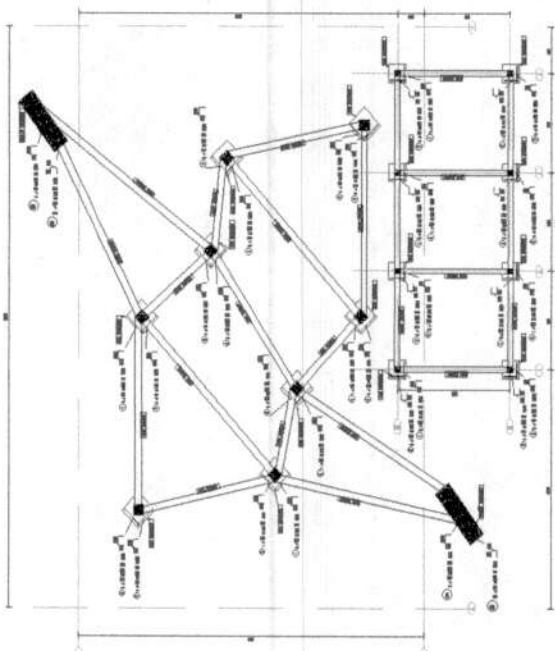




3435

SUBESTACION				
ZAPATAS				
LOCALIZACION	TIPO DE ZAPATA	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
ZT/1	ZT/1	16.80	8	134.40
TOTAL				134.40
VIGAS DE CIMENTACIÓN				
LOCALIZACION	REF	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
VC/07	VC/07	69.41	4	277.65
VC/13	VC/13	171.35	2	342.70
TOTAL				620.35
CAFETERIA				
ZAPATAS				
LOCALIZACION	TIPO DE ZAPATA	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
ZT/1	ZT/1	49.70	2	99.40
ZT/2	ZT/2	49.70	6	298.21
ZT/3	ZT/3	16.51	8	132.08
PD/1	PD/1	91.42	2	182.83
TOTAL				712.52
VIGAS DE CIMENTACIÓN				
LOCALIZACION	REF	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
VC/1	VC/1	188.22	1	188.22
VC/2	VC/2	128.26	1	128.26
VC/3	VC/3	172.38	1	172.38
VC/4	VC/4	75.23	1	75.23
VC/5	VC/5	184.90	1	184.90
VC/6	VC/6	186.81	1	186.81
VC/7	VC/7	79.38	4	317.50
VC/8	VC/8	81.07	1	81.07
VC/9	VC/9	140.76	1	140.76
VC/10	VC/10	81.07	1	81.07
VC/11	VC/11	187.02	1	187.02
VC/12	VC/12	170.27	1	170.27
VC/13	VC/13	187.91	2	375.82
VC/14	VC/14	79.93	1	79.93
VC/15	VC/15	202.90	1	202.90
VC/16	VC/16	127.70	1	127.70
VC/17	VC/17	175.93	1	175.93
TOTAL				2,878.95
GARITA				
VIGAS DE CIMENTACIÓN				
LOCALIZACION	REF	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
VC/1	VC/1	33.76	2	67.51
VC/2	VC/2	23.33	2	46.66
TOTAL				114.17
CANTIDAD TOTAL				8022.85

Nombre: **Gustavo Barrios Baquero**
 RESIDENTE DE INTERVENTORIA
 CONSORCIO INTERFAVANCE EDUCATIVO

Nombre: **Maria Bernarda Nova**
 DIRECTOR DE INTERVENTORIA
 CONSORCIO INTERFAVANCE EDUCATIVO

Nombre: **Duber Duran**
 RESIDENTE DE OBRA
 CONSORCIO PEDAGOGIA CESARENSE

Nombre: **Omar Moukazel**
 DIRECTOR DE OBRA
 CONSORCIO PEDAGOGIA CESARENSE

ACERO DE REFUERZO EN CIMENTACION

ACERO VIGAS DE CIMENTACION BLOQUE 1							
REFERENCIA	DESCRIPCION	DIAMETRO	KG/M	LONGITUD DE VARILLA	Nº VARILLA	KG TOTAL	DIAGRAMA
VC1/101	ACERO SUPERIOR	3/4"	2.25	6.00	2	27.00	
	ACERO SUPERIOR	3/4"	2.25	8.50	4	76.50	
	ACERO SUPERIOR	3/4"	2.25	9.00	6	121.50	
	ACERO SUPERIOR	3/4"	2.25	5.00	2	22.50	
	ACERO INFERIOR	3/4"	2.25	7.50	1	16.88	
	ACERO INFERIOR	3/4"	2.25	9.00	5	101.25	
	ACERO INFERIOR	3/4"	2.25	3.00	1	6.75	
	ACERO INFERIOR	5/8"	1.56	2.50	1	3.90	
	ACERO INFERIOR	5/8"	1.56	9.00	5	70.20	
	ESTRIBOS	3/8"	0.56	1.44	230	185.47	
SUBTOTAL						643.65	
VC1/102	ACERO SUPERIOR	3/4"	2.25	5.50	2	24.75	
	ACERO SUPERIOR	3/4"	2.25	9.00	24	486.00	
	ACERO SUPERIOR	3/4"	2.25	5.00	2	22.50	
	ACERO INFERIOR	3/4"	2.25	7.50	1	16.88	
	ACERO INFERIOR	3/4"	2.25	4.00	1	9.00	
	ACERO INFERIOR	3/4"	2.25	6.00	1	13.50	
	ACERO INFERIOR	3/4"	2.25	9.00	11	222.75	
	ACERO INFERIOR	3/4"	2.25	2.50	1	5.63	
	ACERO INFERIOR	5/8"	1.56	2.50	1	3.90	
	ACERO INFERIOR	5/8"	1.56	9.00	12	168.48	
	GANCHOS	3/8"	0.56	1.44	520	419.33	
SUBTOTAL						1484.41	
VC1/103	ACERO SUPERIOR	5/8"	1.56	6.00	3	28.08	
	ACERO SUPERIOR	5/8"	1.56	8.00	3	37.44	
	ACERO SUPERIOR	5/8"	1.56	9.00	33	463.32	
	ACERO INFERIOR	5/8"	1.56	5.00	3	23.40	
	ACERO INFERIOR	5/8"	1.56	2.50	3	11.70	
	ACERO INFERIOR	5/8"	1.56	9.00	34	477.36	
	ACERO INFERIOR	5/8"	1.56	7.50	3	35.10	
	ACERO INFERIOR	5/8"	1.56	4.00	2	12.48	
	ACERO INFERIOR	5/8"	1.56	6.00	2	18.72	
	GANCHOS	3/8"	0.56	1.44	520	419.33	
SUBTOTAL						1526.93	
VC1/104	ACERO SUPERIOR	5/8"	1.56	6.00	3	28.08	
	ACERO SUPERIOR	5/8"	1.56	8.50	3	39.78	
	ACERO SUPERIOR	5/8"	1.56	5.00	3	23.40	
	ACERO INFERIOR	5/8"	1.56	7.50	3	35.10	
	ACERO INFERIOR	5/8"	1.56	4.00	2	12.48	
	ACERO INFERIOR	5/8"	1.56	8.50	2	26.52	
	ACERO INFERIOR	5/8"	1.56	2.50	1	3.90	
	ACERO INFERIOR	5/8"	1.56	9.00	1	14.04	
	GANCHOS	3/8"	0.56	1.44	76	61.29	
SUBTOTAL						244.59	

3434

VC1/105	ACERO SUPERIOR	5/8"	1.56	6.00	3	28.08	0.20	5.75	
	ACERO SUPERIOR	5/8"	1.56	8.50	3	39.78	0.20	5.50	
	ACERO SUPERIOR	5/8"	1.56	5.00	3	23.40	0.25	4.75	
	ACERO INFERIOR	5/8"	1.56	7.50	3	35.10	0.25	7.25	
	ACERO INFERIOR	5/8"	1.56	4.00	2	12.48	0.25	4.00	
	ACERO INFERIOR	5/8"	1.56	8.50	2	26.52	0.25	6.25	
	ACERO INFERIOR	5/8"	1.56	2.50	1	3.90	0.25	2.25	
	ACERO INFERIOR	5/8"	1.56	9.00	1	14.04	0.25	9.00	
	GANCHOS	3/8"	0.56	1.40	76	59.58			
SUBTOTAL						242.88			
VC1/106	ACERO SUPERIOR	5/8"	1.56	6.00	3	28.08	0.20	5.75	
	ACERO SUPERIOR	5/8"	1.56	8.00	3	37.44	0.30	5.00	
	ACERO SUPERIOR	3/4"	2.25	5.50	4	49.50	0.25	5.00	
	ACERO INFERIOR	5/8"	1.56	2.50	1	3.90	0.25	2.25	
	ACERO INFERIOR	5/8"	1.56	8.50	1	13.26	0.25	8.50	
	ACERO INFERIOR	5/8"	1.56	8.00	1	12.48	0.25	7.75	
	ACERO INFERIOR	5/8"	1.56	7.00	4	43.68	0.25	6.75	
	ACERO INFERIOR	5/8"	1.56	5.50	2	17.16	0.25	5.50	
	GANCHOS	3/8"	0.56	1.44	76	61.29			
SUBTOTAL						266.79			
VC1/107	ACERO SUPERIOR	5/8"	1.56	6.00	3	28.08	0.20	5.75	
	ACERO SUPERIOR	5/8"	1.56	6.00	3	28.08	0.20	5.50	
	ACERO SUPERIOR	5/8"	1.56	7.50	3	35.10	0.25	7.25	
	ACERO INFERIOR	5/8"	1.56	2.50	1	3.90	0.25	2.25	
	ACERO INFERIOR	5/8"	1.56	8.50	1	13.26	0.25	8.50	
	ACERO INFERIOR	5/8"	1.56	8.00	1	12.48	0.25	7.75	
	ACERO INFERIOR	5/8"	1.56	7.00	4	43.68	0.25	6.75	
	ACERO INFERIOR	5/8"	1.56	5.50	2	17.16	0.25	5.50	
	GANCHOS	3/8"	0.56	1.40	76	59.58			
SUBTOTAL						241.32			
VC1/108, VC1/109, VC1/110	ACERO SUPERIOR	5/8"	1.56	6.00	3	28.08	0.20	5.75	
	ACERO SUPERIOR	5/8"	1.56	8.00	3	37.44	0.30	5.00	
	ACERO SUPERIOR	3/4"	2.25	5.50	4	49.50	0.25	5.00	
	ACERO INFERIOR	5/8"	1.56	2.50	1	3.90	0.25	2.25	
	ACERO INFERIOR	5/8"	1.56	8.50	1	13.26	0.25	8.50	
	ACERO INFERIOR	5/8"	1.56	8.00	1	12.48	0.25	7.75	
	ACERO INFERIOR	5/8"	1.56	7.00	4	43.68	0.25	6.75	
	ACERO INFERIOR	5/8"	1.56	5.50	2	17.16	0.25	5.50	
	GANCHOS	3/8"	0.56	1.40	76	59.58			
SUBTOTAL						265.88			
VC1/111	ACERO SUPERIOR	5/8"	1.56	9.00	3	42.12	0.20	8.75	
	ACERO SUPERIOR	5/8"	1.56	5.50	3	25.74	0.20	5.25	
	ACERO INFERIOR	5/8"	1.56	7.00	3	32.76	0.25	6.75	
	ACERO INFERIOR	5/8"	1.56	7.50	3	35.10	0.25	7.25	
	GANCHOS	3/8"	0.56	1.44	56	45.16			
SUBTOTAL						188.88			
VC1/112, VC1/113, VC1/114, VC1/115, VC1/116, VC1/117	ACERO SUPERIOR	5/8"	1.56	9.00	3	42.12	0.20	8.75	
	ACERO SUPERIOR	5/8"	1.56	5.50	3	25.74	0.20	5.25	
	ACERO INFERIOR	5/8"	1.56	7.00	3	32.76	0.20	6.75	
	ACERO INFERIOR	5/8"	1.56	7.50	3	35.10	0.20	7.25	
	GANCHOS	3/8"	0.56	1.40	56	43.90			
SUBTOTAL						179.62			
VC1/118	ACERO SUPERIOR	3/4"	2.25	3.50	2	15.75	0.30	3.25	
	ACERO SUPERIOR	3/4"	2.25	7.50	2	33.75	0.30	7.25	
	ACERO INFERIOR	5/8"	1.56	7.00	1	10.92	0.25	6.75	
	ACERO INFERIOR	5/8"	1.56	4.00	1	6.24	0.25	3.75	
	ACERO INFERIOR	3/4"	2.25	8.50	1	19.13	0.30	8.25	
	ACERO INFERIOR	3/4"	2.25	3.00	1	6.75	0.30	2.75	
	GANCHOS	3/8"	0.56	1.40	60	47.04			
SUBTOTAL						139.58			

ACERO VIGAS DE CIMENTACION BLOQUE 4							
REFERENCIA	DESCRIPCION	DIAMETRO	KG/M	LONGITUD DE VARILLA	N° VARILLA	KG TOTAL	DIAGRAMA
VC/103, VC/104 EJE 3(E-K), EJE 2(E-K)	ACERO SUPERIOR	5/8"	1.56	6.00	3	28.08	
	ACERO SUPERIOR	5/8"	1.56	8.00	9	112.32	
	ACERO SUPERIOR	5/8"	1.56	10.00	6	93.60	
	ACERO SUPERIOR	5/8"	1.56	6.00	3	28.08	
	ACERO INFERIOR	5/8"	1.56	8.00	3	37.44	
	ACERO INFERIOR	5/8"	1.56	12.00	6	112.32	
	ACERO INFERIOR	5/8"	1.56	6.00	6	56.16	
	ACERO INFERIOR	5/8"	1.56	11.00	3	51.48	
	ESTRIBOS	3/8"	0.56	1.30	270	196.56	
SUBTOTAL						716.04	
VC/102 EJE 1(F-J)	ACERO SUPERIOR	5/8"	1.56	6.00	3	28.08	
	ACERO SUPERIOR	5/8"	1.56	10.00	3	46.80	
	ACERO SUPERIOR	5/8"	1.56	8.00	6	74.88	
	ACERO SUPERIOR	5/8"	1.56	10.00	3	46.80	
	ACERO INFERIOR	5/8"	1.56	6.00	3	28.08	
	ACERO INFERIOR	5/8"	1.56	12.00	3	56.16	
	ACERO INFERIOR	5/8"	1.56	5.00	4	31.20	
	ACERO INFERIOR	5/8"	1.56	8.00	3	37.44	
	ESTRIBOS	3/8"	0.56	1.30	180	131.04	
SUBTOTAL						488.48	
VC/105, VC/106 EJE 1(E-F), EJE 1(J-K)	ACERO SUPERIOR	5/8"	1.56	8.75	3	40.95	
	ACERO INFERIOR	5/8"	1.56	8.75	3	40.95	
	ESTRIBOS	3/8"	0.56	1.30	45	32.76	
SUBTOTAL						114.66	
VC/107, VC/113 EJE E(-1-3), EJE K(-1-3)	ACERO SUPERIOR	5/8"	1.56	6.00	6	56.16	
	ACERO SUPERIOR	5/8"	1.56	7.15	3	33.46	
	ACERO INFERIOR	5/8"	1.56	10.25	3	47.97	
	ACERO INFERIOR	5/8"	1.56	8.00	3	37.44	
	ESTRIBOS	3/8"	0.56	1.30	84	61.15	
SUBTOTAL						236.18	
VC/108, VC/112 EJE F(-3-3) EJE J(-3-3)	ACERO SUPERIOR	5/8"	1.56	10.00	3	46.80	
	ACERO SUPERIOR	5/8"	1.56	10.00	3	46.80	
	ACERO SUPERIOR	5/8"	1.56	11.00	3	51.48	
	ACERO INFERIOR	5/8"	1.56	8.00	3	37.44	
	ACERO INFERIOR	5/8"	1.56	11.00	3	51.48	
	ACERO SUPERIOR	5/8"	1.56	12.00	3	56.16	
	ESTRIBOS	3/8"	0.56	1.30	161	117.21	
SUBTOTAL						487.37	

