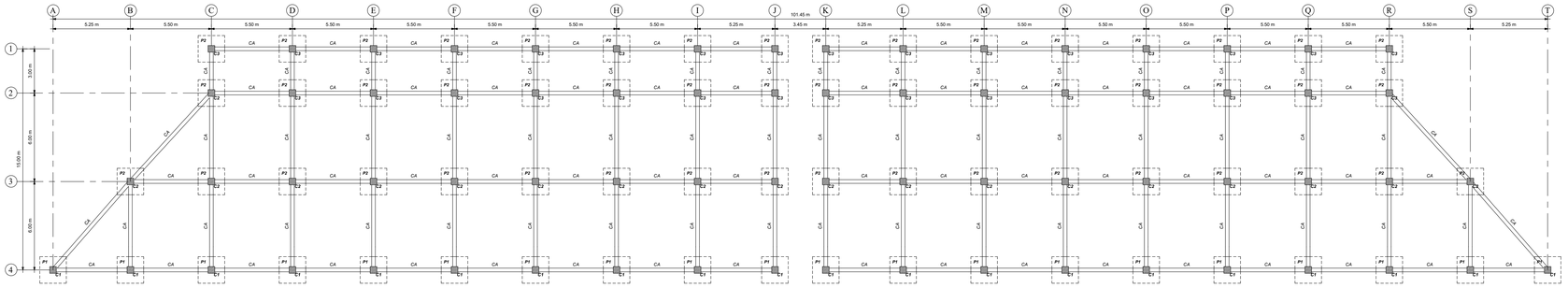
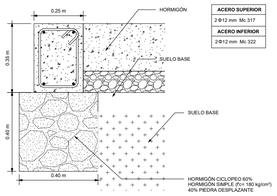


PLANTA DE CIMENTACIÓN N-2.00

ESCALA _____ 1 : 125

CORTE CADENA DE AMARRE

ESCALA _____ 1 : 50



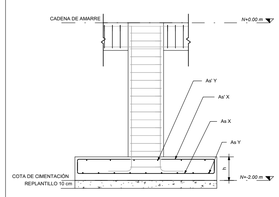
ACERO SUPERIOR
2-Φ12 mm Mc 317
ACERO INFERIOR
2-Φ12 mm Mc 322

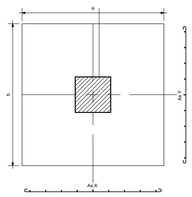
CADENA DE AMARRE

ESCALA _____ 1 : 10

CUADRO DE PLINTOS

TIPO	a (m)	b (m)	h (m)	As X	As Y	As X'	As Y'	NIVEL DE FUNDACIÓN	UBICACIÓN	CANTIDAD
P1	1.60	1.60	0.30	16@14 mm @20 cm Mc 100	16@14 mm @20 cm Mc 100	16@12 mm @30 cm Mc 101	16@12 mm @30 cm Mc 101	-2.00 m	DE A4 HASTA T4	20
P2	1.60	1.60	0.30					-2.00 m	DE B3 HASTA S3, DE C2 HASTA R2 Y DE C1 HASTA R1	50





PLINTO TIPO

ESCALA _____ 1 : 25

ACERO SUPERIOR
⊕ 3-Φ20 mm Mc 345
▲ 3-Φ16 mm Mc 346
ACERO INFERIOR
▲ 4-Φ16 mm Mc 347
ESTRIBOS
1@10 mm @10 cm Mc 331

CORTE DE VIGA 1-1

ESCALA _____ 1 : 20

ACERO SUPERIOR
⊕ 3-Φ20 mm Mc 334
ACERO INFERIOR
⊕ 3-Φ20 mm Mc 335
ESTRIBOS
1@10 mm @10 cm Mc 311

CORTE DE VIGA 2-2

ESCALA _____ 1 : 20

ACERO SUPERIOR
▲ 2-Φ12 mm Mc 321
ACERO INFERIOR
▲ 2-Φ12 mm Mc 323
ESTRIBOS
1EΦ10 mm @10 cm Mc 339

