第9章　添　付　資　料

Table 9-1 DATA FOR POPULATION (1966 - 1976)

(Given by Miss Thidachan Chaipruke)

Year (A.D.)	Nong Chok	Min Buri	Lat Krabang	Nong Khaem	Bang Bua Thong		Sai Noi	Bang Yai	Bang Phli	Bang Bo
					Municipality	Out of Municipality				
1966	41,291	36,290	27,692	17,000	6,607	23,436	25,477	29,060	56,633	54,070
1967	42,236	37,275	28,443	17,973	7,143	23,910	26,143	29,630	57,767	54,586
1968	42,995	38,114	29,263	19,521	8,367	23,661	26,633	30,349	58,905	55,500
1969	44,035	38,844	29,861	20,489	8,559	23,552	27,217	31,100	59,833	56,245
1970	44,980	39,589	30,496	22,374	8,964	23,031	27,175	31,627	60,703	56,728
1971	45,998	40,493	31,125	24,836	9,325	24,672	27,399	31,953	61,591	57,146
1972	46,650	41,186	31,730	25,671	9,408	25,100	26,055	32,264	65,503	57,700
1973	44,344	44,608	33,185	28,679	9,505	25,247	26,305	32,628	66,466	58,346
1974	46,197	45,309	33,959	30,519	9,646	28,584	26,568	30,649	67,056	49,354
1975	46,939	46,342	34,951	32,308	7,806	29,011	26,786	30,814	68,352	60,046
1976	47,666	47,115	36,065	34,015	7,959	29,492	28,463	31,385	69,977	61,051

Resource of Data 1966 - 1976 : Registration Division, Department of Local Administration.

Table 9-2 PERSONAL EXPENDITURE AND IMPORT TAX

Data for Personal Expenditure (Given by Mr. Prasat)

- Super Intendant	3,800 - 9,000 ฿/month
- Senior Engineer	3,100 - 7,500
- Junior Engineer	1,750 - 5,000
- Mechanical Engineer	1,750 - 5,000
- Worker	750 - 1,500
- Driver	750 - 1,500

Data for Import Tax (Given by Mr. Prasat)

- Pump -

CIF Cost 100 ฿

(1) Tariff ..... 100 x 0.1 = 10฿ 10%

(2) Standard Profit ...(100฿ + 10฿) x 0.16 = 17.6฿ 16%

(3) Business Tax .....(100฿ + 10฿ + 17.6฿) x 0.03 = 3.83฿ .. 3%

(4) Municiparity Tax...3.83 x 0.1 = 0.38฿ 10%

Therefore the total import duty of pump ..10 + 3.83 + 0.38 = 14.21฿

- Pipe -

CIF Cost 100฿

(1) Tariff..... 100 x 0.3 = 30฿ 30%

(2) Standard Profit... (100 + 30) x 0.11 = 14.3฿ 11%

(3) Business Tax ..... (100 + 30 + 14.3) x 0.03 = 4.33฿.... 3%

(4) Municipality Tax ..4.33 x 0.1 = 0.433฿ 10%

Therefore for the total import duty of pipe .. 30+4.33฿+0.433=34.76฿

Table 9-3 DATA FOR POWER COST

(1st August 1977)

Given by Mr. Varavut

Large Demand

Installation Fee :

First	1000 kw @	฿56.00
Over	1000 kw @	54.00

Actual Use Fee :

First	200 kw @	฿ 0.59
Next	280 kw @	0.57
Over	280 kw @	0.52

Medium Demand

Installation Fee :

First	50 kw @	฿60.00
Next	150 kw @	59.00
Over	200 kw @	58.00

Actual Use Fee :

First	50 kw @	฿ 0.68
Next	150 kw @	0.60
Next	200 kw @	0.58
Over	400 kw @	0.56

Table 9-4 MWWA UTILITY PLANT IN SERVICE
ACCOUNT 101 SERIES

Account Number	Description	Depreciation Rate,% * as of 30-9-1975
101-01	ENGINEERING SERVICES	6.67
101-02	CONSULTANT FEES	6.67
101-03	OTHER INTANGIBLE	—
101-11	SOURCE OF SUPPLY, STRUCTURES & IMPROVEMENTS	
A	Concrete Structure	2
B	Wooden Structure	5
101-12	COLLECTING & IMPOUNDING RESERVOIRS	
A	Dam (038-01)	2
1	Road (038-02)	2
	Bridge (038-03)	2
101-13	RIVER, CANAL, OTHER INTAKES	
	Canal (037)	2
101-14	WELLS	
A	Deep Wells (039-01)	2
	Deep Well Equipment (Already installed and awaiting transfer to deep well account) (039-02)	10
	Pumps Installed at Deep Wells(039-02-01)	10
	Line Shaft Engrossing Tube (039-02-03)	10
	Dead Weight Pressure Guage Testing Range (039-02-04)	10
	Monometer Range (039-02-05)	10