Son=270

6.15 6.15 1.25

3/8" x 10' 3

VC/109, VC/110, VC/111 EJE G(-3-3), EJE H(-3-3), EJE I(-3-3),	ACERO SUPERIOR	5/8"	1.56	8.00	3	37.44		Son=147 L=1.50/1.20m L=1.50/1.20m L=1.50/1.20m L=1.50/1.20m
	ACERO SUPERIOR	5/8"	1.56	12.00	3	56.16		
	ACERO SUPERIOR	5/8"	1.56	11.00	3	51.48		
	ACERO INFERIOR	5/8"	1.56	5.00	3	23.40		
	ACERO INFERIOR	5/8"	1.56	10.00	6	93.60		
	ACERO INFERIOR	5/8"	1.56	7.00	3	32.76		
	ESTRIBOS	3/8"	0.56	1.30	147	107.02		
SUBTOTAL						401.86		
VC/119 EJE E-F(-3-1), EJE J-K(-3-1)	ACERO SUPERIOR	5/8"	1.56	5.50	3	25.74		Son=122 L=1.50/1.20m L=1.50/1.20m
	ACERO SUPERIOR	5/8"	1.56	8.00	3	37.44		
	ACERO INFERIOR	5/8"	1.56	10.00	3	46.80		
	ACERO INFERIOR	5/8"	1.56	3.50	3	16.38		
	ESTRIBOS	3/8"	0.56	1.00	112	62.72		
SUBTOTAL						189.08		
VC/114, VC/116 EJE -3(F-G), EJE -3(H), EJE - 3(I-J)	ACERO SUPERIOR	5/8"	1.56	4.00	3	18.72		Son=31 L=1.50/1.20m L=1.50/1.20m
	ACERO INFERIOR	5/8"	1.56	4.00	3	18.72		
	ESTRIBOS	3/8"	0.56	1.00	31	17.36		
SUBTOTAL						54.80		
VC/115 EJE -3(E-K)	ACERO SUPERIOR	5/8"	1.56	9.50	3	44.46		Son=240 L=1.50/1.20m L=1.50/1.20m
	ACERO SUPERIOR	5/8"	1.56	10.00	6	93.60		
	ACERO SUPERIOR	5/8"	1.56	8.00	3	37.44		
	ACERO SUPERIOR	5/8"	1.56	9.75	3	45.63		
	ACERO INFERIOR	5/8"	1.56	5.35	3	25.04		
	ACERO INFERIOR	5/8"	1.56	12.00	6	112.32		
	ACERO INFERIOR	5/8"	1.56	6.00	3	28.08		
	ACERO INFERIOR	5/8"	1.56	9.00	3	42.12		
	ACERO INFERIOR	5/8"	1.56	4.60	3	21.53		
	ESTRIBOS	3/8"	0.56	1.30	240	174.72		
SUBTOTAL						624.94		
VC/117 EJE -2(E-F) EJE -2(J-K)	ACERO SUPERIOR	5/8"	1.56	5.35	3	25.04		Son=30 L=1.50/1.20m L=1.50/1.20m
	ACERO INFERIOR	5/8"	1.56	5.35	3	25.04		
	ESTRIBOS	3/8"	0.56	1.30	30	21.84		
SUBTOTAL						71.92		
VC/121 EJE -3(F-J)	ACERO SUPERIOR	5/8"	1.56	5.60	3	26.21		Son=200 L=1.50/1.20m L=1.50/1.20m
	ACERO SUPERIOR	5/8"	1.56	12.00	3	56.16		
	ACERO SUPERIOR	5/8"	1.56	5.80	3	27.14		
	ACERO INFERIOR	5/8"	1.56	8.00	6	74.88		
	ACERO INFERIOR	5/8"	1.56	7.50	3	35.10		
	ESTRIBOS	3/8"	0.56	1.00	200	112.00		
SUBTOTAL						331.49		

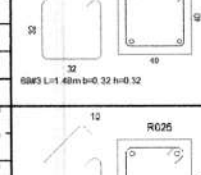
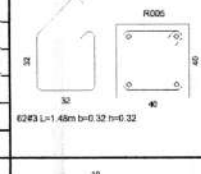
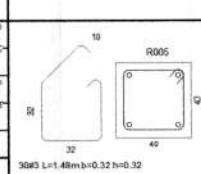
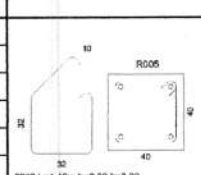
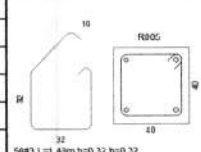
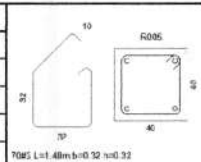
ACERO VIGAS DE CIMENTACION SUBESTACION							
REFERENCIA	DESCRIPCION	DIAMETRO	KG/M	LONGITUD DE VARILLA	N° VARILLA	KG TOTAL	DIAGRAMA
VC/07	ACERO SUPERIOR	3/4"	2.25	6.85	2	30.83	
	ACERO INFERIOR	1/2"	1.00	6.75	2	13.50	
	ESTRIBOS	3/8"	0.56	1.28	35	25.09	
SUBTOTAL						69.41	

3443

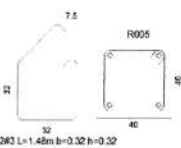
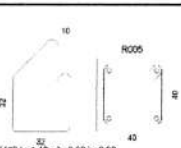
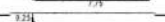
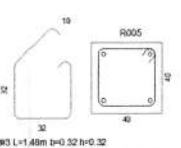
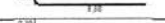
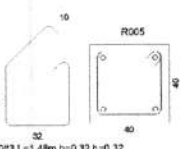
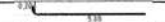
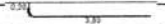
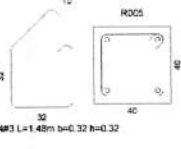
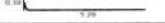
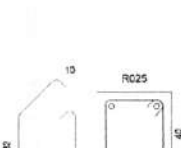
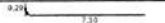
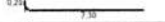
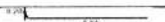
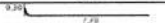
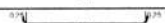
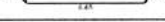
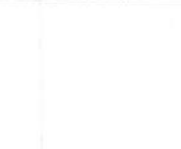
VC/13	ACERO SUPERIOR	3/4"	2.25	8.55	1	19.24	0.30	6.25
	ACERO SUPERIOR	1/2"	1.00	3.50	1	3.50	0.25	3.25
	ESTRIBOS	1/2"	1.00	6.75	1	6.75	0.25	6.50
	ACERO SUPERIOR	3/4"	2.25	12.00	1	27.00	0.30	11.70
	ESTRIBOS	3/4"	2.25	8.55	1	19.24	0.30	6.25
	ACERO SUPERIOR	1/2"	1.00	3.50	1	3.50	0.25	3.25
	ESTRIBOS	1/2"	1.00	11.00	1	11.00		11.00
	ACERO SUPERIOR	1/2"	1.00	10.00	1	10.00	0.25	9.75
	ACERO SUPERIOR	3/4"	2.25	4.85	1	10.91	0.30	4.55
ESTRIBOS						3/8"	0.56	1.28
SUBTOTAL								171.35



ACERO VIGAS DE CIMENTACION CAFETERIA								
REFERENCIA	DESCRIPCION	DIAMETRO	KG/M	LONGITUD DE VARILLA	N° VARILLA	KG TOTAL	DIAGRAMA	
VC/01	ACERO SUPERIOR	1/2"	1.00	6.00	4	24.00	0.25	3.80
	ACERO SUPERIOR	1/2"	1.00	9.00	4	36.00	0.25	8.70
	ACERO INFERIOR	5/8"	1.56	9.00	3	42.12	0.25	8.70
	ACERO INFERIOR	5/8"	1.56	6.00	3	28.08	0.25	8.70
	ESTRIBOS	3/8"	0.56	1.48	70	58.02		
SUBTOTAL						188.22		
VC/02	ACERO SUPERIOR	1/2"	1.00	5.00	4	20.00	0.20	4.30
	ACERO SUPERIOR	1/2"	1.00	6.00	4	24.00	0.20	5.30
	ACERO INFERIOR	5/8"	1.56	2.50	1	3.90	0.25	2.25
	ACERO INFERIOR	5/8"	1.56	9.00	1	14.04	0.25	8.70
	ACERO INFERIOR	3/4"	2.25	9.00	1	20.25	0.25	8.70
	ACERO INFERIOR	3/4"	2.25	2.50	1	5.63	0.25	2.25
ESTRIBOS						3/8"	0.56	1.48
SUBTOTAL						129.26		
VC/03	ACERO SUPERIOR	1/2"	1.00	6.00	4	24.00	0.25	3.80
	ACERO SUPERIOR	1/2"	1.00	7.10	4	28.40	0.25	6.30
	ACERO INFERIOR	5/8"	1.56	11.00	2	34.32	0.25	18.70
	ACERO INFERIOR	3/4"	2.25	11.00	1	24.75	0.25	18.70
	ACERO INFERIOR	3/4"	2.25	2.50	1	5.63	0.25	2.25
	ACERO INFERIOR	5/8"	1.56	2.50	1	3.90	0.25	2.25
ESTRIBOS						3/8"	0.56	1.48
SUBTOTAL						172.38		
VC/04	ACERO SUPERIOR	3/4"	2.25	6.65	1	14.96	0.25	6.30
	ACERO SUPERIOR	5/8"	1.56	6.65	1	10.22	0.25	6.30
	ACERO INFERIOR	3/4"	2.25	6.65	1	14.96	0.25	6.30
	ACERO INFERIOR	5/8"	1.56	6.65	1	10.22	0.25	6.30
	ESTRIBOS	3/8"	0.56	1.48	30	24.86		
SUBTOTAL						75.23		
VC/05	ACERO SUPERIOR	1/2"	1.00	6.00	4	24.00	0.25	3.80
	ACERO SUPERIOR	1/2"	1.00	7.10	4	28.40	0.25	6.30
	ACERO INFERIOR	3/4"	2.25	9.00	2	40.50	0.25	8.70
	ACERO INFERIOR	3/4"	2.25	5.00	1	11.25	0.25	4.70
	ACERO INFERIOR	5/8"	1.56	6.00	1	9.36	0.25	1.75
ESTRIBOS						3/8"	0.56	1.48
SUBTOTAL						164.90		
VC/06	ACERO SUPERIOR	1/2"	1.00	9.00	4	36.00	0.20	4.30
	ACERO SUPERIOR	1/2"	1.00	5.00	4	20.00	0.20	4.30
	ACERO INFERIOR	3/4"	2.25	9.00	3	60.75	0.25	8.70
	ACERO INFERIOR	3/4"	2.25	6.00	1	13.50	0.25	6.70
	ESTRIBOS	3/8"	0.56	1.48	68	56.36		
SUBTOTAL						186.61		
VC/07	ACERO SUPERIOR	1/2"	1.00	7.80	1	7.80	0.25	7.70
	ACERO SUPERIOR	3/4"	2.25	8.00	1	18.00	0.25	7.70
	ACERO INFERIOR	1/2"	1.00	7.80	1	7.80	0.25	7.70
	ACERO INFERIOR	3/4"	2.25	8.00	1	18.00	0.25	7.70
	ESTRIBOS	3/8"	0.56	1.24	40	27.78		
SUBTOTAL						79.38		



3444

VC/08	ACERO SUPERIOR	3/4"	2.25	7.20	1	16.20		
	ACERO SUPERIOR	5/8"	1.56	7.10	1	11.08		
	ACERO INFERIOR	3/4"	2.25	7.20	1	16.20		
	ACERO INFERIOR	5/8"	1.56	7.10	1	11.08		
	ESTRIBOS	3/8"	0.56	1.48	32	26.52		
SUBTOTAL								32x3 L=1.48m b=0.32 h=0.32
VC/09	ACERO SUPERIOR	1/2"	1.00	6.00	8	48.00		
	ACERO INFERIOR	5/8"	1.56	8.00	2	24.96		
	ACERO INFERIOR	5/8"	1.56	3.70	2	11.54		
	ACERO INFERIOR	1/2"	1.00	3.50	1	3.50		
	ACERO INFERIOR	1/2"	1.00	8.00	1	8.00		
	ESTRIBOS	3/8"	0.56	1.48	54	44.76		
SUBTOTAL								64x3 L=1.48m b=0.32 h=0.32
VC/10	ACERO SUPERIOR	3/4"	2.25	7.20	1	16.20		
	ACERO SUPERIOR	5/8"	1.56	7.10	1	11.08		
	ACERO INFERIOR	3/4"	2.25	7.20	1	16.20		
	ACERO INFERIOR	5/8"	1.56	7.10	1	11.08		
	ESTRIBOS	3/8"	0.56	1.48	32	26.52		
SUBTOTAL								32x3 L=1.48m b=0.32 h=0.32
VC/11	ACERO SUPERIOR	1/2"	1.00	9.00	4	36.00		
	ACERO SUPERIOR	1/2"	1.00	5.25	4	21.00		
	ACERO INFERIOR	1/2"	1.00	6.00	3	18.00		
	ACERO INFERIOR	3/4"	2.25	6.00	1	13.50		
	ACERO INFERIOR	3/4"	2.25	9.00	2	40.50		
	ESTRIBOS	3/8"	0.56	1.48	70	58.02		
SUBTOTAL								70x3 L=1.48m b=0.32 h=0.32
VC/12	ACERO SUPERIOR	1/2"	1.00	9.00	4	36.00		
	ACERO SUPERIOR	1/2"	1.00	4.00	4	16.00		
	ACERO INFERIOR	3/4"	2.25	9.00	2	40.50		
	ACERO INFERIOR	3/4"	2.25	4.75	1	10.69		
	ACERO INFERIOR	5/8"	1.56	9.00	1	14.04		
	ESTRIBOS	3/8"	0.56	1.48	64	53.04		
SUBTOTAL								64x3 L=1.48m b=0.32 h=0.32
VC/13	ACERO SUPERIOR	3/4"	2.25	5.50	1	12.38		
	ACERO SUPERIOR	3/4"	2.25	7.00	1	15.75		
	ACERO SUPERIOR	3/4"	2.25	8.00	1	18.00		
	ACERO SUPERIOR	1/2"	1.00	7.50	1	7.50		
	ACERO SUPERIOR	1/2"	1.00	6.50	1	6.50		
	ACERO SUPERIOR	1/2"	1.00	5.50	1	5.50		
	ACERO INFERIOR	1/2"	1.00	7.50	1	7.50		
	ACERO INFERIOR	1/2"	1.00	6.50	1	6.50		
	ACERO INFERIOR	1/2"	1.00	5.50	1	5.50		
	ACERO INFERIOR	3/4"	2.25	6.00	1	13.50		
	ACERO INFERIOR	3/4"	2.25	6.50	1	14.63		
	ACERO INFERIOR	3/4"	2.25	8.00	1	18.00		
SUBTOTAL								90x3 L=1.24m b=0.20 h=0.32
VC/14	ACERO SUPERIOR	5/8"	1.56	6.95	1	10.84		
	ACERO SUPERIOR	3/4"	2.25	7.05	1	15.86		
	ACERO INFERIOR	5/8"	1.56	6.95	1	10.84		
	ACERO INFERIOR	3/4"	2.25	7.05	1	15.86		
	ESTRIBOS	3/8"	0.56	1.48	32	26.52		
SUBTOTAL								32x3 L=1.48m b=0.32 h=0.32

3445

VC/15	ACERO SUPERIOR	1/2"	1.00	9.00	4	36.00	
	ACERO SUPERIOR	1/2"	1.00	7.00	4	28.00	
	ACERO INFERIOR	3/4"	2.25	7.50	2	33.75	
	ACERO INFERIOR	3/4"	2.25	9.00	2	40.50	
	ESTRIBOS	3/8"	0.56	1.48	78	64.65	
SUBTOTAL							78x3 L=1.48m b=0.32 h=0.32
VC/16	ACERO SUPERIOR	1/2"	1.00	6.00	4	24.00	
	ACERO SUPERIOR	1/2"	1.00	5.00	4	20.00	
	ACERO INFERIOR	3/4"	2.25	9.00	1	20.25	
	ACERO INFERIOR	3/4"	2.25	2.50	1	5.63	
	ACERO INFERIOR	5/8"	1.56	2.00	1	3.12	
	ACERO INFERIOR	5/8"	1.56	8.50	1	13.26	
	ESTRIBOS	3/8"	0.56	1.48	50	41.44	
SUBTOTAL							50x3 L=1.48m b=0.32 h=0.32
VC/17	ACERO SUPERIOR	1/2"	1.00	7.00	4	28.00	
	ACERO SUPERIOR	1/2"	1.00	6.00	4	24.00	
	ACERO INFERIOR	5/8"	1.56	4.50	3	21.06	
	ACERO INFERIOR	5/8"	1.56	9.00	3	42.12	
	ACERO INFERIOR	5/8"	1.56	6.00	1	9.36	
	ESTRIBOS	3/8"	0.56	1.48	62	51.39	
SUBTOTAL							62x3 L=1.48m b=0.32 h=0.32

ACERO VIGAS DE CIMENTACION GARITA							
REFERENCIA	DESCRIPCION	DIAMETRO	KG/M	LONGITUD DE VARILLA	N° VARILLA	KG TOTAL	DIAGRAMA
VC/01	ACERO SUPERIOR	1/2"	1.00	4.81	2	9.62	
	ACERO INFERIOR	1/2"	1.00	4.81	2	9.62	
	ESTRIBOS	3/8"	0.56	1.08	24	14.52	
	SUBTOTAL						33.76
VC/02	ACERO SUPERIOR	1/2"	1.00	3.61	2	7.22	
	ACERO INFERIOR	1/2"	1.00	3.61	2	7.22	
	ESTRIBOS	3/8"	0.56	1.08	18	10.89	
	SUBTOTAL						25.33

RESIDENTE DE OBRA
DUBER DURAN
CONSORCIO PEDAGOGIA CESARENSE

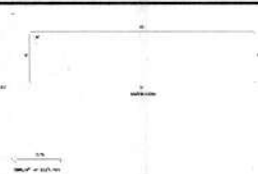
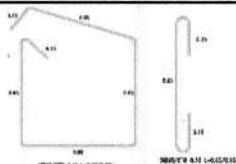
RESIDENTE DE INTERVENTORIA
GUSTAVO BARROS BARBERO
CONSORCIO INTERVENCION EDUCATIVO

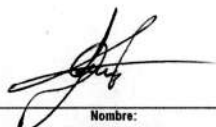
3446

ACERO DE REFUERZO EN CIMENTACION

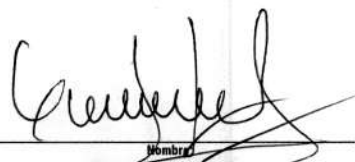
DIAMETRO #	DIAMETRO (pulg)	AREA (mm2)	PESO (kg/m)
2	1/4"	31.75	0.25
3	3/8"	71.53	0.56
4	1/2"	127.12	1.00
5	5/8"	198.65	1.56
6	3/4"	265.98	2.25
7	7/8"	369.26	3.06
8	1"	509.47	4.00

ACERO PEDESTAL DE CIMENTACIÓN BLOQUE 3						
REFERENCIA	DESCRIPCION	DIAMETRO	KG/M	LONGITUD DE VARILLA	N° VARILLA	KG TOTAL
D1, D2, D3, D4, D6, D12, D14, D15, D16, D7, D8, D9, D10, D11, B4	ACERO VERTICAL	3/4"	2.25	1.80	12	48.60
	ESTRIBOS	3/8"	0.56	2.90	15	24.36
	GANCHOS	3/8"	0.56	0.95	30	15.96
SUBTOTAL						88.92
C5, C13	ACERO VERTICAL	5/8"	1.56	1.75	66	180.18
	ESTRIBOS	3/8"	0.56	9.30	15	78.12
SUBTOTAL						258.30





Nombre:
RESIDENTE DE OBRA
DUBER DURAN
CONSORCIO PEDAGOGIA CESARENSE



Nombre:
RESIDENTE DE INTERMUNICIPAL
GUSTAVO BARROS BAQUERO
CONSORCIO INTERAVANCE EDUCATIVO

3497



REPUBLICA DE
COLOMBIA

DEPARTAMENTO DEL
CESAR

SECRETARIA DE
INFRAESTRUTURA

MEMORIA DE CÁLCULO DE CANTIDADES DE OBRA

ACTA MODIFICATORIA No. 1

OBJETO DEL CONTRATO

CONSTRUCCION DE LA INSTITUCION EDUCATIVA TECNICO JOSE EUGENIO MARTINEZ EN EL MUNICIPIO DE VALLEDUPAR, DEPARTAMENTO DEL CESAR

CONTRATISTA
INTERVENTOR

CONSORCIO PEDAGOGIA CESARENSE
CONSORCIO INTERAVANCE EDUCATIVO

NIT
NIT

901925618-1
901925042-8

CONTRATO No.
CONTRATO No.

2025040002
2025050004

CAPÍTULO

3.0

ITEM

3.7

MALLA ELECTROSOLDADA SUMINISTRO E INSTALACIÓN

UNID.

KG

BLOQUE 3

LOCALIZACIÓN

DIMENSIONES

KG/M2

M2

N° MALLAS

KG

PLACA DE CONTRAPISO

MALLA ELECTROSOLDADA 6 x 2.35 m (Diámetro=6 mm),
PLANO ESTRUCTURAL B3 2/12 LOCALIZACIÓN DE
LOSA DE CONTRAPISO N+0.00 m

2.99

1899.37

163.00

6871.92

PISO PULIDO

MALLA ELECTROSOLDADA 6x2.35 m (Diámetro=5.5 mm)

2.52

1709.40

147.00

5223.20

TOTAL

12095.12

BLOQUE 2

LOCALIZACIÓN

DIMENSIONES

KG/M2

M2

N° MALLAS

KG

PLACA DE CONTRAPISO

MALLA ELECTROSOLDADA 6 x 2.35 m (Diámetro=6 mm),
PLANOS ESTRUCTURAL B2 2/9 UBICACIÓN DE MALLAS
DE CONTRAPISO N+0.00 m

2.99

819.05

71.00

2993.29

PISO PULIDO

MALLA ELECTROSOLDADA 6x2.35 m (Diámetro=5.5 mm)

2.52

873.15

75.00

2664.90

TOTAL

5658.19

BLOQUE 1

LOCALIZACIÓN

DIMENSIONES

KG/M2

M2

N° MALLAS

KG

PLACA DE CONTRAPISO

MALLA ELECTROSOLDADA 6 x 2.35 m (Diámetro=6 mm),
PLANOS DE REFERENCIA B1 2/17 DETALLE DE LOSA
CONTRAPISO N+0.00 m

2.99

1999.59

172.00

7251.35

PISO PULIDO

MALLA ELECTROSOLDADA 6x2.35 m (Diámetro=5.5 mm)

2.52

2193.91

188.00

6680.02

TOTAL

13931.36

SUBESTACION

LOCALIZACIÓN

DIMENSIONES

KG/M2

M2

N° MALLAS

KG

PLACA DE CONTRAPISO

MALLA ELECTROSOLDADA 6 x 2.35 m (Diámetro=6 mm),
PLANOS DE REFERENCIA B3 2/12 LOCALIZACIÓN DE
LOSA DE CONTRAPISO N+0.00 m

2.99

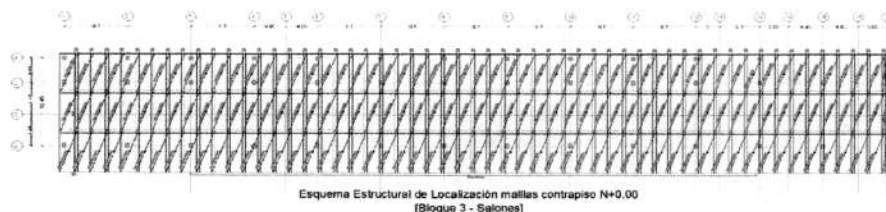
97.72

9.00

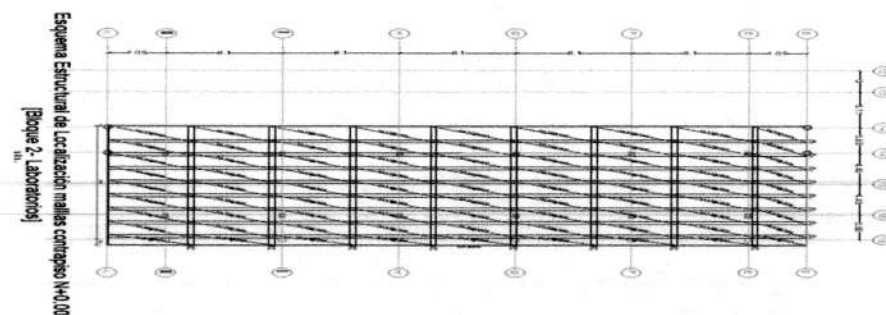
379.43

TOTAL

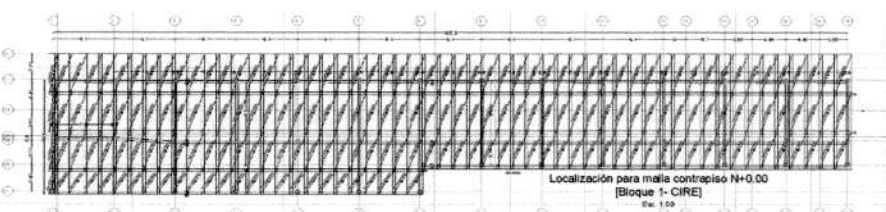
379.43



Esquema Estructural de Localización mallas contrapiso N+0.00
(Bloque 3 - Salones)



Esquema Estructural de Localización mallas contrapiso N+0.00
(Bloque 2 - Laboratorios)



Localización para malla contrapiso N+0.00
(Bloque 1 - CIRE)

3448



REPUBLICA DE
COLOMBIA

DEPARTAMENTO DEL
CESAR

SECRETARIA DE
INFRAESTRUTURA

MEMORIA DE CÁLCULO DE CANTIDADES DE OBRA

ACTA MODIFICATORIA No. 1

OBJETO DEL CONTRATO

CONSTRUCCION DE LA INSTITUCION EDUCATIVA TECNICO JOSE EUGENIO MARTINEZ EN EL MUNICIPIO DE VALLEDUPAR, DEPARTAMENTO DEL CESAR

CONTRATISTA CONSORCIO PEDAGOGIA CESARENSE
INTERVENTOR CONSORCIO INTERAVANCE EDUCATIVO

NIT
NIT

901925618-1
901925042-8

CONTRATO No.
CONTRATO No.

2025040002
2025050004

CAPÍTULO 3.0 ITEM 3.7

MALLA ELECTROSOLDADA SUMINISTRO E INSTALACIÓN

UNID.

KG

BLOQUE 4

LOCALIZACIÓN

DIMENSIONES
KG/M2

M2

Nº MALLAS

KG

PLACA DE CONTRAPISO

MALLA ELECTROSOLDADA 6 x 2.35 m (Diámetro=6 mm),
PLANOS DE REFERENCIA B3 2/12 LOCALIZACIÓN DE
LOSA DE CONTRAPISO N+0.00 m

2.99

1387.61

119.00

5016.92

PISO PULIDO

MALLA ELECTROSOLDADA 6x2.35 m (Diámetro=5.5 mm)

2.52

1007.81

87.00

3091.28

TOTAL 8108.21

CAFETERIA

LOCALIZACIÓN

DIMENSIONES
KG/M2

M2

Nº MALLAS

KG

PLACA DE CONTRAPISO

MALLA ELECTROSOLDADA 6 x 2.35 m (Diámetro=6 mm),
PLANOS DE REFERENCIA B3 2/12 LOCALIZACIÓN DE
LOSA DE CONTRAPISO N+0.00 m

2.99

785.86

68.00

2866.81

PISO PULIDO

MALLA ELECTROSOLDADA 6x2.35 m (Diámetro=5.5 mm)

2.52

335.58

29.00

1030.43

TOTAL 3897.24

GARITA

LOCALIZACIÓN

DIMENSIONES
KG/M2

M2

Nº MALLAS

KG

PLACA DE CONTRAPISO

MALLA ELECTROSOLDADA 6 x 2.35 m (Diámetro=6 mm),
PLANOS DE REFERENCIA B3 2/12 LOCALIZACIÓN DE
LOSA DE CONTRAPISO N+0.00 m

2.99

36.51

4.00

168.64

PISO PULIDO

MALLA ELECTROSOLDADA 6x2.35 m (Diámetro=5.5 mm)

2.52

10.45

1.00

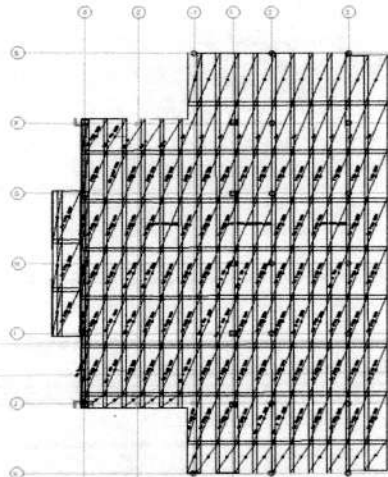
35.53

TOTAL 204.17

NOTA: Área tomada de memoria 3.5 Construcción de placa de contrapiso y memoria 13.1 Pisos pulidos en concreto. Se calcula el número de mallas teniendo en cuenta el área útil (2.05x5.7 m) y se obtiene el peso total al tener en cuenta el peso de una malla por m2, el número de mallas totales y el área efectiva de la malla (2.35x6.0 m).

CANTIDAD TOTAL

44,273.72



Esquema Estructural de Losa contrapiso
(Bloque 4 - Salón Multiple)

Fig. 1.10

Nombre:
RESIDENTE DE OBRA
DUBER DURAN
CONSORCIO PEDAGOGIA CESARENSE

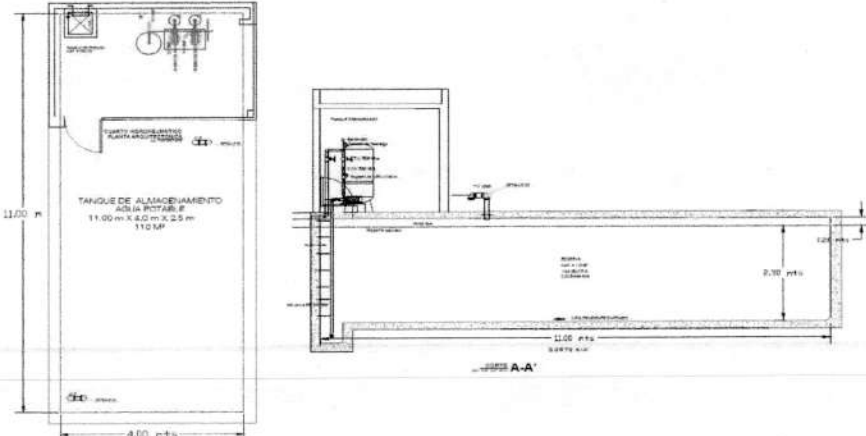
Nombre:
DIRECTOR DE OBRA
OMAR MUKARZEL
CONSORCIO PEDAGOGIA CESARENSE

Nombre:
RESIDENTE DE INTERVENTORIA
GUSTAVO BARROS BAQUERO
CONSORCIO INTERAVANCE EDUCATIVO

Nombre:
DIRECTOR DE INTERVENTORIA
MARIA BERNARDA NOVA
CONSORCIO INTERAVANCE EDUCATIVO

3449

	REPUBLICA DE COLOMBIA		MEMORIA DE CÁLCULO DE CANTIDADES DE OBRA				ACTA MODIFICATORIA No. 1	
	DEPARTAMENTO DEL CESAR							
	SECRETARIA DE INFRAESTRUTURA		OBJETO DEL CONTRATO	CONSTRUCCION DE LA INSTITUCION EDUCATIVA TECNICO JOSE EUGENIO MARTINEZ EN EL MUNICIPIO DE VALLEDUPAR, DEPARTAMENTO DEL CESAR				
	CONTRATISTA	CONSORCIO PEDAGOGIA CESARENSE	NIT	901925618-1	CONTRATO No.	2025040002		
INTERVENTOR	CONSORCIO INTERAVANCE EDUCATIVO	NIT	901925042-8	CONTRATO No.	2025050004			
CAPÍTULO	4	ITEM	4.9	CONSTRUCCIÓN DE TANQUE DE AGUA Y/O DE CONTRA INCENDIOS EN CONCRETO IMPERMEABILIZADO DE 4000 PSI			UNID.	M3



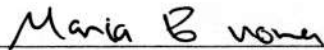
LOCALIZACIÓN	DIMENSIONES			CANT	M3
	LARGO	ANCHO	ESPEJOR		
FONDO	14.40	4.60	0.35	1.00	23.18
LATERAL 1	4.60	2.50	0.30	3.00	10.35
LATERAL 2	13.50	2.50	0.30	2.00	20.25
PLACA SUPERIOR	14.40	4.60	0.25	1.00	16.56
CARCAMO 1	1.05	0.22	0.30	2.00	0.14
CARCAMO 2	4.00	0.22	0.30	2.00	0.53
TOTAL					71.01

CANTIDAD TOTAL					71.01
-----------------------	--	--	--	--	--------------


 Nombre:
 RESIDENTE DE OBRA
 DUBER DURAN
 CONSORCIO PEDAGOGIA CESARENSE


 Nombre:
 DIRECTOR DE OBRA
 OMAR MOUKARZEL
 CONSORCIO PEDAGOGIA CESARENSE


 Nombre:
 RESIDENTE DE INTERVENTORIA
 GUSTAVO BARROS BAQUERO
 CONSORCIO INTERAVANCE EDUCATIVO

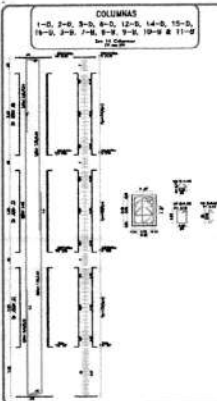

 Nombre:
 DIRECTOR DE INTERVENTORIA
 MARIA BERNARDA NOVA
 CONSORCIO INTERAVANCE EDUCATIVO

3450

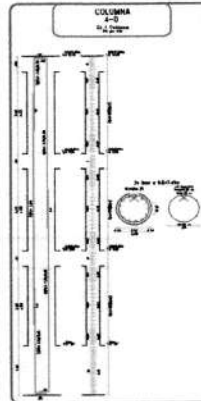
	REPUBLICA DE COLOMBIA		MEMORIA DE CÁLCULO DE CANTIDADES DE OBRA						ACTA MODIFICATORIA No. 1		
	DEPARTAMENTO DEL CESAR		OBJETO DEL CONTRATO		CONSTRUCCION DE LA INSTITUCION EDUCATIVA TECNICO JOSE EUGENIO MARTINEZ EN EL MUNICIPIO DE VALLEDUPAR, DEPARTAMENTO DEL CESAR						
	SECRETARIA DE INFRAESTRUTURA		CONTRATISTA	CONSORCIO PEDAGOGIA CESARENSE		NIT	901925618-1		CONTRATO No.	2025040002	
		INTERVENTOR	CONSORCIO INTERAVANCE EDUCATIVO		NIT	901925042-8		CONTRATO No.	2025050004		
		CAPITULO	4.0		ITEM	4.10		SUMINISTRO E INSTALACIÓN DE ACERO DE REFUERZO 420 MPA (INCLUYE ALAMBRE NEGRO Y FIGURACIÓN)		UNID.	KG

BLOQUE 3			
COLUMNAS			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
1D, 2D, 3D, 6D, 12D, 14D, 15D, 16D, 3B, 7B, 8B, 9B, 10B, 11B	800.22	14	11203.02
7D, 8D, 9D, 10D, 11D	691.14	5	3455.68
1B, 14B, 16B	831.54	3	2494.61
2B	1138.39	1	1138.39
6B, 12B	784.74	2	1569.47
15B	993.61	1	993.61
4D	810.61	1	810.61
4B	833.79	1	833.79
TOTAL			22,499.18
PEDESTALES			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
A1, A2, A3, A4, A6, A7, A8, A9, A10, A11, A12, A14, A15, A16	64.18	14	898.46
TOTAL			898.46
VIGAS AEREAS PISO 1 Y 2			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
VB3/201, VB3/301	1578.88	2	3157.77
VB3/202, VB3/203, VB3/302, VB3/303	47.73	4	190.93
VG3/201, VG3/301	488.47	2	976.94
VG3/202, VG3/302	948.69	2	1897.38
VG3/203, VG3/303	346.18	2	692.36
VG3/204, VG3/304	2385.10	2	4770.19
VG3/205, VG3/305	587.17	2	1174.35
VG3/206, VG3/306	820.93	2	1641.86
VG3/207, VG3/307	881.93	2	1763.86
VG3/208, VG3/209, VG3/215, VG3/216, VG3/307, VG3/309, VG3/315, VG3/316	700.99	8	5607.89
VG3/210, VG3/211, VG3/212, VG3/213, VG3/214, VG3/310, VG3/311, VG3/312, VG3/313, VG3/314	761.93	10	7619.29
VG3/217, VG3/317	762.96	2	1525.91
VG3/218, VG3/318	594.22	2	1188.44
VT3/201, VT3/301	180.56	4	722.24
VT3/202, VT3/302	66.10	4	264.41
VT3/203, VT3/303	27.60	4	110.42
VT3/203, VT3/303	19.24	8	153.95
TOTAL			33,458.18
VIGAS AEREAS CUBIERTA			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
VB3/401	215.45	1	215.45

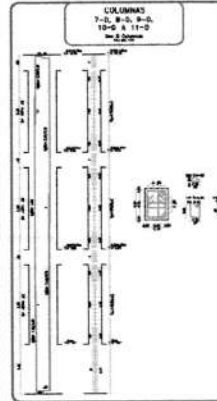
COLUMNAS
1-5, 3-5, 9-5, 8-5, 12-5, 14-5, 15-5, 13-5, 3-9, 1-9, 8-9, 7-9, 10-9 & 11-9
A 22' 00" x 22' 00" x 22' 00"



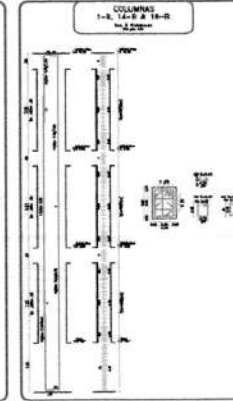
COLUMNA
1-10
A 22' 00" x 22' 00" x 22' 00"



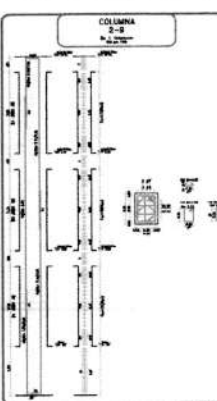
COLUMNAS
7-10, 8-10, 9-10, 10-10 & 11-10
A 22' 00" x 22' 00" x 22' 00"



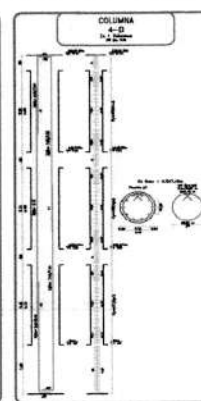
COLUMNAS
1-10, 14-10 & 15-10
A 22' 00" x 22' 00" x 22' 00"



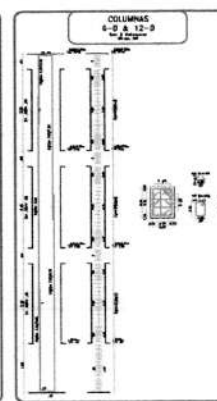
COLUMNA
2-10
A 22' 00" x 22' 00" x 22' 00"



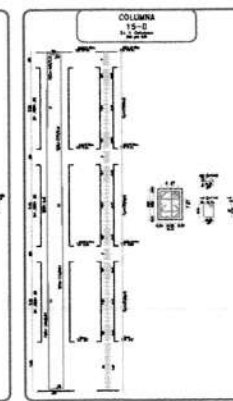
COLUMNA
4-10
A 22' 00" x 22' 00" x 22' 00"

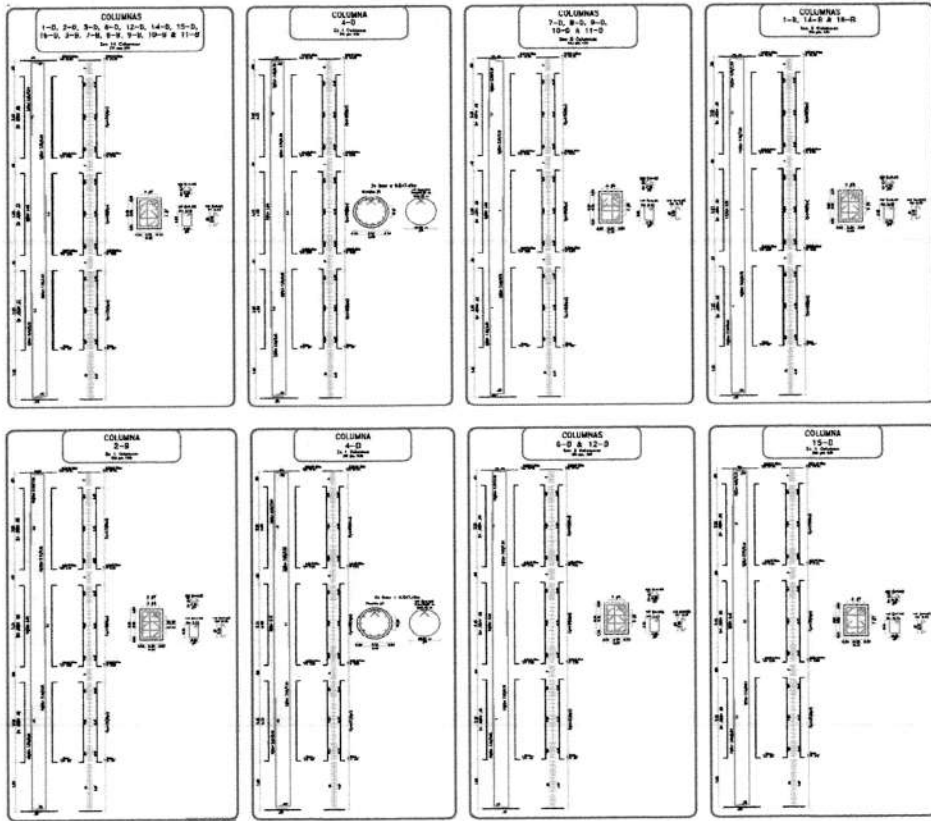


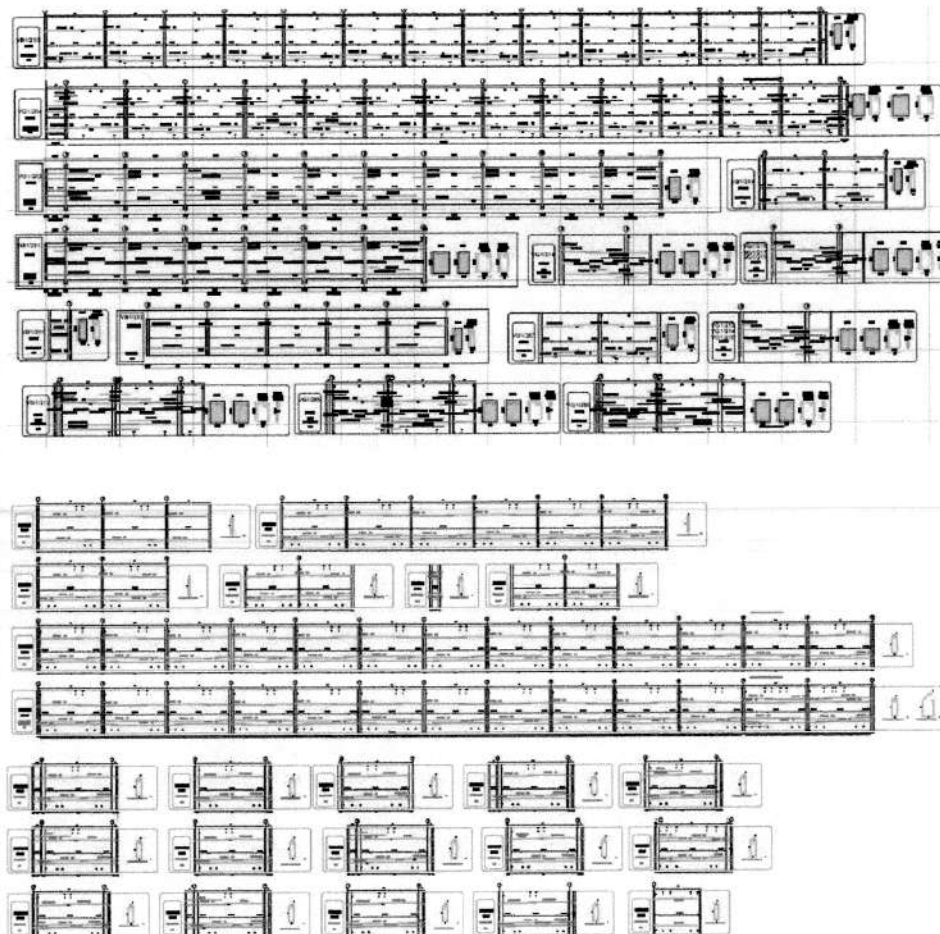
COLUMNAS
6-10 & 12-10
A 22' 00" x 22' 00" x 22' 00"



COLUMNA
13-10
A 22' 00" x 22' 00" x 22' 00"

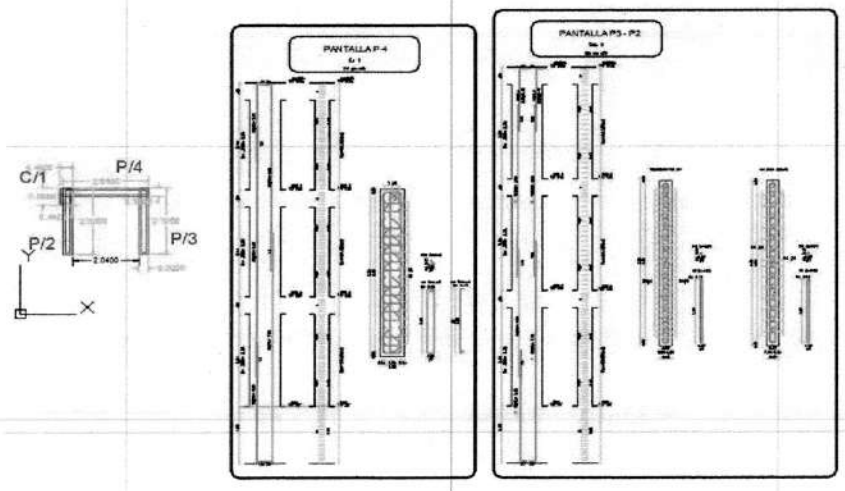
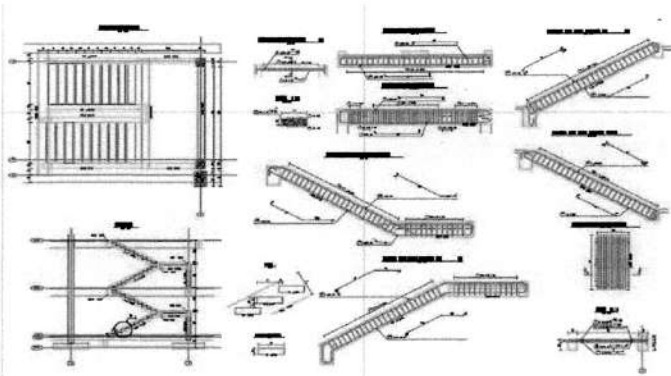






VIGAS AEREAS PISO 2			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
VB1/301	33.83	1	33.83
VB1/302	94.16	1	94.16
VB1/303	284.64	1	284.64
VB1/304	1506.95	1	1506.95
VB1/305	211.31	1	211.31
VB1/306	112.75	1	112.75
VB1/307	47.20	1	47.20
VG1/301	386.35	1	386.35
VG1/302	730.49	1	730.49
VG1/303	619.35	1	619.35
VG1/304	321.89	1	321.89
VG1/305	2393.77	1	2393.77
VG1/306	740.73	1	740.73
VG1/307	851.40	1	851.40
VG1/308	843.61	1	843.61
VG1/309	434.19	1	434.19
VG1/310, VG1/311	156.84	2	313.69
VG1/312	762.25	1	762.25
VG1/313, VG1/314, VG1/315	530.01	3	1590.02
VG1/316, VG1/317	502.47	2	1004.94
VG1/318	517.68	1	517.68
VG1/319	469.55	1	469.55
VG1/320	205.51	1	205.51
VG1/321	82.96	1	82.96
VT1/301	126.72	1	126.72
VT1/302	28.90	1	28.90
VT1/303	60.57	1	60.57
VT1/304	177.27	1	177.27
VT1/305	63.45	1	63.45
VT1/306	60.46	1	60.46
VT1/307, VT1/308, VT1/309	67.98	3	203.95
VT1/311	15.01	2	30.02
TOTAL			15,310.54

VIGAS AEREAS CUBIERTA			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
VB1/401	39.24	1	39.24
VB1/402	90.03	1	90.03
VB1/403	474.83	1	474.83
VB1/404	335.41	1	335.41
VB1/405	168.48	1	168.48
VB1/406	566.00	1	566.00
VB1/407, VB1/408	133.58	2	267.16
VB1/409	201.31	1	201.31
VG1/401	811.69	1	811.69
VG1/402	835.34	1	835.34
VG1/403	876.42	1	876.42
VG1/404	1658.01	1	1658.01
VG1/405	365.13	1	365.13
VG1/406	500.40	1	500.40
VG1/407	470.97	1	470.97
VG1/408	455.18	1	455.18
VG1/409, VG1/410	460.04	2	920.08
VG1/411	448.43	1	448.43
VG1/412, VG1/414	148.81	2	297.61
VG1/413, VG1/417	165.92	2	331.84
VG1/415, VG1/416, VG1/418	153.49	3	460.46
VG1/419	128.94	1	128.94



VG1/421	36.34	1	36.34
VG1/422	50.60	1	50.60
TOTAL			10,789.90

ESCALERA TIPO 2 (EJE 13)			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
MURO PANTALLA P-1	1317.42	1	1317.42
VIGA BORDE VBE 1/13	79.10	2	158.20
VIGA BORDE VGE 1/2	73.00	2	146.00
VIGA BORDE VBE 1/13	78.82	2	157.65
VIGA BORDE VGE 1/1	54.88	2	109.77
VIGA BORDE VBE 1/2	63.64	2	127.28
PELDAÑOS LPS1/1	18.09	40	723.44
LOSA 2LSE 1/2	162.09	2	324.17
TOTAL			3,063.94

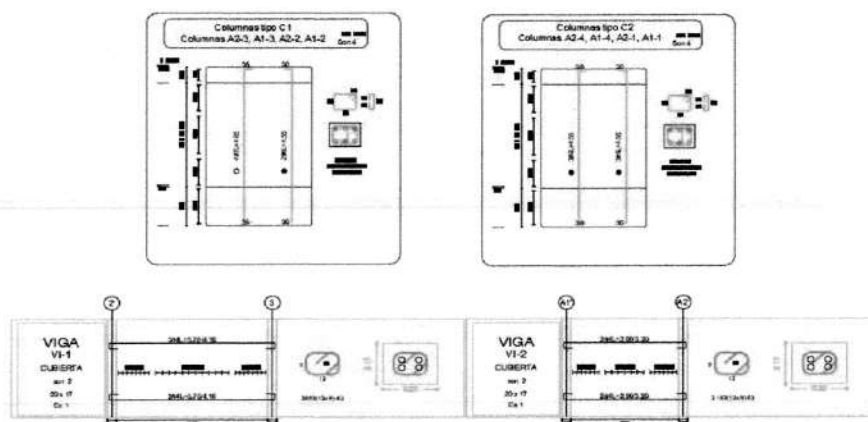
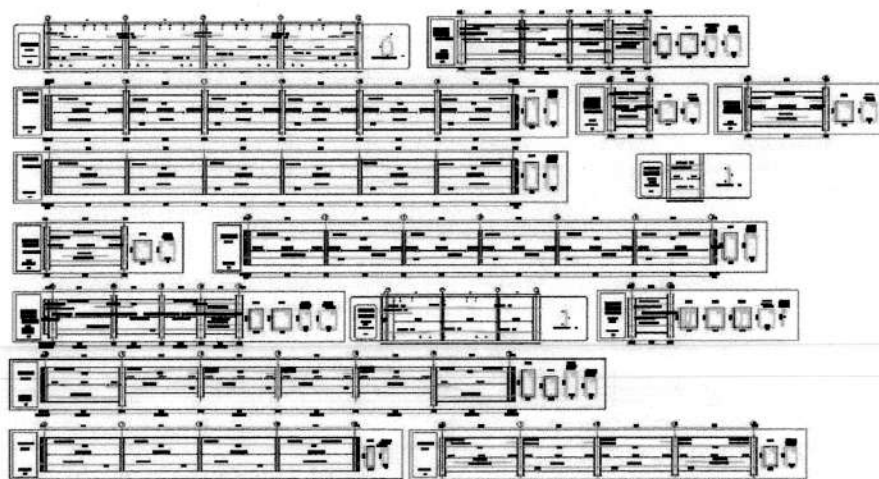
ESCALERA TIPO 1 (EJE 3-4)			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
VIGA BORDE VGE 1/3	46.32	2	92.63
VIGA BORDE VGE 1/5	62.66	2	125.32
VIGA BORDE VBE 1/4	44.79	2	89.58
VIGA BORDE VBE 1/7	43.78	2	87.56
VIGA BORDE VBE 1/6	68.56	2	137.12
VIGA BORDE VBE 1/8	66.06	2	132.12
PELDAÑOS LPS1/2	15.35	40	614.18
LOSA LSE 1/3	111.66	2	223.33
COLUMNETA	21.76	4	87.04
TOTAL			1,588.88

ASCENSOR (EJE 3)			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
MURO PANTALLA P-4	2556.04	1	2556.04
MURO PANTALLA P-2 Y P-3	2441.45	2	4882.90
TOTAL			7,438.94

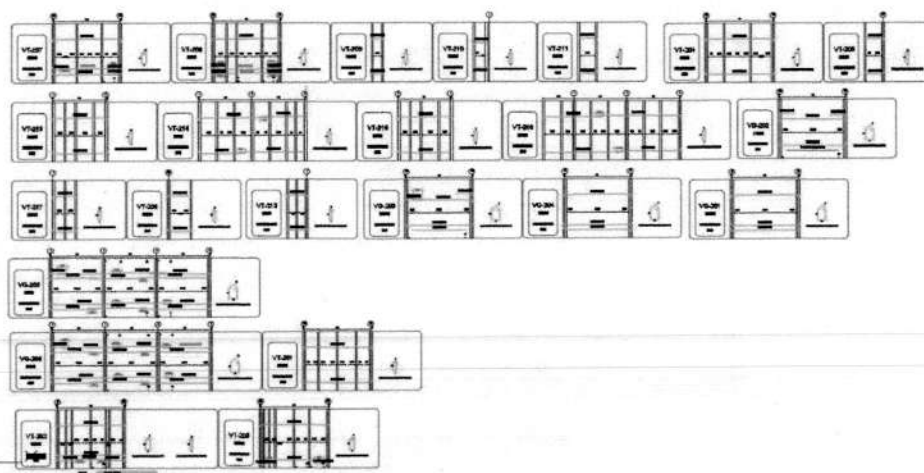
BLOQUE 4 COLUMNAS			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
3E, 3F, 3G, 3H, 3I, 3J, 3K	526.14	7	3683.00
2E, 2G, 2H, 2I, 2K, -1E, -1K	550.75	7	3855.23
2F, 2J	634.73	2	1269.46
-3F	762.38	1	762.38
1F, 1J	682.78	2	1365.57
1I, 1G	1032.18	2	2064.36
-3G, -3H, -3I	1271.85	3	3815.54
-2J, -2F	509.03	2	1018.06
-1J, -1F	637.38	2	1274.76
-3J	1078.33	1	1078.33
1H	1278.77	1	1278.77
TOTAL			21,465.46

VIGAS AEREAS PISO 1			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
VB/201, VB/202	28.15	2	56.31
VG/201	713.46	1	713.46
VG/202	1287.68	1	1287.68
VG/203	1239.16	1	1239.16

3455



VG/204, VG/210	258.52	2	517.04
VG/205, VG/209	491.82	2	983.63
VG/206, VG/207, VG/208	166.08	3	498.24
TOTAL			5,295.52
VIGAS AEREAS PISO 2			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
VB/301	343.92	1	343.92
VB/302, VB/305	34.86	2	69.72
VB/303, VB/304	114.18	2	228.36
VG/301	714.67	1	714.67
VG/302	1183.57	1	1183.57
VG/303	1324.71	1	1324.71
VG/304, VG/312	275.91	2	551.83
VG/305, VG/310	521.55	2	1043.10
VG/306, VG/307, VG/308	265.95	3	797.86
TOTAL			6,237.75
SUBESTACION			
COLUMNAS			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
A2-3, A1-3, A2-2, A1-2	124.41	4	497.65
A2-4, A1-4, A2-1, A1-1	107.48	4	429.90
TOTAL			927.55
VIGAS CUBIERTA			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
VG/201	78.69	2	157.37
VG/202	90.96	2	181.91
VG/203	91.39	2	182.78
VG/204	78.69	2	157.37
VG/205, VG/206, VG/207	213.25	6	1279.53
TOTAL			1,958.97
TANQUE			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
PLACA FONDO	3759.29	1	3759.29
PLACA SUPERIOR	3107.83	1	3107.83
LATERAL CORTO	3714.18	1	3714.18
LATERAL LARGO	1648.87	1	1648.87
CUARTO DE MAQUINAS	3170.30	1	3170.30
TAPA DE INYECCION	262.20	1	262.20
TOTAL			15,662.67
CAFETERIA			
COLUMNAS			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
A1-1, A1-4, A2-1, A2-4	100.07	4	400.26
A1-2, A1-3, A2-2, A2-3	116.03	4	464.12
A1'-2, A1'-3, A2'-2, A2'-3	5.32	4	21.29
TOTAL			885.68
PEDESTALES			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
P1	138.59	12	1663.11
TOTAL			1,663.11



VIGAS CUBIERTA			
LOCALIZACION	PESO UNITARIO (KG)	CANT	PESO TOTAL (KG)
VG/201, VG/204	84.17	2	168.34
VG/202	98.32	1	98.32
VG/203	98.41	1	98.41
VG/205	203.16	1	203.16
VG/206	203.72	1	203.72
VT/201	67.52	1	67.52
VT/202	69.62	1	69.62
VT/203	80.13	1	80.13
VT/204	79.65	1	79.65
VT/205	20.03	1	20.03
VT/206	23.67	1	23.67
VT/207	75.77	1	75.77
VT/208	77.76	1	77.76
VT/209	11.49	1	11.49
VT/210	9.59	1	9.59
VT/211	20.58	1	20.58
VT/212	18.04	1	18.04
VT/213	52.94	1	52.94
VT/214	109.82	1	109.82
VT/215	52.94	1	52.94
VT/216	141.58	1	141.58
VI/1	22.58	1	22.58
VI/2	30.62	1	30.62
VI/2	20.09	1	20.09
TOTAL			1,756.34
CANTIDAD TOTAL			261294.37

Nombre:
RESIDENTE DE OBRA
DUBER DURAN
CONSORCIO PEDAGOGIA CESARENSE

Nombre:
DIRECTOR DE OBRA
OMAR MOUKARZEL
CONSORCIO PEDAGOGIA CESARENSE

Nombre:
RESIDENTE DE INTERVENTORIA
GUSTAVO BARROS BAQUERO
CONSORCIO INTERAVANCE EDUCATIVO

Nombre:
DIRECTOR DE INTERVENTORIA
MARIA BERNARDA NOVA
CONSORCIO INTERAVANCE EDUCATIVO

ACERO DE REFUERZO EN ESTRUCTURA DE CONCRETO (COLUMNAS)

DIAMETRO #	DIAMETRO (pulg)	AREA (mm ²)	PESO (kg/m)
2	14"	31.75	0.25
3	3/8"	71.53	0.59
4	1/2"	127.12	1.00
5	5/8"	198.65	1.56
6	3/4"	285.88	2.25
7	7/8"	389.25	3.06
8	1"	509.47	4.00

ACERO COLUMNAS BLOQUE 3

ACERO COLUMNAS BLOQUE 3

DIAGRAMA

REFERENCIA	DESCRIPCION	DIAMETRO	KGM	LONGITUD DE VARILLA	N° VARILLA	KG TOTAL
A	ACERO VERTICAL	7/8"	3.06	3.60	5	55.08
	ACERO VERTICAL	7/8"	3.06	8.80	5	158.17
	ACERO VERTICAL	7/8"	3.06	4.05	5	61.97
	ACERO VERTICAL	7/8"	3.06	7.30	5	111.69
	ACERO VERTICAL	7/8"	3.06	7.75	5	118.58
	ESTRIBOS	3/8"	0.56	1.98	140	155.23
	GANCHOS	3/8"	0.56	0.82	140	64.29
	GANCHOS	3/8"	0.56	0.82	280	97.22
SUBTOTAL						
800.22						

70, 80, 90, 100, 110	ACERO VERTICAL	5/8"	1.56	3.30	8	41.18
	ACERO VERTICAL	5/8"	1.56	8.50	8	106.08
	ACERO VERTICAL	5/8"	1.56	3.75	8	46.80
	ACERO VERTICAL	5/8"	1.56	7.00	8	87.36
	ACERO VERTICAL	5/8"	1.56	7.45	8	92.88
	ESTRIBOS	3/8"	0.56	1.98	140	155.23
	GANCHOS	3/8"	0.56	0.82	140	64.29
	GANCHOS	3/8"	0.56	0.82	280	97.22
SUBTOTAL						
891.14						

18, 148, 168	ACERO VERTICAL	5/8"	1.56	3.30	11	56.63
	ACERO VERTICAL	5/8"	1.56	8.50	11	145.86
	ACERO VERTICAL	5/8"	1.56	3.75	11	64.35
	ACERO VERTICAL	5/8"	1.56	7.00	11	120.12
	ACERO VERTICAL	5/8"	1.56	7.45	11	127.84
	ESTRIBOS	3/8"	0.56	1.98	140	155.23
	GANCHOS	3/8"	0.56	0.82	140	64.29
	GANCHOS	3/8"	0.56	0.82	280	97.22
SUBTOTAL						
831.54						

28	ACERO VERTICAL	3/4"	2.25	3.50	10	78.75
	ACERO VERTICAL	3/4"	2.25	8.70	10	195.15
	ACERO VERTICAL	3/4"	2.25	3.85	10	96.63
	ACERO VERTICAL	7/8"	3.06	7.30	10	223.88
	ACERO VERTICAL	7/8"	3.06	7.75	10	237.15
	ESTRIBOS	3/8"	0.56	1.98	140	155.23
	GANCHOS	3/8"	0.56	0.82	140	64.29
	GANCHOS	3/8"	0.56	0.82	280	97.22
SUBTOTAL						
1138.39						

68, 128	ACERO VERTICAL	5/8"	1.56	3.30	10	51.48
	ACERO VERTICAL	5/8"	1.56	8.50	10	132.60
	ACERO VERTICAL	5/8"	1.56	3.75	10	58.50
	ACERO VERTICAL	5/8"	1.56	7.00	10	109.20
	ACERO VERTICAL	5/8"	1.56	7.45	10	118.22
	ESTRIBOS	3/8"	0.56	1.98	140	155.23
	GANCHOS	3/8"	0.56	0.82	140	64.29
	GANCHOS	3/8"	0.56	0.82	280	97.22
SUBTOTAL						
788.74						

168	ACERO VERTICAL	7/8"	3.06	3.60	7	77.11
	ACERO VERTICAL	7/8"	3.06	8.80	7	190.64
	ACERO VERTICAL	7/8"	3.06	4.05	7	88.75
	ACERO VERTICAL	7/8"	3.06	7.30	7	158.37
	ACERO VERTICAL	7/8"	3.06	7.75	7	168.01
	ESTRIBOS	3/8"	0.56	1.98	140	155.23
	GANCHOS	3/8"	0.56	0.82	140	64.29
	GANCHOS	3/8"	0.56	0.82	280	97.22
SUBTOTAL						
993.61						

5457

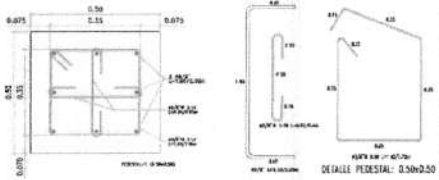
3458

ACERO DE REFUERZO EN ESTRUCTURA DE CONCRETO (PEDESTAL PARA COLUMNAS METALICAS)

DIAMETRO #	DIAMETRO (pulg)	AREA (mm2)	PESO (kg/m)
2	1/4"	31.75	0.25
3	3/8"	71.53	0.56
4	1/2"	127.12	1.00
5	5/8"	198.65	1.56
6	3/4"	285.98	2.25
7	7/8"	389.26	3.06
8	1"	508.47	4.00

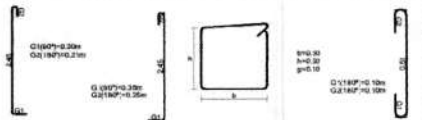
ACERO PEDESTAL PARA COLUMNAS METALICAS BLOQUES

REFERENCIA	DESCRIPCION	DIAMETRO	KGM	LONGITUD DE VARILLA	N° VARILLA	KG TOTAL
EJE 1-16, EJE E' J'	ACERO VERTICAL	5/8"	1.56	2.45	8	30.58
	ESTRIBOS	3/8"	0.56	1.70	20	19.04
	GANCHOS	3/8"	0.56	0.65	40	14.56
SUBTOTAL						64.18



ACERO PEDESTAL PARA COLUMNAS METALICAS CAFETERIA

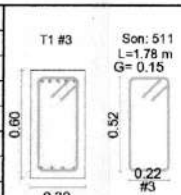
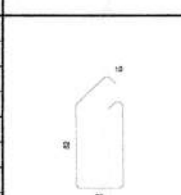
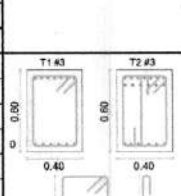
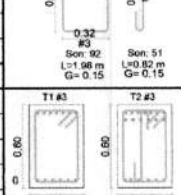
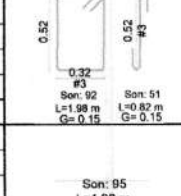
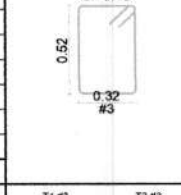
REFERENCIA	DESCRIPCION	DIAMETRO	KGM	LONGITUD DE VARILLA	N° VARILLA	KG TOTAL
PEDESTAL P1	ACERO VERTICAL	3/4"	2.25	2.96	8	53.28
	ACERO VERTICAL	7/8"	3.06	3.05	4	37.33
	ESTRIBOS	3/8"	0.56	2.20	17	20.94
	GANCHOS	3/8"	0.56	0.71	68	27.04
SUBTOTAL						138.59



Nombre:
RESIDENTE DE OBRA
DUBER DURAN
CONSORCIO PEDAGOGIA CESARENSE

Nombre:
RESIDENTE DE OBRA
GUSTAVO BARROSAQUERO
CONSORCIO INTERAVANCE EDUCATIVO

3460

VG3/204, VG3/304	ACERO SUPERIOR	3/4"	2.25	6.00	5	67.50	0.30	8.75	 T1 #3 Son: 511 L=1.78 m G= 0.15		
	ACERO SUPERIOR	5/8"	1.56	9.00	48	673.92	0.30	9.00			
	ACERO SUPERIOR	3/4"	2.25	6.05	5	68.06	0.30	8.75			
	ACERO SUPERIOR	3/4"	2.25	4.00	36	324.00	0.28	4.00			
	ACERO INFERIOR	5/8"	1.56	11.45	4	71.45	0.28	11.55			
	ACERO INFERIOR	5/8"	1.56	9.00	44	617.76	0.28	9.00			
	ACERO INFERIOR	5/8"	1.56	8.50	4	53.04	0.28	8.28			
ESTRIBOS						3/8"	0.56	1.78	511	509.36	
SUBTOTAL										2385.10	
VG3/205, VG3/305	ACERO SUPERIOR	1"	4.00	6.00	4	96.00	0.40	6.00	 T1 #3 Son: 511 L=1.78 m G= 0.15		
	ACERO SUPERIOR	1"	4.00	6.00	4	96.00	0.40	6.00			
	ACERO SUPERIOR	1"	4.00	4.00	4	64.00	0.40	3.50			
	ACERO SUPERIOR	1"	4.00	6.00	2	48.00	0.40	6.00			
	ACERO SUPERIOR	5/8"	1.56	6.00	1	9.36	0.40	6.00			
	ACERO INFERIOR	1"	4.00	3.25	3	39.00	0.40	3.25			
	ACERO INFERIOR	1"	4.00	6.00	6	144.00	0.40	6.00			
ACERO INFERIOR	1"	4.00	2.75	3	33.00	0.40	2.35				
ESTRIBOS						3/8"	0.56	1.78	56	57.81	
SUBTOTAL										587.17	
VG3/206, VG3/306	ACERO SUPERIOR	1"	4.00	6.00	5	120.00	0.40	6.00	 T1 #3 T2 #3 Son: 92 L=1.98 m G= 0.15 Son: 51 L=0.82 m G= 0.15		
	ACERO SUPERIOR	1"	4.00	6.00	8	192.00	0.40	6.00			
	ACERO SUPERIOR	1"	4.00	4.00	4	64.00	0.40	3.50			
	ACERO SUPERIOR	3/4"	2.25	3.50	4	31.50	0.30	3.50			
	ACERO INFERIOR	1"	4.00	3.25	4	52.00	0.40	2.85			
	ACERO INFERIOR	1"	4.00	6.00	8	192.00	0.40	6.00			
	ACERO INFERIOR	1"	4.00	2.75	4	44.00	0.40	2.35			
GANCHOS						3/8"	0.56	0.82	51	23.42	
ESTRIBOS						3/8"	0.56	1.98	92	102.01	
SUBTOTAL										820.93	
VG3/207, VG3/307	ACERO SUPERIOR	1"	4.00	6.00	5	120.00	0.40	6.00	 T1 #3 T2 #3 Son: 92 L=1.98 m G= 0.15 Son: 51 L=0.82 m G= 0.15		
	ACERO SUPERIOR	1"	4.00	6.00	9	216.00	0.40	6.00			
	ACERO SUPERIOR	1"	4.00	4.00	4	64.00	0.40	3.50			
	ACERO SUPERIOR	3/4"	2.25	3.50	4	31.50	0.30	3.50			
	ACERO INFERIOR	1"	4.00	3.25	5	65.00	0.40	2.85			
	ACERO INFERIOR	1"	4.00	6.00	9	216.00	0.40	6.00			
	ACERO INFERIOR	1"	4.00	2.75	4	44.00	0.40	2.35			
GANCHOS						3/8"	0.56	0.82	51	23.42	
ESTRIBOS						3/8"	0.56	1.98	92	102.01	
SUBTOTAL										861.93	
VG3/208, VG3/209, VG3/215, VG3/216, VG3/307, VG3/309, VG3/315, VG3/316	ACERO SUPERIOR	1"	4.00	2.75	4	44.00	0.40	2.35	 T1 #3 T2 #3 Son: 95 L=1.98 m G= 0.15		
	ACERO SUPERIOR	1"	4.00	12.00	4	192.00	0.40	11.50			
	ACERO SUPERIOR	1"	4.00	9.00	1	36.00	0.40	8.50			
	ACERO SUPERIOR	1"	4.00	6.00	4	96.00	0.40	6.00			
	ACERO INFERIOR	1"	4.00	12.00	3	144.00	0.40	11.50			
	ACERO INFERIOR	1"	4.00	2.75	3	33.00	0.40	2.35			
	ACERO INFERIOR	1"	4.00	6.00	1	24.00	0.40	6.00			
ACERO INFERIOR						1/2"	1.00	2.65	1	2.65	
ACERO INFERIOR						1"	4.00	6.00	1	24.00	
ESTRIBOS						3/8"	0.56	1.98	95	105.34	
SUBTOTAL										700.99	
VG3/210, VG3/211, VG3/212, VG3/213, VG3/214, VG3/310, VG3/311, VG3/312, VG3/313, VG3/314	ACERO SUPERIOR	1"	4.00	2.75	3	33.00	0.40	2.35	 T1 #3 T2 #3 Son: 92 L=1.98 m G= 0.15 Son: 51 L=0.82 m G= 0.15		
	ACERO SUPERIOR	1"	4.00	12.00	3	144.00	0.40	11.50			
	ACERO SUPERIOR	1"	4.00	9.00	2	72.00	0.40	8.50			
	ACERO SUPERIOR	1"	4.00	6.00	4	96.00	0.40	6.00			
	ACERO SUPERIOR	3/4"	2.25	3.50	4	31.50	0.30	3.50			
	ACERO INFERIOR	1"	4.00	12.00	4	192.00	0.40	11.50			
	ACERO INFERIOR	1"	4.00	2.75	4	44.00	0.40	2.35			
ACERO INFERIOR						1"	4.00	6.00	1	24.00	
GANCHOS						3/8"	0.56	0.82	51	23.42	
ESTRIBOS						3/8"	0.56	1.98	92	102.01	
SUBTOTAL										761.93	