CORTE DE VIGA 3-3

ESCALA _____ 1 : 20

ACERO SUPERIOR
⊕ 3-Φ20 mm Mc 350
▲ 3-Φ16 mm Mc 349
ACERO INFERIOR
▲ 4-Φ16 mm Mc 352
ESTRIBOS
1@10 mm @10 cm Mc 331

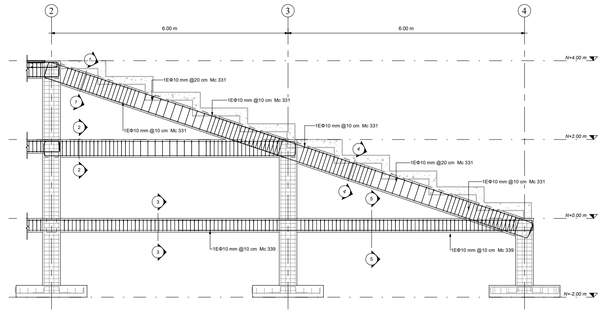
CORTE DE VIGA 4-4

ESCALA _____ 1 : 20

ACERO SUPERIOR
▲ 2-Φ12 mm Mc 324
ACERO INFERIOR
▲ 2-Φ12 mm Mc 325
ESTRIBOS
1EΦ10 mm @10 cm Mc 339

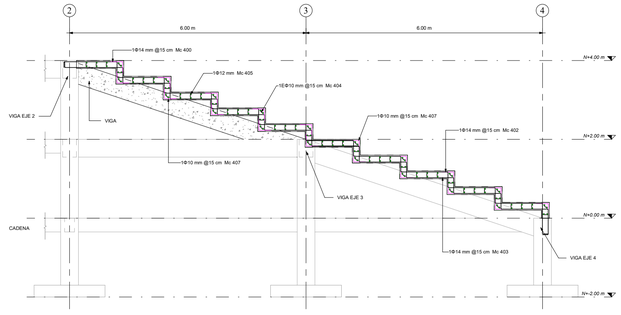
CORTE DE VIGA 5-5

ESCALA _____ 1 : 20



DETALLE DE ARMADO DE VIGA GRADA

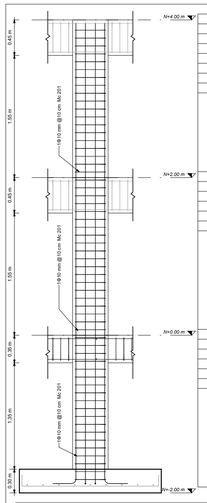
ESCALA _____ 1 : 50



DETALLE ARMADO DE GRADERÍO

ESCALA _____ 1 : 50

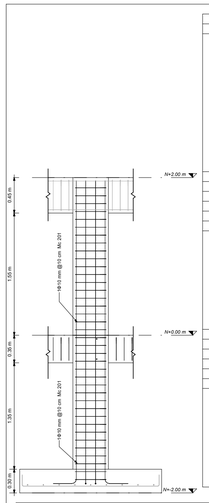
CUADRO DE COLUMNAS



UBICACIÓN
DE C1 HASTA R1 Y C2 HASTA R2
ARMADO LONGITUDINAL
12-Φ16 mm Mc 204
ESTRIBO
1EΦ10 mm @10 cm Mc 201
RAMAL
1EΦ10 mm @10 cm Mc 202
ARMADO LONGITUDINAL
12-Φ16 mm Mc 204
ESTRIBO
1EΦ10 mm @10 cm Mc 201
RAMAL
1EΦ10 mm @10 cm Mc 202
ARMADO LONGITUDINAL
12-Φ16 mm Mc 204
ESTRIBO
1EΦ10 mm @10 cm Mc 201
RAMAL
1EΦ10 mm @10 cm Mc 202

COLUMNA TIPO C3

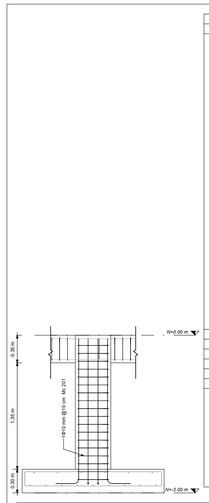
ESCALA _____ 1 : 25



UBICACIÓN
DE B3 HASTA S3
ARMADO LONGITUDINAL
12-Φ16 mm Mc 203
ESTRIBO
1EΦ10 mm @10 cm Mc 201
RAMAL
1EΦ10 mm @10 cm Mc 202
ARMADO LONGITUDINAL
12-Φ16 mm Mc 203
ESTRIBO
1EΦ10 mm @10 cm Mc 201
RAMAL
1EΦ10 mm @10 cm Mc 202

COLUMNA TIPO C2

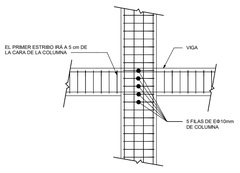
ESCALA _____ 1 : 25



UBICACIÓN
DE A4 HASTA T4
ARMADO LONGITUDINAL
12-Φ16 mm Mc 205
ESTRIBO
1EΦ10 mm @10 cm Mc 201
RAMAL
1EΦ10 mm @10 cm Mc 202

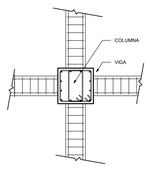
COLUMNA TIPO C1

ESCALA _____ 1 : 25



VISTA LATERAL DETALLE DE UNIÓN VIGA - COLUMNA

ESCALA _____ 1 : 25



VISTA EN PLANTA

ESCALA _____ 1 : 25

PLANILLA DE ACEROS

Mc	Forma	Ø (mm)	CANT.	A	B	C	D	E	Long. de barra (m)	Long. total (m)	Peso (kg)
ZAPATAS											
100	C	14	1200	0 mm	150 mm	1750 mm	150 mm	0 mm	2.00	2532.60	3060.43
101	C	12	240	0 mm	150 mm	1750 mm	150 mm	0 mm	2.00	482.40	428.28
COLUMNAS											
200	L	16	240	0 mm	300 mm	1850 mm	0 mm	0 mm	2.10	506.40	799.31
201	O	10	2900	0 mm	400 mm	400 mm	400 mm	400 mm	1.70	4901.00	2727.04
202	O	10	2900	0 mm	400 mm	180 mm	400 mm	180 mm	1.25	3604.00	2033.18
203	L	16	216	0 mm	300 mm	1850 mm	0 mm	0 mm	2.10	454.80	1383.72
204	L	16	384	0 mm	300 mm	5850 mm	0 mm	0 mm	6.10	2340.25	3557.01
VIGAS											
300	L	20	22	0 mm	9000 mm	300 mm	0 mm	0 mm	9.25	203.50	501.86
301	L	12	8	0 mm	9000 mm	150 mm	0 mm	0 mm	9.15	73.20	64.85
302	L	20	24	0 mm	300 mm	9000 mm	0 mm	0 mm	9.25	222.00	547.48
303	L	12	8	0 mm	150 mm	9000 mm	0 mm	0 mm	9.15	73.05	64.85
304	I	12	40	11000 mm	0 mm	0 mm	0 mm	0 mm	11.00	440.00	390.84
305	I	20	66	11000 mm	0 mm	0 mm	0 mm	0 mm	11.00	726.00	1790.43
306	L	12	8	0 mm	150 mm	9000 mm	0 mm	0 mm	9.15	73.05	64.85
307	L	16	32	0 mm	300 mm	9000 mm	0 mm	0 mm	9.25	296.00	467.88
308	L	12	8	0 mm	9000 mm	150 mm	0 mm	0 mm	9.15	73.05	64.85
309	L	16	32	0 mm	9000 mm	300 mm	0 mm	0 mm	9.25	296.00	467.88
310	I	12	40	11000 mm	0 mm	0 mm	0 mm	0 mm	11.00	440.00	390.84
311	O	10	2892	0 mm	400 mm	300 mm	400 mm	300 mm	1.50	5799.10	3226.73
312	I	16	88	11000 mm	0 mm	0 mm	0 mm	0 mm	11.00	968.00	1528.79
313	L	20	12	0 mm	8500 mm	300 mm	0 mm	0 mm	8.75	105.00	258.95
314	L	16	16	0 mm	300 mm	8500 mm	0 mm	0 mm	8.75	140.13	218.46
315	L	12	8	0 mm	8500 mm	150 mm	0 mm	0 mm	8.65	69.05	61.29
316	L	12	8	0 mm	150 mm	8500 mm	0 mm	0 mm	8.65	69.05	61.29
317	L	12	4	0 mm	11000 mm	150 mm	0 mm	0 mm	11.15	44.60	39.53
318	L	12	4	0 mm	9000 mm	150 mm	0 mm	0 mm	9.15	36.60	32.42
319	L	12	4	0 mm	150 mm	9000 mm	0 mm	0 mm	9.15	36.50	32.42
320	C	12	4	0 mm	150 mm	6350 mm	150 mm	0 mm	6.60	26.45	23.47
321	L	12	32	0 mm	150 mm	7000 mm	0 mm	0 mm	7.15	228.15	202.56
322	L	12	4	0 mm	150 mm	11000 mm	0 mm	0 mm	11.15	44.50	39.53
323	L	12	32	0 mm	7000 mm	150 mm	0 mm	0 mm	7.15	228.15	202.56
324	L	16	32	0 mm	9000 mm	150 mm	0 mm	0 mm	9.15	292.15	259.38
325	L	12	32	0 mm	150 mm	9000 mm	0 mm	0 mm	9.15	292.15	259.38
326	C	12	18	0 mm	240 mm	3400 mm	240 mm	0 mm	3.85	61.40	54.50
327	C	14	48	0 mm	240 mm	3400 mm	240 mm	0 mm	3.85	184.30	222.73
328	L	20	48	0 mm	300 mm	8300 mm	300 mm	0 mm	8.90	393.70	815.61
329	O	10	352	0 mm	300 mm	250 mm	300 mm	250 mm	1.20	419.90	233.08
330	L	12	4	0 mm	300 mm	8500 mm	0 mm	0 mm	8.80	35.10	31.18
331	O	10	1029	0 mm	450 mm	300 mm	450 mm	300 mm	1.80	2430.36	1352.62
332	C	14	48	0 mm	240 mm	3400 mm	240 mm	0 mm	3.85	184.30	222.73
333	L	12	4	0 mm	300 mm	9000 mm	0 mm	0 mm	9.30	37.10	32.96
334	L	16	64	0 mm	300 mm	6400 mm	300 mm	0 mm	6.90	442.00	695.30
335	L	12	4	0 mm	9000 mm	300 mm	0 mm	0 mm	9.30	37.10	32.96
