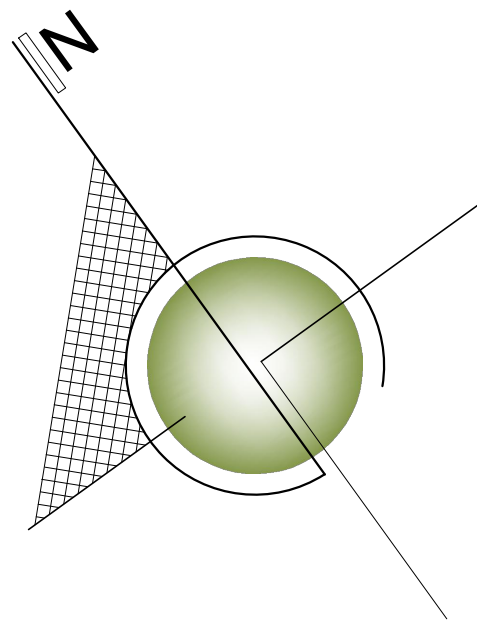
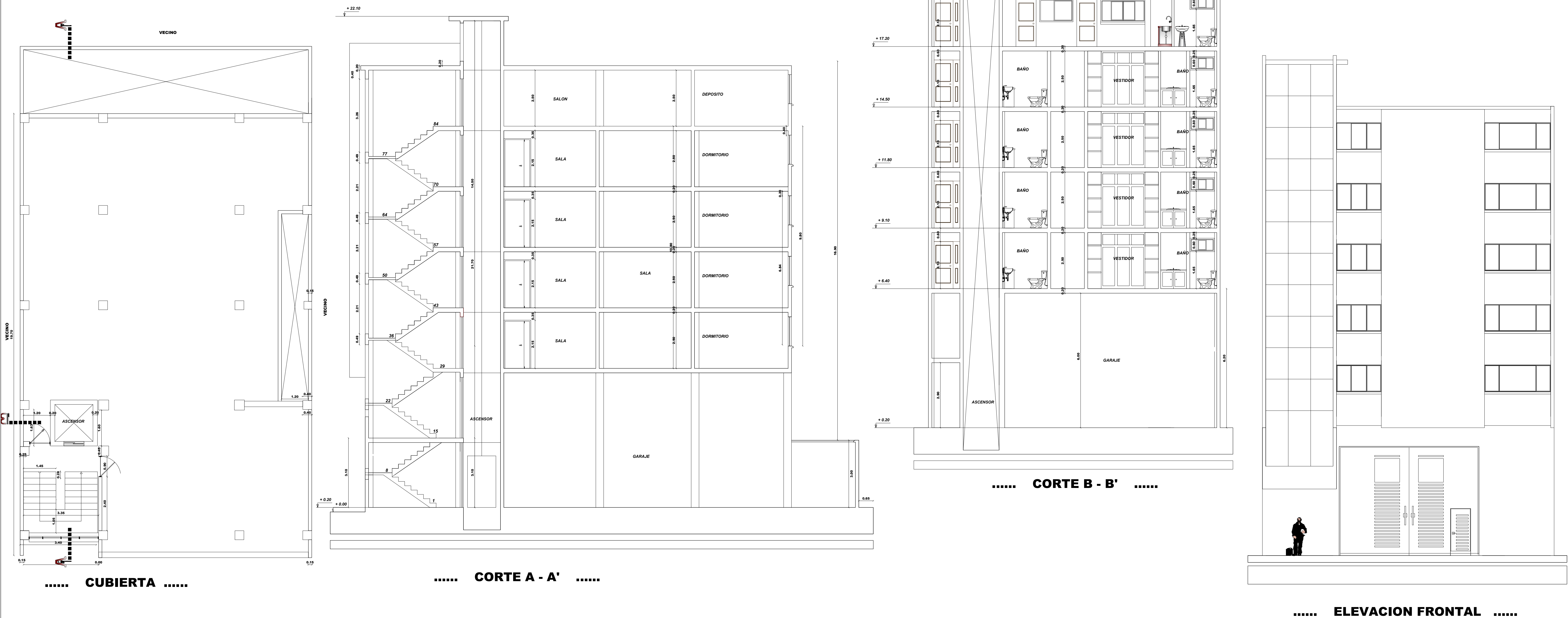
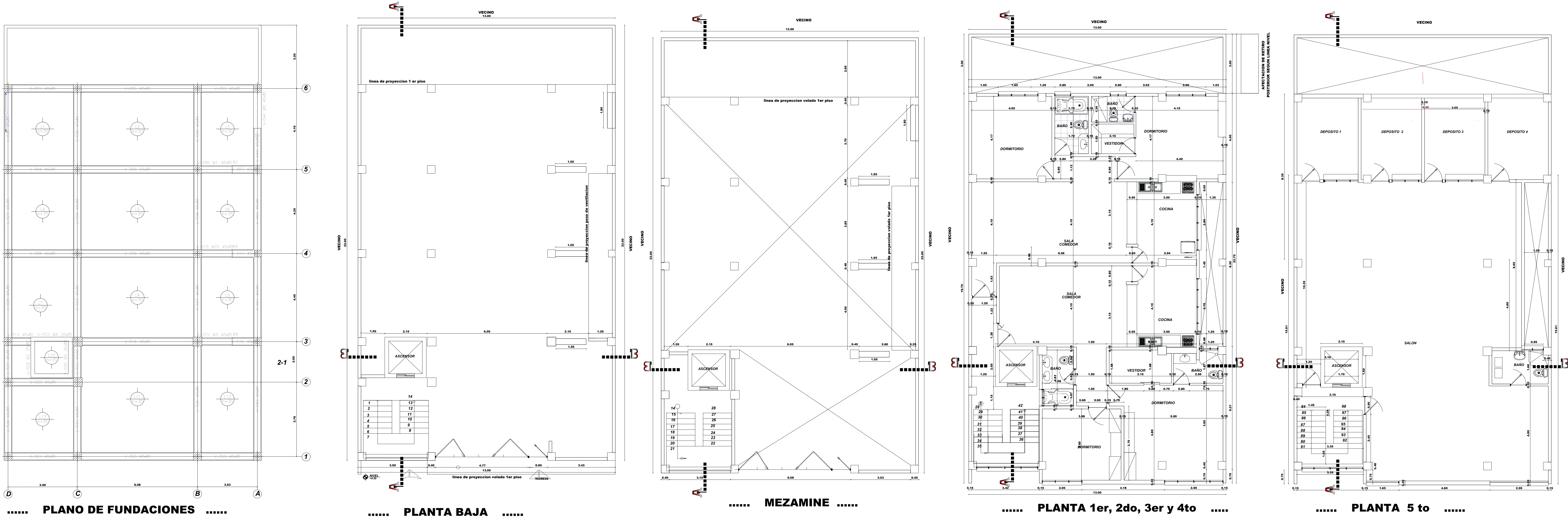
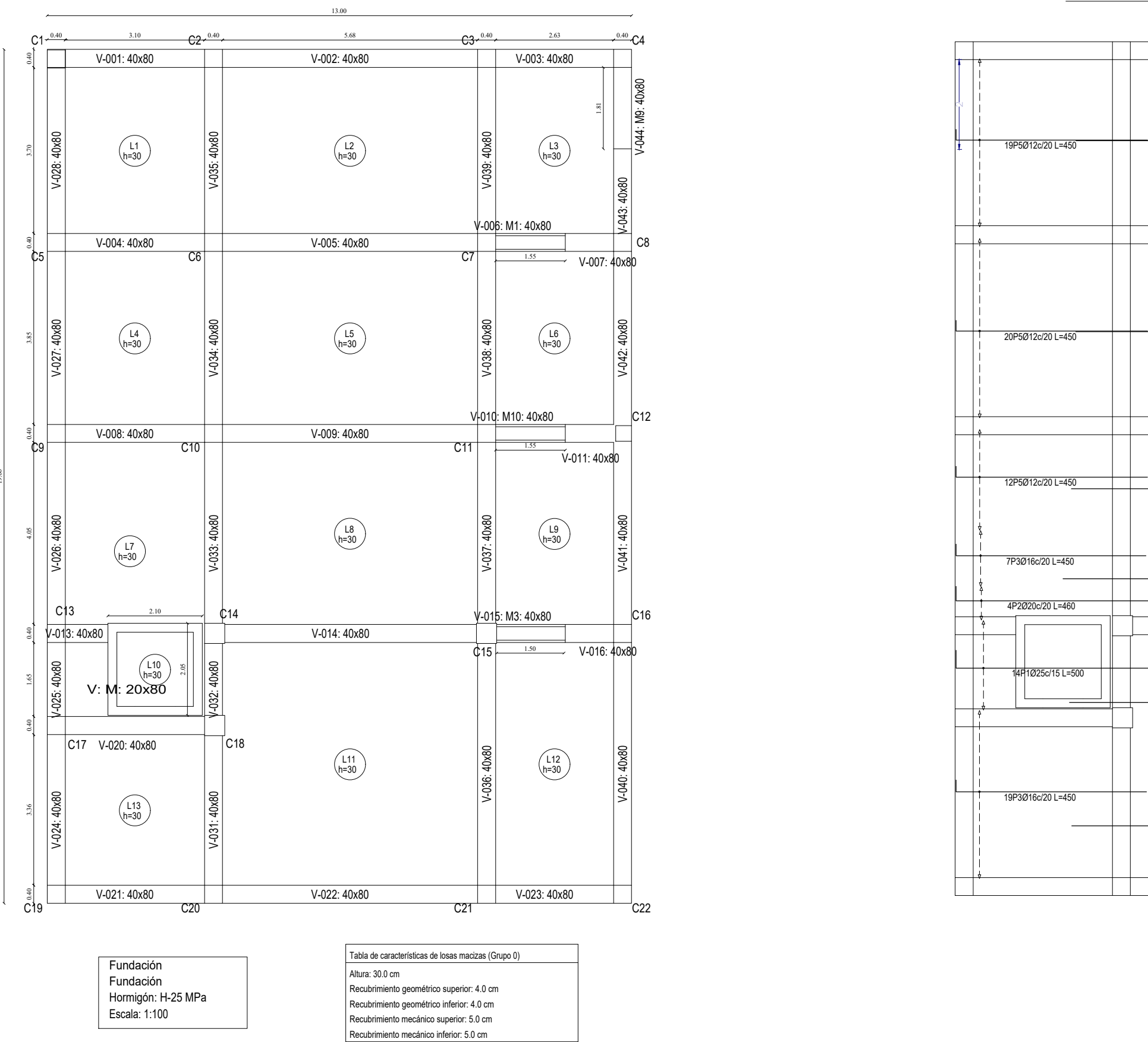




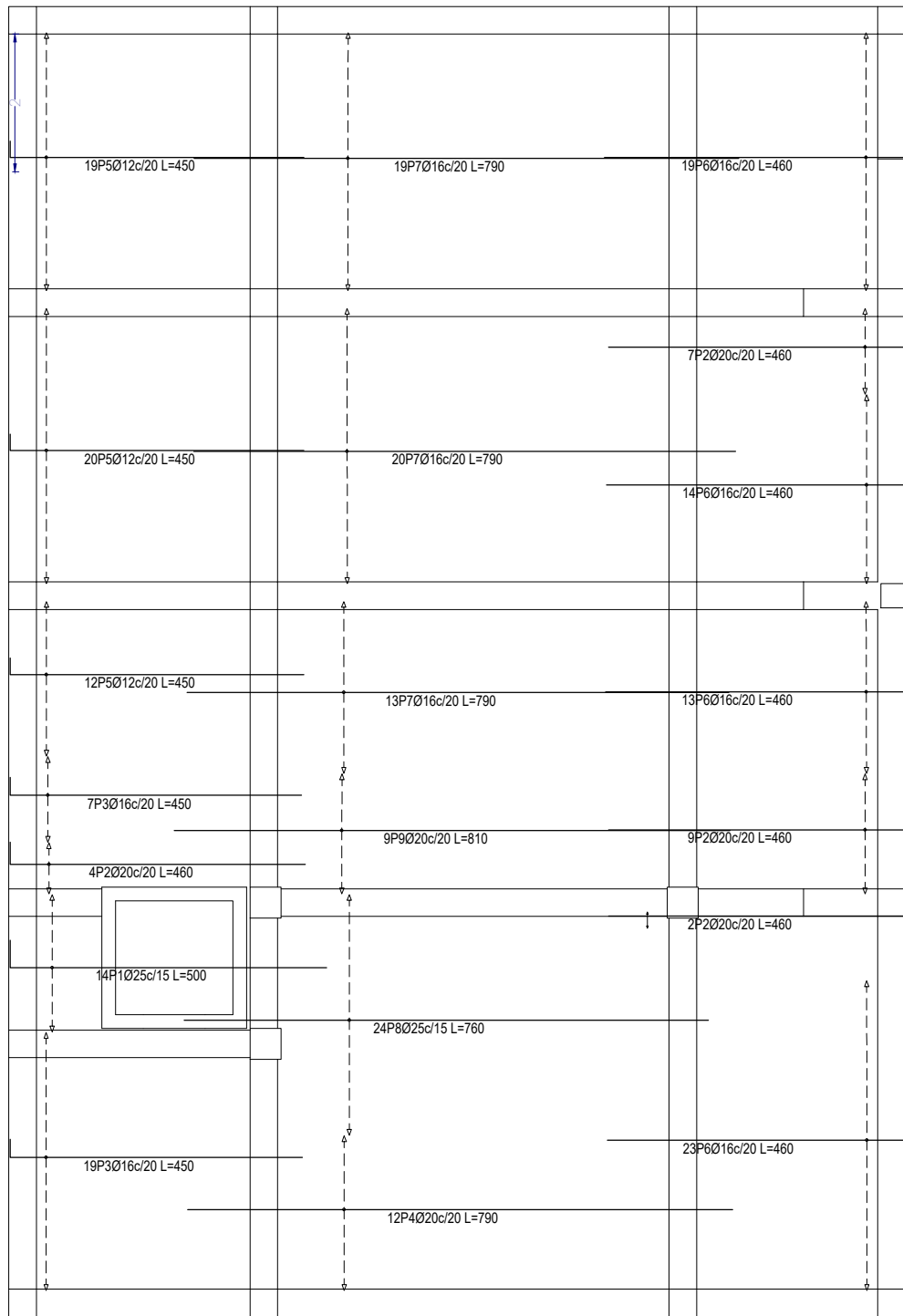
CARACTER:		PLANO DE CONSTRUCCIÓN											
PROPIETARIO:		LEONID MIGUEL SALAZAR PADILLA											
NOTAS MARGINALES:													
SUPERFICIES:		SUP. DE LOTE SUP. CONST. PLANTA BAJA SUP. CONST. PRIMER PISO SUP. CONST. SEGUNDO PISO SUP. CONST. TERCER PISO SUP. CONST. CUARTO PISO SUP. CONST. QUINTO PISO SUP. CONST. TOTAL								864.88 M² 286.00 M² 242.58 M² 242.58 M² 242.58 M² 242.58 M² 242.58 M² 1498.90 M²		LAMINA: 1/1	
EJECUTO:													
COD. CATASTRAL:		12-2-82-0-0-0											
FECHA:		T.J.A. - OCTUBRE - 2023											
ESCALA:		1 : 80											
ZONA:		ARANJUEZ											
REGISTROS:													
APROBACIÓN E.O.T.T.													
SELLO:													

UBICACION:

VISTA EN PLANTA DE FUNDACIÓN

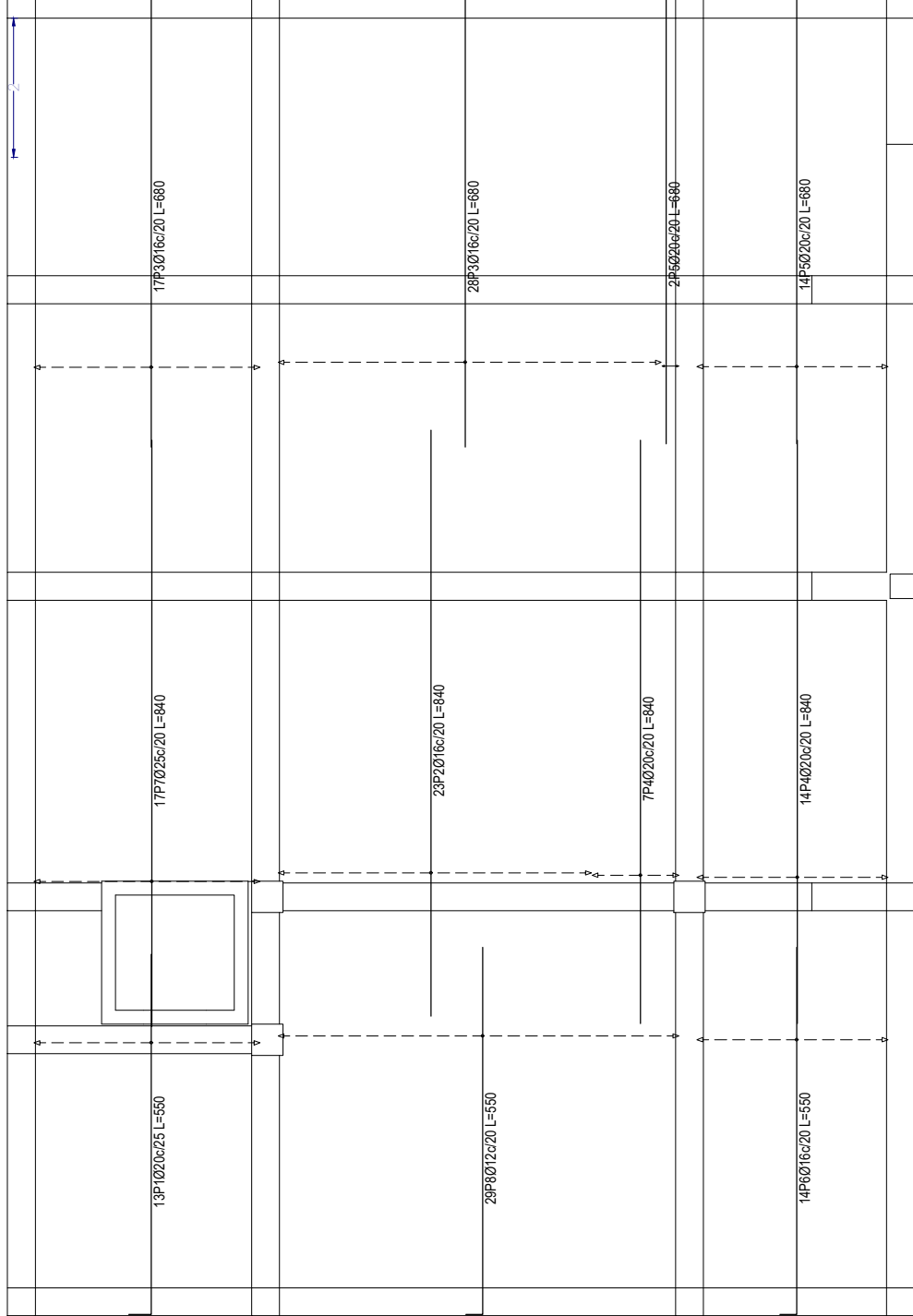


DESPIECE DE LOSA DE FUNDACION ARMADURA LONGITUDINAL INFERIOR



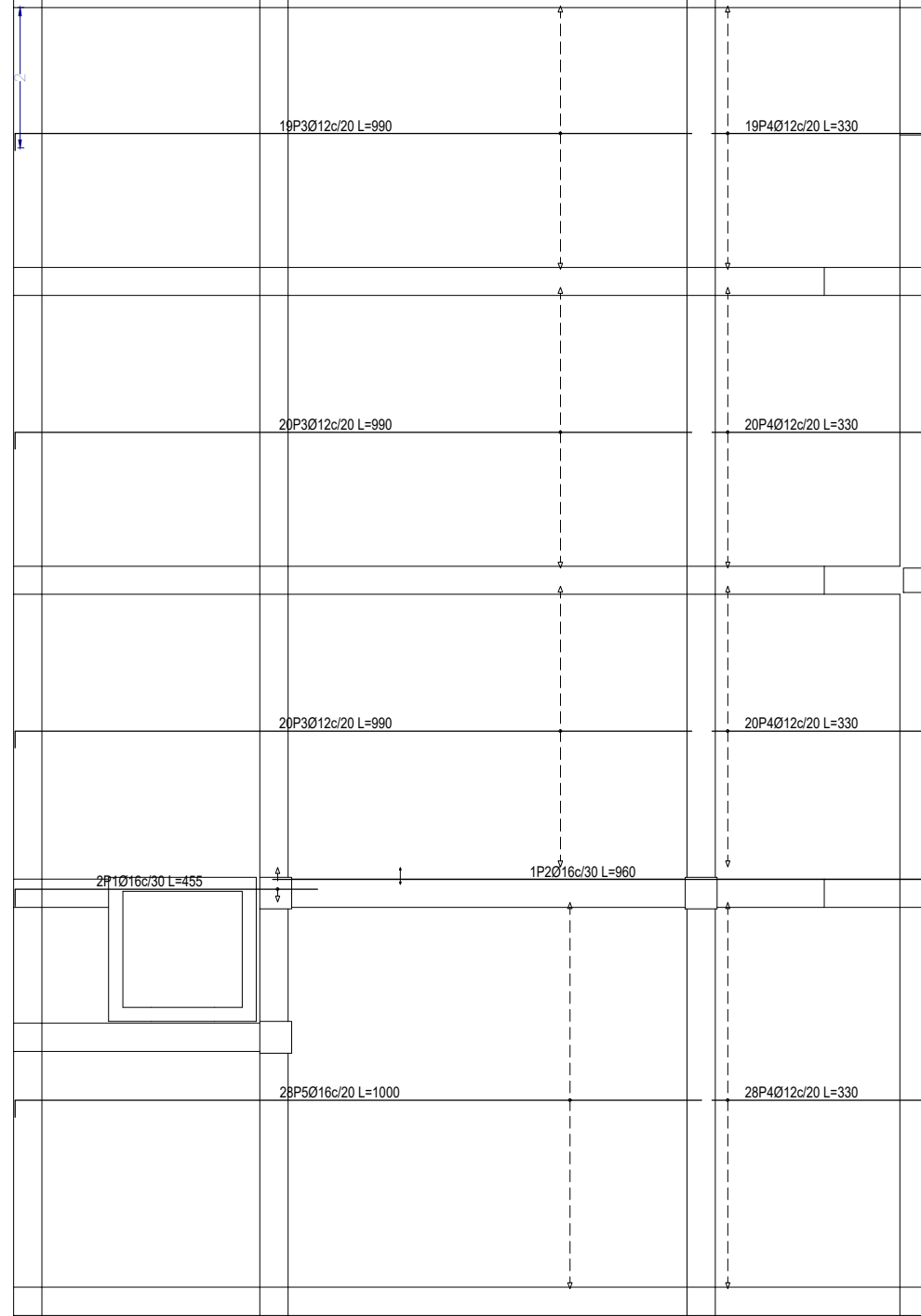
ESCALA: 1 : 100

DESPIECE DE LOSA DE FUNDACIÓN ARMADURA TRANSVERSAL INFERIOR



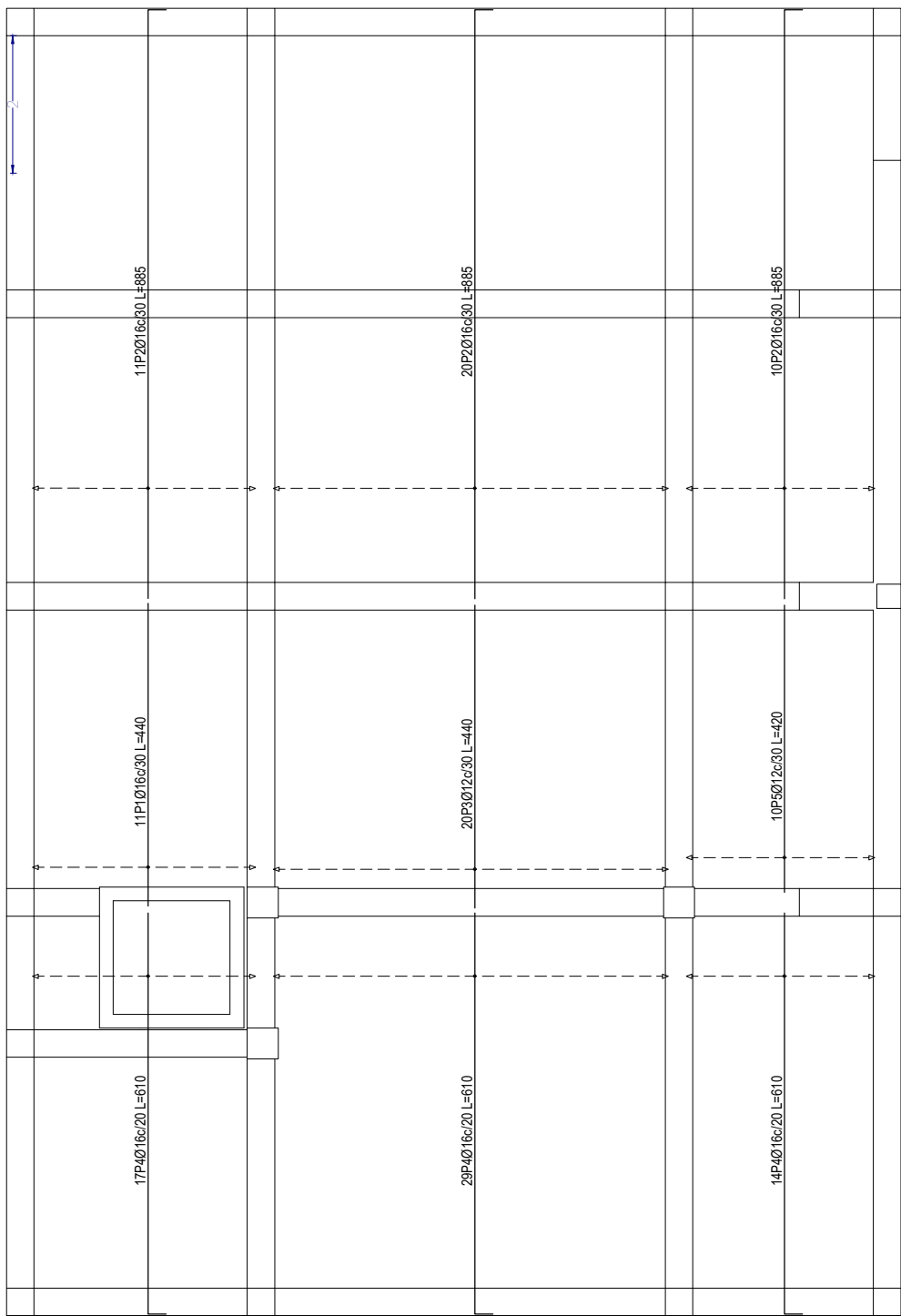
ESCALA: 1 : 100

DESPIECE DE LOSA DE FUNDACION ARMADURA LONGITUDINAL SUPERIOR



ESCALA: 1 : 100

DESPIECE DE LOSA DE FUNDACIÓN ARMADURA TRANSVERSAL SUPERIOR



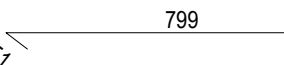
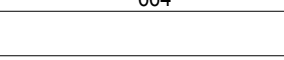
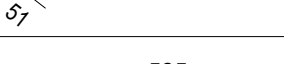
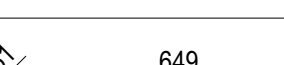
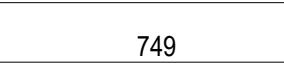
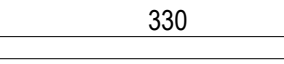
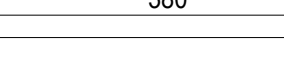
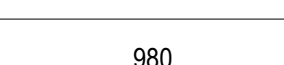
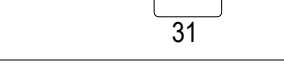
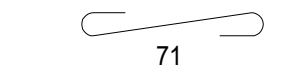
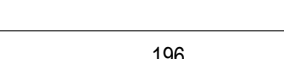
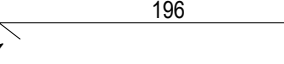
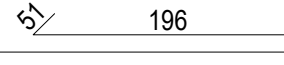
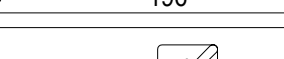
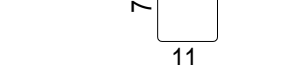
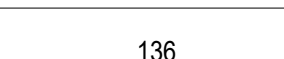
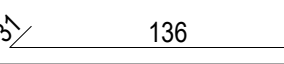
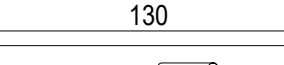
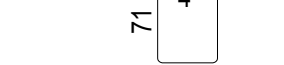
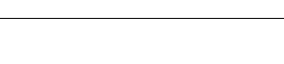
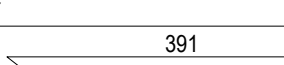
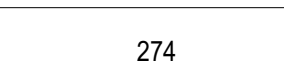
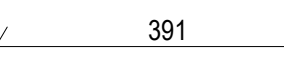
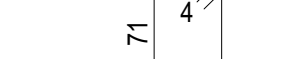
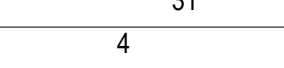
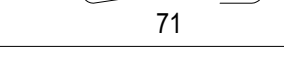
Elemento	Pos.	Díam.	No.	Recta (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Armadura transversal superior	1	Ø16	2	130.0	127	130.0	127
	2	Ø16	1	777.3	1349	777.3	1349
	3	Ø16	1	777.3	1349	777.3	1349
	4	Ø16	1	777.3	1349	777.3	1349
	5	Ø16	1	777.3	1349	777.3	1349
Total							1476

Resumen Acero Fundación Armadura transversal superior AH-500	Long. total (m)	Peso+10% (kg)	Total
Ø12	130.0	127	
Ø16	777.3	1349	1476

Table de caractéristiques de la base machine (Drape 1)
Alteza: 30.0 cm
Recubrimiento geométrico superior: 4.0 cm
Recubrimiento geométrico inferior: 4.0 cm
Recubrimiento mecánico superior: 5.0 cm
Recubrimiento mecánico inferior: 5.0 cm

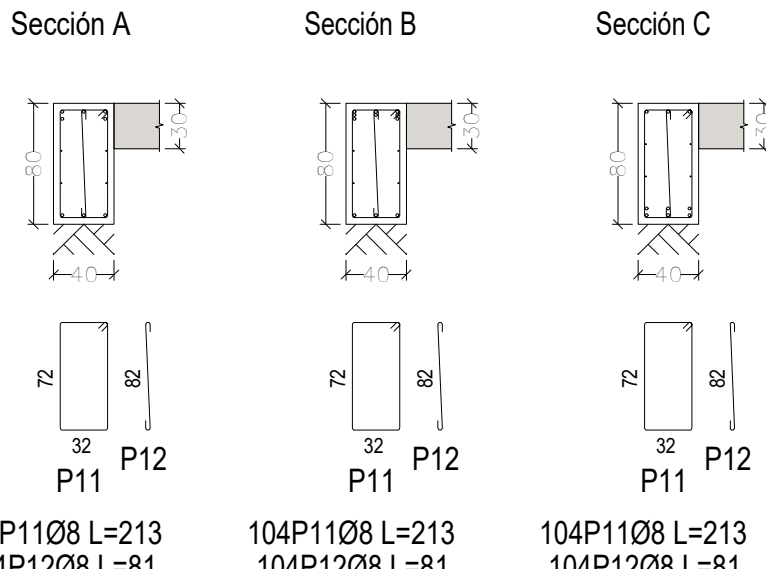
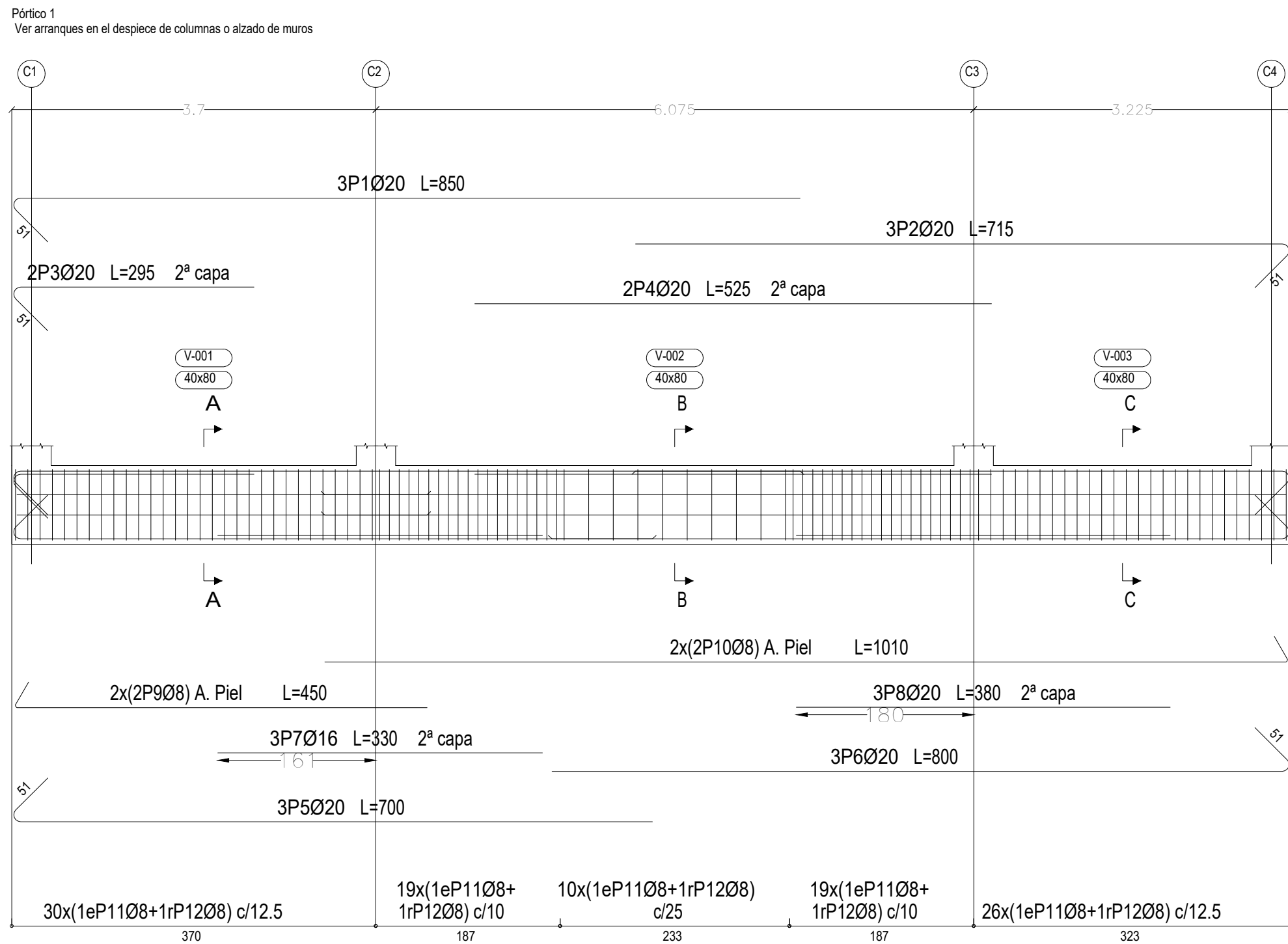
Fundación Armadura transversal superior Hormigón: H-25 MPa AH-500 Escala: 1:100

ESCALA: 1 : 100

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Pórtico 1	1	Ø20	3		850	2550	62.9
	2	Ø20	3		715	2145	52.9
	3	Ø20	2		295	590	14.6
	4	Ø20	2		525	1050	25.9
	5	Ø20	3		700	2100	51.8
	6	Ø20	3		800	2400	59.2
	7	Ø16	3		330	990	15.6
	8	Ø20	3		380	1140	28.1
	9	Ø8	4		450	1800	7.1
	10	Ø8	4		1010	4040	15.9
	11	Ø8	104		214	22256	87.8
	12	Ø8	104		81	8424	33.2
						Total+10%:	500.5
Pórtico 7	1	Ø16	2		278	556	8.8
	2	Ø12	2		257	514	4.6
	3	Ø20	2		298	596	14.7
	4	Ø8	4		256	1024	4.0
	5	Ø6	12		173	2076	4.6
						Total+10%:	40.4
Pórtico 8	1	Ø10	2		187	374	2.3
	2	Ø12	2		167	334	3.0
	3	Ø12	2		197	394	3.5
	4	Ø8	4		155	620	2.4
	5	Ø6	5		173	865	1.9
						Total+10%:	14.4
Pórtico 9	1	Ø16	6		473	2838	44.8
	2	Ø16	2		432	864	13.6
	3	Ø20	3		325	975	24.0
	4	Ø8	4		417	1668	6.6
	5	Ø6	27		213	5751	12.8
	6	Ø6	27		79	2133	4.7
						Total+10%:	117.2
						Ø6:	26.5
						Ø8:	172.7
						Ø10:	2.5
						Ø12:	12.2
						Ø16:	91.1
						Ø20:	367.5
						Total:	672.5

DESPIECE DE VIGAS DE FUNDACIÓN

VIGAS DE FUNDACIÓN

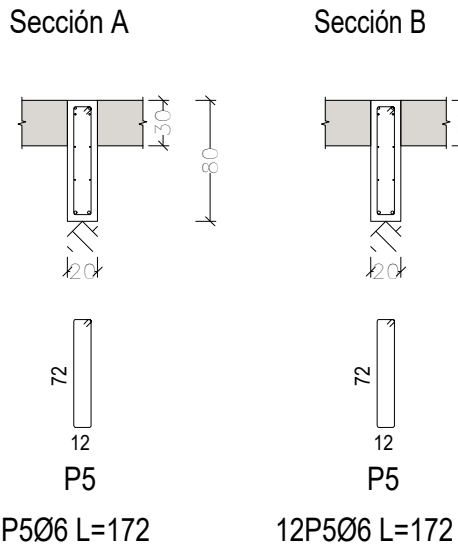
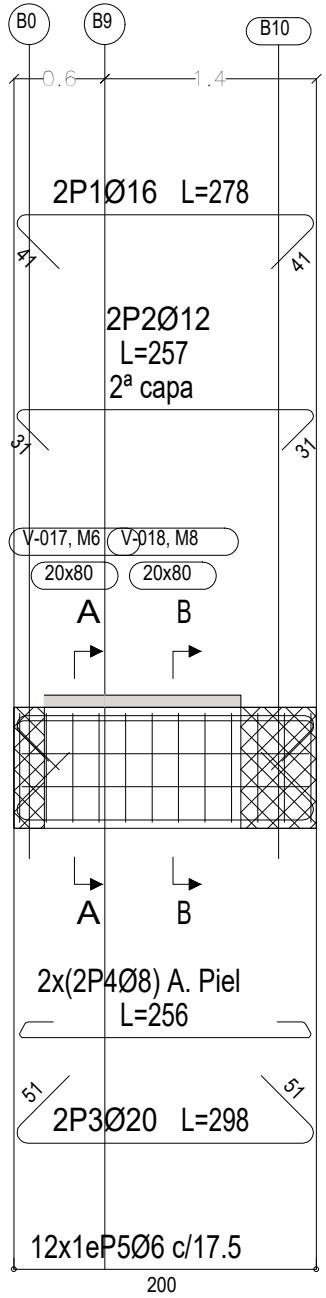


Fundación Despiece de vigas Hormigón: H-25 MPa Acero en barras: AH-500

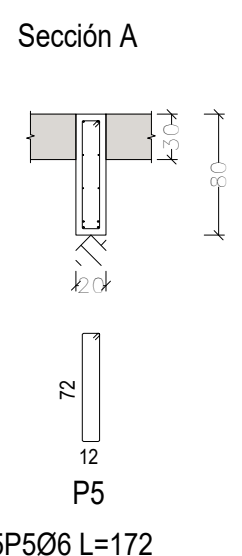
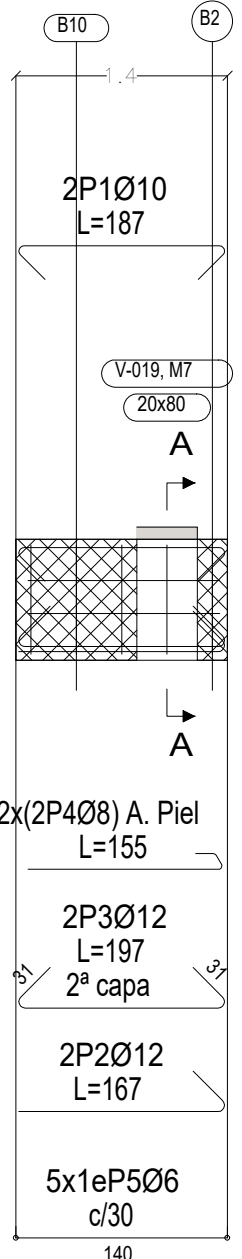
Recubrimientos: 4.0 cm

ESCALA: 1 : 50

Pórtico 7 Ver arranques en el despiece de columnas o alzado de muros

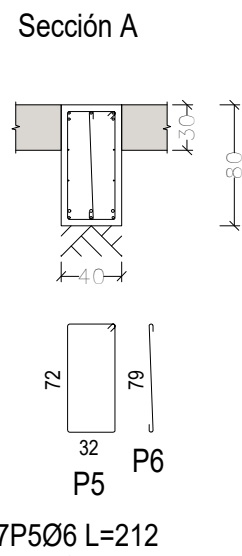
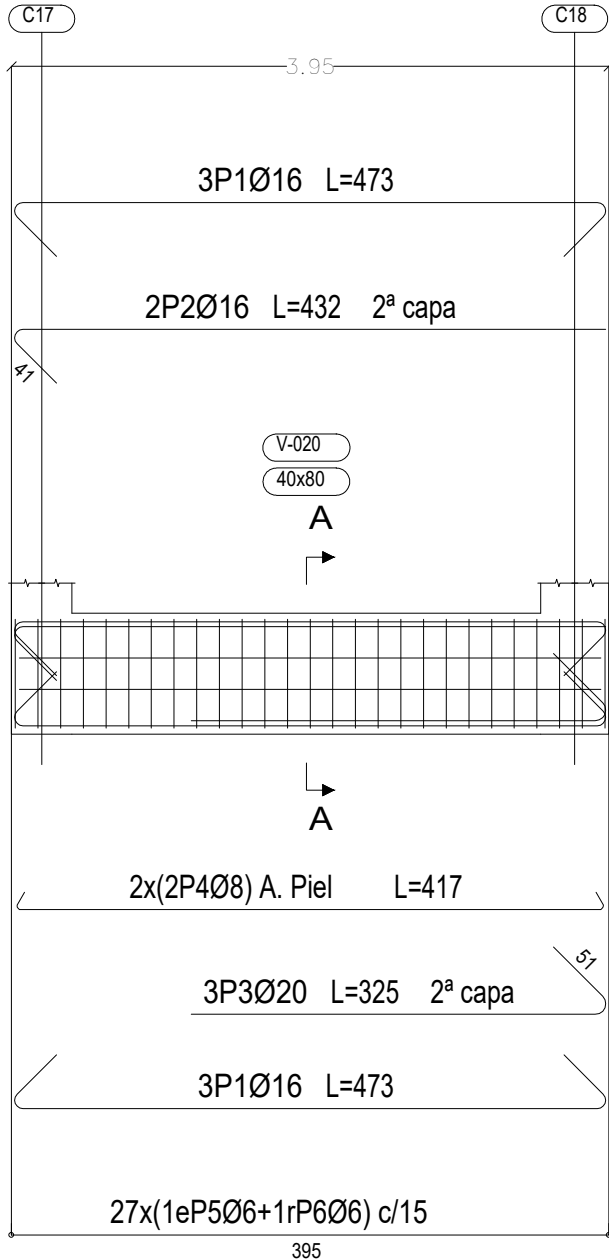


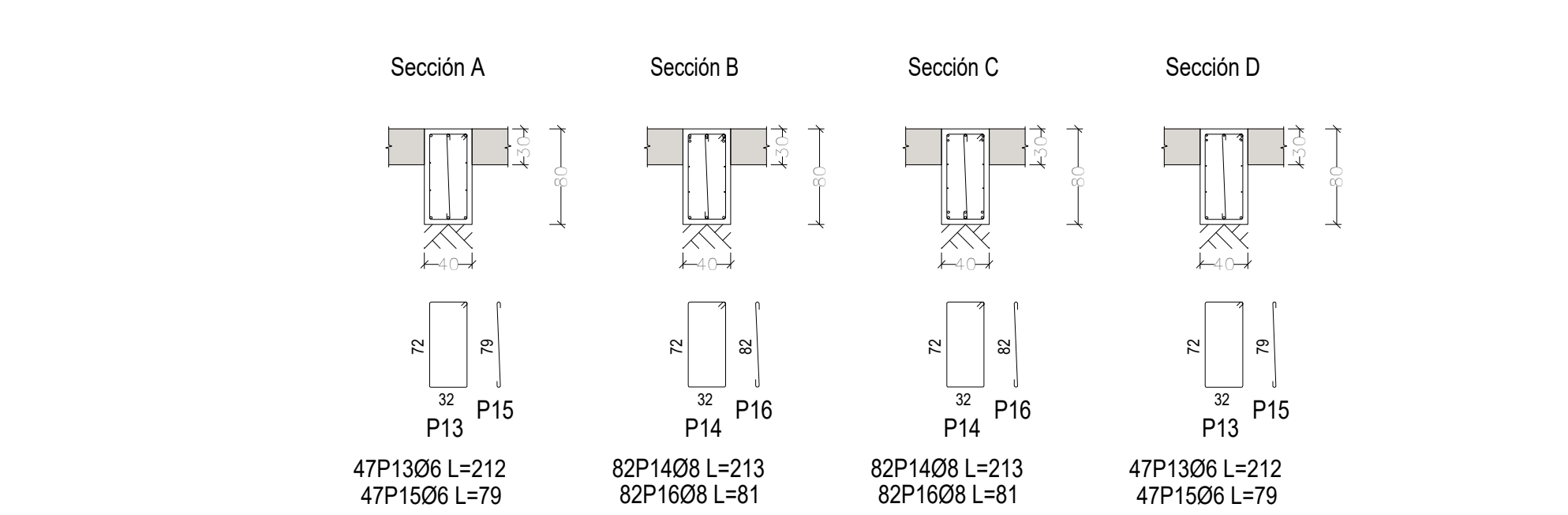
Pórtico 8 Ver arranques en el despiece de columnas o alzado de muros



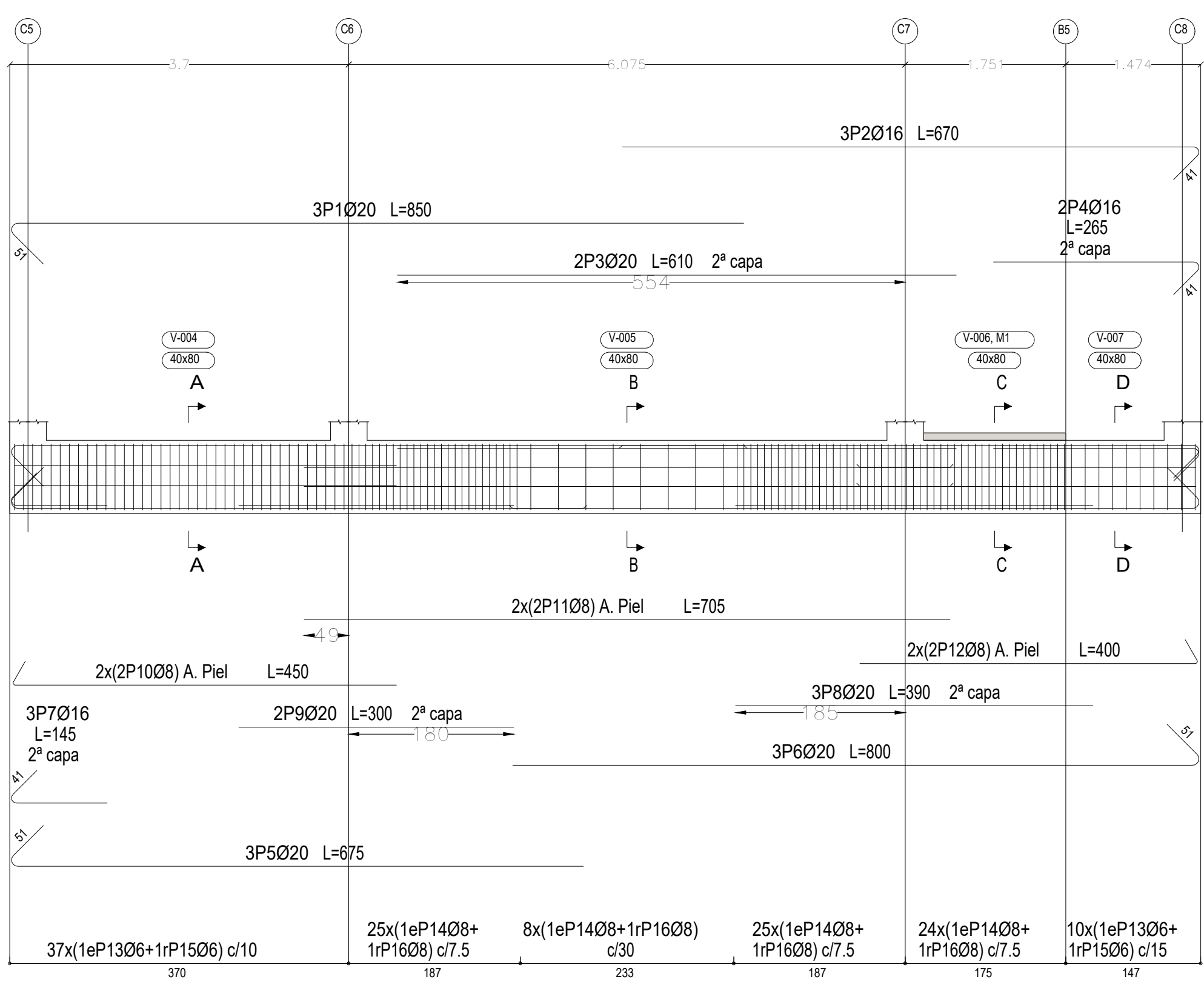
ESCALA: 1 : 50

Pórtico 9 Ver arranques en el despiece de columnas o alzado de muros

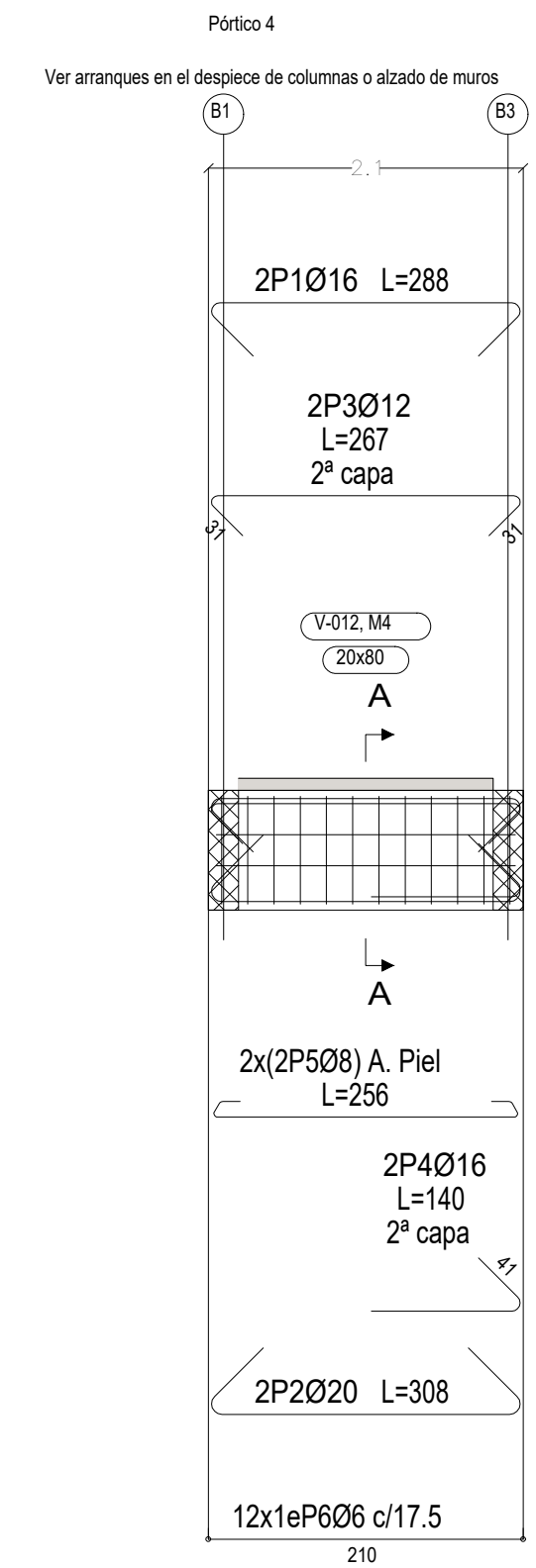
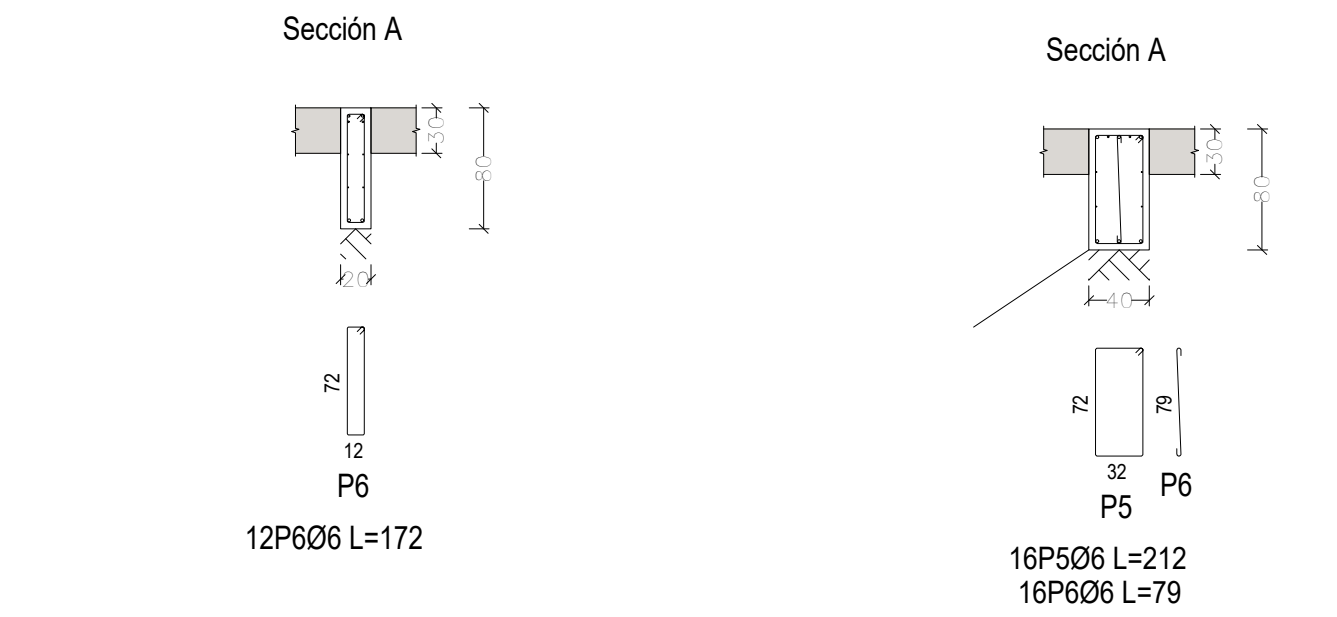




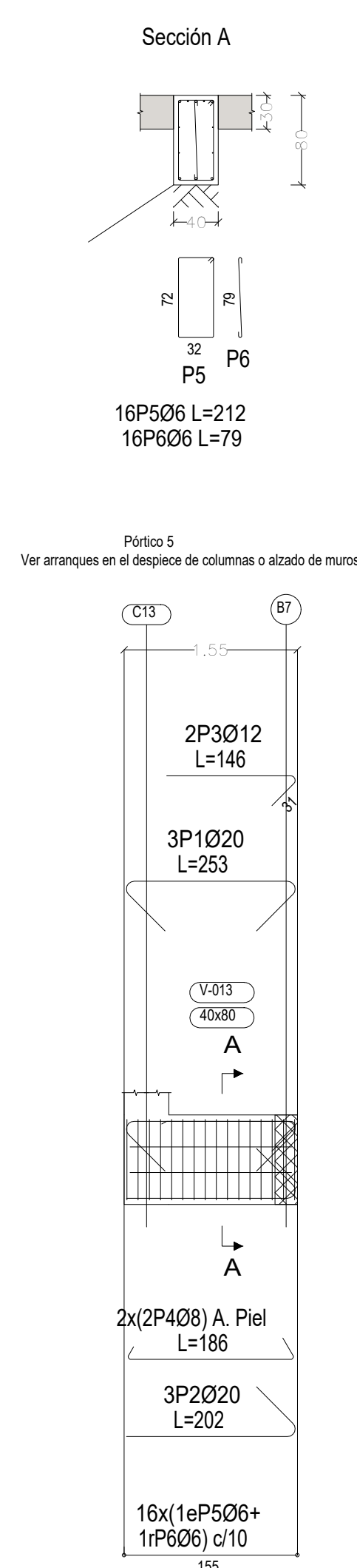
Pórtico 2
Ver anclajes en el despiece de columnas o alzado de muros