VG3/217, VG3/317	ACERO SUPERIOR	1"	4.00	2.75	3	33.00	0.40	2.35	
	ACERO SUPERIOR	1"	4.00	12.00	3	144.00	0.40	11.65	
	ACERO SUPERIOR	1"	4.00	9.00	2	72.00	0.40	6.90	
	ACERO SUPERIOR	5/8"	1.56	3.50	4	21.84	0.25	3.25	
	ACERO SUPERIOR	1"	4.00	6.00	4	96.00	0.40	6.00	
	ACERO INFERIOR	1"	4.00	12.00	4	192.00	0.40	11.65	
	ACERO INFERIOR	1"	4.00	2.75	4	44.00	0.40	2.35	
	ACERO INFERIOR	3/4"	2.25	4.50	1	10.13	0.40	4.50	
	GANCHOS	3/8"	0.56	0.82	90	41.33			
ESTRIBOS	3/8"	0.56	1.98	98	108.66				
SUBTOTAL						762.96			
VG3/218, VG3/318	ACERO SUPERIOR	1"	4.00	2.75	4	44.00	0.40	2.35	
	ACERO SUPERIOR	1"	4.00	12.00	4	192.00	0.40	11.65	
	ACERO SUPERIOR	1"	4.00	6.00	2	48.00	0.40	4.50	
	ACERO SUPERIOR	5/8"	1.56	6.00	1	9.36	0.40	6.00	
	ACERO INFERIOR	1"	4.00	12.00	3	144.00	0.40	11.65	
	ACERO INFERIOR	1"	4.00	2.75	3	33.00	0.40	2.35	
	GANCHOS	3/8"	0.56	0.82	50	22.96			
	ESTRIBOS	3/8"	0.56	1.98	91	100.90			
SUBTOTAL						594.22			
VT3/201, VT3/301	ACERO SUPERIOR	5/8"	1.56	8.85	4	55.22	0.10	3.35	
	ACERO SUPERIOR	3/4"	2.25	8.95	1	20.14	0.10	6.25	
	ACERO INFERIOR	5/8"	1.56	8.85	4	55.22	0.10	3.35	
	ACERO INFERIOR	3/4"	2.25	8.95	1	20.14	0.10	6.25	
	ESTRIBOS	3/8"	0.56	1.48	36	29.84			
SUBTOTAL						180.58			
VT3/202, VT3/302	ACERO SUPERIOR	3/4"	2.25	5.65	2	25.43	0.10	3.35	
	ACERO INFERIOR	5/8"	1.56	5.60	2	17.47	0.10	3.35	
	ESTRIBOS	3/8"	0.56	1.48	28	23.21			
SUBTOTAL						66.10			
VT3/203, VT3/303	ACERO SUPERIOR	5/8"	1.56	2.83	2	8.83	0.10	2.35	
	ACERO INFERIOR	5/8"	1.56	2.83	2	8.83	0.10	2.35	
	ESTRIBOS	3/8"	0.56	1.48	12	9.95			
SUBTOTAL						27.60			
VT3/203, VT3/303	ACERO SUPERIOR	5/8"	1.56	1.49	2	4.65	0.10	0.55	
	ACERO INFERIOR	5/8"	1.56	1.49	2	4.65	0.10	0.55	
	ESTRIBOS	3/8"	0.56	1.48	12	9.95			
SUBTOTAL						19.24			

VIGAS AEREA BLOQUE 3 CUBIERTA						
REFERENCIA	DESCRIPCION	DIAMETRO	KG/M	LONGITUD DE VARILLA	Nº VARILLA	KG TOTAL
VB3/401	ACERO SUPERIOR	5/8"	1.56	6.00	2	18.72
	ACERO SUPERIOR	5/8"	1.56	9.00	2	28.08
	ACERO SUPERIOR	5/8"	1.56	9.00	2	28.08
	ACERO INFERIOR	5/8"	1.56	7.00	2	21.84
	ACERO INFERIOR	5/8"	1.56	9.00	2	28.08
	ACERO INFERIOR	5/8"	1.56	8.00	2	24.96
	ESTRIBOS	3/8"	0.56	1.38	85	85.69
SUBTOTAL						215.45
VB3/402	ACERO SUPERIOR	5/8"	1.56	6.00	2	18.72
	ACERO SUPERIOR	5/8"	1.56	9.00	8	112.32
	ACERO SUPERIOR	5/8"	1.56	8.00	2	24.96
	ACERO SUPERIOR	5/8"	1.56	5.00	2	15.60
	ACERO INFERIOR	5/8"	1.56	7.50	2	23.40
	ACERO INFERIOR	5/8"	1.56	9.00	10	140.40
	ACERO INFERIOR	5/8"	1.56	2.50	2	7.80
	ESTRIBOS	3/8"	0.56	1.38	192	148.38
SUBTOTAL						491.58

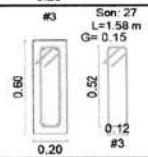
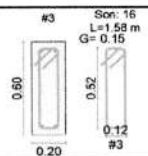
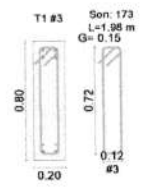
3452

VB3/403	ACERO SUPERIOR	5/8"	1.56	6.00	2	18.72	0.16	5.62	
	ACERO SUPERIOR	5/8"	1.56	8.00	2	24.96		8.00	
	ACERO SUPERIOR	5/8"	1.56	5.00	2	15.60	0.25	4.75	
	ACERO INFERIOR	5/8"	1.56	7.50	2	23.40	0.25	7.25	
	ACERO INFERIOR	5/8"	1.56	9.00	2	28.08		9.00	
	ACERO INFERIOR	5/8"	1.56	2.50	2	7.80	0.25	2.25	
	ESTRIBOS	3/8"	0.56	1.38	64	49.45			
SUBTOTAL						168.02			
VB3/404, VB3/406	ACERO SUPERIOR	5/8"	1.56	5.00	2	15.60	0.25	4.75	
	ACERO SUPERIOR	5/8"	1.56	7.00	2	21.84		7.00	
	ACERO SUPERIOR	5/8"	1.56	4.00	2	12.48	0.25	3.75	
	ACERO INFERIOR	5/8"	1.56	6.00	2	18.72	0.25	5.75	
	ACERO INFERIOR	5/8"	1.56	7.50	2	23.40		7.50	
	ACERO INFERIOR	5/8"	1.56	2.50	2	7.80	0.25	2.25	
	ESTRIBOS	3/8"	0.56	1.48	52	43.10			
SUBTOTAL						142.84			
VB3/405	ACERO SUPERIOR	5/8"	1.56	1.50	1	2.34	0.30	1.25	
	ACERO SUPERIOR	5/8"	1.56	1.80	1	2.81	0.30	1.20	
	ACERO INFERIOR	5/8"	1.56	1.50	1	2.34	0.30	1.20	
	ACERO INFERIOR	5/8"	1.56	1.80	1	2.81	0.30	1.20	
	ESTRIBOS	3/8"	0.56	1.48	4	3.32			
SUBTOTAL						13.61			
VB3/408	ACERO SUPERIOR	5/8"	1.56	6.40	1	9.96	0.25	5.00	
	ACERO SUPERIOR	5/8"	1.56	6.40	1	9.96	0.25	5.00	
	ESTRIBOS	3/8"	0.56	1.48	11	9.12			
SUBTOTAL						29.08			
VG3/401	ACERO SUPERIOR	5/8"	1.56	6.00	3	28.08	0.25	5.75	
	ACERO SUPERIOR	5/8"	1.56	9.00	33	463.32		9.00	
	ACERO SUPERIOR	5/8"	1.56	8.00	3	37.44		8.00	
	ACERO SUPERIOR	5/8"	1.56	5.00	3	23.40	0.25	4.75	
	ACERO INFERIOR	5/8"	1.56	7.50	3	35.10	0.25	7.25	
	ACERO INFERIOR	5/8"	1.56	9.00	36	505.44		9.00	
	ACERO INFERIOR	5/8"	1.56	2.50	3	11.70	0.25	2.25	
	ESTRIBOS	3/8"	0.56	1.58	546	463.10			
SUBTOTAL						1587.58			
VG3/402	ACERO SUPERIOR	5/8"	1.56	6.00	3	28.08	0.25	5.75	
	ACERO SUPERIOR	5/8"	1.56	9.00	33	463.32		9.00	
	ACERO SUPERIOR	5/8"	1.56	8.00	3	37.44		8.00	
	ACERO SUPERIOR	5/8"	1.56	5.00	3	23.40	0.25	4.75	
	ACERO SUPERIOR	5/8"	1.56	4.00	2	12.48	0.25	3.75	
	ACERO SUPERIOR	5/8"	1.56	8.50	2	26.52		8.50	
	ACERO SUPERIOR	5/8"	1.56	6.50	2	20.28	0.25	5.25	
	ACERO INFERIOR	5/8"	1.56	7.50	2	23.40	0.25	7.25	
	ACERO INFERIOR	5/8"	1.56	9.00	35	491.40		9.00	
	ACERO INFERIOR	5/8"	1.56	2.50	3	11.70	0.25	2.25	
	ACERO INFERIOR	5/8"	1.56	3.50	2	10.92	0.25	3.25	
	ACERO INFERIOR	3/4"	2.25	9.00	2	40.50		9.00	
	ACERO INFERIOR	3/4"	2.25	7.50	2	33.75	0.30	7.20	
	ESTRIBOS	3/8"	0.56	1.58	482	408.78			
	ESTRIBOS	3/8"	0.56	1.96	84	93.14			
SUBTOTAL						1728.11			
VG3/403, VG3/405, VG3/410, VG3/412	ACERO SUPERIOR	5/8"	1.56	5.10	3	23.87	0.25	4.85	
	ACERO SUPERIOR	5/8"	1.56	6.00	3	28.08	0.25	5.75	
	ACERO INFERIOR	5/8"	1.56	9.00	3	42.12	0.25	8.75	
	ACERO INFERIOR	5/8"	1.56	2.50	4	15.60	0.25	2.25	
	ESTRIBOS	3/8"	0.56	1.58	45	39.82			
SUBTOTAL						148.48			
VG3/404, VG3/407	ACERO SUPERIOR	5/8"	1.56	6.00	6	58.16	0.25	8.75	
	ACERO INFERIOR	5/8"	1.56	9.00	3	42.12	0.25	8.75	
	ACERO INFERIOR	5/8"	1.56	3.00	3	14.04	0.25	2.75	
	ESTRIBOS	3/8"	0.56	1.58	52	45.01			
SUBTOTAL						158.33			

3463

VG3/406	ACERO SUPERIOR	5/8"	1.56	5.10	3	23.87	0.25	4.85	
	ACERO SUPERIOR	5/8"	1.56	6.00	3	26.08	0.25	5.75	
	ACERO INFERIOR	5/8"	1.56	9.00	3	42.12	0.25	8.75	
	ACERO INFERIOR	5/8"	1.56	2.50	4	15.60	0.25	2.25	
	ESTRIBOS	3/8"	0.56	1.58	44	36.93			
SUBTOTAL						148.60			
VG3/406	ACERO SUPERIOR	5/8"	1.56	5.10	3	23.87	0.25	4.85	
	ACERO SUPERIOR	5/8"	1.56	6.00	3	26.08	0.25	5.75	
	ACERO SUPERIOR	3/4"	2.25	5.00	1	11.25	0.30	4.70	
	ACERO INFERIOR	5/8"	1.56	9.00	3	42.12	0.25	8.75	
	ACERO INFERIOR	5/8"	1.56	2.50	4	15.60	0.30	2.25	
	ESTRIBOS	3/8"	0.56	1.58	45	39.82			
SUBTOTAL						160.73			
VG3/406, VG3/411, VG3/415	ACERO SUPERIOR	5/8"	1.56	6.00	6	56.16	0.25	5.75	
	ACERO SUPERIOR	3/4"	2.25	5.00	1	11.25	0.30	4.70	
	ACERO INFERIOR	5/8"	1.56	9.00	3	42.12	0.25	8.75	
	ACERO INFERIOR	5/8"	1.56	3.00	3	14.04	0.25	2.75	
	ESTRIBOS	3/8"	0.56	1.58	52	46.01			
SUBTOTAL						169.58			
VG3/413	ACERO SUPERIOR	3/4"	2.25	6.00	1	16.00	0.30	7.75	
	ACERO SUPERIOR	3/4"	2.25	3.50	1	7.88	0.30	3.20	
	ACERO SUPERIOR	3/4"	2.25	3.00	1	6.75	0.30	2.70	
	ACERO SUPERIOR	3/4"	2.25	8.50	1	19.13	0.30	8.20	
	ACERO INFERIOR	5/8"	1.56	6.50	1	13.26	0.25	8.20	
	ACERO INFERIOR	5/8"	1.56	3.00	1	4.68	0.25	2.75	
	ACERO INFERIOR	3/4"	2.25	3.00	1	6.75	0.30	2.70	
	ACERO INFERIOR	3/4"	2.25	8.50	1	19.13	0.30	8.20	
	ESTRIBOS	3/8"	0.56	1.58	45	39.82			
SUBTOTAL						135.38			
VG3/414, VG3/416	ACERO SUPERIOR	5/8"	1.56	5.10	3	23.87	0.25	4.85	
	ACERO SUPERIOR	5/8"	1.56	6.00	3	26.08	0.25	5.75	
	ACERO INFERIOR	5/8"	1.56	3.00	1	4.68	0.25	2.75	
	ACERO INFERIOR	5/8"	1.56	9.00	3	42.12	0.25	8.75	
	ACERO INFERIOR	5/8"	1.56	2.50	4	15.60	0.25	2.25	
	ESTRIBOS	3/8"	0.56	1.58	45	39.82			
SUBTOTAL						154.16			

VIGAS AEREAS BLOQUE 2 PISO 1 Y 2								DIAGRAMA
REFERENCIA	DESCRIPCION	DIAMETRO	KG/M	LONGITUD DE VARILLA	N° VARILLA	KG TOTAL		
VB2/201	ACERO SUPERIOR	3/4"	2.25	9.50	2	42.75	0.30	8.20
	ACERO SUPERIOR	3/4"	2.25	9.00	4	81.00	0.30	5.66
	ACERO SUPERIOR	3/4"	2.25	9.50	4	85.50	0.30	8.58
	ACERO SUPERIOR	3/4"	2.25	9.25	2	41.63	0.30	2.70
	ACERO SUPERIOR	3/4"	2.25	3.00	4	27.00		6.00
	ACERO INFERIOR	3/4"	2.25	12.00	2	54.00	0.30	11.70
	ACERO INFERIOR	3/4"	2.25	9.00	8	162.00	0.30	6.00
	ACERO INFERIOR	3/4"	2.25	7.25	2	32.63	0.30	6.58
	ACERO INFERIOR	1/2"	1.00	4.00	4	16.00	0.30	3.86
ESTRIBOS						191.82		
SUBTOTAL						734.32		
VB2/202, VB2/203	ACERO SUPERIOR	5/8"	1.56	5.20	2	16.22	0.30	4.96
	ACERO SUPERIOR	5/8"	1.56	5.20	2	16.22	0.30	4.96
	ESTRIBOS	3/8"	0.56	1.58	16	14.16		
SUBTOTAL						46.60		
VB2/205, VB2/206	ACERO SUPERIOR	5/8"	1.56	4.65	2	14.51	0.30	4.58
	ACERO SUPERIOR	5/8"	1.56	4.65	2	14.51	0.30	4.58
	ESTRIBOS	3/8"	0.56	1.58	27	23.89		
SUBTOTAL						52.91		



3465

VG2/401, VG2/402	ACERO SUPERIOR	3/4"	2.25	7.50	1	16.88	0.30	1.20
	ACERO SUPERIOR	3/4"	2.25	9.00	4	81.00	0.30	9.00
	ACERO SUPERIOR	3/4"	2.25	3.00	1	6.75	0.30	2.70
	ACERO SUPERIOR	5/8"	1.56	2.50	1	3.90	0.25	1.25
	ACERO SUPERIOR	5/8"	1.56	9.00	4	56.16	0.25	9.00
	ACERO SUPERIOR	5/8"	1.56	7.00	1	10.92	0.25	6.75
	ACERO INFERIOR	3/4"	2.25	7.50	1	16.88	0.30	7.50
	ACERO INFERIOR	3/4"	2.25	9.00	4	81.00	0.30	9.00
	ACERO INFERIOR	3/4"	2.25	3.00	1	6.75	0.30	2.70
	ACERO INFERIOR	5/8"	1.56	2.50	1	3.90	0.25	2.50
	ACERO INFERIOR	5/8"	1.56	9.00	4	56.16	0.25	9.00
	ACERO INFERIOR	5/8"	1.56	7.00	1	10.92	0.25	6.75
ESTRIBOS			3/8"	0.56	1.58	210	185.81	
SUBTOTAL						537.02		
VG2/403	ACERO SUPERIOR	5/8"	1.56	8.50	2	26.52	0.25	8.75
	ACERO SUPERIOR	5/8"	1.56	3.00	2	9.36	0.25	2.75
	ACERO SUPERIOR	5/8"	1.56	6.50	1	10.14	0.25	6.50
	ACERO INFERIOR	5/8"	1.56	7.50	3	35.10	0.25	7.25
	ACERO INFERIOR	5/8"	1.56	4.00	3	18.72	0.25	3.75
	ESTRIBOS			3/8"	0.56	1.58	51	45.12
SUBTOTAL						144.96		
VG2/404, VG2/405, VG2/406, VG2/407, VG2/408	ACERO SUPERIOR	5/8"	1.56	6.00	2	18.72	0.25	5.75
	ACERO SUPERIOR	5/8"	1.56	5.50	2	17.16	0.25	5.25
	ACERO SUPERIOR	3/4"	2.25	4.00	1	9.00	0.30	3.75
	ACERO SUPERIOR	3/4"	2.25	3.00	1	6.75	0.30	2.70
	ACERO INFERIOR	5/8"	1.56	7.50	3	35.10	0.25	7.25
	ACERO INFERIOR	5/8"	1.56	4.00	3	18.72	0.25	3.75
	ESTRIBOS			3/8"	0.56	1.58	51	45.12
SUBTOTAL						150.87		

52

10

17

210w3 b=0.17 h=0.52 L=1.58m

52

10

17

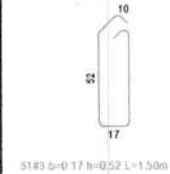
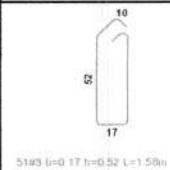
51w3 b=0.17 h=0.52 L=1.58m

52

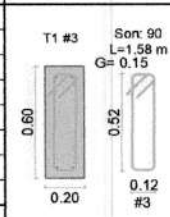
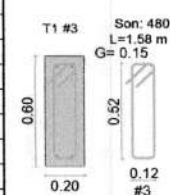
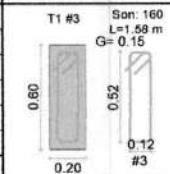
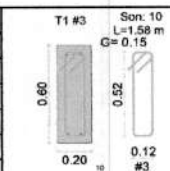
10

17

51w3 b=0.17 h=0.52 L=1.50m

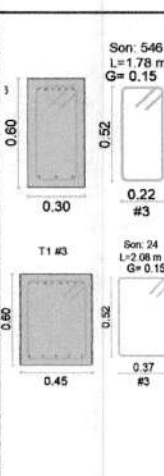
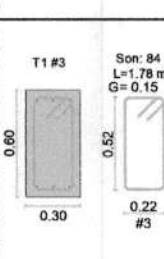
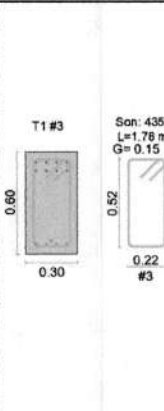
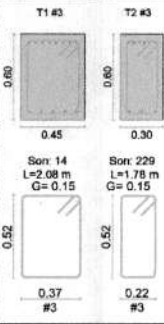
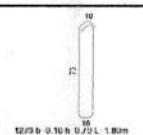


VIGAS AEREAS BLOQUE 1 PISO 1									
REFERENCIA	DESCRIPCION	DIAMETRO	KG/M	LONGITUD DE VARILLA	N° VARILLA	KG TOTAL	DIAGRAMA		
VB1/201	ACERO SUPERIOR	5/8"	1.56	3.45	2	10.76			Son: 10 L=1.58 m G= 0.15
	ACERO SUPERIOR	1/2"	1.00	3.45	1	3.45			
	ACERO INFERIOR	5/8"	1.56	3.45	2	10.76			
	ESTRIBOS	3/8"	0.56	1.58	10	8.85			
SUBTOTAL						33.83			
VB1/202	ACERO SUPERIOR	5/8"	1.56	5.00	4	31.20			Son: 160 L=1.58 m G= 0.15
	ACERO SUPERIOR	5/8"	1.56	9.00	8	112.32			
	ACERO INFERIOR	5/8"	1.56	8.00	2	24.96			
	ACERO INFERIOR	5/8"	1.56	9.00	6	84.24			
	ACERO INFERIOR	5/8"	1.56	10.25	2	31.98			
	GANCHOS	3/8"	0.56	1.58	180	141.57			
SUBTOTAL						426.27			
VB1/203	ACERO SUPERIOR	3/4"	2.25	6.00	4	54.00			Son: 480 L=1.58 m G= 0.15
	ACERO SUPERIOR	3/4"	2.25	9.00	20	405.00			
	ACERO SUPERIOR	3/4"	2.25	8.50	2	38.25			
	ACERO SUPERIOR	3/4"	2.25	10.00	2	45.00			
	ACERO INFERIOR	3/4"	2.25	7.00	1	15.75			
	ACERO INFERIOR	3/4"	2.25	3.00	1	6.75			
	ACERO INFERIOR	3/4"	2.25	9.00	23	485.75			
	ACERO INFERIOR	3/4"	2.25	10.00	1	22.50			
	ACERO INFERIOR	3/4"	2.25	4.00	1	9.00			
	ACERO INFERIOR	3/4"	2.25	9.00	1	20.25			
SUBTOTAL						1508.95			
VB1/204	ACERO SUPERIOR	5/8"	1.56	6.50	2	20.28			Son: 90 L=1.58 m G= 0.15
	ACERO SUPERIOR	5/8"	1.56	8.00	2	24.96			
	ACERO SUPERIOR	5/8"	1.56	5.00	2	15.60			
	ACERO INFERIOR	5/8"	1.56	3.00	2	9.36			
	ACERO INFERIOR	5/8"	1.56	9.00	2	28.08			
	ACERO INFERIOR	5/8"	1.56	7.50	2	23.40			
	ACERO INFERIOR	1/2"	1.00	5.00	2	10.00			
	GANCHOS	3/8"	0.56	1.58	90	79.63			
SUBTOTAL						211.31			



3466

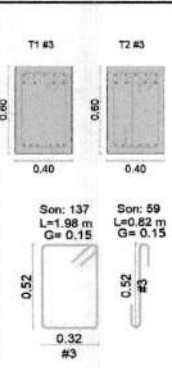
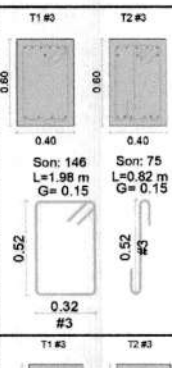
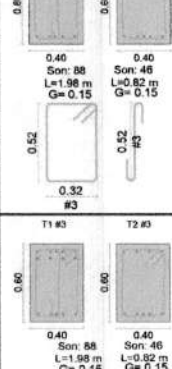
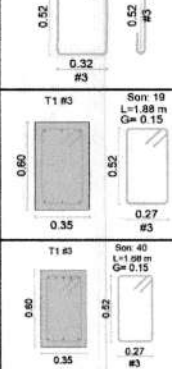
VB1/205	ACERO SUPERIOR	3/4"	2.25	3.90	2	17.55	0.35	5.20	0.35		
	ACERO INFERIOR	3/4"	2.25	3.90	2	17.55	0.35	5.20	0.35		
	GANCHOS	3/8"	0.56	1.80	12	12.10					
SUBTOTAL						47.20					
VG1/201	ACERO SUPERIOR	5/8"	1.56	8.00	4	49.92	0.20	7.75			
	ACERO SUPERIOR	5/8"	1.56	9.00	15	210.60		8.50			
	ACERO SUPERIOR	5/8"	1.56	5.00	3	23.40	0.20	4.75			
	ACERO SUPERIOR	3/4"	2.25	3.00	2	13.50		1.00			
	ACERO SUPERIOR	5/8"	1.56	3.00	10	46.80		2.50			
	ACERO SUPERIOR	5/8"	1.56	2.00	2	6.24	0.20	1.75			
	ACERO INFERIOR	3/4"	2.25	10.50	3	70.88	0.30	10.25			
	ACERO INFERIOR	5/8"	1.56	9.00	12	166.48		3.50			
	ACERO INFERIOR	5/8"	1.56	10.50	3	49.14	0.20	10.25			
	ACERO INFERIOR	1/2"	1.00	4.50	1	4.50		4.50			
	GANCHOS	3/8"	0.56	2.08	14	16.31					
	GANCHOS	3/8"	0.56	1.78	229	228.27					
SUBTOTAL						888.03					
VG1/202	ACERO SUPERIOR	7/8"	3.08	8.25	4	100.98	0.35	7.50			
	ACERO SUPERIOR	5/8"	1.56	9.00	29	407.16		8.50			
	ACERO SUPERIOR	5/8"	1.56	5.00	3	23.40	0.20	4.75			
	ACERO SUPERIOR	7/8"	3.08	5.00	4	61.20	0.35	4.50			
	ACERO SUPERIOR	5/8"	1.56	3.00	14	65.52		3.00			
	ACERO SUPERIOR	3/4"	2.25	9.00	3	60.75	0.30	8.40	0.30		
	ACERO SUPERIOR	5/8"	1.56	2.00	2	6.24	0.20	1.75			
	ACERO INFERIOR	5/8"	1.56	5.00	2	15.60	0.20	4.75			
	ACERO INFERIOR	5/8"	1.56	8.90	1	13.88	0.20	8.25			
	ACERO INFERIOR	5/8"	1.56	6.00	3	28.08		5.25			
	ACERO INFERIOR	3/4"	2.25	10.50	3	70.88	0.30	10.25			
	ACERO INFERIOR	5/8"	1.56	9.00	18	252.72		9.50			
	ACERO INFERIOR	3/4"	2.25	12.00	3	81.00		12.00			
	ACERO INFERIOR	5/8"	1.56	6.25	3	29.25		8.25			
	ACERO INFERIOR	5/8"	1.56	10.25	3	47.97	0.20	10.50			
	GANCHOS	3/8"	0.56	1.78	435	433.61					
SUBTOTAL						1698.24					
VG1/203	ACERO SUPERIOR	3/4"	2.25	6.00	6	81.00	0.30	6.50			
	ACERO SUPERIOR	3/4"	2.25	7.00	3	47.25		9.50			
	ACERO INFERIOR	3/4"	2.25	6.00	1	13.50	0.30	6.75			
	ACERO INFERIOR	3/4"	2.25	9.00	1	20.25		8.00			
	ACERO INFERIOR	3/4"	2.25	4.00	1	9.00	0.30	3.75			
	ACERO INFERIOR	5/8"	1.56	3.00	2	9.36	0.20	2.75			
	ACERO INFERIOR	5/8"	1.56	9.00	2	28.08		8.00			
	ACERO INFERIOR	5/8"	1.56	7.00	2	21.84	0.20	6.75			
	GANCHOS	3/8"	0.56	1.78	84	83.73					
SUBTOTAL						314.01					
VG1/204	ACERO SUPERIOR	3/4"	2.25	8.50	3	57.38	0.30	9.25			
	ACERO SUPERIOR	3/4"	2.25	9.00	36	729.00		9.50			
	ACERO SUPERIOR	3/4"	2.25	6.00	3	40.50	0.30	6.75			
	ACERO SUPERIOR	3/4"	2.25	3.48	1	7.83	0.30	2.88	0.30		
	ACERO SUPERIOR	3/4"	2.25	3.00	1	6.75		3.00			
	ACERO SUPERIOR	5/8"	1.56	3.00	2	9.36		1.00			
	ACERO SUPERIOR	5/8"	1.56	6.00	26	243.36		6.00			
	ACERO SUPERIOR	5/8"	1.56	4.00	3	18.72	0.20	3.75			
	ACERO INFERIOR	3/4"	2.25	6.00	3	40.50	0.30	6.75			
	ACERO INFERIOR	5/8"	1.56	9.00	25	351.00		9.50			
	ACERO INFERIOR	5/8"	1.56	8.00	2	24.96	0.20	7.75			
	ACERO INFERIOR	3/4"	2.25	3.48	1	7.83	0.30	2.88	0.30		
	ACERO INFERIOR	3/4"	2.25	9.00	11	222.75		9.50			
	ACERO INFERIOR	3/4"	2.25	10.50	1	23.63		10.50			
	ACERO INFERIOR	5/8"	1.56	3.50	3	16.38	0.20	3.38			
	ACERO INFERIOR	5/8"	1.56	1.60	1	2.50	0.20	1.60			
	GANCHOS	3/8"	0.56	1.78	546	544.25					
	GANCHOS	3/8"	0.56	2.08	24	27.96					
SUBTOTAL						2374.64					



3467

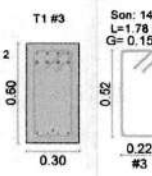
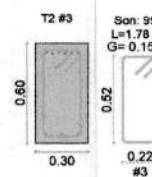
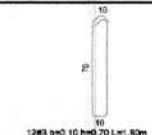
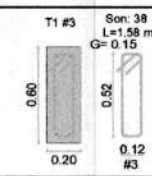
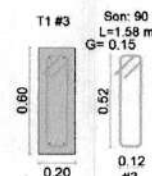
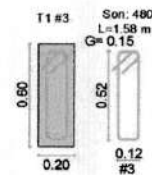
VG1/205	ACERO SUPERIOR	7/8"	3.06	6.00	4	73.44	0.30	5.55	 T1 #3 Son: 151 L=1.98 m G= 0.15 0.32 #3				
	ACERO SUPERIOR	7/8"	3.06	9.00	4	110.16	0.30	5.55					
	ACERO SUPERIOR	7/8"	3.06	9.00	5	137.70	0.30	5.55					
	ACERO SUPERIOR	3/4"	2.25	4.00	3	27.00	0.30	4.50					
	ACERO SUPERIOR	5/8"	1.56	4.50	3	21.06	0.30	11.88					
	ACERO INFERIOR	7/8"	3.06	12.00	6	220.32	0.30	4.50					
	ACERO INFERIOR	3/4"	2.25	4.00	1	9.00	0.30	5.00					
	ACERO INFERIOR	3/4"	2.25	6.00	1	13.50	0.30	4.50					
GANCHOS						3/8"	0.56	1.98	151	167.43			
SUBTOTAL										779.61			
VG1/206	ACERO SUPERIOR	7/8"	3.06	6.00	4	73.44	0.30	5.55	 T1 #3 Son: 151 L=1.98 m G= 0.15 0.32 #3				
	ACERO SUPERIOR	7/8"	3.06	9.00	4	110.16	0.30	5.55					
	ACERO SUPERIOR	7/8"	3.06	9.00	5	137.70	0.30	5.55					
	ACERO SUPERIOR	7/8"	3.06	4.00	1	12.24	0.30	4.50					
	ACERO SUPERIOR	5/8"	1.56	4.50	4	28.08	0.30	4.25					
	ACERO SUPERIOR	3/4"	2.25	6.00	5	67.50	0.30	5.00					
	ACERO SUPERIOR	7/8"	3.06	4.00	5	61.20	0.30	4.50					
	ACERO INFERIOR	7/8"	3.06	12.00	6	220.32	0.30	11.88					
	ACERO INFERIOR	3/4"	2.25	4.00	1	9.00	0.30	2.50					
	ACERO INFERIOR	3/4"	2.25	6.00	1	13.50	0.30	5.00					
GANCHOS						3/8"	0.56	1.98	151	167.43			
SUBTOTAL										900.57			
VG1/207	ACERO SUPERIOR	7/8"	3.06	6.00	4	73.44	0.30	5.55	 T1 #3 Son: 163 L=1.98 m G= 0.15 0.32 #3 T2 #3 Son: 71 L=0.82 m G= 0.15 0.32 #3				
	ACERO SUPERIOR	7/8"	3.06	9.00	4	110.16	0.30	5.55					
	ACERO SUPERIOR	7/8"	3.06	9.00	5	137.70	0.30	5.55					
	ACERO SUPERIOR	5/8"	1.56	3.00	4	18.72	0.25	2.75					
	ACERO SUPERIOR	3/4"	2.25	4.00	5	45.00	0.30	4.50					
	ACERO SUPERIOR	7/8"	3.06	4.00	2	24.48	0.30	4.00					
	ACERO INFERIOR	7/8"	3.06	12.00	6	220.32	0.30	11.88					
	ACERO INFERIOR	5/8"	1.56	12.00	1	18.72	0.25	11.75					
	ACERO INFERIOR	7/8"	3.06	4.00	1	12.24	0.30	2.50					
	ACERO INFERIOR	7/8"	3.06	4.50	1	13.77	0.30	4.50					
	ACERO INFERIOR	3/4"	2.25	6.00	1	13.50	0.30	5.00					
	GANCHOS						3/8"	0.56		1.98	163	180.73	
	GANCHOS						3/8"	0.56		0.82	71	32.60	
SUBTOTAL										901.39			
VG1/208	ACERO SUPERIOR	7/8"	3.06	6.00	4	73.44	0.30	5.55	 T1 #3 Son: 117 L=1.98 m G= 0.15 0.32 #3 T2 #3 Son: 12 L=0.82 m G= 0.15 0.32 #3				
	ACERO SUPERIOR	7/8"	3.06	9.00	4	110.16	0.30	5.55					
	ACERO SUPERIOR	7/8"	3.06	9.00	5	137.70	0.30	5.55					
	ACERO SUPERIOR	7/8"	3.06	4.00	1	12.24	0.30	4.50					
	ACERO SUPERIOR	5/8"	1.56	4.50	4	28.08	0.25	4.25					
	ACERO SUPERIOR	3/4"	2.25	6.00	4	54.00	0.30	5.00					
	ACERO SUPERIOR	7/8"	3.06	4.00	5	61.20	0.30	4.50					
	ACERO INFERIOR	7/8"	3.06	12.00	6	220.32	0.30	11.88					
	ACERO INFERIOR	5/8"	1.56	12.00	2	37.44	0.25	11.75					
	ACERO INFERIOR	7/8"	3.06	4.50	2	27.54	0.30	4.50					
	ACERO INFERIOR	5/8"	1.56	6.00	1	9.36	0.30	5.55					
	GANCHOS						3/8"	0.56		1.98	117	129.73	
	GANCHOS						3/8"	0.56		0.82	12	5.51	
SUBTOTAL										906.72			
VG1/209	ACERO SUPERIOR	7/8"	3.06	6.00	4	73.44	0.30	5.55	 T1 #3 Son: 137 L=1.98 m G= 0.15 0.32 #3 T2 #3 Son: 59 L=0.82 m G= 0.15 0.32 #3				
	ACERO SUPERIOR	7/8"	3.06	9.00	4	110.16	0.30	5.55					
	ACERO SUPERIOR	7/8"	3.06	9.00	5	137.70	0.30	5.55					
	ACERO SUPERIOR	5/8"	1.56	3.00	1	4.68	0.25	2.75					
	ACERO SUPERIOR	1"	4.00	4.00	6	128.00	0.30	4.00					
	ACERO SUPERIOR	7/8"	3.06	4.00	2	24.48	0.30	4.50					
	ACERO SUPERIOR	3/4"	2.25	4.00	1	9.00	0.30	4.50					
	ACERO INFERIOR	7/8"	3.06	12.00	8	263.76	0.30	11.88					
	ACERO INFERIOR	5/8"	1.56	4.00	1	6.24	0.30	4.00					
	ACERO INFERIOR	3/4"	2.25	6.00	2	27.00	0.30	5.00					
	ACERO INFERIOR	7/8"	3.06	4.50	2	27.54	0.30	4.50					
	ACERO INFERIOR	7/8"	3.06	6.00	2	36.72	0.30	5.00					
	GANCHOS						3/8"	0.56		1.98	137	151.91	
	GANCHOS						3/8"	0.56		0.82	59	27.09	
SUBTOTAL										1067.72			

