Table D.5.22 COST ESTIMATE OF TRANSMISSION FACILITIES

(Case C-1)

Item	Unit	Quantity	Unit Cost (Rs.)	Amount (Rs.)
(1) Rising main for raw water, in the valley, φ900mm (DIP)	m	400	14,998-	5,999,000-
(2) Transmission pipeline for raw water, φ700mm (DIP)	m	3,300	7,309-	24,120,000-
(3) Transmission pipeline for treated water, φ600mm (DIP)	m	2,100	6,125-	12,863,000-
(4) Pipe bridge for river/valley crossing:				
- Valley of Moka River (φ700mm×L=120m)	1 Lot			6,515,000-
- St. Louis Stream (φ600mm×L=25m)	1 Lot			1,282,000-
- St. Louis Stream No.2(φ600mm×L=30m)	1 Lot			1,336,000-
- Pitot Stream (φ600mm×L=15m)	1 Lot			665,000-
(5) Receiving tank	Tank	1	1,502,000-	1,502,000-
(6) Break-pressure tank	Tank	4	1,502,000-	6,008,000-
(7) Intake pumps (CIF), φ350×19.1m³/min×100m×420kw, including valves and pipes	Unit	4	2,060,000-	8,240,000-
(8) Inland/installation cost for above(18%)	1 Lot			1,483,000-
(9) Electric facilities for above (CIF), including high voltage transformers, operation panels, control panels, flow meters, water level meters, cranes etc.	1 Lot			24,960,000-
(10) Inland/installation cost for above(18%)	1 Lot			4,493,000-
(11) Pumping house	1 Lot			3,400,000-
Sub Total {(1)~(11)}				102,866,000-
(12) Overhead and others (20%) including preparatory work, mobilization, site cleaning, temporary work, right of way, traffic control cost, insurance, fee, profit, tax, etc.	1 Lot			20,573,000-
Total {(1)~(10)}			Case C-1 =	Rs 123,439,000-
Breakdown: Foreign currency portion				63,011,000-
Local currency portion				60,428,000-

Table D.5.23 COST ESTIMATE OF TRANSMISSION FACILITIES

(Case C-2)

Item	Unit	Quantity	Unit Cost (Rs.)	Amount (Rs.)
(1) Transmission pipeline, along valley, ϕ 1,000mm (DIP)	m	2,000	17,636-	35,272,000-
(2) Intake chamber at Municipal Dyke		1 Lot		1,000,000-
Sub Total {(1)~(2)}				36,272,000-
(3) Overhead and others (20%) including preparatory work, mobilization, site cleaning, temporary work, right of way, traffic control cost, insurance, fee, profit, tax, etc.		1 Lot		7,254,000-
Total {(1)~(3)}			Case C-2 =	Rs 43,526,000-
Breakdown: Foreign currency portion				18,984,000-
Breakdown: Local currency portion				24,542,000-

Table D.5.24 COST ESTIMATE OF TRANSMISSION FACILITIES

(Case C-3)

Item		Unit	Quantity	Unit Cost (Rs.)	Amount (Rs.)
(1) Transmission pipeline, along valley, ϕ 700mm (DIP)		m	4,200	10,314-	43,319,000-
(2) Overhead and others (20%) including preparatory work, mobilization, site cleaning, temporary work, right of way, traffic control cost, insurance, fee, profit, tax, etc.			1 Lot		8,664,000-
Total {(1)~(2)}				Case C-3 =	Rs 51,983,000-
Breakdown	Foreign currency portion				21,118,000-
	Local currency portion				30,865,000-

Table D.5.25 COST ESTIMATE OF TRANSMISSION FACILITIES

(Case D-1)

Item		Unit	Quantity	Unit Cost (Rs.)	Amount (Rs.)
(1) Transmission pipeline, along valley, ϕ 1,000mm (DIP)		m	1,400	17,636-	24,690,000-
(2) Overhead and others (20%) including preparatory work, mobilization, site cleaning, temporary work, right of way, traffic control cost, insurance, fee, profit, tax, etc.			1 Lot		4,938,000-
Total {(1)~(2)}				Case D-1 =	Rs 29,628,000-
Breakdown	Foreign currency portion				13,289,000-
	Local currency portion				16,339,000-

Table D.5.26 COST ESTIMATE OF TRANSMISSION FACILITIES

(Case E-1)

Item	Unit	Quantity	Unit Cost (Rs.)	Amount (Rs.)
(1) Transmission pipeline, along valley, ϕ 1,000mm (DIP)	m	2,000	17,636-	35,272,000-
(2) Intake chamber at Municipal Dyke		1 Lot		1,000,000-
Sub Total {(1)~(2)}				36,272,000-
(3) Overhead and others (20%) including preparatory work, mobilization, site cleaning, temporary work, right of way, traffic control cost, insurance, fee, profit, tax, etc.		1 Lot		7,254,000-
Total {(1)~(3)}			Case E-1 =	Rs 43,526,000-
Breakdown: Foreign currency portion				18,984,000-
Breakdown: Local currency portion				24,542,000-

Table D.5.27 COST ESTIMATE OF TRANSMISSION FACILITIES

(Case F-1)

Item	Unit	Quantity	Unit Cost (Rs.)	Amount (Rs.)
(1) Transmission pipeline, along valley, ϕ 1,000mm (DIP)	m	2,000	17,636-	35,272,000-
(2) Intake chamber at Municipal Dyke		1 Lot		1,000,000-
Sub Total {(1)~(2)}				36,272,000-
(3) Overhead and others (20%) including preparatory work, mobilization, site cleaning, temporary work, right of way, traffic control cost, insurance, fee, profit, tax, etc.		1 Lot		7,254,000-
Total {(1)~(3)}			Case F-1 =	Rs 43,526,000-
Breakdown: Foreign currency portion				18,984,000-
Breakdown: Local currency portion				24,542,000-

Table D.5.28 CASH FLOW AND PRESENT WORTH OF PROJECT COST FOR ALTERNATIVE SCHEMES

Dam Cost	64,681	58,433	8,870 79,500	60,313	51,213 28,533 45,000	53,304 40,000
Pipeline Cost	2,676	3,932	3,551	3,932	3,932	3,932

Alternatives Year		NWO	TRO	Bocage- Guibies	Baptiste	TR9+CA2 +TRO	TR9(B)+ Baptiste
1	1990	12,936	11,687	17,674	12,063	17,376	20,661
2	1991	19,404	17,530	26,511	18,094	29,630	35,991
3	1992	19,404	17,530	26,511	18,094	22,497	25,991
4	1993	15,612	15,618	21,225	15,994	14,317	14,792
5	1994	337	312	460	321	11,668	486
6	1995	337	312	460	321	22,918	486
7	1996	337	312	460	321	11,668	486
8	1997	337	312	460	321	643	486
9	1998	337	312	460	321	643	486
10	1999	337	312	460	321	643	486
11	2000	337	312	460	321	643	486
12	2001	337	312	460	321	643	486
13	2002	337	312	460	321	643	486
14	2003	337	312	460	321	643	486
15	2004	337	312	460	321	643	486
16	2005	337	312	460	321	643	486
17	2006	337	312	460	321	643	486
18	2007	337	312	460	321	643	486
19	2008	337	312	460	321	643	486
20	2009	337	312	460	321	643	486
21	2010	337	312	460	321	643	486
22	2011	337	312	460	321	643	486
23	2012	337	312	460	321	643	486
24	2013	337	312	460	321	643	486
25	2014	337	312	460	321	643	486
26	2015	337	312	460	321	643	486
27	2016	337	312	460	321	643	486
28	2017	337	312	460	321	643	486
29	2018	337	312	460	321	643	486
30	2019	337	312	460	321	643	486
31	2020	337	312	460	321	643	486
32	2021	337	312	460	321	643	486
33	2022	337	312	460	321	643	486
34	2023	337	312	460	321	643	486
35	2024	337	312	460	321	643	486
36	2025	337	312	460	321	643	486
37	2026	337	312	460	321	643	486
38	2027	337	312	460	321	643	486
39	2028	337	312	460	321	643	486
40	2029	337	312	460	321	643	486
41	2030	337	312	460	321	643	486
42	2031	337	312	460	321	643	486
43	2032	337	312	460	321	643	486
44	2033	337	312	460	321	643	486
45	2034	337	312	460	321	643	486
46	2035	337	312	460	321	643	486
47	2036	337	312	460	321	643	486
48	2037	337	312	460	321	643	486
49	2038	337	312	460	321	643	486
50	2039	337	312	460	321	643	486
Present Value		55,311	51,053	75,493	52,605	96,382	81,438

Table D.6.1 BILL OF QUANTITY OF TR0 DAM (4 MCM)

	Construction Cost for Terre Rouge Dam					Crest El.	185
				Foreign Currency		Local Currency	
	WORK ITEM			Unit Cost	Amount	Unit Cost	Amount
		Unit	Quantity	($)	($1,000)	(Rs.)	(Rs.1,000)
1	PREPARATORY WORKS				(1,600)		(54,700)
	Access & Service Road	m	5,720	85	486	278	1,590
	Yards	m2					
	Temporary Buildings	L.S.			1,149		53,067
2	DIVERSION				(3,700)		(18,600)
	Open Cut Common	m3	5,900	2.8	17	6	35
	Weathered Rock	m3	7,600	4.4	33	7	53
	Fresh Rock	m3	2,586	9.7	25	28	72
	Structural Concrete	m3	170	72	12	773	131
	Reinfrocement Bar	t	149	615	92	3,769	562
	Tunnel Excavation	m3	18,914	134	2,534	246	4,653
	Lining	m3	4,800	96	462	1,638	7,864
	Steel Supports	t	339	1,018	345	13,307	4,509
	Backfill Grout	m3	201	76	15	1,014	204
	Gate	t	45	3,200	144	10,960	493
3	DAM				(14,300)		(47,100)
	Excavation Common	m3	122,000	2.8	342	6	732
	Weathered Rock	m3	52,000	4.4	229	7	364
	Fresh Rock	m3	20,000	9.7	194	28	560
	Embankment Rockfill	m3	782,000	11	8,602	42	32,844
	Filter	m3	75,000	23	1,725	67	5,025
	Core	m3	174,000	6.2	1,079	15	2,610
	Grout Curtain	m	8,273	73	604	363	3,003
	Blanket	m	1,460	67	98	315	460
	Measuring Instrument	L.S.			1,434		1,551
4	SPILLWAY				(8,600)		(48,400)
	Excavation Common	m3	90,000	2.8	252	6	540
	Weathered Rock	m3	126,000	4.4	554	7	882
	Fresh Rock	m3	417,000	9.7	4,045	28	11,676
	Backfill	m3	40,000	3.5	140	16	640
	Structural Concrere	m3	38,000	72	2,751	773	29,363
	Reinfrocement Bar	t	1,140	615	701	3,769	4,297
	Bridge over spillway	m2	213	805	171	4,725	1,006
5	INTAKE				(400)		(3,100)
	Excavation Common	m3	12,047	2.8	34	6	72
	Weathered Rock	m3	2,253	4.4	10	7	16
	Fresh Rock	m3	754	9.7	7	28	21
	Concrere Culvert	m3	433	41	18	584	253
	Form	m2	1,733	12	21	691	1,198
	Mass	m3	104	41	4	584	61
	Form	m2	1,040	12	12	691	719
	Reinfrocement Bar	t	65	615	40	3,769	245
	Sluice Gate	no.	5		241		491
	Direct Cost				**28,600**		**171,900**
6	Compensation	ha					
7	Engineering &	10% * (1~5)			2,900		21,500
	Administration	2.5% * L.C.(1~6)					
8	Physical Contingency	10% * (1~7)			3,200		19,300
9	Price Contingency						
10	**Grand Total**				**34,700**		**212,700**
Exchange rate	Rs						($15,500)
	US$1 = 13.7						
	¥1 = 0.105						
Grand Total	$50,200				69%		31%

Table D.6.2 DISBURSEMENT SCHEDULE (4 MCM)

(Unit : Rs1,000)

Item	Summary		1989/90		1990/91		1991/92		1992/93		1993/94		1994/95	
	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.
1. Preparatory Works	21,900	54,700			8,213	20,513	10,950	27,350	2,738	6,838				
2. Civil Works														
2.1 River Diversion	50,700	18,600			9,218	3,382	41,482	15,218						
2.2 Dam	196,000	47,200					14,992	3,458	82,075	19,475	74,200	18,200	24,733	6,067
2.4 Spillway	117,800	48,400									117,800	48,400		
2.5 Intake	5,500	3,100											5,500	3,100
2.6 Transmission Pipeline	25,200	14,000							7,228		12,598	7,587	5,370	6,431
2.7 Treatment Plant	48,300	23,700									41,049	17,780	7,241	5,930
Sub-total of 2.	443,500	155,000	0	0	9,218	3,382	56,473	18,677	89,303	19,475	245,647	91,967	42,845	21,527
Sub-total 1. to 2.	465,400	209,700	0	0	17,431	23,894	67,423	46,027	92,041	26,313	245,647	91,967	42,845	21,527
3. Land Acquisition and Compensation		200		200										
4. Administration Expenses		5,200		1,300		444		856		489		1,710		400
5. Engineering Services	46,500	21,000	13,067	5,733	1,162	1,593	8,140	4,968	6,641	2,275	14,501	5,316	2,988	1,115
Sub-total 1. to 5.	511,900	236,100	13,067	7,233	18,593	25,932	75,564	51,850	98,682	29,076	260,148	98,994	45,833	23,043
6. Physical Contingency	51,200	23,600	1,307	703	1,859	2,593	7,556	5,185	9,868	2,908	26,015	9,899	4,583	2,304
Sub-total 1. to 6.	563,100	259,700	14,373	7,937	20,452	28,525	83,120	57,035	108,550	31,984	286,163	108,893	50,416	25,347
7. Price Contingency	83,900	86,700	460	571	1,330	4,255	8,238	13,228	14,576	10,255	48,812	45,268	10,488	13,121
Grand Total	647,000	346,400	14,833	8,508	21,782	32,780	91,358	70,263	123,126	42,239	334,974	154,161	60,904	38,468

TABLE D.6.3 ECONOMIC ANALYSIS

Dam reservoir : 4.0 MCM UNIT: Rs.1000

No.	Year	Cost F/C	Cost L/C	Cost O/M (L/C)	Cost Total	Revenue	Net Revenue
1	1988	-	-	-	-	-	-
2	1989	14,373	6,508	0	20,881	0	(20,881)
3	1990	20,452	23,391	0	43,843	0	(43,843)
4	1991	83,120	46,769	0	129,889	0	(129,889)
5	1992	108,550	26,227	0	134,777	0	(134,777)
6	1993	286,163	89,292	0	375,455	0	(375,455)
7	1994	50,416	20,785	0	71,201	0	(71,201)
8	1995			3,437	3,437	21,856	18,418
9	1996			3,437	3,437	24,161	20,724
10	1997			3,437	3,437	26,467	23,029
11	1998			3,437	3,437	28,773	25,335
12	1999			3,437	3,437	31,078	27,641
13	2000			3,437	3,437	33,384	29,946
14	2001			3,437	3,437	46,495	43,057
15	2002			3,437	3,437	59,606	56,168
16	2003			3,437	3,437	72,717	69,279
17	2004	7,306	3,832	3,437	14,575	85,828	71,253
18	2005	7,306	3,832	3,437	14,575	98,939	84,364
19	2006			3,437	3,437	112,049	108,612
20	2007			3,437	3,437	125,160	121,723
21	2008			3,437	3,437	138,271	134,834
22	2009			3,437	3,437	151,382	147,945
23	2010			3,437	3,437	164,493	161,056
24	2011			3,437	3,437	168,907	165,469
25	2012			3,437	3,437	173,320	169,883
26	2013			3,437	3,437	177,733	174,296
27	2014			3,437	3,437	182,147	178,709
28	2015			3,437	3,437	186,560	183,123
29	2016			3,437	3,437	190,974	187,536
30	2017			3,437	3,437	195,387	191,950
31	2018			3,437	3,437	199,801	196,363
32	2019			3,437	3,437	204,214	200,777
33	2020			3,437	3,437	208,628	205,190
34	2021			3,437	3,437	213,041	209,604
35	2022			3,437	3,437	217,454	214,017
36	2023			3,437	3,437	221,868	218,430
37	2024			3,437	3,437	226,281	222,844
38	2025			3,437	3,437	230,695	227,257
39	2026			3,437	3,437	235,108	231,671
40	2027			3,437	3,437	239,522	236,084
41	2028			3,437	3,437	243,935	240,498
42	2029			3,437	3,437	248,348	244,911
43	2030			3,437	3,437	252,762	249,324
44	2031			3,437	3,437	252,762	249,324
45	2032			3,437	3,437	252,762	249,324
46	2033			3,437	3,437	252,762	249,324
47	2034			3,437	3,437	252,762	249,324
48	2035			3,437	3,437	252,762	249,324
49	2036			3,437	3,437	252,762	249,324
50	2037			3,437	3,437	252,762	249,324
51	2038			3,437	3,437	252,762	249,324
52	2039			3,437	3,437	252,762	249,324
53	2040			3,437	3,437	252,762	249,324
54	2041			3,437	3,437	252,762	249,324
55	2042			3,437	3,437	252,762	249,324
56	2043			3,437	3,437	252,762	249,324
57	2044			3,437	3,437	252,762	249,324

Conversion factor
0.82

Net Present Value as of 1989

	Cost	Benefit	B/C
(8%)	592,255	781,464	1.32
(9%)	566,157	617,278	1.09
(10%)	542,043	493,687	0.91

EIRR = 9.5%

TABLE D.6.4 FINANCIAL CASH FLOW

Dam reservoir : 4.0 MCM UNIT: Rs.1000

No.	Year	Cost				Revenue	Net Revenue
		F/C	L/C	O/M (L/C)	Total		
1	1988	0	0	0	0	0	0
2	1989	14,833	8,508	0	23,341	0	-23,341
3	1990	21,782	32,780	0	54,562	0	-54,562
4	1991	91,358	70,263	0	161,620	0	-161,620
5	1992	123,126	42,239	0	165,365	0	-165,365
6	1993	334,975	154,161	0	489,135	0	-489,135
7	1994	60,904	38,468	0	99,372	0	-99,372
8	1995			6,820	6,820	4,542	-2,278
9	1996			7,311	7,311	5,018	-2,293
10	1997			7,837	7,837	5,494	-2,343
11	1998			8,402	8,402	7,354	-1,047
12	1999			9,007	9,007	7,941	-1,066
13	2000			9,655	9,655	8,527	-1,128
14	2001			10,350	10,350	14,455	4,105
15	2002			11,096	11,096	18,406	7,310
16	2003			11,894	11,894	22,356	10,462
17	2004	12,093	11,656	12,751	36,499	32,408	-4,091
18	2005	12,480	12,495	13,669	38,644	37,275	-1,369
19	2006			14,653	14,653	42,142	27,489
20	2007			15,708	15,708	57,911	42,203
21	2008			16,839	16,839	63,906	47,067
22	2009			18,051	18,051	69,902	51,850
23	2010			19,351	19,351	93,500	74,148
24	2011			20,744	20,744	95,820	75,075
25	2012			22,238	22,238	98,140	75,902
26	2013			23,839	23,839	123,760	99,921
27	2014			25,556	25,556	126,618	101,063
28	2015			27,396	27,396	129,477	102,081
29	2016			29,368	29,368	163,027	133,659
30	2017			31,483	31,483	166,548	135,066
31	2018			33,749	33,749	170,069	136,320
32	2019			36,179	36,179	213,851	177,672
33	2020			38,784	38,784	218,189	179,405
34	2021			41,577	41,577	222,527	180,950
35	2022			44,570	44,570	279,481	234,911
36	2023			47,779	47,779	284,825	237,046
37	2024			51,219	51,219	290,169	238,950
38	2025			54,907	54,907	364,050	309,143
39	2026			58,860	58,860	370,634	311,773
40	2027			63,098	63,098	377,217	314,119
41	2028			67,641	67,641	472,814	405,172
42	2029			72,512	72,512	480,924	408,413
43	2030			77,732	77,732	489,035	411,302
44	2031			83,329	83,329	602,454	519,125
45	2032			89,329	89,329	602,454	513,125
46	2033			95,761	95,761	602,454	506,694
47	2034			102,655	102,655	742,178	639,523
48	2035			110,046	110,046	742,178	632,132
49	2036			117,970	117,970	742,178	624,209
50	2037			126,464	126,464	914,308	787,845
51	2038			135,569	135,569	914,308	778,739
52	2039			145,330	145,330	914,308	768,978
53	2040			155,794	155,794	1,126,359	970,566
54	2041			167,011	167,011	1,126,359	959,349
55	2042			179,036	179,036	1,126,359	947,324
56	2043			191,926	191,926	1,387,591	1,195,664
57	2044			205,745	205,745	1,387,591	1,181,846

Net Present Value as of 1988

	Cost	Benefit	B/C
(6%)	1,094,218	1,560,947	1.43
(7%)	980,851	1,089,709	1.11
(8%)	894,231	772,969	0.86

FIRR = 7.4%

TABLE D.6.5 CASH FLOW FOR LOAN REPAYABILITY
(CASE I)

UNIT : Rs.1000

No.	Year	Loan Amount F/C	Loan Amount L/C	Loan Re-payment	Interest	O/M Cost	Total Ex-penditure	Total Revenue	Cash flow	Accumulated Surplus
1	1989 /90	14,833	8,508	0	430	0	430		-430	-430
2	1990 /91	21,782	32,780	0	1,062	0	1,062		-1,062	-1,492
3	1991 /92	91,358	70,263	0	3,711	0	3,711		-3,711	-5,203
4	1992 /93	123,126	42,239	0	7,282	0	7,282		-7,282	-12,485
5	1993 /94	334,975	154,161	0	16,996	0	16,996		-16,996	-29,481
6	1994 /95	60,904	38,468	0	18,762	0	18,762		-18,762	-48,244
7	1995 /96	0	0	26,957	17,981	6,820	51,758	5,018	-46,740	-94,984
8	1996 /97	0	0	26,957	17,199	7,311	51,467	5,494	-45,973	-140,957
9	1997 /98	0	0	26,957	16,417	7,837	51,212	5,970	-45,242	-186,199
10	1998 /99	0	0	26,957	15,635	8,402	50,994	7,941	-43,054	-229,253
11	1999 /00	0	0	26,957	14,854	9,007	50,818	8,527	-42,290	-271,543
12	2000 /01	0	0	26,957	14,072	9,655	50,684	11,734	-38,950	-310,493
13	2001 /02	0	0	26,957	13,290	10,350	50,598	18,406	-32,192	-342,685
14	2002 /03	0	0	26,957	12,508	11,096	50,561	22,356	-28,205	-370,890
15	2003 /04	0	0	26,957	11,726	11,894	50,578	26,307	-24,271	-395,162
16	2004 /05	0	0	26,957	10,945	12,751	50,653	37,275	-13,378	-408,540
17	2005 /06	0	0	26,957	10,163	13,669	50,789	42,142	-8,648	-417,187
18	2006 /07	0	0	26,957	9,381	14,653	50,992	47,008	-3,983	-421,171
19	2007 /08	0	0	26,957	8,599	15,708	51,265	63,906	12,641	-408,529
20	2008 /09	0	0	26,957	7,818	16,839	51,614	69,902	18,288	-390,242
21	2009 /10	0	0	26,957	7,036	18,051	52,045	75,897	23,852	-366,389
22	2010 /11	0	0	26,957	6,254	19,351	52,563	95,820	43,257	-323,132
23	2011 /12	0	0	26,957	5,472	20,744	53,174	98,140	44,966	-278,166
24	2012 /13	0	0	26,957	4,691	22,238	53,886	100,460	46,574	-231,592
25	2013 /14	0	0	26,957	3,909	23,839	54,705	126,618	71,913	-159,679
26	2014 /15	0	0	26,957	3,127	25,556	55,640	129,477	73,836	-85,843
27	2015 /16	0	0	26,957	2,345	27,396	56,698	132,335	75,637	-10,206
28	2016 /17	0	0	26,957	1,564	29,368	57,889	166,548	108,659	98,453
29	2017 /18	0	0	26,957	782	31,483	59,222	170,069	110,848	209,301
30	2018 /19	0	0	26,957	0	33,749	60,707	173,591	112,884	322,185
31	2019 /20	0	0	0	0	36,179	36,179	218,189	182,010	504,195

Loan Condition for Foreign Portion : Interest rate = 2.9 %
Repayment period = 30 years
Grace period = 6 years

TABLE D.6.6 CASH FLOW FOR LOAN REPAYABILITY
(CASE II)

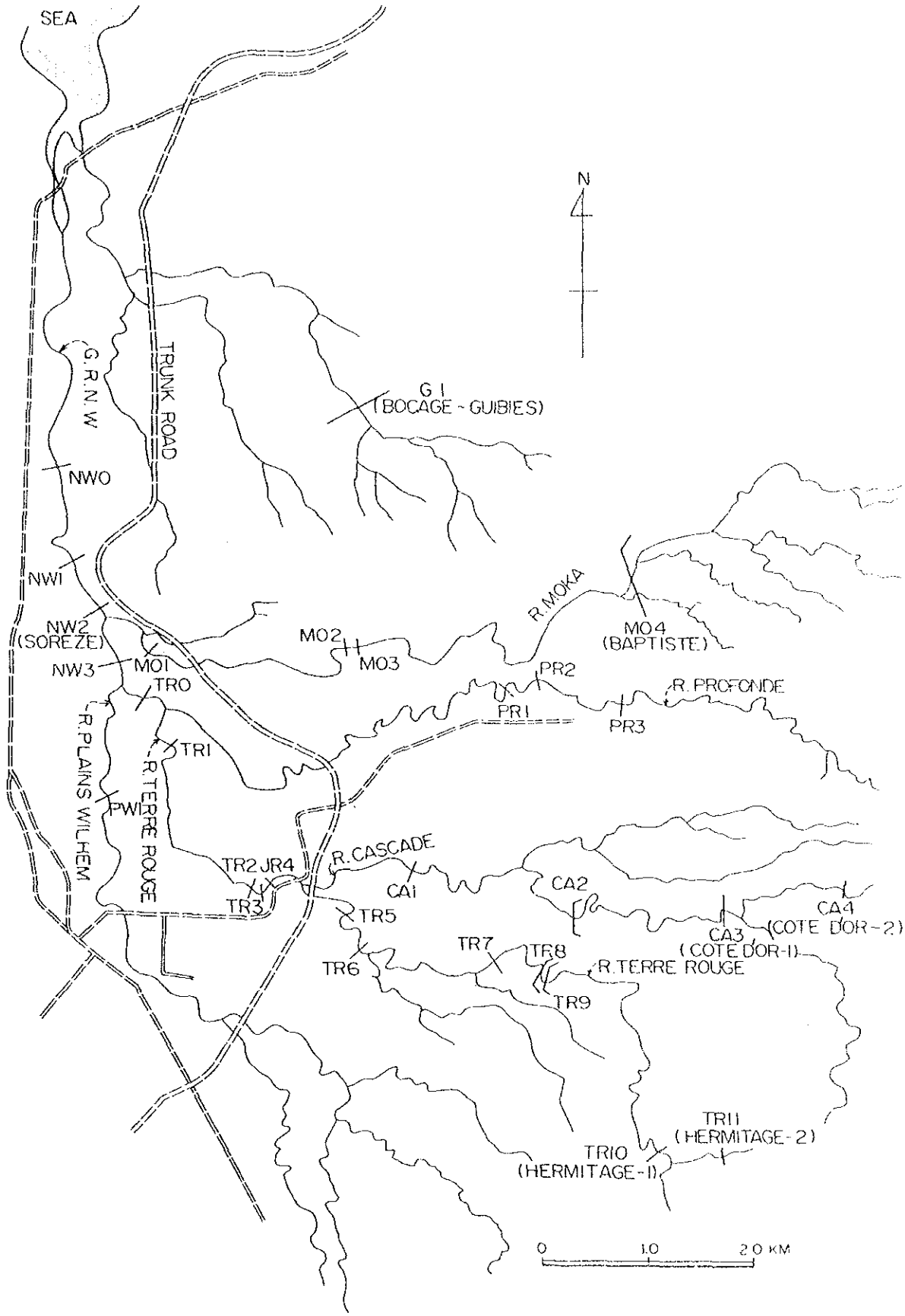
UNIT : Rs.1000

No.	Year	Loan Amount F/C	Loan Amount L/C	Loan Re-payment	Interest	O/M Cost	Total Ex-penditure	Total Revenue	Cash flow	Accumulated Surplus
1	1989 /90	14,833	8,508	0	1,038	0	1,038		-1,038	-1,038
2	1990 /91	21,782	32,780	0	2,563	0	2,563		-2,563	-3,601
3	1991 /92	91,358	70,263	0	8,958	0	8,958		-8,958	-12,559
4	1992 /93	123,126	42,239	0	17,577	0	17,577		-17,577	-30,136
5	1993 /94	334,975	154,161	0	41,025	0	41,025		-41,025	-71,162
6	1994 /95	60,904	38,468	0	45,288	0	45,288		-45,288	-116,450
7	1995 /96	0	0	46,213	42,054	6,820	95,086	5,018	-90,068	-206,518
8	1996 /97	0	0	46,213	38,819	7,311	92,342	5,494	-86,848	-293,367
9	1997 /98	0	0	46,213	35,584	7,837	89,634	5,970	-83,664	-377,031
10	1998 /99	0	0	46,213	32,349	8,402	86,963	7,941	-79,023	-456,053
11	1999 /00	0	0	46,213	29,114	9,007	84,333	8,527	-75,806	-531,860
12	2000 /01	0	0	46,213	25,879	9,655	81,747	11,734	-70,013	-601,873
13	2001 /02	0	0	46,213	22,644	10,350	79,207	18,406	-60,801	-662,674
14	2002 /03	0	0	46,213	19,409	11,096	76,718	22,356	-54,361	-717,035
15	2003 /04	0	0	46,213	16,174	11,894	74,282	26,307	-47,975	-765,010
16	2004 /05	0	0	46,213	12,940	12,751	71,903	37,275	-34,628	-799,638
17	2005 /06	0	0	46,213	9,705	13,669	69,586	42,142	-27,445	-827,083
18	2006 /07	0	0	46,213	6,470	14,653	67,336	47,008	-20,327	-847,410
19	2007 /08	0	0	46,213	3,235	15,708	65,156	63,906	-1,249	-848,660
20	2008 /09	0	0	46,213	0	16,839	63,052	69,902	6,850	-841,810
21	2009 /10	0	0	0	0	18,051	18,051	75,897	57,846	-783,964
22	2010 /11	0	0	0	0	19,351	19,351	95,820	76,469	-707,495
23	2011 /12	0	0	0	0	20,744	20,744	98,140	77,396	-630,099
24	2012 /13	0	0	0	0	22,238	22,238	100,460	78,222	-551,877
25	2013 /14	0	0	0	0	23,839	23,839	126,618	102,779	-449,098
26	2014 /15	0	0	0	0	25,556	25,556	129,477	103,921	-345,177
27	2015 /16	0	0	0	0	27,396	27,396	132,335	104,939	-240,238
28	2016 /17	0	0	0	0	29,368	29,368	166,548	137,180	-103,058
29	2017 /18	0	0	0	0	31,483	31,483	170,069	138,587	35,529
30	2018 /19	0	0	0	0	33,749	33,749	173,591	139,841	175,371
31	2019 /20	0	0	0	0	36,179	36,179	218,189	182,010	357,380

Loan Condition for Foreign Portion : Interest rate = 7.0 %
Repayment period = 20 years
Grace period = 6 years

FIGURES

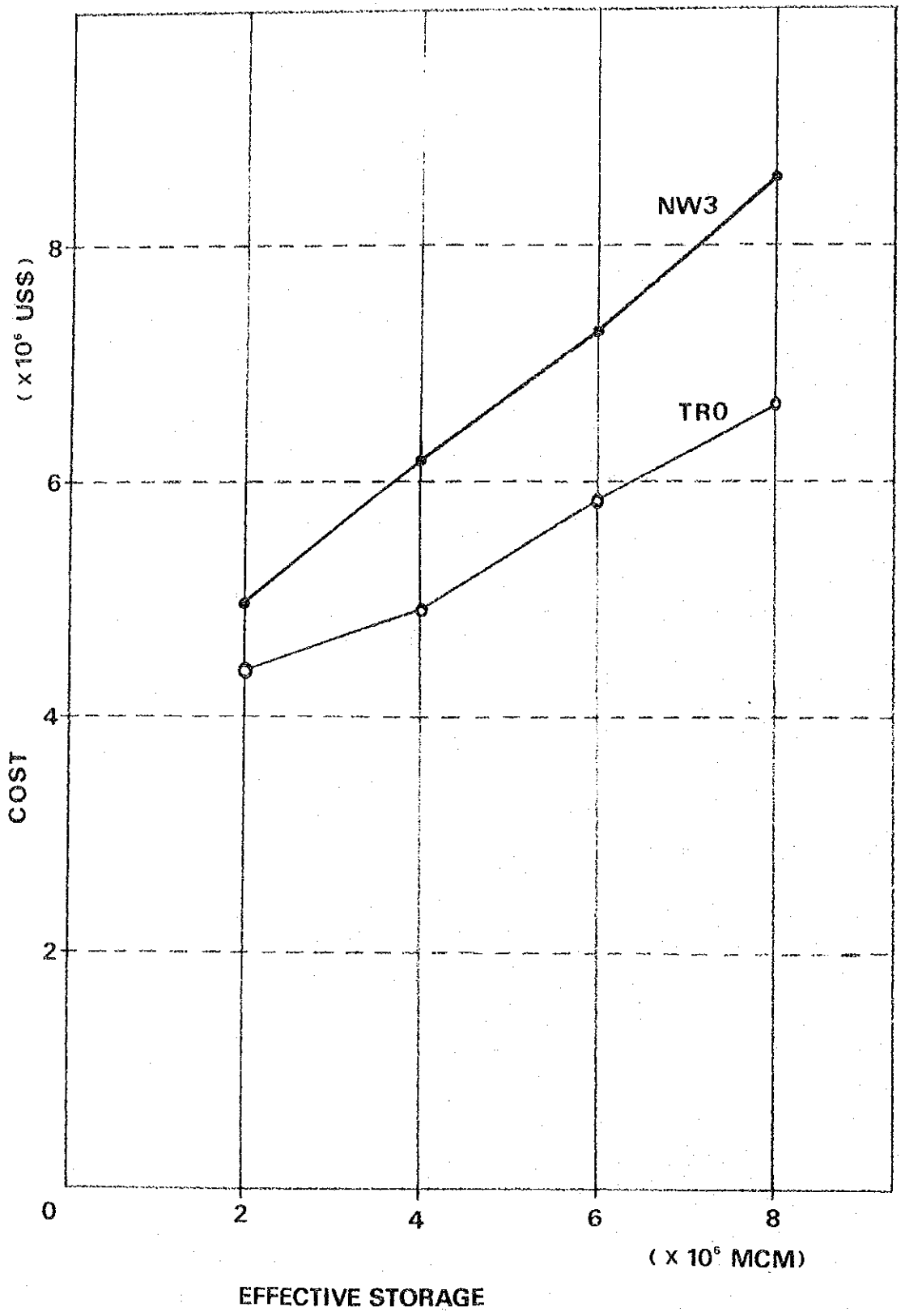
Fig. D.2.1



LOCATION MAP OF POSSIBLE DAMSITES

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. D.2.2



COST COMPARISON BETWEEN NW3 SITE AND TRO SITE

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

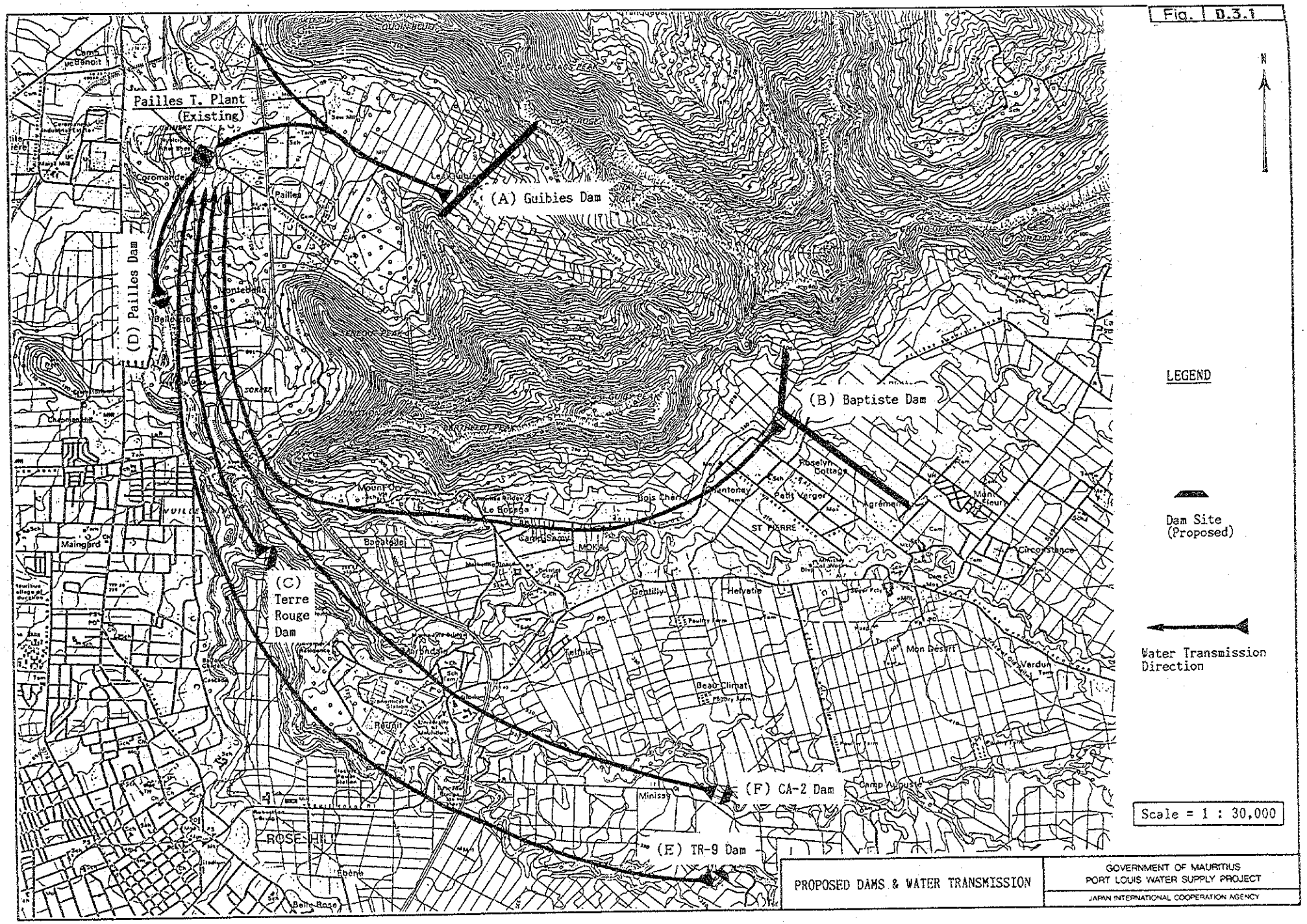
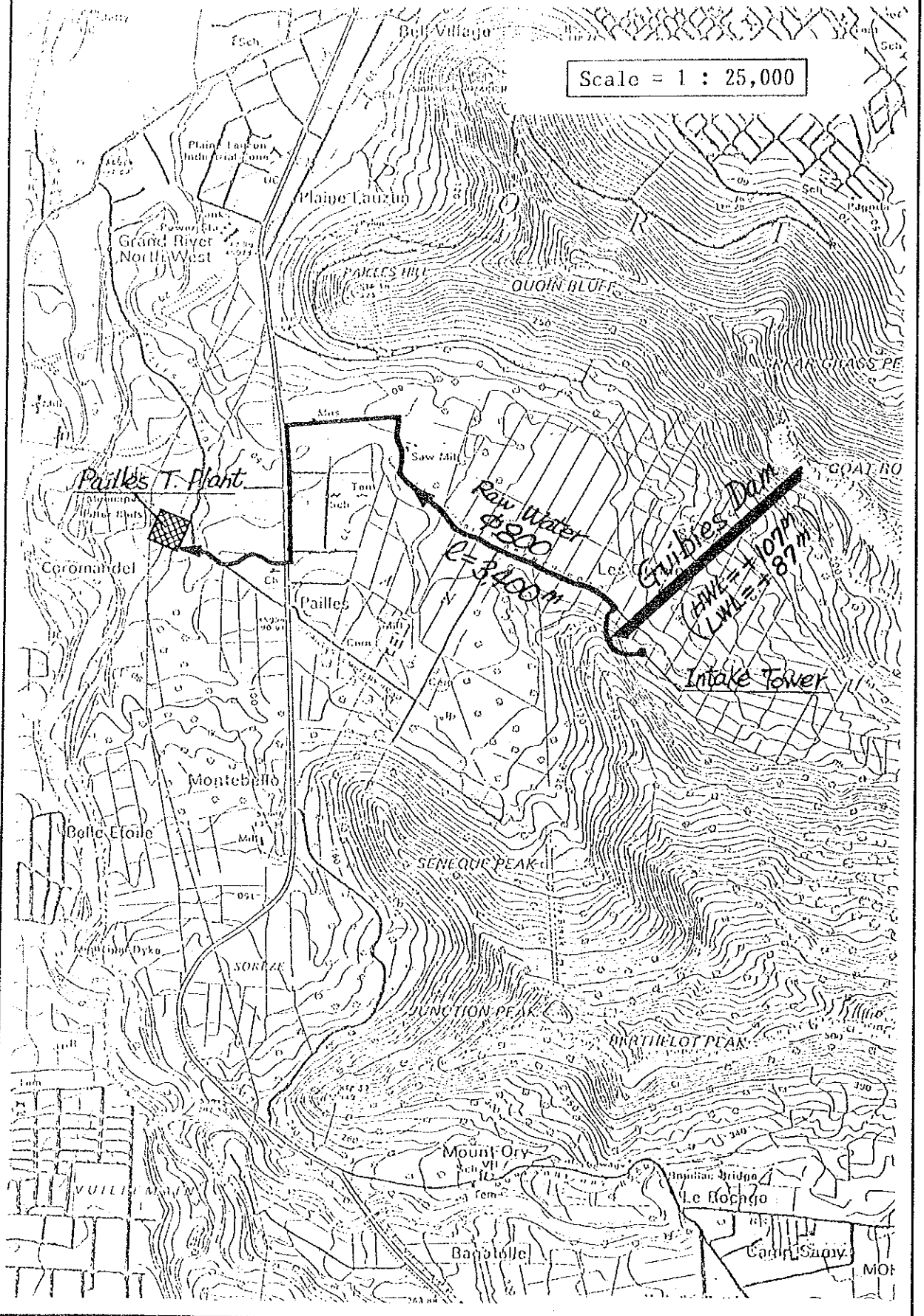


Fig. D.3.1
Pailles T. Plant
(Existing)
(A) Guibies Dam
(B) Baptiste Dam
(C)
Terre
Rouge
Dam
(D) Pailles Dam
(E) TR-9 Dam
(F) CA-2 Dam
ROSE HILL
LEGEND
Dam Site
(Proposed)
Water Transmission
Direction
Scale = 1 : 30,000
PROPOSED DAMS & WATER TRANSMISSION
GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. D.3.2

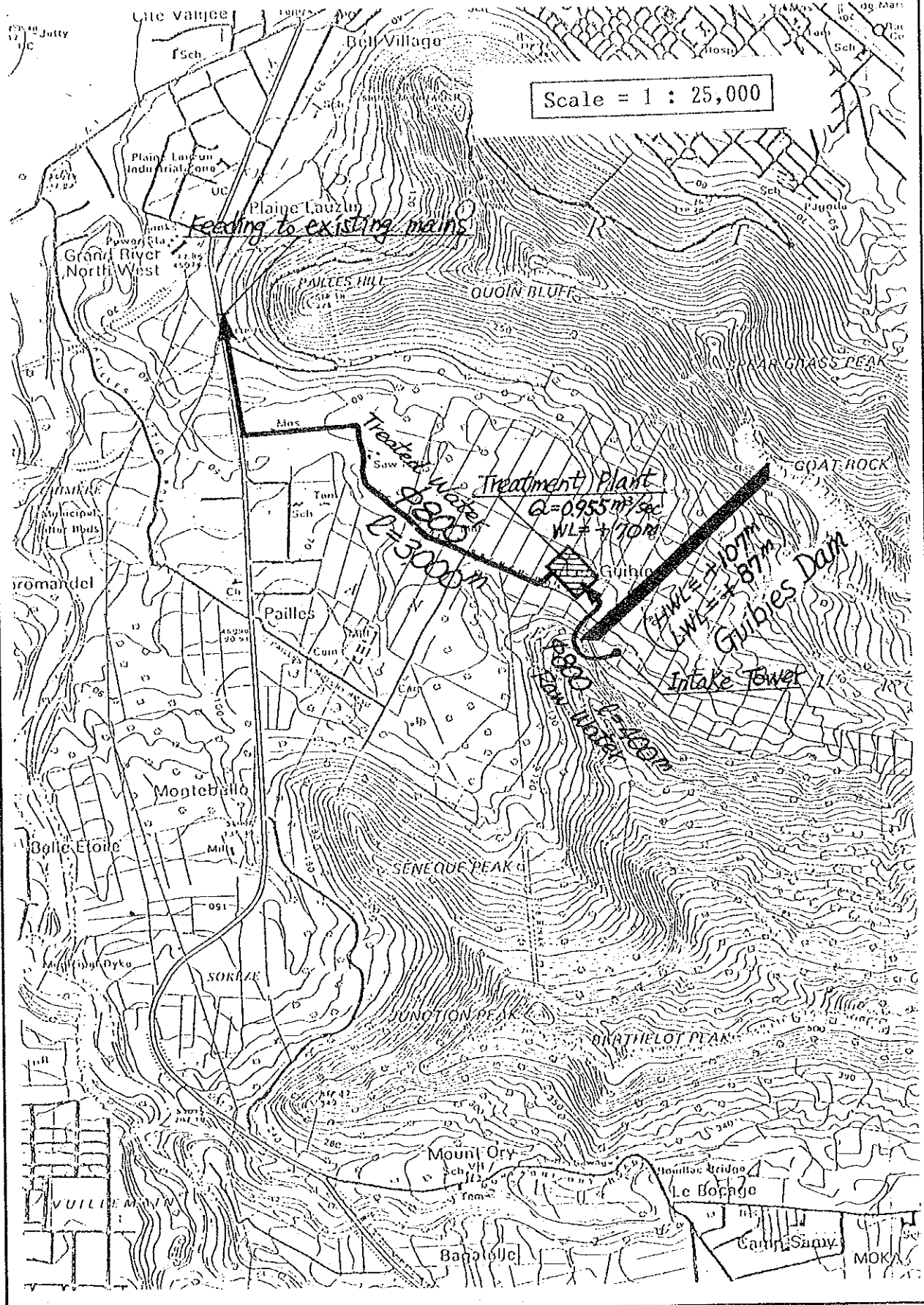


GUIBTES SCHEME : CASE A-1
(RAW WATER TRANSMISSION ALTERNATIVES)

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

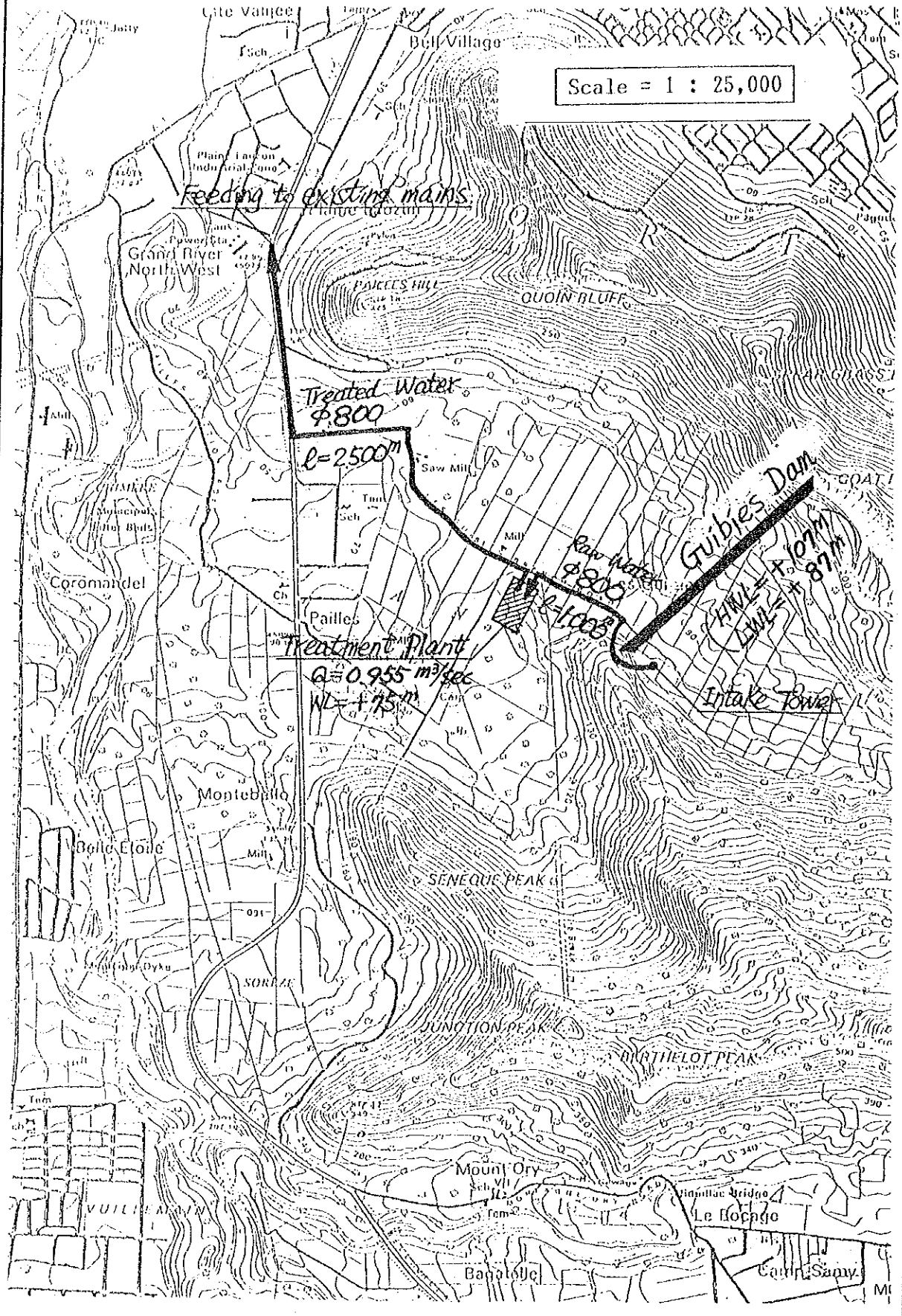
Fig. D.3.3



GUIBIES SCHEME : CASE A-2
(RAW WATER TRANSMISSION ALTERNATIVES)

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

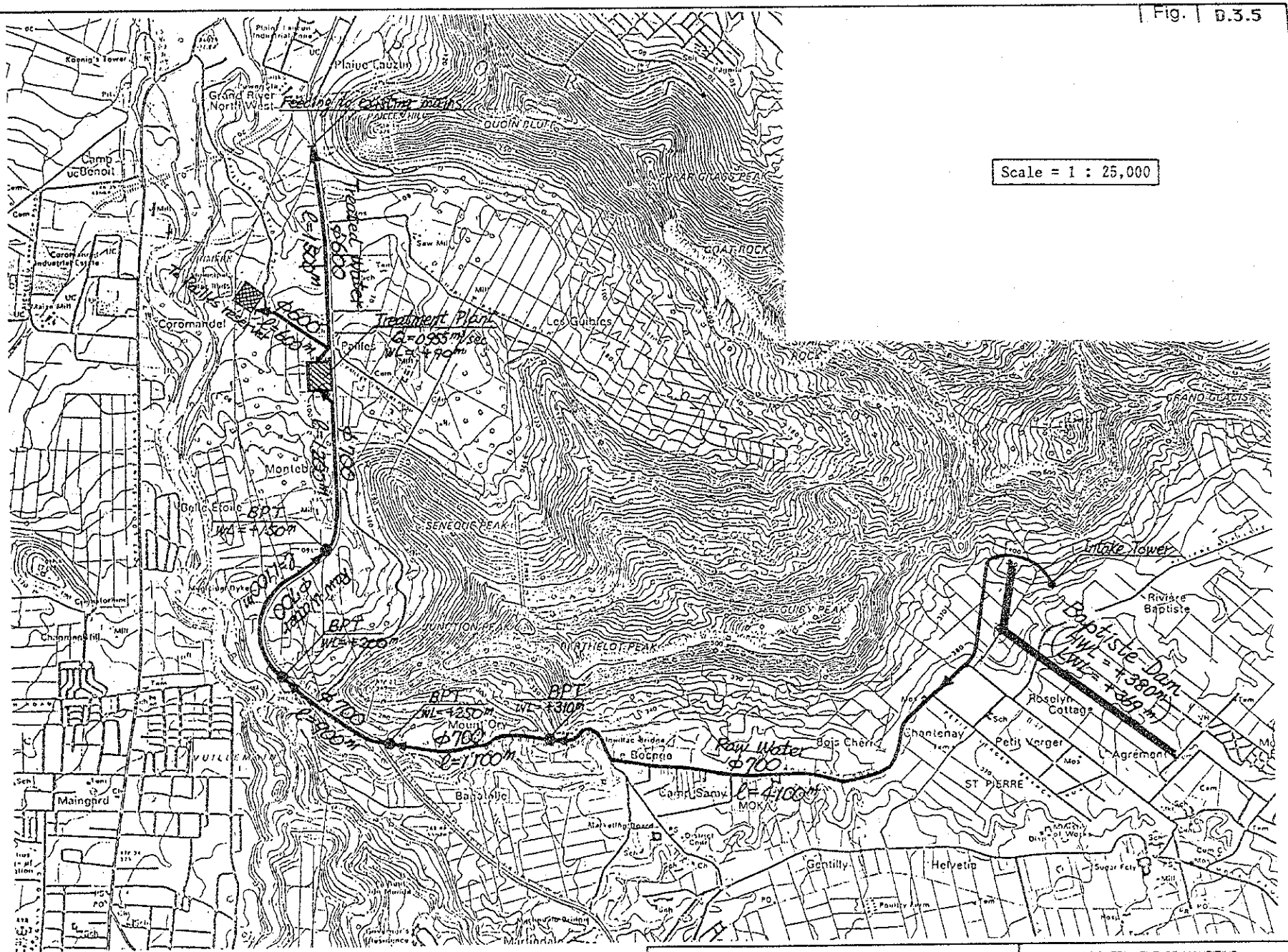
Fig. D.3.4



GUIBIES SCHEME : CASE A-3
(RAW WATER TRANSMISSION ALTERNATIVES)

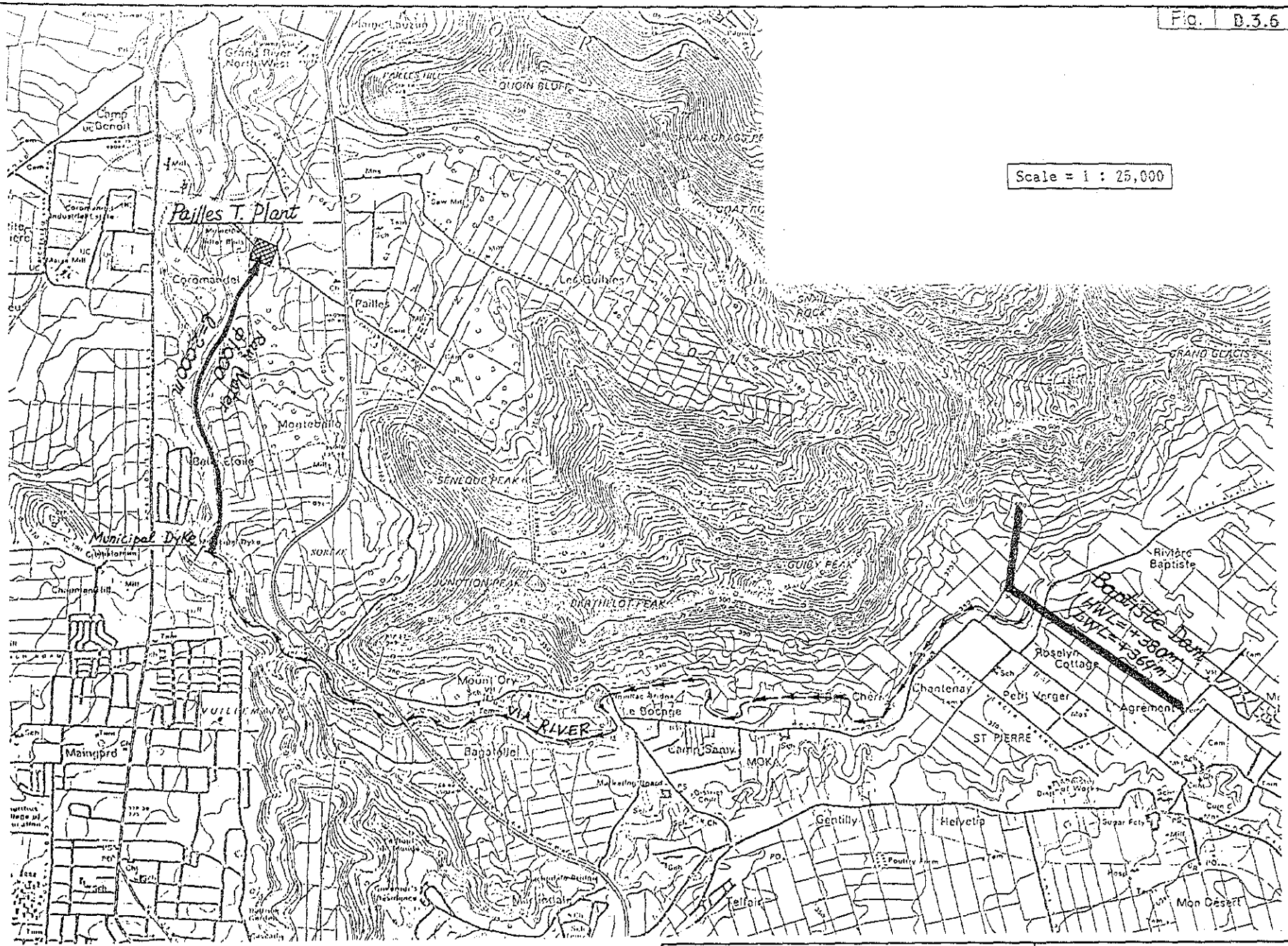
GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY



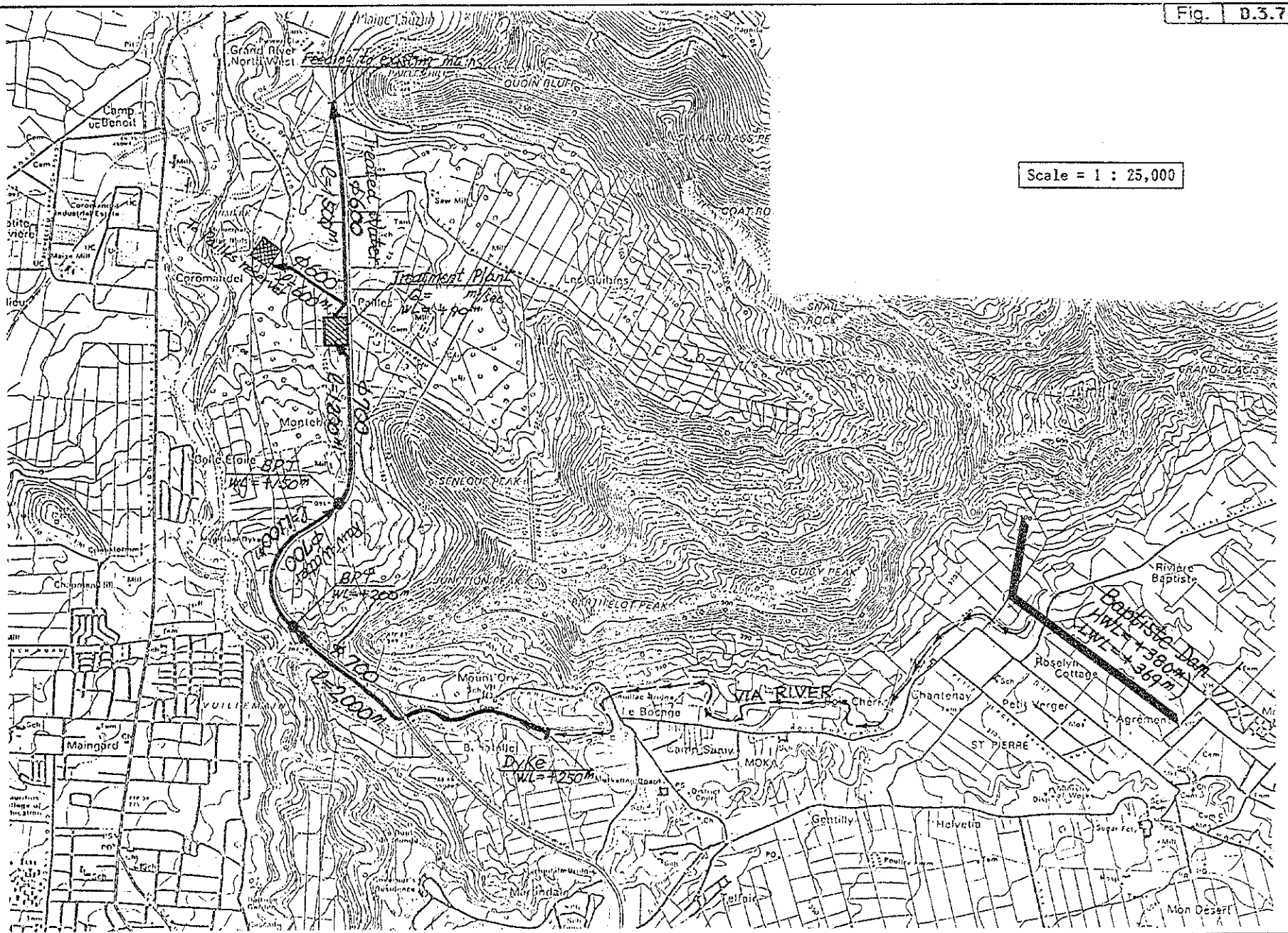
BAPTISTE SCHEME : CASE B-1
(RAW WATER TRANSMISSION ALTERNATIVES)

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY



BAPTISTE SCHEME : CASE B-2
(RAW WATER TRANSMISSION ALTERNATIVES)

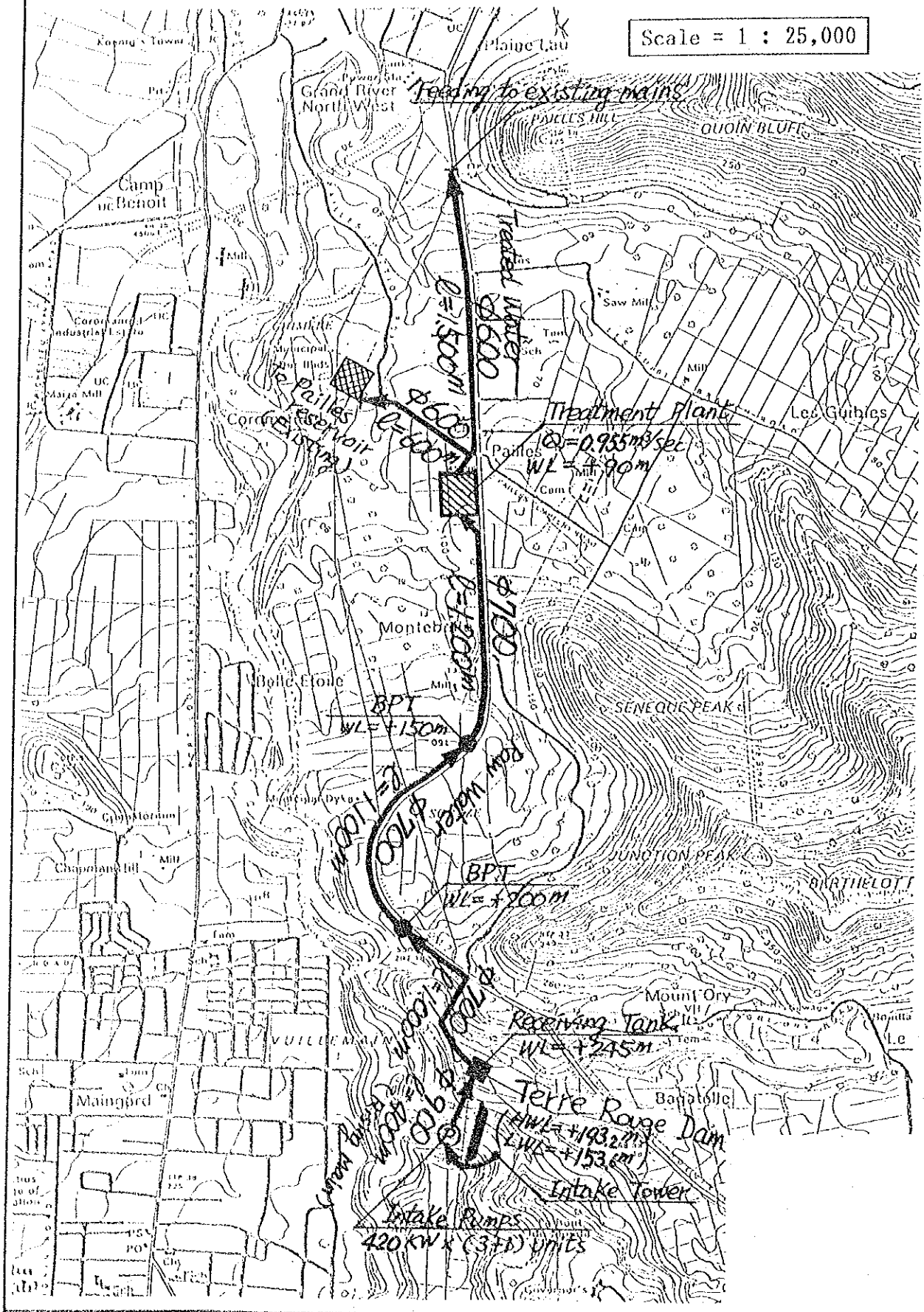
GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY



BAPTISTE SCHEME : CASE B-3
(RAW WATER TRANSMISSION ALTERNATIVES)

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. D.3.8

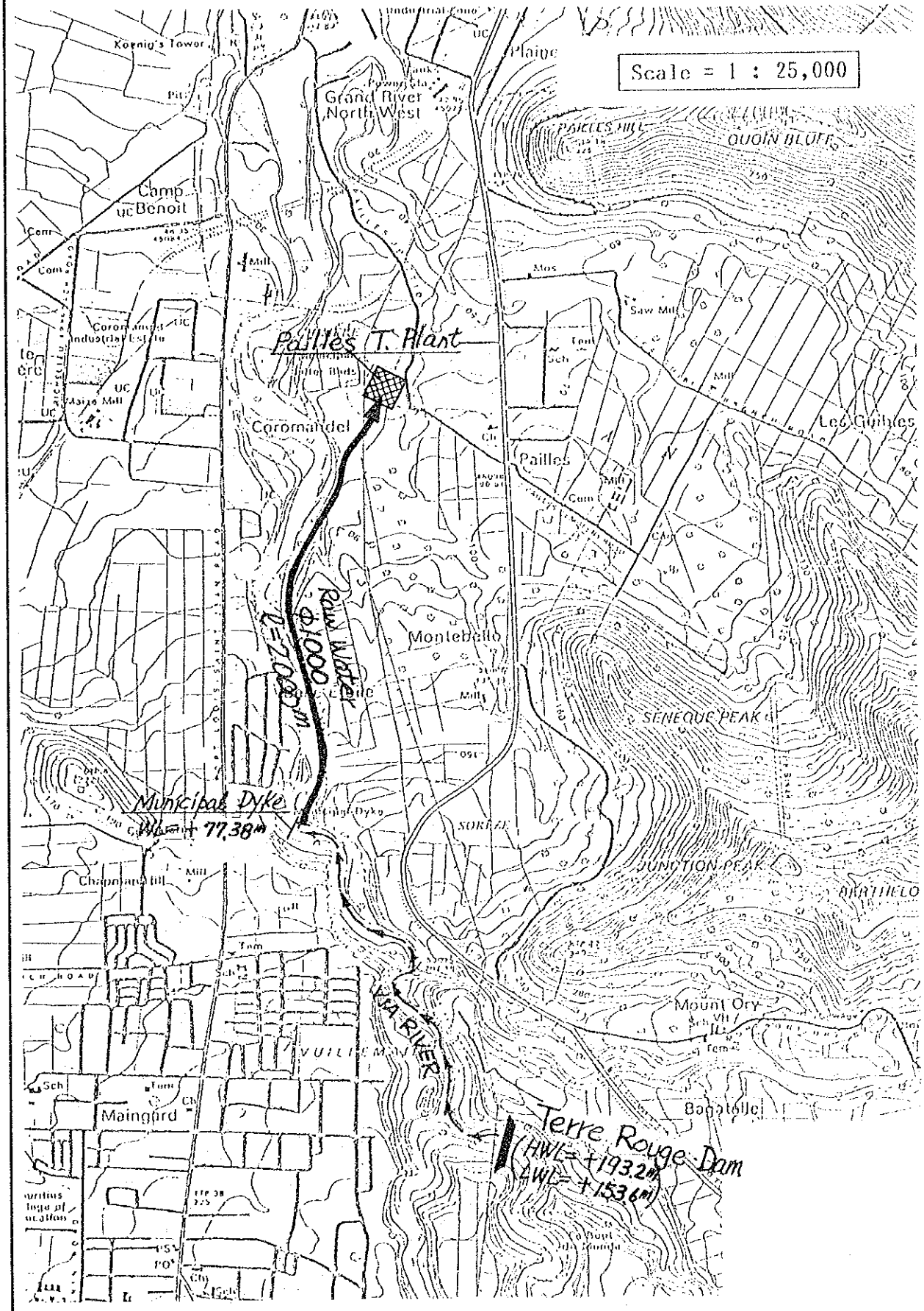


TERRE ROUGE SCHEME : CASE C-1
(RAW WATER TRANSMISSION ALTERNATIVES)

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

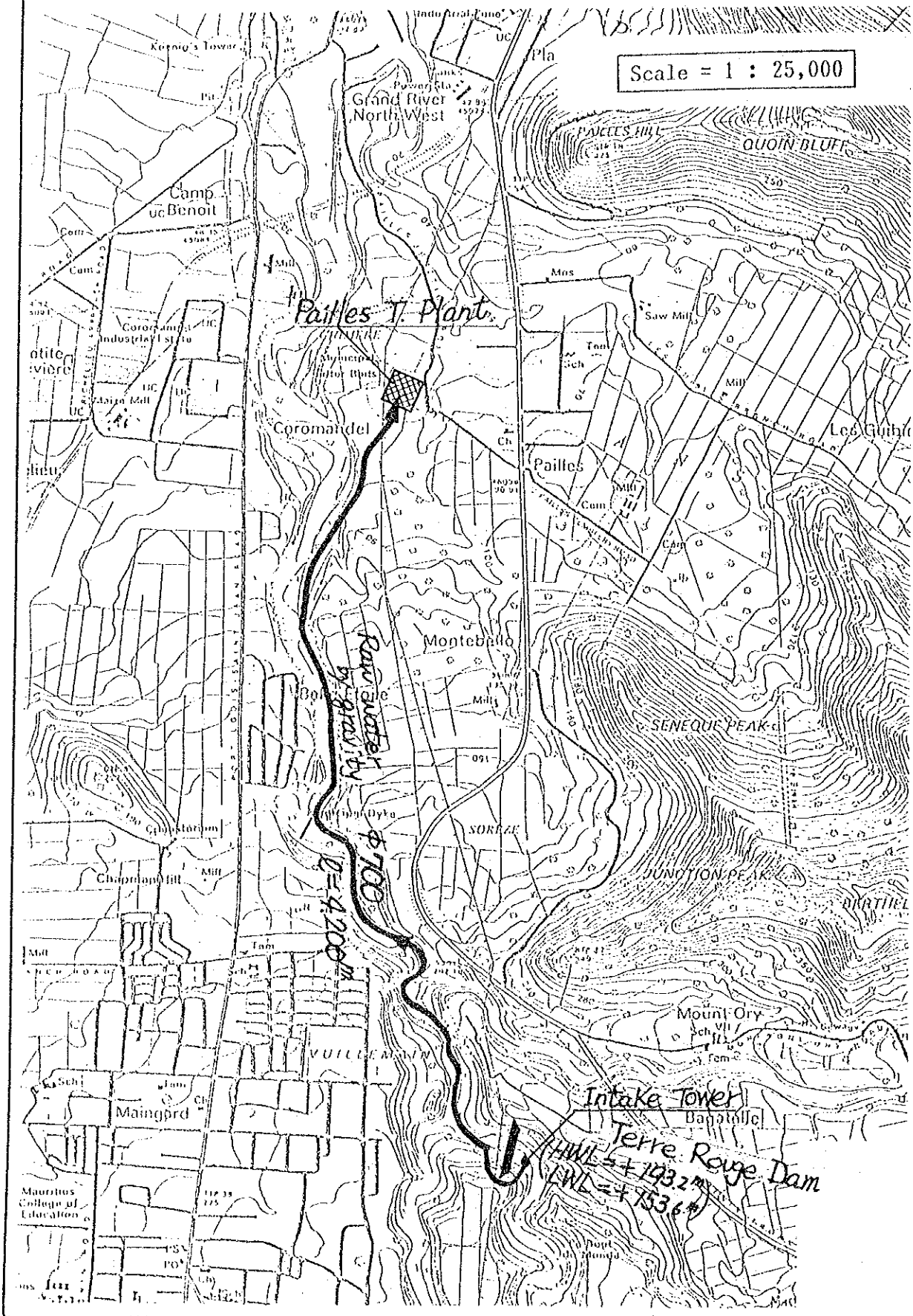
Fig. D.3.9



TERRE ROUGE SCHEME : CASE C-2
(RAW WATER TRANSMISSION ALTERNATIVES)

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

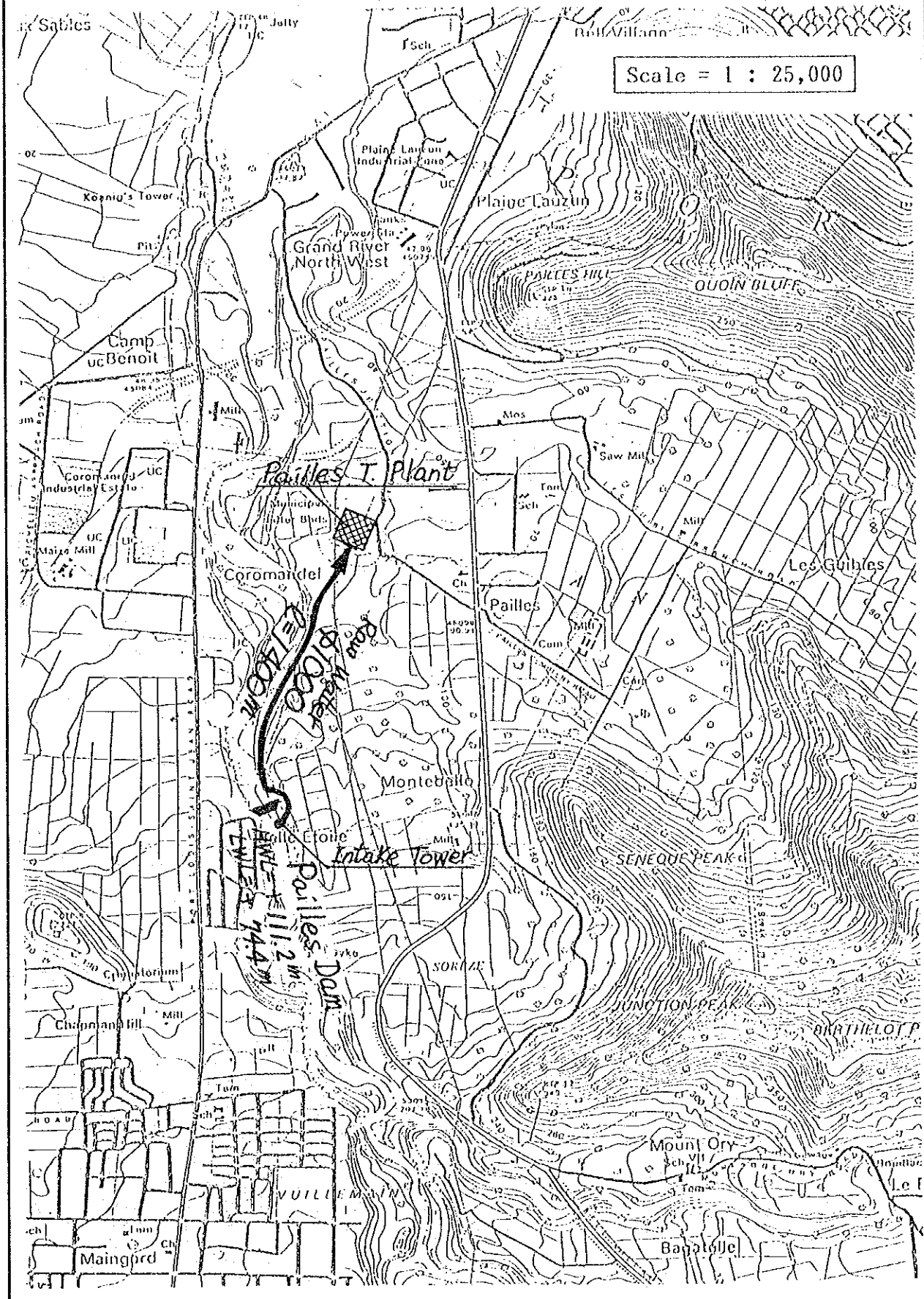
Fig. D.3.10



TERRE ROUGE SCHEME : CASE C-3
(RAW WATER TRANSMISSION ALTERNATIVES)

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

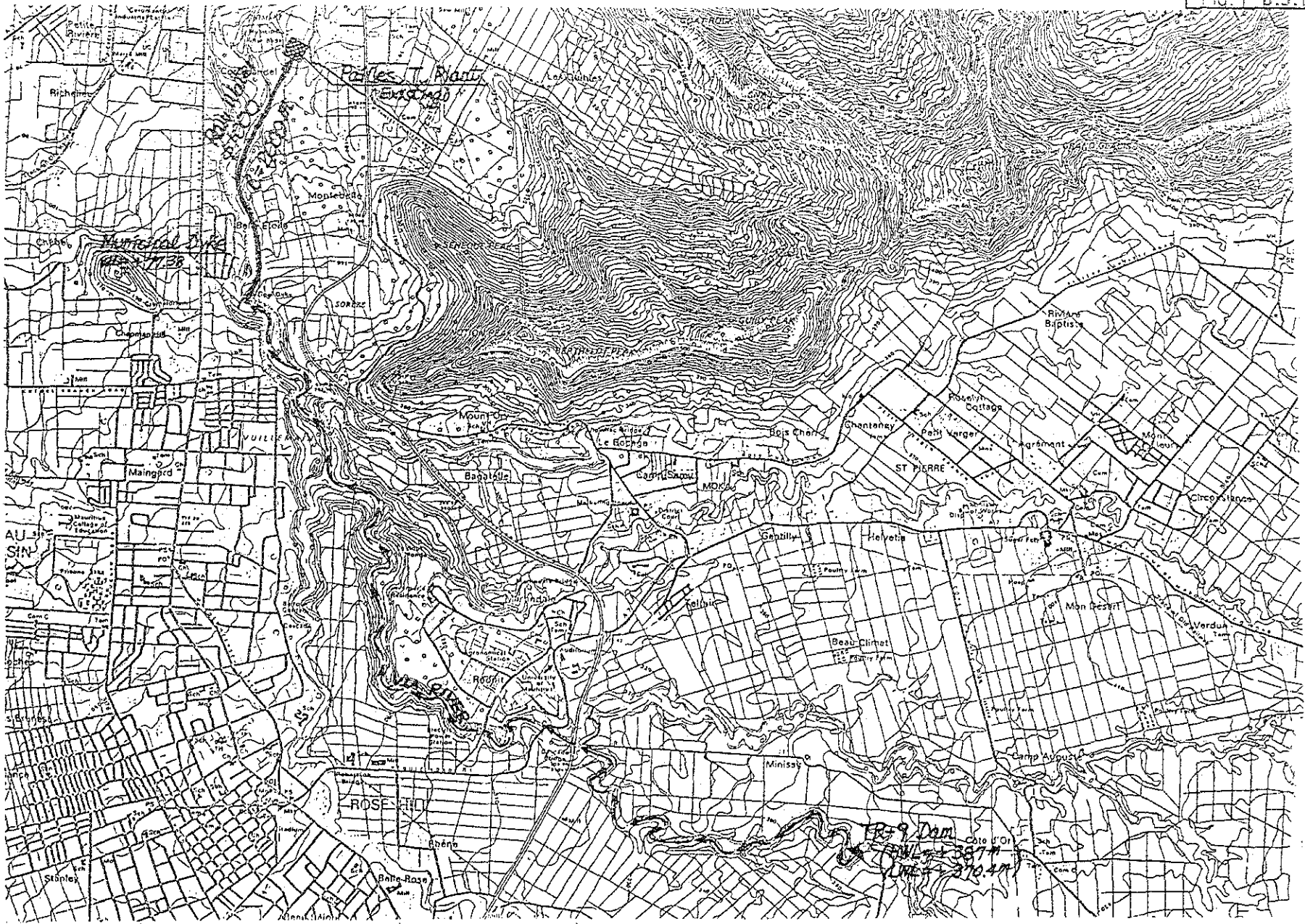
Fig. D.3.11



PAILLES SCHEME : CASE D-1
(RAW WATER TRANSMISSION ALTERNATIVES)

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

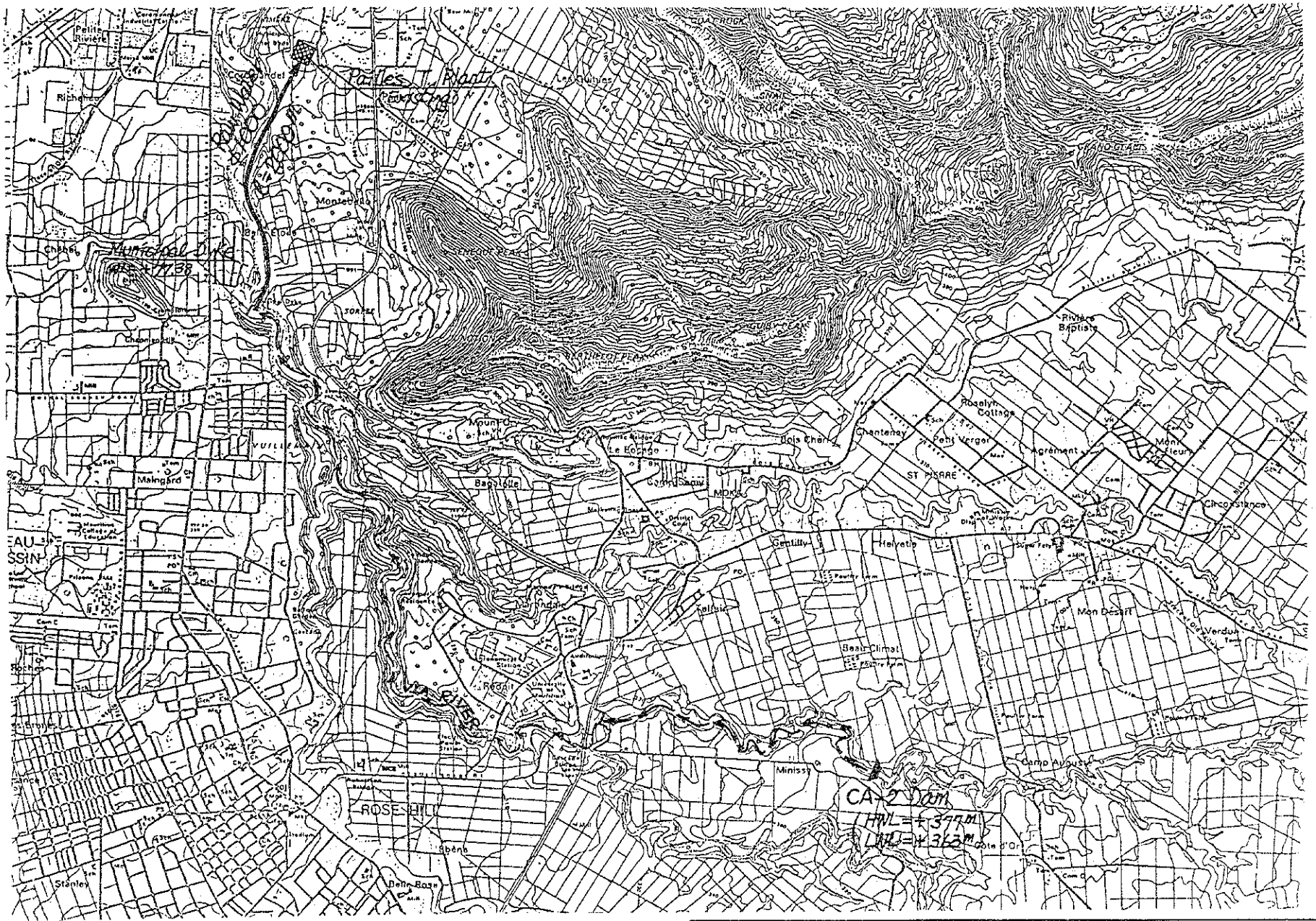
Fig. D.3.12



Scale = 1 : 30,000

TR-9 SCHEME : CASE E-1
(RAW WATER TRANSMISSION ALTERNATIVES)

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

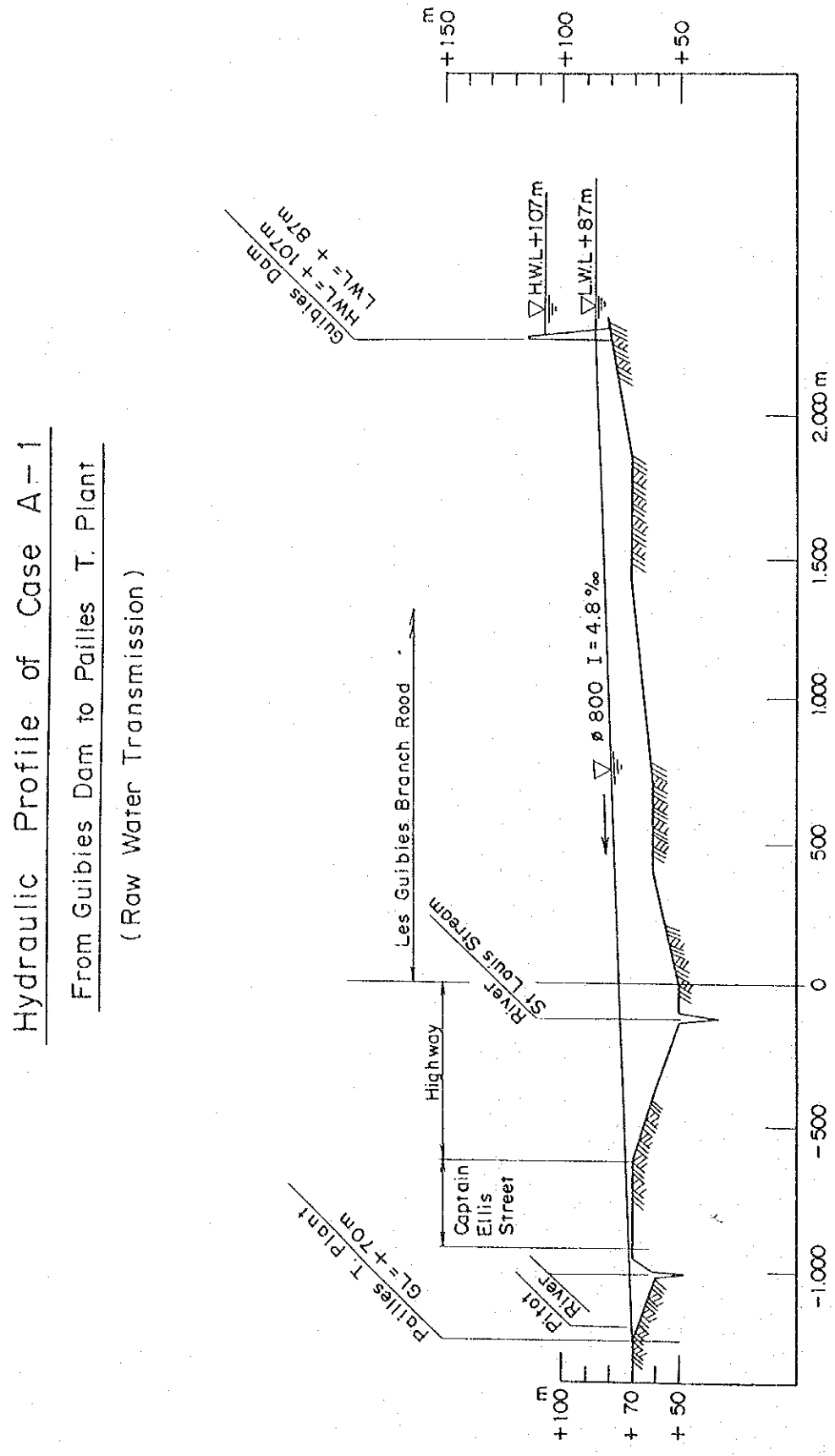


Scale = 1 : 30,000

CA-2 SCHEME : CASE F-1
(RAW WATER TRANSMISSION ALTERNATIVES)

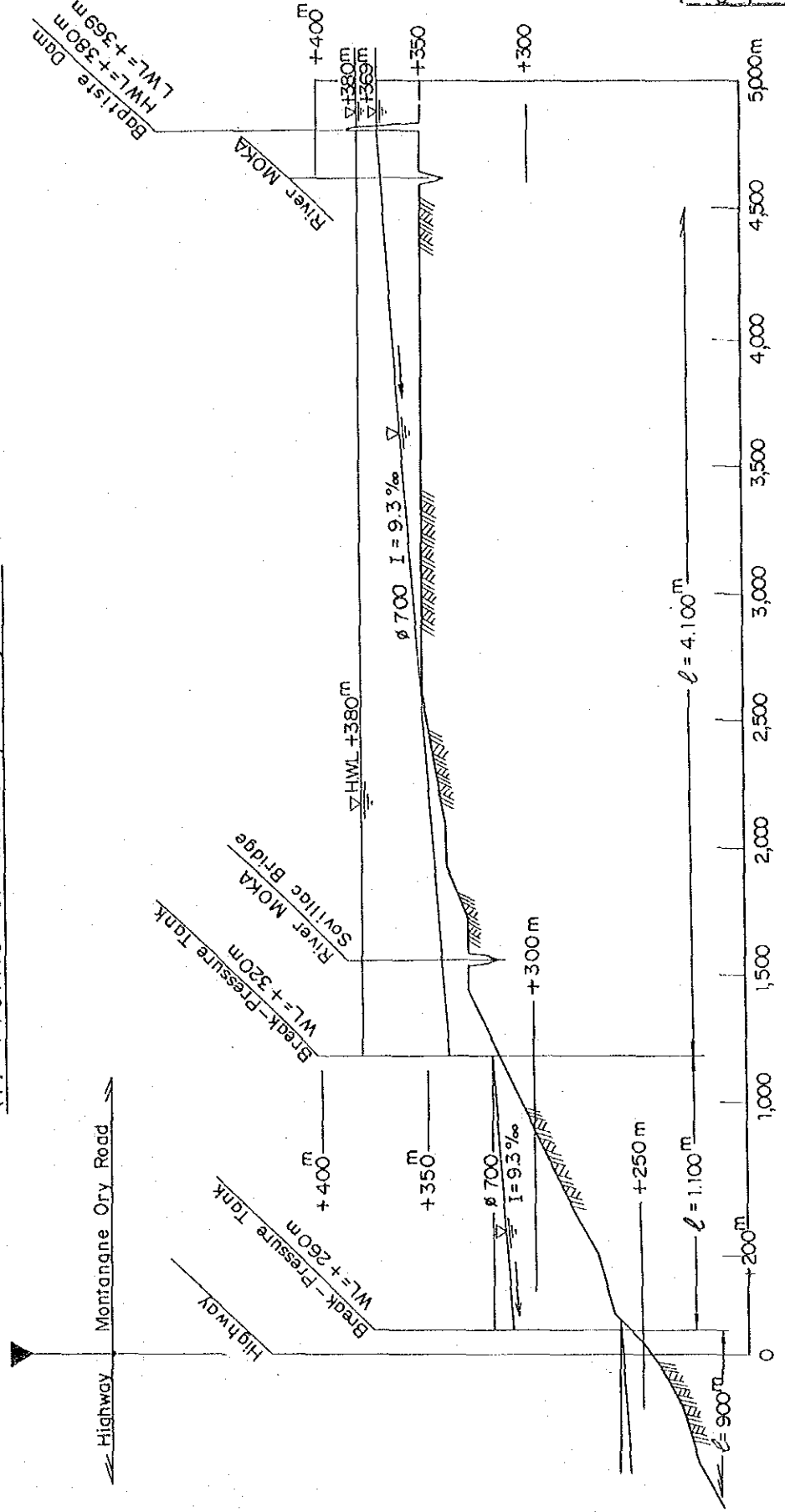
GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. D.3.14



HYDRAULIC PROFILE OF CASE A-1 (RAW WATER TRANSMISSION ALTERNATIVES)	GOVERNMENT OF MAURITIUS PORT LOUIS WATER SUPPLY PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY

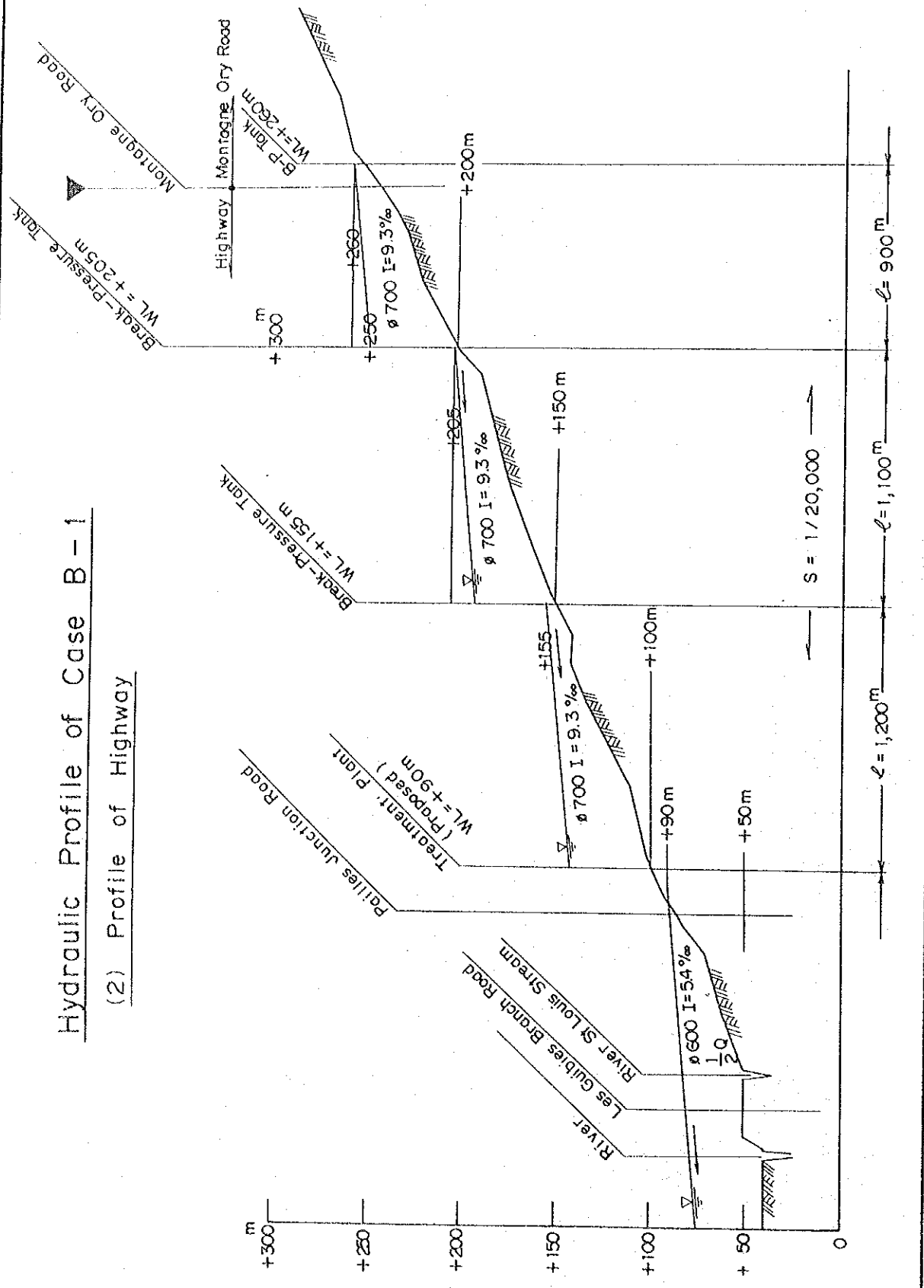
Fig. D.3.15



HYDRAULIC PROFILE OF CASE B-1 (1)
(RAW WATER TRANSMISSION ALTERNATIVES)

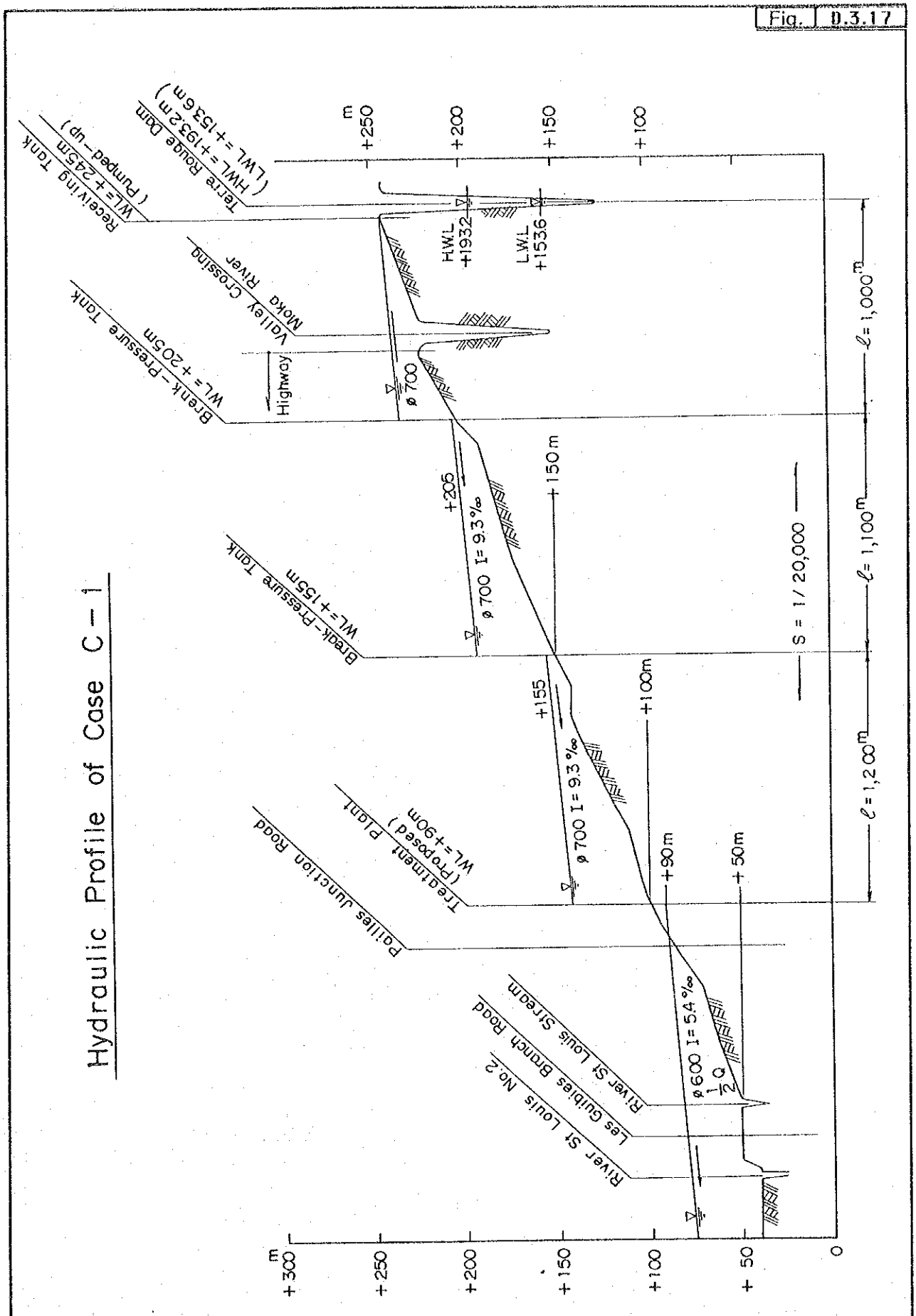
GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. D.3.16



HYDRAULIC PROFILE OF CASE B-1 (2) (RAW WATER TRANSMISSION ALTERNATIVES)	GOVERNMENT OF MAURITIUS PORT LOUIS WATER SUPPLY PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. D.3.17

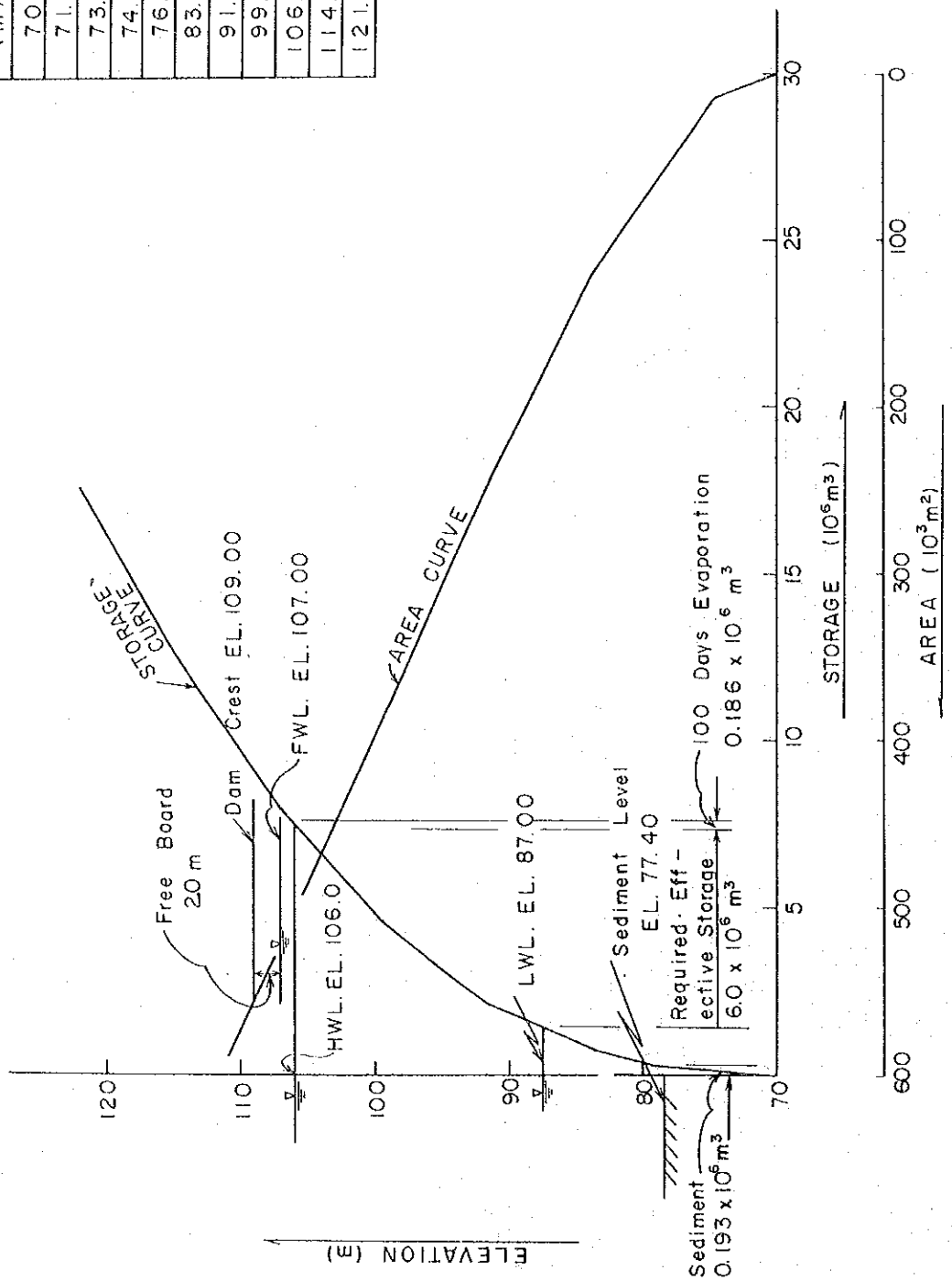


HYDRAULIC PROFILE OF CASE C-1
(RAW WATER TRANSMISSION ALTERNATIVES)

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. D.4.1

EL. (m)	AREA ($10^3 m^2$)	VOL. ($10^6 m^3$)
70.1	0	0
71.6	2	0.002
73.2	14	0.013
74.7	28	0.045
76.2	42	0.098
83.8	119	0.711
91.4	241	2.081
99.1	380	4.443
106.7	518	7.863
114.3	626	12.223
121.9	738	17.423

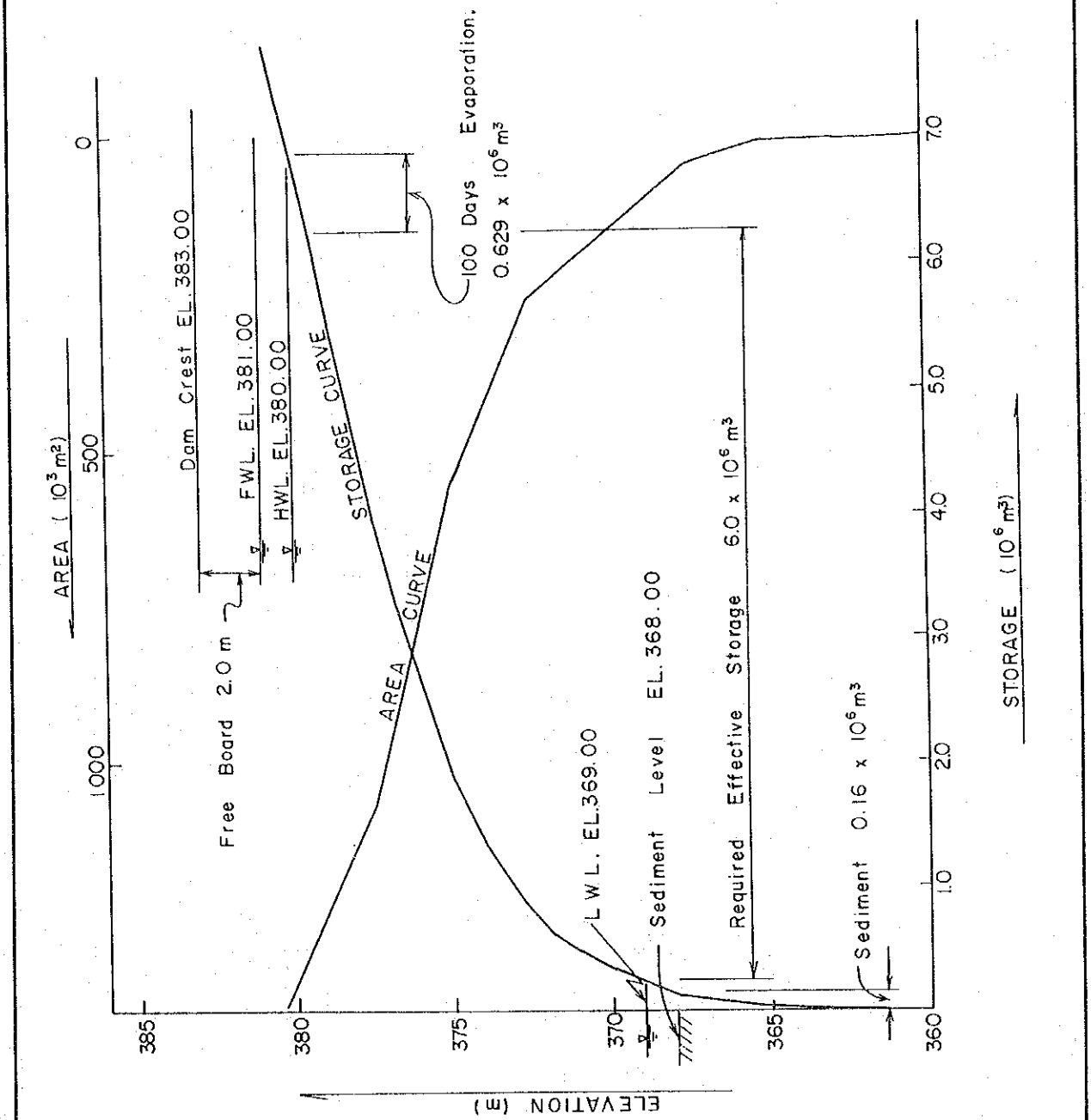


WATER LEVELS AND DAM HEIGHT
(GUIBIES DAM SITE)

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. D.4.2

E.L. (m)	AREA ($10^3 m^2$)	VOL ($10^6 m^3$)
360	0	0
365	8.5	0.002
367.5	45.2	0.088
370	154.1	0.337
372.5	264.8	0.860
375	549.6	1.877
377.5	1,067.2	3.898
380	1,350.0	6.920



WATER LEVELS AND DAM HEIGHT AT BAPTISTE SITE

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY