KINGDOM OF THAILAND

CHIANG MAI WATER WORKS EXPANSION PROJECT

VOLUME III
BILL OF QUANTITIES

- MARCH 1973 -

PREPARED FOR
OVERSEAS TECHNICAL COOPERATION AGENCY
GOVERNMENT OF JAPAN

TOKYO ENGINEERING CONSULTANT CO., LTD.
TOKYO JAPAN



国際協力事業团 第4.5.25 L122 83.3 登録No. 07956 SD

Volume III-B Bill of Quantities (Forms for Detailed Estimation of Construction Costs)

Instructions Regarding Entries in the Bill of Quantities:

- 1. All estimates are expressed in terms of Bahts.
- 2. Insofar as possible, preference shall be given to domestic materials, and imported materials shall be used only when unavoidable.
- 3. Prices for materials shall include delivery to the site, as well as all duties, taxes, charges, and handling commissions.
- 4. Prices of imported materials shall include the CIF price at Bangkok, plus all duties, taxes, handling charges, and costs of transportation and delivery to the site.
- 5. As a general rule, labor shall be domestic, and costs of foreign labor, required for installation or adjustment of imported machines or equipment, shall be included in the prices of such machines or equipment.
- 6. Costs of labor and materials for miscollaneous works, the necessity for which arise in connection with this construction work shall be included in the categories, "Miscellaneous" and "Expenses." Included, also, shall be all expenses at the site.
- 7. The exchange rates between the Baht and the various foreign currencies, used in estimations, shall be plainly indicated.





Forms for Detailed Estimation of Construction Cost

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Part-1 Breakdown of The Construction Cost

				Un	it: Baht
	Material	8	Labor		
Description of Item	Foreign Currency	Domestic Currency	Domestic Currency	Total Cost	Remarks
(11)					
1 Intake Facilities					
2 Raw Water Main					
3 Existing Plant	į				
4 Proposed Plant					
5 Distribution Main					
6 Temporary Construction				,	
7 Transportation for Construction Machine					
Sub Total					

1. Quantity of Materials

Structure	Sand	Co	ncrete		Mortar F	inishing(1:2)	Mortar		Forms		Reinf	orcing	Woo	od	·	Steel	т	Rubble
» or no varo							1									Hand	Cover	Stone
	Filling	1:4:8 m3	1:3:6	1:2:4 m3	t=20 mm	t=15 mm	·	1-4	<u>B</u>	<u> </u>	Round	Deformed	A	$\frac{B}{m^3}$	Step	Rail	Plate	m3
1. Intake	1,800 m ³	m ³	m3		m ²	m²	m ³	m^2	m ^c	_m 2	kg	kg	m ³	m ^D	pc.	m	kg	m Z
Revetment	}		12.45	5.6				1	2 3 60	77.4	224	146 000	1	1	510	\	1	128
Gift Chamber			72	1,230	193		2	1	3,158			146,000		1	210	119		120
& Pump Well			ļ	Į.	ļ ļ			[]	ļ	1	ļ	ļ	į .	[1179		
Metal Fablication			1			7C A				1 277	470	1 200	6.144	0 653	,		_	
Pump Room	-	12.0	~	12.0		354	0.3	-	_	127 42	550	1,200	0.144	0.055	1 -	~	_	0,8
Concrete Pit			0.4	5.5	1		0.5	ì]	136	146	1	1	1	10]		6.4
Flow Meter Chamber			25.2	14.6	61	646				457		E 000	19.6	2.13		l	ĺ	3.5
& Anchor Block	1			76.7	[646]	-	-	179 79	3,270	5,900 1,193	19.0	2,1)	Ί_			0.94
Generator Room			4.7	48.0		=======================================				300	5,000	1,197	14	77	~	24		2,0
Generator Base			0.94	45.0	l'	532				2	611	1,384		0.33		,t	ļ <u>.</u>	0
Lodging House]	-	2.0	16.0]	119.7]	-	-	89	011	1,704	2,13	7 9.7	ή -]	}] -
Ware House			1.0							-					1	İ		
2. Raw Water Main	ļ ļ		1	}	{			1		\	1	-		1	1	1	l l	}
Intake Site - Proposed Plant	915													İ		İ		
" - Existing Plant	1,248		Ì		i i		1		1	Ì	1	1	1	1		1	1	
Existing Plant															ĺ	1 10		10
Receiving Well	,		5	87	127		\	361	1	ļ	ļ	8,700		1	1	12	ļ	10
4. Proposed Plant	1,470			_				 					1		200	34	1	0.2
Receiving Well	75		19	91	439			506				11,600			20	223,2		0.2
Sedimentation Basin	1,725		173	1,164	3,337]	1	3,496	1]	152,000]	1	57	227,2]]
& Mechanical Works]			_					~~~	J		077 000		1	1 22	,		85
Clear Water Basin	1		45	196	686		1	\	739		1	213,000		1	22	12	}	3
Rapid Sand Filter		8	3	530	1,604				2,264		12 600	583,000		3 0%	1.4	13		1
Operating Room Of Filter		••	-	106	- 1	1,768		-			11,600			1.83	120	Į	248	
Reseivoir	1,298	71	249	1,738	2,679		1		4,768	1	1	185,000	16 14	1, 10		1	Z40 ~	
Pump Room] ~	46.7	-	25.78		440		~	- ,		1,010	3,260			-	100		5.34
Chemical Desing Room	1		5.0	207.3	\ ~ \	1,858		-	- 1		68 -	14,320	20,25	D,45	_	100	· · -	8,6
Piping For Facilities	1		87.5		-			İ	(0)	124.	#	1,094		-	3.3		1	16
Drawage Equipment	[.		2.7	9	-			Į.	69	1	ţ		ļ	l	11 7	7		21
Lagoon			16	10			1			181	7 700	1,015	23.43	1 01	f	1 '		2
Generator Room Base			2.6	86.6	-	742	ĺ	-		514	3,700		20.9			j	1	77
Office	i i		15	351		1,599	1	\ 	- 2	,345	21,040			4.4 0.33]			\ '~
Ware House			1	16	~	119.7		-	~* ,	89	611	1,004	53		-	94.0		18.0
Lodging House	ļ ļ		27.0	130	 	2,100 860		1			15,000	33,000	"	1 12) J. 1. V	_	10.0
Elevated Tank			10	230	-	860	-	-	1,800	ı		55,000				-		1
5. Distribution Main	2,898			_			İ	1		1.0	937	.]		[5			2
Booster Pump Equip	6		1	8]]]]	46	727		1])]		5.8
Aqueduct	[64]	1		113		1,250		1		<u> </u>		
	13.45		700	C =0 0-				L	1 30	,234,	48	1	1 (2) (2)	į.	792	606.0	040	105 50
Sub Total	11,435	137.7	780.49	6,503.08	9,126	11,138.4	3.3	867		ı	64,169	1,4 01, 800	177.82	39.32	5 110	626.2	248	485.58
	[[į					1	16,294	ł	L	<u></u>	L	·	1	L]	

2. Quantity List of M	aterial	3		Asbe	stos Ce	ment Pi	pe							I	Ouctile	Cast Ir	on Pipe				
Piping	C-:				C		·		7.00	700	1.00	,			1 22			7	T	7 700	T 250
Dia. mm	300	150	600	500	400	300	250	200_	150	100	100	75	800	700	600	500	450	400	350	300	250
Unit	m	lt .	rn	tı	u	11	 	11		<u> </u>		 	m	11	<u> </u>	_	"	· 	<u> </u>		
1 Intake			İ							155			1				ĺ				
2 Raw-Water Main	4053	70	İ					_	2.5			48]			2998		-	
3 Existing Plant	24					25		67	23]					1 00	1
4 Proposed Plant			84	17	8	71		187	704	30	781		13	1	113	211		123	4	26	149
5 Distribution Main				4	1	2617	5325	7785	50	4	<u> </u>	83			73	1757	286	1683	3659	25	1-10-
Sub Total	4077	70	84	21	8	2713	5325	8039	777	189	781	131	13	1	186	1968	286	4805	3663	51	149
	Ducti	le Cast	Iron Pi	pe		Steel						Galv	anized St	teel Pipe	•						
Piping		C	- 3		Ta		OXY Coat									80					T-35
Dia. mm	200	150	125	100	800	600	500	450	350	300	250	200	150	125	100	75		30	25	20	12
Unit	m	ŧI	\$ 1	13	m	¥1	13	11	m))	J!	11	#	11	H						ļ <u>"</u>
1 Intake					20	20											66				5
2 Raw-Water Main 3 Existing Plant	l '				20	1 20] '	Ì	,		Ì '		1			1			1		
4 Proposed Plant	49	41	10	5			7						86				249	ł			
5 Distribution Main	49	14	10	109		40	'	139	10	42	154			7		17			İ		
Sub Total	49	55	10	114	20	60	-7	139	10	42	154		86	$-\frac{1}{7}$		17	315				5
		L		1	l	1	1				1		1	. L.,	1,,,,,,,,,,,			-	····	 .	[
1			cials		r		Gate								Sluice	e Valve					
Piping	ACI	····		GSP	DCP	CIP	Cast In							r—		1	T		— Т	γ	T
	х х	_ x	. х	X	_		1000	400	_ \ _				950	200	٥٣٥	000	1 250	125	100	.75	50 12
Dia mm	ForX	Dom X	For ^x	Dom		eign	x 1000	x 40		500	450	400	350 "	300	250 "	200	150	<u> </u>	100		11 11
Unit	kg		kg		kg _		set	<u> </u>		set		·					 				
1 Intake				1642	2825	897	4		İ					3	2						3 4
2 Raw-Water Main	3002	1674		1	10446		•				1	1 1		2		Ì	2		1	2	
3 Existing Plant	495				1577	Ī					-			2		1	1 1				
4 Proposed Plant	4008	1474	928		47475				4	6			1	8	17	6	1.8	2	8	1	
5 Distribution Main	6623	2845	5282	2205	37478			İ	'	Ĭ	4	,	4	6	8	22	10	4	22	12	
Sub Total	14128	5993	676)			897	4		4	6	<u>i</u> -	2	5	21	27	29	31	6	30	15	3 4
Sub 100da					7,5	1	· · · · · · · · · · · · · · · · · · ·	<u> </u>				<u></u>	L	<u>i</u>		\ <u>T</u>			!		
:															Fi						
	Butte	rfly Va	l.ve				Angl	e Valve					Valve	Diaphra		<u>d- F1</u>					
Piping												Box	Exposed	Val.			lve			- -	
Dia. mm	800	600	500	400	300	100	50	35	25	16	15	13	13	50			00				
Unit	set	11	11	. 11	t1	set	11	11	"	"	11	set	11	set	" 8	et s	et				·
1 Intake					1								4			į					
2 Raw-Water Main												2			1		į				
3 Existing Plant	2	[_	F		,	200	.			_		1.2	24	6	2	6				
4 Proposed Plant 5 Distribution Main	2	2	5	5]	1	26	1	8	1 1	2	,,	13	24		16	'				
n i Orgenianition Main 1		2	2		1	I .	.d	1	1	1		14	1 4	1 I	l l						
Sub Total	2	4	7	5	1	1	26	1	8	1	2	16	21	24	6	18	6				

		Mate	rials	Labor	Sub-Total	Total
Description	Item	Foreign Currency	Domestic Currency	Domestic Currency	Cost	Cost
(II) - 1						
Intake Facilities		()	()	()		()
1 Revetment	Revetment					
2 -a Grit Chamber & Pump Well	Structure					
-b	Metal Fablication					
3 -a Raw Water Pump Room	Structure	-				
~b	Piping Works					
-c	Lighting Works & Plumbing Works					
4 -a Raw Water Pump	Pump Equipment					
-b	Power Center					
5 -a Drain Pit	Drain Pit	-			-	
b	Flow Meter Chamber & Anchor Bloc	k -				
6 -a Site Preparation	Earth Works & Fence	Aug				
b	Lighting & Water Service	-				
7 -a Electrical Equipment	Sub Station					,
b	Generator	⊶				
8 -a Generator Room	Structure	-				
b	Piping Works					
-с	Lighting Works	-				
-d	Generator Base	_				
9 -a Lodging House	Structure	-				
b	Lighting Works					
~c	Plumbing Works					
10 -a Warehouse	Structure	-				
-b	Lighting Works	-				
11 -a Site Preparation	Earth Works & Fence					
b	Lighting Works		,			
-c	Water Service Works					
•			•			- 3 -

•

.

			Mater	rials		Lat	or	Sub-Total	To	tal .
Description	Item	Foreign	Currency	Domestic	Currency	·	Currency	Cost		ost
(II) - 2										
Raw Water Main		()	1)	()		1	`
1 ø400mm L = 2,998m	Intake Site - Proposed Plant		/	<u> </u>					<u> </u>	<i>!</i>
2 \$300mm L = 4,053m	" - Existing Plant									
(II) - 3				· ,		· · · · · · · · · · · · · · · · · · ·				
Existing Water Treatment Plant		()	()	()		1	١
1 -a Receiving Well	Structure			 `	·					
-b	Pipe Valve & Fitting									
(11) - 4						[······································
Proposed Water Treatment Plant		()	()	(Y		1)
l Site Preparation	Earth Works & Fence									
2 Receiving Well	Structure	4-	<u> </u>							•
3 -a Sedimentation Basin	Structure	-		<u> </u>		<u> </u>	~			
-b	Mechanical Works									
-c	Electrical Works									
-d	Lighting Works	_								
-e	Pipe Valve & Fitting				9					
4 Clear Water Basin	Structure						 · · · · · · · · · · · · · · · · ·			
5 -a Rapid Sand Filter	Structure									
~b	Mechanical Works								i	
-c	Pipe Valve & Fitting									
− d	Operating Room of Filter									
~e	Lighting Works			,						
б Reservoir & Pump Well	Structure	-		··· · · · · · · · · · · · · · · · · ·		 				
7 -a Distribution Pump Room	Structure	No.				: • • • • • • • • • • • • • • • • • • •				
-b	Lighting Works									
~c.	Piping Works	-								
8 -a Pump Equipment	Distribution Pump									
-b	Local Power Center									

		100000000000000000000000000000000000000	Materials		Labor	Sub-Total	Total
	Description	Item	Foreign Currency	Domestic Currency	Domestic Currency	Cost	Cost
0 5	Chemical Dosing Room	Structure					
9 -a	Chemical bosing Room						
-ъ		Lighting Works					
-c		Plumbing Works	n				
10 -a	Chemical Dosing	Alumn. Feeder					
-b		Lime Feeder			·		
-c		Chlorinator					
-d		Neutralization Equip;					
-е		Electrical Works					ļ
11.	Instrumentation Works	Semigraphic Panel & Instrument					
12	Piping for Facilities	Piping for Facilities					
13	Drainage Equipment	Drainage Equipment				,	
14 -a	Lagoon	Structure	h				
-b		Drain Pump Equipment					
-c		Piping for Drainage Main					
15 -a	Generator Room	Structure	pu			· · · · · · · · · · · · · · · · · · ·	
-b		Piping Works					
-с		Lighting Works					
d		Generator Base	***				
16 -a	Electrical Equipment	Sub Station					
-b		Generator		•			
c		Power Center					
17 -a	Office	Structure	_				
b		Plumbing Works				•	
c		Lighting Works	***				
18 -a	Warehouse	Structure					
b		Lighting Works					

		Mater	ials	Labor	Sub-Total	Total
Description	Item	Foreign Currency	Domestic Currency	Domestic Currency	Cost	Cost
9 -a Lodging House	Structure	-				
-b	Plumbing Works	·		1		
~c	Lighting Works					
O Elevated Tank	Structure	-				
1 Outdoor Lighting Works		-				
II) - 5						
Distribution Main		()				
No. 26 - No. 29	\$250mm L = 1,018m \$200mm L = 1,438m					•
4. RO. 20 - NO. 29	Boosting Pump					
No. 5 - Bridge	6600mm L = 73m 6500mm L = 19m					!
Paton. WTP - No. 1	6450mm L = 202m \$350mm L = 1,776m				1	
.	\$200mm L = 97m \$150mm L = 21m \$100mm L = 55m					
Aqueduct	SP 0450mm L = 139m					
No. 5 - No. 8 - No. 9	\$450mm L = 84m \$400mm L = 1,683m				-	
	\$350mm L = 582m \$300mm L = 48 m					
	\$150mm L = 35m \$100mm L = 54 m					·
Highway Crossing	SP \$600mm L = 40m					
4 No. 9 - No. 53 - No. 51	\$300mm L = 1,802m \$250mm L = 151m					
	GSP \$300mm L = 12m \$250mm L = 26m					
5 No. 51 - No. 58	\$250mm L = 2,208m \$200mm L = 1,383i	i i				
•	GSP $$6250m$ L = 41m $$6200m$ L = 181m					
6 No. 73 - No. 58	\$250mm L = 1,924m					}
	∮250mm L = 26m GSP	<u></u>				
No. 1 Existing Plant	\$300mm L = 823m					
- No. 73	∮250mm L = 57m					
	∮200mm L = 1,387m					1
No. 1 ~ No. 23	500mm L = 1,738m					
	∮350mm L = 531m	·		}		
	Ø200mm L = 13m					
	∮150mm L = 8m					
9 No. 23 - No. 70	\$200mm L = 2,524m \$100mm L = 4m					
	∮75mm L = 14m					
No. 34 - No. 69	6200mm L == 1,170m			,		

(II) - 1 Intake Facilities

1 - Revetment				M	aterials	3		Labo	r		
Item	Dimension	Quantity	Unit	Foreign Cu	rrency	Domestic Co	urrency	Domestic C	urrency	Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Pump Drainage	10 ps - set		day								11-a
Coffering	H1.2 x B2.0m	47	m		-						20-a
Concrete Piling	T-type H = 11m	19.5	"								13
Concrete Sheet Piling	H = 4m	15.4	н	-	-						
и	H = 12.5տ	15.2	li li	-	-						
н	H = 1.1m	6	11	-	_						
"	Н = 9т	4.8	n	-	-						
30	H = 6m	18.4	н	-							
Stair Cobble Stone		3.6	m ³	 .	-						4
" Concrete	1:2:4	5.6	11	-	-						9-c
" Forms	(c)	31.4	_m 2	***	-						5-c
" Reinforcing	\$1 2 mm	224	kg	-	_						8-b
" Staging		7.4	m ³	. -	_						7
" Wooden Pile	∮120 x 2,500mm	4	pc	-	-						
Stone Mesonry	t = 53cm	79	m ²	60							21
Wooden Pile	∮120 x 2,500mm	16	og	~	-		İ				
Rubble Stone		2.5	m ³		_	,					4
Forms	(c)	46	<u>m</u> 2	***	-						5-c
Concrete	1:3:6	8.15	11n ³		-						9-b
Staging		134	m ³	***						-	7
Intermediate Step Cobble Stone		4.4	_m 3	·-	_						4
Concrete	1:3:6	4.3	m ³	-	_		į				9-b
Miscellaneous		1	set	-	_						
Expenses		ı	set		-						
Sub-Total											

II-1 Intake 2. Grit Chamber & Pump Well Materials Labor Quantity Unit Foreign Currency Domestic Currency Domestic Currency Remarks Cost Item Dimension Per Unit Cost Per Unit Cost Per Unit Cost a Structure Steel Sheet Piling 106 20 - b20 - C 106 Removing m³5,205 1 - d Excavation 1,198 1 - c Back Fill Pump Drainage 10 pc -Set day 11 - a _m3 Rubble Stone 128 4 m^3 Concrete 1: 3: 6 72 9 -- b $\epsilon_{\rm m}$ 1: 2: 4 1,230 9 - c146 8 - c Reinforcing Bar Deformed Bar ton m^2 (B) 5 - b Forms 3,158 2,416 7 Staging **m**3 6 1,406 Timbering m³1: 2 2 10 - a Mortar 10 - b Mortar Finishing 1:2 t=20 mm 193 53 10 - dExpansion Joint 300 x 6 mm Concrete Block 190 x 190 x 390 min 22 51.7 kg/sheet Grating Plate 17 sheet $1.4^{\mathrm{kg}/\mathrm{pc}}$ Steel Step 510 pc. Miscellaneous 1 set Expenses setSub Total b Metal Fabrication Anti Float Pipe ACP \$300 x 4,000 mm 5 pc. ACP \$150 x 4,000 mm - A Asbestos Pipe 19 $t = 4.5 600 \times 600 \text{ mm}$ Manhole Cover 2 set 22 Screen Sluice Gate 1,000 mm with Head Stock 4 Spindle Casing CIP\$200 x 1,800 mm 2 pc. ø11/4" Hand Rail 119 44 m

Item				М	aterials	ingage (1964) Andrewsky planty gas. C		Labor			rgarintangan gagaga papan ngangganggang aga kababata jari data kebadahan 14 ta da 16 ta 16 ta 16 ta 16 ta 16 t
ltem	Dimension	Quantity	Unit	Foreign Per Unit	Currency	Domestic	Currency	Domestic Per Unit	Currency	Cost	Remarks
2 00 M		dadii oz v		Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Miccollongua		1	set								
Miscellaneous		ı	1	ļ							
Expenses	·	1							ļ		
]		
Sub Total											
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and provide the control of the contr

II - 1 Intake 3-a Raw Wate	er Pump Room			M	aterials	Per lakiladak Tanape a Proma Archanos, d	al Aparec (A separate property and a separate propert	Labor	· · · · · · · · · · · · · · · · · · ·		
Item	Dimension	Quanti ty	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
1 ten	DIMENSION	Quanti by		Per Unit	Cost	Per Unit	Cost	Per Unit	Cost	V030	
a Structure											
(i) Temporary Works		.									
Leveling		76	m ²								
Inking Line		36	"		-		-]		
Exterior Staging		339	II		~						
Scaffolding Incline		13.6	m								
Interior Staging		76	m ²	-	-						
Σ= (i)				l ¹							
(ii) Concrete Works											
Poor Concrete	1:4:8	12	_m 3								9 - a
Concrete	1:2:4	12	_m 3	-	-						9 - c
Forms	(c)	127	_m 2	~							5 - c
$\Sigma = (ii)$, v
(iii) Reinforcing Works											
Round Bar		10.47	ton		-				Ì		8 - a
Deformed Bar		1.2	11	-			i.				8 - c
$\Sigma = (ii.i)$											
(iv) Masonry Works						ĺ					
Brick		129	m2	-							50
$\Sigma = (iv)$			İ								
(v) Carpentry				f							
Structural Wood			m3		_			_	-		
Fixture Wood		6,144	n		<u></u>				-		
Supplementary Wood		0.653	set		r			S-ell	_		
Nails, Hardware		1	set	~-	-	•		-	-		
Carpenter			person	· -	-	~					
Assistant			n	••						į	
$\Sigma = (v)$											
/ ·) W la l Bahadaa ka aa			· 								
(vi) Metal Fabrication		72.	_m 2								
Wire Net	\$600	2	set	B-a							
Manhole Hoist Rail	I -300 x 150 x 11 x 18,5	14	set m				l				66
NOTS! WATT	1 -200 X 130 X 11 X 10+3	1 14] III	m	ļ ~	[<u></u>			<u></u>	L	La companya de la companya de la companya de la companya de la companya de la companya de la companya de la comp

II - 1 Intake 3-a Raw Water Pump Room

II - 1 Intake 3-a Raw W	ater Pump Room	والمتعدد المجارب المواجع بالمراجع المداعة المداعة المداعة المداعة المداعة المداعة المداعة المداعة المداعة			aterials			Labor			D .
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
										·	
$\Sigma = (vi)$					***						G
(vii) Plastering											
Concrete Finish		123	m ²	-	-	-					
Integral Water Proof	Drain Channel	6	lf .	-			ļ 1				
Mortar Finishing	Exterior Wall	170	11						10		
Motar Finishing	Beam	43	B		-		,				
Ti .	Column	15	Ħ	-	-						
15	Wall	126))	-	-				į	•	
"	Plinth H=100	.23	D	-							55
Window Frame Mortar		90	m	-	24						
$\Sigma = (vii)$				}			•				
(viii) Wooden Fixtures		į		<u> </u> 	,		[İ			
Double Swinging Door	2,400 x 4,800	1	set		-		ļ				
Single Swinging Door	1,600 x 2,600	9	n		-				1		
$\Sigma = (viii)$,
	·										•
(ix) Painting				Ē	ł		ļ]			
0il Stain			m ²	-	-			•	:		·
Vinyl Painting		225	11		72.			•			
$\Sigma = (ix)$				•	ľ		i				
(x) Other Works	, n	3 77	m ²								
Corrugated Slate Roof	Roof	137							1		
Roof Ridge	ou d	17	m2								
Flat Sheet	16	173	W.	<u> </u>	_						
$\Sigma = (x)$				i	- 						
Miscellaneous Works		1	set				<u> </u>				
Miscellaneous Expenses		1	19	-		[Į				
erocertaneous nyheuses											
Sub Total)	}
		1		1	1)					

II-1 Intake 3. a,b Raw Water Pump Room

	aw Water Pump Room				aterials		W. Leiner, 1990, 1990, 1990, 1990, 1990, 1990, 1990, 1990, 1990, 1990, 1990, 1990, 1990, 1990, 1990, 1990, 199	Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
b Piping Works]			
Excavation		160	m3		ļ 						
Surplus Soil		136	11						<u> </u>		1 b
DCP Specials	Foreign	2,825	kg				<u>.</u> ,				2 - a
CIP "	11	897	, ''g			_			•		
SP "	н	551	,,,			••	-				
GSP "	Domestic	1,619	,,				_	_	_		
Flange Jointing	\$400 mm	6	set		-			_	~~		
11	\$300 mm	23	11	_							
11	\$250 mm	12	15	_							
Mechanical Jointing	\$400 "	3	#1		_	1					W . 20
"	ø300 "	6	11				-				M + 32
н	\$250 "	4	et				: 				M + 31
Valve Setting	\$300 mm	1	11								
P.V.C Laying	\$50 mm	28	110	_		-	-				33
" Laying	\$12 mm	5)M !!								
GSP Specials	Domestic	23			.			;			
Valve Setting	650 mm	3	kg	_				***	-		
n septime	ø12 mm	4	set "	_	-						
	DIZ and	4			-			,			
Miscellaneous	· ·	1	\mathbf{set}								
Expenses		, ,	II.				İ				
					ļ				.		1
Sub Total					1						
	·				İ		}				
c Lighting Works										·	
Electrical Wire	#15	65	m		-						
u	#14	110.	n	~							
48	#12	5	ŧŧ		_						
Conduit Tube	19 mm	50	**	_	-						
	31 mm	5	It			-					
Accessory		1	set								
Concrete Box	102 x 102 x 54	8	10								
Tumbler Switch	300V 1P 10A	2	ŧi	. 1991				į			
IJ	300V x 2	1 1	11	~					1		
			<u>.</u>		<u> </u>	·					

				M	aterials			Labor			
Item	Dimension	Quanti ty	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
			- 	Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Socket Outlet	250V 3P 20A	6	11		_						
Distribution Board	пЪн	1	17	-						·	
Lighting Fixture	C FL 40W x 2	8	1)		-						
Fitting		1	11								
Earth Connection		1	11	***							
Other Material		1	17								
Ventilating Fan	∮350 x 135W	2	"								
Miscellaneous Works		1	11		_						
Miscellaneous Expenses		1	II	-	-						
Sub Total											
Plumbing Works									<u>,</u>		
PVC Pipe	\$100 mm	6	m	-	_						
" Specials	Y 100 x 50 mm	1	pc.	-	-						
R	bend \$100 mm	2	11		-						
Drain Metal Fitting	50 T - 5A	3.	set		-	·					
Slop Sink	COA - 100 mm	1	10	-							
Cess Pool	450 x 450 mm	1	¶î	-	-						
Wash Basin	L - 220P	1	ti	-							
Miscellaneous Works		1	11	_	_						
Miscellaneous Expenses		1	u	_	-	·		:			
Sub Total											
			<u> </u>				<u></u>	<u> </u>	<u> </u>	<u> </u>	- 13 -

II - 1 Intake 4 Raw Water Pump Equipment Materials Labor Quantity Unit Foreign Currency Domestic Currency Domestic Currency Cost Remarks Dimension Item Per Unit Cost Per Unit Cost Per Unit a Raw Water Pump Equipment $Q = 5.35 \text{ m}^3/\text{min H} = 47^{\text{m}}$ For Existing Plant 75KW D = 250 mm2 set Raw Water Pump Suction Delivery Accessory Check Valve $Q = 12.22m^3/min H = 42^m$ For Proposed Plant 150KW D = 300 mm2 Raw Water Pump Suction Delivery Accessory Check Valve $Q = 1.4m^3/min H = 15^m$ 5.5KW D = 100 mm Submarine Type Pump $Q = 0.065 \text{m}^3/\text{min H} = 23^{\text{m}}$ 2 Feed Pump 1.5KW D = 40 mm 33 \$300 mm SV Valve Setting \$250 mm SV \$300 mm Butterfly Valve 45 Exposed \$13 mm Air Valve Setting Orifice Plate \$300 Ring Tap 1 1 \$400 Ring Tap 3 Miscellaneous 1 Expenses Sub Total b Power Center Incoming Panel 1 set Feeder Panel Bus Tie Panel Control Center Battery Panel Raw Water Flow Indicator Recorder & Integrator 2 Raw Water Pump Well Level Meter

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600° EV 250 -3 C

Instrument Panel

Electric Cable

II - 1 Intake 4-b Power Center

					aterials	Da		Labor			_
Item	Dimension	Quanti ty	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency	Domestic Per Unit	Currency Cost	Cost	Remarks
	COOV DV H - C										
dectric Cable	600 ^V EV 250 ^H -1 ^C	260	m. 11	-					-		
n 13	" 100 ^H -3 ^C	22		***	-			·-	_		
el 11	8 ¹¹ -4 ^c	90	11	~				-	-		
11 11	" 3.5 ⁿ _4 ^e	80	11	~				-	_	·	
If 18	" 3.5 [±] -3 ^c	20	"	-	-			-	-		
11 11	evv 2 ⁿ -10 ^c	65	16	-				-			
W W	cvvs 2 ^H - 3 ^C	65		-	-			-	•		
it ft	" 2" - 2°	130		- '							
Clectric Wire	IV 38 ^H	40	11		-~			808			
n u	" 1.6 ram	20	11								
Cable Head	600° EV 250° -3°	4	set	A)-Sa				_	_		
11 86	" 250 [#] -1°	8	11	-	-		1		· _		
13 11	" 100 ["] -3°	4	11	_	are-			_			
Conduit Tube	ø 104 mm	30	m	-					-		
17	∮ 82 mm	40	ŧI	-			Ì	_	-		
41	∮ 54 mm	48	Ħ	_							
ŧI	∮ 28 mm	57	н						-		
st.	∮ 22 mm	13	н	_				_	_		
Vormal Bend	\$ 104 mm	5	set	-			ļ		-		
11	∮ 82 mm	6	D				Ì	-	⊷		
u	ø 54 mm	4	Ħ	-	-			-	bres		
formal Bend	∮ 28 mm	11	11	-				~	-		
lexible Conduit	ø 100 mm	4	m	~							
11 11	\$ 76 mm	4	ŧI	-	-			~	1		
st It	∮ 25 mm	4	11	-					-		
onduit Tube	Accessories	1	set	b rook				-			
oncrete Trough	150 mm wide	5	m	-	-			 −	-		
14 H	70 "	70	19	-			•	-			
onsent	3P + B	1.	set	-					F.1	-	
rain Pipe	ø 150 Class "A"	10	m	-	-			-			for wiring
11 11	ø 100 "	30	11		***	į		-			n
anhole	$1.2^{m} \times 1.2^{m} \times 1.5^{m}$	7	set	**	-						

II - 1 Intake 4-b Power Center

				M	aterials	Dame at 2		Labor	- 		
Item	Dimension	Quantity	Unit	Per Unit	Currency Cost	Per Unit	Currency Cost	Domestic Per Unit	Currency	Cost	Remarks
II	0.6 ^m x 0.6 ^m x 1.0 ^m		set	Beg.			· · · · · · · · · · · · · · · · · · ·				
Handhole	12 ^m	4	se.		_						
Concrete pole	}	2	91		[~	_	1	
	Accessories	1		_							:
Messenger wire	\$4/7	100	m	•~	~~			-	-		
Earth plate	600 x 600 x 1.6 ^t	1	set	_				-			
Fender pipe	\$300 ACP class "15"	10	m	-			•	-	-		
Electrician	· .		persor	-		-	~				
Earth Worker			H	-			- -				
				ļ]						
Miscellaneous		1	set		-						
Expenses	ĺ	1	11	ł.							
				Ì							
Sub Total											
				-							
	·								•		

II - 1 Intake 5- Concrete Pit (For Drainage) Materials LaborQuantity Unit Foreign Currency Per Unit Cost Remarks Domestic Currency Domestic Currency Cost Dimension Item Per Unit Cost Per Unit Cost a <u>Concrete Pit</u> l. - a 199 Excavation 183 Back filling 2 - a 16 Surplus - Soil 0.8 Rubble Stone 9 - b0.4 1: 3: 6 Concrete 9 - cil 1: 2: 4 5.5 8 - b550 ∮12 mm kg Reinforcing 5 - C (¢) 42 Forms 7 47 Staging 10 - a 0.3 1:2 Mortar 1 87.5 kg set Manhole Cover 13.2 ø500 mm Concrete Pipe set Misccellaneous Expenses Sub Total b Flow Meter Chamber & Anchor Block Flow Meter Chamber 1 - a 193 Excavation 150 Back filling 2 - a 43 Surplus Soil 2.4 Rubble Stone 1.2 9 - b1: 3: 6 Concrete 9 - c 14.6 1:2:4 6 - 8146 Round Bar kg Reinforcing 5 - c(c) 84 **Porms** 7 _m3 64 Staging 10 - b 61 Water Proof Mortar Finishing 1 Manhole Cover 30.3 kg set14 kg/pc 10 Steel Step pc. Anchor Block 9 ~ b _m3 24 1: 3: 6 Concrete

II - 1 Intake 5-b Flow Meter Chamber & Anchor Block

II - 1 Intake 5-b Flo				M	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Forms	(c)	52	m ²		_						5 - c
Rubble Stone		4	_m 3	-	_						4
Wooden Pile	\$120 L = 3,000 mm	20	pc.	-							•
									=		
Miscellaneous		1	set								
Expenses		1	fi	_							
						,					
Sub Total				-		;					
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II - 1 Intake 6-Site Preparation

II - 1 Intake 6-Site Pre					aterials			Labor			_
Item	Dimension	Quanti ty	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
				Ter onz				Ter our	Cost		
a Earth Works & Fence											
Clearing & Gruffing	> \$ 40 cm	1,160	m _S								1 ~ b
Soil Filling	Sand	400	_m 3	-			-				2 - a
Soil "	Soil $H = 0.3^{\text{m}}$	255	11		~-	ina.	*				2 - a
Brick Gutter		35	m	-							19 - e
Asphalt Paving		330	m ²		-						16 - b
Sodding	İ	200	_m 2	-	-						15
Planting	$>$ H = $S_{\mu\nu}$	10	tree								17
Vinyl Wire Net Fence		27	m								18 - d
Barbed Wire Fence		84	m	**	-						18 - b
Installing Gate	B - TYPE	2	set	-							47 - b
Flag Pole	B - TYPE	1	51								49 - b
Asbestos Pipe	∮100 Class-15	52	m								29
Drain Pit	300 x 500 mm	5	set	~	~	·					19 - g
Miscellaneous		1	11					•			
Expenses		1	11						1		
Sub Total											
b Lighting & Water Service	Works										
Lighting	·										
Concrete Pole	20W	4	pc.	-	_						including Fundation
Light & Arm	20W	4	set		-						
Gate Lamp	20W	4	0	-	-		i				
Electric Cable	600 ^v EV 8 - 20	. 228	m	- -	-			-	_		
Concrete Trough	70 mm wide	77	set		-						
Concrete Pipe	∮1.00mm	8	pc.	-	_			_	_		
Joint Box	300	1	set	-			ļ				
Conduit Tube	∮ 28mm	8	m	-				-	p=+		
Normal Bend	∮28 x 90°	8	set		_				-		
Choking coil		8	11	<u>-</u>		ľ		-			·
Accessories		1	11		_				.		
land Hole		1 1	11		_				.		
Distribution Board		1 1	11		_						

				l M	aterials		i	Labor			
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
		Quantus sy		Per Unit	Cost	Per Unit	Cost	Per Unit	Cost	VOS (Nomatro
Slectrician			nongon			_					
Construction laborer			person		1				,		
Sonstruction Laborer				~	_						
ater Service		:									
sbestos Pipe	∮100mm Class - 15	10	m	-	-						29
olyvinyl Chloride Pipe	∮ 40mm	50	m		~						42
ap	\$40mm	1	set		-						42
	·										
iscellaneous		1	set	-	-						
xpenses		1.	10	-	-						
Sub-Total					:						
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II - 1 Intake Facilities	7- Sub Station			M	aterials		productive series (accorded to the series)	Labor			
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency		Currency	Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
a Sub Station											
Service Insulator		3	set			•••		_			
Single Pole Disconnecting S	Switch (12 kv 600A)	6	U					esses	_	-	
Lighting Arrester	(14 kv)	3	D			-					
Oil Circuit Breaker	(12 kv 600A 1000MVA)	1	**						-		
Power Fuse	(12 kv Ø1)	3	41						***		
Instrument Transformer	(\$3 11000: 110v)	1.	14			••	-	_			
Current Transformer	(11.5 kv 30: 5A)	3	14			. -		1004	_	<u> </u>	
Fower Transformer	øз 500кva 11 ^{kv} /380 ^v	1	II.		·	_	-	_	_		
Iron Pole	(40 x 40)	1	11	_				_	_		
Concrete Foundation		1	11	_	tour						67
Overhead Grand Wire		1	14					_			
Electric Cable	600 ^v EV 600 ⁿ - 1 ^c	40	m	-				-	~		
n u	14 H - 2 C	15	11					***			
и	" 3.5 ⁿ - 3 ^c	10	11						-		
. 11 11	600 ^v cvv 2 ⁿ - 2 ^c	15	"					_	-		
п	" cvvs 5.5" - 3°	15	"					_			
n n	" " 3.5" - 4°	13	"	-	~				-		
Electric Wire	IV 100	31	19	-				_	**		
Cable Head	600 ^V EV 600 ^H - 1 ^C	8	set	~				_	••		
n .	" 14 ["] ~ 2 [°]	2	1)		-			· 			
Conduit Tube	ø 54	5	m		-			-		-	
16 [1	ø 36	10	ŧt					-			
13 11	s 28	10	n					-			
tt p	Accessories	1	set					-			
Concrete Trough	150 mm wide	5	m		_			***			
и и	70 "	5	H	_					_		
Manhole	1.2 ^m x 1.2 ^m x 1.5 ^m	1.	set	~-							
Earth Plate	600 x 600 x 1.6 ^t	1	11	-					_		
Electrician			person		_	_					
Earth Worker			11	~	-	₩.	•••				
Miscellaneous		1	set	-	-						
Expenses		1	5 1								
Sub-Total											

Note		7	***************************************		·	Labor			aterials	M				
b denorator Generator Generator Hosel Engine Starter & Excitor Panel Brighte Accessories 1	Remarks	Remar	ļ	Cost			Currency	Domestic	Currency	Foreign	Unit	Quantity	Dimension	Item
Generator	**Outt 170	roma i		0030	Cost	Per Unit	Cost	Per Unit	Cost	Per Unit				
Generator											}			
Generator							<u>.</u>			i	1			
Dicacl Ringine GOOPS over													·	b Generator
Starter & Exciter Fanel 1					-	_	-	-			set	1	420 ^v 50Hz 500 kvaA	Generator
Electric Cable Electric Cable GOO' EV 600" - 10					-			-			31	1	600PS over	Diesel Engine
Electric Cable		·					-	~			41	1		Starter & Exciter Panel
" 38" - 4° 25 "						-					11	1		Engine Accessories
" 38" - 3° 24 "											m	110	600° EV 600° - 1°	Electric Cable
" 3.5" - 3c					_	_				1	11	25	" 38" - 4°	rt e
## 600 COV 2 P = 10 C		1	İ			~			_]	1	II	24	" 38# - 3°	O.
										-	16	24	" 3.5" - 3°	Ħ
					· _						n	1 :	•	II
Selectric Wire						_				••	н	- 1 - 1		и
Cable Head 600V EV 600N-1C 16 set										-	19	1 1		Electric Wire
" 36" - 40						••				u	set	1 1	i	Cable Head
# 1 38" - 3°				İ					<u>.</u>			1 1	1	
Pipe (GS) \$200 mm 4 m -						_			_		11	i i		89
Conduit Tube		•			1						m		Į.	Pipe (GS)
# # # # # # # # # # # # # # # # # # #					-	_	ŀ							
# # # # # # # # # # # # # # # # # # #					"	-			_		11			
90° Elbow				<u> </u>	_	-			-		l	i		n B
Normal Bend					_				-			_		90° Elhow
Conduit Tube Accessories Conduit Tube Accessories 1		•			~-	-			~		set			
Conduit Tube Accessories I					_	PAGE .			-	•~-		[1	
Electrician person						-	•]		-	-	1	1 1	920 mm	
Miscellaneous Expenses 1 set 1 "					-			İ	-			l f		
Expenses							-	-	-	-	person]		BIEGGFICIAN
Expenses]	_	set	1		Miscellaneous
Sub Total												1		Expenses
Sub Total							ĺ	ŀ						
							l			•				Sub Total
										į				
			Ī											
						ľ	ľ		j					

II - 1 Intake 8-a Generator Room

II - 1 Intake 8-a Gener	a our moon			Ma	terials			Labor			n •
Item	Dimension	Quantity	Unit	Foreign (Cost	Domestic Per Unit	Currency	Domestic Per Unit	Currency Cost	Cost	Remarks
				rer onic		161 01110		rer ourc			
a Structure			1								
(i) Temporary Works		!						•			
Leveling		318	m ²	-	⊷						
Inking Line		295	11		-						
Exterior Staging		245	11								
Scaffolding Incline		15	m	-	-				i		
Interior Staging		245	m ²					. '			
$\Sigma = (i)$		1								,	
					1						
(ii) Earth Works			, ,								
Excavation		372	m ³	-							1 - c
Backfilling		316	11-	-							
Surplus Soil		56	13		-						2 ~ a
Rubble Stone		35	13	-	-						4
Ballast		18	11	-							
$\Sigma = (i.i.)$						'			ļ		
									!		
(iii) Piling	i i										
Pile	180 mm = 8 m	28	pc.	-							
$\Sigma = (iii)$							<u> </u>				
(iv) Concrete Works											
Level Concrete	1:3:6	4.7	_m 3		_						9 - b
Concrete	1:2:4	76.7	ո								9 - c
Forms	(c)	457	_m 2	_							5 ~ c
$\Sigma = (iv)$											
, ,						:					
(v) Reinforcing Works											
Round Bar		3.27	ton	_							8
Deformed Bar		5.9	12								н
$\Sigma = (\Lambda)$										·	
(vi) Masonry Works			m ²								50
Brick		229	m_	tura.	-						
= (vi)					<u> </u>		<u></u>		1		

II - 1 Intake 8-a Structure

11 - 1 incake o-a struct					aterials			Labor			ek admirákk cent menegene penyer, yezhoù go gogogon pere nari nepêt har nêt allekalari egen penyer et ketêt kêt elêt dig
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
				201 01110		*01 01110		ret ourt	COST		
(vii) <u>Carpentry</u>											
Structural Wood		19.6	_m 3						•••		
Fixture Wood		2,13	11						pta		
Supplementary Wood		1.	set					-	••		
Nails,Hardware		1	1 1	~	-			_	-		
Bolt	ø9 200 400		- 11	-	-		_		:		
Carpenter			person	-	-	-					
Assistant			11								
$\Sigma = (vii)$											
(viii) Metal Fabrication					<u></u>						
Wire Net		153	_m 2	₩							
Hoist Rail	ODT A E N COO	20	11								
Steel Plate \(\Sigma = \text{(viii)} \)	CPL 4.5 W=500 mm	70	"								
(ix) Plastering											
Concrete Finish	Floor	316	m ²	_							54 - 55
Mortar "	H = 100 Plinth	83	m								
п н	Wall	270	m²								
n B	Column	30	11								
11: 11:	Beam	199	II.						:		
a) (1	Exterior wall	177	_m 2							-	
Window Frame Mortar		278	m	-							53
$\Sigma = (ix)$											
(x) Wood Fixtures											
Single Swing Window	0.9 x 3.00 m	29	set		_						
Single Swing Window	0.9 x 3.90 m	2	11	_	· <u>-</u>						
Double Swing Door	2.5 x 0.4 m	3	u								
$\Sigma = (x)$				-	**						
·,											
(xi) Painting											
Oil Stain	Wood	541	m ²	-							
Vinyl Painting	Mortar	739	11	-							
$\Sigma = (xi)$											
				1							

II - 1 Intake 8-abc Structure

II - 1 Intake 8-abc Structu	are				aterials				Pamanlea		
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
1.0011				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
(xii) Other Works						ļ					
Corrugated Slate Roof		441	m^2	-							
Roof Ridge		33	m								
Flat Sheet		85	m ²	-							
Σ = (xii)		İ								!	
Miscellaneous		1	set							,	
Expenses		1	Ħ	_	_						
nxpenses								,			
Sub Total				~		į					
b Piping Work											
Pipe (PVC)	40 mm	2.8	m		-		İ				
" (")	20 "	12	11	-	_		ı.				
90° Elbow ("),	40 "	2	set		-						
· · · (· ·)	20 "	5	11						,		
Angle Seat Value (FC)	40 "	1	10	-	-	·					
п и и (и)	20 "	4	(1	-							:
Flange (SP)	40 "	6	• •	-	-	1					·
11 11	20 "	8	41	-	-	ļ				ļ	
PVC Pipe	\$50 	9	m	_	-						
Coupling		1	set	-							
Gate Valve	20 G.V.U	1	set		-						
Wash Basin	L - 220P	1	set			1					·
Drain Metal Fitting	50T5A	1	i)	-	-						
PVC Pipe	ø100	10	m	-				-			
" Specials	Y%100	1.	piece	-	-						
11 (1	bend ø 100	2	piece		-						
Slop Sink	COA - 100	1	set								
Less Pool	450 x 450	1	\$t								
Miscellaneous		1.	 11								
Expenses		. 1	H								
Sub Total					-						

II - 1 Intake 8-c-d Lighting Works. Generator Room

II - 1 Intake 8-c-d Lighti Item					aterials Currency Domestic Currency			Labor Domestic Currency		~ ,	Remarks
	Dimension	Quan ti ty	Unit	Foreign (Cost	Per Unit	Cost	Per Unit		Cost	Nomeet Ris
				101 01120					1		
c Lighting Works									1		
Electric Wire	#15	170	m								
t1 1F	#14	530	11	pros.							
Conduit Tube	19 mm	220	10								
H	25 "	35		_							
D	51. "	3	"	-	•••						
Accessory		1	set	_	-		•				
Concrete Box	102 x 102 x 54	15	,,,	-					•		
Tumbler Switch	300V 1P 10A	3	н	-	<u>-</u>						ļ
Socket Outlet	250V 3P 20A	20	н	- [-						
Distribution Board	$n\Gamma u$	1	и	<u> </u>]			
Lighting Fixture	CFL 40W x 2	12	H	_							
11 11	CFL	3	n	-	••						
Fitting		1	set	-	-						
Barth Connection		1	ŧr	-							
Other Materials		1	11	_	**						
Ventilation Fan	∮400 260₩	6		_						,	
Miscellaneous		1	ŧt								
		1	11		_						
Expenses											
Sub Total											
Sub Total											
d <u>Generator Base</u>											
Excavation		160	_m 3	-			-				1 - a
Surplus - soil		48	,,,	_							2 - a
Concrete Piling		24	pc.	_							
Rubble Stone		0.94	m3								4
Forms	(c)	79	_m 2		***						5 ~ c
Reinforcing		1,193	kg	_	· _						8 - b
Concrete	1:3:6	0.94	_m 3		-				1		9 - b
AMMETONA	1:2:4	48	11		-						9 - c
361 2 3		112	_m 2	1	84						
Miscellaneous		1	set		_						
Expenses			set	-	-						
~		1		-			<u> </u>		1		
Sub Total				-							
	f										

II - 1 Intake 9. a Lodging House

Item				М	aterials	······································	and the state of t	Labor	PP Print in the fall space and an arrange and the fall space and the f	<u> </u>	
	Dimension	Quantit	Quantity Unit		Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
a Structure											
(i) Temporary Works							1				
Leveling		129	m ²	_	-						
Inking Line		258	В								
Exterior Staging		408	ì	-							
Interior Staging		258	13		-						
Scaffolding Incline		10	m		-						
$\Sigma = (i)$. ;					
(ii) <u>Barth Works</u>											
Excavation		200	_m 3			~-	-				1 a
Backfilling		170	11		-						
Suplus-soil		30	,,,	_			→				2 - a
Gravel		2	n								
Rubble Stone		2	11								4
$\Sigma = (ii)$											
(iii) Concrete Works											
Level Concrete	1:3:6		_m 3								
Concrete	1:2:4	2	111	~							9 - b
Forms	(c)	45	m ²								9 - c
$\Sigma = (iii)$	(0)	300	m	-	•••						5 - c
2 - (111)											
(iv) Reinforcing			į								
Round Bar		5	ton	may ·	_	;					8 - a
$\Sigma = (iv)$											
(v) Masonry Works											50
Brick		320	m ²		_						
$\Sigma = (v)$											
(vi) Carpentry											
Structural Wood		14	_m 3			ſ					
Fixture Wood, Hard		i	m- "	••••							
- 11. VALO ROGU, HOLD		3	"	'		İ					1

if - 1 Intake 9-a Lodgin	ing House			M	aterials			Labor	**************************************	<u> </u>	
Item	Dimension	Quanti ty	Unit	Foreign Currency		Domestic Currency		Domestic Per Unit	Currency	Cost	Remarks
		duen er si		Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Fixture wood	Lauan Plywood	4 30	տ3 տ2	1							
Supplementary Wood	11,400a	1	set								
Nail Hardwares		1	11						-		
Carpenter		, "	person			1	-				
Assistant			11		 .						
$\Sigma = (vi)$											
(vii) Plastering		ĺ						<u> </u>			
(VIII) II.do tol IIIg											
Mortar Finishing	Floor	170	_m 2	_	_						54 55
п	Wall	240	er.		_) 11 Jan 20 Jan
п	Colum	40	u u								H
a a	Beam	82	11								11
Window Frame Mortar		170	10								11
$\Sigma = vii$											
(viii) Wood Fixtures]		·					<u> </u>	
Single Swing Door	WD-1	1	set	-	_						
н	WD-2	6	4		<u></u>			:			
11	WD-3	3	11		_						
13	WD-4	3	,,	_							
Single Swing Window	,										
н	W-2	24	н		_	İ					
ti .	W-3	6	11		_						
п	W-4	6	IP.								
Ω .	W-5	1	n	_			1				
n	W-6	6	11	_	_		1				
It .	. W7	6			. [
$\Sigma = (viii)$				-	~		. [i		٠,
(ix) Glazing					}				ı		
Clear Glass	t=5mm	28	_m 2	- [_				į		
$\Sigma = (ix)$				-						·	
x) Painting			1								
Oil Stain		980	m ²		_		1	ŀ			

		T			aterials			Labor	(a, _{19.9} a 1. de - 19.9 a 1. de -		мандары жүйдөгүнүн үшүнө байында аруучу дану кану катануун күрүн борчануун уу тайынан дайгай байшан алуу тоого
Item	Dimension	Quanti ty	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Vinyl Paint		620	11	-							
$\Sigma = (x)$				•	 				l		
(xí) Other Works			_								
Corrugated Slate	Roof	360	_m 2	-							
п	Roof Ridge	19	m	_							
	}							į 			,
Lauan Flooring	T = 20 mm	1.42	et	-	_			i 		1	
Decorated Plywood	T = 4 mm	90	m ²	_	_		:			•	
Flower Box		3	set	<u>-</u>							
Hand Rail	H = 1000 mm	24	m	<u> </u>					i		
$\Sigma = (xi)$											
	1				. [,				
Miscellaneous	4	1	set	-	<i>~</i> ,			!			
Expenses		1	11	pro-1	-						}
Sub-Total	ļ				-				ii.		
	ł							ļ			
b Lighting Works	ę.		, ,					ļ ;			
Electric Wire	#15	819	m	p	-		:	[
e u	#14	594	II.	•••		·		[
11 11	#10	7	er .	_							
" Cable	600V EV ~ 3C	57	46		-						
Conduit Tube] 19 mm	507	Н		-						
ji R	25 mm	55	H	sr	-						
11 #	31 rom	57	Ħ		-						
11 #	51 mm	4	#		-						
Accessory		1	set	~							
Concrete Box	102 x 102 x 54	42	H	·	-						
Tumbler Switch	300V 1P 10A	24	n								
et 11	300V 1P 10A3W	24	ti -	-			,				
Socket Outlet	250V 3P 20A	30	\$1	-							
Telephone Outlet Box	102 x 102 x 54	3	ut								
Distribution Board	r	3	tā.	_	-						
					<u> </u>			<u></u>		L	<u></u>

II - 1 Intake 9-b Lighting Works & 9-c Plumbing Works

	ing works & 9-c Plumbing Worl			M	aterials			Labor		Ţ	
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic	Currency	Cost	Remarks
			ļ	161 OUT		rer oure	COST	Per Unit	Cost		
Distribution Board	M - L	1	set	~							
Integrating Wattmeter	1 ^{s/} 3W30A	3	n	~							
Lighting Fixture	H 1L 60W	6	0	-	-				!	B	
11	I IF 90M	6	B	-					1		
ln .	J 1L 100W	15	B)					1			
11	K 1L 60W	3	17								
19	L 1L 100W	9	11	-						Ę	
Fitting		1	11:		_					Ė	
Earth Connection		1 1	13	-							
Expendable Items		1	1 1	_	#~#						
Miscellaneous		1	п	-	~						
Expenses		1	10	-	~-						
							į			·	
Sub Total	·										
c Plumbing Works	Ì]		1					
Wash Basin	L-220D	3	set				ĺ				,
Closet	C-375 VF	3	B)								
Urinal	U-37	3	H		-						
Shower Set	TB110 CGRLY	3	t)	-							
Swing Cock	T-130 ARY - 13	3	B	-	_						
P.V.C. Pipe	35A	12	m		-						
n	25A	34	m	-	-						
11	20A	113	m	-		į					
Coupling & Support		1	set		~						
Gate Valve	25 (box)	3	II	- 1	-						·
ti ti	15	3	l t		~		t				
					•		İ				
P.V.C. Pipe	A08	16	m		~-		Į				
H .	50A	74	н		-	.]					
Coupling	1 .	1	set		·						
P.V.C. Pipe	∮100 x 100	6	pc.		-		İ				
II .	∮100 x 300	3	11	-							

II - 1 Intake 9-c Plumbing Works

II - 1 Intake 9-c Plumbing W					aterials			Labor		, , l	D
Item	Dimension	Quanti ty	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
P.V.C. Pipe	\$75 x 1,600	3	pc.	_							
0	∮75 x 100	6	18								
В	∮75 x 600	3	10	_							
Specials	TY100	3	п		,	ĺ					
n	ТҮ75	3	н	-	-						
u .	Y100 x 75	3	11	-							
. 11	JY100 x 75	3	ii	_	-						
	LY75	3	ŧ1								
,	Bend 100	6	- 11		₩.						
19	Bend 75	6	ŧI	_							
Coupling		1	set	-						·	
. •											
Lead Pipe	75 LP	9	m	-							
*I	50 "	9	11	-	-						
16	40 "	5	"	-	_	ļ					
IF	30 ^н	9	"	_							
Coupler		1	set		-						
Support		1	н	-	-						
Drain Metal Fitting	50T-5B	3	"	_	-		-				
п	50T-5A	3	**	-	-						
Slop Sink	COA 100	3	H	_							
n	COA 50	3	11							· ·	
Coupling	•	1	111								
Cess Pool	450 x 450	5	н	-	-						•
Permeation Pit	∮800 x 1,800	1	111	-	-						
Galvanized Pipe	20 A	47	m		-						
Coupling & Support		1	set		-						
Gas Cock	1/2	3	н	, ,							
Y-Spring Tap	3/8 x ½	3	n n	-							
Pressure Control Equipment		3	н		_						
Miscellaneous		1	11		-						
Expenses		1	"	-							
Sub-Total											

II - 1 Intake 10-a Ware House

II - 1 Intake 10-a Ware H				M.	aterials	-		Labor		and the state of t	
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic	Currency	Cost	Remarks
				rer onre		ier oure	COST	Per Unit	Cost	<u></u>	
a Structure			l								
(i) Temporary Works						·					
Leveling		41	m ²								
Inking Line		40	11	 					 		4
Exterior Staging		209	н								
Scaffolding Incline		9	**		-						•
Interior Staging		40	11	_	-		į		ļ	i	
$\Sigma = (i)$											
(ii) Earth Works											
Excavation		159	_m 3	_			-				1 - c
Backfilling		153	н	_		~	~		4		2.~ a
Surplus Soil		6	11	-		-	~				2 - a
Ballast		1	"	_							
$\Sigma = (ii)$									·		
						:					
(iii) Concrete Works											
Level Concrete	1:3:6	1	_m 3	~							9 - b
Concrete	1:2:4	16	16		-						9 - c
Forms	(c)	89	_m 2	-			I.	i I			5 - e
Σ= (iii)						į					
(iv) Reinforcing Works											
Round Bar		0.611	ton	_	-						8
Deformed Bar		1,384	1#		_						8
$\Sigma = (iv)$	1		:	-				•			
(v) Masonry Works											
Brick		40	m ²			İ					
$\Sigma = (v)$				-							
(vi) Carpentry											
Structural Wood		2,19	_m 3								
Fixture Wood		0.33	m- н						-		
Supplementary Wood			į	~	-			- I	 .		
- apparation of the second			set	-	**			۵,	~		

II - 1 Intake 10-a Structure

	The second secon			M	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency	Domestic Per Unit	Currency Cost	Domestic	Currency	Cost	Remarks
				161. Ollic	COSC	rer out	Vost	Per Unit	Cost		
Nails Hardwares	11 kg	1.0	set	-	-						
Carpenter			person		~-	-					
Assistant			11	-		••					
$\Sigma = (vi)$											
(vii) Plastering			_								
Concrete Finishing		72	m ²								
Mortar Finishing	Wall	90.3	ıı	-	~						
11	Plinth H = 100 mm	19.6	m		-						
(I	Column	5.8	m ²								
11	Beam	23.6	11								
11	Plinth H = 200 mm	19,2	m	••							
Window From Mortar		12	m	-	-						
$\Sigma = (vii)$											
(viii) Wood Fixtures											
Single Swing Window		4	set	- -	~-						
$\Sigma = (viii)$											
										-	
(ix) Painting								<u> </u>			
Oil Stain		105.8	m ²	1							
$\Sigma = (ix)$											
(x) Other Works											
Corrugated Slate Roof		94.9	_m 2		-						
Roof Ridge		13	m	•••		•					
Steel Shutter	12. ^{m²} 22	2	set	_		·					
$\Sigma = (x)$											
									ļ		
Miscellaneous		ı	set	**		!					
Expenses		1.	и								
Sub Total				į							
				į						•	
										aga nipung dikengahari dalah saga dikendaran samundari kindan saka dikendari samb	

II - 1 Intake 10-b Warehouse

II - 1 Intake 10-b Wareho				Me	aterials			Labor		Company of the Compan	
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic	Currency	Cost	Remarks
		<u></u>		Let oure	Cost	rer unit	Cost	Per Unit	Cost		
b Lighting Works			i								
Electric Wire	#15	21	m	-	~				}	·	
16	#14	21	91		~-			ľ		1	
Conduit Tube	19 mm	20	II 		- 1			-			
11	31 mm	3	11	~	-	 		[]			
Accessory		1	set		-			ĺ		1	
Concrete Box	102 x 102 x 54	4	19	-							
Tumbler Switch	300V 1P 10A	2	tt	ļ. ~							
Distribution Board		1	11	_	~	<u> </u>					
Lighting Fixture	CFL 40 ^W x 2	4	11		. 						
Fitting		1	"	-			-				
Earth Connection		1	11	_	-						
					 	,		<u> </u>			
Miscellaneous		1	В	-	-	'					
Expenses		1	11	~ .	-						
Sub Mata3						ļ					
Sub-Total		ľ	•	ĺ							
]		}					·		
										·	
·		,	!								
						į					
										1	
ļ				1		ļ					
			:		,						
Ì											
				}	; 						
				1							
		\			i			1	·		
		ļ									
·											
			!		,						

II - 1 Intake 11 - Site 1	Preparation (Lodging for Ma				aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency	Domestic	Currency	Cost	Remarks
				161 OHIO		Ter Ont		Per Unit	Cost		
a Earth Works & Fence			•								
Clearing & Gruffing	640 cm	4,200	m ²		••						1 b
Sand Filling		1,400	_m 3	-							1 - b
Soil Filling		970	17						.		2 - a
Leveling		2,594	m ²	-							
Asbestos Cement Pipe	∮100mm c-15	93	m	-							M + 29
Concrete Gutter		174	m	-							19 ~ F
Concrete Paving		47	m ²	==A	-						16 - a
Asphalt Paving		453	m ²	-							16 - b
Sodding		1,284	m ²	-]		15
Planting	$II = 1-2^{IB}$	30	tree								17
Vinyl Wire Net Fence	$H = 1.9^{m}$	69	m	-	-						18 - e
Wooden Fence	H = 50 ^{cm}	69	m	-	1						18 - c
Barbed Wire Fence	$H = 1.45^{m}$	188	m								18 - b
Installing Gate	С-Туре	1	set								47 - c
Flag Pole	В-Туре	1	11		-						49 - b
Drain Pit	300 x 500 mm	10	pc.	~~	-						19 - g
								,			
Miscellaneous		1	set	***	-						
Expenses		1	11			•					
Sub Total											
b Lighting Works											
Concrete Pole	E 20W H = 6 ^m	9	pc.		· •						including Foundatio
Light & Arm	SOM	9	set	-				_	-		
Gate Lamp	20W	2	IF		.			_	-		
Chalk Coil		11.	ŧ	-					<u></u>		
Electric Cable	600 EV 14 - 3°	180	m	~•	_						
	8 - 2 ^c	180	ii								
Concrete Trough	70 mm wide	84	set		- ,			-			
Asbestos Pipe	\$100mm - C15	18	m		· ·						
Hand Hole	1000 x 1000 mm	1	set	-				_	_		
Joint Box	300	2	11					_	_		
Conduit Tube	\$28 mm	12	m		•						
JOHAAT 6 TABE	pao mu		*	••				<u> </u>	1		

II - 1 Intake 11-b Lighting Works

					aterials	Dames	G	Labor			D
Item	Dimension	Quantity	Unit	Foreign Per Unit	Cost	Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
				161 01110	2000	-01 0111.0		TOL OUT	V 60 V		
Normal Bend	\$28 x 90°	12	set					dana	-		
Branch Board	400 x 500 mm	1	41 ·	_	***						
Electrician			person		~	~-	P-0				
Electric Works			"			~	-				
Miscellaneous		1	set								
Expenses		1	11	-				·			
Sub Total				-							
				1) ·	
c Water Service			1	1							
Boring	∮65 mm	25	m	-		-	res		:		
Galvanized Pipe	∮50 mm	38	u	<u></u>	-						
Pump	$q=21.5 \text{ 1/m H} = 22^{\text{m}} 250^{\text{W}}$	1	set								
Chlorinator	$4-6cc/m P = 3 kg/cm^2$	1	10								
Steel Tank	$4-6cc/m P = 3 kg/cm^2$ Cap. $1^{m^3} t = 4.5mm$	1	n	_				:			
Wooden Tower	H = 8 ^m	1	п	-	_						
Polyvintl Chloride	640 mm	90	m	_	-						
n n	\$30 "	30	11	-							
u	\$20 "	25	п	_							
Тар	ø40 "	1	set		_						
н	ø30 "	3	п	_	****						
tt.	\$20 "	2	11		-						
						1					
Miscellaneous		1	11								
Expenses		1	111								
Sub Total					}			·			
	·									:	
								[
]					
		1				1		Ī			

II - 2 Raw Water Main 1. Intake site - Proposed Plant

II - 2 Raw Water Main			ŧ	M	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign	Currency Cost	Domestic	Currency	Domestic		Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Excavation	\$400mm \$150mm	6,522	_m 3	-							1 - c
Surplus Soil		1,282	.,	-	-		***	F.			2 - a
Sand Mat	\	908	12	~	-	!					2 - b
DCIP Laying	\$400mm C-3	2,998	m		<u> </u>		***				M + 29
DCIP Specials	Foreign	10,325	kg			~		-	-		
ACP Laying	\$150mm C-20	70	m	-	-						M + 29 ~
ACP Specials	Foreign	78	kg					~	-		
Mechanical Jointing	\$400mm	87	set				•••				32
ır.	∮150mm	3	11				-				M + 31
Gibault Jointing	∮150 ^{mm} C−20	4	u u	_							31
Valve Setting	6400mm SV	1	"			-					33
11	∮150mm SV	2	, ,,		<u> </u>	-					33
Anchor Block	\$400 x \$300 Т	1	11	_	_			,			36
н	\$400 x 45° (H)	16	11	-	_						38
u	\$400 x 45° (VU)	4	ł	_	_						
П	n (Ar)	4	11		_			,			
Air Valve Setting High Way Crossing	∮75 Box	1	11								45
Shield Steel Pipe	\$800mm	20	m								
Trench Sheet Pile	2.4 x 9 ^m	23	m.		ļ	-	-				12 - c
n	2.0 x 2 ^m	8	m							ļ.	li li
Sand Filling		7	m ³			į					
	1				1						
Miscellaneous	•	1	set	-	ŀ						
Expenses		1	et	1	1						
·											
Sub Total										·	
					į	ļ					
	•		\		1		·				
	Í		! .								
					1						
			•								
			1								
	}	İ]]	!				

II - 2 Raw Water Main 2. Intake site - Existing Plant Materials Labor Quantity Unit Foreign Currency Per Unit Cost Domestic Currency Domestic Currency Remarks Cost Item Dimension Per Unit Cost Per Unit Cost 43 1,630 Asphalt Cutting 16 2,281 Repair of Pavement 1 - c m^3 \$300mm \$75mm 7,899 Excavation 2 -- a 2,018 Surplus Soil 2 - b 1,244 Sand Mat M + 29\$300mm C-20 4,053 ACP Laying 48 675mm A Foreign 2,924 kg ACP Specials 1,674 Domestic 121 Foreign DCP Specials M + 31\$300mm 2 set Mechanical Jointing 31 Gibault Jointing \$300mm C-20 133 \$75 " " 6 " Labor ø300 " 1 Flange Jointing 33 \$300mm 2 Valve Setting 13 13 \$75 II 2 36 1 \$300 x \$300 T Anchor Block 37 \$300 x 90°(H) 1 38 \$300 x 45°(H) 10 \$300 x 45°(VU) (AT) 6 45 ø75 Box 1 Air Valve Setting Highway Crossing ø600mm 20 Shield Steel Pipe 12 - c 2.4×9^{m} Trench Sheet Pile 23 2.0×2^{10} 8 4 Sand Filling 1 Miscellaneous Expenses Sub Total

Item Excavation Surplus Sail Back Filling Concrete Piling Rubble Stone Concrete	Dimension 300 x 300 Type-B L= 10m	Quanti ty 107 44 63	Unit m ³	Foreign Per Unit	Cost	Domestic Per Unit	Currency Cost	Labor Domestic Per Unit	Currency Cost	Cost	Remarks
Surplus Sail Back Filling Concrete Piling Rubble Stone		107 44	m ³			rer Unit	Cost	Per Unit	Cost	ļ	
Surplus Sail Back Filling Concrete Piling Rubble Stone	300 x 300 Type-B L= 10m	44	1		į				·		
Surplus Sail Back Filling Concrete Piling Rubble Stone	300 x 300 Type-B L= 10m	44			-		!	,			1 - c
Back Filling Concrete Piling Rubble Stone	300 x 300 Type-B L= 10m			-	-	-	~			1	1
Concrete Piling Rubble Stone	300 x 300 Type-B L= 10m		- "	-	-	~	-				
Rubble Stone	' ' ' '	13	pc.							1	3
Concrete		10	_m 3	-						ļ	4
	1:3:6	5	21	_	~	i	<u>'</u>				9 - b
19	1:2:4	87	11	-	_						9 - c
Reinforcing	Deformed Bar	87	ton	_				,			8
Forms	(A)	361	m ²	~			ı				5 - a
Staging		407	m ³	-							7
Timbering	ļ	61	u	-	***						6
Mortar Finishing	Water Proof	65	m _S	_							10 - c
ŧI	1:2	62	11		-						10 - b
Hand-Rail	øl 1/4"	12	m	<u></u>	_						44
Miscellaneous		1	set				,		ľ		
Expenses		1) n	-		·					
Sub-Total										·	
			i		· 		·				
•											
		:									
							·			ii	
								·	!		
									į		
					·						

II - 3 Existing Plant 2	Pipe Valve & Fitting		[M	aterials			Labor			D
Item	Dimension	Quanti ty	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
	/200 /200	7 677	kg					_			
Ductile Specials	∮300mm - ∮150mm	1,577	l	_	_				_		
Asbestos Cement Pipe	\$300 class-20	6	pc.					_ 			
11	\$300 class-15	7	, H								
n	∮200 class-15	17		-	•			-	~		
11	∮150 class-15	6	l "	-	-			-			
sbestos Specials	\$300 - \$150mm	495	kg					-	-		71
ibault Jointing	\$300 C-15	7	set	_	- '						31. "
н	\$200 "	6	11		~						
н	ø150 "	10	1t	-							11
xcavation		144	_m 3	-	-	-	~				1 - a
urplus Soil	·	7	10	-	-	~					2 - a
ipe Laying	∮ 300mm	49	m	_	-	<u></u>	-				29
IF.	∮ 200mm	67	13	-	-	-					II .
tt.	#150mm	23	11	_	_						H
alve Setting	\$300mm	2	set] _	_				33
utac peretus	\$200mm	1	11			_	~			,	tt.
D	ø150mm	1	н				_				11
	y 1 y 0 min										
	,	1	set	-							
discellaneous		11	11					1			
Expenses	·										
	·								:		
Sub Total											
4											
		*									

II - 4 Proposed Water Treatment Plant 1. Site Preparation

				М	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
4-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Soil-Filling		49,010	m3	-	-	•••	, •••				
Surplus - Soil	From Sedimentation	697	11			***			•		2 - a
91	From Lagoon	7,546	19	1449		-	a ba				H
Ditto	From Reservoir	6,554	"	_		~	-				D.
11	From Filter	335	(1	-	-						2 ~ a
н	From Intake site	1,177	f †				-				
0	From Old Plant	44	11	-		-					
11	From 4 km	32,657	11				-				2 - b
Soil-Filling	For lawn	1,470	R	·			•				
Sodding		14,700	m2		-						15
Concrete Gutter		1,435	m	_	-						19
Asbestos Cement Pipe	∮100mm A	781	Ц	_							M + 29
Asphalt Pavement		6,905	m2	-				!			16 - b
Conc. Slab Pitching	$0.05 \times 0.5 \times 0.5^{\text{m}}$	668	11	-	-						14
Asphalt-Concrete-Paving		298	t!								16 - a
Planting		96	tree	-							17
Installing-Gate	A-Type	2	set			ĺ					47 - a
н	В-Туре	2	11	_	-						47 - b
Barbed Wire Fence		475	m	-	-						18 - b
Wooden Fence	$H = 80^{cm}$	280	11	-							18 - с
Silaraeng Fence		97	11								18 – a
Flag Pole		1	set								49 - a
Lighting	20W .	7	11	_	~						
Drain Pit	300 x 500mm	65	pc.	-							19 - g
Name Plate		1	set	_	-						
Brick Pavement		8.4	_m 2	-							16 - с
Concrete Pipe	\$500mm	24	m	-	- .						41
Miscellaneous		1	set								
Expenses		1 1	n								
					ĺ						
Sub-Total											
							ľ				
					į			i		:	
					ļ				<u> </u>		

II - 4 Proposed Plant 2. Receiving Well

	Receiving Well	**************************************		M	aterials		······································	Labor	-	
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic Currency	Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit Cost		
Wood Retaining Wall For Sand	Nat	57	_m 2	p						5 - c
Excavation		36	m ³	-						1 - c
Back Filling		4	11		~		-			
Concrete Piling	300 x 300 Type-B L=10m	25	pc.	_	~-		;			3
Wooden Piling	∮100 mm L =3 ^m	2	11		-					
Sand Mat		75	_m 3			·				
Rubble Stone		0.2	11	-	- [4
Concrete	1:3:6	19	tŧ	-	 .	ļ				9 ~ b
tt	1:2:4	91	19							9 - c
Reinforcing	Deformed Bar	11.60	ton	~						8 - c
Forms	(A)	506	m ²	-						5 - a
Staging		460	_m 3		-					7
Timbering		116	10		-					6
Mortar Finishing	1:2	154	_m 2	-	-					10 - b
н	Water Proof	285.	n							10 - е
Hand Rail	ø1 1/4"	34	m							44
Steel Step	1.4 k/pc	20	pe.		-					
Miscellaneous		1	set							
Expenses		ı	11	-	-		İ			
	·		İ		i					
Sub Total				-	-					
		!								
			İ							·
			j							
i	·									
	<u></u>									L

II - 4 Proposed Plant 3- Sedimentation Basin

11 - 4 Frogosed Frant)-	Sequimentation basin		THE PROPERTY OF THE PROPERTY OF		terials		And the second second second second second	Labor	**************************************		THE PROPERTY OF THE PROPERTY O
Item	Dimension	Quantity	Unit	Foreign Per Unit		Domestic	Currency	Domestic		Cost	Remarks
				rer our	Cost	Per Unit	Cost	Per Unit	Cost		
a Sedimentation Basin							i				
Wood Retaining Wall for Sand M	at	388	m ²	_		•					5 - c
Sand Mat		1,725	_m 3	-							
Concrete Pile	300 x 300 Type-B L = 12m	296	pc.		-						3 - Labor
Excavation		697	_m 3	-	-	ļ					l - b
Concrete	1:2:4	1,164	H		-						9 - c
Level Concrete	1:3:6	· 162	н		-						9 - b
Reinforcing	Deformed Bar	15.2	ton		and .		İ	:			8 - c
Forms	(B)	3,496	m^2								5 - b
Timbering		1,604	_m 3	-	_						6
Staging		3,947	11								7
Lean Concrete	1:3:6	11	и	-					ı		9 - b
(For Flocculation Basin Drain	Pump Chamber)			<u></u>							
Mortar Finishing	1:2:t=20m	1,834	_m 2	_	_						10 - b
11		1,503	n	_	ana						10 - c
ACP used Baffle Wall	∮150mm A	48	m	-	~-						
Steel Step	Round Bar \$19	57	pc.	~	_						
Expansion Joint	300 x 7mm	36	m		- -			ļ			10 - d
Hand Rail	ø1 1/4"	134	ŧ				İ		:		44
											\F.Y
Miscellaneous		1	set	_							
Expenses		1									
										,	
Sub Total										j	
							}				
b Mechanical Works		į									
Flush Mixer	0.75 ^{kw}	2	set				_				
Steel Girder	0.75 ^{kw} B L 0.9 ^m x 2.3 ^m 432 ^k g/s	2	11								,
Hand Rail	ø1 1/4"	9.2	m	_		~	-				A A
	• , ,	- 1	<i>"</i> "	_	-						44
Agitator	Og75kw	8	set						ĺ		
Steel Girder	0.9 ^m x 5.0 ^m 675 ^{kg/s}	8	11			-	~	Ī			
Hand-Rail	\$1\frac{1}{2}11	80					-				4.4
	r ··· 2		m	_	-		1	į			44

II - 4 Proposed Plant 3-b Mechanical Works

				Ma	aterials	T		Labor		-	
Item	Dimension	Quanti ty	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
							0050	Ter our	COST		
	$^{\rm B}$ $^{\rm H}$ 3.4 $^{\rm m}$ x 0.15 $^{\rm m}$ x 0.75 $^{\rm kw}$										
Flight Conveyer	3.4" x 0.15" x 0.75 ^{kw}	2	group	<u>.</u>		~					
		1									
Trough	FRP250 x 400 x 3,400mm	12	set		İ						
1 Pougn	FR1250 x 400 x 5,400mm	12	500				~				
Miscellaneous		1 1	set								
Expenses		1	п								
¥ · · ·											
Sub-Total								i			
c Electric Works				•							
Control Center Panel		1	set			-		-	***		
Local Operation Panel											
11 0	For Flush Mixer	2	11				~				
u u	Agitator	2	· 11						_		
11 11	Link Belt	1	I)			_	-		-		
n H	Sludge Pump	1	U U					-			
Electric Cable	600° EV 14" - 3°	380	m						_		
3)	" 8° - 4°	60	н	l					-		
el lt	" 3.5° - 3°	2,347	ir i	-	-			-			
" Wire	IV 14	80	"		_			p.p.	-		
16 19	" 1.6 mm	360	ar .		-				<u></u>		
" Cable	CVV 2 ~ 24°	390	11	<u>-</u>							
n n	" 2 - 12°	380	11					,ma	_		
U 1I	" 2 – 6°	390	"		-]]		g-4	-		
H H	CVVS 14 - 2°	2,710	11		-			,,-to	-		
Cable Head	600 ^v EV 14 - 3 ^c	2	set	-				-	-		
Conduit Tube	∮82 mm	115	m	-	-		·	-			
15 16	∮42 mm	90	11		_				-		
u u	\$36 mm	410	н		[ļ	***			
и и	\$28 mm	440	n				ľ	٠٠	-		
u ii	\$22 mm	90	n	-					-		
Normal Bend	\$82 rara	24	set	****			ļ				
17 17	642 mm	9	ч			ļ]	_		

II - 4 Proposed Plant 3-c Electric Works

II - 4 Proposed Plant 3-	-c Electric Works		<u> </u>	Me	terials			Labor	art and antique from the property of the prope		**************************************
Item	Dimension	Quanti ty	Unit	Foreign (urrency	Domestic	Currency	Domestic	Currency	Cast	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Normal Bend	ø 36	39	set	-	-			_	_		
11 11	ø28	42	rı					-			
Conduit Tube	Accessories	1	"					***	-		
Flexible Conduit	ø31	2	m						~		
n II	\$25	12	0	-							
Concrete Trough	250 ^{mm} Wide	150	set	~				<u> </u>	-		
41 31	70 ^{mm} "	50	10		-			-			
Earth Plate	600 x 600 x 1.6 ^t	1	u		-			_			
Electrician			person	-		~	-				
Earth Worker			11	-							
Miscellaneous		1	set	_	-						
Expenses	!	1	11								
Sub-Total											
											<u> </u> -
d Lighting Works											
Electric Wire	#15	130	m	-	-						
11	#14	351	11		-		:				
11	#12	5	H	-	-						
Conduit Tube	19mm	169	16	-	- [
H	25mm	50	11	-							
В	39mm	7	и	-	-						
Accessory		1	н								
Concrete Box	102 x 102 x 54	26	set	-	-		•				
Tumbler Switch	300V 1P 1A	2	11	-		:					
11	300V 1P 10A x 3	2	11	-							
Socket Outlet	250V 3P 20A	5	11	-							
Distribution Board	L B	1 1	1):								
Lighting Fixture	C FL 40W x 2	26	16	-							
Fitting		1	ŧI	-	-	•					
Earth Connection		1.	11	-	ا ت						
Other Expendable Items		1 1	#1		-						
71.33											
Lighting		1 1	set		P-10				1		

