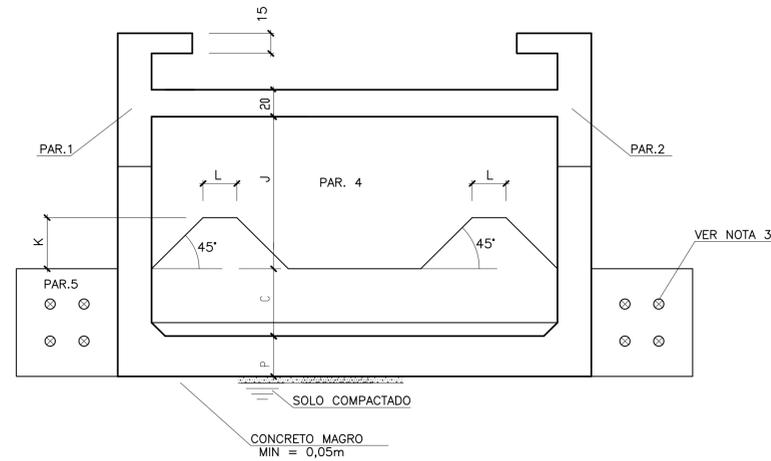
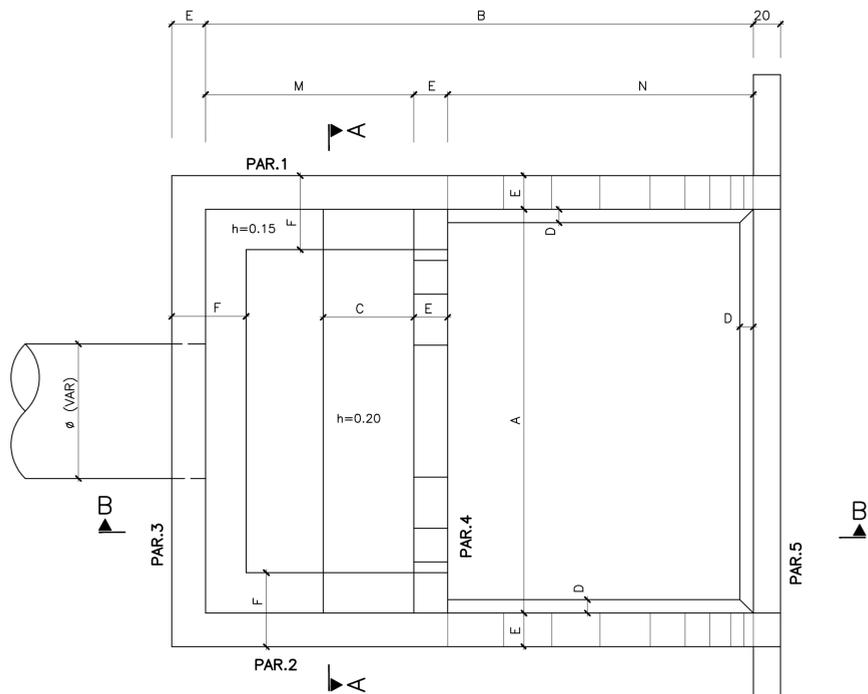


PLANTA DO FUNDO

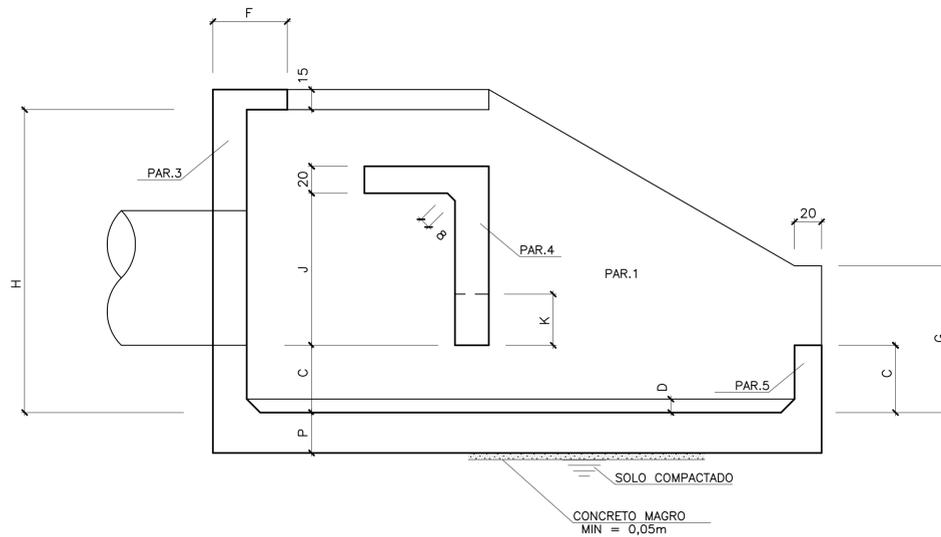
	A (m)	B (m)	C (m)	D (m)	E (m)	F (m)	G (m)	H (m)	J (m)	K (m)	L (m)	M (m)	N (m)	P (m)	Ø (m)
DISSIPADOR A.1	3,00	4,00	0,50	0,08	0,20	0,45	1,26	2,25	1,13	0,38	0,25	1,54	2,26	0,20	0,80
DISSIPADOR A.2	4,00	5,33	0,67	0,10	0,25	0,55	1,68	3,00	1,50	0,50	0,33	2,07	3,01	0,30	1,00
DISSIPADOR A.3	5,00	6,67	0,83	0,15	0,30	0,65	2,10	3,75	1,88	0,63	0,42	2,60	3,77	0,30	1,20
DISSIPADOR A.4	5,50	7,33	0,92	0,15	0,30	0,70	2,31	4,13	2,06	0,69	0,46	2,89	4,14	0,35	1,50



CORTE A-A



PLANTA SUPERIOR



CORTE B-B

- NOTAS
- 1-MEDIDAS EM METROS
  - 2-CONCRETO ESTRUTURAL  $f_{ck} \geq 15 \text{ MPa}$   
MAGRO  $f_{ck} \geq 9 \text{ MPa}$
  - 3-EXECUTAR A DRENAGEM DO TERRENO EM TORNO DA LATERAL DA ESTRUTURA E DESCARREGAR OS DRENOS NA BACIA DE JUSANTE ATRAVES DOS TUBOS ATRAVESSANDO A PAR.5

1	PROJETO EXECUTIVO			19/8/96
REV.	DESCRIÇÃO	POR	DATA	APROV.
<b>HOLOS</b> Engenharia Sanitária e Ambiental Lda.				
PROJ.	ALAGR DE ALMEIDA CASTRO CREA 14382 / D	VISTO	N.º DES. E-D-094-3-058	
DES.	ALAGR DE ALMEIDA CASTRO CREA 14382 / D	APROV.		
CONF.	DATA ACOSTO / 96	FOLHA 05 / 05	ARQ.	

