 | 436 | 0.000 |
| F3 | 40x70 | 2550 | 1286 | 0.000 |
| F4 | 40x60 | 2550 | 1721 | 0.000 |
| G1 | 40x60 | 3400 | 1 | 0.000 |
| G2 | 40x60 | 3400 | 436 | 0.000 |
| G3 | 40x60 | 3400 | 1286 | 0.000 |
| G4 | 40x60 | 3400 | 1721 | 0.000 |
| H1 | 40x60 | 4250 | 0 | 0.000 |
| H2 | 40x70 | 4250 | 435 | 0.000 |
| H3 | 40x60 | 4250 | 1286 | 0.000 |
| H4 | 40x60 | 4250 | 1721 | 0.000 |
| I1 | 40x60 | 5100 | 0 | 0.000 |
| I2 | 40x60 | 5100 | 435 | 0.000 |
| I3 | 40x70 | 5100 | 1286 | 0.000 |
| I4 | 40x60 | 5100 | 1721 | 0.000 |
| J2 | 40x60 | 5388 | 436 | 90.000 |
| J3 | 40x60 | 5388 | 1286 | 90.000 |

Cota de arranque de los pilares: +5.00 m

P2 N+5.00
Replanteo
Hormigón: f'c=210
Grade 60
Escala: 1:100

| Replanteo de pilares - Des. N+1.75 | | | | |
|---|---|---|---|---|
| Pilar | Dimensión (cm) | Coordenadas del centro | | Ángulo (grados) |
| | | Coordenada X (cm) | Coordenada Y (cm) | |
| A2 | 40x60 | -433 | 435 | 90.000 |
| A3 | 40x60 | -433 | 1286 | 90.000 |
| A5 | 40x60 | -433 | 2135 | 90.000 |
| A6 | 40x60 | -433 | 2985 | 90.000 |
| A7 | 40x60 | -433 | 3835 | 90.000 |
| B1 | 40x60 | 0 | 0 | 0.000 |
| B3 | 40x60 | 0 | 1286 | 90.000 |
| B5 | 40x70 | 1 | 2135 | 90.000 |
| B6 | 40x70 | 0 | 2985 | 90.000 |
| B8 | 40x60 | 0 | 4125 | 0.000 |
| C1 | 40x60 | 850 | 0 | 0.000 |
| C2 | 40x60 | 851 | 435 | 0.000 |
| C3 | 40x60 | 850 | 1286 | 0.000 |
| C4 | 40x60 | 850 | 1721 | 0.000 |
| C5 | 40x60 | 851 | 2135 | 90.000 |
| C6 | 40x70 | 851 | 2986 | 90.000 |
| C7 | 40x70 | 850 | 3836 | 90.000 |
| C8 | 40x60 | 850 | 4126 | 0.000 |
| D3 | 40x60 | 1286 | 1286 | 90.000 |
| D5 | 40x60 | 1285 | 2135 | 90.000 |
| D6 | 40x60 | 1286 | 2986 | 90.000 |
| D7 | 40x60 | 1285 | 3836 | 90.000 |
| E1 | 40x60 | 1700 | 0 | 0.000 |
| E2 | 40x70 | 1700 | 435 | 0.000 |
| E3 | 40x60 | 1700 | 1286 | 0.000 |
| E4 | 40x60 | 1700 | 1721 | 0.000 |
| F1 | 40x60 | 2550 | 0 | 0.000 |
| F2 | 40x60 | 2550 | 436 | 0.000 |
| F3 | 40x70 | 2550 | 1286 | 0.000 |
| F4 | 40x60 | 2550 | 1721 | 0.000 |
| G1 | 40x60 | 3400 | 1 | 0.000 |
| G2 | 40x60 | 3400 | 436 | 0.000 |
| G3 | 40x60 | 3400 | 1286 | 0.000 |
| G4 | 40x60 | 3400 | 1721 | 0.000 |
| H1 | 40x60 | 4250 | 0 | 0.000 |
| H2 | 40x70 | 4250 | 435 | 0.000 |
| H3 | 40x60 | 4250 | 1286 | 0.000 |
| H4 | 40x60 | 4250 | 1721 | 0.000 |
| I1 | 40x60 | 5100 | 0 | 0.000 |
| I2 | 40x60 | 5100 | 435 | 0.000 |
| I3 | 40x70 | 5100 | 1286 | 0.000 |
| I4 | 40x60 | 5100 | 1721 | 0.000 |
| J2 | 40x60 | 5388 | 436 | 90.000 |
| J3 | 40x60 | 5388 | 1286 | 90.000 |

Cota de arranque de los pilares: +1.75 m




NOTA:

1. DEJAR CONTRAFLECHAS INDICADAS

DETALLE TÍPICO DE REFUERZO POR PUNZONAMIENTO EN LOSA




GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO


OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221869 CDR



Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.


CONTIENE

BLOQUE 3X5 AULAS
PLANTA PISO 2 N + 5.00

OBSERVACIONES

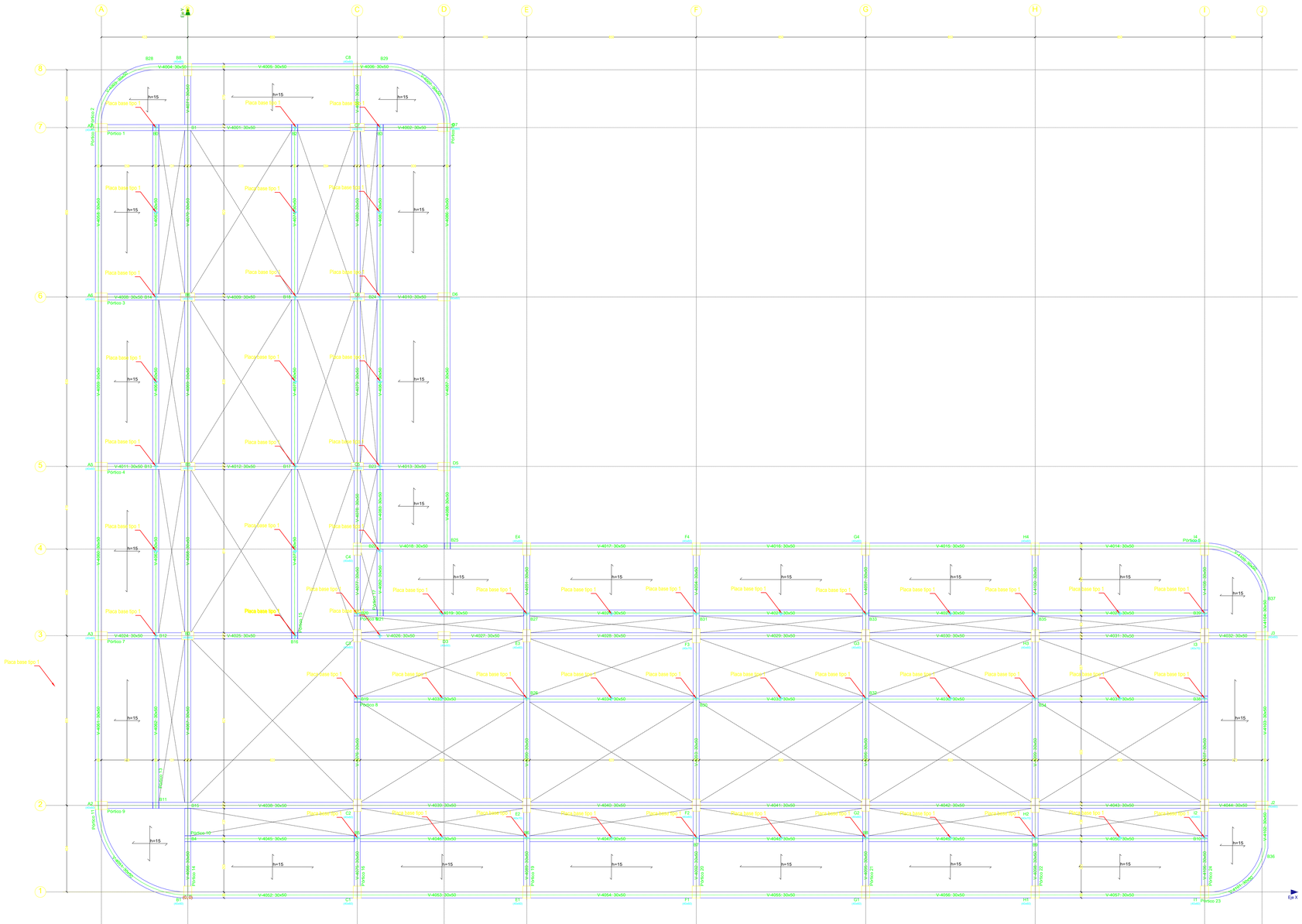
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acharada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025

ESCALA: INDICADA

PLANO 4/21 DE




Cub. N+9.00
Replanteo
Hormigón: f'c=210
Escala: 1:100

Tabla de características de losas macizas (Grupo 4)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm

NOTA:

1. DEJAR CONTRAFLECHAS INDICADAS

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221868 CDR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
PLANTA DE CUBIERTA N + 9.00

OBSERVACIONES

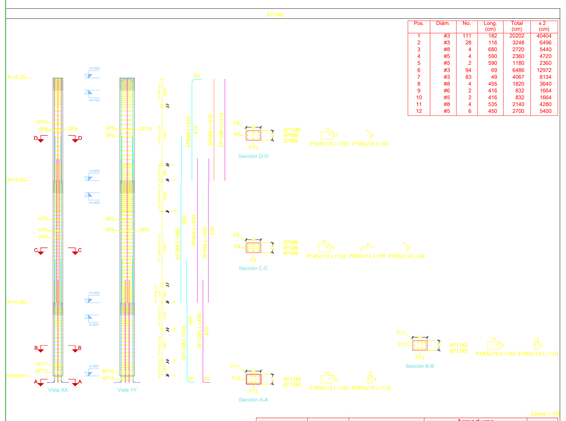
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será aclarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
5/21

## A2=A6



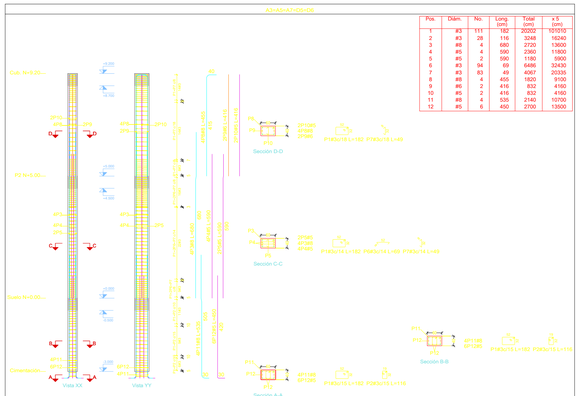

| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 2 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 111 | 182 | 20202 | 40404 |
| 2 | #3 | 28 | 116 | 3248 | 6496 |
| 3 | #8 | 4 | 680 | 2720 | 5440 |
| 4 | #5 | 4 | 590 | 2360 | 4720 |
| 5 | #5 | 2 | 590 | 1180 | 2360 |
| 6 | #3 | 94 | 69 | 6486 | 12972 |
| 7 | #3 | 83 | 49 | 4067 | 8134 |
| 8 | #8 | 4 | 455 | 1820 | 3640 |
| 9 | #6 | 2 | 416 | 832 | 1664 |
| 10 | #5 | 2 | 416 | 832 | 1664 |
| 11 | #8 | 4 | 535 | 2140 | 4280 |
| 12 | #5 | 6 | 450 | 2700 | 5400 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 103.9 | 46.5 | 150.4 | 149.21 |
| Des. N+2.50 | | 1.20 | 10.00 | 163.2 | 97.1 | 260.3 | 216.92 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 43.4 | 43.4 | 60.28 |
| Total (x2) | | 5.86 | 48.80 | 534.2 | 374.0 | 908.2 | 155.09 |

Pilares que nacen en Cimentación y mueren en Cub. N+9.20
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60

## A3=A5=A7=D5=D6

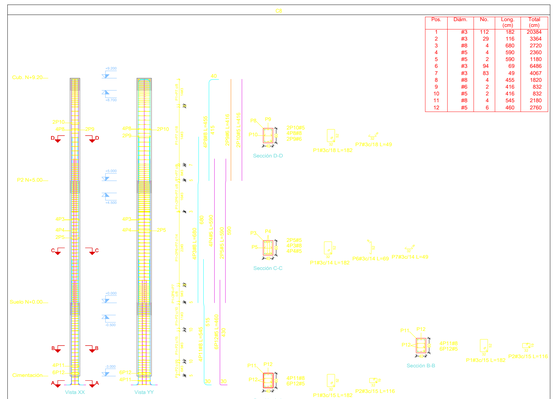



| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 5 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 111 | 182 | 20202 | 101010 |
| 2 | #3 | 28 | 116 | 3248 | 16240 |
| 3 | #8 | 4 | 680 | 2720 | 13600 |
| 4 | #5 | 4 | 590 | 2360 | 11800 |
| 5 | #5 | 2 | 590 | 1180 | 5900 |
| 6 | #3 | 94 | 69 | 6486 | 32430 |
| 7 | #3 | 83 | 49 | 4067 | 20335 |
| 8 | #8 | 4 | 455 | 1820 | 9100 |
| 9 | #6 | 2 | 416 | 832 | 4160 |
| 10 | #5 | 2 | 416 | 832 | 4160 |
| 11 | #8 | 4 | 535 | 2140 | 10700 |
| 12 | #5 | 6 | 450 | 2700 | 13500 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 103.9 | 46.5 | 150.4 | 149.21 |
| Des. N+2.50 | | 1.20 | 10.00 | 163.2 | 97.1 | 260.3 | 216.92 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 43.4 | 43.4 | 60.28 |
| Total (x5) | | 14.64 | 122.00 | 1335.6 | 934.9 | 2270.5 | 155.09 |

## C2




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 112 | 182 | 20384 |
| 2 | #3 | 29 | 116 | 3364 |
| 3 | #8 | 4 | 680 | 2720 |
| 4 | #5 | 4 | 590 | 2360 |
| 5 | #5 | 2 | 590 | 1180 |
| 6 | #3 | 94 | 69 | 6486 |
| 7 | #3 | 83 | 49 | 4067 |
| 8 | #8 | 4 | 455 | 1820 |
| 9 | #6 | 2 | 416 | 832 |
| 10 | #5 | 2 | 416 | 832 |
| 11 | #8 | 4 | 540 | 2160 |
| 12 | #5 | 6 | 460 | 2760 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 103.9 | 46.5 | 150.4 | 149.21 |
| Des. N+2.50 | | 1.20 | 10.00 | 163.2 | 97.1 | 260.3 | 216.92 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 43.4 | 43.4 | 60.28 |
| Total | | 2.93 | 24.40 | 267.1 | 187.0 | 454.1 | 155.09 |

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| J2 | 1 | #3 | 111 | 182 | 182 | 20202 | 113.1 |
| | 2 | #3 | 28 | 116 | 116 | 3248 | 18.2 |
| | 3 | #8 | 4 | 680 15 180 | 680 | 2720 | 108.2 |
| | 4 | #5 | 4 | 590 | 590 | 2360 | 36.7 |
| | 5 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 6 | #3 | 94 | 69 | 69 | 6486 | 36.3 |
| | 7 | #3 | 83 | 49 | 49 | 4067 | 22.8 |
| | 8 | #8 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #6 | 2 | 416 | 416 | 832 | 18.6 |
| | 10 | #5 | 2 | 416 | 416 | 832 | 12.9 |
| | 11 | #8 | 4 | L2 316 15 178 | 540 | 2160 | 85.9 |
| | 12 | #5 | 6 | L2 425 | 455 | 2730 | 42.4 |
| | | | | | Total | | 585.8 |
| J3 | 1 | #3 | 111 | 182 | 182 | 20202 | 113.1 |
| | 2 | #3 | 28 | 116 | 116 | 3248 | 18.2 |
| | 3 | #8 | 4 | 685 15 180 | 680 | 2720 | 108.2 |
| | 4 | #5 | 4 | 590 | 590 | 2360 | 36.7 |
| | 5 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 6 | #3 | 94 | 69 | 69 | 6486 | 36.3 |
| | 7 | #3 | 83 | 49 | 49 | 4067 | 22.8 |
| | 8 | #8 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #6 | 2 | 416 | 416 | 832 | 18.6 |
| | 10 | #5 | 2 | 416 | 416 | 832 | 12.9 |
| | 11 | #8 | 4 | L2 317 15 178 | 540 | 2160 | 85.9 |
| | 12 | #5 | 6 | L2 425 | 455 | 2730 | 42.4 |
| | | | | | Total | | 585.8 |

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| A2=A6 | 1 | #3 | 111 | 182 | 182 | 20202 | 113.1 |
| | 2 | #3 | 28 | 116 | 116 | 3248 | 18.2 |
| | 3 | #8 | 4 | 680 15 180 | 680 | 2720 | 108.2 |
| | 4 | #5 | 4 | 590 | 590 | 2360 | 36.7 |
| | 5 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 6 | #3 | 94 | 69 | 69 | 6486 | 36.3 |
| | 7 | #3 | 83 | 49 | 49 | 4067 | 22.8 |
| | 8 | #8 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #6 | 2 | 416 | 416 | 832 | 18.6 |
| | 10 | #5 | 2 | 416 | 416 | 832 | 12.9 |
| | 11 | #8 | 4 | L2 312 15 178 | 535 | 2140 | 85.1 |
| | 12 | #5 | 6 | L2 420 | 450 | 2700 | 41.9 |
| | | | | | Total (x5) | | 584.5 1169.0 |
| B1=B8 | 1 | #3 | 111 | 182 | 182 | 20202 | 113.1 |
| | 2 | #3 | 28 | 116 | 116 | 3248 | 18.2 |
| | 3 | #8 | 4 | 680 15 180 | 680 | 2720 | 108.2 |
| | 4 | #5 | 4 | 590 | 590 | 2360 | 36.7 |
| | 5 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 6 | #3 | 94 | 69 | 69 | 6486 | 36.3 |
| | 7 | #3 | 83 | 49 | 49 | 4067 | 22.8 |
| | 8 | #8 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #6 | 2 | 416 | 416 | 832 | 18.6 |
| | 10 | #5 | 2 | 416 | 416 | 832 | 12.9 |
| | 11 | #8 | 4 | L2 312 15 178 | 535 | 2140 | 85.1 |
| | 12 | #5 | 6 | L2 420 | 450 | 2700 | 41.9 |
| | | | | | Total (x5) | | 584.5 1169.0 |
| A3=A5=A7=D5=D6 | 1 | #3 | 111 | 182 | 182 | 20202 | 113.1 |
| | 2 | #3 | 28 | 116 | 116 | 3248 | 18.2 |
| | 3 | #8 | 4 | 680 15 180 | 680 | 2720 | 108.2 |
| | 4 | #5 | 4 | 590 | 590 | 2360 | 36.7 |
| | 5 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 6 | #3 | 94 | 69 | 69 | 6486 | 36.3 |
| | 7 | #3 | 83 | 49 | 49 | 4067 | 22.8 |
| | 8 | #8 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #6 | 2 | 416 | 416 | 832 | 18.6 |
| | 10 | #5 | 2 | 416 | 416 | 832 | 12.9 |
| | 11 | #8 | 4 | L2 312 15 177 | 535 | 2140 | 85.1 |
| | 12 | #5 | 6 | L2 420 | 450 | 2700 | 41.9 |
| | | | | | Total (x5) | | 584.5 2923.5 |
| C1=E1=E4=F1=F4=G1=G4=H1=H4 | 1 | #3 | 111 | 182 | 182 | 20202 | 113.1 |
| | 2 | #3 | 28 | 116 | 116 | 3248 | 18.2 |
| | 3 | #8 | 4 | 680 15 180 | 680 | 2720 | 108.2 |
| | 4 | #5 | 4 | 590 | 590 | 2360 | 36.7 |
| | 5 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 6 | #3 | 94 | 69 | 69 | 6486 | 36.3 |
| | 7 | #3 | 83 | 49 | 49 | 4067 | 22.8 |
| | 8 | #8 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #6 | 2 | 416 | 416 | 832 | 18.6 |
| | 10 | #5 | 2 | 416 | 416 | 832 | 12.9 |
| | 11 | #8 | 4 | L2 312 15 177 | 535 | 2140 | 85.1 |
| | 12 | #5 | 6 | L2 420 | 450 | 2700 | 41.9 |
| | | | | | Total (x8) | | 584.5 4676.0 |
| C8 | 1 | #3 | 112 | 182 | 182 | 20384 | 114.1 |
| | 2 | #3 | 29 | 116 | 116 | 3364 | 18.8 |
| | 3 | #8 | 4 | 685 15 180 | 680 | 2720 | 108.2 |
| | 4 | #5 | 4 | 590 | 590 | 2360 | 36.7 |
| | 5 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 6 | #3 | 94 | 69 | 69 | 6486 | 36.3 |
| | 7 | #3 | 83 | 49 | 49 | 4067 | 22.8 |
| | 8 | #8 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #6 | 2 | 416 | 416 | 832 | 18.6 |
| | 10 | #5 | 2 | 416 | 416 | 832 | 12.9 |
| | 11 | #8 | 4 | L2 321 15 179 | 545 | 2180 | 86.7 |
| | 12 | #5 | 6 | L2 430 | 460 | 2760 | 42.9 |
| | | | | | Total | | 588.7 |
| D7 | 1 | #3 | 111 | 182 | 182 | 20202 | 113.1 |
| | 2 | #3 | 28 | 116 | 116 | 3248 | 18.2 |
| | 3 | #8 | 4 | 685 15 180 | 680 | 2720 | 108.2 |
| | 4 | #5 | 4 | 590 | 590 | 2360 | 36.7 |
| | 5 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 6 | #3 | 94 | 69 | 69 | 6486 | 36.3 |
| | 7 | #3 | 83 | 49 | 49 | 4067 | 22.8 |
| | 8 | #8 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #6 | 2 | 416 | 416 | 832 | 18.6 |
| | 10 | #5 | 2 | 416 | 416 | 832 | 12.9 |
| | 11 | #8 | 4 | L2 317 15 179 | 540 | 2160 | 85.9 |
| | 12 | #5 | 6 | L2 425 | 455 | 2730 | 42.4 |
| | | | | | Total (x2) | | 585.8 1171.6 |
| I1=I4 | 1 | #3 | 111 | 182 | 182 | 20202 | 113.1 |
| | 2 | #3 | 28 | 116 | 116 | 3248 | 18.2 |
| | 3 | #8 | 4 | 685 15 180 | 680 | 2720 | 108.2 |
| | 4 | #5 | 4 | 590 | 590 | 2360 | 36.7 |
| | 5 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 6 | #3 | 94 | 69 | 69 | 6486 | 36.3 |
| | 7 | #3 | 83 | 49 | 49 | 4067 | 22.8 |
| | 8 | #8 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #6 | 2 | 416 | 416 | 832 | 18.6 |
| | 10 | #5 | 2 | 416 | 416 | 832 | 12.9 |
| | 11 | #8 | 4 | L2 317 15 179 | 540 | 2160 | 85.9 |
| | 12 | #5 | 6 | L2 425 | 455 | 2730 | 42.4 |
| | | | | | Total (x2) | | 585.8 1171.6 |
| | | | | | #3 | | 4571.2 |
| | | | | | #5 | | 3638.7 |
| | | | | | #6 | | 446.4 |
| | | | | | #8 | | 6382.4 |
| | | | | | Total | | 14038.7 |

## B1=B8




| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 2 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 111 | 182 | 20202 | 40404 |
| 2 | #3 | 28 | 116 | 3248 | 6496 |
| 3 | #8 | 4 | 680 | 2720 | 5440 |
| 4 | #5 | 4 | 590 | 2360 | 4720 |
| 5 | #5 | 2 | 590 | 1180 | 2360 |
| 6 | #3 | 94 | 69 | 6486 | 12972 |
| 7 | #3 | 83 | 49 | 4067 | 8134 |
| 8 | #8 | 4 | 455 | 1820 | 3640 |
| 9 | #6 | 2 | 416 | 832 | 1664 |
| 10 | #5 | 2 | 416 | 832 | 1664 |
| 11 | #8 | 4 | 535 | 2140 | 4280 |
| 12 | #5 | 6 | 450 | 2700 | 5400 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 103.9 | 46.5 | 150.4 | 149.21 |
| Des. N+2.50 | | 1.20 | 10.00 | 163.2 | 97.1 | 260.3 | 216.92 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 43.4 | 43.4 | 60.28 |
| Total (x2) | | 5.86 | 48.80 | 534.2 | 374.0 | 908.2 | 155.09 |

## C1=E1=E4=F1=F4=G1=G4=H1=H4




| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 9 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 111 | 182 | 20202 | 181818 |
| 2 | #3 | 28 | 116 | 3248 | 29232 |
| 3 | #8 | 4 | 680 | 2720 | 24480 |
| 4 | #5 | 4 | 590 | 2360 | 21240 |
| 5 | #5 | 2 | 590 | 1180 | 10620 |
| 6 | #3 | 94 | 69 | 6486 | 58374 |
| 7 | #3 | 83 | 49 | 4067 | 36603 |
| 8 | #8 | 4 | 455 | 1820 | 16380 |
| 9 | #6 | 2 | 416 | 832 | 7488 |
| 10 | #5 | 2 | 416 | 832 | 7488 |
| 11 | #8 | 4 | 535 | 2140 | 19260 |
| 12 | #5 | 6 | 450 | 2700 | 24300 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 103.9 | 46.5 | 150.4 | 149.21 |
| Des. N+2.50 | | 1.20 | 10.00 | 163.2 | 97.1 | 260.3 | 216.92 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 43.4 | 43.4 | 60.28 |
| Total (x9) | | 26.35 | 219.60 | 2404.0 | 1682.8 | 4086.9 | 155.09 |

## J2




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 111 | 182 | 20202 |
| 2 | #3 | 28 | 116 | 3248 |
| 3 | #8 | 4 | 680 | 2720 |
| 4 | #5 | 4 | 590 | 2360 |
| 5 | #5 | 2 | 590 | 1180 |
| 6 | #3 | 94 | 69 | 6486 |
| 7 | #3 | 83 | 49 | 4067 |
| 8 | #8 | 4 | 455 | 1820 |
| 9 | #6 | 2 | 416 | 832 |
| 10 | #5 | 2 | 416 | 832 |
| 11 | #8 | 4 | 540 | 2160 |
| 12 | #5 | 6 | 455 | 2730 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 103.9 | 46.5 | 150.4 | 149.21 |
| Des. N+2.50 | | 1.20 | 10.00 | 163.2 | 97.1 | 260.3 | 216.92 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 43.4 | 43.4 | 60.28 |
| Total | | 2.93 | 24.40 | 267.1 | 187.0 | 454.1 | 155.09 |

## D7

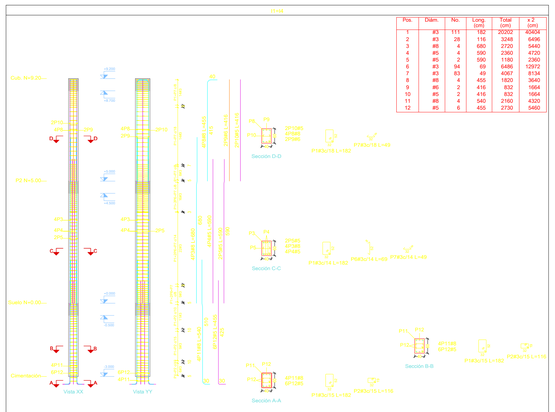



| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 111 | 182 | 20202 |
| 2 | #3 | 28 | 116 | 3248 |
| 3 | #8 | 4 | 680 | 2720 |
| 4 | #5 | 4 | 590 | 2360 |
| 5 | #5 | 2 | 590 | 1180 |
| 6 | #3 | 94 | 69 | 6486 |
| 7 | #3 | 83 | 49 | 4067 |
| 8 | #8 | 4 | 455 | 1820 |
| 9 | #6 | 2 | 416 | 832 |
| 10 | #5 | 2 | 416 | 832 |
| 11 | #8 | 4 | 540 | 2160 |
| 12 | #5 | 6 | 455 | 2730 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 103.9 | 46.5 | 150.4 | 149.21 |
| Des. N+2.50 | | 1.20 | 10.00 | 163.2 | 97.1 | 260.3 | 216.92 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 43.4 | 43.4 | 60.28 |
| Total (x2) | | 5.86 | 48.80 | 534.2 | 374.0 | 908.2 | 155.09 |

## I1=I4

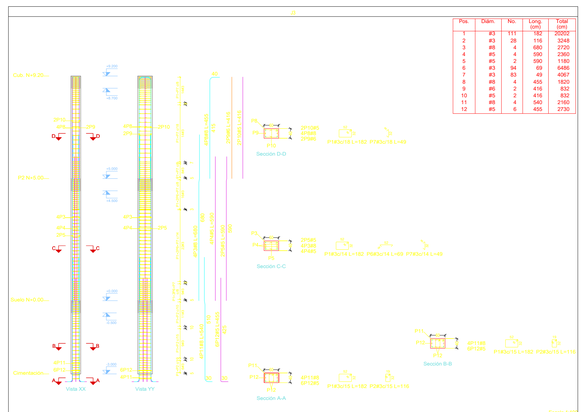



| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 2 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 111 | 182 | 20202 | 40404 |
| 2 | #3 | 28 | 116 | 3248 | 6496 |
| 3 | #8 | 4 | 680 | 2720 | 5440 |
| 4 | #5 | 4 | 590 | 2360 | 4720 |
| 5 | #5 | 2 | 590 | 1180 | 2360 |
| 6 | #3 | 94 | 69 | 6486 | 12972 |
| 7 | #3 | 83 | 49 | 4067 | 8134 |
| 8 | #8 | 4 | 455 | 1820 | 3640 |
| 9 | #6 | 2 | 416 | 832 | 1664 |
| 10 | #5 | 2 | 416 | 832 | 1664 |
| 11 | #8 | 4 | 540 | 2160 | 4320 |
| 12 | #5 | 6 | 455 | 2730 | 5460 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 103.9 | 46.5 | 150.4 | 149.21 |
| Des. N+2.50 | | 1.20 | 10.00 | 163.2 | 97.1 | 260.3 | 216.92 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 43.4 | 43.4 | 60.28 |
| Total (x2) | | 5.86 | 48.80 | 534.2 | 374.0 | 908.2 | 155.09 |

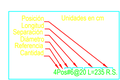
## J3




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 111 | 182 | 20202 |
| 2 | #3 | 28 | 116 | 3248 |
| 3 | #8 | 4 | 680 | 2720 |
| 4 | #5 | 4 | 590 | 2360 |
| 5 | #5 | 2 | 590 | 1180 |
| 6 | #3 | 94 | 69 | 6486 |
| 7 | #3 | 83 | 49 | 4067 |
| 8 | #8 | 4 | 455 | 1820 |
| 9 | #6 | 2 | 416 | 832 |
| 10 | #5 | 2 | 416 | 832 |
| 11 | #8 | 4 | 540 | 2160 |
| 12 | #5 | 6 | 455 | 2730 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 103.9 | 46.5 | 150.4 | 149.21 |
| Des. N+2.50 | | 1.20 | 10.00 | 163.2 | 97.1 | 260.3 | 216.92 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 43.4 | 43.4 | 60.28 |
| Total | | 2.93 | 24.40 | 267.1 | 187.0 | 454.1 | 155.09 |




OMNIA SUNT INCERTA NISI PENSATA

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221867 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisado y aprobado por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
DESPIECE DE COLUMNA (1)

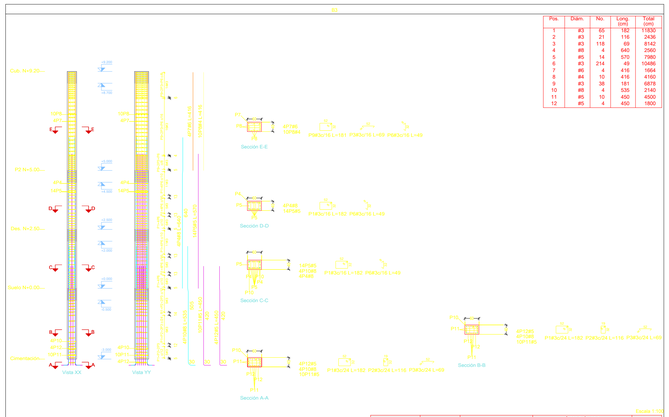
OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
6/21




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 65 | 182 | 11830 |
| 2 | #3 | 21 | 116 | 2436 |
| 3 | #3 | 118 | 69 | 8142 |
| 4 | #8 | 4 | 640 | 2560 |
| 5 | #5 | 14 | 570 | 7980 |
| 6 | #3 | 214 | 49 | 10486 |
| 7 | #8 | 4 | 416 | 1664 |
| 8 | #4 | 10 | 416 | 4160 |
| 9 | #3 | 38 | 181 | 6878 |
| 10 | #8 | 4 | 535 | 2140 |
| 11 | #5 | 10 | 450 | 4500 |
| 12 | #5 | 4 | 450 | 1800 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 78.6 | 78.3 | 156.9 | 155.65 |
| P2 N+5.00 | | 0.60 | 5.00 | - | 46.5 | 46.5 | 77.50 |
| Des. N+2.50 | | 0.60 | 5.00 | 225.8 | 46.5 | 272.3 | 453.83 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 48.8 | 48.8 | 67.78 |
| Total | | 2.93 | 24.40 | 304.4 | 220.2 | 524.5 | 179.13 |

Pilares que nacen en Cimentación y mueren en Cub. N+9.20
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 101 | 202 | 20402 |
| 2 | #3 | 122 | 81 | 9882 |
| 3 | #3 | 223 | 49 | 10927 |
| 4 | #8 | 4 | 680 | 2720 |
| 5 | #5 | 12 | 590 | 7080 |
| 6 | #5 | 2 | 590 | 1180 |
| 7 | #5 | 4 | 455 | 1820 |
| 8 | #5 | 4 | 416 | 1664 |
| 9 | #5 | 8 | 540 | 4320 |
| 10 | #8 | 8 | 540 | 4320 |
| 11 | #5 | 14 | 455 | 6370 |

Escala 1:100

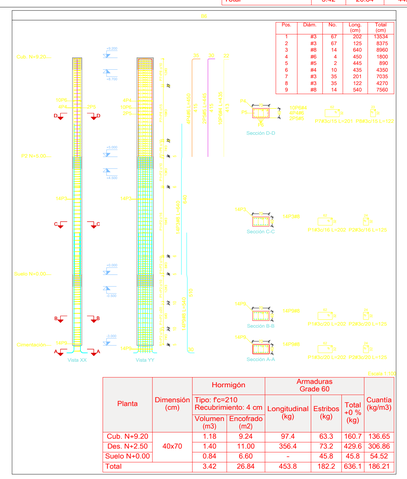
| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 98.2 | 56.2 | 154.4 | 131.29 |
| Des. N+2.50 | | 1.40 | 11.00 | 344.7 | 103.0 | 447.7 | 319.79 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 65.8 | 65.8 | 78.33 |
| Total | | 3.42 | 26.84 | 442.9 | 224.9 | 667.9 | 195.52 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 101 | 202 | 20402 |
| 2 | #3 | 122 | 81 | 9882 |
| 3 | #3 | 223 | 49 | 10927 |
| 4 | #8 | 4 | 680 | 2720 |
| 5 | #5 | 12 | 590 | 7080 |
| 6 | #5 | 2 | 590 | 1180 |
| 7 | #5 | 4 | 455 | 1820 |
| 8 | #5 | 4 | 416 | 1664 |
| 9 | #5 | 8 | 540 | 4320 |
| 10 | #8 | 8 | 540 | 4320 |
| 11 | #5 | 14 | 455 | 6370 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 98.2 | 56.2 | 154.4 | 131.29 |
| Des. N+2.50 | | 1.40 | 11.00 | 344.7 | 103.0 | 447.7 | 319.79 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 65.8 | 65.8 | 78.33 |
| Total | | 3.42 | 26.84 | 442.9 | 224.9 | 667.9 | 195.52 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 67 | 202 | 13534 |
| 2 | #3 | 67 | 125 | 8375 |
| 3 | #8 | 14 | 640 | 8960 |
| 4 | #6 | 4 | 460 | 1840 |
| 5 | #5 | 2 | 445 | 890 |
| 6 | #4 | 10 | 435 | 4350 |
| 7 | #3 | 35 | 201 | 7035 |
| 8 | #3 | 35 | 122 | 4270 |
| 9 | #8 | 14 | 540 | 7560 |

Escala 1:100

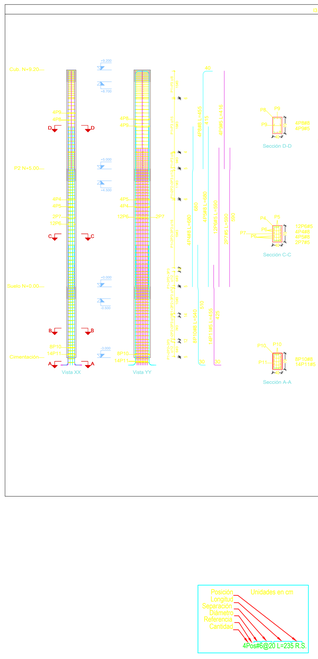
| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 97.4 | 63.3 | 160.7 | 136.65 |
| Des. N+2.50 | | 1.40 | 11.00 | 356.4 | 73.2 | 429.6 | 306.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 45.8 | 45.8 | 54.52 |
| Total | | 3.42 | 26.84 | 453.8 | 182.2 | 636.1 | 186.21 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 101 | 202 | 20402 |
| 2 | #3 | 122 | 81 | 9882 |
| 3 | #3 | 223 | 49 | 10927 |
| 4 | #8 | 4 | 680 | 2720 |
| 5 | #5 | 12 | 590 | 7080 |
| 6 | #5 | 2 | 590 | 1180 |
| 7 | #5 | 4 | 455 | 1820 |
| 8 | #5 | 4 | 416 | 1664 |
| 9 | #5 | 8 | 535 | 4280 |
| 10 | #8 | 8 | 540 | 4320 |
| 11 | #5 | 14 | 455 | 6300 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 98.2 | 56.2 | 154.4 | 131.29 |
| Des. N+2.50 | | 1.40 | 11.00 | 344.7 | 103.0 | 447.7 | 319.79 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 65.8 | 65.8 | 78.33 |
| Total | | 3.42 | 26.84 | 442.9 | 224.9 | 667.9 | 195.52 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 101 | 202 | 20402 |
| 2 | #3 | 122 | 81 | 9882 |
| 3 | #3 | 223 | 49 | 10927 |
| 4 | #8 | 4 | 680 | 2720 |
| 5 | #5 | 12 | 590 | 7080 |
| 6 | #5 | 2 | 590 | 1180 |
| 7 | #5 | 4 | 455 | 1820 |
| 8 | #5 | 4 | 416 | 1664 |
| 9 | #5 | 8 | 540 | 4320 |
| 10 | #8 | 8 | 540 | 4320 |
| 11 | #5 | 14 | 455 | 6370 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón Tipo: f'c=210 Recubrimiento: 4 cm Volumen (m3) | Hormigón Encofrado (m2) | Armaduras Grade 60 Longitudinal (kg) | Armaduras Grade 60 Estribos (kg) | Armaduras Grade 60 Total +0 % (kg) | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 98.2 | 56.2 | 154.4 | 131.29 |
| Des. N+2.50 | | 1.40 | 11.00 | 344.7 | 103.0 | 447.7 | 319.79 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 65.8 | 65.8 | 78.33 |
| Total | | 3.42 | 26.84 | 442.9 | 224.9 | 667.9 | 195.52 |

Posición
Longitud
Separación
Diámetro
Referencia
Cantidad

Unidades en cm

4P.Cua@201,V:235 R:3

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| B3 | 1 | #3 | 65 | 32 | 182 | 11830 | 66.2 |
| | 2 | #3 | 21 | 32 3 32 | 116 | 2436 | 13.6 |
| | 3 | #3 | 118 | 32 32 | 69 | 8142 | 45.6 |
| | 4 | #8 | 4 | 480 13.5(40) | 640 | 2560 | 101.8 |
| | 5 | #5 | 14 | 570 | 570 | 7980 | 124.0 |
| | 6 | #3 | 214 | 32 | 49 | 10486 | 58.7 |
| | 7 | #8 | 4 | 416 | 416 | 1664 | 37.2 |
| | 8 | #4 | 10 | 416 | 416 | 4160 | 41.4 |
| | 9 | #3 | 38 | 32 32 | 181 | 6878 | 38.5 |
| | 10 | #8 | 4 | L2: 311 7.5 179 | 535 | 2140 | 85.1 |
| | 11 | #5 | 10 | L2: 430 | 450 | 4500 | 69.9 |
| | 12 | #5 | 4 | L2: 317 94 | 450 | 1800 | 28.0 |
| | | | | | | Total | 710.0 |
| B5 | 1 | #3 | 101 | 32 | 202 | 20402 | 114.2 |
| | 2 | #3 | 122 | 32 | 81 | 9882 | 55.3 |
| | 3 | #3 | 223 | 32 | 49 | 10927 | 61.2 |
| | 4 | #8 | 4 | 480 13.5(40) | 680 | 2720 | 108.2 |
| | 5 | #8 | 4 | 680 | 680 | 2720 | 108.2 |
| | 6 | #5 | 12 | 590 | 590 | 7080 | 110.0 |
| | 7 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 8 | #6 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #5 | 4 | 416 | 416 | 1664 | 25.9 |
| | 10 | #8 | 8 | L2: 316 7.5 179 | 540 | 4320 | 171.8 |
| | 11 | #5 | 14 | L2: 322 94 | 455 | 6370 | 99.0 |
| | | | | | | Total | 944.5 |
| E2=H2 | 1 | #3 | 101 | 32 | 202 | 20402 | 114.2 |
| | 2 | #3 | 122 | 32 | 81 | 9882 | 55.3 |
| | 3 | #3 | 223 | 32 | 49 | 10927 | 61.2 |
| | 4 | #8 | 4 | 480 13.5(40) | 680 | 2720 | 108.2 |
| | 5 | #8 | 4 | 680 | 680 | 2720 | 108.2 |
| | 6 | #5 | 12 | 590 | 590 | 7080 | 110.0 |
| | 7 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 8 | #6 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #5 | 4 | 416 | 416 | 1664 | 25.9 |
| | 10 | #8 | 8 | L2: 316 7.5 179 | 540 | 4320 | 171.8 |
| | 11 | #5 | 14 | L2: 322 94 | 455 | 6370 | 99.0 |
| | | | | | | Total | 944.5 |
| C6 | 1 | #3 | 101 | 32 | 202 | 20402 | 114.2 |
| | 2 | #3 | 122 | 32 | 81 | 9882 | 55.3 |
| | 3 | #3 | 223 | 32 | 49 | 10927 | 61.2 |
| | 4 | #8 | 4 | 480 13.5(40) | 680 | 2720 | 108.2 |
| | 5 | #8 | 4 | 680 | 680 | 2720 | 108.2 |
| | 6 | #5 | 12 | 590 | 590 | 7080 | 110.0 |
| | 7 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 8 | #6 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #5 | 4 | 416 | 416 | 1664 | 25.9 |
| | 10 | #8 | 8 | L2: 316 7.5 179 | 540 | 4320 | 171.8 |
| | 11 | #5 | 14 | L2: 322 94 | 455 | 6370 | 99.0 |
| | | | | | | Total (x2) | 944.5 1889.0 |
| C7 | 1 | #3 | 101 | 32 | 202 | 20402 | 114.2 |
| | 2 | #3 | 122 | 32 | 81 | 9882 | 55.3 |
| | 3 | #3 | 223 | 32 | 49 | 10927 | 61.2 |
| | 4 | #8 | 4 | 480 13.5(40) | 680 | 2720 | 108.2 |
| | 5 | #8 | 4 | 680 | 680 | 2720 | 108.2 |
| | 6 | #5 | 12 | 590 | 590 | 7080 | 110.0 |
| | 7 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 8 | #6 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #5 | 4 | 416 | 416 | 1664 | 25.9 |
| | 10 | #8 | 8 | L2: 321 7.5 179 | 545 | 4360 | 173.4 |
| | 11 | #5 | 14 | L2: 327 94 | 460 | 6440 | 100.0 |
| | | | | | | Total | 947.1 |
| P3 | 1 | #3 | 101 | 32 | 202 | 20402 | 114.2 |
| | 2 | #3 | 122 | 32 | 81 | 9882 | 55.3 |
| | 3 | #3 | 223 | 32 | 49 | 10927 | 61.2 |
| | 4 | #8 | 4 | 480 13.5(40) | 680 | 2720 | 108.2 |
| | 5 | #8 | 4 | 680 | 680 | 2720 | 108.2 |
| | 6 | #5 | 12 | 590 | 590 | 7080 | 110.0 |
| | 7 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 8 | #6 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #5 | 4 | 416 | 416 | 1664 | 25.9 |
| | 10 | #8 | 8 | L2: 311 7.5 179 | 535 | 4280 | 170.2 |
| | 11 | #5 | 14 | L2: 317 94 | 450 | 6300 | 97.9 |
| | | | | | | Total | 941.8 |
| I3 | 1 | #3 | 101 | 32 | 202 | 20402 | 114.2 |
| | 2 | #3 | 122 | 32 | 81 | 9882 | 55.3 |
| | 3 | #3 | 223 | 32 | 49 | 10927 | 61.2 |
| | 4 | #8 | 4 | 480 13.5(40) | 680 | 2720 | 108.2 |
| | 5 | #8 | 4 | 680 | 680 | 2720 | 108.2 |
| | 6 | #5 | 12 | 590 | 590 | 7080 | 110.0 |
| | 7 | #5 | 2 | 490 90 | 590 | 1180 | 18.3 |
| | 8 | #6 | 4 | 415 12 | 455 | 1820 | 72.4 |
| | 9 | #5 | 4 | 416 | 416 | 1664 | 25.9 |
| | 10 | #8 | 8 | L2: 317 7.5 179 | 540 | 4320 | 171.8 |
| | 11 | #5 | 14 | L2: 322 93 | 455 | 6370 | 99.0 |
| | | | | | | Total | 944.5 |
| B6 | 1 | #3 | 67 | 32 | 202 | 13534 | 75.8 |
| | 2 | #3 | 67 | 32 3 32 | 125 | 8375 | 46.9 |
| | 3 | #8 | 14 | 480 13.5(40) | 640 | 8960 | 356.4 |
| | 4 | #6 | 4 | 415 12 | 460 | 1840 | 40.3 |
| | 5 | #5 | 2 | 415 12 | 445 | 890 | 13.8 |
| | 6 | #4 | 10 | 413 12 | 435 | 4350 | 43.3 |
| | 7 | #3 | 35 | 32 | 201 | 7035 | 39.4 |
| | 8 | #3 | 35 | 32 3 32 | 122 | 4270 | 23.9 |
| | 9 | #8 | 14 | L2: 317 7.5 179 | 540 | 7560 | 350.7 |
| | | | | | | Total | 940.5 |
| | | | | | | #3 | 2023.5 |
| | | | | | | #4 | 84.7 |
| | | | | | | #5 | 2008.0 |
| | | | | | | #6 | 77.5 |
| | | | | | | #8 | 4068.2 |
| | | | | | | Total | 8261.9 |

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221886 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de todo responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
DESPIECE DE COLUMNAS (2)

OBSERVACIONES

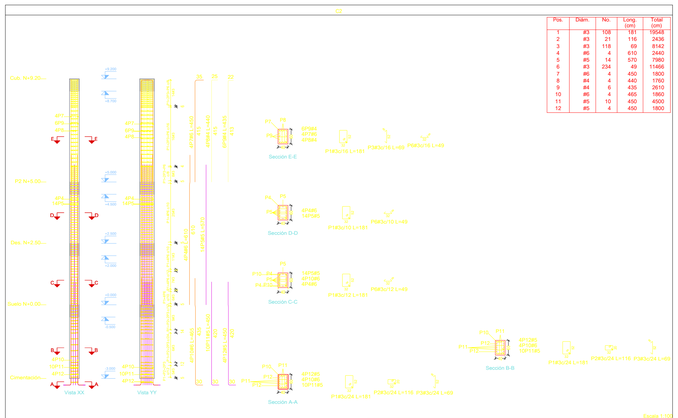
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acharada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO 7/21 DE

## C2

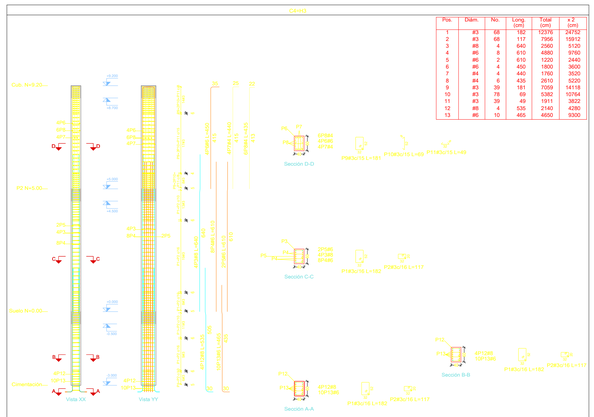



| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 108 | 181 | 19548 |
| 2 | #3 | 21 | 116 | 2436 |
| 3 | #3 | 118 | 69 | 8142 |
| 4 | #6 | 4 | 610 | 2440 |
| 5 | #5 | 14 | 570 | 7980 |
| 6 | #3 | 234 | 49 | 11466 |
| 7 | #6 | 4 | 450 | 1800 |
| 8 | #4 | 4 | 440 | 1760 |
| 9 | #4 | 6 | 435 | 2610 |
| 10 | #6 | 4 | 465 | 1860 |
| 11 | #5 | 10 | 450 | 4500 |
| 12 | #5 | 4 | 450 | 1800 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 83.7 | 78.3 | 162.0 | 160.71 |
| P2 N+5.00 | | 0.60 | 5.00 | - | 52.8 | 52.8 | 88.00 |
| Des. N+2.50 | | 0.60 | 5.00 | 178.6 | 50.6 | 229.2 | 382.00 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 48.7 | 48.7 | 67.64 |
| Total | | 2.93 | 24.40 | 262.3 | 230.4 | 492.7 | 168.27 |

## C4=H3

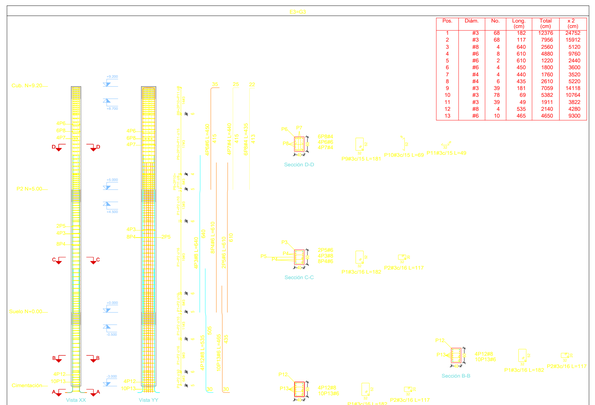



| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 2 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 68 | 182 | 12376 | 24752 |
| 2 | #3 | 68 | 117 | 7956 | 15912 |
| 3 | #8 | 4 | 640 | 2560 | 5120 |
| 4 | #6 | 8 | 610 | 4880 | 9760 |
| 5 | #6 | 2 | 610 | 1220 | 2440 |
| 6 | #6 | 4 | 450 | 1800 | 3600 |
| 7 | #4 | 4 | 440 | 1760 | 3520 |
| 8 | #4 | 6 | 435 | 2610 | 5220 |
| 9 | #3 | 39 | 181 | 7059 | 14118 |
| 10 | #3 | 78 | 69 | 5382 | 10764 |
| 11 | #3 | 39 | 49 | 1911 | 3822 |
| 12 | #8 | 4 | 535 | 2140 | 4280 |
| 13 | #6 | 10 | 465 | 4650 | 9300 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 83.7 | 80.3 | 164.0 | 162.70 |
| Des. N+2.50 | | 1.20 | 10.00 | 238.3 | 66.9 | 305.2 | 254.33 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 43.5 | 43.5 | 60.42 |
| Total (x2) | | 5.86 | 48.80 | 644.1 | 381.6 | 1025.4 | 175.10 |

## E3=D3

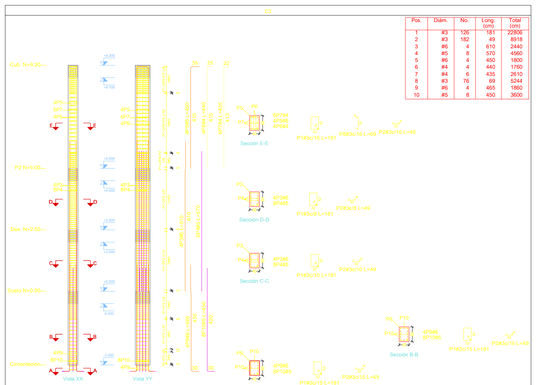



| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 2 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 68 | 182 | 12376 | 24752 |
| 2 | #3 | 68 | 117 | 7956 | 15912 |
| 3 | #8 | 4 | 640 | 2560 | 5120 |
| 4 | #6 | 8 | 610 | 4880 | 9760 |
| 5 | #6 | 2 | 610 | 1220 | 2440 |
| 6 | #6 | 4 | 450 | 1800 | 3600 |
| 7 | #4 | 4 | 440 | 1760 | 3520 |
| 8 | #4 | 6 | 435 | 2610 | 5220 |
| 9 | #3 | 39 | 181 | 7059 | 14118 |
| 10 | #3 | 78 | 69 | 5382 | 10764 |
| 11 | #3 | 39 | 49 | 1911 | 3822 |
| 12 | #8 | 4 | 535 | 2140 | 4280 |
| 13 | #6 | 10 | 465 | 4650 | 9300 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 83.7 | 80.3 | 164.0 | 162.70 |
| Des. N+2.50 | | 1.20 | 10.00 | 238.3 | 66.9 | 305.2 | 254.33 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 43.5 | 43.5 | 60.42 |
| Total (x2) | | 5.86 | 48.80 | 644.1 | 381.6 | 1025.4 | 175.10 |

## C1

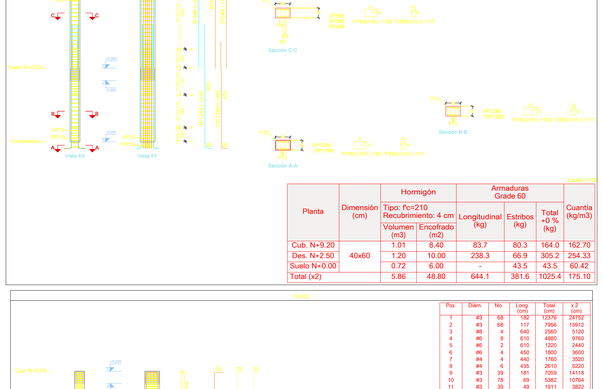



| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 126 | 181 | 22806 |
| 2 | #3 | 182 | 49 | 8918 |
| 3 | #6 | 4 | 610 | 2440 |
| 4 | #5 | 8 | 570 | 4560 |
| 5 | #6 | 4 | 450 | 1800 |
| 6 | #4 | 4 | 440 | 1760 |
| 7 | #4 | 6 | 435 | 2610 |
| 8 | #3 | 76 | 69 | 5244 |
| 9 | #6 | 4 | 465 | 1860 |
| 10 | #5 | 8 | 450 | 3600 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 83.7 | 78.3 | 162.0 | 160.71 |
| P2 N+5.00 | | 0.60 | 5.00 | - | 48.4 | 48.4 | 80.67 |
| Des. N+2.50 | | 0.60 | 5.00 | 125.4 | 39.0 | 164.4 | 274.00 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 38.6 | 38.6 | 53.61 |
| Total | | 2.93 | 24.40 | 209.2 | 204.3 | 413.4 | 141.19 |

## C5=D3

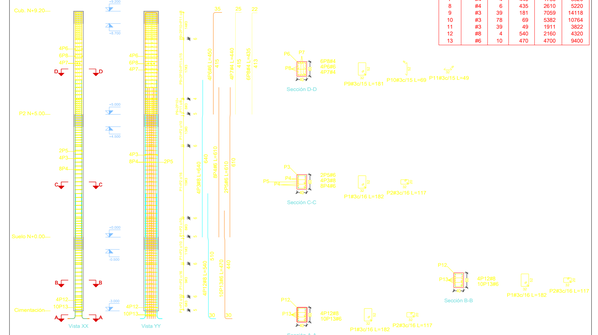



| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 2 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 68 | 182 | 12376 | 24752 |
| 2 | #3 | 68 | 117 | 7956 | 15912 |
| 3 | #8 | 4 | 640 | 2560 | 5120 |
| 4 | #6 | 8 | 610 | 4880 | 9760 |
| 5 | #6 | 2 | 610 | 1220 | 2440 |
| 6 | #6 | 4 | 450 | 1800 | 3600 |
| 7 | #4 | 4 | 440 | 1760 | 3520 |
| 8 | #4 | 6 | 435 | 2610 | 5220 |
| 9 | #3 | 39 | 181 | 7059 | 14118 |
| 10 | #3 | 78 | 69 | 5382 | 10764 |
| 11 | #3 | 39 | 49 | 1911 | 3822 |
| 12 | #8 | 4 | 540 | 2160 | 4320 |
| 13 | #6 | 10 | 470 | 4700 | 9400 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 83.7 | 80.3 | 164.0 | 162.70 |
| Des. N+2.50 | | 1.20 | 10.00 | 238.3 | 66.9 | 305.2 | 254.33 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 43.5 | 43.5 | 60.42 |
| Total (x2) | | 5.86 | 48.80 | 644.1 | 381.6 | 1025.4 | 175.10 |

## F2=G2

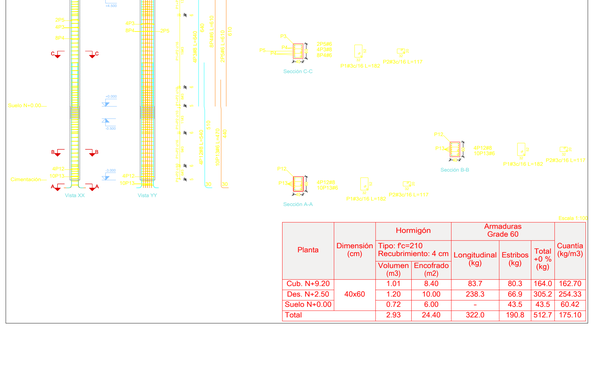



| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 2 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 68 | 182 | 12376 | 24752 |
| 2 | #3 | 68 | 117 | 7956 | 15912 |
| 3 | #8 | 4 | 640 | 2560 | 5120 |
| 4 | #6 | 8 | 610 | 4880 | 9760 |
| 5 | #6 | 2 | 610 | 1220 | 2440 |
| 6 | #6 | 4 | 450 | 1800 | 3600 |
| 7 | #4 | 4 | 440 | 1760 | 3520 |
| 8 | #4 | 6 | 435 | 2610 | 5220 |
| 9 | #3 | 39 | 181 | 7059 | 14118 |
| 10 | #3 | 78 | 69 | 5382 | 10764 |
| 11 | #3 | 39 | 49 | 1911 | 3822 |
| 12 | #8 | 4 | 540 | 2160 | 4320 |
| 13 | #6 | 10 | 470 | 4700 | 9400 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 83.7 | 80.3 | 164.0 | 162.70 |
| Des. N+2.50 | | 1.20 | 10.00 | 238.3 | 66.9 | 305.2 | 254.33 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 43.5 | 43.5 | 60.42 |
| Total (x2) | | 5.86 | 48.80 | 644.1 | 381.6 | 1025.4 | 175.10 |

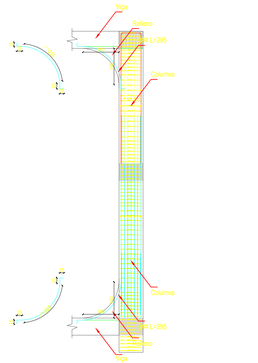
## I2




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 68 | 182 | 12376 |
| 2 | #3 | 68 | 117 | 7956 |
| 3 | #8 | 4 | 640 | 2560 |
| 4 | #6 | 8 | 610 | 4880 |
| 5 | #6 | 2 | 610 | 1220 |
| 6 | #6 | 4 | 450 | 1800 |
| 7 | #4 | 4 | 440 | 1760 |
| 8 | #4 | 6 | 435 | 2610 |
| 9 | #3 | 39 | 181 | 7059 |
| 10 | #3 | 78 | 69 | 5382 |
| 11 | #3 | 39 | 49 | 1911 |
| 12 | #8 | 4 | 540 | 2160 |
| 13 | #6 | 10 | 470 | 4700 |

Escala 1:100

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x60 | 1.01 | 8.40 | 83.7 | 80.3 | 164.0 | 162.70 |
| Des. N+2.50 | | 1.20 | 10.00 | 238.3 | 66.9 | 305.2 | 254.33 |
| Suelo N+0.00 | | 0.72 | 6.00 | - | 43.5 | 43.5 | 60.42 |
| Total | | 2.93 | 24.40 | 322.0 | 190.8 | 512.7 | 175.10 |




DETALLE RELLENOS EN COLUMNAS

ESCALA: SIN

| Resumen Acero Pilares | | Long. total (m) | Peso (kg) | Total |
|---|---|---|---|---|
| Grado 60 | #3 | 15685.5 | 8779 | |
| | #4 | 565.8 | 563 | |
| | #5 | 3216.1 | 4996 | |
| | #6 | 1487.3 | 3328 | |
| | #8 | 3051.0 | 12136 | 29802 |

Pilares que nacen en Cimentación y mueren en Cub. N+9.20
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| C2 | 1 | #3 | 108 | 181 | 181 | 19548 | 109.4 |
| | 2 | #3 | 21 | 116 | 116 | 2436 | 13.6 |
| | 3 | #3 | 118 | 69 | 69 | 8142 | 45.6 |
| | 4 | #6 | 4 | 489 12@10 | 610 | 2440 | 54.6 |
| | 5 | #5 | 14 | 570 | 570 | 7980 | 124.0 |
| | 6 | #3 | 234 | 49 | 49 | 11466 | 64.2 |
| | 7 | #6 | 4 | 415 | 450 | 1800 | 40.3 |
| | 8 | #4 | 4 | 415 | 440 | 1760 | 17.5 |
| | 9 | #4 | 6 | 413 | 435 | 2610 | 26.0 |
| | 10 | #6 | 4 | 12@10 319 12@10 | 465 | 1860 | 41.6 |
| | 11 | #5 | 10 | 12@10 420 | 450 | 4500 | 69.9 |
| | 12 | #5 | 4 | 12@10 317 93 | 450 | 1800 | 28.0 |
| | | | | | | Total | 634.7 |
| C3 | 1 | #3 | 126 | 181 | 181 | 22806 | 127.6 |
| | 2 | #3 | 182 | 49 | 49 | 8918 | 49.9 |
| | 3 | #6 | 4 | 489 12@10 | 610 | 2440 | 54.6 |
| | 4 | #5 | 8 | 570 | 570 | 4560 | 70.8 |
| | 5 | #6 | 4 | 415 | 450 | 1800 | 40.3 |
| | 6 | #4 | 4 | 415 | 440 | 1760 | 17.5 |
| | 7 | #4 | 6 | 413 | 435 | 2610 | 26.0 |
| | 8 | #3 | 76 | 69 | 69 | 5244 | 29.4 |
| | 9 | #6 | 4 | 12@10 319 12@10 | 465 | 1860 | 41.6 |
| | 10 | #5 | 8 | 12@10 420 | 450 | 3600 | 55.9 |
| | | | | | | Total | 513.6 |
| C4=H3 | 1 | #3 | 68 | 182 | 182 | 12376 | 69.3 |
| | 2 | #3 | 68 | 117 | 117 | 7956 | 44.5 |
| | 3 | #8 | 4 | 489 12@10 | 640 | 2560 | 101.8 |
| | 4 | #6 | 8 | 610 | 610 | 4880 | 109.2 |
| | 5 | #6 | 2 | 489 12@10 | 610 | 1220 | 27.3 |
| | 6 | #6 | 4 | 415 | 450 | 1800 | 40.3 |
| | 7 | #4 | 4 | 415 | 440 | 1760 | 17.5 |
| | 8 | #4 | 6 | 413 | 435 | 2610 | 26.0 |
| | 9 | #3 | 39 | | 181 | 7059 | 39.5 |
| | 10 | #3 | 78 | | 69 | 5382 | 30.1 |
| | 11 | #3 | 39 | | 49 | 1911 | 10.7 |
| | 12 | #8 | 4 | 12@10 312 10 178 | 535 | 2140 | 85.1 |
| | 13 | #6 | 10 | 12@10 315 12@10 | 465 | 4650 | 104.0 |
| | | | | | | Total | 705.3 |
| | | | | | | (x2) | 1410.6 |
| C5=D3 | 1 | #3 | 68 | | 182 | 12376 | 69.3 |
| | 2 | #3 | 68 | | 117 | 7956 | 44.5 |
| | 3 | #8 | 4 | 489 12@10 | 640 | 2560 | 101.8 |
| | 4 | #6 | 8 | 610 | 610 | 4880 | 109.2 |
| | 5 | #6 | 2 | 489 12@10 | 610 | 1220 | 27.3 |
| | 6 | #6 | 4 | 415 | 450 | 1800 | 40.3 |
| | 7 | #4 | 4 | 415 | 440 | 1760 | 17.5 |
| | 8 | #4 | 6 | 413 | 435 | 2610 | 26.0 |
| | 9 | #3 | 39 | | 181 | 7059 | 39.5 |
| | 10 | #3 | 78 | | 69 | 5382 | 30.1 |
| | 11 | #3 | 39 | | 49 | 1911 | 10.7 |
| | 12 | #8 | 4 | 12@10 312 10 178 | 535 | 2140 | 85.1 |
| | 13 | #6 | 10 | 12@10 315 12@10 | 465 | 4650 | 104.0 |
| | | | | | | Total | 705.3 |
| | | | | | | (x2) | 1410.6 |
| E3=D3 | 1 | #3 | 68 | | 182 | 12376 | 69.3 |
| | 2 | #3 | 68 | | 117 | 7956 | 44.5 |
| | 3 | #8 | 4 | 489 12@10 | 640 | 2560 | 101.8 |
| | 4 | #6 | 8 | 610 | 610 | 4880 | 109.2 |
| | 5 | #6 | 2 | 489 12@10 | 610 | 1220 | 27.3 |
| | 6 | #6 | 4 | 415 | 450 | 1800 | 40.3 |
| | 7 | #4 | 4 | 415 | 440 | 1760 | 17.5 |
| | 8 | #4 | 6 | 413 | 435 | 2610 | 26.0 |
| | 9 | #3 | 39 | | 181 | 7059 | 39.5 |
| | 10 | #3 | 78 | | 69 | 5382 | 30.1 |
| | 11 | #3 | 39 | | 49 | 1911 | 10.7 |
| | 12 | #8 | 4 | 12@10 312 10 178 | 535 | 2140 | 85.1 |
| | 13 | #6 | 10 | 12@10 315 12@10 | 465 | 4650 | 104.0 |
| | | | | | | Total | 705.3 |
| | | | | | | (x2) | 1410.6 |
| F2=G2 | 1 | #3 | 68 | | 182 | 12376 | 69.3 |
| | 2 | #3 | 68 | | 117 | 7956 | 44.5 |
| | 3 | #8 | 4 | 489 12@10 | 640 | 2560 | 101.8 |
| | 4 | #6 | 8 | 610 | 610 | 4880 | 109.2 |
| | 5 | #6 | 2 | 489 12@10 | 610 | 1220 | 27.3 |
| | 6 | #6 | 4 | 415 | 450 | 1800 | 40.3 |
| | 7 | #4 | 4 | 415 | 440 | 1760 | 17.5 |
| | 8 | #4 | 6 | 413 | 435 | 2610 | 26.0 |
| | 9 | #3 | 39 | | 181 | 7059 | 39.5 |
| | 10 | #3 | 78 | | 69 | 5382 | 30.1 |
| | 11 | #3 | 39 | | 49 | 1911 | 10.7 |
| | 12 | #8 | 4 | 12@10 317 10 178 | 540 | 2160 | 85.9 |
| | 13 | #6 | 10 | 12@10 320 12@10 | 470 | 4700 | 105.2 |
| | | | | | | Total | 707.3 |
| | | | | | | (x2) | 1414.6 |
| I2 | 1 | #3 | 68 | | 182 | 12376 | 69.3 |
| | 2 | #3 | 68 | | 117 | 7956 | 44.5 |
| | 3 | #8 | 4 | 489 12@10 | 640 | 2560 | 101.8 |
| | 4 | #6 | 8 | 610 | 610 | 4880 | 109.2 |
| | 5 | #6 | 2 | 489 12@10 | 610 | 1220 | 27.3 |
| | 6 | #6 | 4 | 415 | 450 | 1800 | 40.3 |
| | 7 | #4 | 4 | 415 | 440 | 1760 | 17.5 |
| | 8 | #4 | 6 | 413 | 435 | 2610 | 26.0 |
| | 9 | #3 | 39 | | 181 | 7059 | 39.5 |
| | 10 | #3 | 78 | | 69 | 5382 | 30.1 |
| | 11 | #3 | 39 | | 49 | 1911 | 10.7 |
| | 12 | #8 | 4 | 12@10 316 10 178 | 540 | 2160 | 85.9 |
| | 13 | #6 | 10 | 12@10 320 12@10 | 470 | 4700 | 105.2 |
| | | | | | | Total | 707.3 |
| | | | | | #3: | | 2190.6 |
| | | | | | #4: | | 478.0 |
| | | | | | #5: | | 348.6 |
| | | | | | #6: | | 2803.8 |
| | | | | | #8: | | 1694.5 |
| | | | | | Total: | | 7522.0 |

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO

INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221886 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
DESPIECE DE COLUMNAS (3)