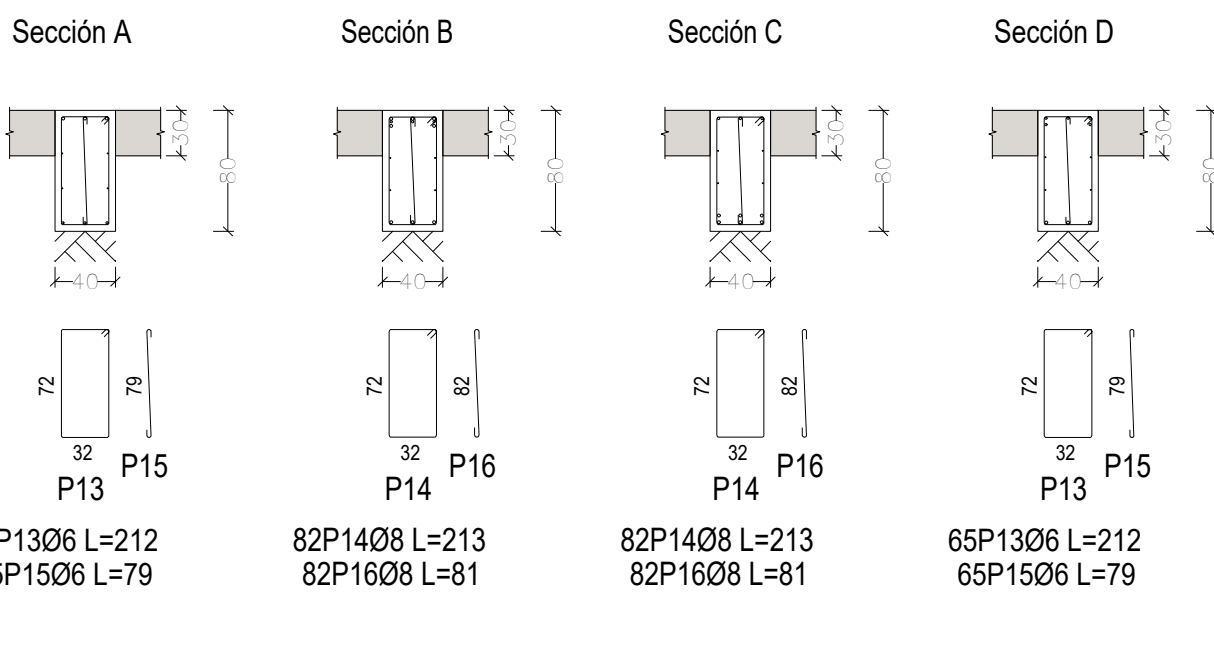
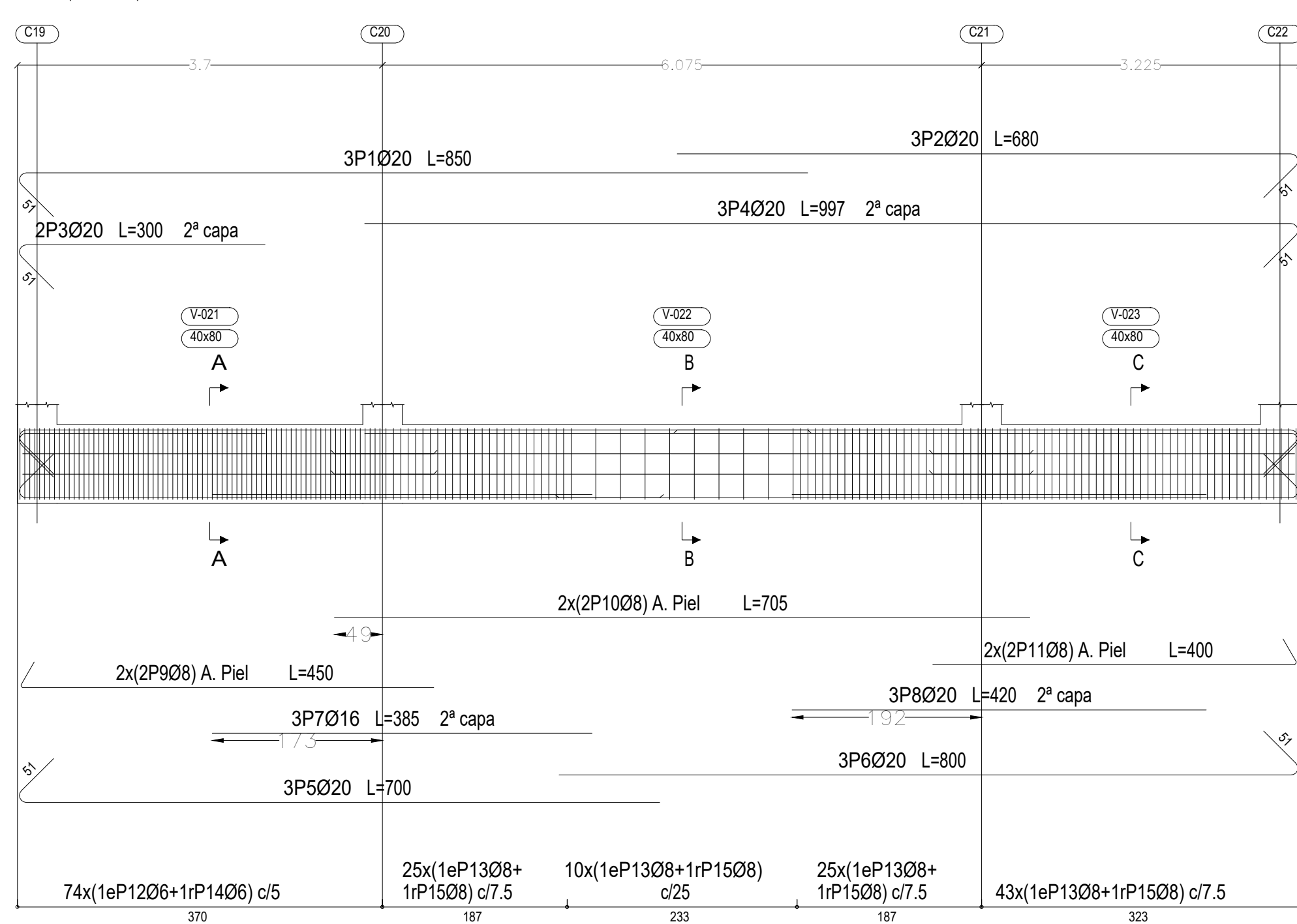
ESCALA: 1 : 50



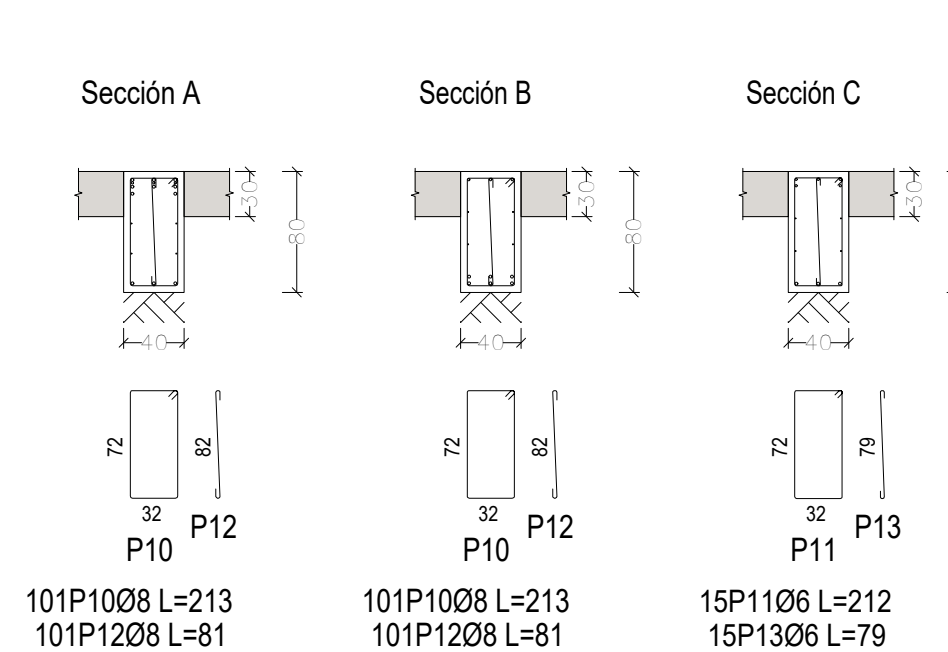
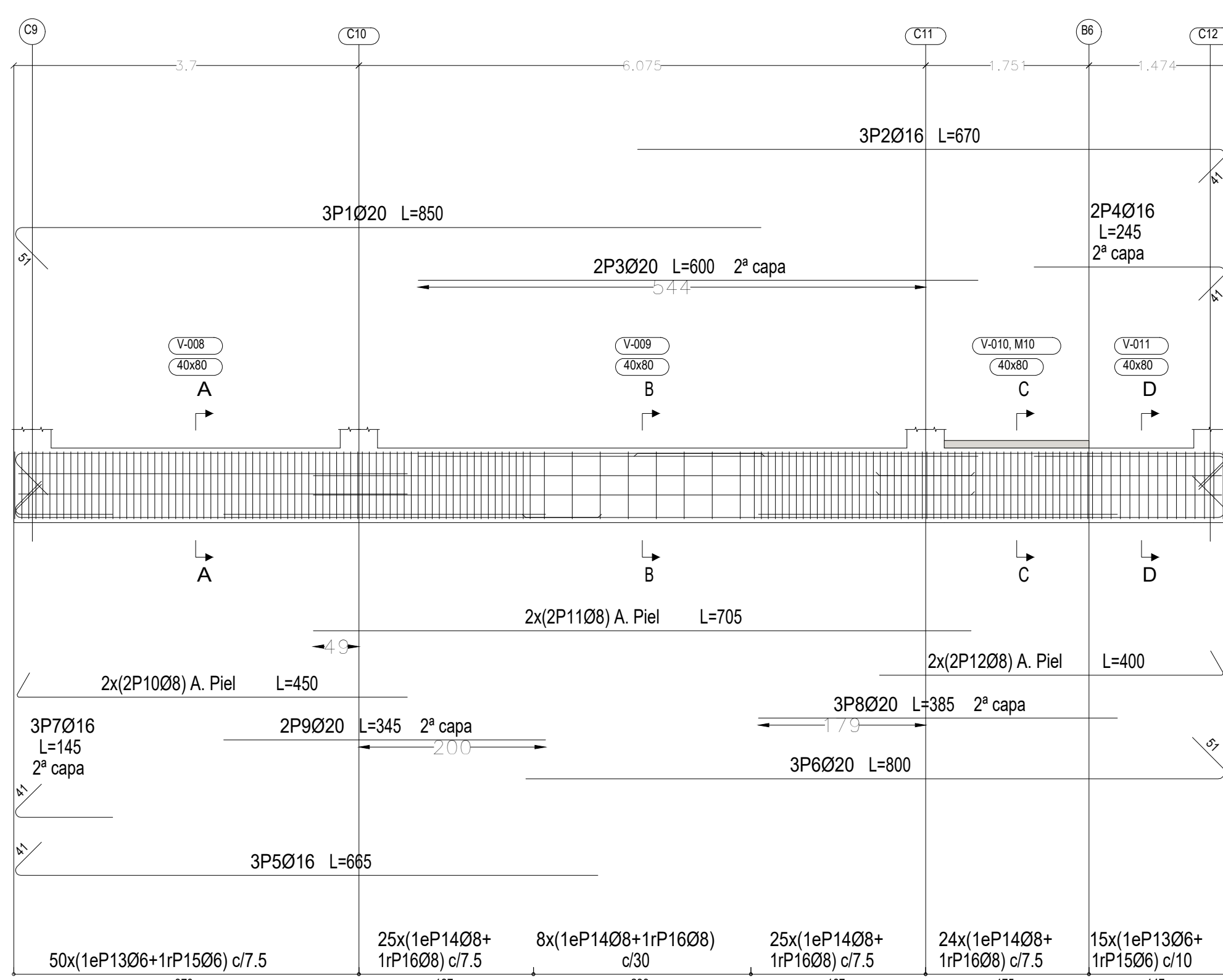
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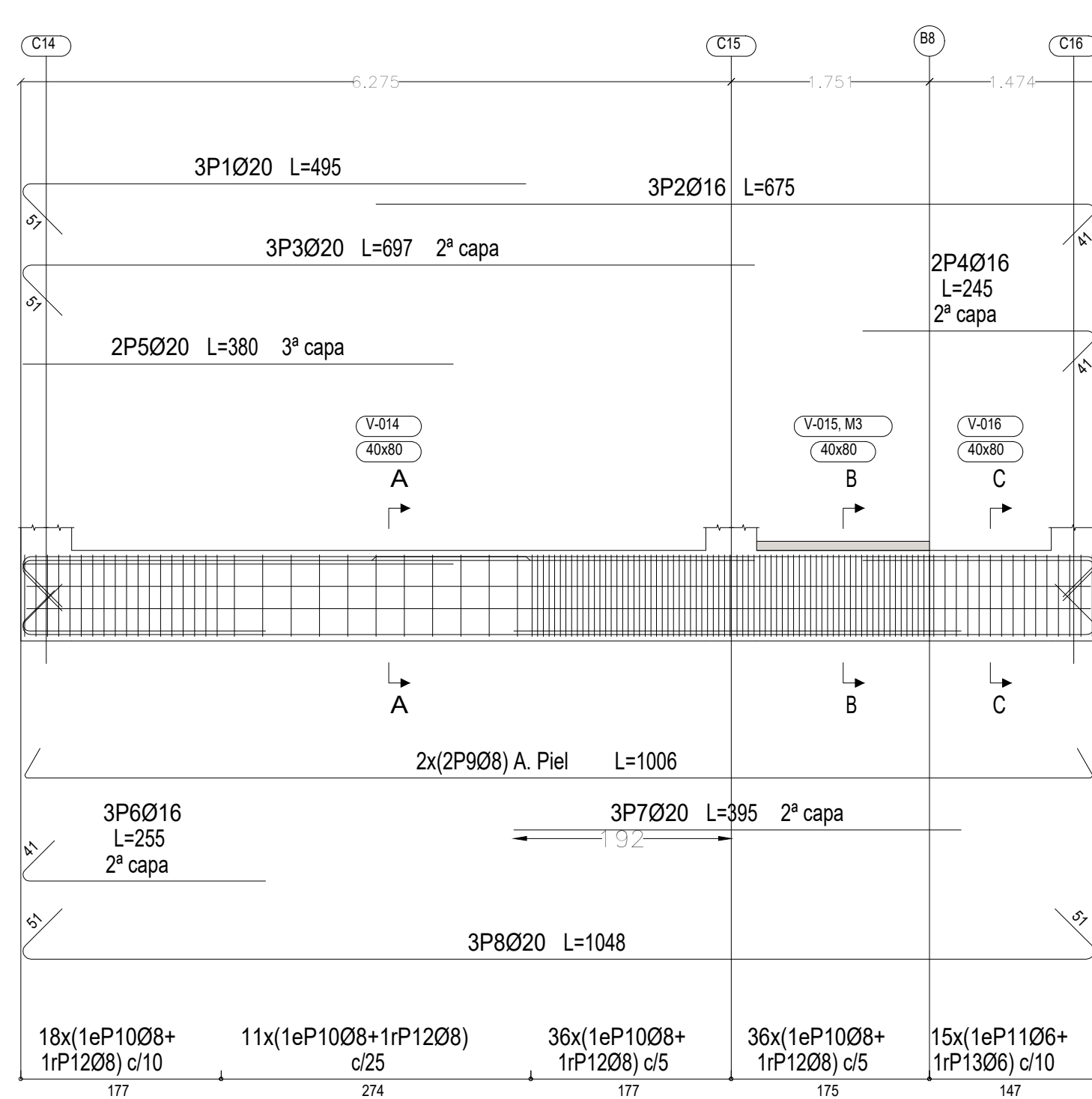
Pórtico 10
Ver anclajes en el despiece de columnas o alzado de muros



Pórtico 3
Ver anclajes en el despiece de columnas o alzado de muros

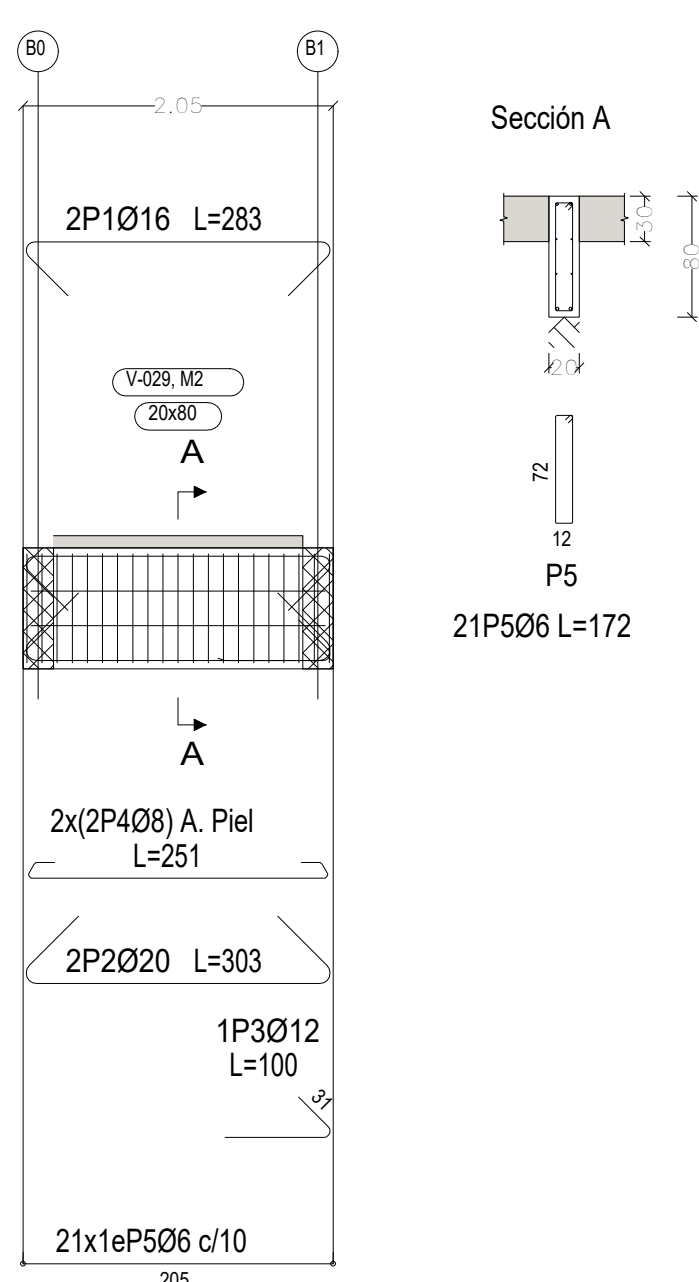


Pórtico 6
Ver anclajes en el despiece de columnas o alzado de muros



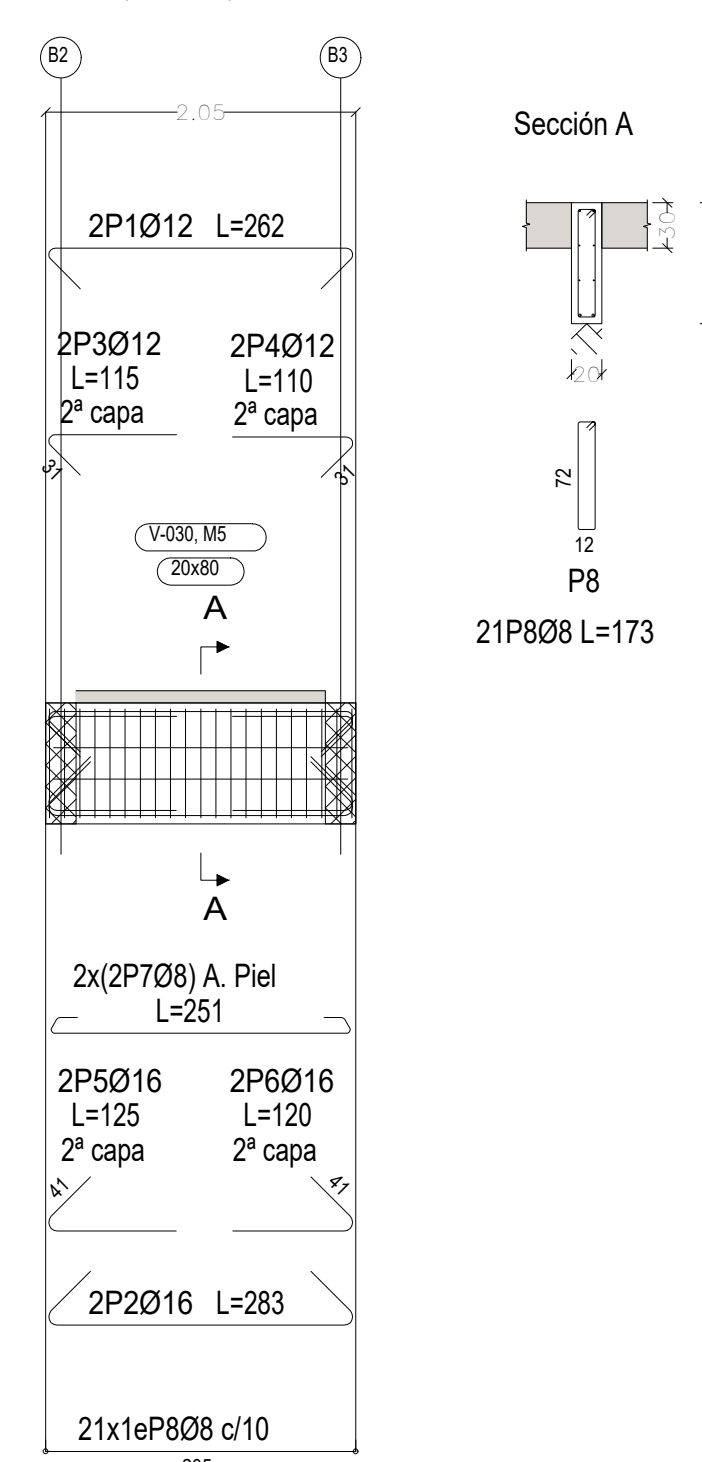
ESCALA: 1 : 50

Pórtico 12
Ver anclajes en el despiece de columnas o alzado de muros



ESCALA: 1 : 50

Pórtico 13
Ver anclajes en el despiece de columnas o alzado de muros



Elemento	Pos.	Diám.	No.	Esquema (cm)	Long (cm)	Total (cm)	AH-500 (kg)
Pórtico 2	1	Ø20	3		798	850	2550 62.9
	2	Ø16	3		670	2010	31.7
	3	Ø20	2		610	1220	30.1
	4	Ø16	2		285	530	6.4
	5	Ø20	3		675	2020	49.9
	6	Ø20	3		800	2400	59.2
	7	Ø16	3		145	435	6.9
	8	Ø20	3		380	1170	29.9
	9	Ø20	2		300	600	14.8
	10	Ø8	4		420	1600	7.1
	11	Ø8	4		705	2820	11.1
	12	Ø8	4		370	1400	6.3
	13	Ø8	47		213	10011	22.2
	14	Ø8	82		214	17548	69.2
	15	Ø8	47		79	3713	8.2
	16	Ø8	82		81	6642	26.2
Total=100%:					487.4		
Pórtico 6	1	Ø20	3		444	495	1485 36.6
	2	Ø16	3		675	2020	32.0
	3	Ø20	3		687	2091	51.6
	4	Ø16	2		245	490	7.7
	5	Ø20	2		380	760	18.7
	6	Ø16	3		234	255	765 12.1
	7	Ø20	3		395	1165	29.2
	8	Ø20	3		666	1048	3144 77.5
	9	Ø8	4		966	1548	4024 15.9
	10	Ø8	101		214	2104	93.3
	11	Ø8	15		213	3165	7.1
	12	Ø8	101		81	8101	32.3
	13	Ø8	15		79	1185	2.6
Total=100%:					443.5		
					Ø6:	44.1	
					Ø8:	271.9	
					Ø16:	108.6	
					Ø20:	554.4	
					Total:	989.9	
Elemento	Pos.	Diám.	No.	Esquema (cm)	Long (cm)	Total (cm)	AH-500 (kg)
Pórtico 3	1	Ø20	3		798	850	2550 62.9
	2	Ø16	3		670	2010	31.7
	3	Ø20	2		600	1200	29.8
	4	Ø16	2		245	490	7.7
	5	Ø16	3		624	665	1656 31.5
	6	Ø20	3		760	800	2400 59.2
	7	Ø16	3		145	435	6.9
	8	Ø20	3		385	1165	29.5
	9	Ø20	2		345	690	17.0
	10	Ø8	4		420	1600	7.1
	11	Ø8	4		705	2820	11.1
	12	Ø8	4		370	1400	6.3
	13	Ø8	65		213	13345	30.7
	14	Ø8	82		214	17548	69.2
	15	Ø8	65		79	5135	11.4
	16	Ø8	82		81	6642	26.2
Total=100%:					480.7		
Pórtico 4	1	Ø16	2		266	576	9.1
	2	Ø20	2		308	616	15.2
	3	Ø12	2		267	534	4.7
	4	Ø16	2		140	280	4.4
	5	Ø8	4		256	1024	4.0
	6	Ø8	12		173	2076	4.6
Total=100%:					46.2		
Pórtico 5	1	Ø20	3		161	253	739 18.7
	2	Ø20	3		161	252	636 14.9
	3	Ø12	3		146	293	2.6
	4	Ø8	4		191	196	744 2.9
	5	Ø8	16		213	3408	7.6
	6	Ø8	16		79	1264	2.8
Total=100%:					54.5		
					Ø6:	62.9	
					Ø8:	136.5	
					Ø12:	7.9	
					Ø16:	164.3	
					Ø20:	270.6	
					Total:	591.4	



UNIVERSIDAD AUTONOMA "JUAN MISAEL SARACHO"
FACULTAD DE CIENCIAS Y TECNOLOGIA
INGENIERIA CIVIL

CONTENIDO
PLANO DE ARMADURAS DE FUNDACIONES

LAMINA

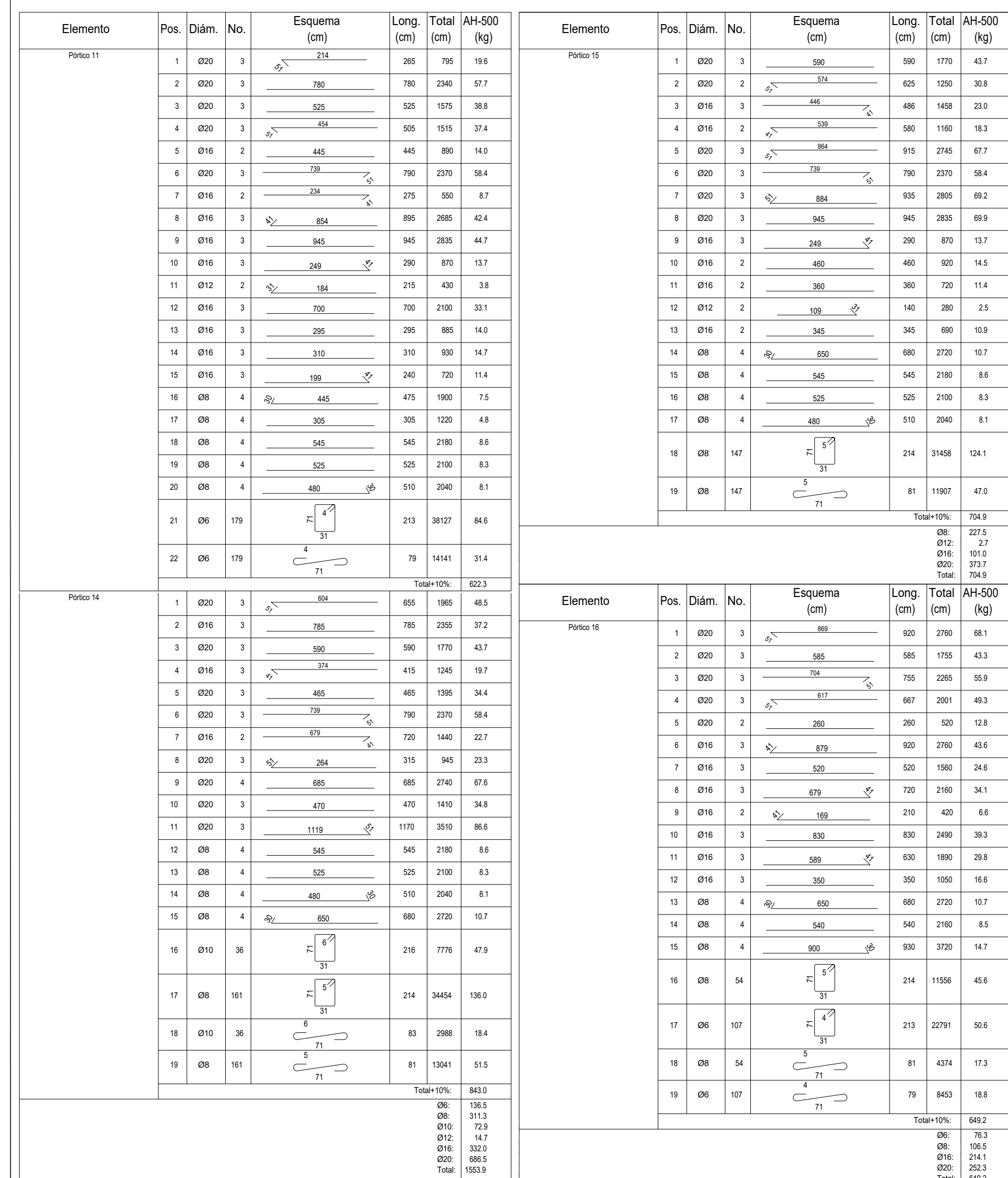
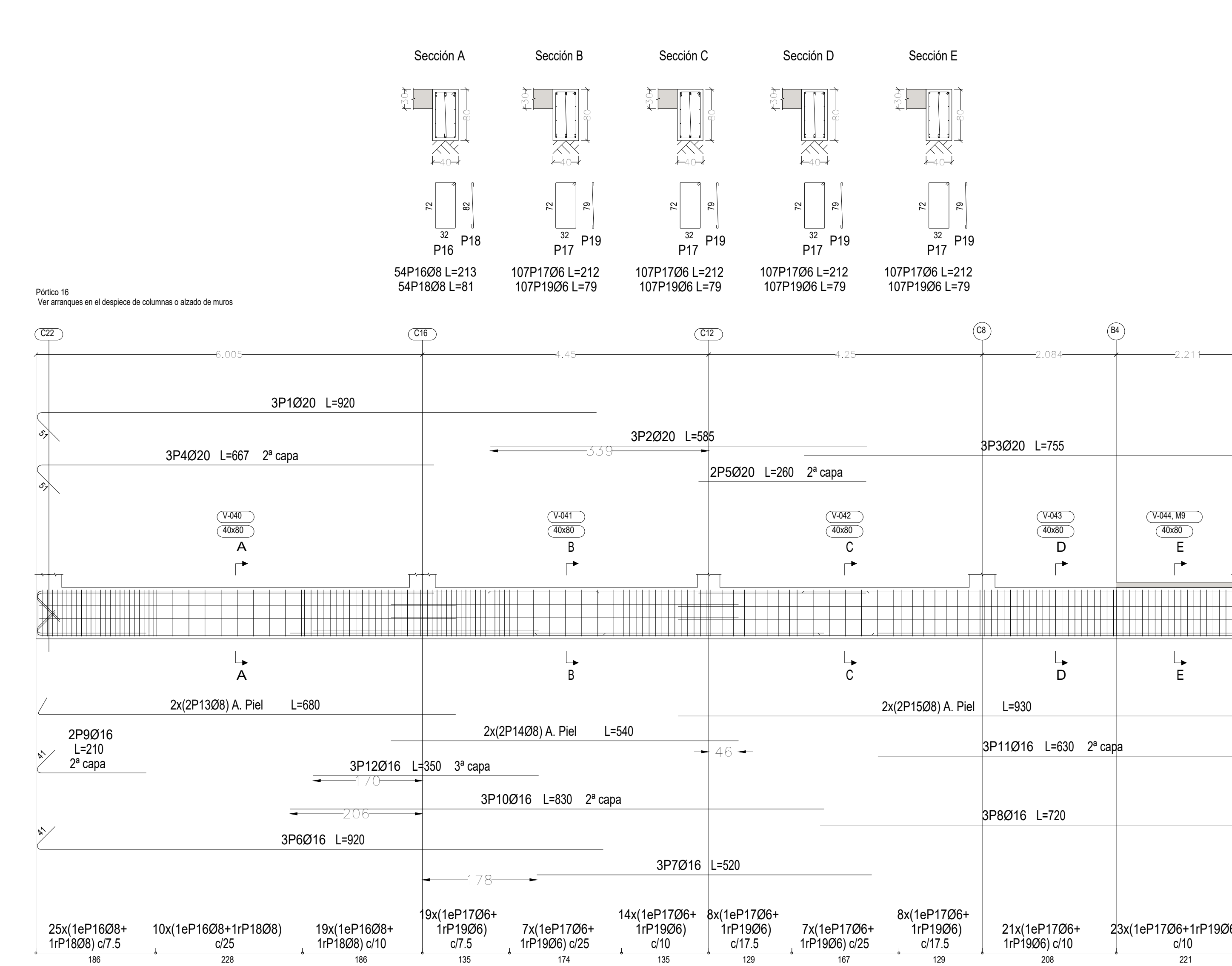
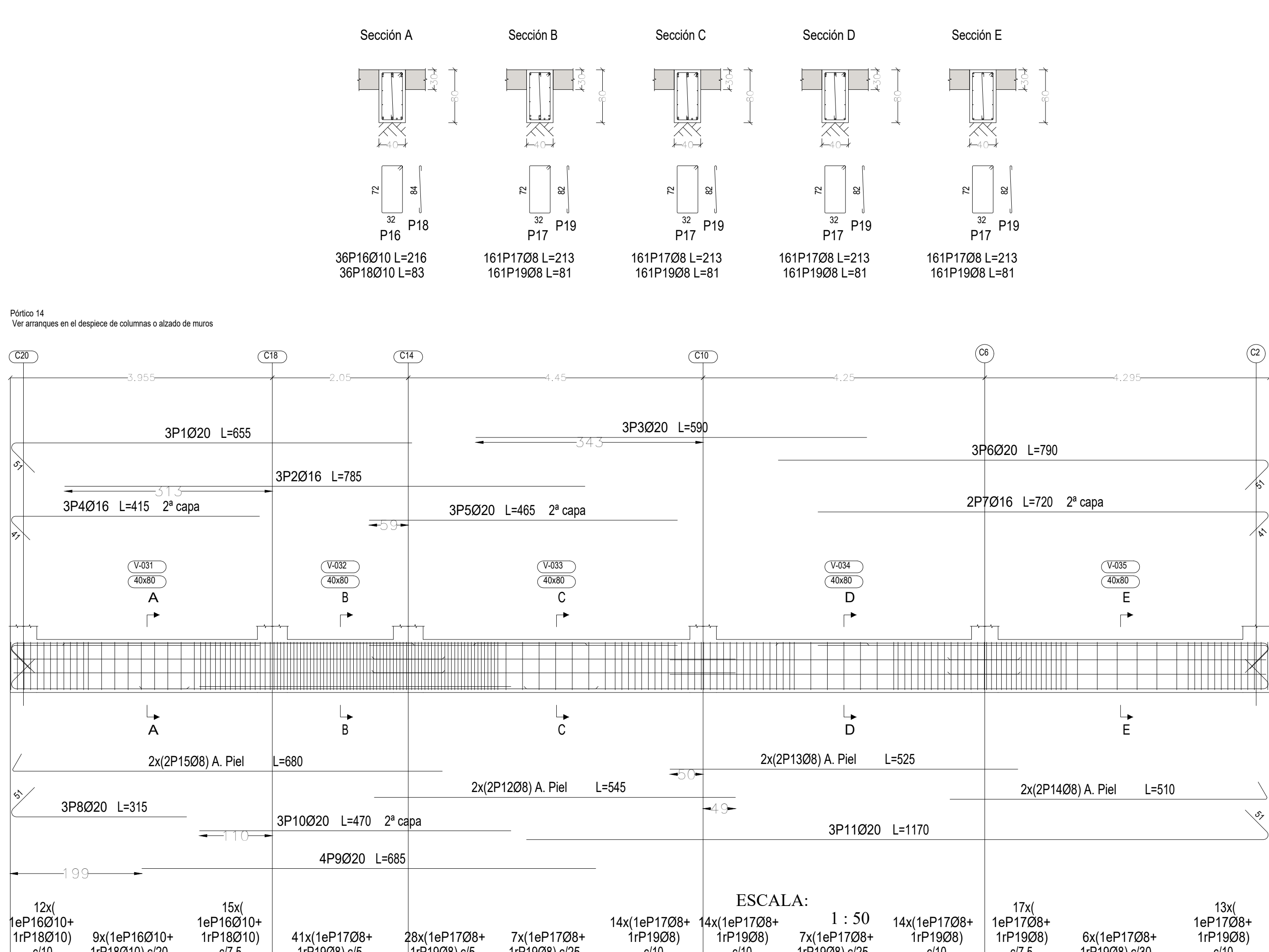
DISEÑO ESTRUCTURAL DEL EDIFICIO MULTIFAMILIAR (Ciudad de Tarija)

2/20

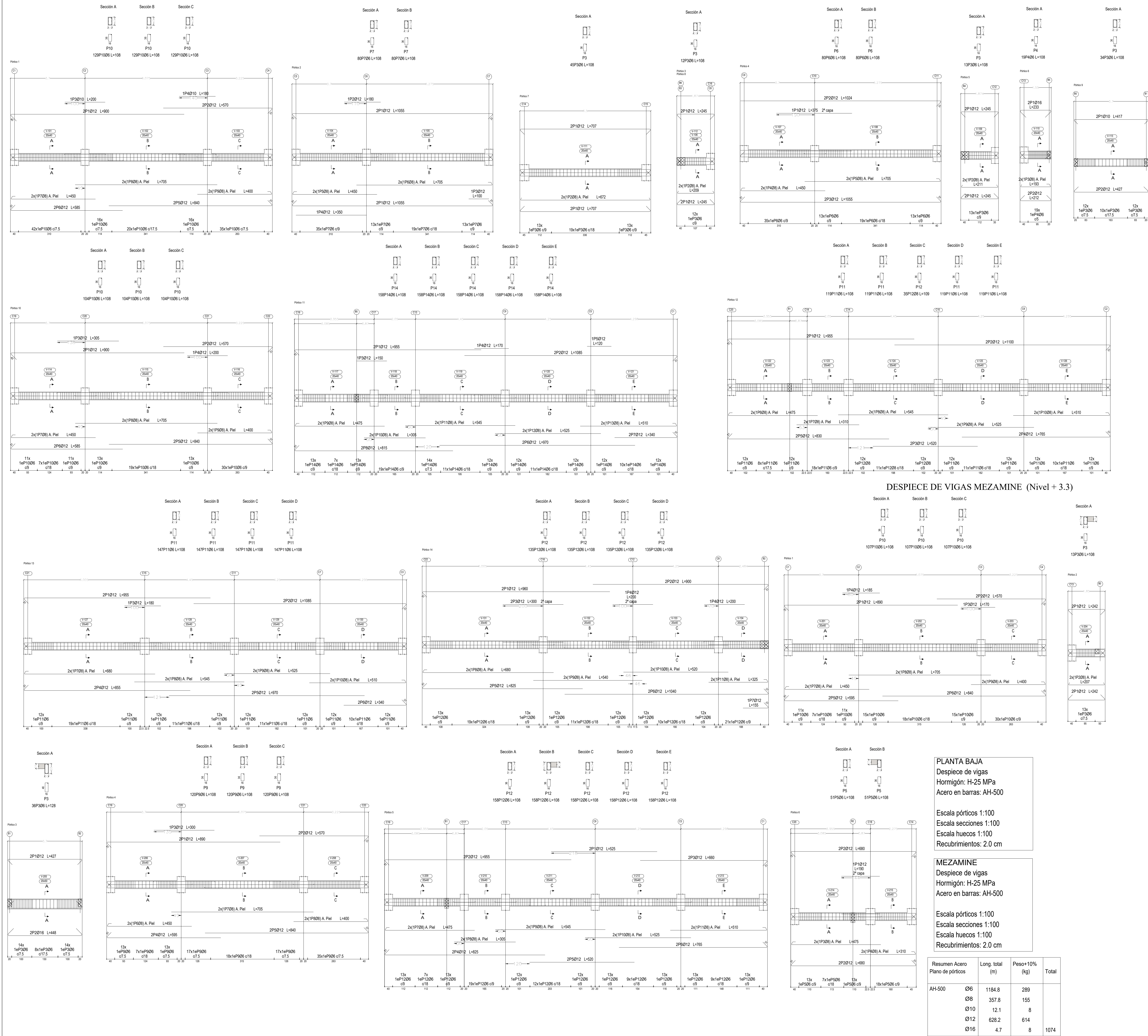
UNIVERSITARIO : ORIHUELA HUANCA JHON KEVIN DAVID

ESCALA: INDICADA

FECHA: 25/05/2025



Resumen Acero Plano de pórticos	Long. total (m)	Peso+10% (kg)	Total
AH-500			
Ø6	1634.1	399	
Ø8	3214.2	1395	
Ø10	111.4	76	
Ø12	38.5	38	
Ø16	557.2	967	
Ø20	1044.8	2834	5709



DESPIECE DE VIGAS PLANTA BAJA (Nivel + 0.2)

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (m)	Total AH-500 (kg)
Pórtico 1	1	Ø12	2		385	900
	2	Ø12	2		370	900
	3	Ø12	1		385	900
	4	Ø12	1		385	900
	5	Ø12	2		385	900
	6	Ø12	2		385	900
	7	Ø12	2		385	900
	8	Ø12	2		385	900
	9	Ø12	2		385	900
	10	Ø12	2		385	900
Total						9000

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (m)	Total AH-500 (kg)
Pórtico 2	1	Ø12	2		385	900
	2	Ø12	2		370	900
	3	Ø12	1		385	900
	4	Ø12	1		385	900
	5	Ø12	2		385	900
	6	Ø12	2		385	900
	7	Ø12	2		385	900
	8	Ø12	2		385	900
	9	Ø12	2		385	900
	10	Ø12	2		385	900
Total						9000

DESPIECE DE VIGAS MEZANINE (Nivel + 3.3)

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (m)	Total AH-500 (kg)
Pórtico 1	1	Ø12	2		385	900
	2	Ø12	2		370	900
	3	Ø12	1		385	900
	4	Ø12	1		385	900
	5	Ø12	2		385	900
	6	Ø12	2		385	900
	7	Ø12	2		385	900
	8	Ø12	2		385	900
	9	Ø12	2		385	900
	10	Ø12	2		385	900
Total						9000

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (m)	Total AH-500 (kg)
Pórtico 2	1	Ø12	2		385	900
	2	Ø12	2		370	900
	3	Ø12	1		385	900
	4	Ø12	1		385	900
	5	Ø12	2		385	900
	6	Ø12	2		385	900
	7	Ø12	2		385	900
	8	Ø12	2		385	900
	9	Ø12	2		385	900
	10	Ø12	2		385	900
Total						9000

DESPIECE DE VIGAS PLANTA BAJA (Nivel + 0.2)

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (m)	Total AH-500 (kg)
Pórtico 1	1	Ø12	2		385	900
	2	Ø12	2		370	900
	3	Ø12	1		385	900
	4	Ø12	1		385	900
	5	Ø12	2		385	900
	6	Ø12	2		385	900
	7	Ø12	2		385	900
	8	Ø12	2		385	900
	9	Ø12	2		385	900
	10	Ø12	2		385	900
Total						9000

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (m)	Total AH-500 (kg)
Pórtico 2	1	Ø12	2		385	900
	2	Ø12	2		370	900
	3	Ø12	1		385	900
	4	Ø12	1		385	900
	5	Ø12	2		385	900
	6	Ø12	2		385	900
	7	Ø12	2		385	900
	8	Ø12	2		385	900
	9	Ø12	2		385	900
	10	Ø12	2		385	900
Total						9000

DESPIECE DE VIGAS PLANTA BAJA (Nivel + 0.2)

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (m)	Total AH-500 (kg)
Pórtico 1	1	Ø12	2		385	900
	2	Ø12	2		370	900
	3	Ø12	1		385	900
	4	Ø12	1		385	900
	5	Ø12	2		385	900
	6	Ø12	2		385	900
	7	Ø12	2		385	900
	8	Ø12	2		385	900
	9	Ø12	2		385	900
	10	Ø12	2		385	900
Total						9000

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (m)	Total AH-500 (kg)
Pórtico 2	1	Ø12	2		385	900
	2	Ø12	2		370	900
	3	Ø12	1		385	900
	4	Ø12	1		385	900
	5	Ø12	2		385	900
	6	Ø12	2		385	900
	7	Ø12	2		385	900
	8	Ø12	2		385	900
	9	Ø12	2		385	900
	10	Ø12	2		385	900
Total						9000



UNIVERSIDAD AUTONOMA "JUAN MISAEL SARACHO"
FACULTAD DE CIENCIAS Y TECNOLOGIA
INGENIERIA CIVIL

CONTENIDO
PLANO DE DETALLE DE ARMADURAS

DISEÑO ESTRUCTURAL DEL EDIFICIO MULTIFAMILIAR (Ciudad de Tarja)

UNIVERSITARIO : ORIHUELA HUANCA JHON KEVIN DAVID

ESCALA: INDICADA

FECHA: 25/05/2025

LAMINA
4/20

Technical drawing of a bridge section (Sección A) showing the layout of the bridge deck, including the main span and approach spans. The drawing includes dimensions, elevations, and labels for various components like piers, abutments, and the bridge deck. The main span is 120m long, and the approach spans are 10m and 10m. The drawing also shows the bridge deck profile and the location of the bridge piers and abutments. The drawing is a plan view of the bridge section.

Resumen Acero plano de pórticos	Long. total (m)	Peso+10% (kg)	Total
UH-500	Ø6	685.2	167
	Ø8	170.5	74
	Ø12	340.4	332
	Ø16	9.0	16

[illegible]