**SECRETARIA DE OBRAS DO DISTRITO FEDERAL**  
DEPARTAMENTO DE PROGRAMAÇÃO E CONTROLE DE OBRAS

PROJETO DE DRENAGEM PLUVIAL  
DISSIPADORES DE ENERGIA  
PROJETO ESTRUTURAL - FORMA  
PLANTAS E CORTES

ESCALA: sem escala

APROVAÇÃO			
NOME	ASSINATURA	DATA	
FISCALIZAÇÃO: VANESSA FIGUEIREDO MENDONÇA DE FREITAS			
GERENCIAMENTO: ANTONIO R.S.R. COIMBRA/JOSÉ H.M. DE PAULA			
LIBERAÇÃO: MYRINDES DE FATIMA NAVES ABATH			
APROVAÇÃO: OTO SILVERIO GUIMARÃES JUNIOR			
ARQUIVO: ZANDI RODRIGUES DE CARVALHO			
NÚMERO E DATA DO CONTRATO: 005 / 96			

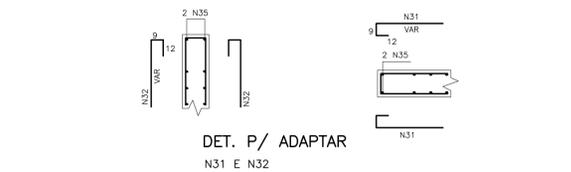
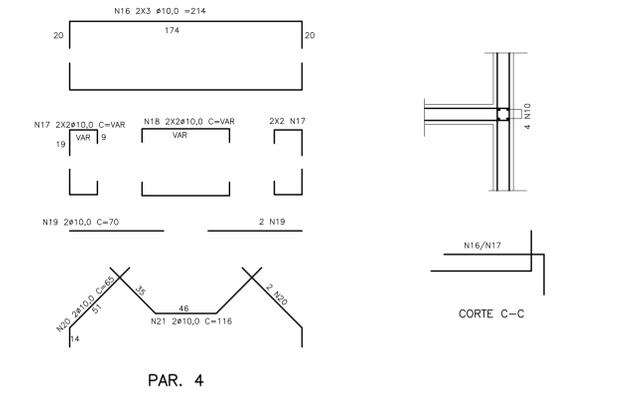
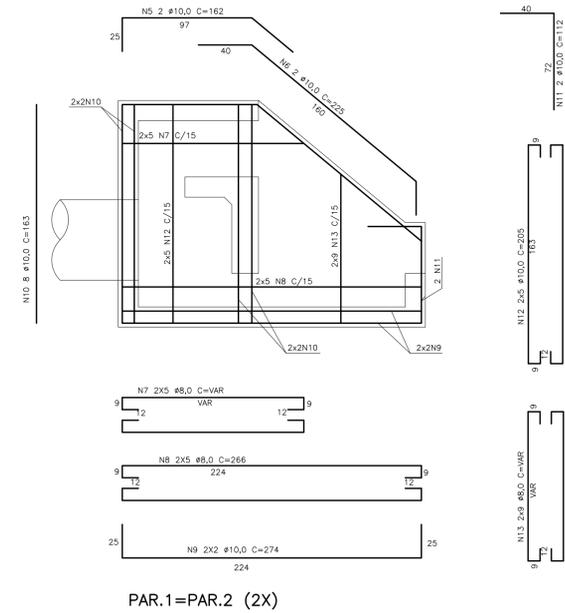
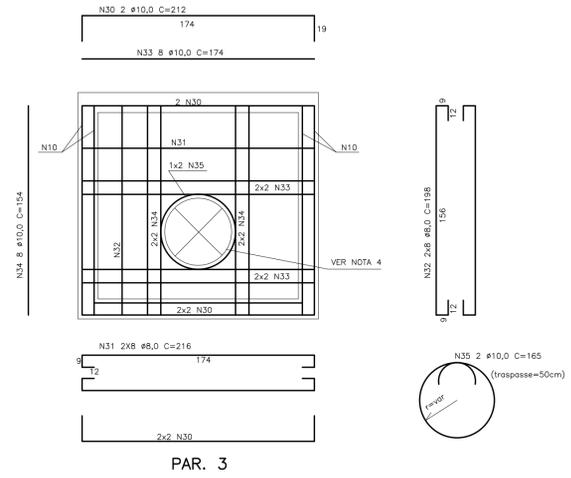
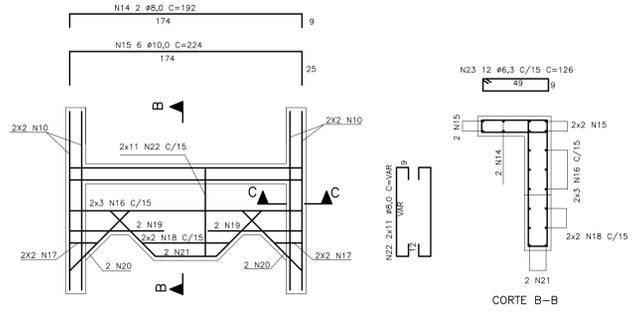
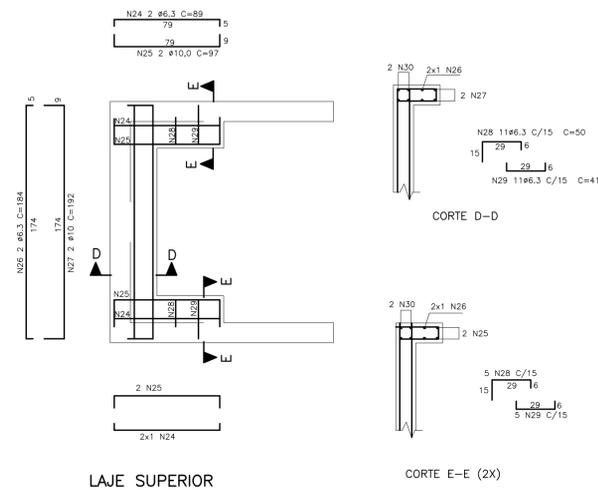
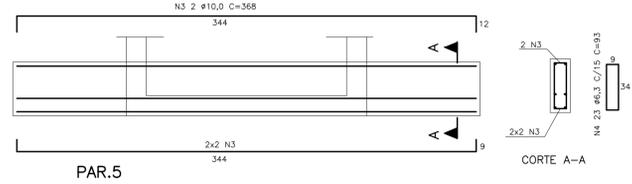
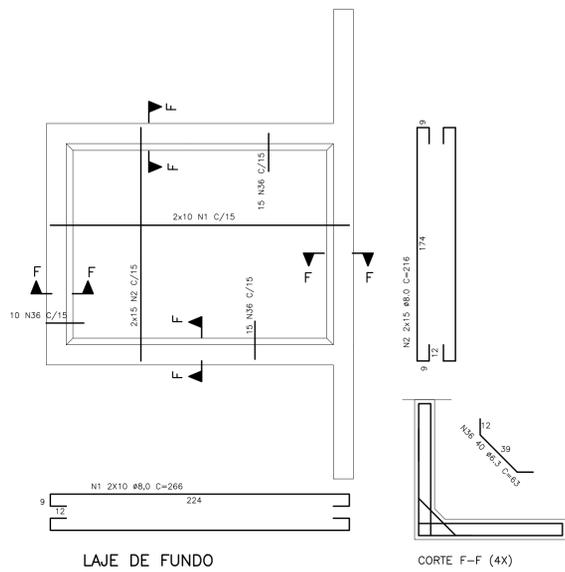
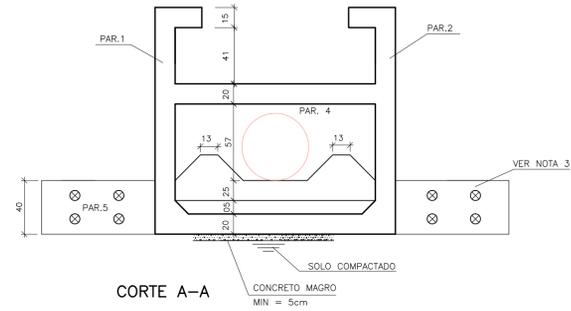
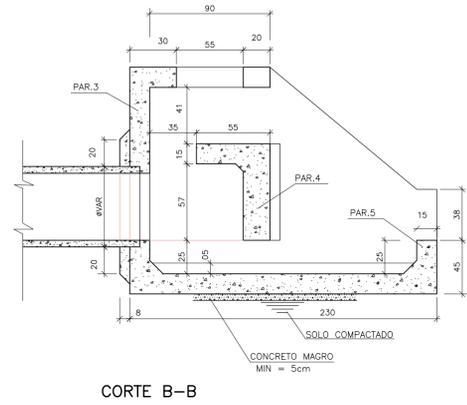
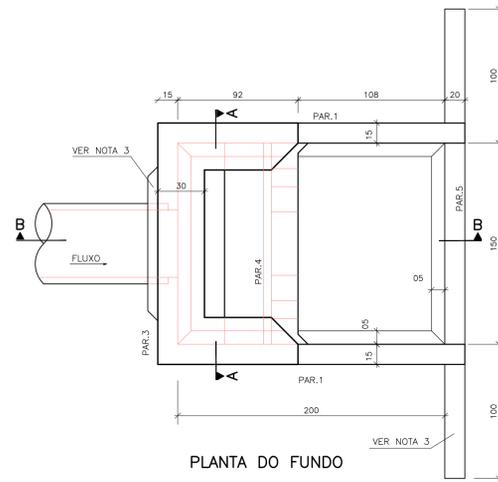


TABELA DE FERROS				
N	#	Q	UNIT (mm)	TOTAL (m)
1	8,0	20	266	53,2
2	8,0	30	216	64,8
3	10,0	6	368	22,1
4	6,3	23	93	21,4
5	10,0	4	162	6,5
6	10,0	4	225	9,0
7	8,0	20	VAR	36,4
8	8,0	20	266	53,2
9	10,0	8	274	21,9
10	10,0	16	163	26,1
11	10,0	4	112	4,5
12	10,0	20	205	41,0
13	8,0	36	VAR	55,1
14	8,0	2	192	3,8
15	10,0	6	224	13,5
16	10,0	6	214	12,9
17	10,0	8	VAR	4,0
18	10,0	4	VAR	3,5
19	10,0	4	70	2,8
20	10,0	4	65	2,6
21	10,0	2	116	2,3
22	8,0	22	VAR	23,8
23	6,3	12	126	16,1
24	6,3	4	89	3,6
25	10,0	4	97	3,9
26	6,3	2	184	3,7
27	10,0	2	210	4,2
28	6,3	16	50	8,0
29	6,3	16	41	6,6
30	10,0	6	212	12,7
31	8,0	16	216	34,6
32	8,0	16	198	31,7
33	10,0	8	174	13,9
34	10,0	8	154	12,3
35	10,0	2	165	3,3
36	6,3	40	63	25,2

RESUMO DE FERRO		
AÇO	#	TOTAL(m)
CA50A	6,3	83,6
CA50A	8,0	356,6
CA50A	10,0	223,0
TOTAL(KG)		305

VOLUME DE CONCRETO:	2,80m <sup>3</sup>
ÁREA DE FORMA:	31m <sup>2</sup>

- NOTAS:
- 1 - MEDIDAS EM CENTÍMETROS, BITOLAS EM MILÍMETROS
  - 2 - COBRIMENTO DA ARMADURA = 3 cm
  - 3 - DOBRAMENTO DAS BARRAS DE ACORDO COM A NBR-6118
  - 4 - CORTAR E ADAPTAR A ARMADURA NA REGIÃO DO FURO
  - 5 - CONCRETO ESTRUTURAL f<sub>ck</sub> > 18 MPa  
MAGRO f<sub>ck</sub> > 9 MPa
  - 6 - EXECUTAR A DRENAGEM DO TERRENO EM TORNO DA LATERAL DA ESTRUTURA E DESCARREGAR OS DRENS NA BACIA DE JUSANTE ATRAVÉS DOS TUBOS ATRAVESANDO A PAR.5

NOVACAP

**PROJETO EXECUTIVO DE DRENAGEM**

**DRN-046/07** RA XXX - VICENTE PIRES - DF  
SETOR HABITACIONAL VICENTE PIRES  
DRENAGEM PLUVIAL - PROJETO ESTRUTURAL

DISSIPADOR DE ENERGIA B1 - FORMA E ARMAÇÃO

FOLHA: 1/1 ESCALA: 1:25 DATA: MAIO/2016 Ver MDE- APROVO: \_\_\_\_\_  
PROJETO: TOPOCART CALCULO: TOPOCART REVISAO: \_\_\_\_\_ VISTO: \_\_\_\_\_ NOVACAP

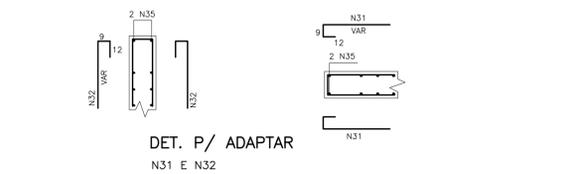
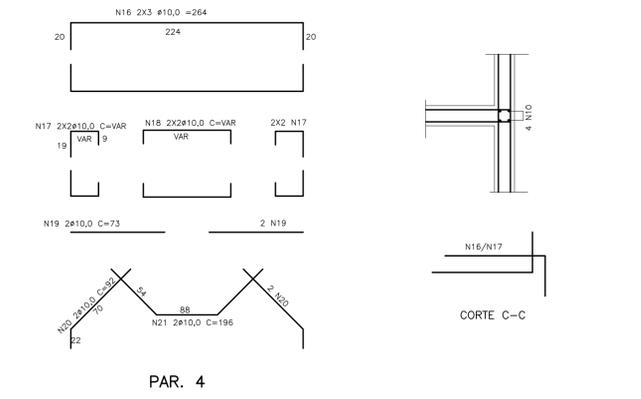
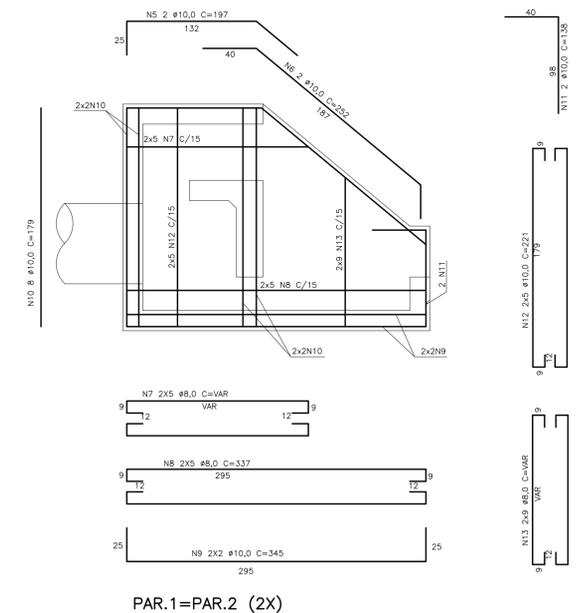
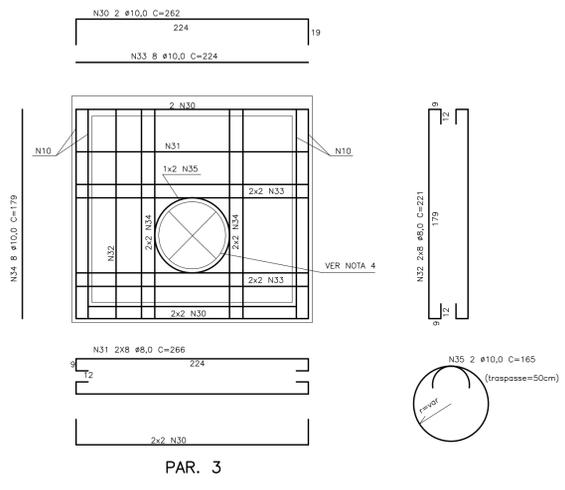
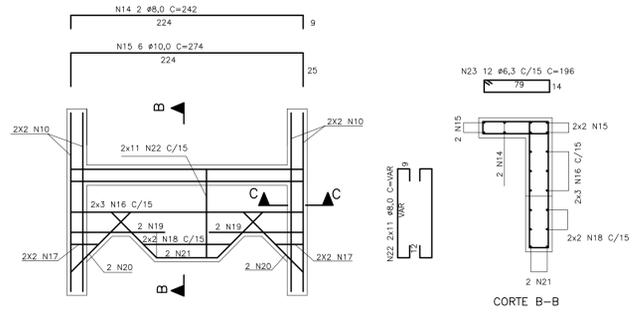
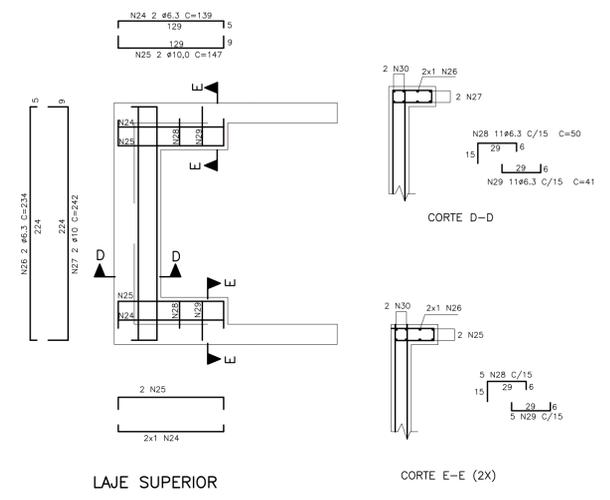
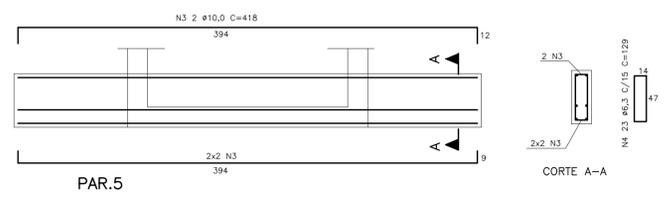
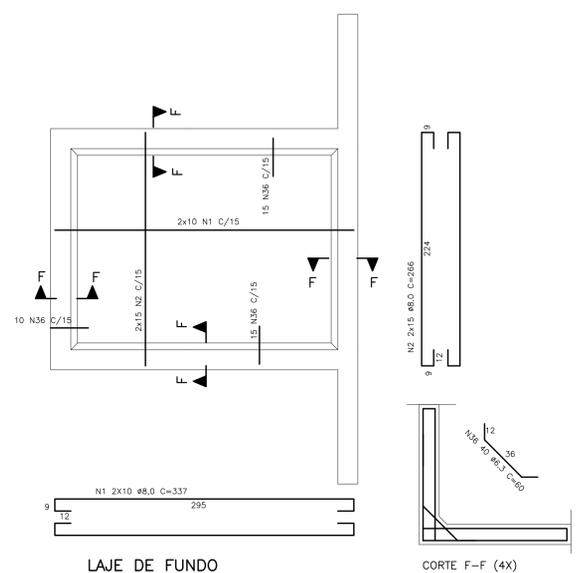
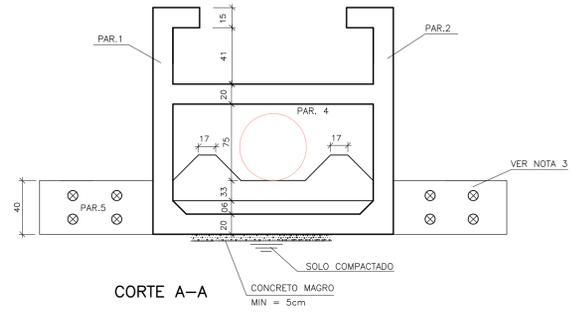
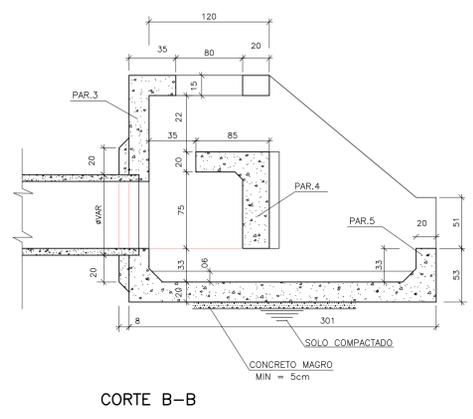
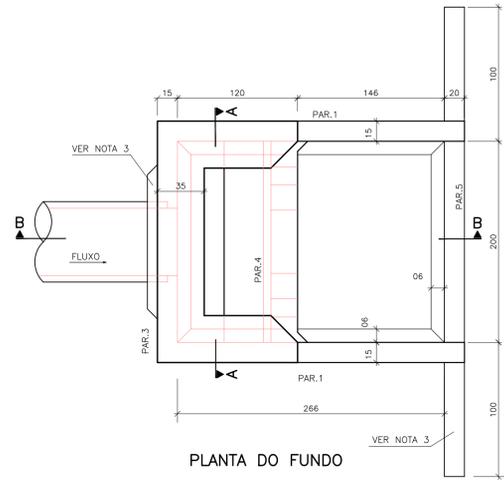


TABELA DE FERROS				
N	Ø	Q	UNIT (mm)	TOTAL (m)
1	8,0	22	337	74,1
2	8,0	40	266	106,4
3	10,0	6	418	25,1
4	6,3	26	129	33,5
5	10,0	4	197	7,9
6	10,0	4	252	9,0
7	8,0	28	VAR	51,0
8	8,0	28	337	94,4
9	10,0	10	345	34,5
10	10,0	16	179	28,6
11	10,0	4	138	5,5
12	10,0	28	221	61,9
13	8,0	40	VAR	74,6
14	8,0	4	242	9,6
15	10,0	6	274	16,4
16	10,0	8	264	21,1
17	10,0	8	VAR	4,0
18	10,0	4	VAR	5,1
19	10,0	4	73	2,9
20	10,0	4	92	3,7
21	10,0	2	196	3,9
22	8,0	26	VAR	34,8
23	6,3	12	126	15,1
24	6,3	4	139	5,6
25	10,0	4	147	5,9
26	6,3	2	234	4,7
27	10,0	2	242	4,8
28	6,3	18	50	8,0
29	6,3	18	41	7,4
30	10,0	6	262	15,7
31	8,0	16	266	42,6
32	8,0	16	221	35,4
33	10,0	8	224	17,9
34	10,0	8	179	14,3
35	10,0	2	165	3,3
36	6,3	60	60	36,0

RESUMO DE FERRO			
AÇO	Ø	TOTAL(m)	PESO (Kg)
CASOA	6,3	110,3	28
CASOA	8,0	522,9	210
CASOA	10,0	291,5	184
TOTAL(KG)			422

VOLUME DE CONCRETO:	4,53m3
ÁREA DE FORMA:	41m2

- NOTAS:
- 1 - MEDIDAS EM CENTIMETROS, BITOLAS EM MILÍMETROS
  - 2 - COBRIMENTO DA ARMADURA = 3 cm
  - 3 - DOBRAMENTO DAS BARRAS DE ACORDO COM A NBR-6118
  - 4 - CORTAR E ADAPTAR A ARMADURA NA REGIÃO DO FURO
  - 5 - CONCRETO ESTRUTURAL fck ≥ 18 MPa  
MAGRO fck ≥ 9 MPa
  - 6 - EXECUTAR A DRENAGEM DO TERRENO EM TORNO DA LATERAL DA ESTRUTURA E DESCARREGAR OS DRENOS NA BACIA DE JUSANTE ATRAVÉS DOS TUBOS ATRAVESSANDO A PAR.5

NOVACAP Topocart

PROJETO EXECUTIVO DE DRENAGEM

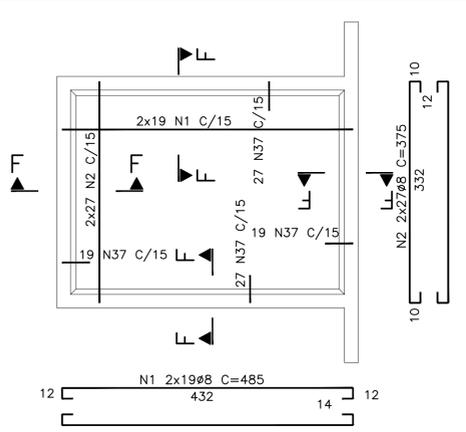
DRN-046/07

RA XXX - VICENTE PIRES - DF  
SETOR HABITACIONAL VICENTE PIRES  
DRENAGEM PLUVIAL - PROJETO ESTRUTURAL

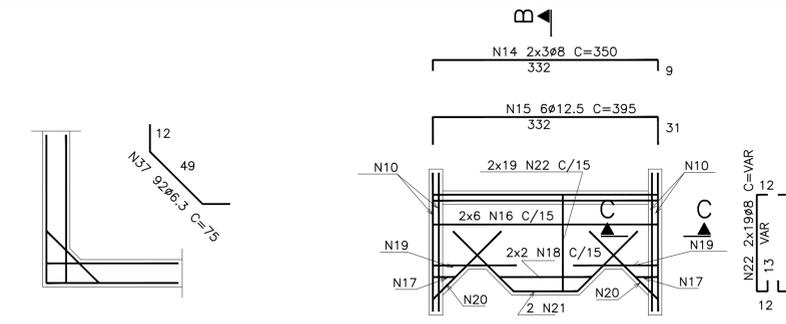
DISSIPADOR DE ENERGIA B2 - FORMA E ARMADURA

FOLHA: 1/1 ESCALA: 1:25 DATA: MAIO/2016 Vlr MDE=

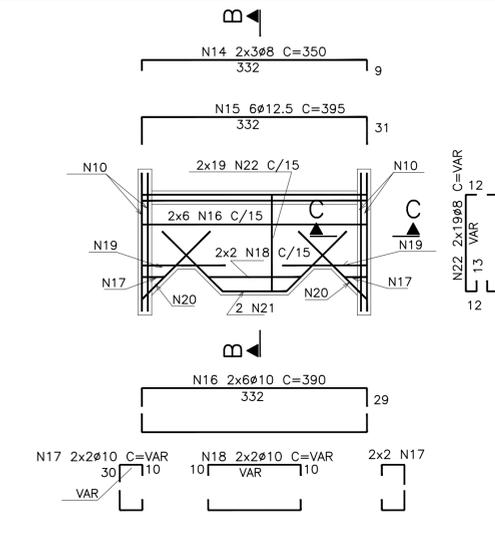
PROJETO: TOPOCART CÁLCULO: TOPOCART REVISÃO: VISTO: APPROVO: NOVACAP



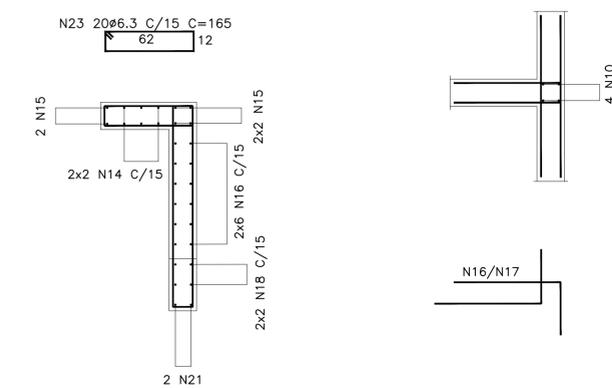
LAJE DE FUNDO  
ESC. 1:50



CORTE F-F (4X)  
ESC. 1:25

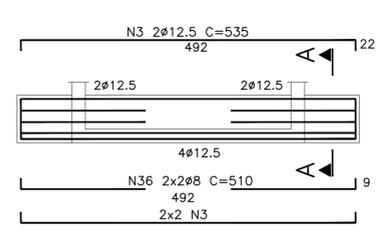


PAR.4  
ESC. 1:50

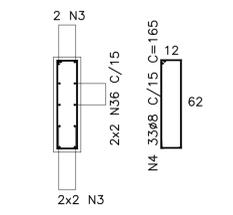


CORTE B-B  
ESC. 1:25

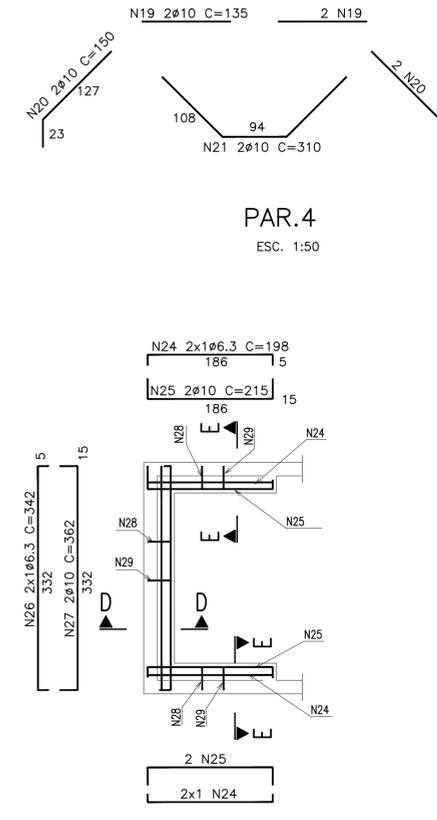
CORTE C-C  
ESC. 1:25



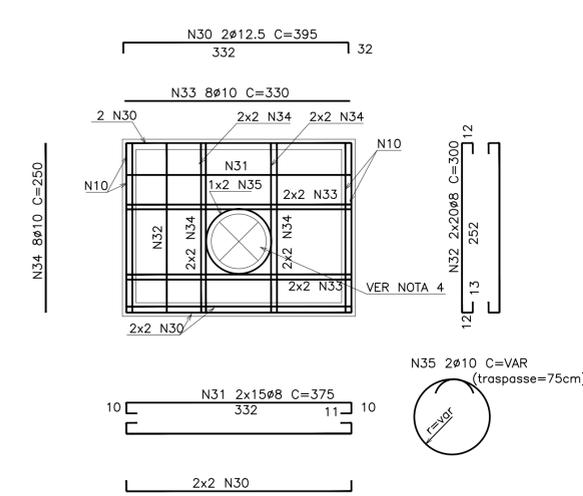
PAR.5  
ESC. 1:50



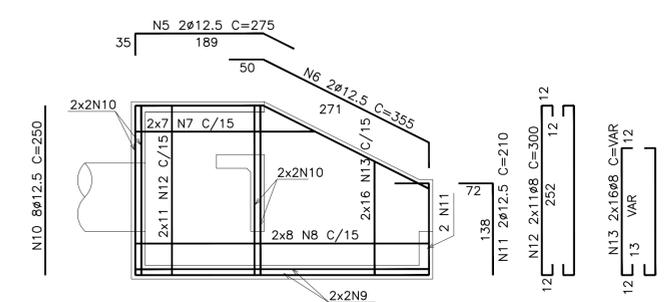
CORTE A-A  
ESC. 1:25



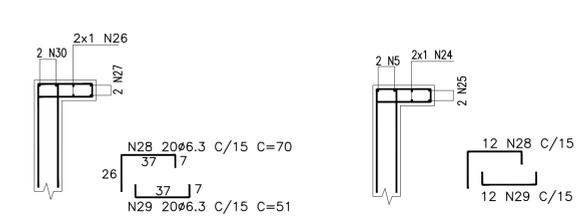
LAJE SUPERIOR  
ESC. 1:50



PAR.3  
ESC. 1:50



PAR.1=PAR.2 (2X)  
ESC. 1:50



CORTE D-D  
ESC. 1:25

CORTE E-E (2X)  
ESC. 1:25

DET.P/ ADAPTAR N31 E N32  
ESC. 1:25

TABELA DE FERROS				
N	Ø	Q	UNIT	TOTAL
1	8	38	485	184
2	8	54	375	203
3	12,5	6	535	32
4	8	33	165	54
5	12,5	4	275	11
6	12,5	4	355	14
7	8	28	VAR	101
8	8	32	480	154
9	12,5	8	495	40
10	12,5	16	250	40
11	12,5	4	210	8
12	8	44	300	132
13	8	64	VAR	180
14	8	6	350	21
15	12,5	6	395	24
16	10	12	390	47
17	10	8	VAR	6
18	10	4	VAR	5
19	10	4	135	5
20	10	4	150	6
21	10	2	310	6
22	8	38	VAR	57
23	6,3	20	165	33
24	6,3	4	198	8
25	10	4	215	9
26	6,3	2	342	7
27	10	2	362	7
28	6,3	44	70	31
29	6,3	44	51	22
30	12,5	6	395	24
31	8	30	375	113
32	8	40	300	120
33	10	8	330	26
34	10	8	250	20
35	10	2	VAR	12
36	8	4	510	20
37	6,3	92	75	69

RESUMO			
ACO	Ø	TOTAL(m)	PESO
CA50A	6,3	170	43
CA50A	8	1319	528
CA50A	10	149	94
CA50A	12,5	193	193
TOTAL (Kg)			858

- NOTAS
- 1-MEDIDAS EM CENTIMETROS, BITOLAS EM MILIMETROS
  - 2-COBRIMENTO DA ARMADURA = 4 cm
  - 3-DOBRAMENTO DAS BARRAS DE ACORDO COM A NBR-6118
  - 4-CORTAR E ADAPTAR A ARMADURA NA REGIAO DO FURO

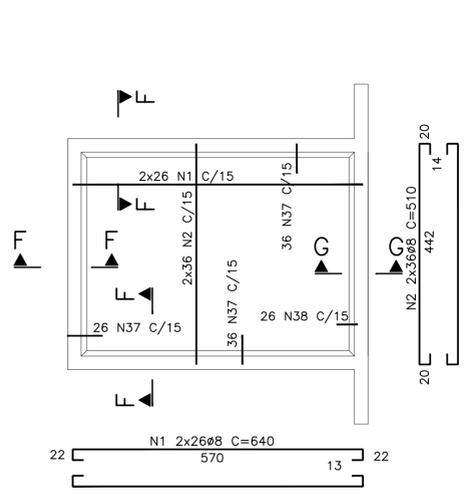
1	PROJETO EXECUTIVO			19/8/96
REV.	DESCRIÇÃO	POR	DATA	APROV.
<b>HOLOS</b> Engenharia Sanitaria e Ambiental Ltda.				
PROJ.	ALADR DE ALMEIDA CASTRO CREA 14.382 / D	VISTO	Nº DES. E-D-094-2-008	
DES.	ALADR DE ALMEIDA CASTRO CREA 14.382 / D	APROV.		
CONF.	DATA AGOSTO / 96	FOLHA	01 / 05	ARG.

**SECRETARIA DE OBRAS DO DISTRITO FEDERAL**  
DEPARTAMENTO DE PROGRAMAÇÃO E CONTROLE DE OBRAS

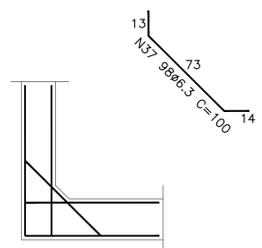
PROJETO DE DRENAGEM PLUVIAL  
DISSIPADOR DE ENERGIA A1 800mm  
PROJETO ESTRUTURAL - ARMAÇÃO  
PLANTAS, CORTES E DETALHES

ESCALA:  
INDICADA

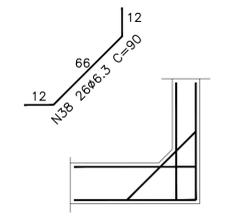
APROVAÇÃO-OES		
NOME	ASSINATURA	DATA
FISCALIZAÇÃO: VANESSA FIGUEIREDO MENDONÇA DE FREITAS		
GERENCIAMENTO: ANTONIO R.S.R. COIMBRA/JOSÉ H.M. DE PAULA		
LIBERAÇÃO: MYRINCES DE FATIMA NAVES ABATH		
APROVAÇÃO: OTO SILVERIO GUIMARÃES JUNIOR		
ARQUIVO: ZANDI RODRIGUES DE CARVALHO		
Nº E DATA DO CONTRATO: 005 / 96		



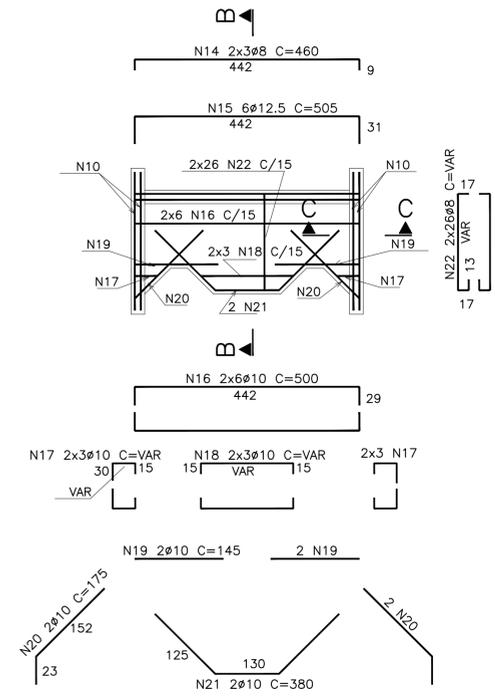
LAJE DE FUNDO



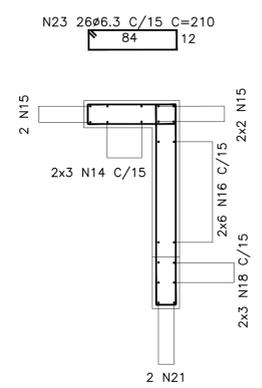
CORTE F-F (3X)



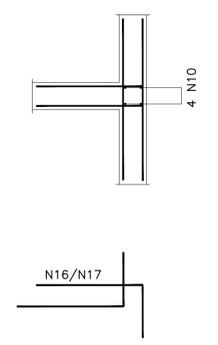
CORTE G-G



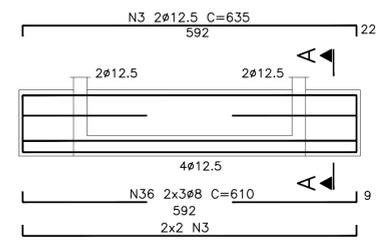
PAR.4



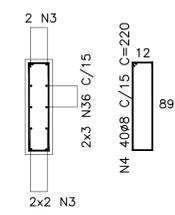
CORTE B-B



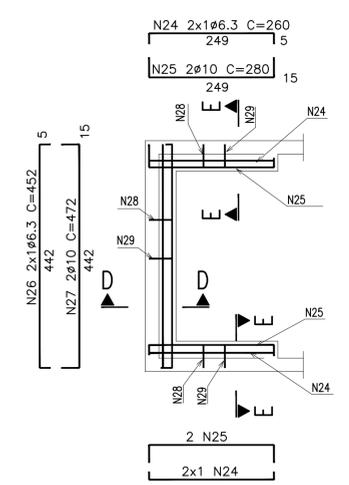
CORTE C-C



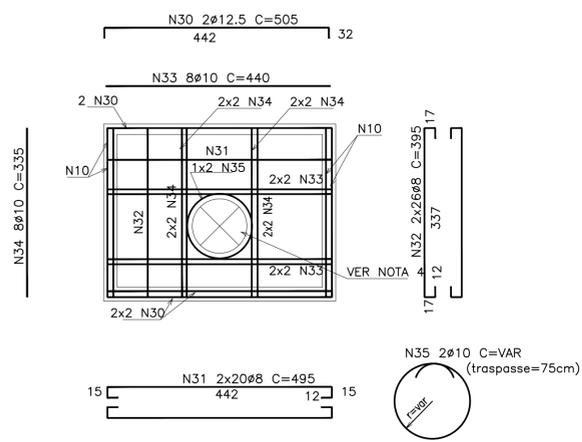
PAR.5



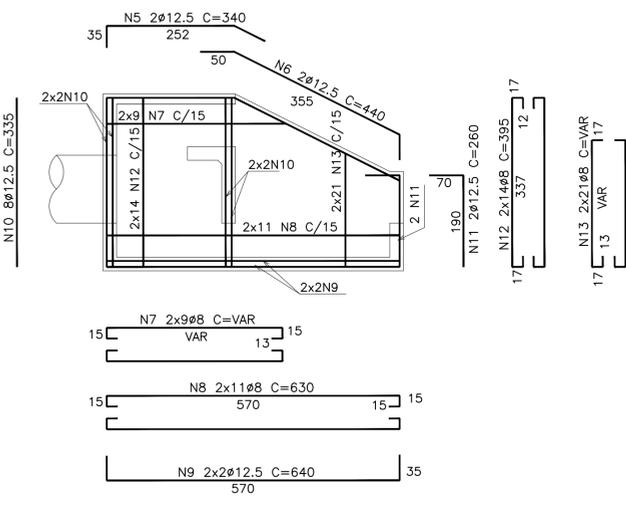
CORTE A-A



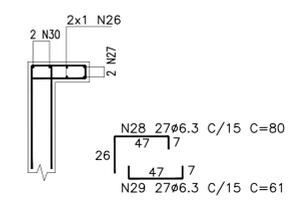
PAR.3



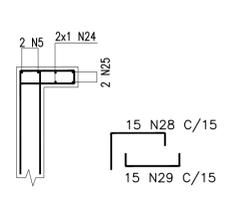
PAR.3



PAR.1=PAR.2 (2X)



CORTE D-D



CORTE E-E (2X)

DET.P/ ADAPTAR N31 E N32

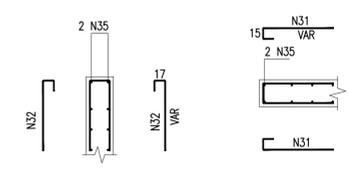


TABELA DE FERROS				
N	Ø	Q	UNIT	TOTAL
1	8	52	640	333
2	8	72	510	367
3	12,5	6	635	38
4	8	40	220	88
5	12,5	4	340	14
6	12,5	4	440	18
7	8	36	VAR	158
8	8	44	630	277
9	12,5	8	640	51
10	12,5	16	335	54
11	12,5	4	260	10
12	8	56	395	221
13	8	84	VAR	235
14	8	6	460	28
15	12,5	6	505	30
16	10	12	500	60
17	10	12	VAR	11
18	10	6	VAR	13
19	10	4	145	6
20	10	4	175	7
21	10	2	380	8
22	8	52	VAR	94
23	6,3	26	210	55
24	6,3	4	260	10
25	10	4	280	11
26	6,3	2	452	9
27	10	2	472	9
28	6,3	57	80	46
29	6,3	57	61	35
30	12,5	6	505	30
31	8	40	495	198
32	8	52	395	205
33	10	8	440	35
34	10	8	335	27
35	10	2	VAR	12
36	8	6	610	37
37	6,3	98	100	98
38	6,3	26	90	23

RESUMO			
ACO	Ø	TOTAL(m)	PESO
CA50A	6,3	276	69
CA50A	8	2241	896
CA50A	10	199	125
CA50A	12,5	245	245
TOTAL (Kg)			1335

- NOTAS
- 1-MEDIDAS EM CENTIMETROS, BITOLAS EM MILIMETROS
  - 2-COBRIMENTO DA ARMADURA = 4 cm
  - 3-DOBRAMENTO DAS BARRAS DE ACORDO COM A NBR-6118
  - 4-CORTAR E ADAPTAR A ARMADURA NA REGIAO DO FURO

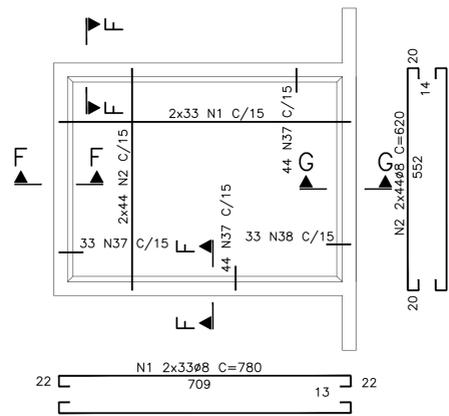
1	PROJETO EXECUTIVO			19/8/96
REV.	DESCRIÇÃO	POR	DATA	APROV.
<b>HOLOS</b> Engenharia Sanitária e Ambiental Ltda.				
PROJ.	ALADR DE ALMEIDA CASTRO CREA 14382 / D	VISTO	ALADR DE ALMEIDA CASTRO CREA 14382 / D	Nº DES. E-D-094-2-009
DES.		APROV.		
CONF.		DATA	AGOSTO / 96	FOLHA 02 / 05

**SECRETARIA DE OBRAS DO DISTRITO FEDERAL**  
**DEPARTAMENTO DE PROGRAMAÇÃO E CONTROLE DE OBRAS**

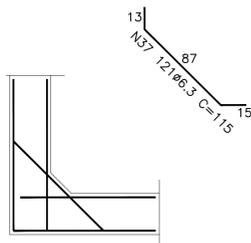
PROJETO DE DRENAGEM PLUVIAL  
DISSIPADOR DE ENERGIA A2 1000mm  
PROJETO ESTRUTURAL - ARMAÇÃO  
PLANTAS, CORTES E DETALHES

ESCALA: indicada

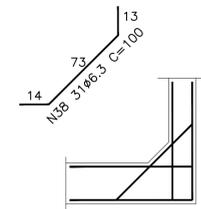
APROVAÇÃO-OES		
NOME	ASSINATURA	DATA
FISCALIZAÇÃO: VANESSA FIGUEIREDO MENDONÇA DE FREITAS		
GERENCIAMENTO: ANTONIO R.S.R. COIMBRA/JOSÉ H.M. DE PAULA		
LIBERAÇÃO: MYRINDES DE FÁTIMA NAVES ABATH		
APROVAÇÃO: OTO SILVERIO GUIMARÃES JUNIOR		
ARQUIVO: ZANDI RODRIGUES DE CARVALHO		
Nº UMERO E DATA DO CONTRATO: 005 / 96		



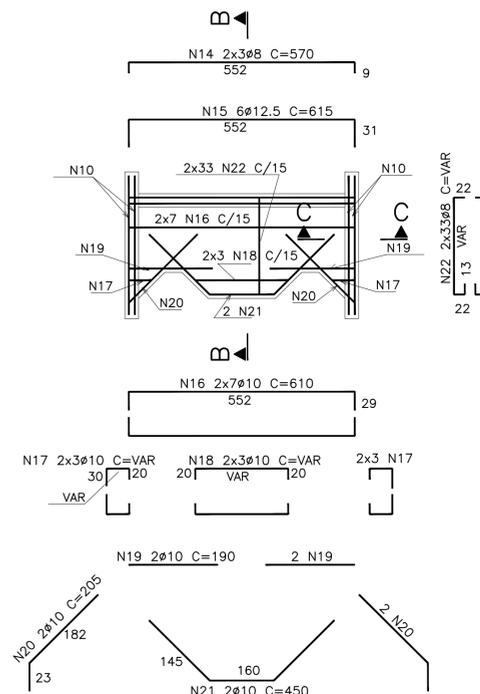
LAJE DE FUNDO



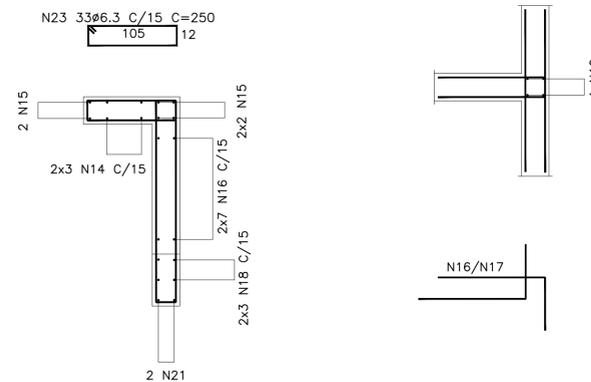
CORTE F-F (3X)



CORTE G-G

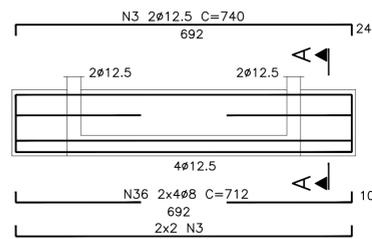


PAR.4

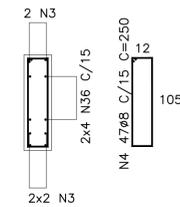


CORTE B-B

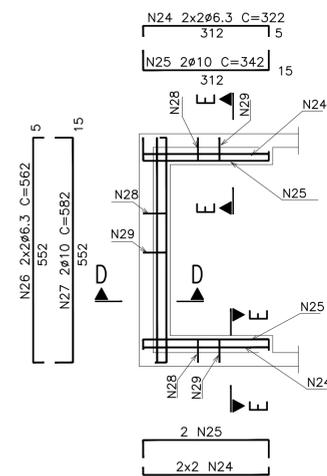
CORTE C-C



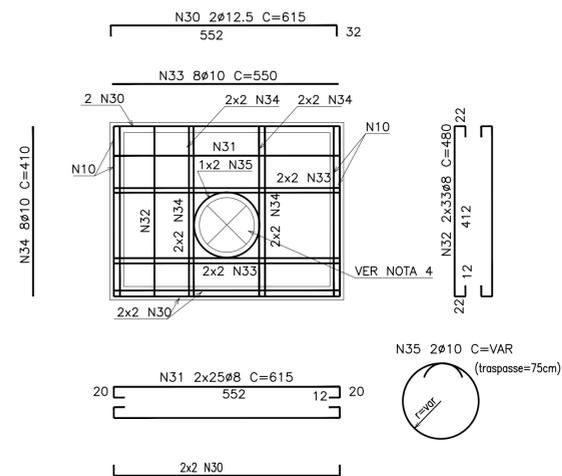
PAR.5



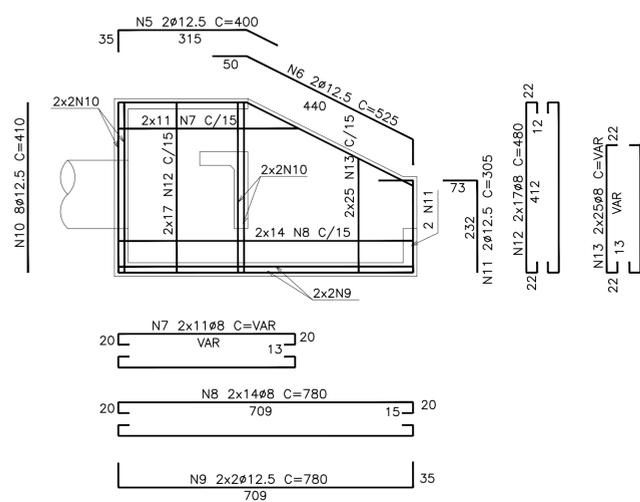
CORTE A-A



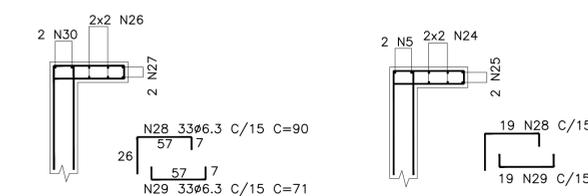
PAR.3



DET.P/ ADAPTAR N31 E N32



PAR.1=PAR.2 (2X)



CORTE D-D

CORTE E-E (2X)

TABELA DE FERROS				
N	Ø	Q	UNIT	TOTAL
1	8	66	780	515
2	8	88	620	546
3	12.5	6	740	44
4	8	47	250	118
5	12.5	4	400	16
6	12.5	4	525	21
7	8	44	VAR	224
8	8	56	750	437
9	12.5	16	790	82
10	12.5	16	410	66
11	12.5	4	305	12
12	8	68	480	326
13	8	100	VAR	340
14	8	6	570	34
15	12.5	6	615	37
16	10	14	610	85
17	10	12	VAR	12
18	10	6	VAR	15
19	10	4	190	8
20	10	4	205	8
21	10	2	450	9
22	8	66	VAR	145
23	6.3	33	250	83
24	6.3	8	322	26
25	10	4	342	14
26	6.3	4	562	22
27	10	2	582	12
28	6.3	71	90	64
29	6.3	71	71	50
30	12.5	6	615	37
31	8	50	615	308
32	8	66	480	317
33	10	8	550	44
34	10	8	410	33
35	10	2	VAR	12
36	8	8	712	57
37	6.3	121	115	139
38	6.3	31	100	31

RESUMO			
ACO	Ø	TOTAL(m)	PESO
CA50A	6.3	415	104
CA50A	8	3367	1347
CA50A	10	252	159
CA50A	12.5	295	295
TOTAL (Kg)			1905

- NOTAS
- 1-MEDIDAS EM CENTIMETROS, BITOLAS EM MILIMETROS
  - 2-COBRIMENTO DA ARMADURA = 4 cm
  - 3-DOBRAMENTO DAS BARRAS DE ACORDO COM A NBR-6118
  - 4-CORTAR E ADAPTAR A ARMADURA NA REGIAO DO FURO

1	PROJETO EXECUTIVO		19/8/96	
REV.	DESCRIÇÃO	POR	DATA	APROV.
<b>HOLOS</b> <small>Engenharia Sanitaria e Ambiental Ltda.</small>				
PROJ.	ALAIOR DE ALMEIDA CASTRO CREA 14382 / D	VISTO	ALAIOR DE ALMEIDA CASTRO CREA 14382 / D	Nº DES. E-D-094-3-056
DES.		APROV.		
CONF.		DATA	AGOSTO / 96	FOLHA 03 / 05

**SECRETARIA DE OBRAS DO DISTRITO FEDERAL**  
**DEPARTAMENTO DE PROGRAMAÇÃO E CONTROLE DE OBRAS**

PROJETO DE DRENAGEM PLUVIAL  
 DISSIPADOR DE ENERGIA A3 1200mm  
 PROJETO ESTRUTURAL - ARMAÇÃO  
 PLANTAS, CORTES E DETALHES

ESCALA: indicada

APROVAÇÃO-OES		
NOME	ASSINATURA	DATA
FISCALIZAÇÃO: VANESSA FIGUEIREDO MENDONÇA DE FREITAS		
GERENCIAMENTO: ANTONIO R.S.R. COIMBRA/JOSÉ H.M. DE PAULA		
LIBERAÇÃO: MYRINDES DE FATIMA NAVES ABATH		
APROVAÇÃO: OTO SILVERIO GUIMARÃES JUNIOR		
ARQUIVO: ZANDI RODRIGUES DE CARVALHO		
Nº E DATA DO CONTRATO: 005 / 96		

