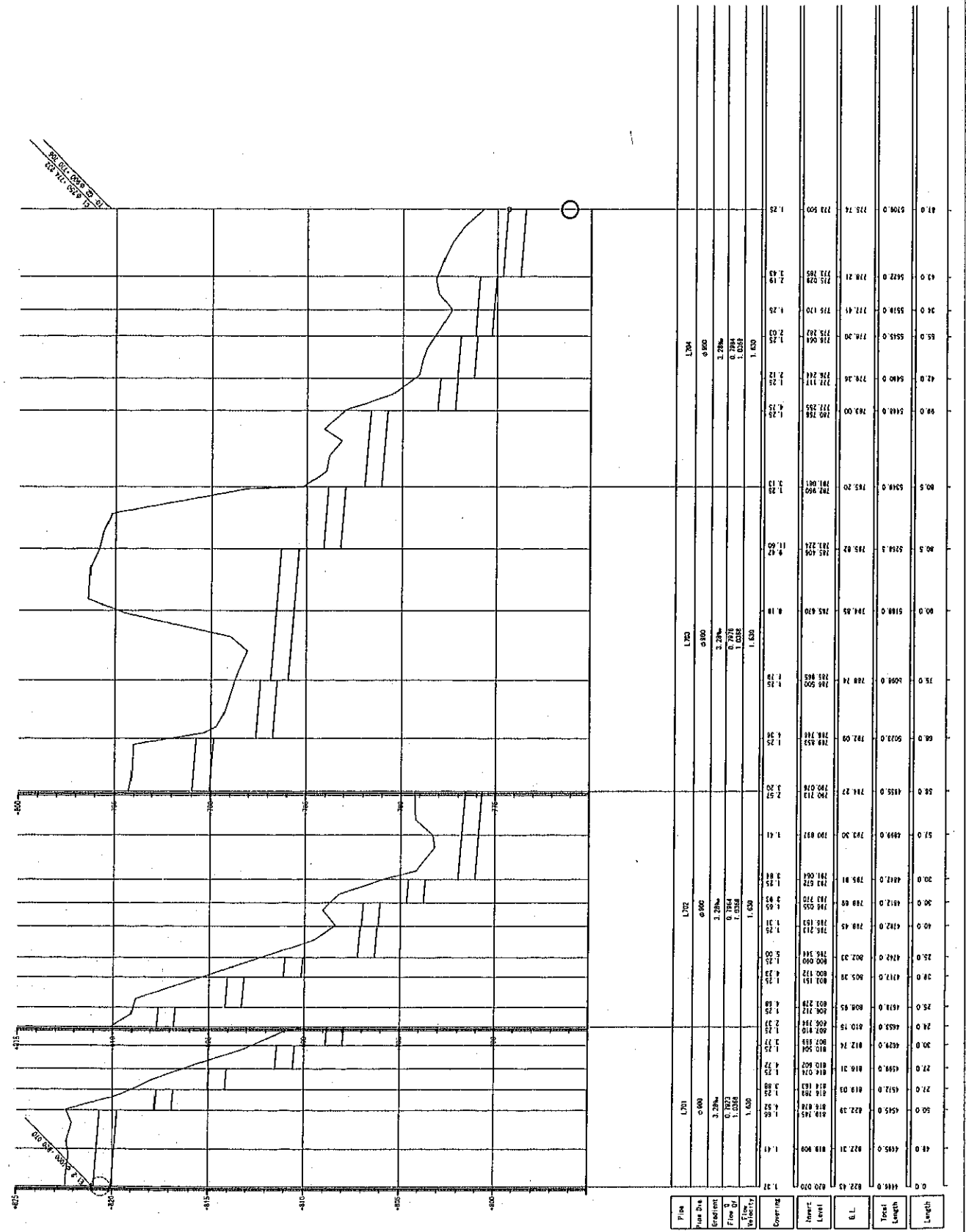
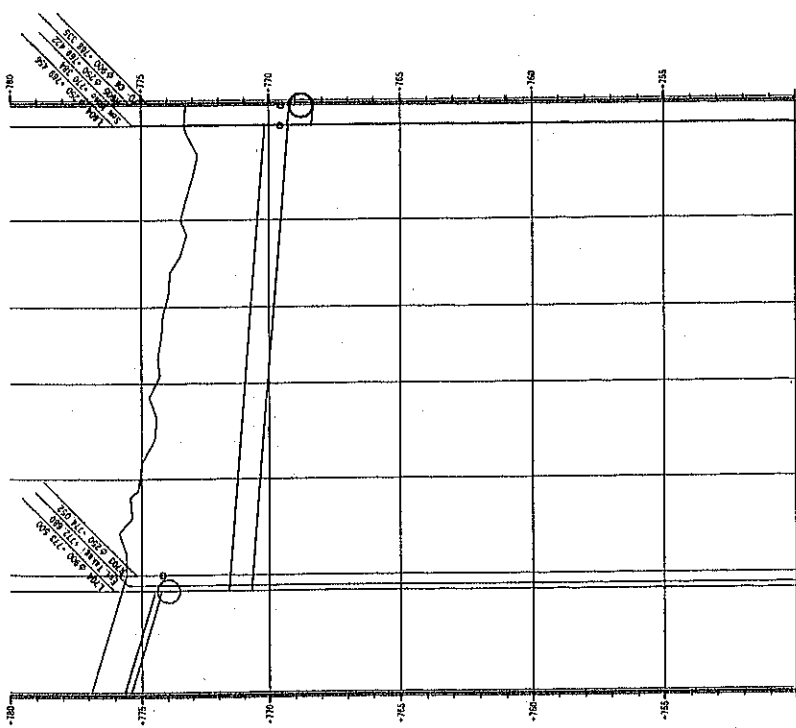


L201	L202	L203	L204



Station	Flow	Velocity	Cover	Height	Level	EL	Total Length	Length
400.00	0.00	0.00	1.00	1.00	1.00	-125.00	1.00	1.00
401.00	0.00	0.00	1.00	1.00	1.00	-130.00	1.00	1.00
402.00	0.00	0.00	1.00	1.00	1.00	-135.00	1.00	1.00
403.00	0.00	0.00	1.00	1.00	1.00	-140.00	1.00	1.00
404.00	0.00	0.00	1.00	1.00	1.00	-145.00	1.00	1.00
405.00	0.00	0.00	1.00	1.00	1.00	-150.00	1.00	1.00
406.00	0.00	0.00	1.00	1.00	1.00	-155.00	1.00	1.00
407.00	0.00	0.00	1.00	1.00	1.00	-160.00	1.00	1.00
408.00	0.00	0.00	1.00	1.00	1.00	-165.00	1.00	1.00
409.00	0.00	0.00	1.00	1.00	1.00	-170.00	1.00	1.00
410.00	0.00	0.00	1.00	1.00	1.00	-175.00	1.00	1.00
411.00	0.00	0.00	1.00	1.00	1.00	-180.00	1.00	1.00
412.00	0.00	0.00	1.00	1.00	1.00	-185.00	1.00	1.00
413.00	0.00	0.00	1.00	1.00	1.00	-190.00	1.00	1.00
414.00	0.00	0.00	1.00	1.00	1.00	-195.00	1.00	1.00
415.00	0.00	0.00	1.00	1.00	1.00	-200.00	1.00	1.00
416.00	0.00	0.00	1.00	1.00	1.00	-205.00	1.00	1.00
417.00	0.00	0.00	1.00	1.00	1.00	-210.00	1.00	1.00
418.00	0.00	0.00	1.00	1.00	1.00	-215.00	1.00	1.00
419.00	0.00	0.00	1.00	1.00	1.00	-220.00	1.00	1.00
420.00	0.00	0.00	1.00	1.00	1.00	-225.00	1.00	1.00
421.00	0.00	0.00	1.00	1.00	1.00	-230.00	1.00	1.00
422.00	0.00	0.00	1.00	1.00	1.00	-235.00	1.00	1.00
423.00	0.00	0.00	1.00	1.00	1.00	-240.00	1.00	1.00
424.00	0.00	0.00	1.00	1.00	1.00	-245.00	1.00	1.00
425.00	0.00	0.00	1.00	1.00	1.00	-250.00	1.00	1.00
426.00	0.00	0.00	1.00	1.00	1.00	-255.00	1.00	1.00
427.00	0.00	0.00	1.00	1.00	1.00	-260.00	1.00	1.00
428.00	0.00	0.00	1.00	1.00	1.00	-265.00	1.00	1.00
429.00	0.00	0.00	1.00	1.00	1.00	-270.00	1.00	1.00
430.00	0.00	0.00	1.00	1.00	1.00	-275.00	1.00	1.00
431.00	0.00	0.00	1.00	1.00	1.00	-280.00	1.00	1.00
432.00	0.00	0.00	1.00	1.00	1.00	-285.00	1.00	1.00
433.00	0.00	0.00	1.00	1.00	1.00	-290.00	1.00	1.00
434.00	0.00	0.00	1.00	1.00	1.00	-295.00	1.00	1.00
435.00	0.00	0.00	1.00	1.00	1.00	-300.00	1.00	1.00
436.00	0.00	0.00	1.00	1.00	1.00	-305.00	1.00	1.00
437.00	0.00	0.00	1.00	1.00	1.00	-310.00	1.00	1.00
438.00	0.00	0.00	1.00	1.00	1.00	-315.00	1.00	1.00
439.00	0.00	0.00	1.00	1.00	1.00	-320.00	1.00	1.00
440.00	0.00	0.00	1.00	1.00	1.00	-325.00	1.00	1.00
441.00	0.00	0.00	1.00	1.00	1.00	-330.00	1.00	1.00
442.00	0.00	0.00	1.00	1.00	1.00	-335.00	1.00	1.00
443.00	0.00	0.00	1.00	1.00	1.00	-340.00	1.00	1.00
444.00	0.00	0.00	1.00	1.00	1.00	-345.00	1.00	1.00
445.00	0.00	0.00	1.00	1.00	1.00	-350.00	1.00	1.00
446.00	0.00	0.00	1.00	1.00	1.00	-355.00	1.00	1.00
447.00	0.00	0.00	1.00	1.00	1.00	-360.00	1.00	1.00
448.00	0.00	0.00	1.00	1.00	1.00	-365.00	1.00	1.00
449.00	0.00	0.00	1.00	1.00	1.00	-370.00	1.00	1.00
450.00	0.00	0.00	1.00	1.00	1.00	-375.00	1.00	1.00
451.00	0.00	0.00	1.00	1.00	1.00	-380.00	1.00	1.00
452.00	0.00	0.00	1.00	1.00	1.00	-385.00	1.00	1.00
453.00	0.00	0.00	1.00	1.00	1.00	-390.00	1.00	1.00
454.00	0.00	0.00	1.00	1.00	1.00	-395.00	1.00	1.00
455.00	0.00	0.00	1.00	1.00	1.00	-400.00	1.00	1.00
456.00	0.00	0.00	1.00	1.00	1.00	-405.00	1.00	1.00
457.00	0.00	0.00	1.00	1.00	1.00	-410.00	1.00	1.00
458.00	0.00	0.00	1.00	1.00	1.00	-415.00	1.00	1.00
459.00	0.00	0.00	1.00	1.00	1.00	-420.00	1.00	1.00
460.00	0.00	0.00	1.00	1.00	1.00	-425.00	1.00	1.00



管 段 号 表

C1	C2	C3	C4	C5

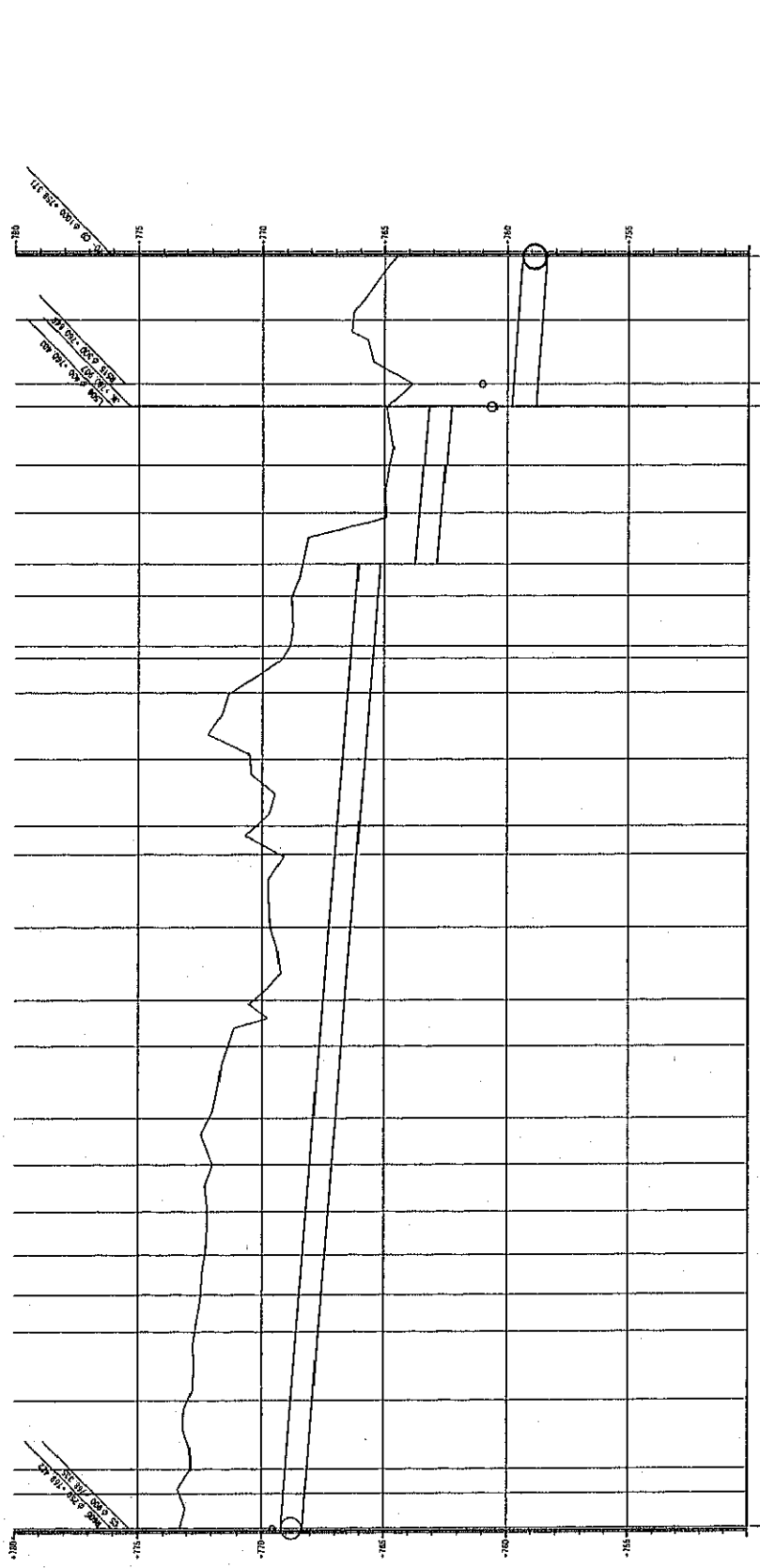
Pipe	C1	C2	C3	C4	C5
Pipe Dia.	6.250	6.000	6.000	6.000	5.000
Gradient	11.80%	3.25%	3.25%	3.25%	4.25%
Flow Q	0.8004	0.8004	0.8004	0.8004	0.8004
Flow S	0.2500	0.2500	0.2500	0.2500	0.2500
Velocity	1.718	1.630	1.630	1.630	1.630
Corona	3.92	3.71	3.58	2.92	3.08
Invert	715.56	715.06	714.43	714.00	713.24
Level	715.74	715.06	714.43	714.00	713.24
G.L.	716.90	715.06	714.43	714.00	713.24
Total Length	15.0	91.0	72.0	42.0	88.0
Length	15.0	91.0	72.0	42.0	88.0

Environment Improvement in the Lake Billings
 Saneu Longitudinal dos Coletores Troncos
 Sewer Pipe Profile

7 31
 11.600
 2007.2

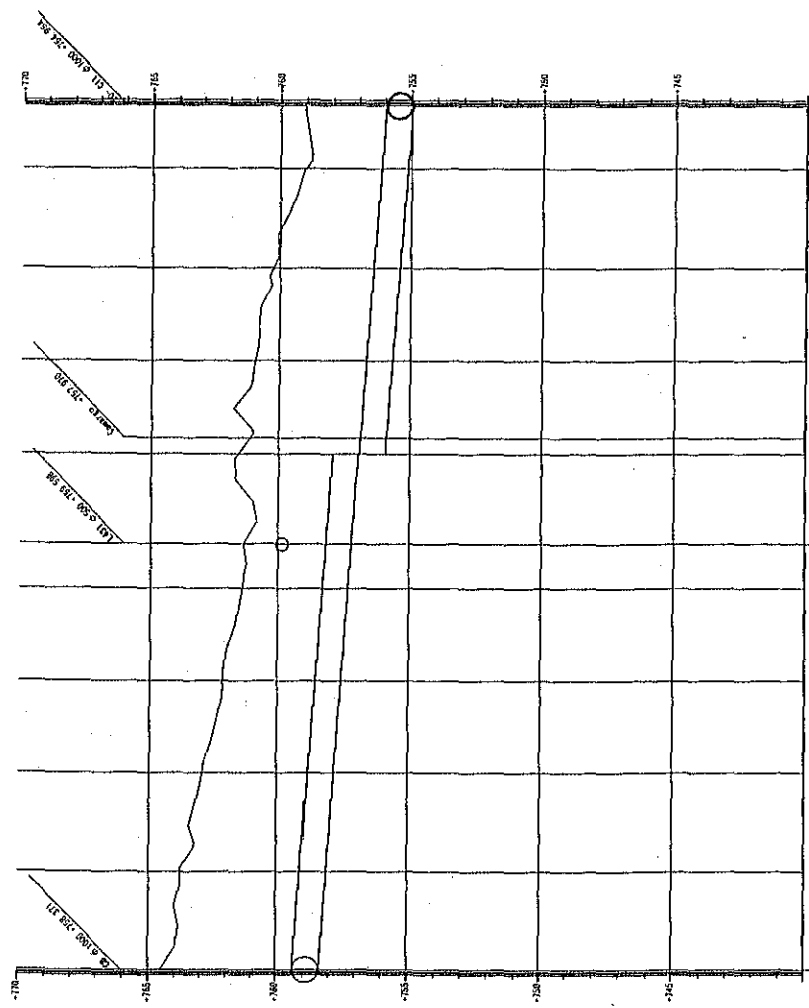
管段号表

C5	C7	C8



Pipe	Pipe Dia.	Start	End	Length	Gradient	Invert	Length	Invert	Length
C5	Ø900	0+00	1+00	100.00	3.28‰	47.62	100.00	47.52	100.00
C7	Ø800	1+00	2+00	100.00	2.90‰	47.52	100.00	47.42	100.00
C8	Ø1000	2+00	3+00	100.00	2.00‰	47.42	100.00	47.32	100.00

Station	Invert	Ground	Cover
0+00	47.58	47.82	0.24
0+10	47.59	47.82	0.23
0+20	47.60	47.82	0.22
0+30	47.61	47.82	0.21
0+40	47.62	47.82	0.20
0+50	47.63	47.82	0.19
0+60	47.64	47.82	0.18
0+70	47.65	47.82	0.17
0+80	47.66	47.82	0.16
0+90	47.67	47.82	0.15
1+00	47.68	47.82	0.14
1+10	47.69	47.82	0.13
1+20	47.70	47.82	0.12
1+30	47.71	47.82	0.11
1+40	47.72	47.82	0.10
1+50	47.73	47.82	0.09
1+60	47.74	47.82	0.08
1+70	47.75	47.82	0.07
1+80	47.76	47.82	0.06
1+90	47.77	47.82	0.05
2+00	47.78	47.82	0.04
2+10	47.79	47.82	0.03
2+20	47.80	47.82	0.02
2+30	47.81	47.82	0.01
2+40	47.82	47.82	0.00
2+50	47.83	47.82	-0.01
2+60	47.84	47.82	-0.02
2+70	47.85	47.82	-0.03
2+80	47.86	47.82	-0.04
2+90	47.87	47.82	-0.05
3+00	47.88	47.82	-0.06

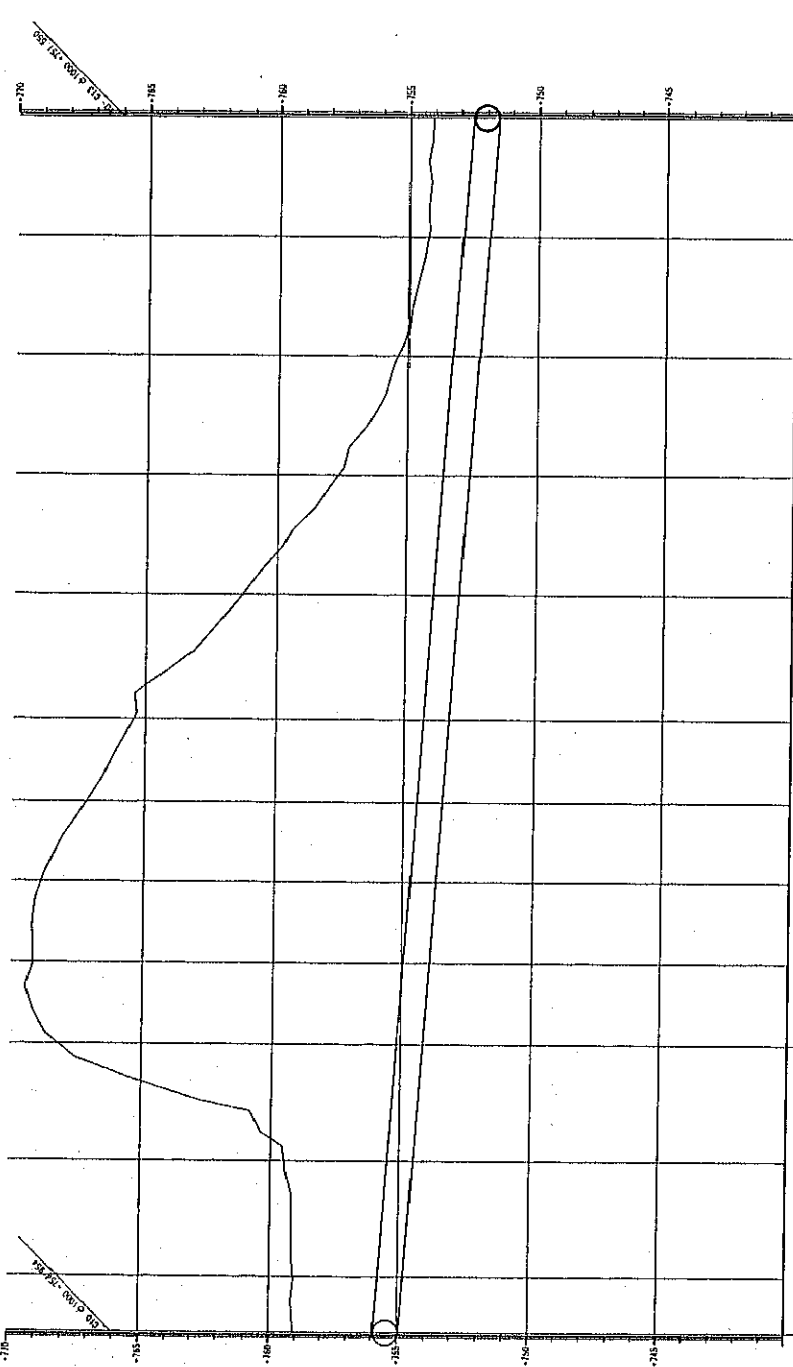


Station	Ground Elev.	Pipe Elev.	Depth	Length	Flow	Velocity
0+00	164.52	162.81	1.71	4.51	0.00	0.00
0+50	162.81	162.81	0.00	4.02	0.00	0.00
1+00	157.513	162.81	5.30	3.48	0.00	0.00
1+50	161.42	162.81	1.39	3.00	0.00	0.00
2+00	161.42	162.81	1.39	2.212	0.00	0.00
2+50	155.813	162.81	7.00	2.212	0.00	0.00
3+00	155.438	162.81	7.37	4.20	0.00	0.00
3+50	155.403	162.81	7.41	3.76	0.00	0.00
4+00	155.128	162.81	7.68	2.70	0.00	0.00
4+50	155.814	162.81	7.00	1.62	0.00	0.00
5+00	155.814	162.81	7.00	0.00	0.00	0.00
5+50	155.814	162.81	7.00	0.00	0.00	0.00
6+00	155.814	162.81	7.00	0.00	0.00	0.00
6+50	155.814	162.81	7.00	0.00	0.00	0.00
7+00	155.814	162.81	7.00	0.00	0.00	0.00
7+50	155.814	162.81	7.00	0.00	0.00	0.00
8+00	155.814	162.81	7.00	0.00	0.00	0.00
8+50	155.814	162.81	7.00	0.00	0.00	0.00
9+00	155.814	162.81	7.00	0.00	0.00	0.00

Station	Ground Elev.	Pipe Elev.	Depth	Length	Flow	Velocity
0+00	164.52	162.81	1.71	4.51	0.00	0.00
0+50	162.81	162.81	0.00	4.02	0.00	0.00
1+00	157.513	162.81	5.30	3.48	0.00	0.00
1+50	161.42	162.81	1.39	3.00	0.00	0.00
2+00	161.42	162.81	1.39	2.212	0.00	0.00
2+50	155.813	162.81	7.00	2.212	0.00	0.00
3+00	155.438	162.81	7.37	4.20	0.00	0.00
3+50	155.403	162.81	7.41	3.76	0.00	0.00
4+00	155.128	162.81	7.68	2.70	0.00	0.00
4+50	155.814	162.81	7.00	1.62	0.00	0.00
5+00	155.814	162.81	7.00	0.00	0.00	0.00
5+50	155.814	162.81	7.00	0.00	0.00	0.00
6+00	155.814	162.81	7.00	0.00	0.00	0.00
6+50	155.814	162.81	7.00	0.00	0.00	0.00
7+00	155.814	162.81	7.00	0.00	0.00	0.00
7+50	155.814	162.81	7.00	0.00	0.00	0.00
8+00	155.814	162.81	7.00	0.00	0.00	0.00
8+50	155.814	162.81	7.00	0.00	0.00	0.00
9+00	155.814	162.81	7.00	0.00	0.00	0.00

Environment Improvement in the Lake Billings
 Seseo Longitudinal dos Calcores Troncos
 Sewer Pipe Profile