Sección A

Sección B

Sección C

Sección D

Sección E

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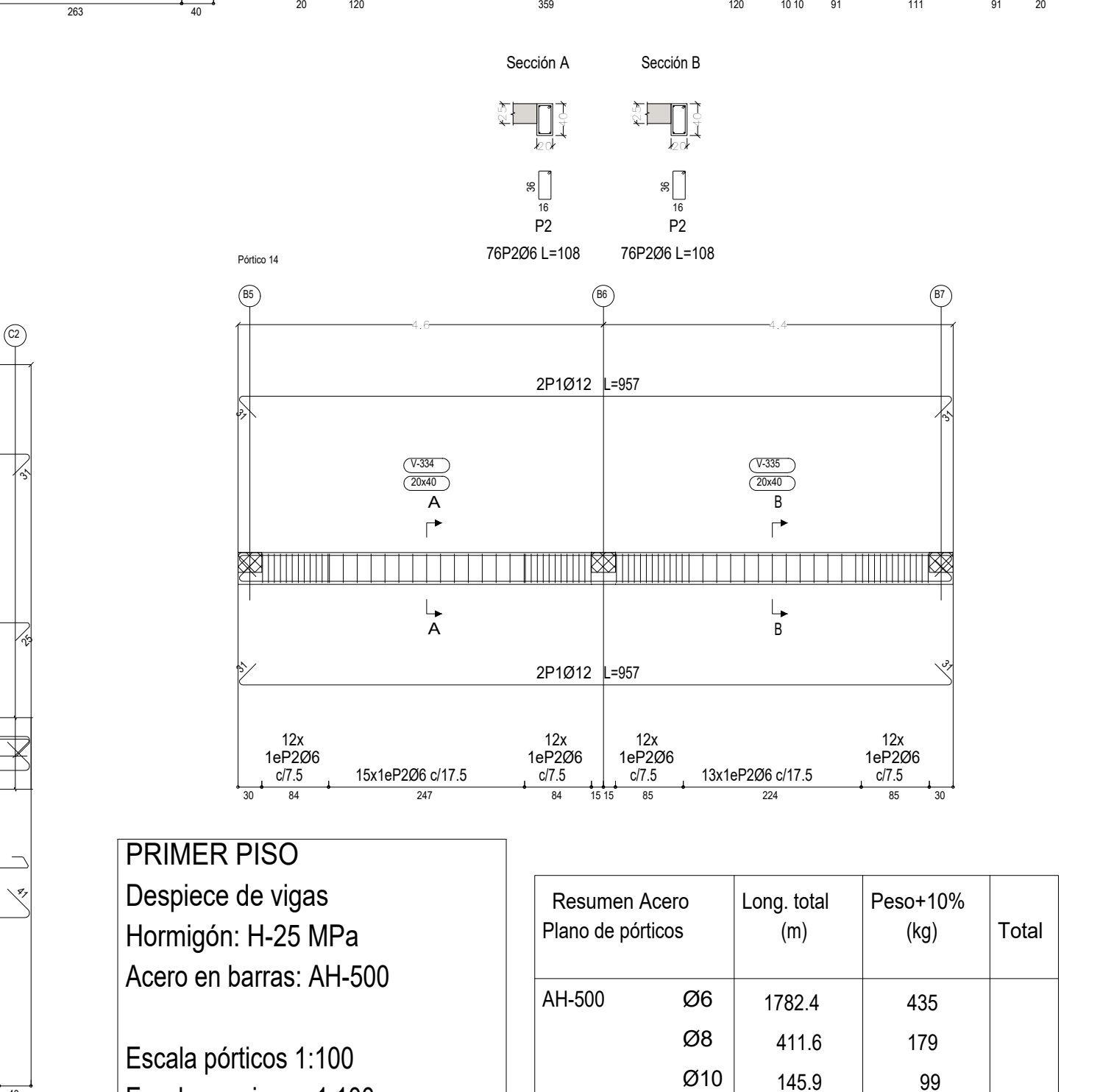
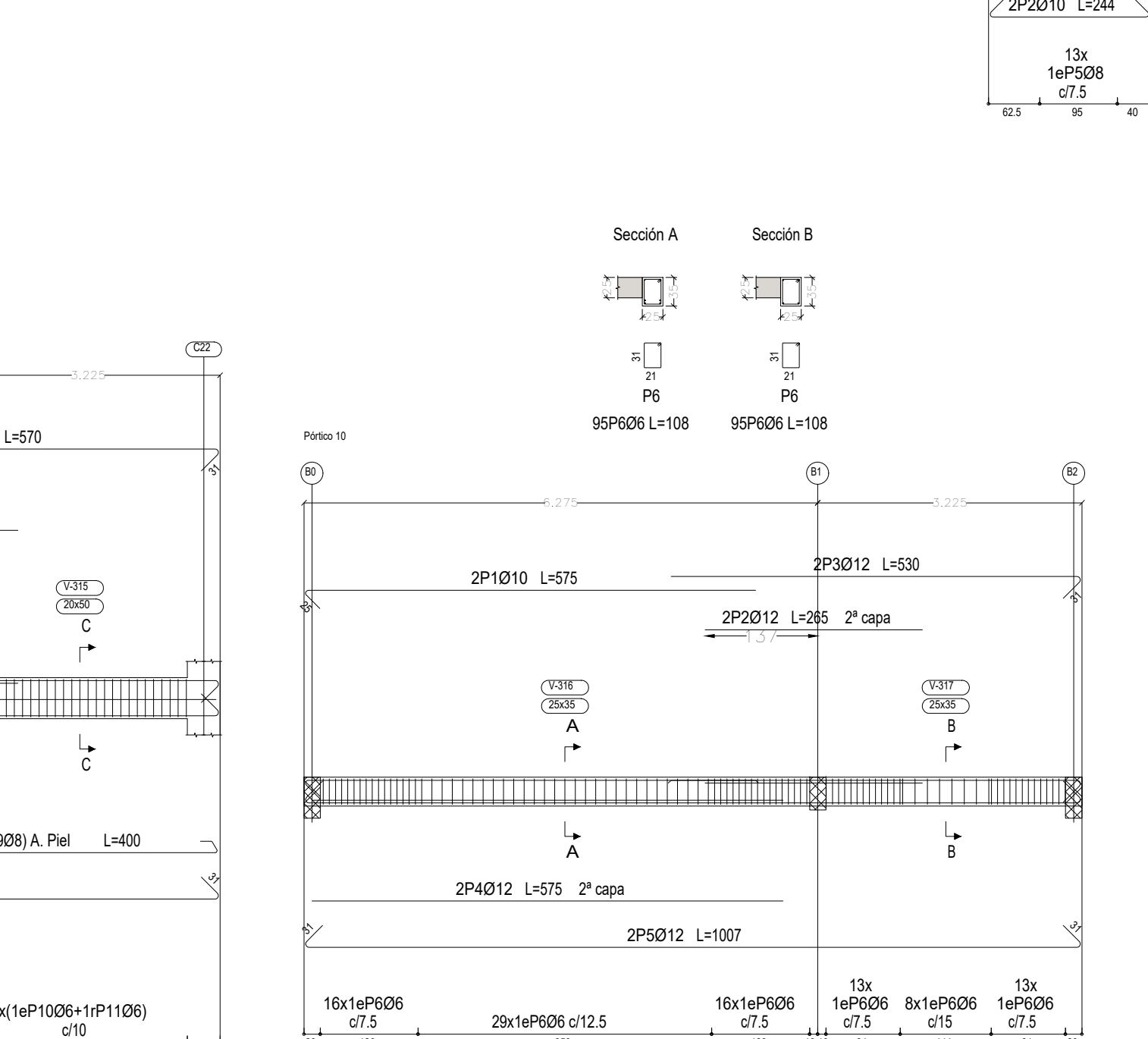
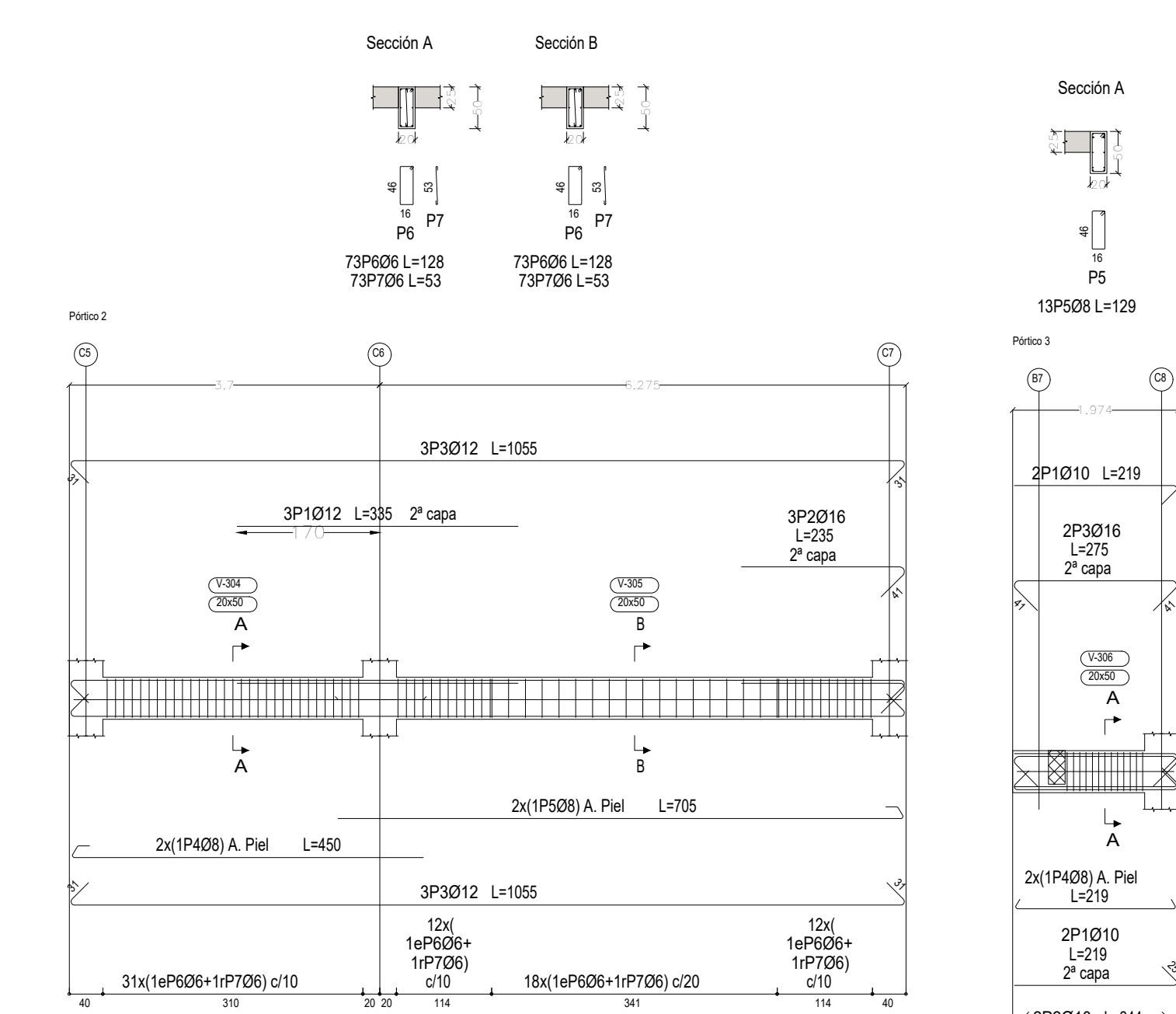
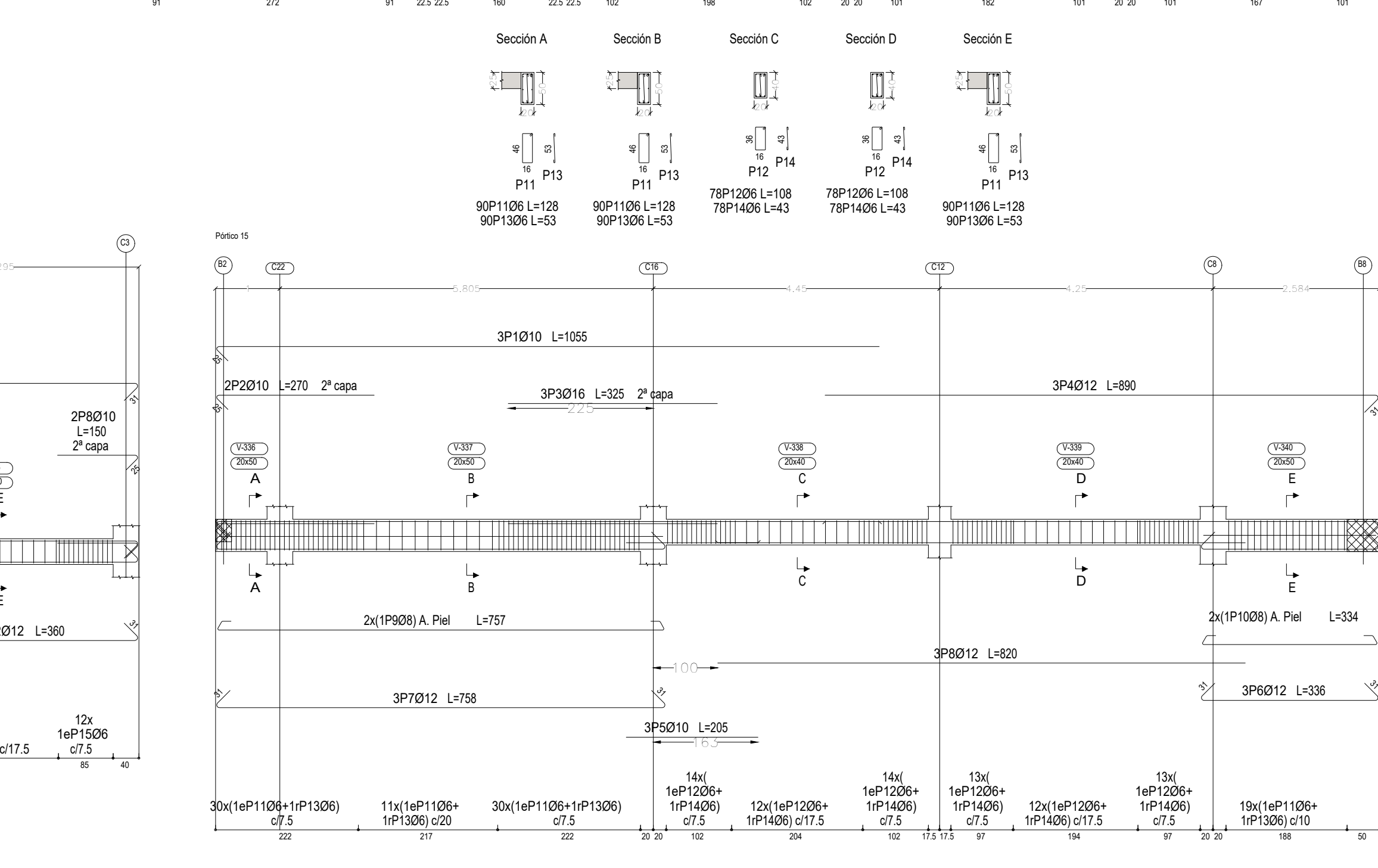
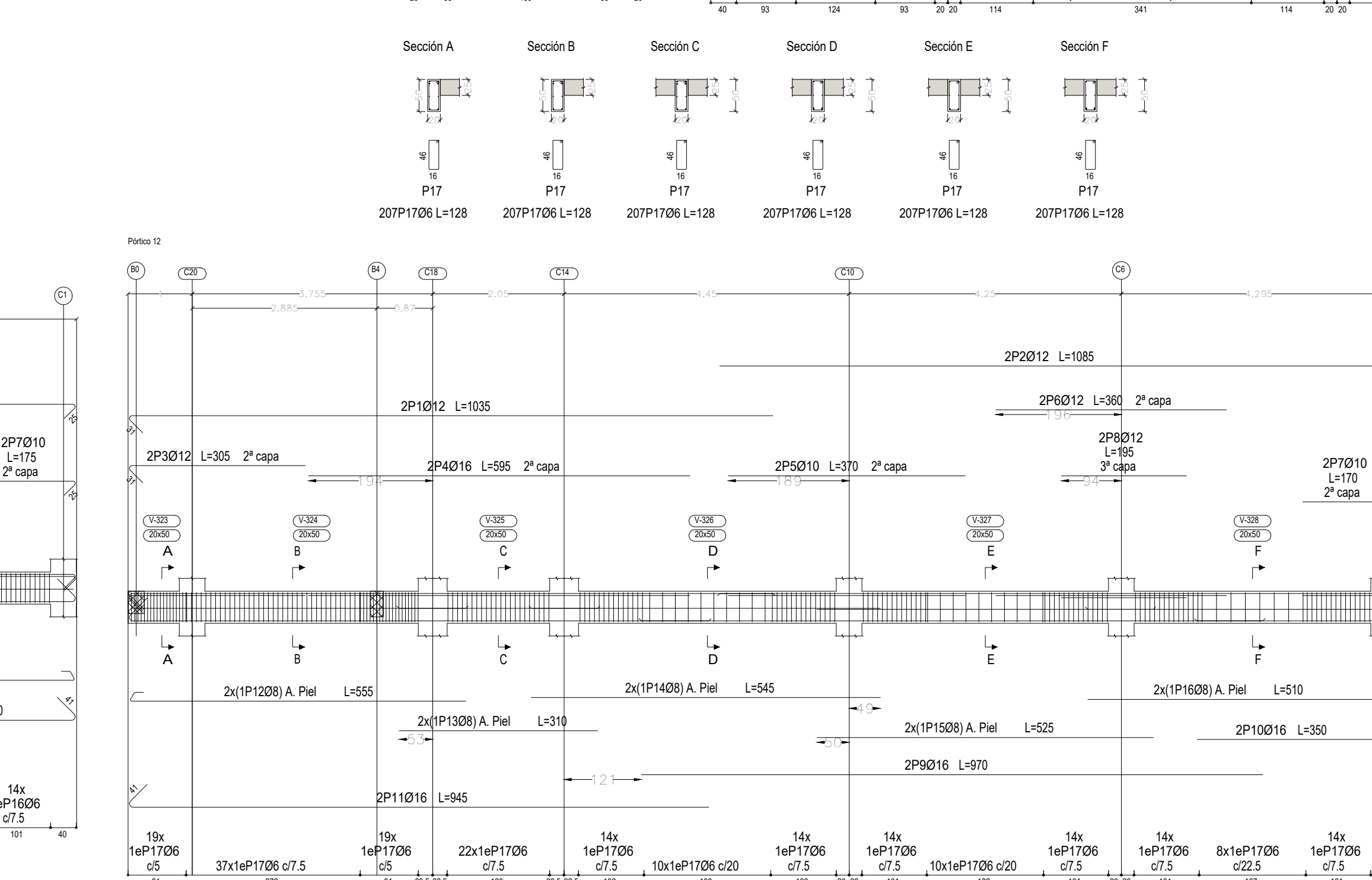
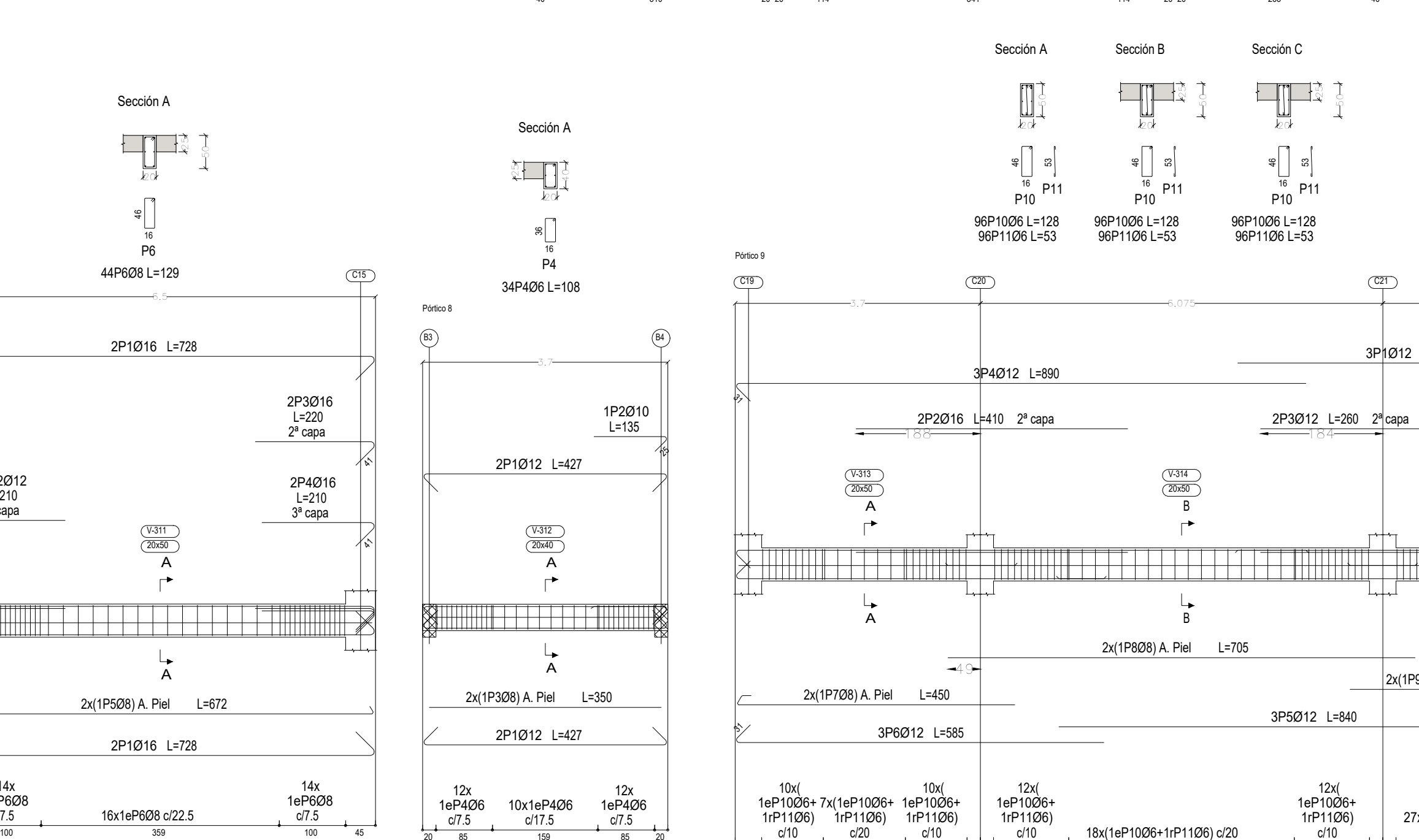
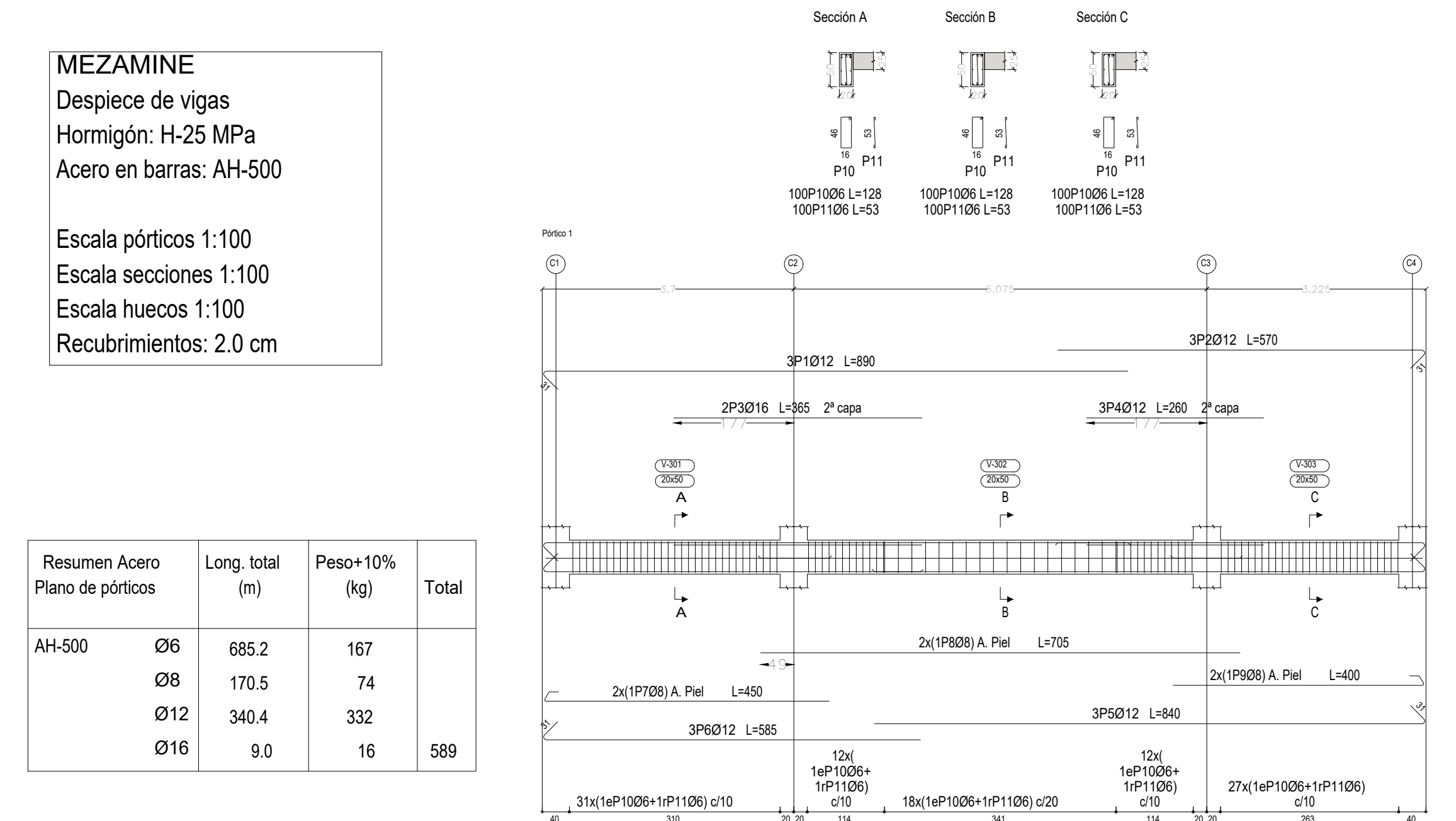
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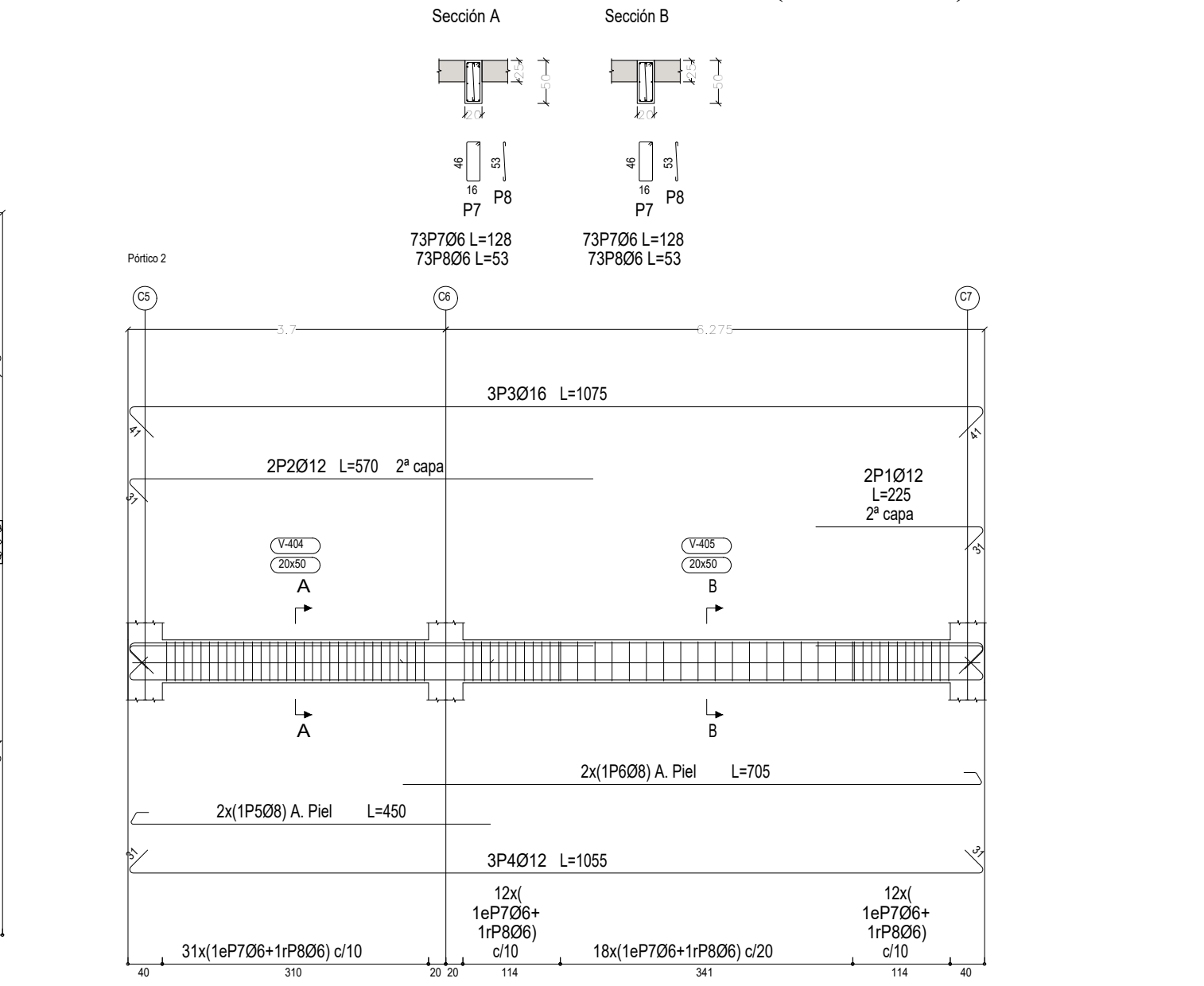
Puente 11

[illegible]

DESPIECE DE VIGAS SEGUNDO PISO (Nivel + 9.1)

Resumen Acero Plano de pórticos	Long. total (m)	Peso+10% (kg)	Total
AH-500	Ø6	1782.4	435
	Ø8	411.6	179
	Ø10	145.9	99
	Ø12	716.3	700
	Ø16	213.9	371
			1784

DESPIECE DE VIGAS SEGUNDO PISO (Nivel + 9.1)



Elemento	Pais.	Diám.	No.	Equiana (cm)	Long (cm)	Total (cm)	AH-500 (kg)
Partido 1	1	Ø12	3		890	2630	21.7
	2	Ø12	3		730	1710	9.2
	3	Ø12	3		730	1710	9.2
	4	Ø12	3		280	780	6.9
	5	Ø12	3		540	2020	22.4
	6	Ø12	3		585	1765	10.9
	7	Ø8	2		400	600	3.6
	8	Ø8	2		735	1410	5.6
	9	Ø8	2		105	600	3.2
	10	Ø8	100		120	12000	28.6
Partido 2	11	Ø8	100		53	5300	11.8
						Scale=12%	102.9
	1	Ø12	3		335	106	10.5
	2	Ø16	3		230	735	11.1
	3	Ø12	6		1895	6303	36.2
	4	Ø8	3		400	600	3.6
	5	Ø8	2		735	1410	5.6
	6	Ø8	75		120	1047	22.9
	7	Ø8	75		53	3889	8.6
						Scale=12%	104.4

Elemento	Pos.	Dim.	No.	Esquema	Long.	DTE	
						Total	AH=500
						24.9	24.9
						24.9	24.9
Punto 3	1	0310	4		279	279	6.4
	2	0112	2		284	284	5.0
	3	0116	2		275	275	6.7
	4	008	2		279	279	4.8
	5	008	13		130	130	6.7
					Sum=12%	28.1	
Punto 4	1	0112	2		170	340	5.0
	2	0112	2		340	680	6.0
	3	0112	2		275	550	4.6
	4	0112	4		185	740	8.2
	5	008	3		150	450	5.6
	6	008	2		279	558	5.6
	7	008	71		130	958	22.3
Punto 5	1	0112	71		53	583	6.4
	2	0112	3		275	828	6.4
	3	0112	2		275	550	5.6
	4	008	2		279	558	4.8
	5	008	13		130	1677	5.7
					Sum=12%	113.2	

		6	DN	13		83	688	15
P0004						Total 19%		
	1	Q16	6		203	1306	22.1	
	2	DN	2		193	386	18	
	3	DN	13		120	1200	20	
	4	DN	10		55	550	12	
P0070						Total 19%		
	1	Q16	4		210	2100	32.3	
	2	Q12	2		210	420	3.7	
	3	Q16	2		220	440	9.9	
	4	Q16	2		210	420	6.6	
	5	DN	2		672	1344	5.3	
	6	DN	44		130	5720	20.8	
						Total 19%		
						DN	96.7	
						Q16	96.7	
						Q12	96.7	

					2015	2016
					2017	2018
					2019	2020
Elemento	Pos.	Qdm.	No.	Esquema	Long (m)	Total AH-500 (kg)
Painel 8	1	012	3		570	1710
	2	010	1		570	1710
	3	008	2		560	790
	4	006	24		120	2790
						52
						10
Elemento	Pos.	Qdm.	No.	Esquema	Long (m)	Total AH-500 (kg)
Painel 9	1	012	3		570	1710
	2	016	2		470	590
	3	012	3		570	1710
	4	012	3		560	2870
	5	012	3		830	2430
	6	012	3		560	1720
	7	008	2		470	590
	8	008	2		570	1410
	9	008	2		460	890
	10	006	24		120	2790
Painel 10	11	008	96		53	5088
						113
						10
						10
						10
						10
Painel 12	1	010	2		570	1100
	2	012	3		280	840
	3	012	3		280	840
	4	012	2		570	1100
	5	012	2		1807	2140
	6	006	96		120	2790
					2015	2016
					2017	2018
					2019	2020

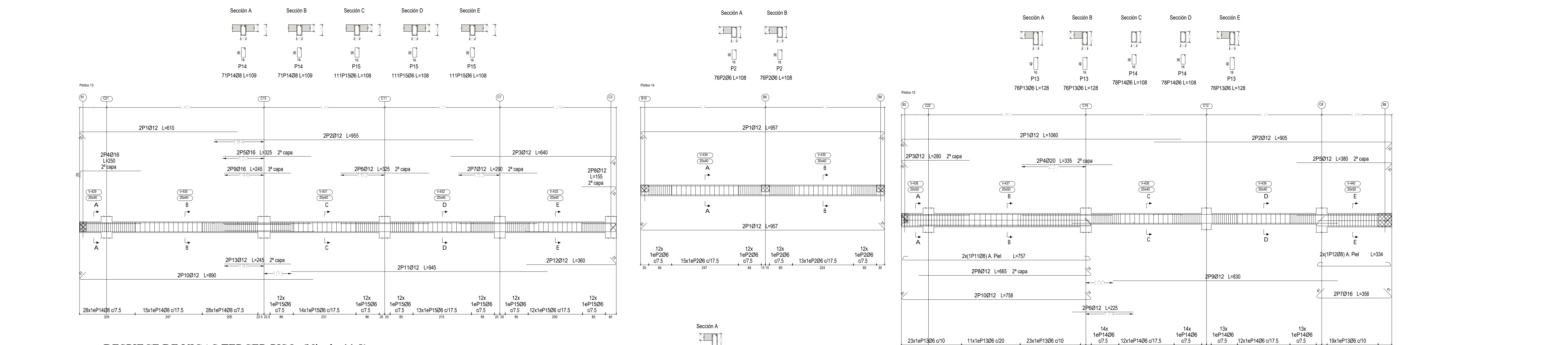
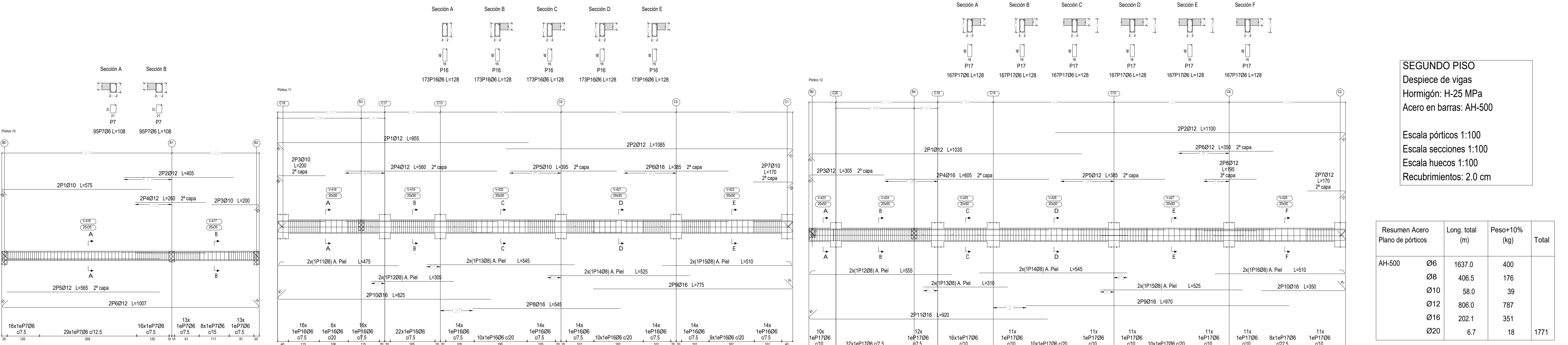
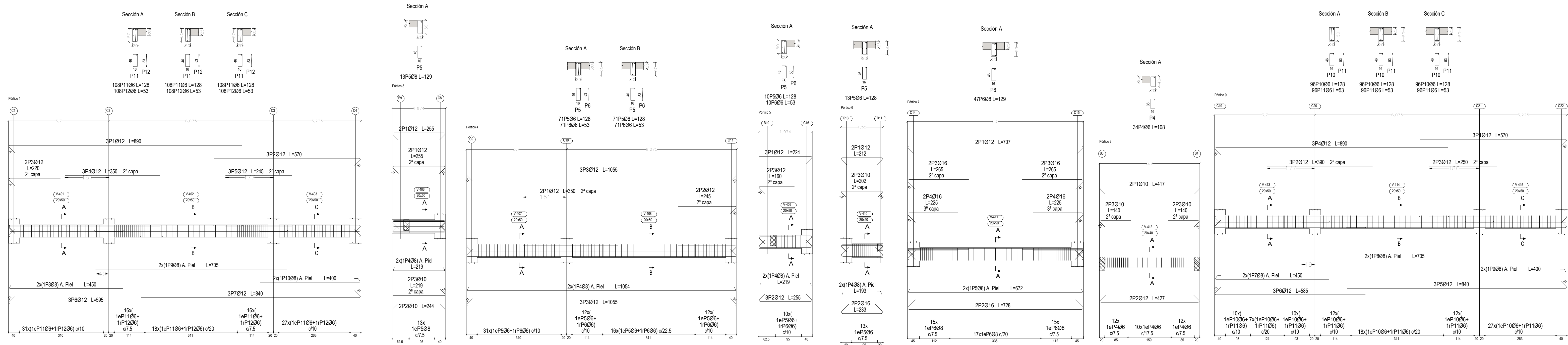
Elemento	Pos.	Diam.	No.	Etuqema (mm)	Long. (mm)	Total (mm)	AF-500 (µg)	
							08	63
Pólice 11	1	Ø10	2		960	960	1900	117
	2	Ø10	2	$\frac{1}{2} \times 388$	388	1900	1900	93
	3	Ø10	2	$\frac{1}{2} \times 356$	356	1900	1900	75
	4	Ø12	2	$\frac{1}{2} \times 365$	365	1900	1900	103
	5	Ø10	2	$\frac{1}{2} \times 428$	428	1900	1900	50
	6	Ø16	2	$\frac{1}{2} \times 385$	385	790	790	123
	7	Ø10	2	$\frac{1}{2} \times 386$	386	175	550	22
	8	Ø16	2	$\frac{1}{2} \times 373$	373	570	1940	306
	9	Ø16	2	$\frac{1}{2} \times 309$	309	790	790	113
	10	Ø16	2	$\frac{1}{2} \times 324$	324	620	1630	202
	11	Ø8	2	$\frac{1}{2} \times 445$	445	950	950	24
	12	Ø8	2	$\frac{1}{2} \times 355$	355	580	580	37
	13	Ø8	2	$\frac{1}{2} \times 345$	345	540	540	100
	14	Ø8	2	$\frac{1}{2} \times 355$	355	720	1260	47
	15	Ø8	2	$\frac{1}{2} \times 460$	460	510	1500	40
	16	Ø6	172			120	2237	40

							026	54.1
							028	54.1
							032	54.1
							034	54.1
							036	54.1
							Total	172.1
Elemento	Pos.	Dim.	Cham.	Etiqueta	Long (m)	Total (kg)	AH-500 (kg)	
Paseo 12	1	4712	2	184	185	251	54	
	2	4712	2	Δ 384	185	251	54	
	3	4712	2	Δ 384	185	251	54	
	4	4712	2	Δ 384	185	251	54	
	5	4716	2	324	185	150	16.9	
	6	4710	2	332	170	140	4.6	
	8	4712	2	380	180	125	4.4	
	7	4710	2	336	170	140	4.6	
	8	4712	2	380	180	125	4.4	
	9	4716	2	332	170	140	4.6	
	10	4712	2	380	180	125	4.4	
	11	4716	2	332	170	140	4.6	
	12	4716	2	332	170	140	4.6	
	13	4716	2	332	170	140	4.6	
	14	4716	2	332	170	140	4.6	
15	4716	2	332	170	140	4.6		
16	4716	2	332	170	140	4.6		
17	4716	2	332	170	140	4.6		
18	4716	2	332	170	140	4.6		
19	4716	2	332	170	140	4.6		
20	4716	2	332	170	140	4.6		
21	4716	2	332	170	140	4.6		
22	4716	2	332	170	140	4.6		
23	4716	2	332	170	140	4.6		
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150	4716	2	332	170	140	4.6		
151	4716	2	332	170	140	4.6		
152	4716	2	332	170	140	4.6		
153	4716	2	332	170	140	4.6		
154	4716	2	332	170	140	4.6		
155	4716	2	332	170	140	4.6		
156	4716	2	332	170	140	4.6		
157	4716	2	332	170	140	4.6		
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159	4716	2	332	170	140	4.6		
160	4716	2	332	170	140	4.6		
161	4716	2	332	170	140	4.6		
162	4716	2	332	170	140	4.6		
163	4716	2	332	170	140	4.6		
164	4716	2	332	170	140	4.6		
165	4716	2	332	170	140	4.6		
166	4716	2	332	170	140	4.6		
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173	4716	2	332	170	140	4.6		
174	4716	2	332	170	140	4.6		
175	4716	2	332	170	140	4.6		
176	4716	2	332	170	140	4.6		
177	4716	2	332	170	140	4.6		
178	4716	2	332	170	140	4.6		
179	4716	2	332	170	140	4.6		
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181	4716	2	332	170	140	4.6		
182	4716	2	332	170	140	4.6		
183	4716	2	332	170	140	4.6		
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191	4716	2	332	170	140	4.6		
192	4716	2	332	170	140	4.6		
193	4716	2	332	170	140	4.6		
194	4716	2	332	170	140	4.6		
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197	4716	2	332	170	140	4.6		
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199	4716	2	332	170	140	4.6		
200	4716	2	332	170	140	4.6		
201	4716	2	332	170	140	4.6		
202	4716	2	332	170	140	4.6		
203	4716	2	332	170	140	4.6		
204	4716	2	332	170	140	4.6		
205</								

Elemento	Pos.	Diam.	No.	Enqueima (cm)	Long (cm)	Total (cm)	AH-500 (kg)
Pórtico 13	1	Ø12	2		610	1220	13.8
	2	Ø12	2		585	1170	13.2
	3	Ø12	2		610	1220	13.8
	4	Ø16	2		520	1040	17.2
	5	Ø16	2		520	1040	17.2
	6	Ø16	2		520	1040	17.2
	7	Ø12	2		510	1020	13.6
	8	Ø12	2		510	1020	13.6
	9	Ø16	2		545	1090	17.7
	10	Ø12	2		510	1020	13.6
	11	Ø12	2		510	1020	13.6
	12	Ø12	2		510	1020	13.6
Pórtico 14	1	Ø12	4		585	2340	34.3
	2	Ø16	76		510	3966	61.4
							156.6

					Total (%)		SP6
Elemento	Posición	Diam.	No.	Esquema (cm)	Long (cm)	Total (cm)	08
							09
							10
							11
							12
							13
							14
							15
							16
							17
Total							288

Elemento	Pos.	Diám.	Esquema (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Pista 1	1	Ø12		38	200	238
	2	Ø12		53	173	162
	3	Ø12		38	240	239
	4	Ø12		30	180	169
	5	Ø12		24	75	63
	6	Ø12		30	175	163
	7	Ø12		24	21	9
	8	Ø8		30	90	33
	9	Ø8		30	143	56
	10	Ø8		37	60	32
Pista 2	11	Ø8		10	130	130
	12	Ø8		10	574	127
	13	Ø8		10	588	131
	14	Ø12		38	200	238
	15	Ø12		53	174	161
	16	Ø16		38	153	153
	17	Ø12		38	183	181
	18	Ø8		30	90	36
	19	Ø8		37	143	59
	20	Ø8		37	147	23
Pista 3	21	Ø8		10	38	66
	22	Ø8		10	23	7
	23	Ø8		10	23	7
	24	Ø8		10	23	7



Elemento	Pos.	Diam.	No.	Esquema (cm)	Long (cm)	Total (cm)	AH-500 (kg)
Piso 3	1	Ø12	4		265	1020	8.1
	2	Ø12	2		244	488	3.0
	3	Ø10	2		279	438	3.7
	4	Ø8	2		279	438	1.7
	5	Ø8	13		130	1690	6.1
Total 100%							25.3
Piso 4	1	Ø12	2		265	730	6.2
	2	Ø12	2		244	488	4.4
	3	Ø10	2		279	438	3.9
	4	Ø8	2		279	438	1.7
	5	Ø8	71		129	9159	20.3
Total 100%							36.5
Piso 5	1	Ø12	2		271	672	6.0
	2	Ø12	2		250	788	6.6
	3	Ø10	2		285	438	3.9
	4	Ø8	2		285	438	1.7
	5	Ø8	15		53	638	1.2
Total 100%							18.4
Piso 6	1	Ø12	2		271	672	6.0
	2	Ø10	2		231	438	7.4
	3	Ø10	2		231	438	2.5
	4	Ø8	2		279	588	1.5
	5	Ø8	13		129	1637	3.7
Total 100%							20.8
Piso 7	1	Ø12	2		271	1434	12.6
	2	Ø10	2		231	438	2.5
	3	Ø10	2		279	588	1.5
	4	Ø8	2		279	588	1.5
	5	Ø8	2		53	1341	5.3
Total 100%							14.4
Piso 8	1	Ø12	2		271	1014	13.6
	2	Ø10	2		231	438	2.5
	3	Ø10	2		279	588	1.5
	4	Ø8	2		279	588	1.5
	5	Ø8	2		53	1341	5.3
Total 100%							20.4
Piso 9	1	Ø12	2		271	1014	13.6
	2	Ø10	2		231	438	2.5
	3	Ø10	2		279	588	1.5
	4	Ø8	2		279	588	1.5
	5	Ø8	2		53	1341	5.3
Total 100%							20.4
Piso 10	1	Ø12	2		271	1014	13.6
	2	Ø10	2		231	438	2.5
	3	Ø10	2		279	588	1.5
	4	Ø8	2		279	588	1.5
	5	Ø8	2		53	1341	5.3
Total 100%							20.4
Piso 11	1	Ø12	2		271	1014	13.6
	2	Ø10	2		231	438	2.5
	3	Ø10	2		279	588	1.5
	4	Ø8	2		279	588	1.5
	5	Ø8	2		53	1341	5.3
Total 100%							20.4
Piso 12	1	Ø12	2		271	1014	13.6
	2	Ø10	2		231	438	2.5
	3	Ø10	2		279	588	1.5
	4	Ø8	2		279	588	1.5
	5	Ø8	2		53	1341	5.3
Total 100%							20.4

SEGUNDO PISO
Despiece de vigas
Hormigón: H-25 MPa
Acero en barras: AH-500

Escala pódicos 1:100
Escala secciones 1:100
Escala huecos 1:100
Recubrimientos: 2.0 cm

Resumen Acero	Long. total (m)	Peso+10% (kg)	Total
AH-500	1637.0	400	
Ø6	1637.0	176	
Ø8	406.5	39	
Ø10	806.0	787	
Ø16	202.1	351	
Ø20	6.7	18	1771

DESPIECE DE VIGAS TERCER PISO (Nivel +11.8)

Elemento	Pos.	Diam.	No.	Esquema (cm)	Long (cm)	Total (cm)	AH-500 (kg)
Piso 1	1	Ø12	2		271	516	6.4
	2	Ø12	2		244	488	3.0
	3	Ø12	2		279	438	3.7
	4	Ø8	2		279	438	1.7
	5	Ø8	13		130	1690	6.1
Total 100%							25.3
Piso 2	1	Ø12	2		265	730	6.2
	2	Ø12	2		244	488	4.4
	3	Ø10	2		279	438	3.9
	4	Ø8	2		279	438	1.7
	5	Ø8	71		129	9159	20.3
Total 100%							36.5
Piso 3	1	Ø12	2		265	730	6.2
	2	Ø12	2		244	488	4.4
	3	Ø10	2		279	438	3.9
	4	Ø8	2		279	438	1.7
	5	Ø8	13		130	1690	6.1
Total 100%							25.3
Piso 4	1	Ø12	2		265	730	6.2
	2	Ø12	2		244	488	4.4
	3	Ø10	2		279	438	3.9
	4	Ø8	2		279	438	1.7
	5	Ø8	13		130	1690	6.1
Total 100%							25.3
Piso 5	1	Ø12	2		265	730	6.2
	2	Ø12	2		244	488	4.4
	3	Ø10	2		279	438	3.9
	4	Ø8	2		279	438	1.7
	5	Ø8	13		130	1690	6.1
Total 100%							25.3
Piso 6	1	Ø12	2		265	730	6.2
	2	Ø12	2		244	488	4.4
	3	Ø10	2		279	438	3.9
	4	Ø8	2		279	438	1.7
	5	Ø8	13		130	1690	6.1
Total 100%							25.3
Piso 7	1	Ø12	2		265	730	6.2
	2	Ø12	2		244	488	4.4
	3	Ø10	2		279	438	3.9
	4	Ø8	2		279	438	1.7
	5	Ø8	13		130	1690	6.1
Total 100%							25.3
Piso 8	1	Ø12	2		265	730	6.2
	2	Ø12	2		244	488	4.4
	3	Ø10	2		279	438	3.9
	4	Ø8	2		279	438	1.7
	5	Ø8	13		130	1690	6.1
Total 100%							25.3
Piso 9	1	Ø12	2		265	730	6.2
	2	Ø12	2		244	488	4.4
	3	Ø10	2		279	438	3.9
	4	Ø8	2		279	438	1.7
	5	Ø8	13		130	1690	6.1
Total 100%							25.3
Piso 10	1	Ø12	2		265	730	6.2
	2	Ø12	2		244	488	4.4
	3	Ø10	2		279	438	3.9
	4	Ø8	2		279	438	1.7
	5	Ø8	13		130	1690	6.1
Total 100%							25.3
Piso 11	1	Ø12	2		265	730	6.2
	2	Ø12	2		244	488	4.4
	3	Ø10	2		279	438	3.9
	4	Ø8	2		279	438	1.7
	5	Ø8	13		130	1690	6.1
Total 100%							25.3
Piso 12	1	Ø12	2		265	730	6.2
	2	Ø12	2		244	488	4.4
	3	Ø10	2		279	438	3.9
	4	Ø8	2		279	438	1.7
	5	Ø8	13		130	1690	6.1
Total 100%							25.3



UNIVERSIDAD AUTONOMA "JUAN MISAEL SARACHO"
FACULTAD DE CIENCIAS Y TECNOLOGIA
INGENIERIA CIVIL

CONTENIDO
PLANO DE DETALLE DE VIGAS

DISEÑO ESTRUCTURAL DEL EDIFICIO MULTIFAMILIAR (Ciudad de Tarja)

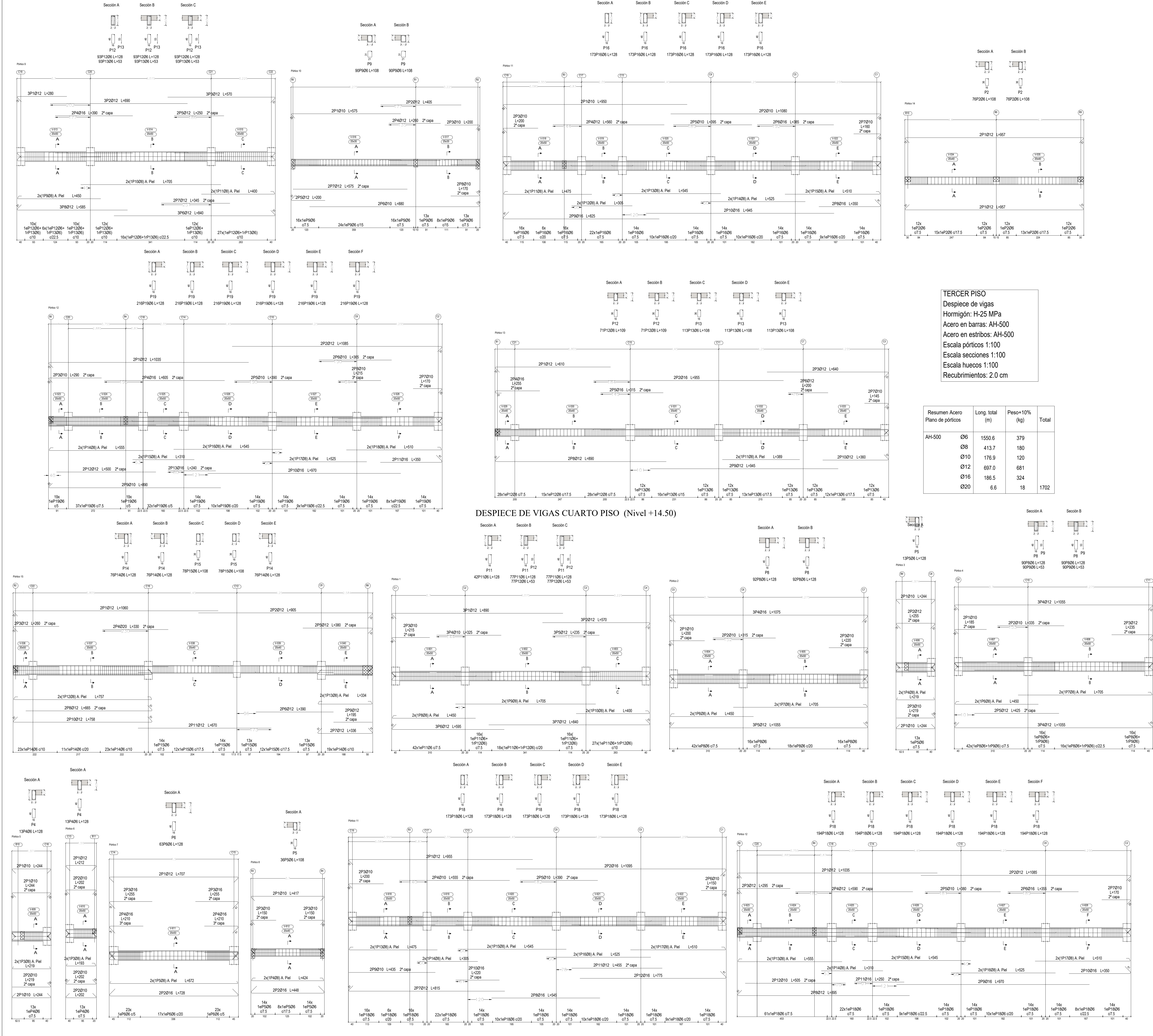
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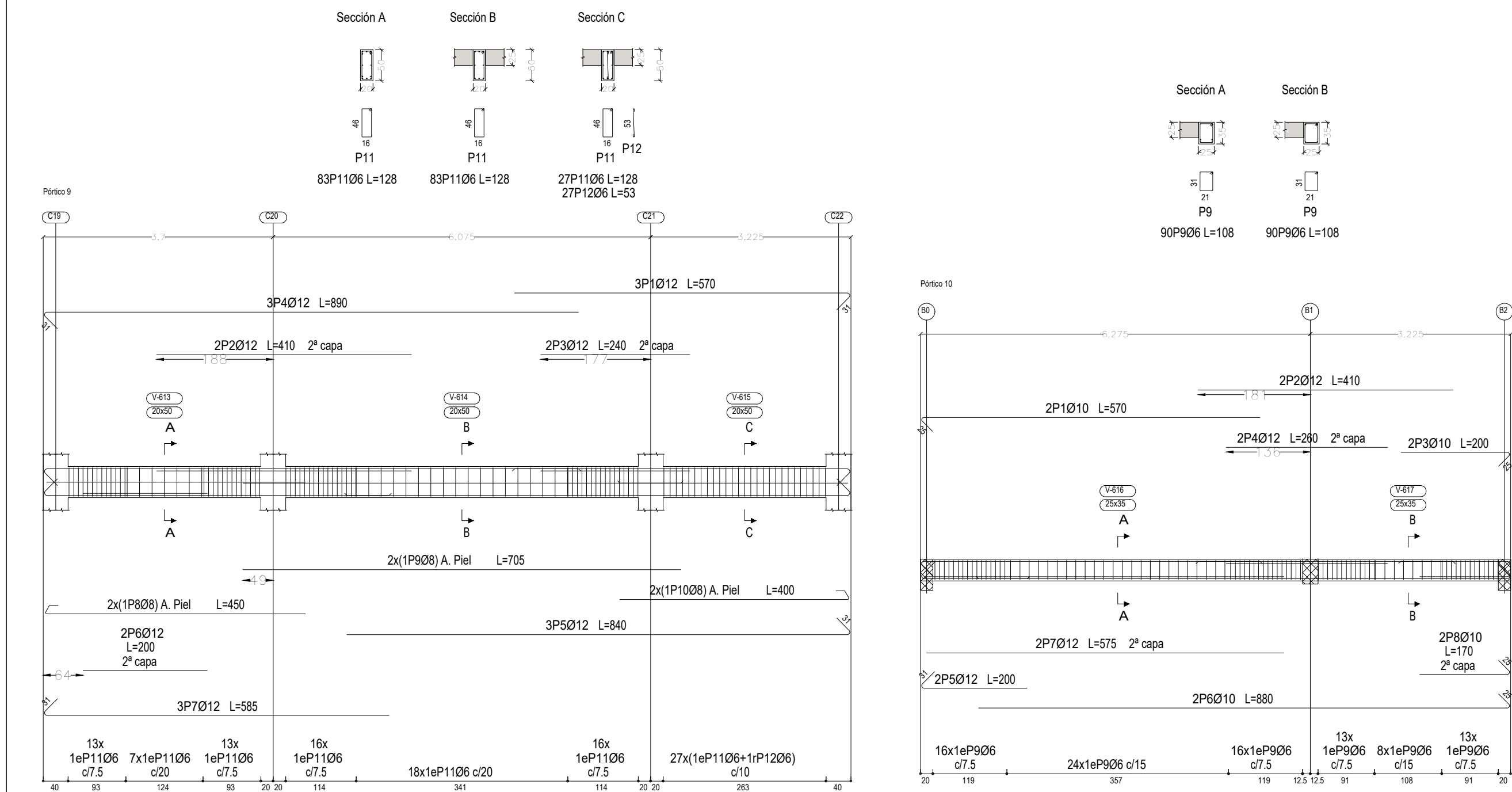
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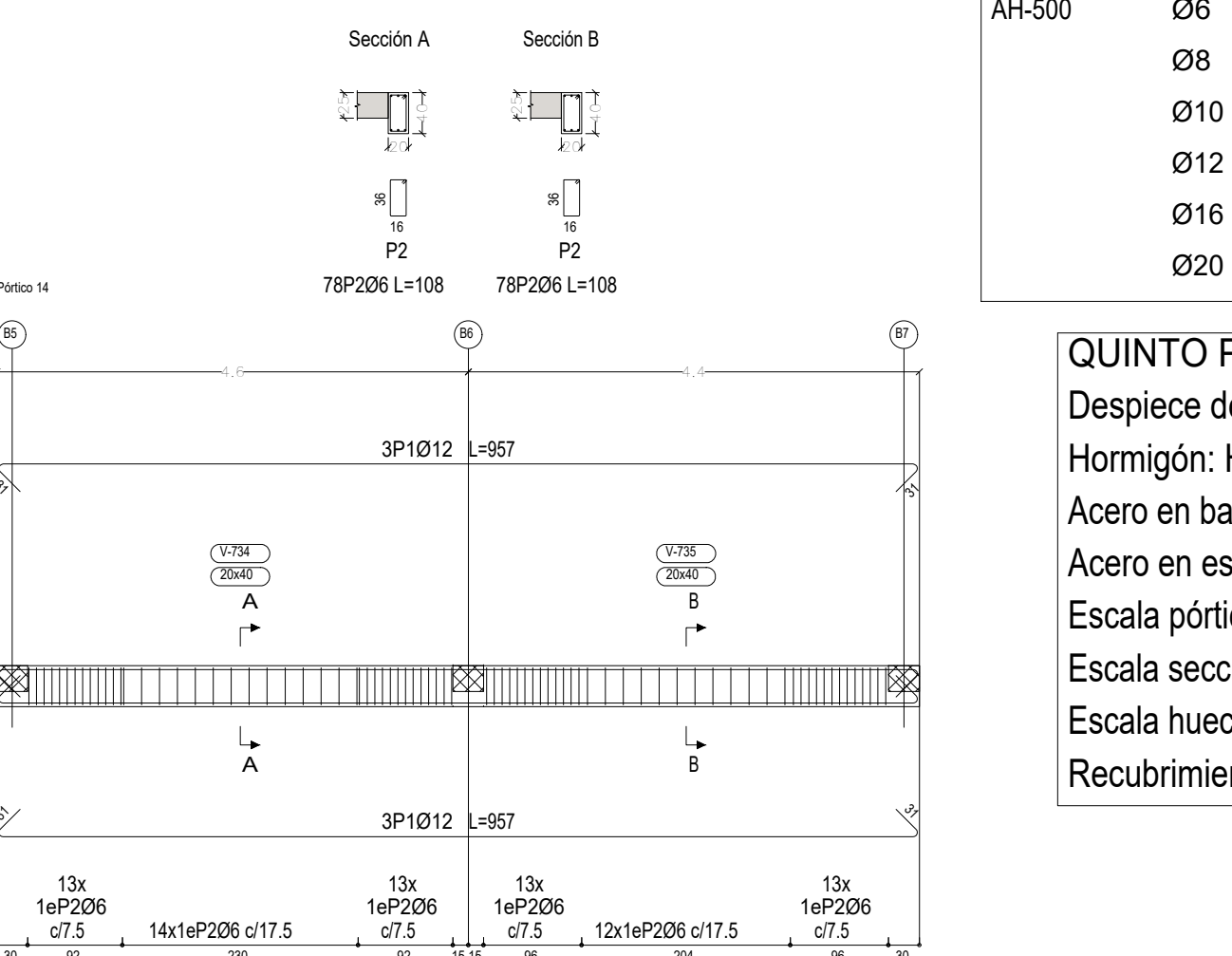
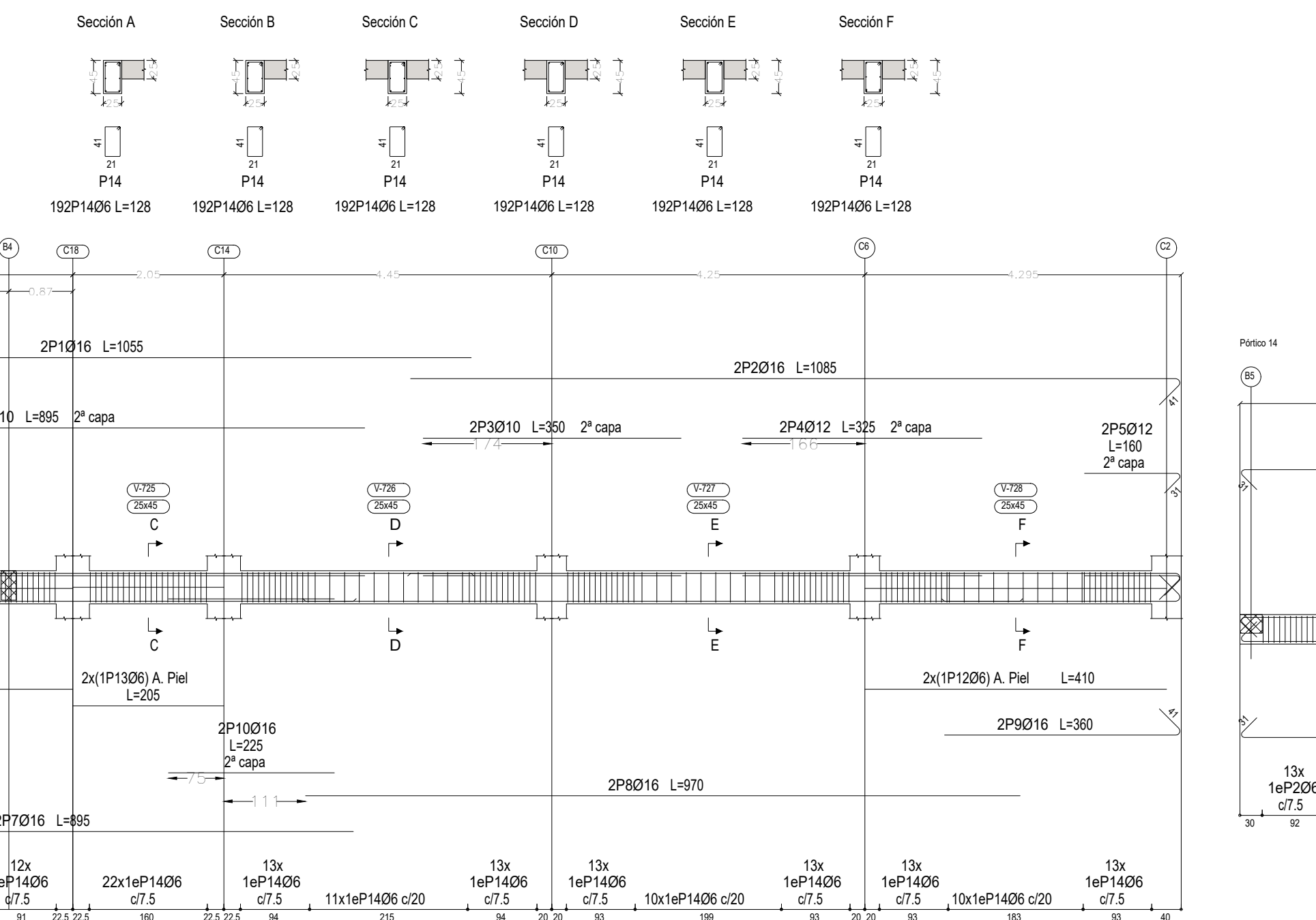
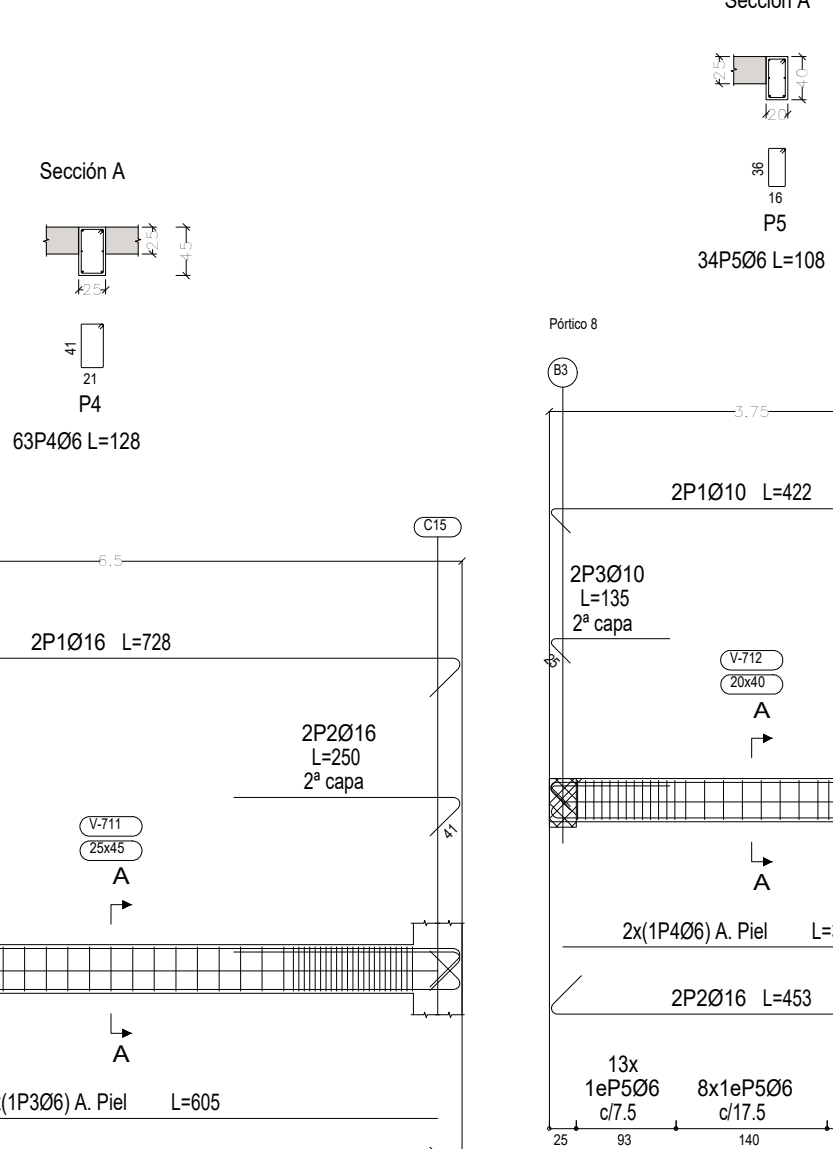
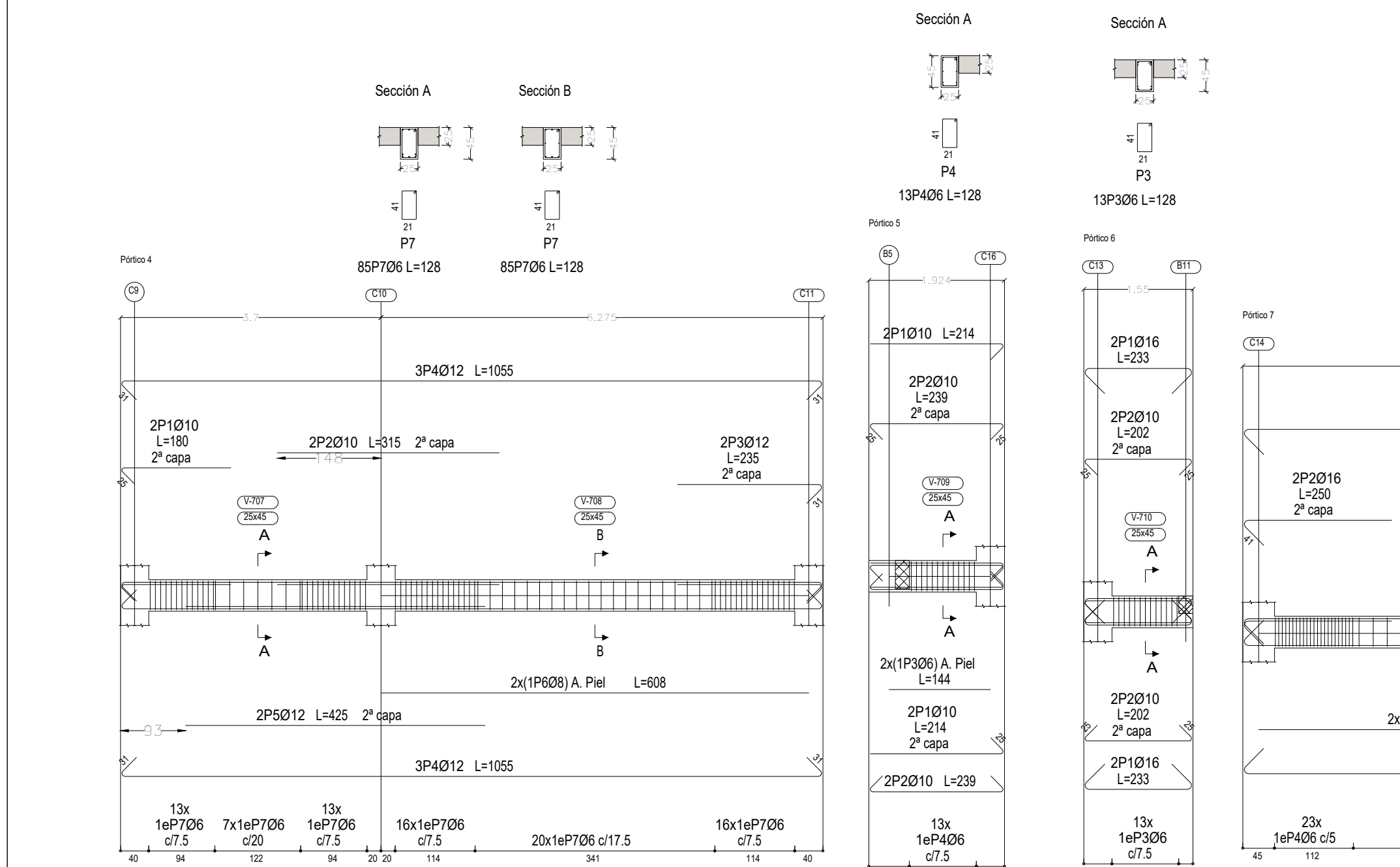
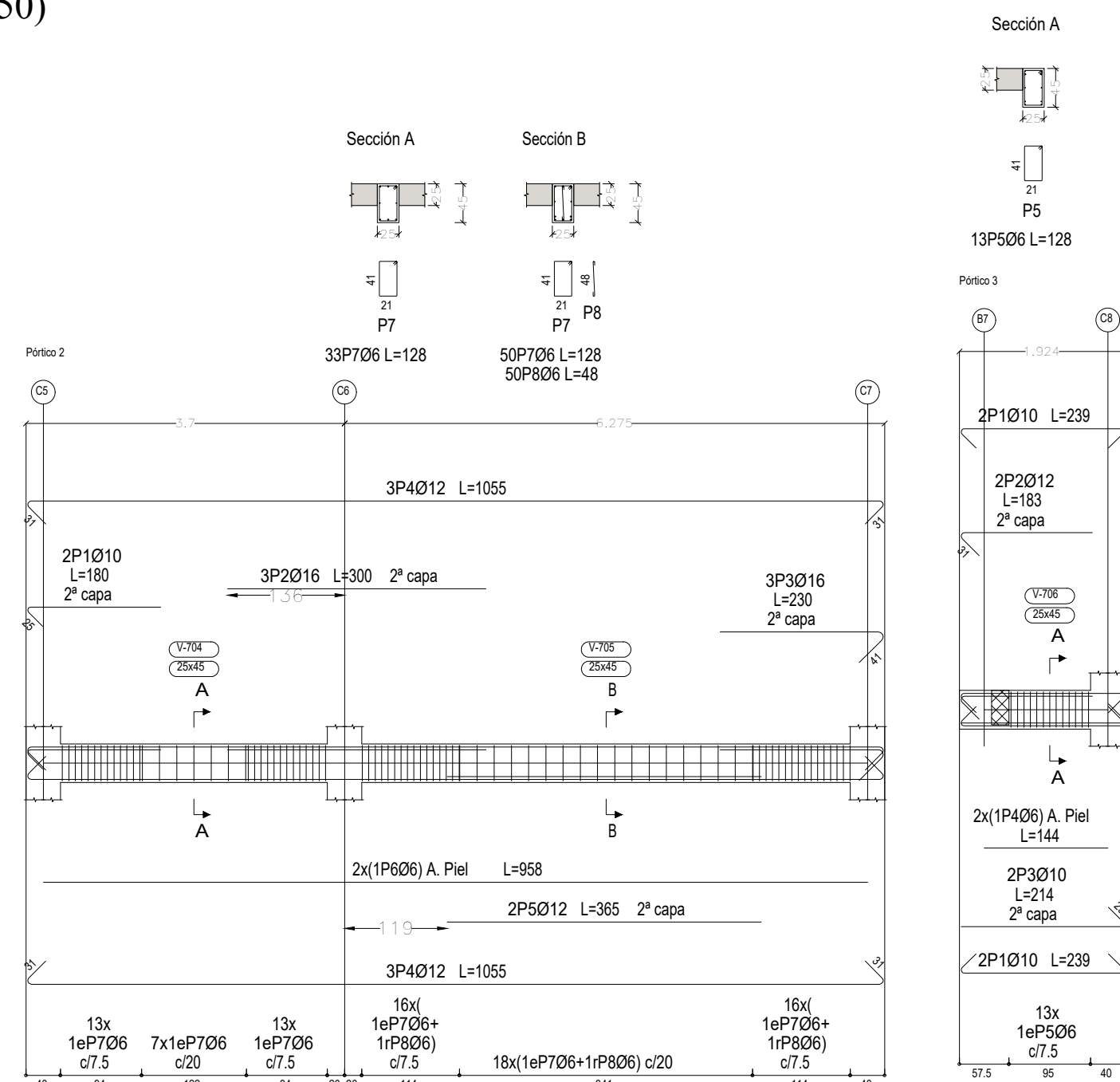
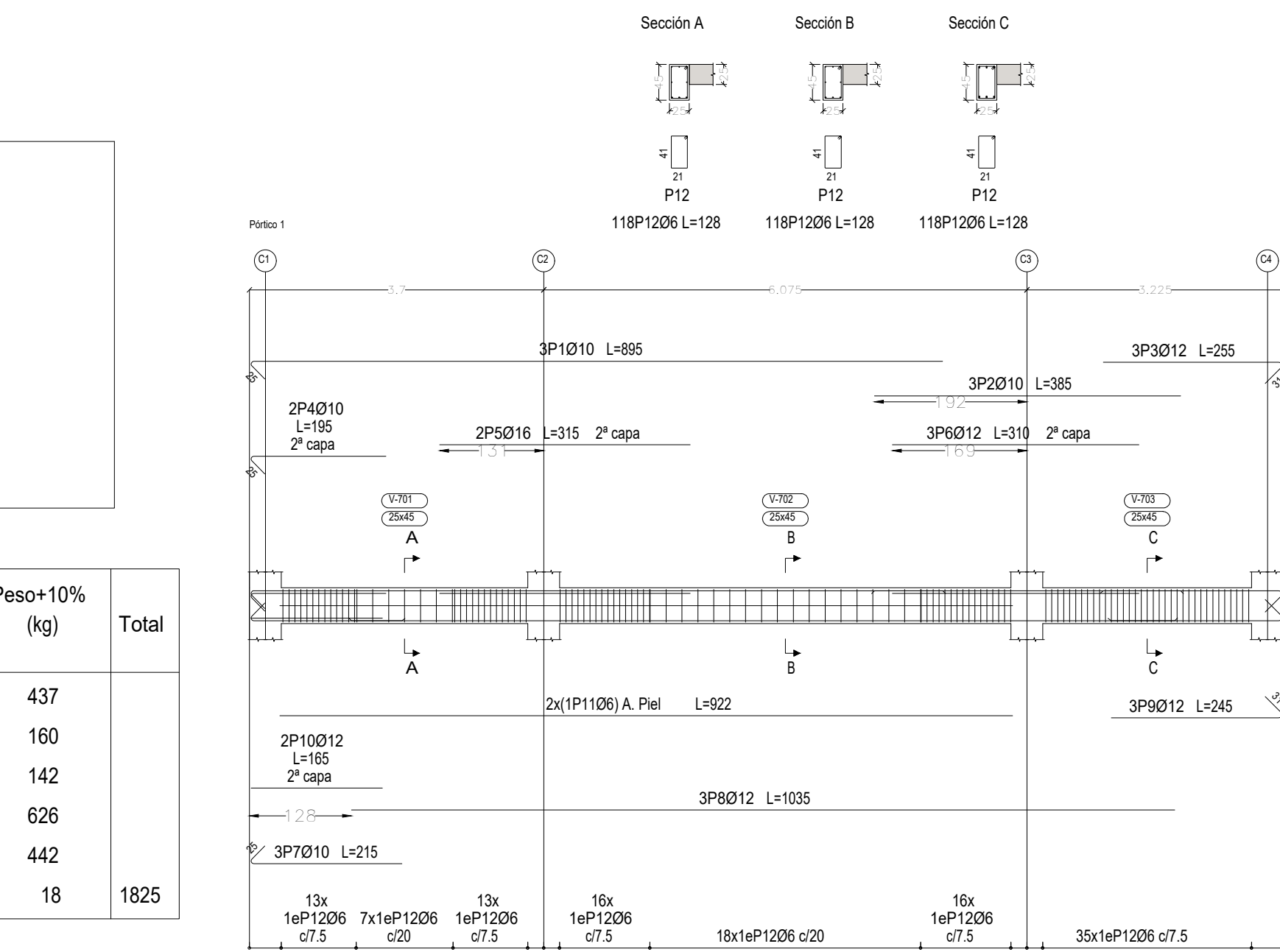
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										Ø10		17.6
										Ø12		29.4
										Ø16		61.6
										Ø20		118.4
										Total		235.2
										Total		470.4
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CUARTO PISO
Despiece de vigas
Hormigón: H-25 MPa
Acero en barras: AH-500