OBSERVACIONES

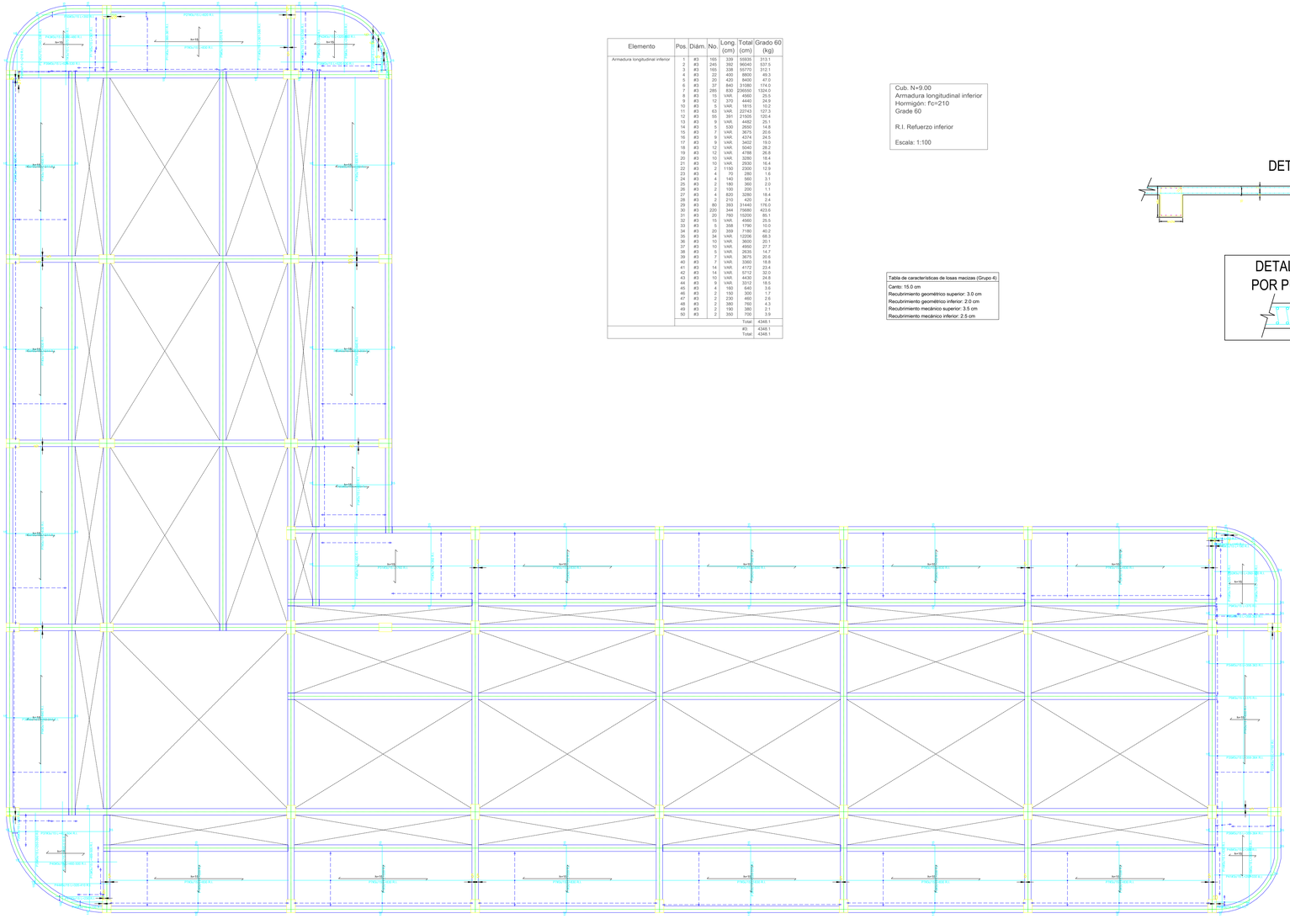
1. todos los elementos que NO estén consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025

ESCALA: INDICADA

PLANO 8/21 DE



| Elemento | Pos. | Diám. | No. | Long (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Armadura longitudinal inferior | 1 | #3 | 165 | 339 | 55935 | 310.1 |
| | 2 | #3 | 245 | 302 | 99040 | 547.5 |
| | 3 | #3 | 165 | 228 | 55770 | 309.3 |
| | 4 | #3 | 2 | 220 | 440 | 2.5 |
| | 5 | #3 | 10 | 420 | 8400 | 47.0 |
| | 6 | #3 | 37 | 845 | 31085 | 174.0 |
| | 7 | #3 | 285 | 830 | 236550 | 1324.0 |
| | 8 | #3 | 15 | VAR. | 4560 | 25.5 |
| | 9 | #3 | 12 | 370 | 4440 | 24.9 |
| | 10 | #3 | 5 | VAR. | 1815 | 10.2 |
| | 11 | #3 | 63 | VAR. | 22743 | 127.3 |
| | 12 | #3 | 99 | VAR. | 27455 | 153.7 |
| | 13 | #3 | 4 | VAR. | 1460 | 8.2 |
| | 14 | #3 | 5 | 530 | 2650 | 15.0 |
| | 15 | #3 | 7 | VAR. | 3675 | 20.6 |
| | 16 | #3 | 9 | VAR. | 4374 | 24.5 |
| | 17 | #3 | 5 | VAR. | 3402 | 19.0 |
| | 18 | #3 | 12 | VAR. | 5040 | 28.2 |
| | 19 | #3 | 12 | VAR. | 4788 | 26.8 |
| | 20 | #3 | 10 | VAR. | 3280 | 18.4 |
| | 21 | #3 | 10 | VAR. | 2430 | 13.6 |
| | 22 | #3 | 5 | 1160 | 2320 | 12.9 |
| | 23 | #3 | 4 | 70 | 280 | 1.6 |
| | 24 | #3 | 4 | 140 | 560 | 3.1 |
| | 25 | #3 | 2 | 180 | 360 | 2.0 |
| | 26 | #3 | 2 | 100 | 200 | 1.1 |
| | 27 | #3 | 4 | 820 | 3280 | 18.4 |
| | 28 | #3 | 2 | 210 | 420 | 2.4 |
| | 29 | #3 | 180 | 393 | 31440 | 176.0 |
| | 30 | #3 | 180 | 393 | 31440 | 176.0 |
| | 31 | #3 | 20 | 760 | 15200 | 85.1 |
| | 32 | #3 | 15 | VAR. | 4560 | 25.5 |
| | 33 | #3 | 5 | 358 | 1790 | 10.0 |
| | 34 | #3 | 20 | 359 | 7180 | 40.2 |
| | 35 | #3 | 34 | VAR. | 12206 | 68.3 |
| | 36 | #3 | 10 | VAR. | 3600 | 20.1 |
| | 37 | #3 | 10 | VAR. | 4950 | 27.7 |
| | 38 | #3 | 5 | VAR. | 2625 | 14.7 |
| | 39 | #3 | 5 | VAR. | 1875 | 10.5 |
| | 40 | #3 | 7 | VAR. | 3360 | 18.8 |
| | 41 | #3 | 14 | VAR. | 4172 | 23.4 |
| | 42 | #3 | 14 | VAR. | 5712 | 32.0 |
| | 43 | #3 | 10 | VAR. | 4430 | 24.8 |
| | 44 | #3 | 9 | VAR. | 3210 | 18.5 |
| | 45 | #3 | 4 | 160 | 640 | 3.6 |
| | 46 | #3 | 2 | 150 | 300 | 1.7 |
| | 47 | #3 | 2 | 130 | 260 | 1.5 |
| | 48 | #3 | 2 | 380 | 760 | 4.3 |
| | 49 | #3 | 2 | 190 | 380 | 2.1 |
| | 50 | #3 | 2 | 350 | 700 | 3.9 |
| | | | | | Total: | 4348.1 |
| | | | | | #3 Total: | 4348.1 |

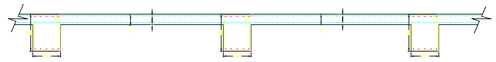
Cub. N+9.00
Armadura longitudinal inferior
Hormigón: f'c=210
Grade 60

R.I. Refuerzo inferior

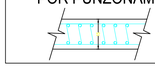
Escala: 1:100

Tabla de caracteristicas de losas macizas (Grupo 4)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm

DETALLE TÍPICO DE LOSA



DETALLE TÍPICO DE REFUERZO POR PUNZONAMIENTO EN LOSA



Nomenclatura en plano de REPLANTEO de losa
P**-e-###

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO

INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221884 CDR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
REFUERZO INFERIOR LOSA DE CUBIERTA

OBSERVACIONES

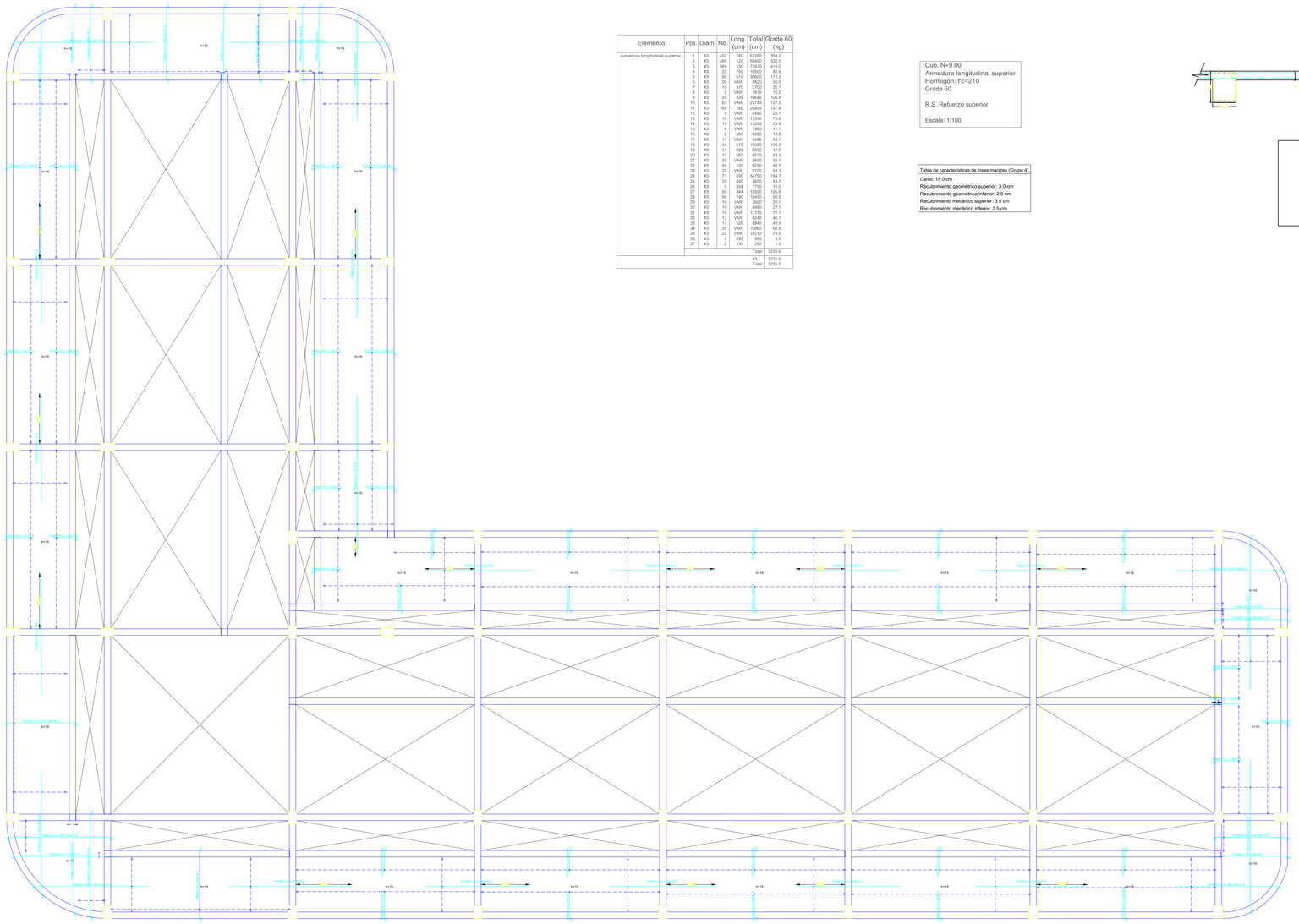
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025

ESCALA: INDICADA

PLANO 9/21 DE



| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Armadura longitudinal superior | 1 | #3 | 452 | 140 | 63280 | 354.2 |
| | 2 | #3 | 495 | 120 | 59400 | 332.5 |
| | 3 | #3 | 969 | 120 | 116280 | 650.9 |
| | 4 | #3 | 7 | 700 | 4900 | 27.4 |
| | 5 | #3 | 60 | 510 | 30600 | 171.3 |
| | 6 | #3 | 20 | VAR. | 9820 | 55.0 |
| | 7 | #3 | 10 | 370 | 3700 | 20.7 |
| | 8 | #3 | 5 | VAR. | 1815 | 10.2 |
| | 9 | #3 | 55 | 339 | 18645 | 104.4 |
| | 10 | #3 | 63 | VAR. | 22743 | 127.3 |
| | 11 | #3 | 165 | 160 | 26400 | 147.8 |
| | 12 | #3 | 1 | 1340 | 1340 | 7.5 |
| | 13 | #3 | 19 | VAR. | 13395 | 75.0 |
| | 14 | #3 | 19 | VAR. | 13205 | 73.9 |
| | 15 | #3 | 4 | VAR. | 1980 | 11.1 |
| | 16 | #3 | 6 | 380 | 2280 | 12.8 |
| | 17 | #3 | 11 | VAR. | 9486 | 53.1 |
| | 18 | #3 | 34 | 570 | 19380 | 108.5 |
| | 19 | #3 | 17 | 500 | 8500 | 47.6 |
| | 20 | #3 | 17 | 560 | 9520 | 53.3 |
| | 21 | #3 | 55 | 150 | 8250 | 46.2 |
| | 22 | #3 | 55 | 150 | 8250 | 46.2 |
| | 23 | #3 | 20 | VAR. | 9700 | 54.3 |
| | 24 | #3 | 71 | 490 | 34790 | 194.7 |
| | 25 | #3 | 20 | 480 | 9600 | 53.7 |
| | 26 | #3 | 5 | 358 | 1790 | 10.0 |
| | 27 | #3 | 55 | 344 | 18920 | 105.9 |
| | 28 | #3 | 55 | 190 | 10450 | 58.5 |
| | 29 | #3 | 10 | VAR. | 3900 | 21.8 |
| | 30 | #3 | 19 | VAR. | 14022 | 78.5 |
| | 31 | #3 | 19 | VAR. | 13715 | 77.1 |
| | 32 | #3 | 17 | VAR. | 8245 | 46.1 |
| | 33 | #3 | 17 | 520 | 8840 | 49.5 |
| | 34 | #3 | 20 | VAR. | 10660 | 60.8 |
| | 35 | #3 | 22 | VAR. | 14212 | 79.5 |
| | 36 | #3 | 2 | 490 | 980 | 5.5 |
| | 37 | #3 | 2 | 130 | 260 | 1.5 |
| | | | | | Total | 3230.0 |
| | | | | | #3 | 3230.0 |
| | | | | | Total | 3230.0 |

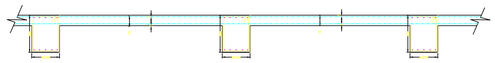
Cub. N+9.00
Armadura longitudinal superior
Hormigón: f'c=210
Grade 60

R.S. Refuerzo superior

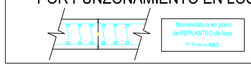
Escala: 1:100

| Tabla de características de losas macizas (Grupo 4) |
|---|
| Canto: 15.0 cm |
| Recubrimiento geométrico superior: 3.0 cm |
| Recubrimiento geométrico inferior: 2.0 cm |
| Recubrimiento mecánico superior: 3.5 cm |
| Recubrimiento mecánico inferior: 2.5 cm |

## DETALLE TÍPICO DE LOSA



## DETALLE TÍPICO DE REFUERZO POR PUNZONAMIENTO EN LOSA




GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221697 CDN

*Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.*

CONTIENE

BLOQUE 3X5 AULAS
REFUERZO SUPERIOR LOSA DE CUBIERTA

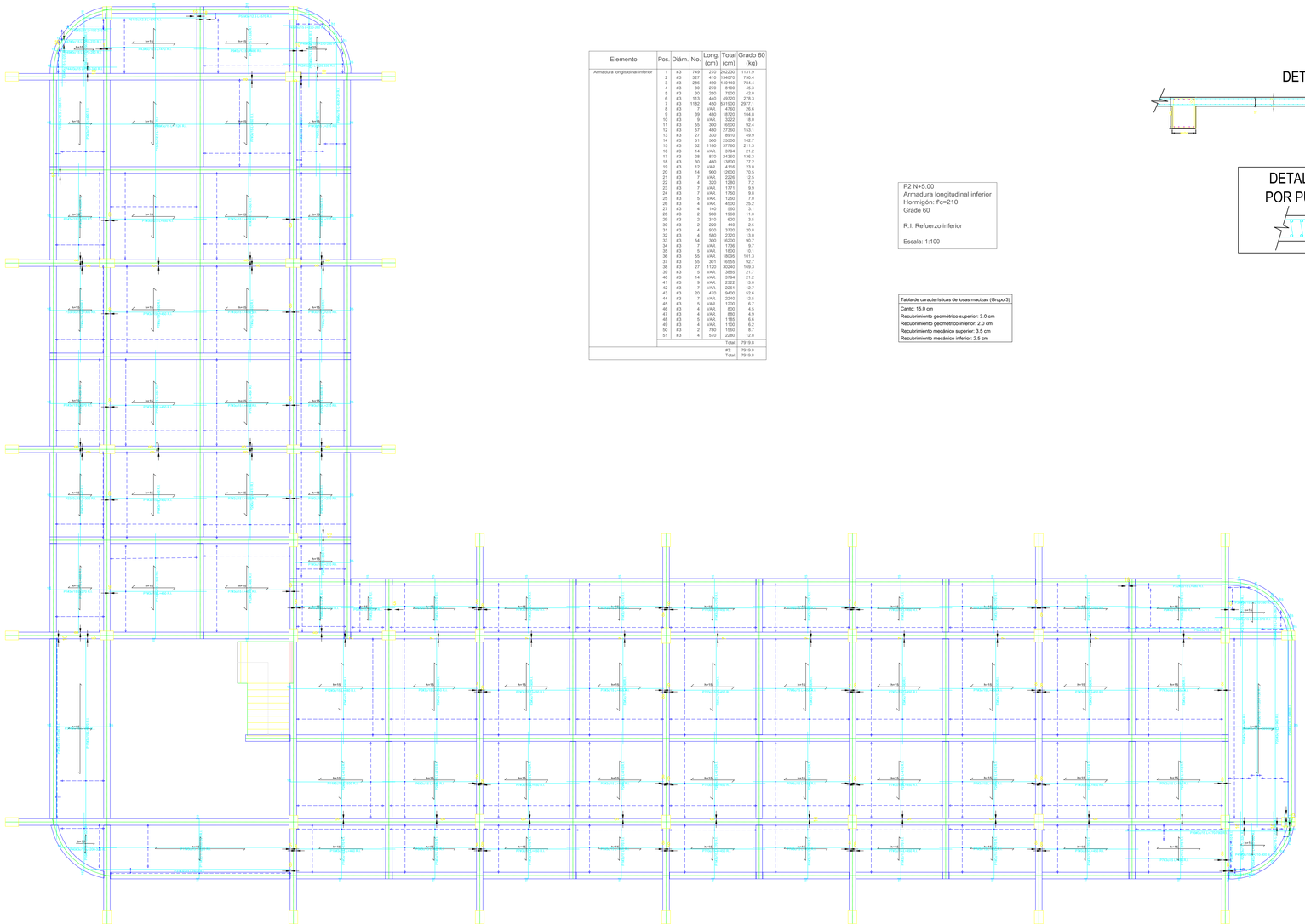
OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acharada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
10/21



| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Armadura longitudinal inferior | 1 | #3 | 749 | 270 | 202230 | 1101.9 |
| | 2 | #3 | 327 | 410 | 134070 | 730.4 |
| | 3 | #3 | 286 | 490 | 140140 | 764.4 |
| | 4 | #3 | 30 | 270 | 8100 | 45.3 |
| | 5 | #3 | 30 | 250 | 7500 | 42.0 |
| | 6 | #3 | 113 | 440 | 49720 | 278.3 |
| | 7 | #3 | 113 | 440 | 49720 | 278.3 |
| | 8 | #3 | 7 | VAR. | 4760 | 25.6 |
| | 9 | #3 | 39 | 480 | 18720 | 104.8 |
| | 10 | #3 | 9 | VAR. | 3222 | 18.0 |
| | 11 | #3 | 55 | 300 | 16500 | 92.4 |
| | 12 | #3 | 57 | 480 | 27360 | 153.1 |
| | 13 | #3 | 27 | 330 | 8910 | 49.9 |
| | 14 | #3 | 51 | 500 | 25500 | 142.7 |
| | 15 | #3 | 32 | 1180 | 37760 | 211.3 |
| | 16 | #3 | 32 | 1180 | 37760 | 211.3 |
| | 17 | #3 | 28 | 870 | 24360 | 136.3 |
| | 18 | #3 | 30 | 460 | 13800 | 77.2 |
| | 19 | #3 | 12 | VAR. | 4116 | 23.0 |
| | 20 | #3 | 14 | 900 | 12600 | 70.5 |
| | 21 | #3 | 7 | VAR. | 2226 | 12.5 |
| | 22 | #3 | 4 | 320 | 1280 | 7.2 |
| | 23 | #3 | 7 | VAR. | 1771 | 9.9 |
| | 24 | #3 | 7 | VAR. | 1750 | 9.8 |
| | 25 | #3 | 5 | VAR. | 4550 | 25.5 |
| | 26 | #3 | 4 | VAR. | 4500 | 25.2 |
| | 27 | #3 | 4 | 140 | 560 | 3.1 |
| | 28 | #3 | 2 | 980 | 1960 | 11.0 |
| | 29 | #3 | 2 | 310 | 620 | 3.5 |
| | 30 | #3 | 2 | 220 | 440 | 2.5 |
| | 31 | #3 | 4 | 930 | 3720 | 20.8 |
| | 32 | #3 | 4 | 930 | 3720 | 20.8 |
| | 33 | #3 | 54 | 300 | 16200 | 90.7 |
| | 34 | #3 | 7 | VAR. | 1736 | 9.7 |
| | 35 | #3 | 5 | VAR. | 1800 | 10.1 |
| | 36 | #3 | 55 | VAR. | 18095 | 101.3 |
| | 37 | #3 | 55 | 301 | 16555 | 92.7 |
| | 38 | #3 | 27 | 1120 | 30240 | 169.3 |
| | 39 | #3 | 5 | VAR. | 3885 | 21.7 |
| | 40 | #3 | 14 | VAR. | 3794 | 21.2 |
| | 41 | #3 | 7 | VAR. | 2261 | 12.7 |
| | 42 | #3 | 7 | VAR. | 2261 | 12.7 |
| | 43 | #3 | 20 | 470 | 9400 | 52.6 |
| | 44 | #3 | 7 | VAR. | 2240 | 12.5 |
| | 45 | #3 | 5 | VAR. | 1200 | 6.7 |
| | 46 | #3 | 4 | VAR. | 800 | 4.5 |
| | 47 | #3 | 4 | VAR. | 880 | 4.9 |
| | 48 | #3 | 5 | VAR. | 1185 | 6.6 |
| | 49 | #3 | 4 | VAR. | 1100 | 6.2 |
| | 50 | #3 | 4 | 570 | 2280 | 12.8 |
| | 51 | #3 | 4 | 570 | 2280 | 12.8 |
| | | | | | Total | 7919.8 |
| | | | | | #3 | 7919.8 |
| | | | | | Total | 7919.8 |

P2 N+5,00
Armadura longitudinal inferior
Hormigón: f'c=210
Grado 60

R.I. Refuerzo inferior

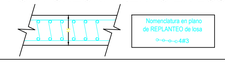
Escala: 1:100

Tabla de características de losas macizas (Grupo 3):
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm

## DETALLE TÍPICO DE LOSA



## DETALLE TÍPICO DE REFUERZO POR PUNZONAMIENTO EN LOSA




GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221693 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
REFUERZO INFERIOR LOSA 2

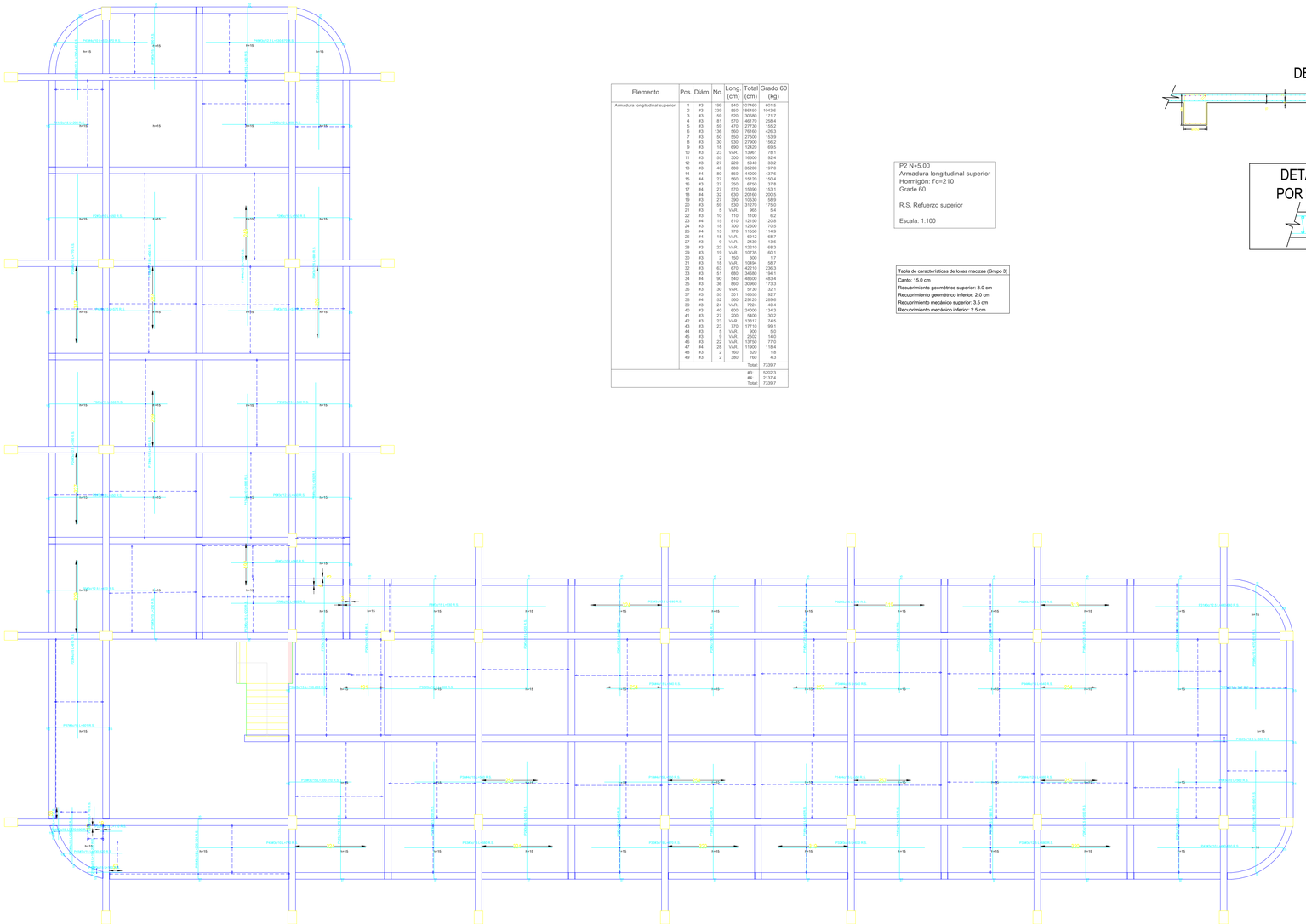
OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE 11/21



| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Armadura longitudinal superior | 1 | #3 | 199 | 340 | 767460 | 677.5 |
| | 2 | #3 | 339 | 550 | 596450 | 1043.6 |
| | 3 | #3 | 59 | 520 | 30680 | 171.7 |
| | 4 | #3 | 81 | 570 | 46170 | 258.4 |
| | 5 | #3 | 19 | 472 | 27736 | 155.2 |
| | 6 | #3 | 136 | 560 | 76160 | 426.3 |
| | 7 | #3 | 30 | 930 | 27900 | 156.2 |
| | 8 | #3 | 30 | 930 | 27900 | 156.2 |
| | 9 | #3 | 18 | 690 | 12420 | 69.5 |
| | 10 | #3 | 23 | VAR. | 13961 | 78.1 |
| | 11 | #3 | 55 | 300 | 16500 | 92.4 |
| | 12 | #3 | 27 | 220 | 5940 | 33.2 |
| | 13 | #3 | 40 | 880 | 35200 | 197.0 |
| | 14 | #4 | 80 | 550 | 44000 | 437.6 |
| | 15 | #3 | 37 | 560 | 19720 | 110.4 |
| | 16 | #4 | 27 | 570 | 15390 | 153.1 |
| | 17 | #4 | 27 | 570 | 15390 | 153.1 |
| | 18 | #4 | 32 | 630 | 20160 | 200.5 |
| | 19 | #3 | 27 | 390 | 10530 | 58.9 |
| | 20 | #3 | 59 | 530 | 31270 | 175.0 |
| | 21 | #3 | 5 | VAR. | 965 | 5.4 |
| | 22 | #3 | 10 | 110 | 1100 | 6.2 |
| | 23 | #3 | 18 | 670 | 12060 | 67.5 |
| | 24 | #3 | 15 | 770 | 11550 | 75.5 |
| | 25 | #4 | 15 | 770 | 11550 | 114.9 |
| | 26 | #4 | 16 | VAR. | 5912 | 58.7 |
| | 27 | #3 | 9 | VAR. | 2430 | 13.6 |
| | 28 | #3 | 22 | VAR. | 12210 | 68.3 |
| | 29 | #3 | 19 | VAR. | 10735 | 60.1 |
| | 30 | #3 | 2 | 150 | 300 | 1.7 |
| | 31 | #3 | 18 | VAR. | 10494 | 58.7 |
| | 32 | #3 | 51 | 680 | 34680 | 194.1 |
| | 33 | #3 | 51 | 680 | 34680 | 194.1 |
| | 34 | #4 | 90 | 540 | 48600 | 483.4 |
| | 35 | #3 | 36 | 860 | 30960 | 173.3 |
| | 36 | #3 | 30 | VAR. | 5730 | 32.1 |
| | 37 | #3 | 55 | 301 | 16555 | 92.7 |
| | 38 | #4 | 52 | 560 | 29120 | 289.6 |
| | 39 | #3 | 24 | VAR. | 7224 | 40.4 |
| | 40 | #3 | 40 | 600 | 24000 | 134.3 |
| | 41 | #3 | 40 | 600 | 24000 | 134.3 |
| | 42 | #3 | 23 | VAR. | 13317 | 74.5 |
| | 43 | #3 | 23 | 770 | 17710 | 99.1 |
| | 44 | #3 | 5 | VAR. | 900 | 5.0 |
| | 45 | #3 | 9 | VAR. | 2502 | 14.0 |
| | 46 | #3 | 22 | VAR. | 13750 | 77.0 |
| | 47 | #4 | 28 | VAR. | 11900 | 118.4 |
| | 48 | #3 | 2 | 160 | 320 | 1.8 |
| | 49 | #3 | 2 | 380 | 760 | 4.3 |
| | | | | | Total | 7339.7 |
| | | | | | #3 | 5202.3 |
| | | | | | #4 | 2137.4 |
| | | | | | Total | 7339.7 |

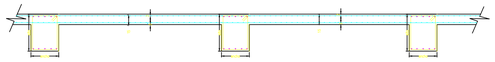
P2 N+5.00
Armadura longitudinal superior
Hormigón: f'c=210
Grade 60

R.S. Refuerzo superior

Escala: 1:100

Tabla de características de losas macizas (Grupo 3)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm

## DETALLE TÍPICO DE LOSA



## DETALLE TÍPICO DE REFUERZO POR PUNZONAMIENTO EN LOSA




GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221884 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
REFUERZO SUPERIOR LOSA 2

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

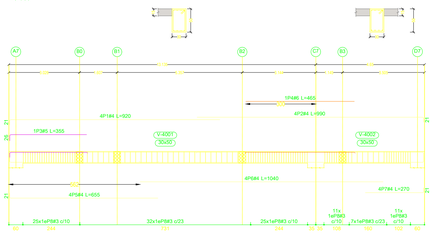
NOMBRE DEL ARCHIVO

FECHA: MARZO 2025

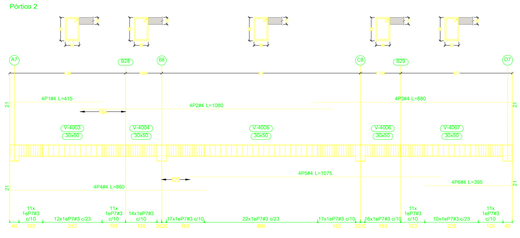
ESCALA: INDICADA

PLANO 12/21 DE

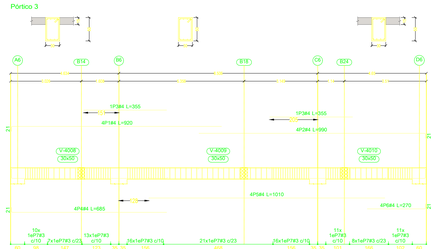
## Pórtico 1



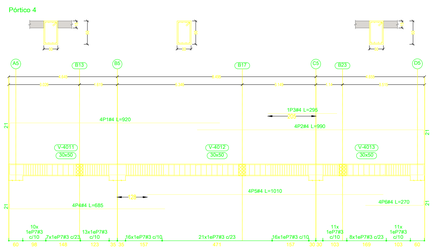

## Pórtico 2




## Pórtico 3



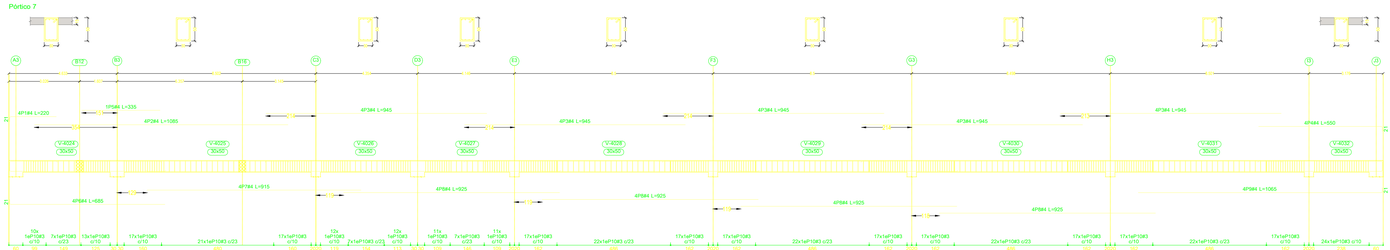

## Pórtico 4



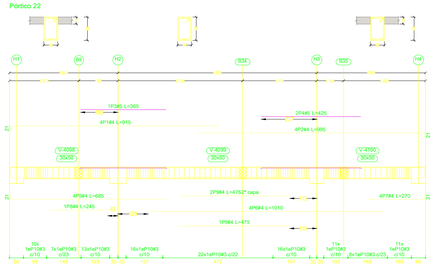

| Elemento | Pos. | Diám. | No. | Pat. (cm) | Recta | Pat. (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 4 | 21 | 899 | | 920 | 3680 | 36.8 |
| | 2 | #4 | 4 | | 959 | 21 | 990 | 3960 | 39.4 |
| | 3 | #5 | 1 | 26 | 329 | | 355 | 355 | 5.5 |
| | 4 | #5 | 1 | | 455 | | 465 | 465 | 10.4 |
| | 5 | #4 | 4 | 21 | 634 | | 655 | 2620 | 26.1 |
| | 6 | #4 | 4 | | 685 | 21 | 685 | 2740 | 27.3 |
| | 7 | #4 | 4 | | 249 | 21 | 270 | 1080 | 10.7 |
| | 8 | #3 | 111 | 9.5 | 140.2 | 9.5 | 159 | 17649 | 98.8 |
| | | | | | | | Total | | 256.9 |
| Pórtico 2 | 1 | #4 | 4 | 21 | 394 | | 415 | 1660 | 16.5 |
| | 2 | #4 | 4 | | 1060 | | 1080 | 4320 | 43.0 |
| | 3 | #4 | 4 | | 859 | 21 | 880 | 3520 | 35.0 |
| | 4 | #4 | 4 | 21 | 839 | | 860 | 3440 | 34.2 |
| | 6 | #4 | 4 | | 1075 | | 1075 | 4300 | 42.8 |
| | 5 | #4 | 4 | | 374 | 21 | 395 | 1580 | 15.7 |
| | 7 | #3 | 102 | 9.5 | 140.2 | 9.5 | 159 | 24168 | 135.3 |
| | | | | | | | Total | | 322.5 |
| Pórtico 3 | 1 | #4 | 4 | 21 | 899 | | 920 | 3680 | 36.8 |
| | 2 | #4 | 4 | | 959 | 21 | 990 | 3960 | 39.4 |
| | 3 | #4 | 4 | | 355 | | 355 | 1420 | 7.1 |
| | 4 | #4 | 4 | 21 | 664 | | 685 | 2740 | 27.3 |
| | 5 | #4 | 4 | | 1040 | | 1040 | 4160 | 41.4 |
| | 6 | #4 | 4 | | 249 | 21 | 270 | 1080 | 10.7 |
| | 7 | #3 | 113 | 9.5 | 140.2 | 9.5 | 159 | 17967 | 100.6 |
| | | | | | | | Total | | 261.9 |
| Pórtico 4 | 1 | #4 | 4 | 21 | 899 | | 920 | 3680 | 36.8 |
| | 2 | #4 | 4 | | 959 | 21 | 990 | 3960 | 39.4 |
| | 3 | #4 | 1 | | 295 | | 295 | 295 | 2.9 |
| | 4 | #4 | 4 | 21 | 664 | | 685 | 2740 | 27.3 |
| | 5 | #4 | 4 | | 1010 | | 1010 | 4040 | 40.2 |
| | 6 | #4 | 4 | 21 | 839 | 21 | 860 | 3440 | 34.2 |
| | 7 | #3 | 113 | 9.5 | 140.2 | 9.5 | 159 | 17967 | 100.6 |
| | | | | | | | Total | | 257.7 |
| Pórtico 5 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 3 | #4 | 1 | | 1079 | 21 | 1100 | 1100 | 10.9 |
| | 4 | #4 | 1 | | 385 | | 386 | 386 | 3.8 |
| | 5 | #4 | 4 | 21 | 1058 | | 1080 | 4320 | 43.0 |
| | 6 | #4 | 10 | | 923 | | 925 | 11100 | 110.4 |
| | 8 | #3 | 280 | 9.5 | 140.2 | 9.5 | 159 | 44520 | 249.2 |
| | | | | | | | Total | | 624.3 |
| Pórtico 6 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 12 | | 945 | | 1130 | 13560 | 112.5 |
| | 3 | #4 | 4 | | 1069 | 21 | 1090 | 4360 | 43.4 |
| | 4 | #4 | 1 | | 385 | | 385 | 385 | 3.8 |
| | 5 | #4 | 4 | 21 | 1049 | | 1070 | 4280 | 42.6 |
| | 6 | #4 | 12 | | 925 | | 925 | 11100 | 110.4 |
| | 7 | #4 | 12 | | 915 | | 970 | 11700 | 101.1 |
| | 8 | #3 | 280 | 9.5 | 140.2 | 9.5 | 159 | 44520 | 249.2 |
| | | | | | | | Total | | 632.6 |
| Pórtico 7 | 1 | #4 | 4 | 21 | 199 | | 220 | 880 | 8.8 |
| | 2 | #4 | 4 | | 1085 | | 1085 | 4340 | 43.2 |
| | 3 | #4 | 20 | | 945 | | 945 | 18900 | 188.0 |
| | 4 | #4 | 4 | | 529 | 21 | 550 | 2200 | 21.9 |
| | 5 | #4 | 1 | | 330 | | 330 | 330 | 3.3 |
| | 6 | #4 | 1 | 21 | 474 | | 495 | 495 | 4.9 |
| | 7 | #4 | 4 | | 915 | | 965 | 3860 | 38.4 |
| | 8 | #4 | 16 | | 925 | | 925 | 14800 | 147.2 |
| | 9 | #4 | 4 | | 1044 | 21 | 1065 | 4260 | 42.4 |
| | 10 | #3 | 393 | 9.5 | 140.2 | 9.5 | 159 | 62497 | 349.7 |
| | | | | | | | Total | | 866.2 |
| Pórtico 8 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 12 | | 945 | | 1130 | 13560 | 112.5 |
| | 3 | #4 | 4 | | 1069 | 21 | 1090 | 4360 | 43.4 |
| | 4 | #4 | 1 | 21 | 385 | | 385 | 385 | 3.8 |
| | 5 | #4 | 4 | | 925 | | 925 | 11100 | 110.4 |
| | 6 | #3 | 280 | 9.5 | 140.2 | 9.5 | 159 | 44520 | 249.2 |
| | | | | | | | Total | | 619.7 |
| Pórtico 9 | 1 | #4 | 4 | 21 | 199 | | 220 | 880 | 8.8 |
| | 2 | #4 | 4 | | 1085 | | 1085 | 4340 | 43.2 |
| | 3 | #4 | 20 | | 945 | | 945 | 18900 | 188.0 |
| | 4 | #4 | 4 | | 529 | 21 | 550 | 2200 | 21.9 |
| | 5 | #4 | 1 | 21 | 330 | | 330 | 330 | 3.3 |
| | 6 | #4 | 1 | | 474 | | 495 | 495 | 4.9 |
| | 7 | #4 | 4 | | 1105 | | 1105 | 4420 | 44.0 |
| | 8 | #4 | 16 | | 925 | | 925 | 14800 | 147.2 |
| | 9 | #4 | 4 | | 1044 | 21 | 1065 | 4260 | 42.4 |
| | 10 | #3 | 367 | 9.5 | 140.2 | 9.5 | 159 | 61533 | 344.4 |
| | | | | | | | Total | | 810.0 |
| Pórtico 22 | 1 | #4 | 4 | 21 | 894 | | 915 | 3660 | 36.4 |
| | 2 | #4 | 4 | | 974 | 21 | 995 | 3980 | 39.6 |
| | 3 | #5 | 2 | | 365 | | 385 | 770 | 8.7 |
| | 4 | #5 | 2 | 21 | 425 | | 425 | 850 | 13.2 |
| | 5 | #4 | 4 | | 664 | | 685 | 2740 | 27.3 |
| | 6 | #4 | 4 | | 1010 | | 1010 | 4040 | 40.2 |
| | 7 | #4 | 4 | 21 | 839 | 21 | 860 | 3440 | 34.2 |
| | 8 | #4 | 3 | | 246 | | 245 | 245 | 2.4 |
| | 9 | #4 | 3 | | 476 | | 470 | 1425 | 14.2 |
| | 10 | #3 | 114 | 9.5 | 140.2 | 9.5 | 159 | 18126 | 101.5 |
| | | | | | | | Total | | 291.2 |
| Pórtico 23 | 1 | #4 | 4 | 21 | 339 | | 360 | 1440 | 14.3 |
| | 2 | #4 | 4 | | 1140 | | 1140 | 4560 | 45.4 |
| | 3 | #4 | 4 | | 839 | 21 | 880 | 3520 | 35.0 |
| | 4 | #4 | 4 | 21 | 844 | | 865 | 3460 | 34.4 |
| | 5 | #4 | 4 | | 1120 | | 1120 | 4480 | 44.6 |
| | 6 | #4 | 1 | | 334 | | 355 | 1420 | 14.1 |
| | 7 | #3 | 108 | 9.5 | 140.2 | 9.5 | 159 | 25122 | 140.6 |
| | | | | | | | Total | | 332.4 |
| Pórtico 24 | 1 | #4 | 4 | 21 | 894 | | 915 | 3660 | 36.4 |
| | 2 | #4 | 4 | | 974 | 21 | 995 | 3980 | 39.6 |
| | 3 | #4 | 2 | | 345 | | 345 | 690 | 6.9 |
| | 4 | #4 | 2 | 21 | 664 | | 685 | 2740 | 27.3 |
| | 5 | #4 | 4 | | 1010 | | 1010 | 4040 | 40.2 |
| | 6 | #4 | 4 | 21 | 839 | 21 | 860 | 3440 | 34.2 |
| | 7 | #3 | 112 | 9.5 | 140.2 | 9.5 | 159 | 17808 | 99.7 |
| | | | | | | | Total | | 280.8 |
| | | | | | | | #3: | | 2218.9 |
| | | | | | | | #4: | | 3353.6 |
| | | | | | | | #5: | | 24.4 |
| | | | | | | | #6: | | 10.4 |
| | | | | | | | Total: | | 5607.2 |

Cub. N+9.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:100
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

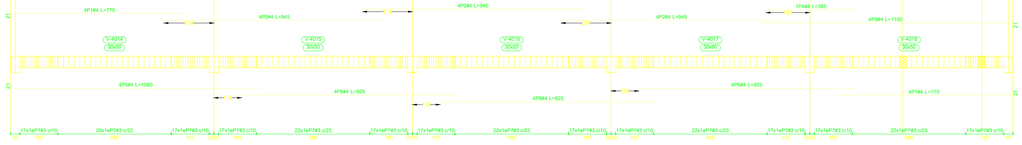
## Pórtico 7



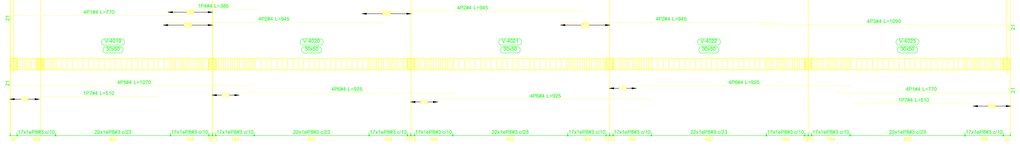

## Pórtico 22



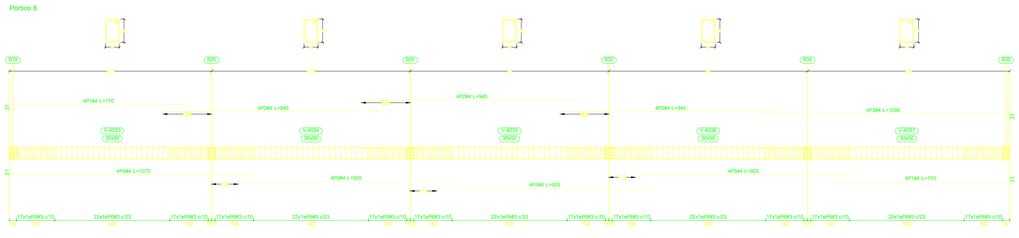

## Pórtico 5



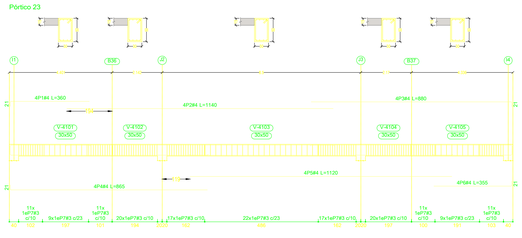

## Pórtico 6




## Pórtico 8



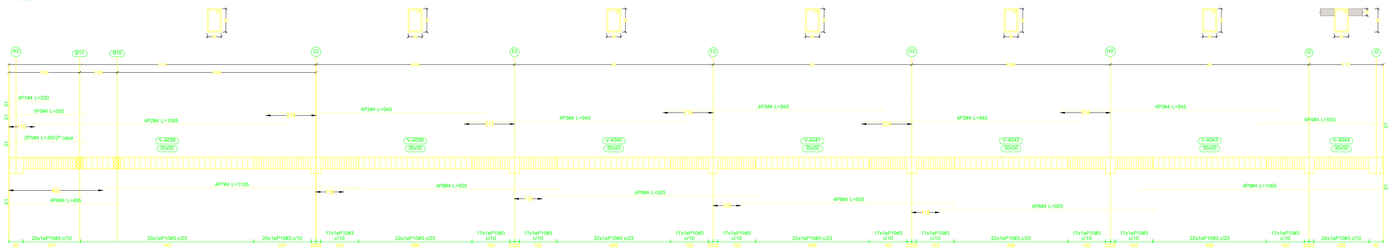

## Pórtico 23



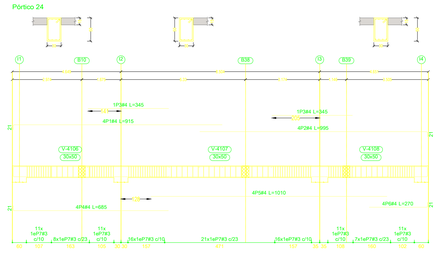




## Pórtico 9




## Pórtico 24




GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO OCGOLLO

INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 CORDOBA

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
DESPIECE DE VIGAS CUBIERTA 1

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será aclarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

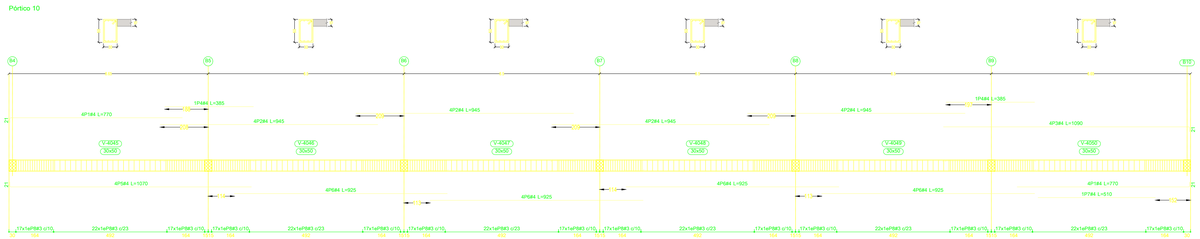
NOMBRE DEL ARCHIVO

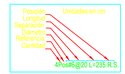
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
13/21

| Elemento | Pos. | Diám. | No. | Pat. (cm) | Recta (cm) | Pat. (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|---|
| Pórtico 10 | 1 | #4 | 8 | 21 | 740 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 16 | | 945 | | 945 | 15120 | 150.4 |
| | 3 | #4 | 4 | 21 | 1070 | 21 | 1112 | 4450 | 44.3 |
| | 4 | #4 | 2 | | 385 | | 385 | 770 | 7.7 |
| | 5 | #4 | 4 | 21 | 1049 | | 1070 | 4280 | 42.6 |
| | 6 | #4 | 16 | | 925 | | 925 | 14800 | 147.2 |
| | 7 | #4 | | | 510 | | 510 | 510 | 5.1 |
| | 8 | #3 | 336 | 9.5 | 140.2 | 9.5 | 159 | 53454 | 296.0 |
| | | | | | | | | Total | 794.7 |
| Pórtico 11 | 1 | #4 | 4 | 21 | 604 | | 625 | 2500 | 24.9 |
| | 2 | #4 | 20 | | 945 | | 945 | 18900 | 188.0 |
| | 3 | #4 | 4 | 21 | 1070 | 21 | 1100 | 4400 | 43.8 |
| | 4 | #4 | 4 | 21 | 914 | | 935 | 3740 | 37.2 |
| | 5 | #4 | 20 | | 925 | | 925 | 18500 | 184.0 |
| | 6 | #4 | 8 | | 925 | | 925 | 7400 | 73.6 |
| | 7 | #3 | 382 | 9.5 | 140.2 | 9.5 | 159 | 60759 | 340.0 |
| | | | | | | | | Total | 846.5 |
| Pórtico 12 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 4 | | 945 | | 945 | 3780 | 37.6 |
| | 3 | #4 | 4 | 21 | 1070 | 21 | 1100 | 4400 | 43.8 |
| | 4 | #4 | 4 | 21 | 1059 | | 1080 | 4320 | 43.0 |
| | 5 | #4 | 8 | | 925 | | 925 | 7400 | 73.6 |
| | 6 | #3 | 224 | 9.5 | 140.2 | 9.5 | 159 | 35616 | 199.3 |
| | | | | | | | | Total | 458.2 |
| Pórtico 13 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 4 | | 945 | | 945 | 3780 | 37.6 |
| | 3 | #4 | 4 | 21 | 1069 | 21 | 1085 | 4340 | 43.4 |
| | 4 | #4 | 4 | 21 | 1049 | | 1070 | 4280 | 42.6 |
| | 5 | #4 | 8 | | 925 | | 925 | 7400 | 73.6 |
| | 6 | #3 | 224 | 9.5 | 140.2 | 9.5 | 159 | 35616 | 199.3 |
| | | | | | | | | Total | 458.4 |
| Pórtico 14 | 1 | #4 | 4 | 21 | 349 | | 370 | 1480 | 14.7 |
| | 2 | #4 | 4 | | 940 | | 940 | 3760 | 37.4 |
| | 3 | #4 | 9 | | 945 | | 945 | 7560 | 75.2 |
| | 4 | #4 | 4 | | 1080 | | 1080 | 4320 | 43.0 |
| | 5 | #4 | 4 | 21 | 524 | 21 | 545 | 2180 | 21.7 |
| | 6 | #5 | 2 | 26 | 264 | | 290 | 580 | 9.0 |
| | 7 | #5 | 2 | | 269 | 26 | 295 | 590 | 9.2 |
| | 8 | #4 | 4 | 21 | 649 | | 670 | 2680 | 26.7 |
| | 9 | #4 | 4 | | 925 | | 925 | 3700 | 36.8 |
| | 10 | #4 | 8 | | 925 | | 925 | 7400 | 73.6 |
| | 11 | #4 | 4 | | 1049 | 21 | 1070 | 4280 | 42.6 |
| | 12 | #4 | 1 | | 315 | | 315 | 315 | 3.1 |
| | 13 | #3 | 279 | 9.5 | 140.2 | 9.5 | 159 | 44361 | 248.3 |
| | | | | | | | | Total | 636.3 |
| Pórtico 15 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 4 | | 945 | | 945 | 3780 | 37.6 |
| | 3 | #4 | 4 | | 1069 | 21 | 1085 | 4340 | 43.4 |
| | 4 | #4 | 4 | 21 | 1049 | | 1070 | 4280 | 42.6 |
| | 5 | #4 | 4 | | 925 | | 925 | 3700 | 36.8 |
| | 6 | #3 | 168 | 9.5 | 140.2 | 9.5 | 159 | 26712 | 149.5 |
| | | | | | | | | Total | 371.2 |
| Pórtico 16 | 1 | #4 | 4 | 21 | 894 | | 915 | 3660 | 36.4 |
| | 2 | #4 | 4 | | 815 | | 835 | 3340 | 33.2 |
| | 3 | #4 | 4 | | 520 | | 540 | 2160 | 21.5 |
| | 4 | #4 | 4 | | 925 | | 925 | 3700 | 36.8 |
| | 5 | #4 | 4 | | 965 | | 985 | 3860 | 38.4 |
| | 6 | #4 | 4 | | 529 | 21 | 550 | 2200 | 21.9 |
| | 7 | #4 | 4 | | 925 | | 925 | 3700 | 36.8 |
| | 8 | #4 | 4 | 21 | 994 | | 1015 | 4060 | 40.2 |
| | 9 | #4 | 4 | | 1010 | | 1010 | 4040 | 40.2 |
| | 10 | #4 | 4 | | 830 | | 830 | 3320 | 33.0 |
| | 11 | #4 | 4 | | 905 | | 905 | 3620 | 36.0 |
| | 12 | #4 | 4 | | 1009 | 21 | 1030 | 4120 | 41.0 |
| | 13 | #4 | 1 | | 295 | | 315 | 315 | 3.1 |
| | 14 | #3 | 279 | 9.5 | 140.2 | 9.5 | 159 | 44361 | 248.3 |
| | | | | | | | | Total | 620.3 |
| Pórtico 17 | 1 | #4 | 4 | 21 | 634 | | 655 | 2620 | 26.1 |
| | 2 | #4 | 4 | | 945 | | 3780 | 37.6 |
| | 3 | #4 | 4 | | 1069 | 21 | 1090 | 4360 | 43.4 |
| | 4 | #4 | 4 | 21 | 934 | | 955 | 3820 | 38.0 |
| | 5 | #4 | 4 | | 925 | | 925 | 3700 | 36.8 |
| | 6 | #4 | 4 | 21 | 1049 | | 1070 | 4280 | 42.6 |
| | 7 | #3 | 173 | 9.5 | 140.2 | 9.5 | 159 | 27507 | 154.0 |
| | | | | | | | | Total | 366.5 |
| Pórtico 18 | 1 | #4 | 4 | 21 | 749 | | 770 | 3080 | 30.6 |
| | 2 | #4 | 4 | | 945 | | 945 | 3780 | 37.6 |
| | 3 | #4 | 4 | | 624 | 21 | 645 | 2580 | 25.7 |
| | 4 | #4 | 1 | | 315 | | 315 | 315 | 3.1 |
| | 5 | #4 | 4 | 21 | 1049 | | 1070 | 4280 | 42.6 |
| | 6 | #4 | 4 | | 925 | | 925 | 3700 | 36.8 |
| | 7 | #4 | 4 | | 294 | 21 | 315 | 1260 | 12.5 |
| | 8 | #3 | 142 | 9.5 | 140.2 | 9.5 | 159 | 22578 | 126.4 |
| | | | | | | | | Total | 316.7 |
| Pórtico 19 | 1 | #4 | 4 | 21 | 894 | | 915 | 3660 | 36.4 |
| | 2 | #4 | 4 | | 974 | 21 | 995 | 3980 | 39.6 |
| | 3 | #4 | 4 | | 355 | | 355 | 1420 | 14.5 |
| | 4 | #5 | 2 | | 430 | | 430 | 860 | 13.4 |
| | 5 | #4 | 4 | 21 | 1009 | | 1030 | 4120 | 41.0 |
| | 6 | #4 | 4 | | 1010 | | 1010 | 4040 | 40.2 |
| | 7 | #4 | 4 | | 249 | 21 | 270 | 1080 | 10.7 |
| | 8 | #4 | 4 | | 475 | | 475 | 1900 | 18.9 |
| | 9 | #3 | 114 | 9.5 | 140.2 | 9.5 | 159 | 18126 | 101.5 |
| | | | | | | | | Total | 299.9 |
| Pórtico 20 | 1 | #4 | 4 | 21 | 894 | | 915 | 3660 | 36.4 |
| | 2 | #4 | 4 | | 974 | 21 | 995 | 3980 | 39.6 |
| | 3 | #4 | 1 | | 295 | | 295 | 295 | 2.9 |
| | 4 | #5 | 1 | | 360 | | 360 | 360 | 5.1 |
| | 5 | #4 | 4 | 21 | 664 | | 685 | 2740 | 27.3 |
| | 6 | #4 | 4 | | 1010 | | 1010 | 4040 | 40.2 |
| | 7 | #4 | 4 | | 249 | 21 | 270 | 1080 | 10.7 |
| | 8 | #4 | 4 | | 475 | | 475 | 1900 | 18.9 |
| | 9 | #5 | 1 | | 475 | | 475 | 475 | 10.6 |
| | 10 | #3 | 113 | 9.5 | 140.2 | 9.5 | 159 | 17967 | 100.6 |
| | | | | | | | | Total | 279.9 |
| Pórtico 21 | 1 | #4 | 4 | 21 | 894 | | 915 | 3660 | 36.4 |
| | 2 | #4 | 4 | | 974 | 21 | 995 | 3980 | 39.6 |
| | 3 | #4 | 1 | | 295 | | 295 | 295 | 2.9 |
| | 4 | #4 | 4 | 21 | 664 | | 685 | 2740 | 27.3 |
| | 5 | #4 | 4 | | 1010 | | 1010 | 4040 | 40.2 |
| | 6 | #4 | 4 | | 249 | 21 | 270 | 1080 | 10.7 |
| | 7 | #4 | 4 | | 475 | | 475 | 1900 | 18.9 |
| | 8 | #4 | 1 | | 475 | | 475 | 475 | 10.6 |
| | 9 | #3 | 113 | 9.5 | 140.2 | 9.5 | 159 | 17967 | 100.6 |
| | | | | | | | | Total | 279.9 |
| | | | | | | | | #3 | 2257.7 |
| | | | | | | | | #4 | 3413.4 |
| | | | | | | | | #5 | 31.6 |
| | | | | | | | | #6 | 37.5 |
| | | | | | | | | Total | 5752.2 |

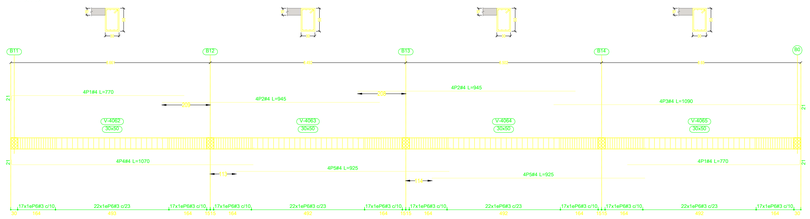
## Pórtico 10



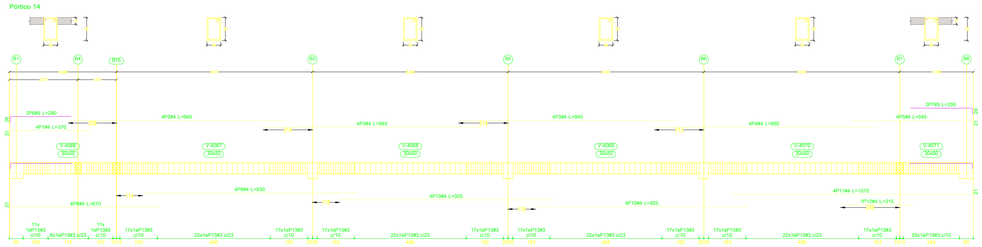




Cub. N+9.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:100
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

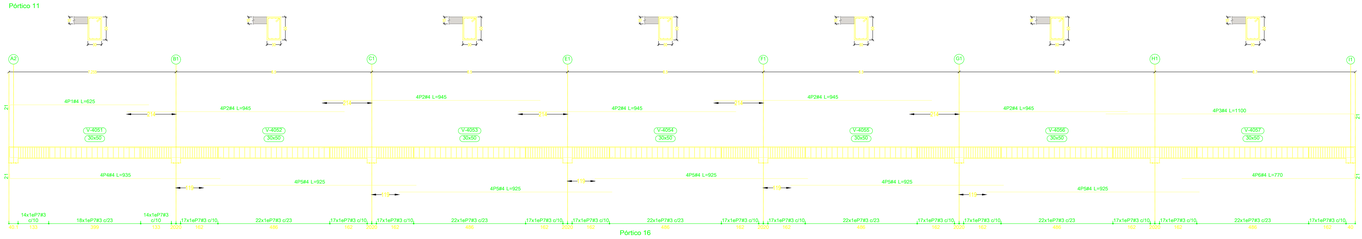
## Pórtico 13



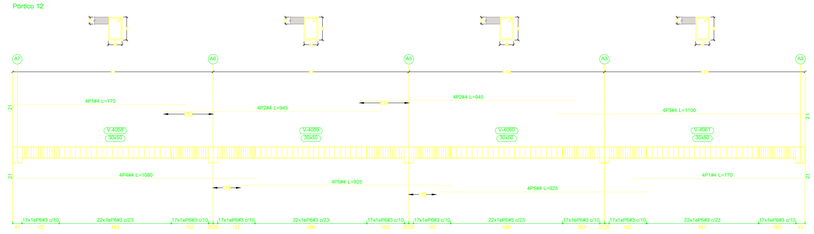

## Pórtico 14



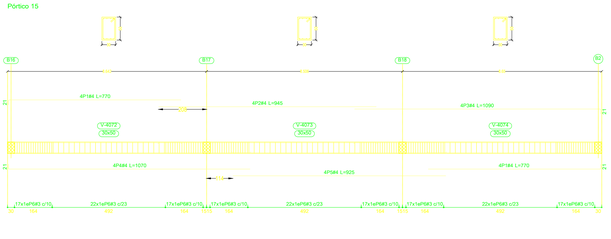

## Pórtico 11



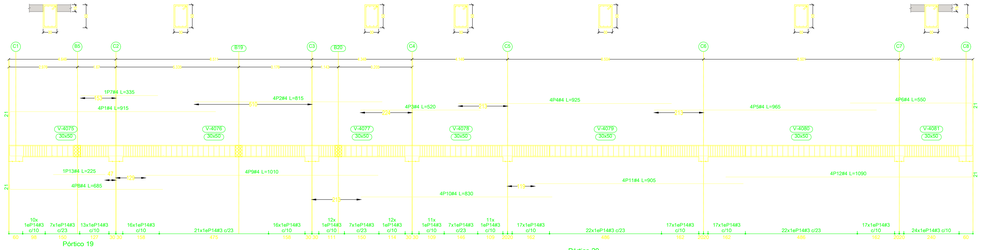

## Pórtico 12



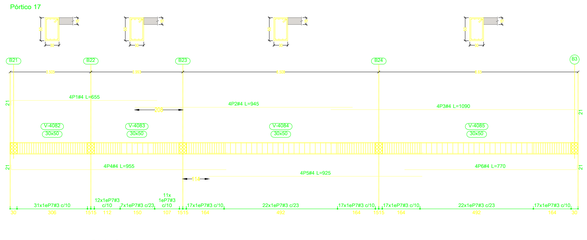

## Pórtico 15



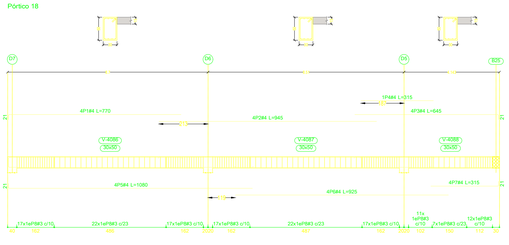

## Pórtico 16



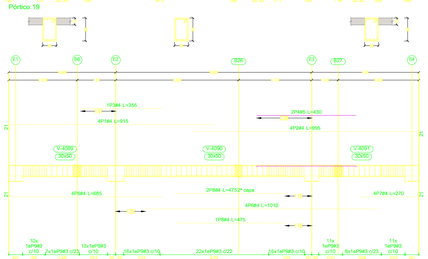

## Pórtico 17



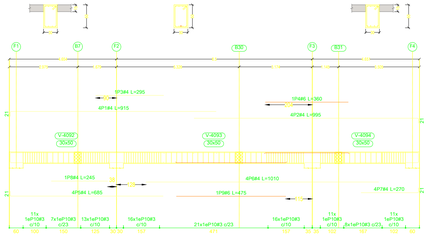

## Pórtico 18



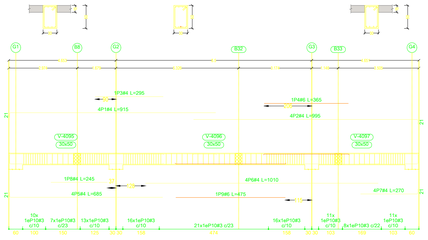

## Pórtico 19




## Pórtico 20




## Pórtico 21




GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221688 CDR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
DESPIECE DE VIGAS CUBIERTA 2

OBSERVACIONES

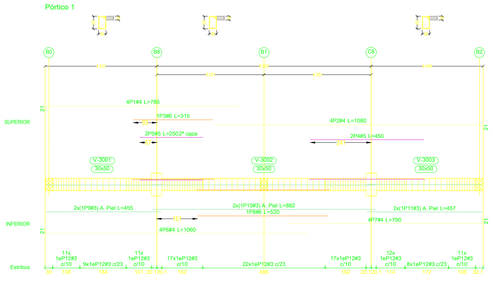
1. todos los elementos que NO están consignados en los planos arquitectónicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será aclarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

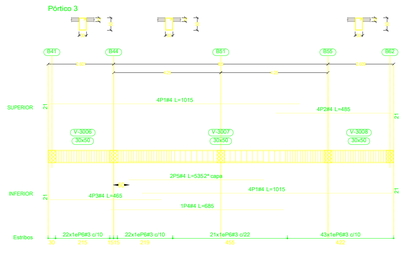
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
14/21