Scale: 1:500
 Date: 2002

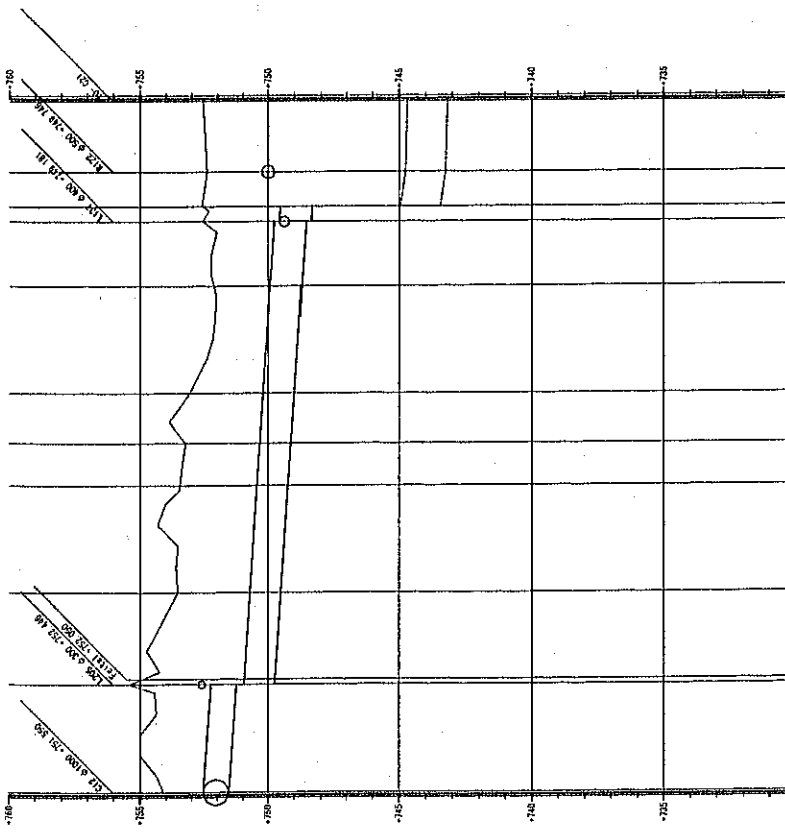


管 号 表

C11	C12									

Station	Ground Elev.	Prop. Elev.	Covering	Invert Level	G.L.	Point Length	Length
0+00	724.70	722.70	2.00	722.70	724.70	0.00	
1+00	724.70	722.70	2.00	722.70	724.70	0.00	
2+00	724.70	722.70	2.00	722.70	724.70	0.00	
3+00	724.70	722.70	2.00	722.70	724.70	0.00	
4+00	724.70	722.70	2.00	722.70	724.70	0.00	
5+00	724.70	722.70	2.00	722.70	724.70	0.00	
6+00	724.70	722.70	2.00	722.70	724.70	0.00	
7+00	724.70	722.70	2.00	722.70	724.70	0.00	
8+00	724.70	722.70	2.00	722.70	724.70	0.00	
9+00	724.70	722.70	2.00	722.70	724.70	0.00	
10+00	724.70	722.70	2.00	722.70	724.70	0.00	
11+00	724.70	722.70	2.00	722.70	724.70	0.00	
12+00	724.70	722.70	2.00	722.70	724.70	0.00	
13+00	724.70	722.70	2.00	722.70	724.70	0.00	
14+00	724.70	722.70	2.00	722.70	724.70	0.00	
15+00	724.70	722.70	2.00	722.70	724.70	0.00	
16+00	724.70	722.70	2.00	722.70	724.70	0.00	
17+00	724.70	722.70	2.00	722.70	724.70	0.00	
18+00	724.70	722.70	2.00	722.70	724.70	0.00	
19+00	724.70	722.70	2.00	722.70	724.70	0.00	
20+00	724.70	722.70	2.00	722.70	724.70	0.00	

Environment Improvement in the Lake Billings
 Secao Longitudinal dos Coletores Francos
 Sewer Pipe Profile
 10
 31
 Y 1 300
 H L 300
 2007.2



登記号表

C13	C14	C15	C16	C17
C18	C19	C20		

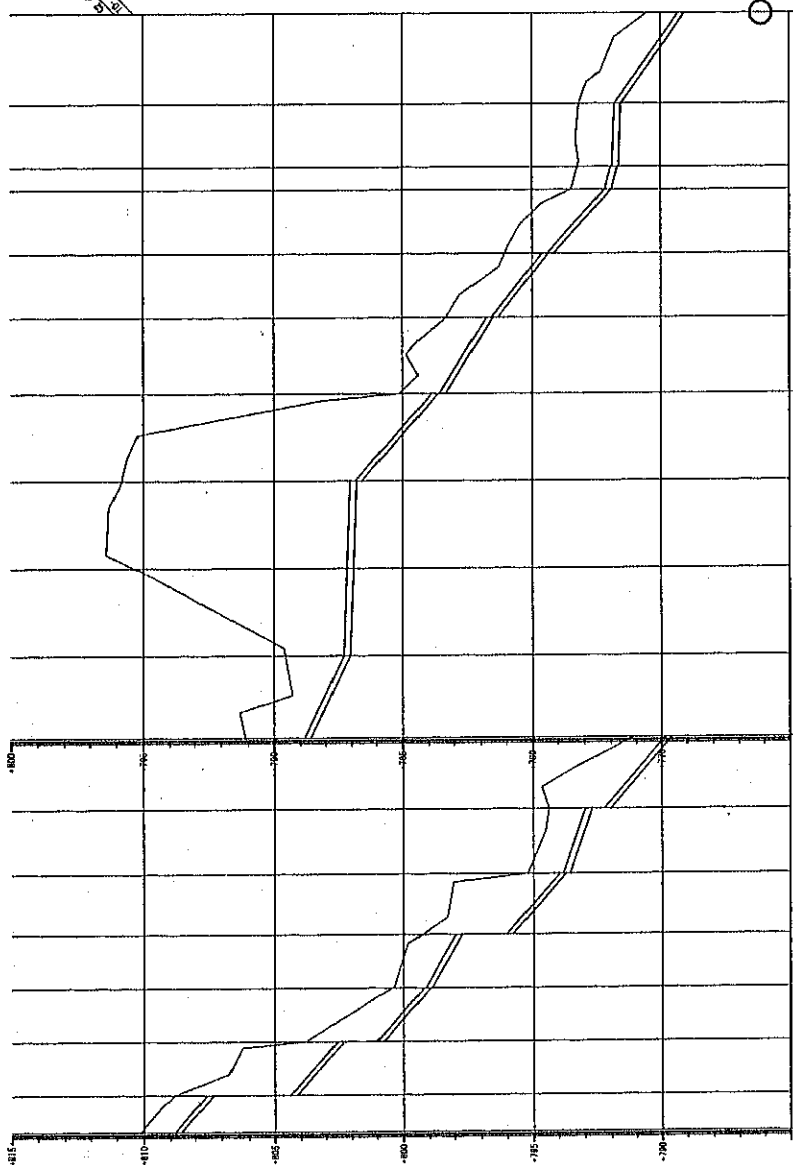
Pipe	C13	C14	C15	C16	C17	C18	C19	C20
Pipe Dia.	φ1000	φ1200	φ1200	φ1200	φ1300	φ1300	φ1400	φ1500
Invert	2.98%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	1.00%
Flow M	1.810	1.810	1.840	1.840	1.918	1.918	1.918	1.918
Flow M ²	1.2011	2.0258	2.0258	2.0258	2.0258	2.0258	2.0258	2.7254
Flow Velocity	1.84	1.70	1.70	1.70	1.70	1.70	1.70	1.70
Cover/ft	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Station	720	725	730	735	740	745	750	755	760	765	770
Flow	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
Flow M ²	1.2011	1.2011	1.2011	1.2011	1.2011	1.2011	1.2011	1.2011	1.2011	1.2011	1.2011
Flow Velocity	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Invert Level	751.500	749.250	749.250	749.250	749.250	749.250	749.250	749.250	749.250	749.250	749.250
Total Length	100.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Length	0.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Environment Improvement in the Lake Billings
 Sécure Longitudinal des Colécteurs Tronçus
 Sewer Pipe Profile

11 31
 M 11 500
 1001.2

158.24' 200.0' 20.0' 20.0'



Station	Pipe Dia	Flow	Velocity	Covering	Invert Level	ELL	Total Length	Length
0+00	18" 1.50%	0.000	0.000	1.11	110.15	0+00		0.0
0+10	18" 1.50%	0.000	0.000	1.11	110.15	0+10		34.0
0+20	18" 1.50%	0.000	0.000	1.11	110.15	0+20		35.0
0+30	18" 1.50%	0.000	0.000	1.11	110.15	0+30		36.0
0+40	18" 1.50%	0.000	0.000	1.11	110.15	0+40		37.0
0+50	18" 1.50%	0.000	0.000	1.11	110.15	0+50		38.0
0+60	18" 1.50%	0.000	0.000	1.11	110.15	0+60		39.0
0+70	18" 1.50%	0.000	0.000	1.11	110.15	0+70		40.0
0+80	18" 1.50%	0.000	0.000	1.11	110.15	0+80		41.0

Station	Flow	Velocity
R101		
R102		
R103		

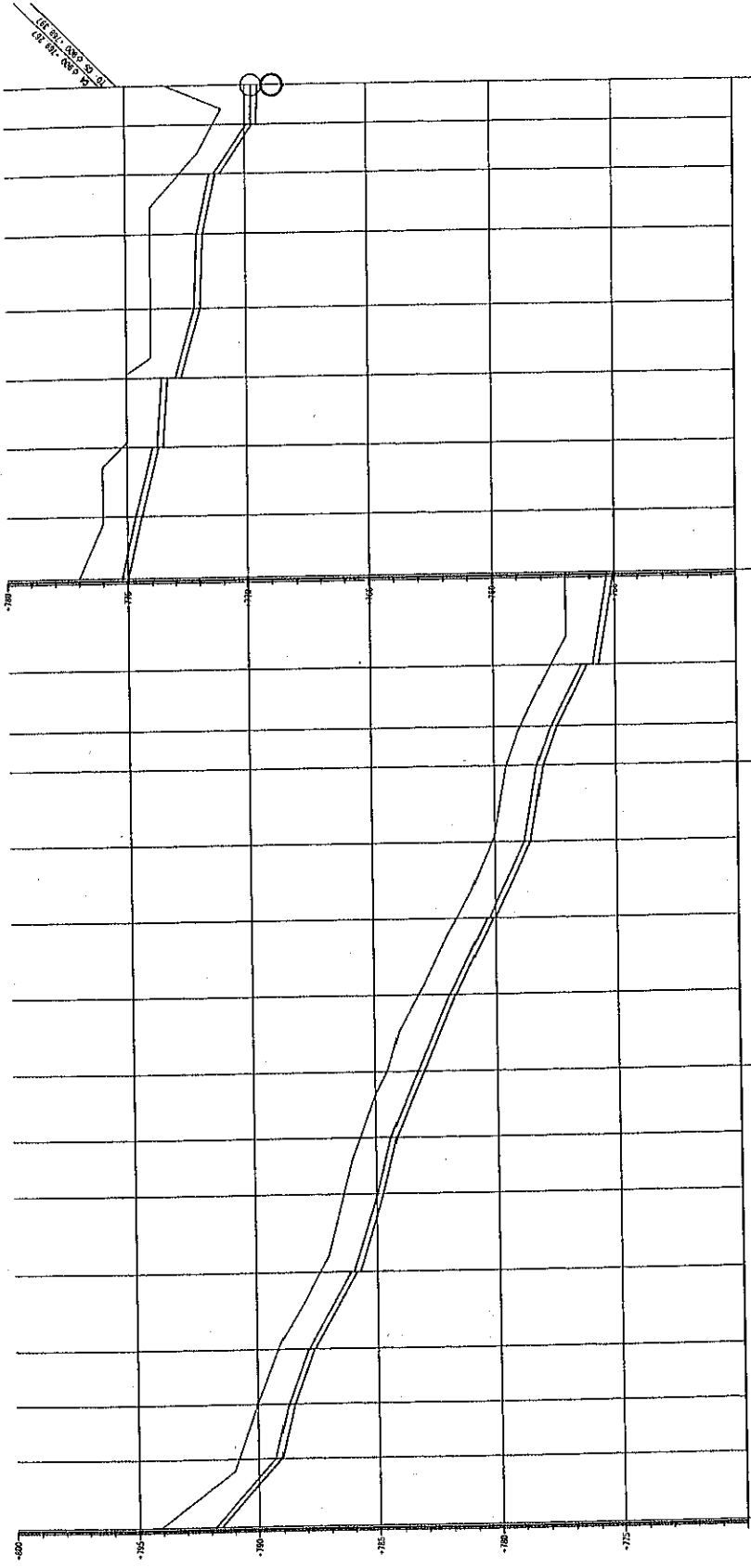
Environment Improvement in the Lake Billings
 Sacoa Longitudinal dos Colectores Transcos
 Sewer Pipe Profile

12 31
 A.I. 5000
 2007.2

13	31
Environment Improvement in the Lake Billings	
Sewer Pipe Profile	
1967	2

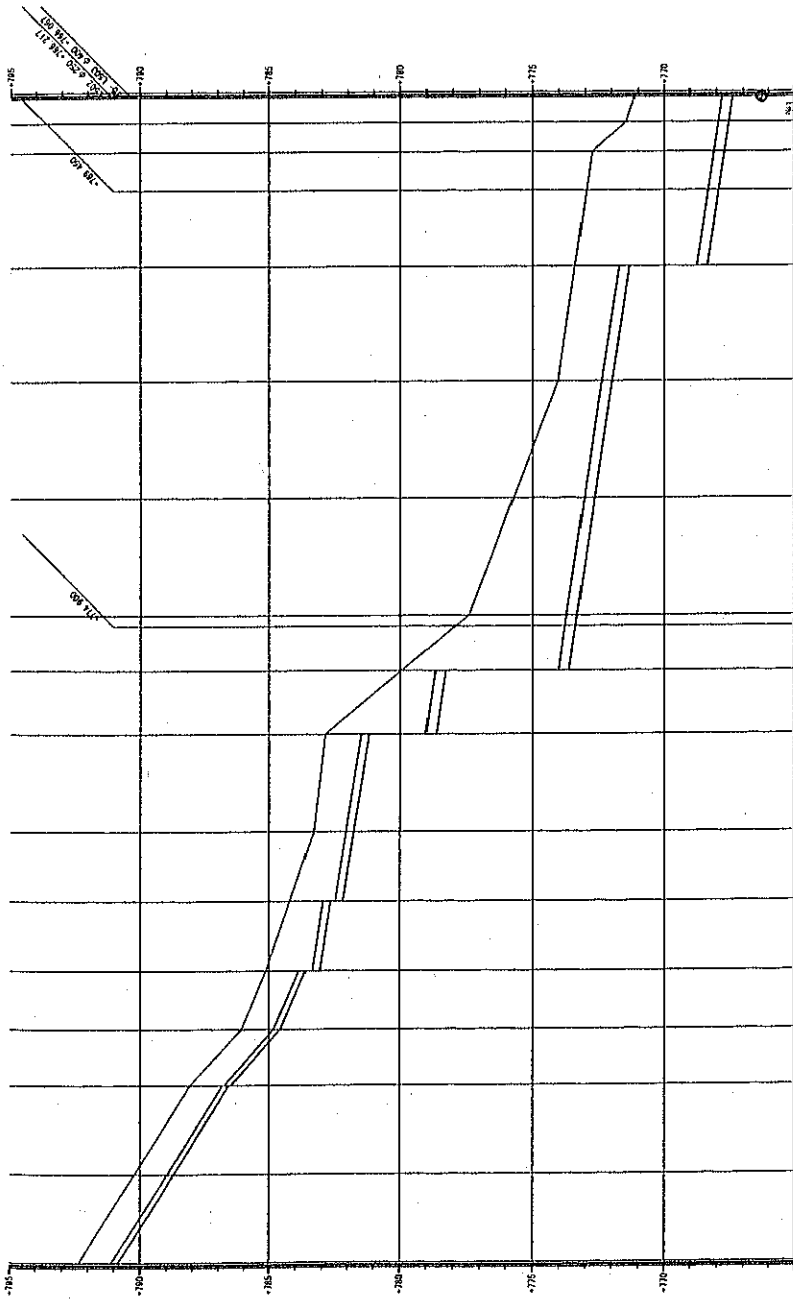
1601	1602	1603	1604

Station	Length	Invert	Level	Flow	Velocity	Capacity
0+0		791.10	791.592			
10+0	70.0	780.83	789.055		1.51	
20+0	140.0	770.03	784.505		1.25	
30+0	210.0	760.03	784.501		1.20	
40+0	280.0	750.14	781.634		1.28	
50+0	350.0	740.93	782.639		1.25	
60+0	420.0	730.95	784.717		1.37	
70+0	490.0	720.55	784.739		1.25	
80+0	560.0	710.50	782.992		1.25	
90+0	630.0	700.18	781.681		1.25	
100+0	700.0	690.61	780.092		1.25	
110+0	770.0	680.12	778.528		1.31	
120+0	840.0	670.50	777.980		1.25	
130+0	910.0	660.90	777.334		1.25	
140+0	980.0	650.52	776.123		1.25	
150+0	1050.0	640.00	775.058		1.25	
160+0	1120.0	630.00	774.000		1.25	
170+0	1190.0	620.00	773.000		1.25	
180+0	1260.0	610.00	772.000		1.25	
190+0	1330.0	600.00	771.000		1.25	
200+0	1400.0	590.00	770.000		1.25	
210+0	1470.0	580.00	769.000		1.25	
220+0	1540.0	570.00	768.000		1.25	
230+0	1610.0	560.00	767.000		1.25	
240+0	1680.0	550.00	766.000		1.25	
250+0	1750.0	540.00	765.000		1.25	
260+0	1820.0	530.00	764.000		1.25	
270+0	1890.0	520.00	763.000		1.25	
280+0	1960.0	510.00	762.000		1.25	
290+0	2030.0	500.00	761.000		1.25	
300+0	2100.0	490.00	760.000		1.25	
310+0	2170.0	480.00	759.000		1.25	
320+0	2240.0	470.00	758.000		1.25	
330+0	2310.0	460.00	757.000		1.25	
340+0	2380.0	450.00	756.000		1.25	
350+0	2450.0	440.00	755.000		1.25	
360+0	2520.0	430.00	754.000		1.25	
370+0	2590.0	420.00	753.000		1.25	
380+0	2660.0	410.00	752.000		1.25	
390+0	2730.0	400.00	751.000		1.25	
400+0	2800.0	390.00	750.000		1.25	
410+0	2870.0	380.00	749.000		1.25	
420+0	2940.0	370.00	748.000		1.25	
430+0	3010.0	360.00	747.000		1.25	
440+0	3080.0	350.00	746.000		1.25	
450+0	3150.0	340.00	745.000		1.25	
460+0	3220.0	330.00	744.000		1.25	
470+0	3290.0	320.00	743.000		1.25	
480+0	3360.0	310.00	742.000		1.25	
490+0	3430.0	300.00	741.000		1.25	
500+0	3500.0	290.00	740.000		1.25	
510+0	3570.0	280.00	739.000		1.25	
520+0	3640.0	270.00	738.000		1.25	
530+0	3710.0	260.00	737.000		1.25	
540+0	3780.0	250.00	736.000		1.25	
550+0	3850.0	240.00	735.000		1.25	
560+0	3920.0	230.00	734.000		1.25	
570+0	3990.0	220.00	733.000		1.25	
580+0	4060.0	210.00	732.000		1.25	
590+0	4130.0	200.00	731.000		1.25	
600+0	4200.0	190.00	730.000		1.25	
610+0	4270.0	180.00	729.000		1.25	
620+0	4340.0	170.00	728.000		1.25	
630+0	4410.0	160.00	727.000		1.25	
640+0	4480.0	150.00	726.000		1.25	
650+0	4550.0	140.00	725.000		1.25	
660+0	4620.0	130.00	724.000		1.25	
670+0	4690.0	120.00	723.000		1.25	
680+0	4760.0	110.00	722.000		1.25	
690+0	4830.0	100.00	721.000		1.25	
700+0	4900.0	90.00	720.000		1.25	
710+0	4970.0	80.00	719.000		1.25	
720+0	5040.0	70.00	718.000		1.25	
730+0	5110.0	60.00	717.000		1.25	
740+0	5180.0	50.00	716.000		1.25	
750+0	5250.0	40.00	715.000		1.25	
760+0	5320.0	30.00	714.000		1.25	
770+0	5390.0	20.00	713.000		1.25	
780+0	5460.0	10.00	712.000		1.25	
790+0	5530.0	0.00	711.000		1.25	
800+0	5600.0		710.000		1.25	
810+0	5670.0		709.000		1.25	
820+0	5740.0		708.000		1.25	
830+0	5810.0		707.000		1.25	
840+0	5880.0		706.000		1.25	
850+0	5950.0		705.000		1.25	
860+0	6020.0		704.000		1.25	
870+0	6090.0		703.000		1.25	
880+0	6160.0		702.000		1.25	
890+0	6230.0		701.000		1.25	
900+0	6300.0		700.000		1.25	
910+0	6370.0		699.000		1.25	
920+0	6440.0		698.000		1.25	
930+0	6510.0		697.000		1.25	
940+0	6580.0		696.000		1.25	
950+0	6650.0		695.000		1.25	
960+0	6720.0		694.000		1.25	
970+0	6790.0		693.000		1.25	
980+0	6860.0		692.000		1.25	
990+0	6930.0		691.000		1.25	
1000+0	7000.0		690.000		1.25	



690
700
710
720
730
740
750
760
770
780
790
800

0+0
10+0
20+0
30+0
40+0
50+0
60+0
70+0
80+0
90+0
100+0
110+0
120+0
130+0
140+0
150+0
160+0
170+0
180+0
190+0
200+0
210+0
220+0
230+0
240+0
250+0
260+0
270+0
280+0
290+0
300+0
310+0
320+0
330+0
340+0
350+0
360+0
370+0
380+0
390+0
400+0
410+0
420+0
430+0
440+0
450+0
460+0
470+0
480+0
490+0
500+0
510+0
520+0
530+0
540+0
550+0
560+0
570+0
580+0
590+0
600+0
610+0
620+0
630+0
640+0
650+0
660+0
670+0
680+0
690+0
700+0
710+0
720+0
730+0
740+0
750+0
760+0
770+0
780+0
790+0
800+0
810+0
820+0
830+0
840+0
850+0
860+0
870+0
880+0
890+0
900+0
910+0
920+0
930+0
940+0
950+0
960+0
970+0
980+0
990+0
1000+0



管 段 号 表

LL501	LL502	LL503	LL504	LL505
LL506	LL507	LL508	LL509	LL510

Station	Pipe	Pipe Dia.	Gradient	Flow Vel.	Flow Velocity	Covering	invert Level	Z.L.	Total Length	Length
1+00	LL501	ø 250	0.20%	0.727	2.006	1.25	712.114	712.23	0.0	0.0
1+10	LL502	ø 250	0.20%	0.727	2.006	1.25	712.114	712.23	0.0	0.0
1+20	LL503	ø 250	0.20%	0.727	2.006	1.25	712.114	712.23	0.0	0.0
1+30	LL504	ø 300	0.20%	0.938	1.417	1.25	712.680	712.23	0.0	0.0
1+40	LL505	ø 300	0.20%	0.938	1.417	1.25	712.680	712.23	0.0	0.0
1+50	LL506	ø 300	0.20%	0.938	1.417	1.25	712.680	712.23	0.0	0.0
1+60	LL507	ø 400	0.20%	1.183	1.204	1.25	713.205	712.49	0.0	0.0
1+70	LL508	ø 400	0.20%	1.183	1.204	1.25	713.205	712.49	0.0	0.0
1+80	LL509	ø 400	0.20%	1.183	1.204	1.25	713.205	712.49	0.0	0.0
1+90	LL510	ø 400	0.20%	1.183	1.204	1.25	713.205	712.49	0.0	0.0

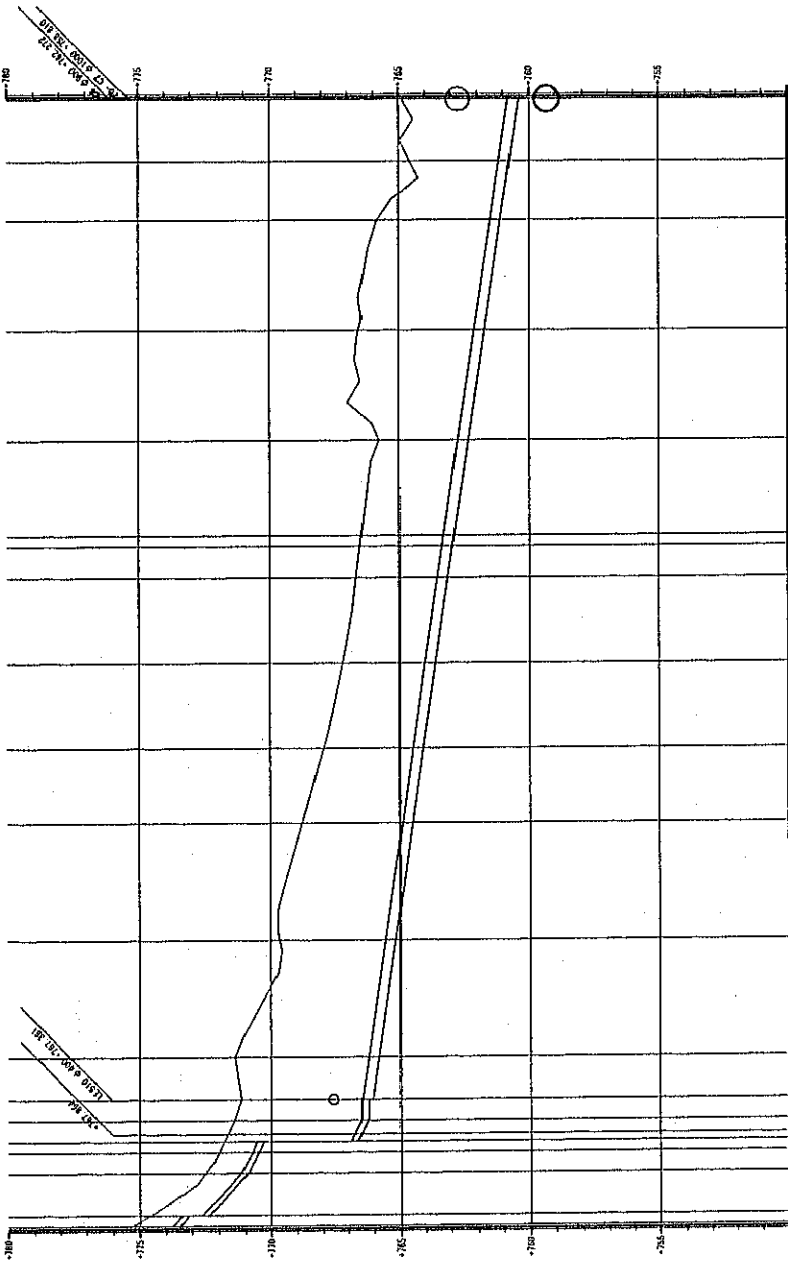
Environment Improvement in the Lake Billings
 Secco Longitudinal dos Colectores Troncos
 Sewer Pipe Profile

15 31
 11.500
 200.2

管段号表

L501	L502	L503	L504	L505
L506				

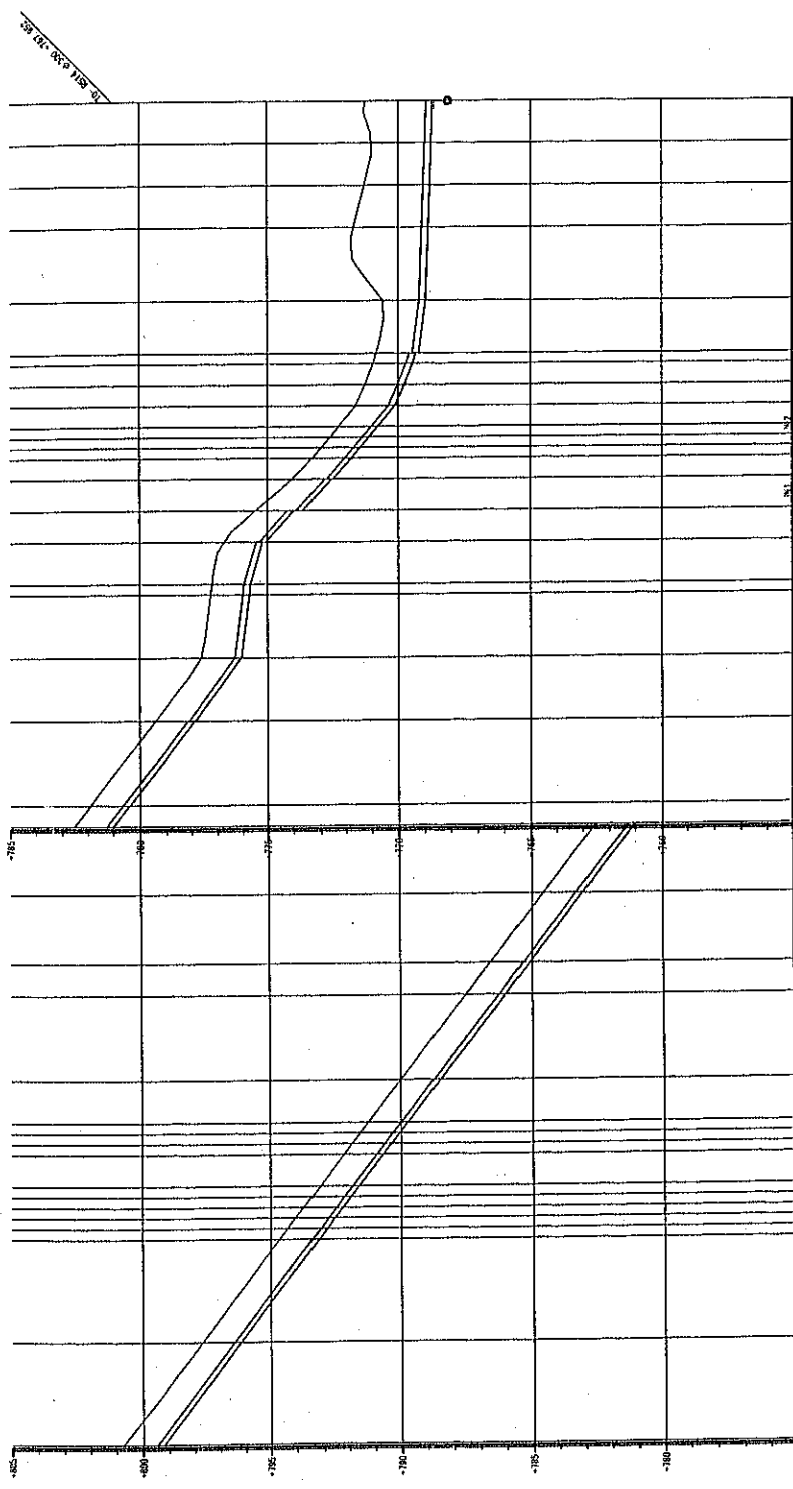
Environment Improvement in the Lake Billings		16	31
Secao Longitudinal dos Coletores Troncos		31.200	31.200
Sewer Pipe Profile		4	1.000
			3007.2