336	L	20	6	0 mm	300 mm	9000 mm	0 mm	0 mm	9.25	55.50	136.87
337	L	16	8	0 mm	300 mm	9000 mm	0 mm	0 mm	9.25	74.10	115.47
338	L	16	8	0 mm	9000 mm	300 mm	0 mm	0 mm	9.25	55.50	86.60
339	O	10	5050	80 mm	200 mm	300 mm	200 mm	300 mm	1.10	5558.50	3428.74
340	L	12	4	0 mm	8500 mm	300 mm	0 mm	0 mm	8.80	35.10	31.18
341	L	20	6	0 mm	9000 mm	300 mm	0 mm	0 mm	9.25	55.50	136.87
342	L	16	8	0 mm	8900 mm	300 mm	0 mm	0 mm	9.15	73.30	114.22
343	L	16	6	0 mm	300 mm	8500 mm	300 mm	0 mm	8.00	54.10	84.36
344	L	20	6	0 mm	300 mm	8500 mm	300 mm	0 mm	8.00	54.00	133.17
345	L	20	48	0 mm	6500 mm	300 mm	0 mm	0 mm	6.75	324.00	799.03
346	L	16	8	0 mm	300 mm	8500 mm	300 mm	0 mm	8.00	72.15	112.47
347	L	16	64	0 mm	300 mm	6500 mm	0 mm	0 mm	6.75	432.65	674.34
348	L	16	48	0 mm	8500 mm	300 mm	0 mm	0 mm	8.75	324.50	505.76
349	L	16	48	0 mm	300 mm	8500 mm	0 mm	0 mm	8.75	420.50	655.39
350	O	20	48	0 mm	300 mm	8500 mm	0 mm	0 mm	8.75	420.00	1035.78
351	C	20	48	0 mm	300 mm	3400 mm	300 mm	0 mm	3.90	187.20	461.66
352	L	16	64	0 mm	8500 mm	300 mm	0 mm	0 mm	8.75	560.65	873.85
353	C	16	64	0 mm	300 mm	3300 mm	300 mm	0 mm	3.90	250.25	390.04
354	C	12	4	0 mm	150 mm	6400 mm	150 mm	0 mm	6.65	26.65	23.65
355	L	20	2	9000 mm	300 mm	0 mm	0 mm	0 mm	9.25	18.50	45.62
356	O	10	408	0 mm	600 mm	400 mm	600 mm	400 mm	2.10	848.55	472.15
357	O	10	19	80 mm	450 mm	300 mm	450 mm	300 mm	1.80	30.20	18.81
GRADERÍO											
400	Z	14	590	150 mm	1390 mm	410 mm	1210 mm	410 mm	9.40	5540.10	6694.73
401	Z	14	590	1210 mm	410 mm	1210 mm	410 mm	1210 mm	9.50	5610.50	6781.42
402	Z	14	590	1210 mm	410 mm	1210 mm	410 mm	1210 mm	8.45	4973.75	6010.29
403	Z	14	590	150 mm	660 mm	1270 mm	410 mm	1270 mm	5.30	4897.00	5917.60
404	C	10	34810	40 mm	30 mm	130 mm	30 mm	40 mm	0.20	6962.00	4292.33
405	I	12	708	12000 mm	0 mm	0 mm	0 mm	0 mm	12.00	8496.00	7542.87
406	I	12	236	9960 mm	0 mm	0 mm	0 mm	0 mm	9.65	2278.75	2024.00
407	L	10	11210	0 mm	310 mm	310 mm	0 mm	0 mm	0.60	6726.00	4148.83
LOSA											
500	C	12	10	80 mm	50 mm	10 mm	11200 mm	50 mm	11.35	113.70	100.94
501	C	12	20	80 mm	50 mm	10 mm	1730 mm	50 mm	1.90	227.60	212.04
502	C	12	10	70 mm	50 mm	10 mm	6070 mm	50 mm	6.20	62.20	55.22
503	C	12	150	80 mm	40 mm	10 mm	3290 mm	40 mm	3.40	510.00	458.11
504	C	12	300	140 mm	1160 mm	140 mm	140 mm	140 mm	1.40	420.00	379.21
505	C	12	10	0 mm	100 mm	2060 mm	100 mm	0 mm	2.20	22.20	19.71
506	C	12	50	0 mm	100 mm	3720 mm	100 mm	0 mm	4.00	199.00	176.68
507	C	12	10	0 mm	100 mm	3720 mm	100 mm	0 mm	3.90	38.90	34.45
508	C	12	10	0 mm	100 mm	1950 mm	100 mm	0 mm	2.10	21.10	18.73
										TOTAL	84199.77

UNIVERSIDAD TÉCNICA DE AMBATO

FACULTAD DE INGENIERÍA CIVIL Y MECÁNICA

CARRERA DE INGENIERÍA CIVIL

UBICACIÓN:

LOTE DE PROYECTO

PROYECTO TÉCNICO: DISEÑO Y CÁLCULO DE UN ESCENARIO DEPORTIVO TIPO ESTADIO DE FÚTBOL CON CAPACIDAD PARA 2000 PERSONAS EN EL CASERÍO EL PORVENIR PERTENECIENTE AL CANTÓN MOCHA, PROVINCIA DE TUNGURAHUA

NOMBRE:
WILLIAM DAVID FREIRE ORTIZ

TUTOR:
ING. BYRON CAÑIZARES

CONTIENE:
DISEÑO Y DETALLE ESTRUCTURAL DE GRADERÍO

FECHA:	ESCALA:
31/05/2022	INDICADAS
DISEÑÓ:	APROBÓ: