Description of Existing Intake Facilities

No./Name Capivari Intake (Colombo)

<Location>

Basin	River	Municipality	Proprietor	Others
Upper Iguacu	Capivari (w = 25 m)	Colombo	SANEPAR	

<Description of System>

Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Surface Water Direct with Well (weir height = 2 m)	0.08 (mean, 24 hours) (m3/sec)	Integrated Sys.with 1 well nearby intake site	12,000 (connections)	1984/85

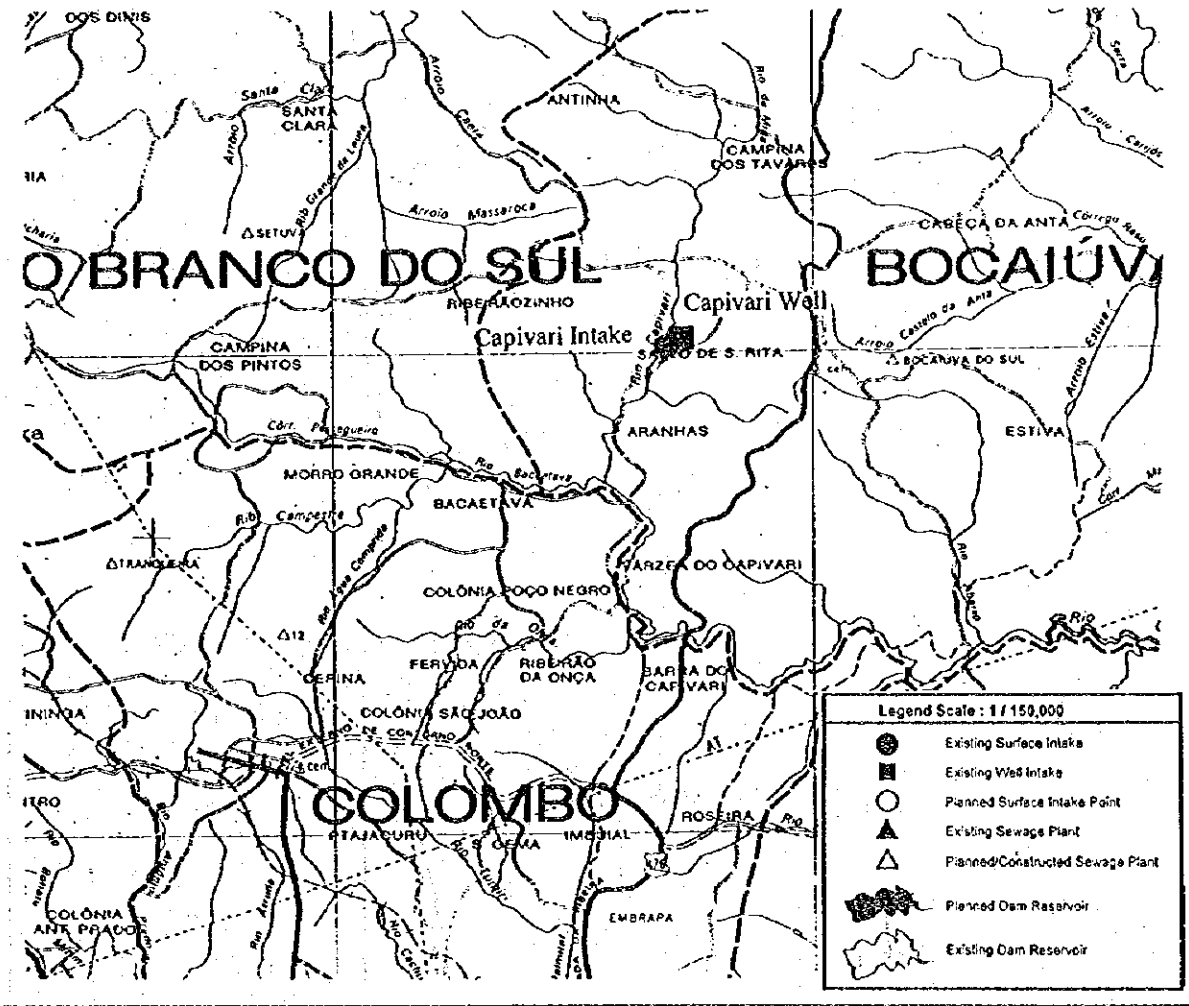
<Description of Pipeline>

Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
25 (km)	250 300 (mm)	250 (m)	100CV, 2 pumps 150CV, 3pumps (1 is standby)	Non	

<Future Plan / or Other informations, if any>

Left wing of existing intake weir is collapsed by flood last year.

<Location Map>



Description of Existing Intake Facilities

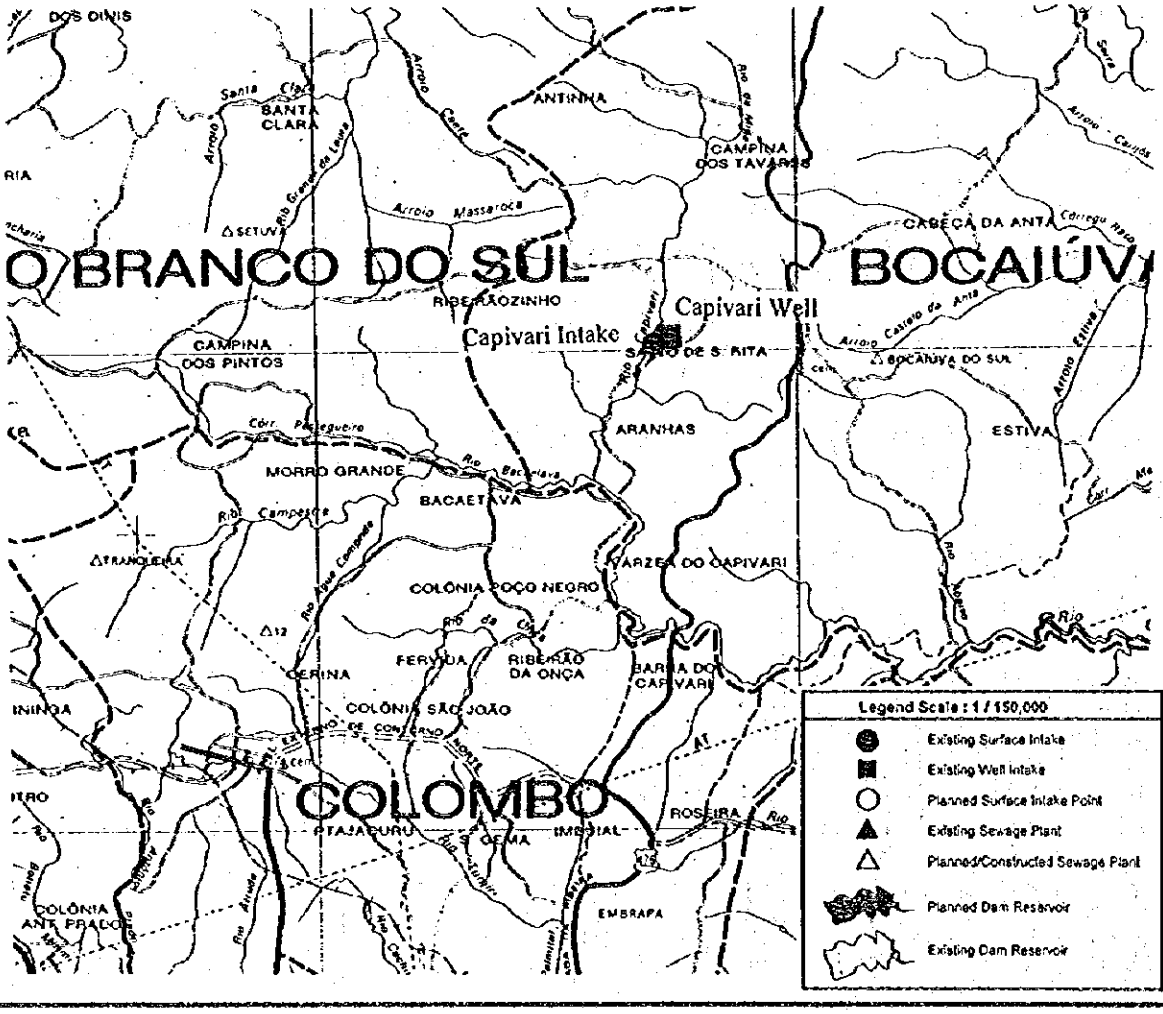
No./Name				
Capivari Well (Colombo)				
<Location>				
Basin	**Source**	**Municipality**	**Proprietor**	**Others**
Upper Iguacu	Karst Aquifer	Colombo	SANEPAR	

<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Groundwater Direct from 1 well	137.30 (24 hours/day) (m3/hour)	Integrated with Capivari Intake	(inhabitants)	1995

<Description of Pipeline>					
Length	**Diameter**	**Depth of Well**	**Intake Pump**	**Intermediate Pump**	**Others**
400 (km)	(inches)	120 (m)			

<Future Plan / or Other informations, if any>

<Location Map>



Description of Existing Intake Facilities

No./Name Colombo Sede Wells (Colombo)

<Location>

Basin	Source	Municipality	Proprietor	Others
Upper Iguacu	Karst Aquifer	Colombo	SANEPAR	

<Description of System>

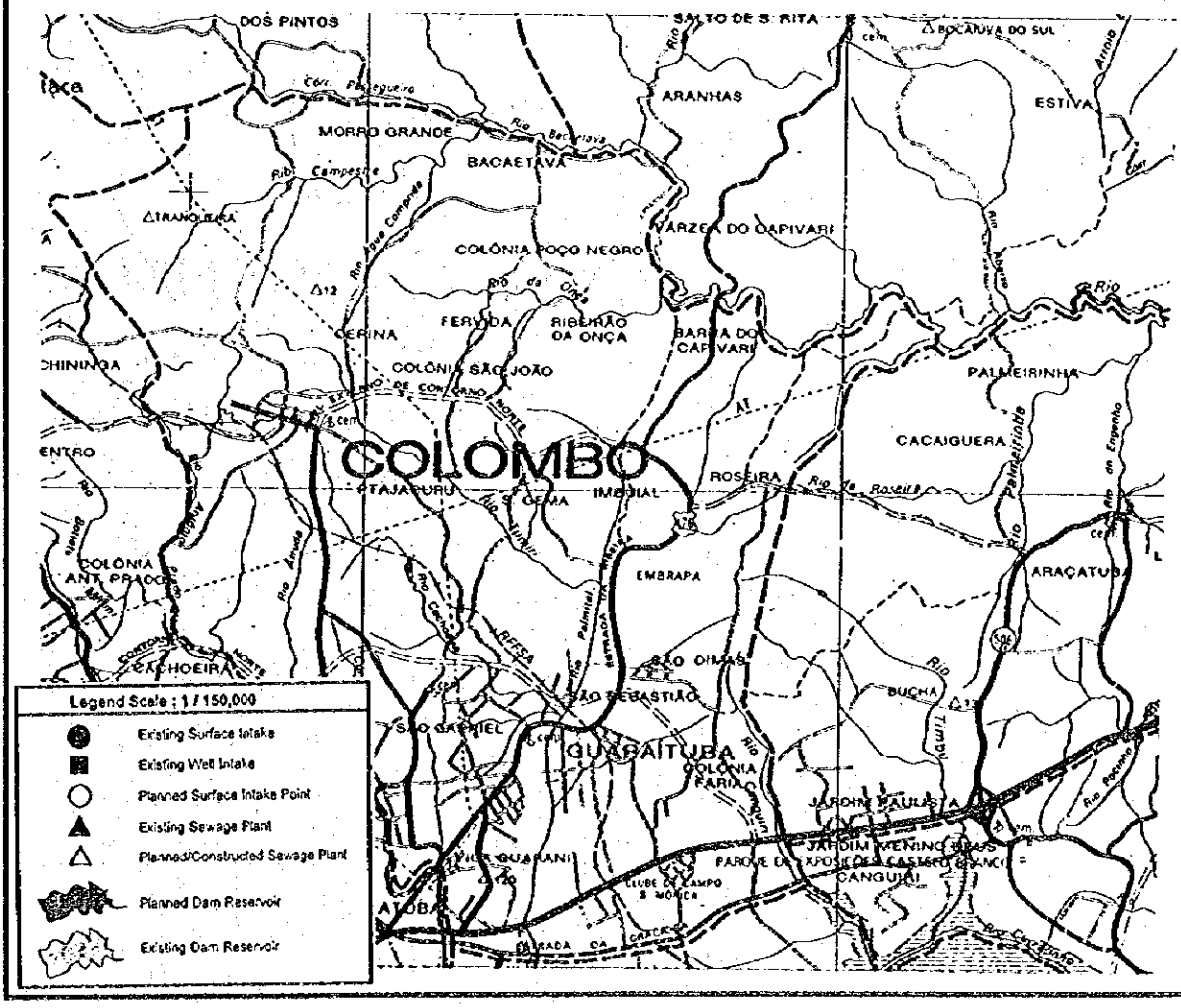
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Groundwater Direct from 3 wells	(m3/hour)	supply area is only Colombo Sede area	8,000 (inhabitants)	

<Description of Pipeline>

Length	Diameter	Depth of Well	Intake Pump	Intermediate Pump	Others
0.8 (km)	(inches)	(m)			

<Future Plan / or Other informations, if any>

<Location Map>



Description of Existing Intake Facilities

No./Name
Campina Grande do Sul Well (P-04)

<Location>

Basin	Source	Municipality	Proprietor	Others
Upper Iguacu	Karst Aquifer	Campina Grande do Sul	SANEPAR	

<Description of System>

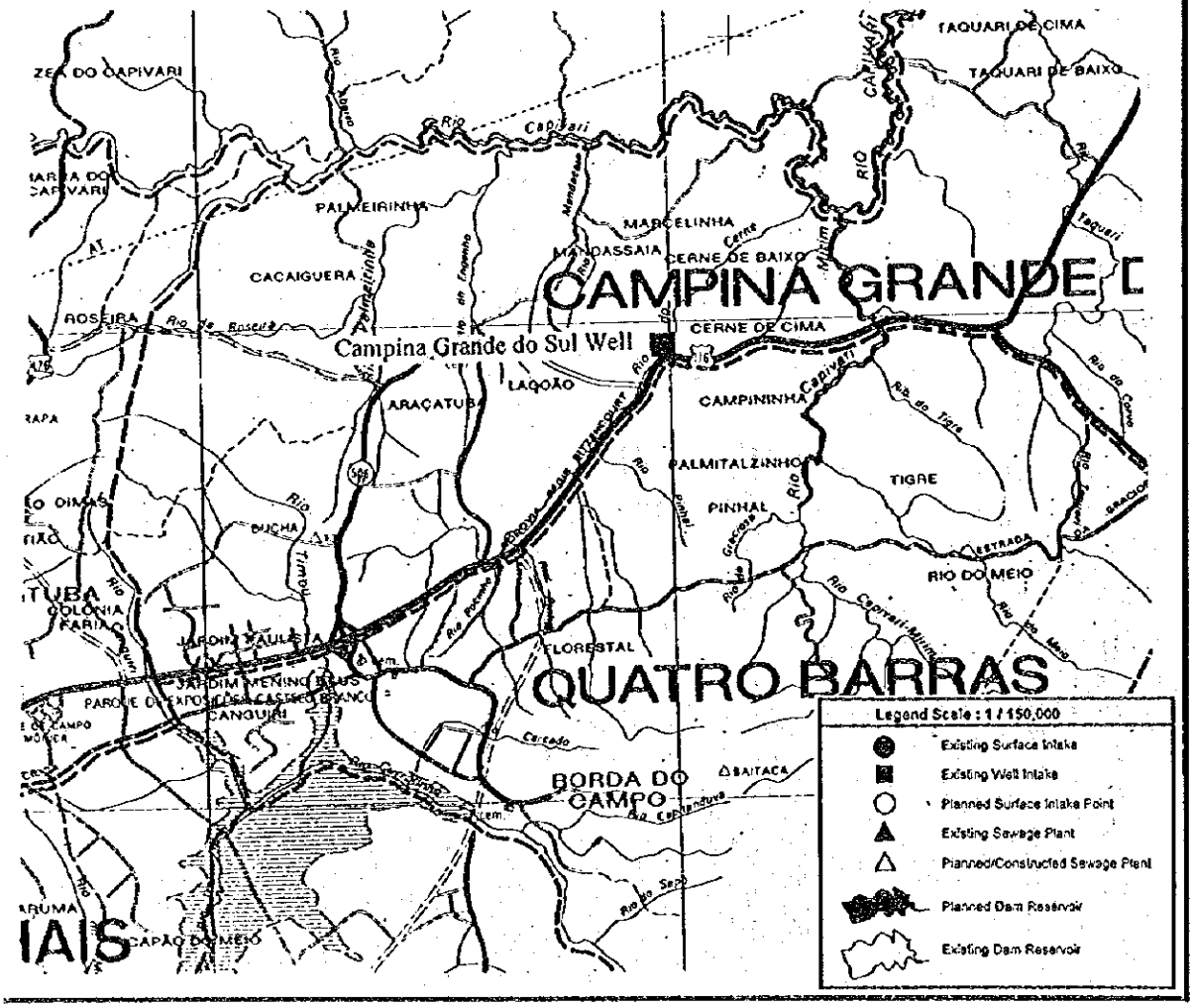
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Groundwater	35.00 (15 hours/day)			
Direct from 1 well	(m3/hour)	Urban area	750 (inhabitants)	Mar-79

<Description of Pipeline>

Length	Diameter	Depth of Well	Intake Pump	Intermediate Pump	Others
(km)	3 (inches)	150 (m)			

<Future Plan / or Other Informations, if any>
3 wells located at Pinhais municipality have tested to supply to Campina Grande do Sul urban area in near future.

<Location Map>



Description of Existing Intake Facilities

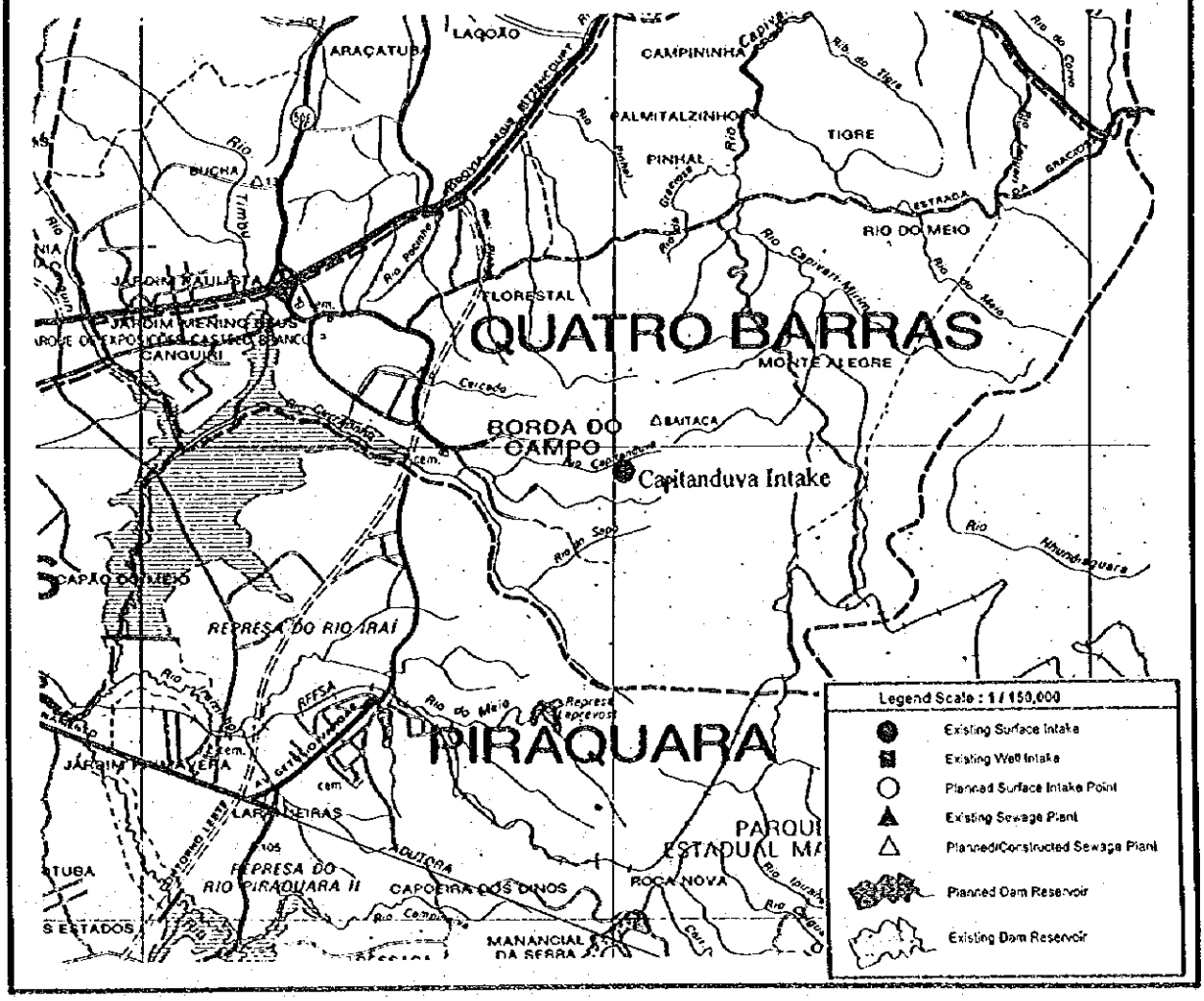
No./Name				
Capitanduva Intake (Quatro Barras)				
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Upper Iguacu	Capitanduva (w = 8 m)	Quatro Barras	SANEPAR	

<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Surface Water Direct with weir (weir height = 1 m)	0.030 (19 hour/day) (m3/sec)		3,300 (inhabitants)	1986/87

<Description of Pipeline>					
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pump**	**Others**
11 (km)	300 225 (mm)	50 (m)	Natural gravity		

<Future Plan / or Other informations, if any>

<Location Map>



Description of Existing Intake Facilities

No./Name				
Carvalho Intake (Piraquara)				

<Location>

Basin	River	Municipality	Proprietor	Others
Upper Iguacu	Caiguava (w = 4 m)	Piraquara	SANEPAR	

<Description of System>

Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Surface Water Direct with dam reservoir (H = 4 m, V = 800 m3)	0.060 (24 hours/day) (m3/sec)	Integrated Sys with Piraquara reservoir intake	(inhabitants)	1972

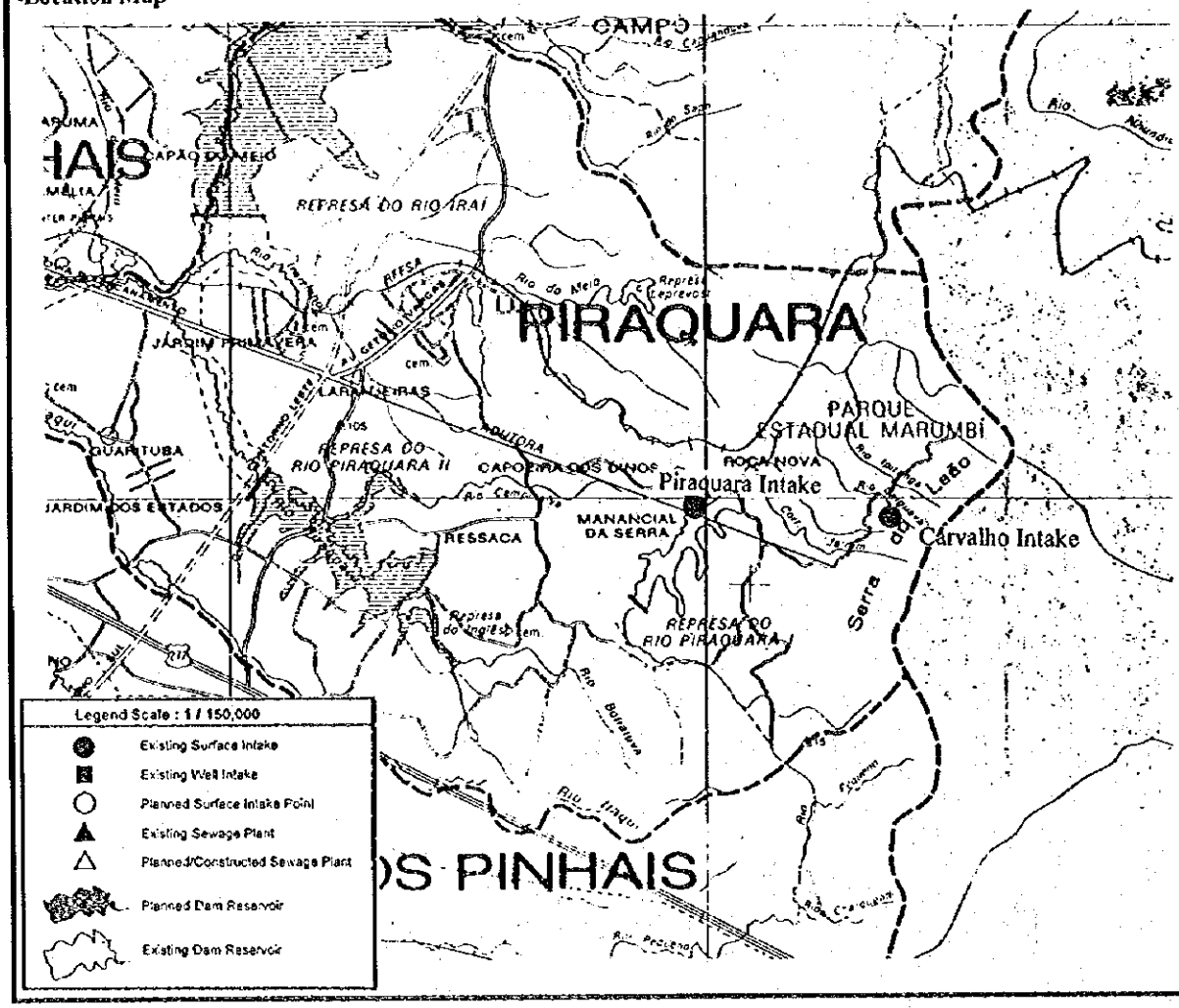
<Description of Pipeline>

Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
10 (km)	450 (mm)	84 (m)	Natual Gravity		

<Future Plan / or Other Informations, if any>

Some lengths of existing pipeline exists under Piracuara reservoir bottom.

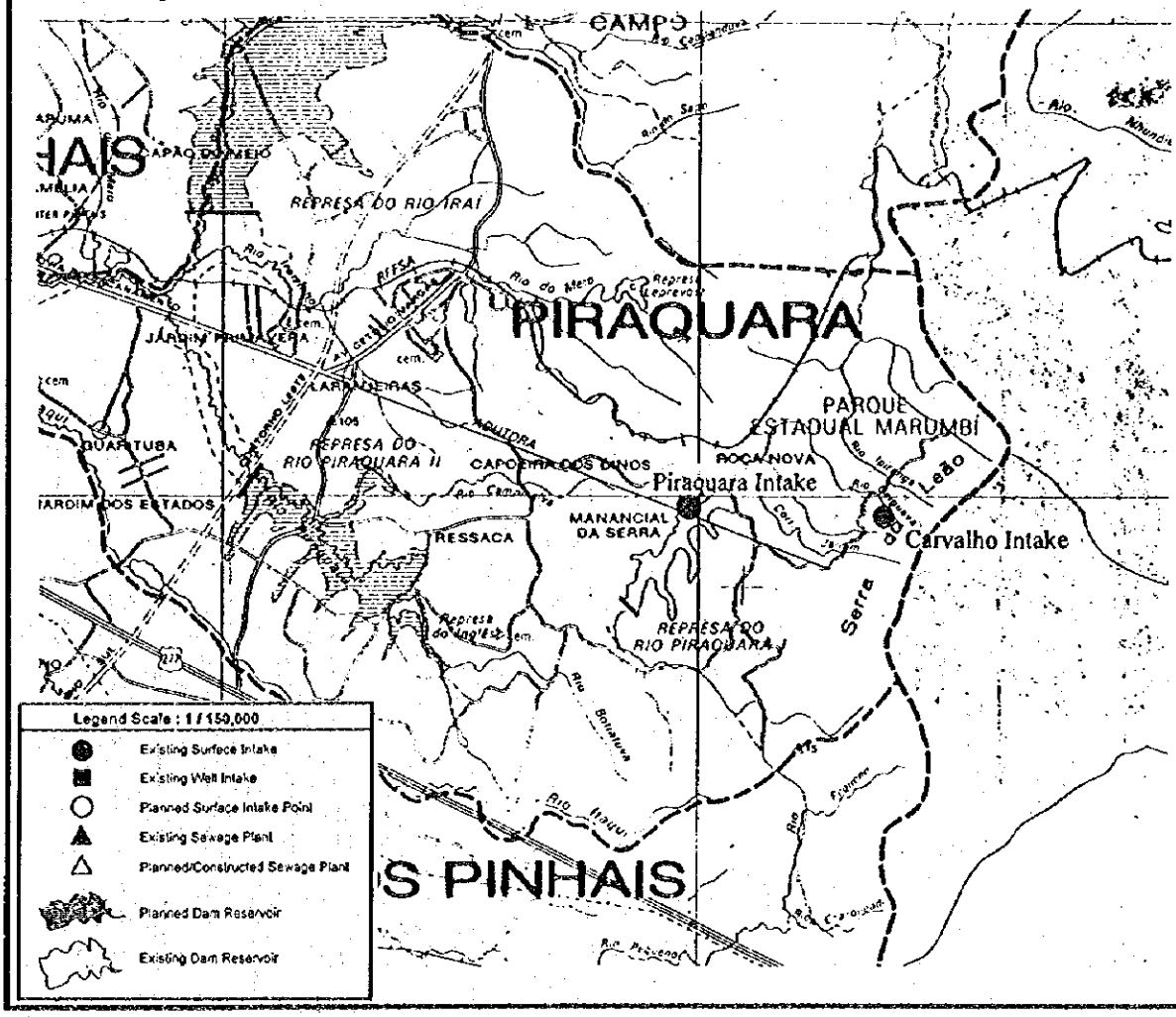
<Location Map>



Description of Existing Intake Facilities

No./Name				
Piraquara Reservoir Intake (Piraquara)				
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Upper Iguacu	Piraquara Reservoir	Piraquara	SANEPAR	
<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Intake from the existing Piraquara dam reservoir	0.030 (24 hours/day) (m3/sec)	Integrated Sys with Carvalho intake	(inhabitants)	1994
<Description of Pipeline>				
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pump**	**Others**
0.5 (km)	200/450 (mm)	(m)	2 pumps		
<Future Plan / or Other informations, if any>				
Additional 0.03 m3/sec intake rate is planned at the same intake site in near future.				

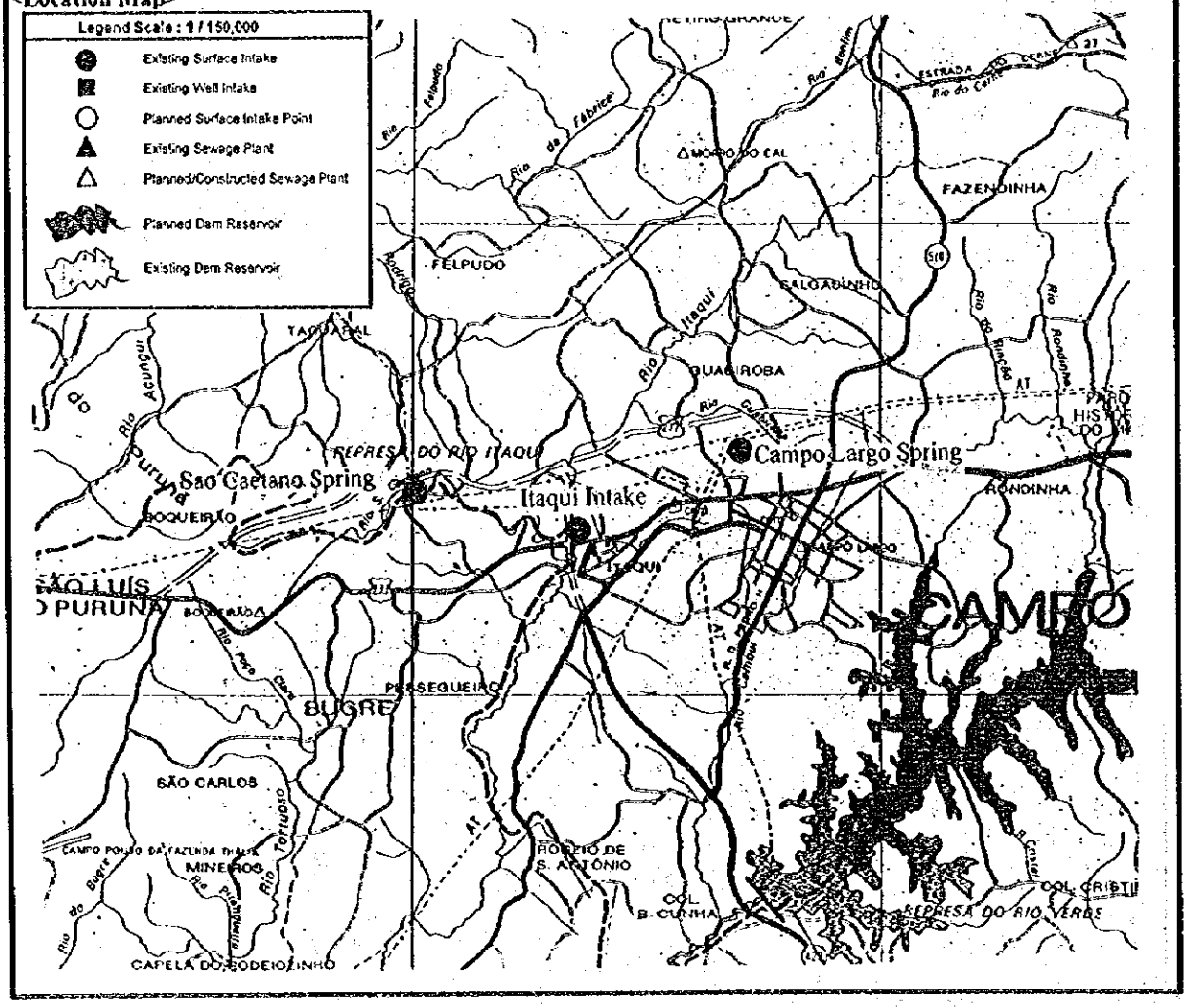
<Location Map>



Description of Existing Intake Facilities

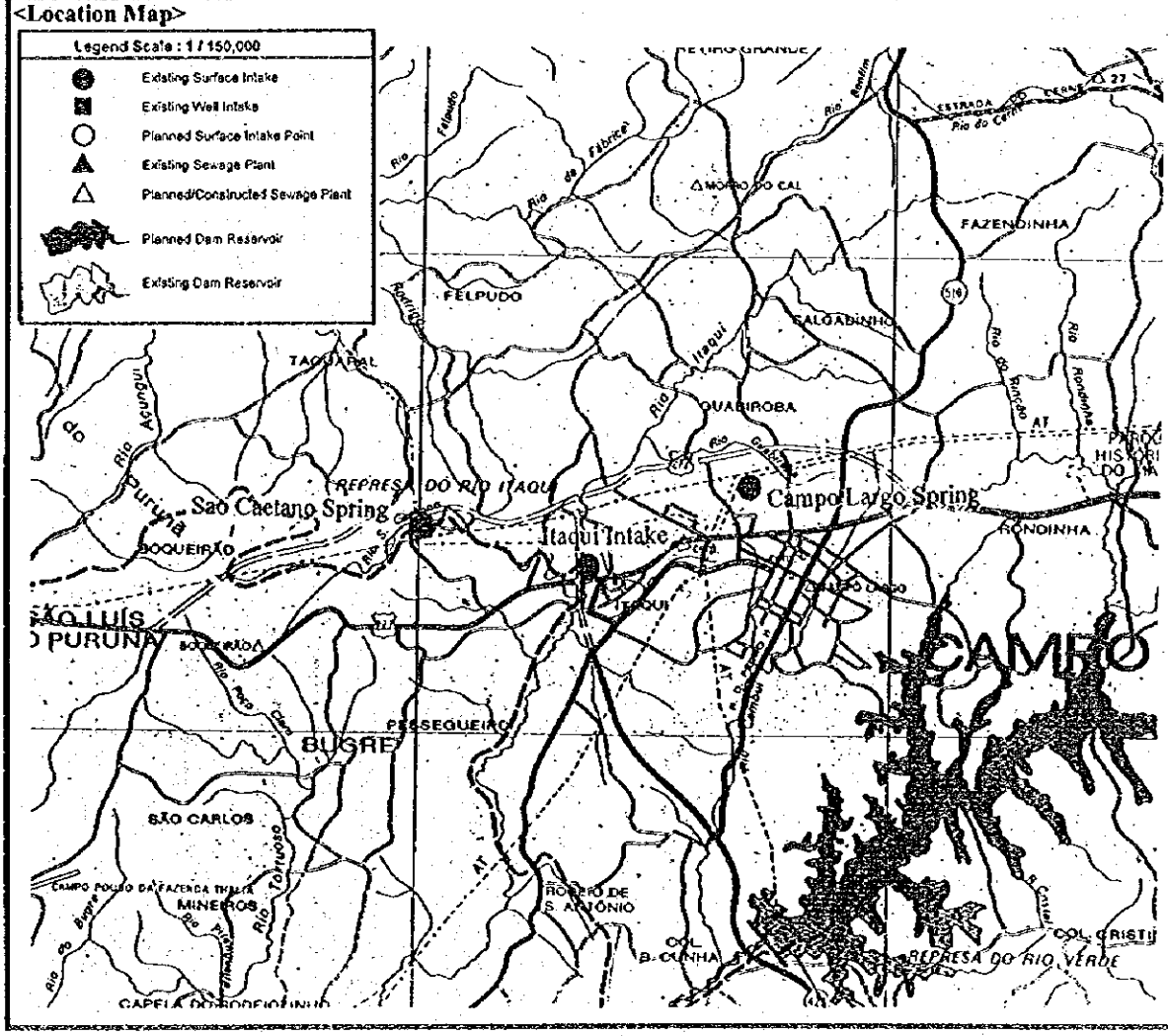
No./Name	Sao Caetano Spring Intake (Campo Largo)			
<Location>				
Basin	River	Municipality	Proprietor	Others
Upper Iguacu	Natural Spring	Campo Largo	Private	
<Description of System>				
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Pumping from natural spring	0.009 (m3/sec)	Supply to a particular area	(connections)	
<Description of Pipeline>				
Length (km)	Diameter (mm)	Water Head (m)	Intake Pump	Intermediate Pump / Others
<Future Plan / or Other informations, if any>				

<Location Map>



Description of Existing Intake Facilities

No./Name				
Campo Largo Spring Intake (Campo Largo)				
<Location>				
Basin	River	Municipality	Proprietor	Others
Upper Iguacu	Natural Spring	Campo Largo	SANEPAR	
<Description of System>				
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Pumping from natural spring	0.033 (m3/sec)	Integrated with Itaqui Intake	(connections)	
<Description of Pipeline>				
Length	Diameter	Water Head	Intake Pump	Intermediate Pump / Others
(km)	(mm)	(m)		
<Future Plan / or Other informations, if any>				
<Location Map>				



Description of Existing Intake Facilities

No./Name				
Itaqui Intake (Campo Largo)				
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Upper Iguacu	Itaqui (w = 10 m)	Campo Largo	SANEPAR	

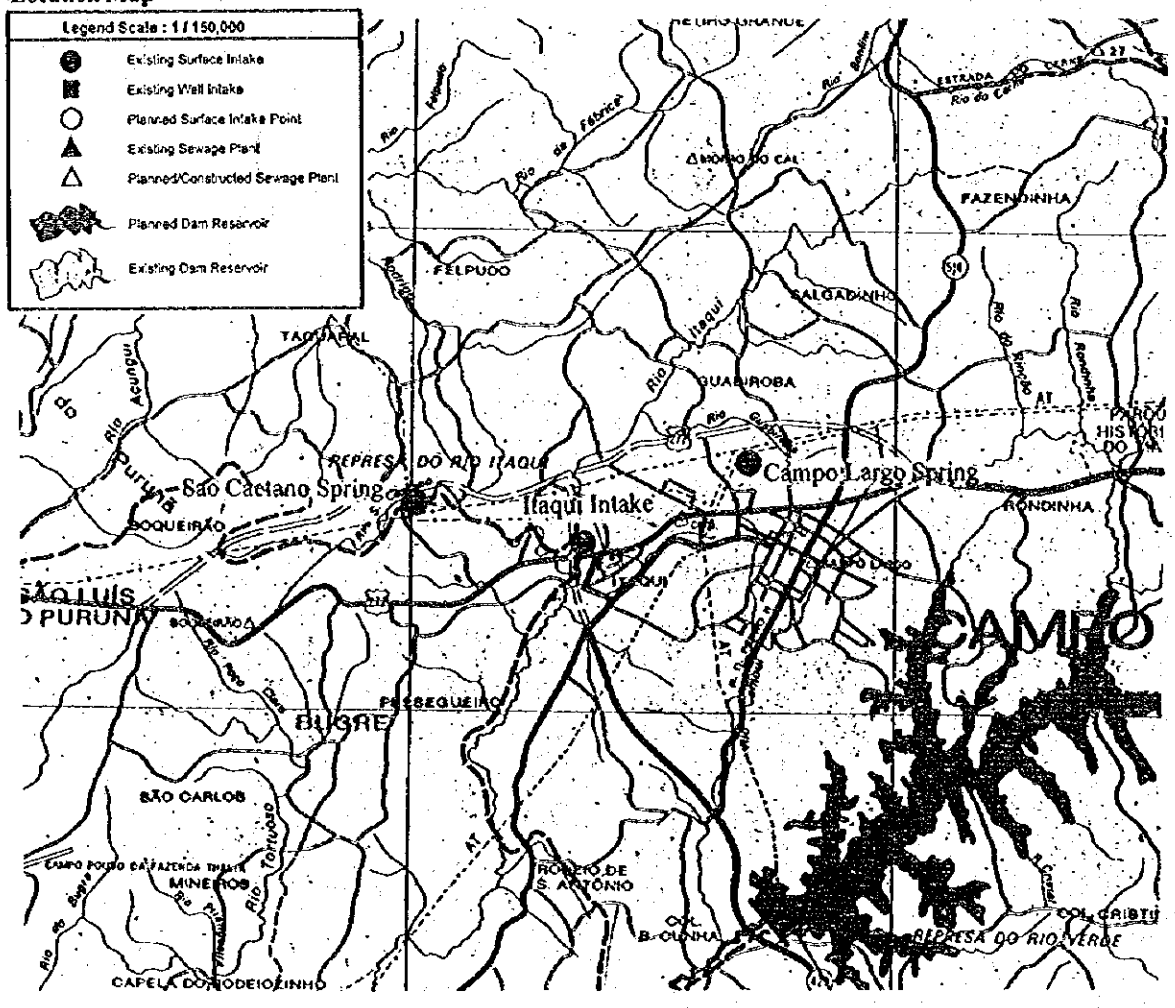
<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Surface Water Direct with weir (weir height = 3 m)	0.07 (24 hours/day) (m3/sec)	Integrated with Campo Largo Spring	12,000 (connections)	1980

<Description of Pipeline>					
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pump**	**Others**
Double Pipes 6 (km)	200 (mm)	133 (Pump Capa.) (m)	2 pumps 200CV (1 is standby)		

<Future Plan / or Other informations, if any>

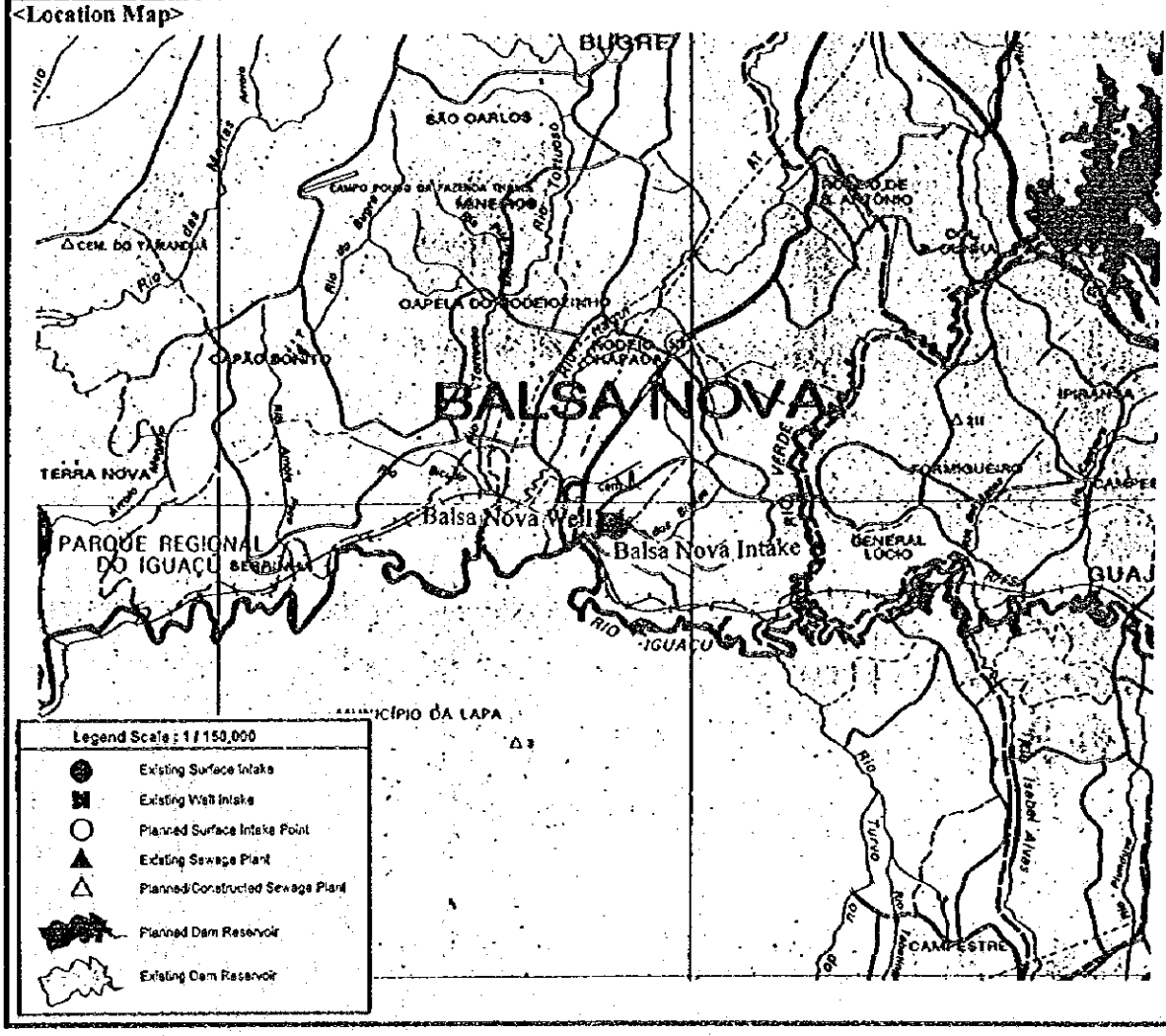
There is a plan to intake from a existing dam reservoir owned by PETROBRAS.
There exist two springs in the municipality, such as "Campo Largo" owned by SANEPAR and "Sao Caetano" owned by private. Only the first one integrated with SANEPAR system.

<Location Map>



Description of Existing Intake Facilities

No./Name	Balsa Nova Intake (Balsa Nova)				
<Location>					
Basin	River	Municipality	Proprietor	Others	
Upper Iguacu	Iguacu	Balsa Nova	SANEPAR		
<Description of System>					
Intake Method	Intake Rate (Operation hour)		Supply System	Supply Connection	Operation Year
Surface Water Direct from reservoir	0.01 (6 hours/day) (m3/sec)		Integrated Sys.with 1 well nearby intake site	855 (connections)	Dec-87
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
0.2 (km)	100 150 (mm)	20 (m)	2 pumps (Submerged Pumps)		
<Future Plan / or Other informations, if any>					
<Location Map>					



Description of Existing Intake Facilities

No./Name Balsa Nova Well (Balsa Nova)

<Location>

Basin	Source	Municipality	Proprietor	Others
Upper Iguacu		Balsa Nova	SANEPAR	

<Description of System>

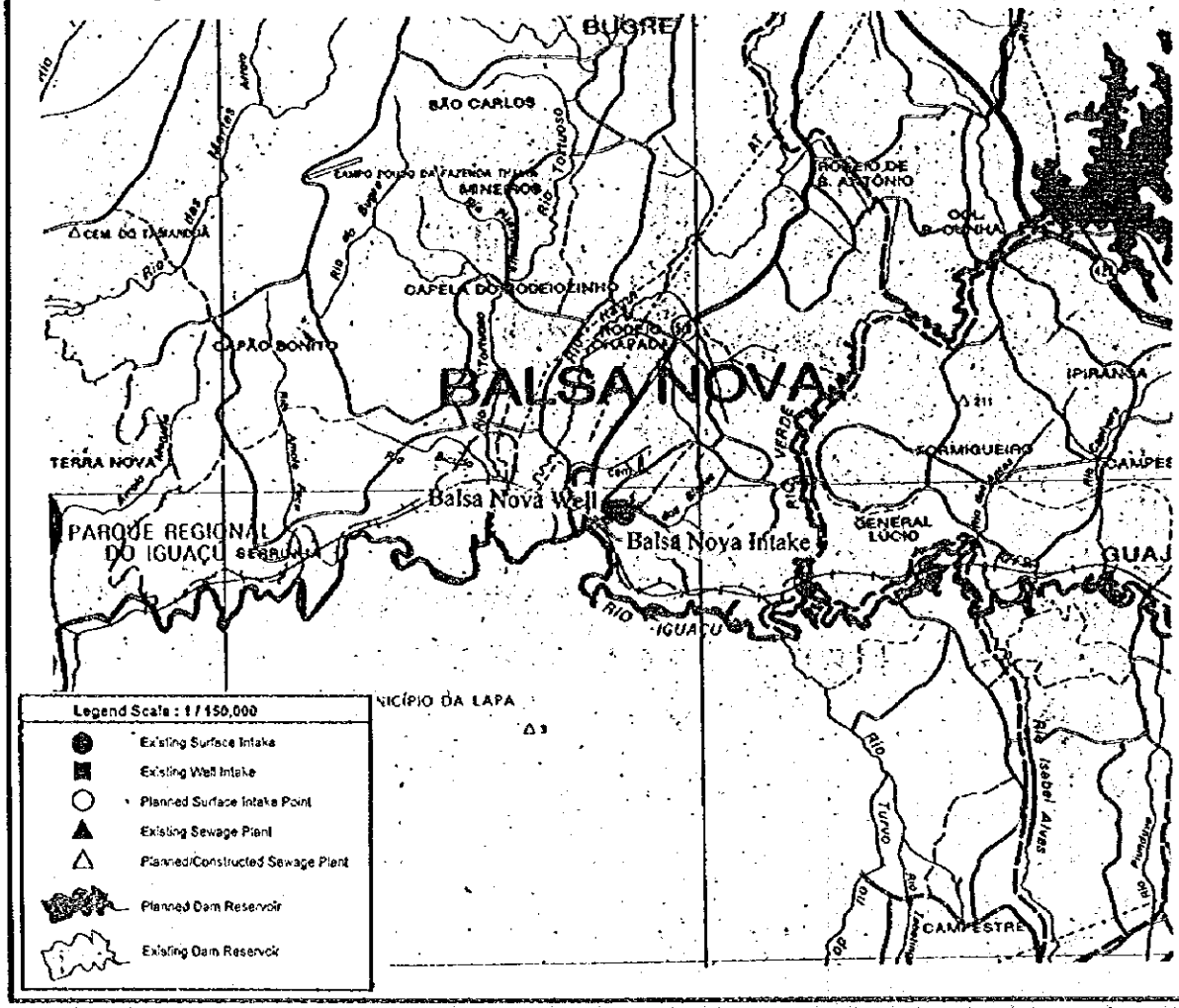
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Groundwater Direct from 1 well	3.6 (20 hours/day) (m3/hour)	Integrated with Balsa Nova Intake	(connections)	1985

<Description of Pipeline>

Length	Diameter	Depth of Well	Intake Pump	Intermediate Pump	Others
0.2 (km)	6 (inches)	100 (m)	2 pump, 15 CV (1 is standby)		

<Future Plan / or Other informations, if any>

<Location Map>



Description of Existing Intake Facilities

No./Name Mauricio Intake (Fazenda Rio Grande)

<Location>

Basin	River	Municipality	Proprietor	Others
Upper Iguacu	Mauricio (w = 7 m)	Fazenda Rio Grande	SANEPAR	

<Description of System>

Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Surface Water Direct with weir (weir height = 1.2 m)	0.045 (24 hours/day) (m3/sec)		8,000 (connections)	1993

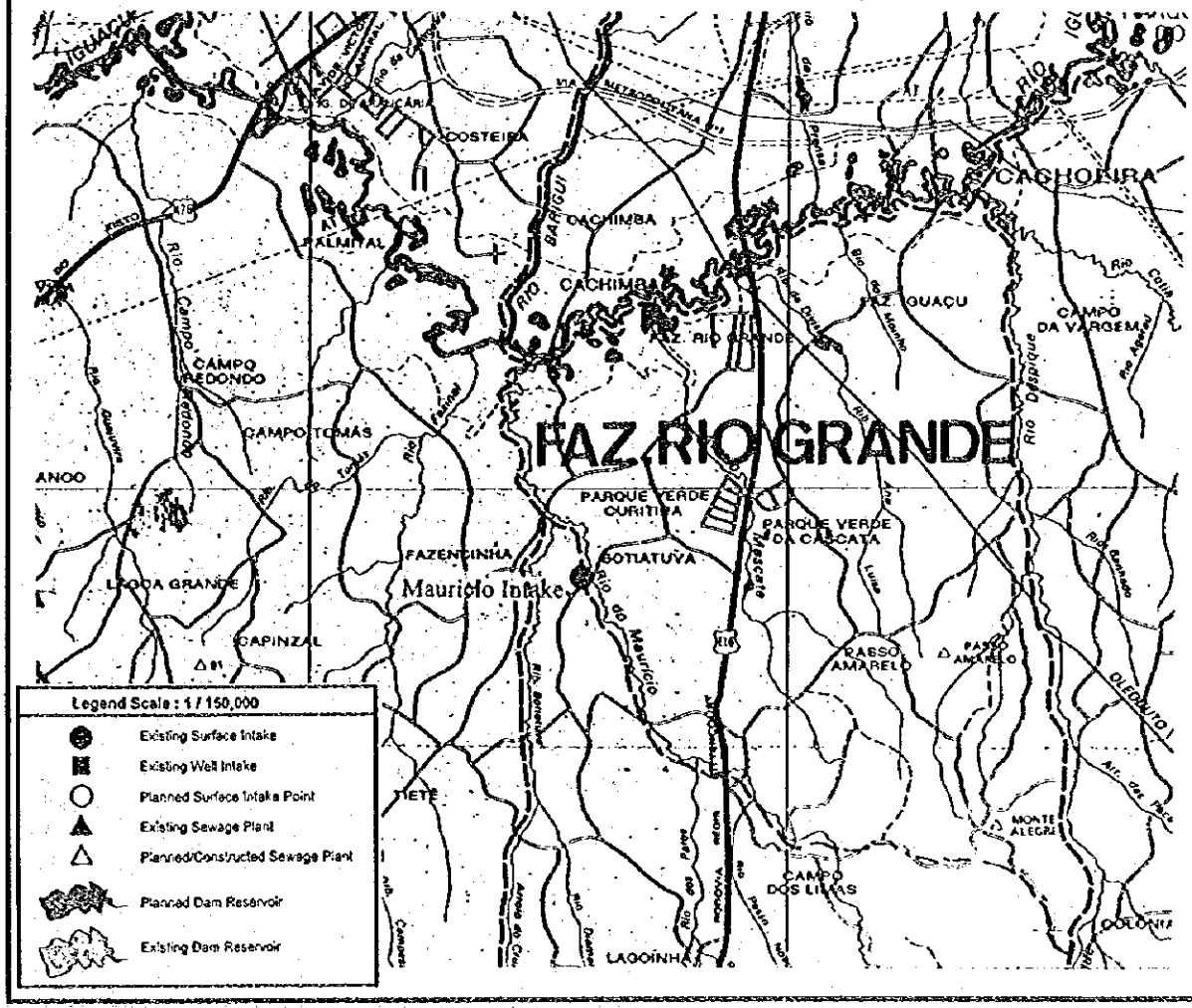
<Description of Pipeline>

Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
6.2 (km)	250 (mm)	(m)	2 pumps Submerged (1 is standby)		

<Future Plan / or Other informations, if any>

SANEPAR has a plan to increase the pump capacity or to add another pump unit for near future.

<Location Map>



Description of Existing Intake Facilities

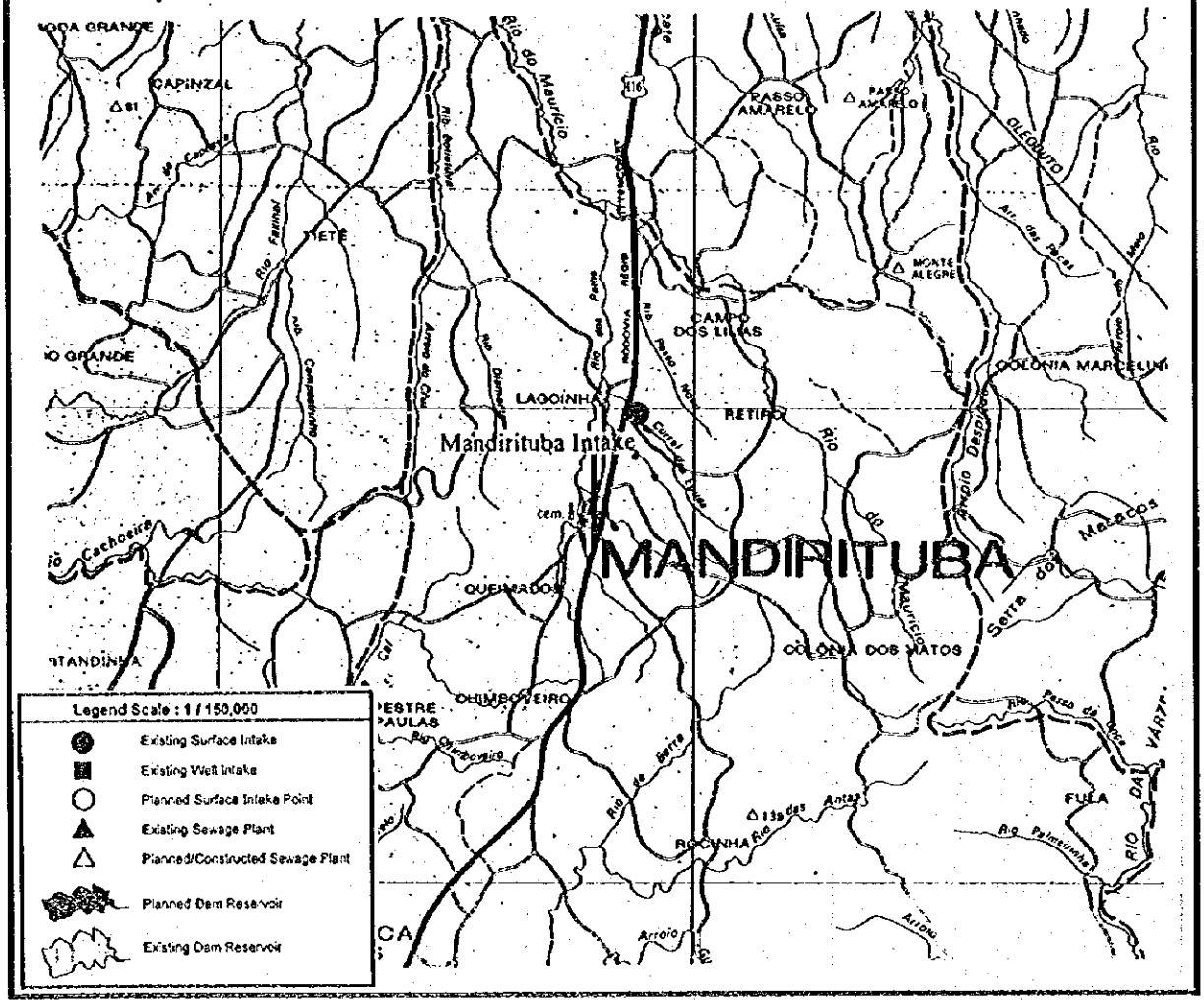
No./Name	Mandirituba Intake (Mandirituba)			
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Upper Iguacu	Rib. Curral das Eguas	Mandirituba	SANEPAR	The river width is 1.0 - 1.5 m.

<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Surface Water Direct from reservoir	0.01 (13 hours/day) (m3/sec)	Integrated with two wells	950 (connections)	Aug-88

<Description of Pipeline>					
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pump**	**Others**
3 (km)	100 (mm)	(m)	2 pumps, 25CV (Submerged) (1 is standby)		

<Future Plan / or Other informations, if any>

<Location Map>



Description of Existing Intake Facilities

No./Name Mandirituba Wells (Mandirituba)

<Location>

Basin	Source	Municipality	Proprietor	Others
Upper Iguacu		Mandirituba	SANEPAR	

<Description of System>

Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Groundwater Direct from 2 wells	11.4 (total of 2 wells) (m3/hour)	Integrated with Mandirituba Intake	(connections)	

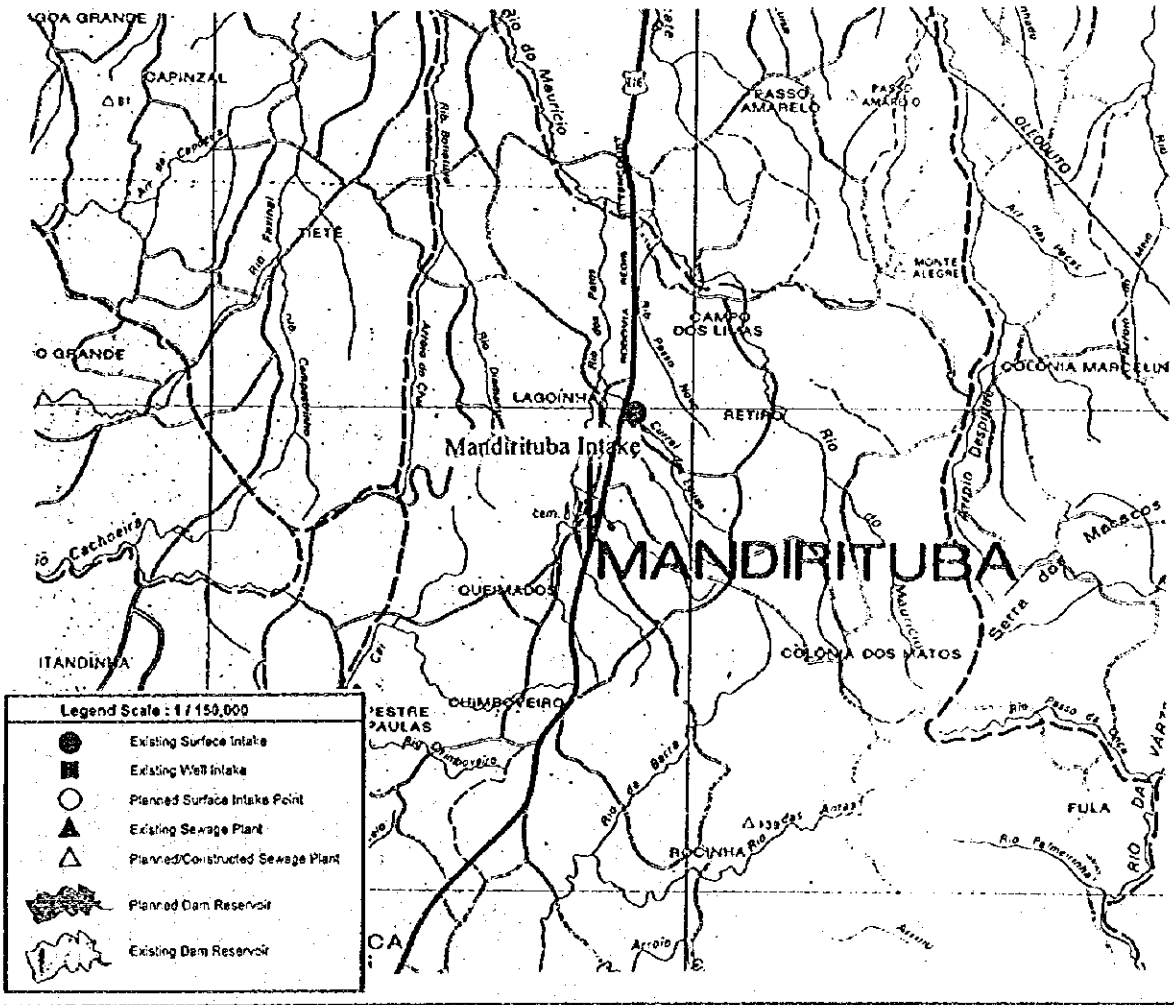
<Description of Pipeline>

No. of Well	Length	Diameter	Depth of Well	Intake Rate	Intake Pump	Others
No.1		8	107	5.7	1 pump, 15 CV	
No.2		8	102	5.7	1 pump, 15 CV	
	(km)	(inches)	(m)	(m3/hour)		

<Future Plan / or Other informations, if any>

The water from the wells are directly pumped to reserve tank of distribution.

<Location Map>



Description of Existing Intake Facilities

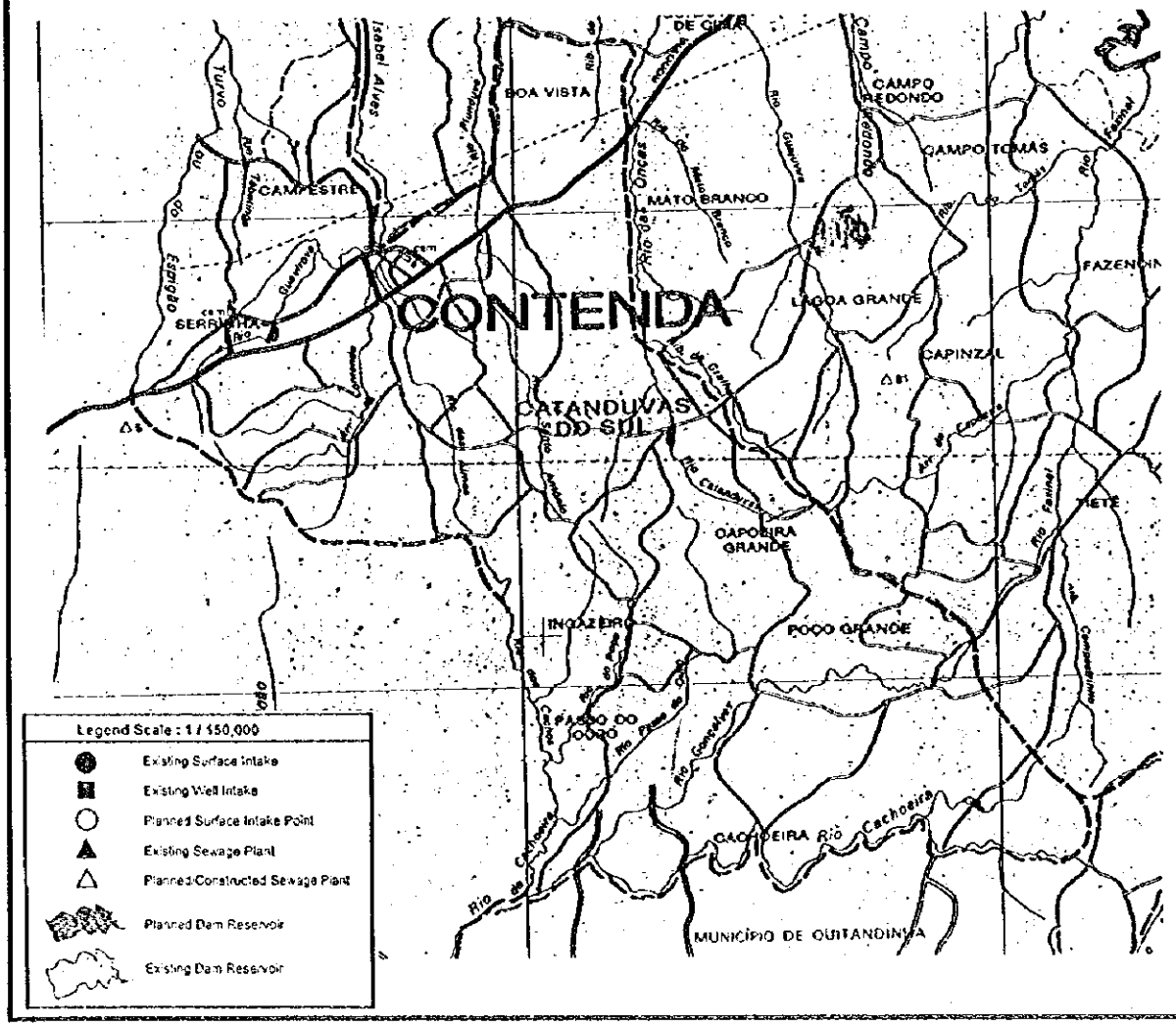
No./Name	Contenda Wells (Contenda)			
<Location>				
Basin	Source	Municipality	Proprietor	Others
Upper Iguacu		Contenda	SANEPAR	

<Description of System>				
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Groundwater Direct from 4 wells	42.700 (m3/hour)		(connections)	

<Description of Pipeline>						
No. of Well	Length	Diameter	Depth of Well	Intake Rate	Intake Pump	Others
No.1						
No.2		8	112	24	1 pump, 15 CV	
No.3		6	80	13	1 pump, 10 CV	
No.4		6	150	5.7	1 pump, 5 CV	
	(km)	(inches)	(m)	(m3/hour)		

<Future Plan / or Other informations, if any>

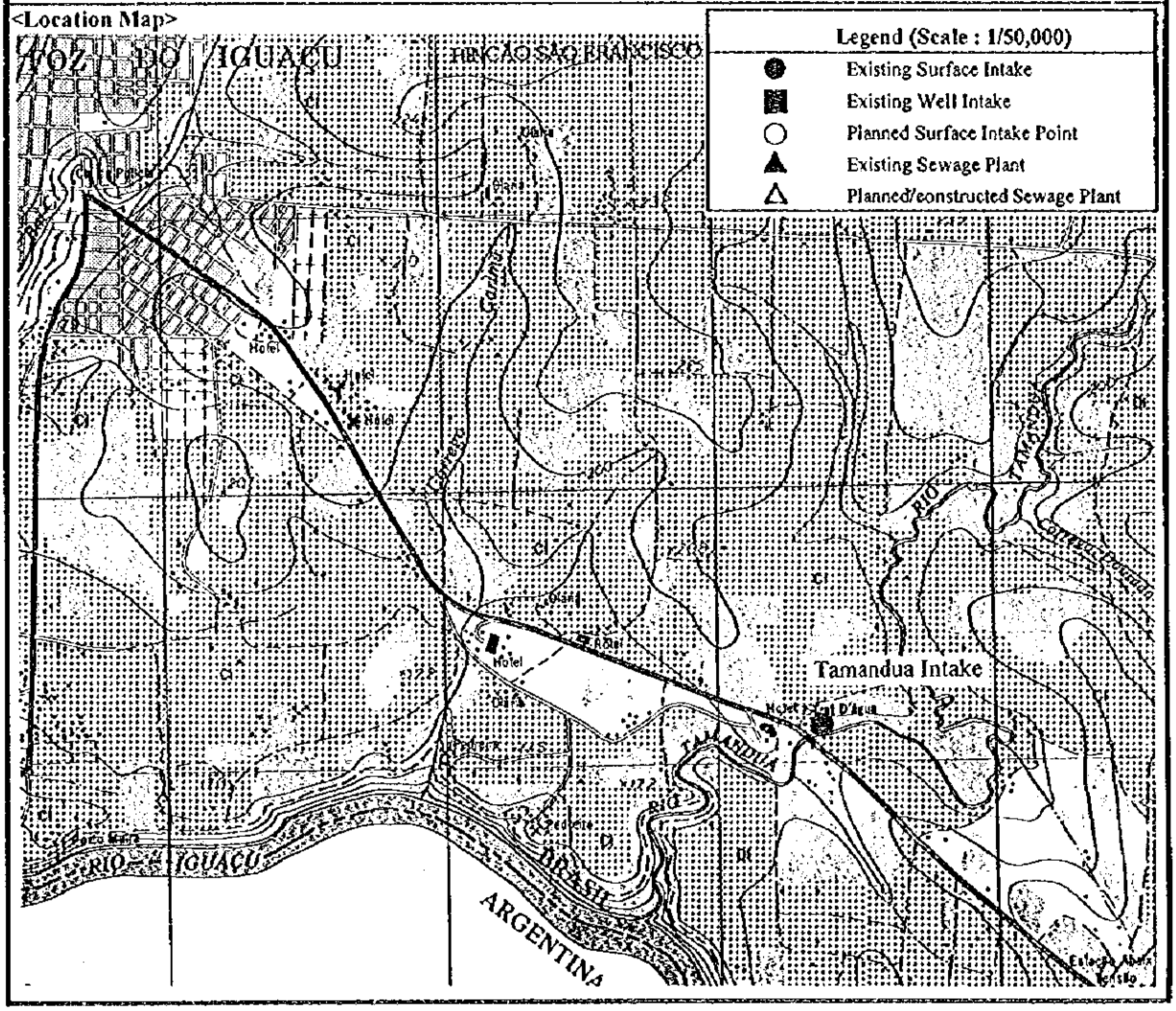
<Location Map>



Description of Existing Intake Facilities

No./Name					
Tamandua Intake (Foz do Iguacu)					
<Location>					
Basin	River	Municipality	Proprietor	Others	
Iguacu	Tamandua (w = 16 m)	Foz do Iguacu	SANEPAR		
<Description of System>					
Intake Method	Intake Rate (Operation hour)		Supply System	Supply Connection	Operation Year
Surface Water	0.42 (7:00 - 24:00)		Integrated Sys.		
Direct with weir	0.30 (0:00 - 7:00)		with Vila "C"	33,000	Aug. 1978
(weir height = 2 m)	(m3/sec)			(connects)	
<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
(km)	500 (mm)	20 (m)	3 Pumps		Gross Water Loss 50 %
<Future Plan / or Other informations, if any>					

<Location Map>



Description of Existing Intake Facilities

No./Name				
Vila "C" Intake (Foz do Iguacu)				
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Parana	Itaipu Reservoir	Foz do Iguacu	SANEPAR	

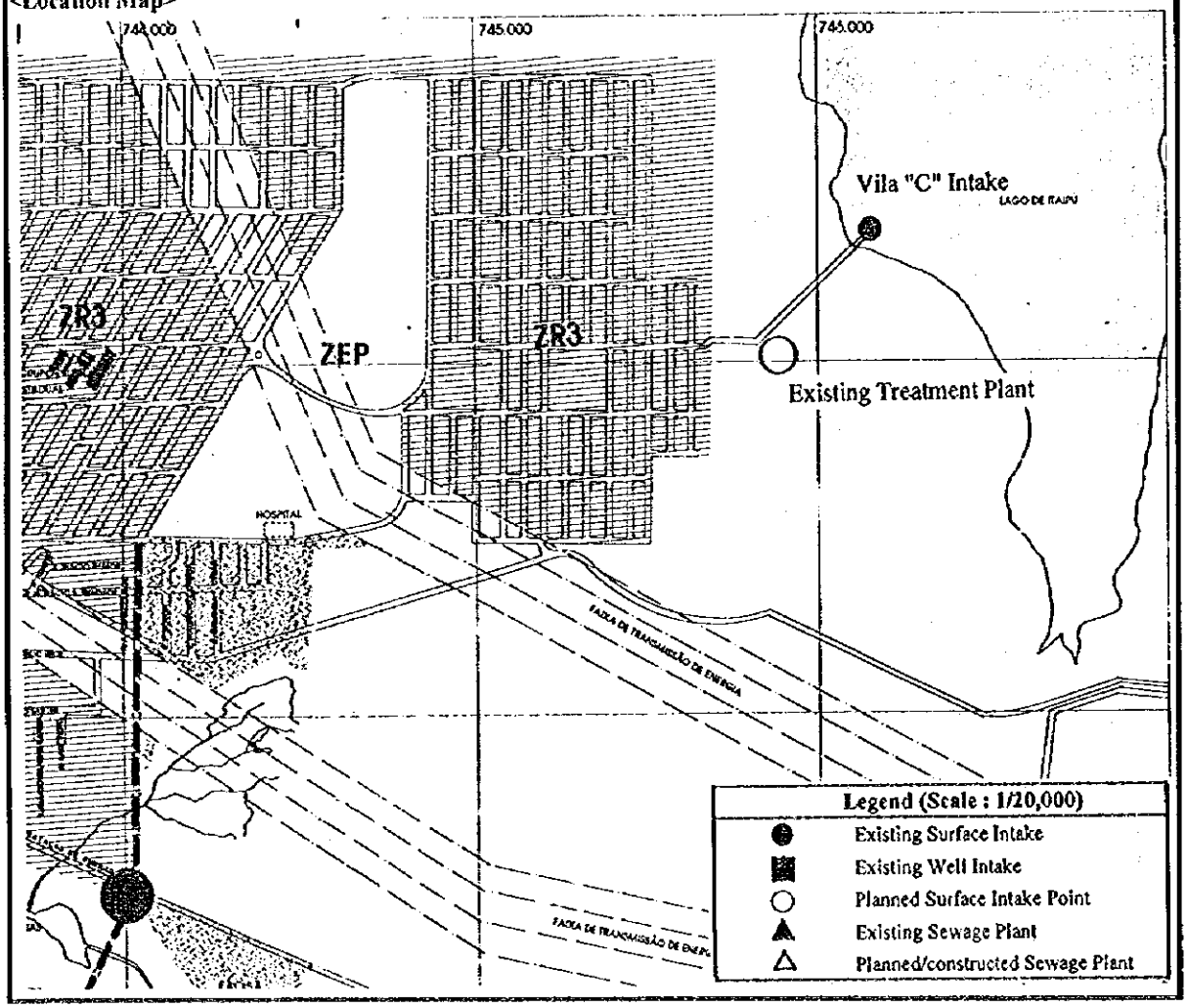
<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Surface Water Direct	0.30 (21 hour/day) (m3/sec)	Integrated Sys. with Tamandua	33,000 (connects)	Sep. 1992

<Description of Pipeline>					
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pump**	**Others**
5 (km)	500 (mm)	29 (m)	2 Pumps (175 CV/Pump)		Gross Water Loss 50 %

<Future Plan / or Other informations, if any>

3 more pumps will be installed in the future as same intake rate of exsiting pump.

<Location Map>



Description of Existing Intake Facilities

No./Name	Cascavel Intake (Collecting System from Peroba intake and Saltinho intake) (Cascavel)			
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Iguacu	Cascavel (w = 5 m)	Cascavel	SANEPAR	Intake site exists 50 m upstream from confluence of Quanti river (outlet of Sewage treatment).

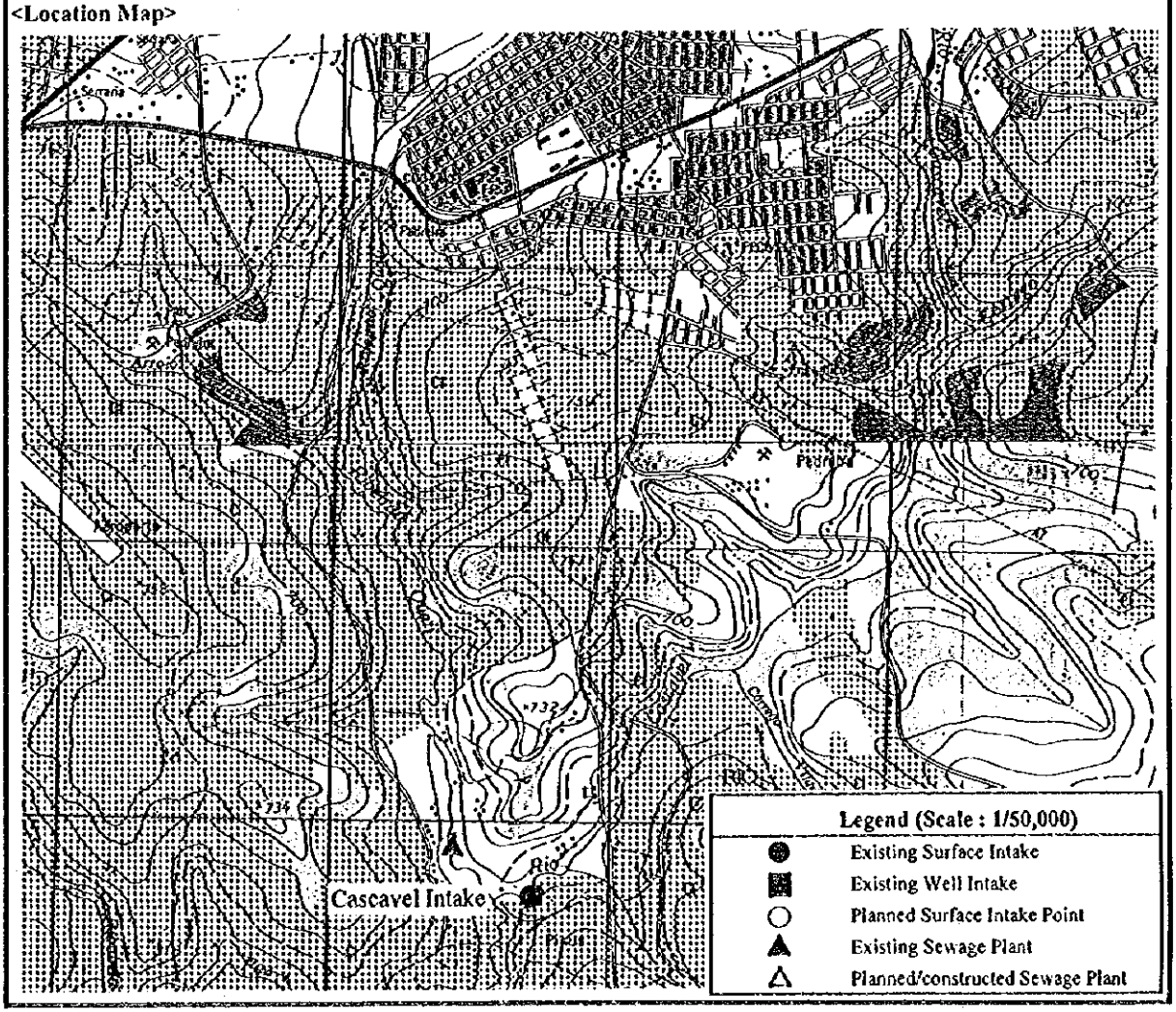
<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Surface Water Direct	0.48 (max.) 0.11 (mean, 24 hours) (m3/sec)	Integrated Sys.	188,327 inhabitants	Jan.1973

<Description of Pipeline>					
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pump**	**Others**
7.2 (km)	700 (mm)	173.3 (m)			

<Future Plan / or Other informations, if any>

Additional water are collected from other 2 intake sites (Saltinho river and Pez river) when water shortage occures.
Total intake capacity of 3 intake systems reaches 824.94 lit/sec.

<Location Map>



Description of Existing Intake Facilities

No./Name Peroba Intake (Emergency Intake) (Cascavel)

<Location>

Basin	River	Municipality	Proprietor	Others
Iguacu	Rio de Pez (w = 7 m)	Cascavel	SANEPAR	This river is one of tributory of Cascavel river.

<Description of System>

Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Surface Water Direct with weir (weir hight = 2 m)	0.13 (12 hour/day) (m3/sec)	Supply to Cascavel intake	(188,327 inhabitants)	1982

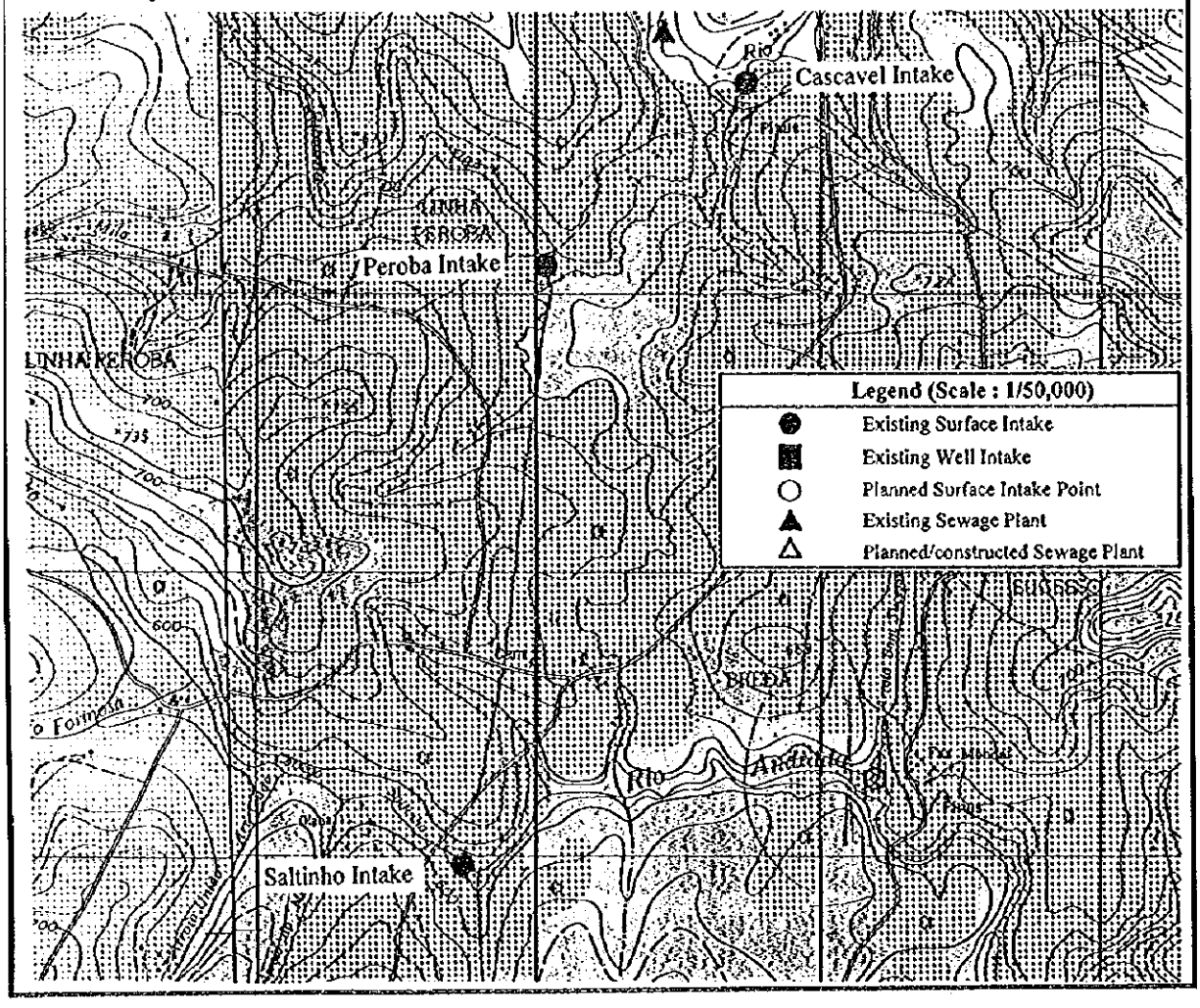
<Description of Pipeline>

Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
1.8 (km)	500 400 (mm)	26.6 (m)	2 pumps (1 is standby) (75 CV/pump)		

<Future Plan / or Other informations, if any>

This intake water supply to Cascavel intake site when water shortage occurs.

<Location Map>



Description of Existing Intake Facilities

No./Name				
Saltinho Intake (Emergency Intake) (Cascavel)				
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Iguacu	Saltinho	Cascavel	SANEPAR	This river is one of tributory of Cascavel river.

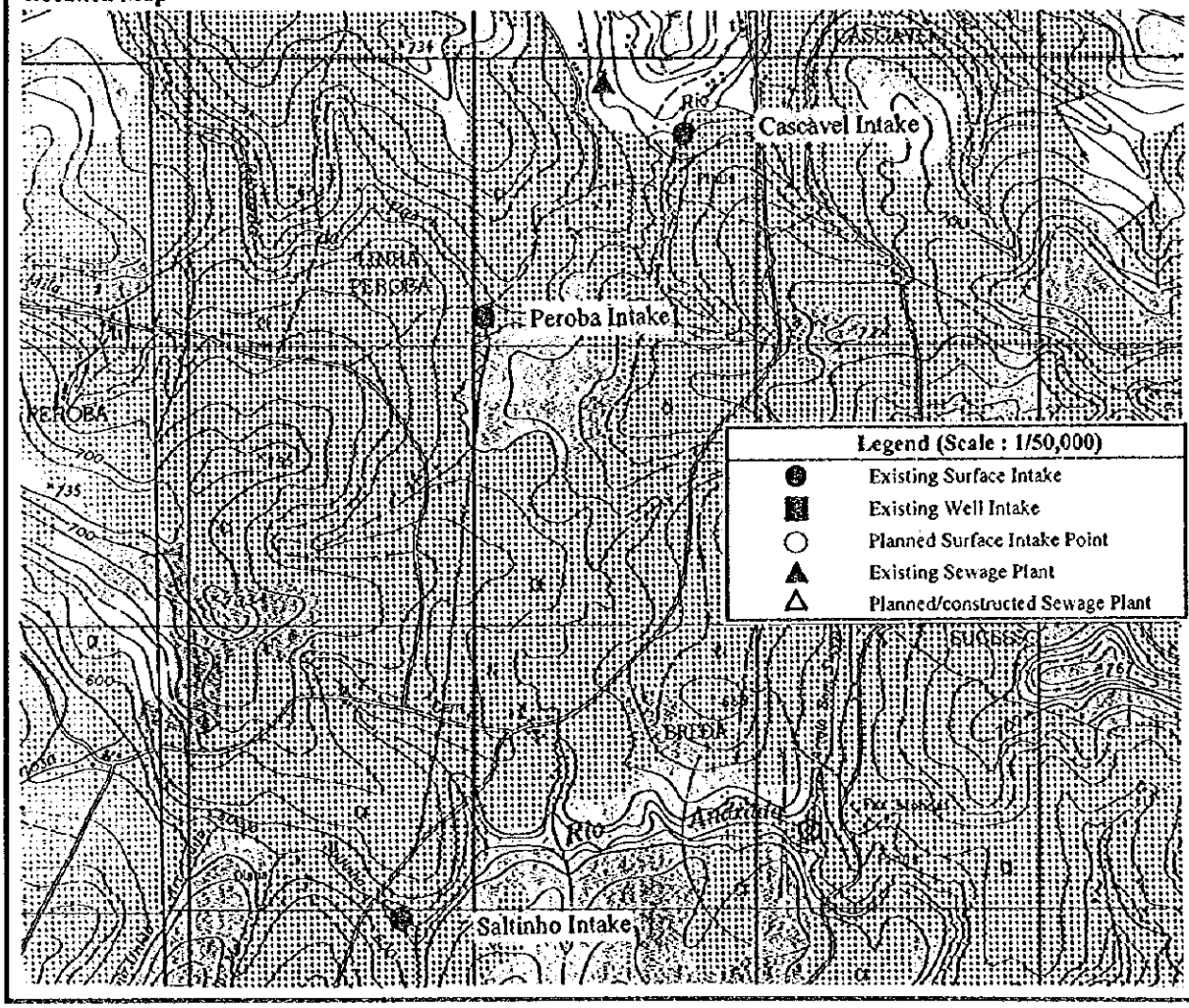
<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Surface Water Direct with weir	0.06 (m3/sec)	Supply to Peroba intake	(188,327 inhabitants)	1982

<Description of Pipeline>					
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pum**	**Others**
3.99 (km)	400 (mm)	106 (m)	2 pumps (1 is standby) (75 CV/pump)		

<Future Plan / or Other Informations, if any>

This intake water supply to Cascavel intake site when water shortage occurs.

<Location Map>



Description of Existing Intake Facilities

No./Name	Firela Intake (Guaraniacu)			
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Piquiri	Firela (w = 15 m)	Guaraniacu	SANEPAR	

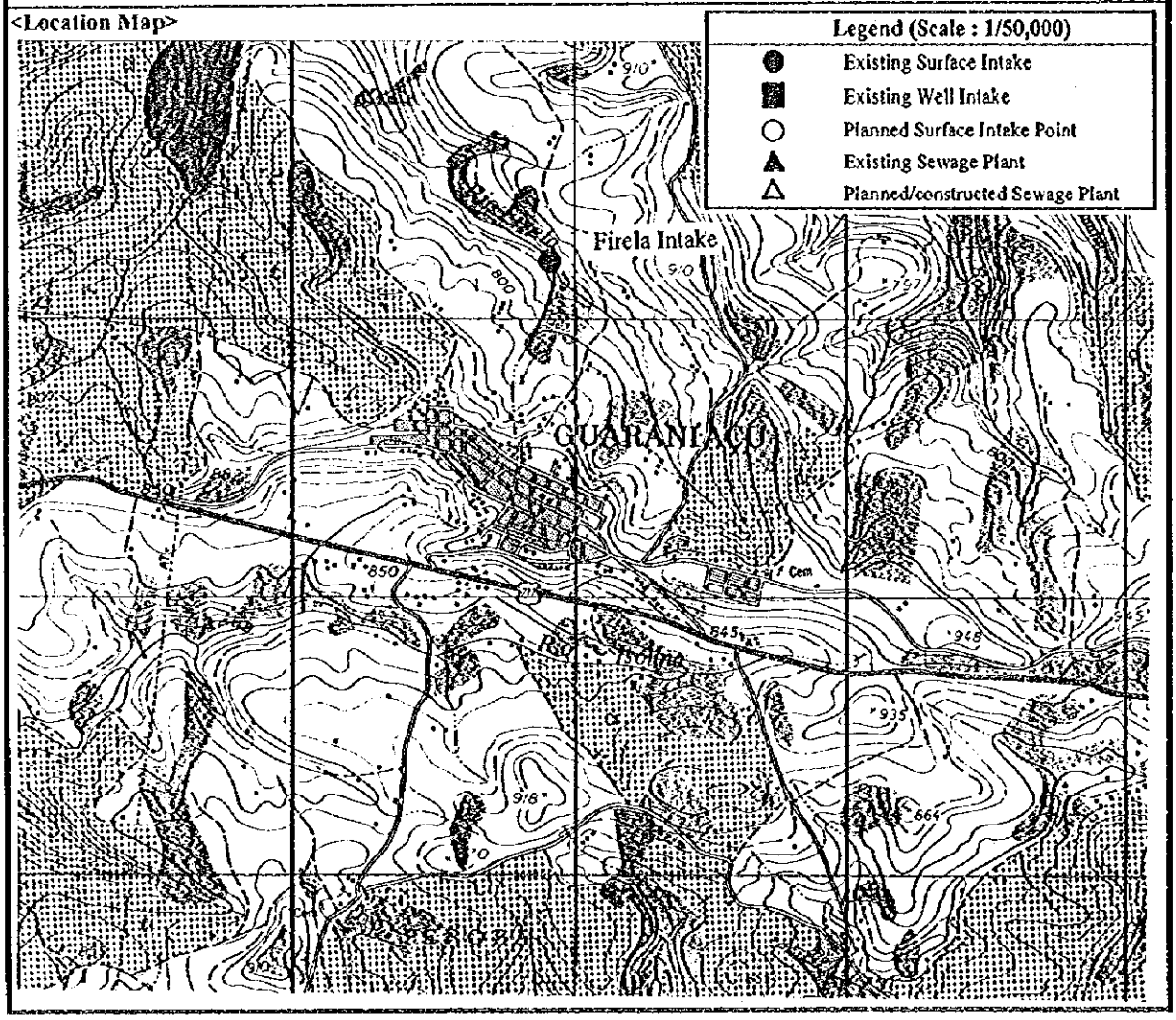
<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Surface Water Direct with weir (weir height = 2 m)	0.025 (12 hour/day) (m3/sec)		7,961 (inhabitants)	Sep.1980

<Description of Pipeline>					
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pump**	**Others**
5.1 (km)	150 (mm)	258.5 (m)	4 pumps (2 is standby) (100, 75 CV)		

<Future Plan / or Other informations, if any>

There is a future plan at San Francisco river, because upstream of existing intake is affected by outlet of hog yard.

<Location Map>



Description of Existing Intake Facilities

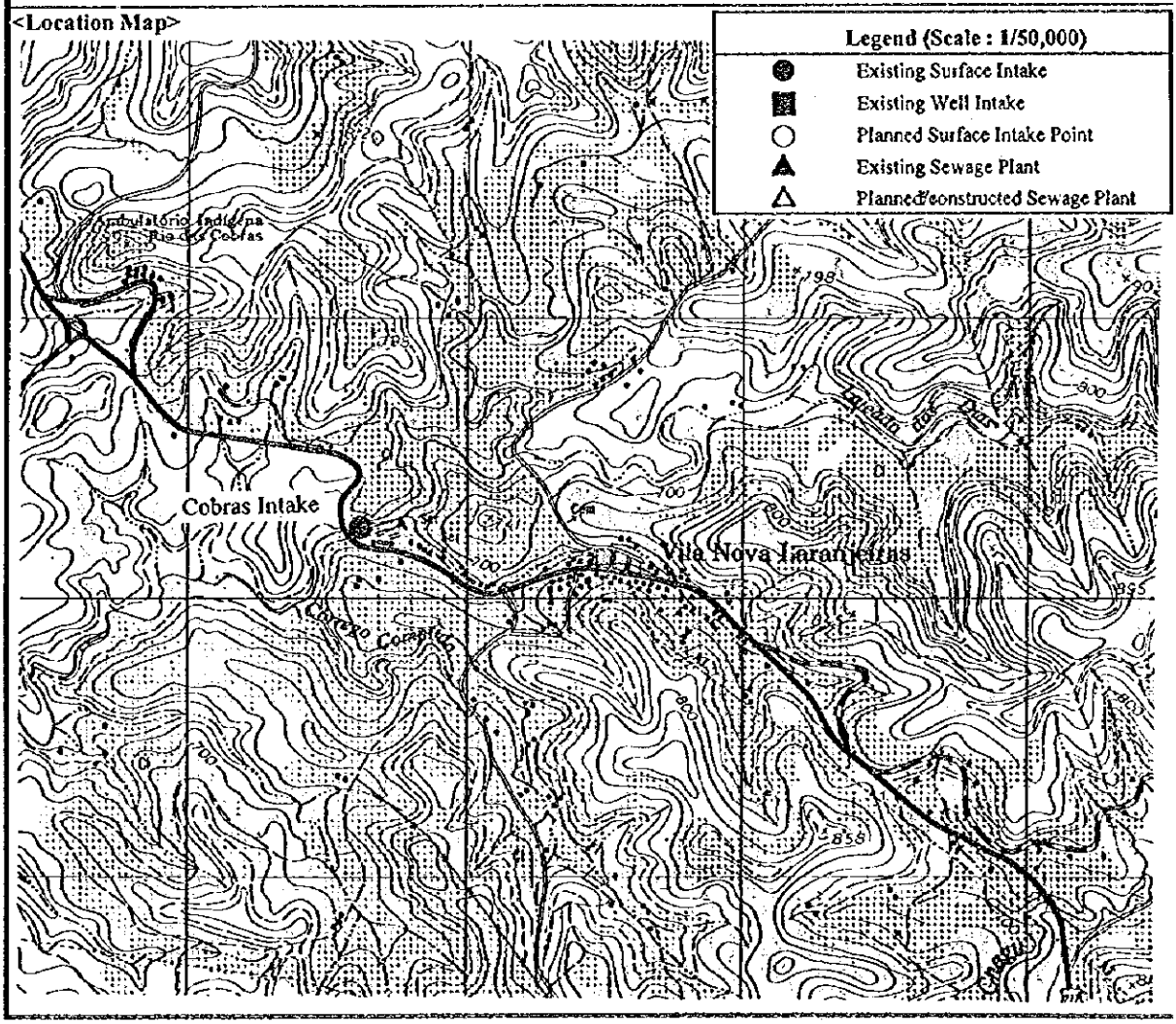
No./Name				
Cobras Intake (Nova Laranjeiras)				
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Iguacu	Cobras (w = 7 m)	Nova Laranjeiras	SANEPAR	

<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Surface Water Direct with weir	0.006 (5 hour/day) (m3/sec)		711 (inhabitants)	1983

<Description of Pipeline>					
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pump**	**Others**
0.2 (km)	75 (mm)	10 - 12 (m)	2 pumps (1 is standby)		

<Future Plan / or Other informations, if any>

<Location Map>



Description of Existing Intake Facilities

No./Name				
Leao Intake (Laranjeiras do Sul)				
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Iguacu	Leao	Laranjeiras do Sul	SANEPAR	

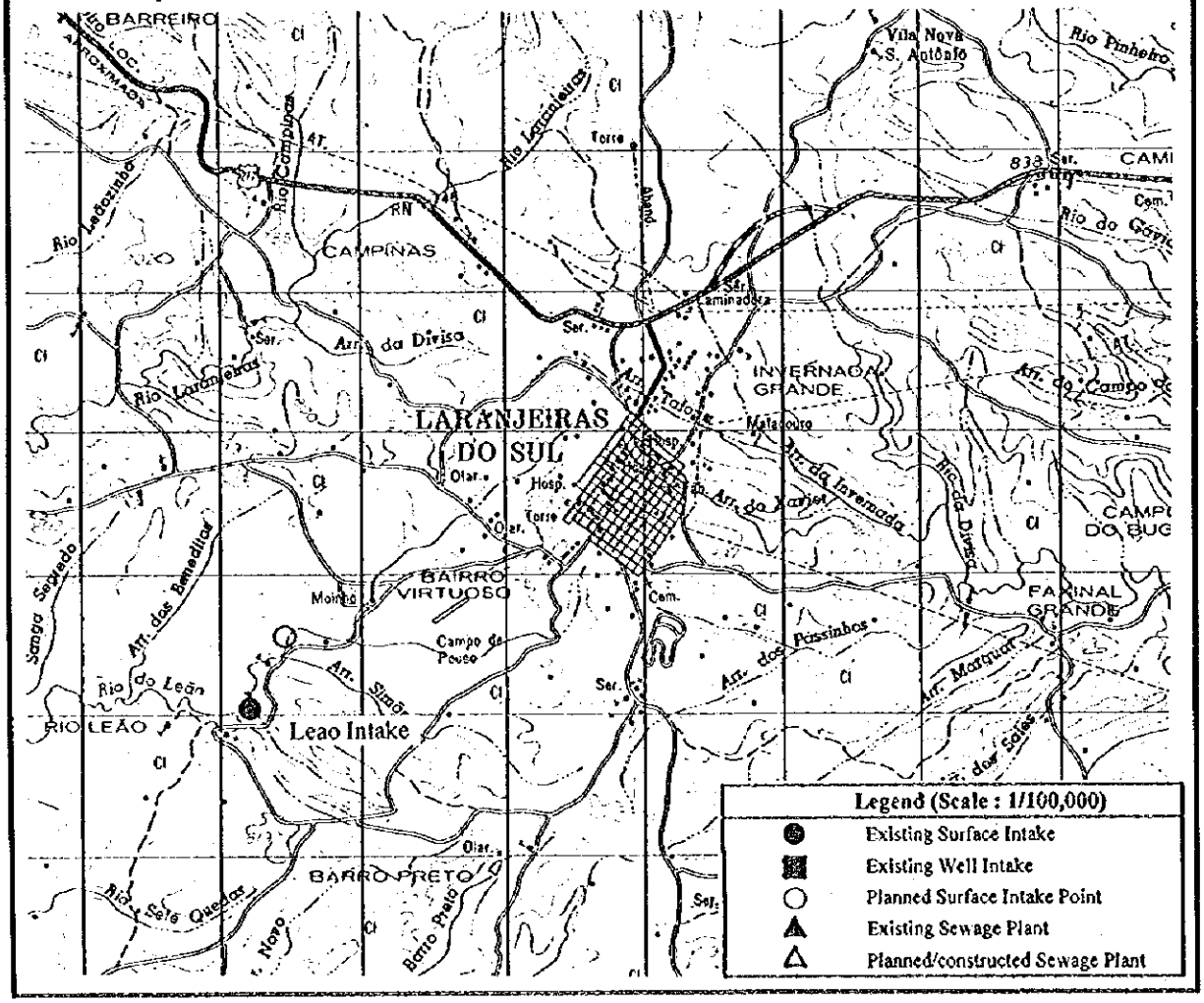
<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Surface Water Direct with weir (weir height = 1 m)	0.050 (18.5 hour/day) (m3/sec)		19,780 (inhabitants)	1978

<Description of Pipeline>					
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pump**	**Others**
5.1 0.6 (km)	150 x 2 200 (mm)	160 (m)	4 pumps (2 is standby) (100, 125 CV)		

<Future Plan / or Other informations, if any>

There is a future plan at 4 km downstream of the existing intake, facility desigh has finished on 1983.

<Location Map>



Description of Existing Intake Facilities

No./Name
Pedras Intake (Guarapuava)

<Location>

Basin	River	Municipality	Proprietor	Others
Iguacu	Rio das Pedras	Guarapuava	SANEPAR	

<Description of System>

Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Surface Water				1966
Direct with weir	0.300 (17 hour/day) (m3/sec)		26,334 (connections)	1983(updating)

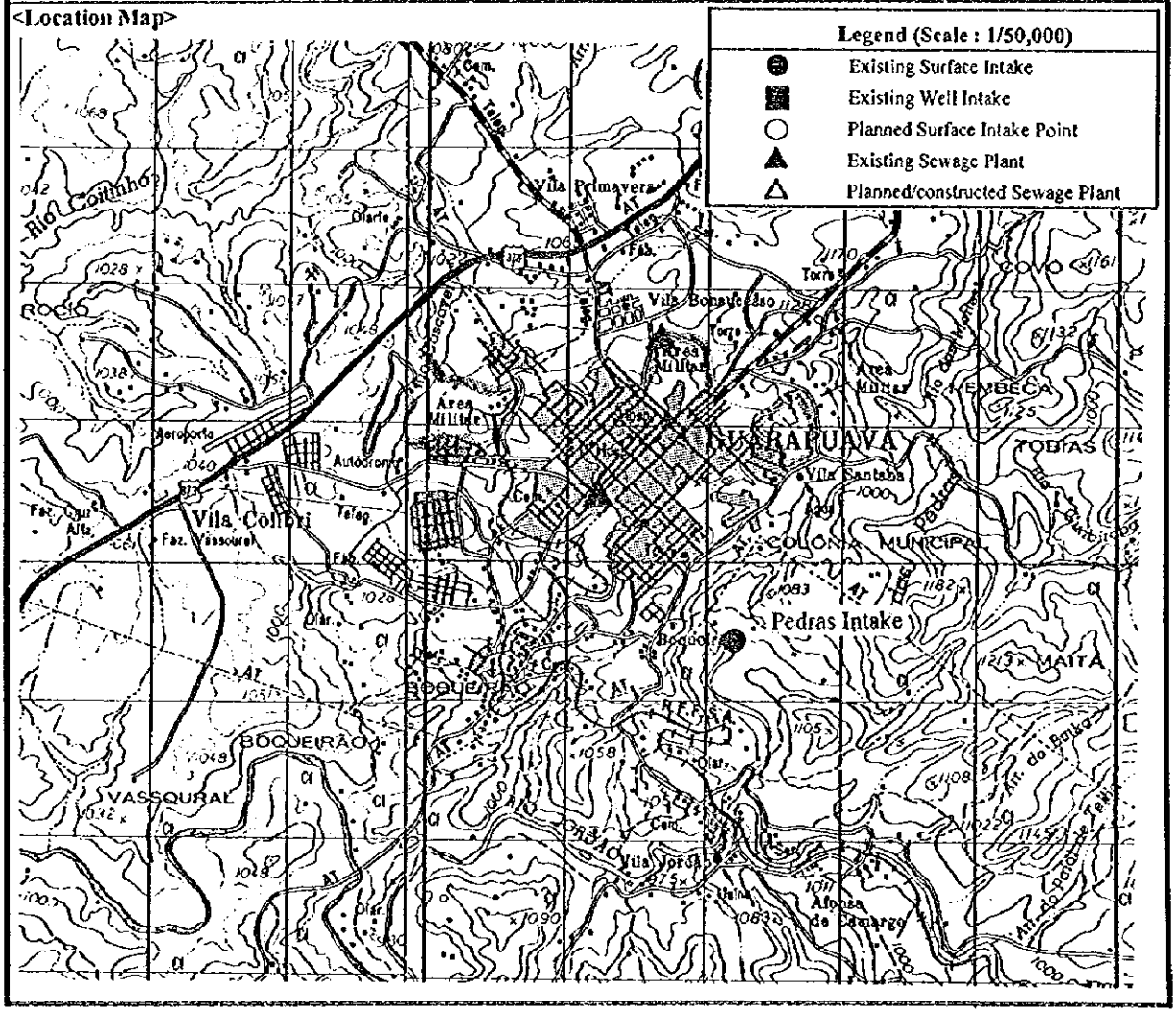
<Description of Pipeline>

Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
1.12 (km)	400 350 (mm)	200 (m)	3 pumps (1 is standby) 600 x 2, 450 CV		Gross water loss 34 %

<Future Plan / or Other informations, if any>

There is a future plan at bananas river. (2004)

<Location Map>



Description of Existing Intake Facilities

No./Name Invernada Intake (Pinhao)

<Location>

Basin	River	Municipality	Proprietor	Others
Iguacu	Invernada	Pinhao	SANEPAR	Intake river is a tributory of Pinhao river.

<Description of System>

Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Surface Water Direct	0.019 (16 hour/day) (m3/sec)	370 ha supply area	2,310 (connections)	1980

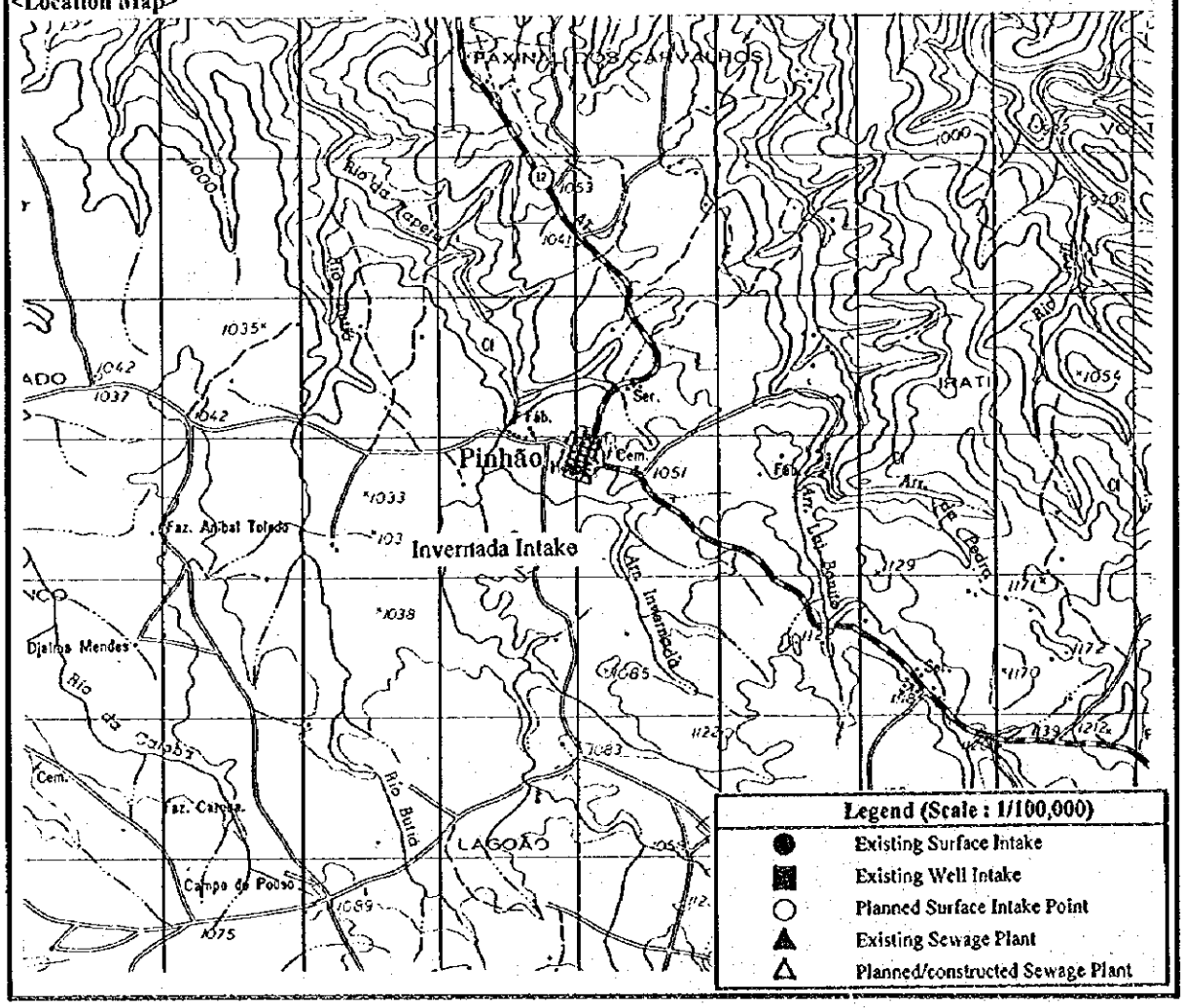
<Description of Pipeline>

Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
1.5 (km)	150 (mm)	40 (m)	2 pumps (1 is standby) (20 CV/pump)		

<Future Plan / or Other Informations, if any>

There is a future plan at Arr.Laj.Bonito river.

<Location Map>



Description of Existing Intake Facilities

No./Name				
Tibagi Intake - EEB13 (Londrina)				
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Tibagi	Tibagi (w = 150 m)	Londrina	SANEPAR	Integrated sys. with Cafezal Intake

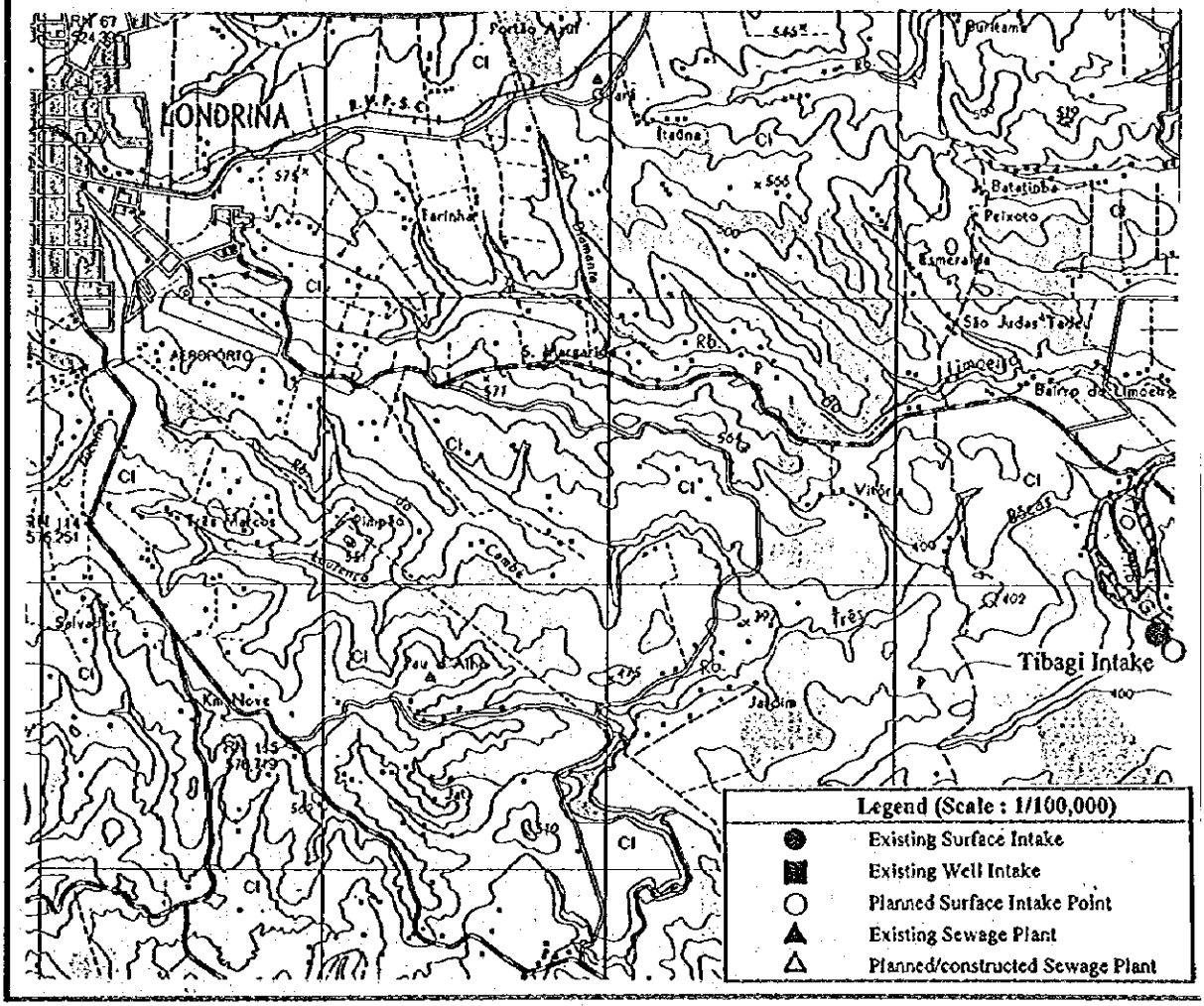
<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Surface Water Direct	1.20 (16 hours/day) (m3/sec)	supply to Londrina and Cambe urban area	140,000 (economy)	Dec. 1991

<Description of Pipeline>					
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pump**	**Others**
12.036 (km)	900 800 (mm)	230 (m)	4 pumps (2 is standby) (150 CV/pump)	Two intermediate pump stations (3 pumps, 1500 CV)	Gross water loss with Cafezal intake is 40 % (Dec.1994)

<Future Plan / or Other informations, if any>

There is a plan of hydroelectric dam by COPEL at Jataizinho (Sep. 2002), backwater of future reservoir will cover this intake facility. (about 10 m heigher) Additional 2 intake pumps, pipeline and treatment plant are planned to install in the future (1998). The future intake rate will be 2.4 m3/sec.

<Location Map>



Description of Existing Intake Facilities

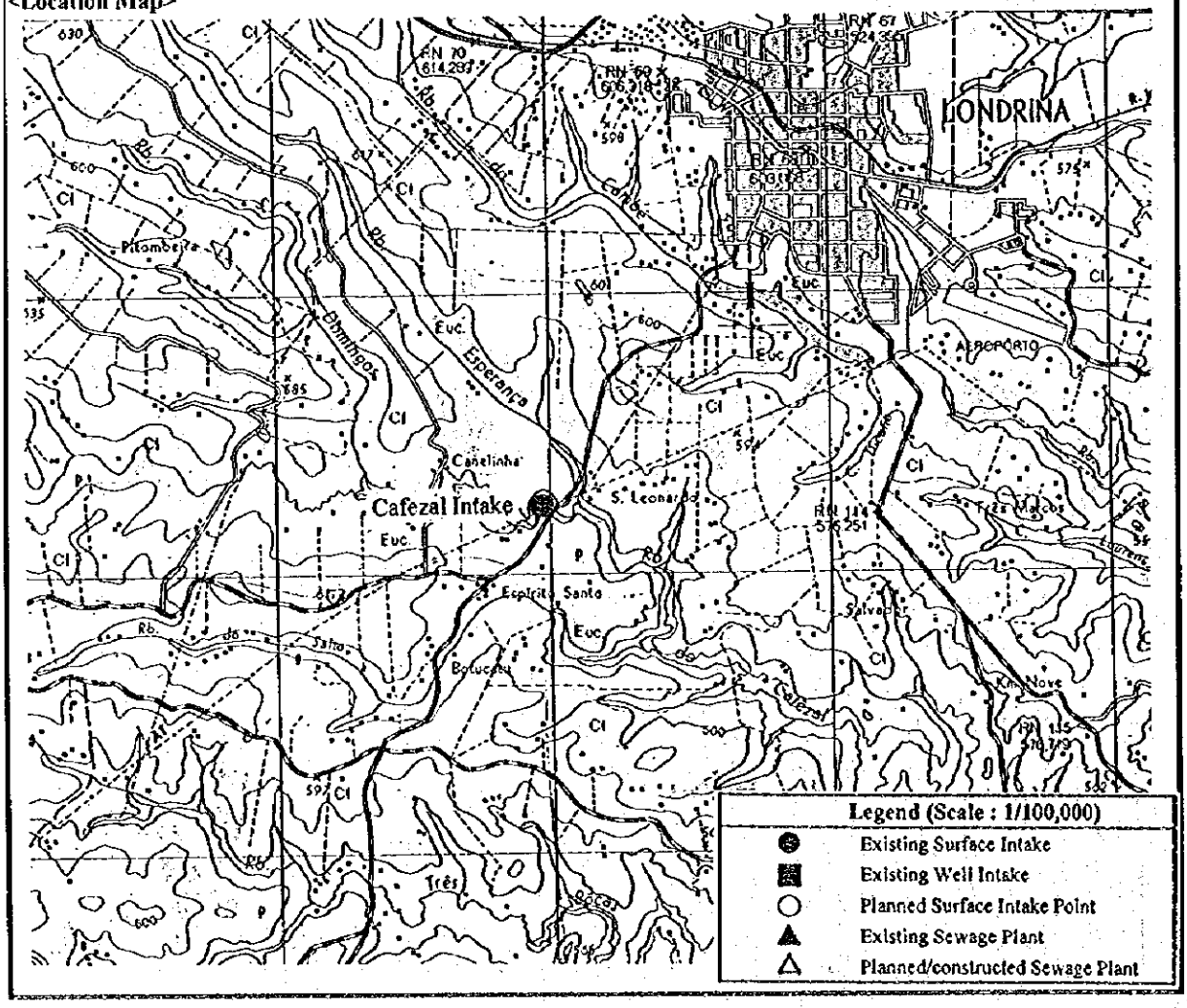
No./Name	Cafezal Intake - EEB1 (Londrina)			
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Tibagi	Cafezal (w = 10 m)	Londrina	SANEPAR	

<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Surface Water Direct with weir (weir height = 2 m)	0.55 (16 hours/day) 0.90 (Max.capacity) (m3/sec)	supply to paticular area in Londrina (downtown, west)	(140,000) (economy)	1959

<Description of Pipeline>					
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pump**	**Others**
5.7 (km)	600, 500(1st) 400, 550(2nd) (mm)	(m)	3 pumps (500 CV/pump)	1 intemediate pump station with 2 pumps (600 CV)	Gross water loss with Tibagi intake is 40 % (Dec.1994)

<Future Plan / or Other informations, if any>

<Location Map>



Description of Existing Intake Facilities

No./Name Caviuna Intake (Apucarana)

<Location>

Basin	River	Municipality	Proprietor	Others
Ivai	Caviuna (w = 5 m)	Apucarana	SANEPAR	

<Description of System>

Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Surface Water Direct	0.25 (22 hours/day) (Max. capacity) (m3/sec)	Apucarana Urban (18 km2)	26,678 (connections)	1976

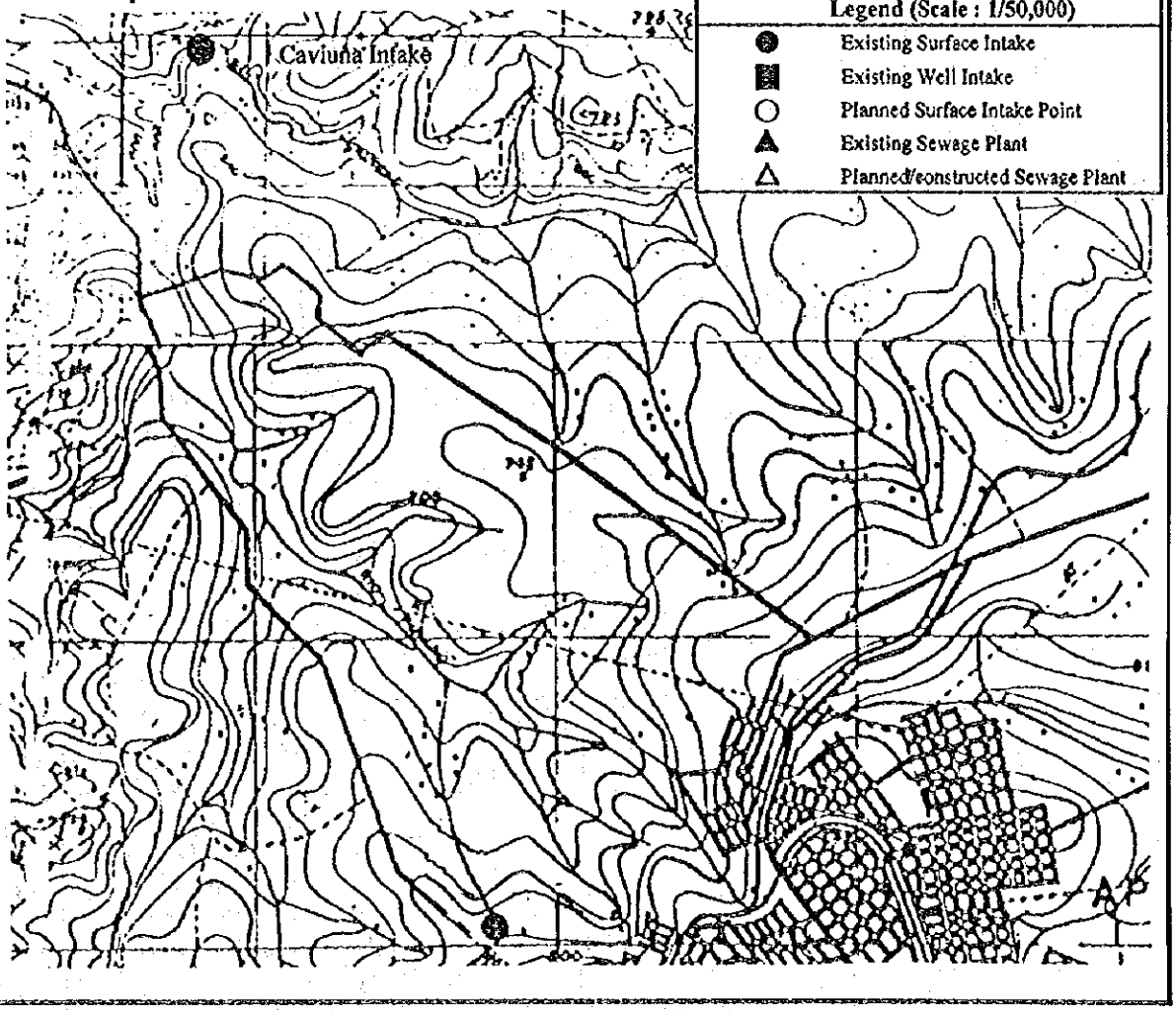
<Description of Pipeline>

Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
6.043 (km)	400 (mm)	267 (m)	3 pumps (No standby)		Gross water loss is 36 %. (Feb/1995)

<Future Plan / or Other informations, if any>

In target 1999 year, there is a future intake plan at Rio Cerne (Tibagi basin).

<Location Map>



Description of Existing Intake Facilities

No./Name Formigas Intake (Ortigueira)

<Location>

Basin	River	Municipality	Proprietor	Others
Tibagi	Formigas (w = 8 m)	Ortigueira	SANEPAR	

<Description of System>

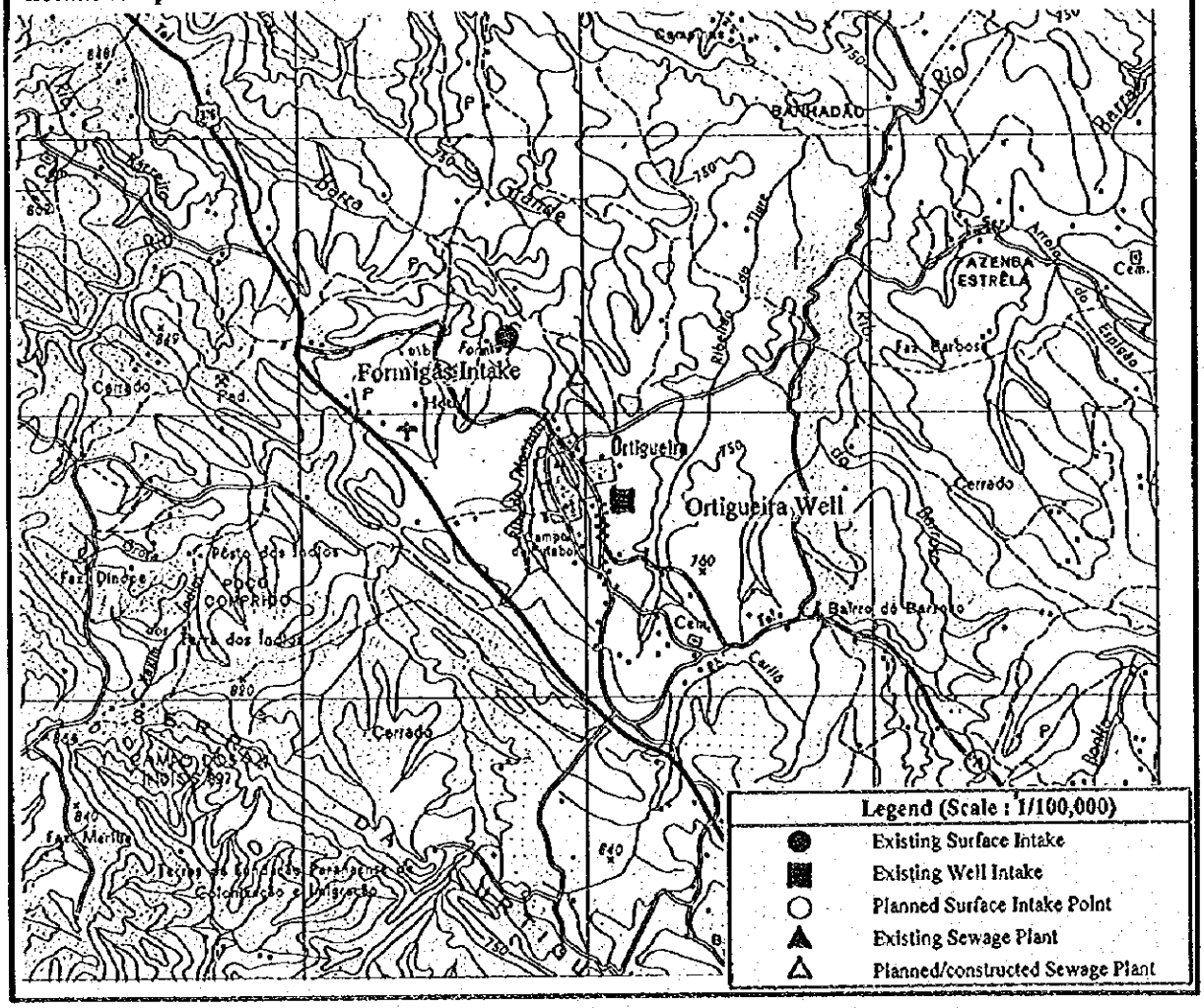
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Surface Water Direct with weir (weir hight = 1.5m)	0.013 (15-18 h/day) 0.12 (Max. capacity) (m3/sec)	Integrated sys. with well intake	1,530 (connections)	1982

<Description of Pipeline>

Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
4 (km)	100 (PVC) 150 (mm)	35 (m)	2 pumps		Water treatment plant exists at same location of intake.

<Future Plan / or Other informations, if any>

<Location Map>



Description of Existing Intake Facilities

No./Name	Tibagi Intake (Telemaco Borba)			
<Location>				
Basin	River	Municipality	Proprietor	Others
Tibagi	Tibagi (w = 80 m)	Telemaco Borba	SANEPAR	Industy Activity is paper factory 50 %, Agriculture 25 % and commercial 25 %.

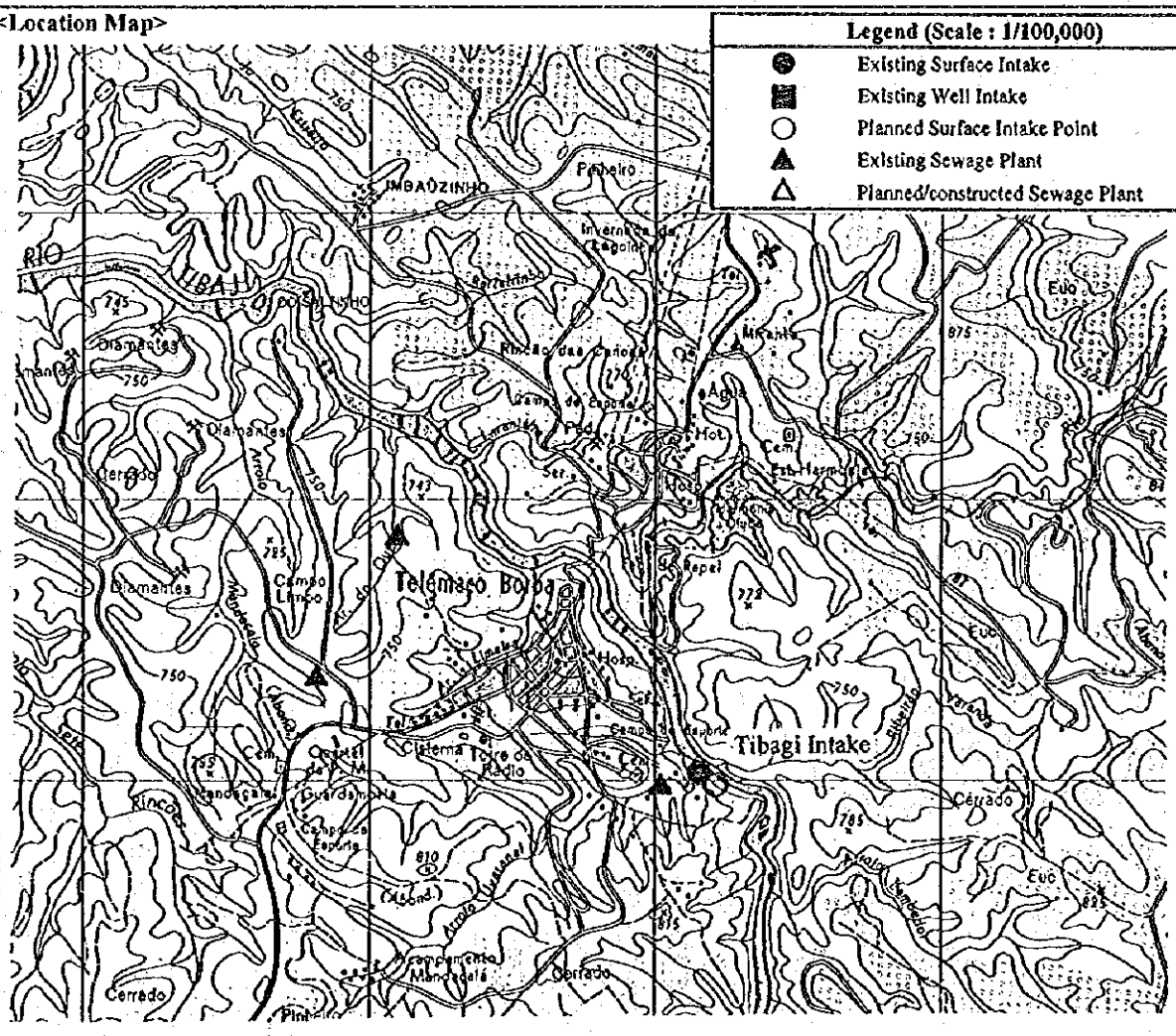
<Description of System>				
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Surface Water	0.16 (18 hours/day)			
Direct	0.17 (Max. capacity) (m3/sec)		13,800 (connections)	1963/64

<Description of Pipeline>					
Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
	200		3 Pumps		
6 (km)	350 (mm)	183.3 (m)	(1 is standby) (75 CV/pump)		Distribution water loss 38 %

<Future Plan / or Other informations, if any>

There is the biggest paper factory (" Klabin Paper Factory") in South-America at downstream of SANEPAR intake site. This factory has own treatment plant, sewage plant and hydroelectric power station.

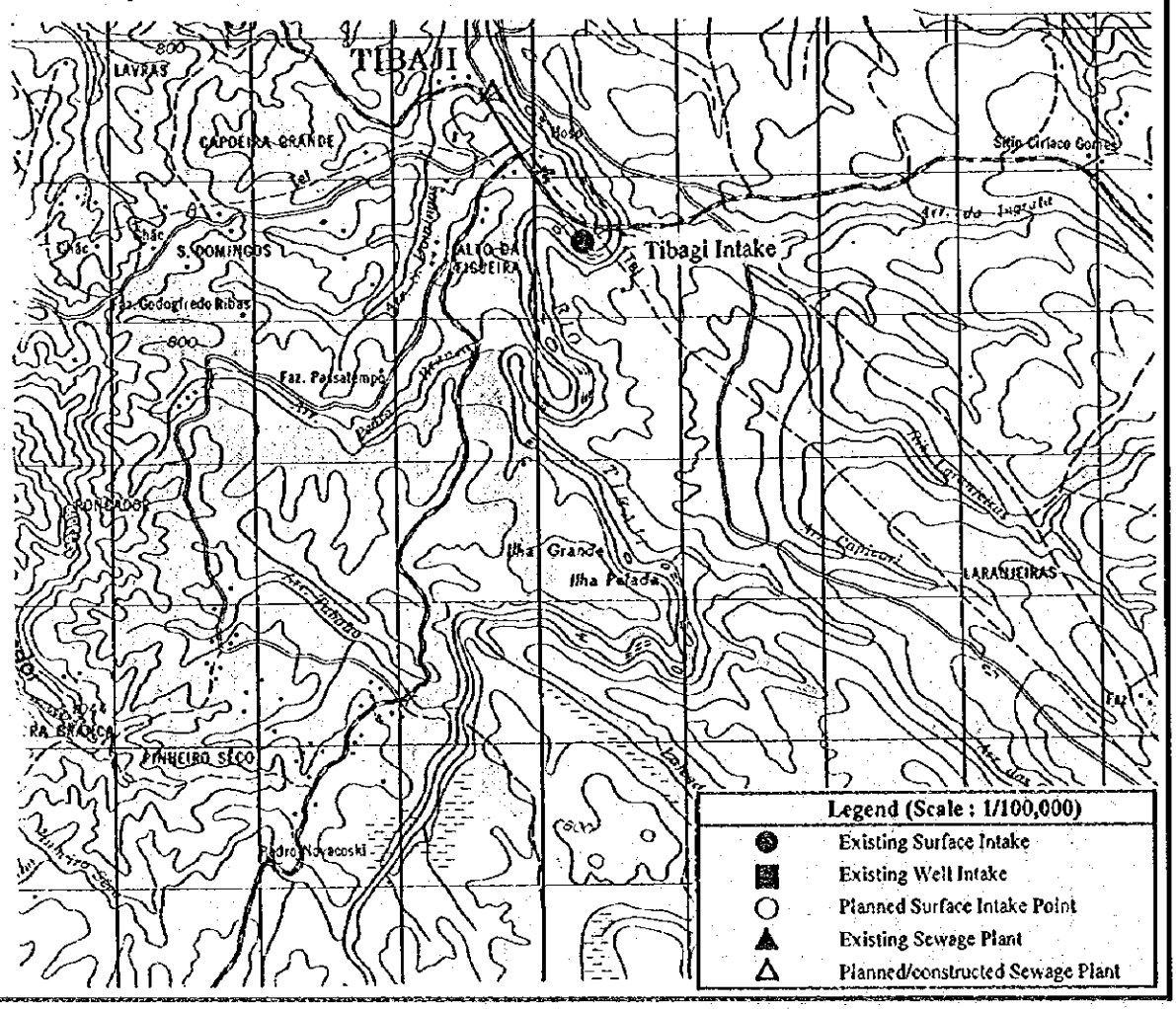
<Location Map>



Description of Existing Intake Facilities

No./Name				
Tibagi Intake (Tibagi)				
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Tibagi	Tibagi (w = 120 m)	Tibagi	SANEPAR	
<Description of System>				
Intake Method	**Intake Rate (Operation hour)**		**Supply System**	**Supply Connection** / **Operation Year**
Surface Water Direct	0.03 (10 hours/day) (m3/sec)			1,874 (connections) / 1978
<Description of Pipeline>				
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pump** / **Others**
0.8 (km)	100 and 150 Parallel pipe (mm)	60 (m)	2 Pumps (1 is standby) (75 CV/pump)	Gross water loss = 24.9 % (Dec/94)
<Future Plan / or Other Informations, if any>				
Distribution net work is under-construction. (50 % progress)				

<Location Map>



Description of Existing Intake Facilities

No./Name

Iapo Intake (Castro)

<Location>

Basin	River	Municipality	Proprietor	Others
Tibagi	Iapo (w = 25 m)	Castro	SANEPAR	

<Description of System>

Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Surface Water Direct from nature swamp	0.058 (20 hours/day) (m3/sec)	Integrated Sys. with Sao Cristovao dam reservoir	8,846 (connections)	1963

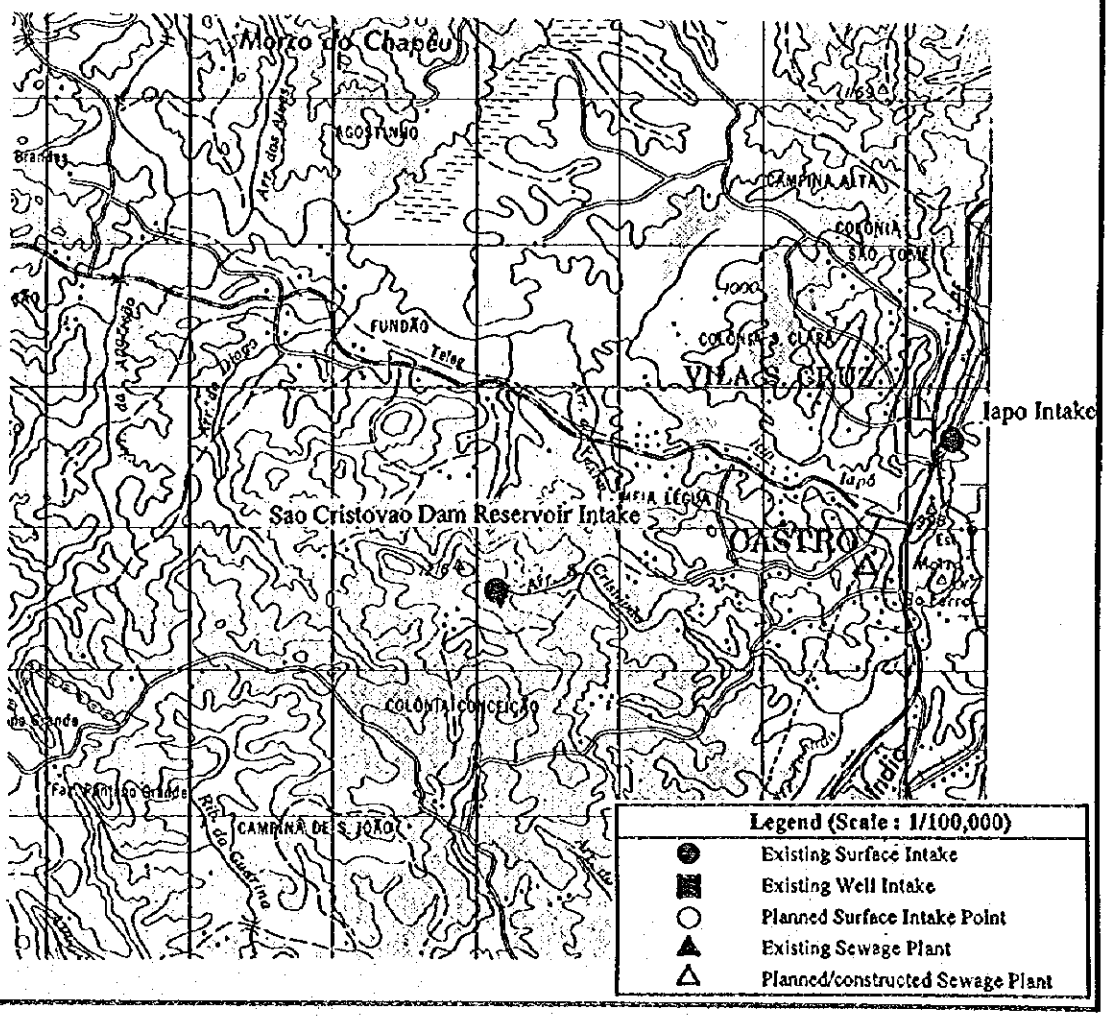
<Description of Pipeline>

Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
0.273 (km)	250 (mm)	61.7 (m)	2 Pumps (1 is standby) (75 CV/pump)		

<Future Plan / or Other informations, if any>

SANEPAR considers future intake at same location.

<Location Map>



Description of Existing Intake Facilities

No./Name				
Sao Cristovao Dam Reservoir Intake (Castro)				
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Tibagi	Sao Cristovao	Castro	SANEPAR	Catchment area at dam is 100 ha.

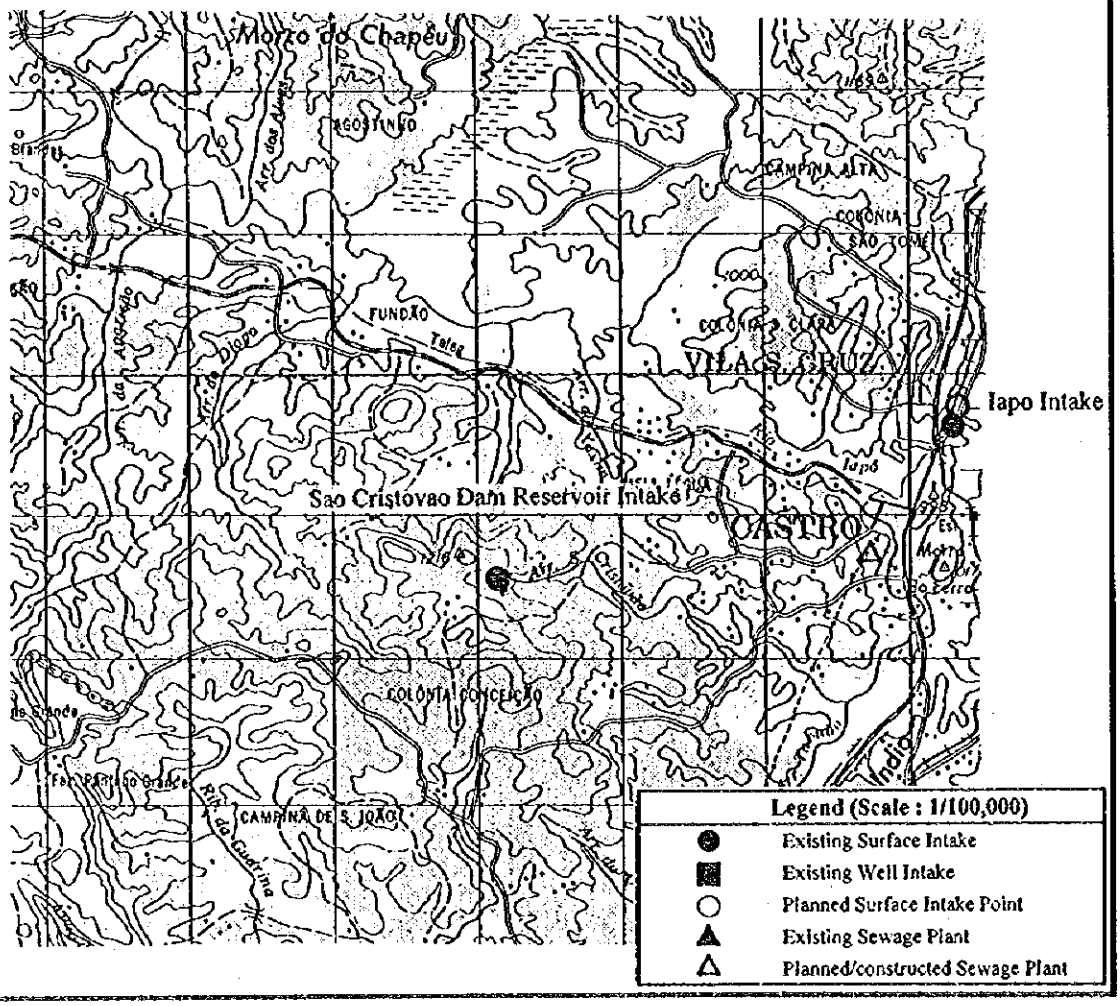
<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Surface Water Dam reservoir, V = 100 m3 (Dam H = 4 m, W = 12 m)	0.021 (24 hours/day) 0.055 (Max. capacity) (m3/sec)	Integrated Sys. with Iapo intake	(8,846) (connections)	1940

<Description of Pipeline>					
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pump**	**Others**
0.5125 (km)	200 (mm)	27 (m)	2 Pumps (1 is standby) (75 CV/pump)		Pipeline is natural gravity flow.

<Future Plan / or Other informations, if any>

Hightning the existing dam may be acceptable, but material of existing pipeline have to improve.

<Location Map>



Description of Existing Intake Facilities

No./Name				
Pitangui Intake (Ponta Grossa)				
<Location>				
Basin	**River**	**Municipality**	**Proprietor**	**Others**
Tibagi	Pitangui (w = 15 m)	Ponta Grossa	SANEPAR	

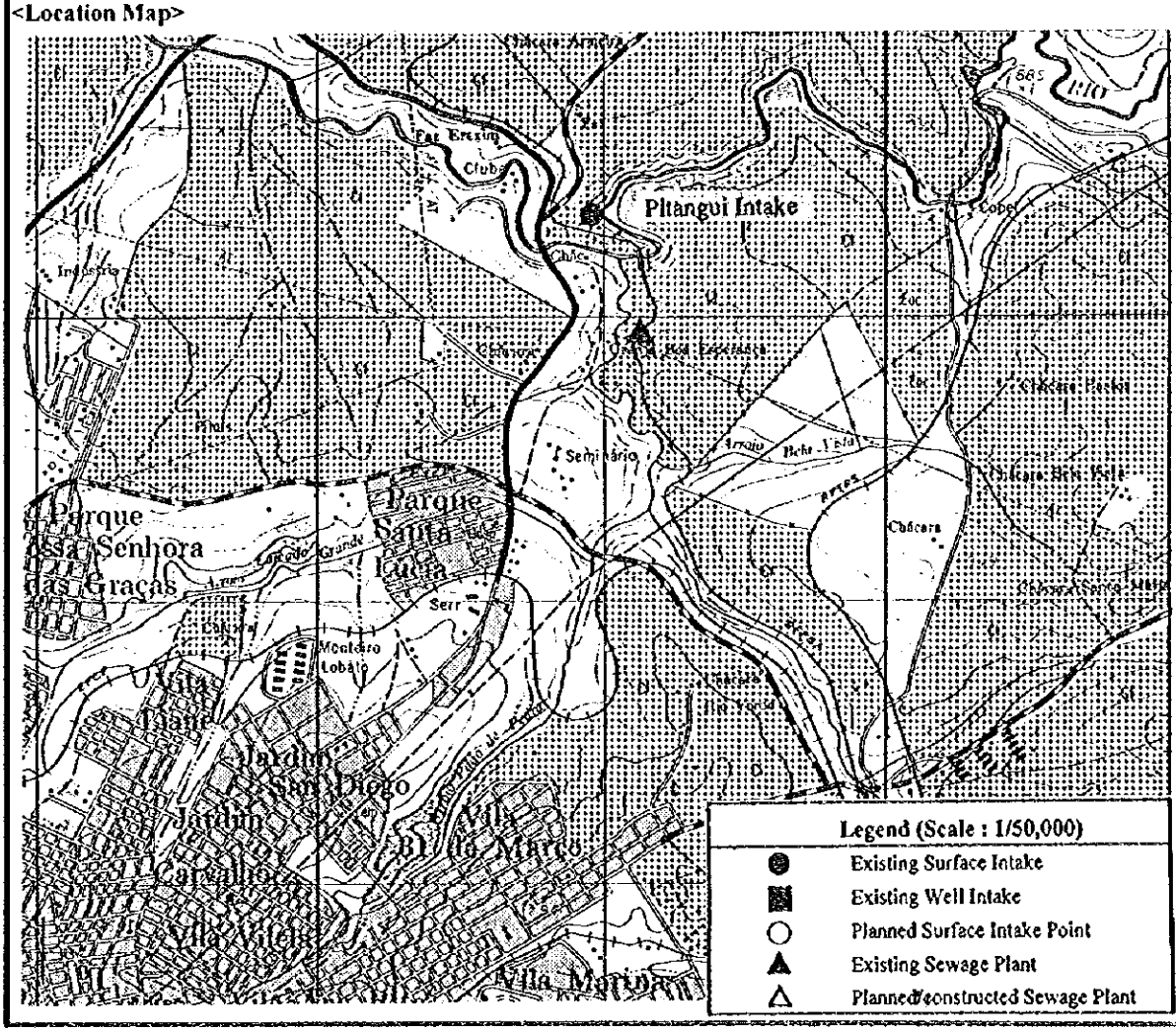
<Description of System>				
Intake Method	**Intake Rate (Operation hour)**	**Supply System**	**Supply Connection**	**Operation Year**
Surface Water Direct with gabion weir (weir height = 4 m)	0.30 (21 hours/day) (m3/sec)	Integrated Sys. with Alagados Intake	302,180 (inhabitants)	1985

<Description of Pipeline>					
Length	**Diameter**	**Water Head**	**Intake Pump**	**Intermediate Pump**	**Others**
6 (km)	700 (mm)	150 (m)	3 pumps (2 are standby) (800 CV/pump)		Net-work loss 36 % Production loss 7 % Gross water loss 43 %

<Future Plan / or Other informations, if any>

There is a plan to install three more pumps at the existing station,
but required intake rate may not enough from this point.

<Location Map>



Description of Existing Intake Facilities

No./Name
Alagados Intake (Ponta Grossa)

<Location>

Basin	River	Municipality	Proprietor	Others
Tibagi	Alagodos Reservoir	Ponta Grossa	SANEPAR	Alagados reservoir is one of COPEL's hydroelectric reservoir in Pitangui river. (Dam H=14 m)

<Description of System>

Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Surface Water Direct with COPEL'sdam	0.40 (21 hours/day) (m3/sec)	Integrated Sys. with Pitangui intake	(302,180) (inhabitants)	1971

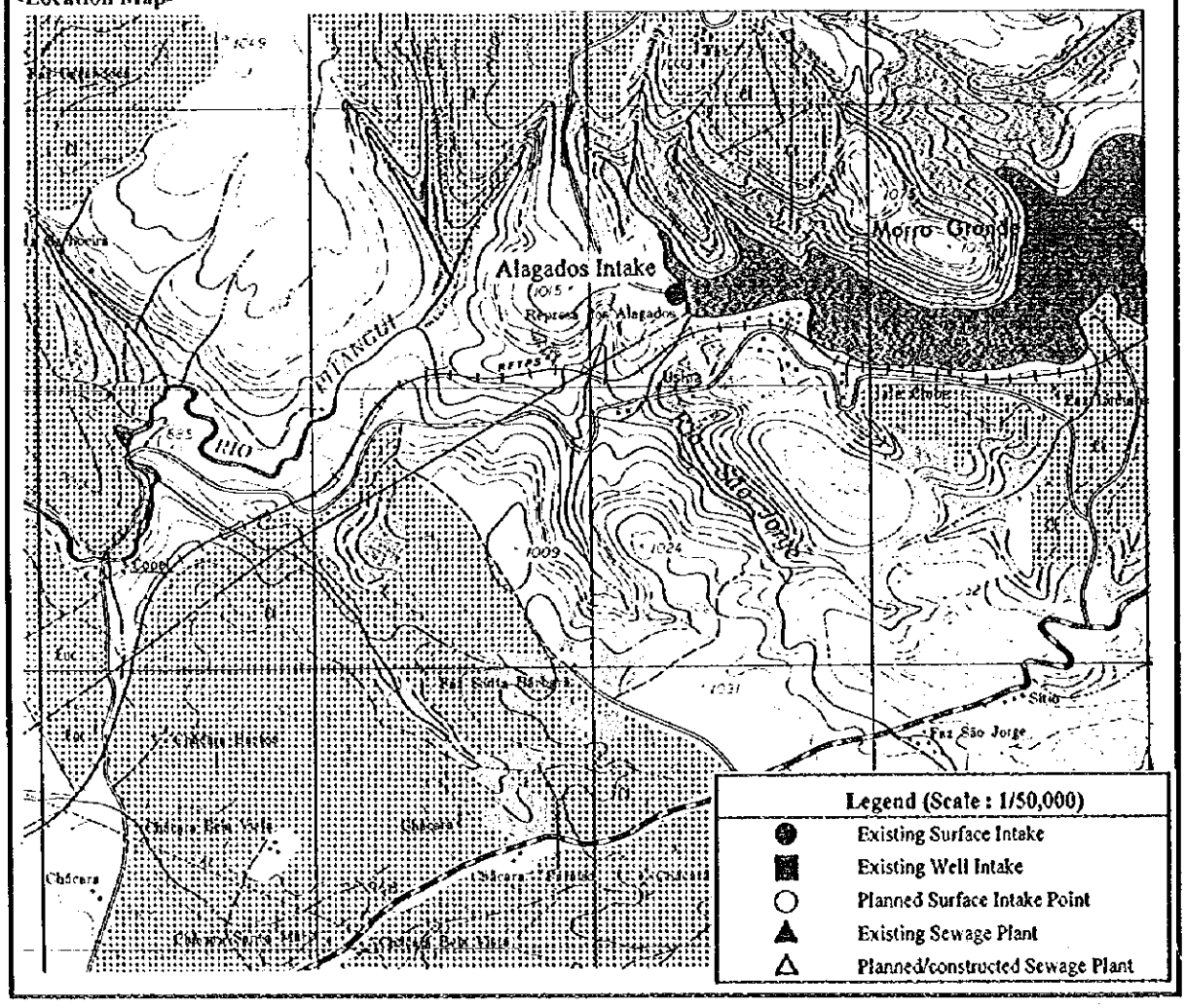
<Description of Pipeline>

Length	Diameter	Water Head	Intake Pump	Intermediate Pump	Others
14.8 (km)	600 (mm)	(m)	5 pumps (1 is standby) (200 CV/pump)		Net-work loss 36 % Production loss 7 % Gross water loss 43 %

<Future Plan / or Other informations, if any>

SANEPAR has a response to pay the water use fee to COPEL, when water level lower than normal stage.

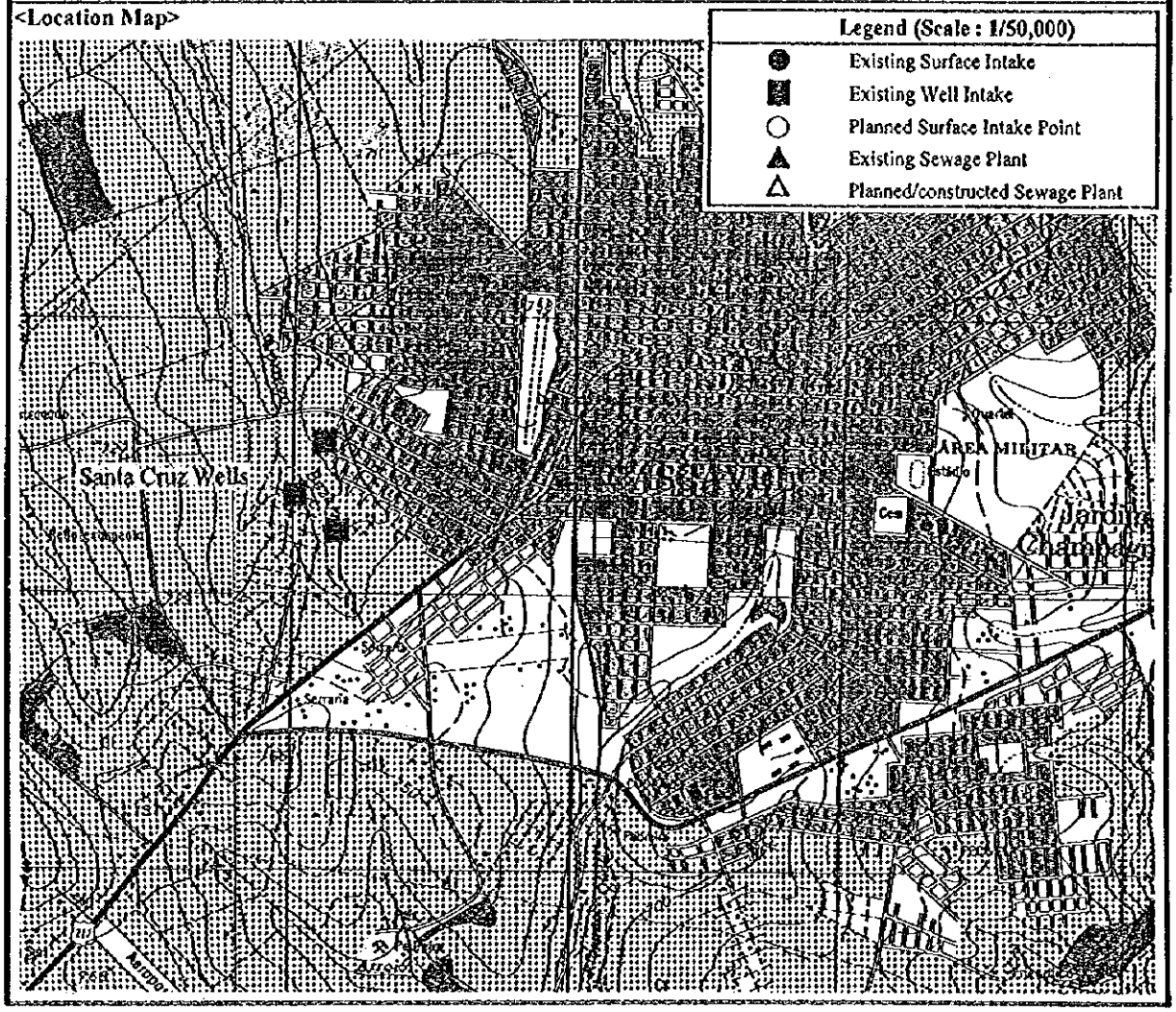
<Location Map>



Description of Existing Intake Facilities

No./Name						
Santa Cruz Area (Well) (Cascavel)						
<Location>						
Basin	**Source**	**Municipality**	**Proprietor**	**Others**		
Parana 3	Serra Geral Aquifer	Cascavel	SANEPAR			
<Description of System>						
Intake Method		**Intake Rate (Operation hour)**		**Supply System**	**Supply Connection**	**Operation Year**
Groundwater Direct from 1 well		92.70 (16 hours/day) (m3/hour)		Santa Cruz Area	9,000 (inhabitants)	Aug.1993 (date of drilling)
<Description of Pipeline>						
Length	**Diameter**	**Depth of Well**	**Intake Pump**	**Intermediate Pump**	**Others**	
(km)	(mm)	103 (m)	1 pump (60 CV/pump)		Gross Water loss 40 %	
<Future Plan / or Other informations, if any>						
There exists one well. 3 additional well will be operated between March and July 1995. Intake rate will is expected 250 m3/hour and supply to 8,000 connections.						

<Location Map>



Description of Existing Intake Facilities

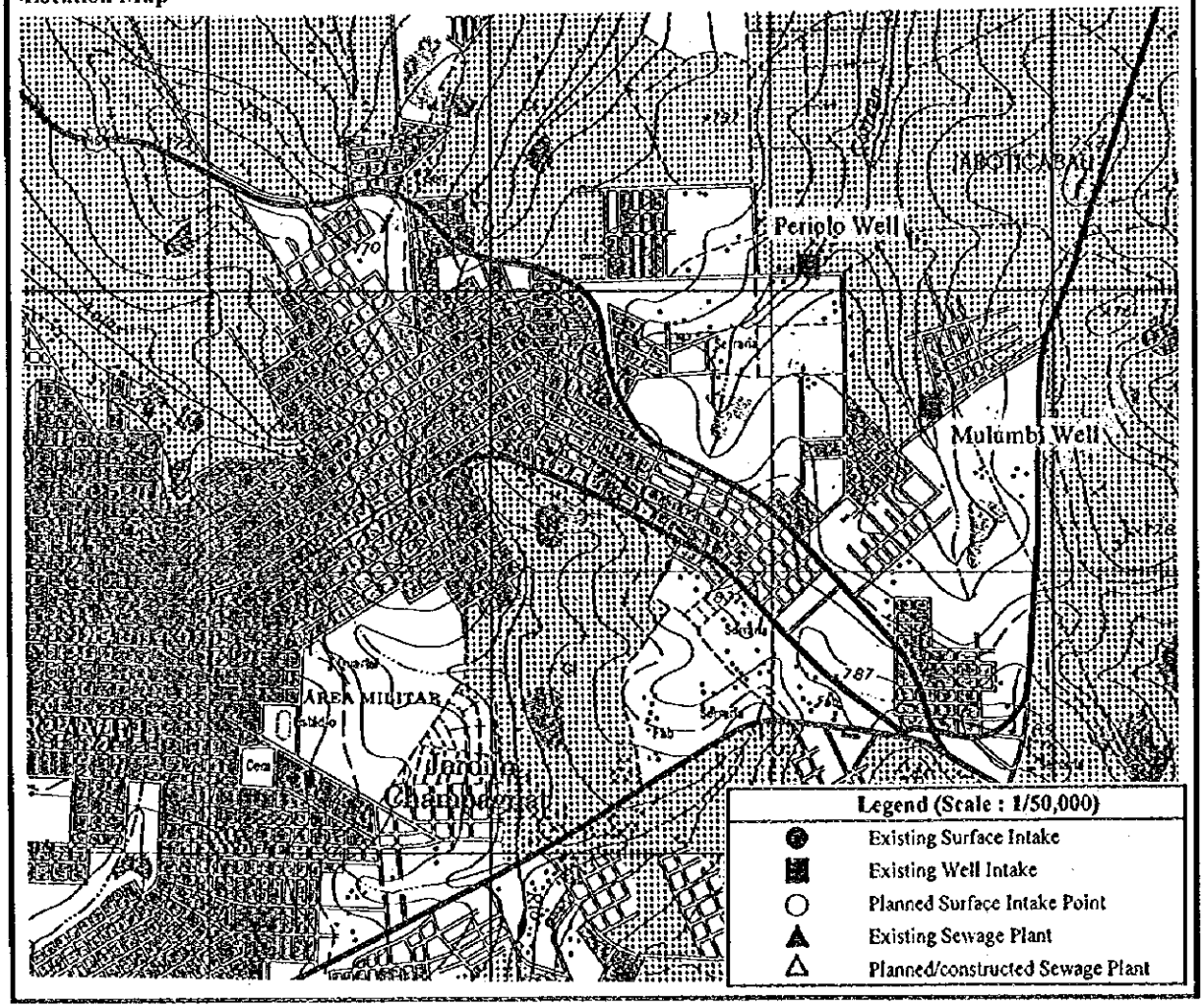
No./Name				
Periolo Area (Well) (Cascavel)				
<Location>				
Basin	Source	Municipality	Proprietor	Others
Piquiri	Serra Geral Aquifer	Cascavel	SANEPAR	

<Description of System>				
Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Groundwater	48.00 (14 hours/day)			
Direct from 2 well	66.00 (- " -) (m3/hour)	Periolo Area	35,000 (inhabitants)	Sep.1993 (date of drilling)

<Description of Pipeline>					
Length	Diameter	Depth of Well	Intake Pump	Intermediate Pump	Others
	12.25, 8	47	1 pump x 9CV		
	12.25, 9, 10	75	1 pump x 11CV		Gross Water loss 40 %
(km)	(inches)	(m)			

<Future Plan / or Other informations, if any>

<Location Map>



Description of Existing Intake Facilities

No./Name: Mulumbi Area (Well) (Cascavel)

<Location>

Basin	Source	Municipality	Proprietor	Others
Piquiri	Serra Geral Aquifer	Cascavel	SANEPAR	

<Description of System>

Intake Method	Intake Rate (Operation hour)	Supply System	Supply Connection	Operation Year
Groundwater Direct from 2 well	55.00 (m3/hour)	Mulumbi Area	10,000 (inhabitants)	

<Description of Pipeline>

Length	Diameter	Depth of Well	Intake Pump	Intermediate Pump	Others
(km)	(inches)	(m)			Gross Water loss 40 %

<Future Plan / or Other informations, if any>

There is another well to be operated in the future, its intake rate will be 35 m3/hour.

<Location Map>