Pipe	From	To	Length	Start Elev.	Invert Elev.	End Elev.	Flow	Velocity	Flow 2	Velocity 2
L501	0+00	0+250	250	12.50	12.50	12.50	0.000	0.00	0.000	0.00
L502	0+250	0+500	250	12.50	12.50	12.50	0.000	0.00	0.000	0.00
L503	0+500	0+750	250	12.50	12.50	12.50	0.000	0.00	0.000	0.00
L504	0+750	0+900	150	12.50	12.50	12.50	0.000	0.00	0.000	0.00
L505	0+900	0+950	50	12.50	12.50	12.50	0.000	0.00	0.000	0.00
L506	0+950	0+1000	50	12.50	12.50	12.50	0.000	0.00	0.000	0.00

Station	Start Elev.	Invert Elev.	End Elev.
0+00	12.50	12.50	12.50
0+250	12.50	12.50	12.50
0+500	12.50	12.50	12.50
0+750	12.50	12.50	12.50
0+900	12.50	12.50	12.50
0+950	12.50	12.50	12.50
0+1000	12.50	12.50	12.50

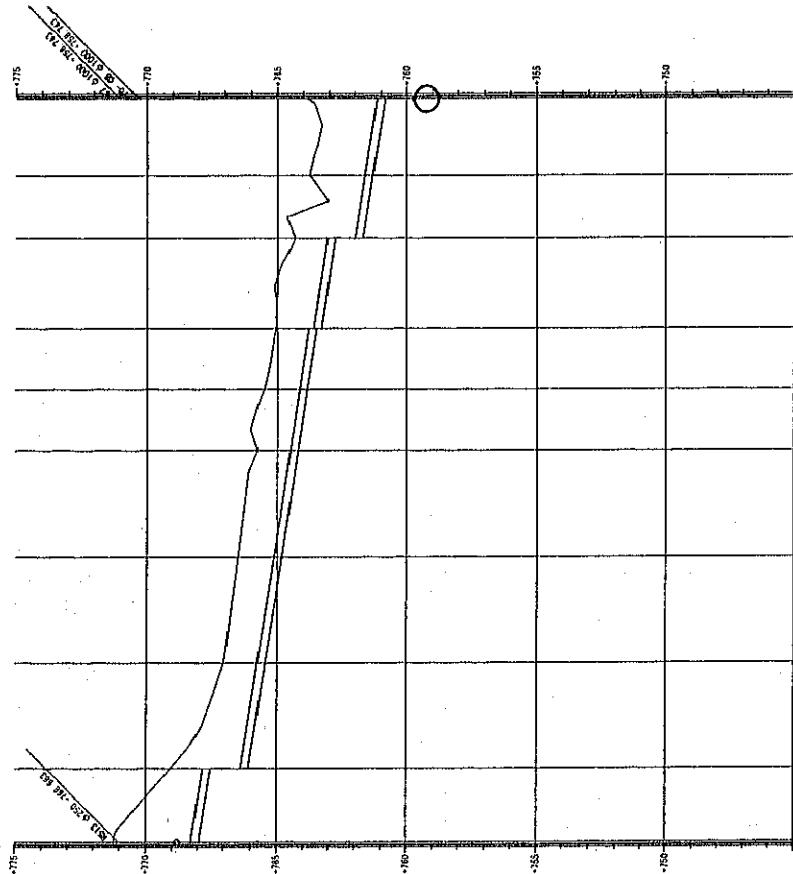
Station	Start Elev.	Invert Elev.	End Elev.
0+00	12.50	12.50	12.50
0+250	12.50	12.50	12.50
0+500	12.50	12.50	12.50
0+750	12.50	12.50	12.50
0+900	12.50	12.50	12.50
0+950	12.50	12.50	12.50
0+1000	12.50	12.50	12.50



管配号表

R501	R502	R503	R504	R505
R506	R507	R508	R509	R510
R511	R512	R513		

Pipe	Station	Invert Elev.	Inner Dia.	Ground Elev.	Flow Elev.	Flow Vel.	Flow Q	Total Length	Length
R501	0+00	788.10	30.70"	788.10	788.10	0.0000	0.0000	0.00	0.00
R501	0+10	787.10	30.70"	787.10	787.10	0.0000	0.0000	10.00	10.00
R501	0+20	786.10	30.70"	786.10	786.10	0.0000	0.0000	20.00	20.00
R501	0+30	785.10	30.70"	785.10	785.10	0.0000	0.0000	30.00	30.00
R501	0+40	784.10	30.70"	784.10	784.10	0.0000	0.0000	40.00	40.00
R501	0+50	783.10	30.70"	783.10	783.10	0.0000	0.0000	50.00	50.00
R501	0+60	782.10	30.70"	782.10	782.10	0.0000	0.0000	60.00	60.00
R501	0+70	781.10	30.70"	781.10	781.10	0.0000	0.0000	70.00	70.00
R501	0+80	780.10	30.70"	780.10	780.10	0.0000	0.0000	80.00	80.00
R501	0+90	779.10	30.70"	779.10	779.10	0.0000	0.0000	90.00	90.00
R501	0+99.99	778.10	30.70"	778.10	778.10	0.0000	0.0000	99.99	99.99
R502	0+100	777.10	30.70"	777.10	777.10	0.0000	0.0000	100.00	100.00
R502	0+110	776.10	30.70"	776.10	776.10	0.0000	0.0000	110.00	110.00
R502	0+120	775.10	30.70"	775.10	775.10	0.0000	0.0000	120.00	120.00
R502	0+130	774.10	30.70"	774.10	774.10	0.0000	0.0000	130.00	130.00
R502	0+140	773.10	30.70"	773.10	773.10	0.0000	0.0000	140.00	140.00
R502	0+150	772.10	30.70"	772.10	772.10	0.0000	0.0000	150.00	150.00
R502	0+160	771.10	30.70"	771.10	771.10	0.0000	0.0000	160.00	160.00
R502	0+170	770.10	30.70"	770.10	770.10	0.0000	0.0000	170.00	170.00
R502	0+180	769.10	30.70"	769.10	769.10	0.0000	0.0000	180.00	180.00
R502	0+190	768.10	30.70"	768.10	768.10	0.0000	0.0000	190.00	190.00
R502	0+200	767.10	30.70"	767.10	767.10	0.0000	0.0000	200.00	200.00
R502	0+210	766.10	30.70"	766.10	766.10	0.0000	0.0000	210.00	210.00
R502	0+220	765.10	30.70"	765.10	765.10	0.0000	0.0000	220.00	220.00
R502	0+230	764.10	30.70"	764.10	764.10	0.0000	0.0000	230.00	230.00
R502	0+240	763.10	30.70"	763.10	763.10	0.0000	0.0000	240.00	240.00
R502	0+250	762.10	30.70"	762.10	762.10	0.0000	0.0000	250.00	250.00
R502	0+260	761.10	30.70"	761.10	761.10	0.0000	0.0000	260.00	260.00
R502	0+270	760.10	30.70"	760.10	760.10	0.0000	0.0000	270.00	270.00
R502	0+280	759.10	30.70"	759.10	759.10	0.0000	0.0000	280.00	280.00
R502	0+290	758.10	30.70"	758.10	758.10	0.0000	0.0000	290.00	290.00
R502	0+300	757.10	30.70"	757.10	757.10	0.0000	0.0000	300.00	300.00
R502	0+310	756.10	30.70"	756.10	756.10	0.0000	0.0000	310.00	310.00
R502	0+320	755.10	30.70"	755.10	755.10	0.0000	0.0000	320.00	320.00
R502	0+330	754.10	30.70"	754.10	754.10	0.0000	0.0000	330.00	330.00
R502	0+340	753.10	30.70"	753.10	753.10	0.0000	0.0000	340.00	340.00
R502	0+350	752.10	30.70"	752.10	752.10	0.0000	0.0000	350.00	350.00
R502	0+360	751.10	30.70"	751.10	751.10	0.0000	0.0000	360.00	360.00
R502	0+370	750.10	30.70"	750.10	750.10	0.0000	0.0000	370.00	370.00
R502	0+380	749.10	30.70"	749.10	749.10	0.0000	0.0000	380.00	380.00
R502	0+390	748.10	30.70"	748.10	748.10	0.0000	0.0000	390.00	390.00
R502	0+400	747.10	30.70"	747.10	747.10	0.0000	0.0000	400.00	400.00
R502	0+410	746.10	30.70"	746.10	746.10	0.0000	0.0000	410.00	410.00
R502	0+420	745.10	30.70"	745.10	745.10	0.0000	0.0000	420.00	420.00
R502	0+430	744.10	30.70"	744.10	744.10	0.0000	0.0000	430.00	430.00
R502	0+440	743.10	30.70"	743.10	743.10	0.0000	0.0000	440.00	440.00
R502	0+450	742.10	30.70"	742.10	742.10	0.0000	0.0000	450.00	450.00
R502	0+460	741.10	30.70"	741.10	741.10	0.0000	0.0000	460.00	460.00
R502	0+470	740.10	30.70"	740.10	740.10	0.0000	0.0000	470.00	470.00
R502	0+480	739.10	30.70"	739.10	739.10	0.0000	0.0000	480.00	480.00
R502	0+490	738.10	30.70"	738.10	738.10	0.0000	0.0000	490.00	490.00
R502	0+500	737.10	30.70"	737.10	737.10	0.0000	0.0000	500.00	500.00
R502	0+510	736.10	30.70"	736.10	736.10	0.0000	0.0000	510.00	510.00
R502	0+520	735.10	30.70"	735.10	735.10	0.0000	0.0000	520.00	520.00
R502	0+530	734.10	30.70"	734.10	734.10	0.0000	0.0000	530.00	530.00
R502	0+540	733.10	30.70"	733.10	733.10	0.0000	0.0000	540.00	540.00
R502	0+550	732.10	30.70"	732.10	732.10	0.0000	0.0000	550.00	550.00
R502	0+560	731.10	30.70"	731.10	731.10	0.0000	0.0000	560.00	560.00
R502	0+570	730.10	30.70"	730.10	730.10	0.0000	0.0000	570.00	570.00
R502	0+580	729.10	30.70"	729.10	729.10	0.0000	0.0000	580.00	580.00
R502	0+590	728.10	30.70"	728.10	728.10	0.0000	0.0000	590.00	590.00
R502	0+600	727.10	30.70"	727.10	727.10	0.0000	0.0000	600.00	600.00
R502	0+610	726.10	30.70"	726.10	726.10	0.0000	0.0000	610.00	610.00
R502	0+620	725.10	30.70"	725.10	725.10	0.0000	0.0000	620.00	620.00
R502	0+630	724.10	30.70"	724.10	724.10	0.0000	0.0000	630.00	630.00
R502	0+640	723.10	30.70"	723.10	723.10	0.0000	0.0000	640.00	640.00
R502	0+650	722.10	30.70"	722.10	722.10	0.0000	0.0000	650.00	650.00
R502	0+660	721.10	30.70"	721.10	721.10	0.0000	0.0000	660.00	660.00
R502	0+670	720.10	30.70"	720.10	720.10	0.0000	0.0000	670.00	670.00
R502	0+680	719.10	30.70"	719.10	719.10	0.0000	0.0000	680.00	680.00
R502	0+690	718.10	30.70"	718.10	718.10	0.0000	0.0000	690.00	690.00
R502	0+700	717.10	30.70"	717.10	717.10	0.0000	0.0000	700.00	700.00
R502	0+710	716.10	30.70"	716.10	716.10	0.0000	0.0000	710.00	710.00
R502	0+720	715.10	30.70"	715.10	715.10	0.0000	0.0000	720.00	720.00
R502	0+730	714.10	30.70"	714.10	714.10	0.0000	0.0000	730.00	730.00
R502	0+740	713.10	30.70"	713.10	713.10	0.0000	0.0000	740.00	740.00
R502	0+750	712.10	30.70"	712.10	712.10	0.0000	0.0000	750.00	750.00
R502	0+760	711.10	30.70"	711.10	711.10	0.0000	0.0000	760.00	760.00
R502	0+770	710.10	30.70"	710.10	710.10	0.0000	0.0000	770.00	770.00
R502	0+780	709.10	30.70"	709.10	709.10	0.0000	0.0000	780.00	780.00
R502	0+790	708.10	30.70"	708.10	708.10	0.0000	0.0000	790.00	790.00
R502	0+800	707.10	30.70"	707.10	707.10	0.0000	0.0000	800.00	800.00
R502	0+810	706.10	30.70"	706.10	706.10	0.0000	0.0000	810.00	810.00
R502	0+820	705.10	30.70"	705.10	705.10	0.0000	0.0000	820.00	820.00
R502	0+830	704.10	30.70"	704.10	704.10	0.0000	0.0000	830.00	830.00
R502	0+840	703.10	30.70"	703.10	703.10	0.0000	0.0000	840.00	840.00
R502	0+850	702.10	30.70"	702.10	702.10	0.0000	0.0000	850.00	850.00
R502	0+860	701.10	30.70"	701.10	701.10	0.0000	0.0000	860.00	860.00
R502	0+870	700.10	30.70"	700.10	700.10	0.0000	0.0000	870.00	870.00
R502	0+880	699.10	30.70"	699.10	699.10	0.0000	0.0000	880.00	880.00
R502	0+890	698.10	30.70"	698.10	698.10	0.0000	0.0000	890.00	890.00
R502	0+900	697.10	30.70"	697.10	697.10	0.0000	0.0000	900.00	900.00
R502	0+910	696.10	30.70"	696.10	696.10	0.0000	0.0000	910.00	910.00
R502	0+920	695.10	30.70"	695.10	695.10	0.0000	0.0000	920.00	920.00
R502	0+930	694.10	30.70"	694.10	694.10	0.0000	0.0000	930.00	930.00
R502	0+940	693.10	30.70"	693.10	693.10	0.0000	0.0000	940.00	940.00
R502	0+950	692.10	30.70"	692.10	692.10	0.0000	0.0000	950.00	950.00
R502									



管位标高

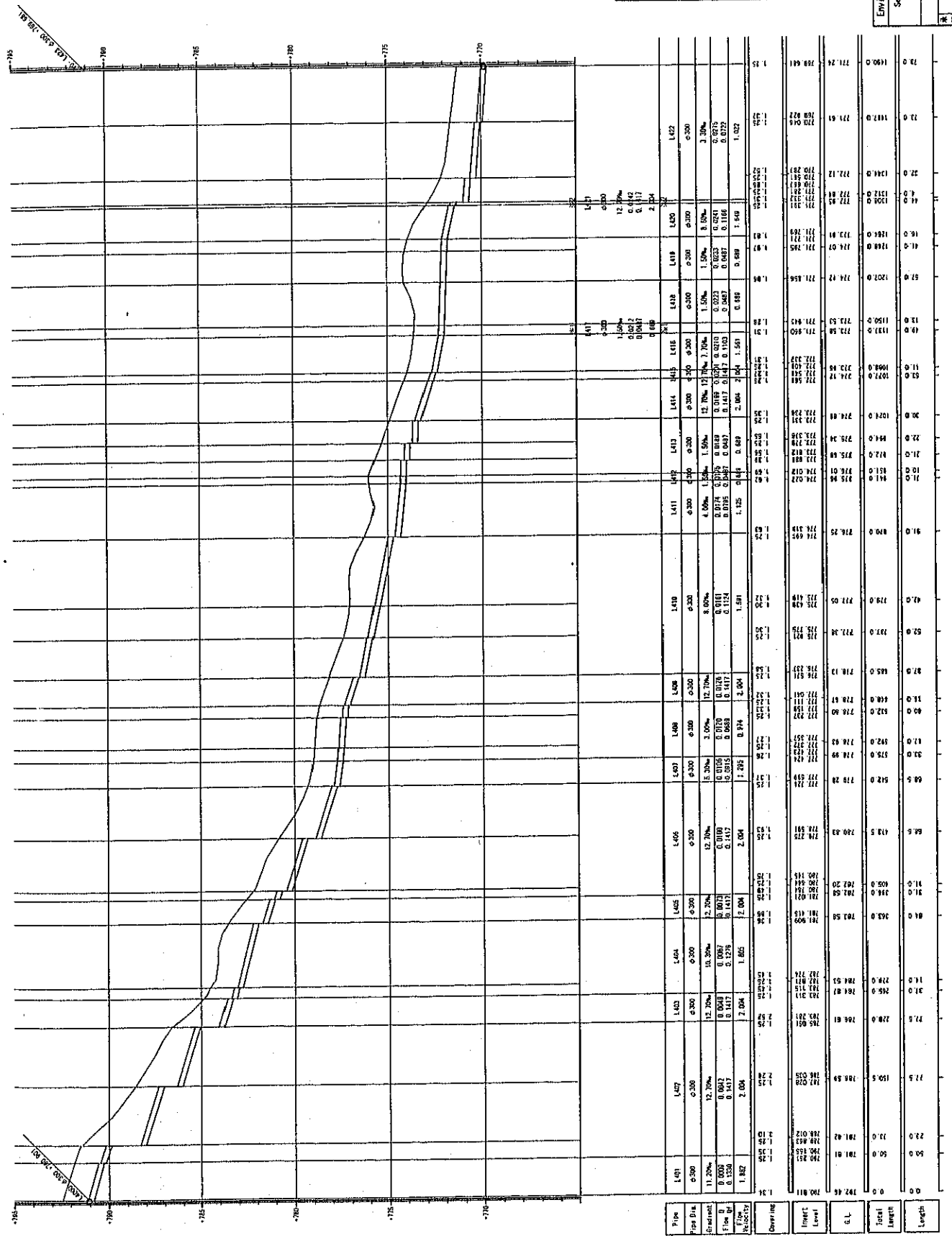
RS14	RS15

Pipe	RS14	RS15
Pipe Dia	630	630
Slope	8.30%	8.30%
Invert	0.002	0.003
Flow D	0.098	0.098
Velocity	1.412	1.412
Cover	1.25	1.25
Invert Level	767.952	767.952
O.L.	711.23	767.952
Start Length	0.0	711.23
End Length	100.0	1315.0
Length	100.0	1315.0

Station	Start Length	End Length	Length
0+0	0.0	123.0	123.0
10.0	123.0	1315.0	1192.0
100.0	123.0	1415.0	1292.0
100.0	1415.0	1515.0	1392.0
100.0	1515.0	1615.0	1492.0
100.0	1615.0	1715.0	1592.0
100.0	1715.0	1815.0	1692.0
100.0	1815.0	1915.0	1792.0
100.0	1915.0	2015.0	1892.0
100.0	2015.0	2115.0	1992.0
100.0	2115.0	2215.0	2092.0
100.0	2215.0	2315.0	2192.0

Environment Improvement in the Lake Bill Rest
 Secao Longitudinal dos Coletores Troncos
 Sewer Pipe Profile

19 31
 V.L. 200
 2002.2

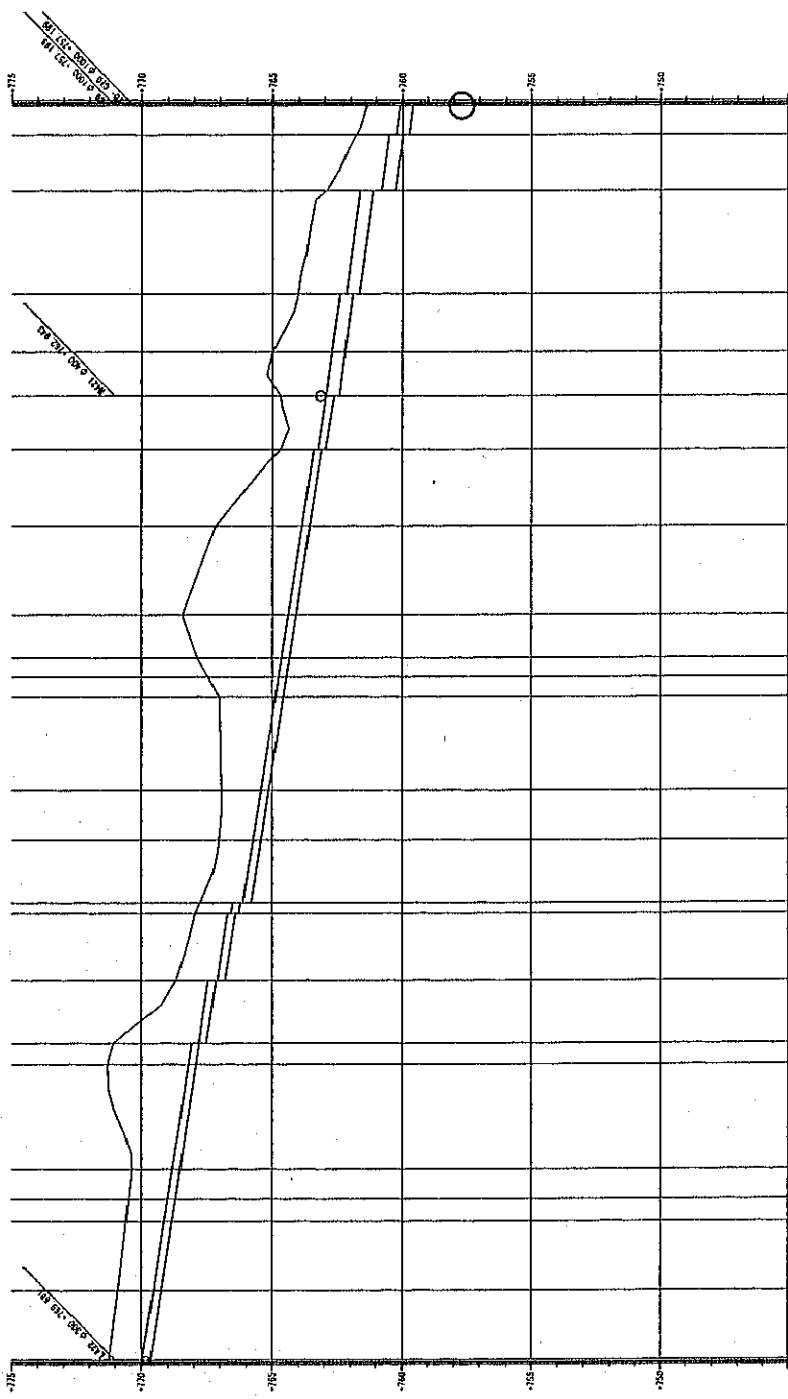


管 架 号 数

1401	1402	1403	1404	1405
1406	1407	1408	1409	1410
1411	1412	1413	1414	1415
1416	1417	1418	1419	1420
1421	1422			

Environment Improvement in the Lake Billings
 Section Longitudinal des Colocores Trenches
 Sheer Pipe Profile

13 31
 1:1,500
 1:1,500
 2003.2



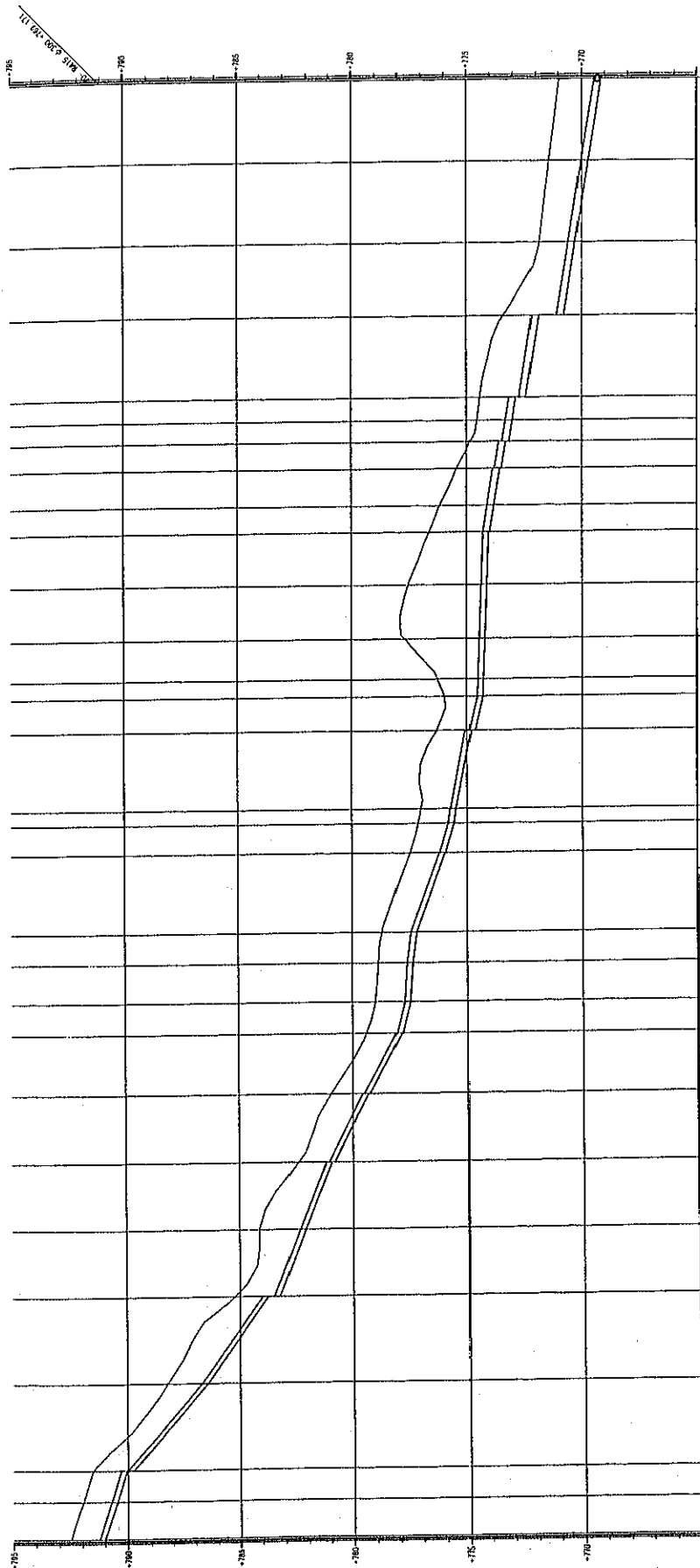
管 號 碼 表

1423	1424	1425	1426	1427
1428	1429	1430	1431	

Pipe	Pipe Dia.	Gradient	Flow D	Flow V	Velocity	Covering	Insert Level	E.L.	Total Length	Length
L423	φ300	6.30%	0.0299	0.0995	1.412	3.00	775.25	775.25	0.00	1190.0
L424	φ300	6.30%	0.0311	0.0995	1.412	3.00	775.00	775.00	99.0	1170.0
L425	φ300	6.30%	0.0323	0.0995	1.412	3.00	774.75	774.75	20.0	1150.0
L426	φ300	6.30%	0.0335	0.0995	1.412	3.00	774.50	774.50	30.0	1130.0
L427	φ300	6.30%	0.0347	0.0995	1.412	3.00	774.25	774.25	40.0	1110.0
L428	φ300	6.30%	0.0359	0.0995	1.412	3.00	774.00	774.00	50.0	1090.0
L429	φ300	6.30%	0.0371	0.0995	1.412	3.00	773.75	773.75	60.0	1070.0
L430	φ300	6.30%	0.0383	0.0995	1.412	3.00	773.50	773.50	70.0	1050.0
L431	φ300	6.30%	0.0395	0.0995	1.412	3.00	773.25	773.25	80.0	1030.0
L432	φ300	6.30%	0.0407	0.0995	1.412	3.00	773.00	773.00	90.0	1010.0
L433	φ300	6.30%	0.0419	0.0995	1.412	3.00	772.75	772.75	100.0	990.0
L434	φ300	6.30%	0.0431	0.0995	1.412	3.00	772.50	772.50	110.0	970.0
L435	φ300	6.30%	0.0443	0.0995	1.412	3.00	772.25	772.25	120.0	950.0
L436	φ300	6.30%	0.0455	0.0995	1.412	3.00	772.00	772.00	130.0	930.0
L437	φ300	6.30%	0.0467	0.0995	1.412	3.00	771.75	771.75	140.0	910.0
L438	φ300	6.30%	0.0479	0.0995	1.412	3.00	771.50	771.50	150.0	890.0
L439	φ300	6.30%	0.0491	0.0995	1.412	3.00	771.25	771.25	160.0	870.0
L440	φ300	6.30%	0.0503	0.0995	1.412	3.00	771.00	771.00	170.0	850.0
L441	φ300	6.30%	0.0515	0.0995	1.412	3.00	770.75	770.75	180.0	830.0
L442	φ300	6.30%	0.0527	0.0995	1.412	3.00	770.50	770.50	190.0	810.0
L443	φ300	6.30%	0.0539	0.0995	1.412	3.00	770.25	770.25	200.0	790.0
L444	φ300	6.30%	0.0551	0.0995	1.412	3.00	770.00	770.00	210.0	770.0
L445	φ300	6.30%	0.0563	0.0995	1.412	3.00	769.75	769.75	220.0	750.0
L446	φ300	6.30%	0.0575	0.0995	1.412	3.00	769.50	769.50	230.0	730.0
L447	φ300	6.30%	0.0587	0.0995	1.412	3.00	769.25	769.25	240.0	710.0
L448	φ300	6.30%	0.0599	0.0995	1.412	3.00	769.00	769.00	250.0	690.0
L449	φ300	6.30%	0.0611	0.0995	1.412	3.00	768.75	768.75	260.0	670.0
L450	φ300	6.30%	0.0623	0.0995	1.412	3.00	768.50	768.50	270.0	650.0
L451	φ300	6.30%	0.0635	0.0995	1.412	3.00	768.25	768.25	280.0	630.0
L452	φ300	6.30%	0.0647	0.0995	1.412	3.00	768.00	768.00	290.0	610.0
L453	φ300	6.30%	0.0659	0.0995	1.412	3.00	767.75	767.75	300.0	590.0
L454	φ300	6.30%	0.0671	0.0995	1.412	3.00	767.50	767.50	310.0	570.0
L455	φ300	6.30%	0.0683	0.0995	1.412	3.00	767.25	767.25	320.0	550.0
L456	φ300	6.30%	0.0695	0.0995	1.412	3.00	767.00	767.00	330.0	530.0
L457	φ300	6.30%	0.0707	0.0995	1.412	3.00	766.75	766.75	340.0	510.0
L458	φ300	6.30%	0.0719	0.0995	1.412	3.00	766.50	766.50	350.0	490.0
L459	φ300	6.30%	0.0731	0.0995	1.412	3.00	766.25	766.25	360.0	470.0
L460	φ300	6.30%	0.0743	0.0995	1.412	3.00	766.00	766.00	370.0	450.0
L461	φ300	6.30%	0.0755	0.0995	1.412	3.00	765.75	765.75	380.0	430.0
L462	φ300	6.30%	0.0767	0.0995	1.412	3.00	765.50	765.50	390.0	410.0
L463	φ300	6.30%	0.0779	0.0995	1.412	3.00	765.25	765.25	400.0	390.0
L464	φ300	6.30%	0.0791	0.0995	1.412	3.00	765.00	765.00	410.0	370.0
L465	φ300	6.30%	0.0803	0.0995	1.412	3.00	764.75	764.75	420.0	350.0
L466	φ300	6.30%	0.0815	0.0995	1.412	3.00	764.50	764.50	430.0	330.0
L467	φ300	6.30%	0.0827	0.0995	1.412	3.00	764.25	764.25	440.0	310.0
L468	φ300	6.30%	0.0839	0.0995	1.412	3.00	764.00	764.00	450.0	290.0
L469	φ300	6.30%	0.0851	0.0995	1.412	3.00	763.75	763.75	460.0	270.0
L470	φ300	6.30%	0.0863	0.0995	1.412	3.00	763.50	763.50	470.0	250.0
L471	φ300	6.30%	0.0875	0.0995	1.412	3.00	763.25	763.25	480.0	230.0
L472	φ300	6.30%	0.0887	0.0995	1.412	3.00	763.00	763.00	490.0	210.0
L473	φ300	6.30%	0.0899	0.0995	1.412	3.00	762.75	762.75	500.0	190.0
L474	φ300	6.30%	0.0911	0.0995	1.412	3.00	762.50	762.50	510.0	170.0
L475	φ300	6.30%	0.0923	0.0995	1.412	3.00	762.25	762.25	520.0	150.0
L476	φ300	6.30%	0.0935	0.0995	1.412	3.00	762.00	762.00	530.0	130.0
L477	φ300	6.30%	0.0947	0.0995	1.412	3.00	761.75	761.75	540.0	110.0
L478	φ300	6.30%	0.0959	0.0995	1.412	3.00	761.50	761.50	550.0	90.0
L479	φ300	6.30%	0.0971	0.0995	1.412	3.00	761.25	761.25	560.0	70.0
L480	φ300	6.30%	0.0983	0.0995	1.412	3.00	761.00	761.00	570.0	50.0
L481	φ300	6.30%	0.0995	0.0995	1.412	3.00	760.75	760.75	580.0	30.0
L482	φ300	6.30%	0.1007	0.0995	1.412	3.00	760.50	760.50	590.0	10.0
L483	φ300	6.30%	0.1019	0.0995	1.412	3.00	760.25	760.25	600.0	0.0

Environment Improvement in the Lake Billings
 Saco Longitudinal das Coletores Troncos
 Sewer Pipe Profile

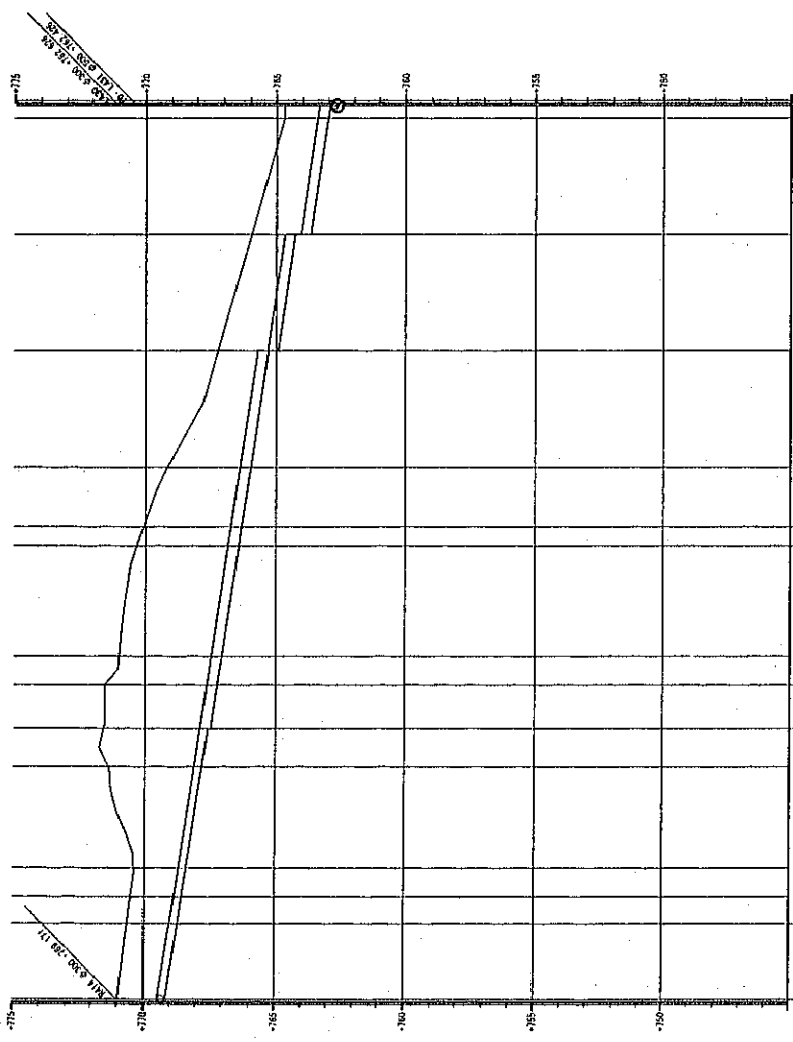
20 21
 1:1, 2:1
 2007.7



管段号表

R401	R402	R403	R404	R405
R406	R407	R408	R409	R410
R411	R412	R413	R414	

Pipe	From Sta.	To Sta.	Length	Invert	Flow	Velocity	Cover
R401	9+250	9+250	0.00	1.25	0.00	0.00	1.25
R402	9+250	9+250	0.00	1.25	0.00	0.00	1.25
R403	9+250	9+250	0.00	1.25	0.00	0.00	1.25
R404	9+250	9+250	0.00	1.25	0.00	0.00	1.25
R405	9+250	9+250	0.00	1.25	0.00	0.00	1.25
R406	9+250	9+250	0.00	1.25	0.00	0.00	1.25
R407	9+250	9+250	0.00	1.25	0.00	0.00	1.25
R408	9+250	9+250	0.00	1.25	0.00	0.00	1.25
R409	9+250	9+250	0.00	1.25	0.00	0.00	1.25
R410	9+250	9+250	0.00	1.25	0.00	0.00	1.25
R411	9+250	9+250	0.00	1.25	0.00	0.00	1.25
R412	9+250	9+250	0.00	1.25	0.00	0.00	1.25
R413	9+250	9+250	0.00	1.25	0.00	0.00	1.25
R414	9+250	9+250	0.00	1.25	0.00	0.00	1.25



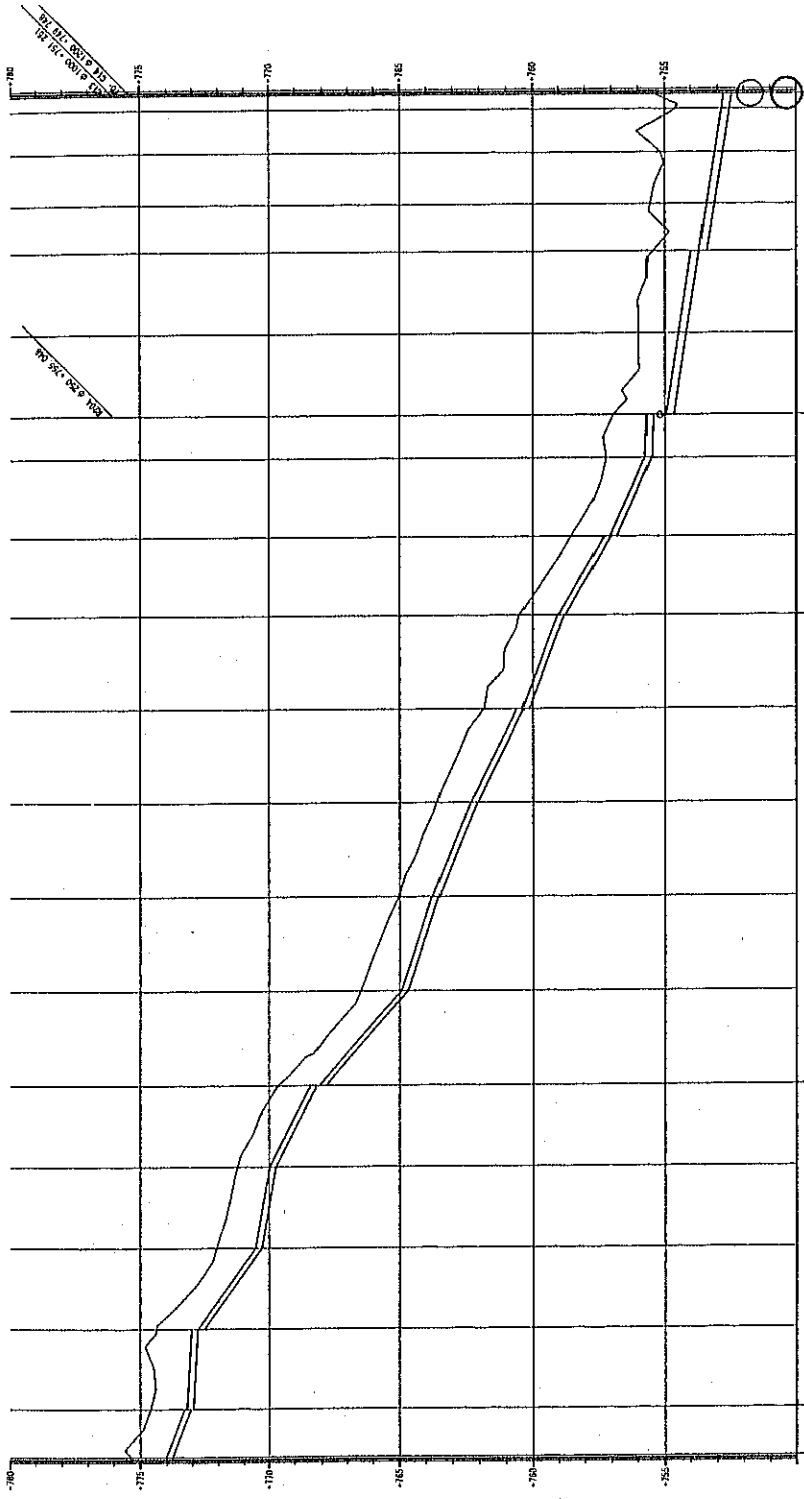
管型号表

R415	R416	R417	R418	R419
R420	R421			

Environment Improvement in the Lake Billings
 Secao Longitudinal dos Coltores Trancos
 Sewer Pipe Profile

22 31
 1:1,000
 2007.2

Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation	Station	Elevation
0+00	715.0	0+20	718.0	0+40	720.0	0+60	718.0	0+80	716.0	1+00	715.0								
0+00	715.0	0+20	718.0	0+40	720.0	0+60	718.0	0+80	716.0	1+00	715.0								
0+00	715.0	0+20	718.0	0+40	720.0	0+60	718.0	0+80	716.0	1+00	715.0								
0+00	715.0	0+20	718.0	0+40	720.0	0+60	718.0	0+80	716.0	1+00	715.0								
0+00	715.0	0+20	718.0	0+40	720.0	0+60	718.0	0+80	716.0	1+00	715.0								



管号列表

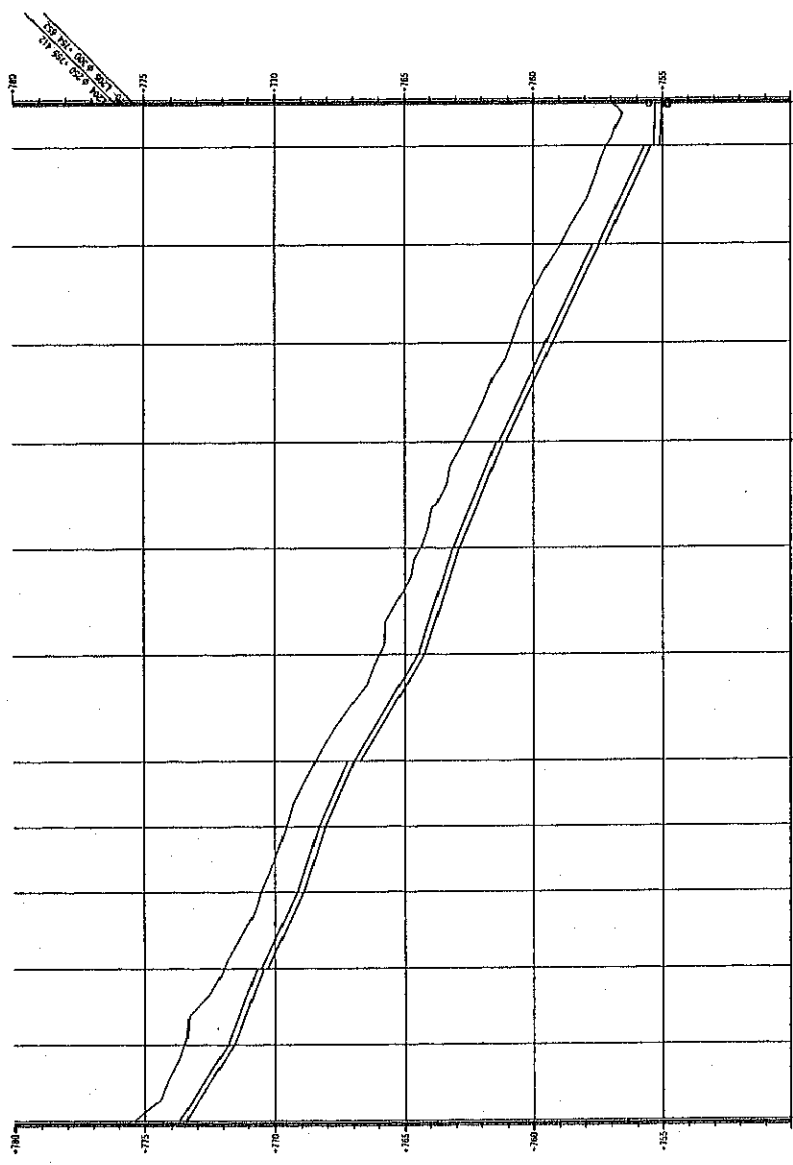
L201	L202	L203	L204	L205

Pipe	From Sta	To Sta	Length	Invert	Outlet	Slope
L201	0+00	1+00	100.0	772.888	772.887	0.001
L202	1+00	1+50	50.0	772.887	772.886	0.002
L203	1+50	2+50	100.0	772.886	772.885	0.003
L204	2+50	3+50	100.0	772.885	772.884	0.004
L205	3+50	4+18	68.0	772.884	772.883	0.005
L206	4+18	4+18	0.0	772.883	772.882	0.006
L207	4+18	4+18	0.0	772.882	772.881	0.007
L208	4+18	4+18	0.0	772.881	772.880	0.008
L209	4+18	4+18	0.0	772.880	772.879	0.009
L210	4+18	4+18	0.0	772.879	772.878	0.010
L211	4+18	4+18	0.0	772.878	772.877	0.011
L212	4+18	4+18	0.0	772.877	772.876	0.012
L213	4+18	4+18	0.0	772.876	772.875	0.013
L214	4+18	4+18	0.0	772.875	772.874	0.014
L215	4+18	4+18	0.0	772.874	772.873	0.015
L216	4+18	4+18	0.0	772.873	772.872	0.016
L217	4+18	4+18	0.0	772.872	772.871	0.017
L218	4+18	4+18	0.0	772.871	772.870	0.018
L219	4+18	4+18	0.0	772.870	772.869	0.019
L220	4+18	4+18	0.0	772.869	772.868	0.020
L221	4+18	4+18	0.0	772.868	772.867	0.021
L222	4+18	4+18	0.0	772.867	772.866	0.022
L223	4+18	4+18	0.0	772.866	772.865	0.023
L224	4+18	4+18	0.0	772.865	772.864	0.024
L225	4+18	4+18	0.0	772.864	772.863	0.025
L226	4+18	4+18	0.0	772.863	772.862	0.026
L227	4+18	4+18	0.0	772.862	772.861	0.027
L228	4+18	4+18	0.0	772.861	772.860	0.028
L229	4+18	4+18	0.0	772.860	772.859	0.029
L230	4+18	4+18	0.0	772.859	772.858	0.030
L231	4+18	4+18	0.0	772.858	772.857	0.031
L232	4+18	4+18	0.0	772.857	772.856	0.032
L233	4+18	4+18	0.0	772.856	772.855	0.033
L234	4+18	4+18	0.0	772.855	772.854	0.034
L235	4+18	4+18	0.0	772.854	772.853	0.035
L236	4+18	4+18	0.0	772.853	772.852	0.036
L237	4+18	4+18	0.0	772.852	772.851	0.037
L238	4+18	4+18	0.0	772.851	772.850	0.038
L239	4+18	4+18	0.0	772.850	772.849	0.039
L240	4+18	4+18	0.0	772.849	772.848	0.040
L241	4+18	4+18	0.0	772.848	772.847	0.041
L242	4+18	4+18	0.0	772.847	772.846	0.042
L243	4+18	4+18	0.0	772.846	772.845	0.043
L244	4+18	4+18	0.0	772.845	772.844	0.044
L245	4+18	4+18	0.0	772.844	772.843	0.045
L246	4+18	4+18	0.0	772.843	772.842	0.046
L247	4+18	4+18	0.0	772.842	772.841	0.047
L248	4+18	4+18	0.0	772.841	772.840	0.048
L249	4+18	4+18	0.0	772.840	772.839	0.049
L250	4+18	4+18	0.0	772.839	772.838	0.050
L251	4+18	4+18	0.0	772.838	772.837	0.051
L252	4+18	4+18	0.0	772.837	772.836	0.052
L253	4+18	4+18	0.0	772.836	772.835	0.053
L254	4+18	4+18	0.0	772.835	772.834	0.054
L255	4+18	4+18	0.0	772.834	772.833	0.055
L256	4+18	4+18	0.0	772.833	772.832	0.056
L257	4+18	4+18	0.0	772.832	772.831	0.057
L258	4+18	4+18	0.0	772.831	772.830	0.058
L259	4+18	4+18	0.0	772.830	772.829	0.059
L260	4+18	4+18	0.0	772.829	772.828	0.060
L261	4+18	4+18	0.0	772.828	772.827	0.061
L262	4+18	4+18	0.0	772.827	772.826	0.062
L263	4+18	4+18	0.0	772.826	772.825	0.063
L264	4+18	4+18	0.0	772.825	772.824	0.064
L265	4+18	4+18	0.0	772.824	772.823	0.065
L266	4+18	4+18	0.0	772.823	772.822	0.066
L267	4+18	4+18	0.0	772.822	772.821	0.067
L268	4+18	4+18	0.0	772.821	772.820	0.068
L269	4+18	4+18	0.0	772.820	772.819	0.069
L270	4+18	4+18	0.0	772.819	772.818	0.070
L271	4+18	4+18	0.0	772.818	772.817	0.071
L272	4+18	4+18	0.0	772.817	772.816	0.072
L273	4+18	4+18	0.0	772.816	772.815	0.073
L274	4+18	4+18	0.0	772.815	772.814	0.074
L275	4+18	4+18	0.0	772.814	772.813	0.075
L276	4+18	4+18	0.0	772.813	772.812	0.076
L277	4+18	4+18	0.0	772.812	772.811	0.077
L278	4+18	4+18	0.0	772.811	772.810	0.078
L279	4+18	4+18	0.0	772.810	772.809	0.079
L280	4+18	4+18	0.0	772.809	772.808	0.080
L281	4+18	4+18	0.0	772.808	772.807	0.081
L282	4+18	4+18	0.0	772.807	772.806	0.082
L283	4+18	4+18	0.0	772.806	772.805	0.083
L284	4+18	4+18	0.0	772.805	772.804	0.084
L285	4+18	4+18	0.0	772.804	772.803	0.085
L286	4+18	4+18	0.0	772.803	772.802	0.086
L287	4+18	4+18	0.0	772.802	772.801	0.087
L288	4+18	4+18	0.0	772.801	772.800	0.088
L289	4+18	4+18	0.0	772.800	772.799	0.089
L290	4+18	4+18	0.0	772.799	772.798	0.090
L291	4+18	4+18	0.0	772.798	772.797	0.091
L292	4+18	4+18	0.0	772.797	772.796	0.092
L293	4+18	4+18	0.0	772.796	772.795	0.093
L294	4+18	4+18	0.0	772.795	772.794	0.094
L295	4+18	4+18	0.0	772.794	772.793	0.095
L296	4+18	4+18	0.0	772.793	772.792	0.096
L297	4+18	4+18	0.0	772.792	772.791	0.097
L298	4+18	4+18	0.0	772.791	772.790	0.098
L299	4+18	4+18	0.0	772.790	772.789	0.099
L300	4+18	4+18	0.0	772.789	772.788	0.100

Environment Improvement in the Lake Billings
 Suisun Longitudinal des Balesores Troncas
 Sewer Pipe Profile

Scale: 1" = 200'
 1" = 500'

Sheet: 21 of 21
 Date: 2007.2



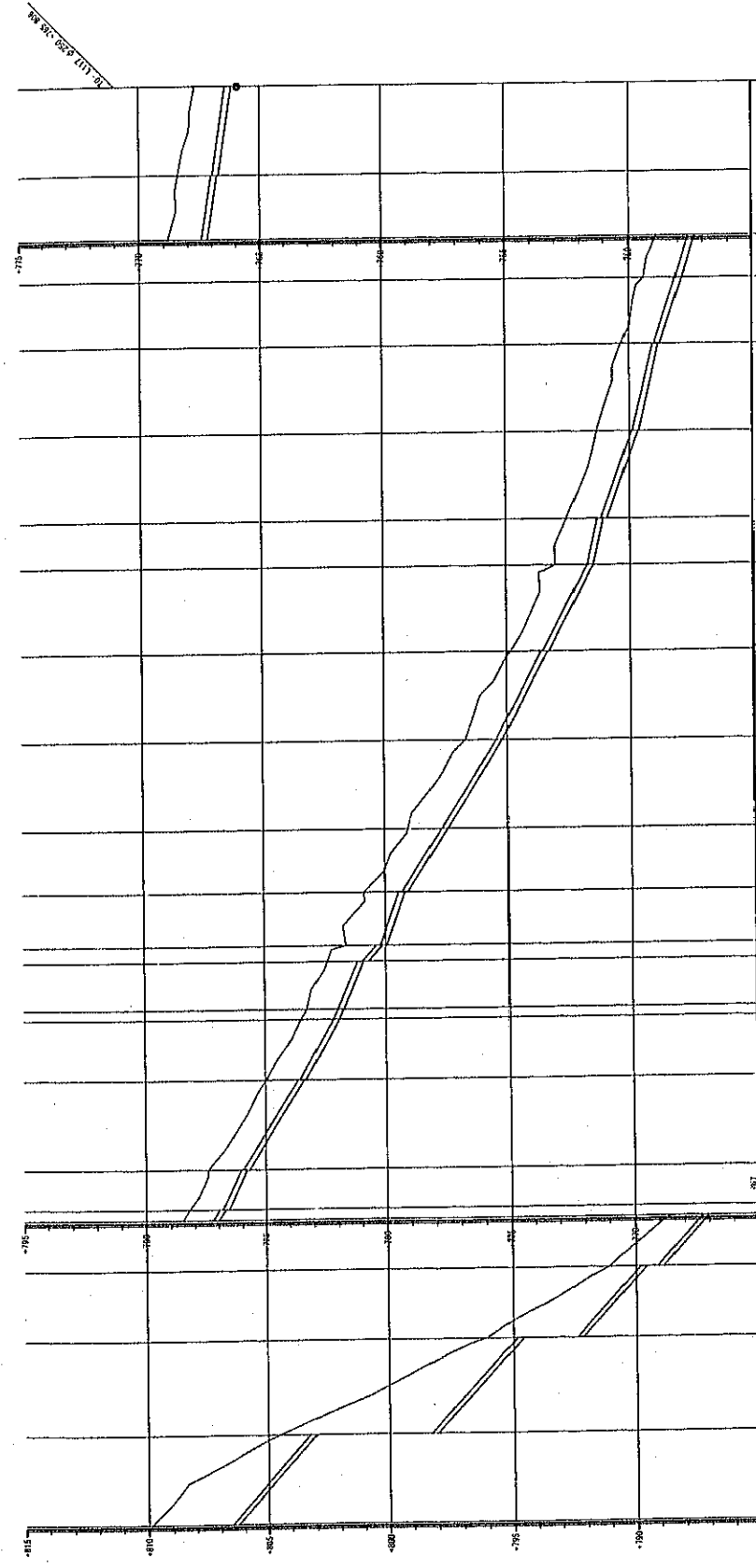
管段号表

R201	R202	R203	R204

管段号	管径	坡度	管底高程	管顶高程	管段长度	管段起终点
R201	φ250	13.50‰	770.000	770.000	1.00	723.000 ~ 724.000
R202	φ250	13.50‰	770.000	770.000	1.00	724.000 ~ 725.000
R203	φ250	13.50‰	770.000	770.000	1.00	725.000 ~ 726.000
R204	φ250	13.50‰	770.000	770.000	1.00	726.000 ~ 727.000
						727.000 ~ 728.000
						728.000 ~ 729.000
						729.000 ~ 730.000
						730.000 ~ 731.000
						731.000 ~ 732.000
						732.000 ~ 733.000
						733.000 ~ 734.000
						734.000 ~ 735.000
						735.000 ~ 736.000
						736.000 ~ 737.000
						737.000 ~ 738.000
						738.000 ~ 739.000
						739.000 ~ 740.000
						740.000 ~ 741.000
						741.000 ~ 742.000
						742.000 ~ 743.000
						743.000 ~ 744.000
						744.000 ~ 745.000
						745.000 ~ 746.000
						746.000 ~ 747.000
						747.000 ~ 748.000
						748.000 ~ 749.000
						749.000 ~ 750.000
						750.000 ~ 751.000
						751.000 ~ 752.000
						752.000 ~ 753.000
						753.000 ~ 754.000
						754.000 ~ 755.000
						755.000 ~ 756.000
						756.000 ~ 757.000
						757.000 ~ 758.000
						758.000 ~ 759.000
						759.000 ~ 760.000
						760.000 ~ 761.000
						761.000 ~ 762.000
						762.000 ~ 763.000
						763.000 ~ 764.000
						764.000 ~ 765.000
						765.000 ~ 766.000
						766.000 ~ 767.000
						767.000 ~ 768.000
						768.000 ~ 769.000
						769.000 ~ 770.000
						770.000 ~ 771.000
						771.000 ~ 772.000
						772.000 ~ 773.000
						773.000 ~ 774.000
						774.000 ~ 775.000
						775.000 ~ 776.000
						776.000 ~ 777.000
						777.000 ~ 778.000
						778.000 ~ 779.000
						779.000 ~ 780.000
						780.000 ~ 781.000
						781.000 ~ 782.000
						782.000 ~ 783.000
						783.000 ~ 784.000
						784.000 ~ 785.000
						785.000 ~ 786.000
						786.000 ~ 787.000
						787.000 ~ 788.000
						788.000 ~ 789.000
						789.000 ~ 790.000
						790.000 ~ 791.000
						791.000 ~ 792.000
						792.000 ~ 793.000
						793.000 ~ 794.000
						794.000 ~ 795.000
						795.000 ~ 796.000
						796.000 ~ 797.000
						797.000 ~ 798.000
						798.000 ~ 799.000
						799.000 ~ 800.000

Environment Improvement in the Lake Billings
 Sécso Longitudinal des Collecteurs Troncos
 Sewer Pipe Profile

24 31
 N 1:500
 2007.2



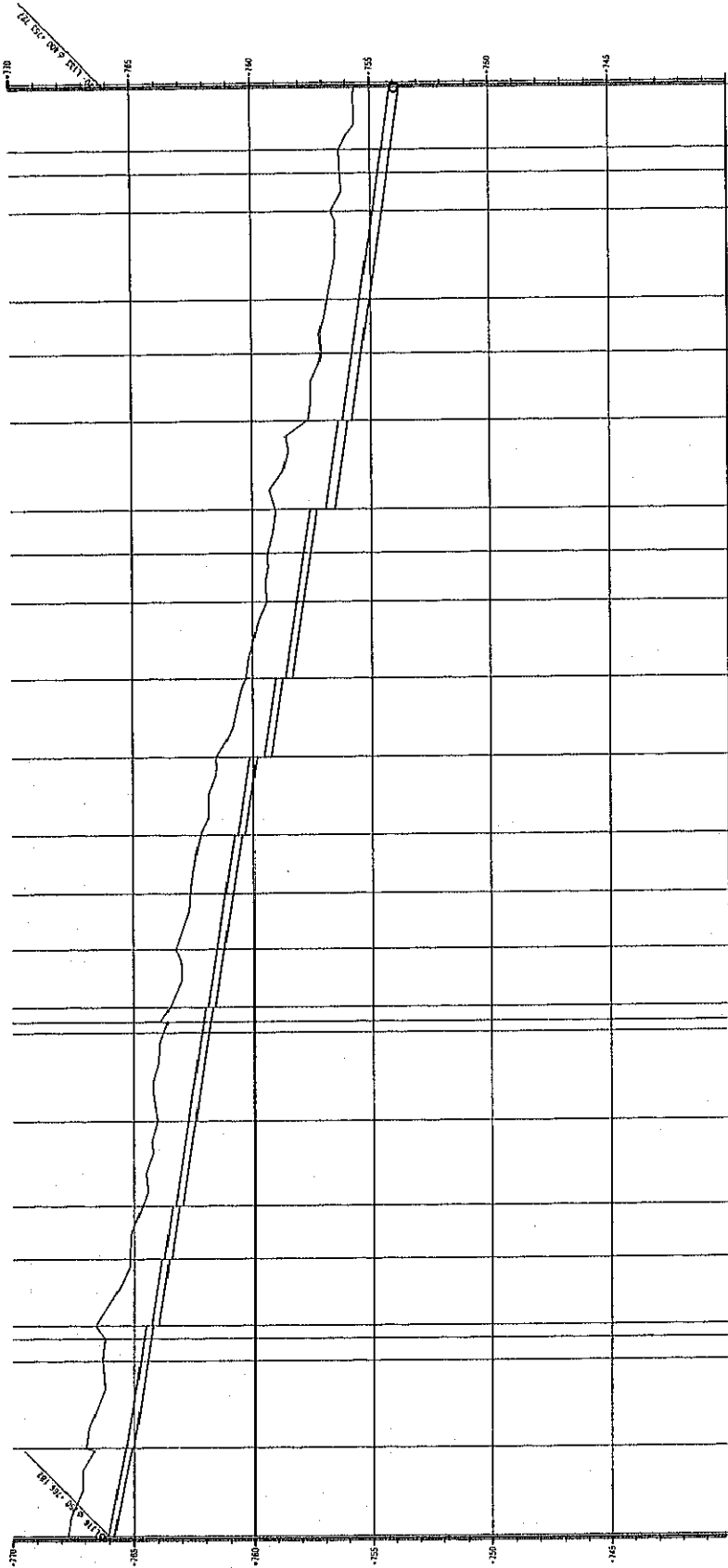
管 段 号 表

L105	L102	L103	L104	L105
L106	L107	L108	L109	L110
L111	L112	L113	L114	L115
L116				

Station	Pipe Dia	Flow	Velocity	Depth	Flow	Velocity	Depth	Flow	Velocity	Depth
0+00	1100	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
10+00	1100	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
20+00	1100	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
30+00	1100	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
40+00	1100	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
50+00	1100	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
60+00	1100	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
70+00	1100	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
80+00	1100	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
90+00	1100	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
100+00	1100	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
110+00	1100	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
120+00	1100	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00
130+00	1100	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.000	0.00

Environnement Improvement in the Lake Billings
Sewer Pipe Profile

Scale: 1" = 100'
Date: 2007.2



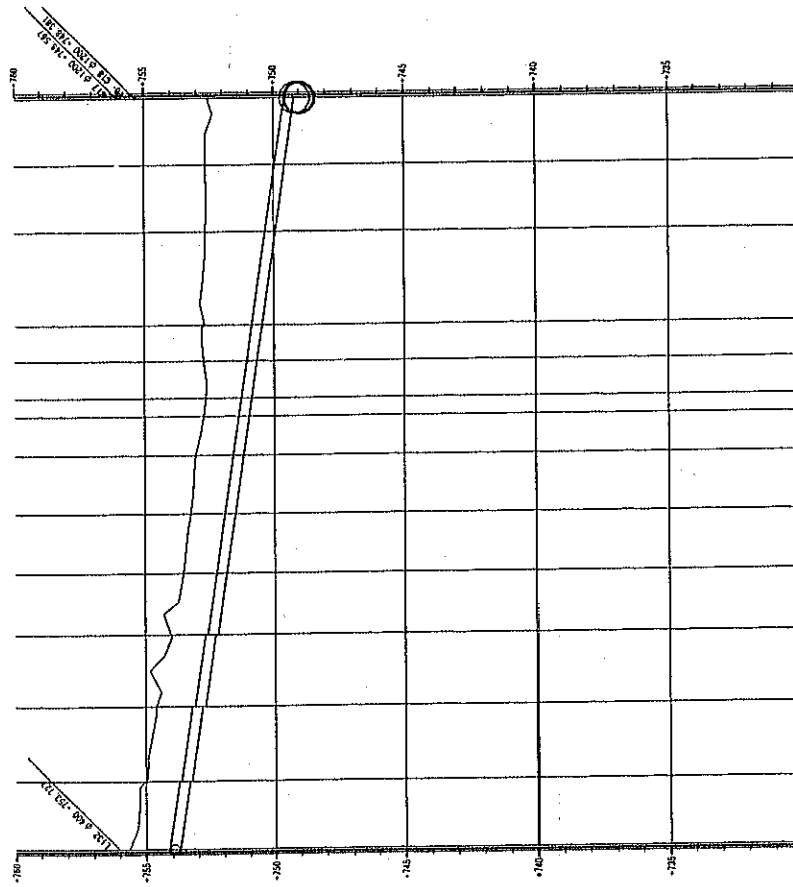
管配号表

L117	L118	L119	L120	L121
L122	L123	L124	L125	L126
L127	L128	L129	L130	L131
L132				

Station	Pipe Size	Invert Level	Ground Elevation	Pipe Elevation	Flow Velocity	Flow Area	Flow Velocity	Flow Area
0+00	145.0	767.15	765.00	765.00	1.58	1.42	1.42	1.42
10+00	145.0	765.07	765.00	765.00	1.58	1.42	1.42	1.42
20+00	145.0	765.07	765.00	765.00	1.58	1.42	1.42	1.42
30+00	145.0	765.07	765.00	765.00	1.58	1.42	1.42	1.42
40+00	145.0	765.07	765.00	765.00	1.58	1.42	1.42	1.42
50+00	145.0	765.07	765.00	765.00	1.58	1.42	1.42	1.42
60+00	145.0	765.07	765.00	765.00	1.58	1.42	1.42	1.42
70+00	145.0	765.07	765.00	765.00	1.58	1.42	1.42	1.42
80+00	145.0	765.07	765.00	765.00	1.58	1.42	1.42	1.42
90+00	145.0	765.07	765.00	765.00	1.58	1.42	1.42	1.42
91+00	145.0	765.07	765.00	765.00	1.58	1.42	1.42	1.42

Environment Improvement in the Lake Billings
 Secco Longitudinal dos Coletores Francos
 Sewer Pipe Profile

Scale: 1:1000
 Date: 2007.7



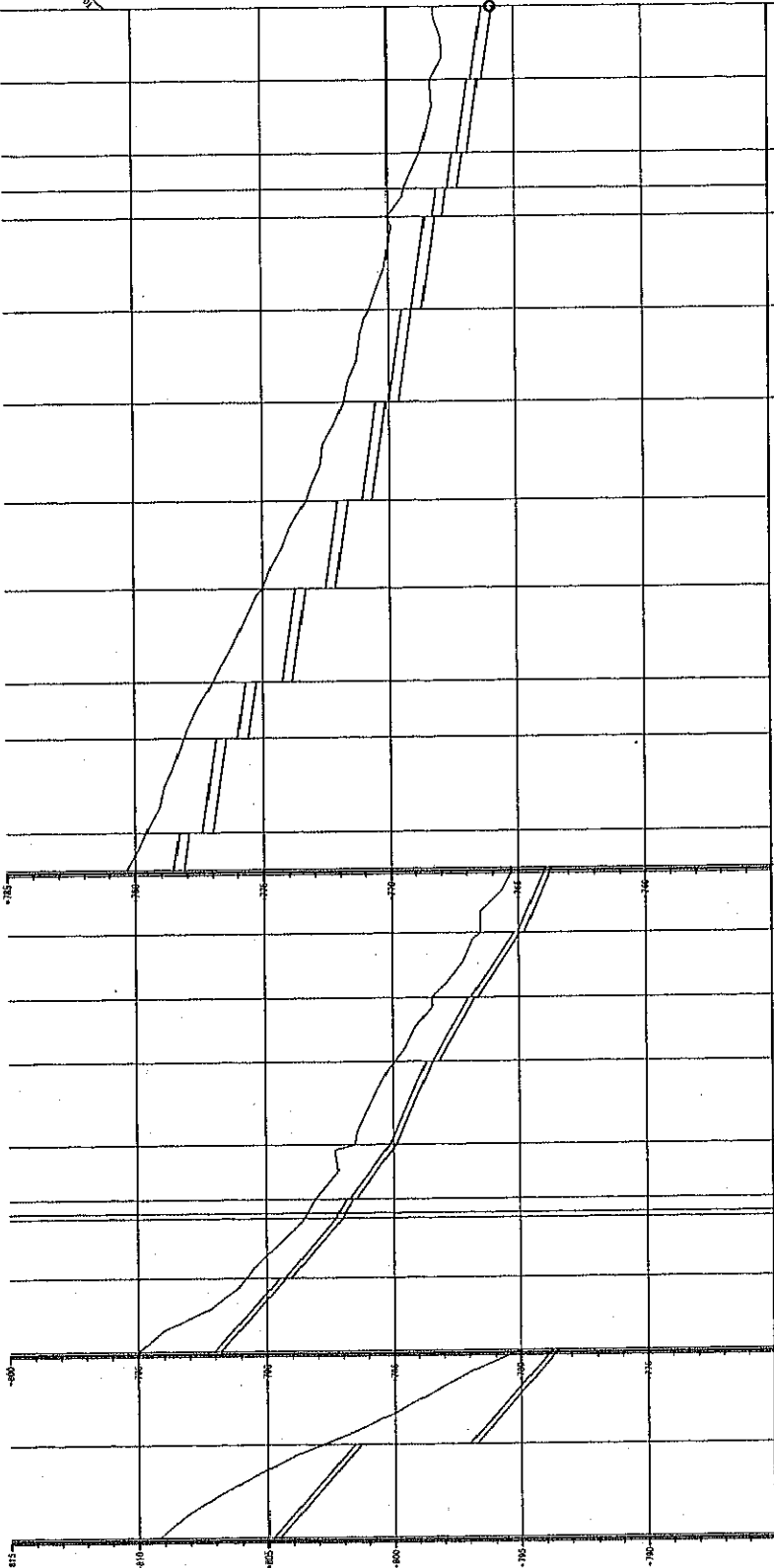
管段号表

L133	L134	L135	L136	L137

Pipe	Station	Invert	Ground	Length	Flow	Velocity
L133	730.0	732.23	732.23	1.25	0.000	1.284
L134	731.25	731.53	731.53	1.28	0.000	1.284
L135	732.53	730.85	730.85	1.32	0.000	1.284
L136	733.85	730.17	730.17	1.32	0.000	1.284
L137	735.17	729.49	729.49	1.32	0.000	1.284
Summary						
Total Length				6.47		
Total Flow					0.000	
Total Velocity						1.284

Environment Improvement in the Lake Billings		27	31
Secao Longitudinal dos Colectores Troncos			
Sewer Pipe Profile			
Scale	1:100		
Date	2001.7		

10-112 6460-26-216

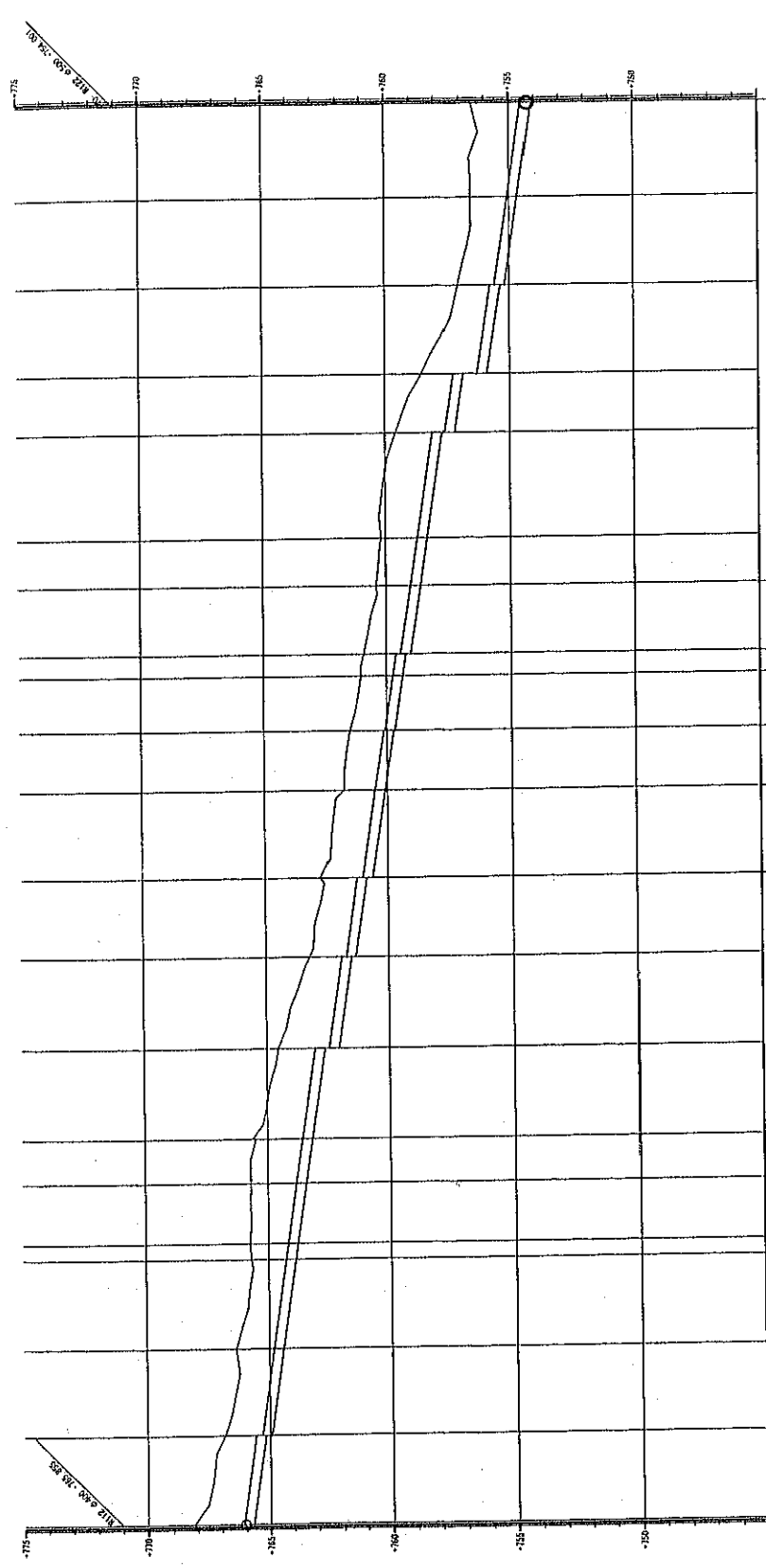


管段号表

R101	R102	R103	R104	R105
R106	R107	R108	R109	R110
R111	R112			

Station	Pipe ID	Start Station	End Station	Start Elev. (ft)	End Elev. (ft)	Slope (%)	Flow (cfs)	Velocity (ft/s)	Cover (ft)	Invert Level (ft)	Flow (cfs)	Velocity (ft/s)	Cover (ft)
0+00	R101	0+00	10+00	400.00	400.00	0.00%	0.00	0.00	1.50	400.00	0.00	0.00	1.50
10+00	R102	10+00	15+00	400.00	400.00	0.00%	0.00	0.00	1.50	400.00	0.00	0.00	1.50
15+00	R103	15+00	20+00	400.00	400.00	0.00%	0.00	0.00	1.50	400.00	0.00	0.00	1.50
20+00	R104	20+00	25+00	400.00	400.00	0.00%	0.00	0.00	1.50	400.00	0.00	0.00	1.50
25+00	R105	25+00	30+00	400.00	400.00	0.00%	0.00	0.00	1.50	400.00	0.00	0.00	1.50
30+00	R106	30+00	35+00	400.00	400.00	0.00%	0.00	0.00	1.50	400.00	0.00	0.00	1.50
35+00	R107	35+00	40+00	400.00	400.00	0.00%	0.00	0.00	1.50	400.00	0.00	0.00	1.50
40+00	R108	40+00	45+00	400.00	400.00	0.00%	0.00	0.00	1.50	400.00	0.00	0.00	1.50
45+00	R109	45+00	50+00	400.00	400.00	0.00%	0.00	0.00	1.50	400.00	0.00	0.00	1.50
50+00	R110	50+00	55+00	400.00	400.00	0.00%	0.00	0.00	1.50	400.00	0.00	0.00	1.50
55+00	R111	55+00	60+00	400.00	400.00	0.00%	0.00	0.00	1.50	400.00	0.00	0.00	1.50
60+00	R112	60+00	65+00	400.00	400.00	0.00%	0.00	0.00	1.50	400.00	0.00	0.00	1.50

20	31
Environnement Improvement in the Lake Billings	
Sewer Pipe Profile	
10-112	6460-26-216
2007.2	

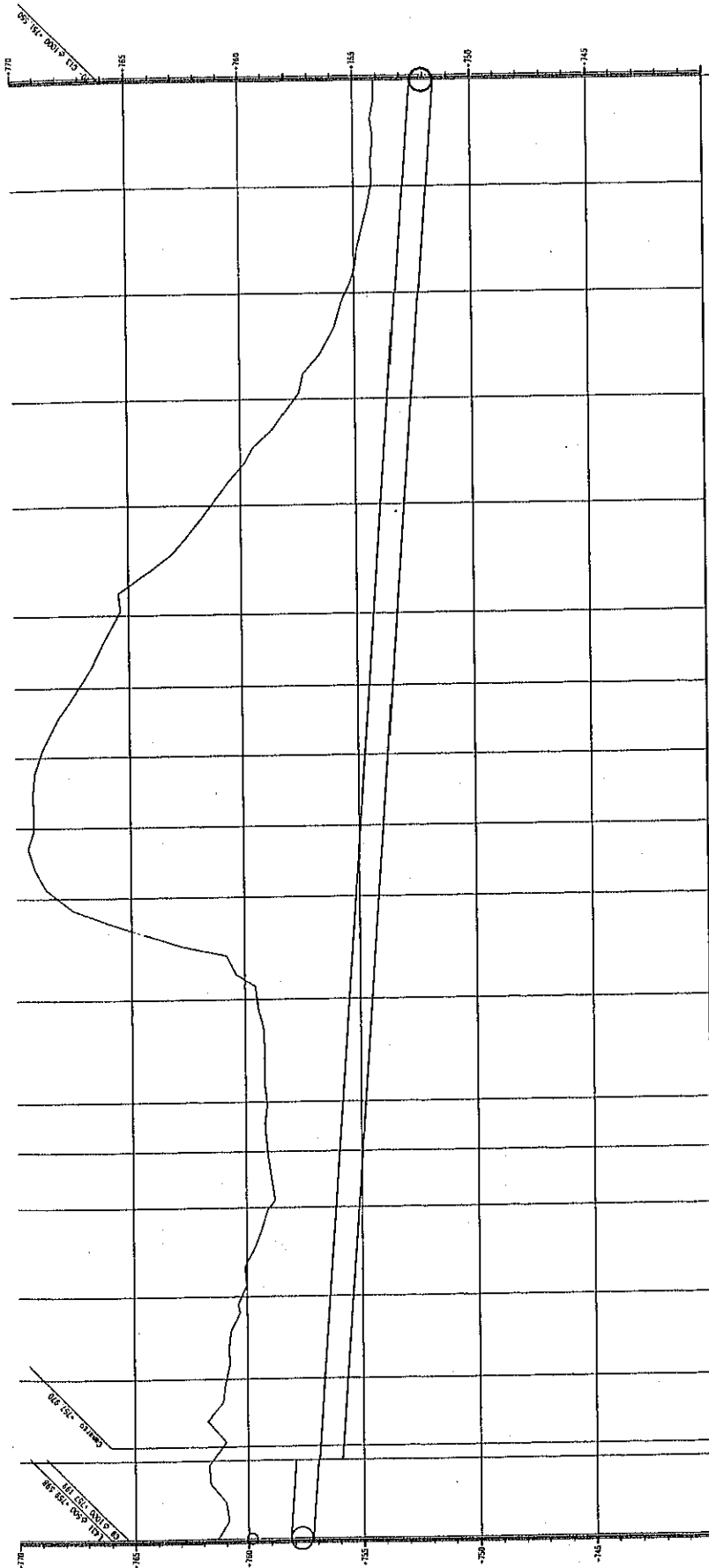


管 架 号 表

RT13	RT14	RT15	RT16	RT17
RT18	RT19	RT20	RT21	

Station	Pipe Dia	Gradient	Flow D	Flow W	Invert Elev	Ground Elev	Length
0+00	48"	0.00%	0.00	0.00	752.16	752.16	0.00
0+10	48"	0.00%	0.00	0.00	752.16	752.16	10.00
0+20	48"	0.00%	0.00	0.00	752.16	752.16	20.00
0+30	48"	0.00%	0.00	0.00	752.16	752.16	30.00
0+40	48"	0.00%	0.00	0.00	752.16	752.16	40.00
0+50	48"	0.00%	0.00	0.00	752.16	752.16	50.00
0+60	48"	0.00%	0.00	0.00	752.16	752.16	60.00
0+70	48"	0.00%	0.00	0.00	752.16	752.16	70.00
0+80	48"	0.00%	0.00	0.00	752.16	752.16	80.00
0+90	48"	0.00%	0.00	0.00	752.16	752.16	90.00
1+00	48"	0.00%	0.00	0.00	752.16	752.16	100.00
1+10	48"	0.00%	0.00	0.00	752.16	752.16	110.00
1+20	48"	0.00%	0.00	0.00	752.16	752.16	120.00
1+30	48"	0.00%	0.00	0.00	752.16	752.16	130.00
1+40	48"	0.00%	0.00	0.00	752.16	752.16	140.00
1+50	48"	0.00%	0.00	0.00	752.16	752.16	150.00
1+60	48"	0.00%	0.00	0.00	752.16	752.16	160.00
1+70	48"	0.00%	0.00	0.00	752.16	752.16	170.00
1+80	48"	0.00%	0.00	0.00	752.16	752.16	180.00
1+90	48"	0.00%	0.00	0.00	752.16	752.16	190.00
2+00	48"	0.00%	0.00	0.00	752.16	752.16	200.00

Environment Improvement in the Lake Billings
 Sacoa Lanchudina dos Calcores Troncos
 Sewer Pipe Profile
 29 31
 11.1.2008
 2007.2



管線断面

Station	Ground Surface (m)	Pipe Invert (m)	Pipe Crown (m)
0+00	154.0	152.5	154.5
10+00	152.0	150.5	153.0
20+00	150.0	148.5	151.0
30+00	148.0	146.5	149.0
40+00	146.0	144.5	147.0
50+00	144.0	142.5	145.0
60+00	142.0	140.5	143.0
70+00	140.0	138.5	141.0
80+00	138.0	136.5	139.0
85+00	136.0	134.5	137.0

Station	Ground Surface (m)	Pipe Invert (m)	Pipe Crown (m)
0+00	154.0	152.5	154.5
5+00	153.0	151.5	153.5
10+00	152.0	150.5	152.5
15+00	151.0	149.5	151.5
20+00	150.0	148.5	150.5
25+00	149.0	147.5	149.5
30+00	148.0	146.5	148.5
35+00	147.0	145.5	147.5
40+00	146.0	144.5	146.5
45+00	145.0	143.5	145.5
50+00	144.0	142.5	144.5
55+00	143.0	141.5	143.5
60+00	142.0	140.5	142.5
65+00	141.0	139.5	141.5
70+00	140.0	138.5	140.5
75+00	139.0	137.5	139.5
80+00	138.0	136.5	138.5
85+00	136.0	134.5	137.0

Elevation Improvement in the Lake Billinas
 Seção Longitudinal das Colétores Troncos
 Sewer Pipe Profile
 31
 1:1,500
 2007.2

Flow Calculation (Alvarenga/Couros)

Pipe	Drainage Area		Length		Rainfall per ha	Stormwater Runoff			Sanitary Wastewater			The Others		Design Sewer Pipe						Remark			
	Each	Total	Each	Longest		min	Rimfall	Conversion Area		Stormwater	Population		Wastewater Each	Total	TOTAL	Dia.	Gradient	Velocity	Flow		G.L.	Invert	Covering
								Each	Total		Each	Total											
E3-1				480.0									0.1674	0.1674	φ	500	270	0.999	0.1962	78510	783329	126	
E3-2			601	1081									0.1674	0.1674	φ	400	1180	1800	0.2262	78510	780739	393	
E3-3			87	1168									0.1674	0.1674	φ	400	1180	1800	0.2262	75435	751322	259	
E2-1			614.0	1782								0.0960	0.2634	φ	600	190	0.947	0.2676	75198	750108	126		
E2-2			211	1993									0.2634	0.2634	φ	500	880	1804	0.3542	77193	769662	173	
E2-3			429	2422									0.2634	0.2634	φ	500	880	1804	0.3542	77193	769662	173	
E2-4			40	2462									0.2634	0.2634	φ	500	880	1804	0.3542	75208	750288	125	
E2-5			24	2486									0.2634	0.2634	φ	500	880	1804	0.3542	75208	750288	125	
E2-6			73	2559									0.2634	0.2634	φ	500	880	1804	0.3542	75184	749692	161	
E2-7			79	2638									0.2634	0.2634	φ	500	880	1804	0.3542	75184	749692	161	
E2-8			35	2673									0.2634	0.2634	φ	500	880	1804	0.3542	75234	749481	232	
E2-9													0.2634	0.2634	φ	500	880	1804	0.3542	75234	749481	232	
Alva			50	50									0.2634	0.2634	φ	600	510	1551	0.4385	75557	748839	619	
E2-9			5	2678									0.2634	0.2634	φ	1000	140	1142	0.8971	75189	746013	534	
E1-1			1484.0	4162								0.5138	0.7772	φ	1000	110	1012	0.7952	75185	745705	560		
E1-2			284.0	4446								0.7772	0.7772	φ	1000	110	1012	0.7952	75185	745705	560		

Flow Calculation (Alvarenga/Couros)

Pipe	Drainage Area		Length		Rainfall per ha m3/sec/ha	Stormwater Runoff			Sanitary Wastewater			The Others		Design Sewer Pipe					Remark	
	Each	Total	Each	Longest		Stormwater	Conversion Area		Wastewater	Population		TOTAL	Dia.	Gra- dient	Velocity	Flow	G.L.	Invert		Cove- ring
							Each	Total		Each	Total									
L701	1266	1266	207	4653																
L702	721	1987	302	4955																
(L703)	357	2344	394	5349																
(L704)	320	2664	360	5709																
C1	1711	1711	97	97																
(C2)	4375	4375	15	5724																
R701	783	783	372	372																
R702	908	1691	324	696																
(R703)	856	2547	361	1057																
(C3)	592	7514	335	6059																
(C4)	7514	7514	89	6149																
(L601)	2294	2294	463	463																
(L602)	629	2923	311	774																

Flow Calculation (Alvarenga/Couros)

Pipe	Lower Pipe	Drainage Area		Length	Rainfall		Stormwater Runoff		Sanitary Wastewater		The Others		Design Sewer Pipe					Remark								
		Each	Total		Each	Longest	Each	Total	Stormwater	Conversion Area	Each	Total	Wastewater	Population	Each	Total	TOTAL		Dia.	Gradient	Velocity	Flow	G.L.	Invert	Covering	
		ha	ha	m	m	m ³ /sec/ha	ha	ha	m ³ /sec	man/ha	person	m ³ /sec	m ³ /sec	m ³ /sec	%	m/sec	m ³ /sec	mm	%	m/sec	m ³ /sec	M	M	M	m	
L603		671	3594	198	972						00063	00003	00066	φ 250	660	1279	00628	77700	775056	169	777990	777990	125			
L604		756	4350	504	1476					00077	00003	00080	φ 250	150	0610	00299	77700	774985	176	77335	769456	364				
C5	C6		11864	19	6167					00191	07983	08174	φ 900	328	1630	10368	77328	768335	396	77335	768397	396				
R601		1496	1496	468	468					00026	00032	00058	φ 250	410	1008	00495	79410	791592	225	78400	782492	125				
R602		886	2382	430	898					00042	00032	00074	φ 250	790	1400	00687	78400	782487	126	77700	775303	144				
R603		133	2515	101	999					00044	00032	00076	φ 250	150	0610	00299	77700	774492	125	77600	774492	125				
R604		556	3071	240	1239					00054	00032	00086	φ 250	150	0610	00299	77350	771716	153	77600	774492	125				
R605		406	3477	260	1499					00061	00032	00093	φ 250	150	0610	00299	77350	771708	183	77350	771708	183				
C6	C7	602	15943	1127	7294					00263	08041	08304	φ 900	328	1630	10368	76491	762272	165	77328	769422	360				
LL 501		2838	2838	169	169					00195	00074	00269	φ 250	2520	2500	01227	79236	790846	126	78809	786582	125				
LL 502		114	2952	53	222					00203	00074	00277	φ 250	3620	2996	01471	78809	784582	125	78609	784579	125				
LL 503		110	3062	55	277					00210	00074	00284	φ 250	1740	2077	01020	78609	784579	125	78513	783622	125				
LL 504		344	3406	131	408					00234	00074	00308	φ 300	630	1412	00998	78513	783079	174	78332	781761	125				
LL 505		018	3424	92	500					00235	00074	00309	φ 300	650	1412	00998	78332	781761	125	78332	781761	125				

Flow Calculation (Alvarenga/Couros)

Pipe	Drainage Area		Length		Stormwater Runoff			Sanitary Wastewater			The Others		Design Sewer Pipe					Remark
	Each	Total	Each	Longest	Rainfall per ha	Conversion Area	Stormwater	Population	Wastewater	Total	TOTAL	Dia.	Gradient	Velocity	Flow	G.L.	Invert	
	ha	ha	m	m	m ³ /sec/ha	Each	Total	man/ha	person	m ³ /sec	m ³ /sec	mm	%	m/sec	m ³ /sec	M	M	m
LL 506	2271	5695	112	612					00391	00078	00152	400	600	1284	01613	77741	77305	367
LL 507	489	6184	223	835					00424		00152	400	600	1284	01613	77404	771967	164
LL 508	322	6506	219	1054					00446		00152	400	600	1284	01613	77273	767693	460
LL 509	2897	9403	28	1082					00675	00011	00163	400	600	1284	01613	77145	767525	349
LL 510	019	9422	24	1106					00676		00163	400	600	1284	01613	77113	767361	331
L501	1332	1332	80	80					00098		00098	250	1800	2113	01037	77529	773474	156
L502	1332	1332	40	120					00098		00098	250	150	0610	00299	77181	766645	491
L503	337	11091	40	1146					00801	00009	00172	400	600	1284	01613	77137	765827	511
L504	1616	12707	450	1596					00928		00172	400	600	1284	01613	76665	763127	309
L505	733	13440	130	1726					00986		00172	400	600	1284	01613	76577	762347	299
L506	302	13742	324	2050					01010		00172	400	600	1284	01613	76491	760403	407
C7		29685	23	7317					01272		08213	1000	290	1644	12911	76385	758743	401
R501	311	311	305	305					00023		00023	250	3070	2759	01355	80073	799217	126
R502	665	976	280	585					00072		00072	250	3090	2768	01359	79125	789742	125

Flow Calculation (Alvarenga/Couros)

Pipe	Drainage Area		Length		Stormwater Runoff			Sanitary Wastewater			The Others		Design Sewer Pipe						Remark	
	Each	Total	Each	Longest	Rainfall per ha	Conversion Area	Stormwater	Population	Wastewater	Each	Total	TOTAL	Dia.	Gradient	Velocity	Flow	G.L.	Invert		Covering
	ha	ha	m	m	m3/sec/ha	Each	Total	ha	man/ha	person	m3/sec	m3/sec	mm	%	m/sec	m3/sec	M	M	m	
R503	675	1651	270	855							00122		250	380	0971	00477	78253	781018	125	
R504	034	1685	30	885							00124		250	3620	2996	01471	77672	775078	138	
R505	033	1718	30	915							00127		250	3620	2996	01471	77550	773992	125	
R506	052	1770	30	945							00131		250	3270	2848	01398	77408	772514	131	
R507	028	1798	40	985							00133		250	3300	2861	01404	77297	771462	125	
R508	091	1889	50	1035							00140		250	1200	1725	00847	77084	769332	125	
R509	072	1961	50	1085							00146		250	520	1136	00557	77084	769208	137	
R510	646	2607	70	1155							00197		250	150	0610	00299	77170	768843	260	
R511		2607	40	1195							00197		250	150	0610	00299	77170	768843	260	
R512	056	2663	40	1235							00201		250	150	0610	00299	77130	768783	226	
R513	035	2698	40	1275							00204		250	150	0610	00299	77103	768723	205	
R514	1241	3939	370	1645							00302		300	630	1412	00998	77123	767952	297	
R515	467	4406	332	1977							00339	00004	300	630	1412	00998	76577	764201	126	
C8		34091	128	7445							01611	08217	1000	290	1644	12911	76385	760849	269	
C9		34091	404	7849							01611	08217	1000	290	1644	12911	76385	758743	401	
												08217	1000	290	1644	12911	76452	758371	505	
												08217	1000	290	1644	12911	76452	758371	505	

Flow Calculation (Alvarenga/Couros)

Pipe	Drainage Area		Length		Stormwater Runoff			Sanitary Wastewater			TOTAL	Design Sewer Pipe				Remark				
	Each	Total	Each	Longest	Rainfall per ha	Conversion Area		Stormwater	Population Each	Wastewater Each		The Others Total	Dia.	Gradient	Velocity		Flow	G.L.	Invert	Covering
						Each	Total													
L400																				
L401	179	179	50	141						00009		00009	300	1270	2004	01417	79246	790901	125	
L402	639	818	178	319						00042		00042	300	1270	2004	01417	79246	790901	125	
L403	133	951	37	356						00049		00049	300	1270	2004	01417	79246	790901	125	
L404	352	1303	98	454						00067		00067	300	1030	1805	01276	79181	790155	135	
L405	111	1414	31	485						00073		00073	300	1270	2004	01417	78661	785051	125	
L406	531	1945	148	633						00100		00100	300	1270	2004	01417	78661	783781	252	
L407	119	2064	33	666						00106		00106	300	530	1296	00915	78487	783311	125	
L408	262	2326	73	739						00120		00120	300	300	0974	00689	78487	783115	145	
L409	133	2459	37	776						00126		00126	300	1270	2004	01417	78358	781909	136	
L410	664	3123	185	961						00161		00161	300	800	1591	01124	78258	781021	125	
L411	255	3378	71	1032						00174		00174	300	400	1125	00795	78258	780784	149	
L412	035	3413	10	1042						00175		00175	300	150	0689	00487	77928	777599	137	
L413	262	3675	73	1115						00189		00189	300	150	0689	00487	77928	777424	126	
L414	190	3865	53	1168						00201		00201	300	1270	2004	01417	77899	777424	126	
L415	040	3905	11	1179						00201		00201	300	1270	2004	01417	77899	777424	126	

Flow Calculation (Alvarenga/Couros)

Pipe	Lower Pipe		Drainage Area		Length		Rainfall		Stormwater Runoff			Sanitary Wastewater		The Others		Design Sewer Pipe						Remark				
	Each	Total	Each	Longest	Each	Longest	per ha	min	Each	Total	Conversion Area	Stormwater	Each	Total	Wastewater	Total	TOTAL	Dia.	Gradient	Velocity	Flow		G.L.	Invert	Covering	
	ha	ha	m	m	ha	ha	m ³ /sec/ha	m	ha	ha	m ³ /sec	man/ha	person	m ³ /sec	m ³ /sec	m ³ /sec	m ³ /sec	mm	%	m/sec	m ³ /sec	M	M	m	m	
(L416)	176	4081	49	1228										00210		00210	00210	φ 300	770	1561	01103	77396	771960	131	131	
(L417)	047	4128	13	1241										00212		00212	00212	φ 300	150	0689	00487	77358	771960	131	128	
(L418)	205	4333	57	1298										00223		00223	00223	φ 300	150	0689	00487	77353	771941	128	128	
(L419)	205	4538	57	1355										00233		00233	00233	φ 300	150	0689	00487	77412	771856	196	196	
(L420)	158	4696	44	1399										00241		00241	00241	φ 300	360	1649	01166	77391	771771	183	183	
(L421)	014	4710	4	1403										00242		00242	00242	φ 300	1270	2004	01417	77284	771281	125	125	
(L422)	639	5349	178	1581										00275		00275	00275	φ 300	330	1022	00722	77284	770667	186	186	
(L423)	474	5823	132	1713										00299		00299	00299	φ 300	630	1412	00998	77124	769681	125	125	
(L424)	815	6638	227	1940										00341		00341	00341	φ 300	630	1412	00998	77059	768849	143	143	
(L425)	226	6864	63	2003										00353		00353	00353	φ 300	630	1412	00998	76870	767141	125	125	
(L426)	035	6899	10	2013										00355		00355	00355	φ 300	630	1412	00998	76870	766788	160	160	
(L427)	212	7111	59	2072										00366		00366	00366	φ 300	630	1412	00998	76795	766391	125	125	
(L428)	764	7875	213	2285										00405		00405	00405	φ 300	630	1412	00998	76776	766201	125	125	
(L429)	778	8653	157	2442										00445		00445	00445	φ 300	630	1412	00998	76776	765816	164	164	
(L430)	1041	9694	51	2493										00498		00498	00498	φ 300	630	1412	00998	76703	765444	128	128	

Flow Calculation (Alvarenga/Couros)

Pipe	Drainage Area		Length		Rainfall per ha	Stormwater Runoff			Sanitary Wastewater			The Others		Design Sewer Pipe					Remark	
	Each	Total	Each	Longest		Each	Total	Conversion Area	Stormwater	Each	Total	Wastewater	Total	TOTAL	Dia.	Gradient	Velocity	Flow		G.L.
	ha	ha	m	m	m ³ /sec/ha	ha	ha	m ³ /sec	man/ha	person	m ³ /sec	m ³ /sec	m ³ /sec	mm	%	m/sec	m ³ /sec	M	M	m
R401	208	208	41	41							00011		00011	φ 250	1340	1823	00895	79196	79196	125
R402	173	381	34	75							00020		00020	φ 250	1230	1747	00857	79154	790450	125
R403	952	1333	187	262							00069		00069	φ 250	2910	2687	01319	78524	783782	125
(R404)	733	2066	144	406							00106		00106	φ 250	1560	1967	00966	78524	783227	176
(R405)	371	2437	73	479							00125		00125	φ 250	2010	2233	01096	78242	780793	137
(R406)	331	2768	65	544							00142		00142	φ 250	2190	2331	01144	78095	779266	143
(R407)	387	3155	76	620							00162		00162	φ 250	260	0803	00394	77941	777843	131
(R408)	168	3323	33	653							00171		00171	φ 250	510	1125	00552	77941	777822	133
(R409)	601	3924	118	771							00202		00202	φ 250	1120	1667	00818	77871	777202	125
(R410)	081	4005	16	787							00206		00206	φ 250	600	1220	00599	77871	775888	127
(R411)	942	4947	185	972							00254		00254	φ 250	150	0610	00299	77712	775483	126
(R412)	300	5247	59	1031							00270		00270	φ 250	150	0610	00299	77769	774216	322
(R413)	290	5537	57	1088							00285		00285	φ 250	150	0610	00299	77769	774216	322
(R414)	2491	8028	489	1577							00413		00413	φ 300	630	1412	00998	77754	774128	315
(R415)	866	8394	72	1649							00431		00431	φ 300	630	1412	00998	77754	774128	315
(R416)	942	9336	185	1834							00480		00480	φ 300	630	1412	00998	77664	774043	234
											00016		00016	φ 300	630	1412	00998	77664	773993	234
											00016		00016	φ 300	630	1412	00998	77097	769171	149
											00431		00431	φ 300	630	1412	00998	77097	769171	149
											00496		00496	φ 300	630	1412	00998	77060	768717	157
											00496		00496	φ 300	630	1412	00998	77060	768717	157
											00016		00016	φ 300	630	1412	00998	77154	767551	366

Flow Calculation (Alvarenga/Couros)

Pipe	Drainage Area		Length		Stormwater Runoff			Sanitary Wastewater			The Others		Design Sewer Pipe					Remark				
	Lower Pipe	Each	Total	Each	Longest	Rainfall per ha	Conversion Area		Stormwater	Population Each	Total	Wastewater Each	Total	TOTAL	Dia.	Gra-dient	Velocity		Flow	G.L.	Invert	Cove-ning
							Each	Total														
(R417)		208	9544	41	1875							00491	00016	00507	400	600	1284	01613	77154	767451	365	
(R418)		667	10211	131	2006						00525	00016	00541	400	600	1284	01613	77151	767205	387		
(R419)		091	10302	18	2024						00530	00016	00546	400	600	1284	01613	77007	766311	332		
(R420)		1970	12272	387	2411						00631	00016	00647	400	600	1284	01613	77007	766311	332		
(R421)		062	12334	12	2423						00634	00016	00650	400	600	1284	01613	76470	763015	125		
(L431)		438	22466	276	2769						01155	00028	01183	500	540	1413	02775	76139	759598	125		
(C10)			56557	416	8265						02766	08245	11011	1000	290	1644	12911	75907	754954	302		
(C11)			56557	273	8538						02766	08345	11111	1000	290	1644	12911	75907	754954	302		
(C12)			56557	879	9417						02766	08345	11111	1000	290	1644	12911	76820	754162	1294		
(C13)	(C14)		56557	103	9520						02766	08345	11419	1000	290	1644	12911	76820	754162	1294		
L201		1512	1512	46	46						00092	00092	00092	250	1560	1967	00966	77533	773783	129		
(L202)		659	2171	306	352						00132	00132	00132	250	230	0755	00371	77461	773065	129		
(L203)		846	3017	444	796						00184	00007	00191	250	1300	1796	00881	77461	772968	139		
(L204)	(L205)	185	3202	191	987						00195	00007	00202	250	180	0668	00328	76966	768152	125		
																		76966	767853	155		
																		76050	768802	144		
																		76050	758773	147		
																		75692	755412	125		

Flow Calculation (Alvarenga/Couros)

Pipe	Lower Pipe		Drainage Area		Length		Stormwater Runoff			Sanitary Wastewater			The Others		Design Sewer Pipe					Remark		
	Each	Total	Each	Total	Each	Longest	Rainfall per ha	Conversion Area	Stormwater	Population	Wastewater	Each	Total	TOTAL	Dia.	Gradient	Velocity	Flow	G.L.		Invert	Covering
	ha	ha	m	m	ha	ha	m ³ /sec/ha	Each	Total	m ³ /sec	man/ha	person	m ³ /sec	m ³ /sec	mm	%	m/sec	m ³ /sec	M	M	M	m
R201	914	914	340	340								00056		00056	250	1360	1837	00902	77541	773458	773458	169
R202	479	1393	300	640								00085		00085	250	1340	1823	00895	76845	766710	766942	125
R203	385	1778	281	921								00108		00108	250	1880	2159	01060	76845	766710	76270	148
R204		1778	40	961								00108		00108	250	150	0610	00299	76270	761087	761172	127
(L205)	223	5203	305	1292								00317		00317	300	630	1412	00998	75692	755048	755048	161
(C14)	201	61961	87	9607								03095		03095	1200	270	1791	20258	75692	754652	754652	196
(C15)		61961	101	9708								03095		03095	1200	270	1791	20258	75540	752446	752446	265
(C16)		61961	87	9795								03095		03095	1200	270	1791	20258	75540	749748	749748	434
(C17)		61961	162	9957								03095		03095	1200	270	1791	20258	75356	749513	749513	273
															1200	270	1791	20258	75347	749240	749240	292
															1200	270	1791	20258	75308	749005	749005	276
															1200	270	1791	20258	75308	749005	749005	276
L101	633	633	187	187								00025		00025	250	3620	2996	01471	80988	806286	806286	334
L102	239	872	71	255								00034		00034	250	3620	2996	01471	79608	794572	794572	125
L103	172	1044	51	309								00041		00041	250	3620	2996	01471	79608	792132	792132	369
L104	046	1090	11	320								00043		00043	250	2630	2554	01254	79107	789562	789562	125
L105	131	1221	40	360								00048		00048	250	1940	2194	01077	79107	788848	788848	196
L106	319	1540	90	450								00061		00061	250	2590	2535	01244	78851	787002	787002	125
															250	2630	2554	01254	78851	787001	787001	125
															250	2630	2554	01254	78822	786712	786712	125
															250	1940	2194	01077	78822	786574	786574	139
															250	1940	2194	01077	78744	785798	785798	138
															250	2590	2535	01244	78744	785706	785706	148
															250	2590	2535	01244	78497	783375	783375	134

Flow Calculation (Alvarenga/Couros)

Pipe	Drainage Area		Length		Rainfall per ha	Stormwater Runoff		Sanitary Wastewater		The Others		Design Sewer Pipe						Remark		
	Each	Total	Each	Longest		Each	Total	Stormwater	Each	Total	Each	Total	TOTAL	Dia.	Gradient	Velocity	Flow		G.L.	Invert
	ha	ha	ha	m	m3/sec/ha	ha	ha	m3/sec	man/ha	person	m3/sec	m3/sec	mm	%	m/sec	m3/sec	M	M	m	
L107	190	1730	61	511								00068	250	2280	2378	01167	78349	78349	78349	131
L108	040	1770	10	521								00070	250	1710	2059	01011	78326	78326	781752	125
L109	228	1998	64	585								00079	250	1720	2065	01014	78163	780122	780122	125
L110	164	2162	54	639								00085	250	1380	1850	00908	78088	779198	779943	143
L111	521	2883	154	793								00105	250	2460	2470	01213	77671	775202	775202	125
L112	787	3470	178	971								00137	250	2040	2249	01104	77303	771461	771461	131
L113	1042	4512	225	1196								00178	250	890	1486	00729	77032	768798	768798	126
L114	294	4806	67	1263								00190	250	1320	1809	00888	76942	767842	767842	132
L115	189	4995	43	1306								00197	250	1160	1696	00833	76885	767342	767342	125
L116	683	5678	155	1461								00225	250	600	1220	00599	76775	766182	766182	131
L117	720	6398	91	1552								00253	250	800	1409	00691	76696	765078	765078	169
L118	704	7102	112	1664								00281	300	630	1412	00998	76619	764303	764303	158
L119		7102	13	1677								00291	300	630	1412	00998	76659	764221	764221	206
L120	1835	8937	208	1885								00353	300	630	1412	00998	76659	763979	763979	230
L121	412	9349	101	1986								00369	300	630	1412	00998	76402	762427	762427	128
L122		9349	15	2001								00369	300	630	1412	00998	76391	761791	761791	181
												00369	300	630	1412	00998	76351	761697	761697	150

Flow Calculation (Alvarenga/Couros)

Pipe	Lower Pipe		Drainage Area		Length		Stormwater Runoff			Sanitary Wastewater			The Others		Design Sewer Pipe						Remark
	Each	Total	ha	m	m	min	Rainfall per ha	Conversion Area		Stormwater	Wastewater	Population	TOTAL	Dia.	Gra-dient	Velocity	Flow	G.L.	Invert	Cove-ning	
								Each	Total												
(L123)	390	9739	59	2060							00385	00017	00402	φ 300	630	1412	00998	76351	761597	160	
(L124)	907	10646	197	2257							00421	00031	00452	φ 300	630	1412	00998	76325	761225	172	
(L125)	758	11404	160	2417							00451	00031	00482	φ 300	630	1412	00998	76152	759854	136	
(L126)	428	11832	95	2512							00468	00031	00499	φ 300	630	1412	00998	75942	759251	196	
(L127)	418	12250	91	2603							00485	00031	00516	φ 400	600	1284	01613	75904	757861	125	
(L128)	313	12563	69	2672							00497	00031	00528	φ 400	600	1284	01613	75765	757263	147	
(L129)	253	12816	55	2727							00507	00031	00538	φ 400	600	1284	01613	75706	75611	209	
(L130)	407	13223	90	2817							00524	00031	00555	φ 400	600	1284	01613	75682	755965	125	
(L131)	291	13514	63	2880							00535	00031	00566	φ 400	600	1284	01613	75665	755045	134	
(L132)	291	13805	63	2943							00547	00031	00578	φ 400	600	1284	01613	75629	754505	171	
(L133)	627	14432	136	3079							00572	00031	00603	φ 400	600	1284	01613	75563	754505	171	
(L134)	448	14880	274	3353							00589	00031	00620	φ 400	600	1284	01613	75459	754105	175	
(L135)	027	14907	17	3370							00590	00031	00621	φ 400	600	1284	01613	75275	753727	147	
(L136)	108	15015	69	3439							00594	00040	00634	φ 400	600	1284	01613	75266	752837	132	
(L137)	305	15320	215	3654							00605	00040	00645	φ 400	600	1284	01613	75270	752721	143	
(C18)		77281	14	9971							00701	00040	00685	φ 1200	270	1791	20258	75275	750987	133	
												00785	12486	φ 1200	270	1791	20258	75260	750885	134	
																		75270	750471	179	
																		75270	750471	179	
																		75257	749181	295	
																		75257	748381	287	
																		75260	748343	294	

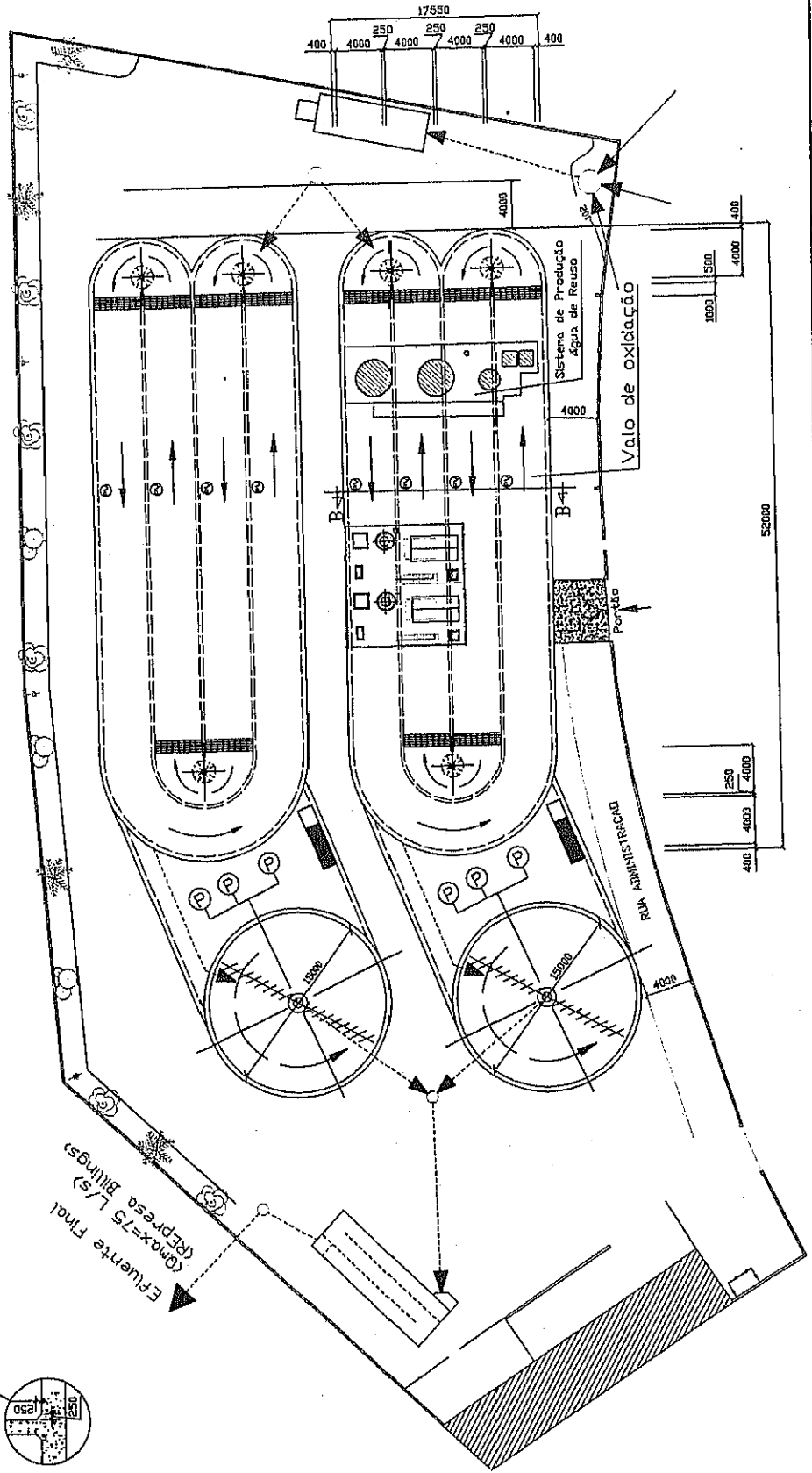
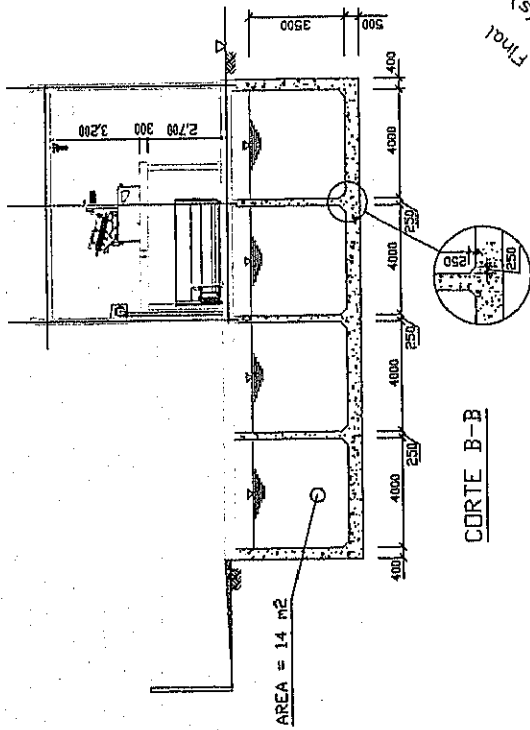
Flow Calculation (Alvarenga/Couros)