* Depreciation Rate of 2% implied the Life Expectancy of 50 years
5% implied the Life Expectancy of 20 years

Account Number	Description	Depreciation Rate,% * as of 30-9-1975
	Hot Jet (039-02-06)	10
	Cast Iron Check Valve (039-02-07)	10
	Cast Iron Water Gate (039-02-08)	10
	Foot Valve (039-02-09)	10
	Brass for Central Controlling of Big Wells (039-02-10)	10
101-16	SUPPLY MAINS	-
101-17	OTHER WATER SOURCE PLANT	-
101-21	PUMPING STRUCTURES & IMPROVEMENTS	
A	Pump and Equipment	2
	Distillery Equipment	2
101-25	ELECTRIC PUMPING EQUIPMENT	
A	Pumps (High Pressure) (031-01)	5
B	Pumps (Low Pressure) (031-02)	4
	Pumps Motors (031-03)	4
	Meters (031-04)	4
	Automatic Switch Starter (031-05)	4
	Electrically Operated Tight-Scaling Butterfly Valve (031-06)	4
	Air Valve (031-07)	4
	Swing Check Valve (031-08)	4
	Reducing Valve (031-09)	4
	Digital Multiplier (031-10)	4
	Fuse (031-11)	4
101-26	DIESEL PUMPING EQUIPMENT	—
101-31	WATER TREATMENT STRUCTURES IMPROVEMENTS	
A	Concrete Structure	2
B	Wooden Structure	5

Account Number	Description	Depreciation Rate*, % as of 30-9-1975
101-32	WATER TREATMENT	
A	Chloring Distributor (032-01)	3
	Chloroscope (032-02)	3
	Chlorometer (032-03)	3
	Chlorometer Valve (032-04)	3
	Automatic Valve (032-05)	3
	Sedimentary Tank (033-01)	3
	Speed Variation Motor (033-03)	3
	Chemical Distributions (033-04)	3
	Magneter Switch Starter for Alum Feed Pumps (033-05)	3
	Distilling Tank (034-01)	3
	Water Gate Valve (034-02)	3
	Vacuum Meter (034-03)	3
	Vacuum Gauge (034-04)	3
	Pressure Gauge (034-05)	3
	Air Blower (034-06)	3
	Clean Water Tank (035-01)	3
	Pipe and Equipment in the Distillery (036)	3
101-41	TRANSMISSION & DISTRIBUTION STRUCTURES & IMPROVEMENT	
A	Concrete Structure	2
B	Wooden Structure	5
101-42	DISTRIBUTION RESERVOIRS & STANDPIPES	
	Tanks (041)	2
101-43	TRANSMISSION MAINS	
A	Cast Iron Pipe for 400 mm. (042-01)	2
	Pre-stressed Concrete 800 mm.	2
101-44	FIRE MAINS	
	Fire Hose (044)	2

Account Number	Description	Depreciation Rate,* % as of 30-9-1975
101-45	DISTRIBUTION	
A	Cast Iron Pipe for 100-300 mm. (042-02)	3
B	Anti-rust Iron Pipe (042-03)	2
C	Asbestos Pipe (042-04)	5
D	Zinc-Plated Iron Pipe	10
101-46	METERS IN SERVICE	
A	Budget Meters	20
	Free Meters	20
101-47	TUNNELS	-
101-48	HYDRANTS	-
101-49	OTHER TRANSMISSION & DISTRIBUTION PLANT	
A	Siphon Pipes (043)	2
101-81	GENERAL STRUCTURES & IMPROVEMENTS	
A	Material and Equipment Warehouse (021-01)	2
	Cable Room and Switch Room (021-04)	2
	Science Equipment Storage (021-05)	2
	MWWA Headquarters Building (022-01)	2
B	Officers Living Quarters (023-01)	5
101-82	OFFICE FURNITURE & EQUIPMENT	
A	Type-writers (064-01)	10
	Bill-Printing Machine (064-02)	10
	Roneo Machine (064-04)	10
	Xerox Machine (064-05)	10
	Manual Adding Machines (064-07)	10
B	Blue-Print Machine (064-03)	15
	Electric Adding Machines (064-06)	15
C	Office Furniture (064-08)	7 1/2
	Tables (064-08-100)	7 1/2

Account Number	Description	Depreciation Rate*,% as of 30-9-1975
	Meeting Table (064-08-101)	7 1/2
	Special officers Tables (064-08-102)	7 1/2
	First Grade Officers Tables (064-08-103)	7 1/2
	Second Grade Officers Tables (064-08-104)	7 1/2
	Third Grade Officers Tables (064-08-105)	7 1/2
	Fourth Grade Officers Tables (064-08-106)	7 1/2
	Table for 2nd Grade Draftsmen (064-08-107)	7 1/2
	Table for 3rd Grade Draftsmen (064-08-108)	7 1/2
	Table for 4th Grade Draftsmen (064-08-109)	7 1/2
	Typewriter Tables (064-08-110)	7 1/2
	Document Table (064-08-111)	7 1/2
	Long Tables (064-08-112)	7 1/2
	Stools (064-09-100)	7 1/2
	Benches (064-09-101)	7 1/2
	Chairs (064-09-102)	7 1/2
	Wall Clock (064-10)	7 1/2
	Draftsman Equipment (064-11)	7 1/2
	Printing Machine (064-12)	7 1/2
	Hoover Vacuum Cleaner (064-13)	7 1/2
	Meter Number Punching Machine (064-14)	7 1/2
	Cheque Number Punching Machine (064-15)	7 1/2
	Customer Name Punching Machine (064-16)	7 1/2
	Slide Projector (064-17)	7 1/2
	Slide Screen (064-18)	7 1/2
	Refrigerator (064-19)	7 1/2
	Air Conditioners (064-20)	7 1/2
	Fire Extinguishers (064-21)	7 1/2
	Oil Lamps (064-22)	7 1/2
	Furnace Lamps (064-23)	7 1/2
	Blinds (064-24)	7 1/2
	Aluminum Ladders (064-25)	7 1/2
	Fans (064-27-100)	7 1/2
	Ceiling Fans (064-27-101)	7 1/2

Account Number	Description	Depreciation Rate,* % as of 30-9-1975
	Floor Fans (064-27-102)	7 1/2
	Table Fans (064-27-103)	7 1/2
	Cabinets (064-32-100)	7 1/2
	Safe (064-32-101)	7 1/2
	Steel Document Cabinet (064-032-102)	7 1/2
	Wooden Document Cabinet (064-032-103)	7 1/2
	Mechanical Tool Cabinet (064-032-104)	7 1/2
	Card Cabinet (064-032-105)	7 1/2
	Bill Cabinet (064-032-106)	7 1/2
101-83	TRANSPORTATION EQUIPMENT	
A	Motor-cars (065-01)	15
B	Trucks (065-02)	20
C	Motorcycles (065-03)	25
	Boats (065-09)	25
D	Bicycles (065-08)	10
101-84	STORES EQUIPMENT	
A	Hand Truck (064-28)	7 1/2
101-85	TOOL, SHOP & GARAGE EQUIPMENT	
A	Pumps (061-03)	15
	Pipe-Cutting Machines (064-04)	15
	Perforator (061-05)	15
B	Pipe Stranding Machine (061-09)	10
	Pipe Pressor (061-11)	10
	Lathe (061-12)	10
	Gas Connecting Machine (061-13)	10
	Pulley and Winch (061-14)	10
	Pipe Adapter (061-15)	10
	Electric Measurement Tools (062-01)	10
	Electric Coil Winder (062-01-01)	10
	Ampere Volt Meter (062-01-02)	10

Account Number	Description	Depreciation Rate,* % as of 30-9-1975
101-85 B (Cont'd)	Wireless Current Testing Tools(062-01-03)	10
	Potential Transformer (062-01-04)	10
	Current Transformer (062-01-05)	10
	Motor Testing Tools (062-01-06)	10
	Testing Machinery for High Boiler Electricity (062-10-07)	10
	Telmetering (062-01-08)	10
	Movable Electric Testing Tool (062-01-09)	10
	Testing Tools for Transistor and Electronic Circle (062-01-10)	10
	Electric Adaptors (062-01-11)	10
	Electrical Drills (062-01-12)	10
	Electric Heater (062-01-13)	10
	Electric Stone Polishers (062-01-14)	10
	Electric Strander (062-01-15)	10
	Magazine Remover (063-04-103)	10
	Polishing Tools (063-04-104)	10
	Packing Tools (063-04-105)	10
	Tools for Tightening Oil Container Cap (063-04-106)	10
	Steel Tape Measure (063-04-017)	10
	Steel Pump Gasket (063-04-108)	10
	Filler (063-04-109)	10
	Wheel Barrows (065-07)	10
	Magnet (063-04-110)	10
	Cutting Iron (063-04-111)	10
	Iron Measuring Gauge (063-04-112)	10
	Flat Screw Drivers (063-04-113)	10
	Round Screw Drivers (063-04-114)	10
	Manual Drill (063-04-115)	10
C	Shelves Scientific Tools (064-29)	7 1/2
	Shelves for Water Pipe & Equipment (064-30)	7 1/2

Account Number	Description	Depreciation Rate,* % as of 30-9-1975
101-86	LABORATORY EQUIPMENT	
	Water Testing Equipment (063-01-01)	10
	Measurator (063-01-02)	10
	Residual Sediment Measure (063-01-03)	10
	Water Demmoralizer (063-01-04)	10
	Fisher Electrophoto Meter (063-01-05)	10
	Residual Chlorine Measure (063-01-08)	10
	Hydrocure Floculator (063-01-09)	10
	Mement Water Bath (063-01-10)	10
	Frogman Garments (063-02-01)	10
	Masks (063-02-02)	10
	Stop Watch Recorder (063-03-01)	10
	Scale (063-03-02)	10
	Degree Measure (063-03-03)	10
	Pipe Testing Tools (063-03-04)	10
101-87	POWER OPERATED EQUIPMENT	
A	Electric Generator (061-01)	20
	Air Compressor (061-02)	20
	Concrete Mixers (061-06)	20
	Soil Compressor (065-10-101)	20
B	Excavators (065-04)	15
C	Road Rollers (065-06)	10
	Road Drill (065-10-102)	10
	Crane (065-05)	15
	Pipe Holding Service (063-04-101)	10
	Lubricant Compressor (063-04-101)	10
	Hydraulic Compressor (061-10)	10
D	Lawn Mower (064-27)	7 1/2
101-88	COMMUNICATIONS EQUIPMENT	
A	Transmitter (062-02)	10

Account Number	Description	Depreciation Rate,* % as of 30-9-1975
101-89	OTHER EQUIPMENT	
A	Other Machinery of Value Lower than ฿ 10,000 (061-07)	10
	Asphalt Mixers (065-10-103)	20
	Medical Equipment (063-01-06)	10
B	Iron Plates (065-10-104)	2
C	Warning Traffic Lights (065-10-105)	7 1/2
	Nursing Beds (064-31)	7 1/2

REMARKS

Land will not be subject to any depreciation and will be listed under each functional caption.

Table 9-5 LABOR AND MATERIAL COST

(1) Wages by Occupation at Bangkok Separated System Area

Occupation	Unit (per day)	Cost (Baht)	Remarks
Carpenter	person	100	
Electrician	person	120	
Plasterer	person	150	
Welder	person	150	
Mason	person	150	
Steel Bending Worker	person	120	
Plumber	person	40	
Machine Operator	person	80	
Assistant	person	40	
Worker	person	30	

(2) Cost of Materials
(Including Customs Tariff)

Unit: Baht

Item	Unit	Foreign Currency	Domestic Currency	Remarks
DCIP ϕ100	1 m	250	135	Include Joint
" 150	"	358	193	"
" 200				"
" 250				"
" 300	1 m	740	399	"
" 350	"	851	459	"
" 400	"	1,096	579	"
" 450	"	1,280	689	"
" 500	"	1,490	805	"
" 600	"	1,963	1,057	"
" 700	"	2,590	1,394	"
" 800	"	3,203	1,725	"
DCIP ϕ100				
150				
200				
250				
300				
DCIP ϕ350	1 kg	14.7	7.9	Include Joint
400	"	15.1	8.3	"
450	"	15.0	8.1	"
500	"	14.8	7.9	"
600	"	14.4	7.8	"
700	"	14.8	8.0	"
800	"	14.6	7.8	"

Item	Unit	Foreign Currency	Domestic Currency	Remarks
DCIP Fitting ϕ100				
150				
200				
250				
300				
350	1 kg	32.2	14.5	
400	"	32.2	14.5	
450	"	32.2	14.5	
500	"	32.3	14.6	
600	"	32.3	14.6	
700	"	32.3	14.6	
800	"	32.3	14.6	
DCIP Gland ϕ100	1 set	130	56	
150	"	140	60	
200	"	236	101	
250	"	319	137	
300	"	335	143	
350	"	437	187	
400	"	715	307	
450	"	788	338	
500	"	883	378	
600	"	1,016	436	
700	"	1,577	676	
800	"	1,890	811	
SP ϕ350 x 6m	1 pc	6,413	3,454	Flange,Tar-Epoxy Coating
400 x 6m	"	7,216	3,885	"
450 x 6m	"	8,067	4,345	"
500 x 6m	"	8,854	4,768	"
600 x 6m	"	10,832	5,833	"
800 x 6m	"	14,977	8,065	"
SP ϕ350	1 kg	17.4	9.3	"
400	"	17.0	9.1	"
450	"	16.3	8.8	"
500	"	15.7	8.5	"
600	"	15.5	8.4	"
800	"	13.3	7.2	"
SP ϕ 12	1 m	-	17	GSP
20	"	-	22	"
25	"	-	32	"
32	"	-	42	"
35	"	-	48	Flange,Tar-Epoxy Coating
50	"	-	68	"
60	"	-	88	"
80	"	-	114	"
100	"	-	146	"
150	"	-	306	"
200	"	-	808	"
250	"	-	1,261	GSP
300	"	-	1,612	"

Item	Unit	Foreign Currency	Domestic Currency	Remarks
SP ϕ350	1 m	1,068	576	Tar-Epoxy Coating
400	"	1,203	647	"
450	"	1,344	724	"
500	"	1,475	795	"
600	"	1,805	972	"
800	"	2,496	1,344	"
SP Fitting	1 kg	-	40	
"	"	44.2	19.8	
ACP(20) ϕ100	1 m	-	71	Include Fitting
" 125	"	-		"
" 150	"	-	93	"
" 200	"	-	140	"
" 250	"	-	185	"
" 300	"	-	239	"
" 400	"	-		"
" 500	"	-	685	"
" 600	"	-		"
ACP(A) ϕ 80	1 m	-	15	"
" 100	"	-	17	"
" 150	"	-	26	"
Gibault ϕ 75	1 set	-	65	
" 100	"	-	71	
" 150	"	-	124	
" 200	"	-	187	
" 250	"	-	237	
" 300	"	-	304	
" 400	"	-	595	
" 500	"	-	730	
" 600	"	-	1,041	
ACP Fitting	1 kg	-	15	
"	"	44.2	19.8	
SV ϕ 75	1 set	4,084	1,086	Screw-Type
100	"	4,748	1,262	"
125	"			"
150	"	6,701	1,773	"
200	"	8,823	2,436	"
250	"	11,750	3,124	"
300	"	14,940	3,971	"
350	"	17,347	4,611	"
400	"	23,987	6,376	"
450	"	29,327	7,796	"
500	"	50,503	13,425	"

Item	Unit	Foreign Currency	Domestic Currency	Remarks
BV ϕ350	1 set	32,271	8,578	Screw-Type
400	"	38,556	10,249	"
450	"	42,555	11,312	"
500	"	45,222	12,019	"
600	"	53,256	14,156	"
700	"	76,586	20,358	"
800	"	86,968	23,916	"
Air Valve	1 set	8,518	1,964	
Angle Valve ϕ 13	1 set	-	395	
" 19	"	-	479	
" 35	"	-	1,032	
" 100	"	-	4,000	
PVCP ϕ 15	1 m	-	3	
18	"	-	4	
20	"	-	5	
25	"	-	7	
35	"	-	9	
40	"	-	12	
55	"	-	18	
65	"	-	29	
80	"	-	40	
100	"	-	64	
125	"	-	99	
Concrete Pipe ϕ100	1 m	-	30	
" 150	"	-	48	
" 200	"	-	58	
" 250	"	-	81	
" 300	"	-	100	
" 500	"	-	172	
" 600	"	-	230	
R.C.P. ϕ500	1 m	-	263	Reinforced
Bolt&Packing ϕ 75	1 set	-		
" 100	"	-	10	
" 150	"	-	14	
" 200	"	-	20	
" 250	"	-	32	
" 300	"	-	42	
" 350	"	-	58	
" 400	"	-	68	
" 450	"	-		
" 500	"	-	106	
" 600	"	-	140	
" 700	"	-	190	
" 800	"	-	250	

Item	Unit	Foreign Currency	Domestic Currency	Remarks
Steel Plate	1 kg	4.3	1.0	
L - Steel	"	6.1	1.2	
I - Steel	"	9.6	2.4	
C.H. Plate	"	5.8	1.0	
Steel Sheet Pile	"	6.5	1.5	
Trench Sheet Pile	"	6.1	1.9	

(3) Unit Cost Estimations for the Various Categories
(Including Customs Tariff) (unit : Baht)

Item	Unit	Materials		Labor D.Cost	Cost	Remarks
		F.Cost	D.Cost			
Excavation						
(a) By Hand	1 cum	-	-	27	27	
(b) By Bulldozer	"	-	10	1	11	10 ton
(c) Cost of Operating	1 hr	-	37	19	56	
(d) By Shovel	1 cum	-	20	1	21	Cap: 0.6cum
(e) By Dragline	"	-	57	1	58	"
(f) Cost of Operating	1 hr	-	49	19	68	
Surplus Soil						
(a) By Hand	1 cum	-	-	21	21	
(b) By Dump Trucks	"	-	32	3	35	
(c) Cost of Operating	1 hr	-	46	19	65	
Concrete Pile						
(a) 300mm L=6m	1 pc	-	975	62	1,037	
(b) Cost of Operating	1 day	-	13	32	45	
(c) 300m L=8m	1 pc	-	1,289	106	1,395	
(d) Cost of Operating	1 day	-	19	46	65	
Rubble Stone	1 cum	-	174	21	195	
Forms						
(a) Class-A	1 sqm	-	68	28	96	
(b) Class-B	1 sqm	-	56	15	71	
(c) Class-C	1 sqm	-	34	15	49	
Timbering	1 cum	-	7	3	10	
Staging	"	-	10	4	14	
Reinforcing						
(a) Round Bar less than ϕ9mm	1 ton	-	6,953	900	7,853	
(b) Round Bar ϕ12mm -- ϕ22mm	"	-	6,953	900	7,853	
(c) Deformed Bar ϕ12mm - ϕ23mm	"	-	6,926	750	7,676	
Concrete						
(a) 1:4:8	1 cum	-	350	147	497	
(b) 1:3:6	"	-	407	174	581	
(c) 1:2:4	"	-	522	222	744	
Mortar						
(a) 1:2	1 cum	-	849	27	876	
(b) 1:2 t=20m/m	1 sqm	-	17	17	34	
(c) 1:2 t=20m/m water Proof	"	-	129	17	146	
(d) Expansion Joint	1 m	340	60	14	494	Rubber

Item	Unit	Materials		Labor D.Cost	Cost	Remarks
		F.Cost	D.Cost			
Pump Drainage						
(a) Engine 10ps	1 day	-	62	95	157	
(b) Engine 5ps	"	-	27	80	107	
(c) By Hand Pump	"	-	-	60	60	
Walling						
(a) 1.6 x 2.2m both side	1 m	-	98	47	145	Wood
(b) 1.3 x 1.5m " "	"	-	66	44	110	"
(c) Trench Sheet Pile	"	173	234	272	679	
(d) Cost of Operating	1 day	-	80	304	384	
Revetment	1 m	-	4,640	214	4,854	
Concrete Slab Pitching	1 sqm	-	121	41	162	
Solding	1 sqm	-	13	2	15	
Paving						
(a) Concrete Pavement	1 sqm	-	73	52	125	
(b) Asphalt Pavement	1 sqm	-	126	30	156	
(c) Brick Pavement	1 sqm	-	65	5	70	
Planting	1 tree	-	305	60	365	
Fence						
(a) Silaraeng Fence	1 m	-	313	155	468	
(b) Barbed Wire Fence	"	-	74	38	112	
(c) Net Wire Fence	"	-	189	15	204	
Gutter & Open Channel						
(a) 500 x 735mm	1m	-	287	162	449	
(b) 800 x 1,220mm	"	-	353	195	548	
(c) 450 x 450mm	"	-	70	7	77	
(d) 200 x 200mm	"	-	35	2	37	
(e) Brick Gutter	"	-	4	15	19	
(f) Concrete Cutter	"	-	23	10	33	
(g) Drain Pit	1 set	-	119	64	183	
Coffering						
(a) Closing Dyke	1 m	-	262	62	324	
(b) Driving Sheet Pile	"	778	1,322	482	2,582	
(c) Removing Sheet Pile	"	-	19	257	276	
Stone Masonry	1 m	-	193	68	261	
Steel Bar Screen	1 set	6,385	812	6,437	13,634	
Sluice Gate	"	96,380	25,620	1,404	123,404	
Drain Pit (A)	"	-	2,470	2,435	4,905	
Drain Pit (B)	"	-	4,430	3,174	7,604	
Flow-Meter Chamber	"	-	17,750	4,239	21,989	
(Back Washing)						
Flow-Meter Chamber	1 set	-	21,318	9,076	30,394	
(Raw Water)						
Flow-Meter Chamber	1 set	-	24,535	9,579	34,114	
(Distribution)						
Laying Pipes						
75 Coupling	1 m	-	-	1.5	1.5	
100 "	"	-	-	2.0	2.0	
150 "	"	-	-	2.5	2.5	
200 "	"	-	-	3.9	3.9	

Item	Unit	Materials		Labor D.Cost	Cost	Remarks
		F.Cost	D.Cost			
250 Coupling	1 m	-	-	4.8	4.8	
300 "	"	-	-	6.1	6.1	
350 Mechanical	"	-	-	10	10	
400 "	"	-	-	12	12	
450 "	"	-	-	13	13	
500 "	"	-	-	17	17	
600 "	"	-	-	21	21	
700 "	"	-	-	26	26	
Angle Valve Box						
(a) Less than ϕ 75mm	1 set	-	58	14	72	
(b) More than ϕ100mm	"	-	88	15	103	
Cost of Jointing						
75 Gibault	1 set	-	65	6.2	71.2	
100 "	"	-	71	8.2	79.2	
150 "	"	-	124	10	134	
200 "	"	-	187	15	202	
250 "	"	-	237	19	256	
300 "	"	-	304	24	328	
350 Mechanical	"	437	187	60	684	
400 "	"	715	307	72	1,094	
450 "	"	788	338	83	1,209	
500 "	"	883	378	104	1,365	
600 "	"	1,016	436	131	1,583	
700 "	"	1,577	676	157	2,410	
Sluice Valve						
75 Screw	1 set	4,084	1,086	59	5,229	
100 "	"	4,748	1,262	62	6,072	
150 "	"	6,701	1,773	69	8,552	
200 "	"	8,823	2,436	93	11,262	
250 "	"	11,750	3,124	120	14,994	
300 "	"	14,940	3,971	150	19,061	
350 Hat	"	17,347	4,611	167	22,125	
400 "	"	23,987	6,376	222	30,585	
450 "	"	29,327	7,796	288	37,411	
500 "	"	50,503	13,425	387	64,315	
600 "	"	80,447	21,385	468	102,300	
700 "	"	108,428	28,822	549	137,799	
Butterfly Valve						
350 Screw	1 set	32,271	8,578	167	41,016	
400 "	"	38,556	10,249	222	49,027	
450 "	"	42,555	11,312	288	54,155	
500 "	"	45,222	12,019	387	57,630	
600 "	"	53,256	14,157	468	67,881	
700 "	"	76,586	20,358	549	97,493	
800 "	"	89,968	23,916	588	114,472	
Welding						
350	1 pc	-	319	129	448	
400	"	-	346	151	497	
450	"	-	372	173	545	
500	"	-	398	191	589	

Item	Unit	Materials		Labor D.Cost	Cost	Remarks
		F.Cost	D.Cost			
Laying Polyvinyl Chloride Pipe						
20	1 m	-	6.4	8.6	15	
25	"	-	8.4	9.4	18	
30	"	-	11.6	17.4	29	
40	"	-	15.0	18.0	33	
50	"	-	21.6	18.4	39	
75	"	-	46.8	27.2	74	
100	"	-	73.3	27.7	101	
Cutting of Asphalt P vement						
(a) Cost of Operat- ing	1 hr	-	48	32	80	
Cost of Operat- ing	1 hr	-	4	2.6	6.6	
Hand Rail	1 m	-	178	82	260	
Air Valve	1 set	8,281	2,855	391	11,527	
Fire Hydrant		-	1,379	51	1,430	
Gate						
(a) Proposed Plant	1 set	-	7,017	1,275	8,292	
(b) Intake Site	"	-	2,507	910	3,417	
Name Plate of W.T.P.	"	-	4,665	1,905	6,570	
Flag Pole of W.T.P.	"	-	9,614	3,684	13,298	
Brick Masonry	1 sqm	-	83	9	92	
Finishing Mortar	"	-	9	41	50	
Coping Finishing Mortar	"	-	51	54	105	
Window Frame Mortar	1 m	-	3	26	29	
Finishing Mortar Floor	1 sqm	-	11	21	32	
Finishing Mortar Wall	1 sqm	-	11	41	52	
I-Steel Beam 250mm	1 m	368	92	45	505	
Checkered Steel Plate	1 m	107	38	36	181	
Tile	1 sqm	-	291	66	357	
Artificial Stone Ground	"	-	159	71	230	
Finish						
Artificial Stone Wet Brush Texturing	1 sqm	-	159	71	230	
Wood Brackets for Ceiling	1 sqm	-	32	10	42	
Textile Finishing	1 sqm	-	170	3	173	
Leveling Mortar	"	-	14	21	35	
Silaraeng Masonry	"	-	22	57	79	
Folding Door	1 set	-	5,394	4,900	10,294	
I-Steel Beam 350mm	1 m	533	133	51	717	
Sub-Station Founda- tion	1 set	-	37,872	19,950	57,822	
Retaining Wall	1 m	-	257	130	387	

Item	Unit	Materials F.Cost	Materials D.Cost	Labor D.Cost	Cost	Remarks
Anchor Block (T)						
100 x 100	1 set	-	89	34	123	
200 x 100	"	-	141	55	196	
200 x 150	"	-	150	58	208	
200 x 200	"	-	162	63	225	
250 x 200	"	-	220	86	306	
300 x 300	"	-	286	112	398	
300 x 200	"	-	335	130	465	
350 x 250	"	-	367	143	510	
350 x 300	"	-	421	164	585	
450 x 450	"	-	768	304	1,072	
500 x 500	"	-	898	356	1,254	
600 x 600	"	-	967	381	1,348	
Anchor Block (H 90°)						
200	1 set	-	216	89	305	
250	"	-	338	139	477	
300	"	-	441	182	623	
350	"	-	720	296	1,016	
400	"	-	980	404	1,384	
450	"	-	1,296	532	1,828	
500	"	-	1,648	688	2,336	
Anchor Block (H 45°)						
100	1 set	-	85	34	119	
150	"	-	158	64	222	
200	"	-	269	109	378	
250	"	-	387	158	545	
300	"	-	570	232	802	
350	"	-	705	288	993	
400	"	-	980	401	1,381	
450	"	-	1,401	577	1,978	
500	"	-	1,762	726	2,488	
600	"	-	1,762	726	2,488	
Anchor Block (V,U,45°)						
200	1 set	-	230	93	323	
250	"	-	443	182	625	
300	"	-	686	285	971	
350	"	-	726	303	1,028	
400	"	-	1,532	643	2,175	
450	"	-	1,791	753	2,544	
500	"	-	2,212	930	3,142	
Anchor Block (V,L,45°)						
200	1 set	-	228	91	319	
250	"	-	313	126	439	
300	"	-	438	177	615	
350	"	-	489	197	686	
400	"	-	504	203	707	
450	"	-	617	249	866	
500	"	-	751	304	1,055	
Laying Plain Concrete Pile						
300 Socket	1 m	-	106	33	139	
500 "	"	-	184	63	247	
600 "	"	-	244	80	324	
800 "	"	-	383	124	507	
1000 "	"	-	629	173	802	