Escala pórticos 1:100
Escala secciones 1:100
Escala huecos 1:100
Recubrimientos: 2.0 cm

Resumen Acero	Long. total (m)	Peso+10% (kg)	Total
AH-500	Ø6	1789.0	437
	Ø8	369.1	160
	Ø10	209.3	142
	Ø12	640.5	626
	Ø16	254.6	442
	Ø20	6.6	18



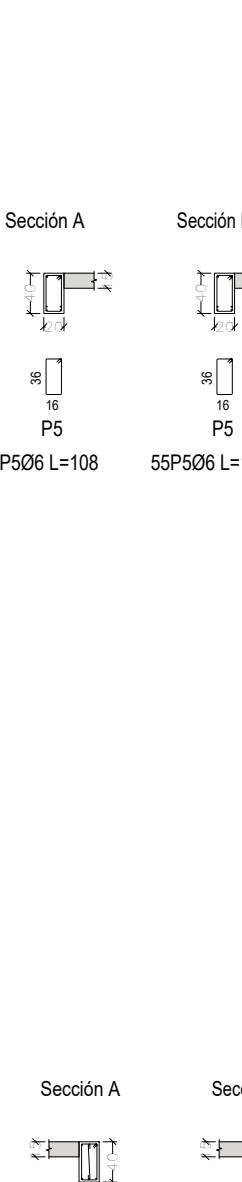
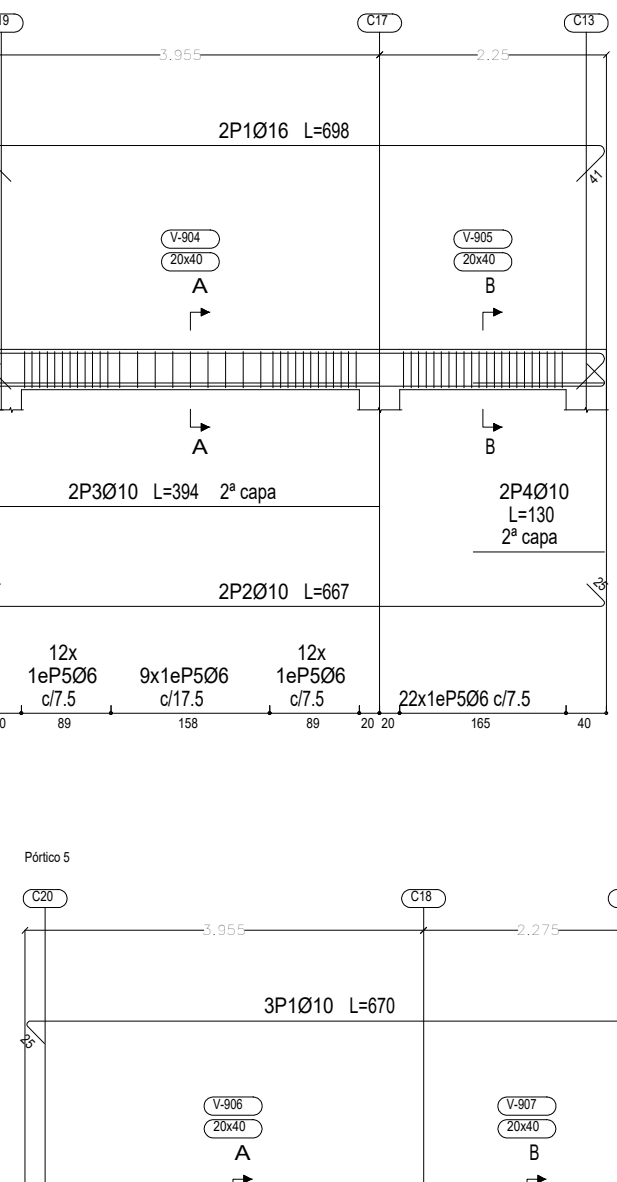
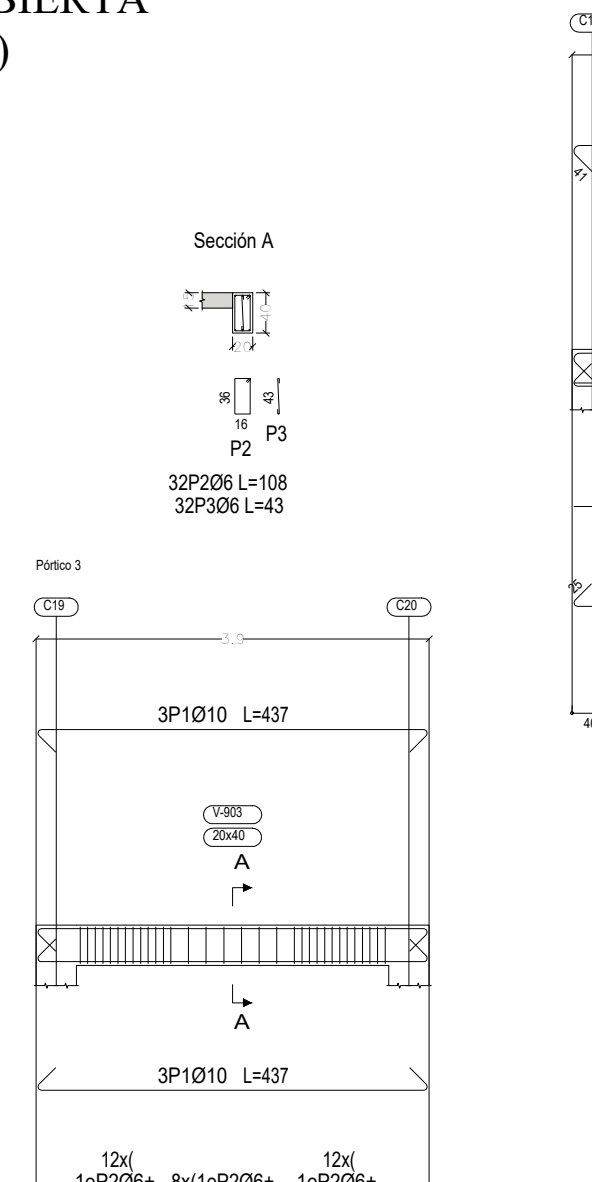
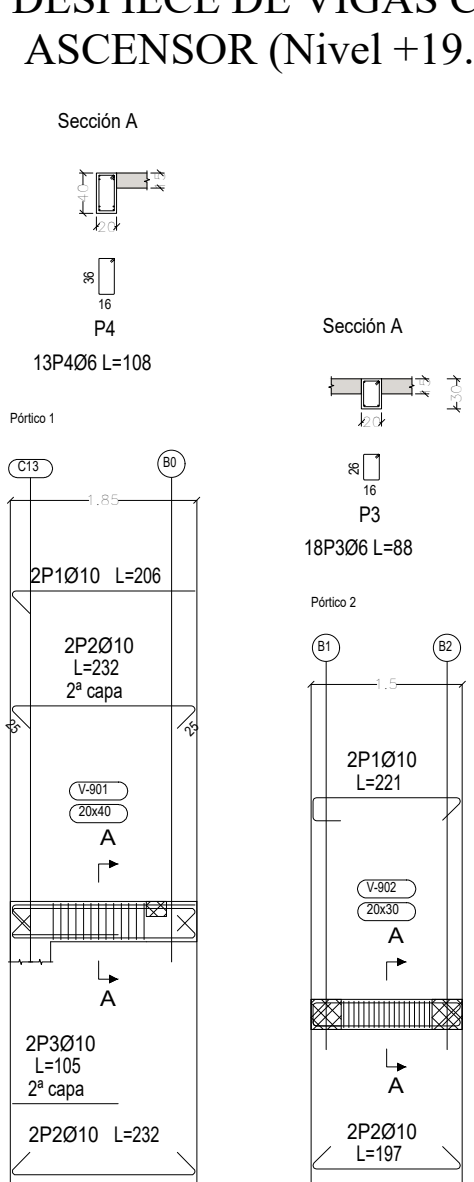
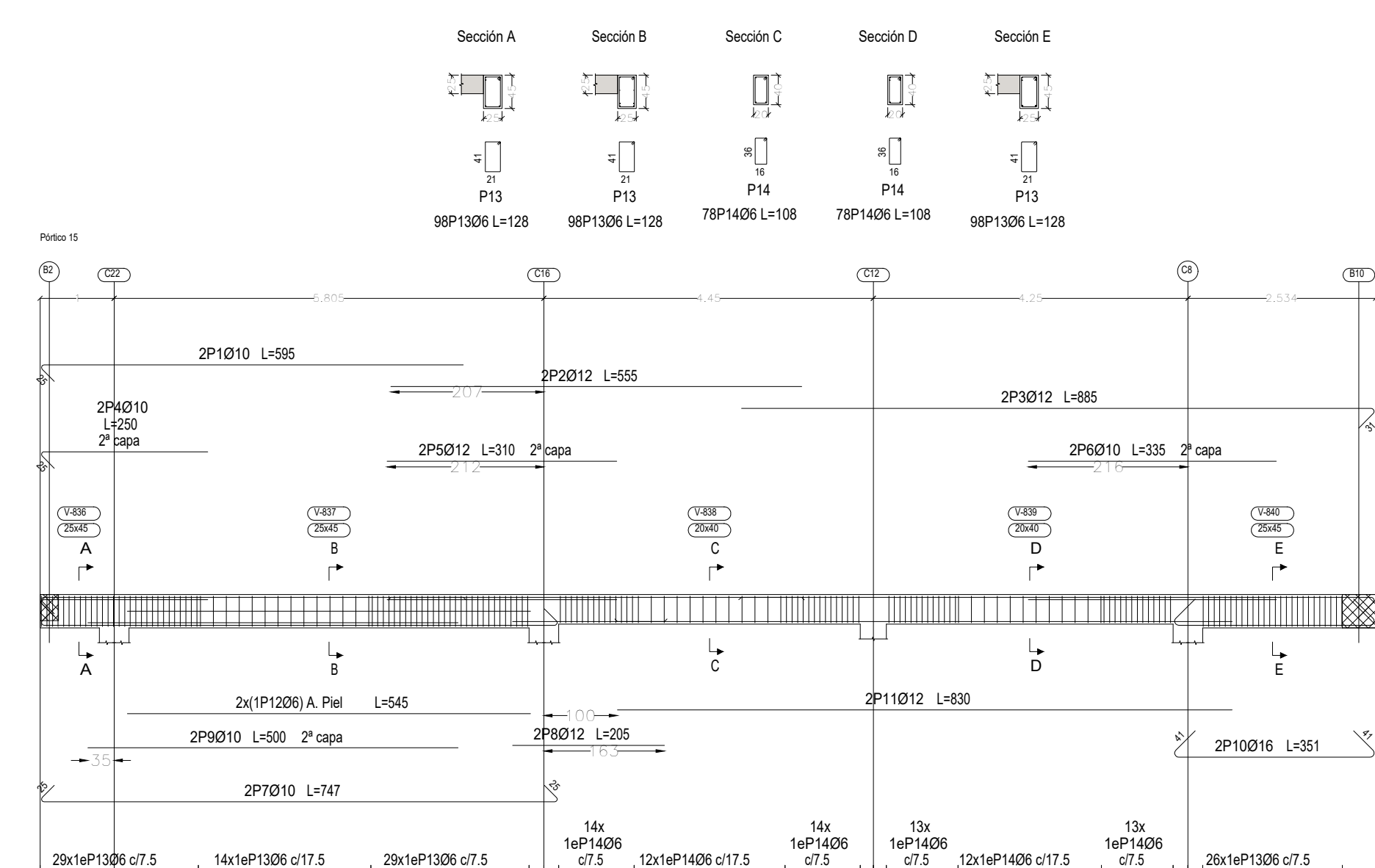
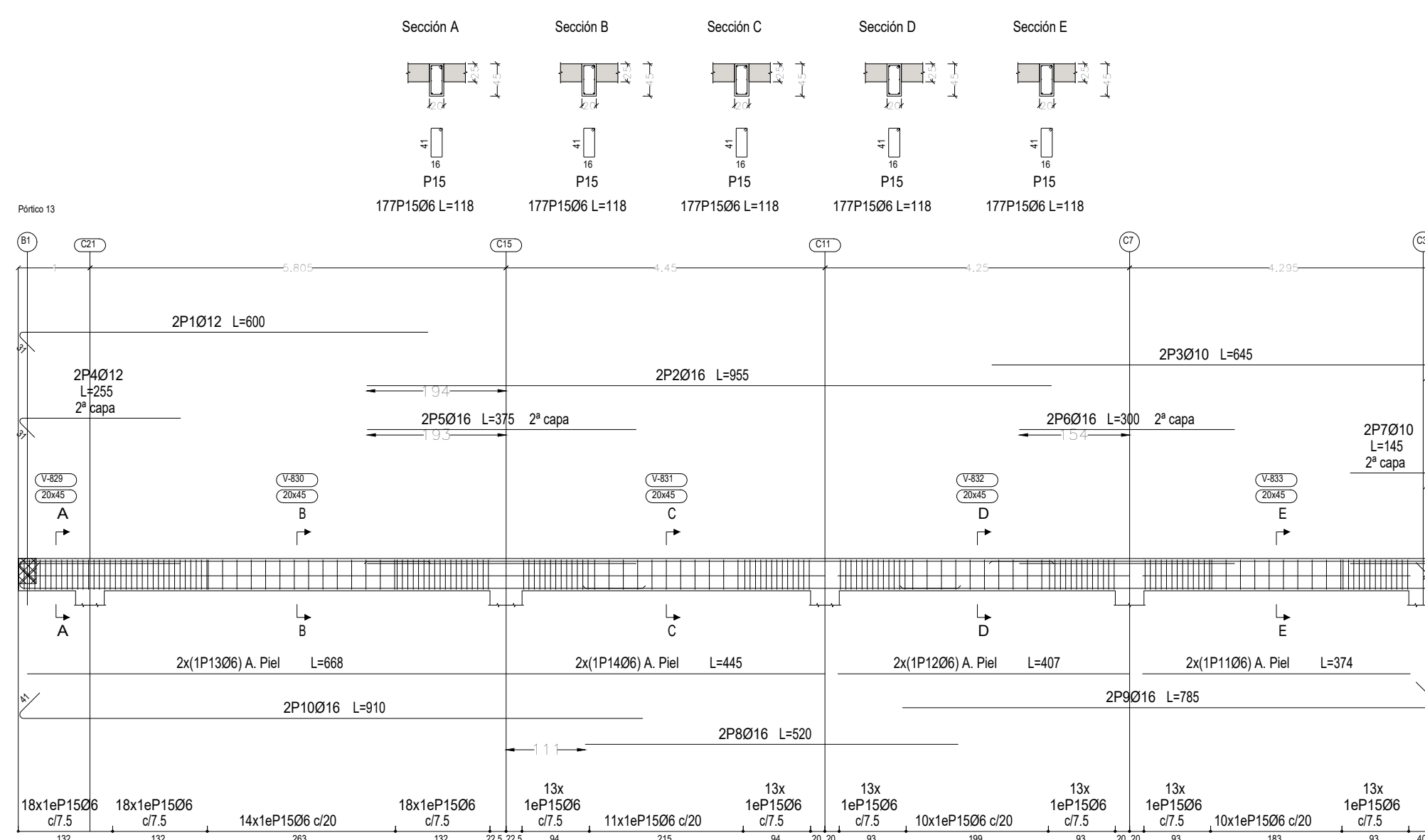
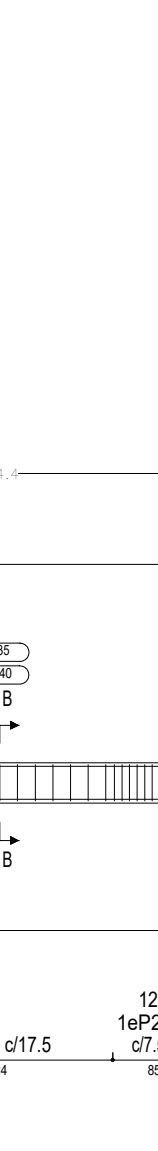
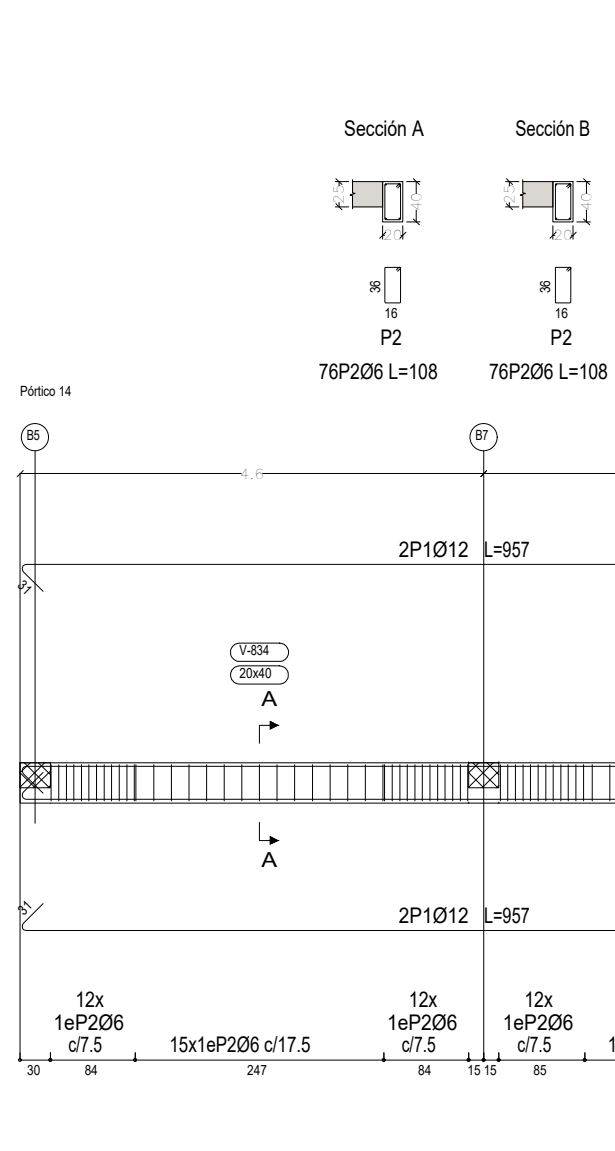
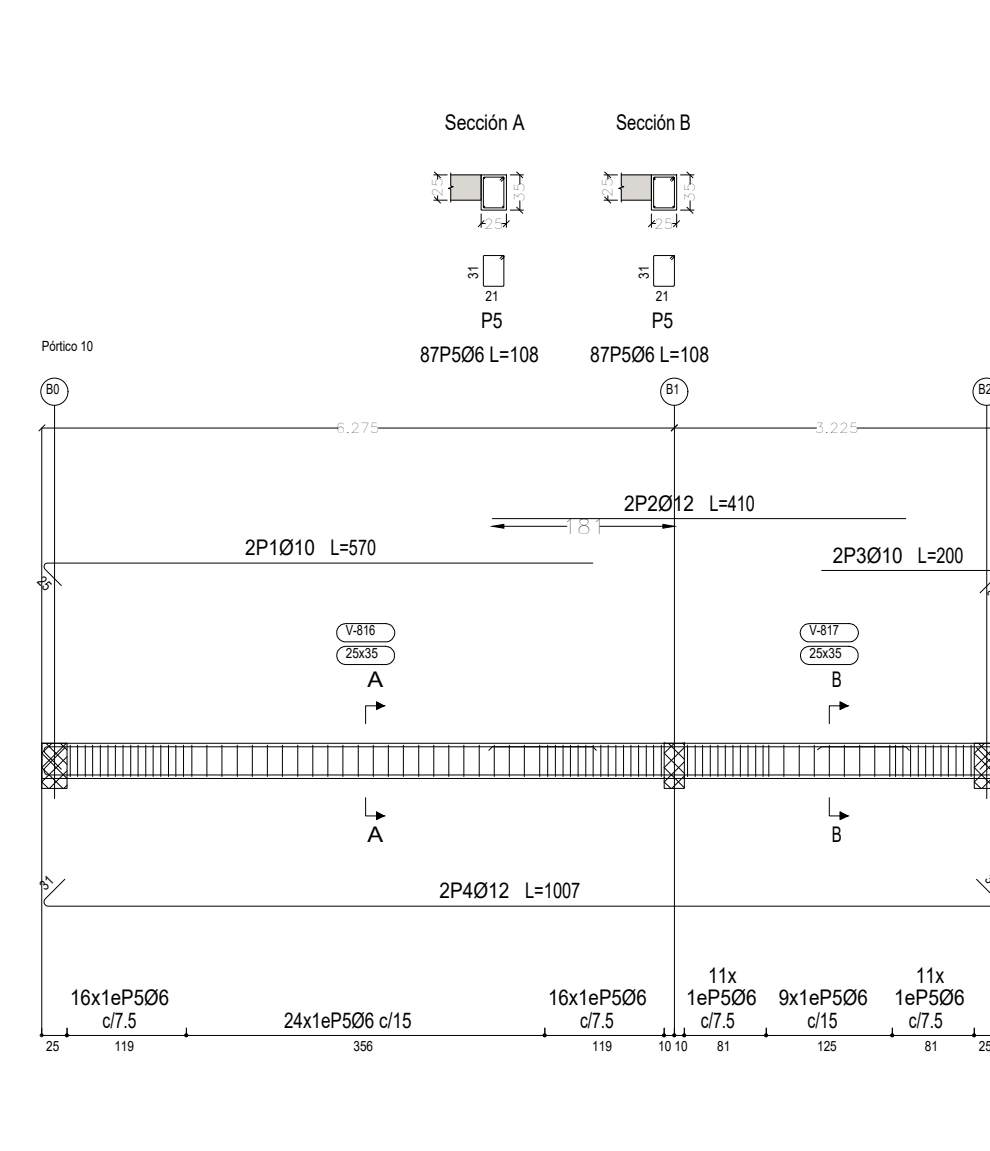
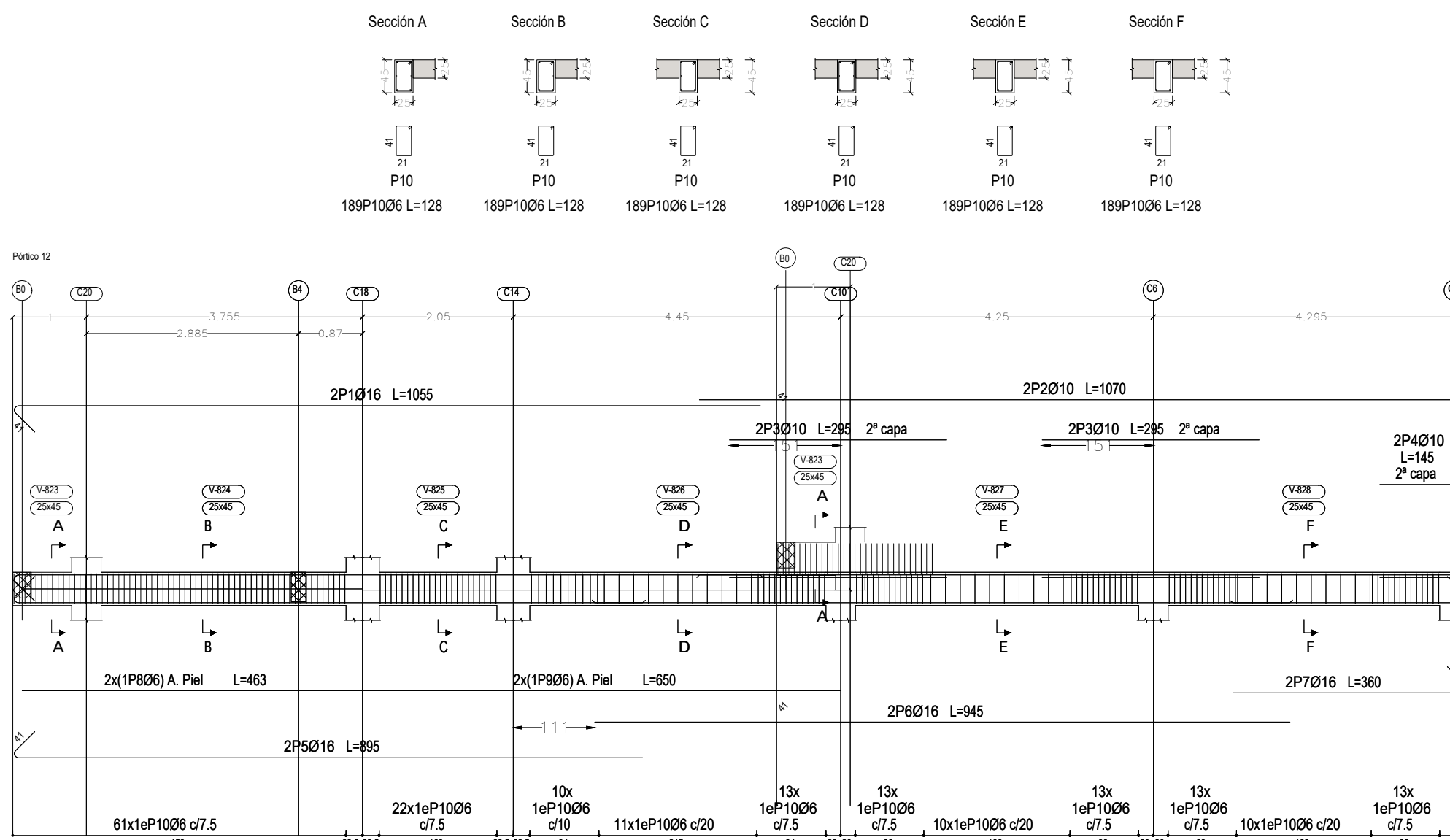
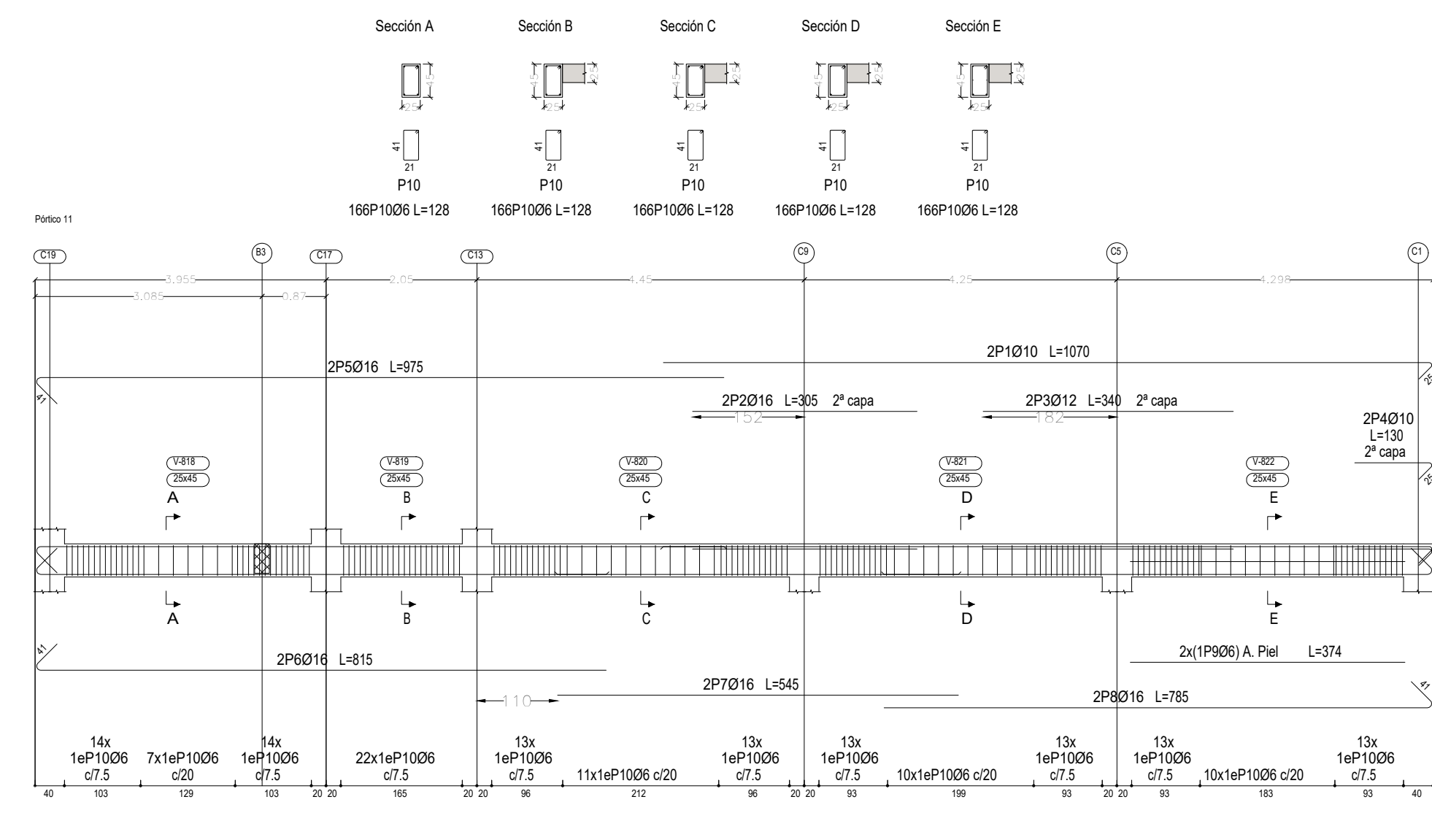
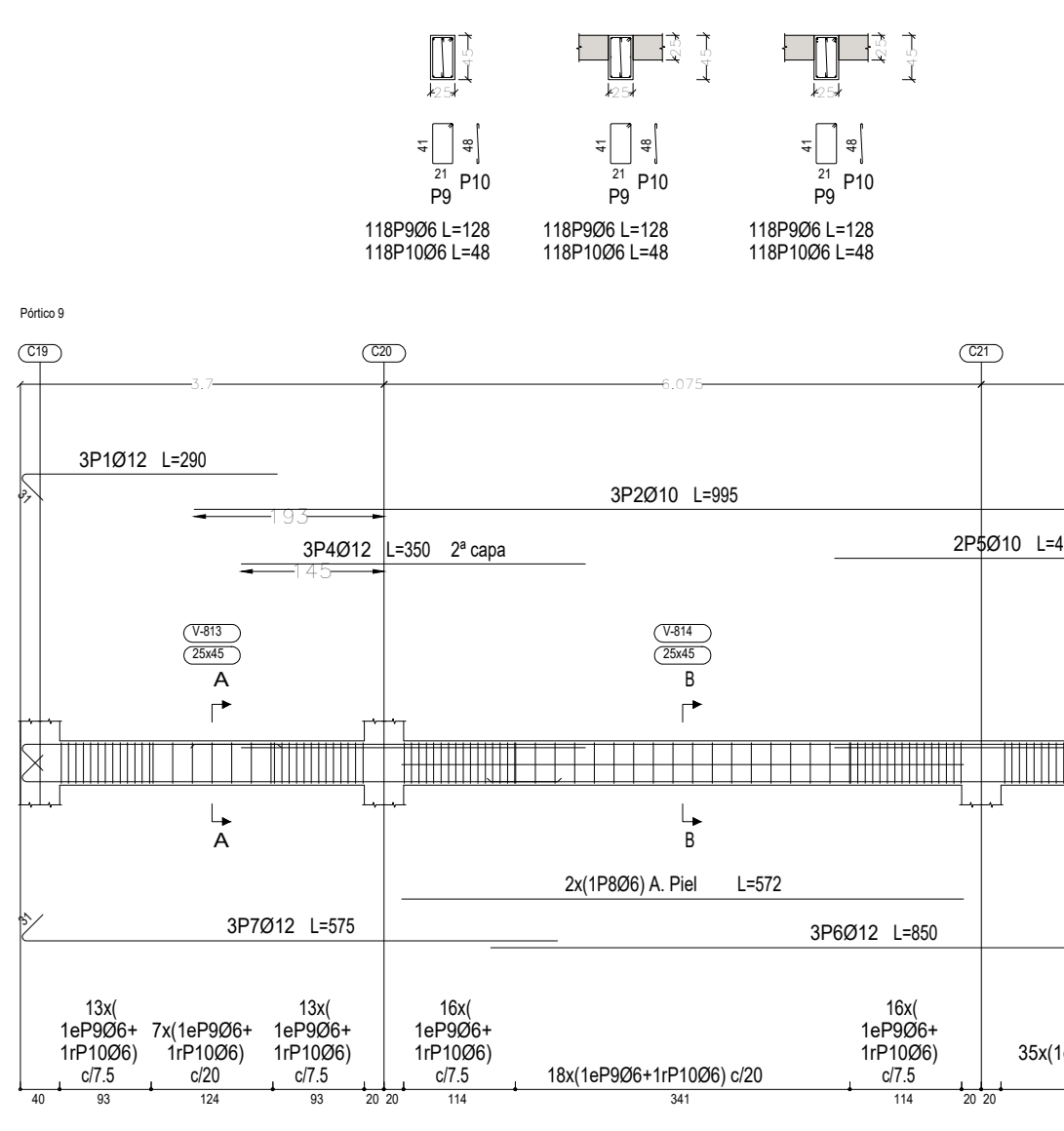
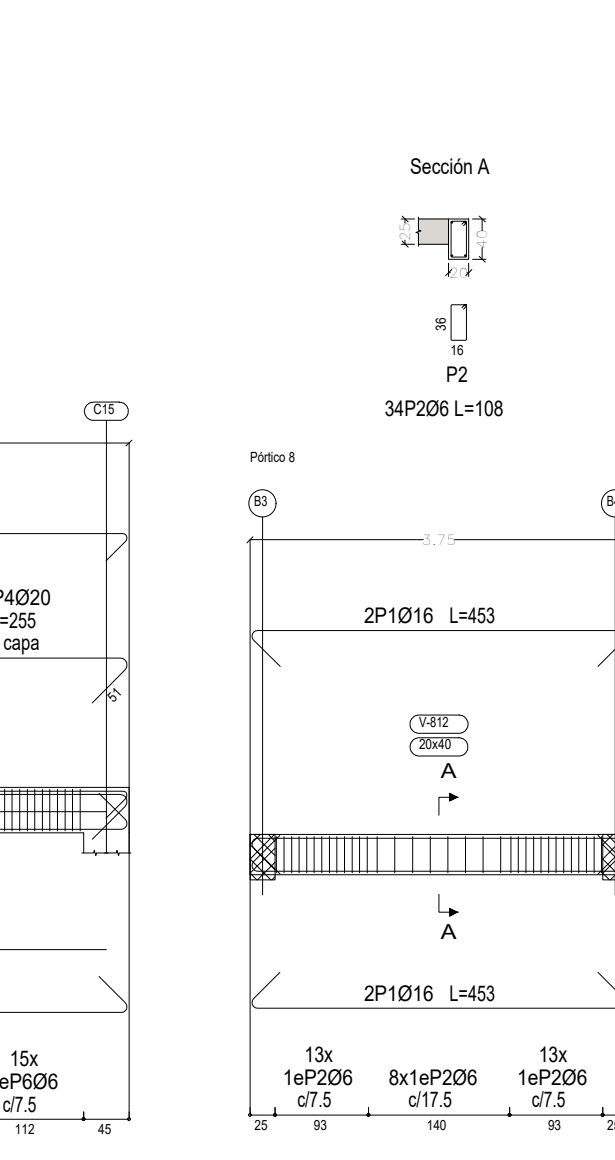
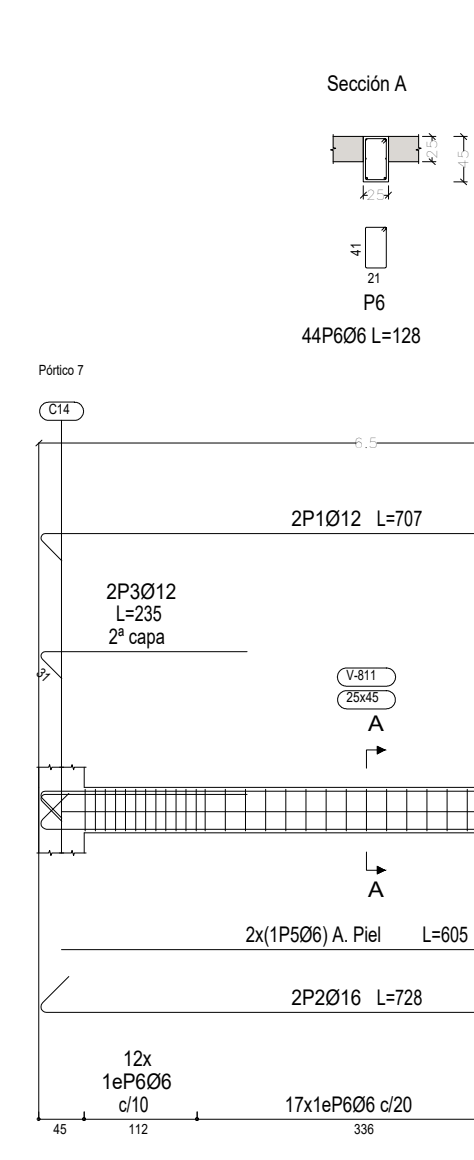
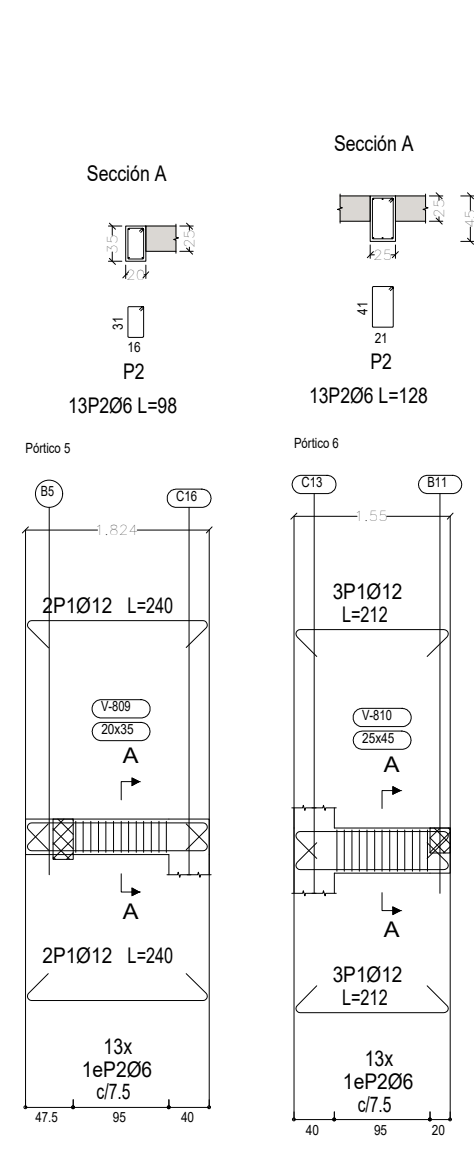
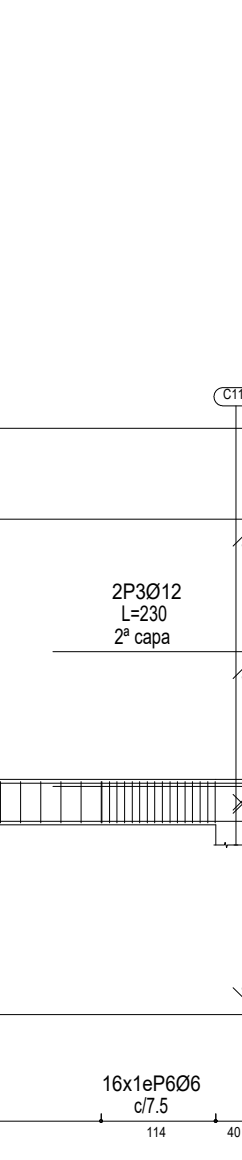
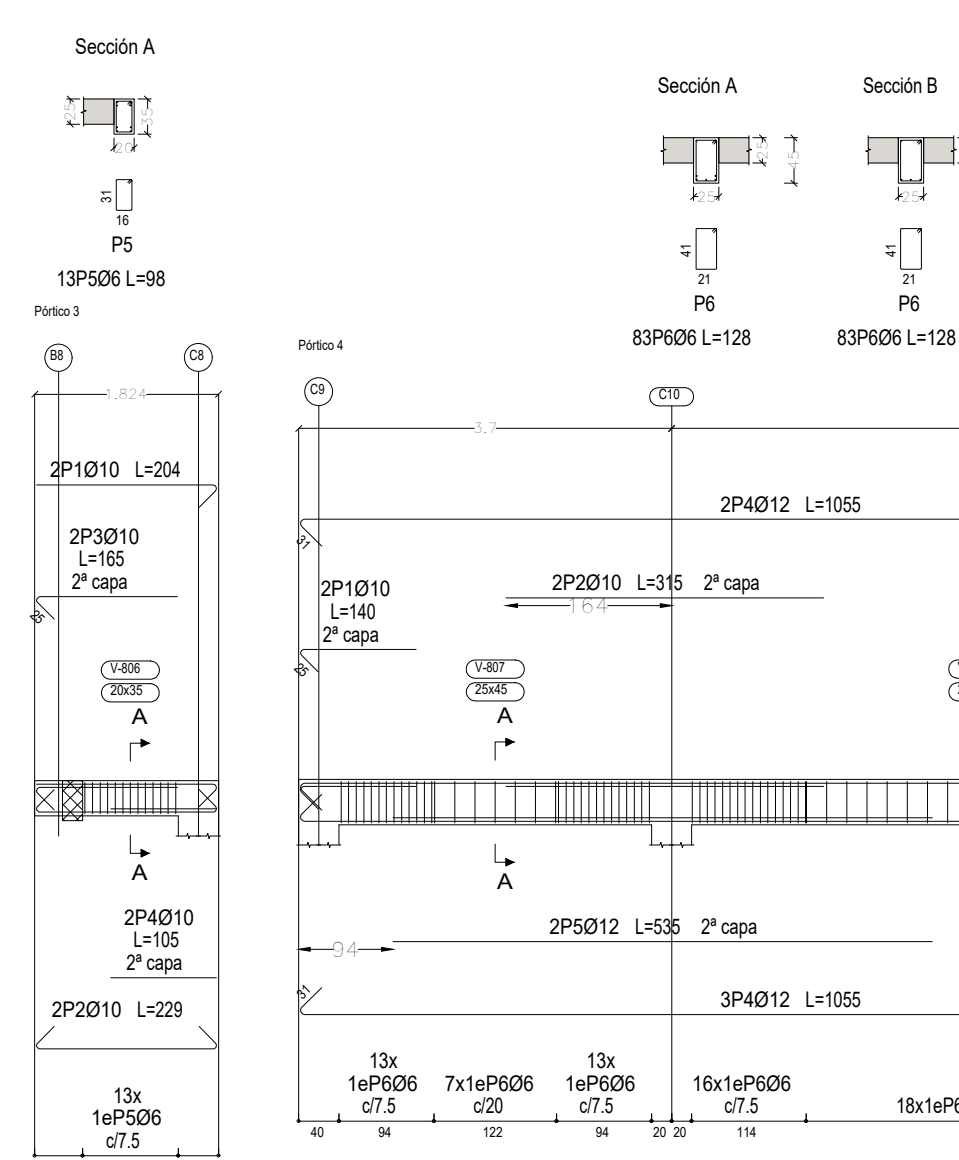
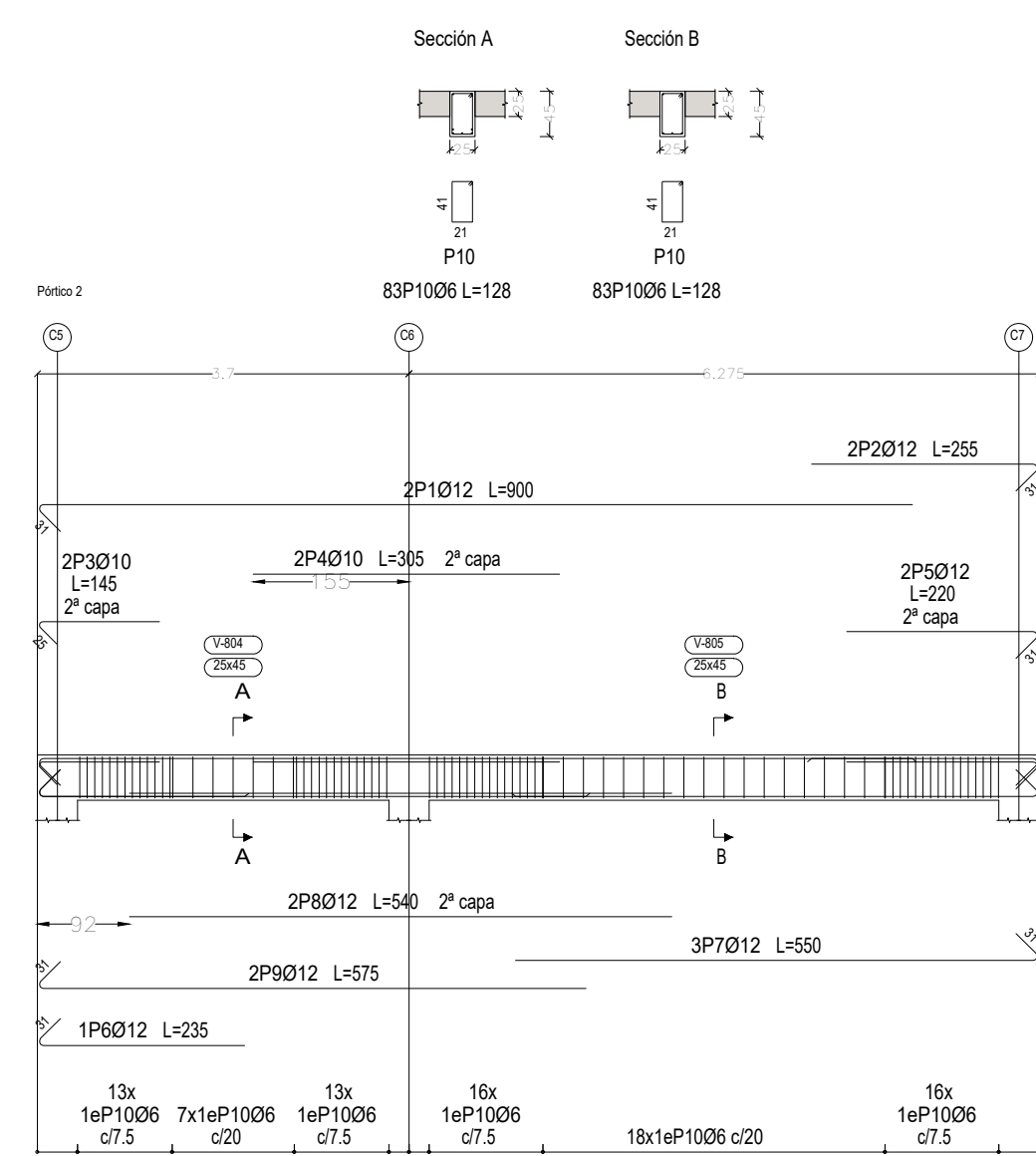
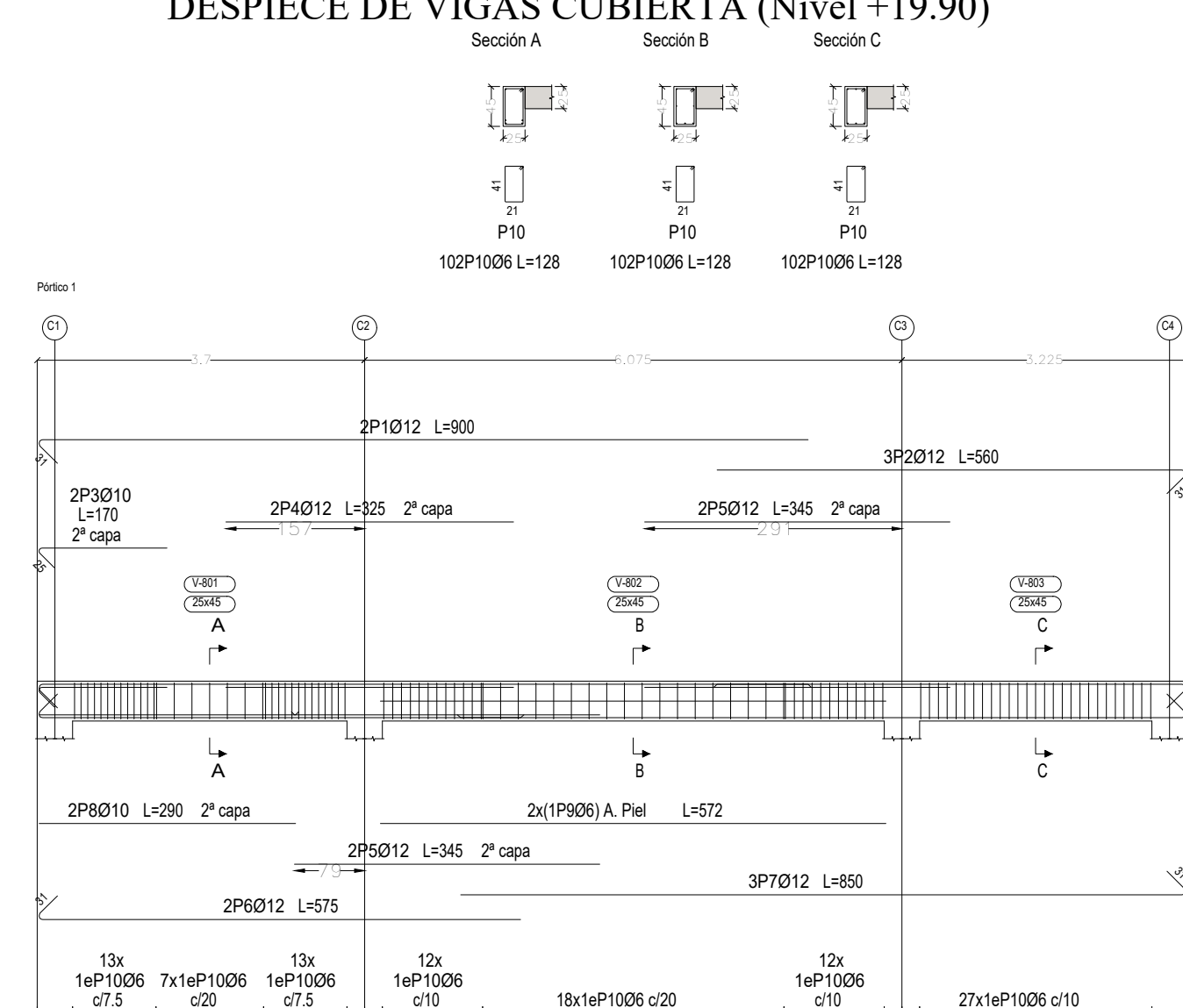
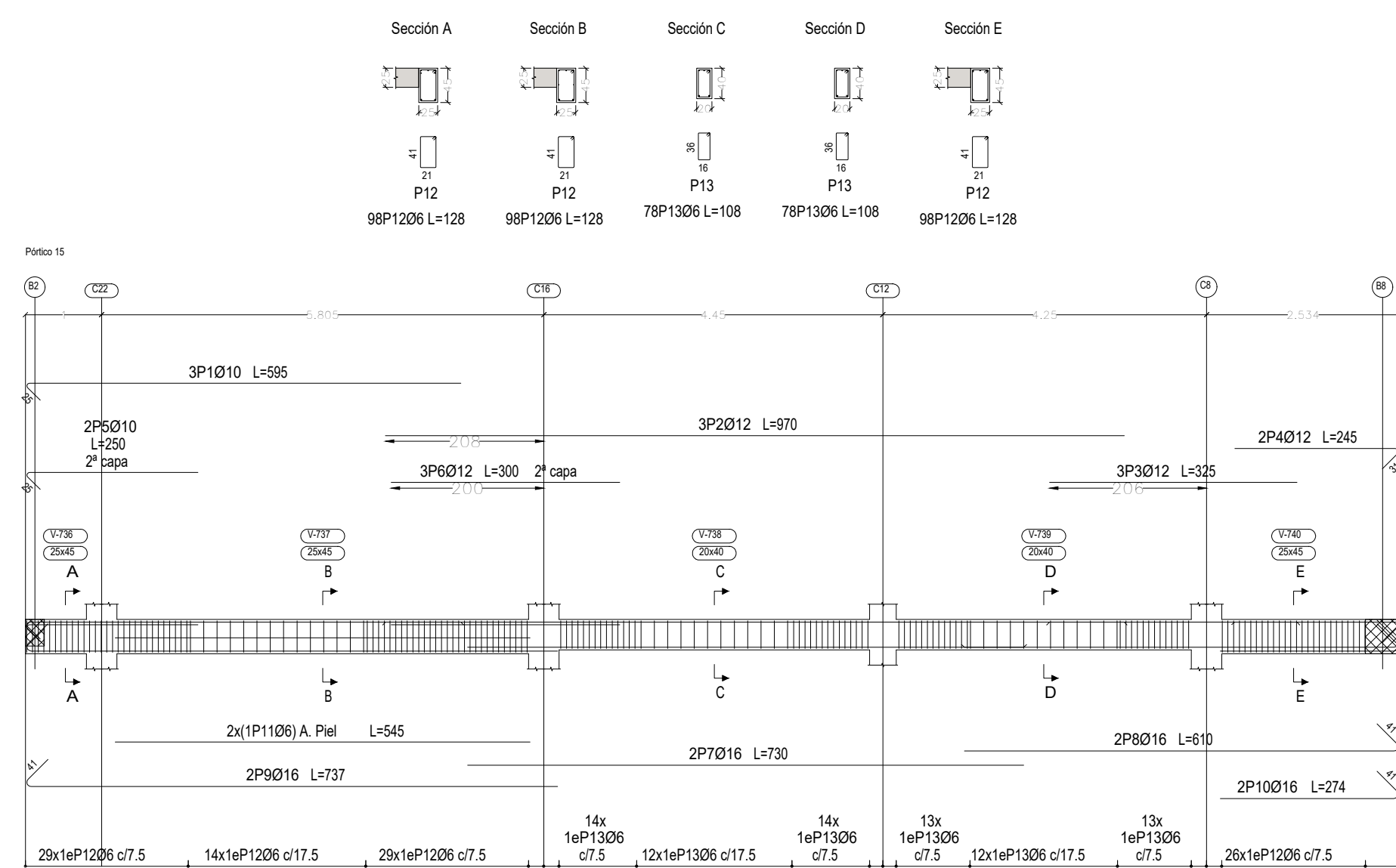
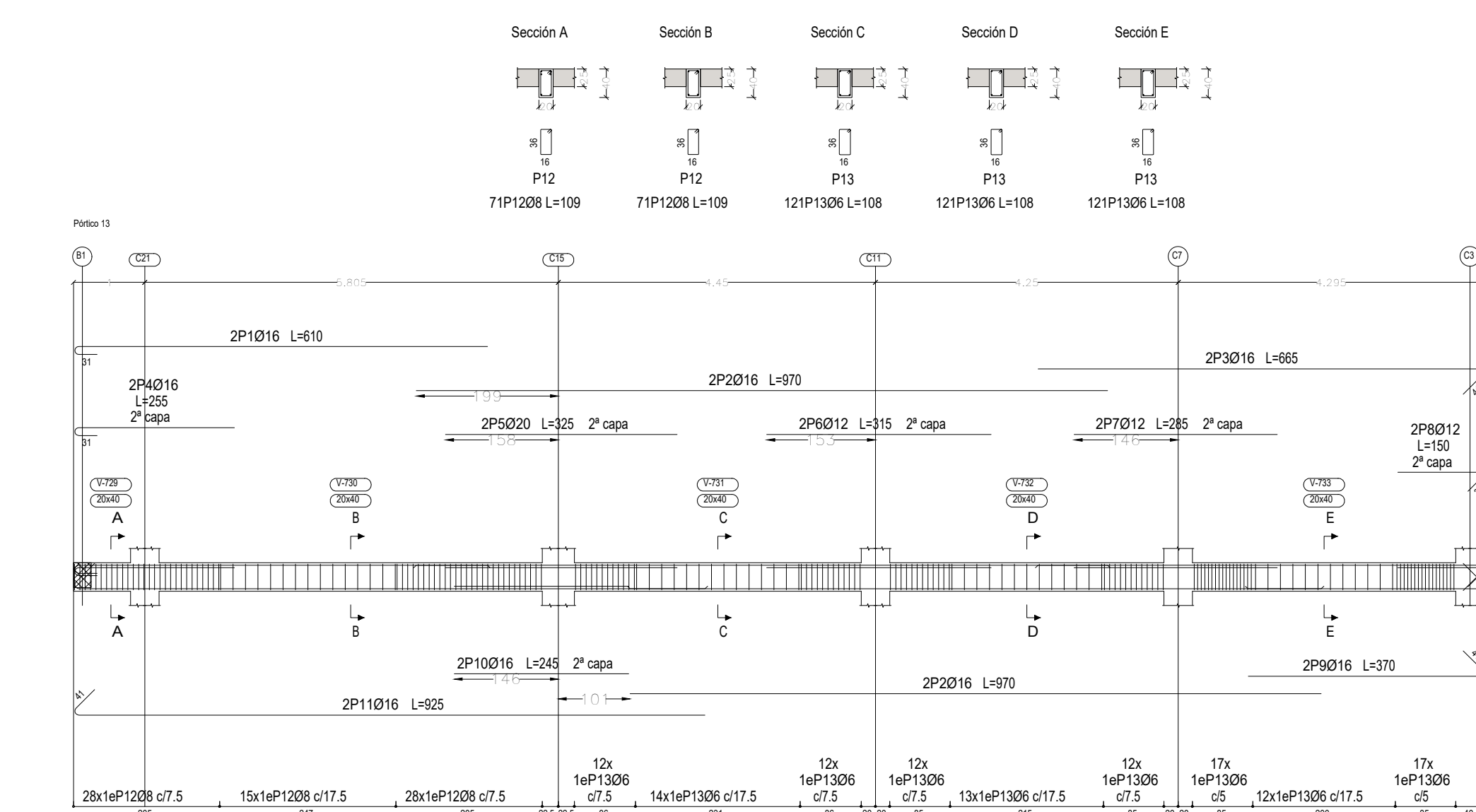
Resumen Acero	Long. total (m)	Peso+10% (kg)	Total
AH-500	Ø6	1885.0	460
	Ø8	90.3	39
	Ø10	251.7	171
	Ø12	440.5	430
	Ø16	410.3	712
	Ø20	6.5	18

QUINTO PISO
Despiece de vigas
Hormigón: H-25 MPa
Acero en estribos: AH-500
Escala pórticos 1:100
Escala secciones 1:100
Escala huecos 1:100
Recubrimientos: 2.0 cm

Elemento	Pos.	Diam.	No.	Esquema (cm)	Long (cm)	Total AH-500 (kg)
Pórtico 1						
1	Ø12	2	35		66	17.0
2	Ø16	2	35		100	210.36
3	Ø16	2	35		200	441.60
4	Ø16	2	35		100	210.36
5	Ø12	2	35		66	17.0
6	Ø16	2	35		100	210.36
7	Ø16	2	35		100	210.36
8	Ø16	2	35		100	210.36
9	Ø16	2	35		100	210.36
10	Ø16	2	35		100	210.36
11	Ø16	2	35		100	210.36
12	Ø16	2	35		100	210.36
13	Ø16	2	35		100	210.36
14	Ø16	2	35		100	210.36
15	Ø16	2	35		100	210.36
16	Ø16	2	35		100	210.36
17	Ø16	2	35		100	210.36
18	Ø16	2	35		100	210.36
19	Ø16	2	35		100	210.36
20	Ø16	2	35		100	210.36
21	Ø16	2	35		100	210.36
22	Ø16	2	35		100	210.36
23	Ø16	2	35		100	210.36
24	Ø16	2	35		100	210.36
25	Ø16	2	35		100	210.36
26	Ø16	2	35		100	210.36
27	Ø16	2	35		100	210.36
28	Ø16	2	35		100	210.36
29	Ø16	2	35		100	210.36
30	Ø16	2	35		100	210.36
31	Ø16	2	35		100	210.36
32	Ø16	2	35		100	210.36
33	Ø16	2	35		100	210.36
34	Ø16	2	35		100	210.36
35	Ø16	2	35		100	210.36
36	Ø16	2	35		100	210.36
37	Ø16	2	35		100	210.36
38	Ø16	2	35		100	210.36
39	Ø16	2	35		100	210.36
40	Ø16	2	35		100	210.36
41	Ø16	2	35		100	210.36
42	Ø16	2	35		100	210.36
43	Ø16	2	35		100	210.36
44	Ø16	2	35		100	210.36
45	Ø16	2	35		100	210.36
46	Ø16	2	35		100	210.36
47	Ø16	2	35		100	210.36
48	Ø16	2	35		100	210.36
49	Ø16	2	35		100	210.36
50	Ø16	2	35		100	210.36
51	Ø16	2	35		100	210.36
52	Ø16	2	35		100	210.36
53	Ø16	2	35		100	210.36
54	Ø16	2	35		100	210.36
55	Ø16	2	35		100	210.36
56	Ø16	2	35		100	210.36
57	Ø16	2	35		100	210.36
58	Ø16	2	35		100	210.36
59	Ø16	2	35		100	210.36
60	Ø16	2	35		100	210.36
61	Ø16	2	35		100	210.36
62	Ø16	2	35		100	210.36
63	Ø16	2	35		100	210.36
64	Ø16	2	35		100	210.36
65	Ø16	2	35		100	210.36
66	Ø16	2	35		100	210.36
67	Ø16	2	35		100	210.36
68	Ø16	2	35		100	210.36
69	Ø16	2	35		100	210.36
70	Ø16	2	35		100	210.36
71	Ø16	2	35		100	210.36
72	Ø16	2	35		100	210.36
73	Ø16	2	35		100	210.36
74	Ø16	2	35		100	210.36
75	Ø16	2	35		100	210.36
76	Ø16	2	35		100	210.36
77	Ø16	2	35		100	210.36
78	Ø16	2	35		100	210.36
79	Ø16	2	35		100	210.36
80	Ø16	2	35		100	210.36
81	Ø16	2	35		100	210.36
82	Ø16	2	35		100	210.36
83	Ø16	2	35		100	210.36
84	Ø16	2	35		100	210.36
85	Ø16	2	35		100	210.36
86	Ø16	2	35		100	210.36
87	Ø16	2	35		100	210.36
88	Ø16	2	35		100	210.36
89	Ø16	2	35		100	210.36
90	Ø16	2	35		100	210.36
91	Ø16	2	35		100	210.36
92	Ø16	2	35		100	210.36
93	Ø16	2	35		100	210.36
94	Ø16	2	35		100	210.36
95	Ø16	2	35		100	210.36
96	Ø16	2	35		100	210.36
97	Ø16	2	35		100	210.36
98	Ø16	2	35		100	210.36
99	Ø16	2	35		100	210.36
100	Ø16	2	35		100	210.36

Pórtico 2						
1	Ø12	2		100	300	2.2
2	Ø16	3		300	900	14.4
3	Ø16	3		200	600	10.0
4	Ø12	8		1000	1000	96.2
5	Ø12	2		300	750	6.5
6	Ø12	2		300	1050	4.2
7	Ø16	83		120	1070	23.8
8	Ø16	30		48	2000	0.5
Total: Ø12						126.7
Ø16						161.1
Ø10						35.1
Ø8						16.3
Ø10						28.5
Ø16						27.7
Elemento	Pos.	Diam.	No.	Esquema (cm)	Long (cm)	Total (kg)
Pórtico 3						
1	Ø12	4		100	300	2.2
2	Ø12	2		100	300	3.2
3	Ø12	2		214	420	2.8
4	Ø16	2		164	288	0.8
5	Ø16	13		120	1477	3.7
Respecto						12.6

DESPICCE DE VIGAS CUBIERTA (Nivel +19.90)



Resumen Acero Plano de pórticos	Long. total (m)	Peso+10% (kg)	Total
AH-500 Ø6	1862.1	455	
Ø10	228.0	155	
Ø12	478.1	467	
Ø16	250.2	434	
Ø20	5.1	14	1525

Resumen Acero Plano de pórticos	Long. total (m)	Peso+10% (kg)	Total
AH-500	Ø6	223.9	55
	Ø10	114.1	77
	Ø16	14.0	24
			156

CUBIERTA ASCENSOR

Despiece de vigas
Hormigón: H-25 MPa
Acero en barras: AH-500

Escala pórticos 1:100
 Escala secciones 1:100
 Escala huecos 1:100
 Recubrimientos: 2.0 cm

[illegible]

Elemento	Pos.	Dia.	No.	Esquema (cm)	Long. (cm)	Total (cm)
PISO 13	1	0110	3		585	1755
	2	0112	3		585	1755
	3	0112	3		585	1755
	4	0112	2		585	1170
	5	0110	2		585	1170
	6	0112	2		585	1170
	7	0110	2		585	1170
	8	0110	2		585	1170
	9	0110	2		585	1170
	10	0110	2		585	1170
PISO 14	1	0210	3		615	1230
	2	0210	2		615	1230
	3	0210	2		615	1230
	4	0210	2		615	1230
PISO 15	1	0310	3		615	1230
	2	0310	2		615	1230
	3	0310	2		615	1230
	4	0310	2		615	1230
PISO 16	1	0410	3		615	1230
	2	0410	2		615	1230
	3	0410	2		615	1230
	4	0410	2		615	1230

Elemento	Pos.	Dim.	Esquema (mm)	Long. (cm)	Total (cm)
Partes 1	1	010 2		900	1800
	2	010 2		900	1800
	3	010 2		170	340
	4	010 2		330	660
	5	010 2		340	680
	6	010 2		570	1140
	7	010 2		680	1360
	8	010 2		290	580
	9	008 2		170	340
	10	008 102		120	2400
					Total 1420
Partes 2	1	010 2		990	1980
	2	010 2		180	360
	3	010 2		145	290
	4	010 2		300	600
	5	010 2		230	460
	6	010 1		230	230
	7	010 2		560	1120
	8	010 2		540	1080
	9	010 2		570	1140
	10	008 81		120	2400
					Total 1420

Elemento	Pos.	Qlsm.	No.	Esquema (m)	Long. (m)	Total (m)	Valor
Pavimento	1	010	2		294	638	1287
	2	010	2		230	468	
	3	010	2		186	372	
	4	010	2		150	300	
	5	006	13		99	1287	
Pavimento	1	010	2		146	292	
	2	010	2		375	638	
	3	010	2		230	468	
	4	010	2		1801	3275	
	5	010	2		636	1010	
	6	006	03		120	1207	
Pavimento	1	010	4		256	968	
	2	006	13		99	1287	
Pavimento	1	010	6		210	1232	
	2	006	13		120	1617	

Elemento	Pos.	Dist.	No.	Elongue (cm)	Long (cm)	Total (cm)
Pavé 7	1	012	2		737	1414
	2	016	2		736	1465
	3	012	2		736	1465
	4	000	3		255	518
	5	008	2		885	1020
Pavé 8	6	006	14		126	5826
	1	2016	4		452	1812
	2	026	34		138	5706
Pavé 9	1	012	3		286	873
	2	016	3		286	866
	3	010	3		228	705
	4	012	3		300	900
	5	010	2		485	966
	6	012	3		650	2050
	7	012	3		678	1755
	8	006	2		272	1144
	9	008	118		128	15222
Sopralito	10	008	118		41	5884
						

Elemento	Pos.	Dim.	No.	Esquema	Long. (cm)	Total Area (m ²)	DE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
							0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Ponto 10	1	Ø10	2		50	150	158	7.9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

Elemento	Pos.	Diam.	No.	Esquina (mm)	Lung. (mm)	Total (mm)	AH-500 (kg)
Pattini 12	1	Ø16	2	64	845	216	216
	2	Ø10	2	55	975	234	115
	3	Ø10	4	55	975	268	138
	4	Ø10	2	55	975	145	200
	5	Ø10	2	64	895	179	28,3
	6	Ø16	2	55	845	396	28,4
	7	Ø10	2	318	300	720	114
	8	Ø16	2	403	400	806	21
	9	Ø16	2	558	400	1008	2,8
	10	Ø16	100	22	120	24.81	26,1

[illegible][illegible]

DESPIECE DE VIGAS CUBIERTA ASCENSOR
(Nivel +19.90)

Elemento	Pos.	Dim.	No.	Esquema (cm)	Long (cm)	Total (cm)	AH-500 (kg)
Póster 1	1	470	2		381	206	472
	2	470	4		381	206	472
	3	470	2		381	206	472
	4	470	13		381	1417	3.1
					Total=1000		
Póster 2	1	470	2		381	206	472
	2	470	3		381	967	3.6
	3	470	16		381	602	3.6
					Total=1000		
Póster 3	1	470	4		381	407	202
	2	470	32		381	1608	7.7
	3	470	32		41	1219	3.1
					Total=1000		
Póster 4	1	470	5		817	880	28.3
	2	470	2		817	1204	6.2
	3	470	3		761	967	4.4
	4	470	2		138	190	28.0
	5	470	32		41	602	13.2



UNIVERSIDAD AUTONOMA "JUAN MISAEL SARACHO"
FACULTAD DE CIENCIAS Y TECNOLOGIA
INGENIERIA CIVIL

CONTENIDO

PLANO DE DETALLE DE VIGAS

DISEÑO ESTRUCTURAL DEL EDIFICIO MULTIFAMILIAR (Ciudad de Tarija)

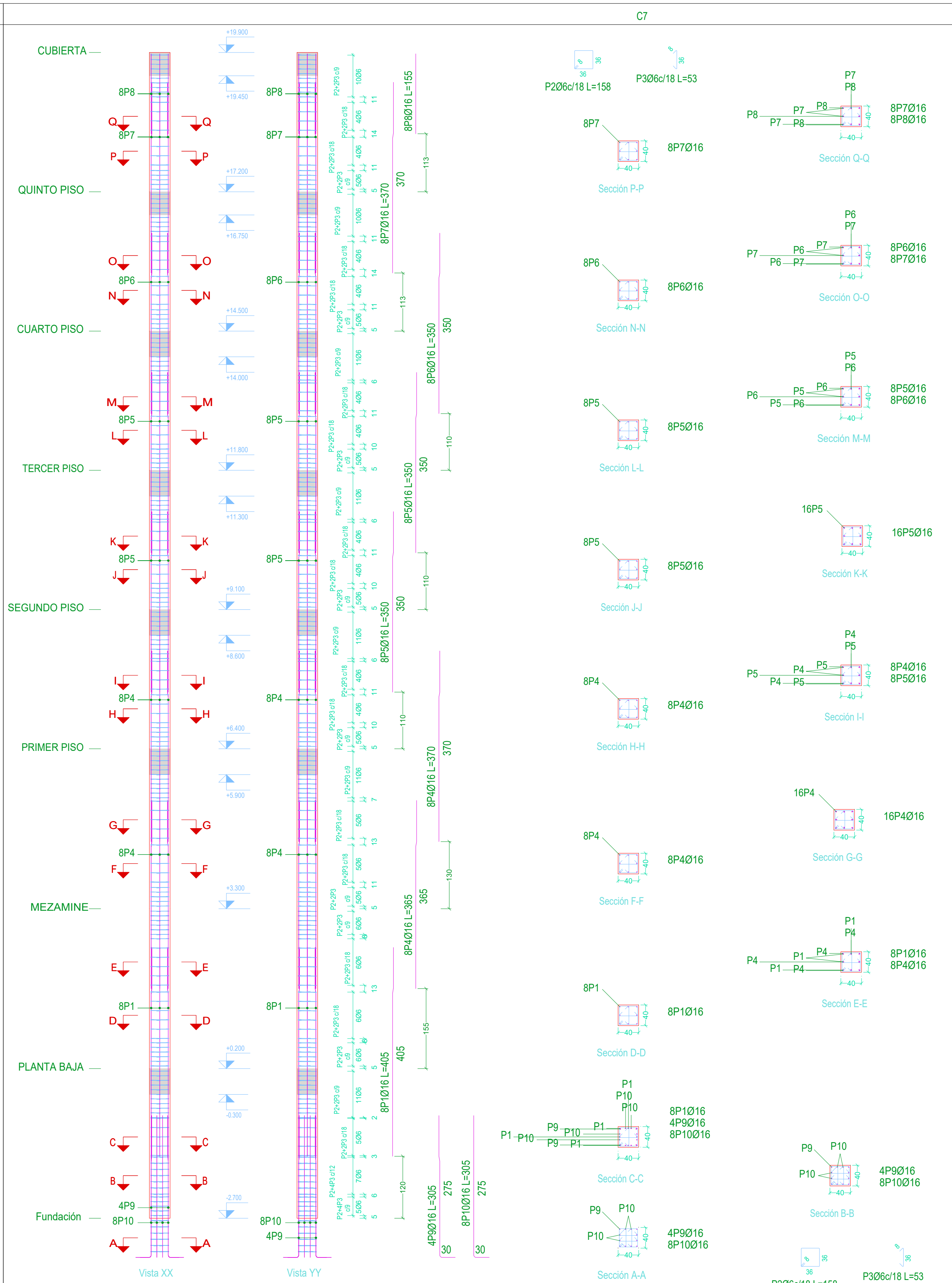
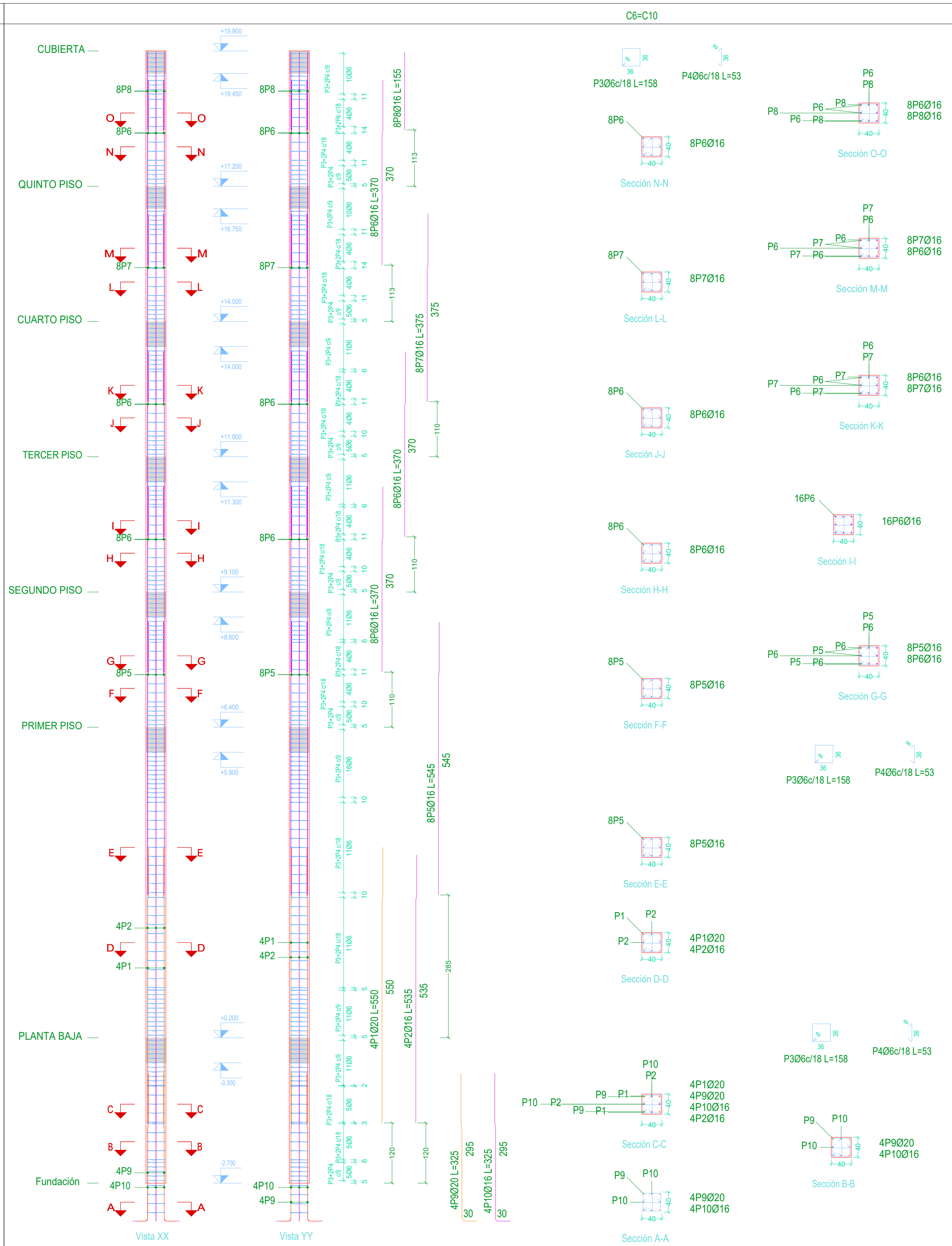
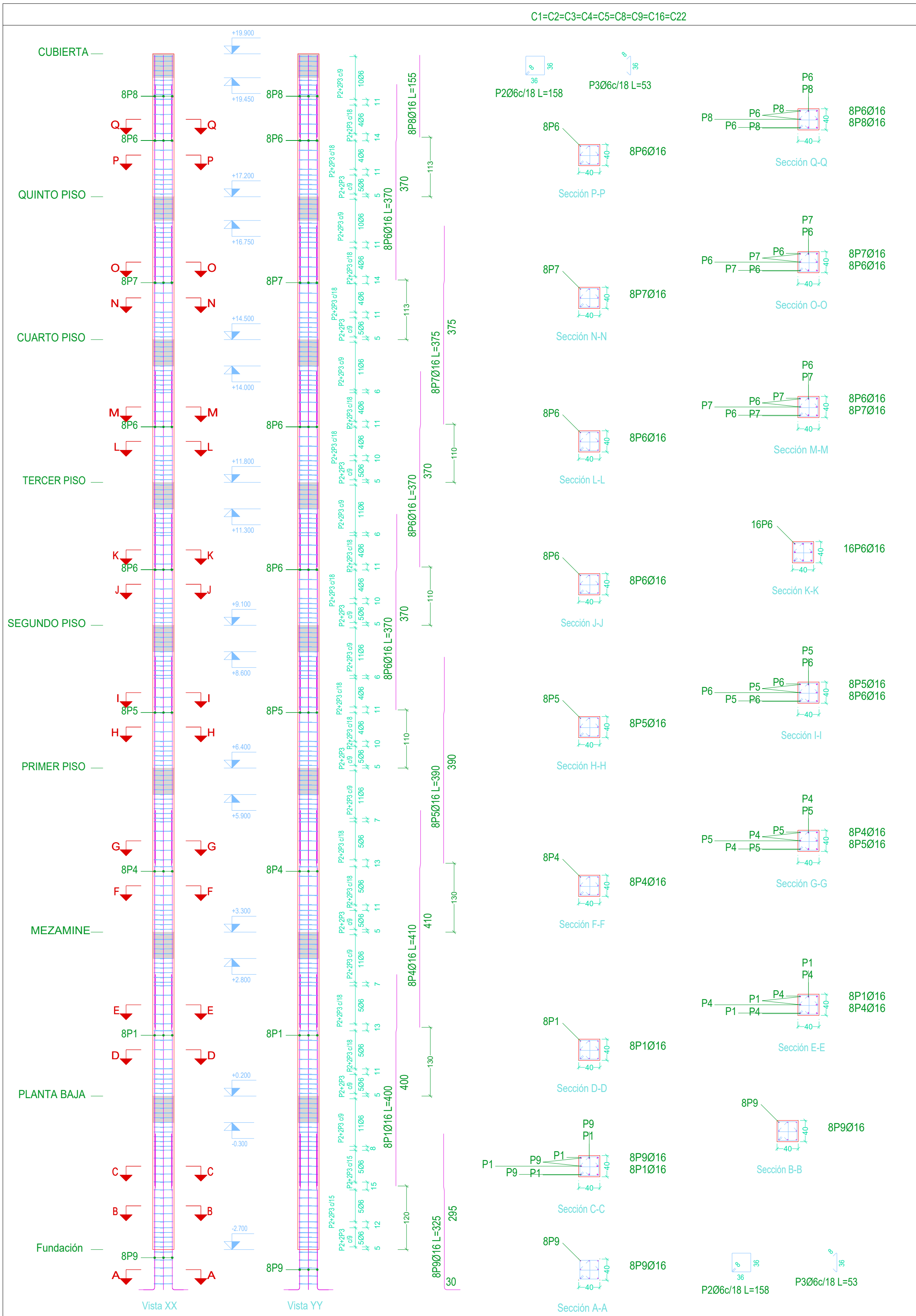
UNIVERSITARIO : ORIHUELA HUANCA JHON KEVIN DAVID

1:75

FECHA: 25/05/2025

LAMINA

9/20



Planta	Dimensión (cm)	Hormigón		Armaduras AH-500		
		Tipo: H-25 MPa Recubrimiento: 2 cm	Volumen (m3)	Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)
CUBIERTA	40x40	0.43	4.32	19.6	13.5	36.4
QUINTO PISO		0.43	4.32	46.7	13.5	66.2
CUARTO PISO		0.43	4.32	47.3	14.1	67.5
TERCER PISO		0.43	4.32	46.7	14.1	66.9
SEGUNDO PISO		0.43	4.32	46.7	14.1	66.9
PRIMER PISO		0.50	4.96	49.2	15.2	70.8
MEZAMINE		0.50	4.96	51.8	15.2	73.7
PLANTA BAJA		0.46	4.64	50.5	15.2	72.3
Total (x9)		32.54	325.4	3227.4	1033.5	4686.3

Pilares que nacen en Fundación y mueren en CUBIERTA ASCENSOR

Hormigón: H-25 MPa

Acero en barras: AH-500

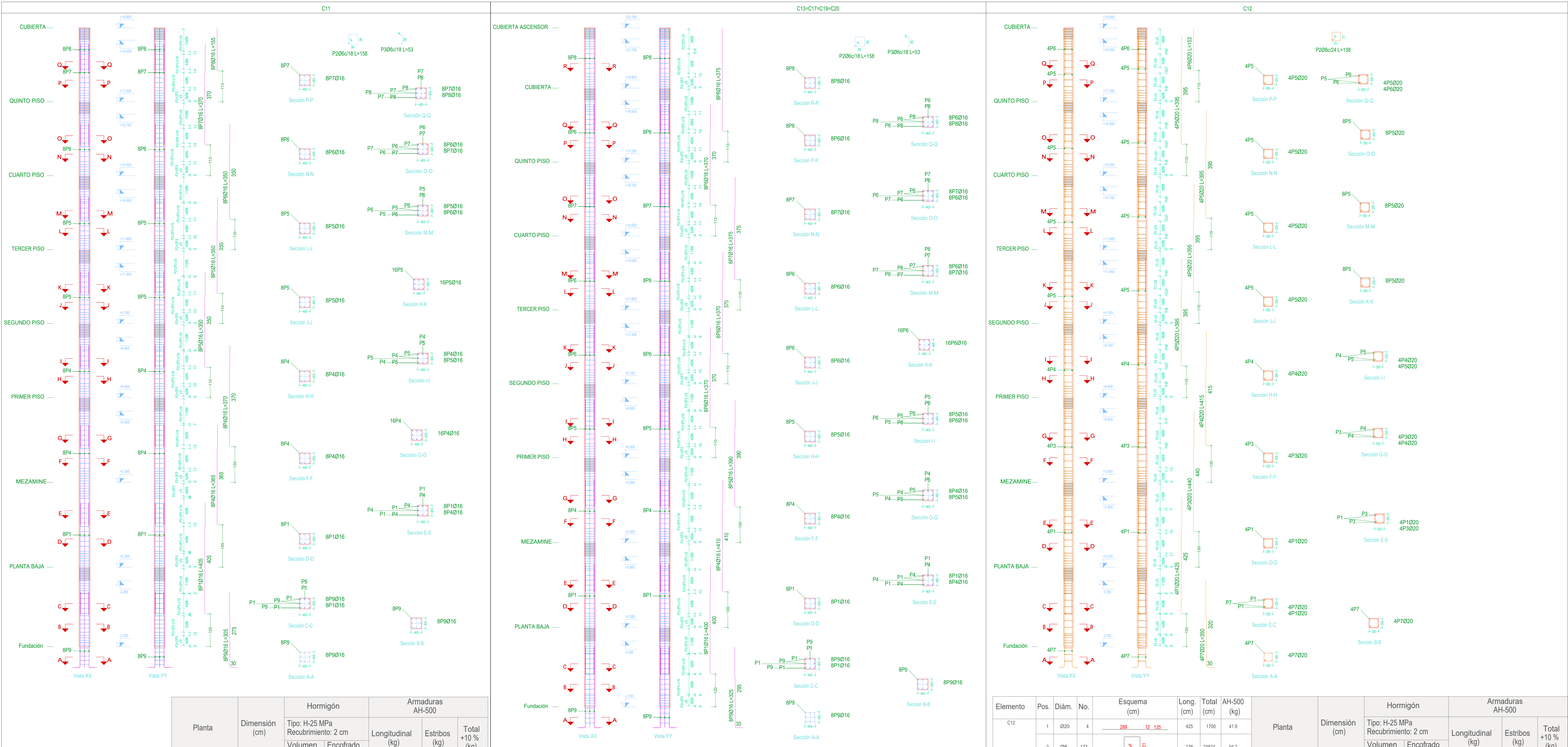
Planta	Dimensión (cm)	Hormigón		Armaduras AH-500		
		Tipo: H-25 MPa Recubrimiento: 2 cm	Volumen (m3)	Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)
CUBIERTA	40x40	0.43	4.32	19.6	13.5	36.4
QUINTO PISO		0.43	4.32	46.7	13.5	66.2
CUARTO PISO		0.43	4.32	47.3	14.1	67.5
TERCER PISO		0.43	4.32	46.7	14.1	66.9
SEGUNDO PISO		0.43	4.32	46.7	14.1	66.9
MEZAMINE		0.99	9.92	68.8	28.7	107.3
PLANTA BAJA		0.46	4.64	88.0	15.2	113.5
Total (x2)		7.23	72.32	727.8	226.1	1049.4

Planta	Dimensión (cm)	Hormigón		Armaduras AH-500		
		Tipo: H-25 MPa Recubrimiento: 2 cm	Volumen (m3)	Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)
CUBIERTA	40x40	0.43	4.32	19.6	13.5	36.4
QUINTO PISO		0.43	4.32	46.7	13.5	66.2
CUARTO PISO		0.43	4.32	44.2	14.1	64.1
TERCER PISO		0.43	4.32	44.2	14.1	64.1
SEGUNDO PISO		0.43	4.32	44.2	14.1	64.1
PRIMER PISO		0.50	4.96	46.7	15.2	68.1
MEZAMINE		0.50	4.96	46.1	14.1	66.2
PLANTA BAJA		0.46	4.64	51.1	19.2	77.3
Total		3.62	36.16	342.8	117.7	506.5

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
C1=C2=C3=C4=C5=C8=C9=C16=C22							
C22	1	Ø16	8	290 100	400	3200	50.5
	2	Ø6	201	36	158	31758	70.5
	3	Ø6	402	8 36	53	21306	47.3
	4	Ø16	8	300 100	410	3280	51.8
	5	Ø16	8	280 100	390	3120	49.2
	6	Ø16	24	260 100	370	8880	140.2
	7	Ø16	8	263 102	375	3000	47.3
	8	Ø16	8	155	155	1240	19.6
	9	Ø16	8	186 99	325	2600	41.0
Total+10%:							569.1
							5121.9
							Ø6: 1165.5
							Ø16: 3956.4
							Total: 5121.9

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
C6=C10							
C6=C10	1	Ø20	4	443 12 96	550	2200	54.3
	2	Ø16	4	445 80	535	2140	33.8
	3	Ø6	197	36	158	31126	69.1
	4	Ø6	394	8 36	53	20882	46.3
	5	Ø16	8	435 100	545	4360	68.8
	6	Ø16	24	260 100	370	8880	140.2
	7	Ø16	8	263 102	375	3000	47.3
	8	Ø16	8	155	155	1240	19.6
	9	Ø20	4	184 12 99	325	1300	32.1
	10	Ø16	4	186 99	325	1300	20.5
Total+10%:							585.2
							5170.4
							Ø6: 253.8
							Ø16: 726.6
							Ø20: 190.0
							Total: 1170.4

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
C7							
C7	1	Ø16	8	315 80	405	3240	51.1
	2	Ø6	202	36	158	31916	70.8
	3	Ø6	440	8 36	53	23320	51.8
	4	Ø16	16	275 80	365	5840	92.2
	5	Ø16	16	260 80	350	5600	88.4
	6	Ø16	8	263 77	350	2800	44.2
	7	Ø16	8	260 100	370	2960	46.7
	8	Ø16	8	155	155	1240	19.6
	9	Ø16	4	186 79	305	1220	19.3
	10	Ø16	8	275	305	2440	38.5
Total+10%:							574.9
							5170.4
							Ø6: 134.9
							Ø16: 440.0
							Total: 574.9



Planta	Dimensión (cm)	Hormigón		Armaduras AH-500		
		Tipo: H-25 MPa Recubrimiento: 2 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)
		Volumen (m³)	Encofrado (m²)			
CUBIERTA	40x40	0.43	4.32	19.6	13.5	36.4
QUINTO PISO		0.43	4.32	46.7	13.5	66.2
CUARTO PISO		0.43	4.32	44.2	14.1	64.1
TERCER PISO		0.43	4.32	44.2	14.1	64.1
SEGUNDO PISO		0.43	4.32	44.2	14.1	64.1
PRIMER PISO		0.50	4.96	46.7	15.2	68.1
MEZAMINE		0.50	4.96	46.1	14.1	66.2
PLANTA BAJA		0.46	4.64	51.1	15.2	72.9
Total		3.62	36.16	342.8	113.7	502.1

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
C11	1	Ø16	8	315 80	405	3240	51.1
	2	Ø6	199	36 36	158	31442	69.8
	3	Ø6	398	36 36	53	21094	46.8
	4	Ø16	16	275 80	365	5840	92.2
	5	Ø16	16	280 80	350	5600	88.4
	6	Ø16	8	263 77	350	2800	44.2
	7	Ø16	8	280 100	370	2960	46.7
	8	Ø16	8	155	155	1240	19.6
	9	Ø16	8	186 79	305	2440	38.5
Total+10%:							547.0
Ø6:							128.2
Ø16:							418.8
Total:							547.0

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
C13=C17=C19=C20	1	Ø16	8	290 100	400	3200	50.5
	2	Ø6	219	36 36	158	34602	76.8
	3	Ø6	438	36 36	53	23214	51.5
	4	Ø16	8	300 100	410	3280	51.8
	5	Ø16	8	280 100	390	3120	49.2
	6	Ø16	24	260 100	370	8880	140.2
	7	Ø16	8	263 102	375	3000	47.3
	8	Ø16	8	375	375	3000	47.3
	9	Ø16	8	186 99	325	2600	41.0
Total+10%:							611.2
Ø6:							244.8
Ø16:							1880.0
Total:							2444.8

Planta	Dimensión (cm)	Hormigón		Armaduras AH-500		
		Tipo: H-25 MPa Recubrimiento: 2 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)
		Volumen (m³)	Encofrado (m²)			
CUBIERTA ASCENSOR	40x40	0.35	3.52	-	11.1	12.2
CUBIERTA		0.43	4.32	47.3	13.5	66.9
QUINTO PISO		0.43	4.32	46.7	13.5	66.2
CUARTO PISO		0.43	4.32	47.3	14.1	67.5
TERCER PISO		0.43	4.32	46.7	14.1	66.9
SEGUNDO PISO		0.43	4.32	46.7	14.1	66.9
PRIMER PISO		0.50	4.96	49.2	15.2	70.8
MEZAMINE		0.50	4.96	51.8	15.2	73.7
PLANTA BAJA		0.46	4.64	50.5	15.2	72.3
Total (x4)		15.87	158.72	1545.5	503.8	2253.6

Pilares que nacen en Fundación y mueren en CUBIERTA ASCENSOR
Hormigón: H-25 MPa
Acero en barras: AH-500
Acero en estribos: AH-500

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (cm)	Total (cm)	AH-500 (kg)	Planta	Dimensión (cm)	Hormigón		Armaduras AH-500			
C12	1	Ø20	4		425	1700	41.9			Tipo: H-25 MPa Recubrimiento: 2 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
										Volumen (m³)	Encofrado (m²)				
	2	Ø8	173		138	23874	94.2			0.33	3.78	15.1	10.9	28.6	
	3	Ø20	4		440	1760	43.4			0.33	3.78	39.0	10.9	54.9	
	4	Ø20	4		415	1660	40.9			0.33	3.78	39.0	10.9	54.9	
	5	Ø20	16		395	6320	155.9			0.33	3.78	39.0	10.9	54.9	
	6	Ø20	4		153	612	15.1			0.33	3.78	39.0	10.9	54.9	
	7	Ø20	4		350	1400	34.5			0.38	4.34	40.9	12.0	58.2	
Total +10%:							468.5					0.38 <td>4.34<td>43.4<td>13.1<td>62.2</td></td></td></td>	4.34 <td>43.4<td>13.1<td>62.2</td></td></td>	43.4 <td>13.1<td>62.2</td></td>	13.1 <td>62.2</td>
Ø8:							103.6			0.36 <td>4.06<td>41.9<td>13.1<td>60.5</td></td></td></td>	4.06 <td>41.9<td>13.1<td>60.5</td></td></td>	41.9 <td>13.1<td>60.5</td></td>	13.1 <td>60.5</td>	60.5	
Ø20:							364.9			2.77 <td>31.64</td> <td>297.2</td> <td>92.6</td> <td>429.1</td>	31.64	297.2	92.6	429.1	
Total:							468.5								



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CONTENIDO
PLANO DE COLUMNAS

LAMINA

DISEÑO ESTRUCTURAL DEL EDIFICIO MULTIFAMILIAR (Ciudad de Tarja)

11/20

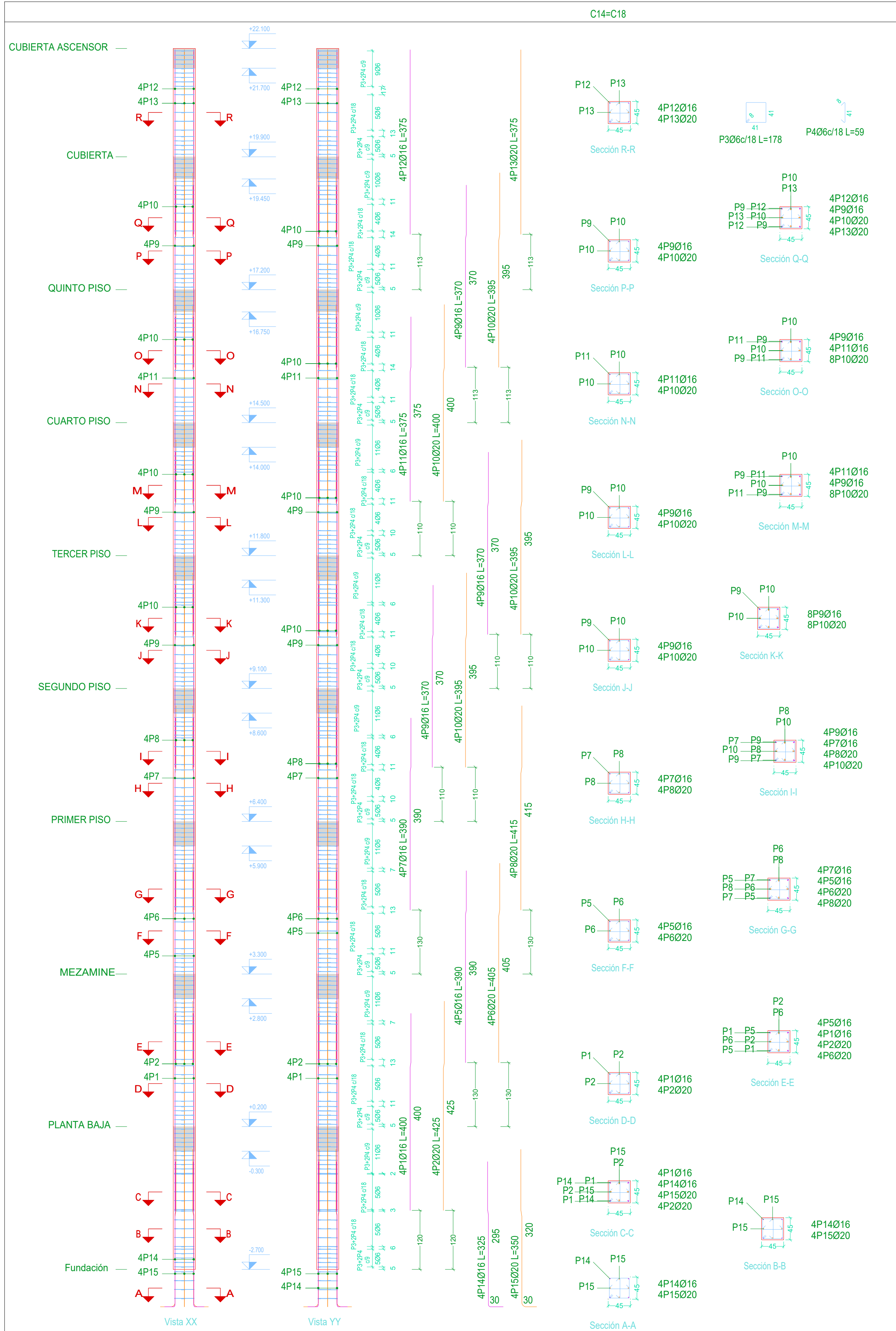
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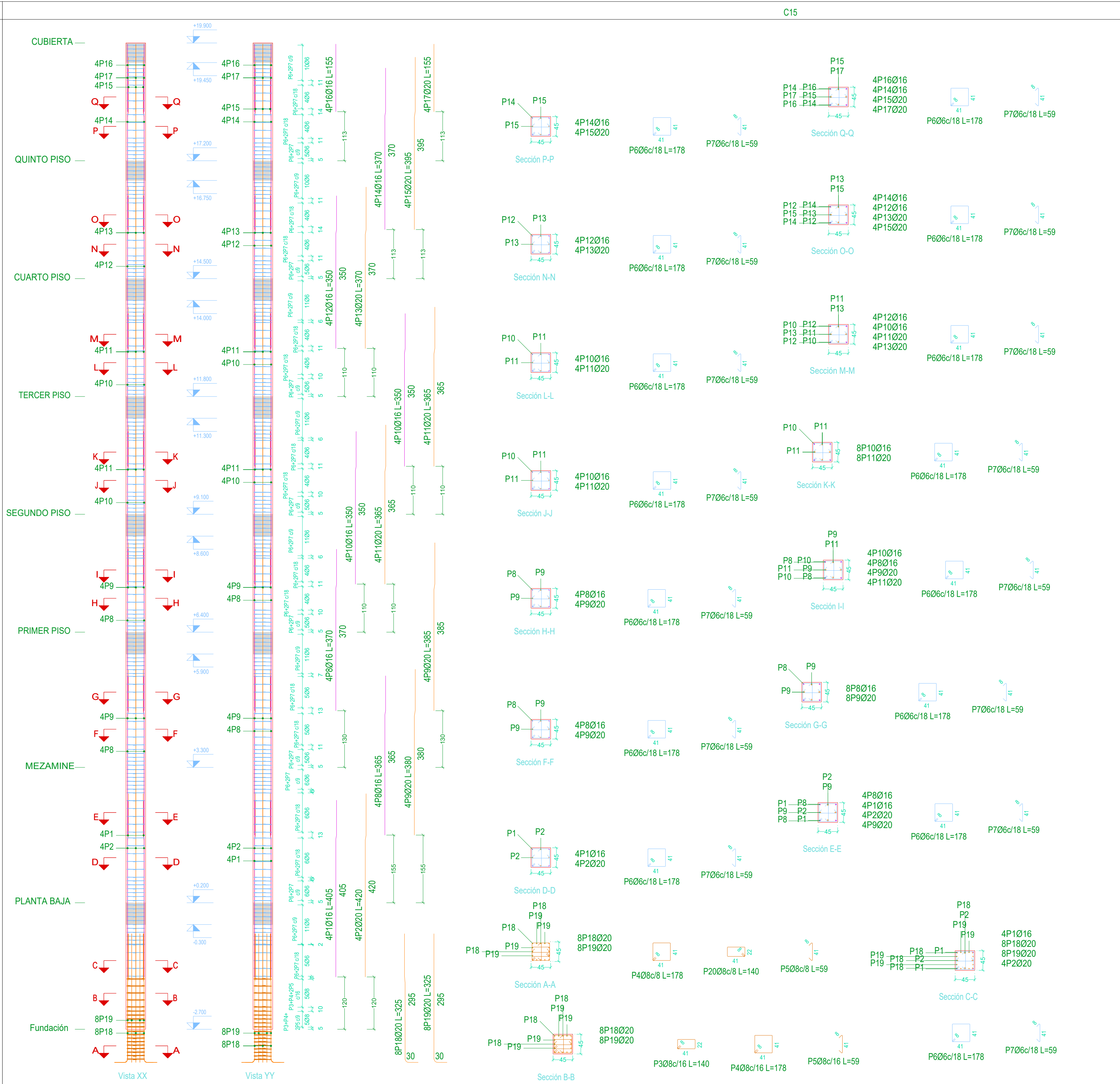
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FECHA:

25/05/2025



Planta	Dimensión (cm)	Hormigón		Armaduras AH-500		
		Tipo: H-25 MPa Recubrimiento: 2 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)
		Volumen (m3)	Encofrado (m2)			
CUBIERTA ASCENSOR	45x45	0.45	3.96	-	12.5	13.8
CUBIERTA		0.55	4.86	60.7	15.1	83.4
QUINTO PISO		0.55	4.86	62.3	15.1	85.1
CUARTO PISO		0.55	4.86	63.1	15.8	86.8
TERCER PISO		0.55	4.86	62.3	15.8	85.9
SEGUNDO PISO		0.55	4.86	62.3	15.8	85.9
PRIMER PISO		0.63	5.58	65.6	17.1	91.0
MEZAMINE		0.63	5.58	64.6	17.1	89.9
PLANTA BAJA		0.59	5.22	67.2	17.1	92.7
Total (x2)		10.04	89.28	1016.2	282.5	1429.0



Planta	Dimensión (cm)	Hormigón		Armaduras AH-500		
		Tipo: H-25 MPa Recubrimiento: 2 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)
		Volumen (m3)	Encofrado (m2)			
CUBIERTA	45x45	0.55	4.86	25.1	15.1	44.2
QUINTO PISO		0.55	4.86	62.3	15.1	85.1
CUARTO PISO		0.55	4.86	58.6	15.8	81.8
TERCER PISO		0.55	4.86	58.1	15.8	81.3
SEGUNDO PISO		0.55	4.86	58.1	15.8	81.3
PRIMER PISO		0.63	5.58	61.3	17.1	86.2
MEZAMINE		0.63	5.58	60.5	15.8	83.9
PLANTA BAJA	45x45	0.59	5.22	67.0	27.7	104.2
Total		4.58	40.68	451.1	138.1	648.0

Pilares que nacen en Fundación y mueren en CUBIERTA ASCENSOR
Hormigón: H-25 MPa
Acero en barras: AH-500
Acero en estribos: AH-500

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
C15	1	Ø16	4	315 80	405	1620	25.6
	2	Ø20	4	313 12 95	420	1680	41.4
	3	Ø8	10	41	140	1400	5.5
	4	Ø8	19	41	178	3382	13.3
	5	Ø8	38	41	59	2242	8.8
	6	Ø6	184	41	178	32752	72.7
	7	Ø6	368	41	59	21712	48.2
	8	Ø16	8	275 80	365	2920	46.1
	9	Ø20	8	273 12 95	380	3040	75.0
	10	Ø16	8	280 80	350	2800	44.2
	11	Ø20	8	258 12 95	365	2920	72.0
	12	Ø16	4	263 77	350	1400	22.1
	13	Ø20	4	261 12 97	370	1480	36.5
	14	Ø16	4	260 100	370	1480	23.4
	15	Ø20	4	258 12 125	395	1580	39.0
	16	Ø16	4	155	155	620	9.8
	17	Ø20	4	155	155	620	15.3
	18	Ø20	8	184 12 99	325	2600	64.1
	19	Ø20	8	184 295	325	2600	64.1
	20	Ø8	9	41	140	1260	5.0
Total+10%:							805.3
							Ø6: 133.0 Ø8: 35.8 Ø16: 188.3 Ø20: 448.2 Total: 805.3

Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
C14+C18	1	Ø16	4	290 100	400	1600	25.3
	2	Ø20	4	288 12 125	425	1700	41.9
	3	Ø6	219	41	178	38962	86.5
	4	Ø6	438	41	59	25842	57.3
	5	Ø16	4	300 80	390	1560	24.6
	6	Ø20	4	298 12 95	405	1620	40.0
	7	Ø16	4	280 100	390	1560	24.6
	8	Ø20	4	278 12 125	415	1660	40.9
	9	Ø16	12	260 100	370	4440	70.1
	10	Ø20	16	258 12 125	395	6320	155.9
	11	Ø16	4	263 102	375	1500	23.7
	12	Ø16	4	375	375	1500	23.7
	13	Ø20	4	375	375	1500	37.0
	14	Ø16	4	186 99	325	1300	20.5
	15	Ø20	4	184 12 124	350	1400	34.5
Total+10%:							777.2
							(x2): 1554.4
							Ø6: 316.4 Ø16: 467.6 Ø20: 770.4 Total: 1554.4



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CONTENIDO
PLANO DE COLUMNAS

LAMINA

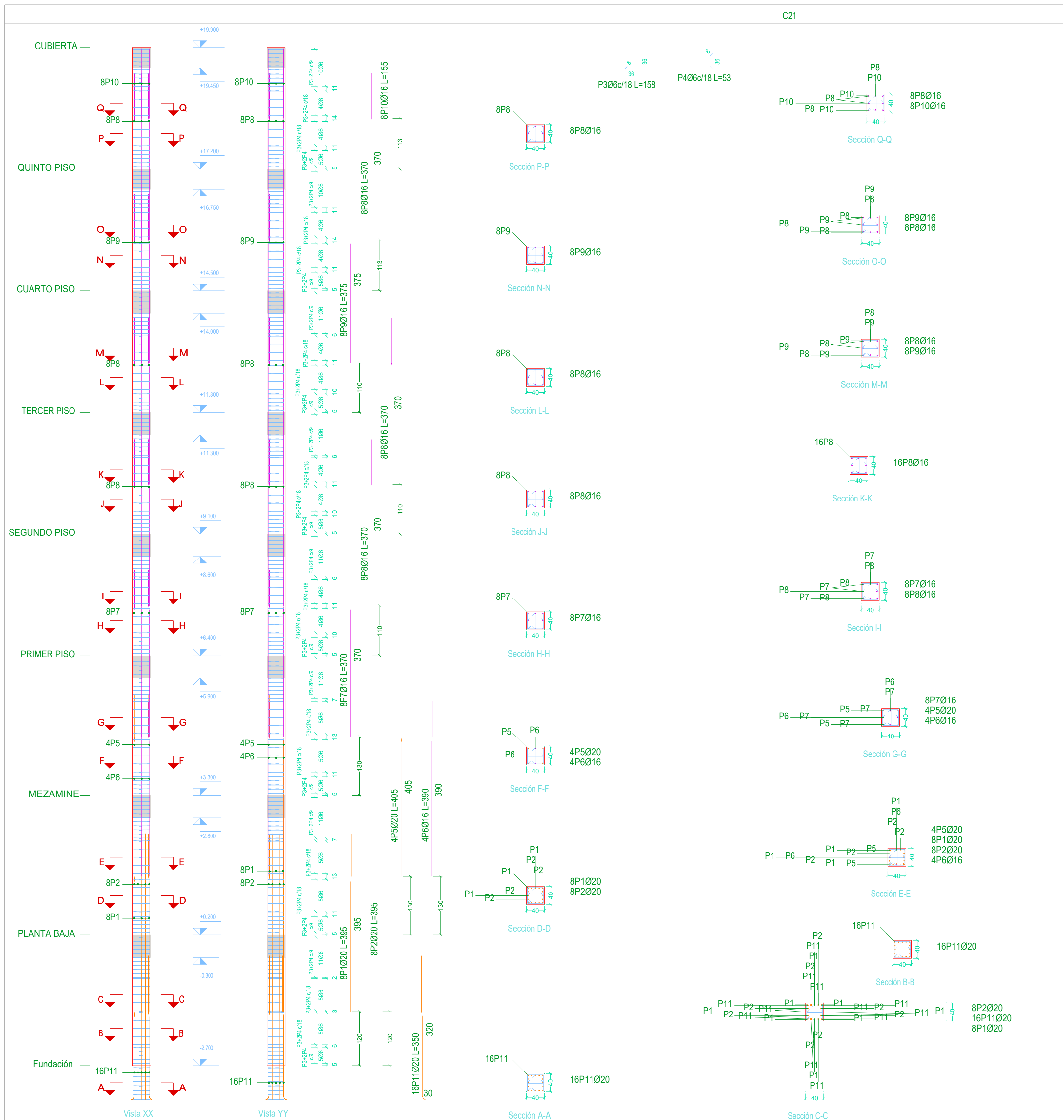
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Elemento	Pos.	Diám.	No.	Esquema (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
C21	1	Ø20	8	288 12 95	395	3160	77.9
	2	Ø20	8	395	395	3160	77.9
	3	Ø6	204	36 36	158	32232	71.5
	4	Ø6	408	36 36	54	22032	48.9
	5	Ø20	4	288 12 95	405	1620	40.0
	6	Ø16	4	300 80	390	1520	24.6
	7	Ø16	8	280 80	370	2950	46.7
	8	Ø16	24	260 100	370	8880	140.2
	9	Ø16	8	263 102	375	3000	47.3
	10	Ø16	8	155	155	1240	19.6
	11	Ø20	16	184 12 124	350	5600	138.1
Total+10%:							806.0
Ø6:							124.4
Ø16:							306.3
Ø20:							367.3
Total:							806.0

Resumen Acero Columnas	Long. total (m)	Peso+10% (kg)	Total
AH-500	Ø6	11590.0	2829
	Ø8	321.6	140
	Ø16	4829.0	8384
	Ø20	789.1	2141
			13494

Planta	Dimensión (cm)	Hormigón		Armaduras AH-500		
		Tipo: H-25 MPa Recubrimiento: 2 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)
		Volumen (m3)	Encofrado (m2)			
CUBIERTA	40x40	0.43	4.32	19.6	13.5	36.4
QUINTO PISO		0.43	4.32	46.7	13.5	66.2
CUARTO PISO		0.43	4.32	47.3	14.1	67.5
TERCER PISO		0.43	4.32	46.7	14.1	66.9
SEGUNDO PISO		0.43	4.32	46.7	14.1	66.9
PRIMER PISO		0.50	4.96	46.7	15.2	68.1
MEZAMINE		0.50	4.96	64.6	15.3	87.9
PLANTA BAJA		0.46	4.64	155.9	15.3	188.3
Total		3.62	36.16	474.2	115.1	648.2

Pilares que nacen en Fundación y mueren en CUBIERTA ASCENSOR

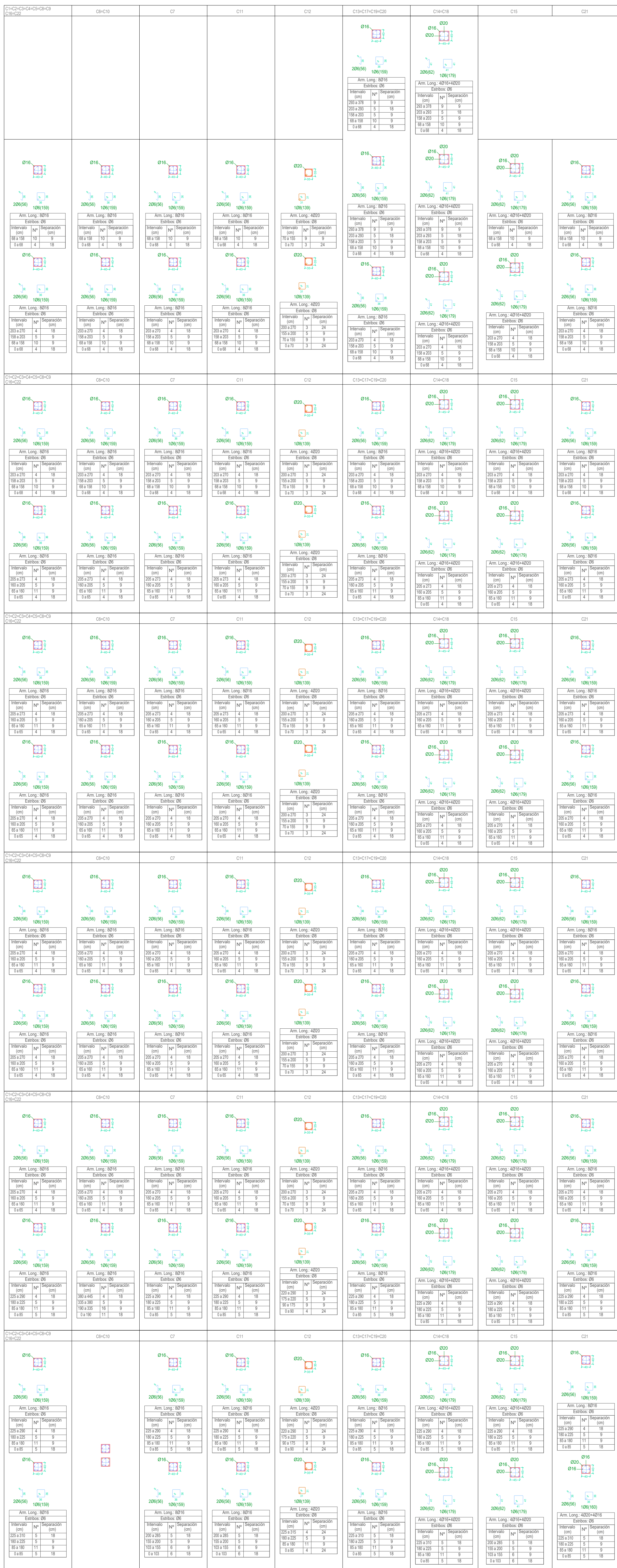
Hormigón: H-25 MPa

Acero en barras: AH-500

Acero en estribos: AH-500

DESPIECE DE COLUMNAS

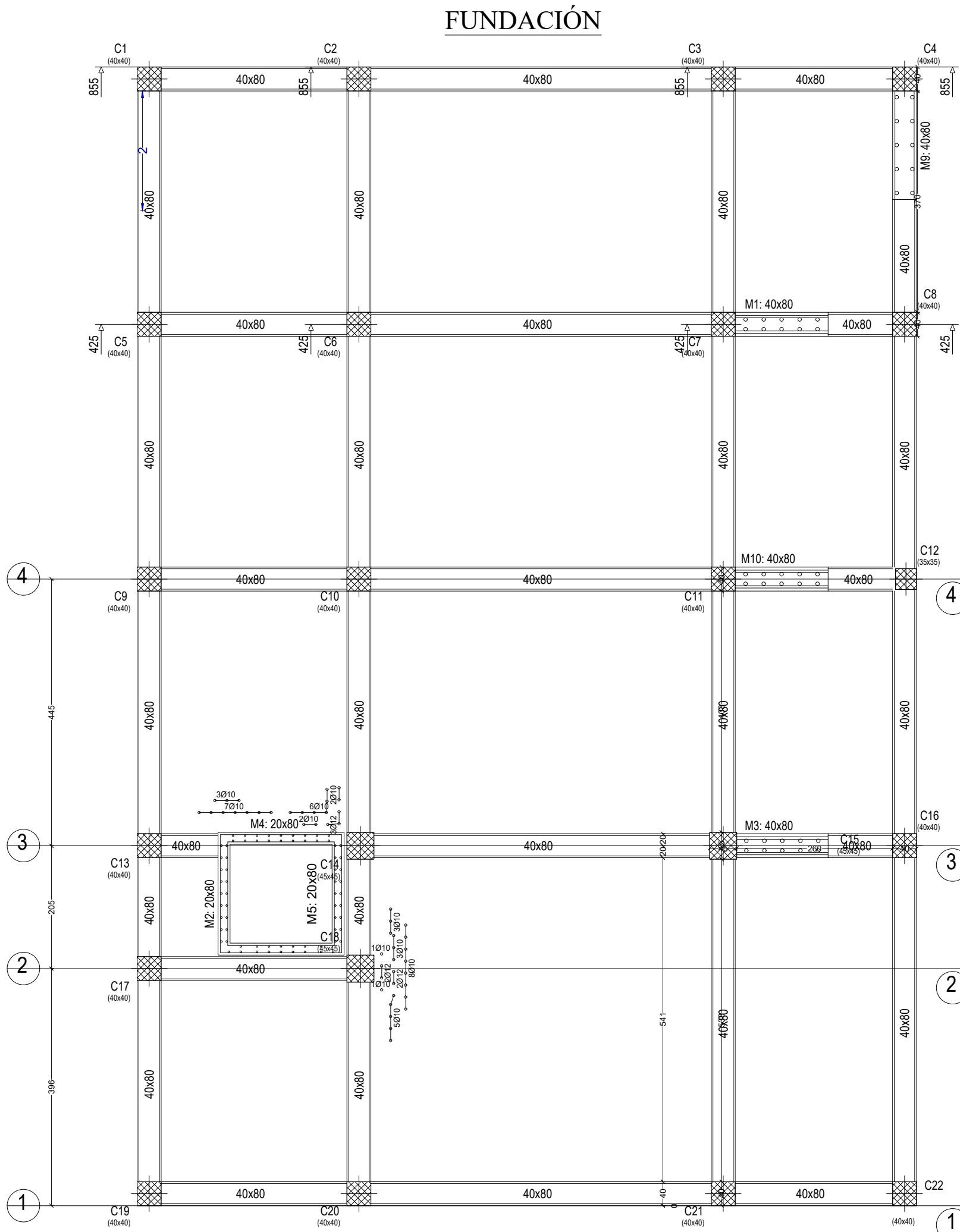
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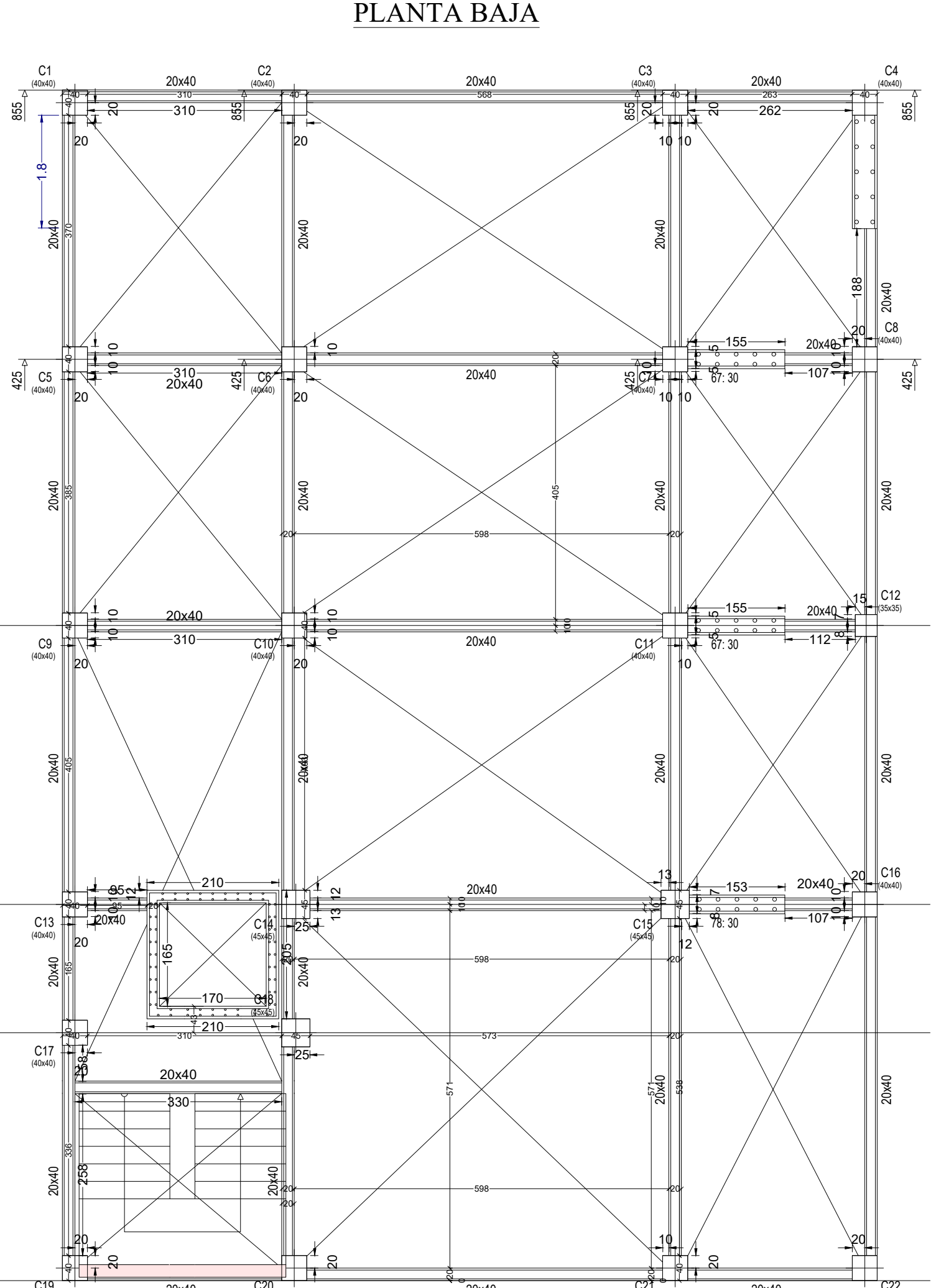
CUADRO DE COLUMNAS

Escala: 1: 100

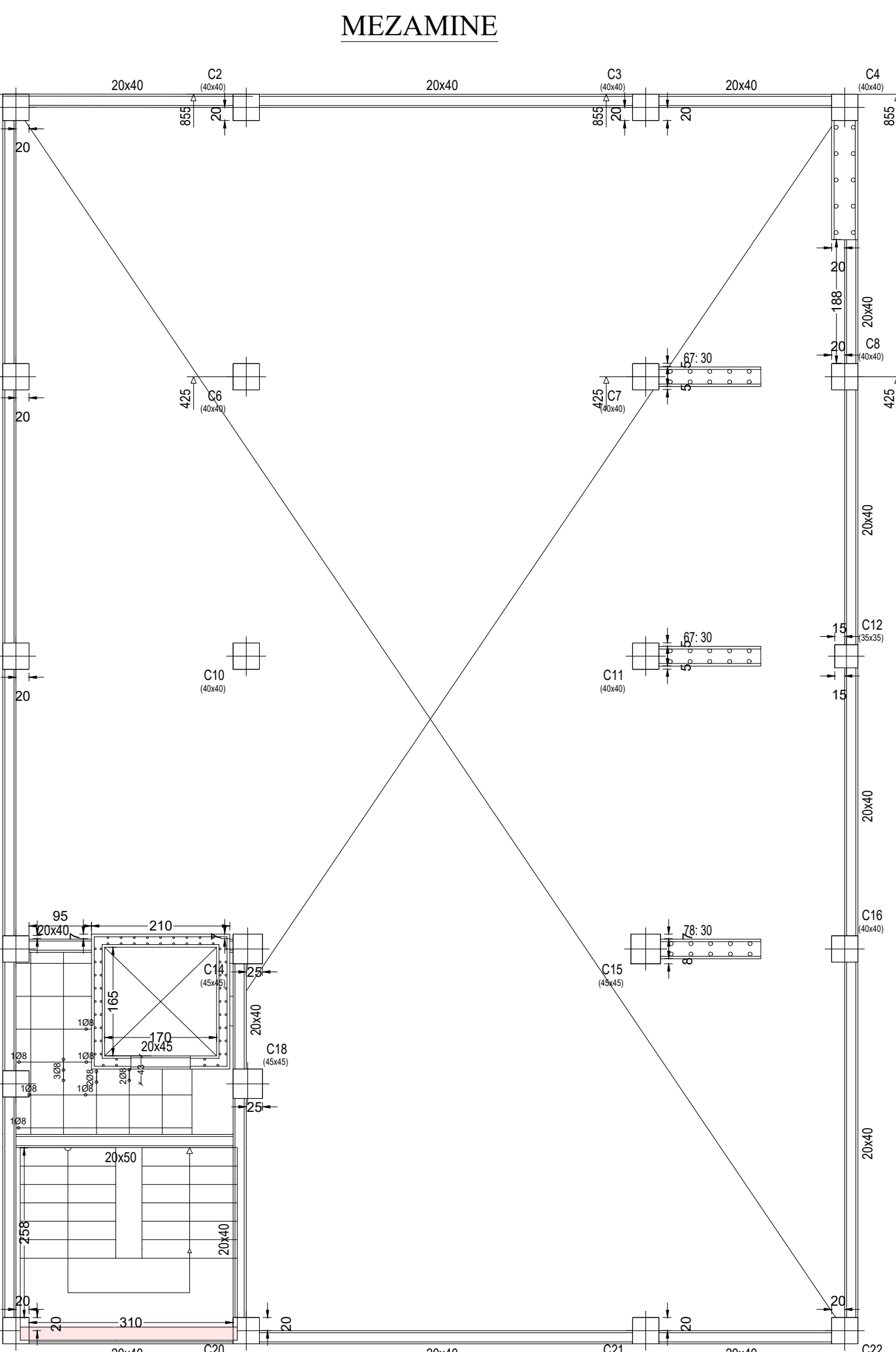
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	CONTENIDO	LAMINA
PLANO DE COLUMNAS		13/20
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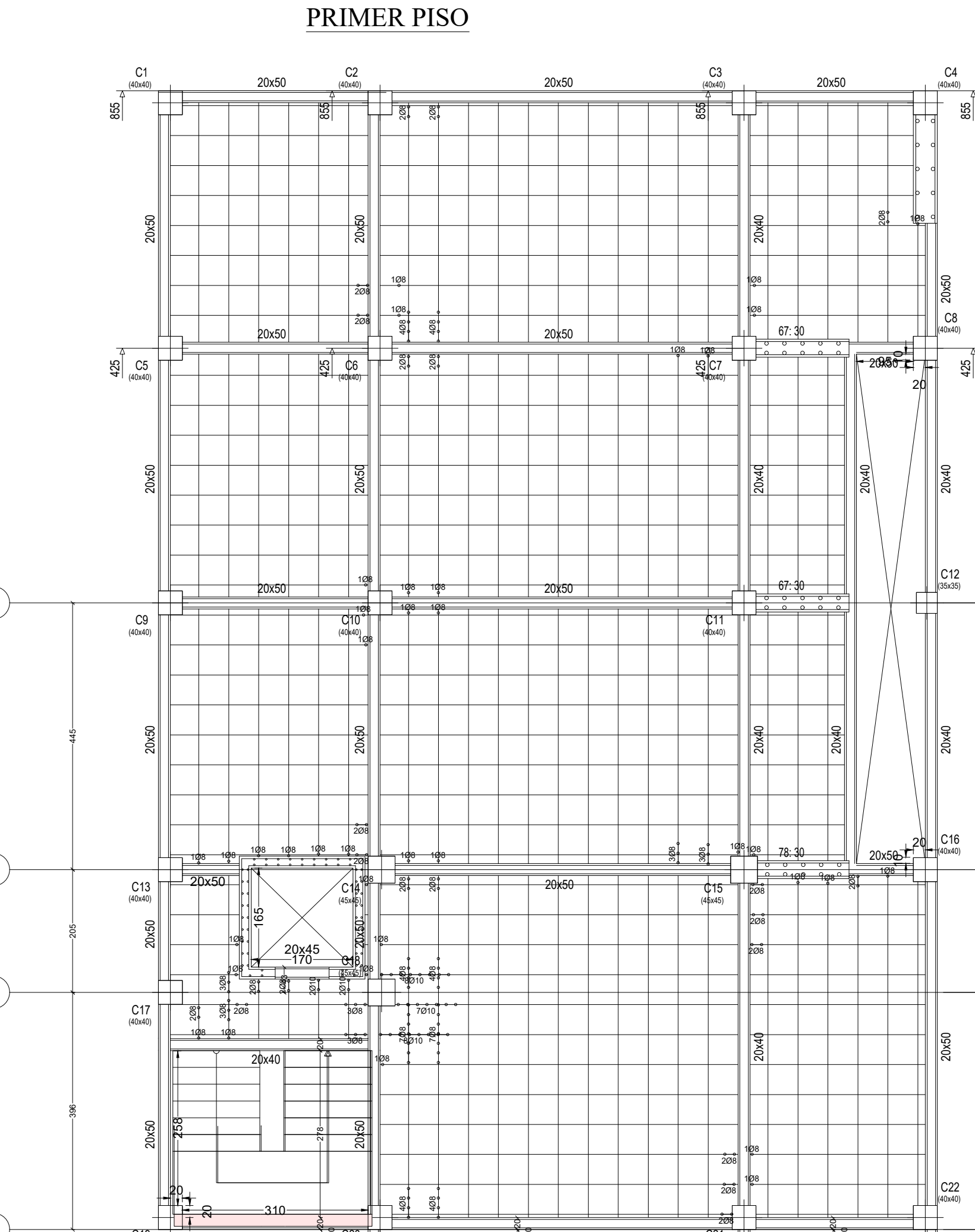
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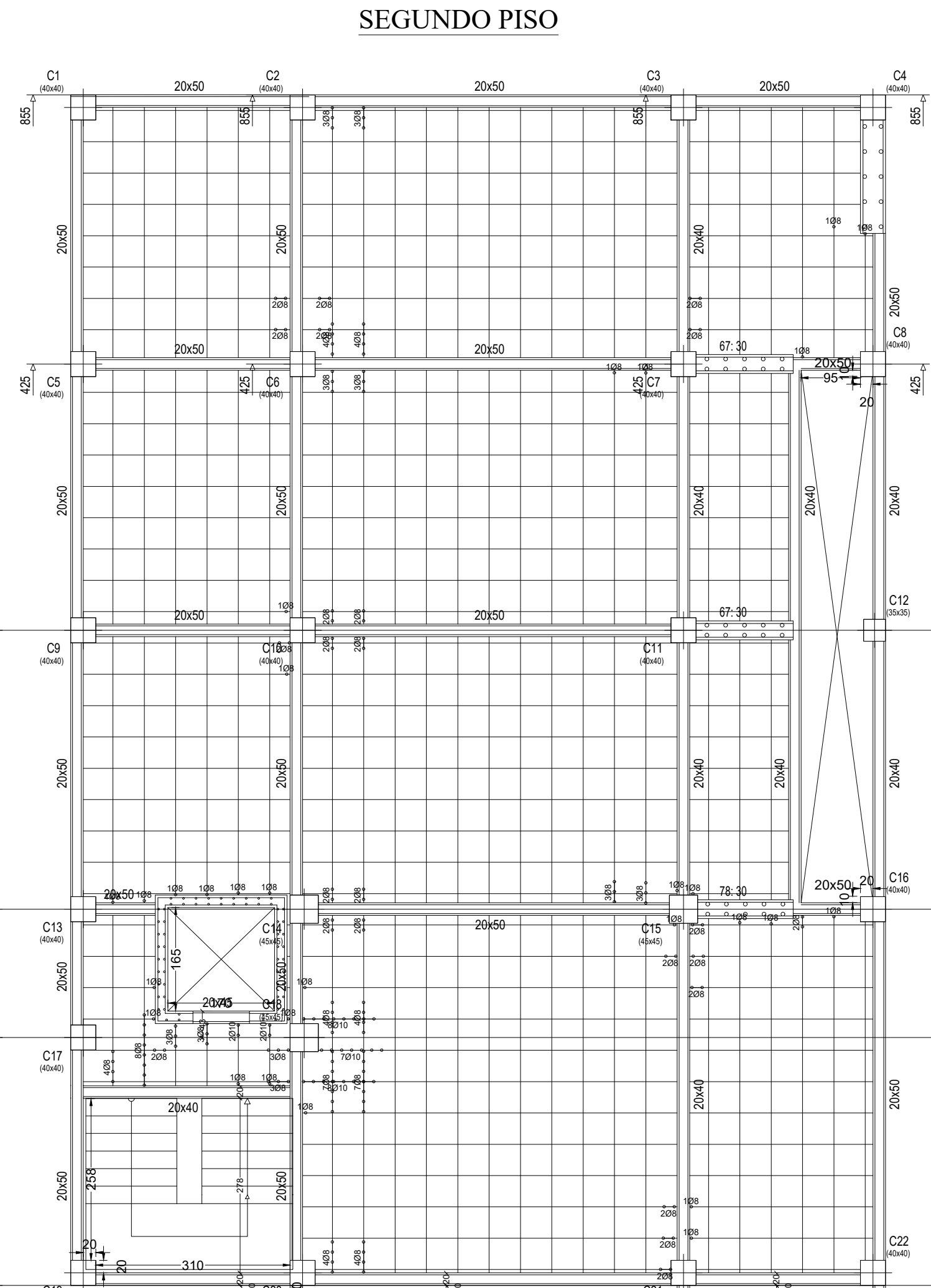
PLANTA BAJA



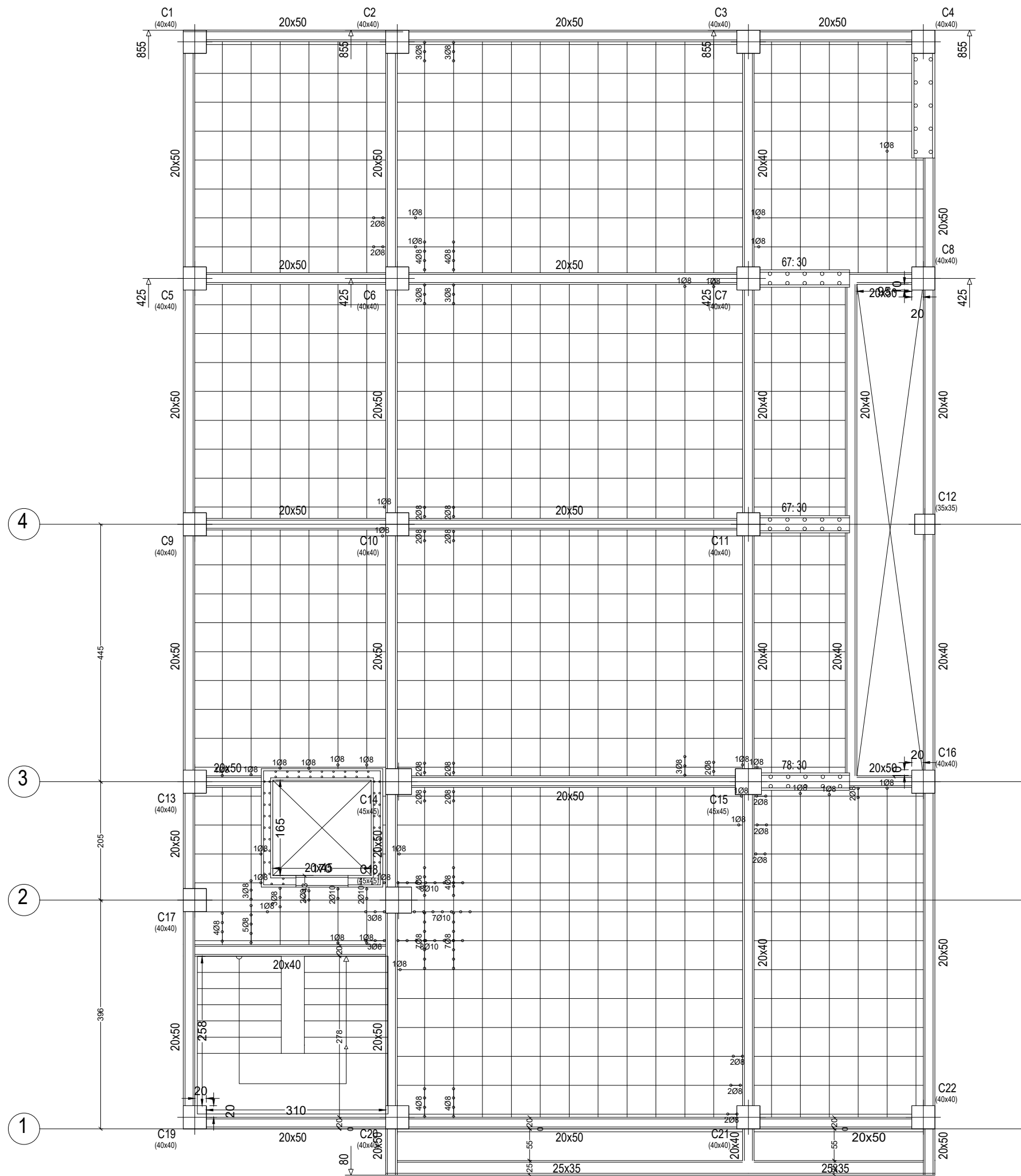
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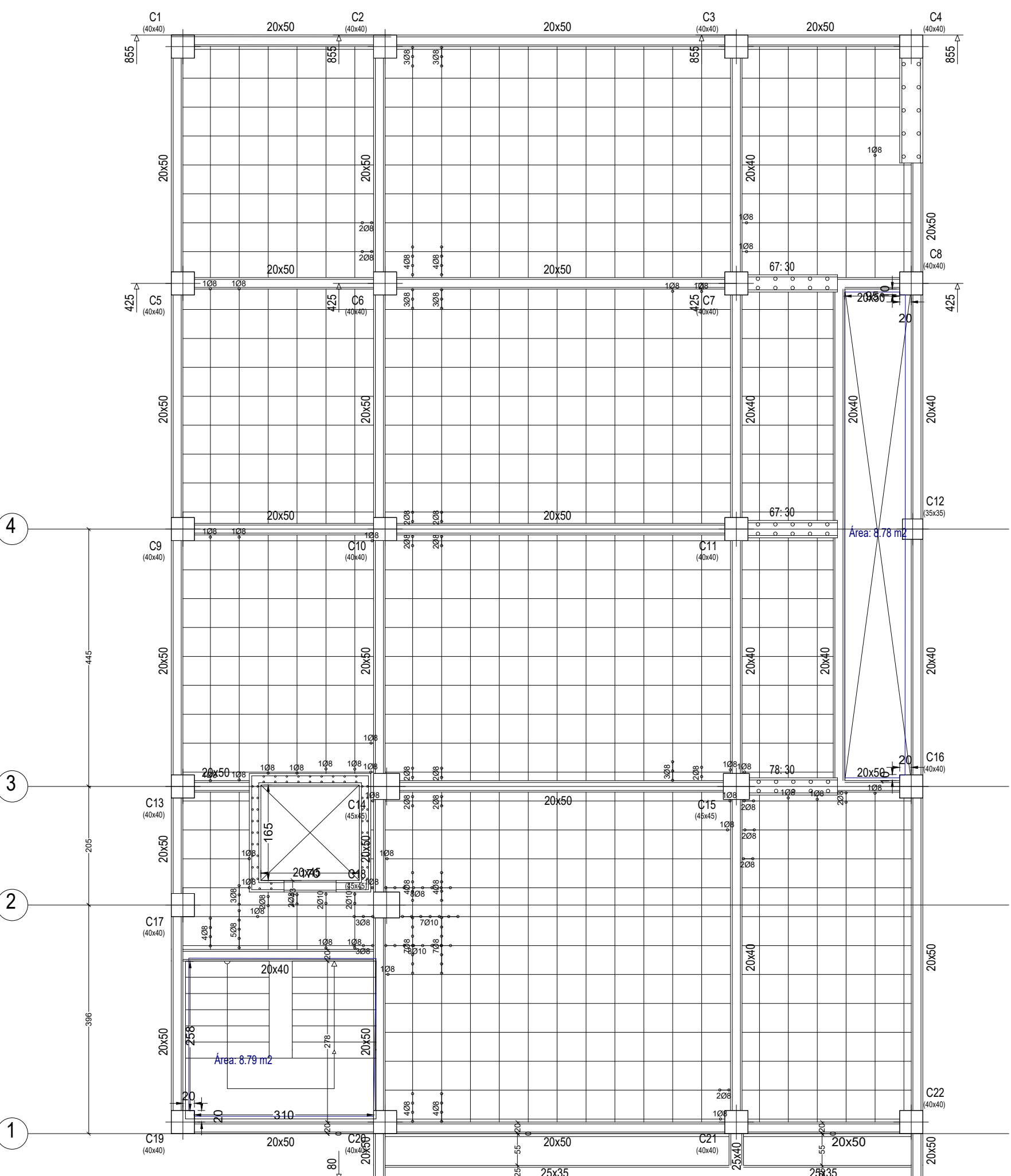
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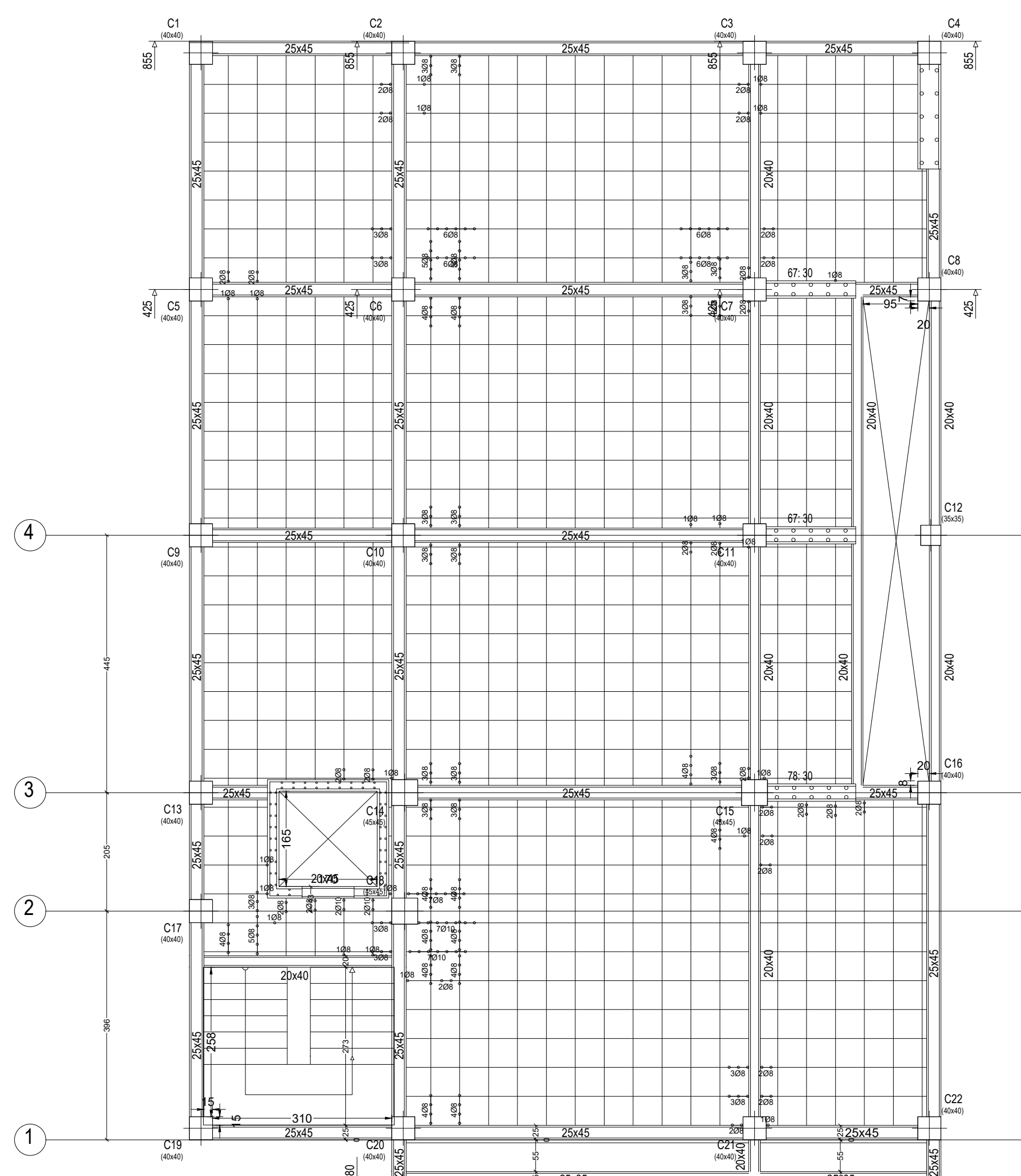
SEGUNDO PISO



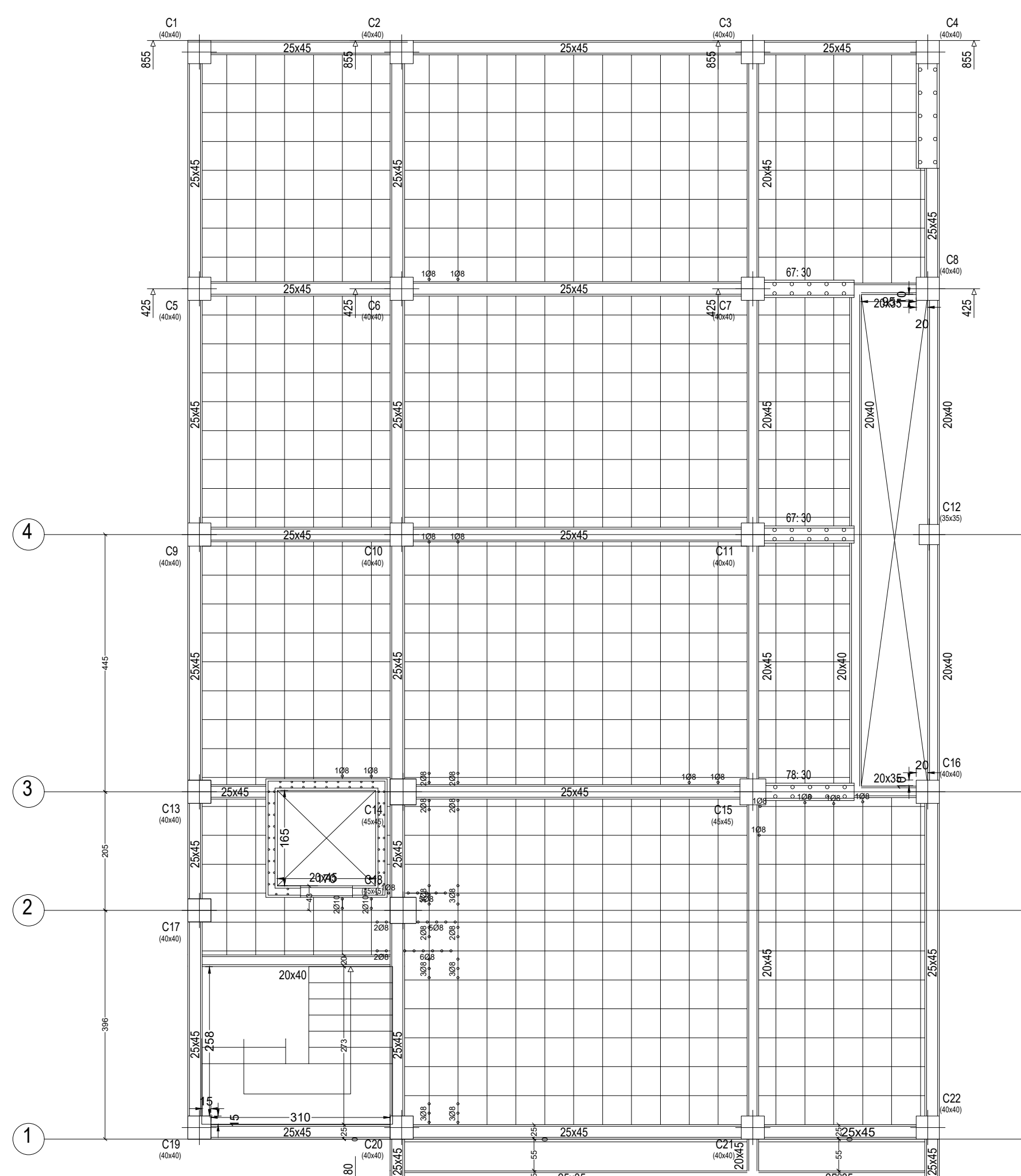
TERCER PISO



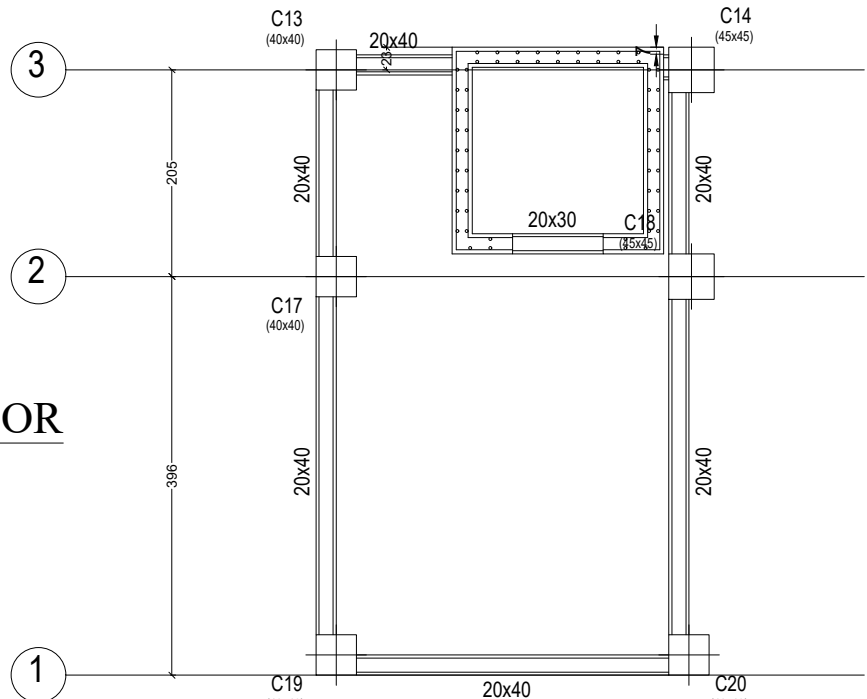
CUARTO PISO



QUINTO PISO



CUBIERTA



CUBIERTA ASCENSOR



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CONTENIDO
PLANO DE REPLANTEO

DISEÑO ESTRUCTURAL DEL EDIFICIO MULTIFAMILIAR (Ciudad de Tarja)

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FECHA:

25/05/2025

LAMINA

14/20

LOSA MEZANINE
ACERO INFERIOR

ARMADURA LONGITUDINAL

MEZAMINE

Armadura longitudinal inferior
Hormigón: H-25 MPa
AH-500

Armadura base en ábacos (por cuadrícula)
Long. Inferior: 208
No detallada en plano ni incluida en el cómputo
Escala: 1:100

Resumen Acero MEZAMINE Armadura longitudinal inferior	Long. total (m)	Peso+10% (kg)
AH-500	Ø10 32.4	22

Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Armadura longitudinal inferior	1	Ø10	2	21	391	19	431	862	5.3
	2	Ø10	2	21	389	19	390	780	4.8
	3	Ø10	6	21	151	19	191	1146	7.1
	4	Ø10	4	19	41	19	60	240	1.5
	5	Ø10	2	19	66	19	104	208	1.3
Total+10%:									22.0
Armadura transversal inferior	6	Ø10	2	19	131	19	150	300	1.8
	7	Ø10	6	19	132	19	170	1020	6.3
	8	Ø10	4	19	312	19	350	1400	8.6
	9	Ø10	2	19	171	19	190	380	2.3
Total+10%:									20.9
Ø10:									42.9
Total:									42.9

ARMADURA TRANSVERSAL

Resumen Acero MEZAMINE Armadura transversal inferior	Long. total (m)	Peso+10% (kg)
AH-500	Ø10 31.0	21

LOSA MEZANINE
ACERO SUPERIOR

ARMADURA TRANSVERSAL

Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Armadura transversal superior	1	Ø12	2	19	312	19	350	700	6.2
	2	Ø10	3		230		230	690	4.3
	3	Ø12	1	19	311		330	330	2.9
	4	Ø12	3	19	132	19	170	510	4.5
	5	Ø10	3	19	106		125	375	2.3
	6	Ø12	1	19	191		210	210	1.9
Total+10%:									24.3
Ø10:									7.2
Ø12:									17.1
Total:									24.3

Resumen Acero MEZAMINE Armadura transversal superior	Long. total (m)	Peso+10% (kg)	Total
AH-500	Ø10	10.7	7
	Ø12	17.5	17
			24

Tabla de características de forjados reticulares (Grupo 2)

LOSA BIDIRECCIONAL

LOSA BIDIRECCIONAL 01

Casetón perdido

Nº de piezas: 1

Peso propio: 2.968 kNm2

Altura: 25 cm

Capa de compresión: 5 cm

Intereje: 50 cm

Anchura del nervio: 10 cm

Recubrimiento geométrico superior: 2.0 cm

Recubrimiento geométrico inferior: 2.0 cm

Recubrimiento mecánico superior: 2.5 cm

Recubrimiento mecánico inferior: 2.5 cm

ARMADURA LONGITUDINAL

Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Armadura longitudinal superior	1	Ø10	1		45		45	45	0.3
	2	Ø10	2	22	43		65	130	0.8
	3	Ø10	1	22	66	19	107	107	0.7
	4	Ø12	1	19	191		210	210	1.9
	5	Ø12	3	19	151	19	189	567	5.0
	6	Ø12	1	19	391	19	429	429	3.8
	7	Ø12	1	19	316		335	335	3.0
	8	Ø10	1		100		100	100	0.6
Total+10%:									17.7
Ø10:									2.6
Ø12:									15.1
Total:									17.7

Resumen Acero MEZAMINE Armadura longitudinal superior	Long. total (m)	Peso+10% (kg)	Total
AH-500	Ø10	3.8	3
	Ø12	15.4	15
			18



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CONTENIDO
PLANO DE LOSA

LAMINA

DISEÑO ESTRUCTURAL DEL EDIFICIO MULTIFAMILIAR (Ciudad de Tarija)

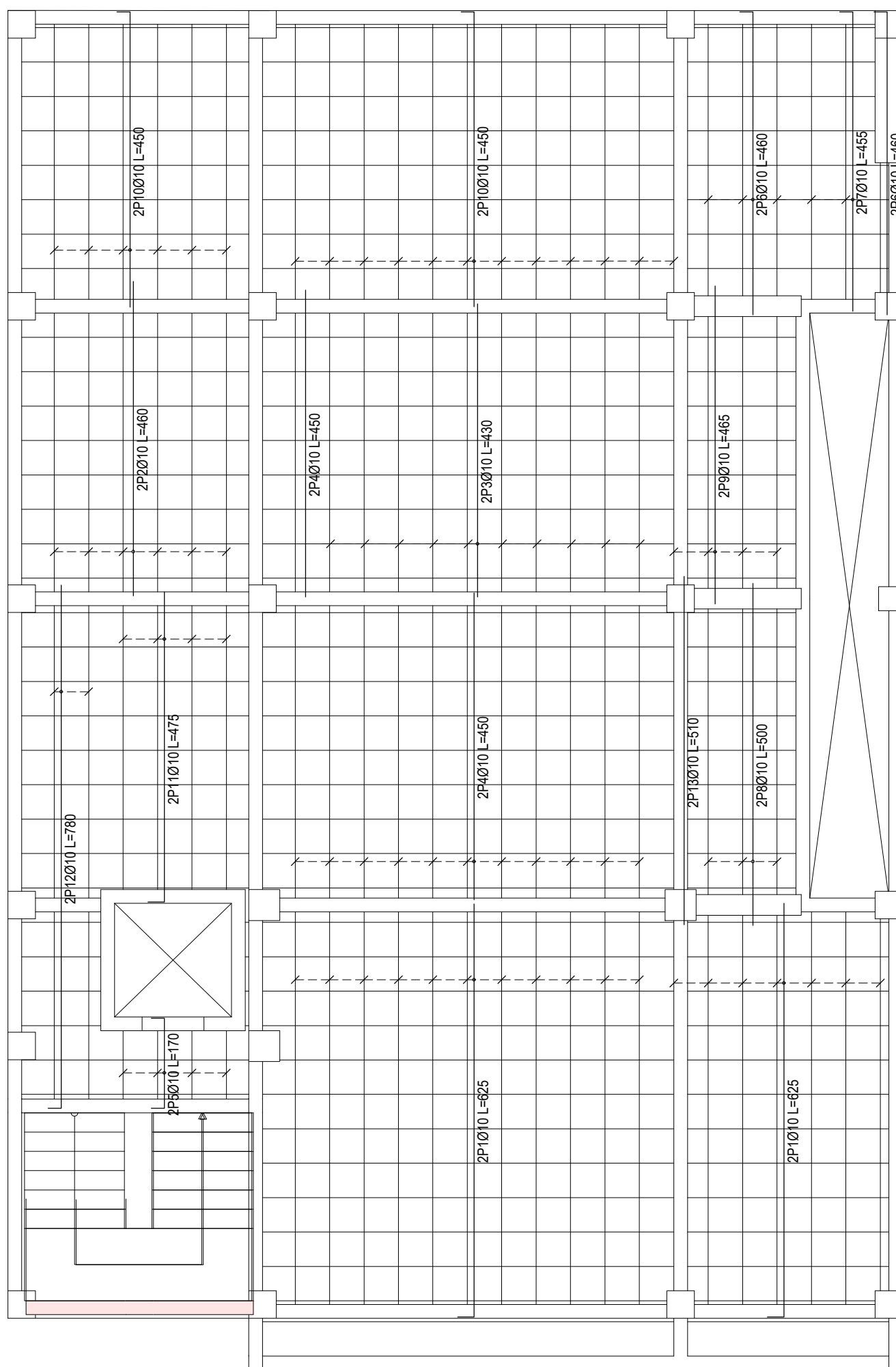
15/20

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ESCALA:
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FECHA:
25/05/2025

LOSA PRIMER PISO
ACERO INFERIOR

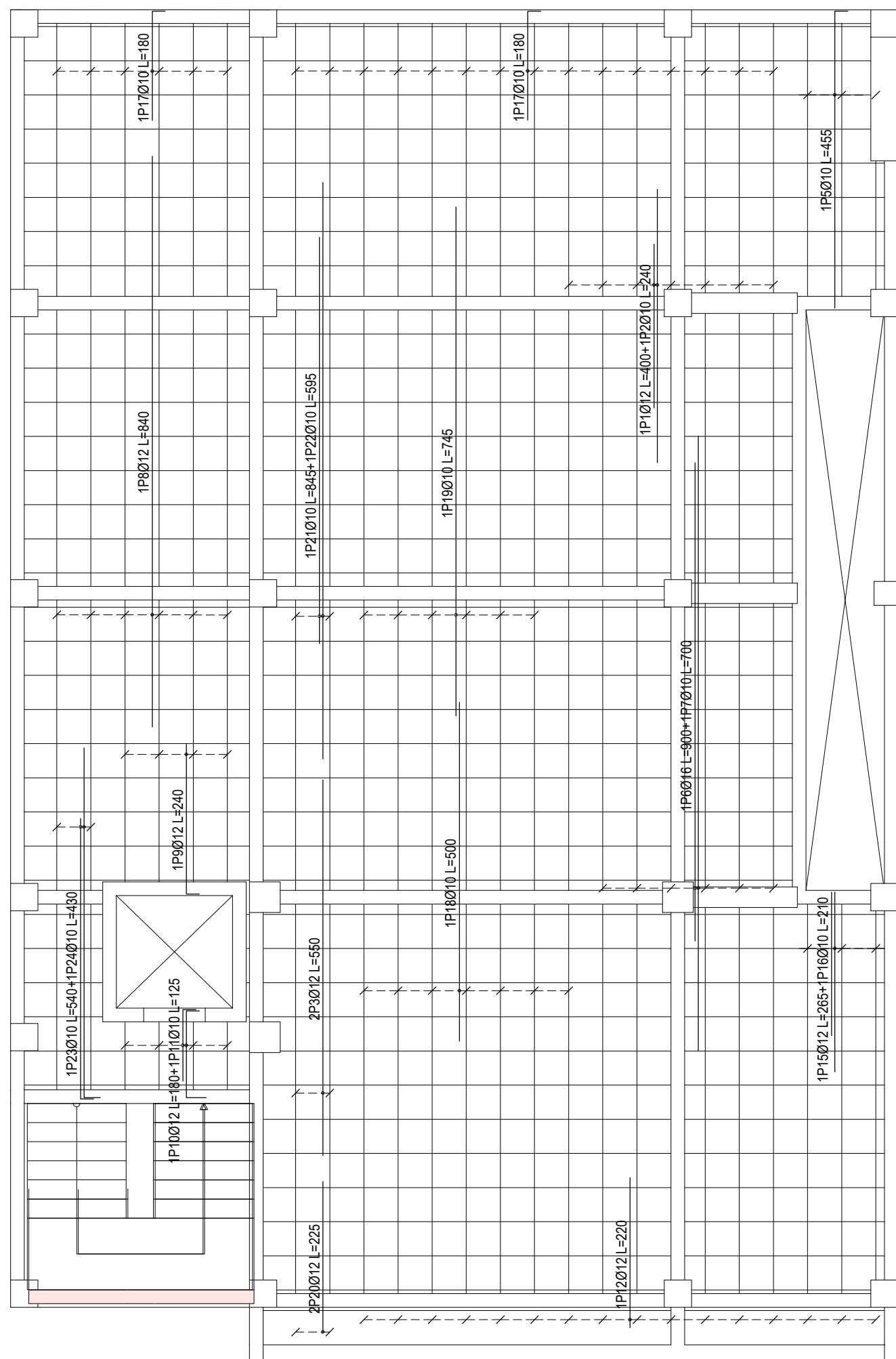
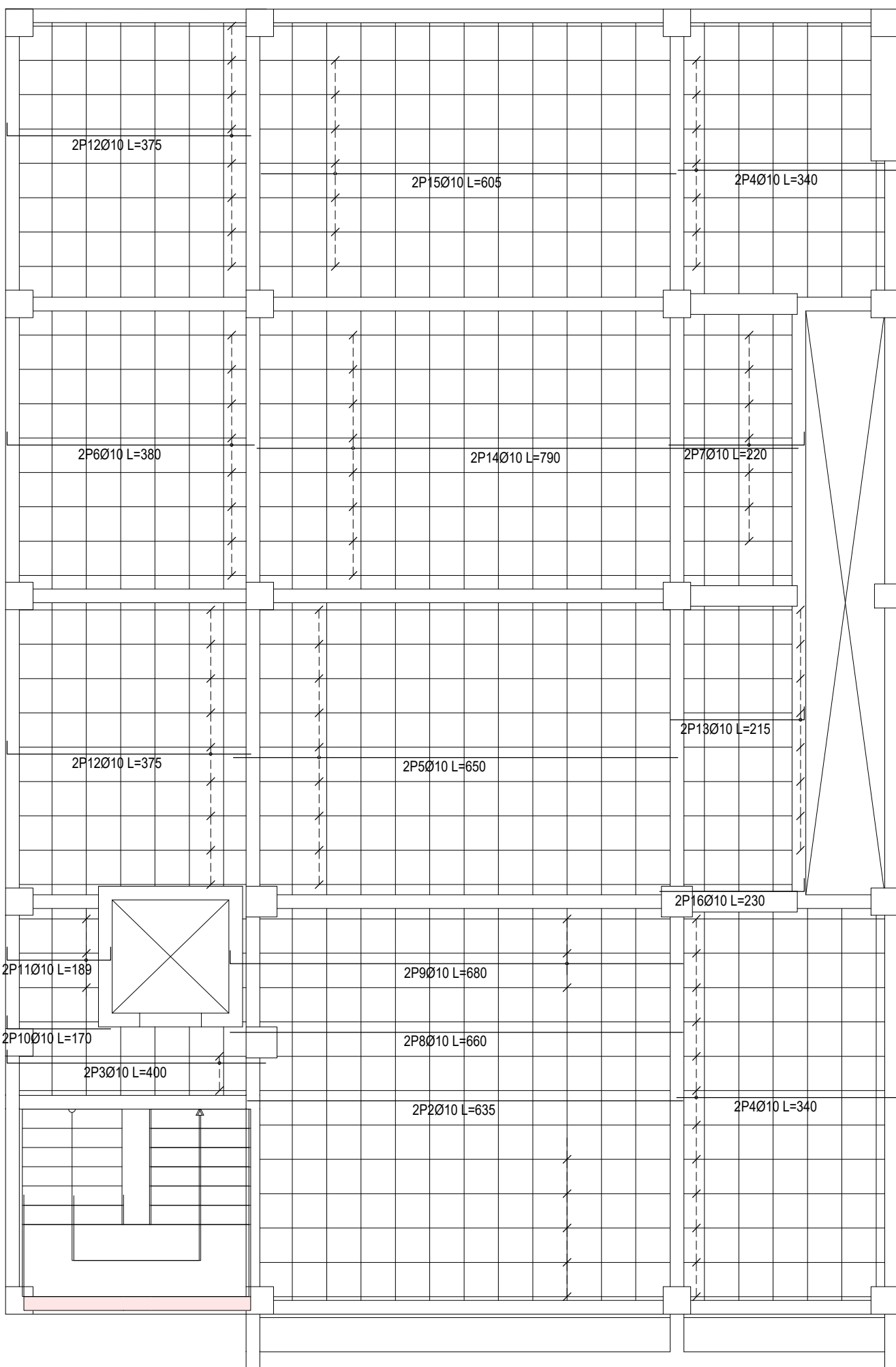
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Resumen Acero PRIMER PISO Armadura longitudinal inferior	Long. total (m)	Peso+10% (kg)
AH-500 Ø10	851.4	577

[illegible]

Resumen Acero PRIMER PISO Armadura transversal inferior	Long. total (m)	Peso+10% (kg)
AH-500 Ø10	904.1	613

ARMADURA LONGITUDINAL



Elemento	Pos.	Diám.	No.	Pat. (cm)	Res. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
<i>Armadura longitudinal superior</i>								
1	012	7		400		400	2800	24,9
2	010	7		240		240	1680	15,8
3	012	4		200		200	1200	10,5
4	010	1	19	441		441	400	8,2
5	010	2	19	438		438	400	8,1
6	016	6		900		900	5400	25,8
7	010	6		700		700	4200	23,9
8	012	6		840		840	5040	44,7
9	012	4	19	221		240	900	8,5
10	012	4	20	219		120	120	10,0
11	010	4	19	106		125	500	3,1
12	012	16		220		220	3300	31,3
13	012	1	21	220		270	270	2,9
14	010	1	215	215		215	215	1,3
15	012	2	215	215		215	215	1,3
16	010	2	210	210		420	420	2,6
17	010	21	19	161		160	3710	31,0
18	010	7	500	500		500	3500	21,6
19	010	6	745	745		745	4040	27,6
20	012	4	800	800		800	4800	42,5
21	010	2	845	845		1000	1000	15,4
22	010	2	119	516		516	516	4,5
23	010	2	24	500		540	1580	6,7
24	010	2	19	411		430	860	6,3
Total=								
							10130	108,3
							012	155,4
							010	39,8
							Total	483,5

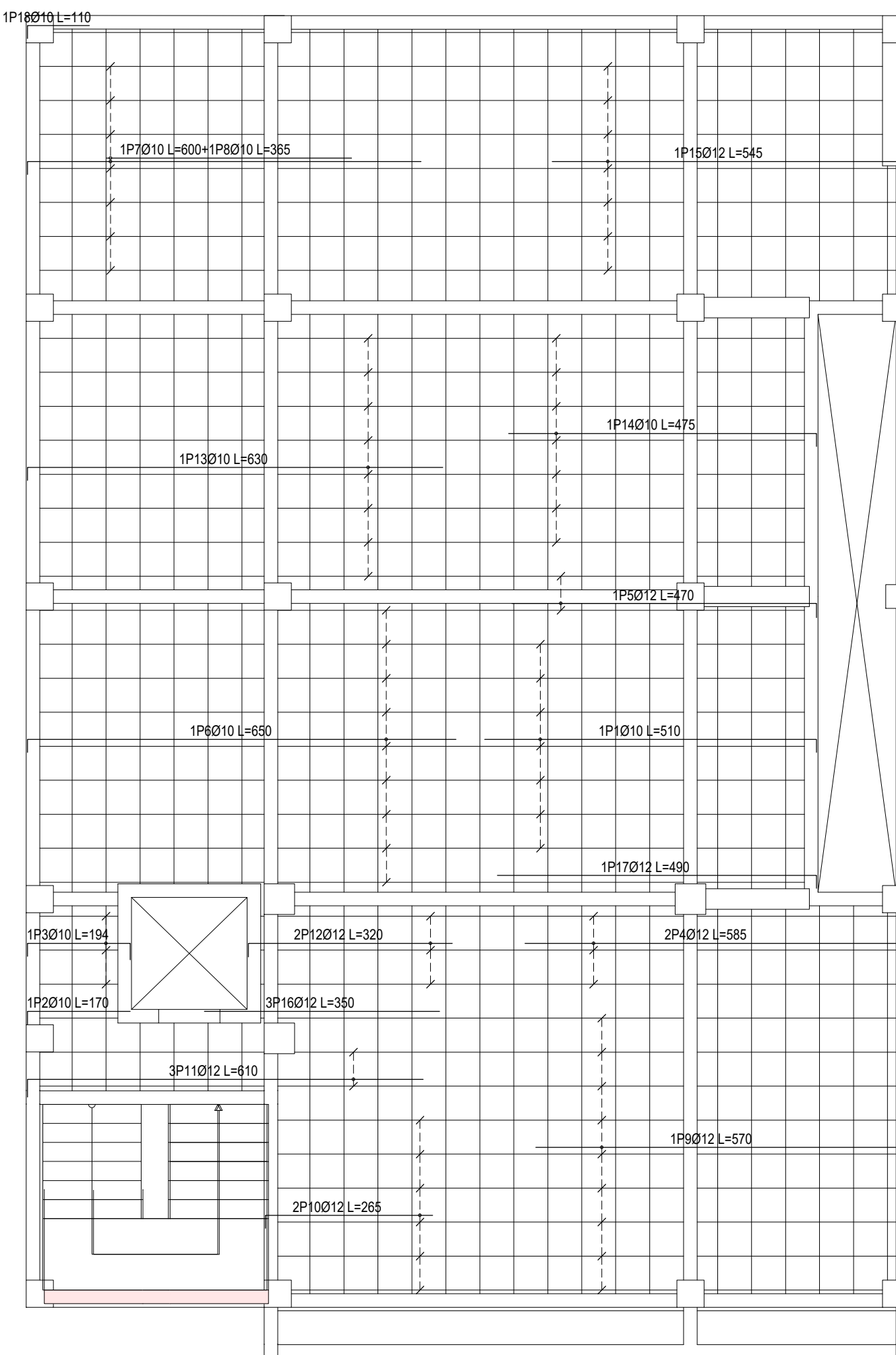
Resumen Acero PRIMER PISO	Long. total (m)	Peso+10% (kg)	Total
Armadura longitudinal superior			
AH-500 Ø10	249.6	169	
Ø12	169.4	165	
Ø16	54.0	94	428

[illegible]

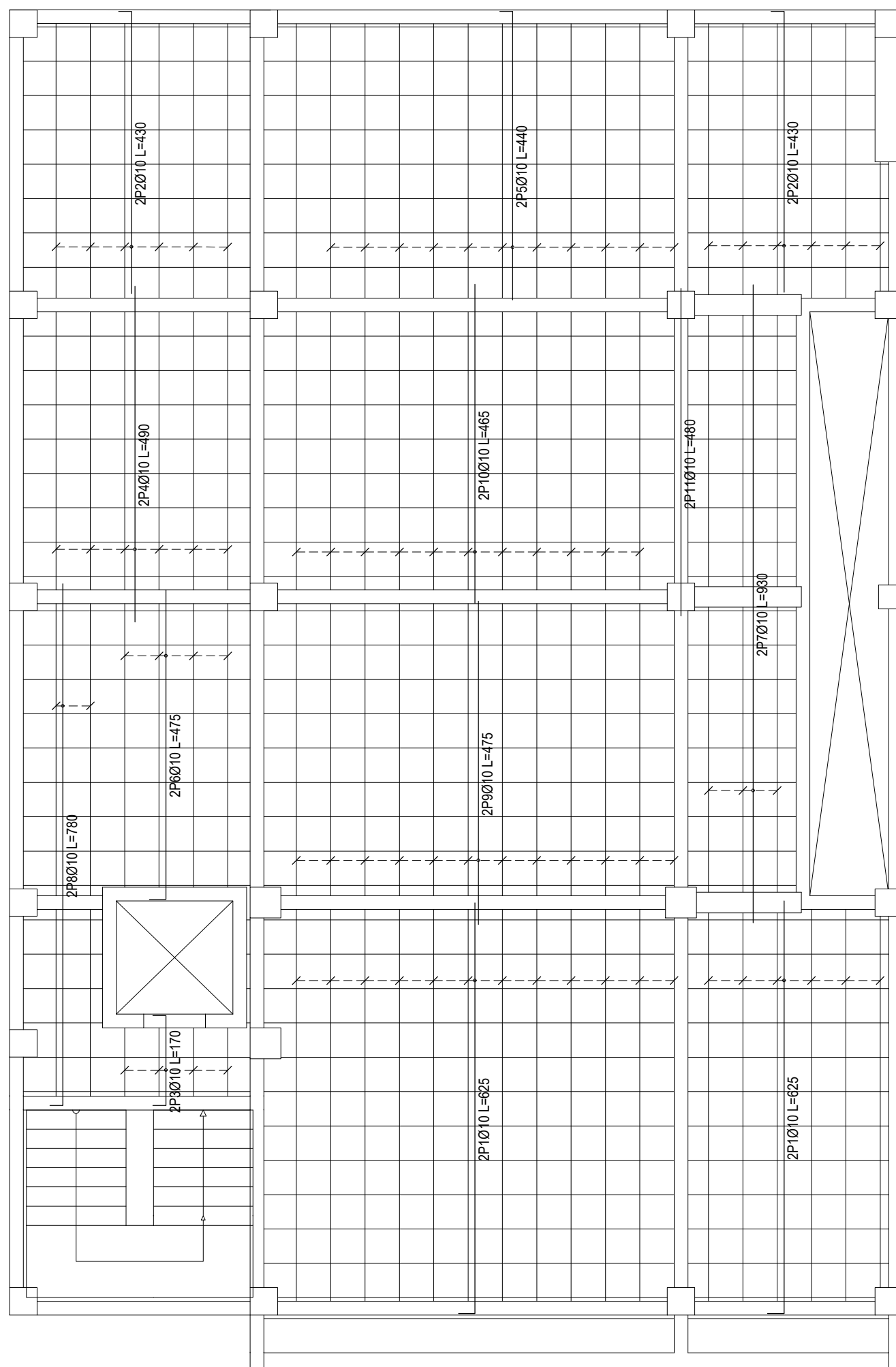
Resumen Acero PRIMER PISO		Long. total (m)	Peso+10% (kg)	Total
Armadura transversal superior				
AH-500	Ø10	254.0	172	
	Ø12	237.0	231	403

LOSA PRIMER PISO ACERO SUPERIOR

ARMADURA TRANSVERSAL



LOSA SEGUNDO PISO
ACERO INFERIOR

[illegible]

Resumen Acero SEGUNDO PISO Armadura longitudinal inferior	Long. total (m)	Peso+10% (kg)
AH-500 Ø10	848.3	575

[illegible]

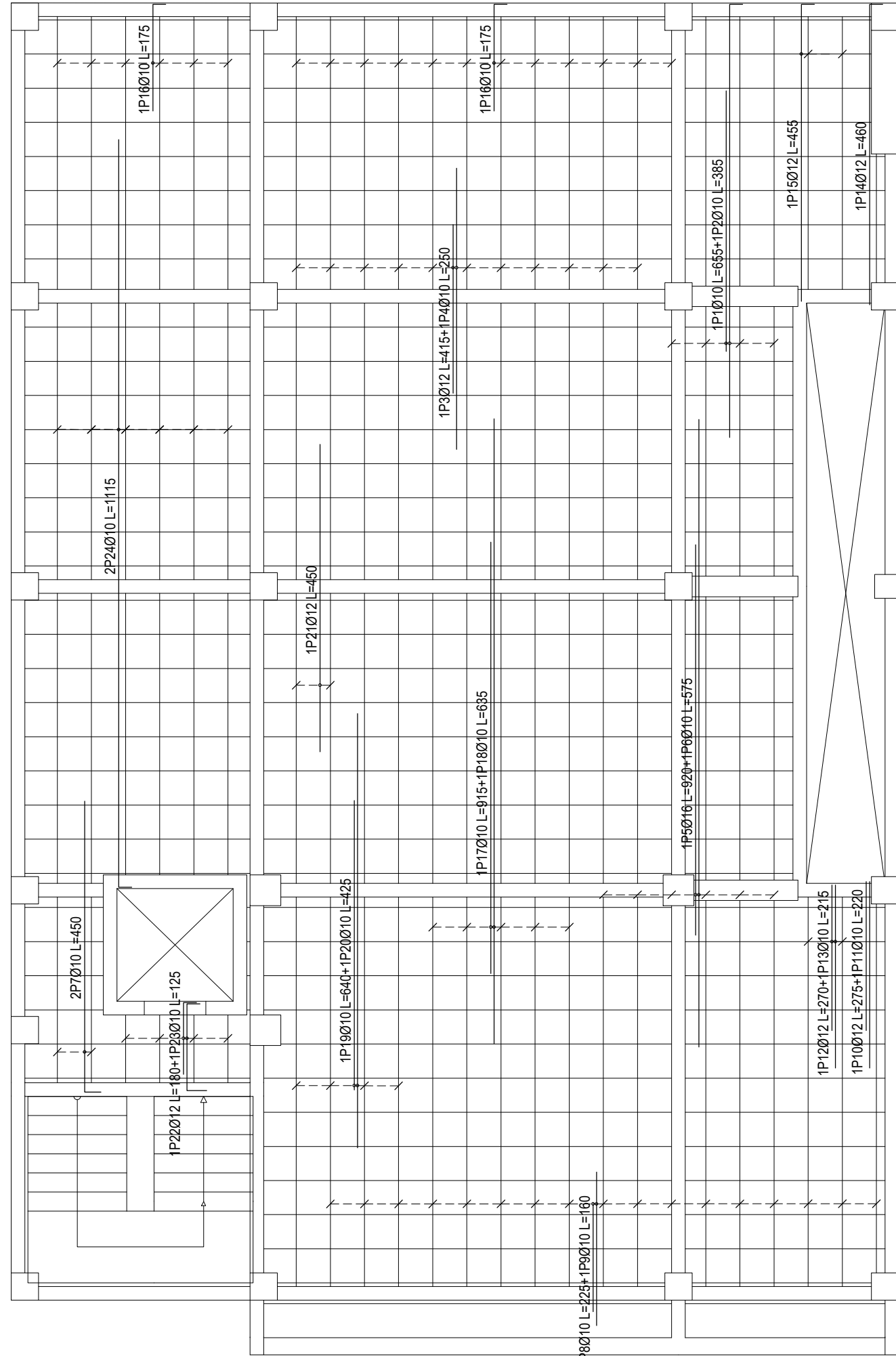
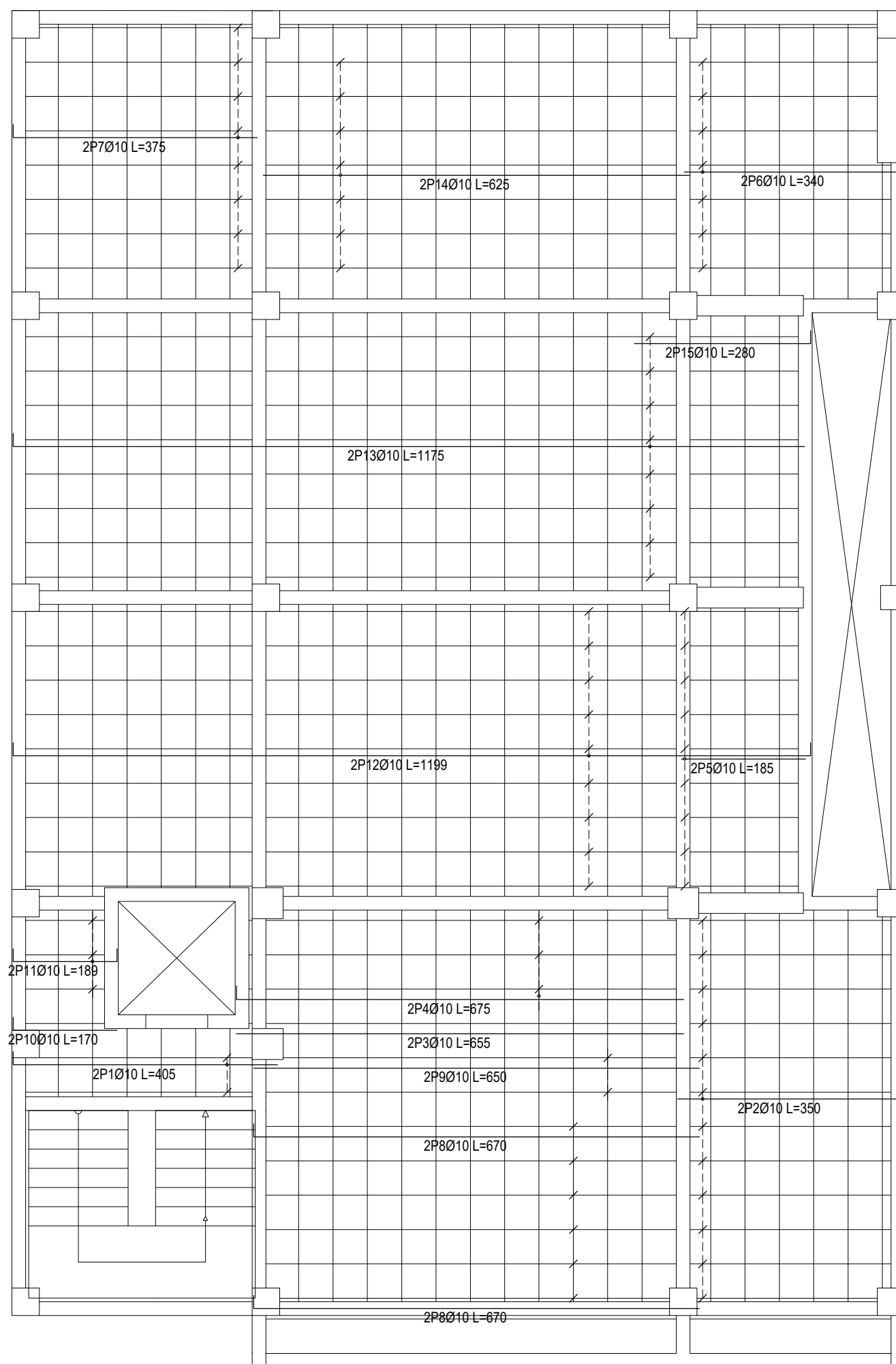
Resumen Acero SEGUNDO PISO Armadura transversal inferior	Long. total (m)	Peso+10% (kg)
AH-500 Ø10	912.8	619

Tabla de características de la losa de viguetas LOSA DE VIGUETAS IN SITU Altura de bovedilla: 20 cm Espesor capa compresión: 5 cm Inteóje: 50 cm Ancho del nervio: 10 cm Ancho de la base: 10 cm Bovedilla: LOSA UNIDIRECCIONAL Peso propio: 2,25 kN/m² Cubricimiento geométrico superior: 2,0 cm Cubricimiento geométrico inferior: 2,0 cm Cubricimiento geométrico lateral: 2,0 cm Nota: Consulto los detalles referentes a uniones con losas de la estructura principal y de las zonas macizadas.
--

Tabla de características de forjados reticulares

LOSA BIDIRECCIONAL
LOSA BIDIRECCIONAL 01
Casellón perdido
Nº de piezas: 1
Peso propio: 2.968 kN/m ²
Altura: 25 cm
Capa de compresión: 5 cm
Inteje: 50 cm
Anchura del nervio: 10 cm
Recubrimiento geométrico superior: 2.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 2.5 cm
Recubrimiento mecánico inferior: 2.5 cm

LOSA SEGUNDO PISO
ACERO SUPERIOR



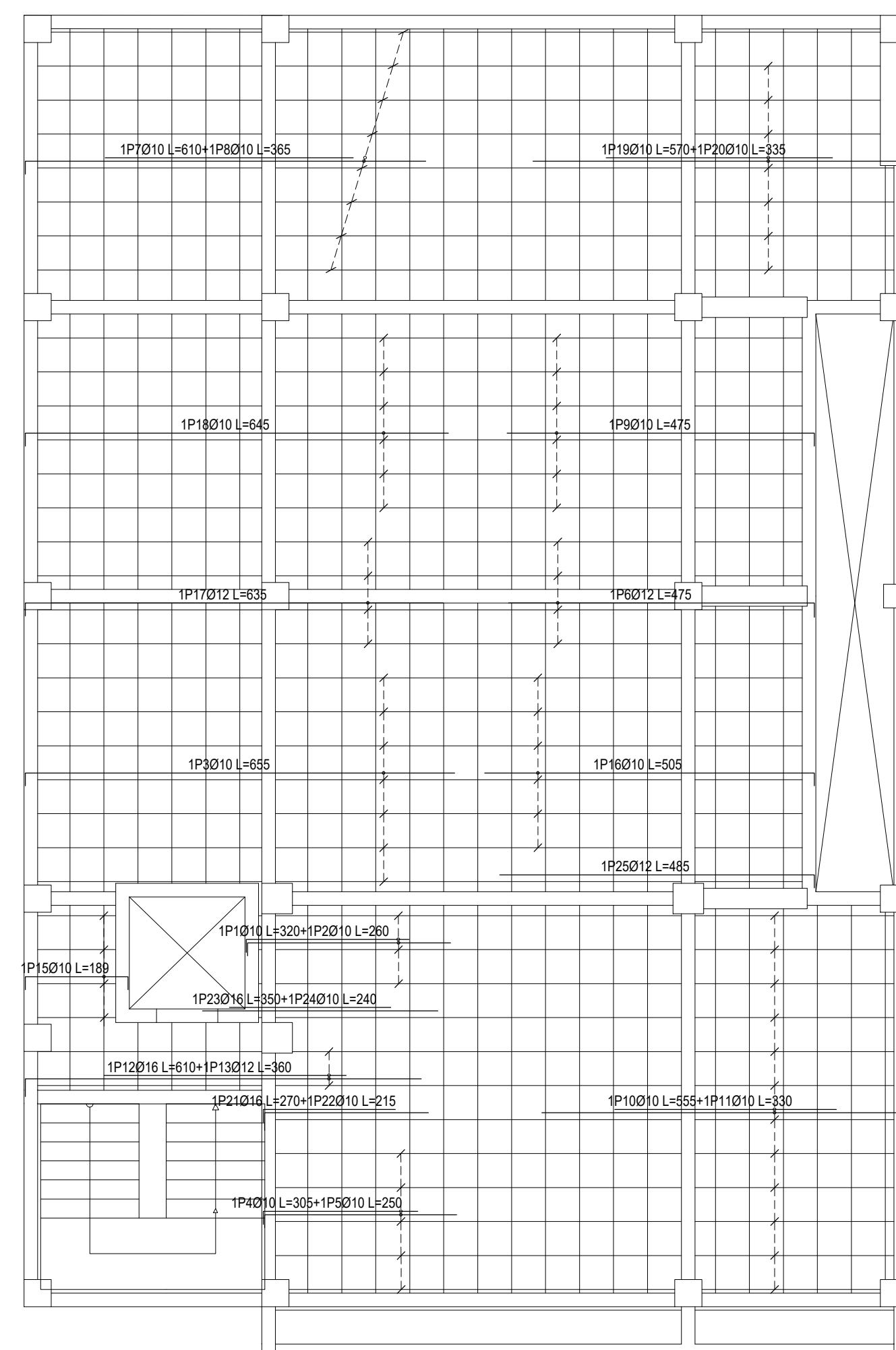
Resumen Acero SEGUNDO PISO Armadura longitudinal superior		Long. total (m)	Peso+10% (kg)	Total
AH-500	Ø10	483.2	328	506
	Ø12	83.7	82	
	Ø16	55.2	96	

[illegible]

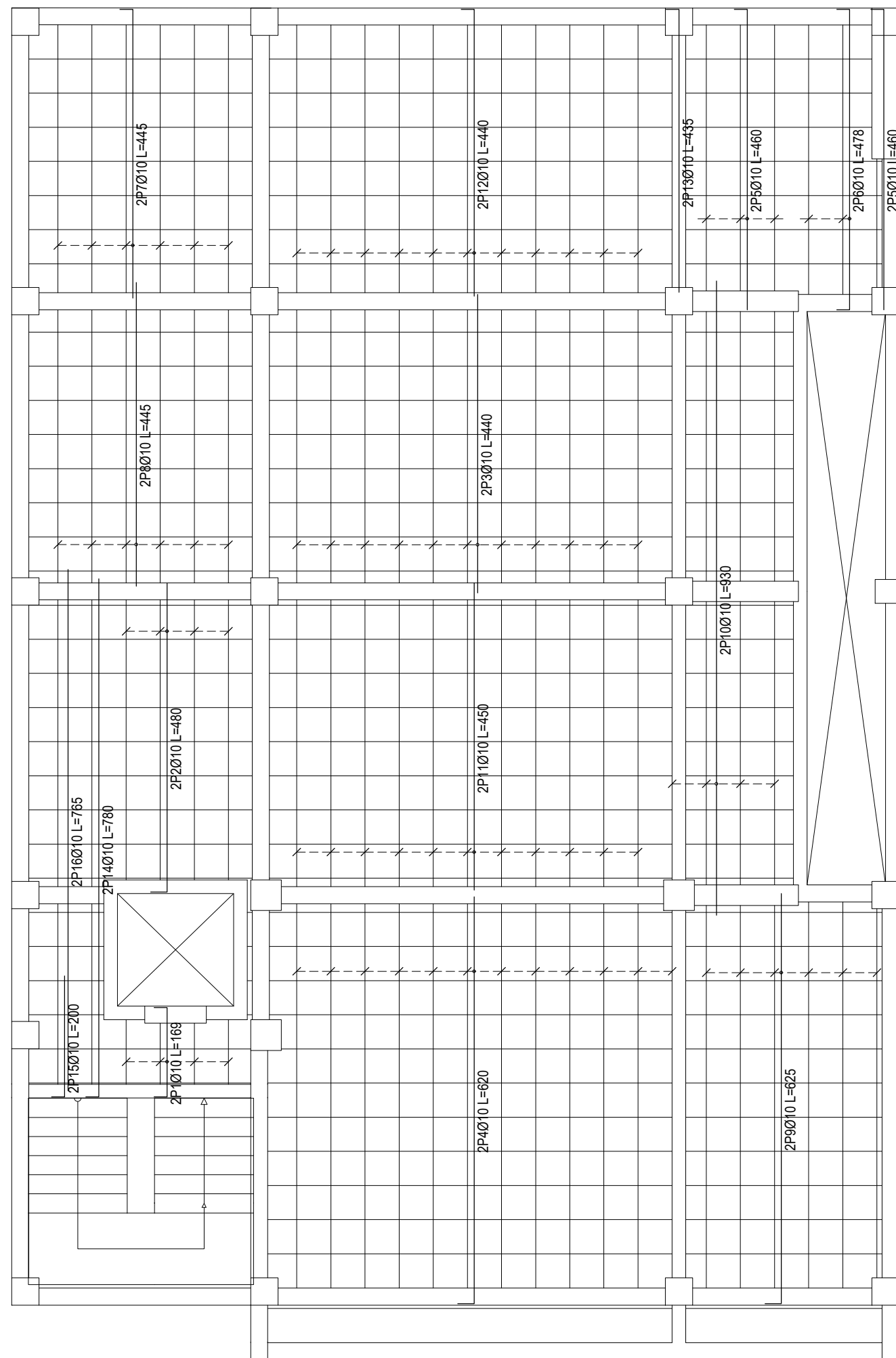
Resumen Acero SEGUNDO PISO	Long. total (m)	Peso+10% (kg)	Total
Armadura transversal superior			
AH-500	Ø10	448.0	304
	Ø12	56.5	55
	Ø16	18.4	32
			391

[illegible]

ARMADURA TRANSVERSAL



ARMADURA LONGITUDINAL



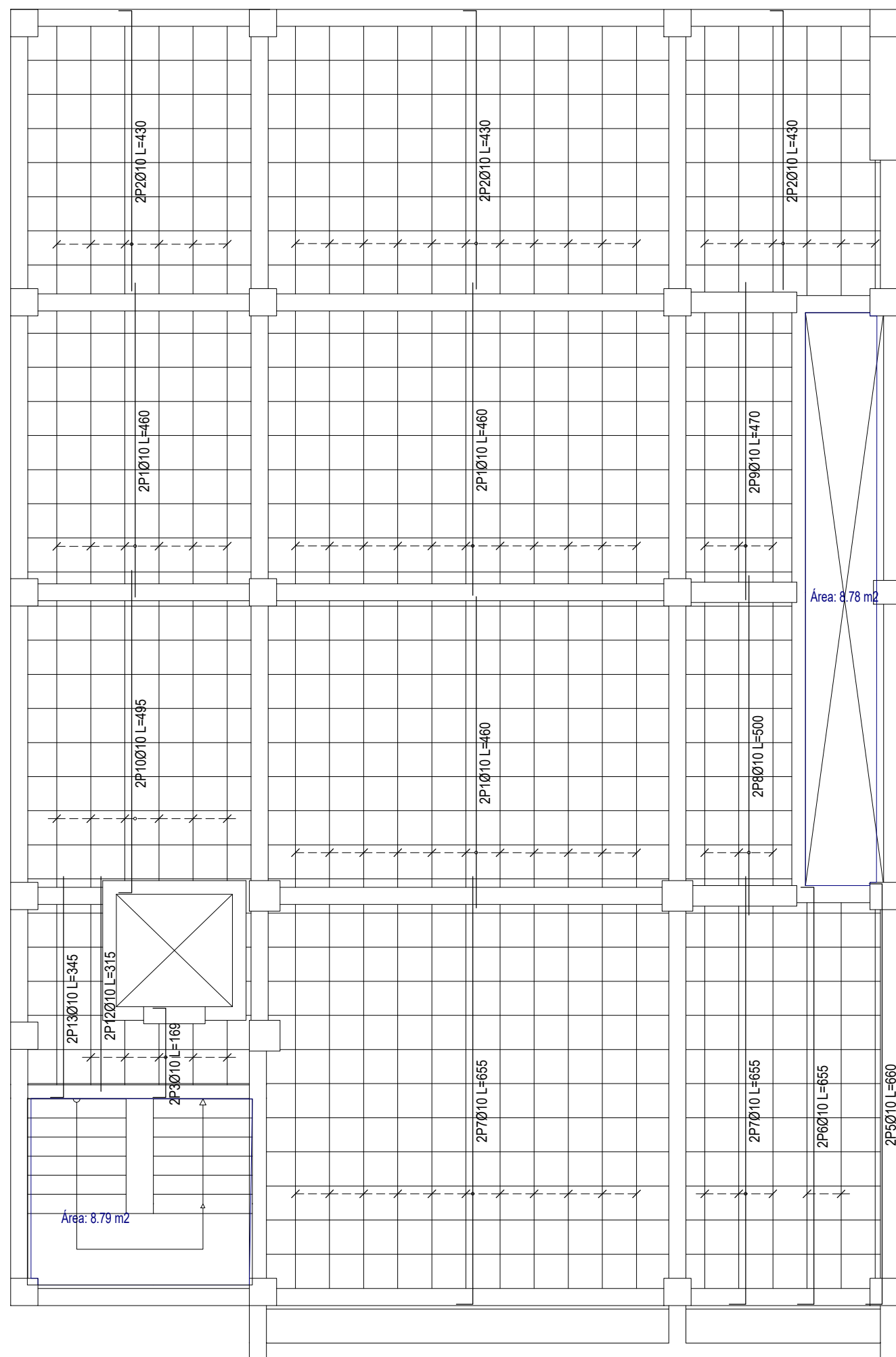
Elemento	Pos.	Diám.	No.	Ret. (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
<i>Aromatiza longitudinal inferior</i>								
1	0	10	8	139	139	189	1332	83
2	0	10	24	640	640	240	1680	23
3	0	10	22	640	640	240	1680	89
4	0	10	24	640	640	240	1680	89
5	0	10	8	641	641	400	3080	227
6	0	10	12	638	638	478	3122	418
7	0	10	12	638	638	454	3034	329
8	0	10	12	638	638	454	3034	329
9	0	10	12	631	631	452	3010	462
10	0	10	12	631	631	452	3010	462
11	0	10	22	400	400	400	1600	61
12	0	10	22	400	400	400	1600	61
13	0	10	2	458	458	435	893	54
14	0	10	2	458	458	435	893	54
15	0	10	2	181	181	200	460	2.5
16	0	10	2	181	181	190	450	1.4
Total=100							5717	
							070	5717
							1048	5717

Resumen Acero TERCER PISO Armadura longitudinal inferior	Long. total (m)	Peso+10% (kg)
AH-500 Ø10	849.0	576

Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	Añs-QSO
Armadora Invernadero Exterior	1	Ø10	24	19	341	300	8640	53.3	
	2	Ø10	16	19	341	810	16480	89.9	
	3	Ø10	30	19	625	625	19700	115.6	
	4	Ø16	16	19	791	810	12960	79.9	
	5	Ø10	4	19	409	425	1700	10.5	
	6	Ø10	4	19	398	415	1690	10.2	
	7	Ø10	2	20	655	675	1350	6.3	
	8	Ø10	4	20	640	675	2080	10.5	
	9	Ø10	6	19	1051	1051	1134	7.0	
	10	Ø10	56	19	356	375	21000	129.9	
	11	Ø10	2	19	356	700	1400	8.0	
	12	Ø10	2	19	191	210	420	2.6	
							Total=1081	585.1	
							Ø10	585.1	
							Total=1081	585.1	

Resumen Acero TERCER PISO Armadura transversal inferior	Long. total (m)	Peso+10% (kg)
AH-500 Ø10	862.7	585

ARMADURA LONGITUDINAL

[illegible]

Resumen Acero CUARTO PISO Armadura longitudinal inferior		Long. total (m)	Peso+10% (kg)
AH-500	Ø10	824.7	559

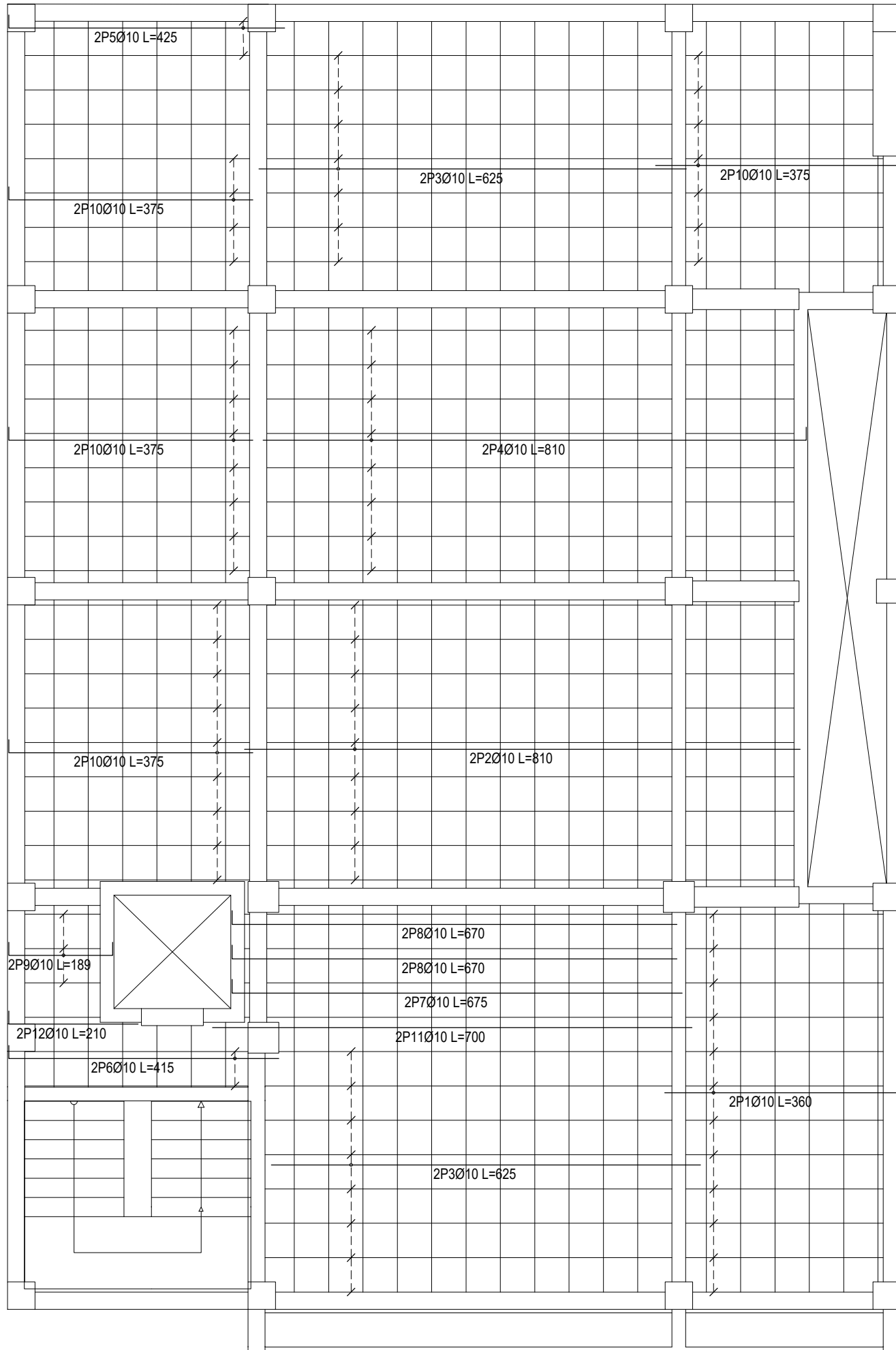
[illegible]

Resumen Acero CUARTO PISO Armadura transversal inferior	Long. total (m)	Peso*10% (kg)
AH-500 Ø10	800.6	543

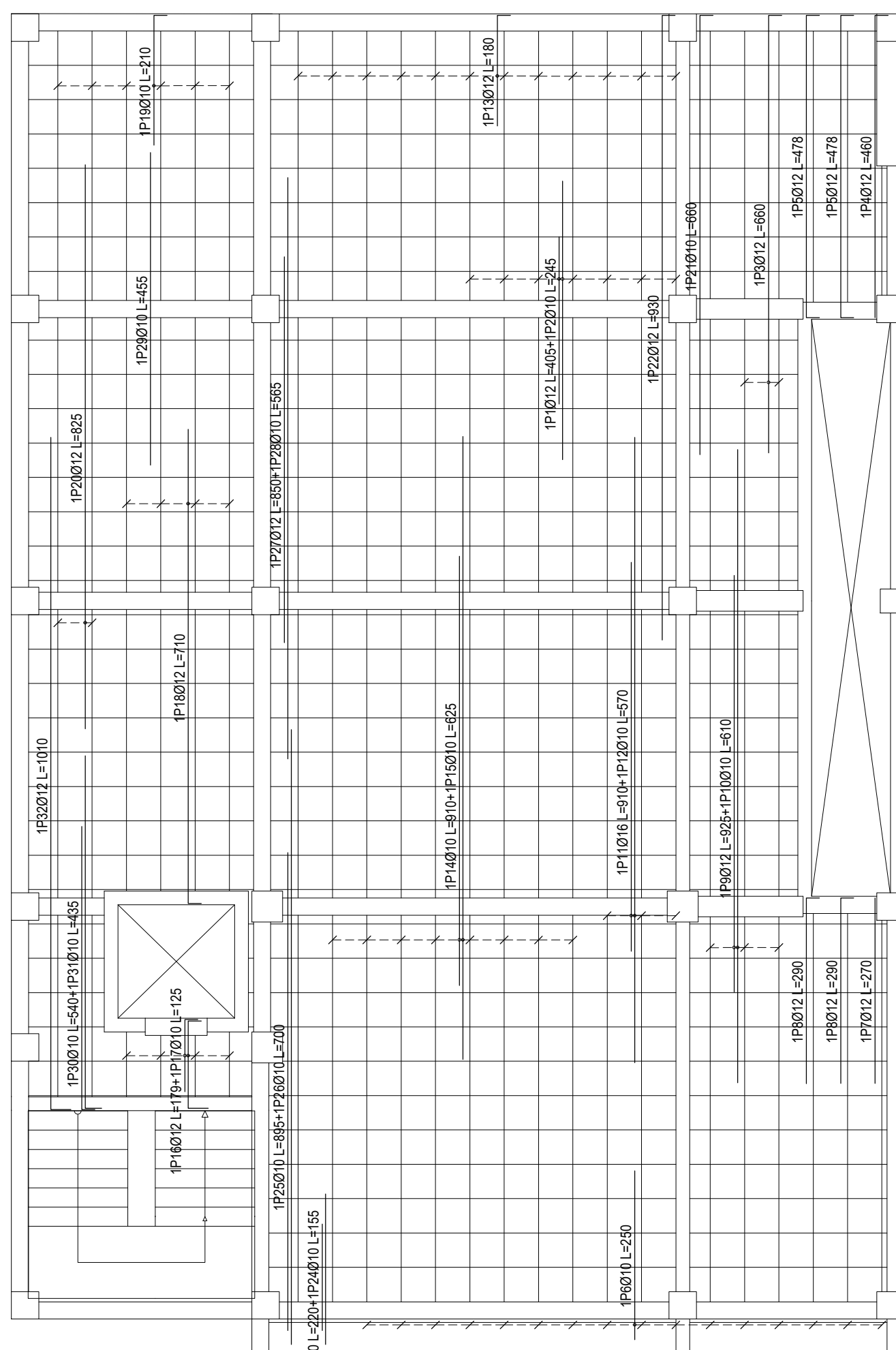
Tabla de características de la losa de viguetas LOSA DE VIGUETAS IN SITU Altura de bovedilla: 20 cm Espesor capa compresión: 5 cm Intereje: 50 cm Ancho del nervio: 10 cm Ancho de la base: 10 cm Bovedilla: LOSA UNIDIRECCIONAL Peso propio: 2,25 kN/m² Recubrimiento geométrico superior: 2,0 cm Recubrimiento geométrico inferior: 2,0 cm Recubrimiento geométrico lateral: 2,0 cm Nota: Consulte los detalles referentes a uniones con losas de la estructura principal y de las zonas macizadas.

Tabla de características de forjados reticulares LOSA BIDIRECCIONAL LOSA BIDIRECCIONAL 01 Casetón perdido Nº de piezas: 1 Peso propio: 2.968 kN/m² Altura: 25 cm Capa de compresión: 5 cm Interje: 50 cm Anchura del nervio: 10 cm Recubrimiento geométrico superior: 2.0 cm Recubrimiento geométrico inferior: 2.0 cm Recubrimiento mecánico superior: 2.5 cm Recubrimiento mecánico inferior: 2.5 cm

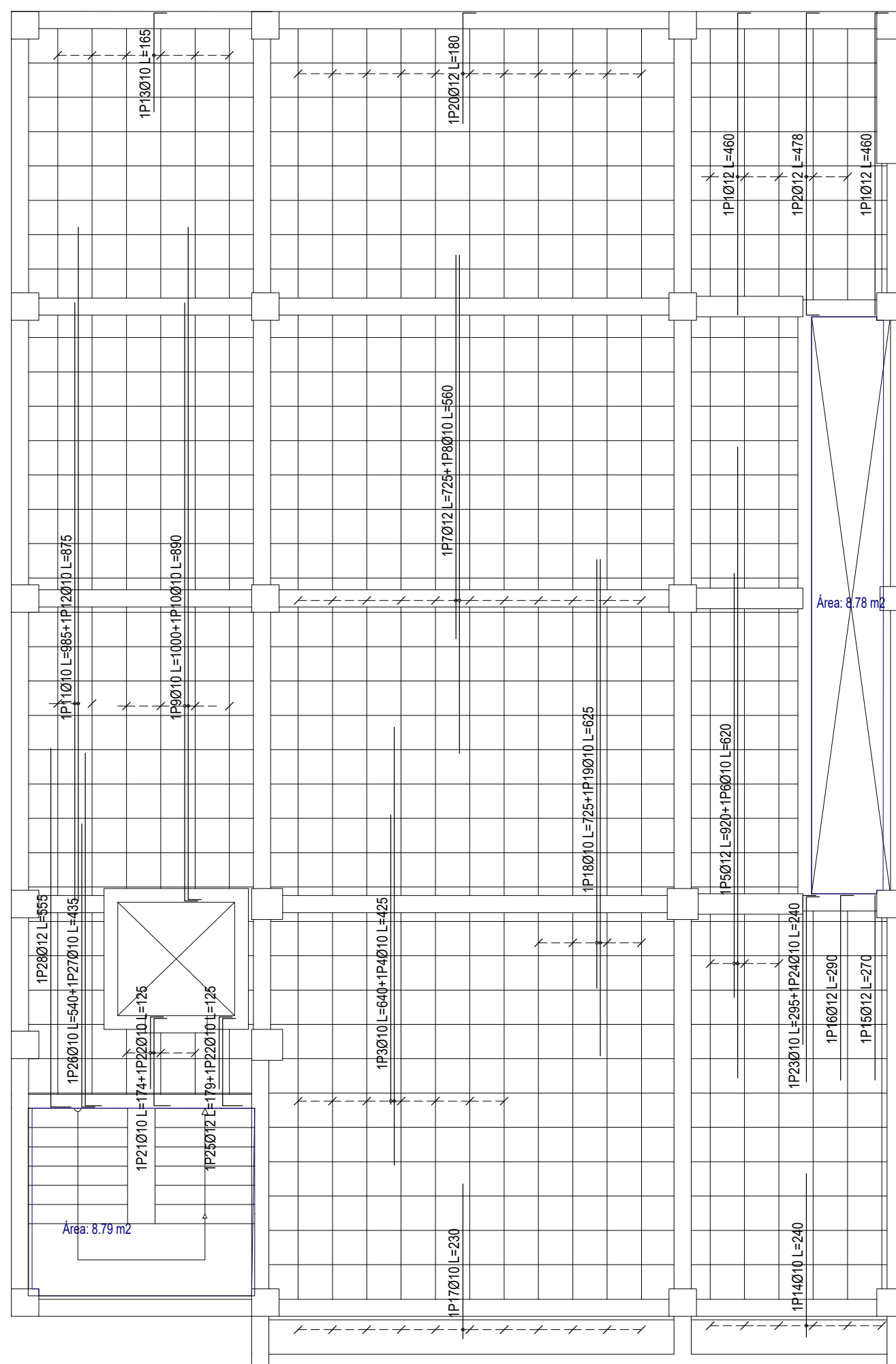
ARMADURA TRANSVERSAL



ARMADURA LONGITUDINAL



ARMADURA LONGITUDINAL



ARMADURA TRANSVERSAL

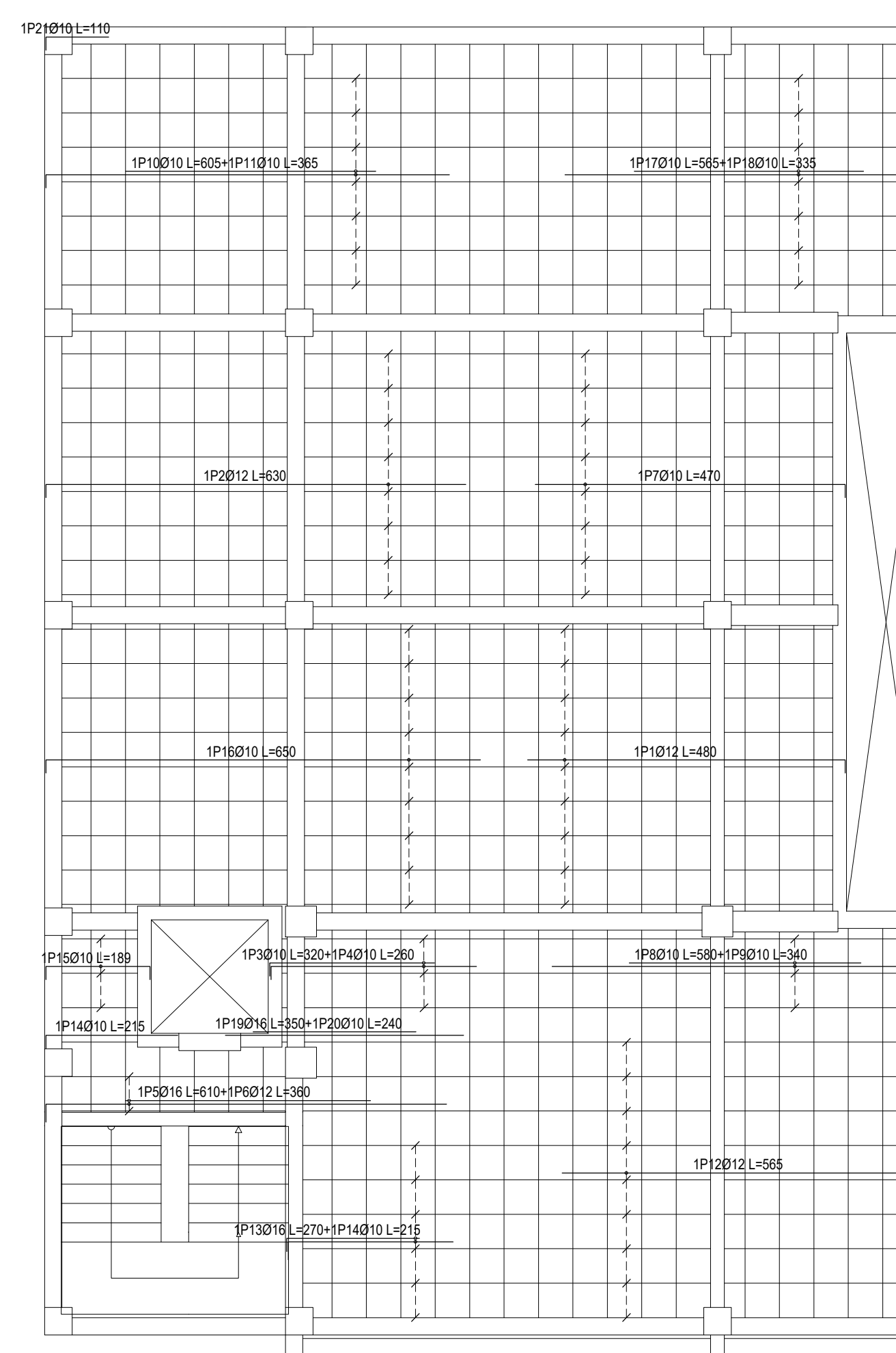
[illegible]

Resumen Acero TERCER PISO Armadura longitudinal superior		Long. total (m)	Peso+10% (kg)	Total
AH-500	Ø10	279.2	189	
	Ø12	193.5	189	
	Ø16	27.3	47	425

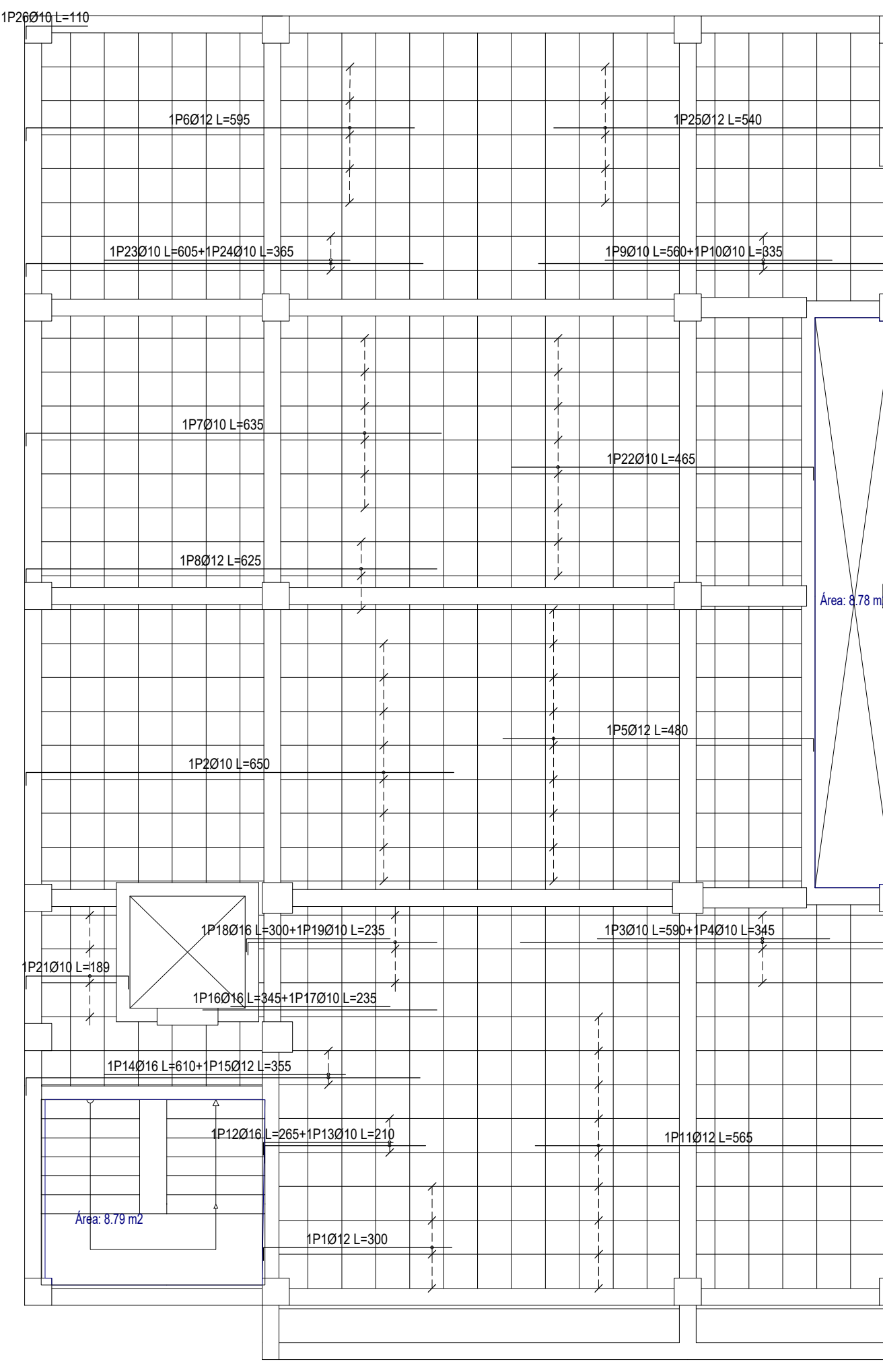
Elemento	Pos.	Diám.	No.	Pat. (cm)	Red. (cm)	Long. (cm)	Total (cm)	(Hq-50)
Amorosa transversal superior	1	012	9	19	461	480	4320	38.4
	2	012	8	19	611	480	4320	38.4
	3	010	3	19	871	320	860	80
	4	010	3	19	241	260	780	4.8
	5	016	2	26	264	410	1120	11.2
	6	012	2		360	360	720	6.4
	7	010	3	19	451	420	3780	23.2
	8	010	3	19	461	380	1740	10.7
	9	010	3	19	340	340	1020	6.2
	10	010	7	19	661	620	4220	36.8
	11	010	7	19	365	365	2560	15.8
	12	012	9	19	365	365	2560	15.8
	13	016	6	26	264	270	1620	21.6
	14	010	7	19	198	215	1035	9.3
	15	010	3	19	198	267	515	4.7
	16	010	9	19	631	600	5880	36.1
	17	010	7	19	661	660	4620	36.1
	18	010	7	19	335	335	2345	14.5
	19	010	1		320	250	50	5
	20	010	1		320	250	50	5
	21	010	1	19	91	110	110	10.7
						Total=	4068	
						0.910	102	
						Total	481.1	
						0.910	26.5	
						Total	466.6	

Resumen Acero TERCER PISO		Long. total (m)	Peso+10% (kg)	Total
Armadura transversal superior				
AH-500	Ø10	296.2	201	
	Ø12	151.7	148	
	Ø16	31.9	55	404

ARMADURA LONGITUDINAL



ARMADURA TRANSVERSAL



Resumen Acero CUARTO PISO		Long. total (m)	Peso+10% (kg)	Total
Armadura longitudinal superior				
AH-500	Ø10	396.5	269	433
	Ø12	168.1	164	