Pipe	Drainage Area		Length		Stormwater Runoff			Sanitary Wastewater			The Others		Design Sewer Pipe					Remark	
	Each	Total	Each	Longest	Rainfall per ha	Conversion Area	Stormwater	Population	Wastewater	Total	TOTAL	Dia.	Gradi-ent	Velocity	Flow	G.L.	Invert		Cove-ning
	ha	ha	m	m	m ³ /sec/ha	Each	Total	ha	man/ha	person	m ³ /sec	m ³ /sec	%	m/sec	m ³ /sec	M	M	m	
(C19)		77281	33.0	10004															
(C20)																			
R101	472	472	180	180							08785	12486	100	1285	22354	75260	743450	751	
R102	300	772	127	307							03701	08785	100	1285	22354	75240	743249	751	
R103	046	818	18	325							00030	00030	3620	2996	01471	79501	791794	296	
R104	140	958	52	377							00032	00032	1730	2071	01017	78854	786998	128	
R105	368	1326	140	517							00037	00037	3050	2750	01350	78809	786475	136	
R106	163	1489	62	579							00052	00052	1850	2142	01051	78650	784882	136	
R107	537	2026	62	641							00058	00058	2750	2612	01282	78347	781634	158	
R108	3868	5894	451	1092							00079	00079	1760	2089	01026	78151	779929	132	
R109	743	6637	89	1181							00079	00079	600	1284	01613	78034	778687	140	
R110	743	7380	89	1270							00234	00474	600	1284	01613	78034	778129	178	
R111	510	7890	61	1331							00263	00474	600	1284	01613	77179	770099	126	
R112	1338	9228	140	1471							00293	00478	600	1284	01613	77076	769075	125	
R113	2062	11290	266	1737							00313	00478	600	1284	01613	77076	768675	165	
R114	984	12274	120	1857							00367	00478	600	1284	01613	77005	768141	147	
											00447	00478	600	1284	01613	77005	767845	177	
											00486	00478	600	1284	01613	76871	767025	125	
													600	1284	01613	76871	766835	144	
													600	1284	01613	76816	765855	187	
													600	1284	01613	76816	765716	201	
													600	1284	01613	76573	763871	142	
													600	1284	01613	76573	763871	142	
													600	1284	01613	76573	763871	142	
													600	1284	01613	76562	763151	203	

Flow Calculation (Alvarenga/Couros)

Pipe	Lower Pipe		Drainage Area		Length		Stormwater Runoff			Sanitary Wastewater			The Others		Design Sewer Pipe				Remark					
	Each	Total	Each	Total	Each	Total	Rainfall per ha	Conversion Area Each	Total	Stormwater m ³ /sec	man/ha	person	Wastewater m ³ /sec	Total	TOTAL	Dia. mm	%	Gradient m/sec		Velocity m ³ /sec	Flow m ³ /sec	G.L. M	Invert M	Covering m
(R15)	3357	15631	260	2117									00619	00478	01097	φ 400	600	1284	01613	01613	76562	763151	203	
(R16)	1091	16722	88	2208								00662	00478	01140	φ 400	600	1284	01613	01613	76275	760855	146		
(R17)	825	17547	60	2265								00695	00478	01173	φ 400	600	1284	01613	01613	76177	760085	125		
(R18)	768	18315	55	2320								00726	00478	01204	φ 400	600	1284	01613	01613	76152	759725	136		
(R19)	244	18559	22	2342								00735	00509	01244	φ 400	600	1284	01613	01613	76104	759345	126		
(R20)	890	19449	69	2411								00771	00509	01280	φ 400	600	1284	01613	01613	76092	759025	146		
(R21)	2450	21899	484	2895								00869	00554	01423	φ 400	600	1284	01613	01613	76039	758611	134		
(R22)	3785	25684	788	3683								01021	00808	01829	φ 500	540	1413	02775	02775	75650	754001	196		
(C20)		102965	67.0	10071								04721	09593	14314	φ 1500	100	1265	22354	22354	75240	743250	751		

ETE Riacho Grande Depois de construção



Nome de Escola / Projeto Nome 1

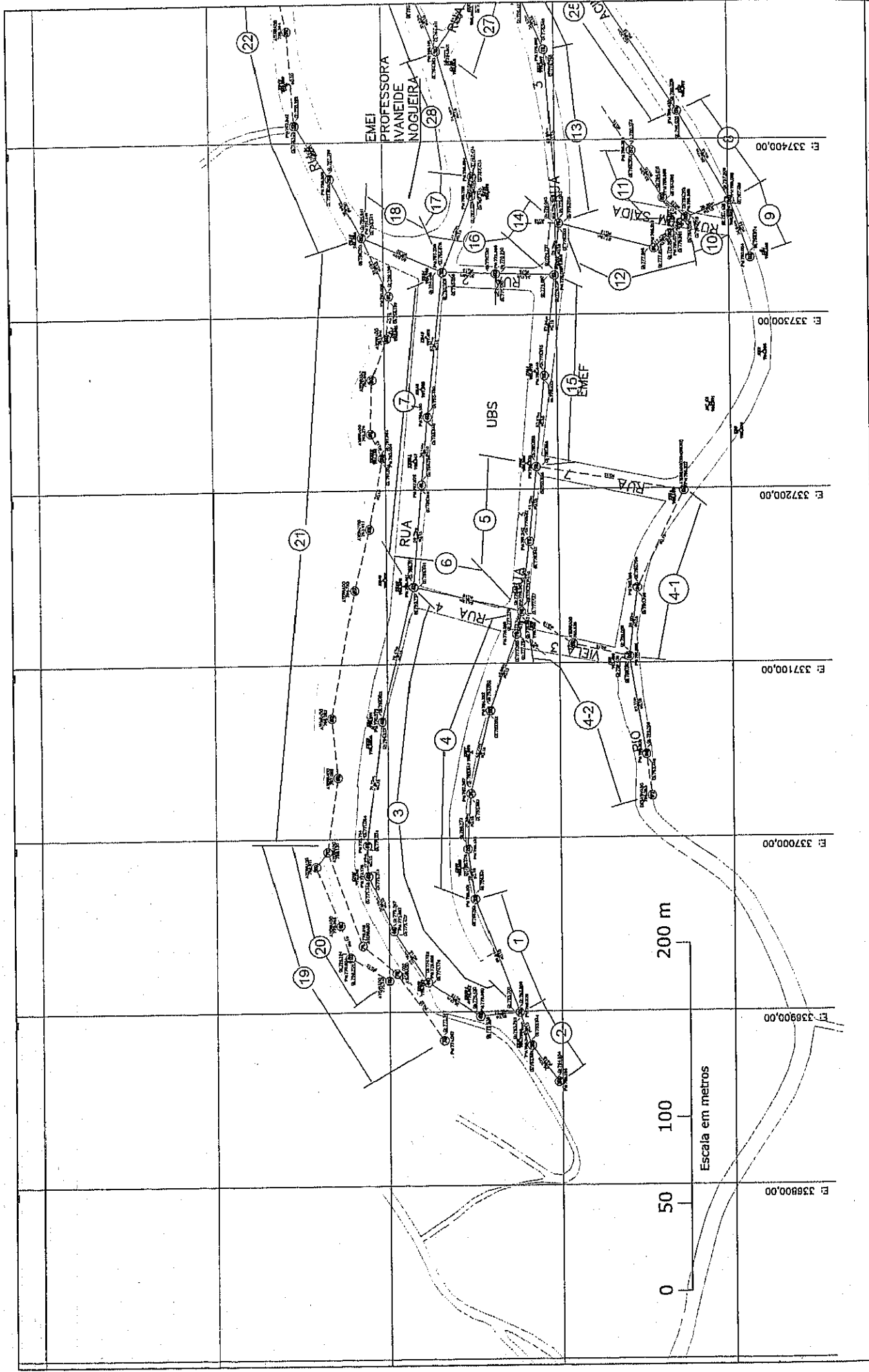
ESTUDO SOBRE O PLANO MESTRADO DA URBEM MUNICIPAL NO MUNICÍPIO DE SÃO BERNARDO DO CAMPO THE STUDY ON MASTER PLAN OF MUNICIPALITY OF SÃO BERNARDO DO CAMPO

NUS CONSULTANTS CONSULT

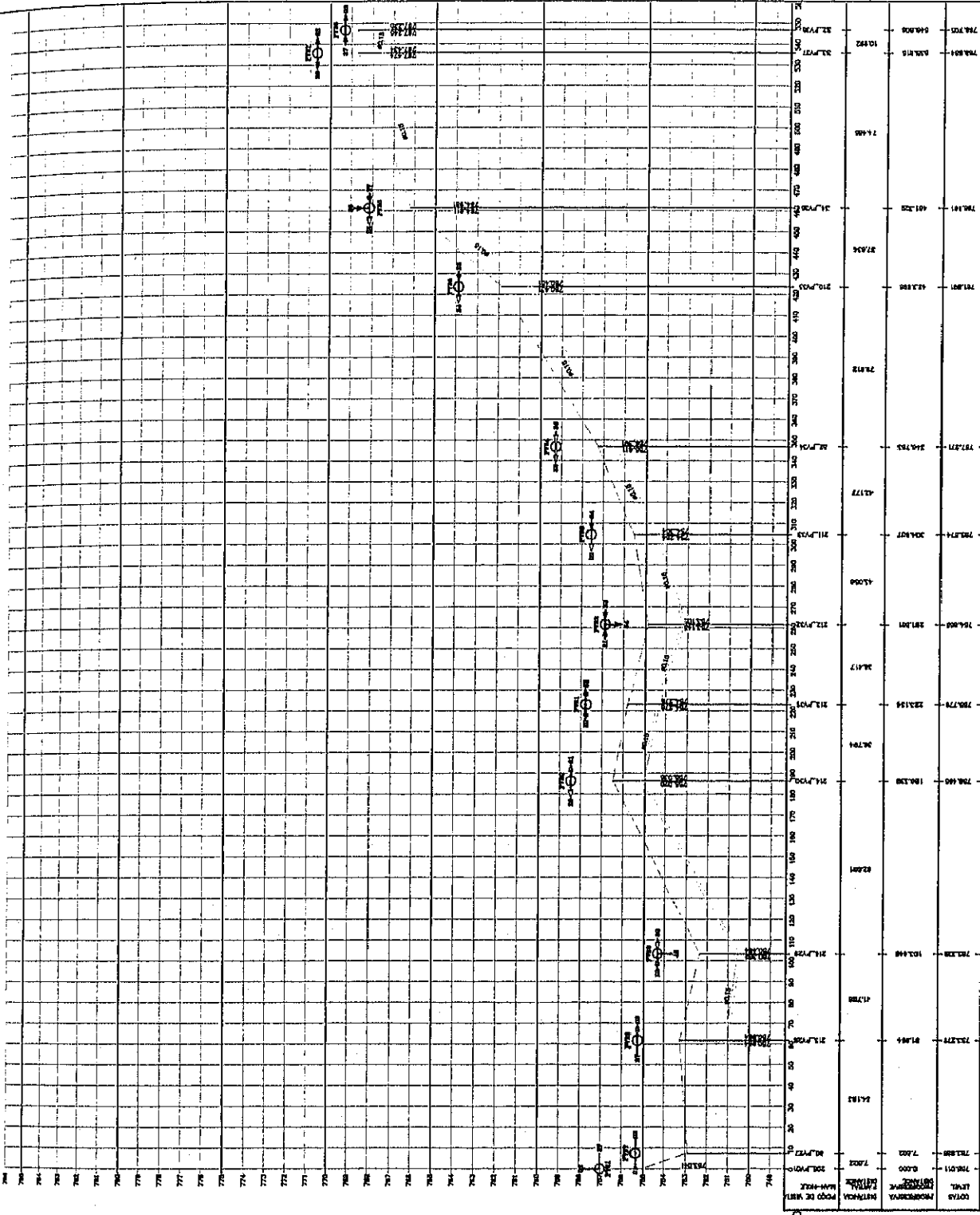
SÃO BERNARDO DO CAMPO CITY

NOTAS

DATA	REVISÃO	PROJEÇÃO	PROJETO	APROVADO	ELABORADO	DESENHOS DE REFERÊNCIA	ESCALERO
		FOR	FOR	FOR			
		AM	JMS	JMS			



#	DATA	REVISÃO	PROJETO APROVADO POR	DESENHOS DE REFERÊNCIA	NÚMERO	NOTAS	SÃO BERNARDO DO CAMPO CITY	NUS CONSULTANTS NUS CONSULTANTS	MEMO DE CÁLCULO / Project Memo 1 ESTUDO SOBRE O PLANO INTERIORE DE MELHORIA AMBIENTAL NA ÁREA DE MANUTENÇÃO DA REDE DE ABASTECIMENTO DE ÁGUA POTÁVEL DO MUNICÍPIO DE SÃO BERNARDO DO CAMPO, SP.
	#	EM/2012	001	001	001	001			



SCALE: H: 1/100
V: 1/100

Nome do Estado / Project Name: 1
 ESTADO SOBRE O PLANO INTEGRADO DE MELHORIA AMBIENTAL
 NA AREA DE MANANCIAIS DA REPRESA BULINGS
 NO MUNICIPIO DE SAO BERNARDO DO CAMPO
 THE STUDY ON INTEGRATED PLAN OF ENVIRONMENTAL IMPROVEMENT
 IN THE SAO BERNARDO DO CAMPO BULINGS
 IN SAO BERNARDO DO CAMPO, CITY

Titulo / Drawing Title: 1
 PLANTA DE LEVANTAMENTO DOS POÇOS DE VISITACAO
 PLAN OF SURVEILLANCE OF VISITATION POOLS

NS CONSULTANTS COLTD.
 Y80 YACHTO ENGINEERING COLLEGE
 JICA JAPAN INTERNATIONAL COOPERATION AGENCY

SAO BERNARDO DO CAMPO CITY
 NOTAS
 ELABORADO EM SETEMBRO/2004

Nº DATA	REVISÃO	EXECUTADO POR	PROJETO POR	APROVADO POR	DESCRIÇÃO DE MODIFICAÇÃO	NÚMERO
1	01/07/04	AM	AM	AM		

Nome da Escola / Projeto: _____
 ESTUDO DE PLANO ANTERIORS DE TERREIRA, AMERICA
 SUL DE MINAS GERAIS DA REFORMA BALANÇ
 NO MUNICIPIO DE SÃO DOMINGOS DO CAMPO
 THE STATE OF MINAS GERAIS, BRAZIL

NAS ESCALAS DE
 COLÉGIO

SÃO DOMINGOS DO CAMPO
 CITY



NOTAS

ELABORADO EM: 07/08/2008

NÚMERO

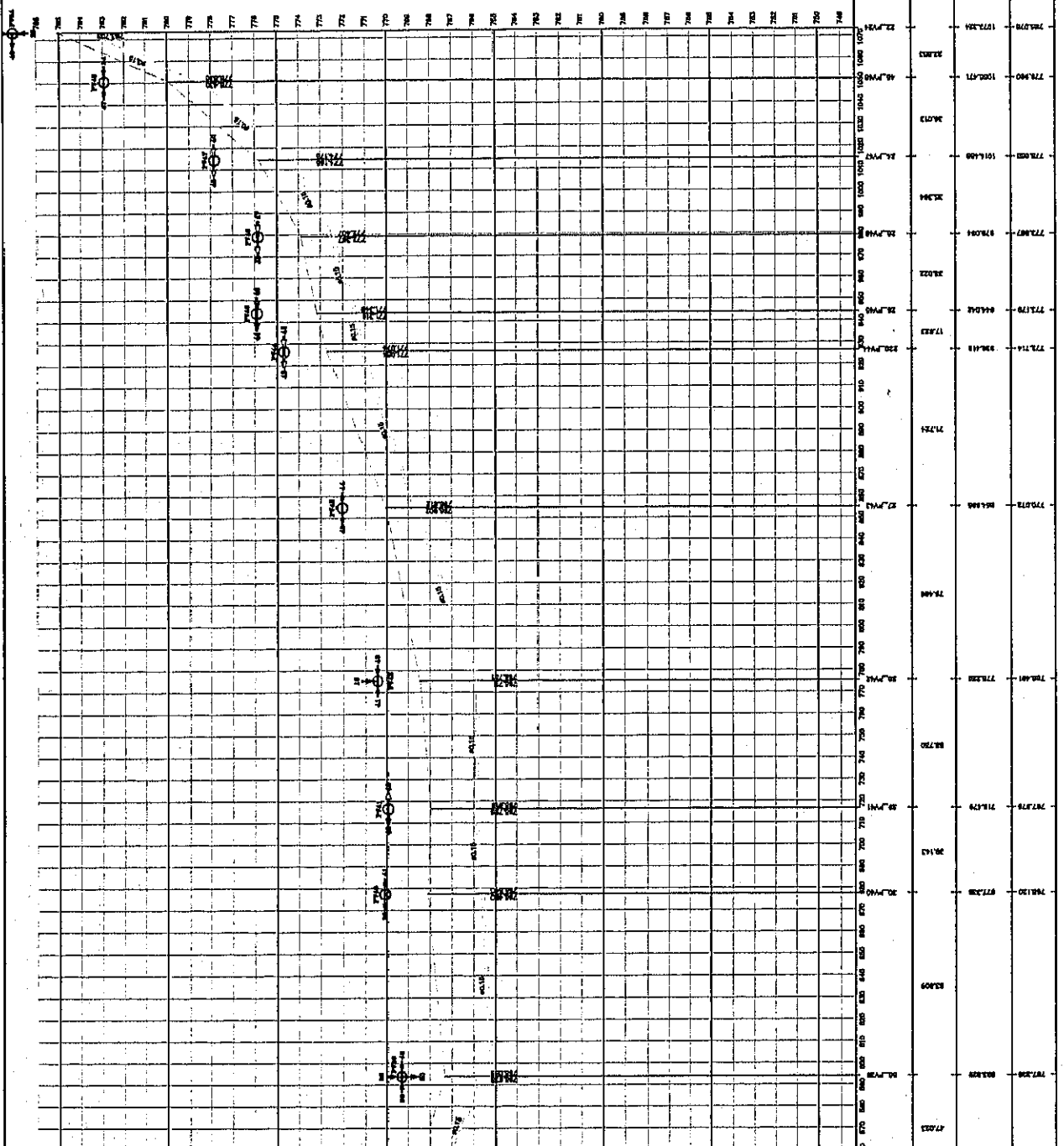
DESCRIÇÃO DE REFERÊNCIA

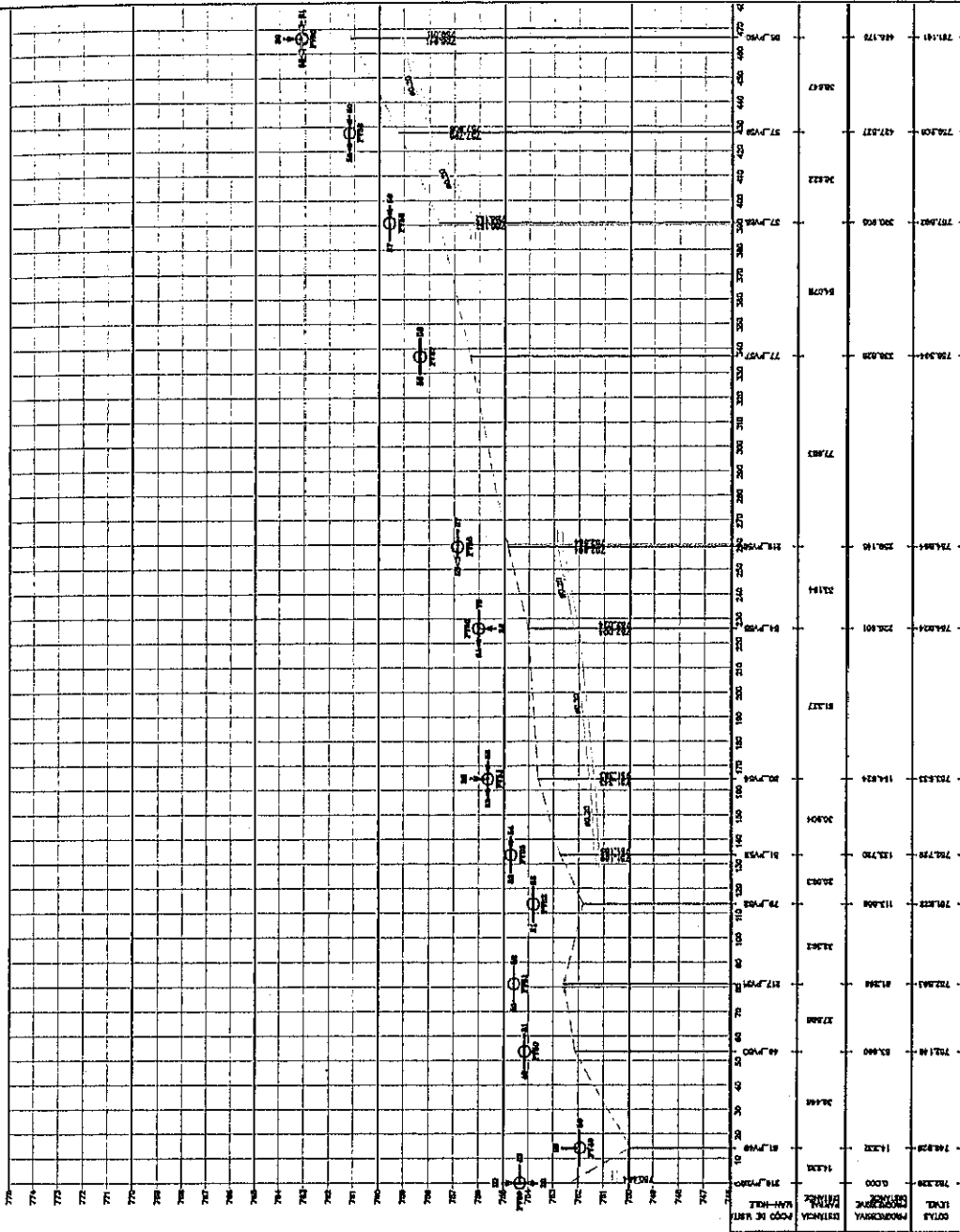
PROJEÇÃO UTM
 DATUM SERRA
 ESCALA 1:50.000

RELEVADO

DATA

SCALE : H: 1/1000
 V: 1/100



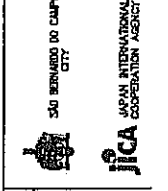
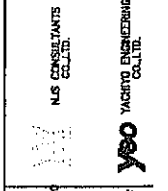


788.00
 788.00 0.00
 788.00 14.00
 788.00 28.00
 788.00 42.00
 788.00 56.00
 788.00 70.00
 788.00 84.00
 788.00 98.00
 788.00 112.00
 788.00 126.00
 788.00 140.00
 788.00 154.00
 788.00 168.00
 788.00 182.00
 788.00 196.00
 788.00 210.00
 788.00 224.00
 788.00 238.00
 788.00 252.00
 788.00 266.00
 788.00 280.00
 788.00 294.00
 788.00 308.00
 788.00 322.00
 788.00 336.00
 788.00 350.00
 788.00 364.00
 788.00 378.00
 788.00 392.00
 788.00 406.00
 788.00 420.00
 788.00 434.00
 788.00 448.00
 788.00 462.00
 788.00 476.00
 788.00 490.00
 788.00 504.00
 788.00 518.00
 788.00 532.00
 788.00 546.00
 788.00 560.00
 788.00 574.00
 788.00 588.00
 788.00 602.00
 788.00 616.00
 788.00 630.00
 788.00 644.00
 788.00 658.00
 788.00 672.00
 788.00 686.00
 788.00 700.00

Nome do Estado / Project Name :
 ESTADO SOBRE O PLANO INTEGRADO DE MELHORIA AMBIENTAL
 DO MUNICÍPIO DE SÃO BERNARDO DO CAMPO
 THE STUDY ON INTEGRATED PLAN OF ENVIRONMENTAL IMPROVEMENT
 IN THE CATCHMENT AREA OF LAKE BELINHAS
 IN SÃO BERNARDO DO CAMPO CITY

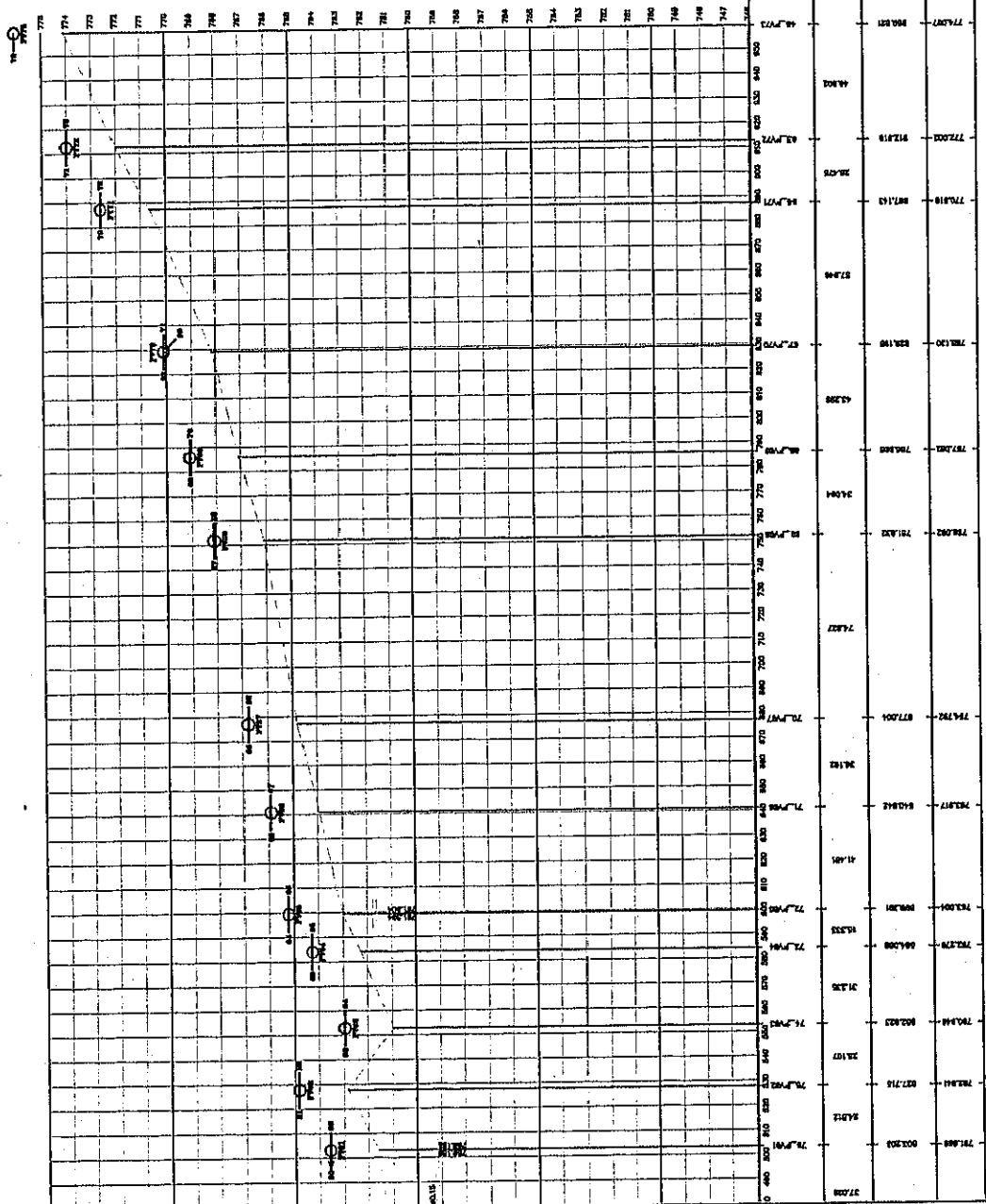
Title / Drawing Title :
 PLANTA DE LEVANTAMENTO DOS POÇOS DE ÁRTIAS
 IN AN SURVEILLANCE OF WELLS AND LEVEL

Escala : 1 / 2000
 Folha :



NOTAS
 ELABORADO EM AUTUNHO/2004

DATA	REVISÃO	PROJEITADO POR	APROVADO POR	DESCRIÇÃO DE REFERÊNCIA	NÚMERO
21/08/04	01	JAP	JMS		



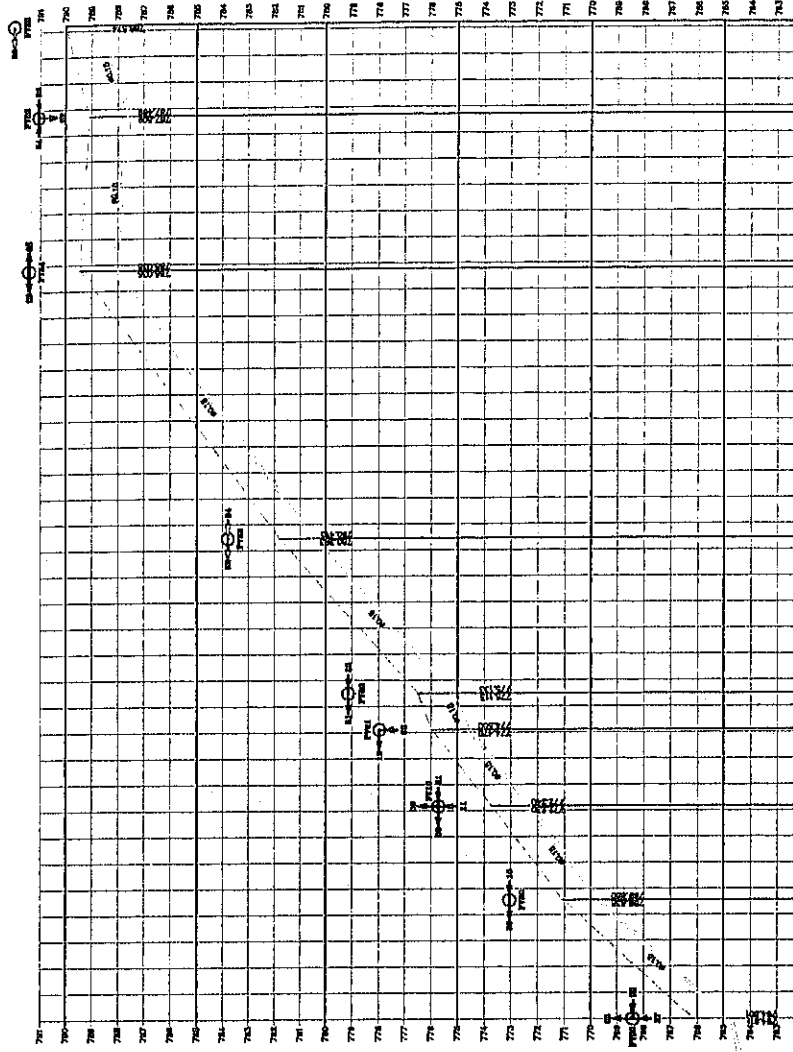
SCALE : H: 1/1000
V: 1/100

N°	DATA	REVISÃO	EXERCÍCIO PRÁTICO DE PROVA			NÚMERO	TÍTULO	AUTORIA
			PROVA	DESEMPENHO DE REFERÊNCIA	DESEMPENHO REALIZADO			
1	20/08/2010	002.503	78.146	027.715	54312	78.146	002.503	78.146
2		027.715	78.144	002.803	28.107	78.144	002.803	78.144
3		002.803	78.129	004.208	14.533	78.129	004.208	78.129
4		004.208	78.101	008.301	14.533	78.101	008.301	78.101
5		008.301	78.127	004.208	14.533	78.127	004.208	78.127
6		004.208	78.137	04.042	41.485	78.137	04.042	78.137
7		04.042	78.192	07.001	28.102	78.192	07.001	78.192
8		07.001	78.192	07.001	28.102	78.192	07.001	78.192
9		07.001	78.192	07.001	28.102	78.192	07.001	78.192
10		07.001	78.192	07.001	28.102	78.192	07.001	78.192
11		07.001	78.192	07.001	28.102	78.192	07.001	78.192
12		07.001	78.192	07.001	28.102	78.192	07.001	78.192
13		07.001	78.192	07.001	28.102	78.192	07.001	78.192
14		07.001	78.192	07.001	28.102	78.192	07.001	78.192
15		07.001	78.192	07.001	28.102	78.192	07.001	78.192
16		07.001	78.192	07.001	28.102	78.192	07.001	78.192
17		07.001	78.192	07.001	28.102	78.192	07.001	78.192
18		07.001	78.192	07.001	28.102	78.192	07.001	78.192
19		07.001	78.192	07.001	28.102	78.192	07.001	78.192
20		07.001	78.192	07.001	28.102	78.192	07.001	78.192
21		07.001	78.192	07.001	28.102	78.192	07.001	78.192
22		07.001	78.192	07.001	28.102	78.192	07.001	78.192
23		07.001	78.192	07.001	28.102	78.192	07.001	78.192
24		07.001	78.192	07.001	28.102	78.192	07.001	78.192
25		07.001	78.192	07.001	28.102	78.192	07.001	78.192
26		07.001	78.192	07.001	28.102	78.192	07.001	78.192
27		07.001	78.192	07.001	28.102	78.192	07.001	78.192
28		07.001	78.192	07.001	28.102	78.192	07.001	78.192
29		07.001	78.192	07.001	28.102	78.192	07.001	78.192
30		07.001	78.192	07.001	28.102	78.192	07.001	78.192
31		07.001	78.192	07.001	28.102	78.192	07.001	78.192
32		07.001	78.192	07.001	28.102	78.192	07.001	78.192
33		07.001	78.192	07.001	28.102	78.192	07.001	78.192
34		07.001	78.192	07.001	28.102	78.192	07.001	78.192
35		07.001	78.192	07.001	28.102	78.192	07.001	78.192
36		07.001	78.192	07.001	28.102	78.192	07.001	78.192
37		07.001	78.192	07.001	28.102	78.192	07.001	78.192
38		07.001	78.192	07.001	28.102	78.192	07.001	78.192
39		07.001	78.192	07.001	28.102	78.192	07.001	78.192
40		07.001	78.192	07.001	28.102	78.192	07.001	78.192
41		07.001	78.192	07.001	28.102	78.192	07.001	78.192
42		07.001	78.192	07.001	28.102	78.192	07.001	78.192
43		07.001	78.192	07.001	28.102	78.192	07.001	78.192
44		07.001	78.192	07.001	28.102	78.192	07.001	78.192
45		07.001	78.192	07.001	28.102	78.192	07.001	78.192
46		07.001	78.192	07.001	28.102	78.192	07.001	78.192
47		07.001	78.192	07.001	28.102	78.192	07.001	78.192
48		07.001	78.192	07.001	28.102	78.192	07.001	78.192
49		07.001	78.192	07.001	28.102	78.192	07.001	78.192
50		07.001	78.192	07.001	28.102	78.192	07.001	78.192
51		07.001	78.192	07.001	28.102	78.192	07.001	78.192
52		07.001	78.192	07.001	28.102	78.192	07.001	78.192
53		07.001	78.192	07.001	28.102	78.192	07.001	78.192
54		07.001	78.192	07.001	28.102	78.192	07.001	78.192
55		07.001	78.192	07.001	28.102	78.192	07.001	78.192
56		07.001	78.192	07.001	28.102	78.192	07.001	78.192
57		07.001	78.192	07.001	28.102	78.192	07.001	78.192
58		07.001	78.192	07.001	28.102	78.192	07.001	78.192
59		07.001	78.192	07.001	28.102	78.192	07.001	78.192
60		07.001	78.192	07.001	28.102	78.192	07.001	78.192
61		07.001	78.192	07.001	28.102	78.192	07.001	78.192
62		07.001	78.192	07.001	28.102	78.192	07.001	78.192
63		07.001	78.192	07.001	28.102	78.192	07.001	78.192
64		07.001	78.192	07.001	28.102	78.192	07.001	78.192
65		07.001	78.192	07.001	28.102	78.192	07.001	78.192
66		07.001	78.192	07.001	28.102	78.192	07.001	78.192
67		07.001	78.192	07.001	28.102	78.192	07.001	78.192
68		07.001	78.192	07.001	28.102	78.192	07.001	78.192
69		07.001	78.192	07.001	28.102	78.192	07.001	78.192
70		07.001	78.192	07.001	28.102	78.192	07.001	78.192
71		07.001	78.192	07.001	28.102	78.192	07.001	78.192
72		07.001	78.192	07.001	28.102	78.192	07.001	78.192
73		07.001	78.192	07.001	28.102	78.192	07.001	78.192
74		07.001	78.192	07.001	28.102	78.192	07.001	78.192
75		07.001	78.192	07.001	28.102	78.192	07.001	78.192
76		07.001	78.192	07.001	28.102	78.192	07.001	78.192
77		07.001	78.192	07.001	28.102	78.192	07.001	78.192
78		07.001	78.192	07.001	28.102	78.192	07.001	78.192
79		07.001	78.192	07.001	28.102	78.192	07.001	78.192
80		07.001	78.192	07.001	28.102	78.192	07.001	78.192
81		07.001	78.192	07.001	28.102	78.192	07.001	78.192
82		07.001	78.192	07.001	28.102	78.192	07.001	78.192
83		07.001	78.192	07.001	28.102	78.192	07.001	78.192
84		07.001	78.192	07.001	28.102	78.192	07.001	78.192
85		07.001	78.192	07.001	28.102	78.192	07.001	78.192
86		07.001	78.192	07.001	28.102	78.192	07.001	78.192
87		07.001	78.192	07.001	28.102	78.192	07.001	78.192
88		07.001	78.192	07.001	28.102	78.192	07.001	78.192
89		07.001	78.192	07.001	28.102	78.192	07.001	78.192
90		07.001	78.192	07.001	28.102	78.192	07.001	78.192
91		07.001	78.192	07.001	28.102	78.192	07.001	78.192
92		07.001	78.192	07.001	28.102	78.192	07.001	78.192
93		07.001	78.192	07.001	28.102	78.192	07.001	78.192
94		07.001	78.192	07.001	28.102	78.192	07.001	78.192
95		07.001	78.192	07.001	28.102	78.192	07.001	78.192
96		07.001	78.192	07.001	28.102	78.192	07.001	78.192
97		07.001	78.192	07.001	28.102	78.192	07.001	78.192
98		07.001	78.192	07.001	28.102	78.192	07.001	78.192
99		07.001	78.192	07.001	28.102	78.192	07.001	78.192
100		07.001	78.192	07.001	28.102	78.192	07.001	78.192

Nome do Cliente / Projeto: _____
 ESTUDO SOBRE O PLANO INTEGRADO DE MELHORIA AMBIENTAL
 NA ÁREA DO PARQUE AVANÇADO EM SÃO CARLOS
 O PROJETO DE DRENAGEM URBANA PARA O PARQUE
 THE STUDY ON INTEGRATED PLAN OF ENVIRONMENTAL IMPROVEMENT
 IN THE URBAN AREA OF PARQUE AVANÇADO IN SÃO CARLOS CITY

M.S. CONSULTANTS
 S.A.S. CONSULTING

SÃO CARLOS DO CAMPO
 CITY



SCALE : H:1/1000
V:1/100

SCALE : H:1/1000
V:1/100

SCALE : H:1/1000
V:1/100

COTAS	PROGRESSIVA	DETERMINA	POCO DE VENTA
794.181	0.000	45.918	34.000
774.720	81.874	24.300	14.770
774.870	111.000	1.370	12.740
774.441	124.907	84.801	24.740
774.170	184.246	84.801	12.740
754.133	267.203	104.877	84.801
754.004	347.114	54.800	84.801
754.004	362.014		

COTAS	PROGRESSIVA	DETERMINA	POCO DE VENTA
794.181	0.000	45.918	34.000
774.720	81.874	24.300	14.770
774.870	111.000	1.370	12.740
774.441	124.907	84.801	24.740
774.170	184.246	84.801	12.740
754.133	267.203	104.877	84.801
754.004	347.114	54.800	84.801
754.004	362.014		

ESTUDIO SOBRE O PLANO INTEGRADO DE MELHORIA AMBIENTAL NA AREA DE LARANJEIRAS DA REPRESA BELINHO NO MUNICIPIO DE SAO BERNARDO DO CAMPO
THE STUDY ON INTEGRATED PLAN OF ENVIRONMENTAL IMPROVEMENT IN THE LARANJEIRAS AREA IN SAO BERNARDO DO CAMPO CITY

Trabalho / Project Name: 1 / 2010
Plano de Levantamento das Paises de Navegacao
Instituição / Institution: YACHING ENGINEERING CONSULTING

YAO

YAO CONSULTANTS

YAO YACHING ENGINEERING CONSULTING

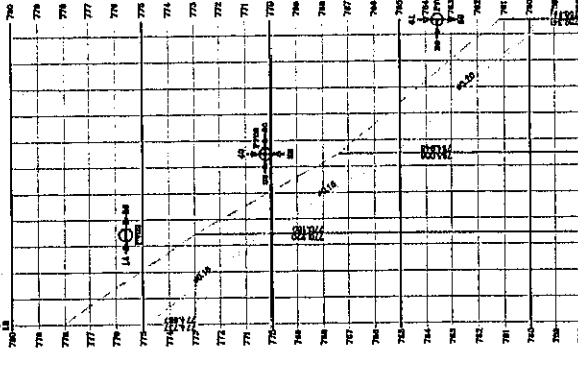
SAO BERNARDO DO CAMPO CITY

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

NOTAS

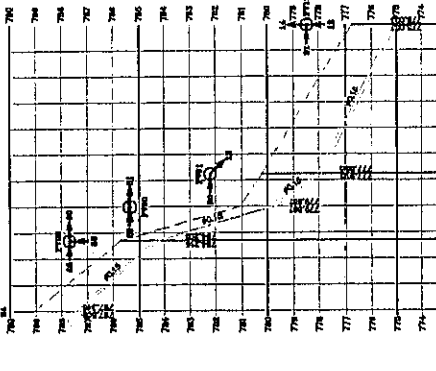
ELABORADO EM OUTUBRO/2008

Nº	DATA	REVISAO	REVISOR	PROJETO	PROJ. CIVIL	PROJ. MECANICO	PROJ. ELTRIC	PROJ. SANITARIO	PROJ. PAVIMENTACAO	PROJ. OUTROS	DESCRIÇÃO DE REFERENCIA	NOME
1	20/07/08											
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												
41												
42												
43												
44												
45												
46												
47												
48												
49												
50												
51												
52												
53												
54												
55												
56												
57												
58												
59												
60												
61												
62												
63												
64												
65												
66												
67												
68												
69												
70												
71												
72												
73												
74												
75												
76												
77												
78												
79												
80												
81												
82												
83												
84												
85												
86												
87												
88												
89												
90												
91												
92												
93												
94												
95												
96												
97												
98												
99												
100												



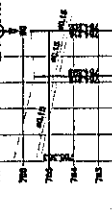
SCALE : H:1/1000
V:1/100

DOTA PROGRESSIVA	24.400	24.400	24.400	24.400
LIVEL	0.000	0.000	0.000	0.000
ESTACIA	774.00	775.00	776.00	777.00



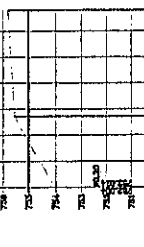
SCALE : H:1/1000
V:1/100

DOTA PROGRESSIVA	24.400	24.400	24.400	24.400
LIVEL	0.000	0.000	0.000	0.000
ESTACIA	774.00	775.00	776.00	777.00



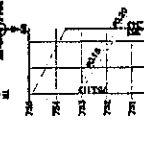
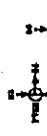
SCALE : H:1/1000
V:1/100

DOTA PROGRESSIVA	0.000	0.000	0.000	0.000
LIVEL	0.000	0.000	0.000	0.000
ESTACIA	774.00	775.00	776.00	777.00



SCALE : H:1/1000
V:1/100

DOTA PROGRESSIVA	27.100	27.100	27.100	27.100
LIVEL	0.000	0.000	0.000	0.000
ESTACIA	774.00	775.00	776.00	777.00



SCALE : H:1/1000
V:1/100

DOTA PROGRESSIVA	24.410	24.410	24.410	24.410
LIVEL	0.000	0.000	0.000	0.000
ESTACIA	774.00	775.00	776.00	777.00

Nome do Estado / Project Name : ESTUDO SOBRE O PLANO INTEGRADO DE MELHORIA AMBIENTAL NA ÁREA DE TRANSITO DA AVENIDA GALVÃO DE ALBUQUERQUE, EM SÃO PAULO. THE STUDY ON INTEGRATED PLAN OF ENVIRONMENTAL IMPROVEMENT IN THE AREA OF GALVÃO DE ALBUQUERQUE AVENUE IN SÃO PAULO CITY.

NOTAS: ELABORADO EM SETEMBRO/2008

DESENHOS DE REFERENCIA: _____

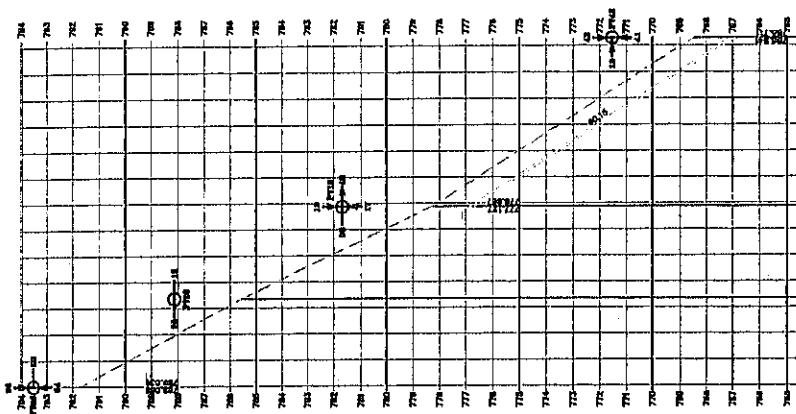
REVISÃO: _____

APROVADO POR: _____

APPROVED BY: _____

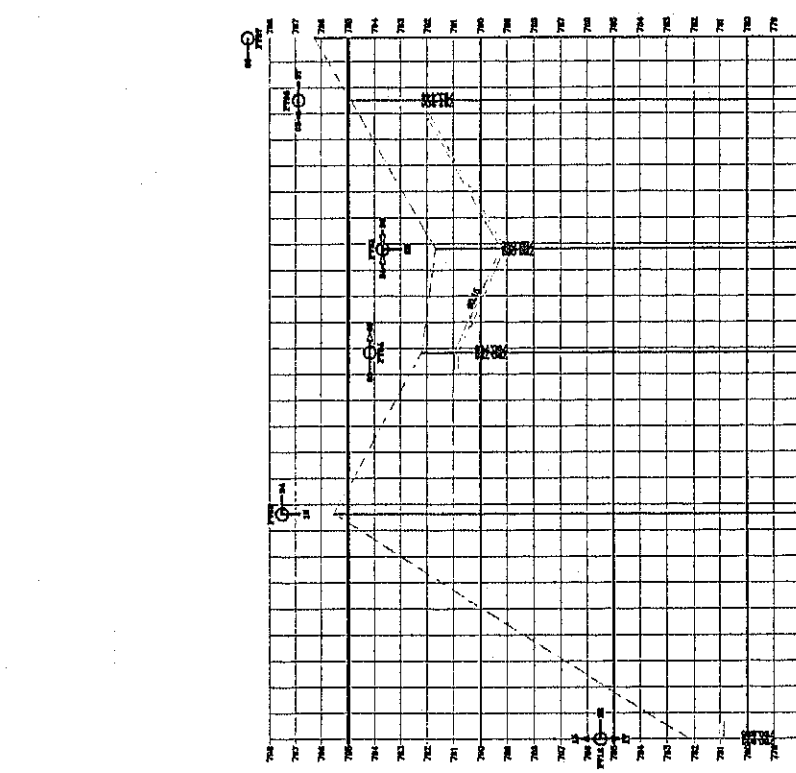
DATA: _____

DATE: _____



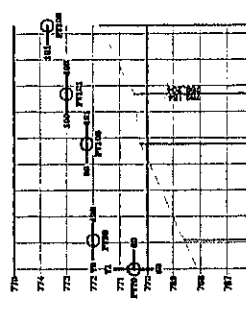
SCALE : H:1/100
V:1/100

DOTA	PROGRESSIVA	776.41	13.800
LEVA	PROGRESSIVA	776.27	14.714
MAN-HOLE	PROGRESSIVA	776.23	14.239
ESTRUTURA	PROGRESSIVA	776.20	13.480
POÇO DE VERT.	PROGRESSIVA	776.18	13.698



SCALE : H:1/100
V:1/100

DOTA	PROGRESSIVA	776.33	20.111
LEVA	PROGRESSIVA	776.30	24.678
MAN-HOLE	PROGRESSIVA	776.27	24.042
ESTRUTURA	PROGRESSIVA	776.24	18.208
POÇO DE VERT.	PROGRESSIVA	776.21	14.208

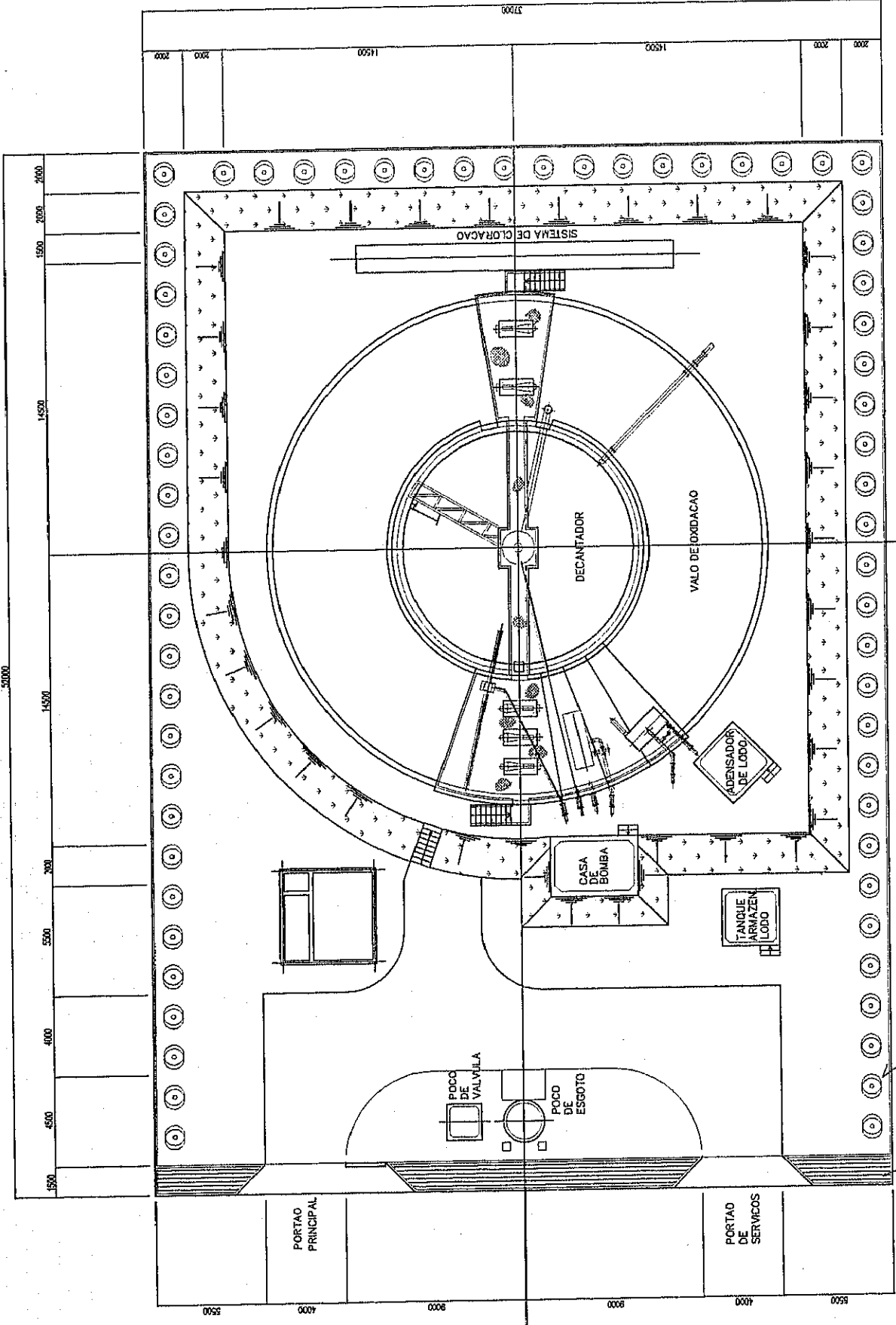


SCALE : H:1/100
V:1/100

DOTA	PROGRESSIVA	776.30	10.000
LEVA	PROGRESSIVA	776.27	10.923
MAN-HOLE	PROGRESSIVA	776.24	10.433
ESTRUTURA	PROGRESSIVA	776.21	9.800
POÇO DE VERT.	PROGRESSIVA	776.18	9.277

Nº	DATA	REVISÃO	EXECUTADO POR	PROJETO POR	APROVADO POR	NÚMERO	NOTAS	ELABORADO EM OUTUBRO/2000	 SÃO BERNARDO DO CAMPO CITY	 YOO TACHIRO ENGINEERING COL.LTD.	Nome do Estado / Project Name : ESTUDO SOBRE O PLANO INTEGRADO DE URBANIZAÇÃO NA ÁREA DE MANANGÁS DA REPRESA BILLINGS NO MUNICÍPIO DE SÃO BERNARDO DO CAMPO THE STUDY ON INTEGRATED PLAN OF ENVIRONMENTAL IMPROVEMENT IN THE CATCHMENT AREA OF LAKE BILLINGS IN SÃO BERNARDO DO CAMPO CITY	Escala : 1 / 2000 Folha : 1
	1	20/07/00										

ETE Santa Cruz



CAPACIDADE DE TRATAMENTO (m³/dia)	A	B	C	D
1,000	52,000	37,000	14,500	5,500

Nota de Estudos / Project Notes:
 ESTUDO SOBRE O PLANO INTEGRADO DE MELHORIA AMBIENTAL DO SISTEMA DE SANEAMENTO DE SAO BERNARDO DO CAMPO
 THE STUDY ON INTEGRATED PLAN OF ENVIRONMENTAL IMPROVEMENT IN THE CANTONMENT OF SAO BERNARDO DO CAMPO

NAS CONSULTANT'S COLLECT

SAO BERNARDO DO CAMPO CITY

NOTAS

NUMERO

DESENHOS DE REFERENCIA

REVISAO

DATA