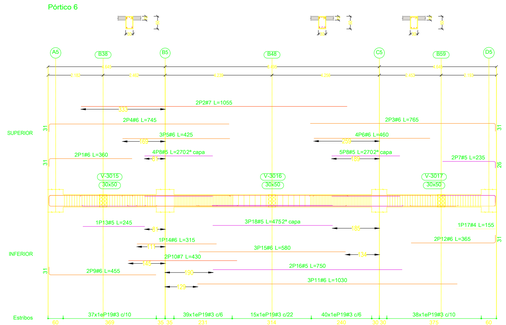
## Pórtico 1



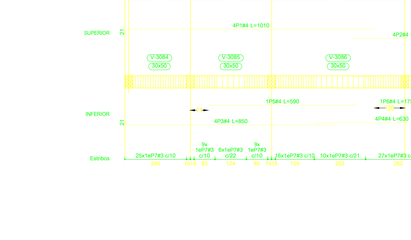

## Pórtico 3



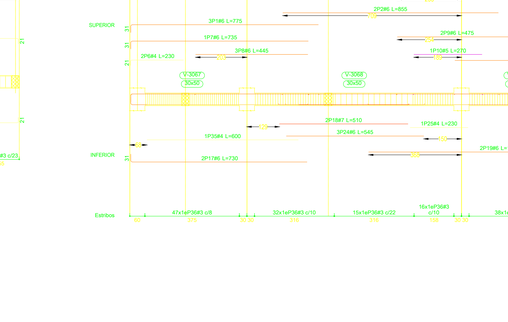

## Pórtico 6



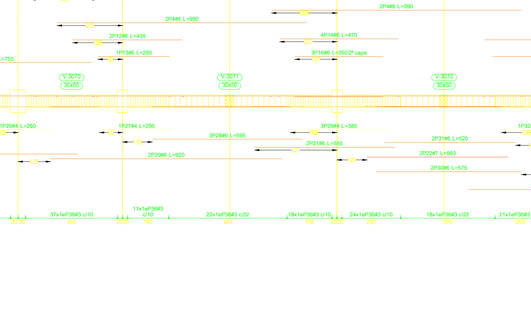

## Pórtico 5




## Pórtico 2




## Pórtico 19




## Pórtico 4




## Pórtico 14




## Pórtico 20




## Pórtico 16




P2 N+5.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:100
Escala secciones 1:100
Escala huecos 1:20
Recubrimientos: 2.0 cm




| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 14 | 1 | #6 | 3 | 985 | 985 | 2955 | 66.1 |
| | 2 | #6 | 8 | 990 | 990 | 7920 | 177.2 |
| | 3 | #6 | 3 | 1015 | 1015 | 3045 | 68.1 |
| | 4 | #6 | 2 | 290 | 290 | 580 | 13.0 |
| | 5 | #6 | 5 | 385 | 420 | 2100 | 47.0 |
| | 6 | #5 | 1 | 229 / 70 | 255 | 255 | 4.0 |
| | 7 | #6 | 5 | 374 / 22 | 405 | 2025 | 45.3 |
| | 8 | #6 | 2 | 505 | 505 | 1010 | 22.6 |
| | 9 | #6 | 3 | 355 | 355 | 1065 | 23.8 |
| | 10 | #6 | 3 | 415 | 415 | 1245 | 27.9 |
| | 11 | #6 | 3 | 465 / 35 | 500 | 1500 | 33.6 |
| | 12 | #5 | 4 | 199 / 30 | 225 | 900 | 14.0 |
| | 13 | #6 | 2 | 365 | 385 | 770 | 17.2 |
| | 14 | #4 | 2 | 355 | 355 | 710 | 7.1 |
| | 15 | #6 | 5 | 440 | 440 | 2200 | 49.2 |
| | 16 | #6 | 5 | 284 / 35 | 315 | 1575 | 35.2 |
| | 17 | #6 | 2 | 684 / 31 | 715 | 1430 | 32.0 |
| | 18 | #6 | 2 | 965 | 960 | 1930 | 43.2 |
| | 19 | #6 | 2 | 960 | 960 | 1920 | 43.0 |
| | 20 | #6 | 3 | 1030 | 1030 | 3090 | 69.1 |
| | 21 | #6 | 3 | 1049 / 35 | 1080 | 3240 | 72.5 |
| | 22 | #4 | 3 | 145 | 145 | 435 | 4.3 |
| | 23 | #6 | 2 | 835 | 835 | 1670 | 37.4 |
| | 24 | #4 | 2 | 385 | 385 | 770 | 7.7 |
| | 25 | #6 | 2 | 650 | 650 | 1300 | 29.1 |
| | 26 | #5 | 1 | 490 | 490 | 490 | 7.6 |
| | 27 | #5 | 1 | 840 | 840 | 840 | 13.0 |
| | 28 | #5 | 1 | 975 | 975 | 975 | 15.1 |
| | 29 | #5 | 1 | 510 | 510 | 510 | 7.9 |
| | 30 | #6 | 3 | 760 | 760 | 2280 | 51.0 |
| | 31 | #5 | 3 | 500 | 500 | 1500 | 23.3 |
| | 32 | #6 | 1 | 179 / 31 | 210 | 210 | 4.7 |
| | 33 | #3 | 344 | 35 / 125 / 25 | 159 | 54696 | 306.1 |
| | | | | | | Total | 1418.3 |
| Pórtico 16 | 1 | #6 | 3 | 744 / 31 | 775 | 2325 | 52.0 |
| | 2 | #6 | 2 | 855 | 855 | 1710 | 38.3 |
| | 3 | #6 | 2 | 755 | 755 | 1510 | 33.8 |
| | 4 | #6 | 6 | 990 | 990 | 5940 | 132.9 |
| | 5 | #6 | 2 | 573 / 37 | 610 | 1220 | 27.3 |
| | 6 | #4 | 2 | 209 / 31 | 230 | 460 | 4.6 |
| | 7 | #6 | 1 | 704 / 31 | 735 | 735 | 16.4 |
| | 8 | #6 | 3 | 445 | 445 | 1335 | 29.9 |
| | 9 | #6 | 2 | 475 | 470 | 950 | 21.3 |
| | 10 | #5 | 1 | 270 | 270 | 270 | 4.2 |
| | 11 | #6 | 2 | 585 | 585 | 1170 | 26.2 |
| | 12 | #6 | 2 | 435 | 435 | 870 | 19.5 |
| | 13 | #6 | 1 | 285 | 285 | 285 | 6.4 |
| | 14 | #6 | 4 | 470 | 470 | 1880 | 42.1 |
| | 15 | #6 | 5 | 545 / 31 | 580 | 2900 | 64.9 |
| | 16 | #6 | 3 | 350 | 350 | 1050 | 23.5 |
| | 17 | #6 | 2 | 699 / 31 | 730 | 1460 | 32.7 |
| | 18 | #7 | 2 | 510 | 510 | 1020 | 31.1 |
| | 19 | #6 | 2 | 1040 | 1040 | 2080 | 46.5 |
| | 20 | #6 | 2 | 920 | 920 | 1840 | 41.2 |
| | 21 | #6 | 2 | 555 | 555 | 1110 | 24.8 |
| | 22 | #7 | 2 | 560 | 560 | 1120 | 34.1 |
| | 23 | #6 | 2 | 644 / 31 | 675 | 1360 | 30.2 |
| | 24 | #6 | 3 | 545 | 545 | 1635 | 36.6 |
| | 25 | #4 | 1 | 230 | 230 | 230 | 2.3 |
| | 26 | #4 | 1 | 260 | 260 | 260 | 2.6 |
| | 27 | #4 | 1 | 295 | 295 | 295 | 2.9 |
| | 28 | #6 | 3 | 595 | 595 | 1785 | 39.9 |
| | 29 | #4 | 3 | 385 | 385 | 1155 | 11.5 |
| | 30 | #6 | 2 | 575 | 575 | 1150 | 25.7 |
| | 31 | #6 | 2 | 520 | 520 | 1040 | 23.3 |
| | 32 | #4 | 1 | 275 | 275 | 275 | 2.7 |
| | 33 | #5 | 2 | 194 / 26 | 220 | 440 | 6.8 |
| | 34 | #4 | 2 | 159 / 31 | 180 | 360 | 3.6 |
| | 35 | #4 | 1 | 600 | 600 | 600 | 6.0 |
| | 36 | #3 | 340 | 125 / 25 | 159 | 54060 | 302.6 |
| | | | | | | Total | 1292.4 |

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 4 | 764 / 31 | 785 | 3140 | 31.2 |
| | 2 | #4 | 4 | 1559 / 31 | 1080 | 4320 | 43.0 |
| | 3 | #6 | 1 | 315 | 315 | 315 | 7.0 |
| | 4 | #5 | 2 | 450 | 450 | 900 | 14.0 |
| | 5 | #5 | 2 | 250 | 250 | 500 | 7.9 |
| | 6 | #4 | 4 | 1039 / 31 | 1060 | 4240 | 42.2 |
| | 7 | #4 | 4 | 768 / 31 | 790 | 3160 | 31.4 |
| | 8 | #6 | 1 | 520 | 520 | 520 | 11.6 |
| | 9 | #3 | 2 | 455 | 455 | 910 | 5.1 |
| | 10 | #3 | 2 | 882 | 882 | 1764 | 9.9 |
| | 11 | #3 | 2 | 457 | 457 | 914 | 5.1 |
| | 12 | #3 | 116 | 125 / 25 | 159 | 18762 | 105.0 |
| | | | | | | Total | 313.3 |
| Pórtico 2 | 1 | #6 | 2 | 1169 / 31 | 1200 | 2400 | 53.7 |
| | 2 | #6 | 3 | 734 / 31 | 765 | 2295 | 51.3 |
| | 3 | #5 | 5 | 304 / 30 | 330 | 1650 | 25.6 |
| | 4 | #6 | 3 | 374 / 31 | 405 | 1215 | 27.2 |
| | 5 | #6 | 4 | 700 | 700 | 2800 | 62.6 |
| | 6 | #4 | 2 | 209 / 31 | 230 | 460 | 4.6 |
| | 7 | #5 | 1 | 194 / 26 | 220 | 220 | 3.4 |
| | 8 | #6 | 4 | 350 | 350 | 1400 | 31.3 |
| | 9 | #6 | 2 | 424 / 31 | 455 | 910 | 20.4 |
| | 10 | #7 | 2 | 500 | 500 | 1000 | 30.5 |
| | 11 | #7 | 2 | 580 | 580 | 1160 | 35.3 |
| | 12 | #7 | 2 | 515 | 515 | 1030 | 31.4 |
| | 13 | #6 | 2 | 334 / 31 | 365 | 730 | 16.3 |
| | 14 | #4 | 3 | 325 | 325 | 975 | 9.7 |
| | 15 | #6 | 4 | 735 | 735 | 2940 | 65.8 |
| | 16 | #5 | 2 | 390 | 390 | 780 | 12.1 |
| | 17 | #4 | 3 | 199 / 31 | 220 | 660 | 6.6 |
| | 18 | #3 | 138 | 125 / 25 | 159 | 21942 | 122.8 |
| | | | | | | Total | 610.6 |
| Pórtico 3 | 1 | #4 | 8 | 994 / 31 | 1015 | 8120 | 80.8 |
| | 2 | #4 | 4 | 464 / 31 | 485 | 1940 | 19.3 |
| | 3 | #4 | 4 | 444 / 31 | 465 | 1860 | 18.5 |
| | 4 | #4 | 1 | 685 | 685 | 685 | 6.8 |
| | 5 | #4 | 2 | 535 / 31 | 535 | 1070 | 10.6 |
| | 6 | #3 | 108 | 125 / 25 | 159 | 17172 | 96.1 |
| | | | | | | Total | 232.1 |
| Pórtico 4 | 1 | #6 | 2 | 329 / 31 | 360 | 720 | 16.1 |
| | 2 | #7 | 2 | 1066 / 31 | 1055 | 2110 | 64.2 |
| | 3 | #6 | 3 | 734 / 31 | 765 | 2295 | 51.3 |
| | 4 | #6 | 2 | 714 / 31 | 745 | 1490 | 33.3 |
| | 5 | #6 | 3 | 426 / 31 | 425 | 1275 | 28.5 |
| | 6 | #6 | 4 | 460 / 31 | 460 | 1840 | 41.2 |
| | 7 | #5 | 3 | 209 / 31 | 235 | 470 | 7.3 |
| | 8 | #5 | 9 | 270 | 270 | 2430 | 37.8 |
| | 9 | #6 | 2 | 424 / 31 | 455 | 910 | 20.4 |
| | 10 | #7 | 2 | 430 / 31 | 430 | 860 | 26.2 |
| | 11 | #6 | 3 | 1030 / 31 | 1030 | 3090 | 69.1 |
| | 12 | #6 | 2 | 334 / 31 | 365 | 730 | 16.3 |
| | 13 | #5 | 1 | 245 / 31 | 245 | 245 | 3.8 |
| | 14 | #6 | 1 | 315 / 31 | 315 | 315 | 7.0 |
| | 15 | #6 | 3 | 580 / 31 | 580 | 1740 | 38.9 |
| | 16 | #5 | 2 | 750 / 31 | 750 | 1500 | 23.3 |
| | 17 | #4 | 1 | 155 / 31 | 155 | 155 | 1.5 |
| | 18 | #5 | 3 | 475 / 31 | 475 | 1425 | 22.1 |
| | 19 | #3 | 169 | 125 / 25 | 159 | 26871 | 150.4 |
| | | | | | | Total | 641.6 |
| Pórtico 19 | 1 | #6 | 3 | 744 / 31 | 775 | 1550 | 34.7 |
| | 2 | #6 | 2 | 855 / 31 | 855 | 1710 | 38.3 |
| | 3 | #6 | 1 | 487 / 31 | 518 | 1036 | 23.2 |
| | 4 | #5 | 4 | 194 / 26 | 220 | 880 | 13.7 |
| | 5 | #5 | 2 | 410 | 410 | 820 | 12.7 |
| | 6 | #6 | 6 | 365 | 385 | 2310 | 51.7 |
| | 7 | #6 | 4 | 275 | 275 | 1100 | 24.6 |
| | 8 | #6 | 3 | 295 | 295 | 885 | 19.8 |
| | 9 | #4 | 2 | 270 | 270 | 540 | 5.4 |
| | 10 | #6 | 2 | 699 / 31 | 730 | 1460 | 32.7 |
| | 11 | #7 | 2 | 1010 | 1010 | 2020 | 61.5 |
| | 12 | #6 | 2 | 334 / 31 | 365 | 730 | 16.3 |
| | 13 | #4 | 2 | 295 | 295 | 590 | 5.9 |
| | 14 | #6 | 4 | 580 | 580 | 2320 | 51.9 |
| | 15 | #3 | 126 | 125 / 25 | 159 | 20034 | 112.1 |
| | | | | | | Total | 504.5 |
| Pórtico 20 | 1 | #4 | 4 | 989 / 31 | 1010 | 4040 | 40.2 |
| | 2 | #4 | 4 | 469 / 31 | 490 | 1960 | 19.5 |
| | 3 | #4 | 4 | 829 / 31 | 850 | 3400 | 33.8 |
| | 4 | #4 | 4 | 609 / 31 | 630 | 2520 | 25.1 |
| | 5 | #4 | 1 | 590 | 590 | 590 | 5.9 |
| | 6 | #4 | 1 | 175 / 31 | 175 | 175 | 1.7 |
| | 7 | #3 | 109 | 125 / 25 | 159 | 17331 | 97.0 |
| | | | | | | Total | 223.2 |

| | | |
|---|---|---|
| #3: | 1683.0 | |
| #4: | 1824.2 | |
| #5: | 373.8 | |
| #6: | 3111.1 | |
| #7: | 404.7 | |
| Total: | 6097.4 | |

OMNIA SANCTI FIDEI

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221886 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
DESPIECE DE VIGAS PISO 2 (1)

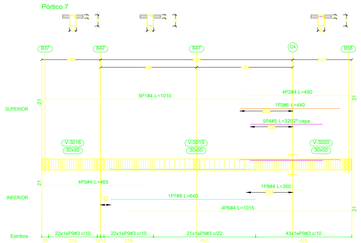
OBSERVACIONES

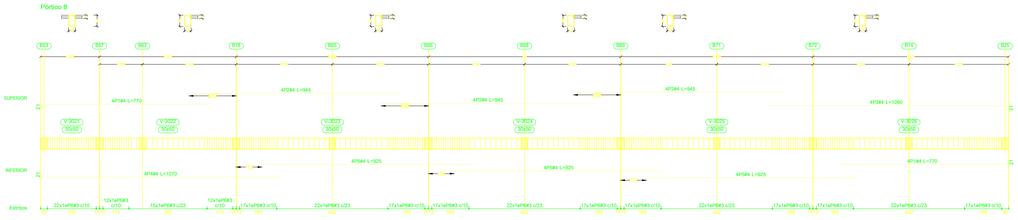
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acharada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

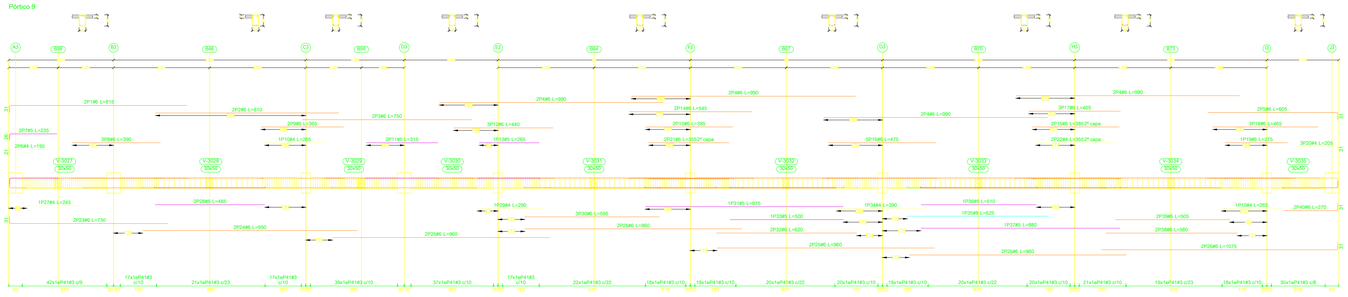
NOMBRE DEL ARCHIVO

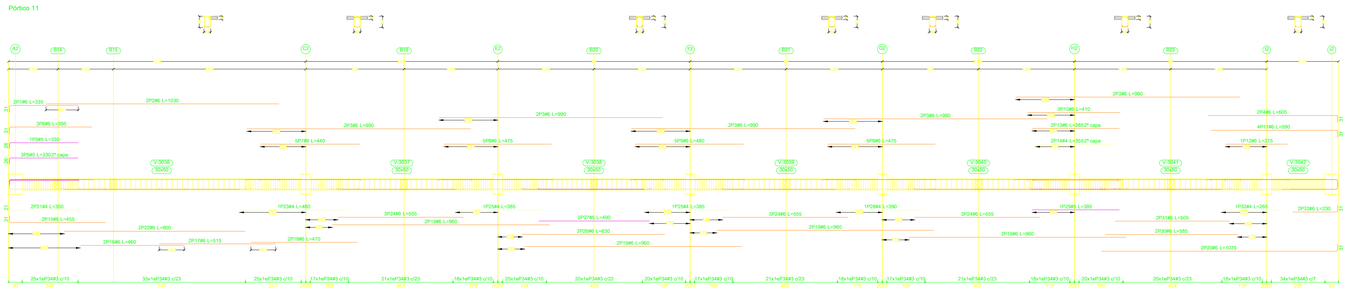
| FECHA | ESCALA |
|---|---|
| MARZO 2025 | INDICADA |

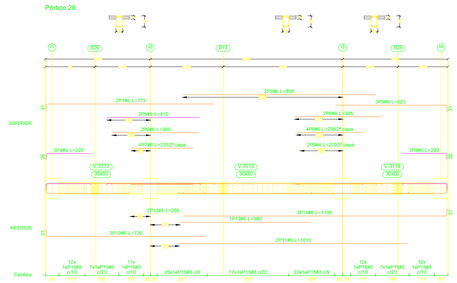
PLANO DE
15/21

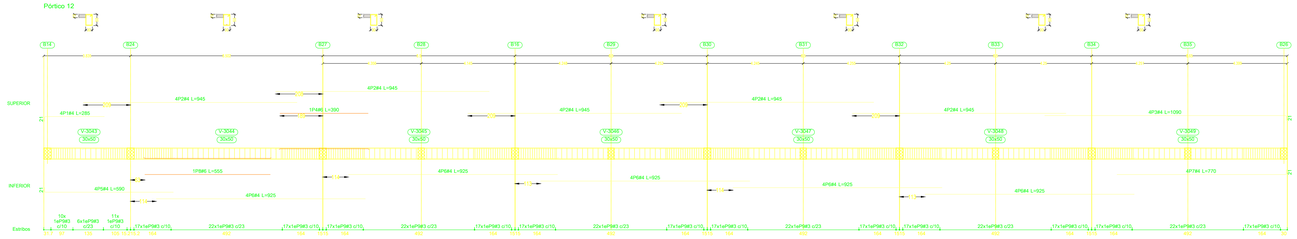


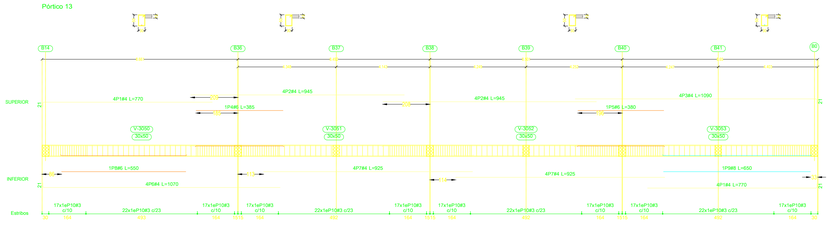




| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 28 | 1 | #6 | 2 | 744 | 775 | 1550 | 34.7 |
| | 2 | #6 | 2 | 855 | 855 | 1710 | 38.3 |
| | 3 | #6 | 3 | 420 | 523 | 1569 | 35.1 |
| | 4 | #5 | 5 | 134 / 420 | 220 | 1100 | 17.1 |
| | 5 | #5 | 2 | 410 | 410 | 820 | 12.7 |
| | 6 | #6 | 4 | 385 | 385 | 1540 | 34.5 |
| | 7 | #6 | 4 | 275 | 275 | 1100 | 24.6 |
| | 8 | #6 | 4 | 295 | 295 | 1180 | 26.4 |
| | 9 | #4 | 2 | 270 | 270 | 540 | 5.4 |
| | 10 | #6 | 3 | 609 / 91 | 730 | 2190 | 49.0 |
| | 11 | #6 | 2 | 1010 | 1010 | 2020 | 45.2 |
| | 12 | #4 | 2 | 295 | 295 | 590 | 5.9 |
| | 13 | #6 | 1 | 580 | 580 | 580 | 13.0 |
| | 14 | #5 | 3 | 1164 | 1195 | 3585 | 80.2 |
| | 15 | #3 | 126 | 135° 25 | 159 | 20034 | 112.1 |
| | | | | | | Total | 534.2 |

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 7 | 1 | #4 | 5 | 360 | 1010 | 5050 | 50.2 |
| | 2 | #4 | 4 | 488 | 490 | 1960 | 19.5 |
| | 3 | #6 | 1 | 440 | 440 | 440 | 9.8 |
| | 4 | #5 | 5 | 320 | 320 | 1600 | 24.9 |
| | 5 | #4 | 4 | 444 | 465 | 1860 | 18.5 |
| | 6 | #4 | 4 | 359 | 1015 | 4060 | 40.4 |
| | 7 | #6 | 1 | 640 | 640 | 640 | 20.5 |
| | 8 | #4 | 1 | 260 | 260 | 260 | 2.6 |
| | 9 | #3 | 108 | 135° 25 | 159 | 17172 | 96.1 |
| | | | | | | Total | 257.5 |
| Pórtico 8 | 1 | #4 | 8 | 749 | 770 | 6160 | 61.3 |
| | 2 | #4 | 12 | 945 | 945 | 11340 | 112.8 |
| | 3 | #4 | 4 | 1089 | 1090 | 4360 | 43.4 |
| | 4 | #4 | 4 | 1049 | 1070 | 4280 | 42.6 |
| | 5 | #4 | 12 | 824 | 525 | 11100 | 110.4 |
| | 6 | #3 | 285 | 135° 25 | 159 | 45315 | 253.6 |
| | | | | | | Total | 624.1 |
| Pórtico 9 | 1 | #5 | 2 | 784 | 815 | 1630 | 36.5 |
| | 2 | #5 | 2 | 810 | 810 | 1620 | 36.2 |
| | 3 | #6 | 2 | 750 | 750 | 1500 | 33.6 |
| | 4 | #6 | 8 | 990 | 990 | 7920 | 177.2 |
| | 5 | #6 | 2 | 574 | 605 | 1210 | 27.1 |
| | 6 | #4 | 2 | 174 | 195 | 390 | 3.9 |
| | 7 | #5 | 2 | 209 | 235 | 470 | 7.3 |
| | 8 | #6 | 3 | 390 | 390 | 1170 | 26.2 |
| | 9 | #6 | 2 | 365 | 365 | 730 | 16.3 |
| | 10 | #4 | 2 | 265 | 265 | 530 | 5.3 |
| | 11 | #5 | 2 | 315 | 315 | 630 | 9.8 |
| | 12 | #5 | 3 | 440 | 440 | 1320 | 29.5 |
| | 13 | #5 | 1 | 265 | 265 | 265 | 4.1 |
| | 14 | #6 | 2 | 545 | 545 | 1090 | 24.4 |
| | 15 | #5 | 4 | 385 | 385 | 1540 | 34.5 |
| | 16 | #6 | 5 | 475 | 475 | 2375 | 53.1 |
| | 17 | #5 | 3 | 425 | 425 | 1275 | 27.2 |
| | 18 | #6 | 3 | 465 | 465 | 1395 | 31.2 |
| | 19 | #6 | 1 | 275 | 275 | 275 | 6.2 |
| | 20 | #4 | 3 | 184 | 205 | 615 | 6.1 |
| | 21 | #6 | 2 | 355 | 355 | 710 | 15.9 |
| | 22 | #4 | 2 | 356 | 355 | 710 | 7.1 |
| | 23 | #6 | 2 | 699 | 730 | 1460 | 32.7 |
| | 24 | #6 | 2 | 950 | 950 | 1900 | 42.5 |
| | 25 | #6 | 8 | 960 | 960 | 7680 | 171.8 |
| | 26 | #6 | 2 | 1064 | 1075 | 2150 | 48.1 |
| | 27 | #4 | 2 | 245 | 245 | 490 | 4.9 |
| | 28 | #5 | 2 | 455 | 455 | 910 | 13.9 |
| | 29 | #4 | 1 | 290 | 290 | 290 | 2.9 |
| | 30 | #6 | 3 | 595 | 595 | 1785 | 39.9 |
| | 31 | #5 | 1 | 875 | 875 | 875 | 13.6 |
| | 32 | #5 | 2 | 620 | 620 | 1240 | 27.7 |
| | 33 | #5 | 1 | 500 | 500 | 500 | 7.8 |
| | 34 | #4 | 1 | 390 | 390 | 390 | 3.9 |
| | 35 | #6 | 1 | 625 | 625 | 625 | 24.9 |
| | 36 | #5 | 1 | 510 | 510 | 510 | 7.9 |
| | 37 | #5 | 1 | 880 | 880 | 880 | 13.7 |
| | 38 | #6 | 2 | 580 | 580 | 1160 | 26.0 |
| | 39 | #6 | 2 | 505 | 505 | 1010 | 22.6 |
| | 40 | #6 | 2 | 270 | 270 | 540 | 12.1 |
| | 41 | #3 | 436 | 135° 25 | 159 | 69324 | 388.0 |
| | | | | | | Total | 1522.3 |
| Pórtico 11 | 1 | #6 | 2 | 304 | 335 | 670 | 15.0 |
| | 2 | #6 | 2 | 1030 | 1030 | 2060 | 46.1 |
| | 3 | #6 | 10 | 990 | 9900 | 221.5 |
| | 4 | #6 | 2 | 574 | 605 | 1210 | 27.1 |
| | 5 | #5 | 4 | 304 | 330 | 1320 | 20.5 |
| | 6 | #5 | 3 | 364 | 385 | 1155 | 26.5 |
| | 7 | #6 | 5 | 440 | 440 | 2200 | 49.2 |
| | 8 | #6 | 10 | 475 | 475 | 4750 | 106.3 |
| | 9 | #6 | 5 | 480 | 480 | 2400 | 53.7 |
| | 10 | #5 | 3 | 410 | 410 | 1230 | 27.5 |
| | 11 | #5 | 4 | 560 | 560 | 2360 | 52.8 |
| | 12 | #6 | 1 | 275 | 275 | 275 | 6.2 |
| | 13 | #6 | 2 | 385 | 385 | 770 | 17.2 |
| | 14 | #4 | 2 | 355 | 355 | 710 | 7.1 |
| | 15 | #5 | 2 | 424 | 455 | 910 | 20.4 |
| | 16 | #6 | 2 | 460 | 460 | 920 | 20.6 |
| | 17 | #6 | 2 | 515 | 515 | 1030 | 23.0 |
| | 18 | #6 | 2 | 470 | 470 | 940 | 21.0 |
| | 19 | #6 | 8 | 960 | 960 | 7680 | 171.8 |
| | 20 | #6 | 2 | 1064 | 1075 | 2150 | 48.1 |
| | 21 | #4 | 2 | 329 | 350 | 700 | 7.0 |
| | 22 | #6 | 2 | 800 | 800 | 1600 | 35.8 |
| | 23 | #4 | 1 | 480 | 480 | 480 | 4.8 |
| | 24 | #6 | 9 | 555 | 555 | 4995 | 111.8 |
| | 25 | #4 | 2 | 385 | 385 | 770 | 7.7 |
| | 26 | #6 | 2 | 630 | 630 | 1260 | 28.2 |
| | 27 | #5 | 2 | 490 | 490 | 980 | 15.2 |
| | 28 | #4 | 1 | 390 | 390 | 390 | 3.9 |
| | 29 | #5 | 1 | 385 | 385 | 385 | 6.0 |
| | 30 | #6 | 2 | 585 | 585 | 1170 | 26.2 |
| | 31 | #6 | 2 | 505 | 505 | 1010 | 22.6 |
| | 32 | #4 | 1 | 265 | 265 | 265 | 2.6 |
| | 33 | #6 | 2 | 195 | 230 | 460 | 10.3 |
| | 34 | #3 | 403 | 135° 25 | 159 | 64077 | 358.6 |
| | | | | | | Total | 1622.3 |
| Pórtico 12 | 1 | #4 | 4 | 304 | 285 | 1140 | 11.3 |
| | 2 | #4 | 20 | 945 | 945 | 18900 | 188.0 |
| | 3 | #4 | 4 | 1089 | 1090 | 4360 | 43.4 |
| | 4 | #5 | 1 | 390 | 390 | 390 | 8.7 |
| | 5 | #4 | 4 | 589 | 590 | 2360 | 23.5 |
| | 6 | #4 | 20 | 825 | 525 | 10500 | 184.0 |
| | 7 | #4 | 4 | 795 | 770 | 3080 | 30.6 |
| | 8 | #6 | 1 | 555 | 555 | 555 | 12.4 |
| | 9 | #3 | 363 | 135° 25 | 159 | 57717 | 323.0 |
| | | | | | | Total | 824.9 |
| Pórtico 13 | 1 | #4 | 8 | 749 | 770 | 6160 | 61.3 |
| | 2 | #4 | 8 | 945 | 945 | 7560 | 75.2 |
| | 3 | #4 | 4 | 1089 | 1090 | 4360 | 43.4 |
| | 4 | #6 | 1 | 385 | 385 | 385 | 8.6 |
| | 5 | #5 | 1 | 390 | 390 | 390 | 8.5 |
| | 6 | #4 | 4 | 1049 | 1070 | 4280 | 42.6 |
| | 7 | #4 | 8 | 925 | 925 | 7400 | 73.6 |
| | 8 | #6 | 1 | 550 | 550 | 550 | 12.3 |
| | 9 | #6 | 1 | 650 | 650 | 650 | 25.9 |
| | 10 | #3 | 224 | 135° 25 | 159 | 35616 | 199.3 |
| | | | | | | Total | 550.7 |
| | | | | | | #3: | 1730.7 |
| | | | | | | #4: | 1622.3 |
| | | | | | | #5: | 1170.7 |
| | | | | | | #6: | 2628.7 |
| | | | | | | #8: | 79.3 |
| | | | | | | Total | 5966.0 |

P2 N+5.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:100
Escala secciones 1:100
Escala huecos 1:20
Recubrimientos: 2.0 cm




GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221887 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
DESPIECE DE VIGAS PISO 2 (2)

OBSERVACIONES

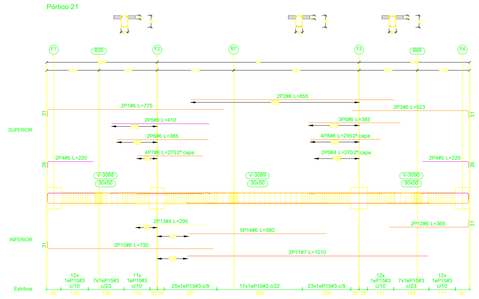
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será aclarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

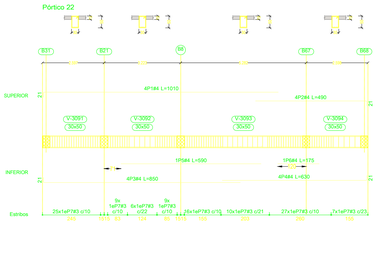
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO 16/21 DE

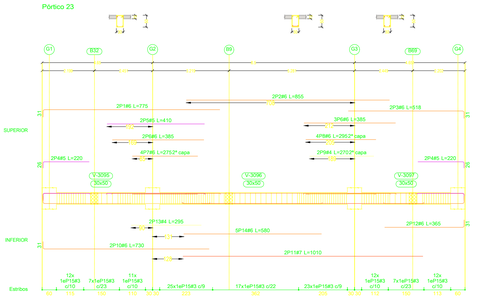
## Pórtico 21



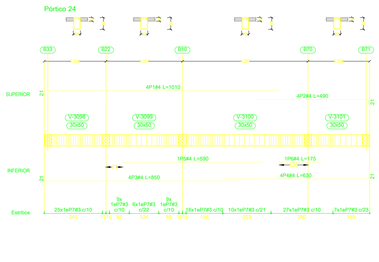

## Pórtico 22



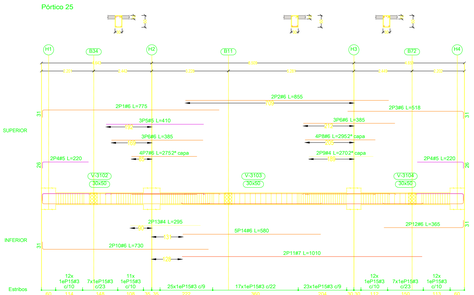

## Pórtico 23



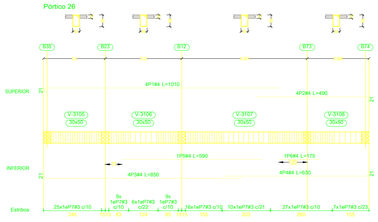

## Pórtico 24



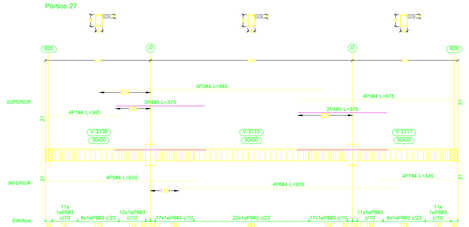

## Pórtico 25



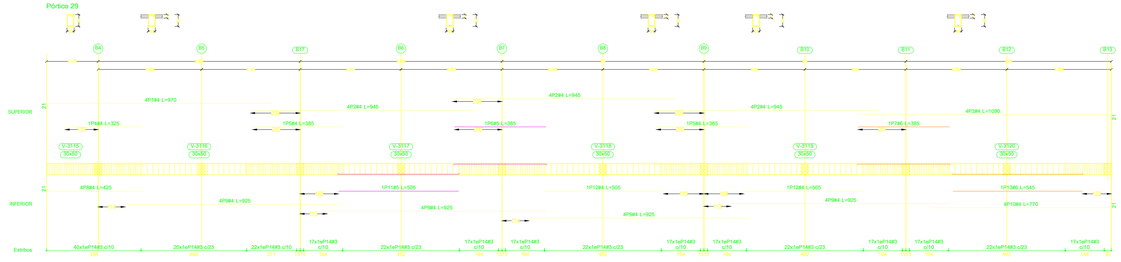

## Pórtico 26



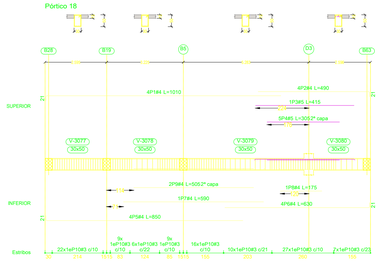

## Pórtico 27



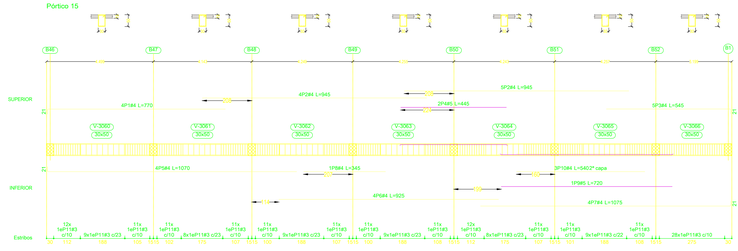

## Pórtico 29



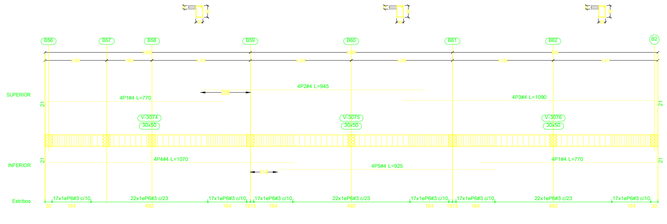

## Pórtico 18



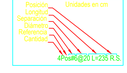

## Pórtico 15




## Pórtico 17




P2 N+5.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:100
Escala secciones 1:100
Escala huecos 1:20
Recubrimientos: 2.0 cm




| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 29 | 1 | #4 | 4 | 949 | 970 | 3880 | 38.6 |
| | 2 | #4 | 12 | 946 | 945 | 11340 | 112.8 |
| | 3 | #4 | 4 | 1065 | 1090 | 4360 | 43.4 |
| | 4 | #4 | 1 | 325 | 325 | 325 | 3.2 |
| | 5 | #4 | 2 | 385 | 385 | 770 | 7.7 |
| | 6 | #5 | 1 | 385 | 385 | 385 | 6.0 |
| | 7 | #6 | 1 | 385 | 385 | 385 | 8.6 |
| | 8 | #4 | 4 | 454 | 425 | 1700 | 16.9 |
| | 9 | #4 | 10 | 923 | 925 | 14800 | 147.2 |
| | 10 | #4 | 4 | 748 | 770 | 3080 | 30.6 |
| | 11 | #5 | 1 | 506 | 505 | 505 | 7.8 |
| | 12 | #4 | 2 | 505 | 505 | 1010 | 10.0 |
| | 13 | #6 | 1 | 545 | 545 | 545 | 12.2 |
| | 14 | #3 | 306 | 159 | 159 | 48654 | 272.3 |
| | | | | | Total | | 717.3 |

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 15 | 1 | #4 | 4 | 749 | 770 | 3080 | 30.6 |
| | 2 | #4 | 9 | 946 | 945 | 8505 | 84.6 |
| | 3 | #4 | 5 | 526 | 545 | 2725 | 27.1 |
| | 4 | #5 | 2 | 446 | 445 | 890 | 13.8 |
| | 5 | #4 | 4 | 1049 | 1070 | 4280 | 42.6 |
| | 6 | #4 | 4 | 926 | 925 | 3700 | 36.8 |
| | 7 | #4 | 4 | 1054 | 1075 | 4300 | 42.8 |
| | 8 | #4 | 1 | 345 | 345 | 345 | 3.4 |
| | 9 | #5 | 1 | 720 | 720 | 720 | 11.2 |
| | 10 | #4 | 3 | 540 | 540 | 1620 | 16.1 |
| | 11 | #3 | 214 | 159 | 159 | 34026 | 190.4 |
| | | | | | Total | | 499.4 |
| Pórtico 17 | 1 | #4 | 8 | 749 | 770 | 6160 | 61.3 |
| | 2 | #4 | 4 | 946 | 945 | 3780 | 37.6 |
| | 3 | #4 | 4 | 1065 | 1090 | 4360 | 43.4 |
| | 4 | #4 | 4 | 1049 | 1070 | 4280 | 42.6 |
| | 5 | #4 | 4 | 926 | 925 | 3700 | 36.8 |
| | 6 | #3 | 168 | 159 | 159 | 26712 | 149.5 |
| | | | | | Total | | 371.2 |
| Pórtico 18 | 1 | #4 | 4 | 989 | 1010 | 4040 | 40.2 |
| | 2 | #4 | 4 | 469 | 490 | 1960 | 19.5 |
| | 3 | #5 | 1 | 415 | 415 | 415 | 6.4 |
| | 4 | #5 | 5 | 306 | 305 | 1525 | 23.7 |
| | 5 | #4 | 4 | 829 | 850 | 3400 | 33.8 |
| | 6 | #4 | 4 | 609 | 630 | 2520 | 25.1 |
| | 7 | #4 | 1 | 590 | 590 | 590 | 5.9 |
| | 8 | #4 | 1 | 175 | 175 | 175 | 1.7 |
| | 9 | #4 | 2 | 506 | 505 | 1010 | 10.0 |
| | 10 | #3 | 106 | 159 | 159 | 16854 | 94.3 |
| | | | | | Total | | 260.6 |
| Pórtico 21 | 1 | #6 | 2 | 744 | 775 | 1550 | 34.7 |
| | 2 | #6 | 2 | 856 | 855 | 1710 | 38.3 |
| | 3 | #6 | 2 | 492 | 523 | 1046 | 23.4 |
| | 4 | #5 | 4 | 194 | 220 | 880 | 13.7 |
| | 5 | #5 | 2 | 410 | 410 | 820 | 12.7 |
| | 6 | #6 | 5 | 385 | 385 | 1925 | 43.1 |
| | 7 | #6 | 4 | 273 | 275 | 1100 | 24.6 |
| | 8 | #6 | 4 | 266 | 295 | 1180 | 26.4 |
| | 9 | #4 | 2 | 270 | 270 | 540 | 5.4 |
| | 10 | #6 | 2 | 699 | 730 | 1460 | 32.7 |
| | 11 | #7 | 2 | 1010 | 1010 | 2020 | 61.5 |
| | 12 | #6 | 2 | 324 | 365 | 730 | 16.3 |
| | 13 | #4 | 2 | 296 | 295 | 590 | 5.9 |
| | 14 | #6 | 5 | 580 | 580 | 2900 | 64.9 |
| | 15 | #3 | 126 | 159 | 159 | 20034 | 112.1 |
| | | | | | Total | | 515.7 |
| Pórtico 22 | 1 | #4 | 4 | 989 | 1010 | 4040 | 40.2 |
| | 2 | #4 | 4 | 469 | 490 | 1960 | 19.5 |
| | 3 | #4 | 4 | 829 | 850 | 3400 | 33.8 |
| | 4 | #4 | 4 | 609 | 630 | 2520 | 25.1 |
| | 5 | #4 | 1 | 590 | 590 | 590 | 5.9 |
| | 6 | #4 | 1 | 175 | 175 | 175 | 1.7 |
| | 7 | #3 | 109 | 159 | 159 | 17331 | 97.0 |
| | | | | | Total | | 223.2 |
| Pórtico 23 | 1 | #6 | 2 | 744 | 775 | 1550 | 34.7 |
| | 2 | #6 | 2 | 856 | 855 | 1710 | 38.3 |
| | 3 | #6 | 2 | 487 | 518 | 1036 | 23.2 |
| | 4 | #5 | 4 | 194 | 220 | 880 | 13.7 |
| | 5 | #5 | 2 | 410 | 410 | 820 | 12.7 |
| | 6 | #6 | 5 | 385 | 385 | 1925 | 43.1 |
| | 7 | #6 | 4 | 273 | 275 | 1100 | 24.6 |
| | 8 | #6 | 4 | 266 | 295 | 1180 | 26.4 |
| | 9 | #4 | 2 | 270 | 270 | 540 | 5.4 |
| | 10 | #6 | 2 | 699 | 730 | 1460 | 32.7 |
| | 11 | #7 | 2 | 1010 | 1010 | 2020 | 61.5 |
| | 12 | #6 | 2 | 324 | 365 | 730 | 16.3 |
| | 13 | #4 | 2 | 296 | 295 | 590 | 5.9 |
| | 14 | #6 | 5 | 580 | 580 | 2900 | 64.9 |
| | 15 | #3 | 126 | 159 | 159 | 20034 | 112.1 |
| | | | | | Total | | 515.5 |
| Pórtico 24 | 1 | #4 | 4 | 989 | 1010 | 4040 | 40.2 |
| | 2 | #4 | 4 | 469 | 490 | 1960 | 19.5 |
| | 3 | #4 | 4 | 829 | 850 | 3400 | 33.8 |
| | 4 | #4 | 4 | 609 | 630 | 2520 | 25.1 |
| | 5 | #4 | 1 | 590 | 590 | 590 | 5.9 |
| | 6 | #4 | 1 | 175 | 175 | 175 | 1.7 |
| | 7 | #3 | 109 | 159 | 159 | 17331 | 97.0 |
| | | | | | Total | | 223.2 |
| Pórtico 25 | 1 | #6 | 2 | 744 | 775 | 1550 | 34.7 |
| | 2 | #6 | 2 | 856 | 855 | 1710 | 38.3 |
| | 3 | #6 | 2 | 487 | 518 | 1036 | 23.2 |
| | 4 | #5 | 4 | 194 | 220 | 880 | 13.7 |
| | 5 | #5 | 3 | 410 | 410 | 1230 | 19.1 |
| | 6 | #6 | 6 | 385 | 385 | 2310 | 51.7 |
| | 7 | #6 | 4 | 273 | 275 | 1100 | 24.6 |
| | 8 | #6 | 4 | 266 | 295 | 1180 | 26.4 |
| | 9 | #4 | 2 | 270 | 270 | 540 | 5.4 |
| | 10 | #6 | 2 | 699 | 730 | 1460 | 32.7 |
| | 11 | #7 | 2 | 1010 | 1010 | 2020 | 61.5 |
| | 12 | #6 | 2 | 324 | 365 | 730 | 16.3 |
| | 13 | #4 | 2 | 296 | 295 | 590 | 5.9 |
| | 14 | #6 | 5 | 580 | 580 | 2900 | 64.9 |
| | 15 | #3 | 126 | 159 | 159 | 20034 | 112.1 |
| | | | | | Total | | 530.5 |
| Pórtico 26 | 1 | #4 | 4 | 989 | 1010 | 4040 | 40.2 |
| | 2 | #4 | 4 | 469 | 490 | 1960 | 19.5 |
| | 3 | #4 | 4 | 829 | 850 | 3400 | 33.8 |
| | 4 | #4 | 4 | 609 | 630 | 2520 | 25.1 |
| | 5 | #4 | 1 | 590 | 590 | 590 | 5.9 |
| | 6 | #4 | 1 | 175 | 175 | 175 | 1.7 |
| | 7 | #3 | 109 | 159 | 159 | 17331 | 97.0 |
| | | | | | Total | | 223.2 |
| Pórtico 27 | 1 | #4 | 4 | 379 | 340 | 1360 | 13.5 |
| | 2 | #4 | 4 | 946 | 945 | 3780 | 37.6 |
| | 3 | #4 | 4 | 694 | 675 | 2700 | 26.9 |
| | 4 | #5 | 4 | 376 | 375 | 1500 | 23.3 |
| | 5 | #4 | 4 | 634 | 655 | 2620 | 26.1 |
| | 6 | #4 | 4 | 926 | 925 | 3700 | 36.8 |
| | 7 | #4 | 4 | 354 | 345 | 1380 | 13.7 |
| | 8 | #3 | 117 | 159 | 159 | 18603 | 104.1 |
| | | | | | Total | | 282.0 |
| | | | | | #3: | | 1437.9 |
| | | | | | #4: | | 1619.4 |
| | | | | | #5: | | 177.8 |
| | | | | | #6: | | 942.2 |
| | | | | | #7: | | 184.5 |
| | | | | | Total: | | 4361.8 |

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO


OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221886 CPC



Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.


CONTIENE

BLOQUE 3X5 AULAS
DESPIECE DE VIGAS PISO 2 (2)
DETALLES VARIOS

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO soniresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acharada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

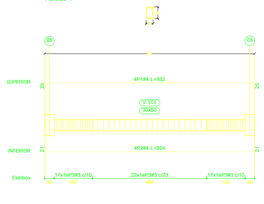
NOMBRE DEL ARCHIVO

FECHA: MARZO 2025

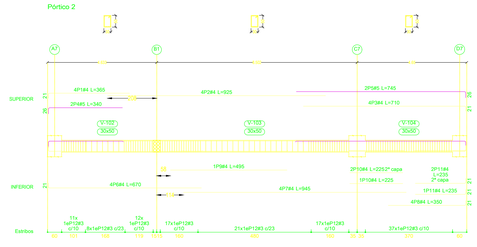
ESCALA: INDICADA

PLANO DE 17/21

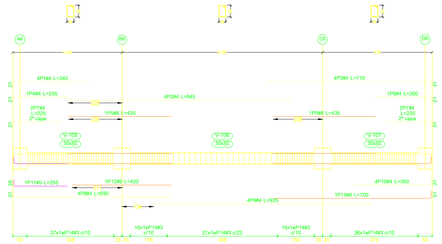
Pórtico 1



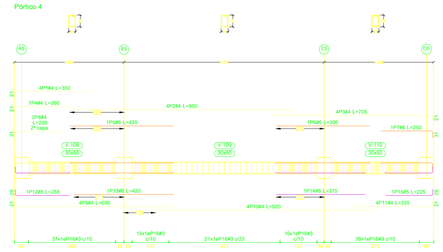

Pórtico 2



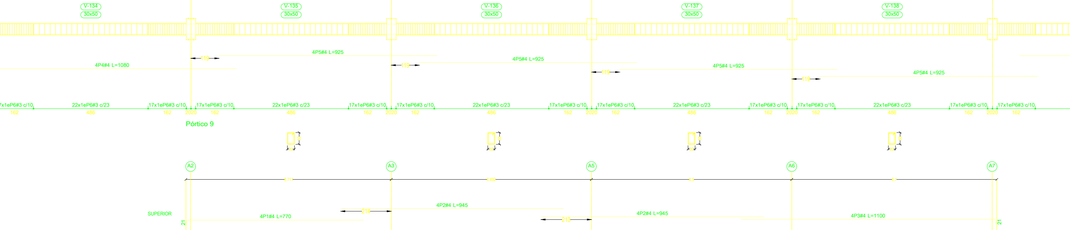

Pórtico 3



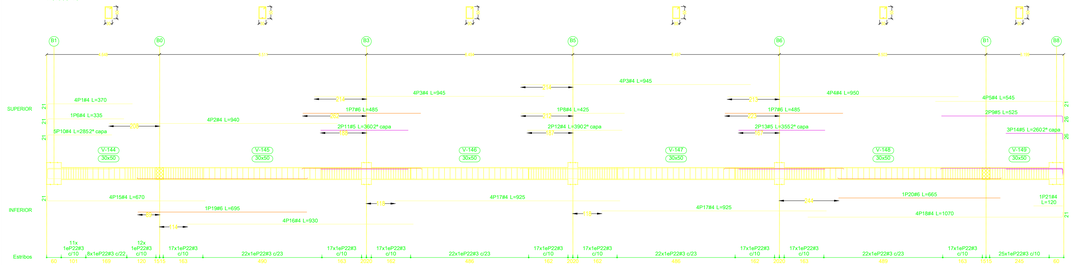

Pórtico 4



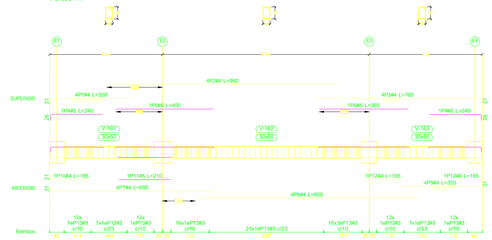

Pórtico 5


G4
B3
E4
F4
G4
H4
H
SUPERIOR
INFERIOR
Estribos
4P184 L=770
4P284 L=945
4P384 L=1100
4P484 L=1080
4P584 L=925
11x
1eP10#3
c/10
8x1eP10#3 c/23
13x1eP10#3
c/10
11x
1eP10#3
c/10
13x1eP10#3
c/10
22x1eP10#3 c/23
17x1eP10#3 c/10
40
100
702
162
1215
121
1053
100
1458
162
1782
162
1053
100
1458
162
1782
162
1053
100
1458
162
1782
162

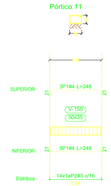
## Pórtico 10



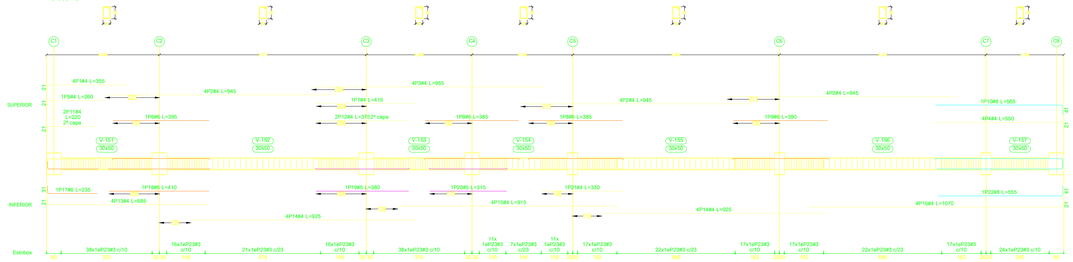

## Pórtico 14



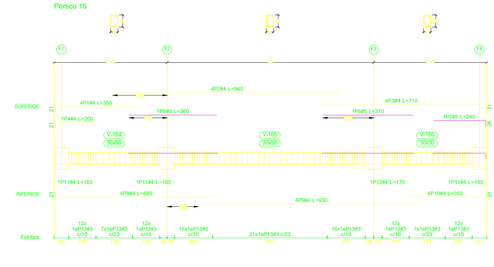

## Pórtico 11



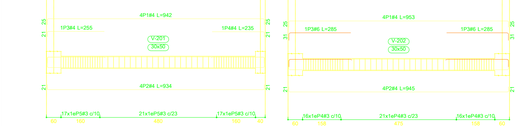

## Pórtico 12



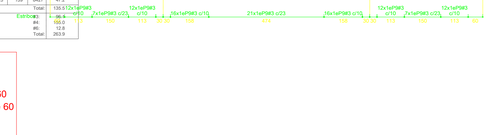

## Pórtico 15



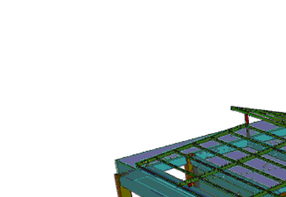

## Pórtico 13



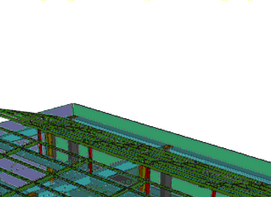

## Pórtico 16




## Pórtico 1




## Pórtico 2



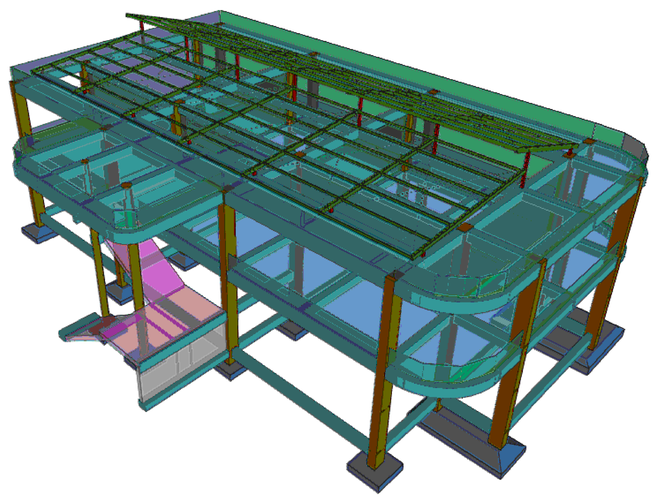

| Elemento | Pos. | Diám. | No. | Pat. (cm) | Recta (cm) | Pat. (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 4 | 25 | 892.2 | 25 | 942 | 3768 | 37.0 |
| 4P184 L=770 | 2 | #4 | 4 | 21 | 892.2 | 21 | 934 | 3736 | 37.2 |
| | 3 | #4 | 1 | 21 | 234 | | 255 | 255 | 2.5 |
| | 4 | #4 | 1 | | 214 | 21 | 235 | 235 | 2.3 |
| | 5 | #3 | 55 | 9.5 | 140.2 | 9.5 | 159 | 8745 | 48.9 |
| | | | | | | | | Total = | 128.4 |
| Pórtico 2 | 1 | #4 | 4 | 25 | 903.1 | 25 | 953 | 3812 | 37.9 |
| 22x1eP583 o/23 | 2 | #4 | 4 | 21 | 903.1 | 21 | 945 | 3780 | 37.6 |
| 400 | 3 | #4 | 1 | 21 | 234 | | 255 | 570 | 12.8 |
| | 4 | #3 | 110 | 9.5 | 140.2 | 9.5 | 159 | 8427 | 47.2 |
| | | | | | | | | Total = | 135.5 |
| | | | | | | | Estribos | = 4x | 0.85 |
| | | | | | | | #4: | 100.0 | |
| | | | | | | | #6: | 163.8 | |
| | | | | | | | Total: | 263.9 | |

Des. N+1.75
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:100
Escala secciones 1:150
Escala huecos 1:20
Recubrimientos: 2.0 cm

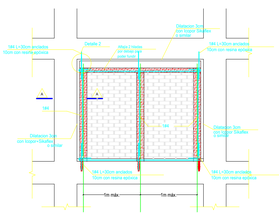
| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 10 | 1 | #4 | 4 | 349 | 370 | 1480 | 14.7 |
| | 2 | #4 | 4 | 940 | 940 | 3760 | 37.4 |
| | 3 | #4 | 8 | 945 | 945 | 7560 | 75.2 |
| | 4 | #4 | 4 | 950 | 950 | 3800 | 37.8 |
| | 5 | #4 | 4 | 524 | 545 | 2180 | 21.7 |
| | 6 | #4 | 1 | 314 | 335 | 335 | 3.3 |
| | 7 | #6 | 2 | 485 | 485 | 970 | 21.7 |
| | 8 | #4 | 1 | 425 | 425 | 425 | 4.2 |
| | 9 | #5 | 2 | 499 | 525 | 1050 | 16.3 |
| | 10 | #4 | 5 | 264 | 285 | 1425 | 14.2 |
| | 11 | #5 | 2 | 360 | 360 | 720 | 11.2 |
| | 12 | #4 | 2 | 390 | 390 | 780 | 7.8 |
| | 13 | #5 | 2 | 355 | 355 | 710 | 11.0 |
| | 14 | #5 | 3 | 234 | 260 | 780 | 12.1 |
| | 15 | #4 | 4 | 649 | 670 | 2680 | 26.7 |
| | 16 | #4 | 4 | 930 | 930 | 3720 | 37.0 |
| | 17 | #4 | 8 | 925 | 925 | 7400 | 73.6 |
| | 18 | #4 | 4 | 1049 | 1070 | 4280 | 42.6 |
| | 19 | #6 | 1 | 695 | 695 | 695 | 15.5 |
| | 20 | #6 | 1 | 665 | 665 | 665 | 14.9 |
| | 21 | #4 | 1 | 100 | 120 | 120 | 1.2 |
| | 22 | #3 | 280 | 159 / 35 | 159 | 44520 | 249.2 |
| | | | | | | Total = | 749.3 |
| Pórtico 11 | 1 | #4 | 8 | 206 | 248 | 1984 | 19.7 |
| | 2 | #3 | 14 | 169 / 45 | 169 | 2366 | 13.2 |
| | | | | | | Total = | 32.9 |
| Pórtico 12 | 1 | #4 | 4 | 334 | 355 | 1420 | 14.1 |
| | 2 | #4 | 12 | 945 | 945 | 11340 | 112.8 |
| | 3 | #4 | 4 | 955 | 955 | 3820 | 38.0 |
| | 4 | #4 | 4 | 529 | 550 | 2200 | 21.9 |
| | 5 | #4 | 1 | 239 | 260 | 260 | 2.6 |
| | 6 | #6 | 1 | 395 | 395 | 395 | 8.8 |
| | 7 | #4 | 1 | 415 | 415 | 415 | 4.1 |
| | 8 | #5 | 2 | 365 | 385 | 770 | 17.2 |
| | 9 | #6 | 1 | 390 | 390 | 390 | 8.7 |
| | 10 | #6 | 1 | 524 | 565 | 565 | 22.5 |
| | 11 | #4 | 2 | 199 | 220 | 440 | 4.4 |
| | 12 | #4 | 2 | 375 | 375 | 750 | 7.5 |
| | 13 | #4 | 4 | 664 | 685 | 2740 | 27.3 |
| | 14 | #4 | 8 | 905 | 905 | 7400 | 73.6 |
| | 15 | #4 | 4 | 915 | 915 | 3660 | 36.4 |
| | 16 | #4 | 4 | 1049 | 1070 | 4280 | 42.6 |
| | 17 | #6 | 1 | 204 | 235 | 235 | 5.3 |
| | 18 | #6 | 1 | 410 | 410 | 410 | 9.2 |
| | 19 | #5 | 1 | 380 | 380 | 380 | 5.9 |
| | 20 | #5 | 1 | 315 | 315 | 315 | 4.9 |
| | 21 | #4 | 1 | 330 | 330 | 330 | 3.3 |
| | 22 | #6 | 1 | 514 | 555 | 555 | 22.1 |
| | 23 | #3 | 294 | 159 / 35 | 159 | 46746 | 261.6 |
| | | | | | | Total = | 754.8 |
| Pórtico 13 | 1 | #4 | 8 | 749 | 770 | 6160 | 61.3 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | 37.6 |
| | 3 | #4 | 4 | 1079 | 1100 | 4400 | 43.8 |
| | 4 | #4 | 4 | 1008 | 1080 | 4320 | 43.0 |
| | 5 | #4 | 4 | 925 | 925 | 3700 | 36.8 |
| | 6 | #3 | 168 | 159 / 35 | 159 | 26712 | 149.5 |
| | | | | | | Total = | 372.0 |
| Pórtico 14 | 1 | #4 | 4 | 329 | 350 | 1400 | 13.9 |
| | 2 | #4 | 4 | 950 | 950 | 3800 | 37.8 |
| | 3 | #4 | 4 | 684 | 705 | 2820 | 28.0 |
| | 4 | #5 | 2 | 214 | 240 | 480 | 7.5 |
| | 5 | #5 | 1 | 400 | 400 | 400 | 6.2 |
| | 6 | #5 | 1 | 365 | 365 | 365 | 5.7 |
| | 7 | #4 | 4 | 669 | 690 | 2760 | 27.5 |
| | 8 | #4 | 4 | 920 | 920 | 3680 | 36.6 |
| | 9 | #4 | 4 | 334 | 355 | 1420 | 14.1 |
| | 10 | #4 | 1 | 164 | 185 | 185 | 1.8 |
| | 11 | #5 | 1 | 210 | 210 | 210 | 3.3 |
| | 12 | #4 | 2 | 165 | 165 | 330 | 3.3 |
| | 13 | #3 | 115 | 159 / 35 | 159 | 18285 | 102.3 |
| | | | | | | Total = | 288.0 |
| Pórtico 15 | 1 | #4 | 4 | 334 | 355 | 1420 | 14.1 |
| | 2 | #4 | 4 | 940 | 940 | 3760 | 37.4 |
| | 3 | #4 | 4 | 689 | 710 | 2840 | 28.2 |
| | 4 | #4 | 1 | 179 | 200 | 200 | 2.0 |
| | 5 | #5 | 1 | 360 | 360 | 360 | 5.6 |
| | 6 | #5 | 1 | 370 | 370 | 370 | 5.7 |
| | 7 | #5 | 1 | 214 | 240 | 240 | 3.7 |
| | 8 | #4 | 4 | 664 | 685 | 2740 | 27.3 |
| | 9 | #4 | 4 | 930 | 930 | 3720 | 37.0 |
| | 10 | #4 | 4 | 329 | 350 | 1400 | 13.9 |
| | 11 | #4 | 3 | 165 | 165 | 495 | 4.9 |
| | 12 | #4 | 1 | 175 | 175 | 175 | 1.7 |
| | 13 | #3 | 115 | 159 / 35 | 159 | 18285 | 102.3 |
| | | | | | | Total = | 283.8 |
| Pórtico 16 | 1 | #4 | 8 | 334 | 355 | 2840 | 28.2 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | 37.6 |
| | 3 | #4 | 4 | 684 | 705 | 2820 | 28.0 |
| | 4 | #4 | 2 | 179 | 200 | 400 | 4.0 |
| | 5 | #5 | 2 | 360 | 360 | 720 | 11.2 |
| | 6 | #4 | 4 | 664 | 685 | 2740 | 27.3 |
| | 7 | #4 | 4 | 925 | 925 | 3700 | 36.8 |
| | 8 | #4 | 2 | 165 | 165 | 330 | 3.3 |
| | 9 | #3 | 115 | 159 / 35 | 159 | 18285 | 102.3 |
| | | | | | | Total = | 278.7 |
| | | | | | #3 | | 980.4 |
| | | | | | #4 | | 1522.9 |
| | | | | | #5 | | 101.3 |
| | | | | | #6 | | 44.6 |
| | | | | | Total | | 2709.9 |

Suelo N+0.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:100
Escala secciones 1:100
Escala huecos 1:20
Recubrimientos: 2.0 cm

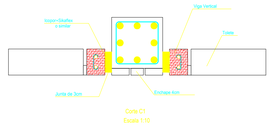


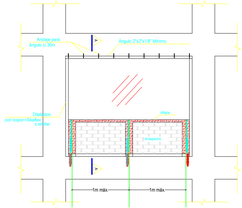
VISTA ISOMÉTRICA
ESCALA: SIN



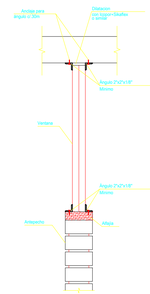

ELEMENTO DE FACHADA CON BLOQUE PAÑETADO
ESCALA SIN




Corte C1
Escala 1:10




ANCLAJE VENTANA EN ANTEPECHO
ESCALA SIN




Corte D1
Escala 1:05




GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO

INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221865 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
DESPIECE DE VIGAS N+0.00(2)
ELEMENTOS NO ESTRUCTURALES

OBSERVACIONES

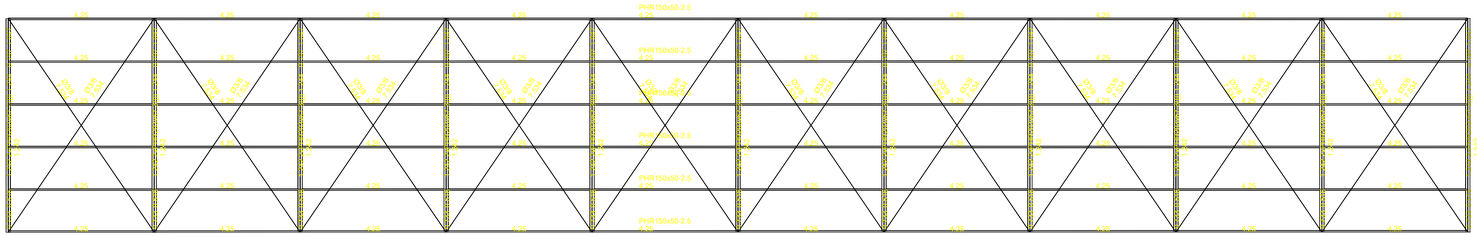
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

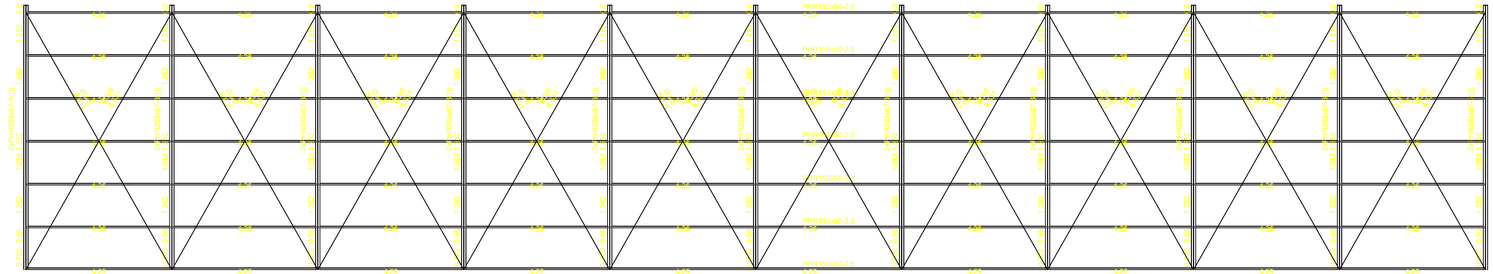
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO 19/21 DE

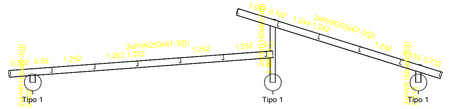
## 2D: AGUA DER



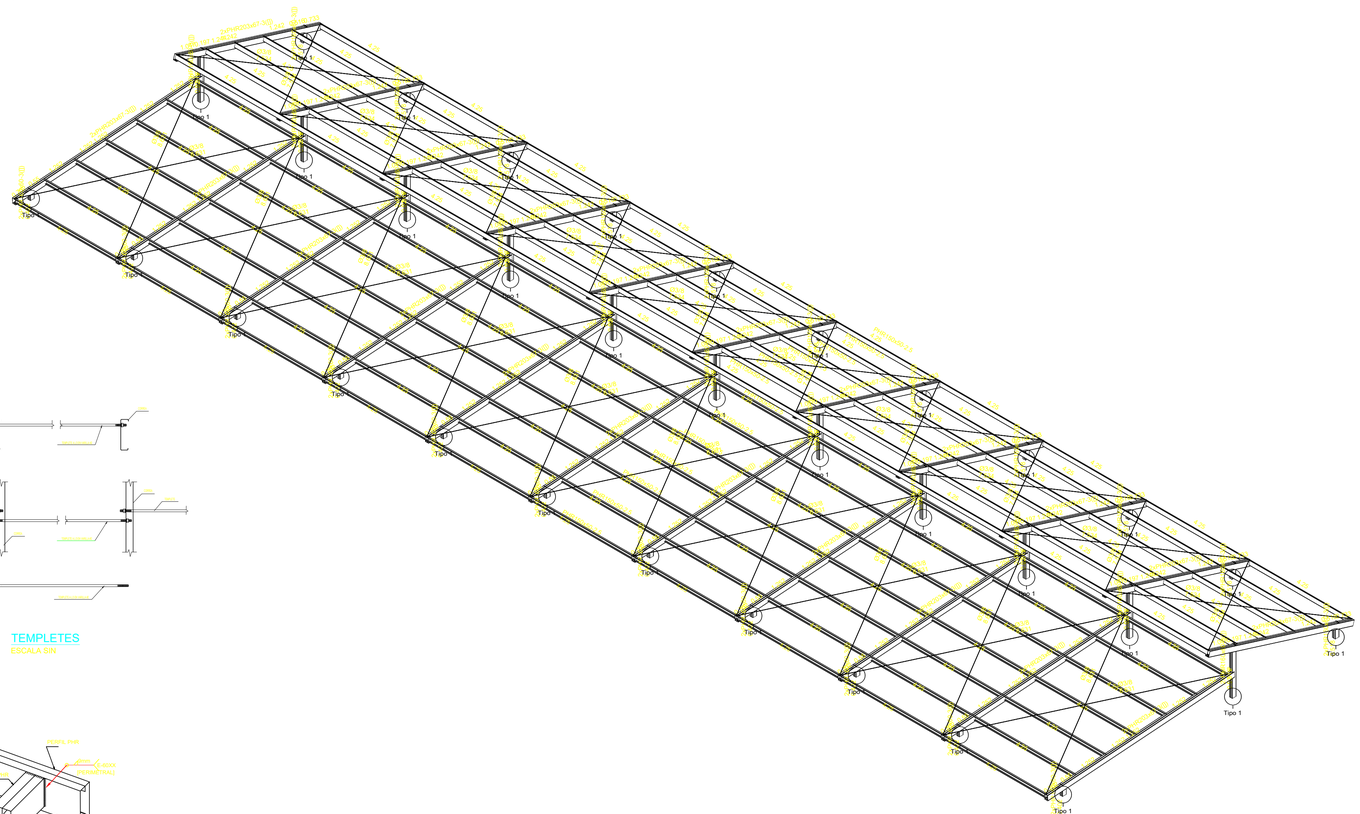

## 2D: AGUA IZQ



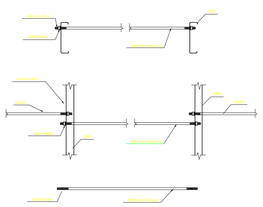

## 2D: PÓRTICOS



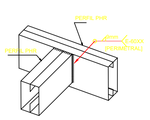

## 3D



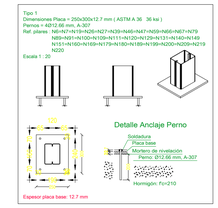

Bloque 5 aulas Tuchín
Norma de acero laminado: ANSI/AISC 360-10 (LRFD)
Norma de acero conformado: AISI S100-2007 (LRFD)
Acero laminado: A572 50ksi
Acero conformado: A572 50ksi
Escala: 1:75



TEMPLETES
ESCALA SIN




UNIÓN TÍPICA PERFILES PHR
ESCALA SIN

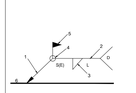



### REFERENCIAS Y SIMBOLOGÍA

Para la representación de los símbolos de soldaduras se consideran las indicaciones de la norma ANSI/AWS A2.4-98 'STANDARD SYMBOLS FOR WELDING, BRAZING, AND NONDESTRUCTIVE EXAMINATION'.

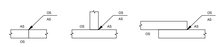
MÉTODO DE REPRESENTACIÓN DE SOLDADURAS

Conforme a la figura 2 de ANSI/AWS A2.4-98 y a los tipos de soldaduras empleadas en este proyecto, se desarrolla el siguiente esquema de representación de una soldadura:




Referencias:
1: flecha (conexión entre 2 y 6)
2: línea de referencia
3: símbolo de soldadura
4: símbolo soldadura perimetral.
5: símbolo de soldadura en el lugar de montaje.
6: línea del dibujo que identifica la unión propuesta.
S: profundidad del bisel. En soldaduras en ángulo, es el lado del cordón de soldadura.
(E): tamaño del cordón en soldaduras a tope.
L: longitud efectiva del cordón de soldadura
D: dato suplementario. En general, la serie de electrodo a utilizar y el proceso precualificado de soldeo.

La información relacionada con el lado de la unión soldada a la que apunta la flecha, se coloca por debajo de la línea de referencia, mientras que para el lado opuesto, se indica por encima de la línea de referencia:




Donde:

OS(Other Side): es el otro lado de la flecha
AS(Arrow Side): es el lado de la flecha

Referencia 3

| Designación | Ilustración | Símbolo |
|---|---|---|
| Soldadura en ángulo | | |
| Soldadura a tope en 'V' simple (con chaflán) | | |
| Soldadura a tope en bisel simple | | |
| Soldadura a tope en bisel doble | | |
| Soldadura a tope en bisel simple con talón de raíz amplio | | |
| Soldadura combinada a tope en bisel simple y en ángulo | | |
| Soldadura a tope en bisel simple con lado curvo | | |

| Placas de anclaje | | | | |
|---|---|---|---|---|
| Material | Elementos | Cantidad | Dimensiones (mm) | Peso (kg) |
| A36 | Placa base | 33 | 250x300x12.7 | 246.75 |
| | | | Total | 246.75 |
| A-307 (liso) | Pernos de anclaje | 132 | Ø 12.7 - L = 245 | 32.00 |
| | | | Total | 32.00 |

GOBERNACIÓN DE CÓRDOBA

PROYECTO

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LOCALIZACION:

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OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 CPC

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
ESTRUCTURA METALICA CUBIERTA
MODULO 5

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
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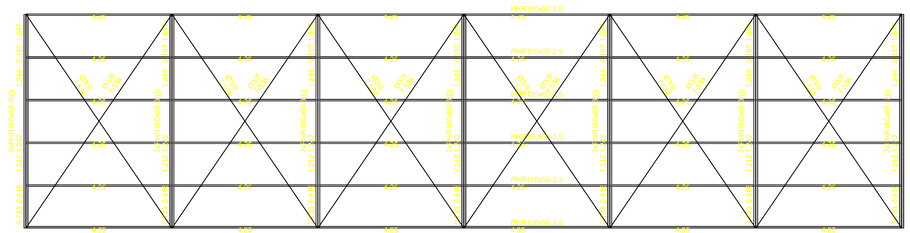
NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

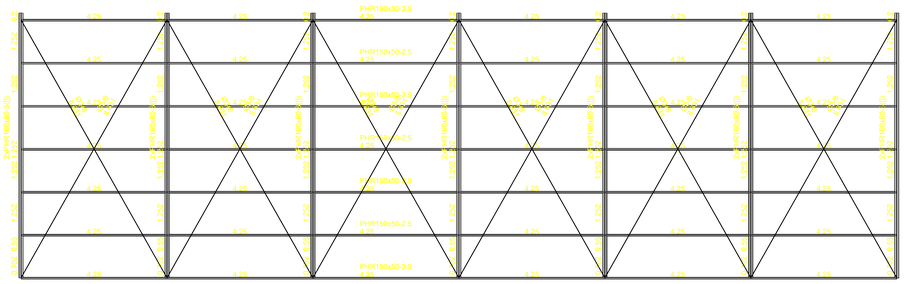
PLANO DE 20/21

3D

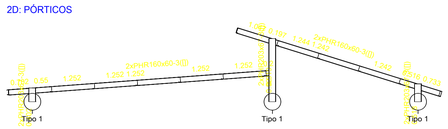
2D: AGUA DERECHA

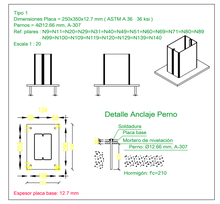



2D: AGUA IZQUIERDA




2D: PÓRTICOS

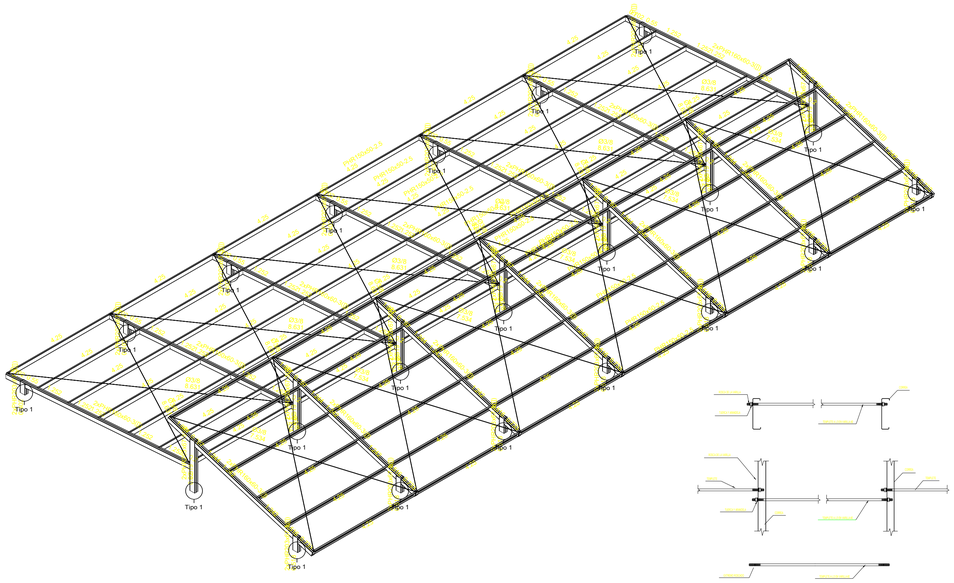


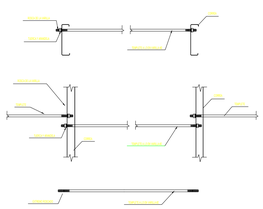

Bloque 3 aulas Tuchín

| Placas de anclaje | | | | |
|---|---|---|---|---|
| Material | Elementos | Cantidad | Dimensiones (mm) | Peso (kg) |
| A36 | Placa base | 21 | 250x350x12.7 | 183.19 |
| | | | Total | 183.19 |
| A-307 (liso) | Pernos de anclaje | 84 | Ø 12.7 - L = 245 | 20.37 |
| | | | Total | 20.37 |

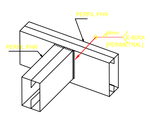
3D




Bloque 3 aulas Tuchín
Norma de acero laminado: ANSI/AISC 360-10 (LRFD)
Norma de acero conformado: AISI S100-2007 (LRFD)
Acero laminado: A572 50ksi
Acero conformado: A572 50ksi
Escala: 1:75



TEMPLETES
ESCALA SIN



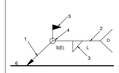

UNIÓN TÍPICA PERFILES PHR
ESCALA SIN

REFERENCIAS Y SIMBOLOGÍA

Para la representación de los símbolos de soldaduras se consideran las indicaciones de la norma ANSI/AWS A2.4-98 "STANDARD SYMBOLS FOR WELDING, BRAZING, AND NONDESTRUCTIVE EXAMINATION".

MÉTODO DE REPRESENTACIÓN DE SOLDADURAS

Conforme a la figura 2 de ANSI/AWS A2.4-98 y a los tipos de soldaduras empleadas en este proyecto, se desarrolla el siguiente esquema de representación de una soldadura:




Referencias:
1: flecha (conexión entre 2 y 6)
2: línea de referencia
3: símbolo de soldadura
4: símbolo soldadura perimetral.
5: símbolo de soldadura en el lugar de montaje.
6: línea del dibujo que identifica la unión propuesta.
S: profundidad del bisel. En soldaduras en ángulo, es el lado del cordón de soldadura.
(E): tamaño del cordón en soldaduras a tope.
L: longitud efectiva del cordón de soldadura
D: dato suplementario. En general, la serie de electrodo a utilizar y el proceso precualificado de soldeo.

La información relacionada con el lado de la unión soldada a la que apunta la flecha, se coloca por debajo de la línea de referencia, mientras que para el lado opuesto, se indica por encima de la línea de referencia:




Donde:

OS(Other Side): es el otro lado de la flecha

AS(Arrow Side): es el lado de la flecha

Referencia 3

| Designación | Ilustración | Símbolo |
|---|---|---|
| Soldadura en ángulo | | |
| Soldadura a tope en "V" simple (con chaflán) | | |
| Soldadura a tope en bisel simple | | |
| Soldadura a tope en bisel doble | | |
| Soldadura a tope en bisel simple con talón de raiz amplio | | |
| Soldadura combinada a tope en bisel simple y en ángulo | | |
| Soldadura a tope en bisel simple con lado curvo | | |

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221184 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisado y aprobado por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 3X5 AULAS
ESTRUCTURA METALICA CUBIERTA
MODULO 3

OBSERVACIONES

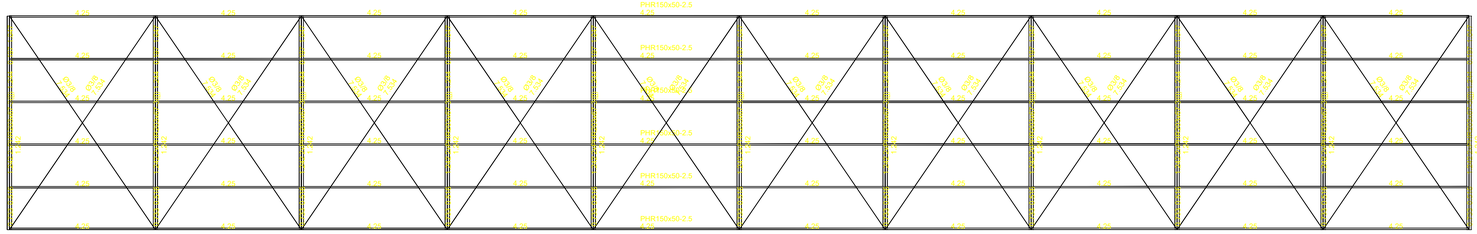
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

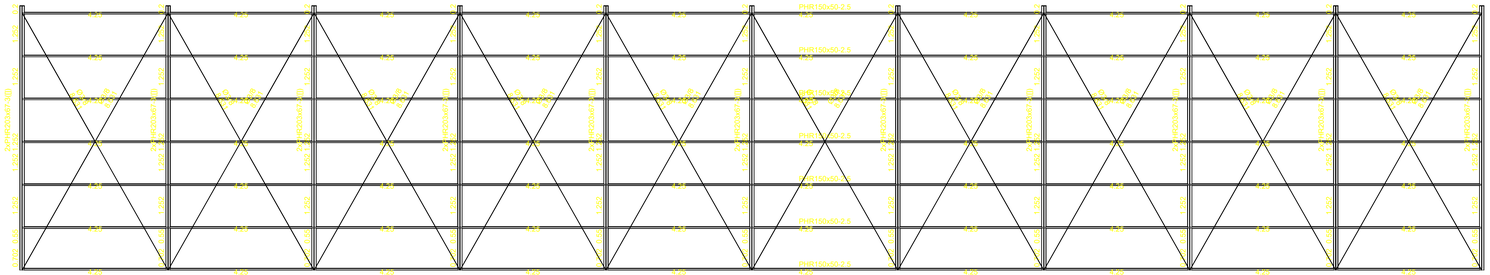
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
21/21

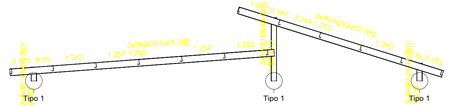
## 2D: AGUA DER



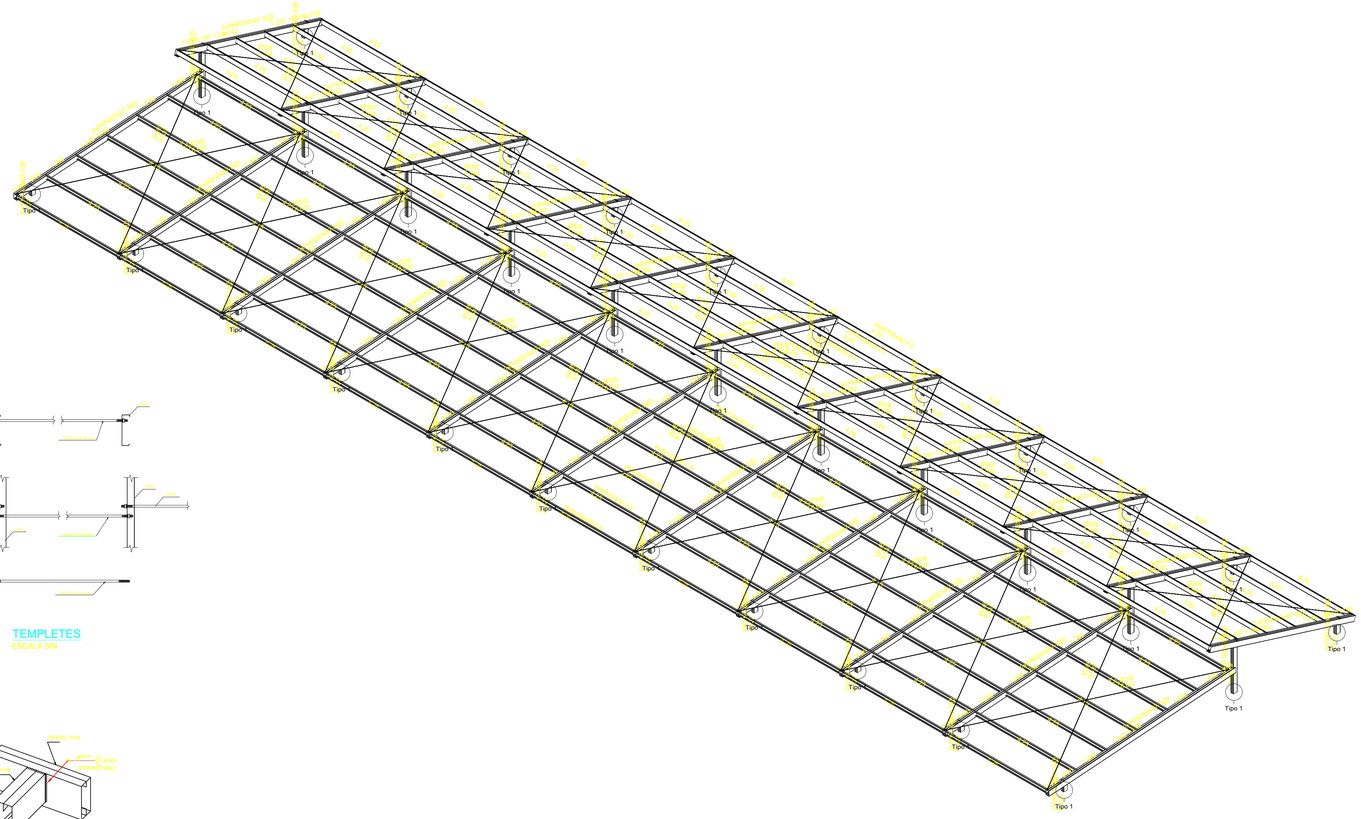

## 2D: AGUA IZQ



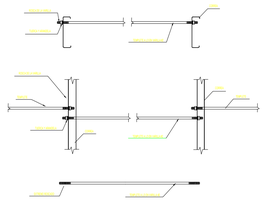

## 2D: PÓRTICOS



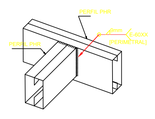

## 3D



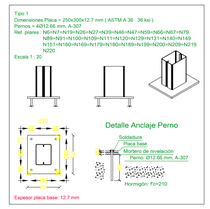

Bloque 5 aulas Tuchin
Norma de acero laminado: ANSI/AISC 360-10 (LRFD)
Norma de acero conformado: AISI S100-2007 (LRFD)
Acero laminado: A572 50ksi
Acero conformado: A572 50ksi
Escala: 1:75



TEMPLETES
ESCALA SIN




UNIÓN TÍPICA PERFILES PHR
ESCALA SIN

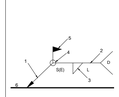



### REFERENCIAS Y SIMBOLOGÍA

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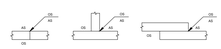
MÉTODO DE REPRESENTACIÓN DE SOLDADURAS

Conforme a la figura 2 de ANSI/AWS A2.4-98 y a los tipos de soldaduras empleadas en este proyecto, se desarrolla el siguiente esquema de representación de una soldadura:




Referencias:
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2: línea de referencia
3: símbolo de soldadura
4: símbolo soldadura perimetral.
5: símbolo de soldadura en el lugar de montaje.
6: línea del dibujo que identifica la unión propuesta.
S: profundidad del bisel. En soldaduras en ángulo, es el lado del cordón de soldadura.
(E): tamaño del cordón en soldaduras a tope.
L: longitud efectiva del cordón de soldadura
D: dato suplementario. En general, la serie de electrodo a utilizar y el proceso precualificado de soldeo.

La información relacionada con el lado de la unión soldada a la que apunta la flecha, se coloca por debajo de la línea de referencia, mientras que para el lado opuesto, se indica por encima de la línea de referencia:




Donde:

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Referencia 3

| Designación | Ilustración | Símbolo |
|---|---|---|
| Soldadura en ángulo | | |
| Soldadura a tope en "V" simple (con chaflán) | | |
| Soldadura a tope en bisel simple | | |
| Soldadura a tope en bisel doble | | |
| Soldadura a tope en bisel simple con talón de raíz amplio | | |
| Soldadura combinada a tope en bisel simple y en ángulo | | |
| Soldadura a tope en bisel simple con lado curvo | | |

| Placas de anclaje | | | | |
|---|---|---|---|---|
| Material | Elementos | Cantidad | Dimensiones (mm) | Peso (kg) |
| A36 | Placa base | 33 | 250x300x12.7 | 246.75 |
| | | | Total | 246.75 |
| A-307 (liso) | Pernos de anclaje | 132 | Ø 12.7 - L = 245 | 32.00 |
| | | | Total | 32.00 |

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221858 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 5X5 AULAS
ESTRUCTURA METALICA MODULO 5

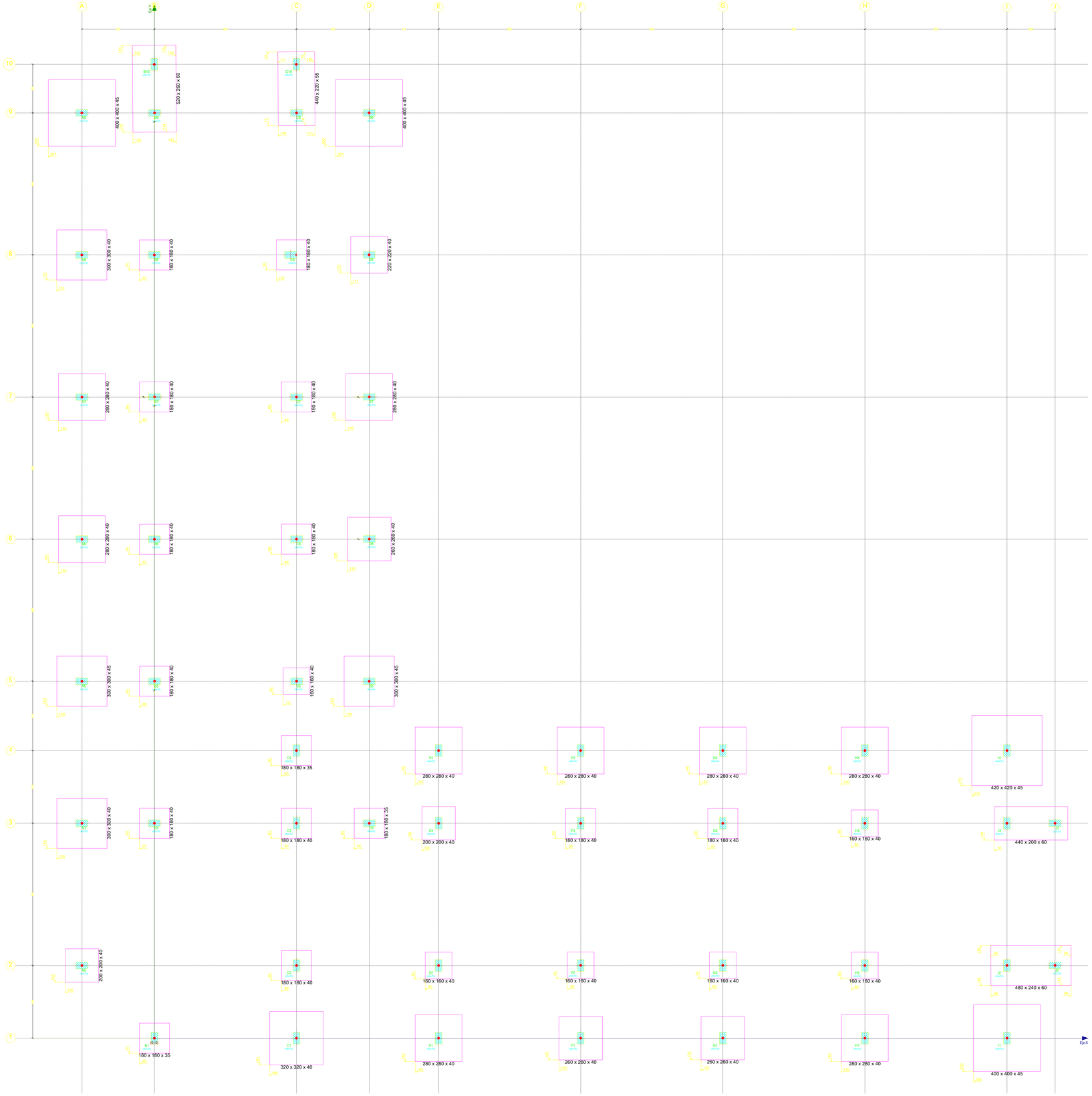
OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será aclarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

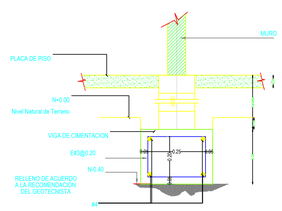
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE 21/21




| Replanteo de pilares - Cimentación | | | | |
|---|---|---|---|---|
| Pilar | Dimensión (cm) | Coordenadas del centro | | Ángulo (grados) |
| | | Coordenada X (cm) | Coordenada Y (cm) | |
| A2 | 40x70 | -433 | 435 | 90.000 |
| A3 | 40x70 | -433 | 1286 | 90.000 |
| A5 | 40x70 | -433 | 2135 | 90.000 |
| A6 | 40x70 | -433 | 2985 | 90.000 |
| A7 | 40x70 | -433 | 3835 | 90.000 |
| A8 | 40x70 | -434 | 4685 | 90.000 |
| A9 | 40x70 | -434 | 5535 | 90.000 |
| B1 | 40x70 | 0 | 0 | 0.000 |
| B3 | 40x70 | 0 | 1286 | 90.000 |
| B5 | 40x70 | 1 | 2135 | 90.000 |
| B6 | 40x70 | 0 | 2985 | 90.000 |
| B7 | 40x70 | 1 | 3836 | 90.000 |
| B8 | 40x70 | 0 | 4685 | 90.000 |
| B9 | 40x70 | 1 | 5535 | 90.000 |
| B10 | 40x70 | -1 | 5825 | 0.000 |
| C1 | 40x70 | 850 | 0 | 0.000 |
| C2 | 40x70 | 851 | 435 | 0.000 |
| C3 | 40x70 | 850 | 1286 | 0.000 |
| C4 | 40x70 | 850 | 1721 | 0.000 |
| C5 | 40x70 | 851 | 2135 | 90.000 |
| C6 | 40x70 | 851 | 2986 | 90.000 |
| C7 | 40x70 | 850 | 3836 | 90.000 |
| C8 | 40x70 | 815 | 4686 | 90.000 |
| C9 | 40x70 | 851 | 5535 | 90.000 |
| C10 | 40x70 | 849 | 5826 | 0.000 |
| D3 | 40x70 | 1286 | 1286 | 90.000 |
| D5 | 40x70 | 1285 | 2135 | 90.000 |
| D6 | 40x70 | 1286 | 2986 | 90.000 |
| D7 | 40x70 | 1285 | 3836 | 90.000 |
| D8 | 40x70 | 1285 | 4686 | 90.000 |
| D9 | 40x70 | 1285 | 5535 | 90.000 |
| E1 | 40x70 | 1700 | 0 | 0.000 |
| E2 | 40x70 | 1700 | 435 | 0.000 |
| E3 | 40x70 | 1700 | 1286 | 0.000 |
| E4 | 40x70 | 1700 | 1721 | 0.000 |
| F1 | 40x70 | 2550 | 0 | 0.000 |
| F2 | 40x70 | 2550 | 436 | 0.000 |
| F3 | 40x70 | 2550 | 1286 | 0.000 |
| F4 | 40x70 | 2550 | 1721 | 0.000 |
| G1 | 40x70 | 3400 | 1 | 0.000 |
| G2 | 40x70 | 3400 | 436 | 0.000 |
| G3 | 40x70 | 3400 | 1286 | 0.000 |
| G4 | 40x70 | 3400 | 1721 | 0.000 |
| H1 | 40x70 | 4250 | 0 | 0.000 |
| H2 | 40x70 | 4250 | 435 | 0.000 |
| H3 | 40x70 | 4250 | 1286 | 0.000 |
| H4 | 40x70 | 4250 | 1721 | 0.000 |
| I1 | 40x70 | 5100 | 0 | 0.000 |
| I2 | 40x70 | 5100 | 435 | 0.000 |
| I3 | 40x70 | 5100 | 1286 | 0.000 |
| I4 | 40x70 | 5100 | 1721 | 0.000 |
| J2 | 40x70 | 5388 | 436 | 90.000 |
| J3 | 40x70 | 5388 | 1286 | 90.000 |
| Cota de arranque de los pilares: -3.00 m | | | | |

Cimentación
Replanteo
Escala: 1:100




CIMIENTO MUROS QUE NO COINCIDAN CON VIGAS DE ENLACE
ESCALA: SIN

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

**ESPACIO PÚBLICO**

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221895 CND COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE SXS AULAS
PLANTA DE CIMENTACION

OBSERVACIONES

1. todos los elementos que NO estàn consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

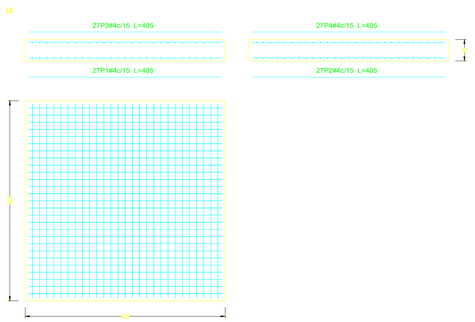
NOMBRE DEL ARCHIVO

| FECHA | ESCALA |
|---|---|
| MARZO 2025 | INDICADA |

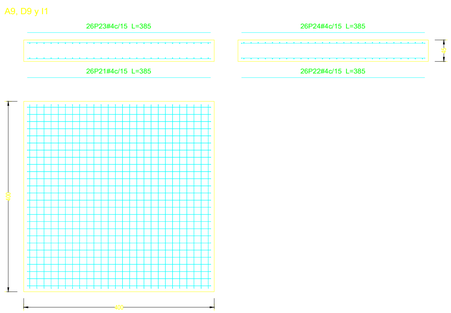
PLANO DE

1/21

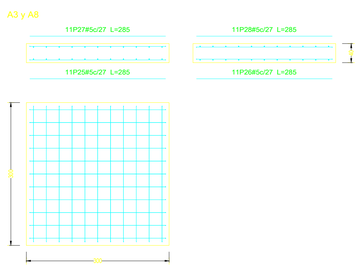
I4



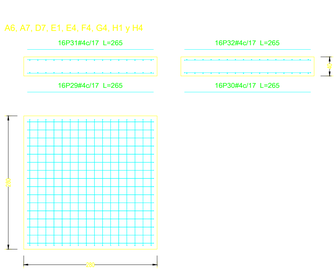

A9, D9 y I1



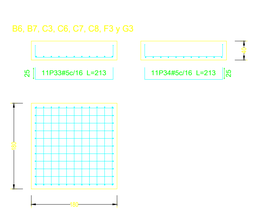

A3 y A8




A6, A7, D7, E1, E4, F4, G4, H1 y H4

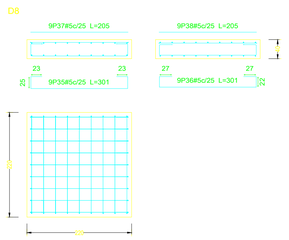



B6, B7, C3, C6, C7, C8, F3 y G3

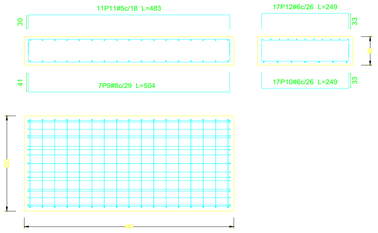



| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| I4 | 1 | #4 | 27 | 405 | 10935 | 108.8 |
| | 2 | #4 | 27 | 405 | 10935 | 108.8 |
| | 3 | #4 | 27 | 405 | 10935 | 108.8 |
| | 4 | #4 | 27 | 405 | 10935 | 108.8 |
| | | | | | Total | 435.2 |
| I2-J2 | 5 | #5 | 18 | 523 | 9414 | 146.2 |
| | 6 | #6 | 19 | 291 | 5529 | 123.7 |
| | 7 | #5 | 21 | 524 | 11004 | 109.4 |
| | 8 | #6 | 19 | 291 | 5529 | 123.7 |
| | | | | | Total | 503.0 |
| I3-J3 | 9 | #8 | 7 | 504 | 3528 | 140.3 |
| | 10 | #6 | 17 | 249 | 4233 | 94.7 |
| | 11 | #5 | 11 | 483 | 5313 | 82.5 |
| | 12 | #6 | 17 | 249 | 4233 | 94.7 |
| | | | | | Total | 412.2 |
| B10-B9 | 13 | #8 | 9 | 668 | 6012 | 239.1 |
| | 14 | #6 | 20 | 318 | 6360 | 142.3 |
| | 15 | #6 | 10 | 963 | 9630 | 126.5 |
| | 16 | #6 | 20 | 318 | 6360 | 142.3 |
| | | | | | Total | 649.7 |
| C10-C9 | 17 | #5 | 12 | 483 | 5796 | 129.7 |
| | 18 | #6 | 8 | 1183 | 9464 | 211.8 |
| | 19 | #5 | 8 | 483 | 3864 | 86.4 |
| | 20 | #5 | 23 | 263 | 6049 | 94.5 |
| | | | | | Total | 524.3 |
| A9=D9=I1 | 21 | #4 | 26 | 385 | 10010 | 99.6 |
| | 22 | #4 | 26 | 385 | 10010 | 99.6 |
| | 23 | #4 | 26 | 385 | 10010 | 99.6 |
| | 24 | #4 | 26 | 385 | 10010 | 99.6 |
| | | | | | Total (x4) | 398.4 (x4) 1196.2 |
| A3=A8 | 25 | #5 | 11 | 285 | 3135 | 48.7 |
| | 26 | #5 | 11 | 285 | 3135 | 48.7 |
| | 27 | #5 | 11 | 285 | 3135 | 48.7 |
| | 28 | #5 | 11 | 285 | 3135 | 48.7 |
| | | | | | Total (x2) | 194.8 389.6 |
| A6=A7=D7=E1=E4=F4=G4=H1 =H4 | 29 | #4 | 16 | 265 | 4240 | 42.2 |
| | 30 | #4 | 16 | 265 | 4240 | 42.2 |
| | 31 | #4 | 16 | 265 | 4240 | 42.2 |
| | 32 | #4 | 16 | 265 | 4240 | 42.2 |
| | | | | | Total (x9) | 168.8 1519.2 |
| B6=B7=C3=C6=C7=C8=F3=G3 | 33 | #5 | 11 | 213 | 2343 | 36.4 |
| | 34 | #5 | 11 | 213 | 2343 | 36.4 |
| | | | | | Total (x8) | 72.8 582.4 |
| D8 | 35 | #5 | 9 | 301 | 2709 | 42.1 |
| | 36 | #5 | 9 | 301 | 2709 | 42.1 |
| | 37 | #5 | 9 | 205 | 1845 | 28.7 |
| | 38 | #5 | 9 | 205 | 1845 | 28.7 |
| | | | | | Total | 141.6 |
| A2 | 39 | #4 | 13 | 185 | 2405 | 23.9 |
| | 40 | #4 | 13 | 224 | 2912 | 29.0 |
| | 41 | #5 | 8 | 186 | 1486 | 23.0 |
| | 42 | #5 | 8 | 392 | 2256 | 34.9 |
| | | | | | Total | 110.9 |
| D3 | 43 | #5 | 8 | 252 | 2016 | 31.3 |
| | 44 | #4 | 9 | 292 | 2628 | 24.2 |
| | 45 | #4 | 9 | 242 | 2178 | 21.7 |
| | | | | | Total | 99.1 |
| D6=F1=G1 | 47 | #4 | 15 | 248 | 3675 | 36.6 |
| | 48 | #4 | 15 | 245 | 3675 | 36.6 |
| | 49 | #4 | 15 | 245 | 3675 | 36.6 |
| | 50 | #4 | 15 | 245 | 3675 | 36.6 |
| | | | | | Total (x3) | 146.4 439.2 |
| A5=D5 | 51 | #5 | 13 | 285 | 3705 | 57.6 |
| | 52 | #5 | 13 | 285 | 3705 | 57.6 |
| | 53 | #5 | 13 | 285 | 3705 | 57.6 |
| | 54 | #5 | 13 | 285 | 3705 | 57.6 |
| | | | | | Total (x2) | 230.4 460.8 |
| B1=C4 | 55 | #6 | 6 | 260 | 1560 | 34.5 |
| | 56 | #6 | 6 | 260 | 1560 | 34.5 |
| | 57 | #4 | 9 | 165 | 1485 | 14.8 |
| | 58 | #4 | 9 | 241 | 2169 | 21.6 |
| | | | | | Total (x2) | 106.2 212.4 |
| B3=B8=C2 | 59 | #7 | 6 | 286 | 1716 | 52.3 |
| | 60 | #7 | 6 | 286 | 1716 | 52.3 |
| | | | | | Total (x2) | 104.6 313.8 |
| C5 | 61 | #6 | 6 | 249 | 1494 | 33.4 |
| | 62 | #6 | 6 | 249 | 1494 | 33.4 |
| | 63 | #5 | 6 | 239 | 1434 | 22.3 |
| | 64 | #5 | 6 | 239 | 1434 | 22.3 |
| | | | | | Total | 111.4 |
| B5 | 65 | #6 | 7 | 275 | 1925 | 43.1 |
| | 66 | #6 | 7 | 275 | 1925 | 43.1 |
| | | | | | Total | 86.2 |
| C1 | 67 | #5 | 12 | 305 | 3660 | 56.9 |
| | 68 | #5 | 12 | 305 | 3660 | 56.9 |
| | 69 | #5 | 12 | 305 | 3660 | 56.9 |
| | 70 | #5 | 12 | 305 | 3660 | 56.9 |
| | | | | | Total | 227.6 |
| E3 | 71 | #5 | 12 | 233 | 2796 | 43.4 |
| | 72 | #5 | 12 | 233 | 2796 | 43.4 |
| | | | | | Total | 86.8 |
| E2 | 73 | #4 | 6 | 255 | 1530 | 34.2 |
| | 74 | #6 | 6 | 255 | 1530 | 34.2 |
| | | | | | Total | 68.4 |
| F2=G2=H3 | 75 | #5 | 9 | 193 | 1737 | 27.0 |
| | 76 | #5 | 9 | 247 | 2223 | 34.5 |
| | | | | | Total (x2) | 61.5 184.5 |
| H2 | 77 | #6 | 7 | 255 | 1785 | 39.9 |
| | 78 | #6 | 7 | 255 | 1785 | 39.9 |
| | | | | | Total | 79.8 |
| | | | | | #4: | 3860.4 |
| | | | | | #5: | 2650.2 |
| | | | | | #6: | 1504.3 |
| | | | | | #7: | 104.6 |
| | | | | | #8: | 378.4 |
| | | | | | Total: | 8713.1 |

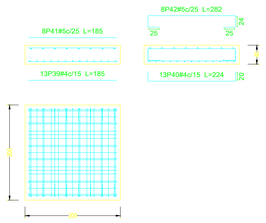
D8



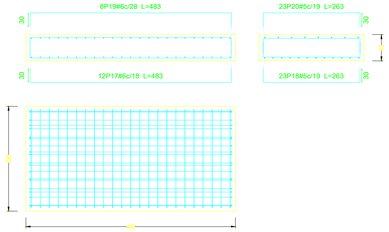

I3-J3



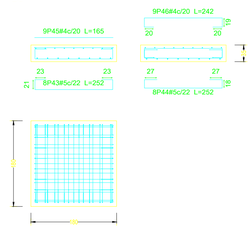

A2



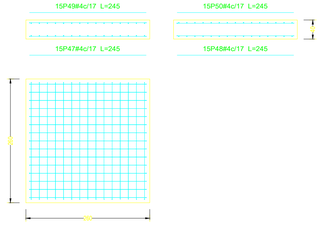

C10-C9




D3




D6, F1 y G1




I2-J2




A5 y D5




B1 y C4




B3, B8 y G2




B10-B9




C5




B5




C1




E3




E2




F2, G2 y H3




H2




| CUADRO DE ELEMENTOS DE CIMENTACIÓN | | | | | | |
|---|---|---|---|---|---|---|
| Referencias | Dimensiones (cm) | Canto (cm) | Armado inf. X | Armado inf. Y | Armado sup. X | Armado sup. Y |
| A2 | 200x200 | 40 | 13#4c/15 | 13#4c/15 | 8#5c/25 | 8#5c/25 |
| A3 y A8 | 300x300 | 40 | 11#5c/27 | 11#5c/27 | 11#5c/27 | 11#5c/27 |
| A5 y D5 | 300x300 | 45 | 13#5c/23 | 13#5c/23 | 13#5c/23 | 13#5c/23 |
| A6, A7, D7, E1, E4, F4, G4, H1 y H4 | 280x280 | 40 | 16#4c/17 | 16#4c/17 | 16#4c/17 | 16#4c/17 |
| A9, D9 y I1 | 400x400 | 45 | 26#4c/15 | 26#4c/15 | 26#4c/15 | 26#4c/15 |
| B1 y C4 | 180x180 | 35 | 6#6c/30 | 6#6c/30 | 9#4c/20 | 9#4c/20 |
| B3, B8 y C2 | 180x180 | 40 | 6#7c/30 | 6#7c/30 | | |
| B5 | 180x180 | 40 | 7#6c/25 | 7#6c/25 | | |
| B6, B7, C3, C6, C7, C8, F3 y G3 | 180x180 | 40 | 11#5c/16 | 11#5c/16 | | |
| C1 | 320x320 | 40 | 12#5c/27 | 12#5c/27 | 12#5c/27 | 12#5c/27 |
| C5 | 160x160 | 40 | 6#6c/27 | 6#6c/27 | 6#5c/27 | 6#5c/27 |
| D3 | 180x180 | 35 | 8#5c/22 | 8#5c/22 | 9#4c/20 | 9#4c/20 |
| D6, F1 y G1 | 260x260 | 40 | 15#4c/17 | 15#4c/17 | 15#4c/17 | 15#4c/17 |
| D8 | 220x220 | 40 | 9#5c/25 | 9#5c/25 | 9#5c/25 | 9#5c/25 |
| E2 | 160x160 | 40 | 6#6c/27 | 6#6c/27 | | |
| E3 | 200x200 | 40 | 12#5c/16 | 12#5c/16 | | |
| F2, G2 y H3 | 160x160 | 40 | 9#5c/17 | 9#5c/17 | | |
| H2 | 160x160 | 40 | 7#6c/23 | 7#6c/23 | | |
| I4 | 420x420 | 45 | 27#4c/15 | 27#4c/15 | 27#4c/15 | 27#4c/15 |
| I2-J2 | 480x240 | 60 | 18#5c/12.5 | 19#6c/25 | 21#4c/11 | 19#6c/25 |
| I3-J3 | 440x200 | 60 | 7#8c/29 | 17#6c/26 | 11#5c/18 | 17#6c/26 |
| B10-B9 | 520x260 | 60 | 9#8c/29 | 20#6c/26 | 10#6c/26 | 20#6c/26 |
| C10-C9 | 440x220 | 55 | 12#6c/18 | 23#5c/19 | 8#6c/28 | 23#5c/19 |


GOBERNACIÓN DE
CÓRDOBA


PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO


OSCAR DAVID MORENO OGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 COR



Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.


CONTIENE

BLOQUE SXS AULAS
DESPACHO DE DIANTAS

OBSERVACIONES

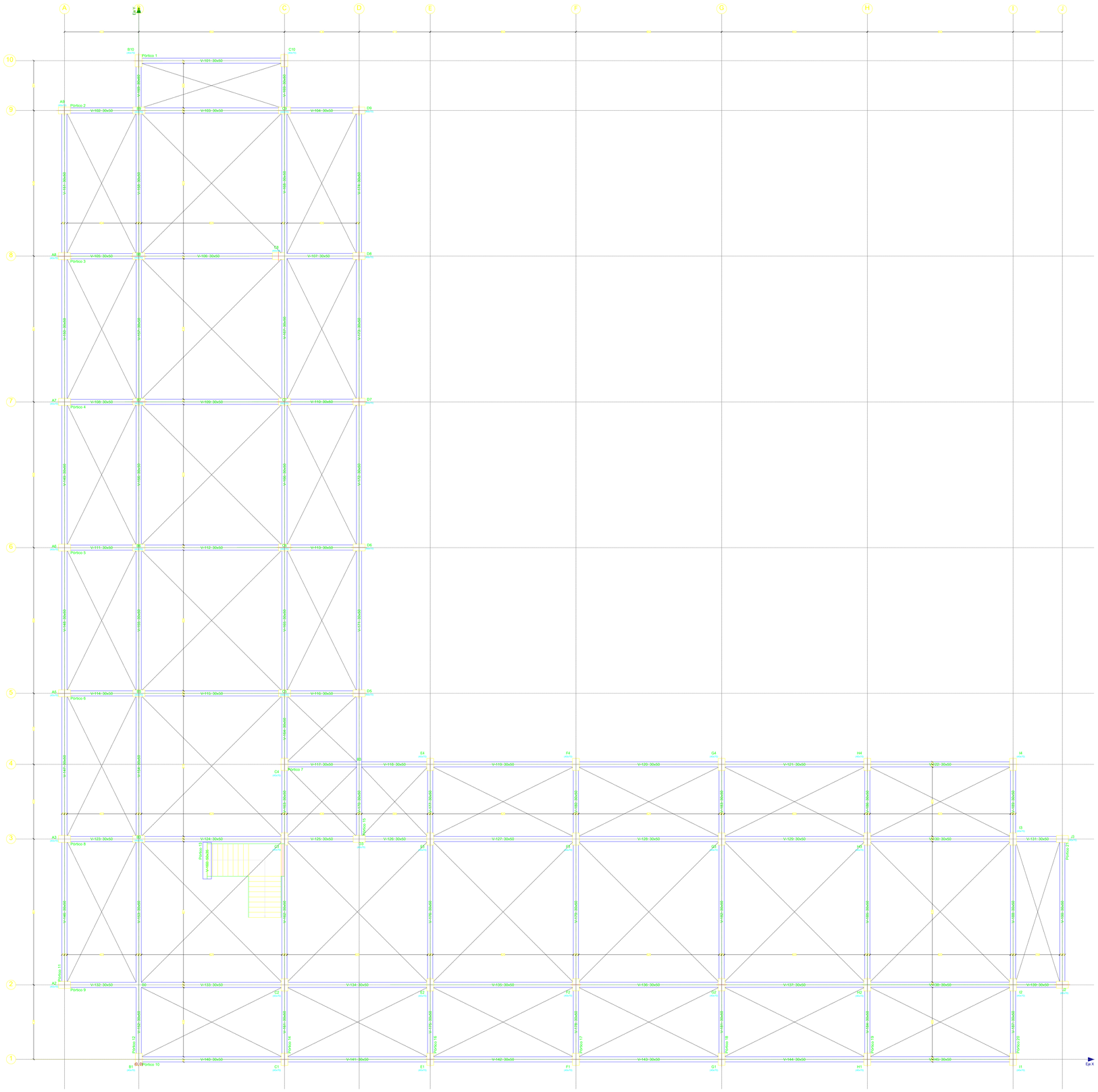
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA
MARZO 2025

ESCALA
INDICADA

PLANO DE
2/21




Suelo N+0.00
Replanteo
Hormigón en forjados: Fc=210
Hormigón en cimentación: Fc=210
Escala: 1:100

| Replanteo de pilares - Suelo N+0.00 | | | | |
|---|---|---|---|---|
| Pilar | Dimensión (cm) | Coordenadas del centro | | Àngulo (grados) |
| | | Coordenada X (cm) | Coordenada Y (cm) | |
| A2 | 40x70 | -433 | 435 | 90.000 |
| A3 | 40x70 | -433 | 1286 | 90.000 |
| A5 | 40x70 | -433 | 2135 | 90.000 |
| A6 | 40x70 | -433 | 2985 | 90.000 |
| A7 | 40x70 | -433 | 3835 | 90.000 |
| A8 | 40x70 | -434 | 4685 | 90.000 |
| A9 | 40x70 | -434 | 5535 | 90.000 |
| B1 | 40x70 | 0 | 0 | 0.000 |
| B3 | 40x70 | 0 | 1286 | 90.000 |
| B5 | 40x70 | 1 | 2135 | 90.000 |
| B6 | 40x70 | 0 | 2985 | 90.000 |
| B7 | 40x70 | 1 | 3836 | 90.000 |
| B8 | 40x70 | 0 | 4685 | 90.000 |
| B9 | 40x70 | 1 | 5535 | 90.000 |
| B10 | 40x70 | -1 | 5825 | 0.000 |
| C1 | 40x70 | 850 | 0 | 0.000 |
| C2 | 40x70 | 851 | 435 | 0.000 |
| C3 | 40x70 | 850 | 1286 | 0.000 |
| C4 | 40x70 | 850 | 1721 | 0.000 |
| C5 | 40x70 | 851 | 2135 | 90.000 |
| C6 | 40x70 | 851 | 2986 | 90.000 |
| C7 | 40x70 | 850 | 3836 | 90.000 |
| C8 | 40x70 | 815 | 4686 | 90.000 |
| C9 | 40x70 | 851 | 5535 | 90.000 |
| C10 | 40x70 | 849 | 5826 | 0.000 |
| D3 | 40x70 | 1286 | 1286 | 90.000 |
| D5 | 40x70 | 1285 | 2135 | 90.000 |
| D6 | 40x70 | 1286 | 2986 | 90.000 |
| D7 | 40x70 | 1285 | 3836 | 90.000 |
| D8 | 40x70 | 1285 | 4686 | 90.000 |
| D9 | 40x70 | 1285 | 5535 | 90.000 |
| E1 | 40x70 | 1700 | 0 | 0.000 |
| E2 | 40x70 | 1700 | 435 | 0.000 |
| E3 | 40x70 | 1700 | 1286 | 0.000 |
| E4 | 40x70 | 1700 | 1721 | 0.000 |
| F1 | 40x70 | 2550 | 0 | 0.000 |
| F2 | 40x70 | 2550 | 436 | 0.000 |
| F3 | 40x70 | 2550 | 1286 | 0.000 |
| F4 | 40x70 | 2550 | 1721 | 0.000 |
| G1 | 40x70 | 3400 | 1 | 0.000 |
| G2 | 40x70 | 3400 | 436 | 0.000 |
| G3 | 40x70 | 3400 | 1286 | 0.000 |
| G4 | 40x70 | 3400 | 1721 | 0.000 |
| H1 | 40x70 | 4250 | 0 | 0.000 |
| H2 | 40x70 | 4250 | 435 | 0.000 |
| H3 | 40x70 | 4250 | 1286 | 0.000 |
| H4 | 40x70 | 4250 | 1721 | 0.000 |
| I1 | 40x70 | 5100 | 0 | 0.000 |
| I2 | 40x70 | 5100 | 435 | 0.000 |
| I3 | 40x70 | 5100 | 1286 | 0.000 |
| I4 | 40x70 | 5100 | 1721 | 0.000 |
| J2 | 40x70 | 5388 | 436 | 90.000 |
| J3 | 40x70 | 5388 | 1286 | 90.000 |
| Cota de arranque de los pilares: 0.00 m | | | | |

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

**ESPACIO PÚBLICO**

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221887 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE SIS AULAS
PLANTA + 0.00

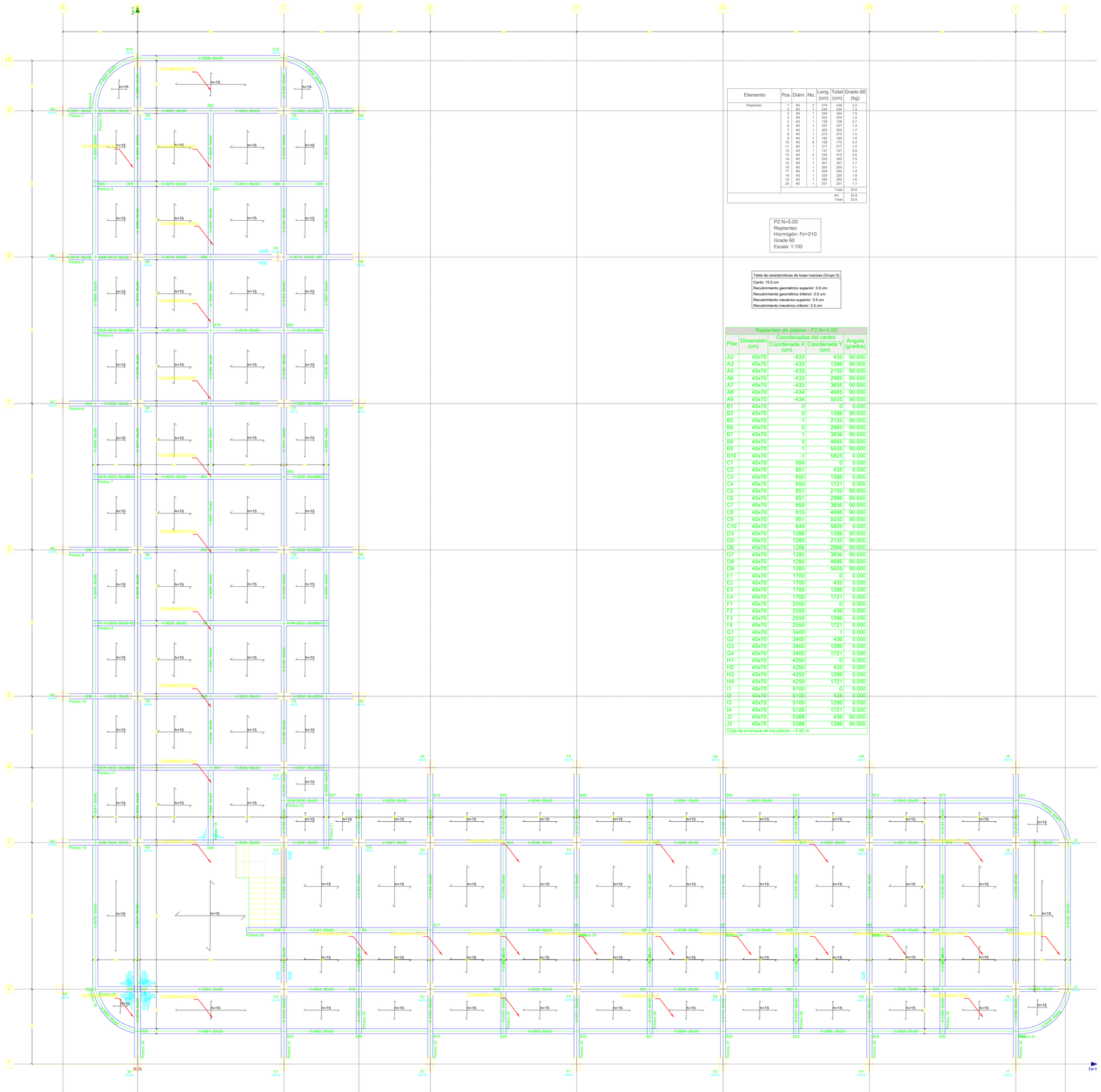
OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
3/21




| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Replanteo | 1 | #3 | 2 | 219 | 436 | 2.5 |
| | 2 | #3 | 1 | 234 | 234 | 1.3 |
| | 3 | #3 | 1 | 344 | 344 | 1.9 |
| | 4 | #3 | 1 | 135 | 135 | 0.7 |
| | 5 | #3 | 1 | 128 | 128 | 0.7 |
| | 6 | #3 | 1 | 237 | 237 | 1.3 |
| | 7 | #3 | 1 | 309 | 309 | 1.7 |
| | 8 | #3 | 1 | 273 | 273 | 1.5 |
| | 9 | #3 | 1 | 182 | 182 | 1.0 |
| | 10 | #3 | 6 | 129 | 774 | 4.3 |
| | 11 | #3 | 1 | 147 | 147 | 0.8 |
| | 12 | #3 | 1 | 147 | 147 | 0.8 |
| | 13 | #3 | 2 | 235 | 470 | 2.6 |
| | 14 | #3 | 1 | 343 | 343 | 1.9 |
| | 15 | #3 | 1 | 307 | 307 | 1.7 |
| | 16 | #3 | 1 | 259 | 259 | 1.4 |
| | 17 | #3 | 1 | 264 | 264 | 1.4 |
| | 18 | #3 | 1 | 326 | 326 | 1.8 |
| | 19 | #3 | 1 | 290 | 290 | 1.6 |
| | 20 | #3 | 1 | 201 | 201 | 1.1 |
| | | | | | Total | 32.8 |
| | | | | | #3 | 32.8 |
| | | | | | Total | 32.8 |

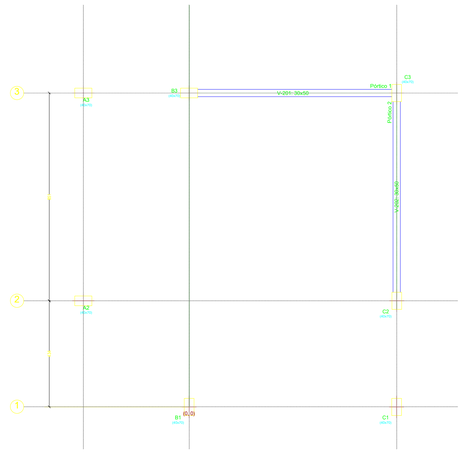
P2 N+5.00
Replanteo
Hormigón: f'c=210
Grade 60
Escala: 1:100

Tabla de características de losas macizas (Grupo 3)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm

Replanteo de pilares - P2 N+5.00

| Pilar | Dimensión (cm) | Coordenadas del centro Coordenada X (cm) | Coordenada Y (cm) | Angulo (grados) |
|---|---|---|---|---|
| A2 | 40x70 | -433 | 435 | 90.000 |
| A3 | 40x70 | -433 | 1286 | 90.000 |
| A5 | 40x70 | -433 | 2135 | 90.000 |
| A6 | 40x70 | -433 | 2985 | 90.000 |
| A7 | 40x70 | -433 | 3835 | 90.000 |
| A8 | 40x70 | -434 | 4685 | 90.000 |
| A9 | 40x70 | -434 | 5535 | 90.000 |
| B1 | 40x70 | 0 | 0 | 0.000 |
| B3 | 40x70 | 0 | 1286 | 90.000 |
| B5 | 40x70 | 1 | 2135 | 90.000 |
| B6 | 40x70 | 0 | 2985 | 90.000 |
| B7 | 40x70 | 1 | 3836 | 90.000 |
| B8 | 40x70 | 0 | 4685 | 90.000 |
| B9 | 40x70 | 1 | 5535 | 90.000 |
| B10 | 40x70 | -1 | 5825 | 0.000 |
| C1 | 40x70 | 850 | 0 | 0.000 |
| C2 | 40x70 | 851 | 435 | 0.000 |
| C3 | 40x70 | 850 | 1286 | 0.000 |
| C4 | 40x70 | 850 | 1721 | 0.000 |
| C5 | 40x70 | 851 | 2135 | 90.000 |
| C6 | 40x70 | 851 | 2986 | 90.000 |
| C7 | 40x70 | 850 | 3836 | 90.000 |
| C8 | 40x70 | 815 | 4686 | 90.000 |
| C9 | 40x70 | 851 | 5535 | 90.000 |
| C10 | 40x70 | 849 | 5826 | 0.000 |
| D3 | 40x70 | 1286 | 1286 | 90.000 |
| D5 | 40x70 | 1285 | 2135 | 90.000 |
| D6 | 40x70 | 1286 | 2986 | 90.000 |
| D7 | 40x70 | 1285 | 3836 | 90.000 |
| D8 | 40x70 | 1285 | 4686 | 90.000 |
| D9 | 40x70 | 1285 | 5535 | 90.000 |
| E1 | 40x70 | 1700 | 0 | 0.000 |
| E2 | 40x70 | 1700 | 435 | 0.000 |
| E3 | 40x70 | 1700 | 1286 | 0.000 |
| E4 | 40x70 | 1700 | 1721 | 0.000 |
| F1 | 40x70 | 2550 | 0 | 0.000 |
| F2 | 40x70 | 2550 | 436 | 0.000 |
| F3 | 40x70 | 2550 | 1286 | 0.000 |
| F4 | 40x70 | 2550 | 1721 | 0.000 |
| G1 | 40x70 | 3400 | 1 | 0.000 |
| G2 | 40x70 | 3400 | 436 | 0.000 |
| G3 | 40x70 | 3400 | 1286 | 0.000 |
| G4 | 40x70 | 3400 | 1721 | 0.000 |
| H1 | 40x70 | 4250 | 0 | 0.000 |
| H2 | 40x70 | 4250 | 435 | 0.000 |
| H3 | 40x70 | 4250 | 1286 | 0.000 |
| H4 | 40x70 | 4250 | 1721 | 0.000 |
| I1 | 40x70 | 5100 | 0 | 0.000 |
| I2 | 40x70 | 5100 | 436 | 0.000 |
| I3 | 40x70 | 5100 | 1286 | 0.000 |
| I4 | 40x70 | 5100 | 1721 | 0.000 |
| J2 | 40x70 | 5388 | 436 | 90.000 |
| J3 | 40x70 | 5388 | 1286 | 90.000 |

Cota de arranque de los pilares: +5.00 m




Des. N+1.75
Replanteo
Hormigón: f'c=210
Escala: 1:100

## DETALLE TÍPICO DE LOSA



## DETALLE TÍPICO DE REFUERZO POR PUNZONAMIENTO EN LOSA




NOTA:

1. DEJAR CONTRAFLECHAS INDICADAS

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE SXS AULAS
PLANTA PISO 2 N +3.60

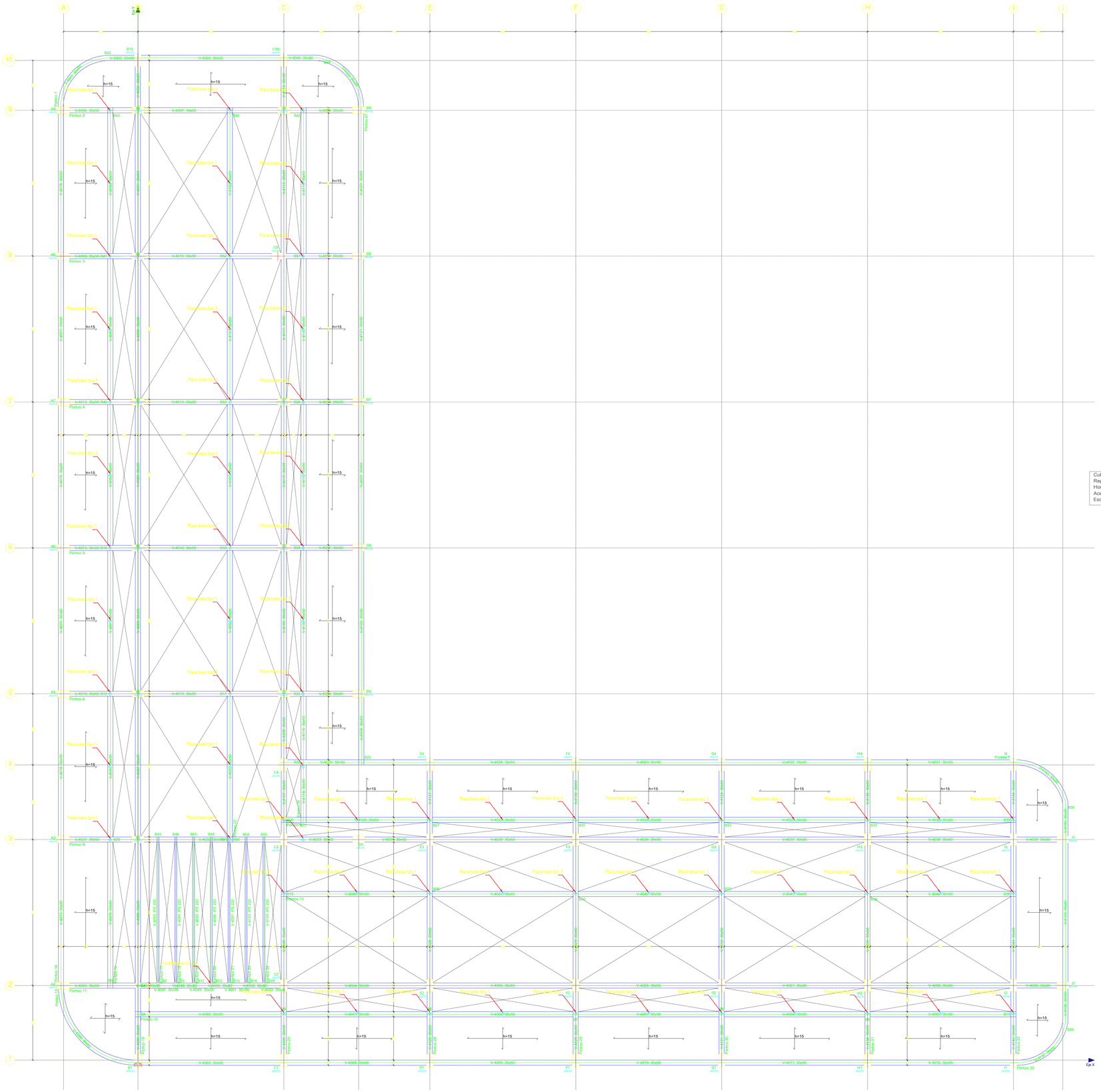
OBSERVACIONES

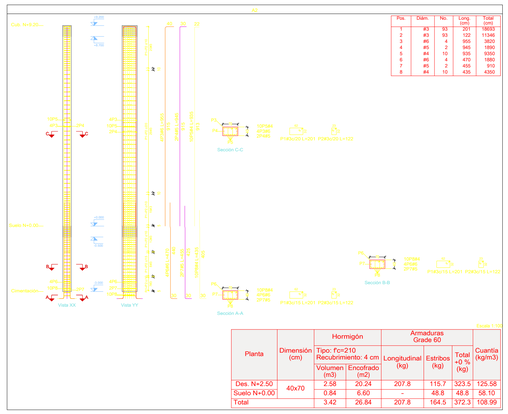
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será achárada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

| FECHA | ESCALA |
|---|---|
| MARZO 2025 | INDICADA |

PLANO 4/21 DE


Eje Y
Eje X
Placa base IPE 220
Placa base tipo 1
h=15
Pórtico 1
Pórtico 2
Pórtico 3
Pórtico 4
Pórtico 5
Pórtico 6
Pórtico 7
Pórtico 8
Pórtico 9
Pórtico 10
Pórtico 11
Pórtico 12
Pórtico 13
Pórtico 14
Pórtico 15
Pórtico 16
Pórtico 17
Pórtico 18
Pórtico 19
Pórtico 20
Pórtico

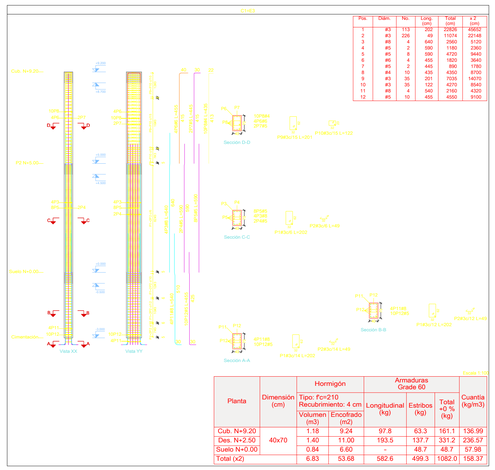



| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 93 | 202 | 18693 |
| 2 | #3 | 93 | 122 | 11346 |
| 3 | #6 | 4 | 955 | 3823 |
| 4 | #5 | 2 | 945 | 1890 |
| 5 | #4 | 10 | 535 | 5350 |
| 6 | #6 | 4 | 470 | 1880 |
| 7 | #5 | 2 | 455 | 910 |
| 8 | #4 | 10 | 435 | 4350 |

Escala 1:125

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Des. N+2.50 | 40x70 | 2.58 | 20.24 | 207.8 | 115.7 | 323.5 | 125.58 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 48.8 | 48.8 | 58.10 |
| Total | | 3.42 | 26.84 | 207.8 | 164.5 | 372.3 | 108.99 |

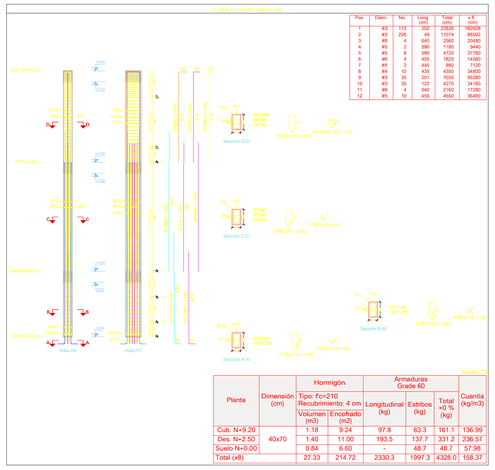
Pilares que nacen en Cimentación y mueren en Cub. N+9.20
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60




| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 2 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 113 | 202 | 22826 | 45652 |
| 2 | #3 | 226 | 49 | 11074 | 22148 |
| 3 | #6 | 4 | 640 | 2560 | 5120 |
| 4 | #5 | 2 | 590 | 1180 | 2360 |
| 5 | #5 | 8 | 590 | 4720 | 9440 |
| 6 | #6 | 4 | 455 | 1820 | 3640 |
| 7 | #5 | 2 | 445 | 890 | 1780 |
| 8 | #4 | 10 | 435 | 4350 | 8700 |
| 9 | #3 | 35 | 201 | 7035 | 14070 |
| 10 | #3 | 35 | 122 | 4270 | 8540 |
| 11 | #6 | 4 | 540 | 2160 | 4320 |
| 12 | #5 | 10 | 455 | 4550 | 9100 |

Escala 1:125

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 97.8 | 63.3 | 161.1 | 136.99 |
| Des. N+2.50 | | 1.40 | 11.00 | 193.5 | 137.7 | 331.2 | 236.57 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 48.7 | 48.7 | 57.98 |
| Total (x2) | | 6.83 | 53.68 | 582.6 | 499.3 | 1082.0 | 158.37 |

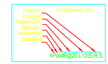



| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 8 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 113 | 202 | 22826 | 182608 |
| 2 | #3 | 226 | 49 | 11074 | 88592 |
| 3 | #8 | 4 | 640 | 2560 | 20480 |
| 4 | #5 | 2 | 590 | 1180 | 9440 |
| 5 | #5 | 8 | 590 | 4720 | 37760 |
| 6 | #6 | 4 | 455 | 1820 | 14560 |
| 7 | #5 | 2 | 445 | 890 | 7120 |
| 8 | #4 | 10 | 435 | 4350 | 34800 |
| 9 | #3 | 35 | 201 | 7035 | 56280 |
| 10 | #3 | 35 | 122 | 4270 | 34160 |
| 11 | #6 | 4 | 540 | 2160 | 17280 |
| 12 | #5 | 10 | 455 | 4550 | 36400 |

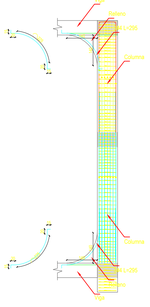
Escala 1:125

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 9.24 | 97.8 | 63.3 | 161.1 | 136.99 | |
| Des. N+2.50 | | 11.00 | 193.5 | 137.7 | 331.2 | 236.57 | |
| Suelo N+0.00 | | 6.60 | - | 48.7 | 48.7 | 57.98 | |
| Total (x8) | | 27.33 | 214.72 | 2330.3 | 1997.3 | 4328.0 | 158.37 |

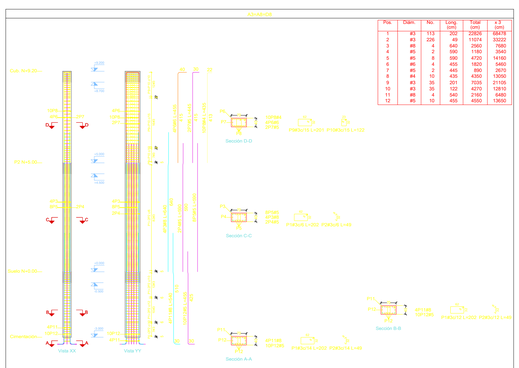
| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| B10 | 1 | #3 | 115 | 32 / 32 | 202 | 23230 | 130.0 |
| | 2 | #3 | 230 | 32 | 49 | 11270 | 63.1 |
| | 3 | #8 | 4 | 485 / 19140 | 640 | 2960 | 101.8 |
| | 4 | #5 | 2 | 490 / 90 | 590 | 1180 | 18.3 |
| | 5 | #5 | 8 | 590 | 590 | 4720 | 73.3 |
| | 6 | #6 | 4 | 415 | 455 | 1820 | 40.7 |
| | 7 | #5 | 2 | 415 / 75 | 445 | 890 | 13.8 |
| | 8 | #4 | 10 | 415 / 75 | 435 | 4350 | 43.3 |
| | 9 | #3 | 35 | 32 | 201 | 7035 | 39.4 |
| | 10 | #3 | 35 | 32 | 122 | 4270 | 23.9 |
| | 11 | #8 | 4 | L2: 325 / 75 / 179 | 580 | 2240 | 89.1 |
| | 12 | #5 | 10 | L2: 341 / 89 | 470 | 4700 | 73.0 |
| | | | | | | Total | 709.7 |




| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| A2 | 1 | #3 | 93 | 32 | 201 | 18693 | 104.6 |
| | 2 | #3 | 93 | 32 | 122 | 11346 | 63.5 |
| | 3 | #6 | 4 | 955 / 75 | 955 | 3820 | 85.5 |
| | 4 | #5 | 2 | 915 / 75 | 945 | 1890 | 29.4 |
| | 5 | #4 | 10 | 513 / 75 | 535 | 5350 | 93.0 |
| | 6 | #6 | 4 | L2: 321 / 12.557 | 470 | 1880 | 42.1 |
| | 7 | #5 | 2 | L2: 323 / 92 | 455 | 910 | 14.1 |
| | 8 | #4 | 10 | L2: 323 / 74 | 435 | 4350 | 43.3 |
| | | | | | | Total | 475.5 |
| A3=A6=D8 | 1 | #3 | 113 | 32 | 202 | 22826 | 127.8 |
| | 2 | #3 | 226 | 32 | 49 | 11074 | 62.0 |
| | 3 | #6 | 4 | 485 / 19140 | 640 | 2560 | 101.8 |
| | 4 | #5 | 2 | 490 / 90 | 590 | 1180 | 18.3 |
| | 5 | #5 | 8 | 590 | 590 | 4720 | 73.3 |
| | 6 | #6 | 4 | 415 | 455 | 1820 | 40.7 |
| | 7 | #5 | 2 | 415 / 75 | 445 | 890 | 13.8 |
| | 8 | #4 | 10 | 415 / 75 | 435 | 4350 | 43.3 |
| | 9 | #3 | 35 | 32 | 201 | 7035 | 39.4 |
| | 10 | #3 | 35 | 32 | 122 | 4270 | 23.9 |
| | 11 | #6 | 4 | L2: 317 / 19.178 | 540 | 2160 | 85.9 |
| | 12 | #5 | 10 | L2: 322 / 93 | 455 | 4550 | 70.7 |
| | | | | | | Total (x8) | 709.8 2103.7 |
| C1=E3 | 1 | #3 | 113 | 32 | 202 | 22826 | 127.8 |
| | 2 | #3 | 226 | 32 | 49 | 11074 | 62.0 |
| | 3 | #6 | 4 | 485 / 19140 | 640 | 2560 | 101.8 |
| | 4 | #5 | 2 | 490 / 90 | 590 | 1180 | 18.3 |
| | 5 | #5 | 8 | 590 | 590 | 4720 | 73.3 |
| | 6 | #6 | 4 | 415 | 455 | 1820 | 40.7 |
| | 7 | #5 | 2 | 415 / 75 | 445 | 890 | 13.8 |
| | 8 | #4 | 10 | 415 / 75 | 435 | 4350 | 43.3 |
| | 9 | #3 | 35 | 32 | 201 | 7035 | 39.4 |
| | 10 | #3 | 35 | 32 | 122 | 4270 | 23.9 |
| | 11 | #6 | 4 | L2: 317 / 19.178 | 540 | 2160 | 85.9 |
| | 12 | #5 | 10 | L2: 322 / 93 | 455 | 4550 | 70.7 |
| | | | | | | Total (x8) | 709.8 2107.7 |
| A5=D5 | 1 | #3 | 114 | 32 | 202 | 23028 | 128.9 |
| | 2 | #3 | 228 | 32 | 49 | 11172 | 62.5 |
| | 3 | #6 | 4 | 485 / 19140 | 640 | 2560 | 101.8 |
| | 4 | #5 | 2 | 490 / 90 | 590 | 1180 | 18.3 |
| | 5 | #5 | 8 | 590 | 590 | 4720 | 73.3 |
| | 6 | #6 | 4 | 415 | 455 | 1820 | 40.7 |
| | 7 | #5 | 2 | 415 / 75 | 445 | 890 | 13.8 |
| | 8 | #4 | 10 | 415 / 75 | 435 | 4350 | 43.3 |
| | 9 | #3 | 36 | 32 | 201 | 7239 | 39.4 |
| | 10 | #3 | 36 | 32 | 122 | 4392 | 23.9 |
| | 11 | #6 | 4 | L2: 317 / 19.178 | 540 | 2160 | 85.9 |
| | 12 | #5 | 10 | L2: 322 / 93 | 455 | 4550 | 70.7 |
| | | | | | | Total (x5) | 709.8 1431.6 |
| A6=A7=D6=D7 | 1 | #3 | 113 | 32 | 202 | 22826 | 127.8 |
| | 2 | #3 | 226 | 32 | 49 | 11074 | 62.0 |
| | 3 | #6 | 4 | 485 / 19140 | 640 | 2560 | 101.8 |
| | 4 | #5 | 2 | 490 / 90 | 590 | 1180 | 18.3 |
| | 5 | #5 | 8 | 590 | 590 | 4720 | 73.3 |
| | 6 | #6 | 4 | 415 | 455 | 1820 | 40.7 |
| | 7 | #5 | 2 | 415 / 75 | 445 | 890 | 13.8 |
| | 8 | #4 | 10 | 415 / 75 | 435 | 4350 | 43.3 |
| | 9 | #3 | 35 | 32 | 201 | 7035 | 39.4 |
| | 10 | #3 | 35 | 32 | 122 | 4270 | 23.9 |
| | 11 | #6 | 4 | L2: 322 / 19.177 | 545 | 2180 | 86.7 |
| | 12 | #5 | 10 | L2: 307 / 93 | 460 | 4600 | 71.5 |
| | | | | | | Total (x2) | 704.1 1408.2 |
| E1=E4=F1=F4=G1=G4=H1=H4 | 1 | #3 | 113 | 32 | 202 | 22826 | 127.8 |
| | 2 | #3 | 226 | 32 | 49 | 11074 | 62.0 |
| | 3 | #6 | 4 | 485 / 19140 | 640 | 2560 | 101.8 |
| | 4 | #5 | 2 | 490 / 90 | 590 | 1180 | 18.3 |
| | 5 | #5 | 8 | 590 | 590 | 4720 | 73.3 |
| | 6 | #6 | 4 | 415 | 455 | 1820 | 40.7 |
| | 7 | #5 | 2 | 415 / 75 | 445 | 890 | 13.8 |
| | 8 | #4 | 10 | 415 / 75 | 435 | 4350 | 43.3 |
| | 9 | #3 | 35 | 32 | 201 | 7035 | 39.4 |
| | 10 | #3 | 35 | 32 | 122 | 4270 | 23.9 |
| | 11 | #6 | 4 | L2: 322 / 19.177 | 545 | 2180 | 86.7 |
| | 12 | #5 | 10 | L2: 323 / 92 | 460 | 4600 | 71.5 |
| | | | | | | Total (x8) | 709.9 5607.2 |
| A9=D9 | 1 | #3 | 114 | 32 | 202 | 23028 | 128.9 |
| | 2 | #3 | 228 | 32 | 49 | 11172 | 62.5 |
| | 3 | #6 | 4 | 485 / 19140 | 640 | 2560 | 101.8 |
| | 4 | #5 | 2 | 490 / 90 | 590 | 1180 | 18.3 |
| | 5 | #5 | 8 | 590 | 590 | 4720 | 73.3 |
| | 6 | #6 | 4 | 415 | 455 | 1820 | 40.7 |
| | 7 | #5 | 2 | 415 / 75 | 445 | 890 | 13.8 |
| | 8 | #4 | 10 | 415 / 75 | 435 | 4350 | 43.3 |
| | 9 | #3 | 35 | 32 | 201 | 7039 | 39.4 |
| | 10 | #3 | 35 | 32 | 122 | 4270 | 23.9 |
| | 11 | #6 | 4 | L2: 317 / 19.178 | 540 | 2160 | 85.9 |
| | 12 | #5 | 10 | L2: 322 / 93 | 455 | 4550 | 70.7 |
| | | | | | | Total (x8) | 709.9 5607.2 |
| H1=I4 | 1 | #3 | 114 | 32 | 202 | 23028 | 128.9 |
| | 2 | #3 | 228 | 32 | 49 | 11172 | 62.5 |
| | 3 | #6 | 4 | 485 / 19140 | 640 | 2560 | 101.8 |
| | 4 | #5 | 2 | 490 / 90 | 590 | 1180 | 18.3 |
| | 5 | #5 | 8 | 590 | 590 | 4720 | 73.3 |
| | 6 | #6 | 4 | 415 | 455 | 1820 | 40.7 |
| | 7 | #5 | 2 | 415 / 75 | 445 | 890 | 13.8 |
| | 8 | #4 | 10 | 415 / 75 | 435 | 4350 | 43.3 |
| | 9 | #3 | 35 | 32 | 201 | 7035 | 39.4 |
| | 10 | #3 | 35 | 32 | 122 | 4270 | 23.9 |
| | 11 | #6 | 4 | L2: 322 / 19.177 | 545 | 2180 | 86.7 |
| | 12 | #5 | 10 | L2: 308 / 92 | 460 | 4600 | 71.5 |
| | | | | | | Total (x8) | 704.1 5631.2 |
| | | | | | | #3 | 8260.4 |
| | | | | | | #4 | 1170.5 |
| | | | | | | #5 | 4277.0 |
| | | | | | | #6 | 2560.0 |
| | | | | | | #8 | 4512.8 |
| | | | | | | Total | 17726.1 |



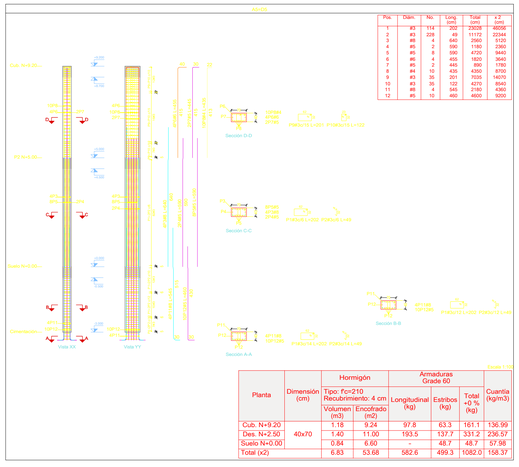

DETALLE RELLENOS EN COLUMNAS
ESCALA: SIN




| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 2 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 113 | 202 | 22826 | 45652 |
| 2 | #3 | 226 | 49 | 11074 | 22148 |
| 3 | #6 | 4 | 640 | 2560 | 5120 |
| 4 | #5 | 2 | 590 | 1180 | 2360 |
| 5 | #5 | 8 | 590 | 4720 | 9440 |
| 6 | #6 | 4 | 455 | 1820 | 3640 |
| 7 | #5 | 2 | 445 | 890 | 1780 |
| 8 | #4 | 10 | 435 | 4350 | 8700 |
| 9 | #3 | 35 | 201 | 7035 | 14070 |
| 10 | #3 | 35 | 122 | 4270 | 8540 |
| 11 | #6 | 4 | 540 | 2160 | 4320 |
| 12 | #5 | 10 | 460 | 4600 | 9200 |

Escala 1:125

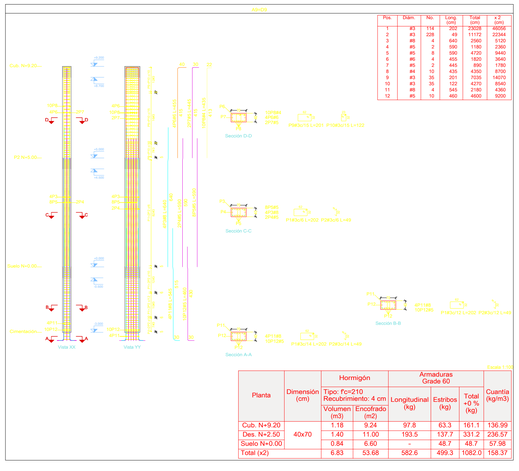
| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 97.8 | 63.3 | 161.1 | 136.99 |
| Des. N+2.50 | | 1.40 | 11.00 | 193.5 | 137.7 | 331.2 | 236.57 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 48.7 | 48.7 | 57.98 |
| Total (x3) | | 10.25 | 80.52 | 873.9 | 749.0 | 1623.0 | 158.37 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 2 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 114 | 202 | 23028 | 46056 |
| 2 | #3 | 228 | 49 | 11172 | 22344 |
| 3 | #6 | 4 | 640 | 2560 | 5120 |
| 4 | #5 | 2 | 590 | 1180 | 2360 |
| 5 | #5 | 8 | 590 | 4720 | 9440 |
| 6 | #6 | 4 | 455 | 1820 | 3640 |
| 7 | #5 | 2 | 445 | 890 | 1780 |
| 8 | #4 | 10 | 435 | 4350 | 8700 |
| 9 | #3 | 36 | 201 | 7239 | 14478 |
| 10 | #3 | 36 | 122 | 4392 | 8784 |
| 11 | #6 | 4 | 545 | 2180 | 4360 |
| 12 | #5 | 10 | 460 | 4600 | 9200 |

Escala 1:125

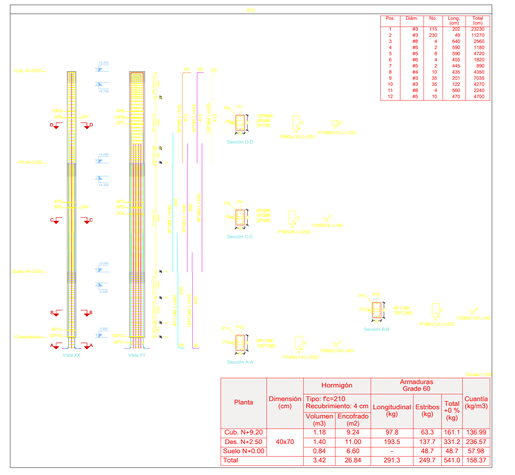
| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 97.8 | 63.3 | 161.1 | 136.99 |
| Des. N+2.50 | | 1.40 | 11.00 | 193.5 | 137.7 | 331.2 | 236.57 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 48.7 | 48.7 | 57.98 |
| Total (x4) | | 13.66 | 107.36 | 1165.2 | 998.6 | 2164.0 | 158.37 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 2 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 113 | 202 | 22826 | 45652 |
| 2 | #3 | 226 | 49 | 11074 | 22148 |
| 3 | #6 | 4 | 640 | 2560 | 5120 |
| 4 | #5 | 2 | 590 | 1180 | 2360 |
| 5 | #5 | 8 | 590 | 4720 | 9440 |
| 6 | #6 | 4 | 455 | 1820 | 3640 |
| 7 | #5 | 2 | 445 | 890 | 1780 |
| 8 | #4 | 10 | 435 | 4350 | 8700 |
| 9 | #3 | 35 | 201 | 7035 | 14070 |
| 10 | #3 | 35 | 122 | 4270 | 8540 |
| 11 | #6 | 4 | 540 | 2160 | 4320 |
| 12 | #5 | 10 | 455 | 4550 | 9100 |

Escala 1:125

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 97.8 | 63.3 | 161.1 | 136.99 |
| Des. N+2.50 | | 1.40 | 11.00 | 193.5 | 137.7 | 331.2 | 236.57 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 48.7 | 48.7 | 57.98 |
| Total (x2) | | 6.83 | 53.68 | 582.6 | 499.3 | 1082.0 | 158.37 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 2 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 115 | 202 | 23230 | 46460 |
| 2 | #3 | 230 | 49 | 11270 | 22540 |
| 3 | #6 | 4 | 640 | 2560 | 5120 |
| 4 | #5 | 2 | 590 | 1180 | 2360 |
| 5 | #5 | 8 | 590 | 4720 | 9440 |
| 6 | #6 | 4 | 455 | 1820 | 3640 |
| 7 | #5 | 2 | 445 | 890 | 1780 |
| 8 | #4 | 10 | 435 | 4350 | 8700 |
| 9 | #3 | 35 | 201 | 7035 | 14070 |
| 10 | #3 | 35 | 122 | 4270 | 8540 |
| 11 | #6 | 4 | 540 | 2160 | 4320 |
| 12 | #5 | 10 | 460 | 4600 | 9200 |

Escala 1:125

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 97.8 | 63.3 | 161.1 | 136.99 |
| Des. N+2.50 | | 1.40 | 11.00 | 193.5 | 137.7 | 331.2 | 236.57 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 48.7 | 48.7 | 57.98 |
| Total | | 3.42 | 26.84 | 291.3 | 249.7 | 541.0 | 158.37 |


GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO ARGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 CRDOR



Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.


CONTIENE

BLOQUE SXS AULAS
DESPACIO COLUMNAS (1)

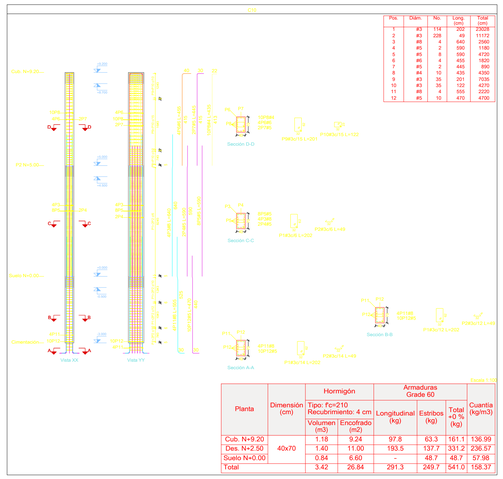
OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

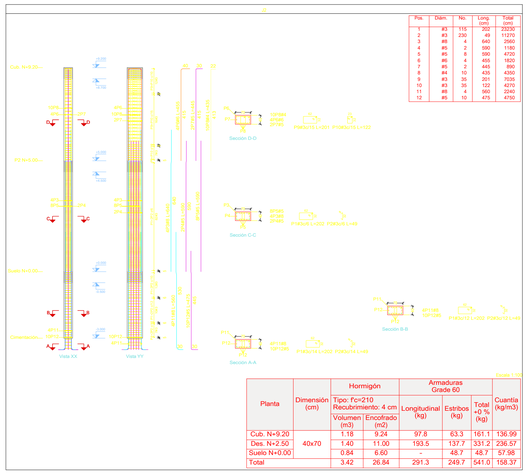
PLANO 6/21 DE




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 114 | 202 | 23028 |
| 2 | #3 | 228 | 49 | 11172 |
| 3 | #8 | 4 | 640 | 2560 |
| 4 | #5 | 2 | 590 | 1180 |
| 5 | #5 | 8 | 590 | 4720 |
| 6 | #6 | 4 | 455 | 1820 |
| 7 | #5 | 2 | 445 | 890 |
| 8 | #4 | 10 | 435 | 4350 |
| 9 | #3 | 35 | 201 | 7035 |
| 10 | #3 | 35 | 122 | 4270 |
| 11 | #8 | 4 | 555 | 2220 |
| 12 | #5 | 10 | 470 | 4700 |

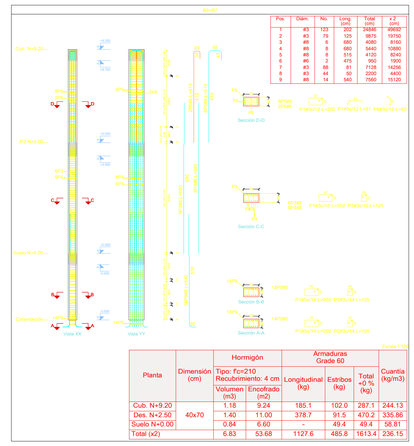
| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 97.8 | 63.3 | 161.1 | 136.99 |
| Des. N+2.50 | | 1.40 | 11.00 | 193.5 | 137.7 | 331.2 | 236.57 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 48.7 | 48.7 | 57.98 |
| Total | | 3.42 | 26.84 | 291.3 | 249.7 | 541.0 | 158.37 |

Pilares que nacen en Cimentación y mueren en Cub. N+9.20
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 116 | 202 | 23232 |
| 2 | #3 | 230 | 49 | 11270 |
| 3 | #8 | 4 | 640 | 2560 |
| 4 | #5 | 2 | 590 | 1180 |
| 5 | #5 | 8 | 590 | 4720 |
| 6 | #6 | 4 | 455 | 1820 |
| 7 | #5 | 2 | 445 | 890 |
| 8 | #4 | 10 | 435 | 4350 |
| 9 | #3 | 35 | 201 | 7035 |
| 10 | #3 | 35 | 122 | 4270 |
| 11 | #8 | 4 | 560 | 2240 |
| 12 | #5 | 10 | 475 | 4750 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 97.8 | 63.3 | 161.1 | 136.99 |
| Des. N+2.50 | | 1.40 | 11.00 | 193.5 | 137.7 | 331.2 | 236.57 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 48.7 | 48.7 | 57.98 |
| Total | | 3.42 | 26.84 | 291.3 | 249.7 | 541.0 | 158.37 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 123 | 202 | 24846 |
| 2 | #3 | 79 | 125 | 9875 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 540 | 7560 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 136.99 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |




| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| C5 | 1 | #3 | 123 | 12 202 12 | 202 | 24846 | 139.1 |
| | 2 | #3 | 79 | 12 125 12 32 | 125 | 9875 | 55.3 |
| | 3 | #8 | 6 | 485 19.180 | 680 | 4080 | 162.3 |
| | 4 | #8 | 8 | 680 | 680 | 5440 | 216.4 |
| | 5 | #8 | 8 | 515 12 515 12 | 515 | 4120 | 163.9 |
| | 6 | #6 | 2 | 475 12 475 12 | 475 | 950 | 21.3 |
| | 7 | #3 | 88 | 81 | 81 | 7128 | 39.9 |
| | 8 | #3 | 44 | 50 | 50 | 2200 | 12.3 |
| | 9 | #8 | 14 | L2: 318 19.179 | 540 | 7560 | 300.7 |
| | | | | | Total: | | 1111.2 |
| E2=H2 | 1 | #3 | 123 | 12 202 12 | 202 | 24846 | 139.1 |
| | 2 | #3 | 79 | 12 125 12 32 | 125 | 9875 | 55.3 |
| | 3 | #8 | 6 | 485 19.180 | 680 | 4080 | 162.3 |
| | 4 | #8 | 8 | 680 | 680 | 5440 | 216.4 |
| | 5 | #8 | 8 | 515 12 515 12 | 515 | 4120 | 163.9 |
| | 6 | #6 | 2 | 475 12 475 12 | 475 | 950 | 21.3 |
| | 7 | #3 | 88 | 81 | 81 | 7128 | 39.9 |
| | 8 | #3 | 44 | 50 | 50 | 2200 | 12.3 |
| | 9 | #8 | 14 | L2: 318 19.179 | 540 | 7560 | 300.7 |
| | | | | | Total: | 1111.2 | |
| | | | | | (x2): | 2222.4 | |

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| C10 | 1 | #3 | 114 | 12 202 12 | 202 | 23028 | 128.9 |
| | 2 | #3 | 228 | 12 32 | 49 | 11172 | 82.5 |
| | 3 | #8 | 4 | 485 19.140 | 640 | 2560 | 101.8 |
| | 4 | #5 | 2 | 490 30 | 590 | 1180 | 18.3 |
| | 5 | #5 | 8 | 590 | 590 | 4720 | 73.3 |
| | 6 | #6 | 4 | 515 12 515 12 | 455 | 1820 | 40.7 |
| | 7 | #5 | 2 | 515 12 515 12 | 445 | 890 | 13.8 |
| | 8 | #4 | 10 | 413 12 413 12 | 435 | 4350 | 43.3 |
| | 9 | #3 | 35 | 12 32 12 | 201 | 7035 | 39.4 |
| | 10 | #3 | 35 | 12 32 12 | 122 | 4270 | 23.9 |
| | 11 | #8 | 4 | L2: 321 19.179 | 555 | 2220 | 88.3 |
| | 12 | #5 | 10 | L2: 337 93 | 470 | 4700 | 73.0 |
| | | | | | Total | | 707.2 |
| J2 | 1 | #3 | 115 | 12 202 12 | 202 | 23230 | 130.0 |
| | 2 | #3 | 230 | 12 32 | 49 | 11270 | 63.1 |
| | 3 | #8 | 4 | 485 19.140 | 640 | 2560 | 101.8 |
| | 4 | #5 | 2 | 490 30 | 590 | 1180 | 18.3 |
| | 5 | #5 | 8 | 590 | 590 | 4720 | 73.3 |
| | 6 | #6 | 4 | 515 12 515 12 | 455 | 1820 | 40.7 |
| | 7 | #5 | 2 | 515 12 515 12 | 445 | 890 | 13.8 |
| | 8 | #4 | 10 | 413 12 413 12 | 435 | 4350 | 43.3 |
| | 9 | #3 | 35 | 12 32 12 | 201 | 7035 | 39.4 |
| | 10 | #3 | 35 | 12 32 12 | 122 | 4270 | 23.9 |
| | 11 | #8 | 4 | L2: 336 19.179 | 560 | 2240 | 89.1 |
| | 12 | #5 | 10 | L2: 352 93 | 475 | 4750 | 73.8 |
| | | | | | Total | | 710.5 |
| J3 | 1 | #3 | 115 | 12 202 12 | 202 | 23230 | 130.0 |
| | 2 | #3 | 230 | 12 32 | 49 | 11270 | 63.1 |
| | 3 | #8 | 4 | 485 19.140 | 640 | 2560 | 101.8 |
| | 4 | #5 | 2 | 490 30 | 590 | 1180 | 18.3 |
| | 5 | #5 | 8 | 590 | 590 | 4720 | 73.3 |
| | 6 | #6 | 4 | 515 12 515 12 | 455 | 1820 | 40.7 |
| | 7 | #5 | 2 | 515 12 515 12 | 445 | 890 | 13.8 |
| | 8 | #4 | 10 | 413 12 413 12 | 435 | 4350 | 43.3 |
| | 9 | #3 | 35 | 12 32 12 | 201 | 7035 | 39.4 |
| | 10 | #3 | 35 | 12 32 12 | 122 | 4270 | 23.9 |
| | 11 | #8 | 4 | L2: 336 19.179 | 560 | 2240 | 89.1 |
| | 12 | #5 | 10 | L2: 341 89 | 470 | 4700 | 73.0 |
| | | | | | Total | | 709.7 |
| B1 | 1 | #3 | 123 | 12 202 12 | 202 | 24846 | 139.1 |
| | 2 | #3 | 79 | 12 125 12 32 | 125 | 9875 | 55.3 |
| | 3 | #8 | 6 | 485 19.180 | 680 | 4080 | 162.3 |
| | 4 | #8 | 8 | 680 | 680 | 5440 | 216.4 |
| | 5 | #8 | 8 | 515 12 515 12 | 515 | 4120 | 163.9 |
| | 6 | #6 | 2 | 475 12 475 12 | 475 | 950 | 21.3 |
| | 7 | #3 | 88 | 81 | 81 | 7128 | 39.9 |
| | 8 | #3 | 44 | 50 | 50 | 2200 | 12.3 |
| | 9 | #8 | 14 | L2: 311 19.179 | 535 | 7490 | 297.9 |
| | | | | | Total | | 1108.4 |
| B6=B7 | 1 | #3 | 123 | 12 202 12 | 202 | 24846 | 139.1 |
| | 2 | #3 | 79 | 12 125 12 32 | 125 | 9875 | 55.3 |
| | 3 | #8 | 6 | 485 19.180 | 680 | 4080 | 162.3 |
| | 4 | #8 | 8 | 680 | 680 | 5440 | 216.4 |
| | 5 | #8 | 8 | 515 12 515 12 | 515 | 4120 | 163.9 |
| | 6 | #6 | 2 | 475 12 475 12 | 475 | 950 | 21.3 |
| | 7 | #3 | 88 | 81 | 81 | 7128 | 39.9 |
| | 8 | #3 | 44 | 50 | 50 | 2200 | 12.3 |
| | 9 | #8 | 14 | L2: 317 19.179 | 540 | 7560 | 300.7 |
| | | | | | Total: (x2): | 1111.2 2222.4 | |
| B8 | 1 | #3 | 123 | 12 202 12 | 202 | 24846 | 139.1 |
| | 2 | #3 | 79 | 12 125 12 32 | 125 | 9875 | 55.3 |
| | 3 | #8 | 6 | 485 19.180 | 680 | 4080 | 162.3 |
| | 4 | #8 | 8 | 680 | 680 | 5440 | 216.4 |
| | 5 | #8 | 8 | 515 12 515 12 | 515 | 4120 | 163.9 |
| | 6 | #6 | 2 | 475 12 475 12 | 475 | 950 | 21.3 |
| | 7 | #3 | 88 | 81 | 81 | 7128 | 39.9 |
| | 8 | #3 | 44 | 50 | 50 | 2200 | 12.3 |
| | 9 | #8 | 14 | L2: 315 19.179 | 540 | 7560 | 300.7 |
| | | | | | Total | | 1111.2 |
| B9 | 1 | #3 | 125 | 12 202 12 | 202 | 25250 | 141.3 |
| | 2 | #3 | 81 | 12 125 12 32 | 125 | 10125 | 56.7 |
| | 3 | #8 | 6 | 485 19.180 | 680 | 4080 | 162.3 |
| | 4 | #8 | 8 | 680 | 680 | 5440 | 216.4 |
| | 5 | #8 | 8 | 515 12 515 12 | 515 | 4120 | 163.9 |
| | 6 | #6 | 2 | 475 12 475 12 | 475 | 950 | 21.3 |
| | 7 | #3 | 88 | 81 | 81 | 7128 | 39.9 |
| | 8 | #3 | 44 | 50 | 50 | 2200 | 12.3 |
| | 9 | #8 | 14 | L2: 335 19.179 | 560 | 7840 | 311.8 |
| | | | | | Total | | 1129.9 |
| C4 | 1 | #3 | 123 | 12 202 12 | 202 | 24846 | 139.1 |
| | 2 | #3 | 79 | 12 125 12 32 | 125 | 9875 | 55.3 |
| | 3 | #8 | 6 | 485 19.180 | 680 | 4080 | 162.3 |
| | 4 | #8 | 8 | 680 | 680 | 5440 | 216.4 |
| | 5 | #8 | 8 | 515 12 515 12 | 515 | 4120 | 163.9 |
| | 6 | #6 | 2 | 475 12 475 12 | 475 | 950 | 21.3 |
| | 7 | #3 | 88 | 81 | 81 | 7128 | 39.9 |
| | 8 | #3 | 44 | 50 | 50 | 2200 | 12.3 |
| | 9 | #8 | 14 | L2: 311 19.179 | 535 | 7490 | 297.9 |
| | | | | | Total | | 1108.4 |

| | |
|---|---|
| #3 | 3237.7 |
| #4 | 139.9 |
| #5 | 1126.1 |
| #6 | 326.1 |
| #8 | 9010.4 |
| Total | 13840.5 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 115 | 202 | 23230 |
| 2 | #3 | 230 | 49 | 11270 |
| 3 | #8 | 4 | 640 | 2560 |
| 4 | #5 | 2 | 590 | 1180 |
| 5 | #5 | 8 | 590 | 4720 |
| 6 | #6 | 4 | 455 | 1820 |
| 7 | #5 | 2 | 445 | 890 |
| 8 | #4 | 10 | 435 | 4350 |
| 9 | #3 | 35 | 201 | 7035 |
| 10 | #3 | 35 | 122 | 4270 |
| 11 | #8 | 4 | 560 | 2240 |
| 12 | #5 | 10 | 475 | 4750 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |



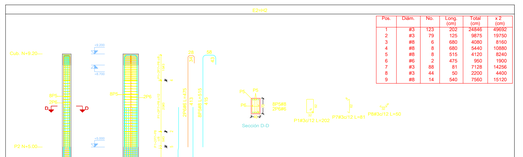

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 123 | 202 | 24846 |
| 2 | #3 | 79 | 125 | 9875 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 540 | 7560 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |



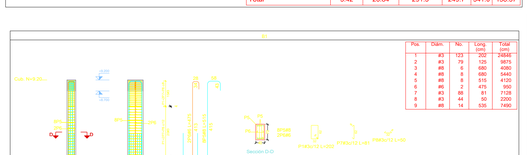

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 123 | 202 | 24846 |
| 2 | #3 | 79 | 125 | 9875 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 540 | 7560 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total (x2) | | 6.83 | 53.68 | 1127.6 | 485.8 | 1613.4 | 236.15 |



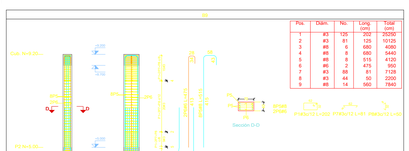

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 123 | 202 | 24846 |
| 2 | #3 | 79 | 125 | 9875 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 540 | 7560 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 123 | 202 | 24846 |
| 2 | #3 | 79 | 125 | 9875 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 540 | 7560 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |



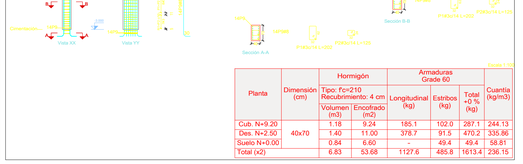

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 123 | 202 | 24846 |
| 2 | #3 | 79 | 125 | 9875 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 540 | 7560 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |



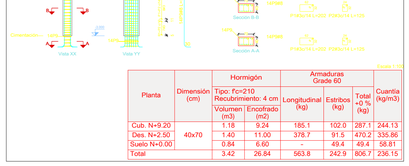

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 123 | 202 | 24846 |
| 2 | #3 | 79 | 125 | 9875 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 540 | 7560 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total (x2) | | 6.83 | 53.68 | 1127.6 | 485.8 | 1613.4 | 236.15 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 123 | 202 | 24846 |
| 2 | #3 | 79 | 125 | 9875 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 540 | 7560 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 125 | 202 | 25250 |
| 2 | #3 | 81 | 125 | 10125 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 560 | 7840 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |



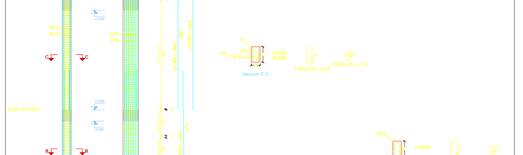

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 123 | 202 | 24846 |
| 2 | #3 | 79 | 125 | 9875 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 540 | 7560 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |



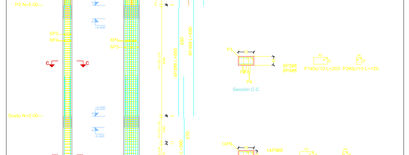

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 123 | 202 | 24846 |
| 2 | #3 | 79 | 125 | 9875 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 540 | 7560 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |



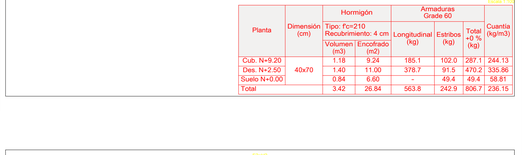

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 123 | 202 | 24846 |
| 2 | #3 | 79 | 125 | 9875 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 540 | 7560 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |




| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 125 | 202 | 25250 |
| 2 | #3 | 81 | 125 | 10125 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 560 | 7840 |

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |


C1
Vista XX
Vista YY
Sección A-A
Sección B-B
Sección C-C
Sección D

C6=C7=C8

| Pos. | Diám. | No. | Long. (cm) | Total (cm) | x 3 (cm) |
|---|---|---|---|---|---|
| 1 | #3 | 123 | 202 | 24846 | 74538 |
| 2 | #3 | 79 | 125 | 9875 | 29625 |
| 3 | #8 | 6 | 680 | 4080 | 12240 |
| 4 | #8 | 8 | 680 | 5440 | 16320 |
| 5 | #8 | 8 | 515 | 4120 | 12360 |
| 6 | #6 | 2 | 475 | 950 | 2850 |
| 7 | #3 | 88 | 81 | 7128 | 21384 |
| 8 | #3 | 44 | 50 | 2200 | 6600 |
| 9 | #8 | 14 | 540 | 7560 | 22680 |

Escala 1:125

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grado 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total (x3) | | 10.25 | 80.52 | 1691.4 | 728.7 | 2420.1 | 236.15 |

C5

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 76 | 202 | 15352 |
| 2 | #3 | 152 | 49 | 7448 |
| 3 | #3 | 152 | 49 | 7448 |
| 4 | #8 | 4 | 640 | 2560 |
| 5 | #5 | 4 | 610 | 2440 |
| 6 | #5 | 8 | 590 | 4720 |
| 7 | #6 | 4 | 455 | 1820 |
| 8 | #5 | 2 | 445 | 890 |
| 9 | #4 | 10 | 435 | 4350 |
| 10 | #3 | 35 | 201 | 7035 |
| 11 | #3 | 35 | 122 | 4270 |
| 12 | #8 | 4 | 540 | 2160 |
| 13 | #5 | 4 | 470 | 1880 |
| 14 | #5 | 8 | 455 | 3640 |

Escala 1:125

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grado 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| P2 N+5.00 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Des. N+2.50 | | 0.70 | 5.50 | 229.7 | 61.8 | 291.5 | 416.43 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 64.4 | 64.4 | 76.67 |
| Total | | 3.42 | 26.84 | 327.6 | 253.8 | 581.4 | 170.20 |

C2

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 125 | 202 | 25250 |
| 2 | #3 | 81 | 125 | 10125 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 540 | 7560 |

Escala 1:125

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grado 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |

C1

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 125 | 202 | 25250 |
| 2 | #3 | 81 | 125 | 10125 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 560 | 7840 |

Escala 1:125

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grado 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |

C4

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 68 | 202 | 13736 |
| 2 | #3 | 136 | 117 | 15912 |
| 3 | #3 | 68 | 79 | 5372 |
| 4 | #8 | 4 | 640 | 2560 |
| 5 | #5 | 12 | 640 | 7680 |
| 6 | #6 | 4 | 556 | 3340 |
| 7 | #6 | 4 | 455 | 1820 |
| 8 | #5 | 2 | 445 | 890 |
| 9 | #4 | 10 | 435 | 4350 |
| 10 | #3 | 35 | 201 | 7035 |
| 11 | #3 | 35 | 122 | 4270 |
| 12 | #8 | 4 | 540 | 2160 |
| 13 | #5 | 18 | 450 | 8100 |

Escala 1:125

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grado 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 97.8 | 63.3 | 161.1 | 136.99 |
| P2 N+5.00 | | 0.70 | 5.50 | - | 72.1 | 72.1 | 103.00 |
| Des. N+2.50 | | 0.70 | 5.50 | 266.8 | 57.6 | 324.4 | 463.43 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 60.5 | 72.02 | |
| Total | | 3.42 | 26.84 | 364.6 | 253.5 | 618.1 | 180.94 |

C3

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 123 | 202 | 24846 |
| 2 | #3 | 79 | 125 | 9875 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 560 | 7840 |

Escala 1:125

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grado 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total (x5) | | 17.08 | 134.20 | 2819.0 | 1214.4 | 4033.5 | 236.15 |

C6

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 125 | 202 | 25250 |
| 2 | #3 | 81 | 125 | 10125 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 560 | 7840 |

Escala 1:125

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grado 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 97.8 | 63.3 | 161.1 | 136.99 |
| P2 N+5.00 | | 0.70 | 5.50 | 509.1 | 64.0 | 573.1 | 818.71 |
| Des. N+2.50 | | 0.70 | 5.50 | - | 70.8 | 70.8 | 84.29 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 70.8 | 70.8 | 84.29 |
| Total | | 3.42 | 26.84 | 606.9 | 268.8 | 875.8 | 256.38 |

C7

| Pos. | Diám. | No. | Long. (cm) | Total (cm) |
|---|---|---|---|---|
| 1 | #3 | 123 | 202 | 24846 |
| 2 | #3 | 79 | 125 | 9875 |
| 3 | #8 | 6 | 680 | 4080 |
| 4 | #8 | 8 | 680 | 5440 |
| 5 | #8 | 8 | 515 | 4120 |
| 6 | #6 | 2 | 475 | 950 |
| 7 | #3 | 88 | 81 | 7128 |
| 8 | #3 | 44 | 50 | 2200 |
| 9 | #8 | 14 | 540 | 7560 |

Escala 1:125

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grado 60 | | | Cuantía (kg/m3) |
|---|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) | |
| | | Volumen (m3) | Encofrado (m2) | | | | |
| Cub. N+9.20 | 40x70 | 1.18 | 9.24 | 185.1 | 102.0 | 287.1 | 244.13 |
| Des. N+2.50 | | 1.40 | 11.00 | 378.7 | 91.5 | 470.2 | 335.86 |
| Suelo N+0.00 | | 0.84 | 6.60 | - | 49.4 | 49.4 | 58.81 |
| Total | | 3.42 | 26.84 | 563.8 | 242.9 | 806.7 | 236.15 |

Pilares que nacen en Cimentación y mueren en Cub. N+9.20
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60

DETALLE RELLENOS EN COLUMNAS
ESCALA: SIN

Unidades en cm
Protección
Longitud
Recubrimiento
Traslapo
Cabezal
#5 Long=220 L=233 R:3

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| C6=C7=C8 | 1 | #3 | 123 | 202 | 202 | 24846 | 139.1 |
| | 2 | #3 | 79 | 125 | 125 | 9875 | 55.3 |
| | 3 | #8 | 6 | 680 10 180 | 680 | 4080 | 162.3 |
| | 4 | #8 | 8 | 680 | 680 | 5440 | 216.4 |
| | 5 | #8 | 8 | 515 | 515 | 4120 | 163.9 |
| | 6 | #6 | 2 | 475 | 475 | 950 | 21.3 |
| | 7 | #3 | 88 | 81 | 81 | 7128 | 39.9 |
| | 8 | #3 | 44 | 50 | 50 | 2200 | 12.3 |
| | 9 | #8 | 14 | L2: 317 10 178 | 540 | 7560 | 300.7 |
| | | | | | Total | 11111.2 (x3) | 9333.6 |
| F2=F3=G2=G3=H2 | 1 | #3 | 123 | 202 | 202 | 24846 | 139.1 |
| | 2 | #3 | 79 | 125 | 125 | 9875 | 55.3 |
| | 3 | #8 | 6 | 680 10 180 | 680 | 4080 | 162.3 |
| | 4 | #8 | 8 | 680 | 680 | 5440 | 216.4 |
| | 5 | #8 | 8 | 515 | 515 | 4120 | 163.9 |
| | 6 | #6 | 2 | 475 | 475 | 950 | 21.3 |
| | 7 | #3 | 88 | 81 | 81 | 7128 | 39.9 |
| | 8 | #3 | 44 | 50 | 50 | 2200 | 12.3 |
| | 9 | #8 | 14 | L2: 317 10 178 | 540 | 7560 | 300.7 |
| | | | | | Total | 11111.2 (x5) | 9359.6 |
| C9 | 1 | #3 | 124 | 202 | 202 | 25048 | 140.2 |
| | 2 | #3 | 80 | 125 | 125 | 10000 | 56.0 |
| | 3 | #8 | 6 | 680 10 180 | 680 | 4080 | 162.3 |
| | 4 | #8 | 8 | 680 | 680 | 5440 | 216.4 |
| | 5 | #8 | 8 | 515 | 515 | 4120 | 163.9 |
| | 6 | #6 | 2 | 475 | 475 | 950 | 21.3 |
| | 7 | #3 | 88 | 81 | 81 | 7128 | 39.9 |
| | 8 | #3 | 44 | 50 | 50 | 2200 | 12.3 |
| | 9 | #8 | 14 | L2: 331 10 178 | 555 | 7770 | 309.1 |
| | | | | | Total | 11074 | |
| D3 | 1 | #3 | 123 | 202 | 202 | 24846 | 139.1 |
| | 2 | #3 | 79 | 125 | 125 | 9875 | 55.3 |
| | 3 | #8 | 6 | 680 10 180 | 680 | 4080 | 162.3 |
| | 4 | #8 | 8 | 680 | 680 | 5440 | 216.4 |
| | 5 | #8 | 8 | 515 | 515 | 4120 | 163.9 |
| | 6 | #6 | 2 | 475 | 475 | 950 | 21.3 |
| | 7 | #3 | 88 | 81 | 81 | 7128 | 39.9 |
| | 8 | #3 | 44 | 50 | 50 | 2200 | 12.3 |
| | 9 | #8 | 14 | L2: 312 10 178 | 535 | 7490 | 297.9 |
| | | | | | Total | 11026.4 | |
| I2 | 1 | #3 | 125 | 202 | 202 | 25250 | 141.3 |
| | 2 | #3 | 81 | 125 | 125 | 10125 | 56.7 |
| | 3 | #8 | 6 | 680 10 180 | 680 | 4080 | 162.3 |
| | 4 | #8 | 8 | 680 | 680 | 5440 | 216.4 |
| | 5 | #8 | 8 | 515 | 515 | 4120 | 163.9 |
| | 6 | #6 | 2 | 475 | 475 | 950 | 21.3 |
| | 7 | #3 | 88 | 81 | 81 | 7128 | 39.9 |
| | 8 | #3 | 44 | 50 | 50 | 2200 | 12.3 |
| | 9 | #8 | 14 | L2: 336 10 178 | 560 | 7840 | 311.8 |
| | | | | | Total | 11125.9 |
| I3 | 1 | #3 | 125 | 202 | 202 | 25250 | 141.3 |
| | 2 | #3 | 81 | 125 | 125 | 10125 | 56.7 |
| | 3 | #8 | 6 | 680 10 180 | 680 | 4080 | 162.3 |
| | 4 | #8 | 8 | 680 | 680 | 5440 | 216.4 |
| | 5 | #8 | 8 | 515 | 515 | 4120 | 163.9 |
| | 6 | #6 | 2 | 475 | 475 | 950 | 21.3 |
| | 7 | #3 | 88 | 81 | 81 | 7128 | 39.9 |
| | 8 | #3 | 44 | 50 | 50 | 2200 | 12.3 |
| | 9 | #8 | 14 | L2: 335 10 178 | 560 | 7840 | 311.8 |
| | | | | | Total | 11125.9 |
| B3 | 1 | #3 | 63 | 202 | 202 | 12726 | 71.2 |
| | 2 | #3 | 126 | 119 | 119 | 14994 | 83.9 |
| | 3 | #3 | 126 | 81 | 81 | 10206 | 57.1 |
| | 4 | #8 | 8 | 480 10 180 | 640 | 5120 | 203.7 |
| | 5 | #8 | 12 | 640 | 640 | 7680 | 305.5 |
| | 6 | #6 | 4 | 410 | 455 | 1820 | 40.7 |
| | 7 | #5 | 2 | 410 | 445 | 890 | 13.8 |
| | 8 | #4 | 10 | 410 | 435 | 4350 | 43.3 |
| | 9 | #3 | 35 | 201 | 201 | 7035 | 39.4 |
| | 10 | #3 | 35 | 122 | 122 | 4270 | 23.9 |
| | 11 | #8 | 20 | L2: 319 10 178 | 540 | 10800 | 429.6 |
| | | | | | Total | 1372.1 | |
| C2 | 1 | #3 | 68 | 202 | 202 | 13736 | 76.9 |
| | 2 | #3 | 136 | 117 | 117 | 15912 | 89.1 |
| | 3 | #3 | 68 | 79 | 79 | 5372 | 30.1 |
| | 4 | #8 | 4 | 480 10 180 | 640 | 2560 | 101.8 |
| | 5 | #5 | 12 | 590 | 590 | 7080 | 118.0 |
| | 6 | #5 | 6 | 490 90 | 580 | 3540 | 59.0 |
| | 7 | #6 | 4 | 410 | 455 | 1820 | 40.7 |
| | 8 | #5 | 2 | 410 | 445 | 890 | 13.8 |
| | 9 | #4 | 10 | 410 | 435 | 4350 | 43.3 |
| | 10 | #3 | 35 | 201 | 201 | 7035 | 39.4 |
| | 11 | #3 | 35 | 122 | 122 | 4270 | 23.9 |
| | 12 | #8 | 4 | L2: 315 10 178 | 540 | 2160 | 85.9 |
| | 13 | #5 | 18 | L2: 321 89 | 450 | 8100 | 125.8 |
| | | | | | Total | 835.7 | |
| C5 | 1 | #3 | 76 | 202 | 202 | 15352 | 85.9 |
| | 2 | #3 | 152 | 80 | 80 | 12160 | 68.1 |
| | 3 | #3 | 152 | 49 | 49 | 7448 | 41.7 |
| | 4 | #8 | 4 | 480 10 180 | 640 | 2560 | 101.8 |
| | 5 | #6 | 4 | 410 | 610 | 2440 | 54.6 |
| | 6 | #5 | 8 | 590 | 590 | 4720 | 73.3 |
| | 7 | #6 | 4 | 410 | 455 | 1820 | 40.7 |
| | 8 | #5 | 2 | 410 | 445 | 890 | 13.8 |
| | 9 | #4 | 10 | 410 | 435 | 4350 | 43.3 |
| | 10 | #3 | 35 | 201 | 201 | 7035 | 39.4 |
| | 11 | #3 | 35 | 122 | 122 | 4270 | 23.9 |
| | 12 | #8 | 4 | L2: 317 10 178 | 540 | 2160 | 85.9 |
| | 13 | #5 | 4 | L2: 320 10 108 | 470 | 1880 | 42.1 |
| | 14 | #5 | 8 | L2: 322 93 | 455 | 3640 | 56.5 |
| | | | | | Total | 771.0 | |
| | | | | | #3 | 3762.1 | |
| | | | | | #4 | 4350 | |
| | | | | | #5 | 462.0 | |
| | | | | | #6 | 474.4 | |
| | | | | | #8 | 11461.6 | |
| | | | | | Total | 16250.0 | |

OMNIA SUNT REI IOSEPH FACIUM

GOBERNACIÓN DE
CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO

INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221869 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisado y aprobado por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE SXS AULAS
DESPIECE COLUMNAS (3)

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

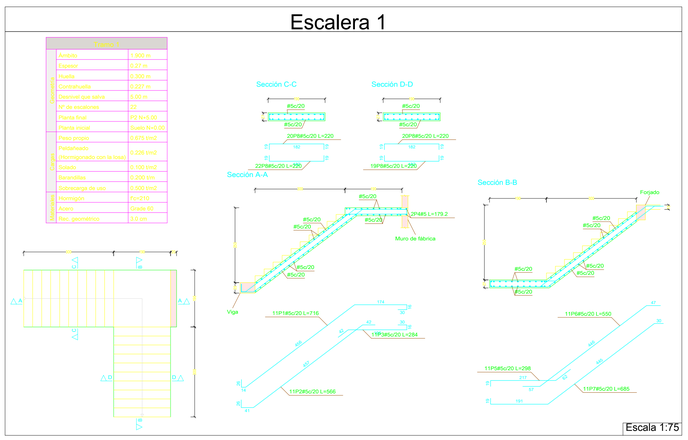
NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE 8/21

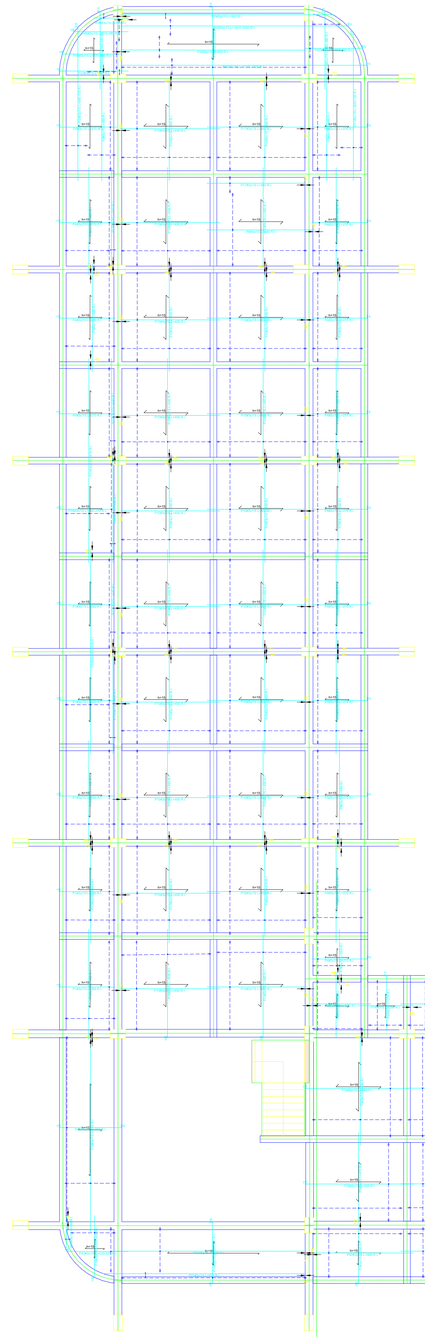
# Escalera 1

| Tramo 1 | | |
|---|---|---|
| Geometría | Ámbito | 1.600 m |
| | Espesor | 0.37 m |
| | Huella | 0.300 m |
| | Contrahuella | 0.220 m |
| | Desnivel que salva | 3.00 m |
| | Nº de escalones | 22 |
| | Planta final | P2 N+3.50 |
| | Cota inicial | +0.00/+0.00 |
| Cargas | Peso propio | 0.675 t/m2 |
| | Pelldaños | 0.226 t/m2 |
| | Recubrimiento(s) con la losa | 0.100 t/m2 |
| | Solado | 0.100 t/m2 |
| | Barandillas | 0.200 t/m |
| | Sobrecargar de uso | 0.400 t/m2 |
| Materiales | Hormigón | f'c=210 |
| | Acero | Grado 60 |
| | Rec. geométrico | 3.0 cm |




Escala 1:75

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Escalera 1-Tramo 1 | 1 | #5 | 11 | 716 | 7876 | 122.4 |
| | 2 | #5 | 11 | 566 | 6229 | 96.7 |
| | 3 | #5 | 2 | 284 | 568 | 8.8 |
| | 4 | #5 | 11 | 179.2 | 1971 | 30.6 |
| | 5 | #5 | 11 | 298 | 3275 | 50.9 |
| | 6 | #5 | 11 | 550 | 6050 | 94.0 |
| | 7 | #5 | 11 | 685 | 7535 | 117.0 |
| | 8 | #5 | 81 | 220 | 17820 | 276.8 |
| | | | | | Total | 812.0 |
| | | | | | #5 | 812.0 |
| | | | | | Total | 812.0 |




## DETALLE TÍPICO DE LOSA



## DETALLE TÍPICO DE REFUERZO POR PUNZONAMIENTO EN LOSA




P2 N+3.50
Armadura longitudinal inferior
Hormigón: f'c=210
Grade 60

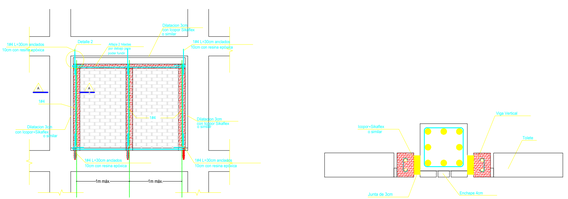
R.I. Refuerzo inferior

Escala: 1:100

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Armadura longitudinal inferior | 1 | #3 | 405 | 260 | 105300 | 580.4 |
| | 2 | #3 | 243 | 400 | 97200 | 544.0 |
| | 3 | #3 | 285 | 490 | 139650 | 781.6 |
| | 4 | #3 | 614 | 270 | 165780 | 927.9 |
| | 5 | #3 | 64 | 410 | 26440 | 192.8 |
| | 6 | #3 | 64 | 410 | 26440 | 192.8 |
| | 7 | #3 | 30 | 250 | 7500 | 42.0 |
| | 8 | #3 | 30 | 470 | 14100 | 78.9 |
| | 9 | #3 | 109 | 480 | 76320 | 427.2 |
| | 10 | #3 | 1559 | 450 | 701550 | 3926.6 |
| | 11 | #3 | 7 | VAR. | 4760 | 26.6 |
| | 12 | #3 | 9 | VAR. | 3240 | 18.1 |
| | 13 | #3 | 51 | 500 | 25500 | 142.7 |
| | 14 | #3 | 57 | 690 | 39330 | 220.1 |
| | 15 | #3 | 95 | 178 | 16910 | 101.6 |
| | 16 | #3 | 51 | 500 | 25500 | 142.7 |
| | 17 | #3 | 133 | 440 | 58520 | 327.5 |
| | 18 | #3 | 14 | VAR. | 3934 | 22.0 |
| | 19 | #3 | 33 | 870 | 28710 | 160.7 |
| | 20 | #3 | 9 | VAR. | 3240 | 18.1 |
| | 21 | #3 | 58 | 910 | 52780 | 295.4 |
| | 22 | #3 | 7 | 320 | 2240 | 12.5 |
| | 23 | #3 | 7 | 320 | 2240 | 12.5 |
| | 24 | #3 | 9 | VAR. | 2574 | 14.4 |
| | 25 | #3 | 7 | VAR. | 4795 | 26.8 |
| | 26 | #3 | 7 | VAR. | 7560 | 42.3 |
| | 27 | #3 | 5 | VAR. | 1215 | 6.8 |
| | 28 | #3 | 4 | VAR. | 4340 | 24.3 |
| | 29 | #3 | 4 | 950 | 3800 | 21.3 |
| | 30 | #3 | 4 | 160 | 640 | 3.6 |
| | 31 | #3 | 2 | 290 | 580 | 3.2 |
| | 32 | #3 | 2 | 280 | 560 | 3.1 |
| | 33 | #3 | 2 | 310 | 620 | 3.5 |
| | 34 | #3 | 2 | 150 | 300 | 1.7 |
| | 35 | #3 | 27 | VAR. | 7128 | 39.9 |
| | 36 | #3 | 15 | 270 | 4050 | 22.7 |
| | 37 | #3 | 5 | VAR. | 1185 | 6.6 |
| | 38 | #3 | 9 | VAR. | 3222 | 18.0 |
| | 39 | #3 | 55 | VAR. | 18095 | 101.3 |
| | 40 | #3 | 14 | VAR. | 3990 | 22.3 |
| | 41 | #3 | 9 | VAR. | 3240 | 18.1 |
| | 42 | #3 | 15 | 460 | 6900 | 38.6 |
| | 43 | #3 | 14 | VAR. | 3990 | 22.3 |
| | 44 | #3 | 5 | VAR. | 1185 | 6.6 |
| | 45 | #3 | 5 | VAR. | 5150 | 28.8 |
| | 46 | #3 | 7 | VAR. | 1736 | 9.7 |
| | 47 | #3 | 7 | VAR. | 1855 | 10.4 |
| | 48 | #3 | 9 | 830 | 3810 | 32.4 |
| | 49 | #3 | 9 | VAR. | 3240 | 18.1 |
| | 50 | #3 | 5 | VAR. | 5565 | 31.1 |
| | 51 | #3 | 2 | 140 | 280 | 1.6 |
| | 52 | #3 | 2 | 580 | 1160 | 6.5 |
| | | | | | Total | 9578.3 |
| | | | | | #3 | 9578.3 |
| | | | | | Total | 9578.3 |

Tabla de características de losas macizas (Grupo 3)

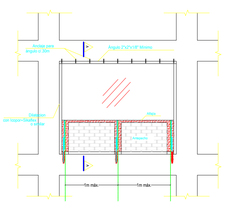
| |
|---|
| Canto: 15.0 cm |
| Recubrimiento geométrico superior: 3.0 cm |
| Recubrimiento geométrico inferior: 2.0 cm |
| Recubrimiento mecánico superior: 3.5 cm |
| Recubrimiento mecánico inferior: 2.5 cm |

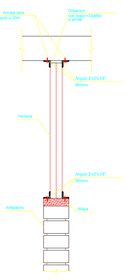






ELEMENTO DE FACHADA CON BLOQUE PAÑETADO
ESCALA SIN




ANCLAJE VENTANA EN ANTEPECHO
ESCALA SIN


GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO
ESPACIO PÚBLICO

EQUIPO DE DISEÑO
OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221965 COR



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CONTIENE

BLOQUE SXS AULAS
REFUERZO INFERIOR DE LOSA N.+ 3.50
ESCALERA
ELEMENTOS NO ESTRUCTURALES

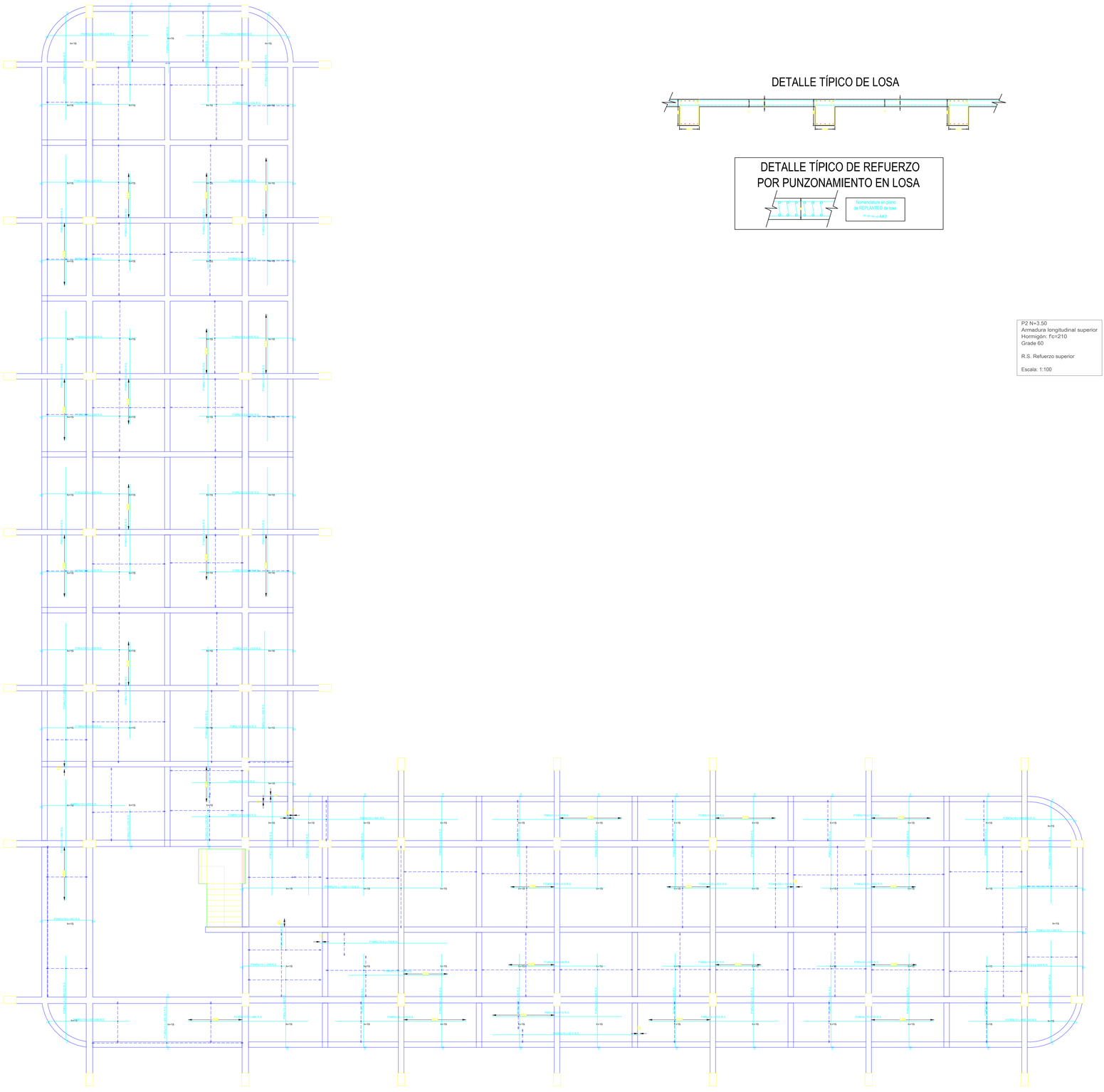
OBSERVACIONES

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2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO 9/21 DE



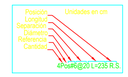
## DETALLE TÍPICO DE LOSA



## DETALLE TÍPICO DE REFUERZO POR PUNZONAMIENTO EN LOSA




| Elemento | Pos. | Diám. | No. | Long (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Armadura longitudinal superior | 1 | #3 | 699 | 530 | 370470 | 2073.5 |
| | 2 | #3 | 64 | 510 | 32640 | 182.7 |
| | 3 | #3 | 111 | 560 | 62160 | 347.9 |
| | 4 | #3 | 25 | 480 | 12420 | 69.5 |
| | 5 | #3 | 27 | 540 | 14580 | 81.6 |
| | 6 | #3 | 166 | 580 | 96280 | 538.7 |
| | 7 | #3 | 55 | 580 | 30250 | 169.3 |
| | 8 | #3 | 30 | 940 | 28200 | 157.8 |
| | 9 | #3 | 100 | 710 | 71000 | 397.4 |
| | 10 | #3 | 70 | 700 | 49000 | 274.3 |
| | 11 | #3 | 15 | VAR. | 9000 | 50.4 |
| | 12 | #3 | 55 | 300 | 16500 | 92.4 |
| | 13 | #3 | 30 | 280 | 8730 | 48.9 |
| | 14 | #3 | 22 | 740 | 16280 | 182.2 |
| | 15 | #3 | 178 | 930 | 165540 | 331.0 |
| | 16 | #3 | 100 | 520 | 52000 | 291.0 |
| | 17 | #3 | 27 | 220 | 5940 | 33.2 |
| | 18 | #3 | 85 | 540 | 45900 | 256.9 |
| | 19 | #3 | 187 | 520 | 97240 | 544.3 |
| | 20 | #3 | 15 | VAR. | 7005 | 39.2 |
| | 21 | #3 | 41 | 660 | 27060 | 151.5 |
| | 22 | #3 | 4 | 1520 | 6080 | 34.0 |
| | 23 | #3 | 15 | VAR. | 9700 | 48.7 |
| | 24 | #3 | 19 | VAR. | 10545 | 59.0 |
| | 25 | #3 | 22 | VAR. | 12210 | 68.3 |
| | 26 | #3 | 4 | 380 | 1520 | 8.5 |
| | 27 | #3 | 47 | 570 | 26790 | 149.9 |
| | 28 | #3 | 27 | 470 | 12690 | 71.0 |
| | 29 | #3 | 20 | 560 | 11200 | 62.7 |
| | 30 | #3 | 15 | VAR. | 8985 | 50.3 |
| | 31 | #3 | 30 | VAR. | 16650 | 93.2 |
| | 32 | #3 | 30 | 160 | 4800 | 26.9 |
| | 33 | #3 | 72 | 510 | 36720 | 205.5 |
| | 34 | #3 | 30 | VAR. | 33030 | 184.9 |
| | 35 | #3 | 55 | 303 | 16665 | 93.3 |
| | 36 | #3 | 24 | 250 | 6000 | 33.6 |
| | 37 | #3 | 15 | VAR. | 8760 | 49.0 |
| | 38 | #3 | 30 | 720 | 21600 | 120.9 |
| | 39 | #3 | 15 | VAR. | 6660 | 37.3 |
| | 40 | #3 | 4 | 1520 | 6080 | 34.0 |
| | 41 | #3 | 19 | VAR. | 10545 | 59.0 |
| | 42 | #3 | 22 | VAR. | 12210 | 68.3 |
| | | | | | Total | 7943.4 |
| | | | | | #3 | 7943.4 |
| | | | | | Total | 7943.4 |




P2 N+3.50
Armadura longitudinal superior
Hormigón: f'c=210
Grade 60

R.S. Refuerzo superior

Escala: 1:100

Tabla de caracteristicas de losas macizas (Grupo 3)

Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 CDR

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CONTIENE

BLOQUE SXS AULAS
REFUERZOSUPERIOR DE LOSA N + 3.50

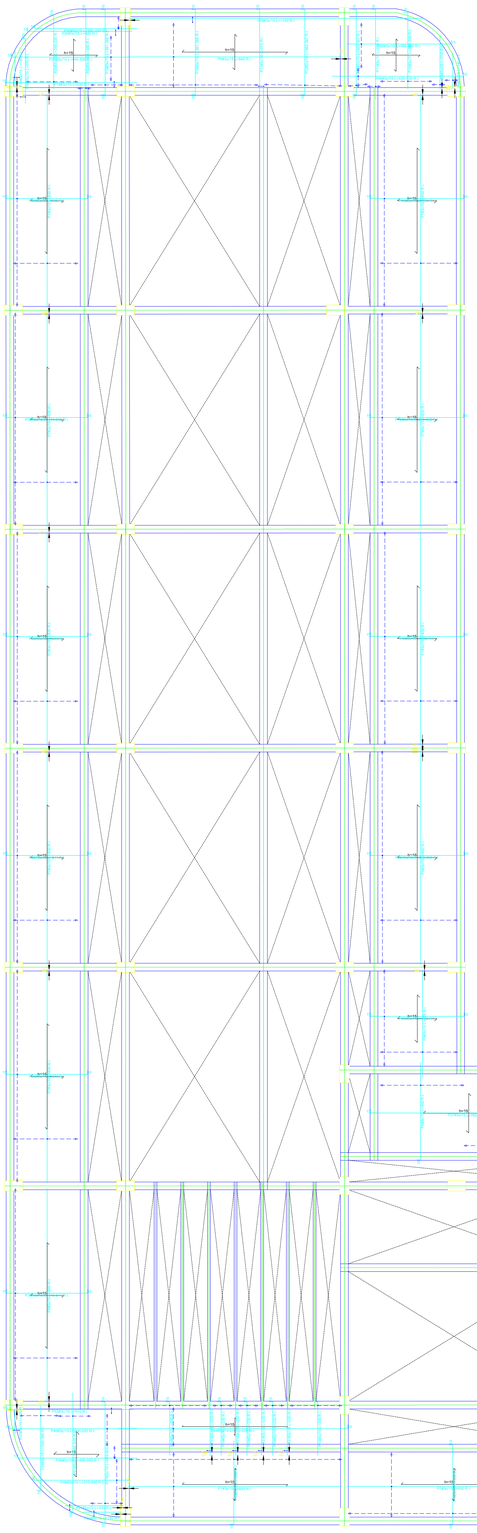
OBSERVACIONES

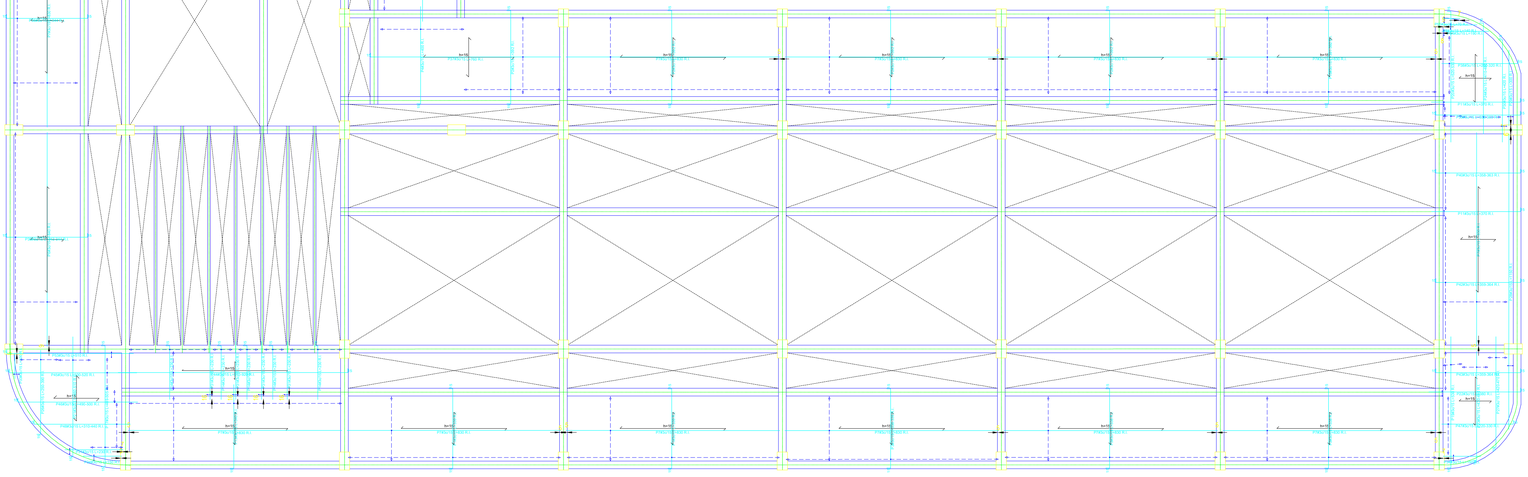
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2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO 10/21 DE







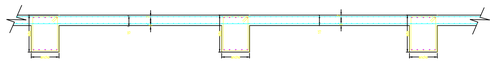

| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Armadura longitudinal inferior | 1 | #3 | 110 | 338 | 37200 | 208.7 |
| | 2 | #3 | 245 | 392 | 96040 | 537.5 |
| | 3 | #3 | 165 | 338 | 55770 | 312.1 |
| | 4 | #3 | 22 | 400 | 8800 | 49.3 |
| | 5 | #3 | 20 | 420 | 8400 | 47.0 |
| | 6 | #3 | 54 | 840 | 45360 | 253.9 |
| | 7 | #3 | 340 | 840 | 285600 | 1599.4 |
| | 8 | #3 | 4 | 140 | 560 | 3.1 |
| | 9 | #3 | 4 | 210 | 840 | 4.7 |
| | 10 | #3 | 14 | VAR. | 4396 | 24.6 |
| | 11 | #3 | 12 | 370 | 4440 | 24.9 |
| | 12 | #3 | 25 | 362 | 9050 | 50.7 |
| | 13 | #3 | 55 | 340 | 18700 | 104.7 |
| | 14 | #3 | 49 | 230 | 11270 | 63.1 |
| | 15 | #3 | 165 | 391 | 64515 | 361.1 |
| | 16 | #3 | 2 | 1085 | 2170 | 12.1 |
| | 17 | #3 | 9 | VAR. | 4482 | 25.1 |
| | 18 | #3 | 9 | VAR. | 3258 | 18.2 |
| | 19 | #3 | 7 | 530 | 3710 | 20.8 |
| | 20 | #3 | 5 | VAR. | 2635 | 14.7 |
| | 21 | #3 | 9 | VAR. | 4374 | 24.5 |
| | 22 | #3 | 6 | 380 | 2280 | 12.8 |
| | 23 | #3 | 7 | VAR. | 3115 | 17.4 |
| | 24 | #3 | 10 | VAR. | 4500 | 25.2 |
| | 25 | #3 | 10 | VAR. | 4120 | 23.1 |
| | 26 | #3 | 10 | VAR. | 3280 | 18.4 |
| | 27 | #3 | 5 | VAR. | 2235 | 12.5 |
| | 28 | #3 | 4 | 1150 | 4600 | 25.7 |
| | 29 | #3 | 2 | 300 | 600 | 3.4 |
| | 30 | #3 | 4 | 420 | 1680 | 9.4 |
| | 31 | #3 | 10 | 230 | 2300 | 12.9 |
| | 32 | #3 | 2 | 270 | 540 | 3.0 |
| | 33 | #3 | 1 | 190 | 190 | 1.1 |
| | 34 | #3 | 4 | 200 | 800 | 5.0 |
| | 35 | #3 | 80 | 383 | 31440 | 176.0 |
| | 36 | #3 | 275 | 344 | 94600 | 529.5 |
| | 37 | #3 | 20 | 760 | 15200 | 85.1 |
| | 38 | #3 | 15 | VAR. | 4560 | 25.5 |
| | 39 | #3 | 5 | 358 | 1790 | 10.0 |
| | 40 | #3 | 20 | 359 | 7180 | 40.2 |
| | 41 | #3 | 20 | 359 | 7180 | 40.2 |
| | 42 | #3 | 54 | VAR. | 12274 | 68.3 |
| | 43 | #3 | 10 | VAR. | 3600 | 20.1 |
| | 44 | #3 | 10 | VAR. | 9120 | 51.0 |
| | 45 | #3 | 9 | VAR. | 4608 | 25.8 |
| | 46 | #3 | 4 | VAR. | 1980 | 11.1 |
| | 47 | #3 | 15 | VAR. | 4335 | 24.3 |
| | 48 | #3 | 12 | VAR. | 4608 | 25.8 |
| | 49 | #3 | 5 | VAR. | 2635 | 14.7 |
| | 50 | #3 | 10 | VAR. | 5120 | 28.6 |
| | 51 | #3 | 12 | VAR. | 5724 | 32.0 |
| | 52 | #3 | 12 | VAR. | 5040 | 28.2 |
| | 53 | #3 | 2 | 510 | 1020 | 5.7 |
| | 54 | #3 | 2 | 190 | 380 | 2.1 |
| | 55 | #3 | 2 | 70 | 140 | 0.8 |
| | | | | | Total: | 5278.4 |
| | | | | | #3: | 5278.4 |
| | | | | | Total: | 5278.4 |

Cub. N+7.00
Armadura longitudinal inferior
Hormigón: f'c=210
Acero laminado y armado: ASTM A 572 50 ksi Grade 60

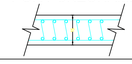
R.I. Refuerzo inferior

Escala: 1:100

## DETALLE TÍPICO DE LOSA



## DETALLE TÍPICO DE REFUERZO POR PUNZONAMIENTO EN LOSA



Nomenclatura en plano de REPLANTEO de losa
P-1=L=0.4@3

| Tabla de características de losas macizas (Grupo 4) |
|---|
| Canto: 15.0 cm |
| Recubrimiento geométrico superior: 3.0 cm |
| Recubrimiento geométrico inferior: 2.0 cm |
| Recubrimiento mecánico superior: 3.5 cm |
| Recubrimiento mecánico inferior: 2.5 cm |




Cuadro de pilares
Escala 1:100
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60



GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221869 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE SXS AULAS
REFUERZO INFERIOR DE LOSA N.+ 7.00

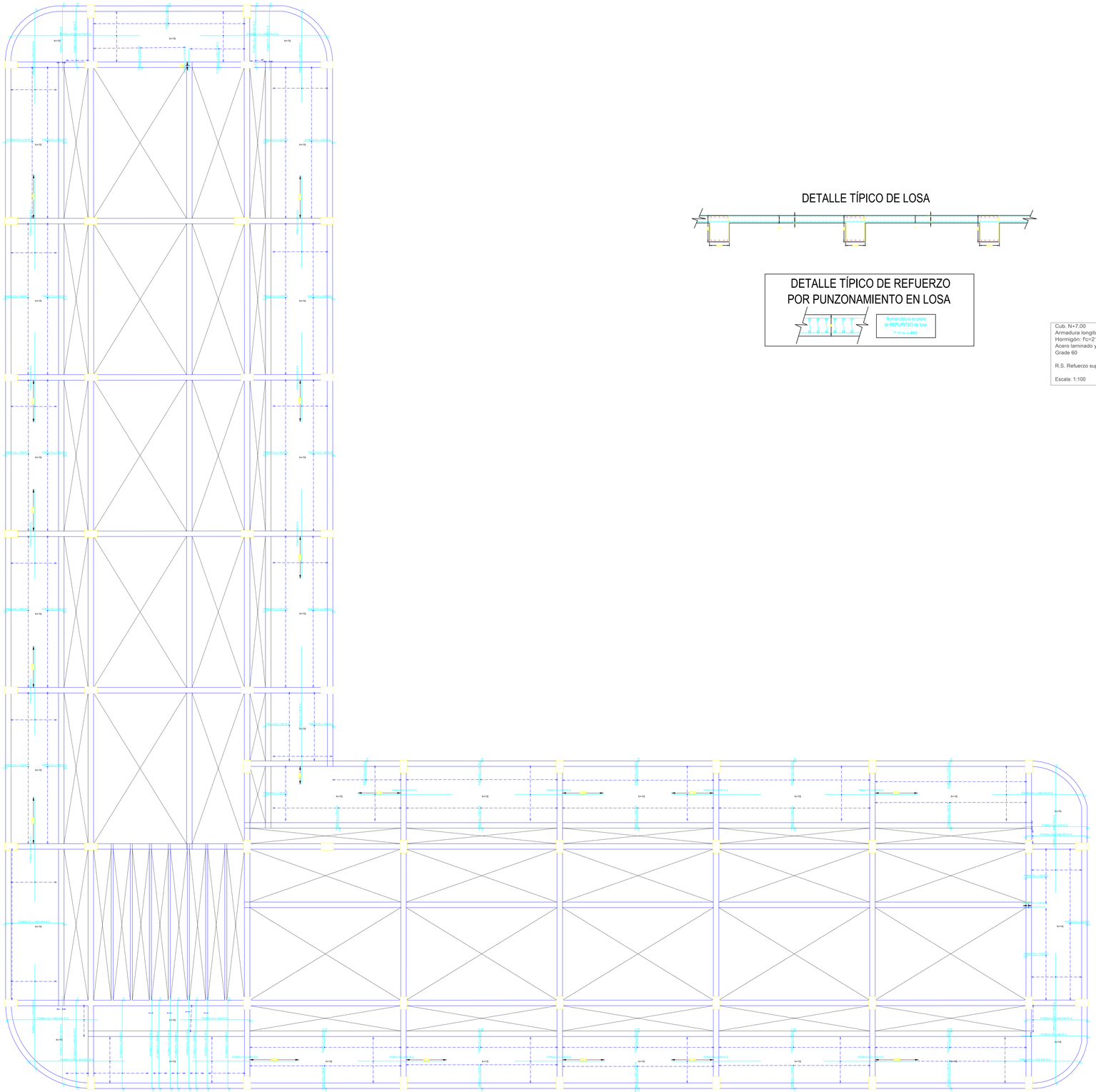
OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
11/21



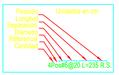
## DETALLE TÍPICO DE LOSA



## DETALLE TÍPICO DE REFUERZO POR PUNZONAMIENTO EN LOSA




| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Armadura longitudinal superior | 1 | #3 | 355 | 150 | 53250 | 298.0 |
| | 2 | #3 | 605 | 120 | 72600 | 406.3 |
| | 3 | #3 | 595 | 130 | 77350 | 432.9 |
| | 4 | #3 | 435 | 140 | 60900 | 340.9 |
| | 5 | #3 | 55 | VAR. | 7975 | 44.6 |
| | 6 | #3 | 22 | 750 | 16500 | 92.4 |
| | 7 | #3 | 182 | 490 | 89180 | 499.1 |
| | 8 | #3 | 60 | 512 | 30600 | 171.3 |
| | 9 | #3 | 20 | VAR. | 9960 | 55.9 |
| | 10 | #3 | 1 | 1810 | 1810 | 10.1 |
| | 11 | #3 | 5 | 362 | 1810 | 10.1 |
| | 12 | #3 | 49 | 506 | 24794 | 138.8 |
| | 13 | #3 | 20 | VAR. | 2460 | 13.8 |
| | 14 | #3 | 55 | 180 | 9900 | 55.4 |
| | 15 | #3 | 55 | 160 | 8800 | 49.3 |
| | 16 | #3 | 165 | 170 | 28050 | 157.0 |
| | 17 | #3 | 6 | VAR. | 4482 | 25.1 |
| | 18 | #3 | 19 | VAR. | 3258 | 18.2 |
| | 19 | #3 | 19 | VAR. | 13215 | 73.9 |
| | 20 | #3 | 19 | VAR. | 13015 | 72.8 |
| | 21 | #3 | 4 | VAR. | 1980 | 11.1 |
| | 22 | #3 | 6 | 380 | 2280 | 12.8 |
| | 23 | #3 | 20 | VAR. | 11120 | 62.2 |
| | 24 | #3 | 17 | 570 | 9690 | 54.2 |
| | 25 | #3 | 34 | 520 | 17680 | 99.0 |
| | 26 | #3 | 26 | 520 | 13520 | 75.7 |
| | 27 | #3 | 1 | 310 | 3360 | 17.1 |
| | 28 | #3 | 2 | 520 | 1040 | 5.8 |
| | 29 | #3 | 4 | 130 | 520 | 2.9 |
| | 30 | #3 | 20 | VAR. | 9800 | 54.9 |
| | 31 | #3 | 5 | 358 | 1790 | 10.0 |
| | 32 | #3 | 55 | 344 | 18920 | 105.9 |
| | 33 | #3 | 10 | VAR. | 3600 | 20.1 |
| | 34 | #3 | 10 | 400 | 4000 | 22.4 |
| | 35 | #3 | 10 | VAR. | 4000 | 22.4 |
| | 36 | #3 | 19 | VAR. | 13072 | 73.2 |
| | 37 | #3 | 19 | VAR. | 13395 | 75.0 |
| | 38 | #3 | 17 | VAR. | 8347 | 46.7 |
| | 39 | #3 | 17 | 580 | 9860 | 55.2 |
| | 40 | #3 | 20 | VAR. | 10660 | 59.7 |
| | | | | | Total: | 3851.7 |
| | | | | #3 | | 3851.7 |
| | | | | Total: | | 3851.7 |




Cub. N+7.00
Armadura longitudinal superior
Hormigón: f'c=210
Acero laminado y armado: ASTM A 572 50 ksi Grade 60

R.S. Refuerzo superior

Escala: 1:100

| Tabla de características de losas macizas (Grupo 4) |
|---|
| Canto: 15.0 cm |
| Recubrimiento geométrico superior: 3.0 cm |
| Recubrimiento geométrico inferior: 2.0 cm |
| Recubrimiento mecánico superior: 3.5 cm |
| Recubrimiento mecánico inferior: 2.5 cm |

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

**ESPACIO PÚBLICO**

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO

INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221868 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 5XS AULAS
REFUERZO SUPERIOR DE LOSA N.+ 7.00

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
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5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

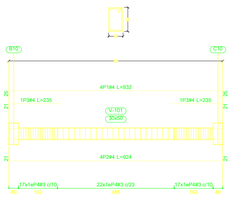
FECHA: MARZO 2025

ESCALA: INDICADA

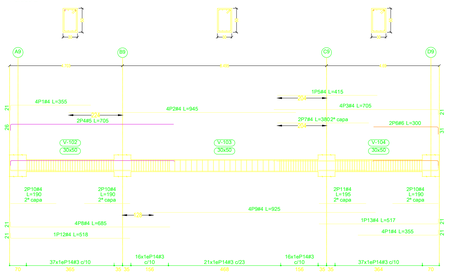
PLANO DE

12/21

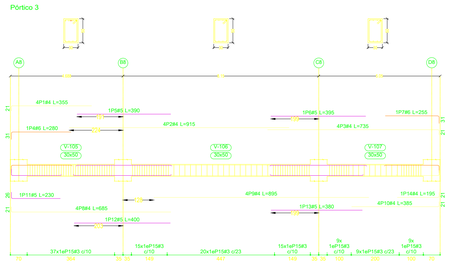
Pórtico 1



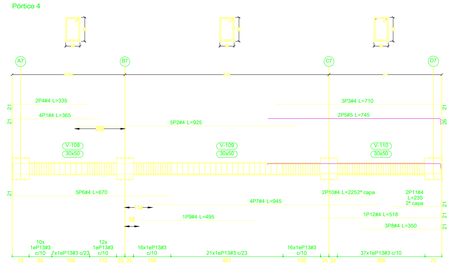

Pórtico 2



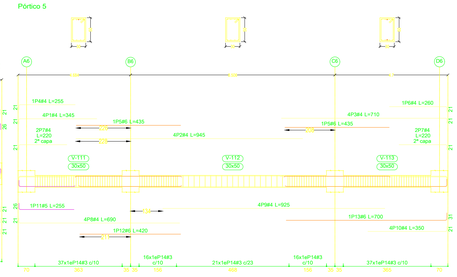

Pórtico 3




Pórtico 4

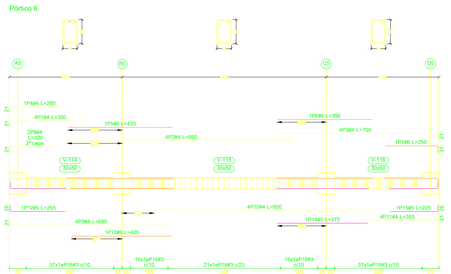



Pórtico 5

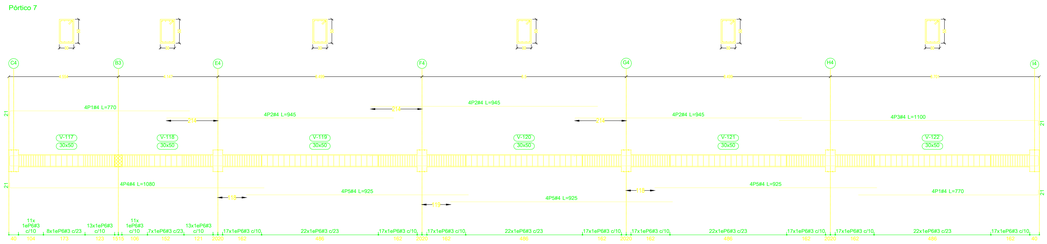



| Elemento | Pos. | Diám. | No. | | Pat. (cm) | Recta (cm) | Pat. (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 4 | 26 | | 682 | 25 | 932 | 3728 | 37.1 |
| | 2 | #4 | 4 | 21 | | 662 | 21 | 924 | 3696 | 36.8 |
| | 3 | #4 | 2 | 21 | | 214 | | 235 | 470 | 4.7 |
| | 4 | #3 | 56 | 9.5 | | 140.2 | 9.5 | 159 | 8904 | 49.8 |
| | | | | | | | | Total | | 128.4 |
| Pórtico 2 | 1 | #4 | 8 | 21 | | 334 | | 355 | 2840 | 28.2 |
| | 2 | #4 | 4 | | | 945 | | 945 | 3780 | 37.6 |
| | 3 | #4 | 4 | | | 664 | 21 | 705 | 2820 | 28.0 |
| | 4 | #5 | 2 | 26 | | 670 | | 670 | 1412 | 21.9 |
| | 5 | #4 | 1 | | | 415 | | 415 | 415 | 4.1 |
| | 6 | #6 | 2 | | | 269 | 31 | 300 | 600 | 13.4 |
| | 7 | #4 | 2 | | | 380 | | 380 | 760 | 7.6 |
| | 8 | #4 | 4 | 21 | | 884 | | 905 | 3620 | 36.0 |
| | 9 | #4 | 2 | | | 925 | | 925 | 2700 | 36.8 |
| | 10 | #4 | 6 | | | 190 | | 190 | 1140 | 11.3 |
| | 11 | #4 | 2 | | | 195 | | 195 | 390 | 3.9 |
| | 12 | #4 | 1 | 21 | 497.3 | | | 518 | 518 | 5.2 |
| | 13 | #5 | 1 | | 221 | | 21 | 242 | 242 | 5.8 |
| | 14 | #3 | 127 | 9.5 | 140.2 | | 9.5 | 159 | 20193 | 113.0 |
| | | | | | | | | Total | | 343.4 |
| Pórtico 3 | 1 | #4 | 4 | 21 | | 334 | | 355 | 1420 | 14.1 |
| | 2 | #4 | 4 | | | 945 | | 945 | 3780 | 37.6 |
| | 3 | #4 | 4 | | | 714 | 21 | 735 | 2940 | 29.2 |
| | 4 | #6 | 1 | 31 | | 249 | | 280 | 280 | 6.3 |
| | 5 | #5 | 1 | | | 380 | | 380 | 380 | 8.1 |
| | 6 | #5 | 1 | | | 395 | | 395 | 395 | 8.4 |
| | 7 | #6 | 1 | 31 | | 269 | 31 | 300 | 300 | 6.7 |
| | 8 | #4 | 4 | 21 | | 664 | | 685 | 2740 | 27.3 |
| | 9 | #4 | 4 | | | 884 | | 905 | 3620 | 36.0 |
| | 10 | #4 | 4 | 21 | | 364 | 21 | 385 | 1540 | 15.3 |
| | 11 | #5 | 1 | 26 | | 204 | | 230 | 230 | 3.6 |
| | 12 | #5 | 1 | | | 400 | | 400 | 400 | 6.2 |
| | 13 | #5 | 1 | | | 380 | | 380 | 380 | 5.9 |
| | 14 | #4 | 3 | | | 497 | 21 | 518 | 1554 | 15.5 |
| | 15 | #3 | 114 | 9.5 | | 140.2 | 9.5 | 159 | 18126 | 101.5 |
| | | | | | | | | Total | | 351.2 |
| Pórtico 4 | 1 | #4 | 4 | 21 | | 344 | | 365 | 1460 | 14.5 |
| | 2 | #4 | 4 | | | 945 | | 945 | 3780 | 37.6 |
| | 3 | #4 | 3 | | | 689 | 21 | 710 | 2130 | 21.2 |
| | 4 | #4 | 2 | 21 | | 314 | | 335 | 670 | 6.7 |
| | 5 | #4 | 2 | 26 | | 749 | | 770 | 1490 | 23.1 |
| | 6 | #4 | 5 | 21 | | 649 | | 670 | 3350 | 33.3 |
| | 7 | #6 | 1 | | | 930 | | 930 | 930 | 20.7 |
| | 8 | #4 | 4 | 21 | | 329 | 31 | 350 | 1050 | 10.4 |
| | 9 | #4 | 1 | | | 486 | | 495 | 495 | 4.9 |
| | 10 | #4 | 1 | | | 225 | | 450 | 450 | 4.5 |
| | 11 | #4 | 2 | | 214 | 21 | 236 | 470 | 4.7 |
| | 12 | #4 | 1 | | 497 | | 518 | 518 | 5.2 |
| | 13 | #3 | 119 | 9.5 | 140.2 | 9.5 | 159 | 18921 | 105.9 |
| | | | | | | | | Total | | 316.0 |
| Pórtico 5 | 1 | #4 | 4 | 21 | 324 | | 345 | 1380 | 13.7 |
| | 2 | #4 | 4 | | 945 | | 945 | 3780 | 37.6 |
| | 3 | #4 | 4 | | 669 | 21 | 710 | 2840 | 28.2 |
| | 4 | #4 | 1 | 21 | 334 | | 355 | 355 | 3.5 |
| | 5 | #6 | 2 | | 435 | | 870 | 870 | 19.5 |
| | 6 | #4 | 1 | | 239 | 21 | 260 | 260 | 2.6 |
| | 7 | #4 | 4 | 21 | 199 | | 220 | 880 | 8.8 |
| | 8 | #4 | 4 | 21 | 669 | | 690 | 3760 | 37.3 |
| | 9 | #4 | 1 | | 884 | | 905 | 905 | 9.0 |
| | 10 | #4 | 4 | | 329 | 21 | 350 | 1400 | 13.9 |
| | 11 | #5 | 1 | 26 | 229 | | 255 | 255 | 4.0 |
| | 12 | #6 | 1 | | 420 | | 420 | 420 | 9.4 |
| | 13 | #6 | 1 | | 669 | 31 | 700 | 700 | 15.7 |
| | 14 | #3 | 127 | 9.5 | 140.2 | 9.5 | 159 | 20193 | 113.0 |
| | | | | | | | | Total | | 323.2 |
| Pórtico 6 | 1 | #4 | 4 | 21 | 329 | | 350 | 1400 | 13.9 |
| | 2 | #4 | 4 | | 950 | | 950 | 3800 | 37.8 |
| | 3 | #4 | 4 | 21 | 669 | 21 | 690 | 2760 | 27.5 |
| | 4 | #4 | 1 | | 239 | | 260 | 260 | 2.6 |
| | 5 | #6 | 1 | | 435 | | 435 | 435 | 9.7 |
| | 6 | #4 | 1 | | 360 | | 395 | 395 | 8.8 |
| | 7 | #6 | 1 | | 219 | 31 | 250 | 250 | 5.6 |
| | 8 | #4 | 4 | 21 | 884 | | 905 | 3620 | 36.0 |
| | 9 | #4 | 4 | 21 | 669 | | 690 | 2760 | 27.5 |
| | 10 | #4 | 4 | | 900 | | 920 | 3680 | 36.6 |
| | 11 | #4 | 1 | | 334 | 21 | 355 | 1420 | 14.1 |
| | 12 | #5 | 1 | 26 | 229 | | 255 | 255 | 4.0 |
| | 13 | #6 | 1 | | 420 | | 420 | 420 | 9.4 |
| | 14 | #5 | 1 | | 375 | | 375 | 375 | 5.8 |
| | 15 | #4 | 2 | 26 | 524 | | 550 | 1100 | 17.1 |
| | 16 | #5 | 1 | | 615 | | 615 | 615 | 14.9 |
| | 17 | #4 | 3 | | 497 | | 518 | 1554 | 15.5 |
| | 18 | #3 | 391 | 9.5 | 140.2 | 9.5 | 159 | 62169 | 348.0 |
| | | | | | | | | Total | | 599.2 |
| Pórtico 7 | 1 | #4 | 4 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 16 | | 945 | | 945 | 15120 | 150.4 |
| | 3 | #4 | 4 | | 1079 | 21 | 1100 | 4400 | 43.8 |
| | 4 | #4 | 4 | 21 | 1059 | | 1080 | 4320 | 43.0 |
| | 5 | #4 | 16 | | 925 | | 925 | 14800 | 147.2 |
| | 6 | #3 | 287 | 9.5 | 140.2 | 9.5 | 159 | 45633 | 255.4 |
| | | | | | | | | Total | | 629.7 |
| Pórtico 8 | 1 | #4 | 4 | 21 | 329 | | 350 | 1400 | 13.9 |
| | 2 | #4 | 4 | | 945 | | 945 | 3820 | 38.0 |
| | 3 | #4 | 20 | | 945 | | 945 | 18900 | 188.0 |
| | 4 | #4 | 4 | 21 | 669 | 21 | 690 | 2760 | 27.5 |
| | 5 | #6 | 1 | 31 | 669 | | 700 | 700 | 15.7 |
| | 6 | #6 | 1 | | 380 | | 380 | 380 | 8.5 |
| | 7 | #6 | 1 | | 385 | | 385 | 385 | 8.6 |
| | 8 | #5 | 1 | | 375 | | 375 | 375 | 5.8 |
| | 9 | #4 | 4 | | 884 | | 905 | 3620 | 36.0 |
| | 10 | #5 | 2 | 26 | 524 | | 550 | 1100 | 17.1 |
| | 11 | #4 | 4 | 21 | 664 | | 685 | 2740 | 27.3 |
| | 12 | #4 | 4 | | 915 | | 925 | 3660 | 36.4 |
| | 13 | #4 | 16 | | 925 | | 925 | 14800 | 147.2 |
| | 14 | #4 | 4 | | 1044 | 21 | 1065 | 4260 | 42.4 |
| | 15 | #5 | 1 | 31 | 234 | | 265 | 265 | 5.9 |
| | 16 | #4 | 1 | | 884 | | 905 | 905 | 9.0 |
| | 17 | #4 | 1 | | 275 | | 275 | 275 | 2.7 |
| | 18 | #4 | 1 | | 320 | | 325 | 325 | 3.2 |
| | 19 | #5 | 2 | 26 | 514 | | 540 | 1080 | 16.8 |
| | 20 | #3 | 398 | 9.5 | 140.2 | 9.5 | 159 | 63282 | 354.2 |
| | | | | | | | | Total | | 966.2 |
| Pórtico 9 | 1 | #4 | 4 | 21 | 344 | | 365 | 1460 | 14.5 |
| | 2 | #4 | 20 | | 945 | | 945 | 3700 | 37.4 |
| | 3 | #4 | 20 | | 945 | | 945 | 18900 | 188.0 |
| | 4 | #4 | 4 | 21 | 669 | 21 | 690 | 2760 | 27.5 |
| | 5 | #4 | 1 | 21 | 314 | | 335 | 335 | 3.3 |
| | 6 | #6 | 1 | | 465 | | 465 | 465 | 10.9 |
| | 7 | #4 | 4 | | 380 | | 390 | 1560 | 34.9 |
| | 8 | #4 | 5 | | 519 | 21 | 540 | 2700 | 26.9 |
| | 9 | #4 | 1 | | 884 | | 905 | 905 | 9.0 |
| | 10 | #4 | 4 | | 360 | | 360 | 1080 | 10.7 |
| | 11 | #4 | 4 | 21 | 649 | | 670 | 2680 | 26.7 |
| | 12 | #4 | 4 | | 930 | | 930 | 3720 | 37.0 |
| | 13 | #4 | 16 | | 925 | | 925 | 14800 | 147.2 |
| | 14 | #4 | 4 | | 1044 | 21 | 1065 | 4260 | 42.4 |
| | 15 | #5 | 1 | | 665 | | 665 | 665 | 16.9 |
| | 16 | #5 | 1 | 26 | 519 | | 545 | 545 | 8.3 |
| | 17 | #4 | 3 | | 500 | | 500 | 1500 | 14.9 |
| | 18 | #3 | 391 | 9.5 | 140.2 | 9.5 | 159 | 62169 | 348.0 |
| | | | | | | | | Total | | 999.2 |
| Pórtico 10 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 16 | | 945 | | 945 | 15120 | 150.4 |
| | 3 | #4 | 4 | | 1079 | 21 | 1100 | 4400 | 43.8 |
| | 4 | #4 | 4 | 21 | 1059 | | 1080 | 4320 | 43.0 |
| | 5 | #4 | 16 | | 925 | | 925 | 14800 | 147.2 |
| | 6 | #3 | 336 | 9.5 | 140.2 | 9.5 | 159 | 53424 | 299.0 |
| | | | | | | | | Total | | 744.7 |
| | | | | | | | | #3: | | 1852.8 |
| | | | | | | | | #4: | | 3579.0 |
| | | | | | | | | #5: | | 144.8 |
| | | | | | | | | #6: | | 229.1 |
| | | | | | | | | Total | | 5105.7 |

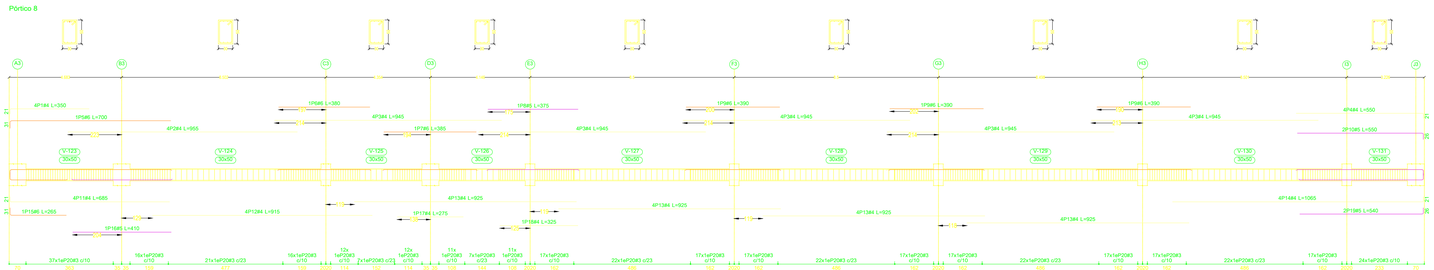
Pórtico 6



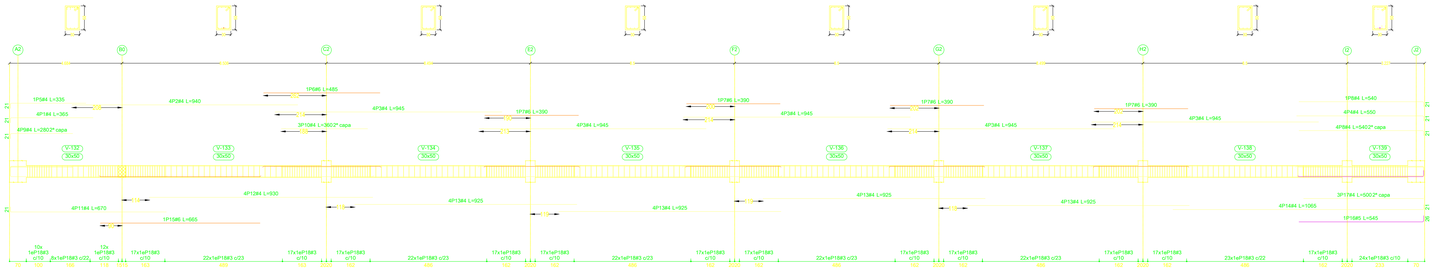

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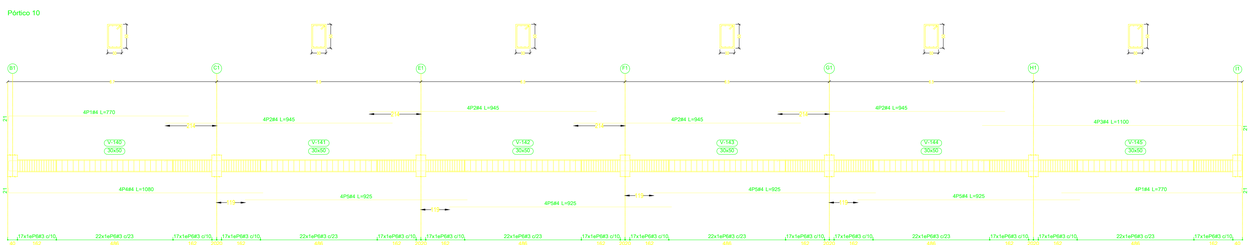

Pórtico 8



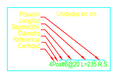

Pórtico 9




Pórtico 10




Suelo N+0.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:100
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm




GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No: 22202-221864 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE SXS AULAS
DESPIECE DE VIGAS N.+0.00 (1)

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

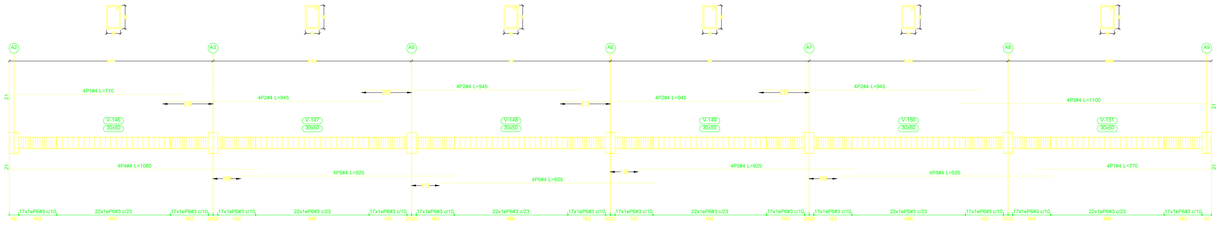
NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

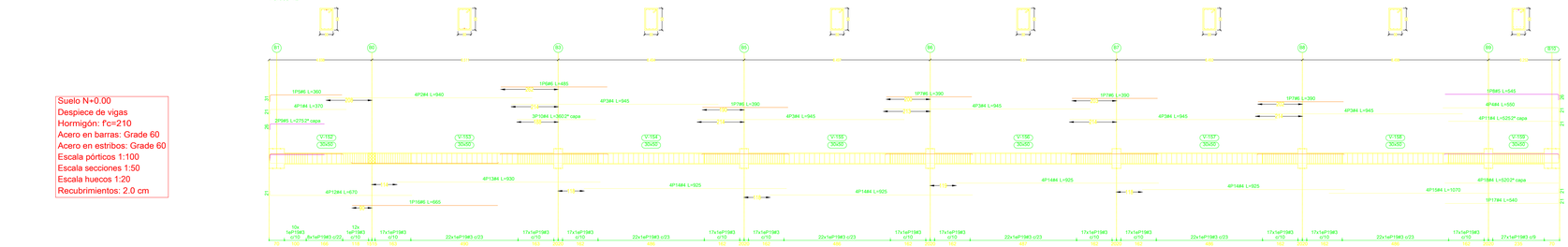
PLANO 13/21 DE

Suelo N+0.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:100
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

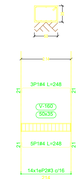
Pórtico 11



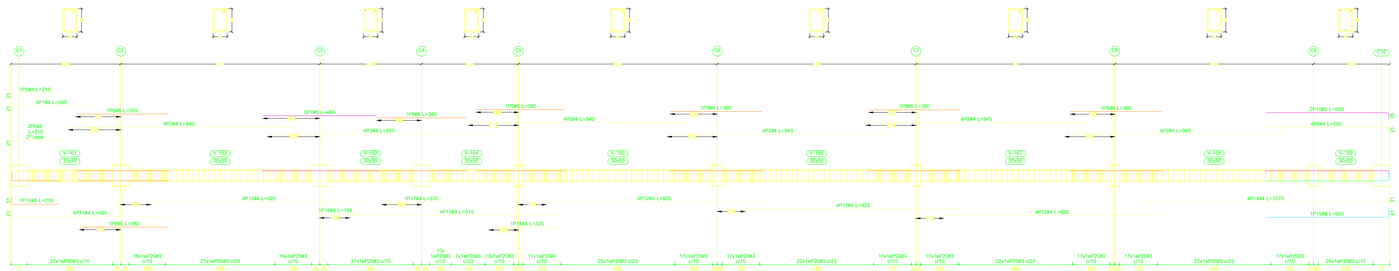

Pórtico 12



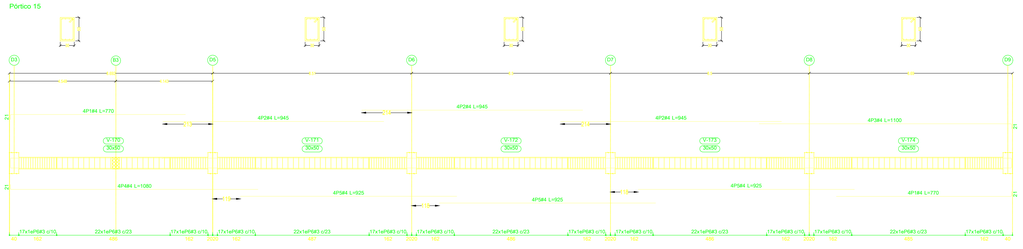

Pórtico 13



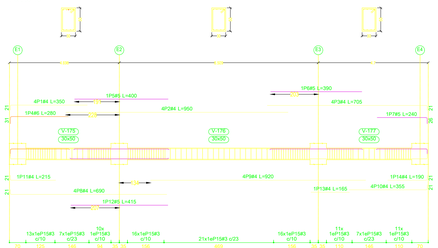

Pórtico 14



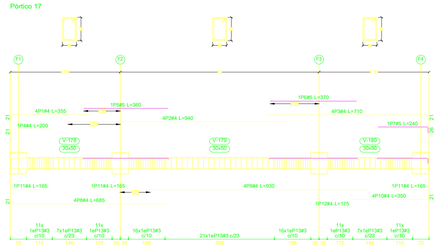

Pórtico 15



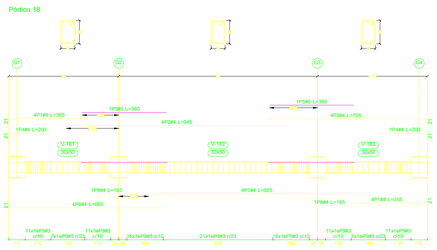

Pórtico 16



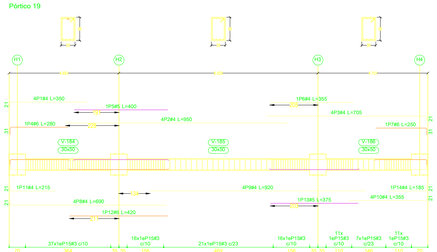

Pórtico 17



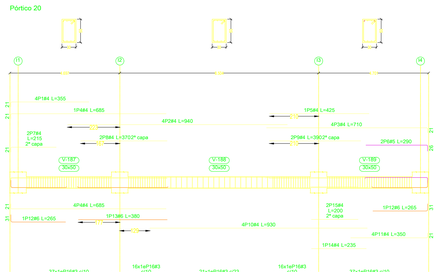

Pórtico 18



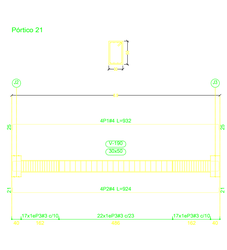

Pórtico 19




Pórtico 20




Pórtico 21




| Elemento | Pos. | Diám. | No. | Pat. (cm) | Recta (cm) | Pat. (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|---|
| Pórtico 11 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 16 | | 945 | | 945 | 15120 | 150.4 |
| | 3 | #4 | 4 | | 1079 | 21 | 1100 | 4400 | 43.8 |
| | 4 | #4 | 4 | 21 | 1059 | | 1080 | 4320 | 43.0 |
| | 5 | #4 | 16 | | 925 | | 925 | 14800 | 147.2 |
| | 6 | #3 | 336 | 9.5 | 140.2 | 9.5 | 159 | 53432 | 299.0 |
| | | | | | | | | Total | 744.7 |
| Pórtico 12 | 1 | #4 | 4 | 21 | 349 | | 370 | 1480 | 14.7 |
| | 2 | #4 | 4 | | 945 | | 945 | 3780 | 37.6 |
| | 3 | #4 | 20 | | 945 | | 945 | 18900 | 188.0 |
| | 4 | #4 | 4 | | 529 | 21 | 550 | 2200 | 21.9 |
| | 5 | #6 | 1 | 31 | 329 | | 360 | 360 | 8.1 |
| | 6 | #5 | 1 | | 359 | | 390 | 390 | 6.6 |
| | 7 | #5 | 2 | | 485 | | 485 | 970 | 16.5 |
| | 8 | #5 | 1 | | 359 | 26 | 385 | 385 | 6.5 |
| | 9 | #5 | 2 | 26 | 249 | | 275 | 550 | 9.3 |
| | 10 | #4 | 3 | | 360 | | 360 | 1080 | 10.7 |
| | 11 | #4 | 4 | | 504 | 21 | 525 | 2100 | 20.9 |
| | 12 | #4 | 4 | 21 | 649 | | 670 | 2680 | 26.7 |
| | 13 | #4 | 4 | | 970 | | 970 | 3880 | 38.6 |
| | 14 | #4 | 16 | | 925 | | 925 | 14800 | 147.2 |
| | 15 | #4 | 4 | | 1049 | 21 | 1070 | 4280 | 42.6 |
| | 16 | #5 | 1 | | 665 | | 665 | 665 | 14.9 |
| | 17 | #4 | 1 | | 519 | 21 | 540 | 540 | 5.4 |
| | 18 | #4 | 4 | | 1049 | | 1070 | 4280 | 42.6 |
| | 19 | #3 | 283 | 9.5 | 140.2 | 9.5 | 159 | 52487 | 349.7 |
| | | | | | | | | Total | 1008.7 |
| Pórtico 13 | 1 | #4 | 6 | 21 | 206 | 21 | 248 | 1984 | 19.7 |
| | 2 | #3 | 14 | 9.5 | 150.2 | 9.5 | 169 | 2366 | 13.2 |
| | | | | | | | | Total | 32.9 |
| Pórtico 14 | 1 | #4 | 4 | 21 | 334 | | 355 | 1420 | 14.1 |
| | 2 | #4 | 20 | | 945 | | 945 | 18900 | 188.0 |
| | 3 | #4 | 4 | | 955 | | 955 | 3820 | 38.0 |
| | 4 | #4 | 4 | | 529 | 21 | 550 | 2200 | 21.9 |
| | 5 | #4 | 3 | 21 | 194 | | 215 | 645 | 6.4 |
| | 6 | #6 | 1 | | 329 | | 360 | 360 | 8.1 |
| | 7 | #5 | 2 | | 485 | | 485 | 970 | 16.1 |
| | 8 | #6 | 3 | | 380 | | 380 | 1140 | 25.5 |
| | 9 | #5 | 3 | | 390 | | 390 | 1170 | 29.2 |
| | 10 | #5 | 2 | | 524 | 26 | 550 | 1100 | 17.1 |
| | 11 | #4 | 4 | 21 | 349 | | 370 | 1480 | 14.7 |
| | 12 | #4 | 16 | | 925 | | 925 | 14800 | 147.2 |
| | 13 | #4 | 4 | | 915 | | 915 | 3660 | 36.4 |
| | 14 | #4 | 4 | | 1049 | 21 | 1070 | 4280 | 42.6 |
| | 15 | #6 | 1 | 31 | 204 | | 235 | 235 | 5.3 |
| | 16 | #4 | 1 | | 184 | | 215 | 215 | 2.1 |
| | 17 | #4 | 1 | | 335 | | 335 | 335 | 3.3 |
| | 18 | #4 | 1 | | 325 | | 325 | 325 | 3.2 |
| | 19 | #5 | 1 | 41 | 519 | | 560 | 560 | 22.3 |
| | 20 | #3 | 405 | 9.5 | 140.2 | 9.5 | 159 | 64395 | 360.4 |
| | | | | | | | | Total | 1011.0 |
| Pórtico 15 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 12 | | 945 | | 945 | 11340 | 112.8 |
| | 3 | #4 | 4 | 21 | 1079 | 21 | 1100 | 4400 | 43.8 |
| | 4 | #4 | 4 | | 1059 | | 1080 | 4320 | 43.0 |
| | 5 | #4 | 12 | | 925 | | 925 | 11100 | 110.4 |
| | 6 | #3 | 280 | 9.5 | 140.2 | 9.5 | 159 | 44520 | 249.2 |
| | | | | | | | | Total | 620.5 |
| Pórtico 16 | 1 | #4 | 4 | 21 | 329 | | 350 | 1400 | 13.9 |
| | 2 | #4 | 4 | | 930 | | 950 | 3800 | 37.8 |
| | 3 | #4 | 4 | 31 | 684 | 21 | 705 | 2820 | 28.0 |
| | 4 | #4 | 1 | | 400 | | 400 | 400 | 4.0 |
| | 5 | #6 | 1 | | 360 | | 390 | 390 | 8.7 |
| | 6 | #5 | 1 | | 214 | 26 | 240 | 240 | 3.7 |
| | 7 | #4 | 4 | 21 | 669 | | 690 | 2760 | 27.5 |
| | 8 | #4 | 4 | | 902 | | 920 | 3680 | 36.6 |
| | 9 | #4 | 4 | 21 | 1049 | 21 | 1070 | 4280 | 42.6 |
| | 10 | #4 | 1 | | 184 | | 215 | 215 | 2.1 |
| | 11 | #4 | 1 | | 165 | | 165 | 165 | 1.6 |
| | 12 | #4 | 12 | | 949 | 21 | 190 | 190 | 1.9 |
| | 13 | #3 | 112 | 9.5 | 140.2 | 9.5 | 159 | 17808 | 99.7 |
| | | | | | | | | Total | 291.9 |
| Pórtico 17 | 1 | #4 | 4 | 21 | 334 | | 355 | 1420 | 14.1 |
| | 2 | #4 | 4 | | 930 | | 950 | 3800 | 37.8 |
| | 3 | #4 | 4 | | 685 | 21 | 710 | 2840 | 28.2 |
| | 4 | #4 | 1 | 21 | 179 | | 200 | 200 | 2.0 |
| | 5 | #6 | 1 | | 360 | | 360 | 360 | 8.1 |
| | 6 | #5 | 1 | | 370 | | 370 | 370 | 5.7 |
| | 7 | #5 | 1 | | 214 | 26 | 240 | 240 | 3.7 |
| | 8 | #4 | 4 | 21 | 684 | | 685 | 2740 | 27.3 |
| | 9 | #4 | 4 | | 930 | | 930 | 3720 | 37.0 |
| | 10 | #4 | 4 | | 329 | 21 | 350 | 1400 | 13.9 |
| | 11 | #4 | 3 | | 165 | | 165 | 495 | 4.9 |
| | 12 | #4 | 1 | | 335 | | 335 | 335 | 3.3 |
| | 13 | #3 | 111 | 9.5 | 140.2 | 9.5 | 159 | 17649 | 98.8 |
| | | | | | | | | Total | 279.2 |
| Pórtico 18 | 1 | #4 | 8 | 21 | 334 | | 355 | 2840 | 28.2 |
| | 2 | #4 | 4 | | 930 | | 950 | 3800 | 37.8 |
| | 3 | #4 | 4 | 21 | 684 | 21 | 705 | 2820 | 28.0 |
| | 4 | #4 | 2 | | 179 | | 200 | 400 | 4.0 |
| | 5 | #5 | 2 | | 360 | | 360 | 720 | 11.2 |
| | 6 | #4 | 4 | 21 | 664 | | 685 | 2740 | 27.3 |
| | 7 | #4 | 4 | | 902 | | 920 | 3680 | 36.6 |
| | 8 | #4 | 2 | | 165 | | 165 | 330 | 3.3 |
| | 9 | #3 | 111 | 9.5 | 140.2 | 9.5 | 159 | 17649 | 98.8 |
| | | | | | | | | Total | 274.2 |
| Pórtico 19 | 1 | #4 | 4 | 21 | 329 | | 350 | 1400 | 13.9 |
| | 2 | #4 | 4 | | 930 | | 950 | 3800 | 37.8 |
| | 3 | #4 | 4 | 31 | 684 | 21 | 705 | 2820 | 28.0 |
| | 4 | #6 | 1 | | 400 | | 280 | 280 | 6.3 |
| | 5 | #5 | 1 | | 400 | | 400 | 400 | 6.2 |
| | 6 | #5 | 1 | | 214 | | 240 | 240 | 3.7 |
| | 7 | #6 | 1 | | 219 | 31 | 250 | 250 | 5.6 |
| | 8 | #4 | 4 | 21 | 669 | | 690 | 2760 | 27.5 |
| | 9 | #4 | 4 | | 902 | | 920 | 3680 | 36.6 |
| | 10 | #4 | 4 | 21 | 334 | 21 | 355 | 1420 | 14.1 |
| | 11 | #4 | 4 | | 930 | | 950 | 3800 | 37.8 |
| | 12 | #6 | 1 | | 400 | | 420 | 420 | 9.4 |
| | 13 | #5 | 1 | | 375 | | 375 | 375 | 5.8 |
| | 14 | #4 | 2 | 21 | 164 | 21 | 185 | 185 | 1.8 |
| | 15 | #3 | 119 | 9.5 | 140.2 | 9.5 | 159 | 18921 | 105.9 |
| | | | | | | | | Total | 304.9 |
| Pórtico 20 | 1 | #4 | 4 | 21 | 334 | | 355 | 1420 | 14.1 |
| | 2 | #4 | 4 | | 930 | | 950 | 3800 | 37.8 |
| | 3 | #4 | 4 | | 685 | 21 | 710 | 2840 | 28.2 |
| | 4 | #4 | 5 | 21 | 664 | | 685 | 3425 | 34.1 |
| | 5 | #5 | 1 | | 405 | | 425 | 425 | 4.2 |
| | 6 | #5 | 2 | | 264 | 26 | 290 | 580 | 9.0 |
| | 7 | #4 | 2 | 21 | 669 | | 690 | 1380 | 13.7 |
| | 8 | #4 | 2 | | 370 | | 370 | 740 | 7.4 |
| | 9 | #4 | 2 | | 390 | | 390 | 780 | 7.8 |
| | 10 | #4 | 4 | | 930 | | 930 | 3720 | 37.0 |
| | 11 | #4 | 4 | | 329 | 21 | 350 | 1400 | 13.9 |
| | 12 | #4 | 3 | 31 | 684 | | 685 | 2055 | 20.4 |
| | 13 | #6 | 1 | | 359 | | 385 | 385 | 8.6 |
| | 14 | #6 | 1 | | 204 | | 235 | 235 | 5.3 |
| | 15 | #4 | 2 | | 200 | | 200 | 400 | 4.0 |
| | 16 | #3 | 127 | 9.5 | 140.2 | 9.5 | 159 | 20193 | 113.0 |
| | | | | | | | | Total | 337.1 |
| Pórtico 21 | 1 | #4 | 4 | 25 | 882 | 29 | 932 | 3728 | 37.1 |
| | 2 | #4 | 4 | 21 | 882 | 21 | 924 | 3696 | 36.8 |
| | 3 | #3 | 56 | 9.5 | 140.2 | 9.5 | 159 | 8904 | 49.8 |
| | | | | | | | | Total | 123.7 |
| | | | | | | | | #3 | 1837.3 |
| | | | | | | | | #4 | 2693.8 |
| | | | | | | | | #5 | 1016.9 |
| | | | | | | | | #6 | 182.6 |
| | | | | | | | | #8 | 22.3 |
| | | | | | | | | Total | 5030.5 |

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO ZOGOLLO

INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221869 CDOR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE SXS AULAS
DESPIECE DE VIGAS N.+ 0.00 (2)

OBSERVACIONES

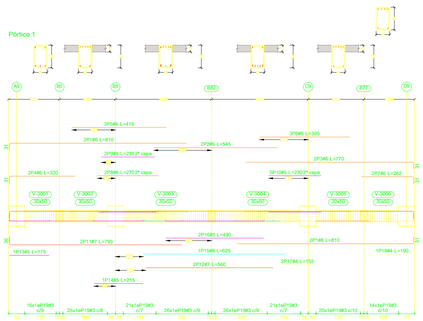
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

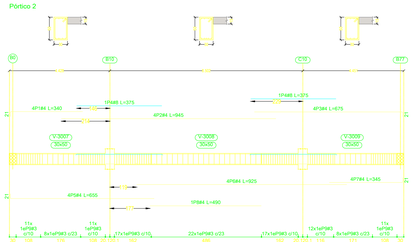
| FECHA | ESCALA |
|---|---|
| MARZO 2025 | INDICADA |

PLANO DE 14/21

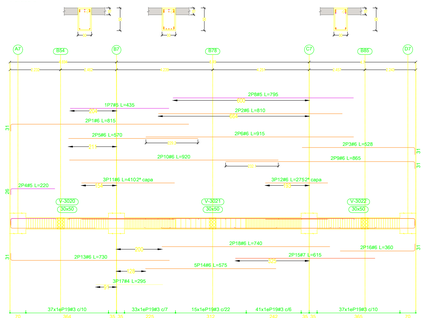
## Pórtico 1



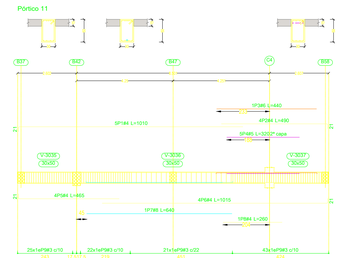

## Pórtico 2



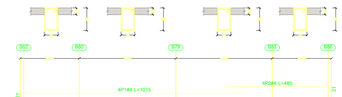

## Pórtico 6



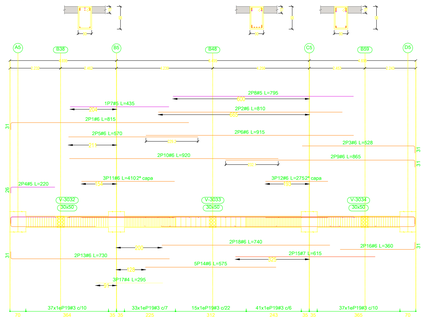

## Pórtico 11



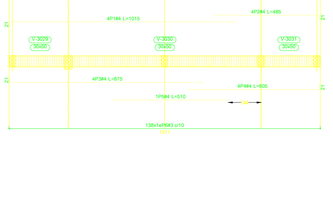

## Pórtico 5



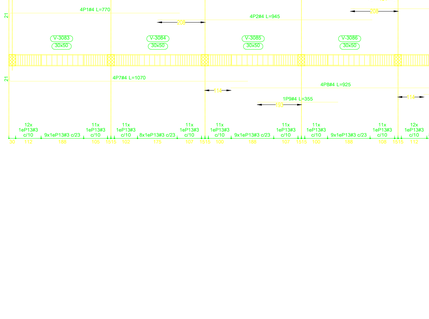

## Pórtico 10



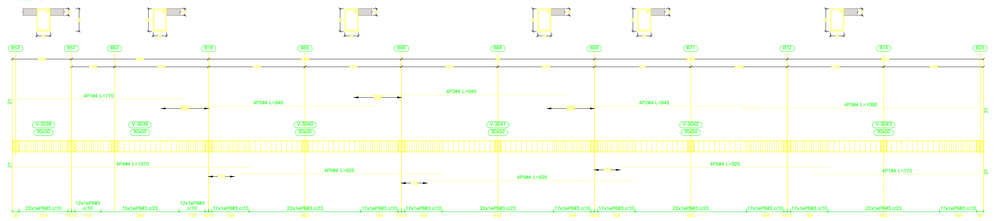

## Pórtico 3



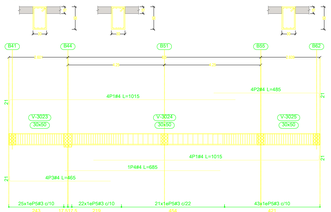

## Pórtico 4



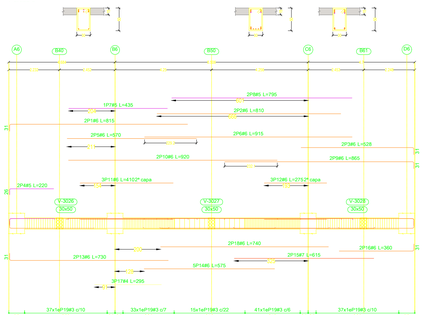

## Pórtico 12




## Pórtico 7



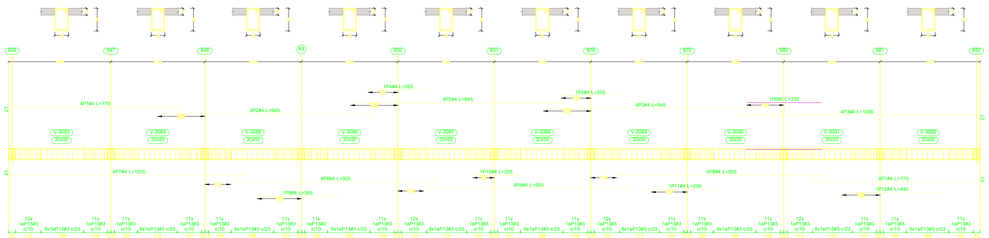

## Pórtico 8



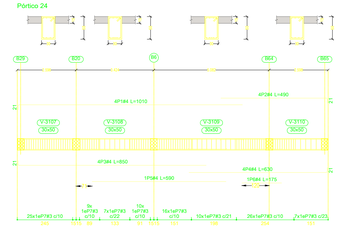

## Pórtico 9




## Pórtico 19




## Pórtico 24




## Pórtico 1

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #6 | 4 | 779 | 810 | 3240 | 72.5 |
| | 2 | #6 | 2 | 545 | 545 | 1090 | 24.4 |
| | 3 | #6 | 2 | 739 (1.5L) | 770 | 1540 | 34.5 |
| | 4 | #6 | 2 | 320 | 320 | 640 | 14.3 |
| | 5 | #6 | 3 | 415 | 415 | 1245 | 27.9 |
| | 6 | #6 | 3 | 395 | 395 | 1185 | 26.5 |
| | 7 | #6 | 2 | 231 (1.5L) | 262 | 524 | 11.7 |
| | 8 | #6 | 2 | 270 | 270 | 540 | 12.1 |
| | 9 | #5 | 2 | 235 | 235 | 470 | 7.3 |
| | 10 | #5 | 5 | 230 | 230 | 1150 | 17.9 |
| | 11 | #7 | 2 | 795 (1.5L) | 795 | 1590 | 48.4 |
| | 12 | #7 | 2 | 560 | 560 | 1120 | 34.1 |
| | 13 | #5 | 1 | 175 | 175 | 175 | 2.7 |
| | 14 | #5 | 1 | 215 | 215 | 215 | 3.3 |
| | 15 | #6 | 1 | 625 | 625 | 625 | 24.9 |
| | 16 | #5 | 2 | 430 | 430 | 860 | 13.4 |
| | 17 | #4 | 2 | 155 | 155 | 310 | 3.1 |
| | 18 | #4 | 1 | 190 | 190 | 190 | 1.9 |
| | 19 | #3 | 169 | 129 / 25 | 159 | 26971 | 150.4 |
| | | | | | Total | | 5311.3 |
| Pórtico 2 | 1 | #4 | 4 | 319 | 340 | 1360 | 13.5 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | 37.6 |
| | 3 | #4 | 4 | 654 (1.5L) | 675 | 2700 | 26.9 |
| | 4 | #6 | 2 | 375 | 375 | 750 | 29.8 |
| | 5 | #4 | 4 | 624 (1.5L) | 665 | 2620 | 25.1 |
| | 6 | #4 | 4 | 505 | 505 | 3700 | 36.8 |
| | 7 | #4 | 4 | 324 (1.5L) | 345 | 1380 | 13.7 |
| | 8 | #4 | 1 | 490 | 490 | 490 | 4.9 |
| | 9 | #3 | 117 | 129 / 25 | 159 | 18603 | 104.1 - |
| | | | | | Total | | 293.4 |
| Pórtico 3 | 1 | #4 | 4 | 1009 | 1030 | 4120 | 41.0 |
| | 2 | #4 | 4 | 449 | 470 | 1880 | 18.7 |
| | 3 | #4 | 4 | 724 (1.5L) | 890 | 3560 | 35.4 |
| | 4 | #4 | 4 | 565 | 590 | 2360 | 23.5 |
| | 5 | #4 | 1 | 420 | 420 | 420 | 4.2 |
| | 6 | #3 | 86 | 129 / 25 | 159 | 13674 | 76.5 |
| | | | | | Total | | 199.3 |
| Pórtico 4 | 1 | #6 | 2 | 789 | 820 | 1640 | 36.7 |
| | 2 | #6 | 2 | 810 | 810 | 1620 | 36.2 |
| | 3 | #6 | 2 | 454 (1.5L) | 485 | 970 | 21.7 |
| | 4 | #6 | 2 | 829 | 860 | 1720 | 38.5 |
| | 5 | #6 | 2 | 905 | 905 | 1810 | 40.5 |
| | 6 | #6 | 1 | 615 | 615 | 1230 | 27.3 |
| | 7 | #6 | 2 | 915 | 915 | 1830 | 40.9 |
| | 8 | #5 | 1 | 270 | 270 | 270 | 4.2 |
| | 9 | #6 | 1 | 300 | 300 | 300 | 6.7 |
| | 10 | #5 | 3 | 224 (1.5L) | 230 | 690 | 10.7 |
| | 11 | #5 | 1 | 250 | 250 | 1250 | 19.4 |
| | 12 | #6 | 4 | 275 | 275 | 1100 | 24.6 |
| | 13 | #6 | 2 | 699 (1.5L) | 730 | 1460 | 32.7 |
| | 14 | #7 | 2 | 580 | 580 | 1160 | 36.3 |
| | 15 | #6 | 2 | 364 (1.5L) | 395 | 790 | 17.7 |
| | 16 | #4 | 1 | 155 | 155 | 155 | 1.5 |
| | 17 | #4 | 3 | 280 | 280 | 840 | 8.4 |
| | 18 | #6 | 5 | 560 | 560 | 2800 | 62.6 |
| | 19 | #6 | 2 | 710 | 710 | 1420 | 31.8 |
| | 20 | #5 | 1 | 265 | 265 | 265 | 4.1 |
| | 21 | #3 | 163 | 129 / 25 | 159 | 25917 | 145.1 - |
| | | | | | Total | | 646.6 |
| Pórtico 5 | 1 | #4 | 4 | 964 | 1015 | 4060 | 40.4 |
| | 2 | #4 | 4 | 464 (1.5L) | 485 | 1940 | 19.3 |
| | 3 | #4 | 4 | 724 (1.5L) | 890 | 3560 | 35.4 |
| | 4 | #4 | 4 | 569 (1.5L) | 590 | 2360 | 23.5 |
| | 5 | #3 | 112 | 129 / 25 | 159 | 17808 | 99.7 |
| | | | | | Total | | 218.3 |
| Pórtico 6 | 1 | #6 | 2 | 784 | 815 | 1630 | 36.5 |
| | 2 | #6 | 2 | 810 | 810 | 1620 | 36.2 |
| | 3 | #6 | 2 | 497 (1.5L) | 528 | 1056 | 23.6 |
| | 4 | #5 | 2 | 194 | 220 | 440 | 6.8 |
| | 5 | #6 | 2 | 570 | 570 | 1140 | 25.5 |
| | 6 | #6 | 2 | 915 | 915 | 1830 | 40.9 |
| | 7 | #5 | 1 | 435 | 435 | 435 | 6.8 |
| | 8 | #5 | 2 | 795 | 795 | 1590 | 24.7 |
| | 9 | #6 | 2 | 834 (1.5L) | 865 | 1730 | 38.7 |
| | 10 | #6 | 2 | 920 | 920 | 1840 | 41.2 |
| | 11 | #6 | 3 | 410 | 410 | 1230 | 27.5 |
| | 12 | #6 | 3 | 275 | 275 | 825 | 18.5 |
| | 13 | #6 | 2 | 699 (1.5L) | 730 | 1460 | 32.7 |
| | 14 | #6 | 5 | 575 | 575 | 2875 | 64.3 |
| | 15 | #7 | 2 | 615 | 615 | 1230 | 37.5 |
| | 16 | #6 | 2 | 329 (1.5L) | 360 | 720 | 16.1 |
| | 17 | #4 | 3 | 295 | 295 | 885 | 8.8 |
| | 18 | #6 | 2 | 740 | 740 | 1480 | 33.1 |
| | 19 | #3 | 163 | 129 / 25 | 159 | 25917 | 145.1 |
| | | | | | Total | | 664.5 |
| Pórtico 7 | 1 | #4 | 8 | 964 | 1015 | 8120 | 80.8 |
| | 2 | #4 | 4 | 464 (1.5L) | 485 | 1940 | 19.3 |
| | 3 | #4 | 4 | 724 (1.5L) | 865 | 1860 | 18.5 |
| | 4 | #4 | 1 | 665 | 665 | 665 | 6.6 |
| | 5 | #3 | 111 | 129 / 25 | 159 | 17649 | 98.8 |
| | | | | | Total | | 224.2 |
| Pórtico 8 | 1 | #6 | 2 | 784 | 815 | 1630 | 36.5 |
| | 2 | #6 | 2 | 810 | 810 | 1620 | 36.2 |
| | 3 | #6 | 2 | 497 (1.5L) | 528 | 1056 | 23.6 |
| | 4 | #5 | 2 | 194 | 220 | 440 | 6.8 |
| | 5 | #6 | 2 | 570 | 570 | 1140 | 25.5 |
| | 6 | #6 | 2 | 915 | 915 | 1830 | 40.9 |
| | 7 | #5 | 1 | 435 | 435 | 435 | 6.8 |
| | 8 | #5 | 2 | 795 | 795 | 1590 | 24.7 |
| | 9 | #6 | 2 | 834 (1.5L) | 865 | 1730 | 38.7 |
| | 10 | #6 | 2 | 920 | 920 | 1840 | 41.2 |
| | 11 | #6 | 3 | 410 | 410 | 1230 | 27.5 |
| | 12 | #6 | 3 | 275 | 275 | 825 | 18.5 |
| | 13 | #6 | 2 | 699 (1.5L) | 730 | 1460 | 32.7 |
| | 14 | #6 | 5 | 575 | 575 | 2875 | 64.3 |
| | 15 | #7 | 2 | 615 | 615 | 1230 | 37.5 |
| | 16 | #6 | 2 | 329 (1.5L) | 360 | 720 | 16.1 |
| | 17 | #4 | 3 | 295 | 295 | 885 | 8.8 |
| | 18 | #6 | 2 | 740 | 740 | 1480 | 33.1 |
| | 19 | #3 | 163 | 129 / 25 | 159 | 25917 | 145.1 |
| | | | | | Total | | 664.5 |

| | |
|---|---|
| #3 | 1958.9 |
| #4 | 1707.6 |
| #5 | 1006.0 |
| #6 | 1656.0 |
| #7 | 230.3 |
| #8 | 80.2 |
| Total | 6160.9 |

P2 N+5.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:100
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

Pórticos
Longitudes
Separación
Diámetros
Referencias
Detalles

Unidades en cm

4P184@0.20/1.23/4.93

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No: 22202-221884 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE SXS AULAS
DESPIECE DE VIGAS N PISO 2 (1)

OBSERVACIONES

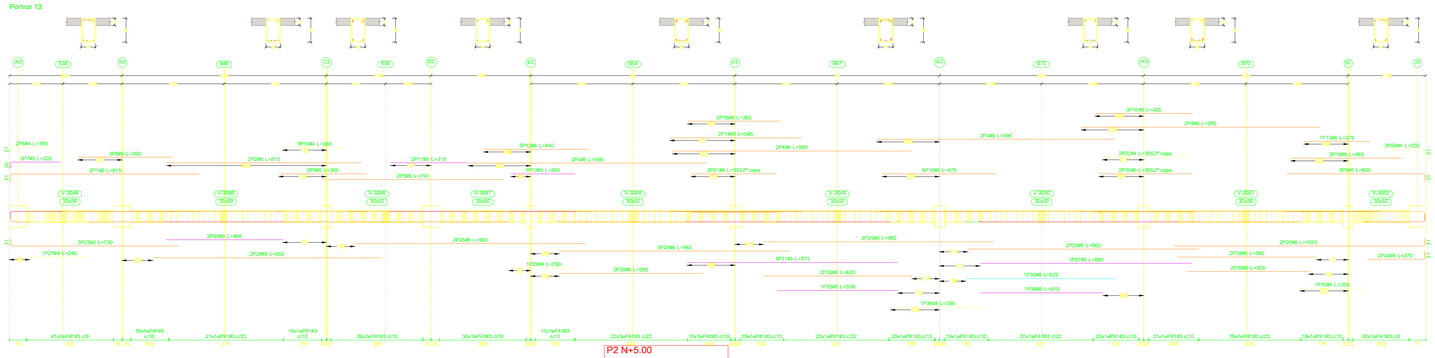
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será añarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

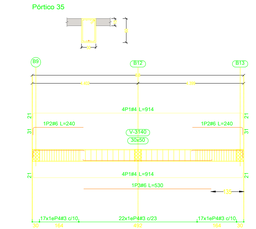
PLANO DE 15/21

## Pórtico 13

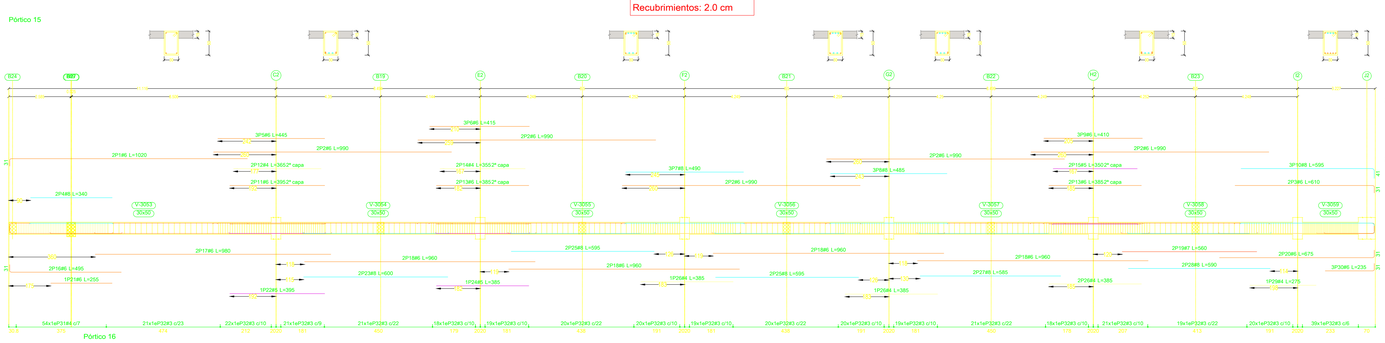



P2 N+5.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:100
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

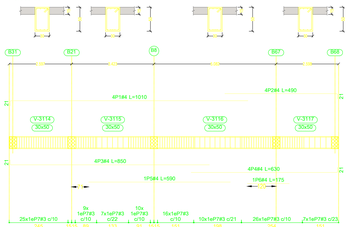
## Pórtico 35



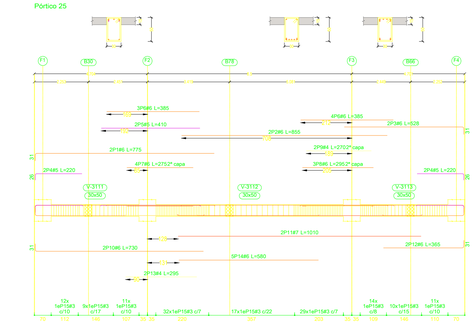

## Pórtico 15



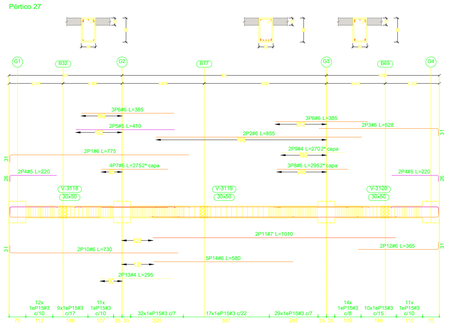

## Pórtico 26



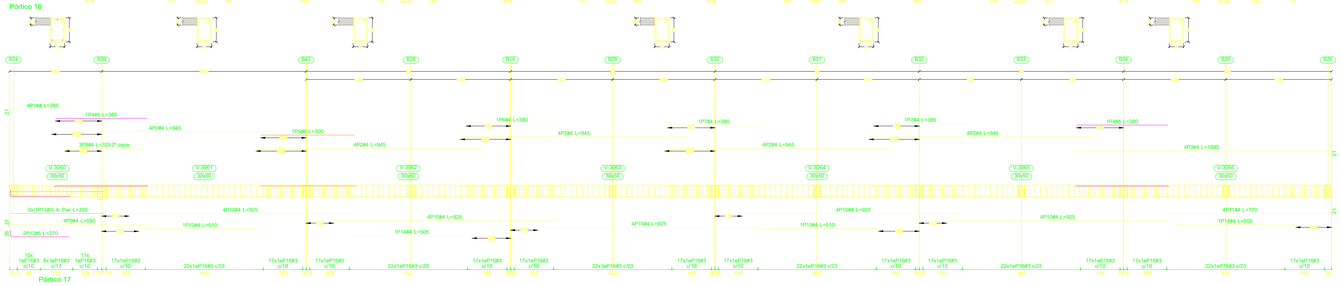

## Pórtico 25



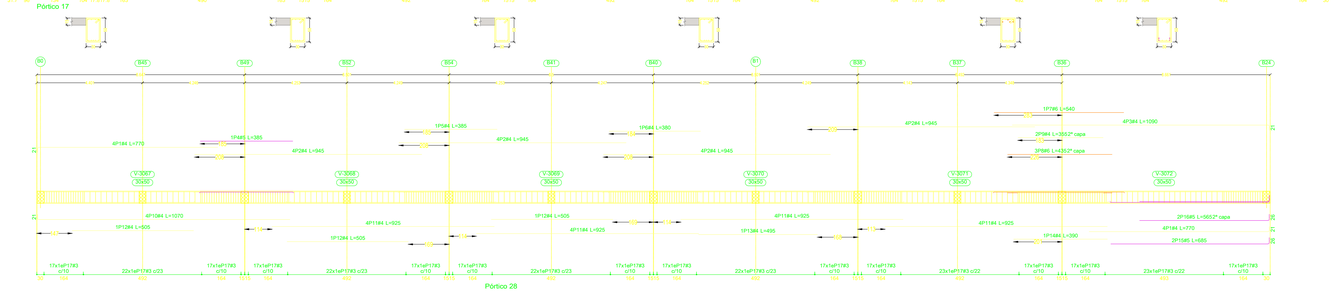

## Pórtico 27



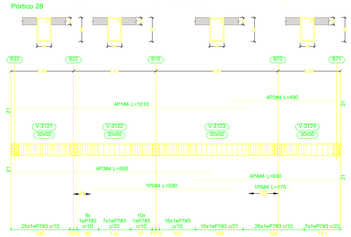

## Pórtico 16




## Pórtico 17




## Pórtico 28




Unidades en cm
Recubrimiento
Separación
Diámetro
Referencia
Cantidad
4P1286@20 L=235 K3

| Elemento | Pos. | Diám. | No. | Esquema | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 25 | 1 | #6 | 2 | 744 | 775 | 1550 | 34.7 |
| | 2 | #6 | 2 | 855 | 855 | 1710 | 38.3 |
| | 3 | #6 | 2 | 497 | 528 | 1056 | 23.6 |
| | 4 | #5 | 4 | 194 | 220 | 880 | 13.7 |
| | 5 | #5 | 2 | 410 | 410 | 820 | 12.7 |
| | 6 | #6 | 7 | 385 | 385 | 2695 | 60.3 |
| | 7 | #6 | 4 | 275 | 275 | 1100 | 24.6 |
| | 8 | #6 | 3 | 295 | 295 | 885 | 19.8 |
| | 9 | #4 | 2 | 270 | 270 | 540 | 5.4 |
| | 10 | #6 | 2 | 699 | 730 | 1460 | 32.7 |
| | 11 | #7 | 2 | 1010 | 1010 | 2020 | 61.5 |
| | 12 | #6 | 2 | 334 | 365 | 730 | 16.3 |
| | 13 | #4 | 2 | 295 | 295 | 590 | 5.9 |
| | 14 | #6 | 5 | 580 | 580 | 2900 | 64.9 |
| | 15 | #3 | 145 | 120 20 | 159 | 23055 | 129.0 |
| | | | | | | Total | 543.4 |
| Pórtico 27 | 1 | #6 | 2 | 744 | 775 | 1550 | 34.7 |
| | 2 | #6 | 2 | 855 | 855 | 1710 | 38.3 |
| | 3 | #6 | 2 | 497 | 528 | 1056 | 23.6 |
| | 4 | #5 | 4 | 194 | 220 | 880 | 13.7 |
| | 5 | #5 | 2 | 410 | 410 | 820 | 12.7 |
| | 6 | #6 | 6 | 385 | 385 | 2310 | 51.7 |
| | 7 | #6 | 4 | 275 | 275 | 1100 | 24.6 |
| | 8 | #6 | 3 | 295 | 295 | 885 | 19.8 |
| | 9 | #4 | 2 | 270 | 270 | 540 | 5.4 |
| | 10 | #6 | 2 | 699 | 730 | 1460 | 32.7 |
| | 11 | #7 | 2 | 1010 | 1010 | 2020 | 61.5 |
| | 12 | #6 | 2 | 334 | 365 | 730 | 16.3 |
| | 13 | #4 | 2 | 295 | 295 | 590 | 5.9 |
| | 14 | #6 | 5 | 580 | 580 | 2900 | 64.9 |
| | 15 | #3 | 145 | 120 20 | 159 | 23055 | 129.0 |
| | | | | | | Total | 534.8 |
| Pórtico 28 | 1 | #4 | 4 | 989 | 1010 | 4040 | 40.2 |
| | 2 | #4 | 4 | 469 | 490 | 1960 | 19.5 |
| | 3 | #4 | 4 | 829 | 850 | 3400 | 33.8 |
| | 4 | #4 | 4 | 609 | 630 | 2520 | 25.1 |
| | 5 | #4 | 1 | 590 | 590 | 590 | 5.9 |
| | 6 | #4 | 1 | 175 | 175 | 175 | 1.7 |
| | 7 | #3 | 110 | 120 20 | 159 | 17490 | 97.9 |
| | | | | | | Total | 224.1 |
| Pórtico 35 | 1 | #4 | 8 | 872 | 914 | 7312 | 72.7 |
| | 2 | #6 | 2 | 209 | 240 | 480 | 10.7 |
| | 3 | #5 | 1 | 530 | 530 | 530 | 11.9 |
| | 4 | #3 | 56 | 120 20 | 159 | 8904 | 49.8 |
| | | | | | | Total | 145.1 |

| Elemento | Pos. | Diám. | No. | Esquema | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 13 | 1 | #6 | 2 | 784 | 815 | 1630 | 36.5 |
| | 2 | #6 | 2 | 810 | 810 | 1620 | 36.2 |
| | 3 | #6 | 2 | 750 | 750 | 1500 | 33.6 |
| | 4 | #6 | 8 | 990 | 990 | 7920 | 177.2 |
| | 5 | #6 | 3 | 574 | 605 | 1815 | 40.6 |
| | 6 | #4 | 2 | 174 | 195 | 390 | 3.9 |
| | 7 | #5 | 3 | 209 | 235 | 705 | 11.0 |
| | 8 | #6 | 3 | 390 | 390 | 1170 | 26.2 |
| | 9 | #6 | 2 | 365 | 365 | 730 | 16.3 |
| | 10 | #4 | 2 | 265 | 265 | 530 | 5.3 |
| | 11 | #5 | 2 | 315 | 315 | 630 | 9.8 |
| | 12 | #6 | 3 | 440 | 440 | 1320 | 29.5 |
| | 13 | #5 | 1 | 265 | 265 | 265 | 4.1 |
| | 14 | #6 | 2 | 545 | 545 | 1090 | 24.4 |
| | 15 | #6 | 4 | 385 | 385 | 1540 | 34.5 |
| | 16 | #6 | 5 | 475 | 475 | 2375 | 53.1 |
| | 17 | #6 | 3 | 405 | 405 | 1215 | 27.2 |
| | 18 | #6 | 3 | 465 | 465 | 1395 | 31.2 |
| | 19 | #6 | 1 | 275 | 275 | 275 | 6.2 |
| | 20 | #4 | 3 | 194 | 205 | 615 | 6.1 |
| | 21 | #6 | 1 | 355 | 355 | 710 | 15.9 |
| | 22 | #4 | 2 | 355 | 355 | 710 | 7.1 |
| | 23 | #6 | 3 | 699 | 730 | 2190 | 49.0 |
| | 24 | #6 | 2 | 950 | 950 | 1900 | 42.5 |
| | 25 | #6 | 9 | 960 | 960 | 8640 | 193.3 |
| | 26 | #6 | 2 | 1044 | 1075 | 2150 | 48.1 |
| | 27 | #4 | 1 | 245 | 245 | 245 | 2.4 |
| | 28 | #5 | 2 | 445 | 485 | 970 | 15.1 |
| | 29 | #4 | 1 | 290 | 290 | 290 | 2.9 |
| | 30 | #6 | 3 | 595 | 595 | 1785 | 39.9 |
| | 31 | #5 | 1 | 875 | 875 | 875 | 13.6 |
| | 32 | #6 | 2 | 620 | 620 | 1240 | 27.7 |
| | 33 | #5 | 1 | 500 | 500 | 500 | 7.8 |
| | 34 | #4 | 1 | 390 | 390 | 390 | 3.9 |
| | 35 | #8 | 1 | 625 | 625 | 625 | 24.9 |
| | 36 | #5 | 1 | 510 | 510 | 510 | 7.9 |
| | 37 | #5 | 1 | 880 | 880 | 880 | 13.7 |
| | 38 | #6 | 2 | 580 | 580 | 1160 | 26.0 |
| | 39 | #6 | 2 | 505 | 505 | 1010 | 22.6 |
| | 40 | #6 | 2 | 238 | 270 | 540 | 12.1 |
| | 41 | #3 | 432 | 120 20 | 159 | 68688 | 384.5 |
| | | | | | | Total | 1572.8 |
| Pórtico 15 | 1 | #6 | 2 | 989 | 1020 | 2040 | 45.6 |
| | 2 | #6 | 10 | 990 | 990 | 9900 | 221.5 |
| | 3 | #6 | 2 | 879 | 610 | 1220 | 27.3 |
| | 4 | #6 | 2 | 340 | 340 | 680 | 27.0 |
| | 5 | #6 | 3 | 445 | 445 | 1335 | 29.9 |
| | 6 | #6 | 3 | 415 | 415 | 1245 | 27.9 |
| | 7 | #6 | 3 | 490 | 490 | 1470 | 58.5 |
| | 8 | #6 | 3 | 485 | 485 | 1455 | 57.9 |
| | 9 | #6 | 3 | 410 | 410 | 1230 | 27.5 |
| | 10 | #6 | 3 | 954 | 995 | 1785 | 71.0 |
| | 11 | #6 | 2 | 395 | 395 | 790 | 17.7 |
| | 12 | #4 | 2 | 365 | 365 | 730 | 7.3 |
| | 13 | #6 | 4 | 385 | 385 | 1540 | 34.5 |
| | 14 | #4 | 2 | 355 | 355 | 710 | 7.1 |
| | 15 | #5 | 2 | 350 | 360 | 700 | 10.9 |
| | 16 | #6 | 2 | 464 | 495 | 990 | 22.1 |
| | 17 | #6 | 2 | 980 | 980 | 1960 | 43.9 |
| | 18 | #6 | 8 | 960 | 960 | 7680 | 171.8 |
| | 19 | #7 | 2 | 560 | 560 | 1120 | 34.1 |
| | 20 | #6 | 2 | 644 | 675 | 1350 | 30.2 |
| | 21 | #6 | 1 | 255 | 255 | 255 | 5.7 |
| | 22 | #5 | 1 | 395 | 395 | 395 | 6.1 |
| | 23 | #8 | 2 | 600 | 600 | 1200 | 47.7 |
| | 24 | #5 | 1 | 365 | 365 | 365 | 5.6 |
| | 25 | #8 | 4 | 995 | 995 | 2380 | 94.7 |
| | 26 | #4 | 4 | 385 | 385 | 1540 | 15.3 |
| | 27 | #8 | 2 | 585 | 585 | 1170 | 46.5 |
| | 28 | #8 | 2 | 590 | 590 | 1180 | 46.9 |
| | 29 | #4 | 1 | 275 | 275 | 275 | 2.7 |
| | 30 | #6 | 3 | 204 | 235 | 705 | 15.8 |
| | 31 | #4 | 54 | 120 20 | 164 | 8856 | 88.1 |
| | 32 | #3 | 378 | 120 20 | 159 | 60102 | 336.4 |
| | | | | | | Total | 1685.6 |
| Pórtico 16 | 1 | #4 | 4 | 264 | 285 | 1140 | 11.3 |
| | 2 | #4 | 20 | 545 | 545 | 10900 | 108.0 |
| | 3 | #4 | 4 | 1069 | 1090 | 4360 | 43.4 |
| | 4 | #5 | 2 | 380 | 380 | 760 | 11.8 |
| | 5 | #6 | 1 | 390 | 390 | 390 | 8.7 |
| | 6 | #4 | 1 | 380 | 380 | 380 | 3.8 |
| | 7 | #4 | 2 | 385 | 385 | 770 | 7.7 |
| | 8 | #4 | 3 | 325 | 325 | 975 | 9.7 |
| | 9 | #4 | 4 | 569 | 590 | 2360 | 23.5 |
| | 10 | #4 | 20 | 925 | 925 | 18500 | 184.0 |
| | 11 | #4 | 4 | 749 | 770 | 3080 | 30.6 |
| | 12 | #5 | 2 | 244 | 270 | 540 | 8.4 |
| | 13 | #4 | 2 | 510 | 510 | 1020 | 10.1 |
| | 14 | #4 | 2 | 505 | 505 | 1010 | 10.0 |
| | 15 | #3 | 2 | 393 | 393 | 786 | 4.4 |
| | 16 | #3 | 365 | 120 20 | 159 | 58035 | 324.8 |
| | | | | | | Total | 880.2 |
| Pórtico 17 | 1 | #4 | 8 | 749 | 770 | 6160 | 61.3 |
| | 2 | #4 | 16 | 945 | 945 | 15120 | 150.4 |
| | 3 | #4 | 4 | 1069 | 1090 | 4360 | 43.4 |
| | 4 | #5 | 1 | 385 | 385 | 385 | 6.0 |
| | 5 | #4 | 1 | 395 | 395 | 395 | 3.8 |
| | 6 | #4 | 1 | 380 | 380 | 380 | 3.8 |
| | 7 | #6 | 1 | 540 | 540 | 540 | 12.1 |
| | 8 | #6 | 3 | 435 | 435 | 1305 | 29.2 |
| | 9 | #4 | 2 | 355 | 355 | 710 | 7.1 |
| | 10 | #4 | 4 | 1049 | 1070 | 4280 | 42.6 |
| | 11 | #4 | 16 | 925 | 925 | 14800 | 147.2 |
| | 12 | #4 | 3 | 505 | 505 | 1515 | 15.1 |
| | 13 | #4 | 1 | 495 | 495 | 495 | 4.9 |
| | 14 | #4 | 1 | 390 | 390 | 390 | 3.9 |
| | 15 | #5 | 2 | 659 | 685 | 1370 | 21.3 |
| | 16 | #5 | 2 | 529 | 565 | 1130 | 17.6 |
| | 17 | #3 | 338 | 120 20 | 159 | 53742 | 300.8 |
| | | | | | | Total | 870.5 |
| Pórtico 26 | 1 | #4 | 4 | 989 | 1010 | 4040 | 40.2 |
| | 2 | #4 | 4 | 469 | 490 | 1960 | 19.5 |
| | 3 | #4 | 4 | 829 | 850 | 3400 | 33.8 |
| | 4 | #4 | 4 | 609 | 630 | 2520 | 25.1 |
| | 5 | #4 | 1 | 590 | 590 | 590 | 5.9 |
| | 6 | #4 | 1 | 175 | 175 | 175 | 1.7 |
| | 7 | #3 | 110 | 120 20 | 159 | 17490 | 97.9 |
| | | | | | | Total | 224.1 |

| | |
|---|---|
| #3 | 1854.5 |
| #4 | 1693.5 |
| #5 | 223.8 |
| #6 | 2466.6 |
| #7 | 157.1 |
| #8 | 475.1 |
| Total | 6871.6 |

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO


OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221864 COR


CONTIENE

BLOQUE SXS AULAS
DESPIECE DE VIGAS N PISO 2 (2)

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural haran parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será añarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

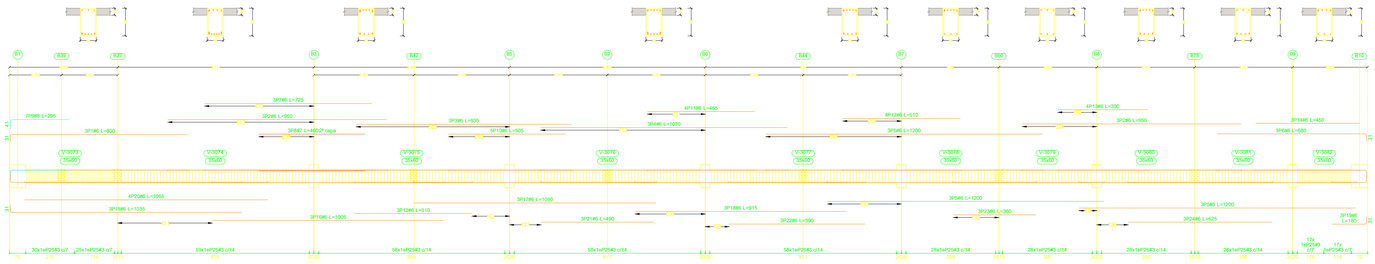
FECHA: MARZO 2025

ESCALA: INDICADA

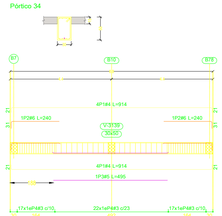
PLANO DE 16/21


Cualquier modificación parcial o total del diseño estructural debe ser supervisado y aprobado por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

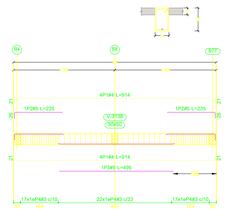
## Pórtico 18



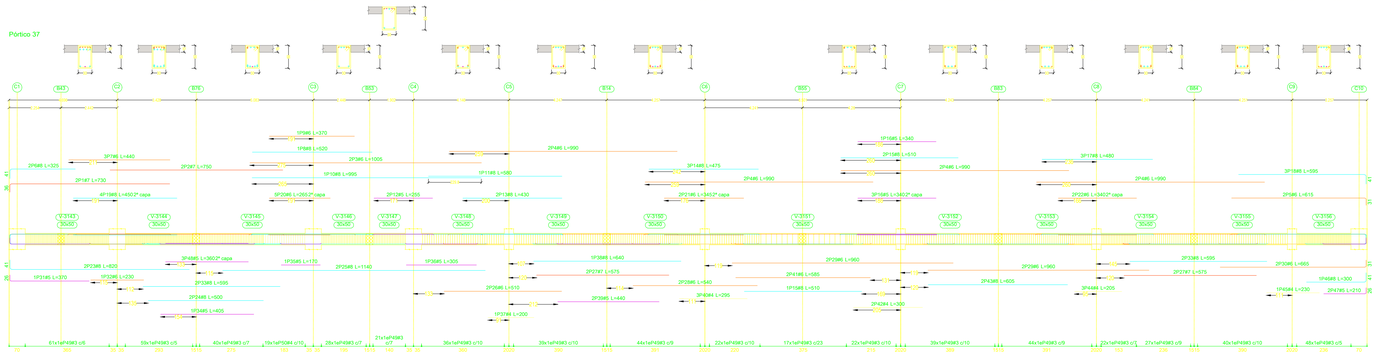

## Pórtico 34



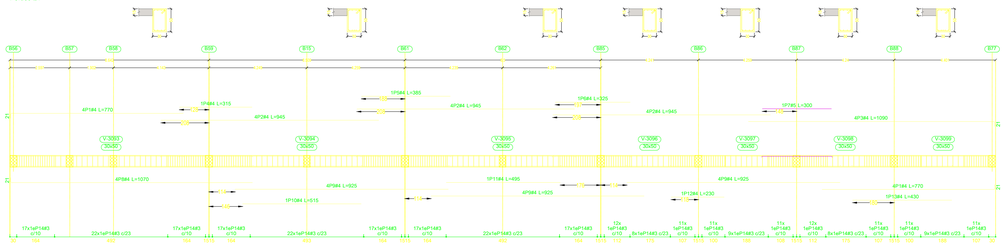

## Pórtico 33



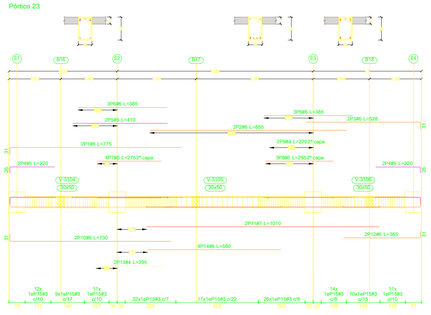

## Pórtico 37



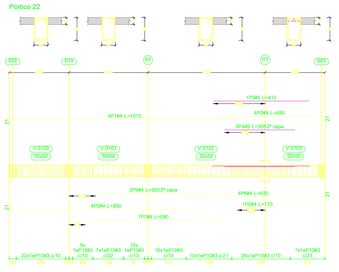

## Pórtico 21



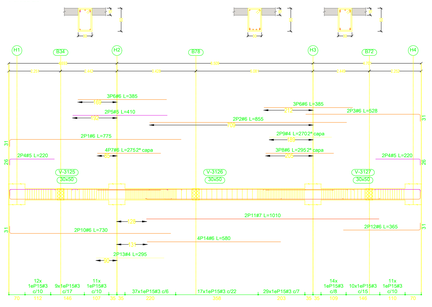

## Pórtico 23



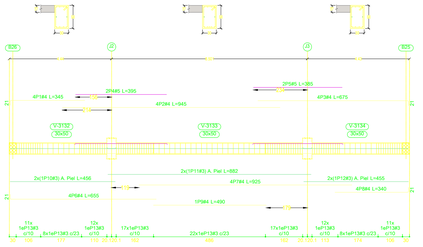

## Pórtico 22



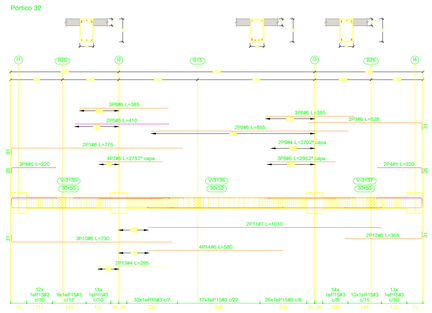

## Pórtico 29



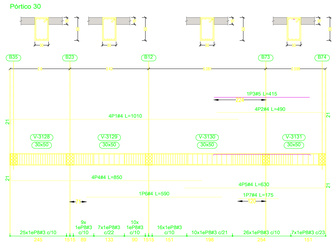

## Pórtico 31



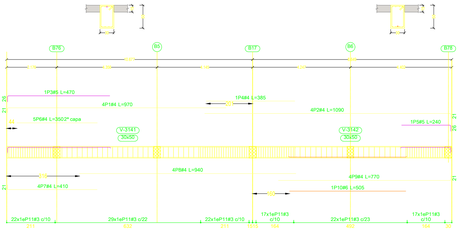

## Pórtico 32




## Pórtico 30




## Pórtico 36




## Pórtico 18

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 29 | 1 | #6 | 2 | 744 | 775 | 1550 | 34.7 |
| | 2 | #6 | 2 | 855 | 855 | 1710 | 38.3 |
| | 3 | #5 | 2 | 497 | 528 | 1056 | 23.6 |
| | 4 | #5 | 4 | 194 | 220 | 880 | 13.7 |
| | 5 | #3 | 3 | 535 | 410 | 820 | 12.7 |
| | 6 | #5 | 6 | 385 | 385 | 2310 | 51.7 |
| | 7 | #6 | 4 | 275 | 275 | 1100 | 24.6 |
| | 8 | #6 | 3 | 295 | 295 | 885 | 19.8 |
| | 9 | #4 | 2 | 270 | 270 | 540 | 5.4 |
| | 10 | #6 | 2 | 730 | 730 | 1460 | 32.7 |
| | 11 | #7 | 2 | 1010 | 1010 | 2020 | 61.5 |
| | 12 | #6 | 2 | 365 | 365 | 730 | 16.3 |
| | 13 | #4 | 2 | 295 | 295 | 590 | 5.9 |
| | 14 | #6 | 4 | 580 | 580 | 2320 | 51.9 |
| | 15 | #3 | 150 | 159 | 159 | 23850 | 133.5 |
| | | | | | | Total | 526.3 |
| Pórtico 31 | 1 | #4 | 4 | 324 | 345 | 1380 | 13.7 |
| | 2 | #4 | 4 | 945 | 945 | 3780 | 37.6 |
| | 3 | #4 | 4 | 954 | 675 | 2700 | 26.9 |
| | 4 | #5 | 2 | 395 | 395 | 790 | 12.3 |
| | 5 | #5 | 2 | 365 | 386 | 772 | 12.0 |
| | 6 | #4 | 4 | 634 | 655 | 2620 | 26.1 |
| | 7 | #4 | 4 | 925 | 925 | 3700 | 36.8 |
| | 8 | #4 | 4 | 319 | 340 | 1360 | 13.5 |
| | 9 | #4 | 1 | 490 | 490 | 490 | 4.9 |
| | 10 | #3 | 2 | 506 | 456 | 912 | 5.1 |
| | 11 | #3 | 2 | 882 | 882 | 1764 | 9.9 |
| | 12 | #3 | 2 | 455 | 455 | 910 | 5.1 |
| | 13 | #3 | 116 | 159 | 159 | 18762 | 105.0 |
| | | | | | | Total | 308.9 |
| Pórtico 30 | 1 | #4 | 4 | 969 | 1010 | 4040 | 40.2 |
| | 2 | #4 | 4 | 469 | 490 | 1960 | 19.5 |
| | 3 | #5 | 1 | 415 | 415 | 415 | 6.4 |
| | 4 | #4 | 4 | 829 | 850 | 3400 | 33.8 |
| | 5 | #4 | 4 | 609 | 630 | 2520 | 25.1 |
| | 6 | #4 | 1 | 590 | 590 | 590 | 5.9 |
| | 7 | #4 | 1 | 175 | 175 | 175 | 1.7 |
| | 8 | #3 | 110 | 159 | 159 | 17490 | 97.9 |
| | | | | | | Total | 230.5 |
| Pórtico 34 | 1 | #4 | 8 | 872 | 914 | 7312 | 72.7 |
| | 2 | #5 | 2 | 209 | 240 | 480 | 10.7 |
| | 3 | #5 | 1 | 495 | 495 | 495 | 7.7 |
| | 4 | #3 | 56 | 159 | 159 | 8904 | 49.8 |
| | | | | | | Total | 140.9 |
| Pórtico 33 | 1 | #4 | 8 | 872 | 914 | 7312 | 72.7 |
| | 2 | #5 | 2 | 209 | 235 | 470 | 7.3 |
| | 3 | #5 | 1 | 495 | 495 | 495 | 7.7 |
| | 4 | #3 | 56 | 159 | 159 | 8904 | 49.8 |
| | | | | | | Total | 137.5 |
| Pórtico 36 | 1 | #4 | 4 | 949 | 970 | 3880 | 38.6 |
| | 2 | #4 | 4 | 1069 | 1090 | 4360 | 43.4 |
| | 3 | #5 | 1 | 444 | 470 | 470 | 7.3 |
| | 4 | #4 | 1 | 385 | 385 | 385 | 3.8 |
| | 5 | #5 | 1 | 214 | 240 | 240 | 3.7 |
| | 6 | #4 | 5 | 900 | 390 | 1750 | 17.4 |
| | 7 | #4 | 4 | 389 | 410 | 1640 | 16.3 |
| | 8 | #4 | 4 | 940 | 940 | 3760 | 37.4 |
| | 9 | #4 | 4 | 749 | 770 | 3080 | 30.6 |
| | 10 | #6 | 1 | 505 | 505 | 505 | 11.3 |
| | 11 | #3 | 129 | 159 | 159 | 20511 | 114.8 |
| | | | | | | Total | 324.8 |
| Pórtico 32 | 1 | #6 | 2 | 744 | 775 | 1550 | 34.7 |
| | 2 | #6 | 2 | 855 | 855 | 1710 | 38.3 |
| | 3 | #6 | 2 | 497 | 528 | 1056 | 23.6 |
| | 4 | #5 | 5 | 194 | 220 | 1100 | 17.1 |
| | 5 | #5 | 2 | 410 | 410 | 820 | 12.7 |
| | 6 | #6 | 6 | 385 | 385 | 2310 | 51.7 |
| | 7 | #6 | 4 | 275 | 275 | 1100 | 24.6 |
| | 8 | #6 | 3 | 295 | 295 | 885 | 19.8 |
| | 9 | #4 | 2 | 270 | 270 | 540 | 5.4 |
| | 10 | #6 | 3 | 730 | 730 | 2190 | 49.0 |
| | 11 | #7 | 2 | 1010 | 1010 | 2020 | 61.5 |
| | 12 | #6 | 2 | 334 | 365 | 730 | 16.3 |
| | 13 | #4 | 2 | 295 | 295 | 590 | 5.9 |
| | 14 | #6 | 4 | 580 | 580 | 2320 | 51.9 |
| | 15 | #3 | 142 | 159 | 159 | 22578 | 126.4 |
| | | | | | | Total | 538.9 |

## Pórtico 18

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 18 | 1 | #6 | 3 | 769 | 800 | 2400 | 53.7 |
| | 2 | #6 | 6 | 950 | 950 | 5700 | 127.5 |
| | 3 | #6 | 3 | 935 | 935 | 2805 | 62.8 |
| | 4 | #6 | 3 | 1070 | 1070 | 3210 | 71.8 |
| | 5 | #6 | 9 | 1200 | 1200 | 10800 | 241.6 |
| | 6 | #5 | 3 | 549 | 680 | 2040 | 45.6 |
| | 7 | #6 | 3 | 725 | 725 | 2175 | 48.7 |
| | 8 | #7 | 3 | 460 | 460 | 1380 | 42.0 |
| | 9 | #8 | 7 | 294 | 295 | 2065 | 82.1 |
| | 10 | #6 | 5 | 505 | 505 | 2525 | 56.5 |
| | 11 | #6 | 4 | 465 | 465 | 1860 | 41.6 |
| | 12 | #6 | 7 | 515 | 510 | 3570 | 79.9 |
| | 13 | #6 | 4 | 390 | 390 | 1560 | 34.9 |
| | 14 | #6 | 3 | 450 | 450 | 1350 | 30.2 |
| | 15 | #6 | 3 | 1004 | 1035 | 3105 | 69.5 |
| | 16 | #6 | 3 | 1005 | 1005 | 3015 | 67.5 |
| | 17 | #6 | 3 | 1050 | 1050 | 3150 | 70.5 |
| | 18 | #6 | 3 | 915 | 915 | 2745 | 61.4 |
| | 19 | #6 | 3 | 149 | 180 | 540 | 12.1 |
| | 20 | #6 | 4 | 1055 | 1055 | 4220 | 94.4 |
| | 21 | #6 | 3 | 490 | 490 | 1470 | 32.9 |
| | 22 | #6 | 3 | 590 | 590 | 1770 | 39.6 |
| | 23 | #5 | 3 | 360 | 360 | 1080 | 24.2 |
| | 24 | #6 | 3 | 625 | 625 | 1875 | 41.9 |
| | 25 | #3 | 434 | 159 | 189 | 82026 | 459.1 |
| | | | | | | Total | 1992.0 |
| Pórtico 21 | 1 | #4 | 8 | 749 | 770 | 6160 | 61.0 |
| | 2 | #4 | 12 | 945 | 945 | 11340 | 112.8 |
| | 3 | #4 | 4 | 1069 | 1090 | 4360 | 43.4 |
| | 4 | #4 | 1 | 315 | 315 | 315 | 3.1 |
| | 5 | #4 | 1 | 385 | 385 | 385 | 3.8 |
| | 6 | #4 | 1 | 325 | 325 | 325 | 3.2 |
| | 7 | #5 | 1 | 300 | 300 | 300 | 4.7 |
| | 8 | #4 | 4 | 1049 | 1070 | 4280 | 42.6 |
| | 9 | #4 | 12 | 925 | 925 | 11100 | 110.4 |
| | 10 | #4 | 1 | 515 | 515 | 515 | 5.1 |
| | 11 | #4 | 1 | 495 | 495 | 495 | 4.9 |
| | 12 | #4 | 1 | 230 | 230 | 230 | 2.3 |
| | 13 | #4 | 1 | 430 | 430 | 430 | 4.3 |
| | 14 | #3 | 292 | 159 | 159 | 46428 | 259.9 |
| | | | | | | Total | 661.6 |
| Pórtico 22 | 1 | #4 | 4 | 989 | 1010 | 4040 | 40.2 |
| | 2 | #4 | 4 | 469 | 490 | 1960 | 19.5 |
| | 3 | #5 | 1 | 415 | 415 | 415 | 6.4 |
| | 4 | #5 | 5 | 305 | 305 | 1525 | 23.7 |
| | 5 | #4 | 4 | 829 | 850 | 3400 | 33.8 |
| | 6 | #4 | 4 | 609 | 630 | 2520 | 25.1 |
| | 7 | #4 | 1 | 590 | 590 | 590 | 5.9 |
| | 8 | #4 | 1 | 175 | 175 | 175 | 1.7 |
| | 9 | #4 | 2 | 505 | 505 | 1010 | 10.0 |
| | 10 | #3 | 107 | 159 | 159 | 17013 | 95.2 |
| | | | | | | Total | 261.5 |
| Pórtico 23 | 1 | #6 | 2 | 744 | 775 | 1550 | 34.7 |
| | 2 | #6 | 2 | 855 | 855 | 1710 | 38.3 |
| | 3 | #6 | 2 | 497 | 528 | 1056 | 23.6 |
| | 4 | #5 | 4 | 194 | 220 | 880 | 13.7 |
| | 5 | #5 | 2 | 410 | 410 | 820 | 12.7 |
| | 6 | #6 | 6 | 385 | 385 | 2310 | 51.7 |
| | 7 | #6 | 4 | 275 | 275 | 1100 | 24.6 |
| | 8 | #6 | 3 | 295 | 295 | 885 | 19.8 |
| | 9 | #4 | 2 | 270 | 270 | 540 | 5.4 |
| | 10 | #6 | 3 | 730 | 730 | 1460 | 32.7 |
| | 11 | #7 | 2 | 1010 | 1010 | 2020 | 61.5 |
| | 12 | #6 | 2 | 334 | 365 | 730 | 16.3 |
| | 13 | #4 | 2 | 295 | 295 | 590 | 5.9 |
| | 14 | #6 | 4 | 580 | 580 | 2320 | 51.9 |
| | 15 | #3 | 142 | 159 | 159 | 22578 | 126.4 |
| | | | | | | Total | 519.2 |
| Pórtico 37 | 1 | #7 | 2 | 694 | 730 | 1460 | 44.5 |
| | 2 | #7 | 2 | 750 | 750 | 1500 | 45.7 |
| | 3 | #6 | 2 | 1005 | 1000 | 2010 | 45.0 |
| | 4 | #6 | 8 | 990 | 990 | 7920 | 177.2 |
| | 5 | #6 | 2 | 564 | 615 | 1230 | 27.5 |
| | 6 | #8 | 2 | 284 | 325 | 650 | 25.9 |
| | 7 | #6 | 3 | 440 | 440 | 1320 | 29.5 |
| | 8 | #8 | 1 | 520 | 520 | 520 | 20.7 |
| | 9 | #6 | 1 | 370 | 370 | 370 | 8.3 |
| | 10 | #6 | 1 | 990 | 990 | 990 | 39.6 |
| | 11 | #8 | 1 | 580 | 580 | 580 | 23.1 |
| | 12 | #5 | 2 | 255 | 255 | 510 | 7.9 |
| | 13 | #8 | 2 | 430 | 430 | 860 | 34.2 |
| | 14 | #8 | 3 | 475 | 475 | 1425 | 56.7 |
| | 15 | #8 | 3 | 510 | 510 | 1530 | 60.9 |
| | 16 | #5 | 4 | 340 | 340 | 1360 | 21.1 |
| | 17 | #8 | 3 | 480 | 480 | 1440 | 57.3 |
| | 18 | #8 | 3 | 564 | 586 | 1785 | 71.0 |
| | 19 | #8 | 4 | 450 | 450 | 1800 | 71.6 |
| | 20 | #6 | 5 | 265 | 265 | 1325 | 29.6 |
| | 21 | #6 | 2 | 345 | 345 | 690 | 15.4 |
| | 22 | #6 | 2 | 340 | 340 | 680 | 15.2 |
| | 23 | #8 | 2 | 779 | 820 | 1640 | 65.2 |
| | 24 | #8 | 2 | 500 | 500 | 1000 | 39.8 |
| | 25 | #8 | 2 | 1140 | 1140 | 2280 | 90.7 |
| | 26 | #6 | 2 | 510 | 510 | 1020 | 22.8 |
| | 27 | #7 | 4 | 575 | 575 | 2300 | 70.0 |
| | 28 | #6 | 2 | 540 | 540 | 1080 | 24.2 |
| | 29 | #6 | 4 | 960 | 960 | 3840 | 85.9 |
| | 30 | #6 | 2 | 634 | 665 | 1330 | 29.8 |
| | 31 | #5 | 1 | 344 | 370 | 370 | 5.7 |
| | 32 | #6 | 1 | 230 | 230 | 230 | 5.1 |
| | 33 | #8 | 4 | 556 | 586 | 2380 | 94.7 |
| | 34 | #5 | 1 | 405 | 405 | 405 | 6.3 |
| | 35 | #5 | 1 | 170 | 170 | 170 | 2.6 |
| | 36 | #5 | 1 | 305 | 305 | 305 | 4.7 |
| | 37 | #4 | 1 | 200 | 200 | 200 | 2.0 |
| | 38 | #8 | 1 | 640 | 640 | 640 | 25.5 |
| | 39 | #5 | 2 | 440 | 440 | 880 | 13.7 |
| | 40 | #4 | 3 | 295 | 295 | 885 | 8.8 |
| | 41 | #6 | 2 | 585 | 585 | 1170 | 26.2 |
| | 42 | #4 | 2 | 300 | 300 | 600 | 6.0 |
| | 43 | #8 | 2 | 605 | 605 | 1210 | 48.1 |
| | 44 | #4 | 3 | 205 | 205 | 615 | 6.1 |
| | 45 | #4 | 1 | 230 | 230 | 230 | 2.3 |
| | 46 | #8 | 1 | 269 | 300 | 300 | 11.9 |
| | 47 | #5 | 2 | 184 | 210 | 420 | 6.5 |
| | 48 | #5 | 3 | 365 | 360 | 1080 | 16.8 |
| | 49 | #3 | 609 | 159 | 159 | 96831 | 542.0 |
| | 50 | #4 | 19 | 164 | 3116 | 3116 | 31.0 |
| | | | | | | Total | 2222.3 |

| | |
|---|---|
| #3: | 2179.9 |
| #4: | 1242.1 |
| #5: | 267.1 |
| #6: | 2866.6 |
| #7: | 1276.0 |
| #8: | 919.2 |
| Total | 7864.4 |

Fuente: Arial
Unidades en cm
Separación
Recubrimiento
Referencia
Cantidad

4P184@200 L=238 R.S.

P2 N+5.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:100
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

**ESPACIO PÚBLICO**

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221666 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE SXS AULAS
DESPIECE DE VIGAS N PISO 2 (3)

OBSERVACIONES

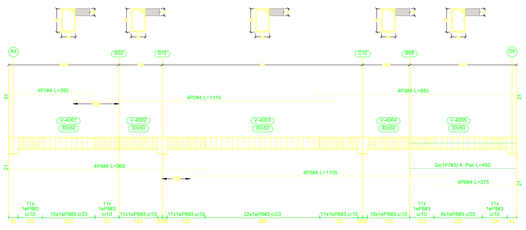
1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será aclarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

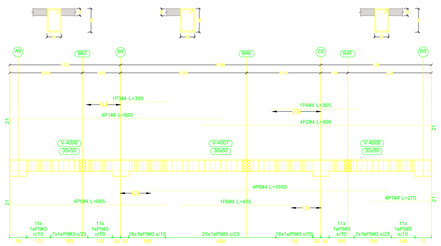
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO DE
17/21

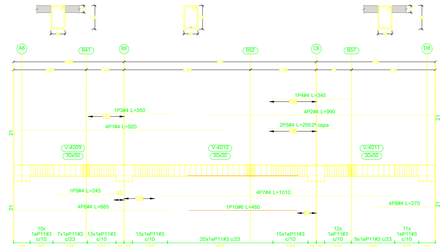
Pórtico 1



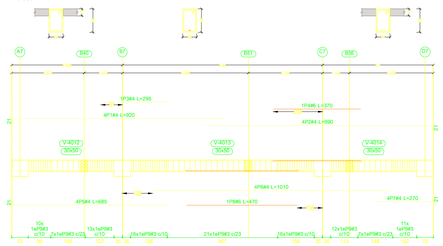

Pórtico 2




Pórtico 3



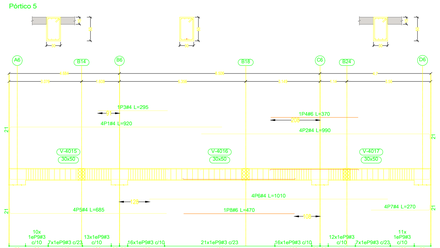

Pórtico 4



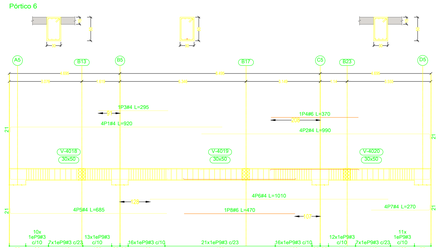

Cub. N+7.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Acero laminado en perfiles: ASTM A 572 50 ksi
Escala pórticos 1:100
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

| Elemento | Pos. | Diám. | No. | Pat. (cm) | Recta (cm) | Pat. (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 4 | 21 | 384 | | 384 | 1536 | 16.3 |
| | 2 | #4 | 4 | | 1110 | | 1110 | 4440 | 44.2 |
| | 3 | #4 | 4 | | 864 | 21 | 885 | 3540 | 35.2 |
| | 4 | #4 | 4 | 21 | 644 | | 865 | 3460 | 34.4 |
| | 5 | #4 | 4 | | 1084 | 21 | 1105 | 4420 | 44.0 |
| | 6 | #4 | 4 | | 1364 | | 1385 | 5540 | 14.9 |
| | 7 | #3 | 2 | | 449.7 | | 450 | 900 | 5.0 |
| | 8 | #3 | 164 | 9.5 | 140.2 | 9.5 | 159 | 24466 | 137.0 |
| | | | | | | | | Total | 330.0 |
| Pórtico 2 | 1 | #4 | 4 | 21 | 896 | | 920 | 3680 | 36.6 |
| | 2 | #4 | 4 | | 969 | 21 | 990 | 3960 | 39.4 |
| | 3 | #4 | 1 | | 350 | | 350 | 350 | 3.5 |
| | 4 | #4 | 3 | | 365 | | 365 | 365 | 3.6 |
| | 5 | #4 | 4 | 21 | 664 | | 685 | 2740 | 27.3 |
| | 6 | #4 | 4 | | 1010 | | 1010 | 4040 | 40.2 |
| | 7 | #4 | 4 | | 249 | 21 | 270 | 1080 | 10.7 |
| | 8 | #4 | 1 | | 470 | | 470 | 470 | 4.7 |
| | 9 | #3 | 111 | 9.5 | 140.2 | 9.5 | 159 | 17649 | 98.8 |
| | | | | | | | | Total | 364.4 |
| Pórtico 3 | 1 | #4 | 4 | 21 | 896 | | 920 | 3680 | 36.6 |
| | 2 | #4 | 4 | | 969 | 21 | 990 | 3960 | 39.4 |
| | 3 | #4 | 1 | | 350 | | 350 | 350 | 3.5 |
| | 4 | #4 | 3 | | 365 | | 365 | 365 | 3.6 |
| | 5 | #4 | 4 | 21 | 664 | | 685 | 2740 | 27.3 |
| | 6 | #4 | 4 | | 1010 | | 1010 | 4040 | 40.2 |
| | 7 | #4 | 4 | | 249 | 21 | 270 | 1080 | 10.7 |
| | 8 | #4 | 1 | | 470 | | 470 | 470 | 4.7 |
| | 9 | #3 | 112 | 9.5 | 140.2 | 9.5 | 159 | 17808 | 99.7 |
| | | | | | | | | Total | 274.4 |
| Pórtico 4 | 1 | #4 | 4 | 21 | 896 | | 920 | 3680 | 36.6 |
| | 2 | #4 | 4 | | 969 | | 990 | 3960 | 39.4 |
| | 3 | #4 | 1 | | 295 | | 295 | 295 | 2.9 |
| | 4 | #4 | 3 | | 370 | | 370 | 370 | 8.3 |
| | 5 | #4 | 4 | 21 | 664 | | 685 | 2740 | 27.3 |
| | 6 | #4 | 4 | | 1010 | | 1010 | 4040 | 40.2 |
| | 7 | #4 | 4 | | 249 | 21 | 270 | 1080 | 10.7 |
| | 8 | #6 | 1 | | 470 | | 470 | 1410 | 10.5 |
| | 9 | #3 | 113 | 9.5 | 140.2 | 9.5 | 159 | 17967 | 100.6 |
| | | | | | | | | Total | 276.5 |
| Pórtico 5 | 1 | #4 | 4 | 21 | 896 | | 920 | 3680 | 36.6 |
| | 2 | #4 | 4 | | 969 | 21 | 990 | 3960 | 39.4 |
| | 3 | #4 | 1 | | 295 | | 295 | 295 | 2.9 |
| | 4 | #6 | 1 | | 370 | | 370 | 370 | 8.3 |
| | 5 | #4 | 4 | 21 | 664 | | 685 | 2740 | 27.3 |
| | 6 | #4 | 4 | | 1010 | | 1010 | 4040 | 40.2 |
| | 7 | #4 | 4 | | 249 | 21 | 270 | 1080 | 10.7 |
| | 8 | #6 | 1 | | 470 | | 470 | 1410 | 10.5 |
| | 9 | #3 | 113 | 9.5 | 140.2 | 9.5 | 159 | 17967 | 100.6 |
| | | | | | | | | Total | 276.5 |
| Pórtico 6 | 1 | #4 | 4 | 21 | 896 | | 920 | 3680 | 36.6 |
| | 2 | #4 | 4 | | 969 | 21 | 990 | 3960 | 39.4 |
| | 3 | #4 | 1 | | 295 | | 295 | 295 | 2.9 |
| | 4 | #6 | 1 | | 370 | | 370 | 370 | 8.3 |
| | 5 | #4 | 4 | 21 | 664 | | 685 | 2740 | 27.3 |
| | 6 | #4 | 4 | | 1010 | | 1010 | 4040 | 40.2 |
| | 7 | #4 | 4 | | 249 | 21 | 270 | 1080 | 10.7 |
| | 8 | #6 | 1 | | 470 | | 470 | 1410 | 10.5 |
| | 9 | #3 | 113 | 9.5 | 140.2 | 9.5 | 159 | 17967 | 100.6 |
| | | | | | | | | Total | 276.5 |
| Pórtico 7 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 12 | | 945 | | 945 | 11340 | 112.8 |
| | 3 | #4 | 4 | | 1069 | 21 | 1090 | 4360 | 43.4 |
| | 4 | #4 | 1 | 21 | 1049 | | 1070 | 4280 | 42.6 |
| | 5 | #4 | 4 | | 925 | | 925 | 11100 | 110.4 |
| | 6 | #4 | 12 | | 510 | | 510 | 6120 | 15.1 |
| | 7 | #3 | 280 | 9.6 | 140.2 | 9.5 | 159 | 44520 | 249.2 |
| | | | | | | | | Total | 624.3 |
| Pórtico 8 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 12 | | 945 | | 945 | 11340 | 112.8 |
| | 3 | #4 | 4 | | 1069 | 21 | 1090 | 4360 | 43.4 |
| | 4 | #4 | 1 | 21 | 1049 | | 1070 | 4280 | 42.6 |
| | 5 | #4 | 4 | | 925 | | 925 | 11100 | 110.4 |
| | 6 | #4 | 12 | | 510 | | 510 | 6120 | 15.1 |
| | 7 | #3 | 280 | 9.6 | 140.2 | 9.5 | 159 | 44520 | 249.2 |
| | | | | | | | | Total | 633.6 |
| Pórtico 9 | 1 | #4 | 4 | 21 | 896 | | 920 | 3680 | 36.6 |
| | 2 | #4 | 4 | | 969 | | 990 | 3960 | 39.4 |
| | 3 | #4 | 16 | | 540 | | 540 | 8640 | 85.7 |
| | 4 | #4 | 1 | 21 | 1029 | | 1050 | 16100 | 160.2 |
| | 5 | #4 | 1 | | 169 | | 190 | 220 | 2.2 |
| | 6 | #4 | 1 | | 400 | | 420 | 420 | 4.2 |
| | 7 | #4 | 1 | | 295 | | 295 | 295 | 2.9 |
| | 8 | #4 | 4 | 21 | 896 | | 920 | 3680 | 36.6 |
| | 9 | #4 | 16 | | 915 | | 925 | 14800 | 147.2 |
| | 10 | #4 | 4 | | 1044 | 21 | 1065 | 4260 | 42.4 |
| | 11 | #4 | 2 | | 480 | | 480 | 960 | 9.5 |
| | 12 | #4 | 2 | | 840 | | 860 | 1720 | 17.1 |
| | 13 | #3 | 402 | 9.5 | 140.2 | 9.5 | 159 | 63918 | 357.8 |
| | | | | | | | | Total | 912.2 |
| Pórtico 10 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 12 | | 945 | | 945 | 11340 | 112.8 |
| | 3 | #4 | 4 | | 1069 | 21 | 1090 | 4360 | 43.4 |
| | 4 | #4 | 1 | 21 | 1049 | | 1070 | 4280 | 42.6 |
| | 5 | #4 | 4 | | 925 | | 925 | 11100 | 110.4 |
| | 6 | #3 | 280 | 9.6 | 140.2 | 9.5 | 159 | 44520 | 249.2 |
| | | | | | | | | Total | 619.7 |
| | | | | | | | | #3 | 1297.7 |
| | | | | | | | | #4 | 3186.4 |
| | | | | | | | | #6 | 279.5 |
| | | | | | | | | Total | 4493.5 |

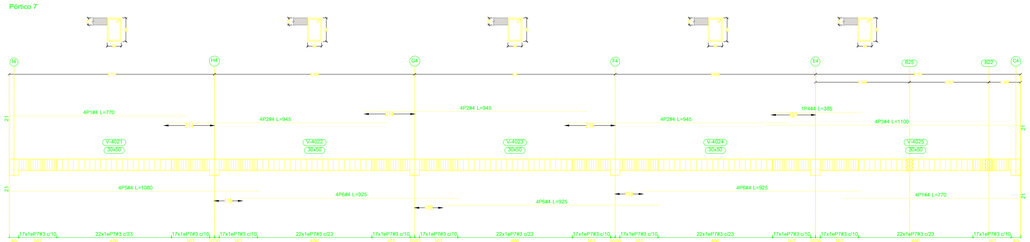
Pórtico 5



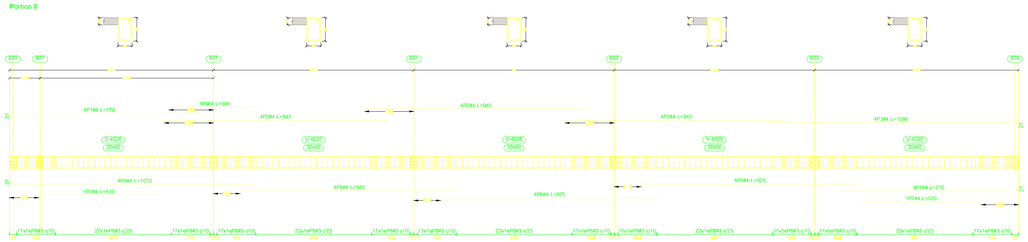

Pórtico 6



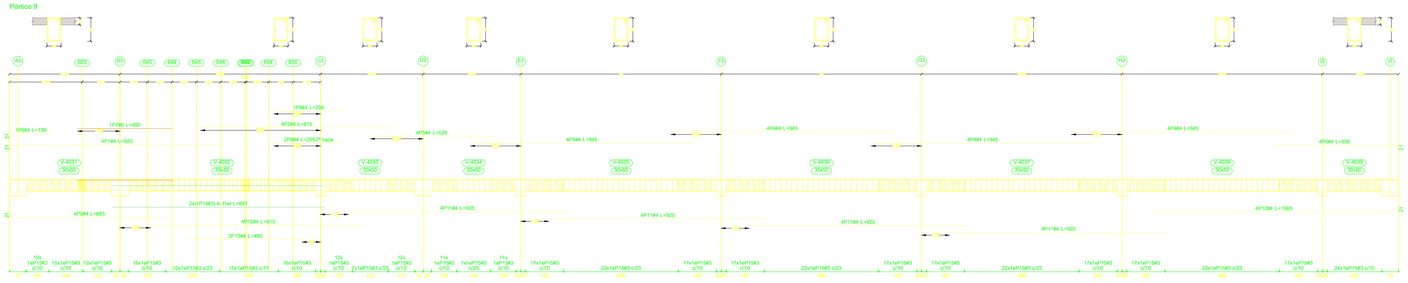

Pórtico 7



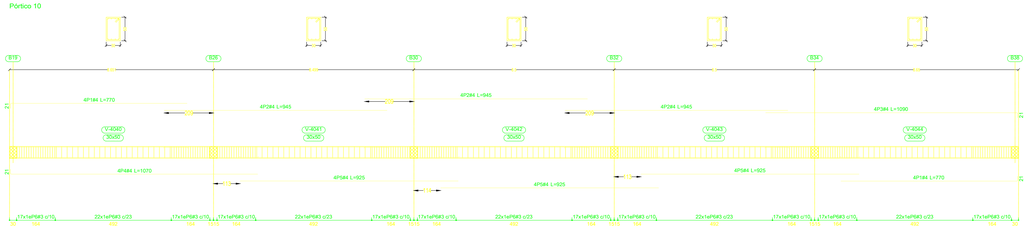

Pórtico 8

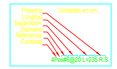



Pórtico 9




Pórtico 10




GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO GOGOLLO

INGENIERO CIVIL - CONSULTOR ESTRUCTURAL

M.P. No. 22202-221866 CMR

Cualquier modificación parcial o total del diseño estructural debe ser supervisado y aprobado por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobados exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE 5X5 AULAS
DESPIECE DE VIGAS CUBIERTA (1)

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

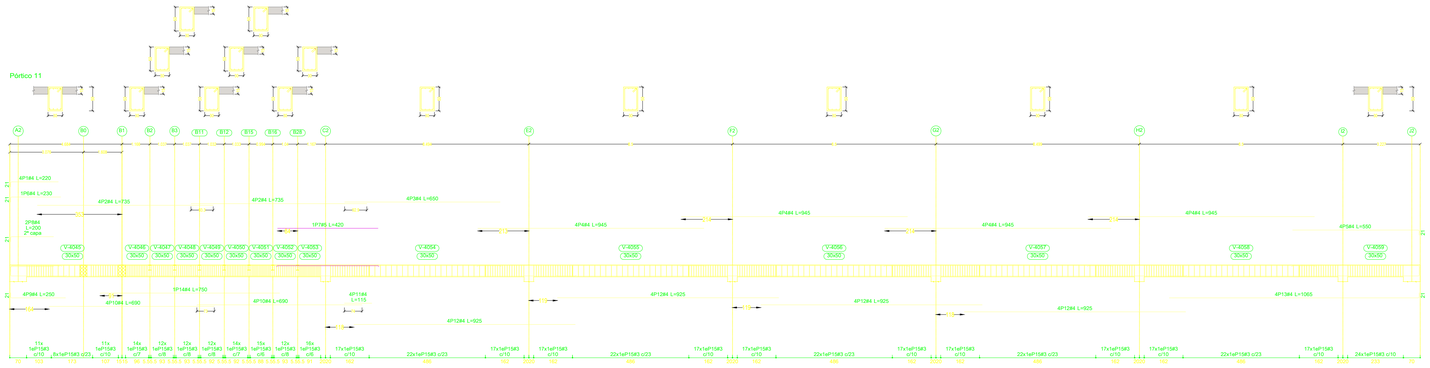
NOMBRE DEL ARCHIVO

FECHA: MARZO 2025

ESCALA: INDICADA

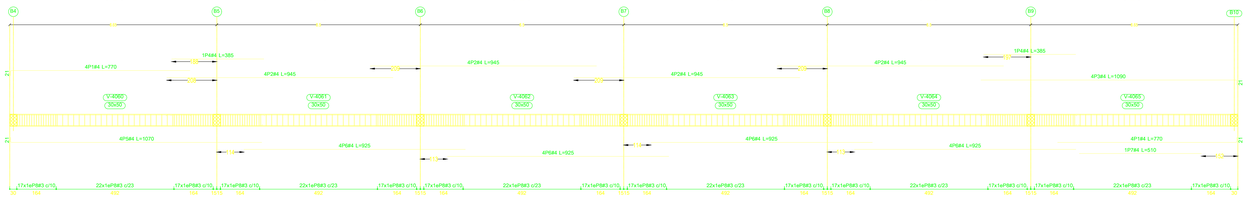
PLANO DE 18/21

Pórtico 11

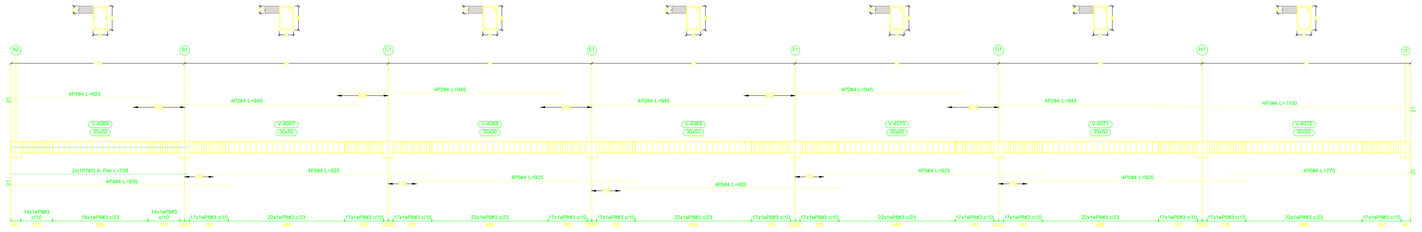



| Elemento | Pos. | Diám. | No. | Pat. (cm) | Recta (cm) | Pat. (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|---|
| Pórtico 11 | 1 | #4 | 4 | 21 | 180 | | 230 | 960 | 9.5 |
| | 2 | #4 | 8 | | 735 | | 735 | 5880 | 58.5 |
| | 3 | #4 | 4 | | 650 | | 650 | 2600 | 25.9 |
| | 4 | #4 | 16 | | 945 | | 945 | 15120 | 150.4 |
| | 5 | #4 | 4 | | 525 | 21 | 550 | 2200 | 21.9 |
| | 6 | #5 | 1 | 21 | 209 | | 230 | 230 | 2.3 |
| | 7 | #5 | 1 | | 209 | | 209 | 209 | 2.1 |
| | 8 | #4 | 2 | 21 | 179 | | 200 | 400 | 4.0 |
| | 9 | #4 | 4 | 21 | 229 | | 250 | 1000 | 9.9 |
| | 10 | #4 | 8 | | 650 | | 650 | 5320 | 34.9 |
| | 11 | #4 | 4 | | 115 | | 115 | 460 | 4.6 |
| | 12 | #4 | 4 | | 750 | | 750 | 3000 | 29.8 |
| | 13 | #4 | 4 | | 1044 | 21 | 1065 | 4260 | 42.4 |
| | 14 | #4 | 1 | | 750 | | 750 | 750 | 7.5 |
| | 15 | #3 | 441 | 9.5 | 140.2 | 9.5 | 159 | 70119 | 392.5 |
| | | | | | | | | Total | 937.3 |
| Pórtico 12 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 16 | | 945 | | 945 | 15120 | 150.4 |
| | 3 | #4 | 4 | | 1065 | 21 | 1090 | 4360 | 43.4 |
| | 4 | #4 | 2 | | 385 | | 385 | 770 | 7.7 |
| | 5 | #4 | 4 | 21 | 914 | | 935 | 3740 | 37.2 |
| | 6 | #4 | 16 | | 925 | | 925 | 14800 | 147.2 |
| | 7 | #5 | 1 | | 925 | | 925 | 14800 | 141.2 |
| | 8 | #4 | 1 | | 510 | | 510 | 510 | 5.1 |
| | 9 | #3 | 336 | 9.5 | 140.2 | 9.5 | 159 | 53434 | 299.0 |
| | | | | | | | | Total | 756.7 |
| Pórtico 13 | 1 | #4 | 4 | 21 | 604 | | 625 | 2500 | 24.9 |
| | 2 | #4 | 20 | | 945 | | 945 | 18900 | 188.0 |
| | 3 | #4 | 4 | | 1070 | 21 | 1100 | 4400 | 43.8 |
| | 4 | #4 | 4 | 21 | 914 | | 935 | 3740 | 37.2 |
| | 5 | #4 | 2 | | 385 | | 385 | 770 | 7.7 |
| | 6 | #4 | 4 | | 749 | 21 | 770 | 3080 | 30.6 |
| | 7 | #3 | 2 | | 737.5 | | 738 | 1476 | 8.3 |
| | 8 | #3 | 382 | 9.5 | 140.2 | 9.5 | 159 | 60738 | 340.0 |
| | | | | | | | | Total | 896.8 |
| Pórtico 14 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 16 | | 945 | | 945 | 15120 | 150.4 |
| | 3 | #4 | 4 | | 1070 | 21 | 1100 | 4400 | 43.8 |
| | 4 | #4 | 2 | | 385 | | 385 | 770 | 7.7 |
| | 5 | #4 | 4 | 21 | 1059 | | 1080 | 4320 | 43.0 |
| | 6 | #4 | 16 | | 925 | | 925 | 14800 | 147.2 |
| | 7 | #3 | 336 | 9.5 | 140.2 | 9.5 | 159 | 53434 | 299.0 |
| | | | | | | | | Total | 762.4 |
| Pórtico 15 | 1 | #4 | 8 | 21 | 749 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 16 | | 945 | | 945 | 15120 | 150.4 |
| | 3 | #4 | 4 | | 1069 | 21 | 1090 | 4360 | 43.4 |
| | 4 | #4 | 2 | | 385 | | 385 | 770 | 7.7 |
| | 5 | #4 | 4 | 21 | 1049 | | 1070 | 4280 | 42.6 |
| | 6 | #4 | 16 | | 925 | | 925 | 14800 | 147.2 |
| | 7 | #5 | 1 | | 510 | | 510 | 510 | 5.1 |
| | 8 | #3 | 336 | 9.5 | 140.2 | 9.5 | 159 | 53434 | 299.0 |
| | | | | | | | | Total | 756.7 |
| | | | | | | | | #3 | 1531.6 |
| | | | | | | | | #4 | 2416.6 |
| | | | | | | | | #5 | 209 |
| | | | | | | | | Total | 4059.9 |

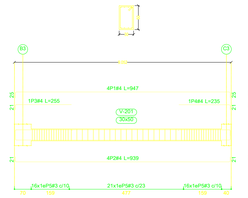
Pórtico 12



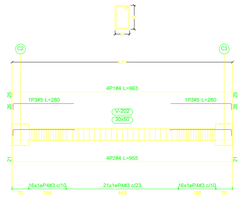

Pórtico 13




Pórtico 1

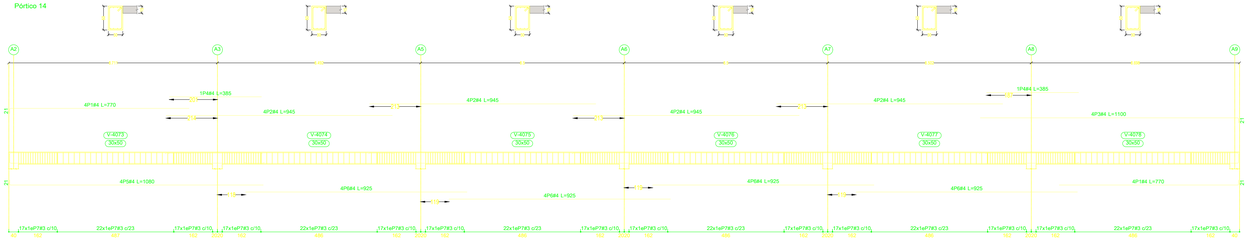



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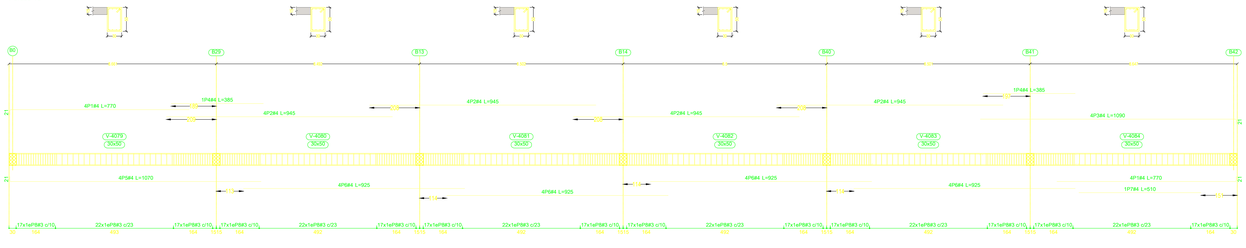


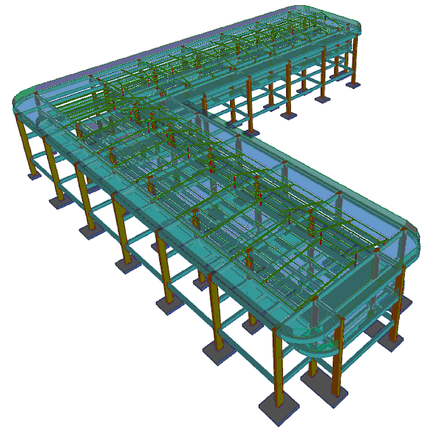

| Elemento | Pos. | Diám. | No. | Pat. (cm) | Recta (cm) | Pat. (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 4 | 25 | 897.2 | 25 | 947 | 3788 | 37.7 |
| | 2 | #4 | 4 | 21 | 897.2 | 21 | 939 | 3756 | 37.4 |
| | 3 | #4 | 1 | 21 | 234 | | 255 | 255 | 2.5 |
| | 4 | #4 | 1 | | 214 | 21 | 235 | 235 | 2.3 |
| | 5 | #3 | 53 | 9.5 | 140.2 | 9.5 | 159 | 8427 | 47.2 |
| | | | | | | | | Total | 127.1 |
| Pórtico 2 | 1 | #4 | 4 | 25 | 913.1 | 25 | 963 | 3852 | 38.3 |
| | 2 | #4 | 4 | 21 | 913.1 | 21 | 955 | 3820 | 38.0 |
| | 3 | #5 | 2 | 26 | 254 | | 280 | 560 | 8.7 |
| | 4 | #3 | 53 | 9.5 | 140.2 | 9.5 | 159 | 8427 | 47.2 |
| | | | | | | | | Total | 132.2 |
| | | | | | | | | #3 | 94.4 |
| | | | | | | | | #4 | 196.2 |
| | | | | | | | | #5 | 34 |
| | | | | | | | | Total | 338.3 |

Pórtico 14




Pórtico 15



VISTA ISOMÉTRICA

ESCALA: SIN

Cub. N+7.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Acero laminado en perfiles: ASTM A 572 50 ksi
Escala pórticos 1:100
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

Des. N+1.75
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:100
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

Proyecto
Longitud
Referencia
Diámetro
Numerico
Cantidad

Unidades en cm

4P1484@200 L=225 R.S

GOBERNACIÓN DE
CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:

TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO

INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221887 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.