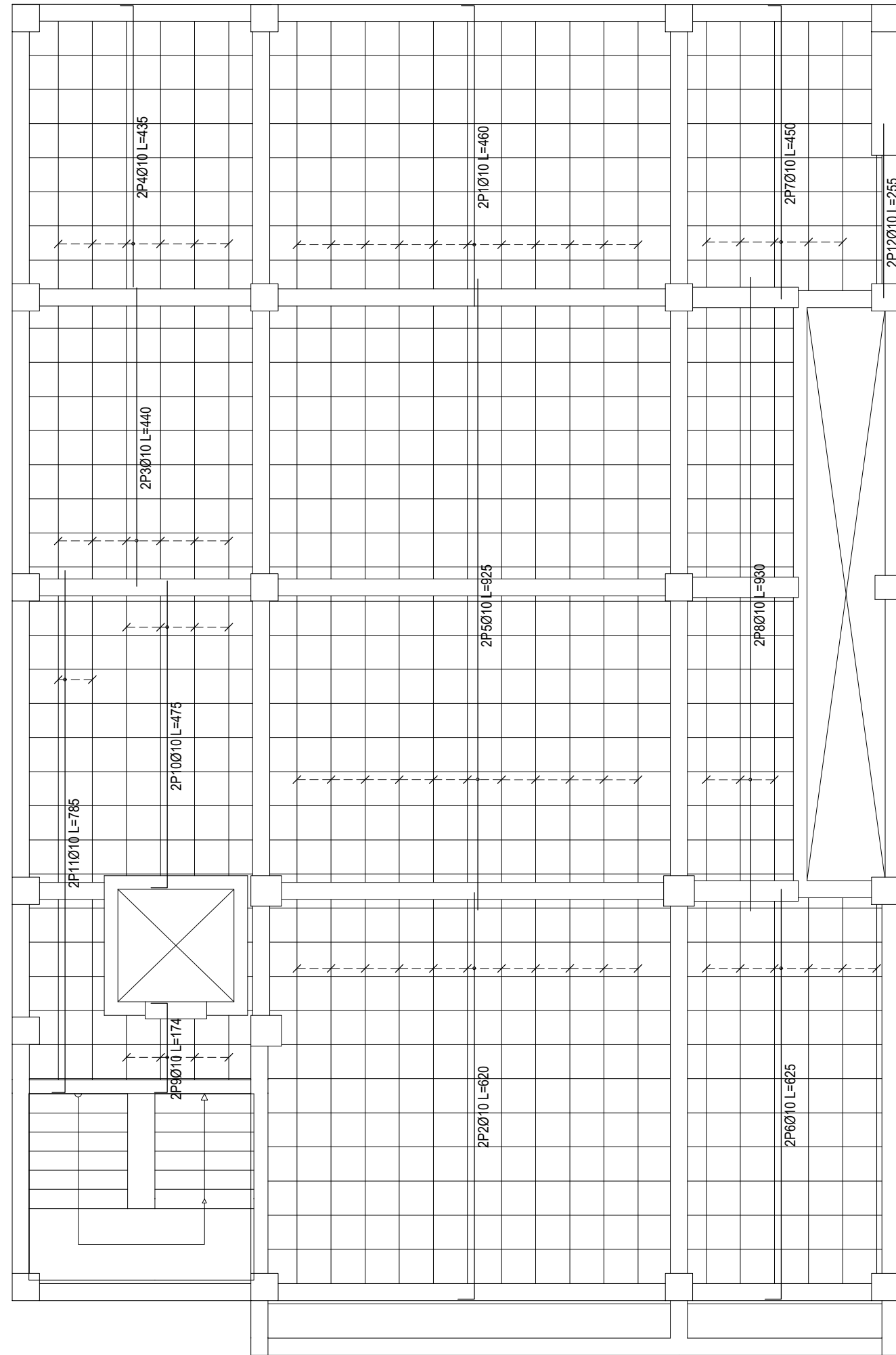
[illegible]

Resumen Acero CUARTO PISO Armadura transversal superior		Long. total (m)	Peso+10% (kg)	Total
AH-500	Ø10	214.7	146	382
	Ø12	188.7	184	
	Ø16	30.0	52	

[illegible]

	UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO" FACULTAD DE CIENCIAS Y TECNOLOGIA INGENIERIA CIVIL	
	CONTENIDO PLANO DE LOSA	LAMINA
DISEÑO ESTRUCTURAL DEL EDIFICIO MULTIFAMILIAR (Ciudad de Tarja)		17/20
UNIVERSITARIO : ORIHUELA HUANCA JHON KEVIN DAVID		
ESCALA: 1:75	FECHA: 25/05/2025	

ARMADURA LONGITUDINAL

LOSA QUINTO PISO
ACERO INFERIOR

Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Armadura longitudinal inferior	1	Ø10	22	19	441		460	10120	52.4
	2	Ø10	22	24	586		620	13680	84.1
	3	Ø10	12	19	440		460	10080	50.8
	4	Ø10	12	19	416		435	9220	32.2
	5	Ø10	12	19	405		420	8820	30.5
	6	Ø10	12	24	601		625	12600	46.2
	7	Ø10	10	19	350		460	8540	27.7
	8	Ø10	6	19	300		300	5880	34.4
	9	Ø10	8	19	316		335	6060	28.9
	10	Ø10	8	24	451		475	8880	23.4
	11	Ø10	4	19	266		265	5140	19.4
	12	Ø10	2	19	205		205	4100	3.1

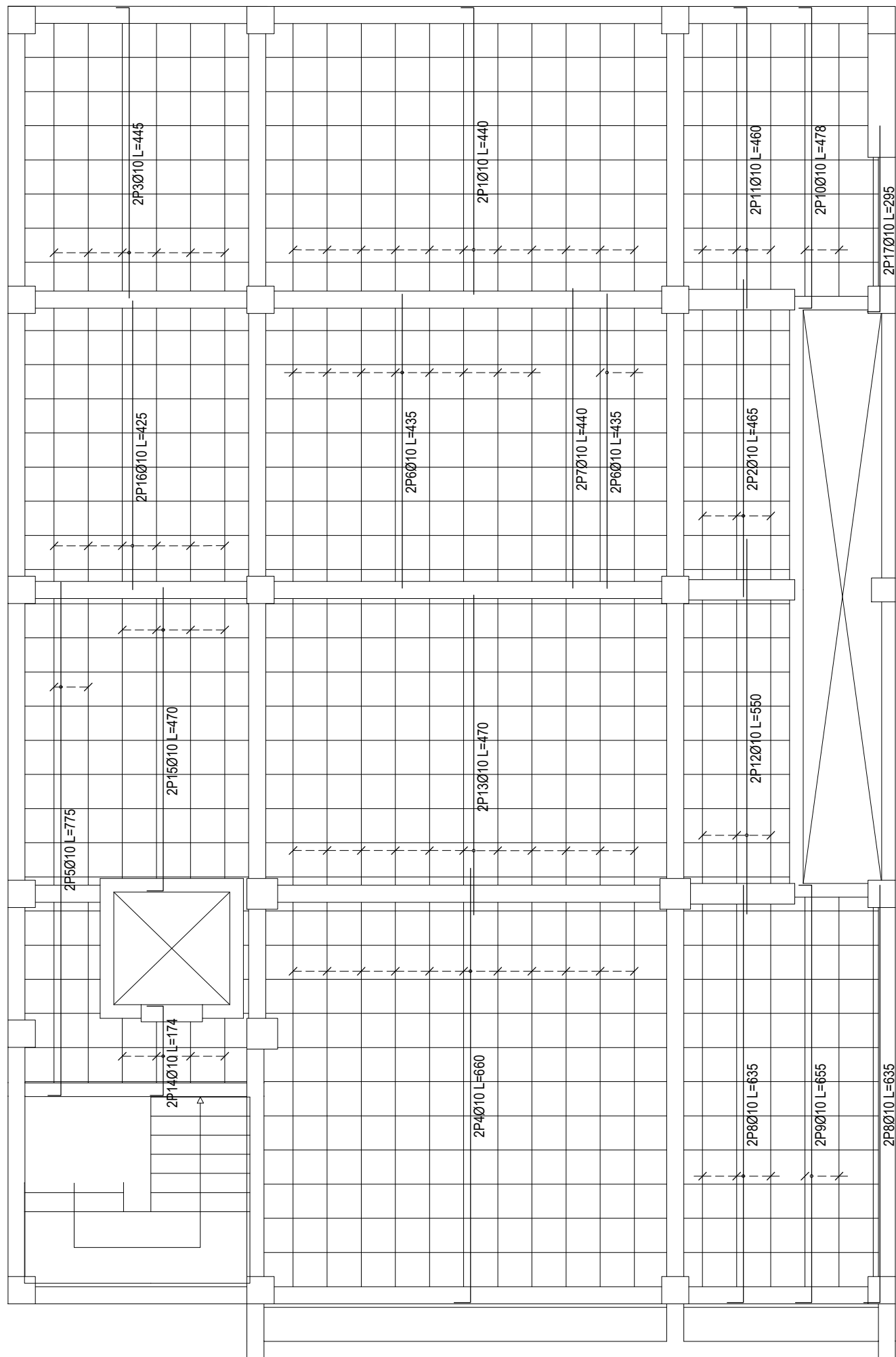
Resumen Acero QUINTO PISO	Long. total (m)	Peso+10% (kg)
Armadura longitudinal inferior	Ø10	810.3
AH-500		550

Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Armadura transversal inferior	1	Ø10	22	19	331		350	7700	47.5
	2	Ø10	10	19	261		265	5500	20.4
	3	Ø10	6	19	200		200	3960	14.8
	4	Ø10	18	19	376		395	7710	30.0
	5	Ø10	18	19	376		395	7710	30.0
	6	Ø10	18	19	376		395	7710	30.0
	7	Ø10	18	19	376		395	7710	30.0
	8	Ø10	6	19	336		355	7710	30.0
	9	Ø10	2	21	415		415	2490	15.4
	10	Ø10	4	21	659		659	2720	16.8
	11	Ø10	8	19	316		335	6060	28.9
	12	Ø10	18	19	376		395	7710	30.0
	13	Ø10	14	19	316		335	6060	28.9
	14	Ø10	14	19	316		335	6060	28.9
	15	Ø10	16	19	371		371	6840	38.5
	16	Ø10	2	19	351		351	7400	4.6
	17	Ø10	2	19	656		675	13200	8.3

Resumen Acero QUINTO PISO	Long. total (m)	Peso+10% (kg)
Armadura transversal inferior	Ø10	890.3
AH-500		604

LOSA CUBIERTA PISO
ACERO INFERIOR

ARMADURA LONGITUDINAL



Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Armadura longitudinal inferior	1	Ø10	22	19	421		440	9880	59.7
	2	Ø10	6	19	460		460	8920	32.9
	3	Ø10	12	19	420		440	9320	38.5
	4	Ø10	22	24	606		620	14320	88.6
	5	Ø10	4	19	256		256	5120	19.1
	6	Ø10	20		435		435	8700	50.6
	7	Ø10	2	24	440		440	8800	5.4
	8	Ø10	8	24	611		635	10080	31.3
	9	Ø10	4	19	440		440	8800	16.2
	10	Ø10	6	19	440		460	9720	11.8
	11	Ø10	6	19	441		460	9740	11.8
	12	Ø10	6	19	440		440	8800	16.2
	13	Ø10	22	19	420		440	9320	59.7
	14	Ø10	8	19	331		350	7700	47.5
	15	Ø10	16	19	448		470	10080	38.5
	16	Ø10	12	19	425		445	9720	31.4
	17	Ø10	2	19	276		285	5600	3.8
Total=10%								555.1	
Ø10								555.1	
Total								555.1	

Resumen Acero CUBIERTA	Long. total (m)	Peso+10% (kg)
Armadura longitudinal inferior	Ø10	818.6
AH-500		555

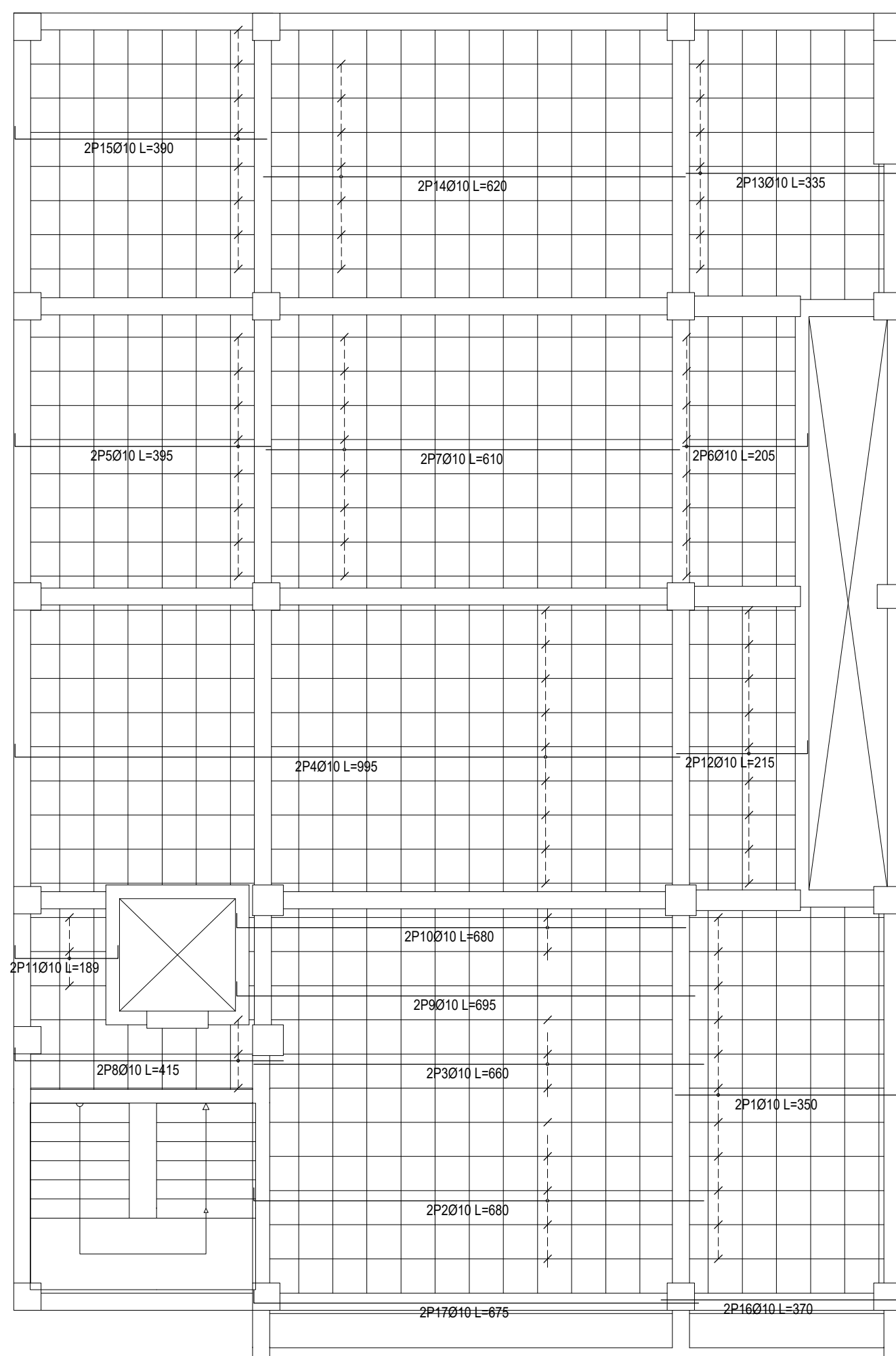
Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Armadura transversal inferior	1	Ø10	2	19	151		170	340	2.1
	2	Ø10	6	19	151		180	1134	7.0
	3	Ø10	12	19	151		180	1134	14.0
	4	Ø10	12	19	151		180	1134	14.0
	5	Ø10	12	19	151		180	1134	14.0
	6	Ø10	18	19	316		335	6060	28.9
	7	Ø10	16	19	316		335	6060	28.9
	8	Ø10	16	19	316		335	6060	28.9
	9	Ø10	14	19	316		335	6060	28.9
	10	Ø10	4	19	381		410	1640	5.1
	11	Ø10	16	19	316		335	6060	28.9
	12	Ø10	16	19	316		335	6060	28.9
	13	Ø10	14	19	316		335	6060	28.9
	14	Ø10	16	19	316		335	6060	28.9
	15	Ø10	2	19	341		360	720	4.4

Resumen Acero CUBIERTA	Long. total (m)	Peso+10% (kg)
Armadura transversal inferior	Ø10	884.2
AH-500		600

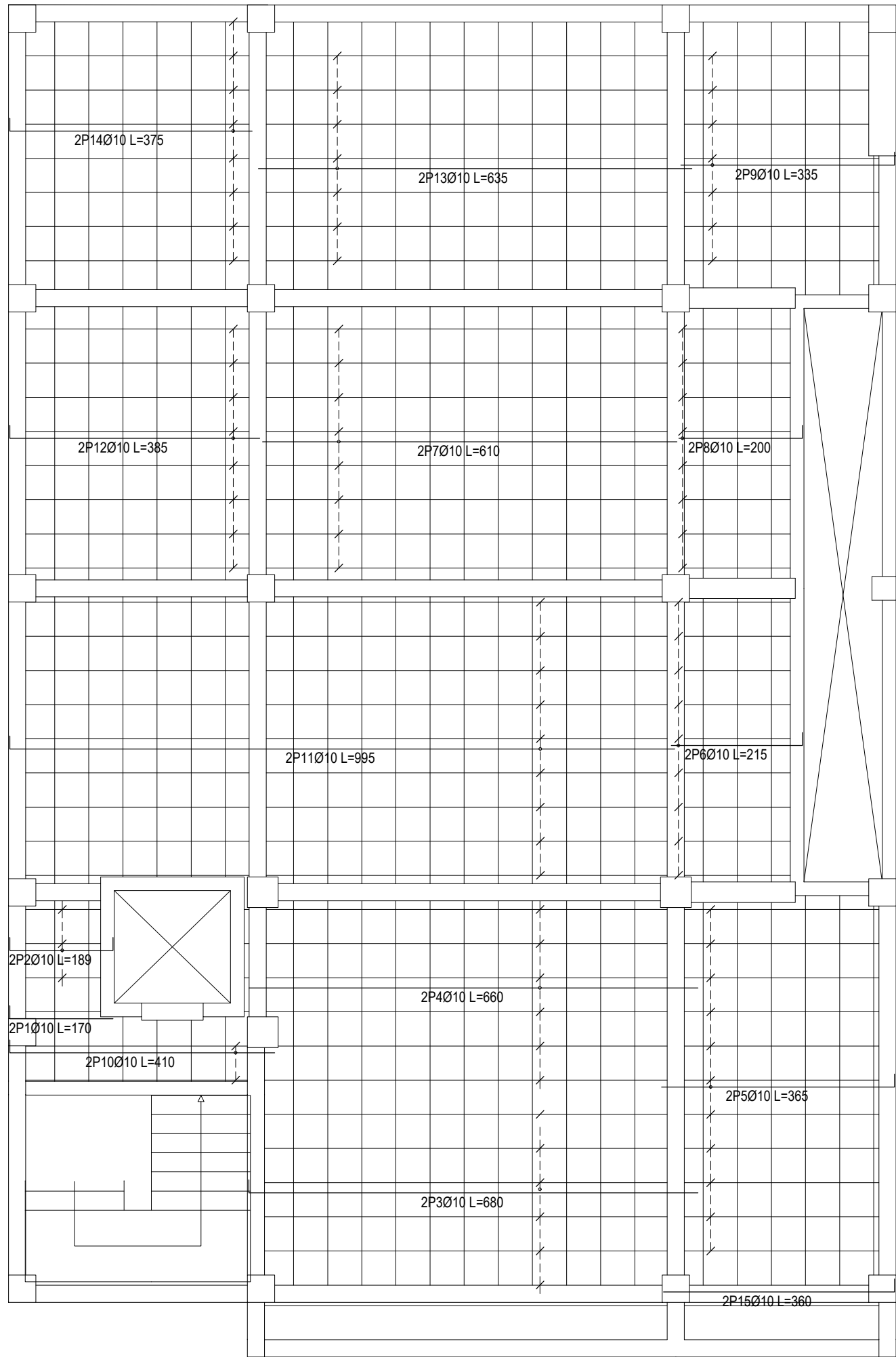
Tabla de características de la losa de vigas
LOSA DE VIGUETAS IN SITU
Alura de bovedilla: 20 cm
Espesor capa compresión: 5 cm
Intenre: 50 cm
Ancho del nervio: 10 cm
Ancho de la base: 10 cm
Bovedilla: LOSA UNIDIRECCIONAL
Peso propio: 2.25 MN/m2
Recubrimiento geométrico superior: 2.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento geométrico lateral: 2.0 cm
Nota: Consulte los detalles referentes a uniones con losas de la estructura principal y de las zonas macizadas.

Tabla de características de forjados reticulares
LOSA BIDIRECCIONAL
LOSA BIDIRECCIONAL 01
Castón perdido
Nº de piezas: 1
Peso propio: 2.98 MN/m2
Alura: 25 cm
Capa de compresión: 5 cm
Intenre: 50 cm
Ancho del nervio: 10 cm
Recubrimiento geométrico superior: 2.0 cm
Recubrimiento geométrico inferior: 2.0 cm
Recubrimiento mecánico superior: 2.5 cm
Recubrimiento mecánico inferior: 2.5 cm

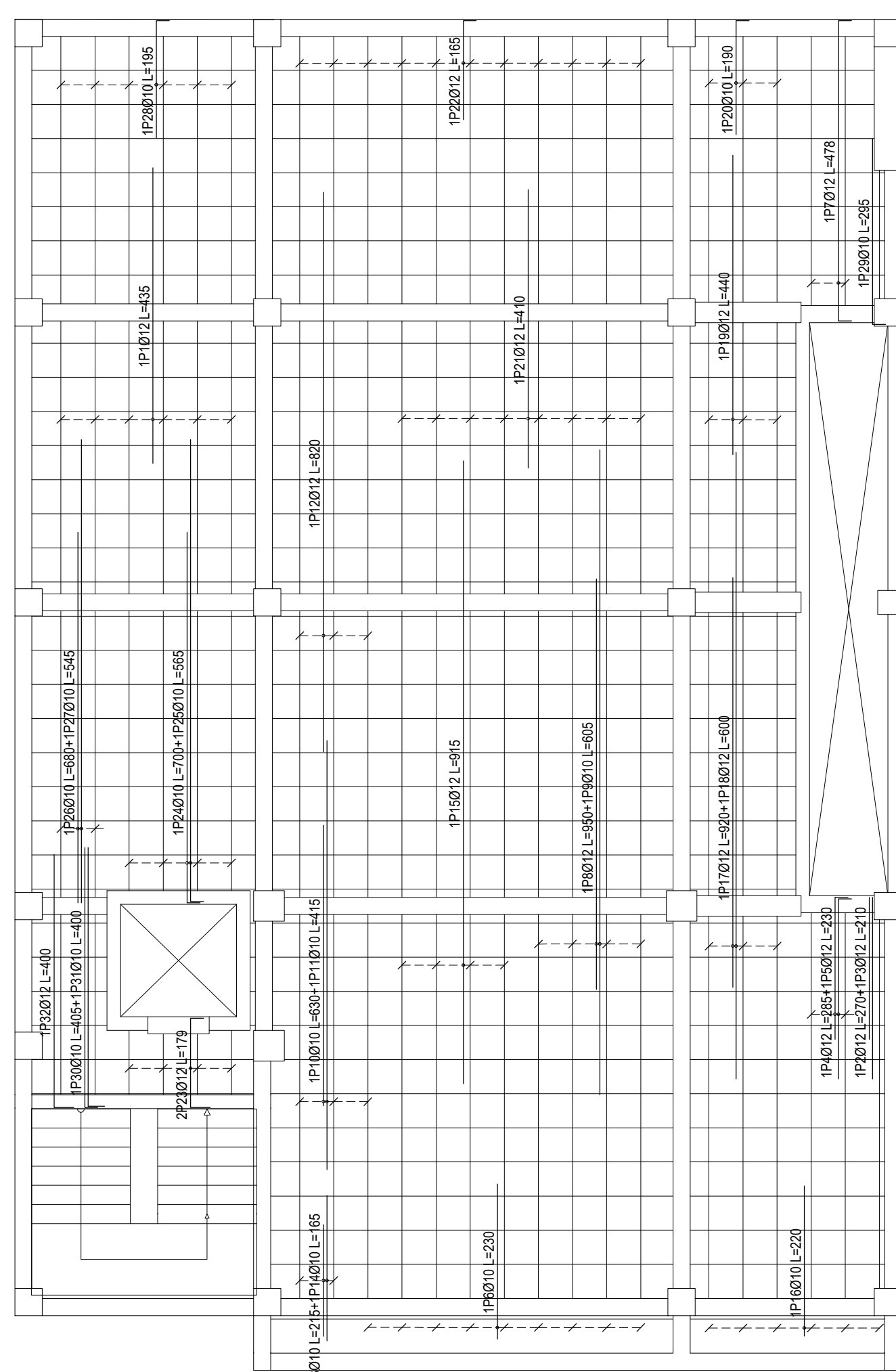
ARMADURA TRANSVERSAL



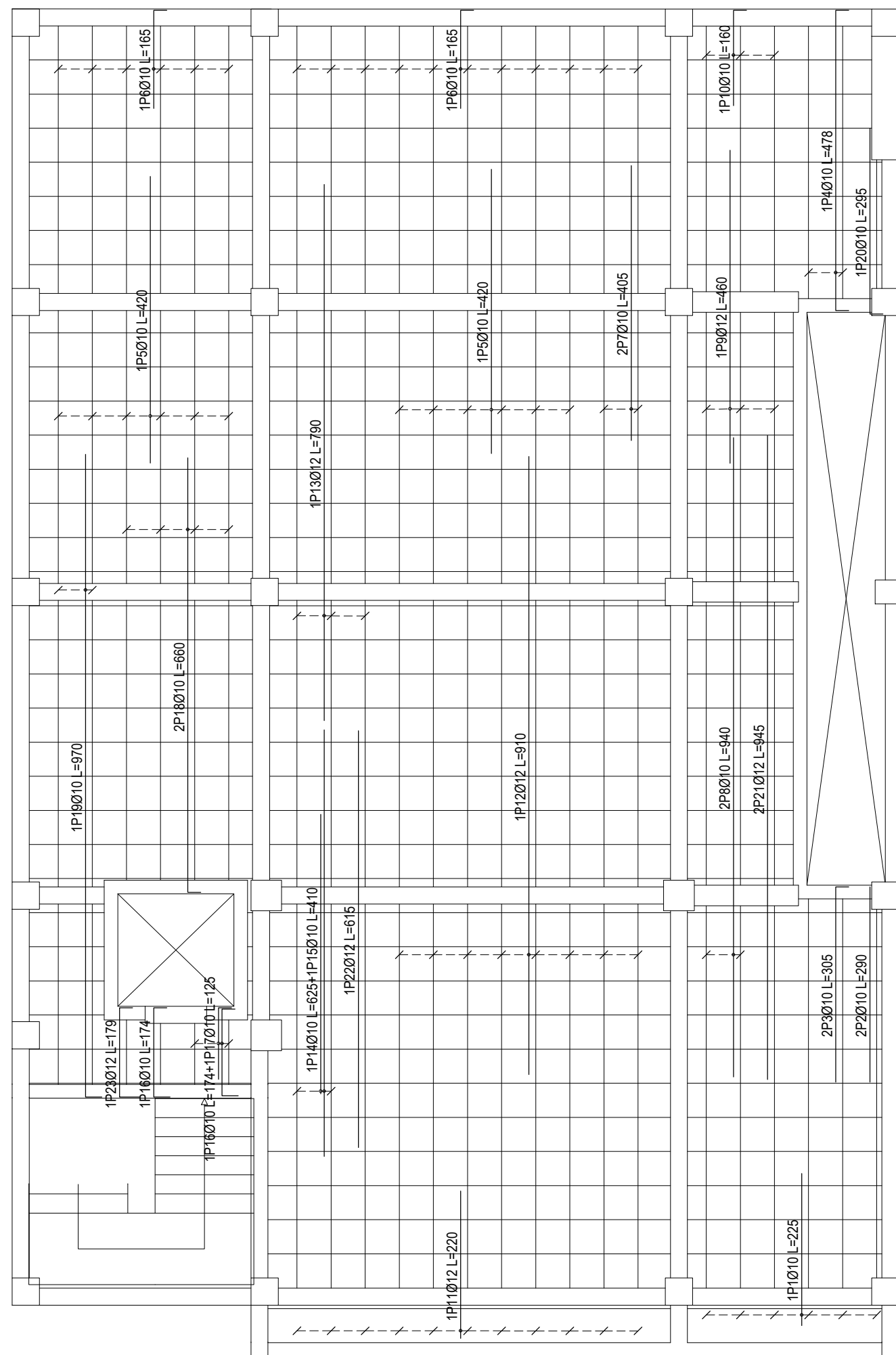
ARMADURA TRANSVERSAL



ARMADURA LONGITUDINAL

LOSA CUBIERTA PISO
ACERO SUPERIOR

ARMADURA LONGITUDINAL



Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Armadura longitudinal superior	1	Ø10	6		225		225	1350	8.3
	2	Ø10	2		285		285	570	3.6
	3	Ø10	4		385		385	1540	7.5
	4	Ø10	12		480		480	2880	19.1
	5	Ø10	12		480		480	2880	19.1
	6	Ø10	17	19	545		565	3360	23.2
	7	Ø10	4		480		480	1920	10.0
	8	Ø10	4		940		940	3760	23.2
	9	Ø12	3		480		480	1920	10.0
	10	Ø10	3	19	141		160	480	3.0
	11	Ø12	11		230		240	2400	21.5
	12	Ø12	8		910		910	3640	24.6
	13	Ø12	8		910		910	3640	24.6
	14	Ø10	2		625		625	1250	7.7
	15	Ø10	2		435		435	870	5.1
	16	Ø10	3	24	131	19	174	522	3.2
	17	Ø10	2	19	305		305	610	3.8
	18	Ø10	8	19	641		660	3300	20.6
	19	Ø10	2	24	940		970	1940	12.0
	20	Ø10	1	19	276		285	570	3.6
	21	Ø12	2		945		945	1890	16.8
	22	Ø12	1		615		615	1230	8.3
	23	Ø12	1	20	131	19	179	522	3.2

Resumen Acero CUBIERTA	Long. total (m)	Peso+10% (kg)
Armadura transversal superior	Ø10	189.6
AH-500		129

LOSA PQUINTO PISO
ACERO SUPERIOR

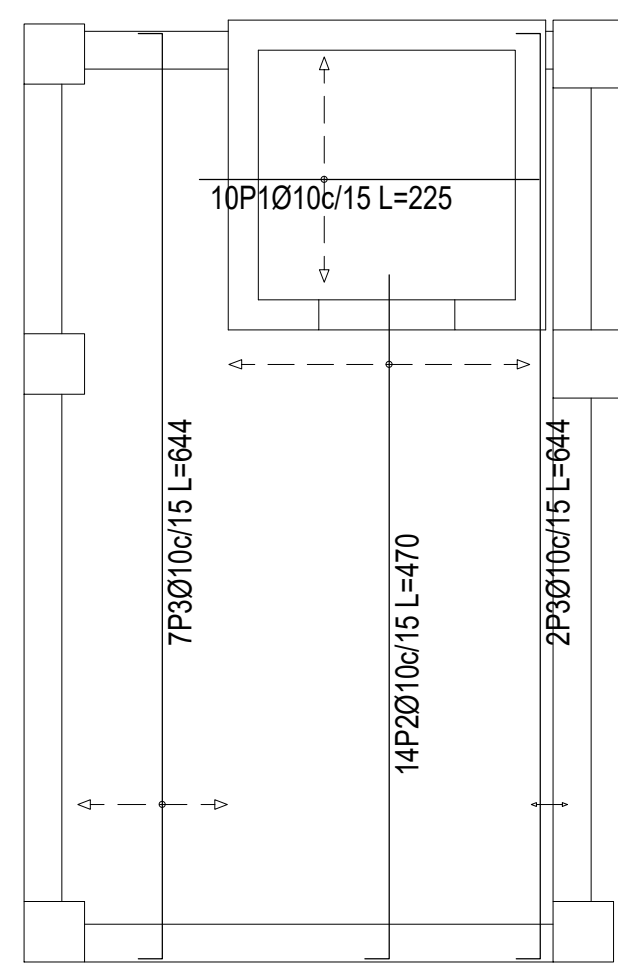
ARMADURA TRANSVERSAL

Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Armadura longitudinal superior	1	Ø12	6		435		435	2595	22.2
	2	Ø12	1		270		270	540	2.4
	3	Ø12	1		210		210	420	1.9
	4	Ø12	2	19	286		285	570	5.1
	5	Ø12	2	19	211		220	440	4.1
	6	Ø10	9		330		330	2070	12.8
	7	Ø12	2	19	440	19	478	958	8.5
	8	Ø10	4		650		650	2600	33.7
	9	Ø10	4		605		605	2420	14.9
	10	Ø10	3		330		330	1650	11.7
	11	Ø12	3		415		415	1660	7.7
	12	Ø12	3		805		800	3200	21.8
	13	Ø10	2		215		215	430	2.7
	14	Ø10	2		165		165	330	2.0
	15	Ø12	4		515		515	2060	12.5
	16	Ø10	6		220		220	1100	6.1
	17	Ø12	3		600		600	2400	16.5
	18	Ø12	3		600		600	2400	16.5
	19	Ø10	3	19	171		180	570	3.5
	20	Ø12	8		410		410	1640	26.1
	21	Ø12	11	19	146		155	465	6.1
	22	Ø12	8	29	131	19	179	522	3.2
	23	Ø10	4	19	681		700	2800	17.8
	24	Ø10	4	19	546		565	2260	13.9
	25	Ø10	2		680		680	1360	8.4
	26	Ø10	2		545		545	1090	6.7
	27	Ø10	2		1170		1170	2340	17.2
	28	Ø10	6	19	376		395	7710	30.0
	29	Ø10	1	19	276		285	570	3.6
	30	Ø10	1	24	381		400	800	2.5
	31	Ø10	1	19	381		400	800	2.5
	32	Ø12	1	29	371		400	800	3.8

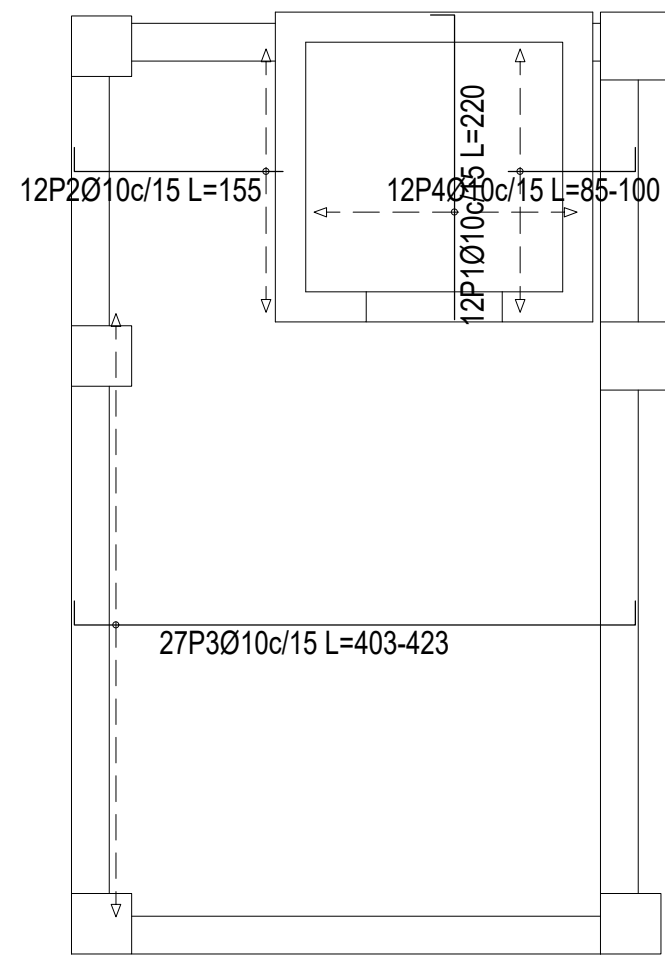
Resumen Acero QUINTO PISO	Long. total (m)	Peso+10% (kg)
Armadura longitudinal superior	Ø10	200.6
AH-500		136

Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Armadura transversal superior	1	Ø16	2	28	004		630	1200	19.9
	2	Ø12	2		365		365	730	6.5
	3	Ø10	3	19	581		610	1830	11.3
	4	Ø10	3		355		355	1665	6.8
	5	Ø10	3	19	581		610	1830	11.3
	6	Ø10	3	19	241		240	780	4.8
	7	Ø10	3	19	157	19	19	587	3.5
	8	Ø12	7	19	591		610	4270	27.9
	9	Ø10	7	7	375		375	262	16.2
	10	Ø12	7	19	591		560	3560	22.4
	11	Ø10	2	20	340		340	880	4.2
	12	Ø12	9	19	537		560	4600	43.9
	13	Ø10	5	19	281		280	1400	8.8
	14	Ø10	5	19	211		230	1150	7.1
	15	Ø12	9	21	448		470	3710	27.8
	16	Ø10	9	19	331		650	1650	36.1
	17	Ø12	9	21	448		470	3710	27.8
	18	Ø12	8	19	606		625	5000	44.4
	19	Ø16	1	26	254		260	260	4.4
	20	Ø10	1	19	191		220	220	2.9
	21	Ø16	1		360		360	360	5.7
	22	Ø10	1	19	191		240	240	2.9
	23	Ø10	1	19	191		210	210	1.3
	24	Ø10	1	19	91		110	110	0.7
Total=									416.5
Total									2663
Total									216.5

ARMADURA LONGITUDINAL

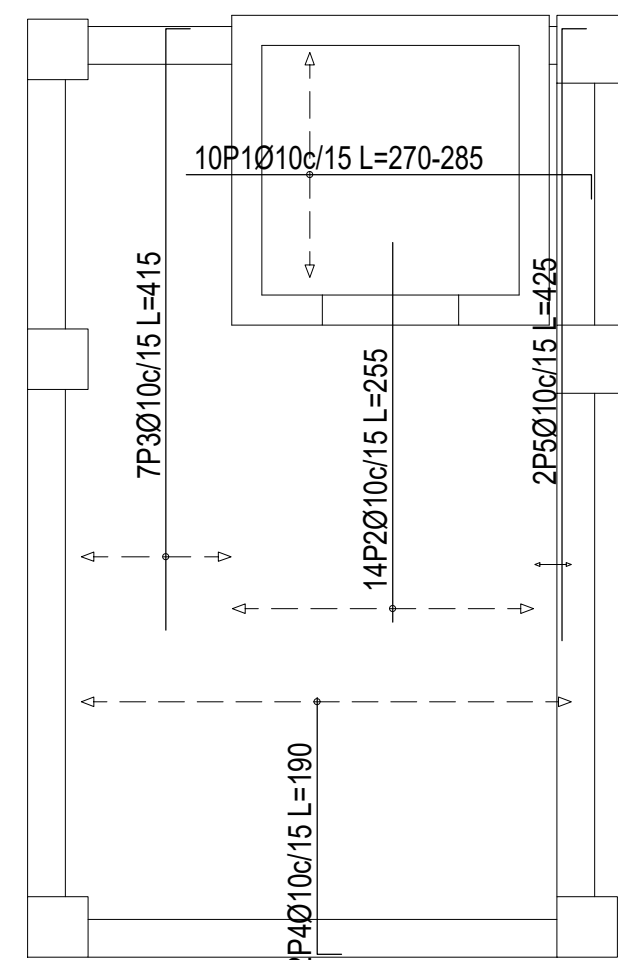
[illegible]

Resumen Acero CUBIERTA ASCENSOR Armadura longitudinal inferior		Long. total (m)	Peso+10% (kg)
AH-500	Ø10	146.3	99

[illegible]

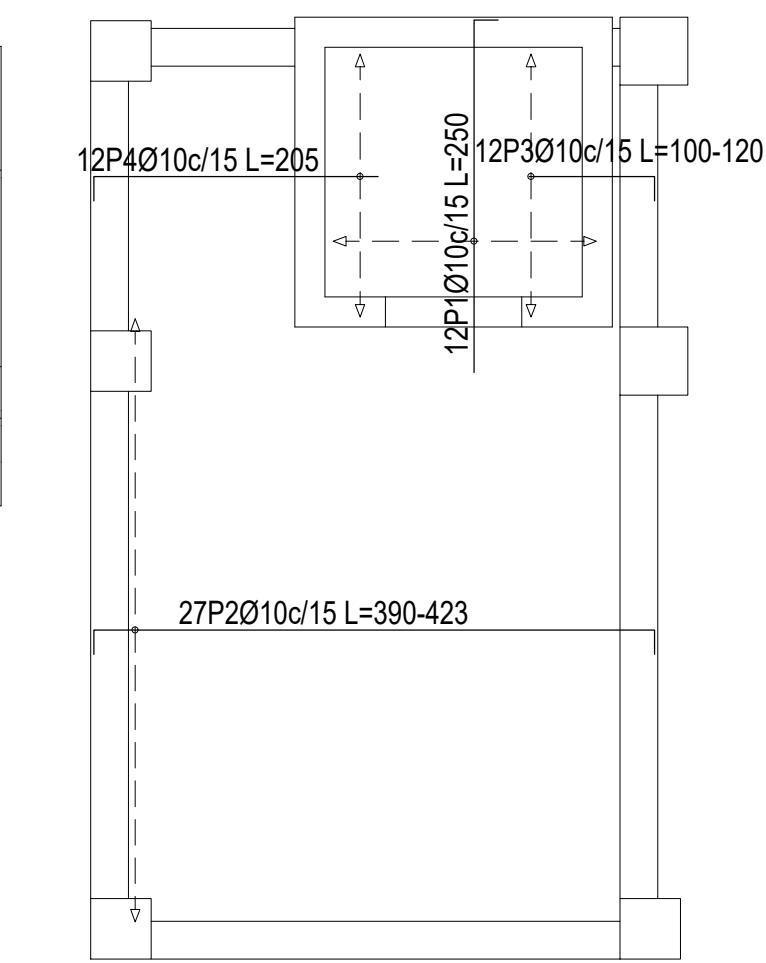
Resumen Acero CUBIERTA ASCENSOR Armadura transversal inferior	Long. total (m)	Peso+10% (kg)
AH-500 Ø10	166.4	113

ARMADURA TRANSVERSAL



Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Armadura longitudinal superior	1	Ø10	10	16	VAR.		VAR.	2830	17.4
	2	Ø10	14		255	255	3570	22.0	
	3	Ø10	7	16	399		415	2905	17.9
	4	Ø10	22	16	174		190	4180	25.8
	5	Ø10	2	16	409		425	850	5.2
							Total+10%:	97.1	
							Ø10:	97.1	
									97.1

Resumen Acero CUBIERTA ASCENSOR Armadura longitudinal superior	Long. total (m)	Peso+10% (kg)
AH-500 Ø10	143,4	97



Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
Armadura transversal superior	1	Ø10	12	16	234	16	250	3000	18.5
	2	Ø10	27	16	VAR.		VAR.	10935	67.4
	3	Ø10	12	16	VAR.		VAR.	1236	7.6
	4	Ø10	12	16	189		205	2460	15.2
Total*10%:								119.6	
Ø10:								119.6	
Total:								119.6	

Resumen Acero CUBIERTA ASCENSOR Armadura transversal superior	Long. total (m)	Peso+10% (kg)
AH-500 Ø10	176.3	120

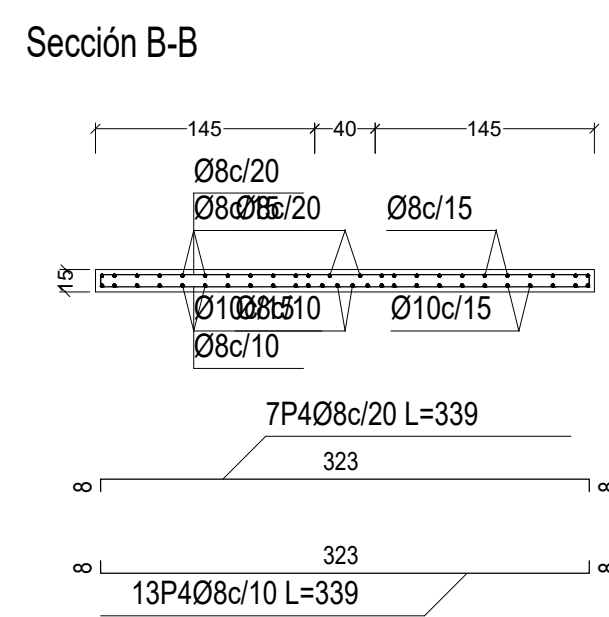
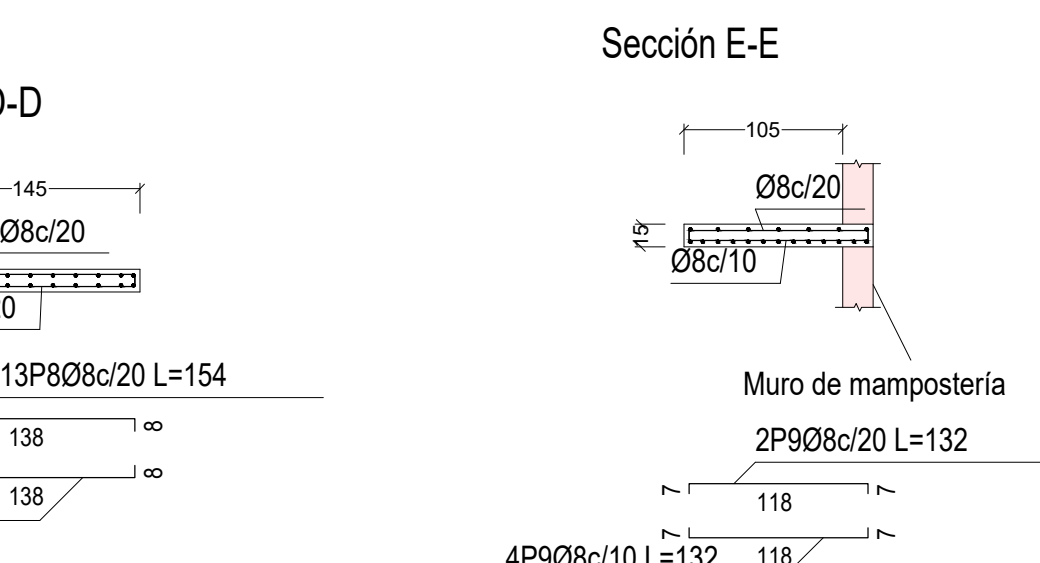
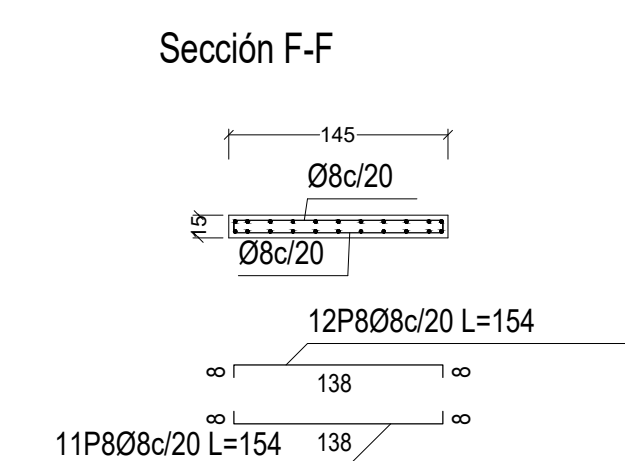
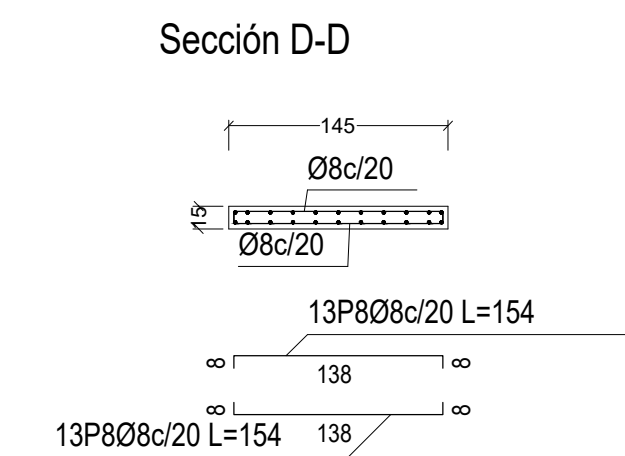
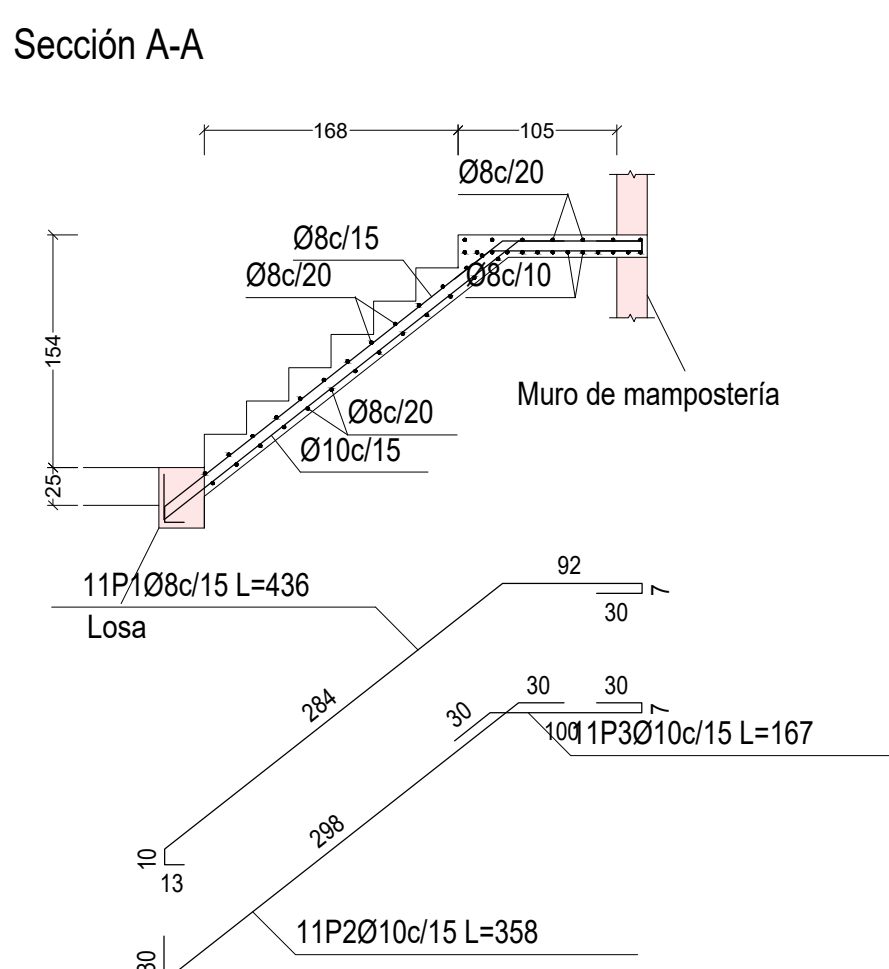
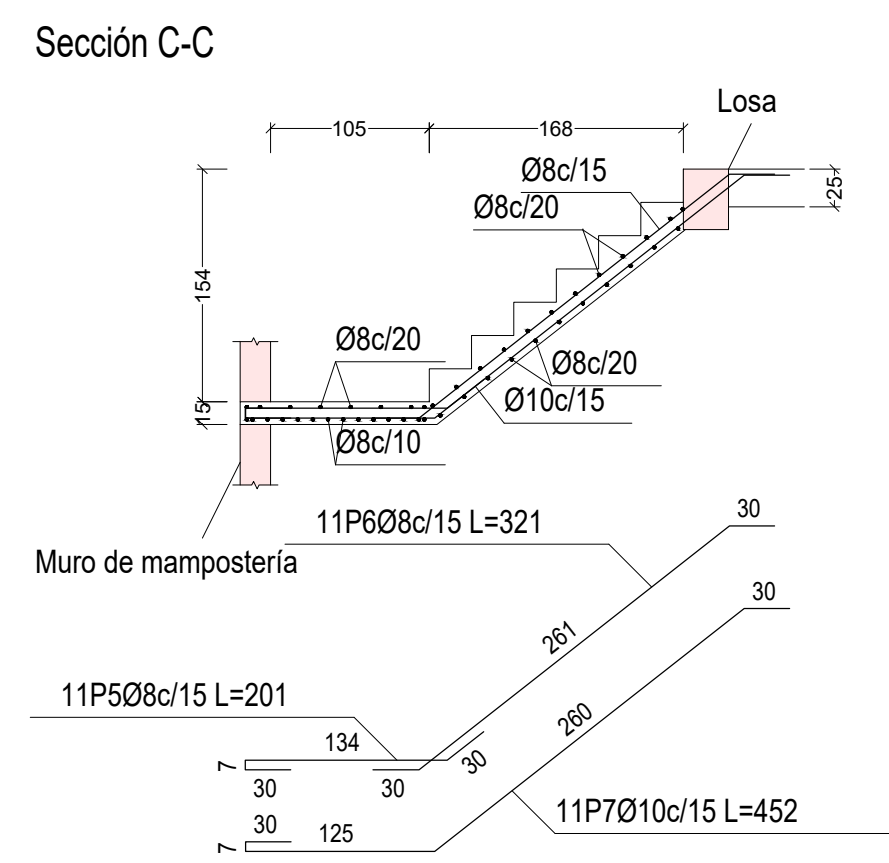
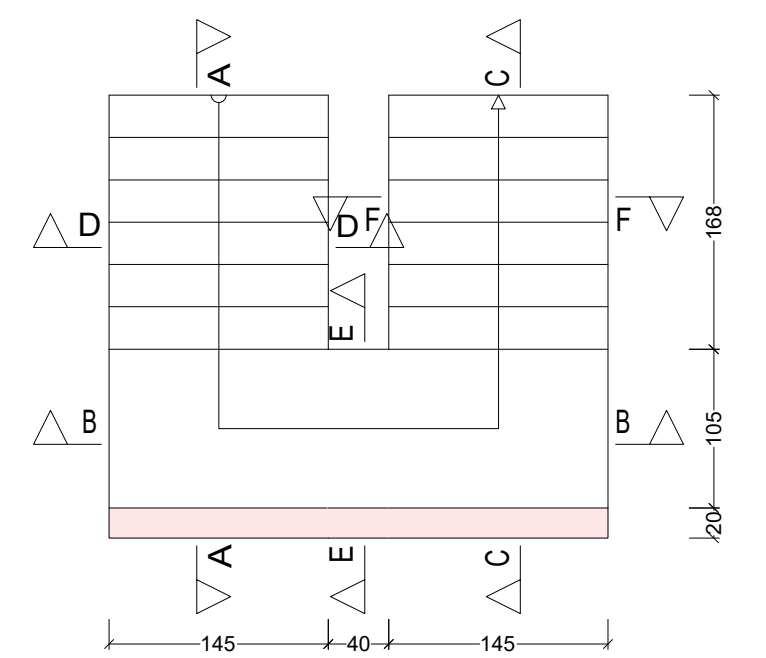
ESCALERA 1º PISO A CUBIERTA

Resumen Acero ESCALERA PRIMER PISP	Long. total (m)	Peso+10% (kg)	Total
AH-500 Ø8	469.8	204	
Ø10	869.0	589	793

Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
ESCALERA PRIMER PISO -ESCALERA 1°PISO	1	Ø8	8		378		378	3024	11.9
	2	Ø10	8		349		349	2792	17.2
	3	Ø10	8		137		137	1096	6.8
	4	Ø10	12		355		355	4260	26.3
	5	Ø10	8		172		172	1376	8.5
	6	Ø10	8		324		324	2592	16.0
	7	Ø10	8		414		414	3312	20.4
	8	Ø8	36		170		170	6120	24.2
	9	Ø8	2		126		126	252	1.0
	10	Ø10	2		126		126	252	1.6
	11	Ø10	10		170		170	1700	10.5
Total+10%: (x5):								158.8 794.0	
								Ø8: 204.0	
								Ø10: 590.0	
								Total: 794.0	

ESCALERA PLANTA BAJA-MEZANINE

ESCALERA 1ºPISO		
Geometría	Ancho	1.450 m
	Espesor	0.15 m
	Huella	0.280 m
	Contrahuella	0.220 m
	Desnivel que salva	3.08 m
	Nº de escalones	14
	Tramos consecutivos iguales	2
Cargas	Planta final	PRIMER PISO
	Planta inicial	PLANTA BAJA
	Peso propio	3.75 kN/m2
	Peldañoado (Hormigonado con la losa)	2.16 kN/m2
	Solado	1.00 kN/m2
Materiales	Barandillas	1.00 kN/m
	Sobrecarga de uso	3.00 kN/m2
	Hormigón	H-25 MPa
	Acero	AH-500
	Rec. geométrico	3.0 cm



Elemento	Pos.	Diám.	No.	Pat. (cm)	Recta (cm)	Pat. (cm)	Long. (cm)	Total (cm)	AH-500 (kg)
ESCALERA PLANTA BAJA -ESCALERA 1°PISO	1	Ø8	11		436		436	4796	18.9
	2	Ø10	11		358		358	3938	24.3
	3	Ø10	11		167		167	1837	11.3
	4	Ø8	20		339		339	6780	26.8
	5	Ø8	21		201		201	2211	8.7
	6	Ø8	11		321		321	3531	13.9
	7	Ø10	11		452		452	4972	30.7
	8	Ø8	49		154		154	7546	29.8
	9	Ø8	6		132		132	792	3.1
Total+10%:								184.3	
								Ø2:	368.6
								Ø10:	222.6
								Ø10:	146.0
								Total:	368.6

Resumen Acero ESCALERA PLANTA BAJA		Long. total (m)	Peso+10% (kg)	Total
AH-500	Ø8	513.1	223	369
	Ø10	214.9	146	