II - 4 Proposed Plant 3-d Lighting Works Materials Labor Quantity Unit Foreign Currency Per Unit | Cost Domestic Currency Item Dimension Domestic Currency Remarks Cost Per Unit Cost Per Unit Cost Miscellaneous 1 set Expenses 1 Sub-Total e Pipe Valve & Fitting $3.5^{\text{m}3/\text{m}} \times 15^{\text{m}} \times 15^{\text{kw}}$ 2 Sludge Pump $\operatorname{\mathfrak{set}}$ \$200 SV 33 Excluding Valve Box Valve Setting 4 ø150 " 8 \$200 . 2 33-Labor Check Valve \$200 3.0 m DCIP 223 kg DCIP Specials \$200 - \$150 1,924 ø200 31 Mechanical Jointing 28 set ø150 31 18 Sluice Gate 400 x 400mm 4 set Head Stock II = 2.5m4 Pipe Support ø200 12 set Exposed \$13mm Air Valve 1 set Miscellaneous 1 set Expenses 1 Sub-Total

II - 4 Proposed Plant 4. Clear Water Basin

II - 4 Proposed Plant 4.	Clear Water Basin			M	aterials			Labor			- Particular - Andread - Companies (specific spe
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency	Domestic Per Unit	Currency Cost	Cost	Remarks
None and his are		477	_m 3		-						,
Excavation		431)))[*		·~						1 - c
Back-Filling Concrete Pilling	300×300^{mm} L = 9^{m}	96 170	Į		***		 ,				3 - Labor
concrete 1111.tng) Joo x Joo II - 9	1 110	pc.) - Dabor
Rubble Stone		85	_m 3	_							4
Concrete	1:3:6	45	11		-						9 - b
11	1:2:4	196	11	_							9 – с
Reinforcing	Deformed Bar	18	ton	-	·						8 - c
	(2)		m ²				ii				
Forms	(B)	739	m ⁻ m ³	-	-		1				5 - b
Staging		744	m Z	. 	F-4						7
Mortar-Finishing	Water Proof	606	_m 2	_	,						i0 - c
и	1 : 2 t=20 ^{mm}	80	11	ļ <u>-</u>							
Manhole Cover	$820 \times 820t = 4.5$ mm	2	set	-	-	·					30 kg
ar a ar	David D. (20Min										
Steel Step	Round Bar \$19 ^{mm} GS \$200 ^{mm}	22	pc.	"							
Air Vent	GS <i>p</i> 200	2	set	-	<u></u>	' 	į				
Miscellaneous		1 1	H	_							
Expenses		1	11								
S. 2. (B. 12)											
Sub-Total	ţ		[ı			H	
						:					
		1									
				į			ľ				

II - 4 Proposed Plant 5-a Rapid Sand Filter & Piping Gallery

				M	aterials	The state of the s	The Same of the Sa	Labor	danisal simper (mitgapy dili dana simungga, qua	<u> </u>	
Item	Dimension	Quantity	Unit	Foreign		Domestic	Currency	Domestic	Currency	Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
a Rapid Sand Filter & Pipi	ng Gallery		<u> </u>					1			
Concrete	1:2:4	530	m3	· -					ļ		9 - c
Reinforcing	Deformed Bar	49	ton	-							8 - c
Forms	(B)	2,264	m ²								5 - b
Staging	}	1,038	_{nt} 3		-				<u> </u> 		7
Timbering		2,154	11	-							6
Mortar Finishing	1:2 t = 2 cm	452	m ²	-							10 - b
ii	Water Proof	1,152	m ²		~						10 - c
Grating Plate	44.5 k/sheet	19	sheet	_		,					
41	35.7 k/sheet	1	11								
Door Sash	1,900 x 1,900 mm	2	set		,						
Ladder	c-50x50x4-1,500x2 steel, step 11 pc	6	set	~-							
Floor Drain	PVC \$50 mm = 4.7 m	6	set	<u></u>					•		
" (For Air Vent)	" \$50 mm = 3.5 m	4	- 15	_	•						
Hand-Rail	GP \$1 1/4"	13	m	- ,							44
Steel Step	Round Bar \$ 19	14	set		-			 			
Grating Plate	12 kg/sheet	1	sheet	_	t-ra						
Wooden Piling	\$4" = 3.0 m	4	p"c	-	.						
Manhole Cover	650×700 t = 4.5 mm	2	set		_		:				21 kg
Rubble Stone		3	_m 3	_	-						
Concrete	1:3:6	3	11								
Lean Concrete	1:4:8	8	n								
]]	'							}	
Miscellaneous		1	11	_							
Expenses		1 1	11	-							
			,	ı.	u.						
Sub Total											
b Mechanical Works											
Filter Media	Gravel 110%	106	m3	_	-						
Đ	Sand 110%	127	11		_			_			
Under Drain Equipment				İ					_		
Steel Pipe	\$600 x 6,100 mm x 16 \$80 x 100 mm	6	рс	ļ		770	-				615.1 kg/pc

II - 4 Proposed Plant 5-b Mechanical Works

				М	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
				rer unit	Cost	Per Unit	Cost	Per Unit	Cost		
Polyvinyl Chloride Pipe	\$80 x 3,100 mm	192	p"c		-						
12 12 11	\$80 x 4,500 mm	12) n	-	-			_	-]		
11 11 11	∮25 x 55 mm	1,344	19	-				-			
n n Tee	\$80 x \$80 mm	264	1)	-	_	!		-	_		
" Bend	\$80 x 90°	24	"		-			p. 1	_		
" Socket	\$80 mm	96		_	-			_	-		
Flange	\$80 min	96	"	-	-			ted			
Flange Adapter	PVC \$80 mm	96	et	ļ <u> </u>				-	-		
Fix Plate	$50 \times 4,900 t = 4.5 \text{ mm}$	84	set	_	-		1	_			8.7 kg/set
Anchor Bolt	\$3/8" L = 300	1,428	11	_	-						0.15 kg/set
Surface Wash Equipment	}	}		ļ							
Galvanized Steel Tee	3 Flange 250 x 250	6	p"c	-	·-		1				100 kg/pc
" Reducer	2 " 250 x 150	12	н		-			•			43.7 k/p
" Bend	2 " 150 x 90°	24	i)		-			-	_		33 k/p
Galvanized Steel Pipe	2 Flange \$150 x 3,900 mm	12	11	-	-	i					
ti ti	2 " \$150 x 2,800 mm	6	"	~				-	-		
n n	2 " \$150 c 1,800 mm	6	£F.	-			ĺ				
п	∮50 x 950 mm	60	0					-	-		
11	∮50 x 3,200 mm	60	11					_			
" Nipple	\$50 mm	60	8 6	-				-	-		
" Socket	B	60	11	_				· -			
" Tee	15	60	Ħ						~		
" Union		30	e)			1					
" Cap	11	60	n	.	_				-		
" Socket	\$25 mm	360	n i	,			ļ	**	·		
Galvanized Nipple	∮25 mm	360	p ⁿ c				j				
Spray Nozzle	\$25 mm	360.	14	-	_			→	_]		
Plumber			person		_		_				
Pipe Support	For \$50 mm	60	set		-				.]		
n	For \$150 mm	12	**	 .	_				ľ	,	
Flange Jointing	\$250 mm	18	14	-		-	•••	i			
R	∮150 mm	54	FI .								
Pipe Laying	GP \$150 mm	86	m						ſ		
ti .	" \$50 mm	249	H				_		ļ	İ	

II - 4 Proposed Plant 5-b Mcchanical Works

		<u> </u>		M	aterials		and the same of th	Labor		para katalah tahun mengan kan menandan dianggan pengan dianggan dan pengan dan pengan dan pengan dan pengan da	The state of the s
Item	Dimension	Quanti.ty	Unit	Foreign Per Unit	Currency Cost	Domestic	Currency	Domestic	Currency	Cost	Remarks
				rer our		Per Unit	Cost	Per Unit	Cost	······································	
Pipe Laying	PVC ∮80 mm	650	m		-	-	~-				42-Labor
li li	PVC \$25 mm	74.	"	-		•••	-				f1
Trough	FRP 380 x 5,100 x 400 mm	24	set								
		_									
Miscellaneous		1	set								
Expenses		1	"								
Sub total											
c Pipe Valve & Fitting											:
Ductile Cast Iron Pipe	L 3 m	8,684	kg								
18	L 3 m	8,012	12			-	-	-	~		İ
DCIP Specials	Foreign	14,199	18						****		
Steel Pipe	\$500 mm	7.2	m				010				
Galvanized Specials		928	kg			-	_	* 5			
Valve Setting	\$500 mm SV	6	set				-				33
0	ø300 "	6	11			-	_				11
tí	ø250 "	14	Ħ					•			16
	ø150 "	6	13			~					11
Reducing Valve	\$250 mm	1	н			-			ļ		18
Flat Valve	\$500 mm	6	11			-	-				11
Head Stock	Spindol H=6.2 - 4.8 m	24	13			-	→				
u	" H=1.0 - 3.0 m	14	0			-	<u></u>				
Controller	Counter Weight Type \$200mm	6	ŧ1								
Mechanical Jointing	∮500 mm	20	ŧI				-				M 32
п	∮250 mm	10	11				-				M + 31
Flange Jointing	ø500 mm	44				•					32 - Labor
н	\$400 mm	6		_		İ					u
u	\$300 mm	24	n								lt
•	\$250 mm	20))		_						li .
9t	∮200 mm	30	"	·	_						11
n	∮150 mm	12			_	į					It .
Welding	∮500 mm	6	11	v	_		ļ				35 - Labor
Pipe Laying	DCP \$500 mm	55	m [_		_					29 - Labor
н	" \$400 mm	10	ii į	_			_	j	1		11

II - 4 Proposed Plant 5-c Pipe Valve & Fitting 5-d Operating Room of Filter

arks

II - 4 Proposed Plant 5-d	operating Acom of Fifter				atorials			Labor	**************************************		and the first control of the state of the st
Item	Dimension	Quanti ty	Unit	Foreign	Currency Cost	Domestic	Currency	Domestic	Currency	Cost	Remarks
			• 	Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Mortar Water Proofing		557	m ²								10 - с
$\Sigma = (v)$			ļ	i				,			
(vi) Carpentry		}		1]			
Fixture Wood	, i	183	_m 3		-			-	**		
Carpenter			person		-	-					
Assistant			Ð	-	-		-				
$\Sigma = (vi)$) 								
(vii) Plastering			t I	-	ļ				į		
Concrete Finishing	Floor	274	m ²	_	~		-				
Mortar Finishing	H = 100 Plinth	87	m	-							54 - 55
15	Wall	451	m ²	-	-						41
H	Column	37	m ²								
11 i	Beam	630	"	_	-						
н	Wall	93	11								
Window Frame Mortar	Ì	204)n					1			
$\Sigma = (vii)$		1									
							Į.				
(viii) Wood Fixtures		ļ									
Panel Box Window	WW-2 6,800 x 2,000	1	set		-						
Panel Window	WW-1 600 x 2,000	10	11	-			!				
Non Opening Window	WW-3 1,750 x 2,000	2			-		Į.				
Double Swing Door	WD-1 1,600 x 2,000	1	"	-	-						
$\Sigma = (viii)$			Ì								
(ix) Glazing			_m 2			 	1				
Clear Glass		110	m T	-	_	!					
$\Sigma = (ix)$									<u>'</u>		
(x) Painting				i		}					
Oil Stain	Wood	216	_m 2		İ						
Vinyl Painting	Mortar	1,220			_						
$\Sigma = (x)$	FIOTER	1,220		`-							
$\omega = \langle \lambda \rangle$					1						
				•	1						
						l i		1			

II - 4 Proposed Plant 5-e Lighting Works

					aterials	Dominist		Labor			, ,
Item	Dimension	Quantity	Unit	Foreign Per Unit	Cost	Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
				102		-07 01110	V05.¢	161 OUT	0030		
Miscellaneous			set	-							
Expenses			19								
	}							1			
Sub Total					!						
		1					i				
e Lighting Works		l l									
Electric Wire	# 15	370	m		_						
11	# 14	460	1)]	-						
11	# 12	5	11	- '							
Conduit Tube	19 mm	510	19		-	,]			
	25 mm	15	11	-							
11	39 mm	50	11	-	-						
Accessory			set	-		!		_			
Concrete Box	102 x 102 x 54	42	ti i	-				-		· •	
Tumbler Switch	300V. 1P 10A	2	19	-							
H	300V x 2	ļ	n		•~		i				
11	300V x 3	2	H	-	-				-		
Socket Outlet	250V 3P 20A	17	11							,	
Distribution Board	L - 1		н	-					,		
II .	I - B	1)) 17	-	-					,	,
Lighting Fixture	C FL 40W x 2 G FL 40W x 2	40	"		-		i				
Fitting			11		-						
Earth Connection		Ì	11					1			
Other Material			3 }	_	u ma						
000001001001001)							
Miscellaneous	·		set	_	-						
Expenses			1)	ł	<u> </u>						
nykenges											
Sub-Total				1					.		
Sub-106a1			t								
			1							1	
				[
		[]		1							
			•]							

II - 4 Proposed Plant 6 Clear Water Reservoir & Distribution Pump Well

					aterials	·		Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
								101 01110			20 - b
Steel Sheet Pile	L = 9 m	174	m								20 - c
Removing Sheet Pile	L = 9 m	174	" "3	-	144	-	-				1 - d
Excavation		7,348	l		~						1. •• Q
Back Filling		794		·	_	7	-				2 - a
Banking		823			-		·				,
Sand Mat		1,298	H	-	-						
Concrete	1:4:8	71			~]		9 - b
н	1:3:6	249	11		-						9 - 0
н	1:2:4	1,738	11	-	~						8 - 0
Reinforcing	Deformed Bar	131	ton m ²	-		,		•			5 - b
Forms	(B)	4,828	m ³	- 	-				1		7
Staging		3,320	1		-						6
Timbering		5,936	1 2	-							10 - b
Mortar ^F inishing	1 ; 2	299	m ²	-							10 - b
n .	Water Proof	2,380	11	-	-						10 - d
Expansion Joint	b = 300 mm $t = 6 mm$	65	m		_						10 - 0
Steel Cover	$t = 4.5 1,720 \times 1,720^{mm}$	1	set		_						
tt	t = 4.5 820 x 820	6	\$1	_			ļ				
Air Vent	PVC \$50 - 400 mm	4	p"c		-						
Drip Pipe	" \$50 - 200 mm	17	fl fl								
Wood Louver Ventilator	1400 x 600 mm	1	set		-						
Steel Step	∮19 mm	120	ŧ1								
Protection Pipe	ACP \$400mm L =5,600mm for Water Level Meter	1	11		-						
Miscellaneous		1	11:								
Expenses		1	19								
Sub-Total											
		:									

II - 4 Proposed Plant 7-a Distribution Pump Room

A STATE OF THE PROPERTY OF THE					terials		**-	Labor			
Item	Dimension	Quanti ty	Unit	Foreign (urrency	Domestic		Domestic		Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
a Structure											
(i) Temporary Works											·
Leveling		225	m ²	-							
Inking Line		202	,,		-						
Exterior Staging		336	er er	_							
Scaffolding Incline		15.4	m		₩.						
Interior Staging		202	_m 2	-	-						
$\Sigma = (i)$											
(ii) Concrete Works	L.				•						
Poor Concrete	1:4:8	46.7	m ³		~						9 - a
Concrete	1:2:4	25.78	łł .		-						9 - c
Forms	(c)	248	m ²	-	·						5 - c
(iii) Reinforcing Works											
Round Bar		1.01	ton	_	_						8 - a
Deformed Bar		3,26	11								8 - c
$\Sigma = (iii)$		7,20									
(iv) Masonry Works											
Brick		213	_m 2		~						50
$\Sigma = (iv)$											
(v) Carpentry					·	*					
Structural Wood	·	16.14	m ³	-	~			-	-		
Fixture Wood		1.19	n n	-	~			••			
Supplementary Wood		1	set	-	~			-	-		
Nails, Hardware		1	set	-)			-	-		
Carpenter			person		-	-					
Assistant			\$1								
(vi) Metal Fabrication	1000										
Manhole	\$600	4	set m ²							·	
Wire Net		130	m m	-	~						

II - 4 Proposed Plant 7-ab Distribution Pump Room

II - 4 Proposed Plant 7]			aterials	Domontis	Cuman	Labor	Cumpay are	Co~k	Remarks
Item	Dimension	Quantity	Unit	Foreign (Cost	Per Unit	Currency Cost	Domestic Per Unit	Cost	Cost	**Omct ItO
					`		······································			-	
Hoist Rail		24	m								
$\Sigma = (vi)$											
(vii) Plastering								·			
Mortar Finish	Exterior Wall	276	m^2	-	-	!					
Concrete Finish	Floor	207	н	-		!					
Mortar Finish	Plinth H = 100	62	m	_							
"	Wall	121	_m 2								54
श	Column	43	11	_							
Window Frame Mortar	0014	1.46	m		-						
$\Sigma = (vii)$				1.							
2 = (V.II)			·								
(viii) Wood Fixtures											
Double Swing Door	WD-1 3,000 x 4,100	2	set								
Double Swing Windows	W-1 1,800 x 3,100	12	Iŧ	_	~						·
$\Sigma = (viii)$	2,000						į				
$\omega = (VIII)$							-				
(ix) Painting									;		
Oil Painting	Wood	415	m ²	_	-						
Vinyl Painting	Mortar	510	11								
$\Sigma = (ix)$	1.01 5.02									<u> </u>	
2) - (1)											
(xi) Other Works											
Corrugated Slate Roof		409	_m 2		_						
Roof Ridge		48	m		-						
Flat Sheet		86	_m 2	_	_				[
$\Sigma = (xi)$				_							
Miscellaneous		1	set	_							
Expenses		1	"	_							
Sub Total											
b Lighting Works											
Electric Wire	# 15	100	m	_	_						
n plectic wife	#14	200	. 11	•							
•	" ~ ¬	1		1.	1				1	<u></u>	<u></u>

II - 4 7-b Distribution F	Tump Room			Ma	aterials	Pin Yang di dinadakan menjad yapan pin <u>ang di</u>		Labor		and the state of t	
Item	Dimension	Quantity	Unit	Foreign (Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Electric Wire	#10	7	m	-							
Conduit Tube	1.9 mm	220	11	-							
И	53. mm	4	11						<u> </u>		
Accessory		1	set		-						
Concrete Box	102 x 102 x 54	6	each	-	-						
Tumbler Switch	300V 1P 10A	4	set	-							
Socket Outlet	250 V 3P 20A	8	"	-	~						
Distribution Board	I.	1	(1	_	eve.						
Lighting Fixture	CFL 40W x 2	6	1t	-							
Fitting		1	ļi	-	~~						
Earth Connection		1	H	-	-						
Other Material		1	11								
Ventilating Fan	∮350 x 135 ^W	4	11								
Miscellaneous Expenses		1	set "		-						
Sub Total											
c. Piping Works		ĺ		ĺĺ							
P.V.C. Laying	\$40m	13	m	-	· <u>-</u>						
11	∮ 12mm	18	11	-							
P.V.C. Specials	Domestic	12	kg	-	-			_	-		
Valve Setting	∮40mm	1	set	-	-						
11	∮12mm	7	11		-						
Wash Basin 🕏	L = 220P	1	16	•••							
Vinyl Pipe	ϕ_{100} m $L = 3.$ M_{0}	1	pc.								
11	$ \sqrt{100^{\text{min}}} L = 6.0 $	1	pc.	1	~						
Specials	Y100 x 50 mm	1	11	_				i			
н	bend 100 mm	1	31	_	-						
Drain Metal Fitting	50T - 50A	1	set	_	1						
Cess Pool	450 x 450mm	1		_							
Slop Sink	COA - 100mm	1	13	-		,					
Miscellaneous Expenses	.,	1	97 8†		 						
Sub Total] [}	

II - 4 Proposed Plant 8-a Distribution Pump Equipment

				Materials			Labor		
Item	Dimension	Quantity	Unit	Foreign Currency	Domestic	Currency	Domestic Currency	Cost	Remarks
				Per Unit Cost	Per Unit	Cost	Per Unit Cost		
a Distribution Pump Equipme	nt								
Distribution Pump & Motor	D=300mm q=8.4 ^{m3/min} H=43m 100kw	2	set		-	 ,			
Valve Setting(Manual)	\$300mm	2	iI		~	-			33
Distribution Pump & Motor	D=200mm q=4.2 ^{m3} /min H=43m 55kw	2	set		-	-		i I	
Valve Setting(Manual)	\$200mm	2	13		_				33
Washing Pump & Motor	D=125mm q=2 ^m 3/min H=19m 15kw	2	set		_	_			
Valve Setting(Manual)	∮125mm	2	11		_	-			33
90° Bend	Double Flanged \$125	2	.,		_				
Submarine Type Pump	D=100mm q=1.4 ^{m3/min} H=10m 5.5kw	1	set		-	-			
Feed Pump	Q=0.15 ^{m3} /min H=25m 1.5kw D=40mm	2	11		_				
Air Valve Setting	Exposed \$13mm	6	set		-	-			45
Miscellaneous		1	**		-	-			
Expenses		1	tt .		-	***			
Sub Total									
									:
	•							·	
			į						
						·			

II - 4 Proposed Plant 8-					aterials	 		Labor			Danie alia
Item	Dimension	Quanti ty	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
b Local Power Center											
Control Center Panel		3.	set			-		-			
Electric Cable	600° EV 150° - 3°	30	m		-			_		İ	
ы	" 50 ^н - 3 ^с	30	ß					End.			
11	" 8" - 3°	28	1)					-			
н	" 3.5 ^{tt} - 4 ^c	13	11		h			_	-		
R	" 3.5 ⁻ⁿ - 3 ^c	30	ii	·	-					Ì	
Electric Wire	IV 38 ^H	69	17	-	-			 .			
16 81	" 22 [#]	16	13	-	-				-		
II fi	" 5.5 ⁿ	26	11		-			_			
ii 0	" 1.6"mm	43	11					_			
Cable Head	600VEV150 ⁿ - 3 ^c	8	set					_	-		
tr .	" 50" - 3°	8	н	<u>-</u>	,			-			
Conduit Tube	\$104 mm	40	m	-	_			_	-		
D	\$82 mm	40	11		-			-	-		
11	∮36 mm	28	11	-	-			_			
Di Companya da Maria da Maria da Maria da Maria da Maria da Maria da Maria da Maria da Maria da Maria da Maria	∮28 mm	43	n		-			_	-		
Normal Bend	ø104 mm	4	set	-	-			_	_		
11	\$82 mm	4	11		4			~-	-		
н	∮36 mm	4	51	_	_			-	-	:	
H	∮28 mm	6	ii		-]		-	-		
Conduit Tube	Accessories	1.	11		-			_			
Flexible Conduit	∮100 mm	- 4	m	_				_	-		
n	\$76 mm	4	ļ u		_			_	-		
n	\$31 mm	2	и	-				-	-		
u	∮25 mm	2	.,	_	-				-		•
Earth Plate	600 x 600 x 1.6 ^t	1	set	_	_			_	-		·
Outlet	3P + E	1	111	-				-	-		
Electrician			person	-		_	-				
Earth Worker			"	Mod			_				
Miscellaneous			set	_							
Expenses			- 11								
······································											
Sub Total											

II - 4 Proposed Plant 9-a Chemical Dosing Room

a Structure (i) Temporary Works Leveling Inking Line Exterior Staging Scaffolding Inkline Interior Staging Σ = (i) (ii) Earth Works	Quanti 300 600 970 22.2 600		it	Foreign (Per Unit	terials Currency Cost	Domestic Per Unit	Currency Cost	Labor Domestic Per Unit	Currency Cost	Cost	Remarks
a Structure (i) Temporary Works Leveling Inking Line Exterior Staging Scaffolding Inkline Interior Staging Σ = (i) (ii) Earth Works	300 600 970 22.2		m ²		### ###	Jet onte	cost	rer unit	Cost		
 (i) Temporary Works Leveling Inking Line Exterior Staging Scaffolding Inkline Interior Staging Σ = (i) (ii) Earth Works 	600 970 22.2	2 1	" " " " " " " " " " " " " " " " " " "	-	B						
Leveling Inking Line Exterior Staging Scaffolding Inkline Interior Staging Σ = (i) (ii) Earth Works	600 970 22.2	2 1	" " " " " " " " " " " " " " " " " " "	-	B			į			
Inking Line Exterior Staging Scaffolding Inkline Interior Staging $\Sigma = (i)$ (ii) Earth Works	600 970 22.2	2 1	" " " " " " " " " " " " " " " " " " "	-	B						
Exterior Staging Scaffolding Inkline Interior Staging $\Sigma = (i)$ (ii) Earth Works	970 22.2	2 1	" m								
Scaffolding Inkline Interior Staging $\Sigma = (i)$ (ii) Earth Works	22,2	, l	m						· ·		
<pre>Interior Staging Σ = (i) (ii) Earth Works</pre>		- 1									
$\Sigma = (i)$ (ii) Earth Works	600) 1	m ²					;			
(ii) Earth Works										,	
										i	
								,			
Excavation	316		_m 3		-		-				
Back Filling	289		_m 3	-							
Surplus Soil	24		_m 3		-]		
Rubble Stone	5.34		_m 3	-	gra-						
Ballast	5.34	ļ	_m 3								
$\Sigma = (ii)$		ļ									
(iii) Concrete Piling			·								
Concrete Pile	84	pie	ece								
Σ = (iii)										·	
(iv) Concrete Works											
Level Concrete 1:3:6	5	; ı	_m 3	-							
Concrete 1:2:4	207.	3	11								
Forms (C)	L,440).68 ı	_m 2	~=	-						
$\Sigma = (iv)$											
(v) Reinforcing Works											
Round Bar	9.2	26 t	on							†	
Deformed Bar	14.3		17	e							
$\Sigma = (v)$											
(vi) Masonry Works										·	
Brick	. 377	,	2	No.							
$\Sigma = (vi)$											

II - 4 Proposed Plant 9-a Chemical Dosing Room

		The state of the s		М	aterials			Labor	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		A STATE OF THE STA
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic		Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
(vii) Waterproof Works											
Integral Waterproof	T 15	252	_m 2	-							
	H = 100 Plinth	137	m	~-	-						
$\Sigma = (vii)$											
(viii) Carpentry											
Structural Wood		20,23	m ³	~				**			
Fixture Wood	Hard Wood	8.45	11	***				F **			
Supplementary Wood		1	set					~	- -		
Nails, Hardware		1	117	-					•		
Plywood	T 4	5	m ²	-	,		-				
Carpenter			person	-							
Assistant			- 11								
$\Sigma = (viii)$:								
(ix) Metal Fabrication											
Hoist Rail		17.5	m								
				-							
Cover Plate(checker plate)	4.5 mm	21	m ²		-						
Metal Fittings	Screen	1	set	•••							
Wire Net		157	m ²								
Hand Rail	H == 1000	100	m	-	-						
$\Sigma = (ix)$											
(x) Plastering											
Mortar Finish	Wall T 15	176	_m 2	-	, 						
и	Column T 15	77	11	_	_						
н	Beam T 15	375	"	***	_						
Window Frame Mortar		439	m								
Artificial Stone, Ground Finis	h	5	_m 2	<u></u>	_						
Concrete Finish		437	1):	_	_						
Mortar Finish	Floor T 15	158	_m 2	na.							
ti .	Plinth II = 100	77	m	t eo	_		j				
11	Wall	550	_m 2	**	_			.			
п -	Column	94	11	- Roa	_						
ii .	Ceiling	428	11	<u></u>	· _		,			·	

II - 4 Proposed Plate 9-	The second secon			М	aterials			Labor		genggag (pagena), gengeneral menenimik meneni dak da jumbah dak da bah da bah da bah da bah da bah da bah da b	Andrew States of the Control of the
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic		Cost	Remarks
				16t out		ier outc	Cost	Per Unit	Cost		
$\Sigma = (x)$											
(xi) Wood Fixtures	·										
Double Swing Door	WD-1 1,600 x 2,000	4	set	-			:	: 			
	WD-2 1,600 x 3,000	5	31	-							
Single Swing Door	WD-3 800 x 1,950	1	11	-	-						
11	WD-4 800 x 2,000	7	e e	-	-						
H	WD-5 600 x 1,950	ı	11		-						
Double Swing Window	W-1 1,600 x 2,200	2	H	_							
Single Swing Window	W~2 800 x 600	1	Ħ	-	-						
11	W-3 4,500 x 2,900	14	н	-							
Double Swing Door	W-4 4,500 x 3,000	2,	,,	-							
Double Swing Window	W-5 1,600 x 900	2	11	-	-						
Toilet	2,000 x 1,950	1	11	-							
Double Swing Door	WD-2 1,600 x 3,000	3	11	_							
Double Swing Window	W-1 1,600 x 2,200	3	19	-	~-			8			
$\Sigma = (xi)$											
(xii) Glazing											
Clear Glass	T 15	233	m ²		-						
$\Sigma = (xii)$											
				1							
(xiii) Painting									•		
Oil Stain		1,151	11	-	-						
Vinyl Painting		1,988	11	-							
$\Sigma = (xiii)$											
(xiv) Other Works											
Corrugated Slate Roof		527	m2	_							
Roof Ridge		64	m	_							
Tile	Color	12	m ²	-							
Sound Absorbing Finish		295	H	-	-						
Flat Sheet		58	m ²	-							
$\Sigma = (xiv)$							· 				
Miscellaneous Expenses		1	set	_	-						
Sub Total		Ι τ			~						

II - 4 Proposed Plant 9-b-c Lighting Works

II - 4 Proposed Plant 9-b	70-3 Marie 1990 1990 1990 1990 1990 1990 1990 199			М	aterials		*	Labor			
Item	Dimension	Quanti ty	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency	Cost	Remarks
				lei onio		rer onte	Cost	rer unit	Cost		
b Lighting Works		:									
Electric Wire	# 15	700	m	-	_						
II	# 14	600	н	-							
II	# 1.0	20	117	-	-						
11	# 2	20	11	-	~						
Conduit Tube	19 mm	530	"		-						
17	25 mm	80	H	-	_						
n	31 mm	20	19	-	-						
Accessory		1.	4 1	-	~						
Concrete Box	102 x 102 x 54	66	each								
Tumbler Switch	300V 1P 10A	11	set								
ti .	300V 1P 10A x 2	5	14	-	-					-	
U	300V 1P 10A x 6	1	#1		-						
H	300V 1P 10A x 3W	2	Ħ	-		į					
Socket Outlet	250V 3P 20A	38	59	-	-						
u	690 x 80W	11	Ħ	-							
Telephone Outlet Box	102 x 102 x 54	2	H	_	-				II.		
Distribution Board	L - 1	1	18	-	-						
11	L = 2	1	41	_							
Lighting Fixture	$C,FL 40^W \times 2$	58	11	-	-		!				
81	C.FL 40W x 1	6	11								
Ħ	H,FL 60W	5	Į1	_	-	į					
Fitting		1	și								
Earth Connection		1	н	_						·	
Other Expendable Items	}	1	11					-	tel		
Miscellaneous		ı	15	_							
Expenses		1 -	ŧı								
			1								
Sub Total											
c Plumbing Works											
Ventilating Fan	\$250 x 40 ^W	4	set								
Wash Basin	L - 220 P	2	B								
Urinal	U - 37	1	15		_						

II - 4 Proposed Plant 9-c Chemical Dosing Room

II - 4 Proposed Plant 9-c	: Chemical Dosing Room		T		terials			Labor			та да на на применения на предела до предела до предела на предела до до до до до до до до до до до до до
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency	Domestic	Currency	Cost	Remarks
				Per Unit		rer onit	Cost	Per Unit	Cost		
Sprinkler Head	T - 27 - 13	1	set	- [İ		<u> </u>			
P.V.C. Pipe	\$25	4	m	-		,					
10	∮ 25	18	n		~						
Coupling Support		1	set	-							
Gate Valve	25 ^{GV}	}) n		~]		'	
P.V.C. Steel	ø50	14	m								
Coupling	·	1	set	-	-				~		
Vinyl Pipe	100 x 1,000	1	piece	-	-						
า	100 x 300	1	u	_							
и	75 x 600]].) i1	-	- 1						
Specials	Y100 x 50	2	f)	-	-						
1 1	TY100 x 75	1	11	-		ļ					
п	LY100 x 75	1	"		-						
n	LY 75 x 50	1	93	-	-						
PP	bend 100	1	11	-	- '						
Coupler		1	set	-	~			_			
11	ΓÞ	1	l rs	_	_			-	•		
Lead Pipe	70	2	m	-		!					
- 11	50 ^{LP}	2	11	-] ·			
	30 ^{LP}	4	H	-							
Support	Į.	J .	set	-	_			-	. 1		·
Drain Metal Fitting	50T - 5A	1	H	~							
Slop Sink	CoA 100] 1	11	-							
н	CoA 50	1	37	-	-						
Cess Pool	450 x 450	1	11	~	-						
Permeation Pit	\$800 x \$1,800	1	set	-				[
	·	-						İ	: 		
					· 				; 		
Miscellaneous		1	set	-			i				
Expenses		1	"	-					ļ		
0.2 8.1.2	1										
Sub-Total	·						•				
				<u> </u>		<u> </u>	<u></u>	<u> </u>			

II - 4 Proposed Plant 10-a Alumn Feeder

					aterials		···	Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Coat	Domestic Per Unit	Currency			Cost	Remarks
				rel our	COST	rer unit	Cost	Per Unit	Cost		
a Alum Feeder											
Level Meter	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	2	set "		:	-	10	-			
Solution Tank	1.8m ³ Steel t=6mm Epoxide Resins Coat	2				_	**				0.5 ^t /set
Chemical Feeding Pump	0.75 ^{kw} SUS-32	2	3 1				-				
lixer	0.75 ^{kw} SUS-32	2	11			-	-				
PVC Laying	\$50 mm	218	m	-	~						
PVC Specials	\$100 x \$50 T	1	sst	-					~		
I f	6 50 x 650 T	22	н					-	es-4		
н	ø 50 x 90° B	61	n								·
P.V.C Specials	ø50 Flange Adapter	60	11			14	840	_		840	
t I	∮50 Steel Flange	58	II	~	-	70	4,060	_	-	4,060	
f f	\$50 Flange Plug	4	11	-	±	31	124	~	-	124	
39	∮50 x 90° Elbow	2	11	_	-	24	48			48	
н	∮50 Socket	76	*1	-		15	1,140	·	-	1,140	
G.S.P. Specials	\$50 Nipple(GS)	1	11	-	_	5	5	_		5	
н	\$50 Socket(GS)	1	11	_	_	13	13	_	- .	13	
16	∮50 x 90° B	1	11			45	45			45	
Diaphragm Valve	\$ 50 (PVC)	18	15								
Strainer(Y-type)	ø 50 (sus-32)	2	13				-				
Relief Valve	ø 50 (")	2	0			-	-				
Angle Seat Valve	\$ 50 (PVC)	8	18		_						
II.	\$ 50 (FC)	1	16	<u></u>	_						
Excavation		33	_m 3	_	_						
Backfilling		33	87 TH			_	_				
Packi IIIing				<u>-</u>		_					
iscellaneous		ı	set								
Expenses		1	#1				:				
Sub-Total						;					
b Lime Feeder											
ever Meter		2	set			· -			-		
olution Tank	2.5m ³ Steel t=6mm Epoxide Resins Coat	2	9 1				~~				W = 0.6 ^t /set
hemical Pump	0.75 kw	2	ŧi								ながらない。 大学などのでは、大学などのでは、大学などのでは、大学などのでは、大学などのでは、大学などのでは、大学などのでは、大学などのでは、大学などのでは、大学などのでは、大学などのでは、大学などのでは、大学などのでは、大学などの

II - Proposed Plant 10-b Lime Feeder

II - Proposed Plant 10-					aterials	Down 12		Labor		a .	Remarks
Item	Dimension	Quantity	Unit	Foreign Per Unit	Cost	Per Unit	Currency Cost	Domestic Per Unit	Cost	Cost	Remarks
A STATE OF THE STA	0.65		ii								0.23 ^t /set
lixer	0.75 kw	۷		!							Including Weir Gauge
	Epoxide Resins Coat	1	H								
Gauging Well	D = 0.8m 1m Steel $T = 6$ mm	46	m								
PVC Laying	∮50 mm	221	(f		· -						
11	\$25 mm	1	set		-			-	-		
PVC Specials	\$100 x \$50 T		11		<u></u>						
il	∮ 50 x ∮50 T	5	11		İ			_	-		
10	\$ 50 x \$25 T	2	H	- w					•~		
Ħ	\$ 25 x \$25 T	9	b)					ļ			
I)	ø 50 x 90°B	10	11	_							
11	∮ 25 x 90°B	35		_							
H	ø 50 x 45°B	2	11	_							
)) }	∮ 25 x 45 ⁰ B	3	11	-		· ·		_			
11	∮ 50 Flange Adapter	8	H		_				-		
H	\$ 25 " "	24	11		-			_	-		
11	ø 50 Socket	15	11	-	-			PAS	-		
Ħ	ø 25 "	70	u		-				-		
Ħ	∮ 25 x 90° Elbow	3	9	-	-			-	·-		
Steel Flange	ø 50 mm	8	ŧi		-				-		
11	ø 25 "	24	श	-				-	-		
FC Flange Plug	\$ 50 mm	2	á)		_			_	-		
n	∮ 25 mm	2	1 11	-	-	1		-			
Diaphragm Valve	∮ 50 (PVC)	6	11			-	-				
11	ø 25 "	6	11:				_				
Angle Seat Valve	ø 50 "	4	12		-						
11	ø 25 "	7	n	_	<u> </u>			1			
Check Valve	ø 25 "	2	set			-	_				
Excavation		45	_m 3	_	_		-				
Back Filling		45	11	_	_						
WOW TITTING		'´]	
Miscellaneous		1	set]						
Inscernancous Expenses		1	11								
ay heriges		-									
Cub Batal											
Sub Total											
								<u></u>			

II - 4 Proposed Plant 10-c Chlorinator

	The state of the s				aterials		···	Labor			
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
		<u> </u>	 	Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
c Chlorinator									[
Chlorine Bomb	98 Kg	8	pc.		-	~					
Chlorinetor	qmax = 10 K/Hr	2	set				-				
Boosting Pump	$20^{1}/\text{min} \times 40^{\text{m}} \times 0.75^{\text{KW}}$	2	1)				-				
Hoist	Cap 250 Kg 0.5 KW	1	11			_					
Cable Trolley		12	11								
Cabtyre-Cable		25	m			-					
I-Steel Beam	$150 \times 75 \times t = 5.5 \text{ mm}$	17	m	- 1	-						w = 0.35 t
Manifold		1	pc.				-··				
PVC Laying	ø50 mm	17	m	- [· - [}		1		
16	\$25 mm	71	11		-						
PVC Specials	\$100 x \$50 T	1	set	-	_			-			
19	\$50 x \$50 T	6	11	_					-		
D	\$25 x \$25 T	4	H	~-					-		
В	∮50 x 90° B	12	18		5 000			-	_		
ži.	∮25 x 90° B	15	11	-	-				_		
ŧı	∮25 x 45° B	5	11	_				-	-		
11	\$50 Flange Adapter	15	16		_	-		-	_		
tt	\$25 "	10	11	-	-				_ [
18	\$50 Flange	15	18	-	~			.es			
n	\$25 "	10	H		-			**	-		
н	\$50 Flange Plug	3	11		-			1-9			
D	ø25 "	2	11	_				-	_		
11	∮50 Socket	13	H	-	-			_			
ti .	\$25 "	4	B ·		_			••			
Diffuser	∮25 mm	1	ŧŧ				_	-	_		
Angle Seat Valve	\$ 50	13	ŧŧ	***	<u>.</u>]						
11	ø25	1	ŧI		a						Valve Box Type A
Diaphragm Valve	ø25	7	11			_					
Check Valve	\$50 (FC)	2	set			-	_				
Strainer	ø50 (")	1	И			_	-				
Chemical Gage	Chlorine Gas Pressure Gauge	1	II			ports	-		~		
Excavation		11	m3	_		_					
Back filling .		11	н	_		<u></u>					

II 4 I	Proposed Pl	ant 10-de	Neutralization	Equipment

II - 4 Proposed Plant 10-de	Neutralization Equipment			M	aterials		···	Labor		
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic Currency	Cost	Remarks
		ituan or of		Per Unit	Cost	Per Unit	Cost	Per Unit Cost		
Miscellaneous		1	set						1	
Expenses		1	n n							
		į								
Sub Total										
d Neutralization Equipment		1					,	\	ή	
Blow Off Tower										
Neutralization Equipment	20 mm - 7.5 kw	1	set			-	**4			
Accessories Tank	PVC	1	-0			-				
Gas Detector		2	ŧI				-			
Manual Damper	PVC \$200	2	Ð				==			
Chemical Pump	For Caustic Soda 7.5kw	1	11				-			
PVC Laying	\$200 mm	40	m	₩.						
Accessories Duct		1	11				5-W			
Miscellaneous		1	set							
Expenses		1	11							
					`		į			
Sub Total										
e Chemical Dosing Room Elec	trical Works									
Operating Panel for Alarm		1	set			-				
" for Chlorinate	r	1	ı,		;	ı	<u></u>			
Electric Cable	600° EV 3.5° -4°	33	m	-	_					
11	" 2" -4¢	340	44							
Conduit Tube	\$42 mm	44	11	Pro						
н	∮28 mm	15	13	No.	~					
н	\$22 mm	213	10					_ _		,
Flexible Conduit	∮19 mm	12	17		_					
Pull Box	200 x 150 x 100	2	set	-	_					
Junction Box	,	1	u u	_	_					
"Conduit Tube Accessories		l	11			,		_ _		
Electrician			person							
			*							
Miscellaneous		1	set "							
Expenses		1	"		-					
Sub Total	·]]	}		}	}	1

11-4 Proposed Plant 11. Instrumentation Works

II-4 Proposed Plant 11.	Instrumentation Works				aterials	D		Labor		, ,	Remarks
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
Semigraphic Panel		1	set			<i>-</i>					
Raw Water Flow Meter		1	11			-	p.n	-	-		
		1	,,			-	.	-	-		
Turbidity Meter		6	11			-					
Filter Level Meter		6	,,,					-	_		
Filter Loss Meter			,,			***					
Distribution Pump Well Level Merter			,,			_					
Distribution Pressure Meter		1					[
Distribution Flow Meter		1	31			~					
Elevated Tank Level Meter		1	"			-	-	_	-		
Wash Water Flow Meter		1	11				-	-			
Electric Cable	$CVV 2^n - 2^c$	60	m	~	-	1		-	-		
ч	CVVS 2 ⁿ -3 ^c	70	11	-				-	- !		
11	и 2 ⁴ -2 ^c	1,690	11				1	_	-		
Conduit Tube	∮22 mm	383	и	-	_				-		
Flexible Conduit	∮19 mm	17			-			-	-		
Steel Gas Pips	30 mm	10	11	_	_			-	-		
	70 mm wide	90	l n	_				-	-		
Concrete Trough	70 mm #100		person	_	_	-	_				
Electrician			Pozavi								
		1	set		_						
Miscellaneous			1 360								
Expenses		Τ.	"			ļ					
											ļ
Sub Total		1									
									1		
	_										
	·										
					1						
					1						
								1			

II-4 Proposed Plant 12.	Piping For Facilities				aterials			Labor			And A minimple of the Andrews of the
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
				161 OHIO		TGT OHIC	Cost	rer unit	COST		
(i) Entrance Of Plant - Receiv	ing Well										
Ductile CIP	\$500 - \$400 mm	5,279	kg			~	77		-		
Ductile Specials	\$500 - \$400 mm	2,277	18		•		-	-			
Mechanical Jointing	\$500 mm	2	set								32
H	\$4,00 mm	17	11								ii
Excavation		133	_m 3	-	-						1 - c
Back Filling		126	11	-			~				2 - a
Pipe Laying	DCP \$500 mm	8.2	m	- '	-	- -	***				29
II.	и 6400 mm	66.7	11	_	•••	***	-				11
Valve Setting	Butterfly \$500 mm	1	set			-					34 Valve Box Type A
n	" \$400 mm	1	11								11
Flange Jointing	∮500 mm	3	ti .	-	-						32 Labor
n	\$400 mm	3	n	-							ii
Flow Meter Box		1	e1	-							27
Miscellaneous		1	н								
Expenses		1	11								
$\Sigma = (i)$											·
(ii) Receiving Well - Mixing	1										
Ductile CIP Chamber	\$700 - \$400 mm	1,996	kg			- -		-	-		
Ductile Specials	\$700 ~ \$400 mm	4,602	13			-	-	-	-		
Mechanical Jointing	\$500 mm	5	set			-	-	'			32
н	\$400 mm	6	n				-				н
Excavation		73	_m 3	•••			,				1 - c
Back Filling		70	u u			_					2 - a
Pipe Laying	DCP \$500 mm	21.5	m			_					29
18	" ∮400 mm	25.0	10	•		_	_		1		11
n .	" ∮700 mm	1.0				_					15
Valve Setting	Butterfly \$500 mm	l	set				-				34 Valve Box Type A
11	11 \$400 mm	2	19]						11 #
Flange Jointing	∮700 mm	2	Ð		-		1				32 - Labor
II .	∮500 mm	2	11						1		H
11	\$400 mm	4	li I		_		-				
	(· · · · ·							<u> </u>	<u></u>		

II-4 Proposed Plant 12.	Piping For Facilities				aterials	Domest	<u> </u>	Labor	<u></u>	0.4-4	Remarks
Item	Dimension	Quanti ty	Unit	Foreign Per Unit	Currency Cost	Per Unit	Currency Cost	Domestic Per Unit	Currency	Cost	nomarks
				161 01124		-01 0/110		101 01110			
Miscellaneous		1	set								
Expenses		1	11					·			
пхренеев					i						
Σ = (ii)				t.							
(iii) Sedimentation Basin - Rapid Sand Pilter											,
Ductile Specials	6500 mm	1,379	kg		i \$		ben.	-	-		32
Mechanical Jointing	\$500 mm	2	set		1	-					i
Pipe Laying	DCP \$500 mm	6.3	m		-						29
Flange Jointing	\$500 mm	3	set	<u></u>	-		-				32 - Labor
]				!				
Miscellaneous		1.	"	1							
Expenses		1	,,								
hapenees											
$\Sigma = (iii)$		į									
(iv) Rapid Sand Filter - Reservoir									·		
Ductile CIP	\$500 - \$400 mm	3,064	kg			-	~	-			
Ductile Specials	11	2,711	1 "			_	-	-	_		70
Mechanical Jointing	\$500 mm	7	set				_				32
•	\$400 mm	9	11			-	-				
Excavation		108	m ³	-	-						1 c
Back Filling		100	п	_	_	-	-		-		2 - a
Pipe Laying	DCP \$500 mm	29	m	-	_						29
II be paying	и 6400 mm	21		_	- ,	-	_				11
Valve Setting	BV \$500 mm	1	set			_	_	1			34 B
atta perring	BV \$400 mm	2	1				_				" В
	6500 mm	3	H								32-Labor
Flange Jointing	6400 mm	2	11	-							n .
**	pato min	~									
·		1	(1		1						
Miscellaneous											
Expenses			1"								
$\Sigma = (iv)$											

II-4 Proposed Plant	12. Piping For Facilities				aterials			Labor			
Item	Dimension	Quanti ty	Unit	Foreign (Currency	Domestic	Currency	Domestic		Cost	Remarks
r ∩△m	Dimonoton	KNOW OF A		Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
(v) Piping For Reservoir											
Ductile Specials	\$800 - 600 mm	970	kg					<u></u>			
Flange Jointing	\$800 mm	1	set	-							32-Labor
11	\$600 mm	1	н	-	•						11
Valve Setting	∮800 mm BV	1	11			_	-				34 Except Valve Box
И	\$600 mm BV	1	ii.								34 "
Head Stock	Shaft $1 = 5.7 \text{ m}$ 1 = 6.3 m	2	£1		;		-				
Pipe Laying	DCP \$800 mm	1	m	-			-				29
11	DCP \$600 mm	1	*1	-		-	-				29
						;		1			
Miscellaneous		1	set								
Expenses		1	D								
$\Sigma = (v)$											
(vi) Pump Well - The Begin	nning Of Distribution Main										
DCIP	\$600 - \$200 mm	13,804	kg						- 1		
Ductile Specials	н	9,583		}		-		-	_	•	
SP Specials		2,659					-	-	-		70
Mechanical Jointing	∮800 mm	2	set			-	~				32
I t	\$600 mm	24	ti			-	-				
II .	6500 mm	8	11			-	~				11
Excavation		551	m^3	-	~						1 - c
Back Filling		520	a	~			-				2 - a
Pipe Laying	DCP \$800 mm	12	m		-	-	-				29
N	" ø600 mm	112	н	_	-				1		D .
П	" \$500 mm	29	11	_	-	_	_				H .
н	" \$300 mm	3	14	_		_	_				II II
II	11 \$200 mm	3	n	_	_						II.
Valve Setting	B \$800 mm	1	set			-					34 B
li .	B \$600 mm	1	13			_	~				" B
Flange Jointing	\$800 mm	2	11								32-Labor
II	\$600 mm	1	11								п
ıt	\$500 mm	16	11	_	grap.						1/
(1	\$350 mm	4	<u> </u>	~							II .

II-4 Proposed Plant 12.	Piping For Facilities	Andrea de la Companya de la Companya de la Companya de la Companya de la Companya de la Companya de la Company			aterials			Labor		•	
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
Flange Jointing	\$300 mm	4	set	-							32-Jabor
Right Jointing	\$200 mm	4	11		-						II
	\$600 x 45°	3	pc.			į					38
Anchor Blocks		1	set		- 1						(vi) - 1
tl (n	A + B		, ; i				***				
Air Valve (Screw Type)	∮13 mm		It					-	_		
Nipple GS	ø13 "	1	11		_		!	_	-		
Socket GS	ø13 "	3	11								28
Flow-Meter Box		1									
Miscellaneous		1	11								
Expenses		1	11]						
$\Sigma = (vi)$											
(vi) - 1 Detail Of Anchor Bloc (A+B)	ks {		_								
Excavation		68.3	_m 3	-	-		~				1 - a
Back-Filling		37.8	11	-		-	~	!			
Wooden Pile	\$100 mm 1 = 3,000 mm	8	pc.	-	-						
Concrete Pile	300x300 Type-B 1=7,000 mm	6									3
Rubble Stone		7.6	m^3						1		4
Concrete	1:3:6	73.1	7 11	_	_						9 - c
Forms	(c)	88.4	1 2					i	1		5 - c
Air Valve Box Cover	Steel t = 4.5 mm	4		_	_						1.8kg/set
PVC	∮50 x 2,000 mm	4		-	-						
Sub Total											
(vii) Washing Pump - Washing	1										
DCIP Main	\$250 - \$125 mm	3,298	kg			-	-	-	_		
Ductile Specials		1,089				_	-	-	_		
Steel Pipe Specials	1	189	1			_	_	_			
Mechanical Jointing	6250 mm	26				_	_				32
mechanical Jointing	\$100 "	1	11			_				·	\$1
 Excavation	, , , , , , , , , , , , , , , , , , ,	179	m3								1 - c
		174				_	_				2 - a
Back Filling] ~'"									-

				Ma	aterials			Labor			
Item	Dimension	Quanti ty	Unit	Foreign Per Unit	Currency	Domestic	Currency	Domestic		Cost	Remarks
				161 01110	OUSC	Per Unit	Cost	Per Unit	Cost		
Pipe Laying	DCP \$250 mm	98	m	-	•••	~	-				29
B	" \$125 mm	10	"	-							H
Valve Setting	\$250 mm	. 1	set	f			••				33(A)
Flange Jointing	ø250 mm	2	11	-	~-						32-Labor
Ħ	∮1 25 mm	9	1 11	-							Н
Anchor Blocks	∮250 Tee	1	ii ii	-							36
14	ø250 x 90° – н	1	17	_							37
11	\$250 x 45 ⁰ ~ н	2	11								38
Air Valve (Screw Type)	∮13 mm	2	:1]						
Nipple GS	ø13 "	2	11					٠	_		
Socket GS	ø13 "	2	21					-	_		
Miscellaneous		1	set								j
Expenses		1	H								
·											
$\Sigma = (vii)$											
(viii)Surface Washing Pipe(Pum	p										
Header - Rapid Sand Filt DCIP	er)	2.00	1								
	6250 mm	158	kg "			-		~	~		
DCIP Specials	Foreign	777	"3			-	_	-	-		
Excavation		26		 -	~	-					1 - a
Back Filling	lana	26	41				•				4
Mechanical Jointing	\$250 mm	12	set				-				M + 31
Flange Jointing	\$250 mm	2	11	-	-	į			į		31-Labor
Pipe Laying	DCP \$250 mm	11	m		-	-	-				29
Valve Setting	ø250 mm	2	set				-				33 B
Anchor Block	6250 x 6250 T	1	ti								36
il	\$250 х 90° В	1	ri .	~							37
									į		
Miscellaneous		1	. 11								
Expenses		1	11								
$\Sigma = (viii)$	1					1			1		
						ľ			Ì		İ
			,			İ					
											<u> </u>

					aterials	1		Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency	Domestic Per Unit	Currency Cost	Cost	Remarks
(4) Planta (4) Part (5)	12 minutes							ret oure			
(ix) Elevated Tank - Rapid San		r da0	le ce			~					
Ductile CIP	\$500 mm	5,839	kg 11					~	•**		
Ductile Specials	1500	4,140						-	ealg		70
Mechanical Jointing	6500 mm	24	set "				<u></u>				32
"	6400 mm	1 ,,,	"3								1 - c
Excavation		119	H	. ~	_						2 - a
Back Filling	700	111		-		•-	-				29
Pipe Laying	DCP \$500 mm	55	m		-	~	-				34 (A)
Valve Setting	B \$500 mm	2	set			~	-				32-Labor
Flange Jointing	\$500 mm	4	11	~	.						ł
Flow Meter Box		1	0		-						26
Anchor Blocks	6500 - Tee	2	N	-	***						36
lt .	ø500 x 45 ⁰ Н	4	i 11	~-							38
Anchor Blocks of "Part A"							·				
Wooden Pile	∮100 x 3,000 mm	5	pc.	~	-				:		
Rubble Stone		0.6	_m 3								4
Concrete	1:3:6	6.3	ย	• -	-		į				9 - b -
Forms	(c)	16	_m 2	+- -							5 - c
Anchor Blocks of "Part B"							İ				
Wooden Pile	∮100 x 3,000 mm	3	pc.		-					,	
Rubble Stone		0.4	m ³	-	-						4
Concrete	1:3:6	7.5	"	-					·		9 - b
Forms	(c)	20	m ²	-				į			5 - 0
Miscellaneous		1	set		•			•			
Expenses		1	n								
$\Sigma = (ix)$				·	İ		ļ				
Plant (x) Water Service Of Proposed					. :						
Ductile CIP L < 3.0 m	\$100 x 1,479 mm	31	kg		:		~ }		-		
Steel Pipe (GS)	∮100 x 1,000 mm	2	pc.		-				-]		
PVC Laying	\$100 mm	301	m								42
н	∮ 35 mm	28	15	-	_						, it
n .	\$25 mm	35	11	-			1		ļ		rf .
				-							

TT./ Proposed Plant 12. Pining War Macilities

II-4 Proposed Plant 12.			11. 2.0		aterials	Domacti -	Comment	Labor		~ .	Pamantra
Item	Dimension	Quantity	Unit	Per Unit	Currency Cost	Per Unit	Currency Cost	Domestic Per Unit	Currency	Cost	Remarks
PVC Laying	\$1.6 mm	4	m		-						42
н	615 mm	60	11	-				}	}		l H
Ductile Specials	6300 mm	190	kg		1		~-	-	[]		
Mechanical Jointing	\$100 mm	7	set	ĺ	į		<u></u>		ļ		
PVC Specials		1	n	-	-				-		(x) - 1
Excavation		269	_m 3	_	-			ļ	}		1 - c
Back Filling		266	11		_				}		2 - a
Pipe Laying	DCIP \$100 mm	6	m	-	-	- -	-	Ì	}		29
Flange Jointing	\$100 mm	4	set	-		•		1	{		31-Labor
Valve Setting	\$100 mm	2	41	}			-		[33-(A)
(I	ıı	1.	11	1		-			[33-(B)
Angle Valve Setting	\$100 mm	1	17		-			†			33-Labor
st	\$35 mm	1	1	-	-						11
11	∮16 mm	1	เ	-	-					,	"
II	∮1 5 mm	2	ti	-	-			1			n
Angle Valve Box		5	u					}	1		30
Fire Hydrant Setting	∮100 Double	2	l II	_					1		46
Steel Support	\$100 mm	2	11		-			•	1 1		
r;	\$35 mm	7	11	-	_			1	!		1
tt	ø16 mm	2	19	-					1		
			}		}		l		}		
Miscellaneous		1	а					ļ	1		
Expenses		1	п		1				1		
				<u> </u>					1		
$\Sigma = (x)$					1	ı		}			
(x)-1 Detail Of Polyvinyl		}			[
Chloride Specials			ļ	ļ				}			
Reducing Bushes	1.00 x 80 mm	3	pc.	-				_	-		
Ħ	80 x 55 "	3	11	-	_			-	-		
ŧ	55 x 40 "	1	æ	-	-			-	-		
11	55 x 35 "	2	s:	_	_			-	-		
tt	40 x 25 "	1	18	-	<u></u>			-	-		
tf	35 x 20 "	1	fl .	_	-			-	-		
tt	20 x 15 "	1	11	_	-			-	-		
lange Adaptors	100 "	4	2)					-	- }		

II-4 Proposed Plant	12. Piping For Facilities			Me	aterials	n _o		Labor		~ .	Dama wira
Item	Dimension	Quantity	Unit	Foreign Per Unit	Cost	Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
lange	100 mm	6	pc.	-					-		
lee-Branch	100 x 100 "	3	15	p -cir		İ		-			
II	′35 x 16 "	1	11					-			
90 ⁰ -Bend	100 "	3	15		. ••	}		_			
11	35 "	2	11	-			i	-			
11	15 "	2	, 11	_				_			
45°-Bend	100 "	1	11		_				-		·
CAP	35 "	1	31	_	_				•••		
II	25 "	1	u	_	-			_	-		
Valve Sockets	100 mm	1	ш	-	~-			_	-		
11	35 н	2	11		-			_	-		
H	16 "	2	l1	_	-			~			
il	15 "	4	ų.		-			_	-		
90°Elbow	35 "	1	11	-				_			
11	16 " .	1	18		-				-		
Socket	100 ram	88	11	_				-	-		
11	35 "	8	ıı ı		-			-	-		
11	25 "	10	11	-	-			-	-		
8	15 "	1.6	81		_			~			
	= -										
$\Sigma = (x)-1$				1							
(n)-+						1					
Sub Total (i) - (x)							1				
200 20002 (x) (x)											
	•										
		-									
										1	
·									<u> </u>		

II-4 Proposed Plant 13. Drainage Equipment

	Drainage Equipment				aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency	Domestic		Cost	Remarks
(4)				- G1 VIII.		rer onit	Cost	Per Unit	Cost		
(i) Receiving Well - No.1 M											
Ductile CIP	∮500 mm	735	1						_] .	
Ductile Specials	∮500 mm	632				-	-		-		
Asbestos Cement Pipe	6500 mm x 4,000 mm	2		~		,					
ACP Specials	Foreign	285	kg					_			
Excavation	}	17	m ³					 			1 - c
Pipe Laying	DCIP \$500 mm	7	m	_		-					29
n ·	ACP \$500 mm	8	11	-						!	li li
Flange Jointing	∮500 mm	4	set	_	-						32-Labor
Gibault Jointing	∮500 mm	2	11	-							
Fitting Parts	\$500 mm	2	1f	-	-						
Miscellaneous		1	11	_							
Expenses		1	Ħ	:							
$\Sigma = (i)$											
(ii) Receiving Well - No.1 N	Manhole (Drain Pipe)										
Ductile CIP	\$350 mm	342	kg				~	-	-		
Ductile Specials	ø350 mm	187	ti						-		
Asbestos Cement Pipe	6400 mm x 4,000 mm	2	pc.		-			-	-		
ACP Specials	Foreign	299	kg					-	-		
Excavation		22	_m 3		-						1 - c
Pipe-Laying	DCIP \$350 mm	4	m		-			i			29
11	ACP \$4,00 mm	8	19	•	_		~				11
Valve Setting	\$350 mm	1	set			•••	-		·		33
Flange Jointing	\$350 mm	2	ū		_						32-Labor
Gibault Jointing	6000 mm	1.	11	-	~-						
Miscellaneous			set								
Expenses		1	u								
$\Sigma = (ii)$											

II-4 Proposed Plant 13.	Drainage Equipment				aterials			Labor			,
Item	Dimension	Quantity	Unit	Foreign Per Unit		Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
				161 01110		IGI OHEC	0050	rer ourc	Vosc		
(iii) Receiving Well - Canal											
Ductile CIP	∮100 mm	70	kg				~,				
Ductile Specials	6100 mm	57	1"			-			~ .		
Asbestos Cement Pipe	\$100 mm x 4,000 mm	4	pc.	-	, 			_	~		
ACP Specials	Foreign	1.0	kg				-	-	-		1 - c
Excavation		11	m ³		₩						29
Pipe-Laying	DCIP \$100 mm	5	m	-	<u></u>	-	-				29
ŧI	ACP \$100 mm	14	11	-	-	-					
Valve Setting	\$100 mm	1	set			-					33 Type-A
Flange Jointing	6100 mm	3	(1	-							31-Labor
Gibault Jointing	∮1.00 mm	1	11		-						31
			1								
Miscellaneous		1	10								
Expenses		1	R								
$\Sigma = (iii)$											
(iv) Flash Mixing Basin - No.1	Manhole				·						
Asbestos Cement Pipe	\$150 mm x 4,000 mm	9	pc.	-				-	-	:	
DCIP Specials	∮150 mm	347	kg			-	-	-	-		
ACP Specials	∮150 mm Domestic	23	11		-			-	-		
ti	∮150 mm Foreign	61	a			-	-	-	_		
Excavation		53	m ³	~	-						1 - c
Pipe Laying	DCIP \$150 mm	7.6	m	~-		_	-				29
н	ACP \$150 mm	35.4	, 11		-	_	-				"
Valve Setting	ø150 mm	2	set			-	-				33 Туре-А
Flange Jointing	∮150 mm	10	11		-						31-Labor
Gibault Jointing	\$100 mm	6	11	-	_						31
-											
Miscellaneous		1	ŧı								
Expenses		1	ŧı								
.											
$\Sigma = (iv)$											
//										1	

II-4 Proposed Plant 13. Drainage Equipment

ye Sanda, a mamandari (afa, pana) tarah a ye camandari (afa, pana)	of maken combined year page appearance in the second springs are proposed from the second second second second				terials			Labor			
Item	Dimension	Quantity	Unit	Foreign (Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
(v) No.1 Manhole - Canal	~					~, ~, ~, ~, ~, ~, ~, ~, ~, ~, ~, ~, ~, ~			l <u></u>		
	4500 mm = 1 000	3	pc.		_				_		
Asbestos Cement Pipe	\$500 mm x 4,000 mm	21	m ³	~	•						1 - c
Excavation	Agn. 1/100	9	m m			~					29
Pipe-Laying	ACP ∮500 mm	7	"		ļ						29
Miscellaneous		1.	set	-	-			 - -			
Expenses		1	11	~	-						
-											
$\Sigma = (v)$											
(vi) Elevated Tank - (Overflow Pipe)			1								}
DCIP	\$150 mm	386	kg		·			-			
DCIP Specials	ø150 mm	41	11			-	-	-	-		
Asbestos Cement Pipe	\$150 mm x 4,000 mm	2	pc.	-	_			••	_		
ACP Specials	∮3.50 mm Domestic	62	kg	-	_						
п	" Foreign	17	11			-	-		-		{
Excavation		5	_m 3		-						1 - c
Pipe-Laying	DCIP \$150 mm	12	m		-		-				29
***	ACP \$150 mm	7	11			~	_				ti .
Flange Jointing	∮150 mm	4	set		-						31-Labor
Gibault Jointing	∮ 150 mm	7	11								31
Fitting Parts	∮150 mm	2	11		-						
Concrete Protection											
Rubble Stone		.0.1	_m 3	-							
Concrete	1:3:6	1	19	-							
Forms	(c)	6	m ²								
Wooden Pile	∮100 1 = 3,000 mm	2	pc.	_	***						
										·	
Miscellaneous		1	set								
Expenses		1	. 11			i					
$\Sigma = (vi)$											
(vii) Elevated Tank -Canal (Drain Pipe)											
Ductile CIP	∮150 mm	203	kg			_		~	_		

13. Drainage Equipment II-4 Proposed Plant Materials Labor Foreign Currency Domestic Currency Remarks Unit Domestic Currency Cost Quantity Dimension Item Per Unit Cost Per Unit Cost Per Unit 6150 mm 94 kg Ductile Specials 13 pc. \$150 mm x 4,000 mm Asbestos Cement Pipe 64 kg ∅150 mm Domestic ACP Specials 65 \$150 mm Foreign 1 - c 50 Excavation 29 8.2 --DCIP \$150 mm Pipe Laying 0 ACP \$150 mm 51.7 33 Type A \$150 mm 1 Valve Setting set 31-Labor **∮1**50 mm Flange Jointing 31 10 Gibault Jointing ø150 mm Concrete Protection 0.1 Rubble Stone 1 1: 3: 6 Concrete 6 Forms (c) 2 p100 1 = 3,000 mmWooden Pile pc. 1 set Miscellaneous 1 Expenses $\Sigma = (vii)$ (viii) Rapid Sand Filter - Manhole \$500 mm x 4,000 mm Asbestos Cement Pipe pc. \$600 mm x 4,000 " 18 \$500 mm 319 DCIP Specials kg ø600 mm 2,080 \$500 mm Foreign 747 ACP Specials 1,450 6600 mm 1 - c184 Excavation 29 ACP \$600 mm Pipe-Laying m 2 \$200 mm Mechanical Jointing set 32-Labor 6500 mm 5 Flange Jointing set 10 600 mm ∮500 mm 5 Gibault Jointing

	3. Drainage Equipment			M	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency	Domestic Per Unit	Currency	Cost	Remarks
Gibault Jointing	\$600 mm	n	set	_		- OI OILO	0086	rer onit	Cost		32-Labor
Miscellaneous		1	f1								
Expenses		1	11								
$\Sigma = (viii)$											
(ix) Clear Water Basin - Pu											
Asbestos Cement Pipe We	6200 mm x 4,000 mm	19	pc.	_	~-			. 	_		
DCIP	\$200 mm	191	kg					_	-		
DCIP Specials	\$200 mm	463	ŧI			t		••	-		
ACP Specials	∮200 mm Domestic	550	19	-				_	-		
ij	\$200 mm Foreign	264	11				-				
Excavation		679	m ³	-							1 - c
Pipe Laying	DCIP \$200 mm	6	m	~	-						29
41	ACP \$200 mm	77	н	<u>-</u> -	-		<u></u>			•	tt .
Valve Setting	\$200 mm	2	set				_				33 Туре-В
н	\$200 mm	2	1t								" Shaft Length = 2.1m
Flange Jointing	\$200 mm	10	ei	-	-						31-Labor
Gibault Jointing	\$200 mm	43	8 1	Many	-	:					31
Miscellaneous		1	. II								
Expenses		1	El								
$\Sigma = (ix)$											
(x) Pump Well - Manhole		:						:			
Asbestos Cement Pipe	∮100 mm x 4,000 mm	1	pc.	~							
ACP Specials	Domestic	171	kg	-	-			-	-		
11	Foreign	17	ll l			-	_	_	_		
Excavation		2	m ³		_						1 - c
Pipe Laying	ACP \$100 mm	4	m	_							29
Gibault Jointing	ø75 mm	4	set	A-1	-						31
ıl .	∕\$100 mm	3	R	-	_						11

13. Drainage Equipment II-4 Proposed Plant Materials Labor Foreign Currency Quantity Unit Domestic Currency Domestic Currency Cost Remarks Dimension Item Per Unit Cost Per Unit Cost Per Unit Cost 1 setMiscellaneous Expenses $\Sigma = (x)$ (xi) No.2 Manhole - Manhole 28 pc. \$200 mm x 4,000 mm Asbestos Cement Pipe 31 \$200 mm kg DCIP Specials 143 ∮200 mm Domestic ACP Specials 49 \$200 mm Foreign 1 - c 142 Excavation 29 ACP \$200 mm 110 Pipe Laying 31-Labor \$200 mm 2 setFlange Jointing 31 10 \$200 mm Gibault Jointing Miscellaneous Expenses $\Sigma = (xi)$ (xii) Sedimentation Basin -No.3 Manhole \$200 mm x 4,000 mm pc. Asbestos Cement Pipe 6300 mm x 4,000 " 18 15 \$200 mm kg DCIP Specials 232 ACP Specials Domestic 93 Foreign 1 - c 70 Excavation 29 ACP \$300 mm 71.1 Pipe Laying 31-Labor \$200 mm set Flange Jointing 31 \$200 mm Gibault Jointing 6300 mm

II-4 Proposed Plant 13. Drainage Equipment Materials Labor Quantity Unit Foreign Currency Domestic Currency Per Unit Cost Item Dimension Domestic Currency Cost Remarks Per Unit Cost Per Unit Cost Miscellaneous set Expenses $\Sigma = (xii)$ (xiii) No.4 Manhole - Lagoon \$600 mm x 4,000 mm Asbestos Cement Pipe 2 pc. ACP Specials Foreign 478 kg Excavation 22). - c Pipe-Laying ACP \$600 mm 9 29 Gibault Jointing 6600 mm 4 set 32-Labor Miscellaneous Expenses 1 $\Sigma = (xiii)$ (xiv) Construction Pump Well Excavation 223 1 - e Back Fill 200 Wooden Pile $6100 \text{ mm} \quad 1 = 3,000 \text{ mm}$ 9 pc. Rubble Stone 4 1.4 9 ~ 6 Concrete 1:3:6 9.7 9 - c 1: 2: 4 8 Reinforcing Deformed Bar 1,094 kg m² 5 - b Forms (B) 69 Staging 90 Timbering 13 Manhole Cover t = 4.5820 x 820 mm 1 sheet Steel Step ø19mm 11 pc.

II-A Proposed Plant 13. 1				М	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency	Cost	Remarks
						201 01110		rer ourt	COST	<u></u>	
Miscellaneous		j.	set 		•]		
Expenses		1	11								
$\Sigma = (xiv)$											
(xv) Construction Manhole & Concrete Open Channel											,
No.1 Manhole	1.2 m x 1.2 m x H 1.05 m	1	set		-						24
No.2 "	1.2 x 1.2 x 0.50	1	Ð							1	II.
No.3 "	1.2 x 1.2 x 0.55	1	1)	_	a-10						II.
No.4 "	1.2 x 1.2 x 1.20	1	19	-	 .						t r
Manhole	1.5 x 2.0 x 1.10	1	ŧI	_							25
Concrete Open Channel	B = 500 nam	82	m		_						19 - a
11 11	B = 800 mm	147	11		~						19 - b
			1								-, -
Miscellaneous		1	set	-						•	
Expenses		1	(1	_	••						
$\Sigma = (xv)$											
					-						
(xvi) Drain Pump Equipment											
Drain Pump	$Q = 0.7 \text{ m}^3/\text{m}$ H = 6 m 2.2 kw D = 80 mm	1	set			-					
Accessory	\$80 mm SV	1.	11			_	domi.				
Electric Cable	600 v EV8 -3°	280	m		_	_					,
II	" CVV 2 ~10°	280	#I	"	-						
11	IV 1.6	5	:: {	- •							
Conduit Tube	ø36	3	11	-					_		
11	\$28	3	u	-	-				_		
" ti)		-	-				-		
Normal Bend	Accessory \$36	1	set "	-	~				7		
Nother Bend	628	1	"	-				<u></u>	•••		
1		, , ,		-				-	NAS		
Flexible Conduit	\$35	1	m 	-					. 		
Concrete Trough	70 mm wide	350	"					prod	***		
Local Operation Panel	Outdoor	1	set					44			
Electric Works			person	3 	-			Í			

II-4 Proposed Plant 13. Drainage Equipment Materials
Foreign Currency
Per Unit Cost Labor
Domestic Currency
Per Unit Cost Quantity Unit Domestic Currency
Per Unit Cost Remarks Cost Dimension Item set Miscellaneous Expenses $\Sigma = (xvi)$ Sub Total (i) - (xvi)

II-4 Proposed Plant 14. a Lagoon Materials Labor Domestic Currency Foreign Currency Remarks Unit Domestic Currency Cost Quantity Dimension Item Per Unit Cost Per Unit | Cost Per Unit Cost a Lagoon (Including Suction Well) 1 - c7,604 Excavation 58 Back Filling $6120 \text{ mm} \quad 1 = 3,000 \text{ mm}$ 12 Wooden Piling m^3 4 81 Rubble Stone 9 - b 16 1:3:6 Concrete 9 - c 1:2:4 10 5 - c 181 (C) Forms 7 47 Staging 6 7 Timbering 10 1 1: 2 Mortar 8 - b 1,015 Deformed Bar Reinforcing 44 $\delta 1^{1}/\Delta^{n}$ 7 m Hand Rail W = 29.5 kg/sheet 1 set Manhole Cover W = 1.8 kg/p7 pc. Steel Step 6 $100 \times 150 \times 2,100 \text{ mm}$ Stop Log (Wood) 1 $\operatorname{\mathfrak{set}}$ Miscellaneous 1 Expenses Sub Total b Drainage Pump Equipment $Q = 0.87^{m^3}/m$ H=10m 3.7kw 1 set Drain Pump tt \$100 (DC, 2F) 1 90° Bend Excluding Valve Box 1 ∮100 mm sv Valve Setting 1 ø100 mm check type Outdoor Type Local Operation Panel 600 v EV 22 - 3^c 480 Electric Cable $CVV 2 - 10^{c}$ 480 5 IV 1.6 600 V EV 22 - 3^c 2 set Cable Head 3 ø42 mm Conduit Tube 1 set Normal Bend 350 70 mm Wide Concrete Trough

11-4 Proposed Plant 14. b Drain Pump Equipment

	*			M	aterials	r		Labor			
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Electrician		;	person	_			_	! 			
							_				
Miscellaneous		1.1	set	<u> </u>	`				ĺ		
Expenses		1	0				:		1		
polico	·		{	<u> </u>							
Sub Total											
10,000											
c Piping For Drainage Main											
Excavation		677	_m 3	-							1 - c
Surplus Soil		19	ŧt			-	_				2 - a
Pipe-Laying	ACP \$150 mm C-15	610	m	_	~						M + 29
	" \$100 mm "	12	11	-			ľ	•			11
ACP Specials	Foreign	173	kg			-	-		_		
п	Domestic	229	u	-				_	-		
Gibault Jointing	∮150 mm	39	set	-							31
н	ø100 "	16	16	-	_			;			6
Valve Setting	∮150 " sv	1	11	}		-	-				33 Туре-В
11	\$100 "	2	11			-]	~-				D (I
Asphalt Cutting		10	m	-	-						43
Repair Of Pavement		3	_m 2	~	~-	į					16 - b
Miscellaneous		1	set	i			l				
Expenses		1	261	,			İ				
							l				
Sub Total								•			
j											
1							ľ				
	•										
1											
]						•					
ì						1		;	1		
						ı					

II-4 Proposed Plant 15.	. a Generator Room				terials			Labor			
Item	Dimension	Quantity	Unit	Foreign (Per Unit	Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
a Structure											
(i) Temporary Works			^								
Leveling		364	m ²								
Inking Line		288	11								
Exterior Staging		448	19	-							
Scaffolding Incline		15	m	-	•						
Interior Staging		288	m ²	~	-						
$\Sigma = (i)$											
(ii) Earth Works										<u> </u>	
Excavation		363	m ³	-	-		-				1 - a
Back Filling		284	31	-	-	-					
Surplus Soil		79	31	- !	***						2 - a
Rubble Stone		2	H			!					4
Ballast		4	- 10		~						
$\Sigma = (ii)$											·
(iii) Concrete Pile Works											
Pile	$6180^{mm} = 8.0^{m}$	24	pc.	-	-	di.					
$\Sigma = (iii)$, ,								
(iv) Concrete Works			_								
Level Concrete	1:3:6	2.6	m ³	_	-						9 - b
Concrete	1;2;4	86.6		-							9 - 0
Forms	(c)	514	m ²	-	-						5 a
$\Sigma = (iv)$]				
(v) Reinforcing Works											
Round Bar		3.17	Ton	_							8 - a
Deformed Bar		5.06	"								8 - c
$\Sigma = (v)$											
(vi) Masonry Works											
Brick		227	m ²								50
$\Sigma = (vi)$											
CI ~ (AT)							1				

II-4 Proposed Plant	15. a Cenerator Room			Me	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
						- 02 01120		161 OHLC			
(vii) Carpentry	į		_m 3								
Structural Wood		23.43	m'	~	-			eni	-		
Fixture Wood		1.01			~			-	1		
Supplementary Wood		1	set	-				-	-		
Nails, Hardware	•	1	1 1	•	-						
Carpenter		1	person	-	~-	-					
Assistant			ŧ1	-							
$\Sigma = (vii)$				-	•						
(viii) Metal Fabrication											
Wire Net		144	m ²	-							
Hoist Rail	I 250x125x7.5x12.5	37	m	_	¥4			<u> </u>			
Steel Plate	CH.PL 4.5	91	m ²	_	~						
$\Sigma = (viii)$											
(ix) Plastering											
Concrete Finish	Floor	354	m ²	•••							
Mortar Finish	H = 100 Plinth	68	m		_						
н	Wall	523	m ²	_	_						
Ð	Col.umn	29	11	_			ļ Ī				
11	Beam	190	п		~						
Window Frame Mortar		180	m								
$\Sigma = (ix)$.						
(x) Wood Fixtures											
Double Swing Door	3,000 x 4,000	3	set	e	-			-			
" Window	1,800 x 3,000	10	11	_							
$\Sigma = (x)$											
ω \λ)				-	Pi					·	
(xii) Painting											
Oil Stain		414	m ²	_	_						
Vinyl Painting		768	l ir		· _						
$\Sigma = (xii)$				-							
									·		
(xiii) Other Works										·	1

II-4 Proposed Plant 15. ab Generator Room

II-4 Proposed Plant	15. ab Generator Room		تستنجو - استنبن		aterials			Labor			and the second s
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency	Domestic Per Unit	Currency Cost	Cost	Remarks
				Ter onro		161 0111	COST	rer unit	COST		
Corrugated Slate Roof	·	829	m ²		D-40			•	'		
Roof Ridge		49	m		~						
Flat Sheet		80	m ²						·		
$\Sigma = (xiii)$											
(xiv) Ventilation Works	4 mm										
Ventilating Fan	∮400 ^{mm} x 260 W	8	set	₩.	_						
$\Sigma = (xiv)$											
Miscellaneous		1	set		_						
Expenses		" 1	II II	_							
~~ Pougo						:					
Sub Total											
											,
b Piping Works											
Pipe (PVC)	100 mm	24	m					<u> </u>			
и (и)	50 "	3	11								
и (ч)	20 "	5	H								
90° Elbow (")	100 "	2	set		,-						
n n (n)	50 "	1	11		-				·		
и и (и)	20 "	5	11								
Angle Seat Valve (FC)	50 "	1	11		-						
18 39 19 PJ	20 ^{II}	3	11								
Tee (PVC)	100 " x 50 mm	2	11	-							
Reducer (GS)	100 " x 50 "	1	11								
Flange (SP)	100 "	6	"		-						
н (п)	50 "	2	H	-	-						
в (и)	20 "	7	11								
Flange Plug (GS)	50 "	2	11	-	-						
P. V. C. Pipe	ø1 5	7	m	-	-						
Coupling		ı	set	-							
Gate Valve	15 GV	J.	**	щ.							
Wash Basin	L - 220P	1	18					,			
P. V. C. Pipe	\$ 100	9	m								
" Special	Y 100 x 50	1	piece	-							

II-4 Proposed Plant 15. bc Generator Room

II-4 Proposed Plant	15. bc Generator Room			Ŋ	aterials			Labor	90-4-1 1000-110-110-110-11-11-11-11-11-11-11-11		
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
				rer Unit	Cost	Per Unit	Cost	Per Unit	Cost		
P. V. C. Special	bend \$100	2	piece		-						
Drain Metal Fitting	50T - 5A	1	set								
Slop Sink	COA - 100	1	ŧı	-	-						
Cess Pool	450 x 450	1	17				:				
Miscellaneous		1	11	_	_		;				
Expenses		1	11	-	-						
Sub Total											-
c Lighting Works											
Electrical Wire	#15	150	m	-	_						
11	#14	.500	ŧr		-						
	#12	5	n .	. -	- .						, .
Conduit Tube	19 mm	210	m	-							
H	25 "	90	н	-							
H.	51 "	6	16	••	_						
Accessories		1	set	-	-			i			
Concrete Box	102 x 102 x 54	24	11	••			ľ				
Tumbler Switch	300 V 1P 10 A x 2	4	ii								
12	и х 3	1	17	-							
Socket Outlet	250 V 3P 20 A	19	0	-							
Distribution Board	L-1	1	19	_	_						
и	L −2	1	ŧ	-			:				
Lighting Fixture	C FL 40 W x 2	21	11	-	-				i		
n	G FL 40 W x 1	3	Ħ	-							
Fitting		1	11		•						
Earth Connection		1	"	-	_						
M 22									i		
Miscellaneous		1	11	**	-						
Expenses		1	11		-					}	
Sub Total											
			ľ			ĺ					
					i	İ					
		<u>ll</u>							···		

II-4 Proposed Plant 15. d Generator Room

				M	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency	Cost	Remarks
	·		,			TOT OHIO	0086	rer onti	Cost	<u> </u>	
d Generator Base	ĺ		,							:	
Excavation		130	m ³	-			~			:	1 - a
Surplus Soil		53	Н	-		b e44	·				2 - a
Back Filling		77	11	-	-	~					 -
Concrete Piling		24	pe.	-	-		i				
Rubble Stone		1.40			-						4
Level Concrete	1:3:6	1.40			-						9 - b
Concrete	1:2:4	56.30	Pi	b=0	÷	:					9 - c
Forms	(c)	87)1	-	-			•			5 - c
Reinforcing	Deformed Bar	1.376	kg		-						8
Miscellaneous		1	set								
Expenses		1	ŧī.	-	-						
	·										
Sub Total											
											,
									•		
						.					
	•					·					
								1			
]						
										·	
						Ì					
							ĺ	•			

II-4 Proposed Plant 16. a Sub-Station

II-4 Proposed Plant 16. a	Mater			aterials			Labor				
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic		Cost	Remarks
			<u> </u>	Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
a Sub-Station							i				
Service Insulator		3	sets			~	•-	-			
Single Pole Disconnecting	(12 KV 600 A)	6	н			-	=	~-	_		
Lighting Arrester Switch	(14 KV)	3	Iŧ.				-				
Oil Circuit Breaker	(12 KV 600 A 1,000 MVA)	1 1	1 1				-	-	•		[
Power Fuse	(15 KA Q 1)	3	11			-	-				
Instrument Transformer	(\$3 11000 : 110 V)	1	11			~					
Current Transformer	(11.5 KV 30 : 5 A)	3	16	:		-	-	-	•		
Power Transformer	\$3 500 KVA 11 KV/380 V	1	0	į		~ }			-		
Iron Pole	40	1	a			-		-			
Concrete Foundation		1	11		~						67
Overhead Ground Wire		1	ır	-	-	ĺ	,		-		
Electric Cable	$600^{\text{A}} \text{ ea} 600_{\text{p}} - 1_{\text{c}}$	72	ın		-		i	-			
41	$14^{\text{H}}-2^{\text{C}}$	15	II		-	ŀ					
31	" 3.5 ⁿ - 3 ^c	12	13						-		
11	$^{\text{II}}$ CAA 5_{H} - 5_{G}	72	ŧI			ţ	•	-			
11	" $CVVS5.5^{n} - 3^{c}$	22	31	-]		-			
0	" 3.5" - 4°	22	II					 i	na i		
Electric Wire	IV 100 ⁿ	20	11	**		Ţ					
Cable Head	600° EV 600° – 1°	8	set	-	-	ļ					
· · · · · · · · · · · · · · · · · · ·	$14^n - 2^o$	2	11		-		:	-	***		
Pipe (GS)	∮200 mm	1 1	m			Ì	Ē	<i>/</i> -	-		
Conduit Tube	636 mm	5	u								
II .	∮28 mm	13	ti	-	~]						
4f	622 mm	5	ti		-	į	į				
90° Elbow	∮200 mm	1 1	set		-	ĺ	:	-			
Normal Bend	636 mm	1	l i			ļ					
If	∮ 28 mm	4	ŧŧ	-	-			. 	-		
Conduit Tube	Accessories	ı	13	-	_	-	ŀ		. <u></u>		
Earth Plate	$600 \times 600 \times 1.6^{t}$	1	u	-					-		
Concrete Trough	150 mm wide	5	m	~-	-			 -	~		
н	70 II	5	n	~	· (į			~ [
Electrician			person	_	-	-	-]				
Earth Construction Laber	j		ŧı		_	-		į			1
1											

II-4 Proposed Plant 16.	Generator		T	M	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit		Domestic Per Unit	Currency	Domestic		Cost	Remarks
				161 0111.0	0050	rer ourc	Cost	Per Unit	Cost		
Miscellaneous		1	set	_	I			ļ 			
Expenses		1	11			!					
Sub Total											
b Generator			ļ	<u> </u> 							
Generator	420 ^V 50 HZ 500 KVA	1	set				~				
Diesel Engine	600 PS Over	1	11	<u> </u>		_	-	ļ	-		
Starter & Exciter Panel		ı	ŧI	[-	_	-		
Engine Accessories		1	11			-		_	_ [
Electric Cable	600 ^V EV 600 ⁿ - 1 ^c	110	m		-			-	-	}	
II	$11 \qquad 38^n - 4^c$	25	ŧí		-			-	•-		
ti .	" 38"- 3°	24	В		 		ļ	_	_		
19	" 3.5"-3°	24	jt ,		-		ļ] -	-		
11	600^{V} CVV 2^{H} $- 10^{\text{C}}$	27	11	-	ļ <u>-</u>			_	-		
Ħ	" 2"- 2°	12	11					-	- [
Electric Wire	600 ^V IV 1.6 mm	24	ŧI	-	-		Ì	_	-		
Cable Head	600 ^V EV 600 ^H 1 ^C	16	set	-	-		j	-			
H	" 38"- 4°	2	13	-	-			-	· - ·		
п	" 38" - 3°	4	11] -			-	-		
Pipe (GS)	\$200 mm	4	m		-						
Conduit Tube	\$54 mm	6	11		-		ĺ	[-	- [
11	∮28 mm	25	11		-		1	-	-		
11	\$22 mm	2	16	-	-			-	-	}	
90° Elbow	∮200 mm	1	set	-	_		1	_	-	}	
Normal Bend	ø54 mm	2	ıı	_	_]		-	-		
"	\$28 mm	3	16	_	_						
Conduit Tube Accessories		ı	18		-		[-	- [
Electrician			person	-	-	-	_				
								1			
Miscellaneous		1	set	-	-	ĺ	[
Expenses		1	t l	<u> </u> 			İ	1			
Sub Total											

II-4 Proposed Plant 16.	c Power Center			М	aterials	· · · · · · · · · · · · · · · · · · ·		Labor			
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
200	2 2	*COM OT O		Per Unit	Cost	Per Unit	Cost	Per Unit	Cost	0050	
c Power Center			1								
Incoming Panel		1	set				~			•	
Feeder Panel		1	19			***	-		* :		
Bus Tie Panel		1	a			•••			-		
Battery Panel		1	11				_	-			
Electric Cable	600 ^V EV 250 ⁿ -1 ^c	200	m					-			
19 11	600^{V} EV 250^{H} 1^{C}	180	Ħ	-				~	-		
51 17	" 60 ^m - 4 ^c	260	11	-	-			_			
17 13	14 ^H - 4 ^C	230	Ħ	-					-		
11 11	" 8 ^π − 4 ^c	465	н	 •	~				***		
H If	11 35 ⁿ - 4 ^c	135	H		-			_	-		
11	$cvv = 2^n - 10^c$	260	В								
el se	IA 17 µ	10	11	-	_						
Cable Head	600 ^V EV 250 ⁿ -1 ^c	8	set		-			-	-		
11 11	" 80 ^π − 4 ^c	2	11						-		
и и	11 60 th 4 ^c	2	11	-	-			-	-		
н н	14 ⁿ - 4 ^c	8	u ,		-				-		
Concrete Trough	70 mm wide	341	m	~	- '			-			
11	250 " "	385	tt	-	-			-	-		
Drain Pipe	ø100 Class "A _u	206	#1					-			
ACP Pipe	\$400 Class "15 ₁₁	84	11	*				**	-		
Earth Plate	600 x 600 x 1.6 ^t	1	set	-				~	**		
Electrician			person				-				•
Earth Construction Laborer			11	-	•	-	-				
				'							
Miscellaneous		1	set	•							
Expenses		1	11								
Sub Total							į				
	,										
										ı	
					i						

II-4 Proposed Plant	17. a Office			M	aterials	Name of the Owner, where the Owner, which is the Owner, whi			·	د د د د استان در د د د د د د د د د د د د د د د د د د	
Item	Dimension	(C) kt ks	Unit	Foreign	Currency	Domestic	Currency	Labor Domestic	Cumpanan	Cont	Remarks
r cam	Dimension	Quantity	01110	Per Unit	Cost	Per Unit	Cost	Per Unit	Cost	Cost	Neliigt KS
a Structure					III I						
(i) Temporary Works	i i				,			}		II.	
Leveling		694	m _S		-]	i	
Inking Line		694	В		-	 					
Exterior Staging		795	11	-	_			1			
Scaffolding Incline		118	11	-		}		ĺ	•	ll	
Interior Staging		694	u	-	- !			•			
$\Sigma = (i)$											
(ii) Earth Works											
Excavation		1,434	_m 3		-				'		1 c
Back Filling		1,387	- 0	_	-						2 - a
Surplus Soil		47	11	<u> </u>	_						2 - a
Banking		447	,,,	_				; 			2 - a
Rubble Stone		77	"	-	-						4
Ballast		15	11	-							
Σ = (ii)		j		[
(iii) Piling				3							
Concrete Pile	180 mm 1 = 8 m	152	pc.	-	-						
$\Sigma = (iii)$											
(iv) Concrete Works									;		
Level Concrete	1:3:6	15	_m 3								9 - b
Concrete	1:2:4	351	11	~	~						9 - c
Forms	c	3,345	m ²		***						5 - c
Chiselled Finish		72	17					,			
$\Sigma = (iv)$											
(v) Reinforcing Works											
Round Bar		18.07	Ton	~	~						8
· 4F		2.97		***	-						. 11
Deformed Bar		25.58									H
$\Sigma = (v)$											

II-4 Proposed Plant 17. a Office

II-4 Proposed Plant	17. a Office		T	М	aterials					ti si yani da imbindi da apenyada penjada manapa, ya panyangan, ya panya acaa a	
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Labor	Currency	0	Remarks
1.0011	D_TWG(191,OH	Quantit)		Per Unit	Cost	Per Unit	Cost	Per Unit	Cost	Cost	nemarks
(vi) Masonry Works											
Brick		357	m ²	,							50
$\Sigma = (vi)$)))	"								90
27 = (VI)											
(vii) Water Proofing Works											
Mortar Finishing	Water Proof	765	_m 2								10 - c
$\Sigma = (vii)$: : !						
(viii) Tiling			_								
Tile	Color	31	m ²								
$\Sigma = (viii)$											
(ix) Carpentry			ļ								
Structural Wood		20.9	_m 3								
Fixture Wood			11		~-			-	-		
Supplementary Wood		4.4							~~		
Hardware		1 1	set	-	_				-	<u> </u>	
Carpenter		T		-				-	-		
Assistant			person	-		-					
$\Sigma = (ix)$					~						
_ (11,)											
(x) Metal Fabrication											
Rain Drain	∮100 mm	13	set								
H	∮100 mm	2	set	- ~	-						
19	Chain $1 = 2,700 \text{ mm}$	13) ii	-							
et .	Vinyl Pipe \$100 mm	26	m								
Flower Bed Drain	" /100 mm	7	m		_						
Decorated Pots	·	4	set	•••	-						
Wood Brackets	For Ceiling	408	m^2	_							
Wire Mesh		5	m ²								
$\Sigma = (x)$					-		·	:			
(· \ n ·)							,				
(xi) Plastering										i	
Artificial Stone			,						i		
Wet Brush Texturing	Roof Projection	590	m ²								60

II-4 Proposed Plant 17. a Office

11-4 Proposed Plant 1	7. a VIIICE			Ma	aterials			Labor	·····		yalife palamaniniaman, yaga sagamaya gagayang, yaya ya made dalah saga daya dagan ya and gaya palaman adada saga danan saga danan s
Item	Dimension	Quanti ty	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency	Domestic Per Unit		Cost	Remarks
			·	161 01110		ret out	·	rer unit	Cost		
Wet Brush Coping	Roof Projection	283	m	-	••						52
R		40	"								Ħ
И		11	H	**							11
Artificial Stone Ground Finish	!	707	m ²		-						59
н	Stair	28	11	-							Hr.
Mortar Finish	Bridge Board	4	В	-	p	}					51
н	Plinth	392	m								II.
AF .	Wall	86	m ²		-						-55
Chiselled Finish	Column	12	\$1	-	-						
Ground "	II.	60	11	, -							
Silaraeng		233	11	-							64
Window Frame Mortar		353	m		- -						53
Artificial Stone Grind Finish	Plinth	121	m	-							59
Mortar Finishing	Wall	264	"		-						55
II.	Column	46	н		-						51
19	Ceiling	29	п	_							11
11.	Beam	13	п	_	_						II.
Artificial Stone Wet Brush		3	11	-	-						60
Texturing											
Level Mortar		31	m ²	-	_	1					63
$\Sigma = (xi)$											
(xii) Wood Fixtures						į					
WD-1 Double Swing Door		2	set								
WD-2 "		10	91	_	-						
WD-3 "		9	"								
WD-4 Single Swing Door		2	11		••						
WD-5 Screen Door		2.	69								
W -1 Pivoted Window		2	1)	_					h		
W -2 "		2	15		*						
₩3		2	11	_	2						
Σ = (xii)											
ļ											
(xiii) Glazing											
Clear Glass		63	m ²	,	•						

II-4 Proposed Plant	17. ab Office		<u> </u>	1		And the second s				 	
~			¥7 ±	Paraim	aterials Currency	Dome		Labor			
Item	Dimension	Quantity	unit	Per Unit	Currency Cost	Per Unit	Currency Cost	Per Unit	Currency	Cost	Remarks
								YEL VIII			
$\Sigma = (xiii)$, 		ļ		
•											
(xiv) Painting					·						(
Oil Paint	Wood	630	_m 2	-		1			1		
Vinyl Paint	Mortar	835	11								
$\Sigma = (xiv)$											
									}		}
(xv) Other Works				}			ļ		}		
Corrugated Slate	Roof	456	m ²			1					
"	Roof Ridge	60	m	-	-	ļ				l .	
Sound Absorbing Finish	Ceiling	372	m^2		-]	:				
Planking	Wall	99	Ħ	-	-						
Folding Door	\$	1.	set		-	l					65
$\Sigma = (xy)$	1			-		1					
Miscellaneous		1 1	set	-	-	ľ		1			
Expenses		1 1	set	-							
						İ					
Sub Total					- [
			:								
]]									
						ļ	3			•	
b Plumbing Works								İ			
Wash Basin	L-220D	4	set	<u> </u>	-]			ļ		
Urinal	U37	4	ti .	-	-						
Closet	C-375 UF	4	et .	-	-						
Sink	SK-73	5	II.	-			ĺ				
P. V. C	635 mm	16	m	~	<u></u>						·
H	\$25 "	10		-				-			
	ø20 "	55	Ħ		→	ļ	į				
Coupling & Support		1	set	~	-]			·	
Gate Valve	632 mm	1	Ħ	-	-						
n v a	625 mm	1 1	H	~		l					
P. V. C	\$80 mm	12	m	-							
n	ø50 "	57	11								
••	\$35 H	8	11	- 1	~						
		1		L }	ţ			Li			

II-4 Proposed Plant 17. b Plumbing Works

					aterials	Dom. 1		Labor			Pamaulaa
Item	Dimension	Quantity	Unit	Foreign C	Cost	Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
Coupling		1	set		_					A PARAMETER AND A PARAMETER AN	TOTAL CONTROL OF THE PROPERTY
P. V. C	∮100 x 1,600 mm	{ 4	pc.		<u></u>						
11	∮100 x 1,000 "	4	21	-	~						
n	∮ 75 x 1,000 "	2	33		_						
n	\$ 75 x 600 "	1	в	-							
41	LY 100 x 75	4	ນ		~			<u> </u>			
11	LY 75 x 50	4	11	-	••						
Ħ	TY 100 x 75	2	19		-						!
u	T 100 x 50	1	11		-						
в	т 75 х 50	1	e)	_ [-						
tt	Bend 100	2	1)	-	-	!					
Ħ	n 75 °	2	18	- 1	~-	į					
Coupler		1	set	-						·	
Lead Pipe	75 LP	9	m	- 1				!			
15	50 LP	9	II.	_	-						
18	30 LP	18	11	-	_						
Coupler		1	set	-	-						
Support		1	11	-						i	
Drain Metal Fitting	50T - 5A	2	ri:	_							
Slop Sink	CoA-100	1	12	-	-			l.			
11	Сол~ 75	3	91	-	-						
11	CoA- 50	4	u] -]	-						
Concrete Pipe	ø100	2	pc.	-	-					•	
Coupler		1	set	_]				
Cess Pool	450 x 450	5	R,	~							
Permeation Pit	∮800 x 1,800 P	2	11	\	_			ļ	ĭ		
Galvanized S.P	\$20 mm	39	m	-							
Coupling & Support		1	set	-							
Y- Spring Tap	$^{3}/8 \times ^{1}/2$	6	11	-	~-						
Collector	6 ^{kg} /н	1	11	_							
Metal Fitting] 1	11	ļ <u></u>	~						
Miscellaneous Works			# I	-							
Miscellaneous Expenses		1		_							
Sub Total											
					**						

HI-4 Proposed Plant 17. c Lighting Works

]	M	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency	Domestic	Currency	Cost	Remarks
				161 01110		rer onte	Cost	Per Unit	Cost		
c Lighting Works											
Electric Wire	#15	970	m		-						
(I	<i>#</i> 14	1,850	li .								
16	#10	15	10		~					,	
Conduit Tube	19 ram	450	ti	-							
Н .	25 "	300	n		. 🗝						
ti	31 "	46	19		-				Ì	1	
11	75 H	10	tt	-	-						
Accessory		1	set	~							
Concrete Box	102 x 102 x 54	105	11	-							
Tumbler Switch	300 V 1P 10A	16	11	-							
1t	" 10A x 2	1	н	-							
Ħ	" 10A 3W	8	H							,	
II .	1 10A 4M	2	11								
Socket Outlet	250 V 3P 20A	28	И	-	~-						
Ceiling Fan	ø90 80W	14	В	-							·
Telephone Outlet Box	Plate	4	11	-	-						
Distribution Board	I1	1	18	-							
Lighting Fixture	CFL 40W x 2	34	n	-							
tl .	GFL 40W x 1	16	11	_			i		<u> </u> 		}
เข้	HIP 90M	4	11		_						
Fitting		1	n								
Earth Connection		3	#1		_						
Miscellaneous		1	d	_	**						
Expenses		1	ii								
•								-			
Sub Total					_						
				~	-						
							İ				
	·							٠.			

II-4 Proposed Plant 18. a Ware House Materials Labor Domestic Currency
Per Unit | Cost Quantity Unit Foreign Currency Domestic Currency Item Dimension Remarks Cost Per Unit Cost Per Unit Cost a Structure (i) Temporary Works Leveling 41 40 Inking Line Exterior Staging 209 Scaffolding Incline 9 Interior Staging 40 $\Sigma = (i)$ (ii) Earth Works Excavation 159 l-c Back Filling 153 2-a Surplus Soil 6 2-a Balloct 1 $\Sigma = (ii)$ (iii) Concrete Works 9-b 1 Level Concrete 1: 3: 6 9-c 1:2:4 16 Concrete 5-c (c) 89 Forms $\Sigma = (iii)$ (iv) Reinforcing Works Round Bar 0.611 8 Ton Deformed Bar 1,384 $\Sigma = (iv)$ (v) Masonry Works 40 Brick $\Sigma = (v)$

2.190.33

0.10

1

(vi) Carpentry Structural Wood

Fixture Wood

Supplementary Wood

Nails, Hardware

11 kg

II-4 Proposed Plant 18. a Warehouse

II-4 Proposed Plant 18.					aterials			Labor			, , ,
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency	Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
				161 01.20		TOT OHIC		Tel only			
Carpenter			person				-				
Assistant			11	_	-		~				
$\Sigma = (vi)$											
(vii) Plastering]]			
Concrete Finishing		72	_m 2								
Mortar Finishing	Wall	90.3		-							
II	Plinth H = 100		i	-							
11	Column	19.6	2								
n ·		5.8									
	Beam	23.6									
Window Frame Hortar	Plinth H = 200	19.2									
$\Sigma = (vii)$		12	m								
$Z_{J} = \{\forall i, i\}$											
(viii) Wood Fixtures											
Single Swing Window	900 x 1,600	4	set	_							
$\Sigma = (viii)$	300 11 12,000	, ,						1			
		إ	ļ						ļļ		
(ix) Painting			_								
Oil Stain		105.8	$_{\rm m}^2$	-			:				
$\Sigma = (ix)$											
					-						
(x) Other Works			}	Ì							
Corrugated Slate Roof		94.9	_m 2	-	- -						
Roof Ridge		13	m		_						
Steel Shutter	12.22 m ²	2	set	***	2-7						
$\Sigma = (x)$		~	~~~								
							i				
Miscellaneous		1 1	90+	:							
Expenses		l i	set "	~	-						
wkonooo		1	"	_	~-						
Sub Total											
NUU 10tai											
										:	
	1				}						

II-4 Proposed Plant 1	8. b Ware			Ma	aterials		**************************************	Labor	د دوم برین به مصدقی توسیم <u>میشین سا</u> ده دوم برون برد.		نام در می در در در در در در در در در در در در در
Item	Dimension	Quanti ty	Unit	Foreign Per Unit	Currency	Domestic	Currency	Domestic Per Unit	Currency	Cost	Remarks
			<u> </u>	rer onto		Per Unit	Cost	Per Unit	Cost		
b Lighting Works		ľ		1				•		•	
Electric Wire	#15	21	m		-						
U	#3.4	21	m	-	_			i			
Conduit Tube	19 mm	20	u	-	-	Í Í					
ß	30. mm	3	11	-	-						
Accessory		1	set		~						
Concrete Box	102 x 102 x 54	4	11		_					·	
Tumbler Switch	300 V 1P 10A	2	11	-	-]					
Distribution Board		1	19	-	-				·		
Lighting Fixture	CFL 40W x 2	4	,,	-	-]			
Fitting			set	_	-						
Earth Connection		1	11								
Miscellaneous		1	11]					
Expenses		1	U	_	~						
						i					
Sub Total				_	~						
	·					·					·
				1							
			i]							
	·		1								
					į Į					·	
					<u> </u>	1					
	·										
					[
					}			!		}	
			·		[)					
•			1								
					1					[
		1					,				

II-4 Proposed Plant 19.	a Lodging House				aterials	Y		Labor			
Item ·	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Cost	Remarks
a Structure											
(i) Temporary Works		Ì								·	
Leveling		552	_m 2	~			1		}		
Inking Line		1,025	11	ļ <u>-</u> -	-	-	-				
Exterior Staging		2,123	1t		-		. [
Scaffolding Incline		93	! I	-	ļ <i></i>						
Interior Staging		1,025	16	_	<u> -</u>						
$\Sigma = (i)$	•					į		ļ		·	
(ii) Earth Works											7 -
Excavation		1,000	_m 3		-	-	-	}			1-c
Back Filling		950	31	-		-					2-a 2-a
Surplus Soil		50	11	-		-	-			r.	∠~a
Gravel		10	ŧ1		_	Į					
Rubble Stone		18	11	-							4
$\Sigma = (ii)$,]]		
(iii) Concrete Works			_m 3								9-b
Level Concrete	1:3:6	27			~						9-c
Concrete	1:2:4	130	11 2 m2		_						5-c
Forms	(c)	1,650	m	-	_						
Σ = ·(iii)				1							
(iv) Reinforcing Works				}	}]			
Round Bar		15	Ton								8
$\Sigma = (iv)$			1								
		})	}		}		}		 	
(v) Masonry Works			2					1			
Brick		1,117	m ²	-	-						50
$\Sigma = (v)$!								
(vi) Carpentry			2					1		<u> </u>	
Structural Wood		53	_m 3	_							
Fixture Wood	Hard	12	13		_			_	-	1	
n	Rowan	15	11	-	-			_	_		
		\ 						}		}	
			<u> </u>						<u> </u>		

II-4 Proposed Plant 19. a Lodging House

II-4 Proposed Plant 19, a	Lodging House		**************************************	М	aterials			Labor		T	
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
11	Plywood	1	_m 2		-			-	. ·		
Supplementary Wood			set	44	-	~			-	}	
Nails, Hardware		1	н	-							
Carpenter			person	***	-				; 		
Assistant) 11		-	~					
$\Sigma = (vi)$				•							
(vii) Plastering											
Mortar Finishing	Floor	800	m ²	-	-				!		
и	Wall	950	11		-	1					
и	Colum	120	91	•••							
п	Beam	230	u	***	_						
Window Frame Mortar		530	m	-							
$\Sigma = (vii)$											
·		j									
(viii) Wood Fixtures											
WD-1 Single Swing Door		33	set	-							
WD-2 "		33) F	•••				•			
WD-4 "	·	21	11	-							
WD-5 "		1	ŧI	***	-						
W-1 Single Swing Door		9	#	_							
W-2 "		107	11								
W-3 "		13	Ħ		-						
W-4 "		13	11		-						
Σ = (viii)											
(ix) Glazing											
Clear Glass	T = 5 mm	110	_m 2								
$\Sigma = (ix)$			111								
٠							·				
(x) Painting								i			
0il Stain		3,280	_m 2								
Vinyl Paint		2,680	11			}					
$\Sigma = (x)$				-	-						
(xi) Other Works											·

II-4 Proposed Plant 19.a Lodging House

II-4 Proposed Plant 19.a	Lodging House		<u> </u>		aterials		**************************************	Labor			والمراقبة والمرا
Item	Dimension	Quantity	Unit	Foreign (Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Corrugated Slate	Roof	741	m ²								
11	Roof Ridge	68	,,		-						
Lauan Flooring	T = 20	570	н								
Decorated Plywood	T = 4	900	11	~		ļ					
Hand Rail	H = 1,000	94	m	-				<u> </u>			
Flower Box		11	set	\					,		
$\Sigma = (xi)$			<u> </u>					!			
			 					<u> </u> 			
Miscellaneous	k 	1	set	-	•						
Expenses		1	11	[<u></u> [-	•					
	}] -				 			
Sub Total	·			-							
	•										
b Plumbing Works	Į		<u> </u>					ļ.			
Wash Basin	L-220D	11	set		_		i	1			
Closet	C-375 VF D Tank	11	11	-		}		!			
Urinal	U-37	11	11	_	-			Į.			
Shower Set	TB-110 C CRLY	11	18	_				,			
Swing Cock	F130 ARY-13	11	n n	-	_						
P.V.C. Pipe	∮50 mm	84	m		-						
И	ø25 <u>"</u>	169	11	_		į				!	
13	ø20 "	414	"			}		l			
Coupling & Support		1	set		-						
Gate Valve	25 GV (Box)	11	11	'	_	j					
tt.	15 GV	11	"	}		ļ					
]					
P.V.C. Pipe	\$80 mm	55	m	_	~						
18	\$50 "	271	19			ļ					
Coupling		1	set	_		!					
P.V.C. Pipe	100 x 1000 mm	22	pc.					-	1		
11	100 x 300 "	11	11	_							
n ,	75 x 1,600 "	16	ı,		_						
n	75 x 1,000 "	22	11		-	ļ					
n	75 x 600 "	3.1	Ħ	s	_						
Specials	TY 100	11	11	<u> </u>	-]					
ti	TY 75	11	(1		-						

II-4 Proposed Plant 19, b,c Lodging House

ſ	1		Materials nit Foreign Currency Domestic			Currency Domestic Currency				
Dimension	Quantity	Unit	Foreign C Per Unit	Currency	Domestic Per Unit	Currency	Domestic	Currency	Cost	Remarks
			261 01110	V030	rer unit	Cost	Per Unit	Cost		
Y 100 x 75	11	ı)								
LY 100 x 75	11	\$I	-	-	}			 		
LY 75	11	11	-	~					,	
Bend 100	22	17		-					·	
Bend 75	22	н								
	3.	set	[- [-						
	1.1	11		-						
50T-5B	11	11		-						
50T-5A	11	11		-	}					
COA 100	11.	er	-	-						
COA 50	11	11	-	- (·					
100	41	pc.	-]	***						
	1	set		-						
450 x 450	11	н	-					,		
∮800 x 1,800 D	3	н	 .		:					
\$20 mm	158	m		-						
	1	set		-						
1/2"	11	41		-			"			
3/8 x 1/2"	11	ŧI	-	-						
	11	11		-			!			
		got								
	J	11	-							
	1		-							
		į		j			,			
					·					
#15	3.023	m	_	_ [
	1	n]						
	1 6	11		_						
		и	_	_						
		H				j				
ſ	f (11								
	l i	11	_	ļ	j	j	,			
	1	a	_							
-	-//		-			}				
	LY 100 x 75 LY 75 Bend 100 Bend 75 50T-5B 50T-5A COA 100 COA 50 100 450 x 450 \$800 x 1,800 D \$20 mm	LY 100 x 75 LY 75 Bend 100 Bend 75 22 Bend 75 22 11 50T-5B 50T-5A COA 100 COA 50 100 41 450 x 450 \$800 x 1,800 D \$20 mm 158 1/2" 11 11 11 11 11 11 11 11 11	1 100 x 75	Y 100 x 75 LY 100 x 75 LY 75 LY 75 Bend 100 22 " Bend 75 22 " - 1	Y 100 x 75 LY 100 x 75 LY 75 LY 75 Bend 100 22 "	Y 100 x 75 LY 100 x 75 LY 100 x 75 LY 100 x 75 LY 75 LY 75 LY 75 LY 75 LY 75 LY 75 LY 75 LY 75 LY 75 LY 75 LY 75 LY 75 LY 75 LY 75 LY 75 LY 75 LY 75 LY 75 LY 100 x 75 LY 100	Y 100 x 75 LY 100 x 75 LY 75 Bend 100 Bend 75 22 "	Y 100 x 75 LY 100 x 75 LY 15 LY 75 Bend 100 Bend 75 22 "	Y 100 x 75	Y 100 x 75

II-4 Proposed Plant 19. c Lodging House

	-			M	aterials			Labor			_
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency	Domestic Per Unit	Currency Cost	Domestic	Currency Cost	Cost	Remarks
					 	1 OILU	COST	Per Unit	vost		
н	63 "	98	13	-	-						
11	75 "	5	If .	-	-						
Accessory		1	set	_	_						
Concrete Box	102 x 102 x 54	155	17		-						
Tumbler Switch	300 V 1P 10A	87	18		_						
16	и 10A x 3W	92	13	~	-						
Socket Outlet	250V 3P 20A	110	11	-	_						
Telephone Outlet Box	102 x 102 x 54	1.1.	11		-						
Distribution Board	L	11	D	-	-						
ıt	ML	1	Ð	-	-	1					
Integrating Watt Meter	∮1 3W 3OA	11	U	-	-						
Lighting Fixture	H IL 60W	22	SI .	~	-						
II.	I IL 60W	22	şi .		_	,					
H	J IL 100W	55	11		-						
н	K IL 60W	11	n	~	-				_		
Lighting Fixture	L 11 100W	24	set		-	-					
Hand Hole		3	i:	_	-						
Earth Connection		1	11		-						
Fitting		1	U								
Miscellaneous Works		1.	ŧI	-	-						
Miscellaneous Expenses		1	11		-						
-		j			1						
Sub Total								1		:	
	• .										
]					
			[•		

II-4 Proposed Plant 20. a Elevated Tank

11-4 Proposed Plant 20	a Elevated Tank	***************************************		Ma	aterials	444	- Committee of the Comm	Labor	· · · · · · · · · · · · · · · · · · ·		
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic	Currency	Cost	Remarks
						161 0111	Cost	Per Unit	Cost		
(i) Temporary Works			2								
Leveling		104	_m 2	-							
Inking Line		312	11							: !	
Exterior Staging		664	91	-	•••						
Scaffolding Incline		27	n o								
Interior Staging		312	m ²								
$\Sigma = (i)$											
(ii) Earth Works					•						
Excavation		450	m ³		her						1-c
Back Filling		380	U U	~-							2-a
Surplus Soil		70	tl	-	-						2-a
Rubble Stone		10	11	· 							4
Σ = (ii)									·		
(iii) Piling											
Concrete Piling		30	pc.	, 	~						
it .	ø350 L = 8.00 ""	4	н		deces.						
$\Sigma = (iii)$											
(iv) Concrete Works											
Level Concrete	1:3:6	10	_m 3	~~	~						9-ъ
Concrete	1:2:4	230	11								9-с
Forms		1,800	m ²	-	-			<u> </u>			5~B
$\Sigma = (iv)$				ļ	·						
(v) Reinforcing Works											
Round Bar		0	Ton		·		e .				ક
Deformed Bar		33	u	~- : 	~						8
∑ = (v)							>				

II - 4 Proposed Plant 20. Elevated Tank

Item Dimension			Ouentity Unit Foreign Currency Don						And the County of the County o	
Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
			Per unit	Cost	Per Unit	Cost	Per Unit	Cost		
			Í							
Į.	21.0	m ²	_	-					ļ	
	1	set								
	1	u	_	-					•	
∮100 L = 500	1	"	-							
	650	m ²	_							
	720	_m 2	~							
		, " "								
	1	set		_						
		"								
	*									
			-							
		!				į				
						,				
-										
	İ									
				ļ						
									į	
					İ					
							i			
	∮100 L = 500	210 1 1 1 1 650 720	210 m ² 1 set 1 " 650 m ² 720 m ² 1 set 1 "	Dimension Quantity Unit Foreign Fer Unit 21.0 m ² - 1 set - 1 " - 1 " - 650 m ² - 720 m ² - 1 set - 1 "	Dimension Quantity	Dimension Quantity Unit	Dimension Quantity Unit Poreign Currency Domestic Currency Per Unit Cost Per Unit Cost	Dimension Quantity Unit Poreign Currency Domestic Currency Domestic Currency Per Unit Cost Per Unit Cost Per Unit Cost Per Unit	Dimension Quantity Unit	Dimension Quantity Unit Foreign Currency Domestic Currency Cost

II - 4 Proposed Plant 21 Outdoor Lighting Works

TI - 4 TTOPOSSU TTAIN	21 Outdoor Lighting Works			Materials it Foreign Currency Domestic Currency Dom				Labor	a proposationis de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta		
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Fluorescent Lamp	20 M X S	3	set		-				-		
Steel Pole	H = 3.5 m	3	("		^ {				-		
Electric Cable	600° EV 3.5° - 3°	224	m		-			-	-		
Conduit Tube	∮ 22	7	H	-	_		!	~		1	
Pull Box	150 x 100 x 100] 1	set	-	~		'				
Conduit Tube	Accessories	1	"	-	~			-	-		
Concrete Trough	70 mm wide	80	m	-		}		<u>-</u>			
Drain Pipe	\$100 Class "A"	21	a a				!		•44	Ì	for wiring
Man Hole	$1.2^{m} \times 1.2^{m} \times 1.5^{m}$	4	set	_	~		1]	
Earth Bar		3	D	-				-	-		
Electrician			person	-	~		-			1	
Earth Worker	1			-	~	-				}	
			!	}							
Miscellaneous		1	set	-		j					
Expenses	ľ	1	Ħ	_	-						
· ·	•		!			1	•				
Sub-Total				<u> </u>							
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			'								
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	<u></u>	احسب								<u></u>	<u>L </u>

II - 5 Distribution Main 1-a No. 26 ~ No. 29 (Rincome Hotel ~ University)

				M	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency	Domestic	Currency	Cost	Remarks
						rer ourt	Cost	Per Unit	Cost		
a No. 26 ~ No. 29 (Rinco	ome Hotel ~ University)	į.					•				
Asphalt Cutting		2,088	m	***	-						43
Repair of Pavement		3,067	_m 2	~							16
Excavation		2,522	_m 2								1 - c
Surplus Soil		1,022	11		~-	***					2 - a
Sand Mat		427	11			:	li .				
Ductile Specials	Foreign	44	Кg				-				
Galvanized Pipe Laying	∮250 mm	22	m	-							M + 29
11	\$200 "	14	O.			į					н
" Specials	Domestic	825	Кg	~-					_		
ACP Specials	Domestic	599	et .	Pro.	_ [_			
п	Foreign	857	ŧt			-		_	_		·
ACP Laying	\$250 mm C - 15	996	m	~							M + 29
н	\$200 " C - 15	1,424	11	-	-						t1
н	675 " A	17	•••	-			·		j		li ii
Gibault Jointing	\$300 mm	2	set	_	~-						31
11	\$250 "	32	11	~							14
lt .	\$200 "	36	11		-				ł		l n
11	\$75 "	12	tt	~			i				11
Flange Jointing	\$250 "	4	11		_				j		31 - Labor
19	\$200 "	5	11	~	_	·					n
Welding	\$250 "	10	11						·		
н	\$200 "	14	11	~	_						
Anchor Block	\$300 x \$ 250 T	1	41	_	_						36
n	\$250 x \$250 T	2	11	-					-		В
11	∮200 x 90° B(H)	4	11	-	_						
t)	∮200 x 45° B(H)	12	11	~	_						37
H	6250 x 45° B(H)	6	(I	-		ĺ					38
D	ø250 x 45° B(VU)	2	11		_						н
18	\$250 x 45° B(VL)	2	. 11	_							п
									}		
							•				
									[
Valve Setting	\$250 mm SV	2	set		ļ						33

II ~ 5 Distribution Main 1 No.29 (Rincome Hotel~ University)

		7		M	aterials			Labor			
Item	Dimension	Quanti ty	Unit	Foreign Per Unit	Currency	Domestic Per Unit	Currency	Domestic	Currency	Cost	Remarks
				167 01110	0030	rer onit	Cost	Per Unit	Cost		
Valve Setting	\$200 mm SV	1	set	1		••	-				33
स	\$100 "	3	H								11
16	\$ 75 "	2) b1		'	~-					l II
Air Valve Setting	\$ 75 Box	3	111						:		45
Fire Hydrant Setting	\$100 mm	3	19	-			İ				46
Walling	Wood 1.6 ^m x 2.2 ^m	20	m	-							12
Pump Drainage	Engine 10 PS		day	-	-au						11
Miscellaneous		ı	set								
Expenses		1	н			li					
Sub-Total											
b Boosting Pump Equipment					i						
(i) Concrete Box					!	•					
Excavation		91	m ³	-	-	~	-				l - a
Surplus Soil		21	H O	_			-				. 2 - a
Sodding		91	m ²								15
Rubble Stone		2	_m 3	-							4
Concrete	1:3:6	1	Ħ	-	→ ′			}			9 - b
и	1:2:4	8	"		-						9 - c
Forms	(c)	46	m ²								5 - C
Timbering		7	m ³	-	_						6
Reinforcing	Round Bar	937	kg								8
Steel Step	∮19 mm	5	pe,	~							
Barbed Wire Fence		40	m	-	-					•	18 - b
Manhole Cover	820 x 820 $t = 4.5 \text{ mm}$	1 1	set		_						
Cartage Opening Cover	$700 \times 2,300 t = 4.5 \text{ mm}$	1	u	-	~-			-			
Miscellaneous		1 1	set								-
Expenses		1.	н	a			:				
Σ = (i)											
(ii) Piping											
Asphalt Cutting		8	m	•							43

II - 5 Distribution Main l-b Boosting Pump Equipment

ppygggggaa ma'r beirinnii 1866-1864 (Oktobbol) 1864 (Abbritabella beirinnii 1864-1864) (Abbritabella beirinnii 1864-1864)		<u> </u>		M	aterials	The state of the s		Labor	dependental partier management per partier de la ferra de la ferra de la ferra de la ferra de la ferra de la f		
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Repair of Pavement		13	m ²		6 -16						16
Excavation		38	m ³								1 - c
Surplus Soil		12	ti	-	ps		4	1			2 - a
Sand Mat		6	ti	_							
ACP Laying	ø250 mm, C - 15	28	m	-	~						M + 29
Galvanized Steel Pipe	\$125 mm	7	m		1						M + 29
ACP Specials	Foreign	215	kg								
Galvanized Specials	Foreign	84	0			~	-	-	-		
Gibault Jointing	\$250 mm	4	set	-							31
11	ø125 mm	12	11:	_							31
Anchor Block	\$250 x \$125 T	2	11	-				5			36
ACP Laying	\$500 mm C - 15	4	m		-						M + 29
Miscellaneous		1	set								
Expenses		1	15								
$\Sigma = (ii)$											
(iii) Boosting Pump	∮125 mm										
Submerged Motor Pump	$q=1.85m^2/min H=10^m 7.5^{kw}$	2	set			~•					
Check Valve	3125 mm	2	н					:			
Valve Setting	∮125 mm SV	4	11				-				
Flange Type Bend	\$125 x 90°	6	10								
Miscellaneous		1	set					;			
Expenses		1	n								
$\Sigma = (iii)$			·								
(iv) Electrical Works											
Distribution Board	Water Proof Type	1.	set			_		₩			
Accessory		ı	11			~		***			
EV Cable	8 x 3 C	8	m	_				-		i	
Conduit ^T ube	\$28 mm	2	PC	-	_			-			
Wormal Bend	, et	2	H .								

II - 5 Distribution Main 1-b Boosting Pump Equipment

				Ma	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic	Currency	Domestic Per Unit	Currency	Cost	Remarks
			~	16t. Our		Per Unit	Cost	Per Unit	Cost		
Plexible Tube	\$30 mm	2	m		~-			-	m		
Pull Box	200 x 200 x 100 mm	1	set		~			-	-		
CVVS Cable	2 x 2 C	2420	m					-	⊷		
Concrete Trough	70 mm	350	m	-	~			tes ·			
lessenger Wire	6/1.2	2420	m					-	-		
abor			Person			**	-				
Gevel Meters		1	set				_	-	-		
Conduit Tube	\$22 mm	10	m	140							
Miscellaneous		1	set								
Expenses		1	11								
$\Sigma = (iv)$											
Sub-Total											
					•						
					ļ [*]						
	·										
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			-						1		
										•	
	[1	<u> </u>				

II - 5 Distribution Main 2-a No.5 ~ Bridge, Paton Water Treatment Plant ~ No.1

	D			M	aterials			Labor		Parallel processor Alberta for the second specific and a second sp	
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic	Currency	Domestic	Currency	Cost	Remarks
			<u> </u>	Ter onre		Per Unit	Cost	Per Unit	Cost		
a No.5~Bridge, Paton Water Treatment Plant - No.1											;
Asphalt Cutting		29	m	-	-						43
Repair of Pavement		60	2	-						-	16
Excavation		3700	_m 3	-							1 - C
Surplus Soil		295	11			-	-				2 - a
Sand Mat		18	H								
Ductile Pipe Laying	∮600 mm C = 3	73	m			~	~				M + 29
11	ø500 " C = 3	19	I t			-					H II
41	ø450 " C - 3	202	17			r-a					н
ď	\$350 " C - 3	1776	11			4-4	₩				11
· ·	\$1.00 " C - 3	55	11			*	-				11
Ductile Specials	Foreign	10939	kg				· -		_		
ACP Laying	\$200 mm C - 15	97	m	-	~						M + 29
и	ø150 " C - 15	21	ĮI.		~						н
ACP Specials	Foreign	114	kg			-	-				
ц	Domestic	170	n	_	_			-	-		
Mechanical Jointing	\$600 mm	14	set			-					N + 32
11	\$500 "	6	11				_				11
· 11	\$450 H	20	Ð			-					11
11	\$350 ··	48	1)			- [11
н	∮250 "	2	41								M + 31
н	\$200 "	2	41			-	-				н
8F	ø150 ¹¹	3	11				-				18
И	∮ 100 "	12	11				-		İ		н
Gibault Jointing	\$200 II	11	R			İ					31
11	ø150 "	10	11	-	_						11
Anchor Block	\$600 x \$600 T	3	set	-							36
									i		u
11	∮500 x ∮500 T	1	n	•••	•••						и
11	\$350 x \$250 T	2	19								н
			ļ	_	_						

II - 5 Distribution Main 2-a No.5 ~ Bridge Paton Water Treatment Plant ~ No.1

				M.	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic	Currency	Domestic	Currency	Cost	Remarks
				rer unit	Cost	Per Unit	Cost	Per Unit	Cost		
Anchor Block	6450 x 45° B (H)	4	set	-							38
ti .	∮350 x 45° B (V.U)	4	iř	-							39
11	" " (A'T)	4	0								40
ti	ø200 x 45° B (H)	4	В								38
				2							
alve Installation	∮600 mm BV	2	set	1		+	-				33
H	\$500 " BV	1	! !			7	Lap				1)
13	\$450 " SV	2	19			-					31
16	∮350 " SV	1	ŧI				-				н
\$ 1	∮200 " SV	1	U.								н
11	∮150 " SV	2	11			~					H
11	∮100 " SV	3	19			-					П
Air Valve Installation	∮ 75 mm Box	2	Ħ					=	¥		45
Fire Hydrant Installation	ø100 mm	1	Ħ	-	-						46
Pump Drainage	Engine 10 PS		day	-	-						11
Walling	Wood 1.6 ^m x 2.2 ^m	24	m	_		:					12
Road Repair Liability Payment	Road Cross Only	24	11	-							
Miscellaneous -		1 1	set 								
Expenses			n					:			
				•							
Sub-Total							!				
b Aqueduct											
(i) Abutment (A)	Manage Charle Dan						ļ				12 - c
offering	Trench Sheet Pile	14	m m3								1 - d
Exeavation		26	m ⁻ m ³	-	***						u
urplus Soil		21		-		n#	_				2 - a
ack Filling	, om	5	1)	~	-			<u> </u>			. c - a
oncrete Pile	300 mm $L = 8^{\text{m}}$	6	pc.	-							

II - 5 Distribution Main 2-b Aqueduct

والمرابعة والمرا					aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic Per Unit	Currency Cost	Domestic	Currency Cost	Cost	Remarks
				161 01.10		rer oure	COST	Per Unit	0081		
Rubble Stone		2	m ³		-		• .				4
Concrete	1:2:4	20	Į)		-						a - c
Forms	(c)	35	.2 m								5 - c
Reinforcing	Deformed Bar	380	kg		~						8 - c
Pump Drainage			day		-					ı	11 .
Staging		30	m ³	-							7
Expenses		1	set								
$\Sigma = (i)$											
(ii) Pier (P ₁ , P ₂ , P ₃)											
Coffering	Steel Sheet Pile	16	m				~				20 - bc
Closing Dyke	į	36	41	-	-						20 - a
Excavation		32	m ³								1 - d
Surplus Soil		9	н	<u>~</u>							
Back Filling	1	23	н		-	1-7	- ,				2 - a
Concrete Pile	300 mm = 6 m	5	pc.	-	_						4
Rubble Stone		1.5	_m 3		-						4
Concrete	1:2:4	14	14	-	-						9 - c
Forms	(c)	30	m ²	-	-						5 - c
Reinforcing	Deformed Bar	360	kg	_	-						8 - c
Pump Drainage			day	_	_						11
Staging		45	_m 3	\	_						7
Foundation Reinforcing	Rubble	36	11	_							4
Expenses		1	set	-							
$\Sigma = P$											
$\Sigma = (iii) P x 3$											
(iii) Abutment (A ₂)											
Coffering	Trench Sheet Pile	16	m				_				12 – с
Excavation		45	m ³	p-+	-						1 - d
Surplus Soil		32	10	_	_	_	-				
Backfilling		13	10								2 - a
Staging	•	56	11	-	_						7
Concrete Pile	300 mm L = 8 m	6	pc.		_						
dubble Stone	·	2.3	2								4
Concrete	1:2:4	30	11	_	<u> </u>						9 - c

II - 5 Distribution Main 2-b Aqueduct

				М	aterials	The state of the s		Labor	i California de Scolinia de la S colornia de Andreana		
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic	Currency	Domestic	Currency	Cost	Remarks
·				161 01110	Cost	Per Unit	Cost	Per Unit	Cost		
Forms	(c)	48	m ²	6.44	-						5 - c
Reinforcing	Deformed Bar	510	kg	. <u>-</u>	~				l		8 ~ e
Pump Drainage			day	-	 :						11
Expenses		1	set								
$\Sigma = (iii)$											
(iv) Steel Box Girder											
Steel Angle	Net x 105 %	15	Ton					-	-		
Plate	" x 110 "	50	11					-	-		
Bolt & Nut	" x 250 "	0.7	13			-	~	-			
Cradle	" x 100 "	8,0	11			-	-	-	-		
Deck Plate	" x 103 "	3.3	1)				bm	etu	-		
Processing & Assemblage	Accessories	64.5)))		-				-		
Labor	Field Field		person	-	·	۸.					
ti .	Factory	ŀ	n			-					
Packaging		64.5	ton								
Painting	Field	1700	m ²								
Miscellaneous		1	set								
Expenses		1	#I								
$\Sigma = (iv)$											
(v) Laying of Steel Pipes											
Steel Pipe	ø450 mm	139	m				-		_		
Dresser Jointing	6450 mm	5	set				- make		-		
Sleeve Jointing	6450 mm	8	11			-			_		
Air Valve	Expose \$75 mm	2	Ħ				-		_		
Drain Setting	\$75 mm	2	н	*-	-						30 - a
Welding Pipe	∮450 mm	139	m		-						35
Miscellaneous		1	set								
Expenses		1	11								
$\Sigma = V$											

II - 5 Distribution Main 2-b Aqueduct

				M	aterials		· · · · · · · · · · · · · · · · · · ·	Labor			**************************************
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
version and the second				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
(vi) Temporary Works											
Staging	200m x 3m x 6m	3600	_m 3								
Cable Crane Rental Fee			day					804	**		
Frane Anchor Concrete		86	m ³	-					,		
able Erection			person	~		·	••				
discellaneous		1	set		.						
xpenses		1	11	•	-						
$\Sigma = vi$:		į			
vii) Transportation									-		
Ot Trailer	BKK - Chiang Mai		car								
$\Sigma = vii$			Vx	-	_						
									-	•	
Sub-Total							į				
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II - 5 Distribution Main 3-a No.5 - No.8 - No.9 (Super Highway, Keo Nawarat Road)

	3-a No.5 - No.8 - No.9 (Su			М	aterials			Labor		A Salah Sala	A factorism on the chiefe of the contract of the chiefe of
Item	Dimension	Quanti ty	Unit	Foreign Per Unit	Currency Cost	Domestic	Currency	Domestic	Currency	Cost	Remarks
a No.5 - No.8 - No.9(Super Highay, Keo Nawarat Road) Asphalt Cutting		40	m	- Ter onze	-	Per Unit	Cost	Per Unit	Cost		43
Repair of Pavement		79	_m 2	 .						!	16
Excavation		4,447	_m 3	-	_						1 - c
Surplus Soil		348	ı ı	_		-				·	2 - a
Sand Mat	· ·	9	"	-						1	
DCIP Laying	∮450mm C = 3	84	m			-	-				M + 29
u	ø400 "	1,683	н			-	<u></u>				14
11	ø350 "	582	11			-					. 17
11	ø300 "	25	41]			#				11
н	ø150 "	14	81			-	~				11
18	\$100 "	54	12			•	ı				11
DCIP Specials	Foreign	11,545	kg			~	1		•••		
ACP Laying	\$300mm C-5	23	ra	gray							M + 29
11	ø150 "	21	15	_	~						н
ACP Specials	Domestic	160	kg					-	-		
	Foreign	210	11			 .					
Galvanized SP Laying	ø350mm	10	m				p-0				
Galvanized Specials	Domestic	50	kg	_	~			=-			
п	Foreign	295	11				~	-			
Mechanical Jointing	ø450mm	3.3	set			-	-				32
Ji	\$400mm	64	11				-				t I
fs .	\$350mm	9	11				-				38
ŧı	\$300mm	8	11			-					M + 31
11	ø250mm	2	11			~	-				Н
11	\$150mm	9	11			-	-				fl fl
н	∮100 mm	16) 1				-				19
Gibault Jointing	\$300mm	5	"		İ	-					31
н	\$200mm	2	13		ĺ		-				10
11	∮ 150mm	15	В			-					st.
Flange Jointing	\$350mm	2	41	~							32 Labor
Welding	\$350mm	4	11	-	~	ĺ					35
ri .	\$200mm	2	11	_	-						
Valve Setting	6450mm SV	2	set		İ	_	-				33
H	\$400 "	1 1	11			_	_				tl

II - 5 Distribution Main 3-	The state of the s			Ma	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency		Currency	Cost	Remarks
				Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Valve Setting	\$350mm SV	1	set				**				33
п	\$300 "	2	11	ļ .		- 1	-	ĺ	,		ŧI
PI	ø250 "	1	ii				•-				u u
п	ø200 "	2	G.	}					}		н
19	ø150 "	3	\$1								11
19	\$100 "	5	11]	_				11
Anchor Block	\$450 x \$450 T	1	set		****			 			36
п	ø450 x ø300 Т	1	11	_							ia .
n	\$400 x \$400 T	1	13	-	-						1 †
и	\$400 x \$300 Т	2	11	_	-						1 1
				•			,	,			
n	ø350 x ø250 T	1	ı,	-					 		и
п	ø350 x 90° в(н)] 1	11		-						37
Ì		1		.]]		
ti .	\$450 x 45°B(H)	4	19	_	***				ļ		38
11	\$400 x 45°B(VU)	10	11								39
n	" B(AT)	10	н	_							40
11	ø350 x 45° в(н)	1	ш	· ·	-						38
"	ø300 x 45° в(н)	1	н		_						ži –
{											
		:									
Air Valve Setting	∮75 Box	1	set								45
Fire Hydrant Installation	∮100 mm	3	И	[_						46
Road Repair Liability Payment	Road Cross Only	16	m	_	_						
İ	-										
Miscellaneous		1	set								
Expenses	•	1	11				· '				
			1				İ				
Sub-Total						i	:				
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				<u> </u>	laterials			Labor			
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic Per Unit	Currency	Cost	Remarks
			ļ	rer unit	Cost	Per Unit	Cost	Per Unit	Cost		
b Highway Crossing	•										
Steel Pipe Shield	\$600mm	40	m			_	_				
			[1		, iii		{		
Trench Sheet Pile	$2.4^{\text{m}} \times 9^{\text{m}} \text{ H} = 3^{\text{m}}$	22,8	m			.~					12 - c
н	$2^{m} \times 2^{m} H = 3^{m}$	12	lt.	,					ļ		lt .
Miscellaneous		1	set	}		-	_	<u> </u>		1	
Expenses		1					_				
expenses		, ,				_				ļ	
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Sub-Total	}			1	1	}			}		
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	1		,	n .							
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II - 5 Distribution Main	4. No.9 - No.53 - No.51 (T)	1	1	Me	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign (Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
			 	Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
Asphalt Cutting		1,991	m	_]	~-						43
Repair of Pavement		3,565	m ²								16
Excavation		2,800	"	-	-						1 - c
Surplus Soil		1,217	11								2 - a
Sand Mat		507	a a		wa.						
DCIP Specials	Foreign	36	kg]			-	_	-		,
ACP Laying	\$300mm C-15	1,802	m	-	-						M + 29
39	\$250mm "	151	11	_	-			,			11
н	\$75mm A	4	11		~						`u
ACP Specials	Domestic	311	kg							l:	
9t	Foreign	550	, ,]					-		
Galvanized Pipe Laying	ø300mm	12	m		~ [M + 29
u	\$250mm	26	l u	_]	-						н
Galvanized Specials	Domestic	144	kg	-				-			
u	Foreign	762	u	1			-		→		
		•]							
Gibault Jointing	\$300mm	17	set	-							31
u	\$250mm	9	11	-			 				h
Ħ	\$150mm	4	11	-							tt
tr	∮75mm	5	11	-	-						. 11
	1]]							
Flange Jointing	\$300mm	1	set		-						31 - Labor
н .	\$250mm	3	1)	-							11
п	∮150mm	3	19	-			·				11
											1
Welding	\$300mm	7	set	_	-						
11	\$250mm	9	i1	-					,		
н	\$200mm	2	18	-	-						
					:						
Anchor Block	\$300 x 45° B(V-U)	5	set		-				!		39
II	" B(VL)	2	Į†		-						40
18	\$250 x 45° B(II)	2	(1	-	-	;			<u>.</u>		38
14	\$300 x \$200 T	1	11	-							
4t	\$250 x \$250 Т	1	£1								
17	\$250 x \$200 T	1	11		· • •	!				_	

II - 5 Distribution Main 4.		1		М	aterials	**************************************		T-h	-		
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Labor Domestic	Currency	Cost	Remarks
		Quant or o		Per Unit	Cost	Per Unit	Currency Cost	Per Unit	Cost		Monarko
Valve Setting	∮250 SV	1	set			s,					33
ii .	\$200 SV	2	11								11
15	∮150 SV	1	18								u
11	∮100 sv	1	fl			<u>-</u>					n
II	∮75 SV	1	19			. 					н
Fire Hydrant Installation	∮100 mm	1	ıt					į.			46
Road Repair Liability Payment	Road Cross Only	22	m	-							
Miscellaneous		1	set :								
Expenses		1	11								
Sub Total											
	•										
						1					
			:								
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	i			.						:	

II - 5 Distribution Main 5. No.51 - No. 58

			13	aterials			Jabor			
Dimension	Quantity	Unit	Foreign Per Unit	Cost	Domestic	Currency	Domestic	Currency	Cost	Remarks
				***************************************	rei ouit	COST	rer unit	Cost		
	3,161	m	~							43
	4,717	1	~	-						16
	3,960	m ³								1 - c
	1,592	,11	-,	-						2 a
	673	н		-						
Foreign	52	kg				ı.	-	-		
∮250mm C-15	2,208	m								M + 29
\$200mm "	1,383	11		-						tt
	46	U								11
Domestic	645	kg		_			_	·		
Foreign	1,801	11				-				
\$250mm	41	m		-						M + 29
\$200mm	18	Ħ								11
Domestic	387	kg	. –	144			_			
ø250mm	59	set	-	-						31
	78	Ħ	-	_						В
	3	u	. .	_						В
•	16	11			<u> </u>					11
		}								
ø250mm	2	set		_						31 - Labor
	i i	11		_				1		
	i i	H								
	7	11		_						
,				}						
6250 x 6250 T	1	set								36
_ I	1	11	Non-							11
4		и								11
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	~			-						
6250 x 450 R (H)	3	н		_						38
	i	H								39
	i)t								40
		ír								38
p200 x 4) b (11)				-						
	Foreign	3,161 4,717 3,960 1,592 673 Foreign 52 \$250mm C-15 2,208 \$275mm A 46 Domestic 645 Foreign 41 \$250mm 41 \$200mm 18 Domestic 387 \$250mm 59 \$200mm 78 \$150mm 3 \$75mm 16 \$250mm 78 \$250mm 78 \$150mm 78 \$250mm 78 \$250mm 78 \$250mm 78 \$250mm 78 \$250mm 78 \$250mm 10 \$250mm 79 \$250 x \$250 T \$200mm 70 \$250 x \$250 T \$200 x \$200 T	3,161 m 4,717 m² 3,960 m³ 1,592 m 673 m³ 1,592 m 673 m³ 1,592 m 1,383 m 1,383 m 1,383 m 1,383 m 1,383 m 1,383 m 1,381	Dimension Quantity Unit Foreign Per Unit	Dimension Quantity Dit Foreign Currency Per Unit Cost	Dimension Quantity Unit Foreign Currency Domestic For Unit Cost For Unit	Dimonsion Quantity Unit	Dimonsion Quantity Unit Foreign Currency Per Unit Cost Per Unit Per Unit Cost Per Unit Per Unit Cost Per Unit Per Unit Per Unit Cost Per Unit	Dimonsion Quantity Unit Foreign Currency Domestic Currency For Unit Cost For Unit	Dimension Quantity Dail For Unit Cost For Unit

II - 5 Distribution Main 5. No.51 - No. 58

		. [M	aterials			Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
			 	161 0110	Cost	Per Unit	Cost	Per Unit	Cost		
	/ama_mu] 				<u> </u> 			
Valve Setting	\$250 SV	2	set	1		· ·	!				33
	\$200 sv	2	;J	<u>[</u>		[**				{ · · · · · · · · · · · · · · · · · · ·
	∮150 SV	2		}		-	-	[)
	∮100 sv	6	11	}] -	-	ļ	,		
It .	ø75 sv	4	11	<u> </u>		-					11
Air Valve Setting	\$75 Box	1	set								45
Fire Hydrant Installation	\$100 mm	6	H	-]		<u> </u>			46
]]	·				}
Supporting Bridge		1	set]	!				5 - (i)
u		1	и	-	-	<u> </u>	•				" (ii)
1		Ì]							
Road Repair Liability Payment	Road Crossing Only	30	m	-	_]	<u> </u>				
											\
Miscellaneous		1	set								
Expenses		1	H]					
						1					1
Sub-Total						•					
(i) Detail of Pipe Supporting							:				
(i) Detail of Pipe Supporting on Bridge "A"								•			
Galvanized Pipe Laying	\$200mm	28	m	~	~	ļ 1					<u> </u>
" Specials	Domestic	230	kg	~			ĺ	-	~		
ACP "	н	49	"	<u> </u>	~						
Ноорз		10	set	u l							
Gibault Joining	∮200mm .	2	11	_	_		ļ				31
Flange "	\$200mm	2	H		\-						31-Labor
Welding	\$200mm	11	11		100						
Anchor-Block	\$200 x 45° VU	2	н] [j				39
"	11 AT	2	n		-						40
Air Valve Setting	∮75 Exposed	1	1\$		-	, .					45
	, + o										
Sub Total		1 1					Ì				
				1]					

II - 5 Distribution Main 5	. No.51 - No.58			TM.	aterials	**************************************	· · · · · · · · · · · · · · · · · · ·		ووريد سيوب بيانا والمساورة		The state of the s
Item	Dimension	6	lini t	Foreign	Currency	Domostic	Currency	Labor	<u> </u>		Nome where
1 tem	Dimension	Quantity		Per Unit	Cost	Per Unit	Cost	Domestic Per Unit	Cost	Cost	Nemarks
(ii) Detail of Pipe Support- ing on Bridge "B"											
Galvanized Pipe Laying	\$200mm	135	m	_							
" Specials	Domestic	230	kg	-	-					i	
ACP	tt	49	11		-	1	!	***	~-		
Ноорз		10	set	-	-						
Gibault Jointing	\$200mm	5	(1	-	<u></u>						31
Flange "	∮200mm	2	, ,	_							31-Labor
Welding	\$200mm	24	11	-							
Sleeve Joint	\$200mm	5	11	<u> </u>	į	~	. 				
Valve Setting	∲75mm SV	1	11		-		e-a				33
Anchor Block	\$200 x 45°VU	2	n	-	→		•				39
II.	и АГ	2	н	-							40
Air Valve Setting	\$75 Exposed	1	O				-				45
Sub Total							,				
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II - 5 Distribution Main 6. No.73 - No.58

II - 5 Distribution Main 6.	. No.73 - No.58	The state of the s]	М	aterials		and Administrative (any or one paper process of the paper process of the paper paper paper paper paper paper p	Labor	angala jegani ili PAP Promonento PAP pinkai kalabah	د ورد دود و و باداده دود دود دود دود دود دود دود دود دود د	A MANAGEMENT OF THE STATE OF TH
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic	Currency	Domestic	Currency Cost	Cost	Remarks
			 	167 0117		Per Unit	Cost	Per Unit	Cost	<u></u>	
Asphalt Cutting		26	m	-	-			.			43
Repair of Pavement		41	_m 3		-]	1	16
Excavation		2,280	m ³		-						1 - c
Surplus Soil		542	(I			-	-				2 ~ a
Sand Mat		396	11		-				!		
ACP Laying	∮250mm C - 15	1,924	m	_			 				M + 29
ACP Specials	Foreign	356	kg	in the second se		~		-	-		
и	Domestic	323	12	_			i		-		
Galvanized Pipe Laying	ø250mm	26	m	_	- [. 1					
Galvanized Specials	Domestic	314	kg	-	-	i .		-	-		
Gibault Jointing	\$250mm	30	set	-	-			1			
Flange Jointing	\$250mm	2	ŧI		-]	ļ		,			
Welding	∮250mm	10	IF		_						
Anchor Block	∮250 x 45° B(VU)	4	11		-						39
(1)	" B(AF)	4	11	~				}			40
u .	н B(H)	4	н	~		٠					
Valve Setting	∮250 SV	1	11								33
39	∮100 SV	1	11			-	-				16
Fire Hydrand Installation	\$100 mm	1	11		-		' '				46
Air Valve Setting	∮75mm Box	1	01								45
Walling	Wooden Plate	5	m	- !	-						12
Pump Drainage	Engine 5ps.		day			j					11
Road Repair Liability Payment	Road Cross Only	26	m					•	į		
Miscellaneous		1	set								
Expenses		1	11	İ	1		!				
Sub Total											
			j	ı							
							: [

II - 5 Distribution Main	7. No.1 Existing Plant -			14.	aterials	·		Labor			
Item	Dimension	Quanti ty	Unit	Foreign Per Unit	Currency Cost	Domestic	Currency	Domestic	Currency	Cost	Remarks
				tel oure		Per Unit	Cost	Per Unit	Cost		
Asphalt Cutting		2,275	m								43
Repair of Pavement		3,505									16
Excavation		2,542	m ³	~	~						1 - c
Surplus Soil		1,092	er	-		•••	-				2 - a
Sand Mat		422	"	-	-						
ACP Laying	\$300mm C-15	792	m		-						M + 29
a	\$250mm C-15	18	\$9	-							. 19
н	\$200mm C-15	1,349	n	-	-]		19
tt	∮75mm A	2	i1	-	 .						FF
ACP Specials	Foreign	1,404	kg					-	-		
li .	Domestic	444	μ		-			-	-		
Galvanized Pipe Laying	\$300mm	30	m	_	<u> </u>						N + 29
11	\$250mm	39	11		_						11
II.	\$200mm	38	17.	~	~						II.
И	∮75mm	13	(1	-	_ :						B
Galvanized Specials	Foreign	2,506	kg		~	-		-	- [
Anchor Block	\$300 x \$300 T	3	set								36
•	ø300 x 45° В(H)	4	111	-			ī.				38
0 - 1	\$200 x 45° В(H)	10	14	_	-						II .
(1	∮250 x 90° B(H)	2	"		-						37
н	∮250 x 45° B(H)	2) 11	-	_		i				38
Valve Setting	∮300 SV	3	set			~	-				33
11	∮250 SV	1) "			-	-				"
ti	∮200 SV	5				-	_ ~				li]
11	\$75 SV	2	11		 	~					
					5						
Air Valve Setting	\$75 Box	1	set		1						45
		· l	į		Į				[[
Gibault Jointing	ø300mm	30	set	***			Į				31
11	ø250mm	5	- 11	 -	-]		11
11	\$200mm	32	13	~-		l 					"
n	\$100 "	2	11		_				<u> </u>		11

II - 5 Distribution Main 7. No.1 Existing Plant - No.73(Chang Klan Road)

II - 5 Distribution Main	7. No.1 Existing Plant - No	1		l Mr	aterials	·	***************************************	Labor			
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
		ļ		rer onit	Cost	Per Unit	Cost	Per Unit	Cost		
Gibault Jointing	∮75mm	9	set	_	-~						31
Flange Jointing	∮300mm	6	H	<u></u>	-						
ti .	∮250mm	1	H	-	-						
81	ø200 ¹¹	14	H		~-						
11	ø100 "	2	B		-						
Welding	ø300 "	14	41	-							
и	ø250 "	1.3	18	<u>-</u>							
н }	∮200 ^п	31	tt								
Road Repair Liability Payment	Road Crossing Only	100	m								
Miscellaneous		1	set								
Expenses		1	11								
İ											
Sub Total											
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II - 5 Distribution Main 8. No.1 - No.23

11 ~) Distribution main				M	aterials		in in the second of the second	Labor	ayaya mada inda da da ayaa ayaa ahaa ahaa ahaa ahaa a		and the state of t
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency Cost	Domestic	Currency	Domestic	Currency	Cost	Remarks
			 -	161 OHLO	- Cost	Per Unit	Cost	Per Unit	Cost		
Asphalt Cutting		1,415	m		*** .						43
Repair of Pavement		3,264	m ²	-	·-		'				16
Excavation		5,323	m ³	~	~ -	!					1 - c
Surplus Soil		1,174	13	-	_						2 - a
Sand Mat		1	ı		-						
DCIP Laying	\$500mm	1,738	m			~	-				M + 29
н	\$350mm	531) 11			~-	· -	_	~		
ACP Laying	\$200mm C - 15	3	m								M + 29
19	ø150mm "	8	н	-	_						li ii
ACP Specials	Foreign	156	kg			~	-	~	-		
H.	Domestic	31	ır	-				~	-		
Galvanized Pipe Laying	\$200mm	10	m								M + 29
Galvanized Specials	Foreign	113	kg		 	-	-	~			
DCIP Specials	Foreign	13,092	18			_		~	-		
Mechanical Jointing	\$500mm	62	set			-					32
II.	\$400 "	2	41				-				t I
ii .	\$350 "	26	n		1		-				M + 31
я	\$200 "	4	· · ·				-				M + 31
H.	ø150 "	1	11								II
Gibault Jointing	∮200mm C → 1.5	4	н	-	-						31
u	ø150 " "	7	ij	~-	- !		!]		i)
Flange Jointing	\$200mm	1	H				:				31 Labor
Welding Jointing	ø200 "	4	It	-	•						
Anchor Block	ø500 x ø350 Т	1	set		••						36
					:						
							!				
п	ø350 x 90° в	1	ŧı	_	-						37
II	ø500 x 450 в(н)	28	ŧı								38
11	ø350 x 45° в(н)	10	11						,		u
tt	ø200 х 90° в(н)	1	11	_	_		İ				lı
							ļ				
Valve Setting	ø500 BV	.1	set			-	-				33
41	ø350 sv	1	11			-	 -				13
Pr	\$200 SV	3	tı								u

II - 5 Distribution Main 8. No.1 - No.23

II - 5 Distribution Main 8	8. No.1 - No.23			l l	aterials	and the state of t	·	Labor			
Item	Dimension	Quantity	Unit	Foreign	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
	2 Inollog 41	wuan or o	1	Foreign Per Unit	Cost	Per Unit	Cost	Per Unit	Cost	0050	Memarks
Valve Setting	\$150 SV	2	set			-	_				33
Air Valve Setting	∮ 75 Box	2	set								45
Road Repair Liability Payment	Road Crossing Only	19	m	-							
Miscellaneous		1	set								
Expenses		,		! 							
			!								
Sub Total											
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Time	II - 5 Distribution Main	9. No.23 - No.70 .			M	aterials			Labor	والمرابعة والمرابعة والمرابعة والمرابعة والمرابعة والمرابعة والمرابعة والمرابعة والمرابعة والمرابعة والمرابعة		**************************************
Application	Item	Dimension	Quantity	Unit	Foreign Pow Unit	Currency	Domestic	Currency'	Domestic	Currency	Cost	Remarks
Repair of Pavement				ļ	161 01170	COSC	rer unit	Cost	Per Unit	Cost		
Exercition	Asphalt Cutting		2,453		~]		}		ļ		43
Sarphus Soil 1,555 264 1	Repair of Pavement		4,086		h	-			}	}		1.6
1,272	Excavation		2,994	_m 3								1 - c
DCIF Laying	Surplus Soil		1,333	11	-	-			()	j		2 - a
## Provige	Sand Mat		264				•			 		
ACP Laying \$200 C-15	DCIP Laying	\$350mm	770	ra	,		-	~				M + 29
## \$100	DCIP Specials	Foreign	1,770	kg	}	<u> </u>	-			-		
## ## ## ## ## ## ## ## ## ## ## ## ##	ACP Laying	\$200 C-15	2,359	m	_	-]			ľ	M + 29
## ## ## ## ## ## ## ## ## ## ## ## ##	11	\$100	4] "	-	J i	•					11
Calvanized Pipe Laying	ti	\$75 A	1.4	11	_	(}	1	k	81
## \$75mm	ACP Specials	Foreign	812	kg				}				1
Galvanized Specials Foreign 1,482 kg	Galvanized Pipe Laying	\$200mm	165	m	-	1				<u> </u>		M + 29
Galvanized Specials "Domestic 25 "	et e	∮75mm	4	11	-			•				11
Mechanical Jointing	Galvanized Specials	Foreign	1,482	kg	ł			1			}	
	st	Domestic	25	11	-	-			-			
## ## ## ## ## ## ## ## ## ## ## ## ##	Mechanical Jointing	\$350mm	14	set		,		-				M + 32
	11	\$300mm	2	~~ 1 t	Į					ļ		н
Gibault Jointing	It	\$200 "	5	1 11			-					N + 31
## ## ## ## ## ## ## ## ## ## ## ## ##	er	\$100 "	1.0	n	•		-		 	i 		ŧ t
## ## ## ## ## ## ## ## ## ## ## ## ##	Gibault Jointing	\$300 "	2	1	-	- '		!				31
## ## ## ## ## ## ## ## ## ## ## ## ##	H	\$200 "	33	, ,,	_	_						u
Flange Jointing	If	\$100 "	4	"	-	-						11
Flange Jointing	н	\$75 "	10	"	_	-		}				11
Welding \$200 " 63 " Anchor Block \$200 x \$100 T 1 set " \$200 x \$200 T 4 " " \$200 x \$450 B 16 " Valve Setting \$350 SV 1 set " \$300 SV 1 "	Flange Jointing		10	11	_	-	i.	!				31 Labor
Anchor Block	10	ø75 "	1	•	_						ļ	11
Anchor Block	Welding		63	17	-							
" \$200 x \$200 T 4 "]					!		•	
" \$200 x \$200 T	Anchor Block	\$200 x \$100 T	1	set	_	- -		•	ļ		İ	36
" \$200 x 45° B 16 " Valve Setting \$350 SV 1 set " \$300 SV 1 "	11	1	1	ł								ti-
Valve Setting	n			11							}	38
" \$300 SV 1 " "	Valve Setting]]							{	
			ı	ì		ļ						}
	u		6	11			***			:	ļ	n
" \$100 " 3 " " " "			l l	11					'		ļ	н
975 " 2 "	n		1	11			 	}			1	ti.

II - 5 Distribution Main 9. No.23 - No.70

II - 5 Distribution Main 9.	. No.23 - No.70	The second second second second second second second second second second second second second second second se		M	aterials			Labor	pipa Anton Mair makata (E-tarimetrian / ra-tip any		
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
				+01 01110		Per Unit	Cost	Per Unit	Cost		/
Fire Hydrant Installation	\$100mm	1	set	-	-						46
Radio Repair Liability Payment	Road Crossing Only	11.5	m	-	₩.				.		
Air Valve Installation	\$75mm Box	2	set								45 .
Miscellaneous		1	set								
xpenses		1	11								
Sub Total										·	
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	10. No.34 - No.69			Me	terials			Labor			
Item	Dimension	Quantity	Unit	Foreign (urrency Cost	Domestic Per Unit	Currency,	Domestic Per Unit	Currency Cost	Cost	Remarks
Asphalt Cutting		1,170	m		-						43
Repair of Pavement		1,610	m ²	-							16
Excavation		1,090	m ³	-]	t-ma		•	Ì			1 - c
Surplus Soil		474	II	-		~					2 - a
Sand Mat		181	н		-						
ACP Laying	∮200mm C-15	1,170	m		-						M + 29
ACP Specials	Foreign	148	kg					-			
11	Domestic	64	B	-	-			_	_		
Galvanized Specials	Foreign	40	kg								
Gibault Jointing	\$300 mm	1	set	-							31
11	\$200 "	12	18	-	-						31
Plange Jointing	\$200mm	1	set		-						31 Labor
delding	\$200 "	1	11	_	_						1 22 222
air Valve Setting	∮75mm Box	1	11								
		1	set								
Expenses			e e								

Sub Total

II 6 Temporary Construction

II 6 Temporary Construction			<u> </u>	М	aterials	**************************************	والذاب ومساوا الإنجاز والمراوا والمراوا والمراوا	T \ .	dan sining against the Parties and the sand of the Parties and the State of the Sta		tarian individual in incomenda de la comenda de la comenda de la comenda de la comenda de la comenda de la come
Item	Dimension	Quanti ty	Unit	Foreign	Currency	Domestic	Currency	Labor Domestic	Currency	Cost	Remarks
# 00th	DEMONSTON	Quantity]	Foreign Per Unit	Cost	Per Unit	Cost	Per Unit	Cost	} cost	I TOMATED
	** ***********************************		~				·				
		[[[ĺ		
(i) Intake Plant		Ì			'		,		ĺ		
Temporary Office		60	_m 2	~	-					l	
Warehouse	For Cement	260	н	-		:					
31	For Machine	30	u	-	-		i				
	1			<u> </u>]						
(ii) Proposed Plant]]		ļ					Į.		
Temporary Office	}	60	_m 2								
Warehouse	For Cement	520	31	٠	_ '						
H .	\		Ħ								
	For Machine	60	11:	[-		1				
Guards Shack	For Watchman	8	.,	_	-						
, ,	i		i	l .							
(iii) House Rental Fee	}										
			1								1
For Staff of Contractor]	Month	_			-				
" Operator	,]	Ħ	-		t-a-	-				
Miscellaneous	1	1	set								
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Sub Total				1							
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II - 7 Transportation for				M	aterials			Labor	**************************************		
Item	Dimension	Quantity	Unit	Foreign Per Unit	Currency	Domestic	Currency	Domestic	Currency	Cost	Remarks
		Quar. va v		Per Unit	Cost	Per Unit	Cost	Per Unit	Cost		
	,			1							
] _				İ			
Bulldozer	l vehicle	5	Round Trip	-	***			1	[Trailer
			1]				1			
Shovel	2 n	4	lt lt	- '	-	Ĩ		1			II.
				ļ							
Dragline	1. "	2	n n	-				1			()
									Į		
Daga Hawasa	2 "	1	,,		- -			ſ			η
Orop Hammer	2 "	4			_				·	•	,,
		l l	1	[Ē			
Another Machine	2 "	4	11	-	-						31
		ţ.							[
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Sub Total			i I	~		ļ					
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III Construction Time Schedule

Unit: Month

	1 2	2 3	4		5 6	7	8	9	1	0 1	1 1	2 1	3 1	i 4	1 5	16	17	18	19	20	21	22	23	24
1. Intake Temperary Works Earth Works Chamber Housing Pump Equip: To be ordered Generator		·																						
Piping " Site Preparation 2. Raw Water Main Piping For Old Plant " " For New Plant "																								7.4
3. Existing ^P lant Earth Works Chamber Piping "				: :																				
4. Proposed Plant Temporary Works Earth Works Chamber Housing Mechanical Equip: Pump " " Generator " " Electrical " " Chemical " " Piping "																								
5. Distribution Main Piping "											: :													

Categories	Notes	Unit		ost		Remarks	Categories	Notes	Unit		ost		Remarks
	notes	OHIC	Material	Labor	Total				0117.0	Material	Labor	Total	
(1)							(11)						
Excavation	By Hand	1 m ³		'	j 		Pump Drainage	Engine 10 Ps	1 day				
	By Bulldozer	l m ³				10 t		Engine 5 Ps	l day				
	By Shovel	1 m ³				Cap: 0.6 m ³		By Hand Pump	l day				
	By Dragline	1 m ³				11 H 1P	(12)	$(W)_{ra}(H)_{ra}$					Both sides
(0)							Walling	Wood 1.6"x2.2"	1 m				
(2) Şurplus Soil	By Hand	1 m ³				I=40 m		(W) (H) Wood 1.6 ^m x2.2 ^m (W) (H) Wood 1.3 ^m x1.5 ^m	1 m				Both sides
(Filling Sand)	By Dump-car	1 m ³				From Ping		Steel Sheet					
			İ			River		Pile					
						I=4 km		(W)				1	
(3) Concrete Pile	300 m/m	l each						25 cm H=6 m	1 m				
OORGIC OC A J. AC	Driven in 6 m	- each				Double Half	(13) Revetment	Concrete Pile	1 m				
	300 m/m	l each				Moon Concrete	(14)	Objecte to 1110	,E 111				
	Driven in 8 m					Pile	Concrete	0.5 ^m x0.5 ^m	2				
(4)	Hand Bannahitan	3	[Slab Pitching	Concrete t=0.05 ^{mm}	1 m ²		l		
Rubble Stone	Used Foundation	1 1 10 1					()	t=0.05					
(5) Forms	Soft Wood (A)	1 m ²					(15) Sodding	Sodding	1 m ²				
	Soft Wood (B)	1 m ²					(16)					[
	Soft Wood (C)	1 m ²		Ì			Paving	Asphalt	2				
(6)	~~~ ~~~ ~~~ ~~~							concrete Asphalt	1 m ²				
Timbering	Soft Wood	1 m ³						Pavement	1 m ²				
(7)		2		1				Brick Pavement	1 m ²				
Staging	Soft Wood	1 m ³		E			()	ravement	T 111			:	
(8)	, , , , ,					less than	(17) Planting	Shade Tree	1 ^{tree}				
Reinforcing	Steel Bar	1 ton				ø 9 mm	(18)						
	Steel Bar	1 ton				\$12 mm-\$22 mm	Fence	Silaraeng	_ ~				
	Deformed Bar	1 ton				\$12 mm-\$25 mm		Barbed Wire	1 m		ŀ		
(9) Concrete	1:4:8	1 m ³]				Fence	1 m				
CONCIECE	1:3:6	1 m ³						Wooden Fence H=50 ^m	1 m				
	1:2:4	1 m ³				•		H=80 ^m	l m				
(10)	• 1	1 m ³					Į	Net Wire Fence	3				
(10) Mortar	Mortar 1:2	1 m ²				• • •	, ,	H=190 ^m	1 m				
	Finishing Mortar	T III				1:2, t = 20 mm	(19) Gutter & Onen	50 x 73.5 cm	1 m				
		1 m ²		ľ		Water proof	Gutter & Open Channel Concrete Channel	80 x 7 cm	1 m				
	Mortar				ĺ	t = 20 mm	Concrete Onamer	45 x 60 ^{cm} -6 ^{cm}	1 m				
		1 m						20 x 60 -8	1 m				
	Expansion Joint		ľ					∠∨ x υ∪>	* #I				

And the state of t			Cos	st		Remarks	Categories	Mada	11m 7 T	Cos		~ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Remarks
Categories	Notes	Unit	Material	Lobor	Total	Remains		Notes	Unit	Material	Labor	Total	Kellarks
	Brick Gutter	l m						600 mm	1 m				
	Concrete Gutter	ì						700 mm	1 m				
	Drain Pit	l set					(30)						
(50)	Didin 110	1 000				: 	Cost of Setting Angle						Less than
Coffering	Closing Dyke	1 m						ø 75 mm	1 set				75mm Less than
	Driving Steel							100 mm.	1 set				100mm
	Sheet Pile	1 m					()	150	l set				
	Removal Sheet Pile	1 m					(31) Cost of Jointing	\$ 75 mm	1 set				Gibault
(21)	* 7.16							100 mm	1 set			-	Joint
Stone Masonry		1 m ²						150 mm	l set				
(22)								200 mm	l set				
Steel Bar Screen		1 set						250 mm	l set				
(23) Sluice Gate				-				300 mm	l set				
Setting		1 set					(32)	,,,,,,					
(24)	m ro						Cost of Jointing	350 mm	l set				Mechanica
Drain Pit (A-Type)	$1.2^{m} \times 1.2^{m}$ $H = 1^{m}$	l set						400 mm	1 set				Joint
(25)		T 200						450 mm	1 set				
Drain Pit	$1.5^{\text{m}} \times 2.0^{\text{m}}$ $H = 1.1^{\text{m}}$							500 mm	l set				
(B-Type)		1 set						600 mm	1 set		•		
(26) Flow Meter	Back Washing							700 mm	1 set				
Chamber	Mains	1 set					(33)	1					
(27)							Sluice Valve Setting	∮ 75 mm	1 set				
Flow Meter Chamber	Raw Water Mains	1 set	;				2004-118	100 mm	l set		ŀ		
(28)		l set						150 mm	1 set				
Flow Meter Chamber (29)								200 mm	1 set				
Labor	Cost of Laying							250 mm	l set		1		
	Pipes							300 mm	l set				,
	∮ 75 mm	l m						350 mm	1 set			İ	:
	100 mm	1 m						400 mm	1 set				
		1 m				-		450 mm	1 set				
		1 m]					500 mm	1 set				
		1 m			:			600 mm	1 set				1
	300 mm	1 m						700 mm	1 set				
	350 mm	1 m			:		(34)] .			
		1 m					Butterfly Valve Setting					1	
		1 m					• • • • • • • • • • • • • • • • • • • •	ø350 mm	1 set				
•	500 mm	,1 m							1				1

Categories	Notes	Unit	Co Material	st Labor	Total	Remarks	Categories	Notes	Unit	Co Material	st Labor	Total	Remarks
	400 mm	l set				İ	(38)						
	450 mm	1 set					Cost of Anchor Block) cs (Norizontal /	15° Bend	·)			
	500 mm	l set				ļ		100 mm	l set	<u> </u>			
	600 mm	l set						150 mm	1 set				
	700 mm	l set]	}	-]		200 mm	1 set				
	800 mm	l set						250 mm	1 set				İ
(35)		1	1	1				300 mm	1 set	ĺ			1
Cost of Welding St								350 mm	1 set				
	∮ 350 mm	l set		Ī	:			400 mm	l set		İ		
	400 mm	l set						450 mm	1 set				
	450 mm	lset						500 mm	1 set				İ
, ,	500 mm	1 set						600 mm	1 set				
(36) Cost of Anchor Bloo	cks (Tee-branch	l) per			,		(39) Cost of Anchor Block	 	 				
	010 (200 524.1011	l set			!		Cost of Anchor Prock	200 mm	1	side)			
Ì	100x100 mm	1 set						250 mm	l set				
į	200x100 mm	l set						300 mm	l set				
·	200x150 mm	1 set			1			350 mm	1				
	200x200 mm	1 set			ļ			400 mm	l set			į	
	250x200 mm	1 set			\$			450 mm	l set		i		
	300x200 mm	1 set		}			ll l	500 mm	1 set				
	300x300 mm	1 set	1	Ì	}		(40)) JOO Mill	Locu				
	350x250 mm	1 set	ľ				Cost of Anchor Block	s (Vertical-45 ^c	-lower	side)		ĺ	
	350x300 mm	l set			}		 	200 mm	l set		ļ	ļ	
	450x450 mm	1 set			ļ			250 mm	l set				
	500x500 mm	1 set					1	300 mm	1 set				
	600x600 mm	-						350 mm	l set		•	!	
(37) Cost of Anchor Bloc	olea (Wandaan ba 1	000 Bana	\					400 mm	1 set				
Cost of Anchor bloc	200 mm		']		Ì			450 mm	1 set				
	250 mm	l set	1		İ	·		500 mm	1 set				
	1	l set					(41)						
	300 mm 350 mm	1 set					Cost of Laying Plain						
	400 mm	1 set	ļ	1				300 mm	l m		ļ	ļ	!
	450 mm	1 set	•					500 mm	l m				
İ	500 mm	1 set	1					600 mm	1 m				
1	200 mm	1 set	1			•		800 mm	1 m	}]	
								1,000 mm	1 m				

Categories	Notes	Unit	Matarial	ost Labor	Total	Remarks	Categories	Notes	Unit		et Taban	Matal	Remarks
(42) Cost of Laying Pol (43) Cutting of Asphalt	ly Vinyl Chlorid 20 mm 25 mm 30 mm 40 mm 50 mm 75 mm		Material	ost Labor	Total	Remarks	(52) Finishing Mortar (53) Window Frame (54) Finishing Mortar (55) Finishing Mortar (56) I-Steel Beam (57) Checkered Steel Plate	Notes coping Mortar Floor T=25 mm Wall T=25 mm 250x125x7.5mm x12.5m	Unit m m 2 m pe	Material	ost Labor	Total	Remarks
(44) Hand Rail Steel Hand rail	both sides	1 m					(58) Tile (59) Artificial Stone Ground Finish	colour	m ²				
(45) Air Valve Setting (46) Fire Hydrant Installation	Concrete Box Exposed	l set l set		. 70.0			(60) Stone Wet Brush Texturing (61) Wood Brackets		m ²				
(47) Gate (48)	A-Type B-Type C-Type D-Type	l set l set l set l set					for Ceiling (62) Texture Finishing (63) Levelling Mortar (64) Silaraeng Masonry (65)		- m ² m ² m ²			·	
Name Plate of Water (49) Flag pole A Type B Type	r Treatment Plan Name plate \$2" H=8 m \$2" H=8 m	l set					Folding Door (66) I-Steel Beam (67) Substation Concrete Foundation	300x150x11,mm x18.5m	set pc				
(50) Brick Masonry (51) 'inishing Mortar	T = 15	m ²											

Part 3 Table of Wages by Occupation at Chiang-Mai Municipality

Occupation	Unit (per day)	Cost	Remarks	
Carpenter	person			
Electrician	person			
Plasterer	person			
Welder	person			
Mason	person			
Steel Bending Worker	person	; 		
Plumber	person			
Machine Operator	person			
Assistant	person	1		
Worker	person	•		

b Using Bulldoger (10 t)

		1			
Item	Quantity	Unit	Unit Price	Cost	Remarks
Bulldozer Rental Fed	1	day		ē	
Operating Cost	6	hour]	
Sub-Total	- 				
1/					Per cu.m

- 1 hour --- Digging Soil Volume m^3 (L = 50m) carrying distance
- 1 day ---- Operating time 6 hours
- 1 day ---- Cutting Soil Volume m3

Part 4 Unit Cost

(1) Excavation (per m^3)

a By Hand

Item	Quantity	Unit	Unit Price	Cost	Remarks
Worker		person			Clay
Sub-Total					Depth O-1.5m in case of pipe line including Backfill

c Cost of Operating Machine (per hour)

Item	Quantity	Unit	Unit Price	Cost	Remarks
0il	6	Litre			
Operator		person			
Assistant		person			
Mis- cellaneous	5	%			
Sub-Total					

d By Shovel (cap: 0.6 m³)

~ ~,					
Item	Quantity	Unit	Unit Price	Cost	Remarks
Machine Rental Fee	1	day			
Operating Cost	6	hour			
Sub-Total				-	
1/					per cu. m.

- 1 hour --- Digging Soil Volume m²
- 1 day ---- Operating time 6 hours
- 1 day --- Digging Soil Volume x 6 = m²

e By Dragline (cap: 0.6 m³)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Machine Rental Fee	1.	day			
Operating Cost	6	hour			
Sub-Total					
1/					per cu. m.

- 1 hour --- Digging Soil Volume m³
- 1 day --- Digging Soil Volume x 6 = m²
- 1 day ---- Operating time 6 hours

f Cost of Operating Machine (per hour)

Item	Quantity	Unit	Unit Price	Cost	Remarks
0i1	10	Litre			
Operator		person			
Assistant		11			
Mis- cellaneous		%			
Sub-Total					ala Maria (Apia (Apia di Antala) (Amigina) (Apia (Apia (Apia) (Apia) (Apia (Apia) (Apia (Apia) (Apia (Apia) (Apia (Apia) (Apia) (Apia (Apia) (Apia (Apia) (Apia) (Apia (Apia) (Apia) (Apia (Apia) (Apia) (Apia (Apia) (Apia) (Apia (Apia) (Apia) (Apia) (Apia (Apia) (Apia) (Apia) (Apia) (Apia (Apia) (Apia) (Apia) (Apia) (Apia (Apia) (Apia) (Apia) (Apia) (Apia) (Apia) (Apia) (Apia (Apia) (Apia) (Apia) (Apia) (Apia) (Apia) (Apia) (Apia) (Apia) (Apia) (Apia) (Apia) (Apia) (Apia) (Apia) (Apia) (Apia) (Apia (Apia) (Ap

- (2) Surplus Soil (per m³)
- a By Hand

Item	Quantity	Unit	Unit Price	Cost	Remarks
Worker		person			Carrying distance less than 5 m
Sub-Total					

b Using Dump Trucks (L = 4 km)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Car Rental Fee Sand	1 36	day m ³			
Operating Cost	6	hour			
Sub-Total					per cu. m.

m³

- 1 hour --- Carrying Soil Volume
- 1 day ---- Operating time 6 hours
- 1 day ---- Carrying Soil Volume m

c Cost of Operating Truck (per hour)

Item	Quantity	Unit	Unit Price	Cost	Remarks
0i1	10	bitre			
Operator		person			
Assistant		1\$			
Mis- cellaneous		%			
Sub-Total					

- 147 -

(3) Concrete Pile (per piece)

a 300 mm L = 6 m

Item	Quantity	Unit	Unit Price	Cost	Remarks
Concrete Pile	1	each			Double Half Moon Pile
Transporta- tion	1.	unit			BKK-Chiang Mai B/day per piece B pieces
Operating Cost	1	unit			в ріссоо
Machine Rental Fee	1	each			l day - B/day pieces
Labor]	person			
Sub-Total					

b Cost of Operating Machine (per day)

Item	Quantity	Unit	Unit Price	Cost	Remarks
0i.1	20	Litre			
Operator		person		!	
Assistant		Person			
Mis- cellaneous		%			
Sub-Total					
1/					Average Piles/day

c .300 mm L = 8 m

Item	Quantity	Unit	Unit Price	Cost	Remarks
Concrete Pile	1	each			Double Half Moon Pile
Trans- portation	1	unit			BKK-Chiang Mai 1 Truck - 1 day
Operating Cost	1	unit			B - pieces
Machine Rental Fee	ì	each			l day - pieces
Labor	2	person			
Sub-Total				***************************************	

d Cost of Operating Machine (per day)

Item	Quantity	Unit	Unit Price	Cost	Remarks
0i1	20	Litre		•	
Operator	<u> </u>	person			
Assistant	ļ	person			
Mis- cellaneous		%			
Sub-Total					
1./					Average = piles/day

(4) Rubble Stone (per m3)

a For Foundation

Item	Quantity	Unit	Unit Price	Cost	Remarks
Rubble Stone	1	_m 3		1	ø 20 cm
Gravel	0.32	_m 3			\$ 2 - 3 cm
Workers		person			
Sub-Total					

(5) Forms (per m^2)

a Class - A

Item	Quantity	Unit	Unit Price	Cost	Remarks
Wood Plate	0.034	m ³			Soft wood more than 3" thick
Timbers	0.012	m ³			more than 1" thick
Bolts & nuts	0.6	kg			
Carpenter	ř 	person			
Assistant		person			
Sub-Total			·		
½ (1)					Usage 2 times
Labor		person			
Sub-Total (2)					
Total(1)+(2)					

b Class - B

t) Orașo			A-1		والمقابة ومستوي والمستوية والمستويدة والمستويدة والمستويدة والمستويدة والمستويدة والمستويدة والمستويدة والمستويدة والمستويدة
Item	Quantity	Unit	Unit Price	Cost	Remarks
Wood Plate	0.022	_m 3			
Timber	0.037	m ³			
Nails	0.25	kg			
Carpenter		person		[]	
Assistant		person			
Sub-Total					
$\frac{1}{2}$ (1)	<u> </u>				Usage 2 times
Labor		%			
Sub-Total(2)				
Total(1)+(2)				

c Class - C

Item	Quantity	Unit	Unit Price	Cost	Remarks
Wood Plate	0.016	m ³			
Timber (Square)	0.020	, m ³			
Nails	0.2	kg	!		
Carpenter		person			
Assistant		person			
Sub-Total					
1/2 (1)					Usage 2 times
Labor		person			
Sub-Total(2)				
Tota1(1)+(2)				

(6) Timbering (per m³)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Timber	0.12	m ³			Unit 10 m ³
Timber (Square)	0.07	_m 2			Usage 5 times
Sub-Total					Unit 10 m ³
1/5					Usage 5 times
Bolts & Nuts	1.0	kg			Unit 10 m ³
Wire (#8)	0.3	kg			Unit 10 m ³
Labor	}				% of material cost
Total					
1/10					

(7)Staging (per m³)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Timber	0.28	m3			Unit 10 m ³
Timber	0.03	_m 3			
Wood Plate	0,0027	_m 3			Unit 10 m ³
Sub-Total					Unit 10 m ³
1/5					Usage 5 times
Wire (#8)	0.2	kg	ļ 1		
Labor					% of material cost
Total					
1/10					

(8) Reinforcing (per ton)

a Less than \$9 mm Small Round Bar

Item	Quantity	Unit	Unit Price	Cost	Remarks
Reinforcing Bar	1.0	ton			
Wire (#20)	5	kg		<u> </u>	
Bending Worker		Person			Cutting & Processing
Labor		Person			Assembling
Sub-Total	_ .				

b \$ 12 mm - \$ 22 mm Round Bar

Item	Quantity	Unit	Unit Price	Cost	Remarks
Reinforcing Bar	1.0	ton			
Wire (#20)	5	kg			
Bending Worker Labor		person person			Cutting & Processing Assembling
Sub-Total					

c Deformed Bar \$ 12 num - \$ 25

Item	Quantity	Unit	Unit Price	Cost	Remarks
Deformed Bar	1	ton			
Wire (#20)	2.5	kg			
Bending Worker		person	!		Cutting & Processing
Labor		person			Assembling
Mis- cellaneous	1	set		·	
Sub-Total					

(9) Concrete

a 1:4:8 (per m³)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Cement	170	kg			
Sand	0.48	m ³			
Gravel	0.96	m ³			% of
Labor		%			material cost
Mis- * cellaneous	1 1	se t			
Sub-Total.				-	22.

b 1:3:6 (per m³)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Cement	225	kg			
Sand	0.47	m ³			
Gravel	0.94	_m 3		ļ	
Labor		%			of material cost
Mis- cellaneous	1	set			
Sub-Total					

c 1:2:4 (per m³)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Cement	320	kg			
Sand	0.50	m ³			
Gravel	1.00	m ³			
Labor		%			% of material cost
Mis- cellaneous	1	set			
Sub-Total					15

(10)Mortar

a 1:2 Mortar (per m^3)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Cement		kg			
Sand		_m 3			
Worker		person			
Sub-Total					

b 1:2 t = 20 mm Finishing Mortar (per m^2)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Mortar		_m 3			
Plasterer		person			
Worker		person			
Sub-Total					

c 1:2 t = 20 mm Finishing Waterproof Mortar (per m²)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Painting Mortar		m ²			
Waterproof Material		kg			0.7 kg/m ² -1st Layer 0.9 kg/m ² -2nd Layer
Sub-Total					

d Expansion Joint (per m)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Joint Fill	er 0.6	_m 2			T = 60 cm
Joint Sealer	1.0	m			Asphalt: Sand = 1:6
Water-Stop Labor	1.0	m K			300 x 6 m C - C % of material
Sub-Total				i andrewershyp speciments and appropriate	cost

(11) Pump Drainage (per day)

a Engine 10 ps

Item	Quantity	Unit	Unit Price B	CostB	Remarks
Oil	!	Litre			
Mis- cellaneous	į	set			
Operator		person			
Worker		person			
Sub-Total					

b Engine 5 ps

Item	Quantity	Unit	Unit Price _B	$\mathtt{Cost}_{\mathtt{B}}$	Remarks
0il		Litre			
Mis cellaneous		set		!	
Operator		person		!	
Sub-Total					

c By Hand Pump

Item	Quantity	Unit	Unit Price	Cost	Remarks
Worker		person			
Sub-Total					

(12) Walling

(W) (H)
a 1.6m x 2.2m Length per m (both sides) For Pipe Line

Item	Quantity	Unit	Unit Price	Cost	Remarks
Wood Plate Waling Temporary Beam Sub-Total	0.265 0.045 0.0175	m ³ m ³ m ³			4.5x180x2,700 mm 150x150x1,000 mm \$150x1,300 mm
1/5					Usage 5 times
Clamp	0.4	piece			
Carpenter		person]	
Worker		person			
Total			L	<u> </u>	

(W) (H) b $1.3m \times 1.5m$ Length per m (both sides) For Pipe Line

Item	Quantity	Unit	Unit Price	Cost	Remarks
Wood Plate	0.162	m ³			4.5x180x1,800 mm
Waling	0.045	_m 3	i		150x150x1,000 mm
Temporary Beam	0.0135	m ³			\$150x1,000 mm
Sub-Total					
1/5					Usage 5 times
Clamp	0.4	piece			
Carpenter		person	į		
Worker		person			j
Total				<u></u>	

c Trench Sheet Pile ((W) 25cm x (H) 10cm H=6m Unit 1 m) For

Item	Quantity	Unit	Unit Price	Cost	Remarks
Sheet Pile Rental Fee	4	sheet			12kgx6m = :
Machine Rental Fee	4	sheet			Times Rental Fee B/day
Cost of Operating	4	sheet			l day - sheets Driving & Removing
Mis- cellaneous		%			
Sub-Total					

d Cost of Operating Machine (per day)

Item	Quantity	Unity	Unit Price	Cost	Remarks
0i1	20	Litre			
Operator		person			
Worker		person			
Mis- cellaneous		%			
Sub-Total			i		
1/5					Sheet Pile Driving Sheet Pile Driving

(13) Revetment

a Length (per m)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Concrete Pile(T-Type	10	piece			0.7 0.45/m 0.4 0.15 H=11m
Operating Cost	1	day			
Concrete Plate	81	sheet			{t=10cm {w=40cm L=2.1m
Worker		person			$9^{\text{sheets}} \times 9 = 81^{\text{sheets}}$
Retaining	10	place			
Mis- cellaneous		%			
Machine Rental Fee	1	day			
Sub-Total					
1/22.5					9 span (2.5m long)

(14) Concrete Slab Pitching

a Area (per m²)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Precast Concrete Slab	4	sheet			·
Poor Concrete	0.05	m ³			·
Mason		person			
Worker		person			
Sub-Total					

(15) Sodding

a Area (per m²)

Itom	Quantity	Unit	Unit Price	Cost	Remarks
Lawn	1	m ²			
Bamboo	39	piece			L =18 cm
Worker		person			
Sub-Total					

(16) Paving

a Asphalt Concrete Pavement (per m²)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Laterite	0,15	m ³			t = 15 cm
Concrete	0.10	_m 3.	1	1	1:2:4 t=10 cm
Asphalt	1.0	m ²		<u> </u> }	
Worker		person			
Sub-Total			<u> </u>	† · · · · · · · · · · · · · · · · · · ·	

b Asphalt Pavement (per m²)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Laterite Concrete Asphalt	0,15 0,10 1,0	m ³ m ³ m ²			7 kg/m ²
Worker		person			

c Brick Pavement (per m²)

Item	Quantity	Unit	Unit Price	Cost	Remarks	-
Excavation	0.17	m ³				
Gravel	0.10	_m 3				
Mortar	0.04	_m 3		,		
Brick	56	рс				
Sub-Total						

(17) Planting

8

İtem	Quantity	Unit	Unit Price	Cost	Remarks
Shade Tree	1	tree		}	Delonixregia Rafin Lagerstroemia
Support	1	set			Cassiafistula Linn Bauhinia Purpurea Linn
Worker		person			
Sub-Total					

(18) Fence

a Silaraeng Fence (per m)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	15	_m 3			10 span 21 m
Silaraeng	1.25	_m 3			
Rubble Ston	e 0.7	m ³	,		
Concrete	7	m ³			1:3:6
Concrete Column	11	ре			= 2.7 m
Concrete Column	15	pe			= 2.1 m
Concrete Column	5	рс			= 1.2 m
Wire Net	42	m ²			# 10
Labor	1 %				% of
Sub-Total					material cost
1/21					

b Barbed-Wire Fence (per m)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	2	m. ³			
Cobble Ston	 e 0 . 05	_m 3			
Concrete	0.15	m ³			1:3:6
Moulding	3.12	m ³		ļ	
Concrete Pole	6	pole			
Wire	93	m			#14
Labor	ļ	%			% of
Sub-Total					material cost
1/10				/	

c Wooden Fence (H = 50 cm) (per m)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	0.75	_m 3		<u> </u>	
Soft Wood	0.09	_m 3			
Paint	5	m^2	,		
Labor		%			
Sub-Total		····			
1/10					

d Wooden Fence (H = 80 cm) (per m)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	0.75	_m 3			
Soft Wood	0.12	m ³			
Paint	6	m^2			
Labor	1	set			% of material
					cost
Sub-Total					
1/10					

e Net Wire Fence (H = 1.9 m) (per m)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	1.72	_m 3			
Cobble Stone	0.08	_m 3			
Concrete	0.19	_m 3			
Moulding	2.97	m ²			
Net Wire Fence	1.0	m			
Mis- cellaneous	1	set			
Sub-Total					
1/10					

(19) Gutter & Open Channel

a Concrete Open Channel $(500 \times 735 \text{ m/m})$ per 1 m

'Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	1.90	m ³			
Cobble Stone	0.10	m ³			
Concrete	0.30	m ³			
Reinforcing	4.3	kg			
Forms	2,5	m^2			
Sub-Total					=

b Concrete Open Channel (800 x 1220 m/m) per 1 m

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	2,20	_m 3			
Cobble Stone	 9 0.13	_m 3			
Concrete	0.37	m ³			
Reinforcing	5.3	kg			
Forms	3.0	m ²			
Sub-Total					

(B) (H) (L) (T)
c Concrete Open Channel (45 x 45 x 60cm - 6cm) (per m)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	3.6	_m 3			B=50cm H=60cm L=12m
Sand Mat	0.6	_m 3			H=10cm b=50cm
Concrete Block	20	pc.			45 x 45 x 60 cm
Joint Morta	r 0.02	m ³			T=lcm 20 pices
Sub-Total					
1/12					

d Concrete Open Channel (20cm x 20cm x 60cm - 3cm) (per m)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	1.08	m ³			b=30cm H=30cm
Sand Mat	0.252	_m 3			H=7cm b=30cm
Concrete Block	20	pc			
Joint Morta	r 0.01	m ³			1:2
Sub-Total					
1/12					

(B) (H) (L)
e Brick Gutter(4cm x 17cm x 9cm) (per m)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Brick Mortar Labor	0.0015	pe m ³			4x9x17cm-1 ^{piece} 3x5x100 cm
Sub-Total		person			

f Concrete Gutter (per m)

Item	Quantity	Unit	Unit Price	Cost	Remarks .
Excavation	0.45	m ³			
Cobble Stone	0.08	m ³	[
Concrete	0,20	m ³			1:3:6
Forms	4.00	m ²			
Sub-Total					
1/10					

g Drain Pit Per set

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	0.5	_m 3			
Cobble Stone	0.04	m ³			
Concrete	0.11	_m 3	1	ı	
Forms	2.0	m ²			
Sub-Total		· · · · · · · · · · · · · · · · · · ·			

(20) Coffering

a Closing Dyke $(2.0 \times 1.2m - 6m)$ (per m)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Wooden Pile	20	pc.		•	Pitch 0.6m L=6m \$12cm H=3.0m
Tie - Rod	10	pc.			Steel bar \$25 mm L = 2,300 mm
Fagot	15	bundle			1
Surplus Soil	1 14.4	m ³		ļ	
Labor		person			
Sub-Total					
1/6			-		

b Driving Steel Sheet Pile (per m)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Sheet Pile Rental Fee	2.5	sheet			48kgx10m=480kg x480x1/ =
I-beam Rental	1.07	ton			x1/ =
Welding	1.24	m			(Baht/kg x 480 x 1/usage) x 1/ = (Baht/kg x 1/usage) rental fee
Machine Rental Fee	2.5	sheet			B/day
Operating Cost	2.5	sheet			Usage times sheets/d drive in
Sub-Total					

c Removing Sheet Pile

Item	Quantity	Unit	Unit Price	Cost	Remarks
Operating Cost	2,5	sheet			l day- sheets
Machine Rental	2.5	sheet			Removing
Sub-Total					

(21) Stone Masonry (per m²)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Stone	160	pi.ece			Т = 35 cm
Concrete	1.8	m ³			1:4:8 t = 18 cm
Forms	10	_m 2			
Mason		person		ľ	
Labor		person			
Bamboo	10	set			\$37 mm L≈60cm
Sub-Total			**************************************		
1/10					

(22) Steel Bar Screen (per set)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Steel Plate	786	kg			9tx90x4,750-26 sh
Bar	32	kg			\$22x1,050-10 PC
Steel Pipe	10	m			\$11/4"x 127 - 10 PC \$11/4"x 68 - 120 PC
Nuts & Bolts	5	set			\$22-10 \$22x200-5 90x90x10x2100-2 100x75x10x2100-2
Angle Bars	304	kg			125x90x13x2350-4
Processing & Assembling	1.18	ton			
Painting	122	_m 2			
Setting screen	·	person		}	
Mis- cellaneous		%			
Sub-Total					

(23)	Siuice	Gate Set	ting (per	set)	
Item	Quantity	Unit	Unit Price	Cost	Remarks
Sluice Gate & Head Stock Plumber	1	set person	·.		including Anchor Bolts, Spindle Shaft Sus-50 \$55 m/m
Worker		person			
Mis- cellaneous	1	set			% of Labor cost
Sub-Total					

(24) Prain Pit (A - TYPE) (per 1 set)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Rubble Stone	0.44	_m 3			1.2mx1.2mx0.3m
Reinforcing	112	kg			100kg/m ³ :Concrete
Concrete	0.38	m ³			Slab Concrete
Concrete	1,12	_m 3			Wall H = 1 m
Concrete	0.77	m ³			Bottom
Forms	11.20	m ²			Wall $H = 1 m$
Forms	3.36	m ²			Bottom & Slab
Mis-	1.	set			%
cellaneous					
Sub-Total					

(25) Drain Pit (B - TYPE) (per 1 set)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Rubble Stone Reinforcing Concrete Concrete Forms Forms Mis- cellaneous	0.68 136 1.62 1.36 4.53 13.60	m ³ kg m ³ m ² m ² set			1.5mxl.5mxO.3m 100kg/m ³ :Concrete Slab, Bottom Wall H = lm Slab, Bottom Wall H = lm

(26) Flow-Meter Chamber (Back Washing Main) (per set)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	72	m ³			
Surplus Soil	12	m ³			
Rubble Stone	1.5	_m 3			
Wooden Pile	4	each			∮10cm L =300cm
Reinforcing	1,149	kg			\$12 1.04x131=136.24 \$15 1.58x641=1012.78
Concrete	0.73	_m 3			1:3:6
Concrete	6.60	_m 3			1:2:4
Forms	51.0	_m 2			
Staging	32.2	_m 3			
Timbering	8,8	m ³			
Asphalt Filler	2.3	m ²			
Mortar Finishing	21.2	m ²			
Manhole Cover	1	set			
Mis- cellaneous	1	set			% .
Sub-Total					

(27) Flow - Meter Chamber (Raw-water Main) (per set)

Item	Quantity	Unit	Unit ^P rice	Cost	Remarks
Excavation Surplus Soil Rubble Stone Wooden Pile	90.4 22.7 2.3 4	m ³ m ³ m ³			
Reinforcing	1,585	kg	i		612 1.04x223=232 615 1.58x857=1354
Concrete	1.2	_m 3			1:3:6
Concrete	9.6	m ³ m ²			1:2:4
Forms	69.0	m ³			
Staging Timbering	39.0 15.0	m ³			
Asphalt Filler	3.2	m ²			
Mortar Finishing	30.5	m ²			
Manhole Cover	1	set			
Mis- cellaneous	1	set			%
Total				<u> </u>	

(28) Flowmeter Chamber (Distribution Mains) (per set)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	135	_{1n} 3			
Surplus Soil	30	m ³			
Rubble Stone	2,3	_m 3			, ,
Wooden Pile	4	PC			
Reinforcing	1,458	kg			612 1.04x1063=1106 615 1.58x223 = 352
Concrete	2.3	_m 3		[1:3:6
Concrete	11.3	m ³			1:2:4
Forms	87.0	m ²			
Staging	51.	_m 3			
Timbering	21	m ³			
Asphalt Filler	3.2	m ²			
Mortar Finishing	38 . 5	m ²			
Manhole Cover	1	set			
Mis- cellaneous	1	set			%
Total					

(29) Labor Cost of Laying Pipes (per m) Note: Used ACP less than \$300 mm

j	Plumb	er		Wor	ker		Total Cost	Unit Length	Per	m					
size mm	Quanti ty	Unit	Cost	Quantity	Unit	Cost	per Piece	m m	Cost		R	eme	ırks		
75	<u></u>	Person			Person			4			Joint	: (Coupli	ng T	уре
100		11			н			4			a)	:	11		11
150		u .			10			4		i	u	;	(1		H
200		11			11			4			11	;	11		15
250		14			H			4			n	;	п		ti.
300		P)			38		į	4			"	:	n		11
350					1 1	!		6		:	Joint	: 1	Mechan	ical	Туре
400		н			11	İ		6			.	:	18		H
450		,,			11			6	i		u	:	14		u
500		. ,		,	11			6			,,	:	11		H
600]	, j		*1			6			"	:	, "		11
700	ļ		ĺ		11			6			 0	:	ŋ		В

(30) Angle Valve Box

(i) Less than \$75m

(ii) More than \$100 m

Item	Quantity	Unit	Unit Price	Cost	Remarks	Item	Quantity	Unit	Unit Price	Cost	Remarks
Gravel	0.008	3 m				Gravel	0.008	m ³	-	# 1	
Frecast Concrete Plaster Block	1	each		l I		Precast Concrete Plaster Block	4	each			C8-13
Concrete	0,013	m ³	Į.		1:2:4	Concrete	0.013	m ³			1:2:4
Forms	0,43	m ²				Forms	0.43	m ²			
Steel Bar	3	kg			ø6 mm	Steel Bar	3	kg			∌6 mm.
Concrete Cover	1.	set	i i	·	33 x _m 33 ^{cm} t=5	Mortar	0.01	m ²			1:2
Miscellaneous	1	11				Concrete Cover Misscellaneous	1 1	set "			33 x 33 ^{cm} t≈5 ^{cm}
Sub-Total						Subtotal					

(31) Cost of Jointing (per set) Note: For ACP less than \$300 mm

	Plui	nber	فنحارث بالمكاهد المدر موني و دون و	Wor	ker		Total Cost	Joint				
Size m/m	Quantity	Uni.t	Cost	Quantity	Unit	Cost	Per Piece	Price	Cost	Rer	marks	
75		person			person					Joint:	Gibaul	t Joint
100		person			person					н ;	ŧI	11
150		person			person					н ;	ŧI	11
200		person			person					";	\$ }	11
250		person			person					";	41	11
300		person			person						11	11

(32)Cost of Jointing (per set) Note: For DCIP

		_	 	 					
350	person		person			n n	:	11	ŧI
400	person		person			"	:	17	0
450	person		person			11	:	19	17
500	person		person			19	:	11	11
600	person		person		-	11	:	12	
700	person		person			11	:	11	11

(33) Sluice Valve Setting

		Material	s					Lab					
Size	Valve		Valve	Accesso-		Plum			Worke				
~3.27	70.3.70	Packing	Box	ries	Sub-Total	Quantity	Unit	Cost	Quantity	Unit	Cost	Sub-gotal	Total
mm							Ì]					
			Screw Type						···				
75		4 includ-					person		:	person			
100		ed n					person			person			
150		11				Í	person			person			
		В					person			person			
200]							:					
250		11					person			person			
300		11					person			person	:		
		į	Hat Type										
350		10 includ- ed		,			person			person			
400		n					person			person			
450		11					person			person			
500		11					person			person			
600		11					person			person			
700		H					person			person		ľ	

(34) Butterfly Valve Setting

		Material						<u>La</u>	bor				
Size	Valve	Bolts &	Valve	Accesso-		Plum	ber		Work			 	
		Packing	Box	ries	Sub-Total	Quantity	Unit	Cost	Quanti ty	Unit	Cost	Sub-Total	Total
mm			Hat Type										
350		10 includ- ed					person			person			
400		u					person			person			
450		11					person			person			
500		11	į				person			person			
600		n	ľ]	person			person			
700		H					person			person			
800		#				ļ	person	<u> </u>		person		<u></u>	<u></u>

(35) Cost of Welding (Steel Pipe) per set L = 6m

			*****	· · · · · · · · · · · · · · · · · · ·			WE	lding									
			Labor	;							М	ateria	ls				
ļ	Welder	·	····	Work	er		Welding	Electr	ode	Oxygen			Acetylene	Gas		Misc.	Machine Rental
Size mm	Quanti ty	Unit	Cost	Quantity	Unit	Cost	Quantity	Unit	Cost	Quantity	Unit	Cost	Quantity	Unit	Cost		Cost
350		Person		<u></u>	Person		0.85	kg		0.3	_m 3		0.15	kg			
400		Person		ŧ.	Person		1,0	kg		0.35	m ³	ì	0.17	kg			,
450		Person			Person		1.1	kg		0.42	m ³		0.21	kg			
500		Person			Person		1.25	kg		0.50	m ³		0.25	kg			

							Coating (E)	terior)	**************************************						Tota	1	
			Labor						Mate	rials					Maintenance and			
	Painte	r		Work	er		Asphalt			Vinylon			Fue1	Misc.	Depreciation	per Piece	per	m
Size	Quantity	Unit	Cost	Quantity	Unit	Cost	Quanti ty	Unit	Cost	Quantity	Unit	Cost	Cost		%			
			·															
350		Person			Person		7	kg		7	m							
400		Person			Person		8	kg		8	าก			}				
450		Person			Person		9	kg		9	m							
500		Person			Person		. 10	kg		10	m							

(36) Cost of Anchor Block (T-Joint) per set

					كالمرابع فلأف مرابعات الترابع فالمرابع فالمرابع فالمرابع الاستان		Cona	rete (1:3:6	-\	^	Tota	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~
	Rubb	le Stone		For	ms_ Material	Labor	T VOIIG	Material	Labor	Misc.	Material	Labor	(M)+(L)
Size mm	Quantity m ³	Material	Labor	Quantity m ³	Materiai	18001	Quantity m3	ng teria i	bacor	MISC.	(M)	(l')	(P)T(D)
	_			_			0.11						
100 x 100	0.08			0.92	;		0.11						
200 x 100	0.11			1.45	į	į	0.18						
200 x 150	0.12			1.53			0.19	1					
200 x 200	0.13			1.60			0.21						
250 x 200	0.17			2.04			0.30						
300 x 200	0.22			2.52			0.40						1
300 x 300	0.27		;	2.75			0.48						
350 x 250	0.27	-		2.96			0.54			 			Į.
350 x 300	0.32			3.22			0.63						
450 x 450	0.49			5.14			1.25						
500 x 500	0.56			5.85			1.48						
600 x 600	0.65	·		6.21			1.58						

(37) Cost of Anchor Block (Horizontal Bend 90°) per set

		Rubble S	tone		Forms			Concrete			Tota		
Size mm	Quantity	Material		Quantity	Material	Labor	Quantity m ³	Material	Labor	Misc.	Material (M)	Labor (L)	(M)+(L)
	m ²			m ²			(1)						<u> </u>
200	0.08		į	2,24	·		0.31			:			
250	0.12			3.12			0.52						<u> </u>
300	0.15			3.84		ľ	0.70						
350	0.25		•	4.94			1.25						•
400	0.33		,	5.97			1.77						
450	0.43			7.09			2.40						}
500	0.53		1	8.30			3.18		[}				

(38) Cost of Anchor Block (Horizontal Bend 45°) per set

	Rubble Stone			Forms					Total	~ 			
Size mn	Quantity m3	Naterial		Quantity m ²	Material	Labor	Quantity m3	Material	Labor	Misc.	Material (M)	Labor (L)	(M)+(L)
		}								ļ	ļ 9	1	
100	0.04		<u>.</u>	1.0	!		0.11		i I				
150	0.07]	1.56	!	}	0.23	1	•				1
200	0.12			2,16	<u> </u>		0.43						1
250	0.17			2,76	<u> </u>		0.65		ļ				
300	0.24		,	3.57	1	ļ	1.00						ĺ
350	0.28		[4.12			1.27						1
400	0.38			5.12		Į	1.82		ļ			l	ļ
450	0.47			6.75			2.68						
500	0.57			8.45		-	3.38						1
600	0.57		į	8.45			3.38						

(39) Cost of Anchor Block (Vertical Bend 45°) per Set
Upper Side

	Rubble S	tone	المتحدد المتحدد المتحدد المتحدد المتحدد المتحدد المتحدد المتحدد المتحدد المتحدد المتحدد المتحدد المتحدد المتحدد	-	Forms	,		Concre	te (1:3	;;6)		Total	
Size (mm)	Quantity	Material	Labor	Quantity m ³	Material	Labor	Quantity m ²	Material	Labor	Misc.	Material (M)	Labor (L)	(M)+(L)
200	0.12						0.23						
250	0.17						0.61	·			;		
300	0.21						1,08						
350	0.22						1.15						
400	0.28						2.97				·		
450	0.32						3.49						
500	0.39						4.37						

(40) Cost of Anchor Block (Vertical Bend 45°) per Set
Lower Side

,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Rubble Stone			l H	orms			Concrete	(1:3:6	5)	Total		
Size (mm)	Quantity m3	Material	Labor	Quantity m ²	Material	Labor	Quantity m ³	Material	Labor	Misc.	Material (M)	Labor (L)	(M)+(L
200	0.13												
250	0.17												
300	0.22		•										
350	0.24						; 		1				
400	0.27												
450	0.31												
500	0.36						,		L.,		<u> </u>		<u> </u>

(41) Cost of Laying Plain Concrete Pipe (Socket) (per m)

							Name of Street, or other Persons of the Persons of								
		Joint	ing -	Labour				Jointi	ing - M	aterial					
	Plu	mber			rker		Cement Sand		Socket						
Size	Quantity		Cost	Quantity		Cost	Quantity	Unit	Cost	Quanti ty	Unit	Cost	Pi.pe	Total	Remarks
mm															
300		Person			Person		5.1	kg		0.0037	_m 3				
500		Person			Person		10.7	kg		0.0079	m ³				
600		Person			Person		12,8	kg		0.0094	m ³				
800	1	Person			Person		17.0	kg		0.0120	_m 3				
1000		Person			Person		31.8	kg		0.0230	m ³			:	

(42) Cost of Laying Polyvinyl Chloride Pipe (per m)

		Joint	ing -	Labor			Exc	avatio	n		Adhes	ive	Material.		
	P1	umber	·	Wo	rker		By Hand					Pipe Price	Access	<u> </u>	
Size	Quantity	Unit	Cost	Quantity	Unit	Cost	Quantity	Unit	Cost	Quantity	Unit	Cost	Cost	Cost	Total
rom							H = 0.6m b = 0.5m							-	
20		Person			Person		0.3	m ³		1.2	g				
25		Person			Person		0.3 H = 1.0m b = 0.6m	_m 3		2.0	g.				
30		Person			Person		0.6	m ³		2.4	g				
40		Person			Person		0.6	m ³		3.6	g				
50		Person			Person		0.6 $H = 1.2m$ $b = 0.8m$	_m 3		5.4	g				
75	[]	Person			Person		0.96	_m 3.		7.2	g				
100		Person			Person		0.96	_m 3		10.1	g	1			

(43) Cutting of Asphalt Pavement

a Cost of Operating Machine (per hour)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Gasoline Mis- cellaneous	2.5	Litre %			
0perator		person			
Assistant		person			
Machine Rental	1	hour			
Sub-Total					24 m/hour
per meter	1/24	· 		 	
BothSides x 2					cost/m/2 sides

(44) Hand Rail

a Steel Hand Rail H=1.0m Column to column 50 cm

Item	Quantity	Unit	Unit Price	Cost	Remarks
Galvanized Steel Pipe	4.2	m			ø 4
Welding	4	point		i •	
Mortar	0.002	m ³			
Mis- cellaneous	1	set			
Sub-Total					

(45) Air Valve Setting (per set)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	3.6	m ³			including Back filling cost
Surplus Soil	0,8	_m 3			
Rubble Stone	0.13	_m 3			
Concrete	0.3	_m 3			
Forms	5.7	_m 3			
Reinforcing	11.0	kg			
Sand	0.1	_m 3			
Steel Cover	1	set			including
Airvalve	1	set			Flanged Pipe (\$75 mm) & Sluice Valve
Mis- cellaneous	1	set			
Sub-Total					

(46) Fire Hydrant Installation (per set)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation		_m 3			including Pipe Line
Rubble Stone	0.12	m ³			
Forms	1.2	m ²			
Concrete	0.1	_m 3			
Fire Hydrant	. 1	set			∮4" Double
Accessory	1	set			Bend \$100 mm x 90°
Asbestos Cement Pipe	1	pc.			∮100mm x 4,000 mm
Flanged Spig	ot2	pc.			Flanged Spigot \$100 mm
Mis- cellaneous	1	set			
Sub-Total					

(47) Gate

a A - Type (Proposed Plant)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	3.18	_m 3			
Cobble Stone	0,23	m ³		ŀ	
Concrete	0.78	m ³			1:3:6
Forms	3.5	m ²			·
Silaraeng	8,5	m ³			
Steel Gauge	34.75	kg			2.3x100x100mm
Steel Gauge	95.6	kg			2.3x100x 50mm
Steel Gauge	151.9				2.3x50x50mm
Steel Plate	0,85	kg			t = 1.6 mm
Steel Plate	21.3	kg			t ≈ 3.2 mm
Painting	19.34	m ²		·	t = 4.5 mm
Sign Board	1	each			150x600x20 mm
Mis- cellaneous	1	set	1		including fence caster
Sub-Total	<u> </u>			L 	

b B - Type (Proposed Plant)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	0.52	_m 3			
Cobble Stone	0.06	_m 3			
Concrete	0.16	m ³			
Forms	1,60	m ²		ļ	
Silaraeng	0.3	m ³			
Steel Gauge	19,5	kg			2.3x100x100 mm
Steel Gauge	76.0	kg			2.3x100x 50mm
Steel Gauge	69.5	kg		}	2.3x 50x 50mm
Steel Plate	21.3	kg	I		t = 3.2 mm
Painting	10.14	kg 2 m			t = 4.5 mm
Mis- cellaneous	1	set			including fence
Sub-Total					

c C - Type (Intake Site)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	0,78	m ³			
Cobble Stone	0.03	m ³			
Concrete	0,11	_m 3			
Forms	1.44	m ²			
Steel Gauge	33.3	kg			2.3x100x100
Steel Gauge	75.0	kg	}		2.3x1.00x 50
Steel Gauge	88,1	kg			2.3x 50x 50
Steel Plate	9.8	kg			t = 1.6 mm
Steel Plate	5.4	kg	į.		t = 3.2 mm
Painting	13.5	m ²			
Mis- cellaneous	1.	set			%
Sub-Total					

d D - Type (Intake Site)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation Cobble Stone Concrete Forms	0.11	m ³ m ³ m ³ 2			2. 3v100v100
Steel Gauge Steel Gauge Steel Gauge Steel Plate	33.3 85.3 121.2 12.4	kg kg kg kg			$\begin{array}{c} 2.3x100x100 \\ 2.3x100x 50 \\ 2.3x 50x 50 \\ t = 1.6 mm \end{array}$
Steel Plate Painting Mis- cellaneous	5.4 16.5 1	kg 2 m set			t = 3.2 mm
Sub-Total					

(48) Name Plate of Water Treatment Plant

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	4.68	m ³ m ³			
Cobble Stone Concrete	0,81. 3,54	m ³			-
Forms Steel Bar	30.0 173.0	m ² kg m ³			
Wood Painting	0,25 6.5	m ³ m ²			
Mis- cellaneous	1	set			%
Sub-Total].

(49) Flag Pole

a A - Type

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation	21.1	_m 3			
Cobble Stone	1.46	_m 3			
Concrete	11.7	_m 3			
Forms	19.5	m ²			
Prestressed Concrete Pole	3	pc.	į		H = 8 m
Mis- cellaneous	1	set			%
Sub-Total					

b B - Type

Item	Quantity	Unit	Unit ^P rice	Cost	Remarks
Excavation Cobble Stone	13.8 1.92	m ³ m ³			
Concrete	13.2	m ³			
Forms	17.2	m 2	i		
Polyvinyl Chloride Pipe	3.3	m			\$100
Mis- cellaneous	1	set	:		%
Sub-Total.				·	

(50) Brick Masonry (Per m²)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Brick Mortar	110 0,059	_m 3			40x170x90
Worker	0.000	m person			
Assistant		person			
Sub-Total					

(51) Finishing Mortar (Per m²) (for Architectural Structure)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Mortar	0.015	m ³			
Plasterer Assistant		person person			
Sub-Total					

(52) Coping Finishing Mortar (Per m²)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Mortar	0.084	_m 3			
Plasterer		person	i		
Assistant		person			
Sub-Total					

(53) Window Frame Mortar (Per m²)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Mortar	0.005	_m 3			
Plasterer		person			
Sub-Total					

(54) Finishing Mortar (Interior Floor) (Per m²) T = 30 m/m

Item	Quantity	Unit	Unit Price	Cost	Remarks
Mortar	0.03	_m 3			
Plasterer		person			
Wocker		Person			
Sub-Total					

(55) Finishing Mortar (Interior Wall) (Per m^2) T = 25 mm

Item	Quantity	Unit	Unit Price	Cost	Remarks
Mortar	0,075	_m 3			
Plasterer		Person			
Worker		Person			
Sub-Total					

(56) I-Steel Beam 250x125x75x12.5 (Per pc.)

Item	Quantity	Unit	Unit Price	Cost	Remarks
I-Steel	38.3	kg			250x125x7.5 x12.5
Worker		Person			
Sub-Total					

(57) Checkered Steel Plate T = 3 mm W = 500 mm (Per m)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Steel Plate 3mm	13.4	kg			
Steel-Angle 30x30x32	2.72	kg			
Worker		Person			
Sub-Total					

(58) Tile (Per m²)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Tile	67	sheets		~	
Sand	0.025	m ³			
Cement	12.5	kg			
White Cement	1.05	kg			
Worker		person			
Plasterer		person			
Trans- portation	1	m ³			
Sub-Total					

(59) Artificial Stone Ground Finish (Per m²)

^I tem	Quantity	Unit	Unit Price	Cost	Remarks
Cement	21	kg			
Sand	0,028	m ³			
Crushed Stone	15	kg			
Worker		person			
Plasterer		person			
Sub-Total					

(60) Artificial Stone Wet Brush Texturing (Per m²)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Cement	16	kg			
White-Cement	4	kg			
Sand	0,026	kg m ³			
Crushed-Stone	15	kg			
Pigment					
Worker		person			
Plasterer		person			
Sub-Total					

(61) Wood Brackets For Ceiling (Per m²)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Wood	0.0216	_m 3			
Nails	0,08	kg	:		
Carpenter		person			
Worker		person			
Sub-Total					

(62) Textile Finishing (Per m²)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Textile	11.2	m ²			
Nails	0.035	kg			
Worker		person		:	
Transportation	1 1	m ²			
Sub-Total	* * * * * * * * * * * * * * * * * * * *			· 	

(63) Levelling Mortar

Item	Quantity	Unit	Unit Price	Cost	Remarks
Cement	12	kg			
Sand	0.028	m ³			
Worker		person			
Plasterer		person		İ	
Sub-Total					

(64) Silaraeng Masonry

Item	Quantity	0nit	Unit Price	Cost	Remarks
Silaraeng Mortar Worker	0.04	m ³ m ³ person			
Plasterer		person			
Sub-Total				·	

(65) Folding Door

Item	Quantity	Unit	Unit Price	Cost	Remarks
Teak Bed Wood Metal	46.5 23.25	. m ² . m ² . m ²			
Carpenter Werker	23.25	m person person			
Sub-Total	, , , , , , , , , , , , , , , , , , ,				

(66) I-Steel Beam

Item	Quantity	Unit	Unit Price	Cost	Remarks
I-Steel Beam	300x150x11 x18.5	kg			
	55.5 kg		,		
Worker		person			
Sub-Total					

(67) Substation Concrete Foundation (Intake Site & Proposed W. T. Plant)

Item	Quantity	Unit	Unit Price	Cost	Remarks
Excavation Surplus Soil Rubble Stone Concrete	99.2 71.7 13.6 64.5	m ³ m ³ m ³ m ³ m ³		,	1:2 = 4
Forms Wooden Piling Sub-Total	35.0° 16	m pc.			100, = 3m

Part 5 Cost of Materials

List of Construction Materials & Machine

**************************************	T	Foreign	Domestic	T			Foreign	Domestic	PARAMONE IN THE COLUMN AND AND AND AND AND AND AND AND AND AN			Foreign	Domestic	
Item	Unit	}	Currency	Remarks	Item	Unit	Currency			Item	Mode	_	1	Damada
	<u> L </u>		Rental Fe	_L	200/11	Forms & Ti		- dirency		Interior Fitting	Onre	Currency	currency	Remarks
Bulldozer	Hr			10t	Forms	m ³	_			Double Swing	an t			3 600 0 000
Shovel	11			0.6m ³	11	n				Window	set "			1,600 x 2,200
Dragline	n	_		"	н	11	-		class-C	n tudow	n			1,600 x 900
Dump Trucks	11	~		6t	Board	11				Single Swing	,,			1,600 x 1,800 800 x 600
Pile Driver	D D	_		H = 15m		11	*	·		Window				
		f			Wooden Pile	11	***			5-Panel Box Window	1\$			4,500 x 2,900
Prec	ast Co	ncrete			Brush Wood	Bundle			İ	4-Panel " "	41			
0.2 x 0.2 x 12 ^m	pe	-		Electric		Steel & Fi	xtures			Non Opening Window	15			
0.13 x 0.13 x 7	"	_		2010	Plate	kg				er- Pivoted Window	#			W-1.
0.18 x 0.18 x 8	"			pile	11	"			ed plate		it			A~5
0.3 x 0.3 x 6	b l	_		Ħ	15	11			Grating Common pla	te "	u			W-3
0.3 x 0.3 x 8	10	_		et	H-Beam	11			Common pla normal	Double Swing Door	11			3,000 x 2,500
0.3 x 0.3 x 10	u l	·		1,	L-Beam	16				11	n			1,600 x 2,000
0.7/0.4 x 0.45/0.45 x 11	h			T-type	L-Angle	11				41	t)			1,700 x 2,000
0.13 x 1.0 x 2.1	"	-		Flatslab	Bolts, Nuts	11				ŧı	0			WD-3
2.1 ^m	31	_		Fence Post	Nails	**								,
$0.19 \times 0.4 \times 11^{m}$	17			Sheet Pile						Single Swing Door	11.11			800 x 1,950
0.06 x 0.4 x 2	11	-		li .	Reinforcing	g Bar				ıı	ŧi l			800 x 2,000
0.35 x 0.35 x 0.2	11		ļ	Plaster Block	Round Bar	kg			Less than	11	11			600 x 1,950
		1			31	51			ø 12 - ø 1	5 Screen Door				WD-5
Stone, Grave	ol, San	d, etc.			Deformed Bar					·	:			
Silaraeng	m ³			İ								:		
Rubble Stone	11	-		j	ľ	Vire & Wire	Net							
Filling Sand	tt .	~ 1		L = 4km	dire	kg			#20					
Fine Sand	и	D-4		þ	Barbed Wire		_		#14		1			
" Gravel	15	-		Į.	Vire Net	m 2 m		į	#10					
Cement	kg			Portland					į					
Brick	pc	-		İ										
Rubber Joint				For Expansion Joint										
				OOTH	····									

		Foreign	Comestic		l	Foreign	Domestic			Foreign	Domestic			Foreign	Domestic
Item	Unit	_	Currency	Item	Unit	ł	Currency	Item	Unit	Currency		Item	Unit	Currency	{
Ductile Ca			.1	Asbestos Ce	I			350	set			Sluice Val		ļ -	
	ng Joint	-	ĺ	Class - 20			। इ	400	16		_	Screw t	ype Valve	Box	
ø 100 mm	m			½ 100 mm				450	1}		6/7	ø 75⋅mm	Set		
150	••		_	150				500	18			100	. 11		
200	α		_	200				600	1\$			125	11		
250	11			250				Galvanize	d Steel Pi	! Lpe		150	11		
300	Ħ			300			<u> </u>	∮ 12 mm	m	_		200	11		•••
350	18		-	Asbestos Ce	 ment Pi	l pe		20 "	Ħ	_		250	11		
400	11			For Drain c	lass-A			25 "	11	~		300	н		-
450	11			\$ 80 mm				32 "	11			350	11	<u> </u> 	Hat Type
500	11		_	100				35 ¹¹	U	_		400	11		17
600	и		_	150				50 "	11	_		450	н		11
700	.,		_	Gibault Joi	nt Clas	s-15		60 "	11	_		500	11		31
Flange Type	e Steel E	Pipe	}	∮ 100 mm	Set			80 mm	11	~		Butterfly	ı Valve &	1	
Coating: In				150	,,	y-r		100 mm	11	_		Het-typ	e Valve Bo	x	
T_{8}	ar-Epoxy	Coating		200	н	_		150	11	- -		∮ 350 mm	Set		-
ø 350 mm	kg [Ī	-	250	ar .			200	11			400	11		-
400	11		-	300	3 1			250	,,,			450	н		-
450	11]	*	400	11:	-		300	u			500	11		-
500	FI			500	11	-		Steel Pipe	' Tar-Epoxy	Coating		600	11		
600	и ,	`		600	11	~-		350	m	-		700	u		-
Asbestos Co	ı ement Pip	ie !		Gibault Join	nt Class	s - 20		400	u			-800	H		-
Class-15 In	ncluding	Coupling		ø 100 mm	Set	_		450	11			:			
ø 100 mm	m]			150	(1	_		600	lt .	_		Fire Hydran	t		
150	11			200	u			800		_		∮100 mm	Set	_	
200	14	-		250	11	-		Specia	l als			Accessory	ı,	_	
250	Ħ			300	tt	_		for ACP	kg			Air Valve		ŀ	
300		-		 Glands Class	3-3				_			∮75 mm	Set		94
400	11	-		ø 100 mm	ii		~-	for GSP	11			Accessory	11		-
500	11	<u></u>		150	j 1										
600	11			200	Ħ			for DCIP	38						
				250	11		- ,]					
				300	ŧı										

tion of the transfer of the first of the second of the second of the second of the second of the second of the

		Foreign	Domestic			Foreign	Domestic			Foreign	Domestic			Foreign	Domestic
Item	Unit	Currency	Currency	Item	Unit	Currency	Currency		Unit	Currency	Currency	Item	Unit	Currency	Currenc
Angle V	alve	· · · · · · · · · · · · · · · · · · ·		Electric Cat	ole			Cable Head				Flexible C	ondui t	,	
∮ 15 mm	Set			600"EV600 -1°	m	-		600 EV6001c	set	n		\$ 100	m		
ø 16 mm	\$1		- 1	" 250 -1 ^c	11			" 2503°	U I			76	"		
ø 35 mm	ti			" 250 -3°	H	_		" 250 1 °	-0	***		51	H	_	
∮100 mm			-	" 150 -3 [°]	D.	-		" 150 –3°	11:	L.v.		39	11	-	
			,	" 100 -3 ^c	t)	-		" 100 –3°	12	-		31	tr ·		
Polyvinyl	Chloride	Pipe		" 80 -4°	6	-		" 80 -4°	11			25	l v	-	
	Type 5			" 60 -4°	ŧI			" 60 -4°	11			19	11	_	
15 mm	m	***		" 50 - 3°	ŧI	-		" 50 ~3°		-		Concrete T	 !rought	<u> </u>	1
18	57	***		" 38 -4 ^c	11	-		" 384°	ti	-		250 mm wide	m	_	
20	H	-		" 38 –3 ^c	11	-		" 38 –3°	11	-		150 ".	n	_	
25	11	-		" 22 -4 ^c	11	-		" 14 ~4 [°]	"	-		70 "		-	
35	ŧ1			" 22 –3 ^e	11	_		" 14 -3 ^c	11	-		Pull Box	1		
40	11	***		" 14 -4 ^e	11	-		" 142°	17	~		200x150x100	set	I	
55	31	***		" 14 –3 ^c	н	-		Conduit Tub	l e			150x100x100	"		
65	н	••		" 8 -4 ^c	11	-		6 104		1		Manhole	}	1	
80	11			" 8 –3°	H	-		82				1.2 ^m x1.2 ^m x1.5 ^m	set		
100	"	-		" 5.5 -4°	В	-		54			1	Handhole		Ì	ļ
125	н			" 5,5 -3°	13	-		42		_		0.6 ^m x0.6 ^m x1.0 ^m	 set	-	
Plain Cond	crete Pip	e (Socket)		" 5.5 -2°	**	-		36		_		Earth Plat		1	
\$100 mm	m	, 		" 3.5 -4°	11	-		28		_		1	set	_	
150	11			" 3.5 –3°	51	-		22		_		Earth Bar			
200	0	***		" 2 -3°	19				1				set	_	
250	- 0	-		" 2- 2	H	-		Normal Bend	1	l		Concrete Po	ı		
300	11	•••		Electric Wire	3 1			ø 104		-			set		
500	11			1A 100°	m			82		-		Messenger			
600	"	•••		" 38°	11	_		54		-		46/7	m		
Reinforced	i Concrete	Pipe		" 22°	н			42		-		Junction B	юx		
\$500 mm	m	-		" 14 [°]	11 .	-		36				Pipe (GS)	set		
				" 5.5°	H	-		28		_		\$ 200 Elbow (90°	, m	***	1
				" 1.6 mm	9							Elbow (90°	') set		
					ŧř.	_							261		

Method of Calculation for Import Goods & (1) Cost of Ductile Pipe (JIS Class 3, including Glands)
Pre-Cast Concrete (Mortar Lining)

Λ	В	C	D	Е	F	G	н	I	J	К	L	М	N	0	Р
Size (Dia. x Lei	Unit ngth) Weight (kg)	Measur (cu. ft		CIF Bangkok /pc. (Foreign)	Unit Price (Baht)	Import Duty (Baht)	Business Tax (Baht)	CIF Duty Tax Paid (Baht)	L/C Opening Charge (Baht)	Customs Clearance Charge	Pipes per	Trans- port Charge (Baht per pc)	Ex Job Site at Chiang Mai	Unit Price (per m.) (Baht)	Unit Price (per kg.) (Baht)
					Ех	Fх	(F+G) _X x	F+G+H	F x	D x Baht			I+J+K+M (Beht)		
														· · · · · · · · · · · · · · · · · · ·	
350mm x 6m	348	47.9	1.198			Language de la companya de la compan]	18				
400mm x 6m	426	59.8	1.495								11				
450mm x 6m	511	73.75	1.844								9		ĺ		
500mm x 6m	609	86.17	2.654								7				
600mm x 6m	815	113.03	2.826		ĺ						7				
700mm x 6m	1,050	151.84	3.796								5				
800mm x 6m	1,320	191.83	4.796	}	1						5				
900mm x 6m	1,620	242.96	6.074								. 3	_			

(2) Cost of Steel Pipe (per piece) Spec: JIS G 3443 Coating Inside & Outside tar-epoxy coating Joint: Flange type

A.	В	c	E	F	G	Н	I	J	K	L	М	N	0
Size (Dia. x Length)	Weight (kg)	Measurement (cu. ft.) (m/		Unit Price (Baht) Ex	Import Duty F x	Tax	(F+G+H)	Opening	Clearsnce	per 10-	porta-	Site at Chiang Mai	Unit Price (per kg) (Baht)
mm mm 350 x 6,000 t≈6 mm 400 x 6,000 t≈6 mm 450 x 6,000 t≈6 mm 500 x 6,000 t≈6 mm 600 x 6,000 t≈6 mm 800 x 6,000 t≈7.1 mm	310 + 58.2 355 + 69.4 401 + 92.6 446 + 116.2 535.8 + 159.4 846 + 276	90.2 2.2 106 2.6	7975 255 55 60							8 7 6 5 3 2			

(3) Asbestos - Coment Pipes (Pressure Pipes, Class - 15)

	A Pipe Cost		}	B lings	c		D	Е	Cost per Meter
Size (Dia. x Length)	Unit Weight (kg.)	List Price	Weight (kg.)	List Price (Seal Rings included) (Baht)	Transport Charge (Baht	/pc.)	No. of Pipes Per 10-Ton Truck Load	Ex Job Site at Chiang Mai(Baht)	(Baht/m)
\$100 ^{mm} × 4 ^m \$150 ^{mm} × 4 ^m \$200 ^{mm} × 4 ^m \$250 ^{mm} × 4 ^m \$300 ^{mm} × 4 ^m \$400 ^{mm} × 4 ^m \$500 ^{mm} × 4 ^m \$600 ^{mm} × 4 ^m	30 47 80 114 154 263 448		3.2 4.6 7.2 9.7 12.7 20.2 29.1 40.3				28 . 26 24 22 22 20 18 16	*	

(4) Asbestos - Cement Pipe (Pressure Pipes, Class-20)

Pi	A pe Cost		. Coup	} ings	C	den de la della della della della della della della della della della della della della della della della della	D	E	Cost per Meter
Size (Dia. x Length)	Unit Weight (kg.)	List Price	Weight (kg.)	List Price (Seal Rings included)	Transport Charge (Baht	pc.)	No. of Pipes Per 10-Ton Truck Load	Ex Job Site at Chiang Mai(Baht)	(Baht/m)
\$100 ^{mm} x 4 ^m \$150 ^{mm} x 4 ^m \$200 ^{mm} x 4 ^m \$250 ^{mm} x 4 ^m \$300 ^{mm} x 4 ^m	33 61 106 145 200		3.6 6.1 9.1 12.5 16.5				28 26 24 22 20		

(5) Cost of Headstocks

Α	В	С	D	E	F	G	К	I	Ј	К	ľ	M	N	0
Туре	Measureme (cu.ft.)	nt (M/T) Λ/40	Weight (Net)	Unit Price (Gross)	CIF Bkk /pc. (Foreign)	Unit Price (Baht) F x	Import Duty (x G)	Business Tax (C+II) x	CIF Duty Tax Paid		Customs Clearance C x	No. of Pcs. Per 10-Ton Truck Load	Charge	Ex. Job Site at Chiang Mai J+K+L+N
H - 1 (75 -150mm) H - 2 (200 - 300)	6	0.35	50 80	60 95								83 38		
G - 1 (350, 400) G - 2 (450, 500)	23 35	0.58	140 180	170		7.7						22		

Note: The distance from the Concrete Slab to the center of the valve is 3.0 m.

The material for the rod shall be according to SUS 403 and its cost shall be included in the CIF B'kok price.

(6) Cost of Gland Joints (per set)

A		В	c	D	Е	Þ	G	н	I	J	К	L	M	N
Description	Size	Weight (kg)	Measu	rement (M/T)	CIF Bkk /pc. (Foreign)	Unit Price (Baht) F x	Import Duty F x	Business Tax (F+G)x	CIF Duty Tax Paid	L/C Opening Charge F x	Customs Clearance Charge D x	No.of Pcs. per 10-Ton Truck Load	Transport Charge (Baht/track)	Site at
Gland Joint Gland Joint Gland Joint Gland Joint Gland Joint Gland Joint Gland Joint Gland Joint	300 350 400 450 500 600 700	9.8 13.1 1.60 18.9 22.0 27.5 39.1 48.6	0.3 0.4 0.5 0.6 0.8 1.1	0.007 0.008 0.01 0.013 0.015 0.02 0.028 0.035								1,851 1,666 1,250 1,000 833 625 455	•	

(7) Cost Of Valve For Chiang Mai (per pc.)

·A	В	C	D	E	F.	G	H	I	J	К	L	M	N	0
Туре	Measur	rement (M/T)	Weight (Net) (kg.)	Weight (Gross) (kg.)	CIF Bkk (Foreign)	Unit Cost (Baht)	Import Duty (Baht)	Business Tax (Baht)	CIF Duty Tax paid (Baht)	L/C Opening Charge (Baht)	Customs Clearance (Baht)	No. of Pipes per 10-Ton Truck Load	Transport Charge	Ex Job Site at Chiang Mai
		A/40				Еx	Gх	(G+H) _X	G+II+I	G x	G x	(each)	(Baht/truck)	J+K+L+N
Mant	ual Operate	d Butter:	 fly Valve	B 1.	 .4									
BSP350	28	0.700	283	354					i			17		
400	35	0.875	444	500								14		
450	40	1.000	536	670								12		
500	45	1.125	596	745			·					11	1	
600	62	1.550	848	1,060			•					8		
700	87	2.175	1,184	1,480								5		
800	120	3.000	1,472	1,840								4		
Slui	 ice Valve w	ith Hand	 Wheel JI	S B 2062			:							
SJF-350	23	0.575	378	473	,		·				j	21		
400	29	0.725	527	659							. !	17		
450	37	0.925	669	836								13		
500	44	1.100	835	1,044								11		
600	73	1.825	1,218	1,523								6		
700	103	2.575	1,650	2,063								4		
800	144	3.600	2,419	3,024			•					3		

(8) Cost of Steel Pipe (per piece) Using Domestic Materials When Less Than \$300 mm

A	В	С	D	E	F	G	Н	I	J	K	ŀ	
Size (mm)	Weight (T mm) (kg)	Measu (cu.ft.)	1	CIF Bkk (Cost/pc.) (Unit)	Unit Price (Baht) E x	Import Duty F x	Business Tax (F+G) x x	CIF Duty Tax paid (F+G+H)	L/C Opening Charge F x	Transport Charge	Ex Job Site At Chiang Mai	1/6
100 x 6,000 150 x 6,000 200 x 6,000 250 x 6,000 300 x 6,000	Galvanized S	teel Pipes	·									
350 x 6,000	6 310	22.9	0.57									
400 x 6,000 450 x 6,000 500 x 6,000	6 355 6 401 6 446	29.6 36.5 45.7	0.74 0.90 1.14									

(9) Cost of Ductile Cast Iron Specials (Tee- Type Joint) (per ton)

Λ		В	C	D	E	F	G	Н	I	J	К	L
Size	Weight	of Tee	Measur	ement	CIF Bkk	Ton Cost	Import	Business	CIF Duty	L/C Opening	Transport	Ex Job
	(kg)	(per ton)	(cu.ft.)		(Cost/pc.)	(Baht)	Duty	Tax (F+G)	Tax paid	Charge	Charge	Site At
(mm)		No.of Pieces	(cv.ft.)	Ton) (M/T)	(Unit)	Εx	Fх	x	(F+G+H)	Fх		Chiang Mai
350	177	5	67.70	1,692								
400	229	4	71.84	1,795								
450	278	4	93.34	2,332								
500	333	3	110.90	2,773								
600	472	. 2	111.00	2,775						ŕ		
700	629	1.5	111.00	2,775	*							

(10) Pre-Cast Concrete

		A		В	C	D	
Description	Size	Materials Weight (kg)	List Price (Baht)	Transport Charge (Baht/pc.)	No. of Pcs. per 10- Ton Truck Load	Total Ex Job Site Chiang Mai	Remarks
Prestressed Concrete Electrical Pole	12 m 15 x 18 cm	1190		(zono) Post	25		
Prestressed Concrete Telephone Pole	7 m	330			30		
Prestressed Concrete Flat Slab	0.13/1.0/2.0 ^m	576			17		
Reinforced Concrete T-type Pile	$0.7/0.4^{\text{m}}$ $0.45/0.15^{\text{m}}$ $H = 11^{\text{m}}$	5,472			2		
Prestressed Concrete Fence Post	2.1 **	26			200		
Prestressed Concrete Solid Square Pile	0.35/0.35/10 ^m	2,950		-	4		
Prestressed Concrete Sheet Pile	0.19/0.4/11 ^m	2,173		·	4		
Prestressed Concrete Sheet Pile	0.06/0.4/2m	124	·		70		
Prestressed Concrete Slab	0.05/0.5/0.5 ^m	30			300		
Precast Concrete Pile	300 ^{mm} x 6 ^m	710			12		Double Half Moon
Precast Concrete Pile	300 ^{mm} x 8 ^m	940			9		HOOM H
Precast Concrete Pile	350 mm x 10 m	1,890			4		11

(11) Cost of Lift Pump

	A	В	C	D	E	F	G	н	I	J	K	r i	М	N
Description	Size	Weight (kg)	Measure (cu.ft)		CIF Bkk (Cost/set) (Unit:)	Unit Cost (Baht) E x	Import Duty F x	Business Tax (F+G) x	CIF Duty Tax Paid (F+G+H)	I/C Opening Charge		No. of Pcs. Per 10-ton Truckload	Transport Charge	Ex Job Site at Chiang-Mai
Distribution Pump	D=300 mm q=8.4m ² /min H=39m 100 kw - 2 set Motor Power 100kw x 380 ^V x 4 ^p including Accessories													
Distribution	D=200mm q=4.2m ³ /min H=39m 55kw - 2 Set Motor Power 55kw x 380 ^v x 4 ^p including Accessories													
Washing Pump	q=2m ³ /min H=19m 15kw - 3 Set Motor Power 15kw x 380 ^V x 4 ^P including Accessories													
Raw-Water Pum	q=12/22m ³ /min H=4 150kw - 2 Set Motor Power 150kw x 380 ^v x 4 ^p including Accessories	}												
	q=5.35m ³ / min H=4.75kw - 2 Set Motor Power 75kw x 380 ^V x 4 ^P including Acces.	711												
	D=100mm q=1.4m ³ /min H=10 5.5kw - 1 Set Motor Power 5.5kw x 380 x 2 including Accessories													

(12) Cost of Water Treatment Machine

A		В	c	D	D	ŀ,	G	Н	I	J	к	L	M	N
Description	Size	Weight (kg)			CIF Bkk (Foreign)	Per Pc. (Baht)	Import Duty F x	Business Tax (F+G)x	CIF Duty Tax Paid (F+G+H)		Customs Clearance Charge	No.of Pcs. Per Truck Load	charge	Ex Job Site at Chiang Mai
Flush Mixer	2 sets	(ng)	(00.10)	(,,,-)	V			(-1,0)	,		-	_		VIII. 1811
Flocculator	8 sets		i											
Flight Conveyer	2 Groups] 			 			!]	
Sludge Pump	2 sets			,								•		
	3.5m ³ /min x 15m x 15 ^k	m V] 	!							
Prough	FRP				,						[
	250x400x3400 ^{mm}	65 ^k x12 ^{se}	t											
Trough	FRP										-			
	380x400x5100 ^{mm}	48 ^k x24 ^{se}	t											

(13) Cost of Steel & Iron Materials

	Λ	В	C	D	Е	F	G	Н	I	J	K	L.	М	N	The second secon
Description	Size	Weight	Measure	ement C	IF Bkk (Cost/	Per Pc.	Import Duty	Business Tax	CIF Duty Tax Paid		Clearance	No.of Pcs. Per 10-Ton	•	Ex Job Site at	Cost
		(kg)	(cu.ft) (M/T)	pc.)	Ex	Вх	(F+G)x	(F+G+H)	Fx	Charge D x	Truck Load	(Baht pc.	Chiang Mai	Per kg.
Trench Sheet Pile	4mm-250mmx6m	72	5.8	0.145								86			
Sheet Pile No.3 Type	13mm-400mmx10m	480	16.7	0.4175								30			
H-Beam	300x300x10x15x7m	658	23.3	0.5825		ļ			}			21			
H-Beam	300x300x10x15x10m	940	33.3	0.8323	ļ							15			
H-Beam	300x300x10x15x13m	1,222	43.3	1.082								12			
Checkered Plates	4.5x914x1829mm	61.8	0,278	0.007								1,799			
Checkered Plates	6x914x1829mm	81,5	0.371	0.009]					!	·	1,348			
L-Angles	90x90x10x9nmx9m	119.7	0,566	0.014		ļ						883	,	:	
L-Angles	90x90x10x12m	159,6	0,755	0.019						,		662			
Plate	14x914x1829mm	184	0,862	0.021								580			
Plate	9x914x1829mm	118	0.555	0.014	[. [!		901			
Plate	7x914x1829mm	91.9	0.433	0.01			ļ					1,155			1
Plate	5x914x1829mm	65.6	0.309	0.008	ļ							1,618			
E-Channels	150x75x9mmx9m	516	3.74	0.094								1.34			

마음을 보고 있는데 한 바람이 생활한 사용을 보고 있는데 보고 있는데 되는데 되는데 보고 있는데 보고 있는데 보고 있는데 보고 있다. 그런데 함께 함께 함께 함께 함께 함께 함께 함께 함께 함께 하 	
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