3468

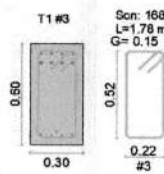
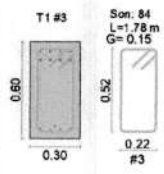
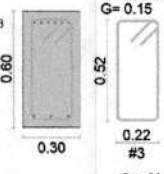
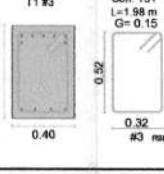
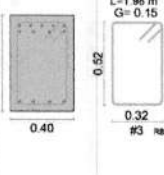
VG1/210, VG1/211	ACERO SUPERIOR	7/8"	3.06	8.00	4	73.44	0.32	8.85	
	ACERO SUPERIOR	7/8"	3.06	9.00	4	110.16	0.32	8.85	
	ACERO SUPERIOR	7/8"	3.06	9.00	5	137.70	0.32	8.85	
	ACERO SUPERIOR	5/8"	1.56	3.00	1	4.68	0.28	2.75	
	ACERO SUPERIOR	1"	4.00	4.00	8	128.00	0.32	4.50	
	ACERO SUPERIOR	7/8"	3.06	4.00	2	24.48	0.32	4.50	
	ACERO SUPERIOR	3/4"	2.25	4.00	1	9.00	0.32	4.50	
	ACERO INFERIOR	7/8"	3.06	12.00	4	146.88	0.32	11.85	
	ACERO INFERIOR	1"	4.00	12.00	4	192.00	0.40	11.85	
	ACERO INFERIOR	7/8"	3.06	4.50	2	27.54	0.32	4.50	
	ACERO INFERIOR	7/8"	3.06	8.00	2	36.72	0.32	4.50	
	ACERO INFERIOR	3/4"	2.25	4.00	1	9.00	0.32	4.50	
	ACERO INFERIOR	3/4"	2.25	6.00	2	27.00	0.32	4.50	
	GANCHOS	3/8"	0.56	1.98	137	151.91			
	GANCHOS	3/8"	0.56	0.82	59	27.00			
SUBTOTAL									
VG1/212	ACERO SUPERIOR	7/8"	3.06	6.00	4	73.44	0.32	8.85	
	ACERO SUPERIOR	7/8"	3.06	9.00	3	82.82	0.32	8.85	
	ACERO SUPERIOR	7/8"	3.06	9.00	5	137.70	0.32	8.85	
	ACERO SUPERIOR	1"	4.00	9.00	1	36.00	0.32	8.85	
	ACERO SUPERIOR	1"	4.00	4.00	5	80.00	0.32	4.50	
	ACERO SUPERIOR	5/8"	1.56	3.00	1	4.68	0.28	2.75	
	ACERO SUPERIOR	7/8"	3.06	4.00	1	12.24	0.32	4.50	
	ACERO INFERIOR	7/8"	3.06	12.00	7	257.04	0.32	11.85	
	ACERO INFERIOR	5/8"	1.56	12.00	1	18.72	0.32	11.85	
	ACERO INFERIOR	1"	4.00	6.00	2	48.00	0.32	8.85	
	GANCHOS	3/8"	0.56	1.98	146	161.88			
	GANCHOS	3/8"	0.56	0.82	75	34.44			
SUBTOTAL									
VG1/213, VG1/214, VG1/215, VG1/216, VG1/217	ACERO SUPERIOR	7/8"	3.06	6.00	4	73.44	0.32	8.85	
	ACERO SUPERIOR	7/8"	3.06	9.00	5	137.70	0.32	8.85	
	ACERO SUPERIOR	5/8"	1.56	3.00	2	9.36	0.28	2.75	
	ACERO SUPERIOR	1"	4.00	6.00	4	96.00	0.32	8.85	
	ACERO INFERIOR	3/4"	2.25	9.00	4	81.00	0.32	8.85	
	ACERO INFERIOR	7/8"	3.06	6.00	4	73.44	0.32	8.85	
	ACERO INFERIOR	7/8"	3.06	4.00	2	24.48	0.32	4.50	
	ACERO INFERIOR	5/8"	1.56	3.00	1	4.68	0.28	2.75	
	GANCHOS	3/8"	0.56	1.98	88	97.57			
	GANCHOS	3/8"	0.56	0.82	46	21.12			
SUBTOTAL									
VG1/218	ACERO SUPERIOR	7/8"	3.06	6.00	4	73.44	0.32	8.85	
	ACERO SUPERIOR	7/8"	3.06	9.00	5	137.70	0.32	8.85	
	ACERO SUPERIOR	5/8"	1.56	3.00	3	14.04	0.28	2.75	
	ACERO SUPERIOR	1"	4.00	6.00	4	96.00	0.32	8.85	
	ACERO INFERIOR	3/4"	2.25	9.00	4	81.00	0.32	8.85	
	ACERO INFERIOR	7/8"	3.06	6.00	4	73.44	0.32	8.85	
	ACERO INFERIOR	7/8"	3.06	4.00	2	24.48	0.32	4.50	
	ACERO INFERIOR	3/4"	2.25	3.00	1	6.75	0.28	2.75	
	GANCHOS	3/8"	0.56	1.98	88	97.57			
	GANCHOS	3/8"	0.56	0.82	46	21.12			
SUBTOTAL									
VG1/219	ACERO SUPERIOR	3/4"	2.25	5.92	1	13.32	0.32	5.32	
	ACERO SUPERIOR	5/8"	1.56	5.82	2	18.16	0.28	5.32	
	ACERO INFERIOR	3/4"	2.25	5.92	1	13.32	0.32	5.32	
	ACERO INFERIOR	5/8"	1.56	5.82	2	18.16	0.28	5.32	
	GANCHOS	3/8"	0.56	1.88	19	20.00			
	GANCHOS	3/8"	0.56	0.82	19	20.00			
SUBTOTAL									
VG1/220	ACERO SUPERIOR	3/4"	2.25	8.93	3	60.28	0.32	5.32	
	ACERO SUPERIOR	7/8"	3.06	3.50	4	42.84	0.32	5.32	
	ACERO INFERIOR	3/4"	2.25	8.93	3	60.28	0.32	5.32	
	GANCHOS	3/8"	0.56	1.88	40	42.11			
SUBTOTAL									
SUBTOTAL									

3470

VB1/304	ACERO SUPERIOR	3/4"	2.25	6.00	4	54.00	0.30	5.70
	ACERO SUPERIOR	3/4"	2.25	9.00	20	405.00		6.20
	ACERO SUPERIOR	3/4"	2.25	8.50	2	38.25		6.50
	ACERO SUPERIOR	3/4"	2.25	10.00	2	45.00		6.00
	ACERO INFERIOR	3/4"	2.25	7.00	1	15.75	0.30	6.70
	ACERO INFERIOR	3/4"	2.25	9.00	23	485.75		6.20
	ACERO INFERIOR	3/4"	2.25	10.00	1	22.50		6.00
	ACERO INFERIOR	3/4"	2.25	4.00	1	9.00	0.30	5.70
	ACERO INFERIOR	3/4"	2.25	3.00	1	6.75	0.30	5.70
	ACERO INFERIOR	3/4"	2.25	9.00	1	20.25	0.30	6.70
GANCHOS						1.58	480	424.70
SUBTOTAL						1506.95		
VB1/305	ACERO SUPERIOR	5/8"	1.56	6.50	2	20.28	0.25	6.25
	ACERO SUPERIOR	5/8"	1.56	8.00	2	24.96		6.20
	ACERO SUPERIOR	5/8"	1.56	5.00	2	15.60	0.25	4.75
	ACERO INFERIOR	5/8"	1.56	3.00	2	9.36	0.25	2.75
	ACERO INFERIOR	5/8"	1.56	9.00	2	28.08		9.00
	ACERO INFERIOR	5/8"	1.56	7.50	2	23.40	0.25	7.25
	ACERO INFERIOR	1/2"	1.00	5.00	2	10.00		5.00
GANCHOS						0.56	90	79.63
SUBTOTAL						211.31		
VB1/306	ACERO SUPERIOR	5/8"	1.56	10.59	2	33.04	0.25	10.09
	ACERO SUPERIOR	3/4"	2.25	2.90	2	13.05	0.30	7.80
	ACERO INFERIOR	5/8"	1.56	10.59	2	33.04	0.25	10.09
GANCHOS						0.56	38	33.62
SUBTOTAL						112.75		
VB1/307	ACERO SUPERIOR	3/4"	2.25	3.90	2	17.55	0.35	3.35
	ACERO INFERIOR	3/4"	2.25	3.90	2	17.55	0.35	3.35
GANCHOS						0.56	12	12.10
SUBTOTAL						47.20		
VG1/301	ACERO SUPERIOR	3/4"	2.25	6.50	3	43.88	0.20	6.20
	ACERO SUPERIOR	3/4"	2.25	9.00	3	60.75		6.00
	ACERO SUPERIOR	3/4"	2.25	6.00	3	40.50	0.20	5.70
	ACERO SUPERIOR	3/4"	2.25	5.50	1	12.38		5.50
	ACERO INFERIOR	3/4"	2.25	5.30	1	11.93	0.20	5.00
	ACERO INFERIOR	3/4"	2.25	9.00	1	20.25		9.00
	ACERO INFERIOR	3/4"	2.25	7.50	1	16.88	0.20	7.20
	ACERO INFERIOR	5/8"	1.56	2.50	2	7.80	0.20	2.25
	ACERO INFERIOR	5/8"	1.56	8.50	2	26.52		8.50
	ACERO INFERIOR	5/8"	1.56	9.00	2	28.08		9.00
	ACERO INFERIOR	5/8"	1.56	3.00	2	9.36	0.20	2.75
GANCHOS						0.56	99	96.66
SUBTOTAL						396.35		
VG1/302	ACERO SUPERIOR	3/4"	2.25	7.50	4	67.50	0.30	7.20
	ACERO SUPERIOR	3/4"	2.25	9.00	8	121.50		9.00
	ACERO SUPERIOR	3/4"	2.25	6.00	3	40.50	0.30	5.70
	ACERO SUPERIOR	7/8"	3.06	4.00	4	48.96		4.00
	ACERO SUPERIOR	5/8"	1.56	5.50	3	25.74		5.50
	ACERO SUPERIOR	3/4"	2.25	5.50	3	37.13		5.50
	ACERO SUPERIOR	1/2"	1.00	3.50	3	10.50	0.20	3.30
	ACERO SUPERIOR	1/2"	1.00	2.00	4	8.00	0.20	1.80
	ACERO INFERIOR	3/4"	2.25	6.00	2	27.00	0.30	5.70
	ACERO INFERIOR	3/4"	2.25	9.00	4	81.00		9.00
	ACERO INFERIOR	3/4"	2.25	7.75	2	34.88	0.30	7.45
	ACERO INFERIOR	5/8"	1.56	2.50	2	7.80	0.20	2.25
	ACERO INFERIOR	5/8"	1.56	8.50	2	26.52		8.50
	ACERO INFERIOR	3/4"	2.25	9.00	2	40.50		9.00
	ACERO INFERIOR	3/4"	2.25	3.75	1	8.44	0.30	3.45
GANCHOS						0.56	145	144.54
SUBTOTAL						730.49		



3471

VG1/003	ACERO SUPERIOR	3/4"	2.25	5.00	3	33.75	0.30	4.70	
	ACERO SUPERIOR	3/4"	2.25	9.00	9	182.25	0.30	9.30	
	ACERO SUPERIOR	3/4"	2.25	5.50	3	37.13	0.30	5.20	
	ACERO INFERIOR	5/8"	1.56	7.50	2	23.40	0.25	7.25	
	ACERO INFERIOR	5/8"	1.56	9.00	6	84.24	0.30	9.30	
	ACERO INFERIOR	3/4"	2.25	3.00	2	13.50	0.30	2.70	
	ACERO INFERIOR	3/4"	2.25	9.00	3	60.75	0.30	9.30	
	ACERO INFERIOR	3/4"	2.25	7.50	1	16.88	0.30	7.20	
GANCHOS		3/8"	0.56	1.78	168	167.46			
SUBTOTAL								619.36	
VG1/004	ACERO SUPERIOR	3/4"	2.25	6.00	3	40.50	0.30	5.70	
	ACERO SUPERIOR	3/4"	2.25	9.00	3	60.75	0.30	9.30	
	ACERO SUPERIOR	3/4"	2.25	5.00	3	33.75	0.30	4.70	
	ACERO INFERIOR	5/8"	1.56	7.00	2	21.84	0.25	6.75	
	ACERO INFERIOR	5/8"	1.56	9.00	2	28.08	0.25	9.00	
	ACERO INFERIOR	5/8"	1.56	3.00	2	9.36	0.25	2.75	
	ACERO INFERIOR	3/4"	2.25	3.00	1	6.75	0.30	2.70	
	ACERO INFERIOR	3/4"	2.25	9.00	1	20.25	0.30	9.00	
GANCHOS		3/8"	0.56	1.78	84	83.73			
SUBTOTAL								321.89	
VG1/005	ACERO SUPERIOR	3/4"	2.25	8.50	4	76.50	0.30	8.20	
	ACERO SUPERIOR	3/4"	2.25	9.00	36	729.00	0.30	9.30	
	ACERO SUPERIOR	3/4"	2.25	6.00	3	40.50	0.30	5.70	
	ACERO SUPERIOR	3/4"	2.25	3.48	1	7.83	0.30	2.88	
	ACERO SUPERIOR	3/4"	2.25	3.00	1	6.75	0.30	3.00	
	ACERO SUPERIOR	5/8"	1.56	3.00	2	9.36	0.25	3.30	
	ACERO SUPERIOR	5/8"	1.56	6.00	26	243.36	0.25	6.30	
	ACERO SUPERIOR	5/8"	1.56	4.00	3	18.72	0.25	5.70	
	ACERO INFERIOR	3/4"	2.25	6.00	3	40.50	0.30	6.75	
	ACERO INFERIOR	5/8"	1.56	9.00	25	361.00	0.25	9.30	
	ACERO INFERIOR	5/8"	1.56	8.00	2	24.96	0.25	7.25	
	ACERO INFERIOR	3/4"	2.25	3.48	1	7.83	0.30	2.88	
	ACERO INFERIOR	3/4"	2.25	9.00	11	222.75	0.30	9.30	
	ACERO INFERIOR	3/4"	2.25	10.50	1	23.83	0.30	10.50	
	ACERO INFERIOR	5/8"	1.56	3.50	3	16.38	0.25	3.25	
	ACERO INFERIOR	5/8"	1.56	1.50	1	2.50	0.25	1.50	
GANCHOS		3/8"	0.56	1.78	546	544.25			
GANCHOS		3/8"	0.56	2.08	24	27.96			
SUBTOTAL								2393.77	
VG1/006	ACERO SUPERIOR	7/8"	3.06	6.00	4	73.44	0.30	5.55	
	ACERO SUPERIOR	7/8"	3.06	9.00	4	110.16	0.30	9.00	
	ACERO SUPERIOR	7/8"	3.06	9.00	5	137.70	0.30	5.55	
	ACERO SUPERIOR	3/4"	2.25	4.00	3	27.00	0.30	4.30	
	ACERO INFERIOR	3/4"	2.25	12.00	8	216.00	0.30	11.70	
	ACERO INFERIOR	3/4"	2.25	4.00	1	9.00	0.30	4.30	
GANCHOS		3/8"	0.56	1.98	151	167.43			
SUBTOTAL								740.73	
VG1/007	ACERO SUPERIOR	7/8"	3.06	6.00	4	73.44	0.30	5.55	
	ACERO SUPERIOR	7/8"	3.06	9.00	4	110.16	0.30	9.00	
	ACERO SUPERIOR	7/8"	3.06	9.00	5	137.70	0.30	5.55	
	ACERO SUPERIOR	3/4"	2.25	3.00	1	6.75	0.30	2.70	
	ACERO SUPERIOR	1"	4.00	4.00	6	96.00	0.30	4.30	
	ACERO INFERIOR	7/8"	3.06	12.00	6	220.32	0.30	11.65	
	ACERO INFERIOR	7/8"	3.06	6.00	1	18.36	0.30	3.95	
	ACERO INFERIOR	7/8"	3.06	4.00	1	12.24	0.30	4.30	
	ACERO INFERIOR	3/4"	2.25	4.00	1	9.00	0.30	4.30	
GANCHOS		3/8"	0.56	1.98	151	167.43			
SUBTOTAL								851.40	