CONTIENE

BLOQUE EXS AULAS
DESPIECE DE VIGAS CUBIERTA (2)
DESPIECE DE VIGAS N + 1.75

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA: MARZO 2025

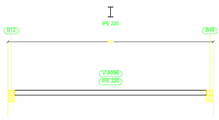
ESCALA: INDICADA

PLANO DE

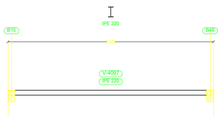
19/21

Cub. N+7.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Acero laminado en perfiles: ASTM A 572 50 ksi
Escala pórticos 1:100
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

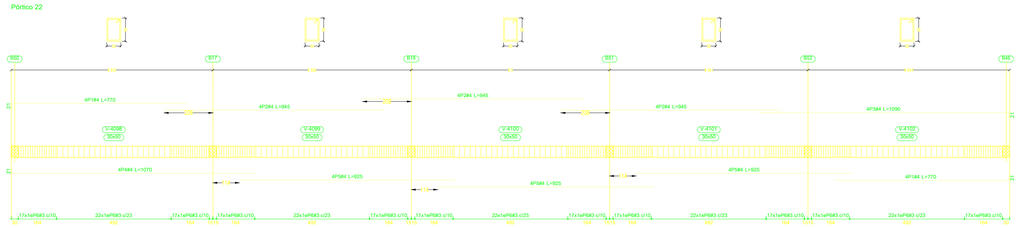
Pórtico 20



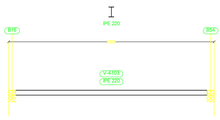

Pórtico 21



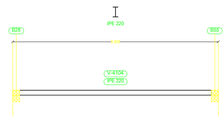

Pórtico 22



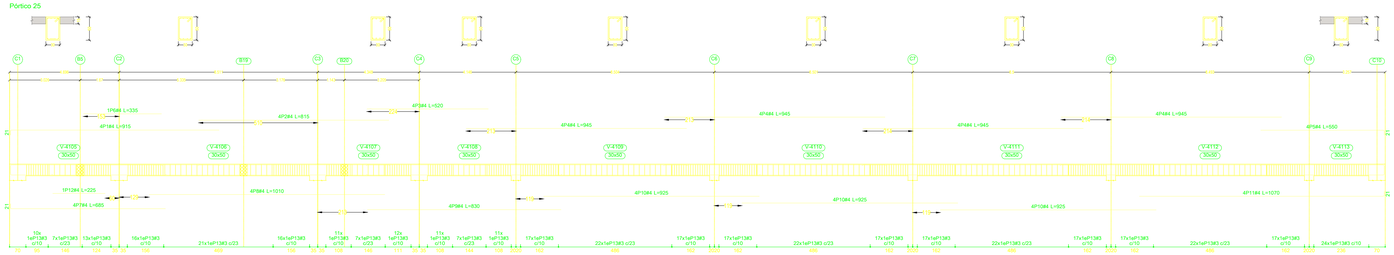

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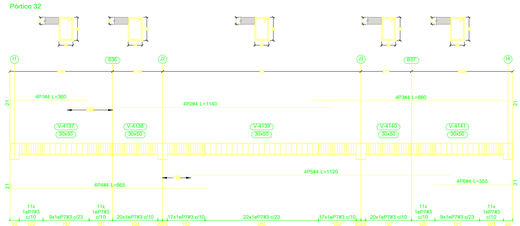

Pórtico 24



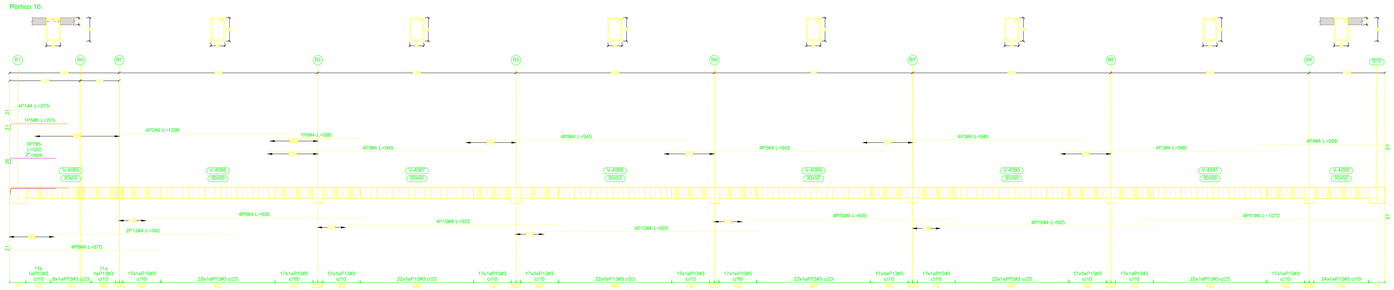

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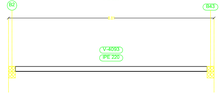

Pórtico 32



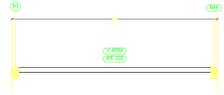

Pórtico 16




Pórtico 17



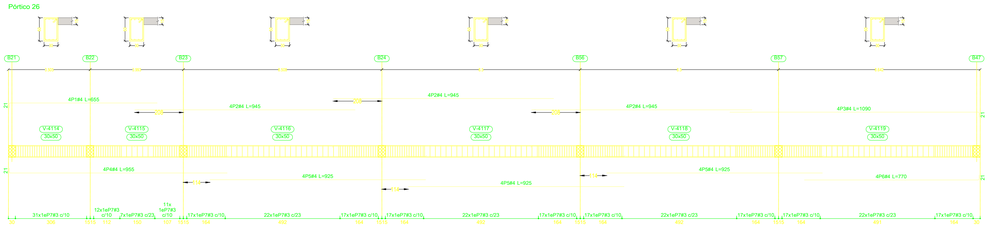

Pórtico 18



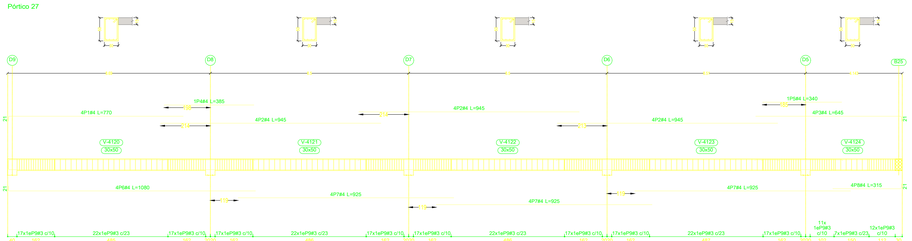

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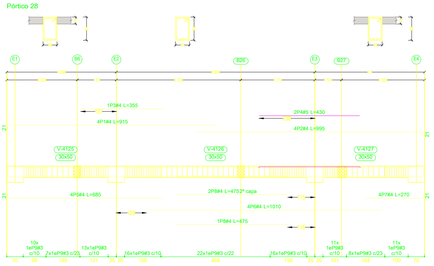

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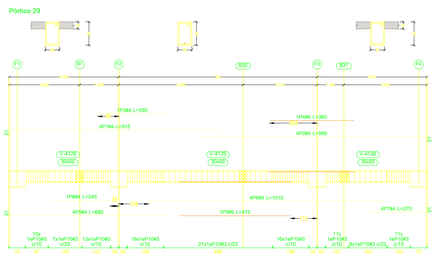

Pórtico 27



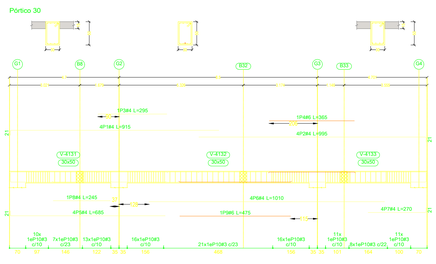

Pórtico 28



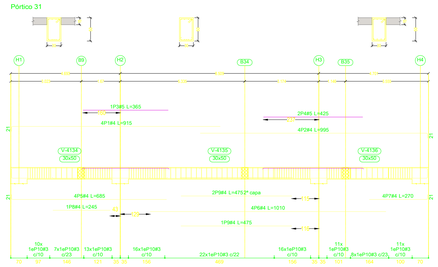

Pórtico 29



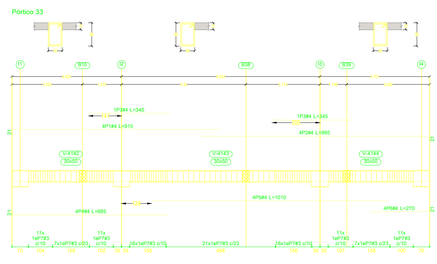

Pórtico 30




Pórtico 31




Pórtico 33




| Elemento | Pos. | Diám. | No | Pat. (cm) | Recta (cm) | Pat. (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|---|---|
| Pórtico 16 | 1 | #4 | 4 | 21 | 334 | | 370 | 920 | 6.4 |
| | 2 | #4 | 4 | | 1396 | | 1090 | 4880 | 43.4 |
| | 3 | #4 | 20 | | 945 | | 945 | 18900 | 168.0 |
| | 4 | #4 | 4 | | 529 | 21 | 550 | 2200 | 21.9 |
| | 5 | #6 | 1 | 31 | 246 | | 275 | 576 | 5.8 |
| | 6 | #5 | 1 | | 1396 | | 390 | 1880 | 18.7 |
| | 7 | #5 | 3 | 26 | 394 | | 395 | 3585 | 10.3 |
| | 8 | #4 | 4 | 21 | 649 | | 670 | 2600 | 26.7 |
| | 9 | #4 | 4 | | 930 | | 930 | 3720 | 37.0 |
| | 10 | #4 | 16 | | 925 | | 925 | 14800 | 147.2 |
| | 11 | #4 | 4 | 21 | 1049 | 21 | 1070 | 4280 | 42.6 |
| | 12 | #4 | 2 | | 748 | | 770 | 1540 | 15.3 |
| | 13 | #3 | 390 | 9.5 | 140.2 | 9.5 | 159 | 62010 | 347.1 |
| | | | | | | | Total | | 896.1 |
| Pórtico 22 | 1 | #4 | 8 | 21 | 748 | | 770 | 6160 | 61.3 |
| | 2 | #4 | 12 | | 945 | | 945 | 11340 | 112.8 |
| | 3 | #4 | 4 | | 1060 | 21 | 1090 | 4360 | 43.4 |
| | 4 | #4 | 4 | 21 | 1049 | | 1070 | 4280 | 42.6 |
| | 5 | #4 | 2 | | 748 | | 770 | 1540 | 15.3 |
| | 6 | #3 | 280 | 9.5 | 140.2 | 9.5 | 159 | 44626 | 249.2 |
| | | | | | | | Total | | 619.7 |
| Pórtico 25 | 1 | #4 | 4 | 21 | 894 | | 915 | 3660 | 36.4 |
| | 2 | #4 | 4 | | 974 | | 995 | 3980 | 39.6 |
| | 3 | #4 | 4 | | 520 | | 540 | 2080 | 20.7 |
| | 4 | #4 | 16 | | 945 | | 945 | 15120 | 150.4 |
| | 5 | #4 | 4 | 21 | 529 | 21 | 550 | 2200 | 21.9 |
| | 6 | #4 | 1 | | 328 | | 335 | 335 | 3.3 |
| | 7 | #4 | 1 | 21 | 1049 | | 1070 | 1070 | 10.6 |
| | 8 | #4 | 4 | | 1014 | | 1010 | 4040 | 40.2 |
| | 9 | #4 | 4 | | 830 | | 830 | 3320 | 33.0 |
| | 10 | #4 | 12 | | 925 | | 925 | 11100 | 110.4 |
| | 11 | #4 | 4 | 21 | 1049 | 21 | 1070 | 4280 | 42.6 |
| | 12 | #4 | 2 | | 748 | | 770 | 1540 | 15.3 |
| | 13 | #3 | 390 | 9.5 | 140.2 | 9.5 | 159 | 62010 | 347.1 |
| | | | | | | | Total | | 867.9 |
| Pórtico 26 | 1 | #4 | 4 | 21 | 634 | | 655 | 2620 | 26.1 |
| | 2 | #4 | 12 | | 945 | | 945 | 11340 | 112.8 |
| | 3 | #4 | 4 | | 1060 | 21 | 1090 | 4360 | 43.4 |
| | 4 | #4 | 4 | 21 | 934 | | 955 | 3820 | 38.0 |
| | 5 | #4 | 12 | | 925 | | 925 | 11100 | 110.4 |
| | 6 | #4 | 4 | 21 | 749 | 21 | 770 | 3080 | 30.6 |
| | 7 | #3 | 285 | 9.5 | 140.2 | 9.5 | 159 | 45315 | 253.0 |
| | | | | | | | Total | | 614.9 |
| Pórtico 27 | 1 | #4 | 4 | 21 | 748 | | 770 | 3080 | 30.6 |
| | 2 | #4 | 12 | | 945 | | 945 | 11340 | 112.8 |
| | 3 | #4 | 4 | | 624 | 21 | 645 | 2580 | 25.7 |
| | 4 | #4 | 1 | | 386 | | 385 | 385 | 3.8 |
| | 5 | #4 | 1 | | 340 | | 340 | 340 | 3.4 |
| | 6 | #4 | 4 | 21 | 1049 | | 1070 | 4280 | 42.6 |
| | 7 | #4 | 12 | | 925 | | 925 | 11100 | 110.4 |
| | 8 | #4 | 4 | | 294 | 21 | 315 | 1260 | 12.5 |
| | 9 | #3 | 254 | 9.5 | 140.2 | 9.5 | 159 | 40386 | 226.0 |
| | | | | | | | Total | | 566.2 |
| Pórtico 28 | 1 | #4 | 4 | 21 | 894 | | 915 | 3660 | 36.4 |
| | 2 | #4 | 4 | | 974 | 21 | 995 | 3980 | 39.6 |
| | 3 | #4 | 1 | | 335 | | 355 | 355 | 3.5 |
| | 4 | #5 | 2 | 21 | 430 | | 430 | 860 | 13.4 |
| | 5 | #4 | 1 | | 1396 | | 1090 | 1090 | 10.8 |
| | 6 | #4 | 4 | | 1014 | | 1010 | 4040 | 40.2 |
| | 7 | #4 | 4 | 21 | 249 | 21 | 270 | 1080 | 10.7 |
| | 8 | #4 | 1 | | 475 | | 475 | 1425 | 14.2 |
| | 9 | #3 | 114 | 9.5 | 140.2 | 9.5 | 159 | 18126 | 101.5 |
| | | | | | | | Total | | 266.8 |
| Pórtico 29 | 1 | #4 | 4 | 21 | 894 | | 915 | 3660 | 36.4 |
| | 2 | #4 | 4 | | 974 | 21 | 995 | 3980 | 39.6 |
| | 3 | #4 | 1 | | 295 | | 295 | 295 | 2.9 |
| | 4 | #6 | 1 | | 395 | | 395 | 395 | 8.2 |
| | 5 | #4 | 2 | 21 | 425 | | 425 | 850 | 13.2 |
| | 6 | #4 | 4 | | 664 | | 685 | 2740 | 27.3 |
| | 7 | #4 | 4 | | 1014 | | 1010 | 4040 | 40.2 |
| | 8 | #4 | 4 | 21 | 249 | 21 | 270 | 1080 | 10.7 |
| | 9 | #6 | 1 | | 475 | | 475 | 475 | 10.6 |
| | 10 | #3 | 113 | 9.5 | 140.2 | 9.5 | 159 | 17967 | 100.6 |
| | | | | | | | Total | | 278.8 |
| Pórtico 30 | 1 | #4 | 4 | 21 | 894 | | 915 | 3660 | 36.4 |
| | 2 | #4 | 4 | | 974 | 21 | 995 | 3980 | 39.6 |
| | 3 | #4 | 1 | | 295 | | 295 | 295 | 2.9 |
| | 4 | #6 | 1 | | 365 | | 365 | 365 | 8.2 |
| | 5 | #4 | 2 | 21 | 425 | | 425 | 850 | 13.2 |
| | 6 | #4 | 4 | | 664 | | 685 | 2740 | 27.3 |
| | 7 | #4 | 4 | | 1014 | | 1010 | 4040 | 40.2 |
| | 8 | #4 | 4 | 21 | 249 | 21 | 270 | 1080 | 10.7 |
| | 9 | #6 | 1 | | 245 | | 245 | 245 | 2.4 |
| | 10 | #6 | 1 | | 475 | | 475 | 475 | 10.6 |
| | 11 | #3 | 113 | 9.5 | 140.2 | 9.5 | 159 | 17967 | 100.6 |
| | | | | | | | Total | | 279.9 |
| Pórtico 31 | 1 | #4 | 4 | 21 | 894 | | 915 | 3660 | 36.4 |
| | 2 | #4 | 4 | | 974 | 21 | 995 | 3980 | 39.6 |
| | 3 | #4 | 1 | | 345 | | 425 | 850 | 13.2 |
| | 4 | #4 | 4 | 21 | 664 | | 685 | 2740 | 27.3 |
| | 5 | #4 | 4 | | 1014 | | 1010 | 4040 | 40.2 |
| | 6 | #4 | 4 | 21 | 249 | 21 | 270 | 1080 | 10.7 |
| | 7 | #6 | 1 | | 245 | | 245 | 245 | 2.4 |
| | 8 | #4 | 4 | | 475 | | 475 | 1425 | 14.2 |
| | 9 | #3 | 114 | 9.5 | 140.2 | 9.5 | 159 | 18126 | 101.5 |
| | | | | | | | Total | | 291.2 |
| Pórtico 32 | 1 | #4 | 4 | 21 | 330 | | 360 | 1440 | 14.3 |
| | 2 | #4 | 4 | | 1140 | | 1160 | 4640 | 45.6 |
| | 3 | #4 | 4 | 21 | 859 | 21 | 880 | 3520 | 35.0 |
| | 4 | #4 | 4 | | 1140 | | 1160 | 4640 | 45.6 |
| | 5 | #4 | 4 | | 1014 | | 1010 | 4040 | 40.2 |
| | 6 | #4 | 4 | 21 | 334 | 21 | 355 | 1420 | 14.1 |
| | 7 | #3 | 108 | 9.5 | 140.2 | 9.5 | 159 | 17172 | 96.5 |
| | | | | | | | Total | | 326.4 |
| Pórtico 33 | 1 | #4 | 4 | 21 | 894 | | 915 | 3660 | 36.4 |
| | 2 | #4 | 4 | | 974 | 21 | 995 | 3980 | 39.6 |
| | 3 | #4 | 2 | | 345 | | 650 | 650 | 6.5 |
| | 4 | #4 | 4 | 21 | 664 | | 685 | 2740 | 27.3 |
| | 5 | #4 | 4 | | 1014 | | 1010 | 4040 | 40.2 |
| | 6 | #4 | 4 | 21 | 249 | 21 | 270 | 1080 | 10.7 |
| | 7 | #3 | 111 | 9.5 | 140.2 | 9.5 | 159 | 17649 | 98.8 |
| | | | | | | | Total | | 269.9 |
| | | | | | | | #3 | | 2066.6 |
| | | | | | | | #4 | | 5139.9 |
| | | | | | | | #6 | | 42.6 |
| | | | | | | | #5 | | 43.7 |
| | | | | | | | Total | | 5292.8 |

GOBERNACIÓN DE
CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO


OSCAR DAVID MORENO CASTILLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 COR



Cualquier modificación parcial o total del diseño estructural debe ser supervisada y aprobada por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de toda responsabilidad.


CONTIENE

BLOQUE SXS AULAS
DESPIECE DE VIGAS CUBIERTA (3)

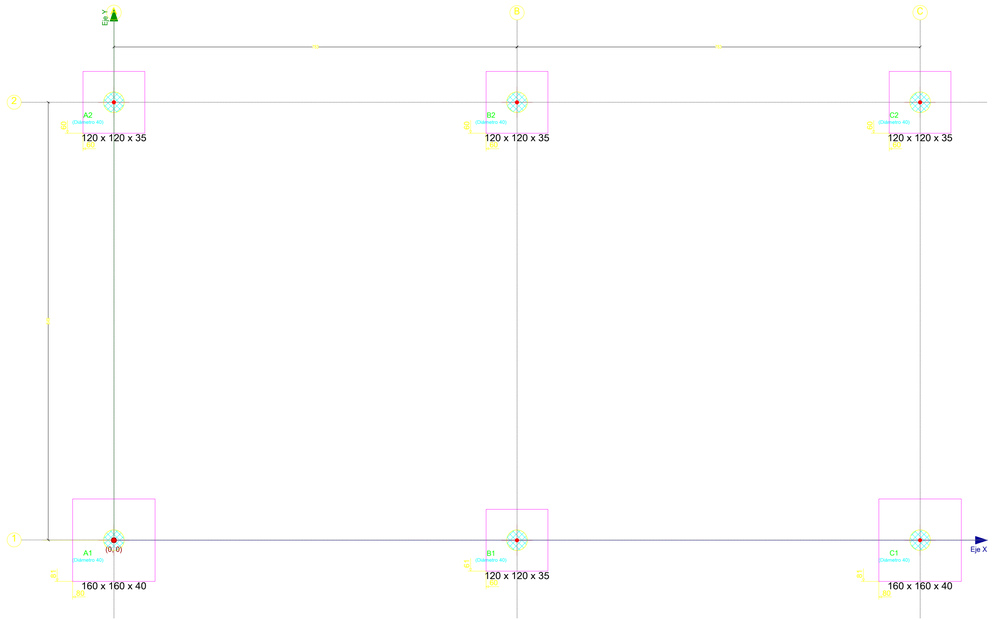
OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

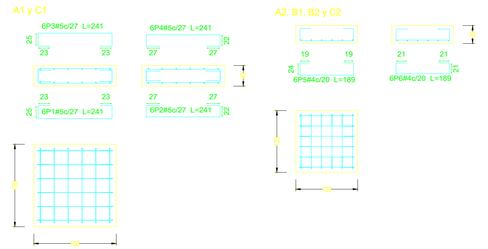
| FECHA | ESCALA |
|---|---|
| MARZO 2025 | INDICADA |

PLANO DE 20/21




| Replanteo de pilares - Cimentación | | | |
|---|---|---|---|
| Pilar | Dimensión (cm) | Coordenadas del centro | |
| | | Coordenada X (cm) | Coordenada Y (cm) |
| A1 | Diámetro 40 | 0 | 0 |
| A2 | Diámetro 40 | 0 | 850 |
| B1 | Diámetro 40 | 783 | 0 |
| B2 | Diámetro 40 | 783 | 850 |
| C1 | Diámetro 40 | 1565 | 0 |
| C2 | Diámetro 40 | 1565 | 850 |
| Cota de arranque de los pilares: -3.00 m | | | |

Cimentación
Replanteo
Escala: 1:50

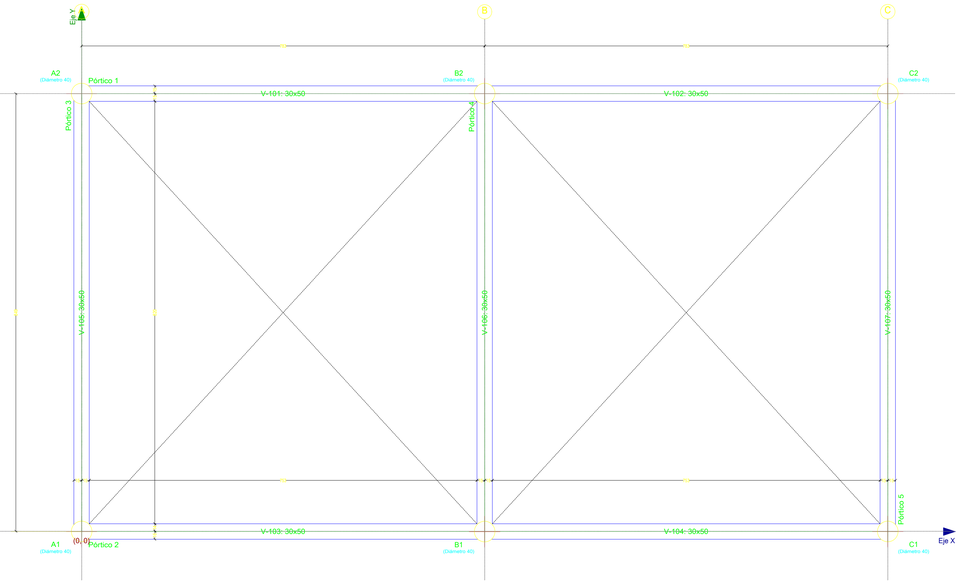



| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| A1=C1 | 1 | #5 | 6 | 241 | 1446 | 22.5 |
| | 2 | #5 | 6 | 241 | 1446 | 22.5 |
| | 3 | #5 | 6 | 241 | 1446 | 22.5 |
| | 4 | #5 | 6 | 241 | 1446 | 22.5 |
| | | | | | Total (x0) | 90.0 180.0 |
| A2=B1=B2=C2 | 5 | #4 | 6 | 189 | 1134 | 11.3 |
| | 6 | #4 | 6 | 189 | 1134 | 11.3 |
| | | | | | Total (x4) | 22.6 90.4 |
| | | | | | #4: #5: Total: | 90.4 180.0 270.4 |

| CUADRO DE ELEMENTOS DE CIMENTACIÓN | | | | | | |
|---|---|---|---|---|---|---|
| Referencias | Dimensiones (cm) | Canto (cm) | Armado inf. X | Armado inf. Y | Armado sup. X | Armado sup. Y |
| A1 y C1 | 160x160 | 40 | 6#5c/27 | 6#5c/27 | 6#5c/27 | 6#5c/27 |
| A2, B1, B2 y C2 | 120x120 | 35 | 6#4c/20 | 6#4c/20 | | |

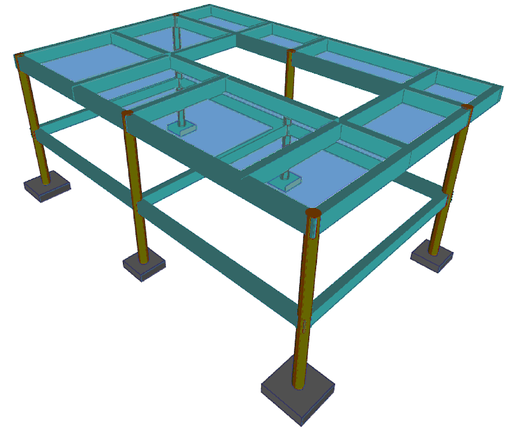
Cimentación
Despiece cimentación
Hormigón: f'c=210
Escala: 1:50

## DETALLE TÍPICO DE LOSA




| Replanteo de pilares - Suelo N+0.00 | | | |
|---|---|---|---|
| Pilar | Dimensión (cm) | Coordenadas del centro | |
| | | Coordenada X (cm) | Coordenada Y (cm) |
| A1 | Diámetro 40 | 0 | 0 |
| A2 | Diámetro 40 | 0 | 850 |
| B1 | Diámetro 40 | 783 | 0 |
| B2 | Diámetro 40 | 783 | 850 |
| C1 | Diámetro 40 | 1565 | 0 |
| C2 | Diámetro 40 | 1565 | 850 |
| Cota de arranque de los pilares: 0.00 m | | | |

Suelo N+0.00
Replanteo
Hormigón: f'c=210
Escala: 1:50



## VISTA ISOMÉTRICA

ESCALA: SIN

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221865 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisado y aprobado por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de todo responsabilidad.

CONTIENE

BLOQUE ACCESO
PLANTA DE CIMENTACION
PLANTA N+0.00
DESPIECE ZAPATAS

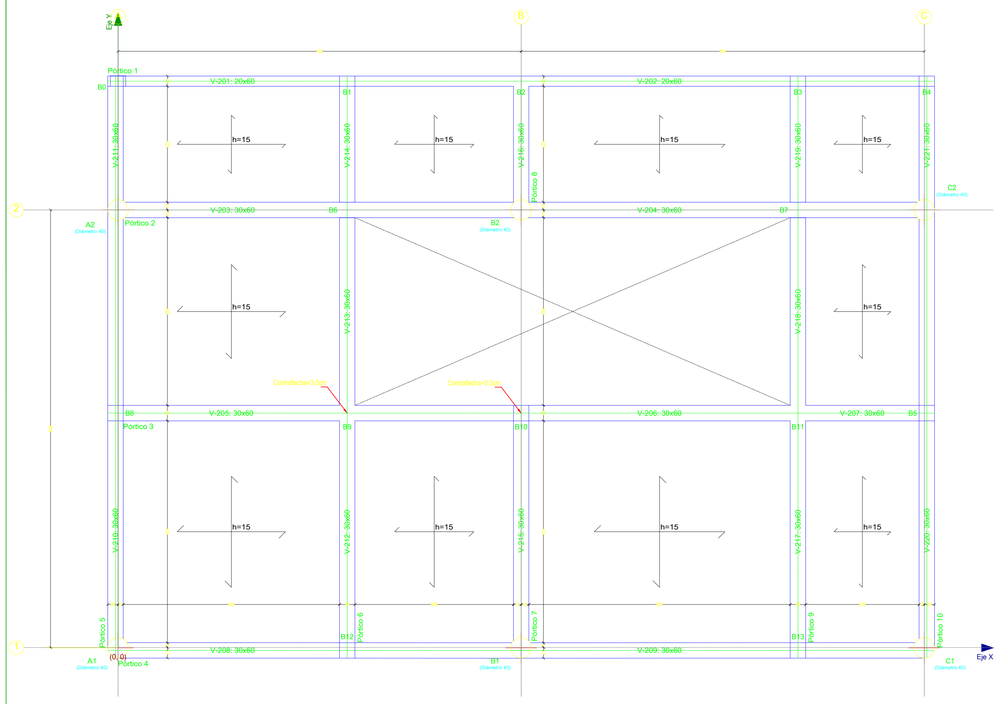
OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
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NOMBRE DEL ARCHIVO

FECHA: MARZO 2025
ESCALA: INDICADA

PLANO 1/4 DE



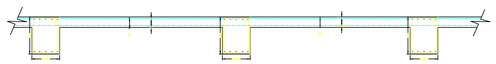

N=3.50
Replanteo
Hormigón: f'c=210
Escala: 1:50

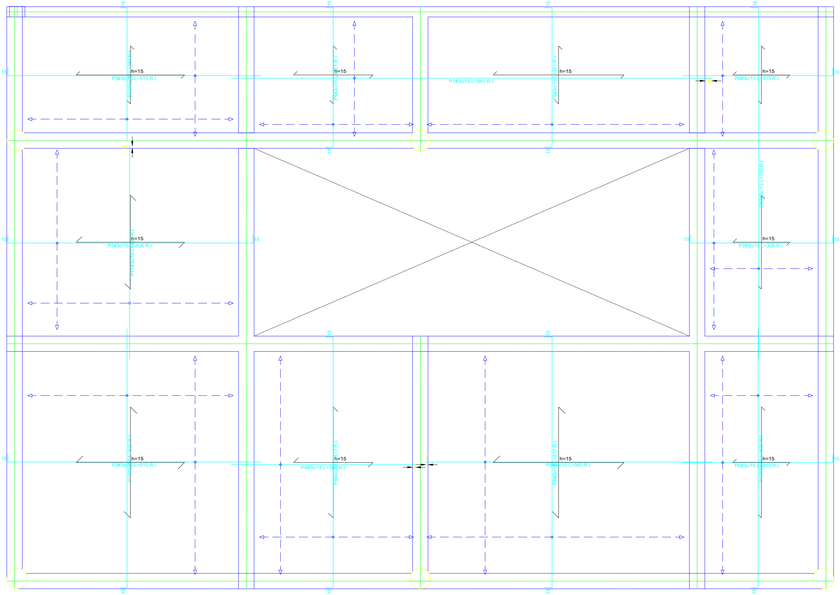
Tabla de características de losas macizas (Grupo 2)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm

NOTA:

1. DEJAR CONTRAFLECHAS INDICADAS

DETALLE TÍPICO DE LOSA



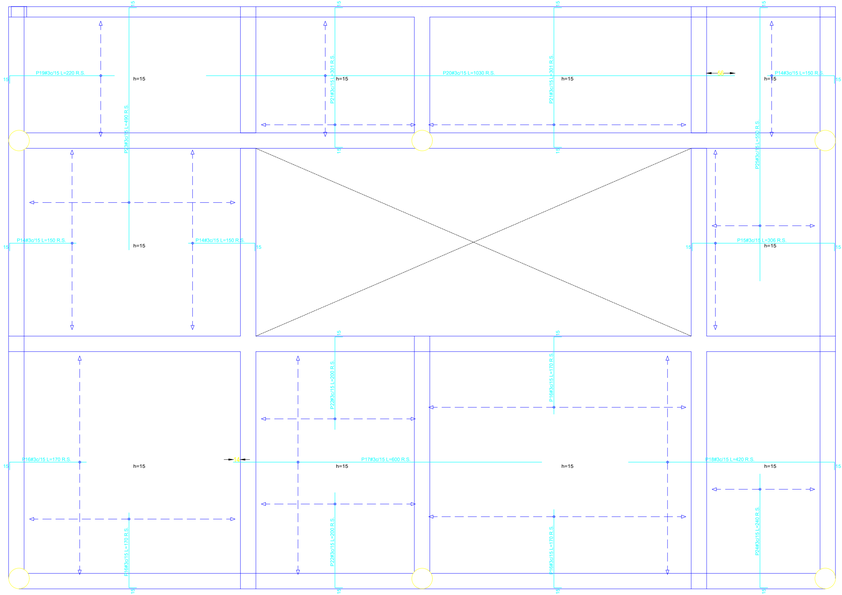



N+3.50
Armadura longitudinal inferior
Hormigón: f'c=210
Grade 60

R.I. Refuerzo inferior

Escala: 1:50

Tabla de características de losas macizas (Grupo 2)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm




| Elemento | Pos. | Diám. | No. | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|
| Armadura longitudinal inferior | 1 | #3 | 24 | 506 | 12144 | 68.0 |
| | 2 | #3 | 24 | 306 | 7344 | 41.1 |
| | 3 | #3 | 44 | 510 | 22440 | 125.6 |
| | 4 | #3 | 29 | 560 | 16240 | 90.9 |
| | 5 | #3 | 27 | 360 | 9720 | 54.4 |
| | 6 | #3 | 44 | 310 | 13640 | 76.3 |
| | 7 | #3 | 15 | 940 | 14100 | 78.9 |
| | 8 | #3 | 54 | 517 | 27918 | 156.3 |
| | 9 | #3 | 54 | 301 | 16254 | 91.0 |
| | 10 | #3 | 41 | 520 | 21320 | 119.3 |
| | 11 | #3 | 27 | 420 | 11340 | 63.5 |
| | 12 | #3 | 27 | 280 | 7560 | 42.3 |
| | 13 | #3 | 14 | 700 | 9800 | 54.9 |
| | | | | | Total | 1066.5 |
| Armadura longitudinal superior | 14 | #3 | 63 | 150 | 9450 | 52.9 |
| | 15 | #3 | 24 | 306 | 7344 | 41.1 |
| | 16 | #3 | 104 | 170 | 21080 | 118.0 |
| | 17 | #3 | 29 | 600 | 17400 | 97.4 |
| | 18 | #3 | 78 | 420 | 32760 | 183.4 |
| | 19 | #3 | 15 | 220 | 3300 | 18.5 |
| | 20 | #3 | 15 | 1030 | 15450 | 86.5 |
| | 21 | #3 | 54 | 301 | 16254 | 91.0 |
| | 22 | #3 | 40 | 200 | 8000 | 44.8 |
| | 23 | #3 | 27 | 490 | 13230 | 74.0 |
| | 24 | #3 | 14 | 240 | 3360 | 18.8 |
| | 25 | #3 | 14 | 550 | 7700 | 43.1 |
| | | | | | Total | 794.3 |
| | | | | | #3 | 1820.8 |
| | | | | | Total | 1820.8 |

N+3.50
Armadura longitudinal superior
Hormigón: f'c=210
Grade 60

R.S. Refuerzo superior

Escala: 1:50

Tabla de características de losas macizas (Grupo 2)
Canto: 15.0 cm
Recubrimiento geométrico superior: 3.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 3.5 cm
Recubrimiento mecánico inferior: 2.5 cm




GOBERNACIÓN DE
CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221881 COR

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CONTIENE

BLOQUE ACCESO
PLANTA N +3.50
REFUERZO DE LOSA N + 3.50

OBSERVACIONES

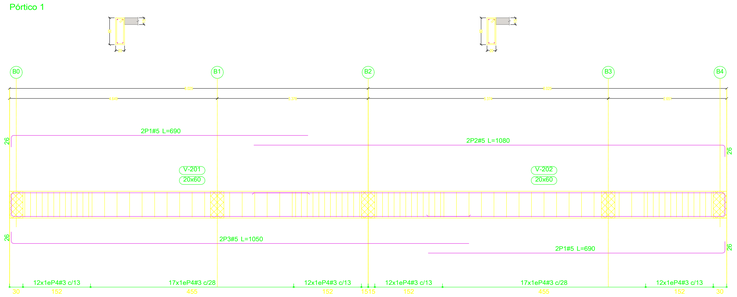
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NOMBRE DEL ARCHIVO

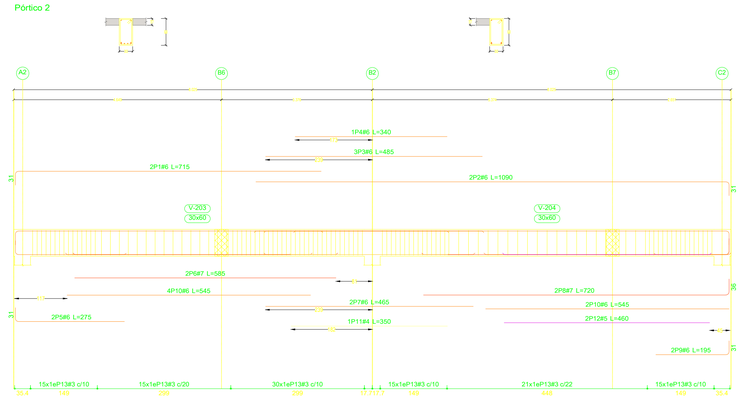
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO 2/4 DE

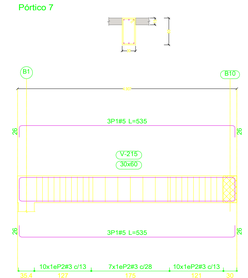
## Pórtico 1



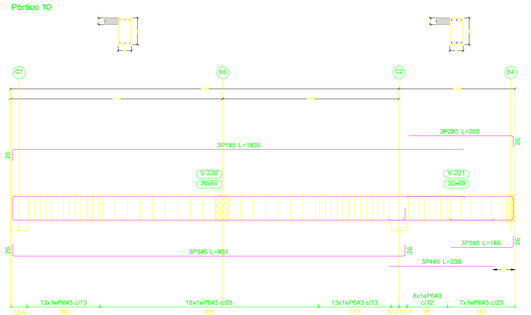

## Pórtico 2



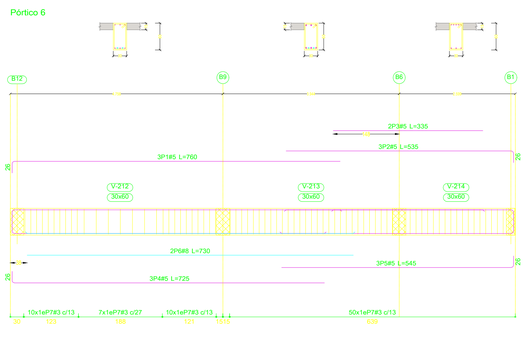

## Pórtico 7



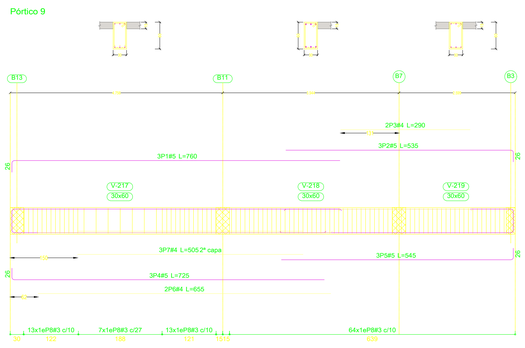

## Pórtico 10




## Pórtico 6



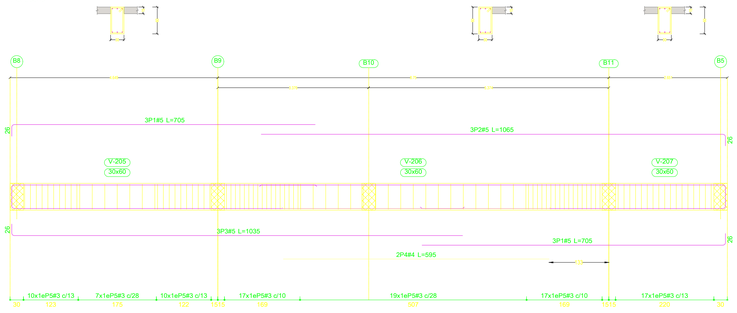

## Pórtico 9



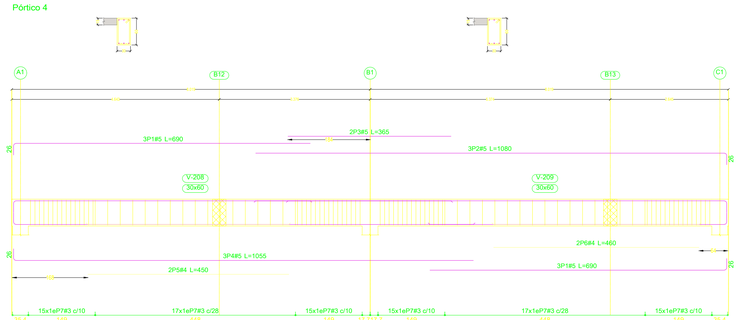

N+3.50
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:50
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #5 | 4 | 664 | 690 | 2760 | 42.9 |
| | 2 | #5 | 2 | 5264 | 1080 | 2160 | 33.6 |
| | 3 | #5 | 2 | 1024 | 1050 | 2100 | 32.6 |
| | 4 | #3 | 82 | 35 | 159 | 13038 | 73.0 |
| | | | | | | Total | 182.1 |
| Pórtico 2 | 1 | #6 | 2 | 684 | 715 | 1430 | 32.0 |
| | 2 | #5 | 2 | 5059 | 1090 | 2180 | 48.8 |
| | 3 | #6 | 3 | 485 | 485 | 1455 | 32.6 |
| | 4 | #6 | 1 | 340 | 340 | 340 | 7.6 |
| | 5 | #5 | 2 | 244 | 370 | 550 | 12.3 |
| | 6 | #7 | 2 | 585 | 585 | 1170 | 35.6 |
| | 7 | #6 | 2 | 465 | 465 | 930 | 20.8 |
| | 8 | #7 | 2 | 684 | 720 | 1440 | 43.8 |
| | 9 | #6 | 2 | 195 | 195 | 390 | 8.7 |
| | 10 | #6 | 4 | 545 | 545 | 3270 | 73.2 |
| | 11 | #4 | 1 | 350 | 350 | 350 | 3.5 |
| | 12 | #5 | 2 | 460 | 460 | 920 | 14.3 |
| | 13 | #3 | 111 | 35 | 179 | 19869 | 111.2 |
| | | | | | | Total | 444.4 |
| Pórtico 3 | 1 | #5 | 6 | 679 | 705 | 4230 | 65.7 |
| | 2 | #5 | 3 | 1059 | 1065 | 3195 | 49.6 |
| | 3 | #5 | 3 | 1005 | 1035 | 3105 | 48.2 |
| | 4 | #4 | 2 | 595 | 595 | 1190 | 11.8 |
| | 5 | #3 | 97 | 35 | 179 | 17363 | 97.2 |
| | | | | | | Total | 272.5 |
| Pórtico 4 | 1 | #5 | 6 | 664 | 690 | 4140 | 64.3 |
| | 2 | #5 | 3 | 5264 | 1080 | 3240 | 50.3 |
| | 3 | #5 | 2 | 365 | 365 | 730 | 11.3 |
| | 4 | #5 | 3 | 1029 | 1055 | 3165 | 49.2 |
| | 5 | #4 | 2 | 450 | 450 | 900 | 9.0 |
| | 6 | #4 | 2 | 460 | 460 | 920 | 9.2 |
| | 7 | #3 | 94 | 35 | 179 | 16826 | 94.2 |
| | | | | | | Total | 287.5 |
| Pórtico 5 | 1 | #5 | 3 | 726 | 755 | 2265 | 35.2 |
| | 2 | #5 | 3 | 514 | 540 | 1620 | 25.2 |
| | 3 | #4 | 2 | 255 | 310 | 620 | 5.1 |
| | 4 | #5 | 3 | 664 | 710 | 2130 | 33.1 |
| | 5 | #5 | 3 | 534 | 560 | 1680 | 26.1 |
| | 6 | #4 | 2 | 490 | 490 | 980 | 9.7 |
| | 7 | #3 | 80 | 35 | 179 | 14320 | 80.1 |
| | | | | | | Total | 214.5 |
| Pórtico 6 | 1 | #5 | 3 | 734 | 760 | 2280 | 35.4 |
| | 2 | #5 | 3 | 509 | 535 | 1605 | 24.9 |
| | 3 | #5 | 2 | 335 | 335 | 670 | 10.4 |
| | 4 | #5 | 3 | 699 | 725 | 2175 | 33.8 |
| | 5 | #5 | 3 | 519 | 545 | 1635 | 25.4 |
| | 6 | #8 | 2 | 730 | 730 | 1460 | 58.1 |
| | 7 | #3 | 77 | 35 | 179 | 13783 | 77.1 |
| | | | | | | Total | 265.1 |
| Pórtico 7 | 1 | #5 | 6 | 483 | 535 | 3210 | 49.9 |
| | 2 | #3 | 27 | 35 | 179 | 4833 | 27.1 |
| | | | | | | Total | 77.0 |
| Pórtico 8 | 1 | #5 | 6 | 272 | 324 | 1944 | 30.2 |
| | 2 | #3 | 18 | 35 | 179 | 3222 | 18.0 |
| | | | | | | Total | 48.2 |
| Pórtico 9 | 1 | #5 | 3 | 734 | 760 | 2280 | 35.4 |
| | 2 | #5 | 3 | 509 | 535 | 1605 | 24.9 |
| | 3 | #4 | 2 | 290 | 290 | 580 | 5.8 |
| | 4 | #5 | 3 | 699 | 725 | 2175 | 33.8 |
| | 5 | #5 | 3 | 519 | 545 | 1635 | 25.4 |
| | 6 | #4 | 2 | 655 | 655 | 1310 | 13.0 |
| | 7 | #4 | 3 | 505 | 505 | 1515 | 15.1 |
| | 8 | #3 | 97 | 35 | 179 | 17363 | 97.2 |
| | | | | | | Total | 250.5 |
| Pórtico 10 | 1 | #5 | 3 | 1009 | 1035 | 3105 | 48.2 |
| | 2 | #5 | 3 | 234 | 260 | 780 | 12.1 |
| | 3 | #5 | 3 | 879 | 931 | 2793 | 43.4 |
| | 4 | #5 | 3 | 230 | 230 | 690 | 10.7 |
| | 5 | #5 | 3 | 139 | 165 | 495 | 7.7 |
| | 6 | #3 | 59 | 35 | 179 | 10561 | 59.1 |
| | | | | | | Total | 181.2 |
| | | | | | | #3 | 734.2 |
| | | | | | | #4 | 15.9 |
| | | | | | | #5 | 1532.2 |
| | | | | | | #6 | 236.0 |
| | | | | | | #7 | 79.4 |
| | | | | | | #8 | 58.1 |
| | | | | | | Total | 2223.1 |

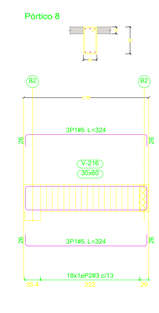
## Pórtico 3



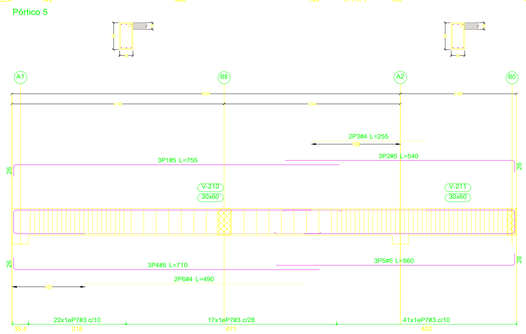

## Pórtico 4




## Pórtico 8




## Pórtico 5




Posición
Longitud
Separación
Estribos
Referencia
Cantidad
Unidades en cm
4Pos#5@20 L=235 R.S.

GOBERNACIÓN DE CÓRDOBA

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

ESPACIO PÚBLICO

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221866 COR

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CONTIENE

BLOQUE ACCESO
VIGAS N + 3.50

OBSERVACIONES

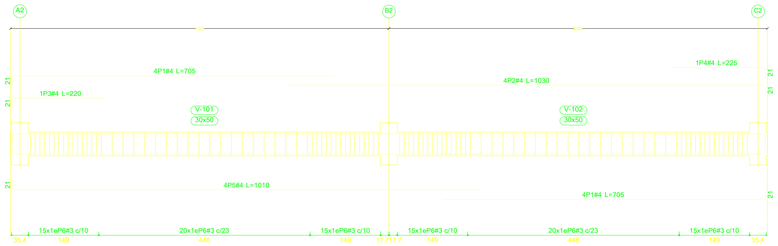
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5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

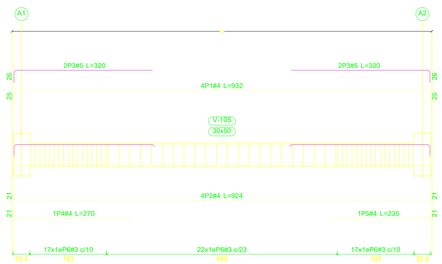
FECHA: MARZO 2025
ESCALA: INDICADA

PLANO 3/4 DE

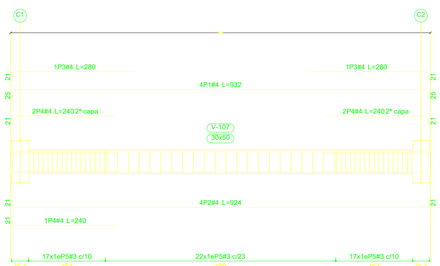
## Pórtico 1




## Pórtico 3



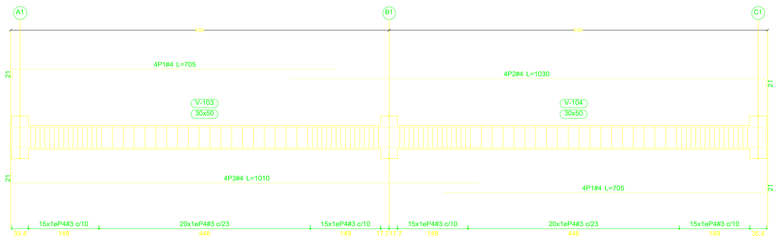

## Pórtico 5



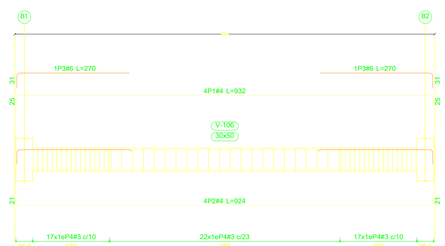

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| Pórtico 1 | 1 | #4 | 8 | 684 | 705 | 5640 | 56.1 |
| | 2 | #4 | 4 | 1009 | 1030 | 4120 | 41.0 |
| | 3 | #4 | 1 | 199 | 220 | 220 | 2.2 |
| | 4 | #4 | 1 | 204 | 225 | 225 | 2.2 |
| | 5 | #4 | 4 | 985 | 1010 | 4040 | 40.2 |
| | 6 | #3 | 100 | 108 35 | 159 | 15900 | 89.0 |
| | | | | | | Total | 230.7 |
| Pórtico 2 | 1 | #4 | 8 | 684 | 705 | 5640 | 56.1 |
| | 2 | #4 | 4 | 1009 | 1030 | 4120 | 41.0 |
| | 3 | #4 | 4 | 985 | 1010 | 4040 | 40.2 |
| | 4 | #3 | 100 | 108 35 | 159 | 15900 | 89.0 |
| | | | | | | Total | 226.3 |
| Pórtico 3 | 1 | #4 | 4 | 882 | 932 | 3728 | 37.1 |
| | 2 | #4 | 4 | 882 | 924 | 3696 | 36.8 |
| | 3 | #5 | 4 | 294 | 320 | 1280 | 19.9 |
| | 4 | #4 | 1 | 249 | 270 | 270 | 2.7 |
| | 5 | #4 | 1 | 214 | 235 | 235 | 2.3 |
| | 6 | #3 | 56 | 108 35 | 159 | 8904 | 49.8 |
| | | | | | | Total | 148.6 |
| Pórtico 4 | 1 | #4 | 4 | 882 | 932 | 3728 | 37.1 |
| | 2 | #4 | 4 | 882 | 924 | 3696 | 36.8 |
| | 3 | #6 | 2 | 229 | 270 | 540 | 12.1 |
| | 4 | #3 | 56 | 108 35 | 159 | 8904 | 49.8 |
| | | | | | | Total | 135.8 |
| Pórtico 5 | 1 | #4 | 4 | 882 | 932 | 3728 | 37.1 |
| | 2 | #4 | 4 | 882 | 924 | 3696 | 36.8 |
| | 3 | #4 | 2 | 259 | 280 | 560 | 5.6 |
| | 4 | #4 | 5 | 219 | 240 | 1200 | 11.9 |
| | 5 | #3 | 56 | 108 35 | 159 | 8904 | 49.8 |
| | | | | | | Total | 141.2 |
| | | | | | | #3: | 327.4 |
| | | | | | | #4: | 523.2 |
| | | | | | | #5: | 19.9 |
| | | | | | | #6: | 12.1 |
| | | | | | | Total: | 882.6 |

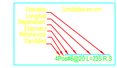
Suelo N+0.00
Despiece de vigas
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60
Escala pórticos 1:50
Escala secciones 1:50
Escala huecos 1:20
Recubrimientos: 2.0 cm

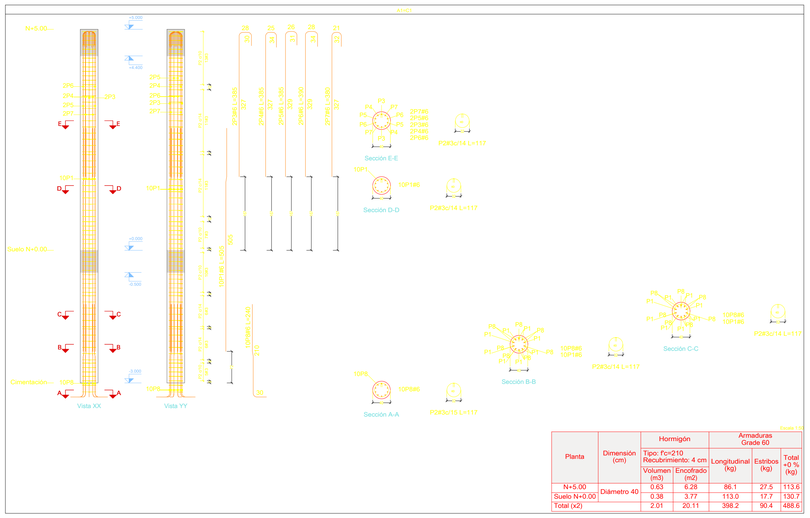
## Pórtico 2



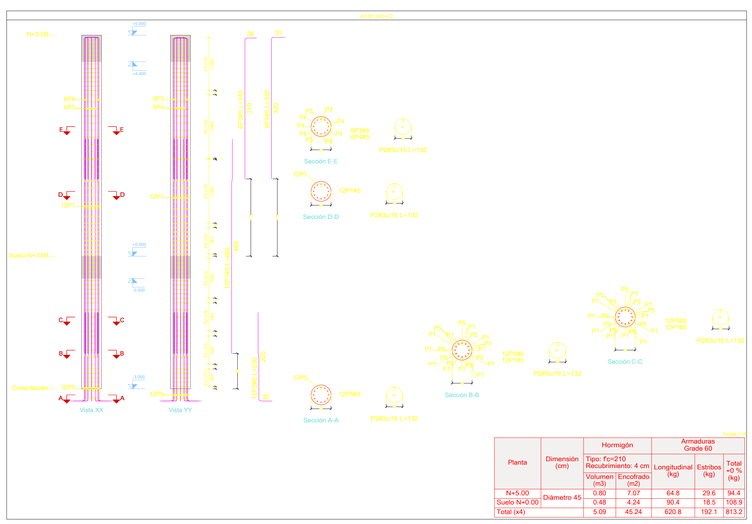

## Pórtico 4



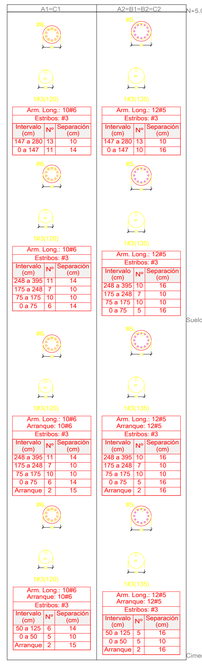

| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | | | |
| | | Volumen (m3) | Encofrado (m2) | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| N+5.00 | Diámetro 40 | 0.63 | 6.28 | 86.1 | 27.5 | 113.6 |
| Suelo N+0.00 | | 0.38 | 3.77 | 113.0 | 17.7 | 130.7 |
| Total (x2) | | 2.01 | 20.11 | 398.2 | 90.4 | 488.6 |




| Planta | Dimensión (cm) | Hormigón | | Armaduras Grade 60 | | |
|---|---|---|---|---|---|---|
| | | Tipo: f'c=210 Recubrimiento: 4 cm | | | | |
| | | Volumen (m3) | Encofrado (m2) | Longitudinal (kg) | Estribos (kg) | Total +0 % (kg) |
| N+5.00 | Diámetro 45 | 0.80 | 7.07 | 64.8 | 29.6 | 94.4 |
| Suelo N+0.00 | | 0.48 | 4.24 | 90.4 | 18.5 | 108.9 |
| Total (x4) | | 5.09 | 45.24 | 620.8 | 192.1 | 813.2 |

| Elemento | Pos. | Diám. | No. | Esquema (cm) | Long. (cm) | Total (cm) | Grado 60 (kg) |
|---|---|---|---|---|---|---|---|
| A1=C1 | 1 | #6 | 10 | 384 14130 | 505 | 5050 | 113.0 |
| | 2 | #3 | 71 | 30 | 117 | 8307 | 46.5 |
| | 3 | #6 | 2 | 307 R 35 | 385 | 770 | 17.2 |
| | 4 | #6 | 2 | 307 R 35 | 385 | 770 | 17.2 |
| | 5 | #6 | 2 | 307 R 35 | 385 | 770 | 17.2 |
| | 6 | #6 | 2 | 304 R 31 | 390 | 780 | 17.5 |
| | 7 | #6 | 2 | 307 R 35 | 380 | 760 | 17.0 |
| | 8 | #6 | 10 | R 92 72 307 | 240 | 2400 | 53.7 |
| | | | | | | Total (x2) | 299.3 598.6 |
| A2=B1=B2=C2 | 1 | #5 | 12 | 385 90 | 485 | 5820 | 90.4 |
| | 2 | #3 | 67 | 30 | 132 | 8844 | 49.5 |
| | 3 | #5 | 6 | 339 R 35 | 345 | 2070 | 32.2 |
| | 4 | #5 | 6 | 350 R 35 | 350 | 2100 | 32.6 |
| | 5 | #5 | 12 | R 96 92 | 230 | 2760 | 42.9 |
| | | | | | | Total (x4) | 247.8 991.4 |
| | | | | | | #3: | 261.0 |
| | | | | | | #5: | 597.8 |
| | | | | | | #6: | 555.8 |
| | | | | | | Total: | 1589.0 |

Pilares que nacen en Cimentación y mueren en N+5.00
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60




Cuadro de pilares
Escala 1:50
Hormigón: f'c=210
Acero en barras: Grade 60
Acero en estribos: Grade 60

GOBERNACIÓN DE
**CÓRDOBA**

PROYECTO

"INSTITUCION EDUCATIVA TECNICA ALVARO ULCUE CHOQUE TUCHIN - CORDOBA"

LOCALIZACION:

LOCALIZACION:
TUCHÍN DE CÓRDOBA.

TIPO DE PROYECTO

**ESPACIO PÚBLICO**

EQUIPO DE DISEÑO

OSCAR DAVID MORENO COGOLLO
INGENIERO CIVIL - CONSULTOR ESTRUCTURAL
M.P. No. 22202-221884 COR

Cualquier modificación parcial o total del diseño estructural debe ser supervisado y aprobado por el calculista, de lo contrario cualquier perjuicio ocasionado sobre la estructura por modificaciones no aprobadas exonera al ingeniero calculista de todo responsabilidad.

CONTIENE

BLOQUE ACCESO
VIGAS N + 0.00
DESPIECE DE COLUMNAS

OBSERVACIONES

1. todos los elementos que NO están consignados en los planos arquitectonicos o en los de los proyectos tecnicos, NO sonresponsabilidad del equipo profesional de diseñadores del proyecto.
2. VERIFICAR MEDIAS EN OBRA
3. Todos los elementos que requieren de solucion estructural harán parte del proyecto estructural diseñado por el ingeniero a cargo
4. Cualquier duda en las dimensiones será acñarada en obra por la direccion arquitectonica
5. Para la definición de acabados se solicitarán muestras y prototipos en obra.

NOMBRE DEL ARCHIVO

FECHA
MARZO 2025

ESCALA
INDICADA

PLANO DE
4/4