

PLANNING & DESIGNS DIVISION QUANTITY SURVEYING SECTION

SUPPLY OF PVC PIPES

SUPPLY OF TYPE 600 PVC PIPES

Table A – PVC/1

1	2	3	4
Diameter (mm)	Supply Rate (Rs:/m)	Supply Rate Transmission Main (Rs:/m)	Supply Rate Distribution System (Rs: /m)
32	39.00	47.00	53.00
40	53.00	64.00	72.00
50	83.00	100.00	113.00
63	133.00	160.00	180.00
75	199.00	239.00	269.00
90 (RRJ)	265.00	318.00	358.00
110 (RRJ)	452.00	543.00	611.00
160	799.00	959.00	1,079.00
225	1,570.00	1,884.00	2,120.00
280	2,457.00	2,949.00	3,317.00
315	4,131.00	4,958.00	5,577.00

SUPPLY OF TYPE 1000 PVC PIPES

Table A – PVC/2

1	2	3	4
Diameter (mm)	Supply Rate (Rs:/m)	Supply Rate Transmission Main (Rs:/m)	Supply Rate Distribution System (Rs: /m)
20	26.00	32.00	36.00
25	39.00	47.00	53.00
32	52.00	63.00	71.00
40	83.00	100.00	113.00
50	129.00	155.00	175.00
63	219.00	263.00	296.00
75	312.00	375.00	422.00
90 (RRJ)	432.00	519.00	584.00
110 (RRJ)	573.00	688.00	774.00
160	1,350.00	1,620.00	1,823.00
225	2,592.00	3,110.00	3,500.00
280	4,175.00	5,010.00	5,637.00
315	8,141.00	9,770.00	10,991.00

Note:

1. Supply rate includes cost of rubber rings and lubricants.

2. Supplier's O/H & P included.

3. To obtain supply rate for transmission main, 20% added to the basic supply rate to accommodate cost of fittings, specials and valves for Valves, Culvert crossings and, bridge crossings etc. that are incorporated in the Transmission Main.

4. To obtain supply rate for distribution Systems, 35% added to basic supply rate to accommodate cost of fittings, specials and valves for Valves, Culvert crossings and, bridge crossings etc. that are that are incorporated in the Distribution System.

5. An additional 20% added for supplying and laying contracts, for transport from supplier's store to site store, loading, unloading, investment cost, storage, protection, overhead and profit of the supply & laying contractor.

Source:

Tender Prices (NWS&DB) – 2014 3rd and 4th quarters Supplier's Price Lists

1 able A - J		

LAYING OF PVC PI

0		(Firm Sand)	Rs:/m	133.00	133.00	10 155.00	155.00	0 207.00	0 258.00	0 338.00	0 404.00
×		Earthwork Support (Firm Sand	Rs:/m	1,737.0	1,737.0	1,612.0	1,759.0	1,759.0	1,906.0	1,906.0	1,979.0
7		Excavation Cost (Firm Sand)	Rs: /m	299.00	299.00	348.00	348.00	464.00	580.00	760.00	908.00
9	n System	Total Laying Cost	Rs: /m	248.00	248.00	293.00	304.00	419.00	542.00	724.00	895.00
Ś	Distributio	Laying Cost for Specials	Rs: /m	71.00	71.00	84.00	87.00	120.00	155.00	207.00	256.00
4	ion Main	Total Laying Cost	Rs: /m	231.00	231.00	272.00	283.00	389.00	504.00	673.00	831.00
ю	Transmiss	Laying Cost for Specials	Rs: /m	54.00	54.00	63.00	66.00	90.00	117.00	156.00	192.00
2	Basic	Laying Cost (Firm Sand)	Rs: /m	177.00	177.00	209.00	217.00	299.00	387.00	517.00	639.00
1		Pipe Dia.	шш	63	75	90	110	160	225	280	315

Note: 1.

- Column (2) Basic Laying Cost includes placing, jointing, transporting from the site stores to site, pressure testing, cleaning & disinfection and many risks.
- distribution systems to cover the laying cost of fittings, specials, accessories and miscellaneous items including other costs such as culvert crossings, Column (4) includes additional 30% of the basic laying cost for transmission main and Column (6) includes additional 40% of basic laying cost for bridge crossings, valve chambers, thrust blocks, pipe supports etc.. ci. e.
- Column (7) basic excavation cost includes excavation in 'normal' ground condition (firm sand), preparation of bottom of excavation, backfilling with
 - selected excavated material, ramming (consider 98% compaction) and disposal of excavated material. Pipe bedding and surrounding, rock excavation, traffic management, dust controlling, maintenance of roads and preliminaries are not included in the basic cost. 5. 4
 - Add 40% to the total cost of laying and excavation to cover the additional cost for removing asphalt layer with base courses and other relevant additional cost for high ways.

Contractor's O/H & P is not included.

Based on work study and established data from published books.

Source:

6.

3.2-4 - 3

Table A - PE/1

SUPPLY & DELIVERY OF HDPE Pipes (PE 100 - SDR 17 PN10)

			Asian (Countries v	without Ma	alaysia				
1	2	3	4	5	6 7 8 9 1					
			Transmiss	ion main		Distribution main				
Pipe Dia. mm	CIF Value Rs./m	CIF value for Specials Rs./m	(Col.2+3) Total CIFCost Rs./m	Transport & Clearance Rs./m	Custom Duty Rs./m	CIF value for Specials Rs./m	(Col.2+7) Total CIFCost Rs./m	Transport & Clearance Rs./m	Custom Duty Rs./m	
20	54.00	17.00	71.00	4.00	30.00	22.00	76.00	4.00	32.00	
25	81.00	25.00	106.00	6.00	44.00	33.00	114.00	6.00	47.00	
32	95.00	29.00	124.00	7.00	51.00	38.00	133.00	7.00	55.00	
40	111.00	34.00	145.00	8.00	60.00	45.00	156.00	8.00	64.00	
50	173.00	52.00	225.00	12.00	93.00	70.00	243.00	13.00	100:00	
63	271.00	82.00	353.00	18.00	145.00	109.00	380.00	19.00	156.00	
75	367.00	111.00	478.00	24.00	196.00	147.00	514.00	26.00	211.00	
90.	528.00	159.00	687.00	35.00	282.00	212.00	740.00	37.00	304.00	
110	787.00	237.00	1,024.00	52.00	420.00	315.00	1,102.00	56.00	452.00	
125	1,006.00	302.00	1,308.00	66.00	537.00	403.00	1,409.00	71.00	578.00	
140	1,261.00	379.00	1,640.00	82.00	673.00	505.00	1,766.00	89.00	725.00	
160	1,642.00	493.00	2,135.00	107.00	876.00	657.00	2,299.00	115.00	943.00	
180	2,087.00	627.00	2,714.00	136.00	1,113.00	835.00	2,922.00	147.00	1,199.00	
200	2,866.00	860.00	3,726.00	187.00	1,528.00	1,147.00	4,013.00	201.00	1,646.00	
225	3,251.00	976.00	4,227.00	212.00	1,734.00	1,301.00	4,552.00	228.00	1,867.00	
250	4,010.00	1,203.00	5,213.00	261.00	2,138.00	1,604.00	5,614.00	281.00	2,302.00	
280	5,053.00	1,516.00	6,569.00	329.00	2,694.00	2,022.00	7,075.00	354.00	2,901.00	
315	6,403.00	1,921.00	8,324.00	417.00	3,413.00	2,562.00	8,965.00	449.00	3,676.00	
355	8,154.00	2,447.00	10,601.00	531.00	4,347.00	3,262.00	11,416.00	571.00	4,681.00	
400	10,497.00	3,150.00	13,647.00	683.00	5,596.00	4,199.00	14,696.00	735.00	6,026.00	
450	13,026.00	3,908.00	16,934.00	847.00	6,943.00	5,211.00	18,237.00	912.00	7,478.00	
500	16,112.00	4,834.00	20,946.00	1,048.00	8,588.00	6,445.00	22,557.00	1,128.00	9,249.00	
560	20,178.00	6,054.00	26,232.00	1,312.00	10,756.00	8,072.00	28,250.00	1,413.00	11,583.00	
630	25,560.00	7,668.00	33,228.00	1,662.00	13,624.00	10,224.00	35,784.00	1,790.00	14,672.00	
710	36,680.00	11,004.00	47,684.00	2,385.00	19,551.00	14,672.00	51,352.00	2,568.00	21,055.00	
800	46,508.00	13,953.00	60,461.00	3,024.00	24,790.00	18,604.00	65,112.00	3,256.00	26,696.00	
900	65,817.00	19,746.00	85,563.00	4,279.00	35,081.00	26,327.00	92,144.00	4,608.00	37,780.00	

Note :

 Column (4) includes additional 30% of CIF value for transmission mains and Column (8) includes additional 40% of CIF value for distribution mains to cover the costs of fittings, specials, accessories, valves and miscellaneous items.
 Column (5 and 9) - 5% of total CIF cost added for clearance & transport (up to site stores) for supply only Contracts and additional 20% added for supply & laying Contracts for transport from supplier's store to site store, loading, unloading, investment cost, storage, protection, overhead and profit of the supply & laying Contractor.

3. Custom Duty is taken as 41.00% of CIF value.

4. Supplier's O/H & P are included in the CIF value.

Source :

Based on supplier's rates and forecast tender prices of 2014 to 2015

Table A - PE/5	5
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LAVING	OF HDPE	PIPES (PE 100 -	SDR	17 PN10)
			I I I I U U	DDI	I I I I I I I I I I I I I I I I I I I

1	2	3	4	5	6	7	8	9
		Transmis	sion main	Distribut	ion main			1
Pipe Dia. mm	Basic Laying Cost	Laying Cost for Specials Rs./m	Total Laying Cost	Laying Cost for Specials Rs./m	Total Laying Cost	Excavation Cost (firm sand) Rs./m	EWS Cost Rs./m	Dewatering Rs./m
50	260.00	78.00	338.00	104.00	364.00	370.00	1,447.00	207.00
63	303.00	91.00	394.00	122.00	425.00	427.00	1,737.00	238.00
75	306.00	92.00	398.00	123.00	429.00	427.00	1,737.00	238.00
90	366.00	110.00	476.00	147.00	513.00	504.00	1,930.00	282.00
110	450.00	135.00	585.00	180.00	630.00	616.00	1,642.00	344.00
125	458.00	138.00	596.00	184.00	642.00	616.00	1,671.00	344.00
140	466.00	140.00	606.00	187.00	653.00	616.00	1,686.00	344.00
160	601.00	181.00	782.00	241.00	842.00	792.00	1,715.00	443.00
180	616.00	185.00	801.00	247.00	863.00	792.00	1,744.00	443.00
200	632.00	190.00	822.00	253.00	885.00	792.00	1,774.00	443.00
225	697.00	210.00	907.00	279.00	976.00	853.00	1,818.00	477.00
250	722.00	217.00	939.00	289.00	1,011.00	853.00	1,847.00	477.00
280	804.00	242.00	1,046.00	322.00	1,126.00	924.00	1,891.00	517.00
315	849.00	255.00	1,104.00	340.00	1,189.00	924.00	1,950.00	517.00
355	1,034.00	311.00	1,345.00	414.00	1,448.00	1,109.00	2,008.00	620.00
400	1,106.00	,332.00	1,438.00	443.00	1,549.00	1,109.00	2,067.00	620.00
450	1,281.00	385.00	1,666.00	513.00	1,794.00	1,233.00	2,140.00	689.00
500	1,514.00	455.00	1,969.00	606.00	2,120.00	2,090.00	2,214.00	744.00
560	1,690.00	507.00	2,197.00	676.00	2,366.00	2,177.00	2,404.00	775.00
630 ·	1,866.00	560.00	2,426.00	747.00	2,613.00	2,177.00	2,404.00	775.00
710	2,298.00	690.00	2,988.00	920.00	3,218.00	2,612.00	2,404.00	930.00
800	2,586.00	776.00	3,362.00	1,035.00	3,621.00	2,612.00	2,492.00	930.00
900	3,084.00	926.00	4,010.00	1,234.00	4,318.00	2,903.00	2,785.00	1,033.00

Note:

1 Column (2) Basic laying cost includes placing, jointing, transporting from site stores, pressure testing, and cleaning & disinfection.

- 2 Column (4) includes additional 30% of basic laying cost for transmission mains and Column (6) includes additional 40% of basic laying cost for distribution mains to cover the laying cost of fittings, specials, accessories and miscellaneous items including other costs such as culvert crossings, bridge crossings, valve chambers, thrust blocks, pipe supports etc.
- 3 Column (7) Basic excavation cost includes excavation in 'normal' ground conditions (firm sand), preparation of bottom of excavation, backfilling with selected excavated material, ramming (consider 98% compaction) and disposal of surplus excavated material.
- 4 Contractor's O/H & P not included.
- 5 Rock excavation, traffic management, dust controlling, maintenance of roads and preliminaries are not included in basic cost.
- 6 Add 40% to the total cost of laying and excavation to cover the additional cost for removing asphalt layer with base courses and other relevant additional costs for highways.

Source:

Based on work study and established data from published books (Refer Annex 9).

CHAPTER 4

REVIEW OF PHASE 2 PROJECT



tion — Project Br project is implemente To provide Drinking wate Ruhunupura & Mahaweli To serve112,000 populatio	ief d, er for Commercial & Ind Development Areas on of suburb	ustrial demand of the	
Item	Phase I	Phase II	
Investment	Korean Government- (US\$) 76,337 (65.9%) Sri Lankan Government- (US\$) 39,427 (34.1%)	SLR Mn. 5,200	
Production (m ³ /Day)	17,500	17,500	
Commencement	February 2011	To be decided	
Completion	September 2014	To be decided	
Contractor	M/S Kolon-Pankorea- Yooshin Consortium	To be decided	

























Appendix 4.1-2 Water Quality of Raw Water and Treated Water of Ruhunupura WSS

(1) Treated Water

TREATED WATER QUALITY MONITORING OF HAMBANTOTA REGION-2015

Treated Water - Ruhunupura WSS

l\gm-(nM zs)əzənsgneM	0.1					0.019		
ე ⁰ .գՠቃT		27.0	27.4	27.2	30.0	30.0	30.0	30.0
Total Dissolve Solids - mg/l	500	265	263	317	273	273	240	243
I\gm - (_A OS se)əterdulu2	250	14	12	20	=	10	6	4
Total Iron (as Fe) - mg/l	0.3	0.06	0.04	0.02	0.02	0.04	0.03	0.04
I\8m- (_{\$} OJ6J s6)229hBit l650T	250	132	136	160	124	120	118	116
l\gm - (+09 ss) əterlqzorl9	2.00	0.61	0.09	0.22	0.02	0.07	0.16	0.18
Fluoride (as F) - hgn	1.0	0.21	0.26	0.25	0.37	0.35	0.41	0.39
l\am - (_s ON ss) sitrite	3	0.023	0.046	0.072	0.006	0.003	0.009	0.016
Nitrate (_E ON 26) انتحاف	50	0.04	0.17	0.48	0.08	0.13	0.08	0.26
l\am- sinommA 9917	0.06	0.08	0.05	0.03	0.03	0.03	<0.01	0.03
l\gm- (fOJ62 26)ytinil64l6 l6toT	200	120	124	112	116	112	112	116
Chloride (as Cl) -mg/l	250	40	42	68	28	30	42	38
EC (hs/cm)		402	399	481	414	413	364	368
Hd	6.5-8.5	7.1	7.3	7.5	7.1	6.9	7.3	7.1
Turbidity (NTU/FTU)	7	0.57	0.98	0.33	0.30	0.30	0.52	0.87
Color (Hazen unit)	15	2	, v	S	5	5	5	10
E-Coli	ÏZ	0	0	0	0	0	0	0
Total Coliform	e	0	0	0	0	0	0	0
אכו (as Cl ₂)-mg/l	1.0	0.8	1.5	2.0	1.0	>2.0	1.0	1.5
.oN.daJ	DARDS	47	100	135	662	770	936	1128
əmiT	STAN	14.30	14.35	10.55	8.28	8.35	8.55	9.05
Date	:2013	27	26	6	29	12	∞	13
d}noî∕N	SLS 614	January	February	March	April	May	June	July

27.8	30.0	29.9
222	221	220
10	6	6
0.03	0.03	0.04
114	118	118
0.18	0.02	0.09
0.38	0.38	0.39
0.023	0.016	0.019
0.08	0.08	0.04
0.02	0.05	0.04
112	120	106
38	34	42
337	335	333
7.1	7.1	6.9
0.49	0.48	0.32
S	5	5
0	0	0
0	0	0
0.8	1.5	1.5
1345	1705	1925
10.40	9.30	9.10
e.	22	91
August	September	October

(2) Raw Water

SURFACE WATER QUALITY MONITORING OF HAMBANTOTA REGION-2015

WSS
Ruhunupura
Lake,
Ridiyagama
Raw Water -
Raw

	Im001/2 ⁰ 44 ⁰ C/100ml	•	44	40	6	43	150	23	93	93
	rotal Coloform at 37 ⁰ C/100ml	. m	380	230	90	43	150	23	33	93
	\ვო - იიც	1	ŧ	ť	đ	Ę	Ĕ	1.8	1.8	2.2
	l\am-(OO) nagyxO bavlossiO		Ĕ	nt	ъt	nt	Ę	4.8	4.8	5.0
	i/۶m - dO)	9	t	Ħ	nt	nt	nt	12	12	t
	l\am - (rOS se)əterdinə	250	14	14	12	6	13	10	10	6
	Total Iron(as Fe) - mg/l	0.30	0.25	0.15	0.08	0.15	0.16	0.18	0.27	0.26
	Total Hardness(as CaCO ₃) - Mg/l	500 50	124	124	128	100	114	116	116	116
	l\gm - sbilo2 bevlossiG lstoT	500.0	246	241	249	225	230	213	209	204
	Phosphate (as PO4) - mg/l	2.0	0.69	0.20	0.19	0.27	0.25	0.24	0.10	0.18
	l\gm - (1 ss) əbiroul1	1.0	0.21	0.25	0.24	0.42	0.41	0.41	0.40	0.4
	Nitrite (as NO ₂) - mg/l	m	0.003	0.023	0.028	0.004	0.006	0.007	0.006	0.019
	Nitrate (as NO ₃) - mg/l	50	0.22	0.39	0.75	0.08	0.08	0.22	0.22	0.04
	ارچm- sinommA الجواري	0.06	0.12	0.18	0.10	0.02	0.01	0.06	0.08	0.10
ŝ	Total alkalinity(as CaCO ₃) - Ilyam	200	132	136	142	140	140	136	140	132
	l\am- (l) se) ebiold)	250	25	24	23	22	20	20	20	22
Ĩ	EC hs/cm)		372	365	378	341	349	322	316	309
	Hq	6.5-8.5	7.9	7.7	7.7	7.5	7.5	7.5	7.3	6.5
ע שע	(UT3\VTU) γιϊδίτη	2	12.20	10.30	3.57	8.32	7.96	6.50	7.08	6.14
	Color (Hazen unit)	15	40	35	15	30	30	35	30	30
yagal	əmiT		14.25	14.30	10.40	8.42	8.58	10.20	8.38	9.00
	Date		27	26	σ	80	7	m	22	16
	Month	5 614 :2013 ANDARDS	January	February	March	June	July	August	September	October
	Laboratory No	SLS	156	309	403	935	1127	1344	1704	1924 (

Terms of Reference (TOR)

Consulting Services (Detailed Design and Tender Assistance) for Anuradhapura North Water Supply Project Phase 2

1. The Background including the Project Summary

1.1 Background

The Government of Sri Lanka will undertake the Anuradhapura North Water Supply Project, (the Project) with financial assistance from the Japan International Cooperation Agency (hereinafter referred to as "JICA"). Anuradhapura is located about 205km away from Colombo. The Project area covers the four (4) Divisional Secretariat Divisions (DSDs) namely Kebithigollewa, Kahatagasdigiliya, Horowpothana and Padaviya in Anuradhapura District. The location map is attached as Annex 1. The objective of the Project is to provide safe drinking water to the area which does not have access to water supply system and to increase water supply coverage by constructing surface water supply systems in Anuradhapura North area where the people depend on unsafe ground water which causes dental and skeletal fluorosis, Chronic Kidney Disease (CKD) and thereby contributing to improved hygienic status and health condition in the area.

1.2 Project Summary

The Project comprises the following sub scheme:

Wahalkada Water Supply Scheme which provides drinking water supply to the four (4) Divisional Secretariat Divisions (DSDs) namely Kebithigollewa, Kahatagasdigiliya, Horowpothana and Padaviya.

The detail components of the project are attached as Annex 2.

1.3 Project Implementation Arrangement

The National Water Supply and Drainage Board (NWSDB) will be the Project's Implementing Agency. The Executing Agency will be the Ministry of City Planning and Water Supply.

Project Management Unit (PMU) has been set up in NWSDB for project implementation. The PMU is headed by the Project Director who is reporting to the Additional General Manager of Water Supply Projects [Addl. GM WSP] of NWSDB. The organization chart of NWSDB is attached as **Annex 3.1** and the organization chart of PMU is attached as **Annex 3.2**.

2. The Consulting Services

The consulting services shall be provided by an international consulting firm (hereinafter referred to as "the Consultant") in association with national consultants

in compliance with the Guidelines for the Employment of Consultants under Japanese ODA Loans (April 2012). The Anuradhapura North Water Supply Project plans to be implemented under Japanese ODA loan and the Consulting Services consists of the following parts;

Phase 2: Pre Design, Detail Design and Preparation of Bid documents, Procurement Assistance, Environmental Matters, Technology Transfer, and Awareness Programmes of Wahalkada Water Supply System.

This TOR is for "Anuradhapura North Water Supply 'Project Phase 2".

2.1 The Objectives of the Consultancy Assignment

The objective of the consulting services assignment is to achieve and ensure the quality and efficiency of the project implementation through the proper and correct detailed designs, preparation of bidding documents, procurement assistance, environmental matters, technology transfer and awareness programs of Wahalkada Water Supply System.

2.2 Funding Source for Consultancy Services

The Government of Sri Lanka intends to use part of the proceeds of the Japanese ODA Loan No. SL–P 110 for eligible payments for consulting services for which this TOR is issued.

2.3 The Scope Consulting Services

2.3.1 Pre Design Stage

The Consultants shall;

- (a) Review the Final Report of Preparatory Survey study carried out by M/s. NJS Consultants Co., Ltd. & M/s. Nihon Suido Consultants Co., Ltd. for any deviation from the scope ensuring;
 - 1. Adequacy of foundation investigations
 - 2. Cost effectiveness
 - 3. Compatibility with site conditions
- (b) Review and verify all available primary and secondary data collected during the above referenced preparatory survey study.
- (c) Carry out all the required engineering surveys and investigations such as topographical survey, hydrological survey, geotechnical survey, material availability survey, raw water quality survey, etc., as applicable to the concerned project components.
- (d) Investigate and recommend water treatment plant effluent disposal routes and effluent reuse systems.
- (e) Plan the consultancy services in such a way that procurement of works of at least one package could commence within the first six months of the consultancy services.
- (f) Submit the Inception Report
- (g) Prepare detailed work plan, progress reports and implementation schedule

for the Project to ensure effective monitoring and timely project outputs, and regularly update the same during other stages;

2.3.2 Detailed Design Stage

The Consultants shall;

- (a) Carry out detailed designs and prepare Bidding Documentation for Wahalkada Water Supply System which shall include, but not limited to, following:
 - Water Intake of Capacity 28,800 m³/day (approx) with associated Mechanical & Electrical installations having pumping capacity of 16,000 m³/day (approx) by keeping provisions for future installation up to full capacity of 28,800 m³/day.
 - Raw Water Main from Wahalkada Intake to Wahalkada WTP including surge arresting 'system, suitable line flushing and flow measuring devices etc.,
 - Water Treatment plant of capacity of 27,400 m³/day (approx) to cater to year 2034 projected demand in a manner that 15,000 m³/day capacity treatment plant could be implemented as the first stage and the number of process trains shall be more than two as appropriate and shall accommodate the minimum of the given treatment plant components of the preparatory survey study including flocculator, sedimentation tank, Rapid Sand filters, sludge treatment, clear water storage units. The following components and related appurtenances shall suit the WTP capacity of 27,400 m³/day.
 - i. Receiving Well
 - ii. Distribution Chamber
 - iii. Activated Carbon Filters (ACF) including a sump
 - iv. Backwash water recycle tank
 - v. Blower room including blowers
 - vi. Chlorine mixing chamber
 - vii. Chlorine house including Chlorinators, neutralization facilities
 - viii. Chemical building, including chemical storing, Chemical preparation and delivering facilities
 - ix. Clear water tank
 - x. High lift pumping Station
 - xi. Elevated service water tank
 - xii. Sludge lagoon
 - xiii. Administrator building including process laboratory
 - xiv. Warehouse
 - xv. Watchers hut, parking shed etc;
 - xvi. Quarters
 - xvii. Boundary walls internal roads yard piping & Landscaping
 - Transmission Mains and Sub mains from Wahalkada WTP to Kahatagollewa Bogahawewa, KAH-KEB Median, Kebithigollewa , Weerasole, North Horowpothana, Horowpothana, West Horowpothana, Rathmalgahawewa, Hamillewa and Kahatagasdigiliya of total length 142 km including required surge arresting systems
 - Distribution model design to cover Horowpothana, Kahatagasdigiliya,

Kebithigollewa, and Padaviya divisions and Distribution Systems to cater to said areas of total length 873 km approx.

- Ground Reservoirs at
 - i. Kahatagollewa (1,000 m³)
 - ii. Kebithigollewa (500 m^3)
 - iii. We erasole $(1,500 \text{ m}^3)$
 - iv. Horowpothana (1,000 m³)
 - v. Kahatagasdigilliya (500 m³)
- Elevated Tank
 - i. Wahalkada (500 m^3)
 - ii. Kahatagollewa (250 m^3)
 - iii. Bogahawewa (2,000 m³)
 - iv. KAH-KEB Median (250 m³)
 - v. Kebithigollewa (750 m^3)
 - vi. North Horowpothana (250 m³)
 - vii. Horowpothana (500 m^3)
 - viii. West Horowpothana (750 m³)
 - ix. Rathmalgahawewa (500 m^3)
 - x. Hamillewa $(1,250 \text{ m}^3)$
 - xi. Kahatagasdigiliya $(1,500 \text{ m}^3)$
 - xii. Other 5 tanks ($250 \text{ m}^3 \text{ each}$)
- Chlorine Building 100 m² (approx.) including chlorinators at
 - i. Weerasole
 - ii. Horowpothana
 - iii. North Horowpothana
 - iv. West Horowpothana
 - v. Hamillewa
 - vi. Kahatagasdigiliya
 - vii. Rathmalgahawewa
 - viii. Kebithigollewa
 - ix. KAH-KEB Median
 - x. Kahatagollewa
 - xi. Bogahawewa
- Area Engineer's Office with Operational complex, SCADA system, Consumer counter, Zonal lab (Residual Chlorine, Turbidity, pH) at;
 - i. Horowpothana
 - ii. Kahatagasdigiliya
 - iii. Kebithigollewa
 - iv. Bogahawewa
- OIC Office with SCADA system, Consumer counter, Zonal lab (RCI, Turbidity, pH) and Room for crews etc., at
 - i. Kahatagasdigiliya
 - ii. Kebithigollewa
 - iii. Bogahawewa
- Work Shop buildings at
 - i. Horowpothana
 - ii. Kebithigollewa
- Care taker Quarters I00 m² approx. at
 - i. Weerasole

- ii. Horowpothana
- iii. North Horowpothana
- iv. West Horowpothana
- v. Hamillewa
- vi. Kahatagasdigiliya
- vii. Rathmalgahawewa
- viii. Kebithigollewa
- ix. KAH-KEB Median
- x. Kahatagollewa
- xi. Bogahawewa
- Staff Quarters at
 - i. Horowpothana
 - ii. Kahatagasdigiliya
 - iii. Kebithigollewa
 - iv. Bogahawewa
- Note: It should be noted that the consultant shall not be limited to the above referenced components but shall design a complete scheme by incorporating additional components/items as appropriate. The Consultants shall accommodate reasonable requests made by the Project Director, if necessary, for the completeness of the scheme within the given inputs.
- (b) Prepare bidding documents for procurement activities of Wahalkada WSS in accordance with the latest version of Standard Bidding Documents under Japanese ODA Loans for Procurement of Works together with all relevant specifications, drawings and other documents; for following procurement packages, separately for Wahalkada WSS

Package	Component	Procurement
Package A	Intake, Water Treatment Plants, Ground Sumps, Pumping Stations and Elevated Tanks, Civil, Mechanical Electrical works and Building works	ICB with PQ
Package B	Procurement and installation of Transmission/ Distribution Mains HDPE)	ICB with PQ
Package C	Procurement and Installation of Distribution System for 63mm to 225mm, uPVC pipes	LCB
Package D	Procurement of Vehicles	LCB
Package E	Procurement of Heavy Duty Machines	LCB

*ICB -International competitive bidding

*LCB -Local competitive bidding

*PQ-Pre-Qualification

- *HDPE- high density Polyethylene
 - (c) Sign all detailed designs, drawings and calculations where the Consultant shall ensure and be responsible for the satisfactory structural and functional requirements of the scheme components.
 - (c) Carry out Cost estimation including Engineer's estimate. The Engineer's estimate shall be prepared using NWSDB Rate Book and other appropriate rates if NWSDB rates are not available for such items.

The Consultant shall prepare the detailed designs of the Project in sufficient detail to ensure clarity and understanding by NWSDB, contractors and other relevant stakeholders. All the designs should be in conformity with the Sri Lankan Standards (SLS) if available, or with the appropriate international standards subject to the approval of the Engineer.

The detailed designs will, as a minimum, include construction drawings, detailed cost estimates, necessary calculations, associated contract documentation to including detailed specifications, bill of quantities (BOQ), and the implementation schedule for the Project.

Such detailed specifications will contain those in relation to

- i. Quality assurance and control of plant, materials and workmanship,
- ii. Safety
- iii. Protection of the environment,
- iv. Other stake holder's requirements such as RDA, CEB, Pradeshiya Saba etc.,

The detailed design shall be prepared in close consultation with, and to meet the requirements of NWSDB and the consultants shall make every effort to incorporate the comments made by NWSDB into the detailed designs prior to submission for approval. The consultant's staff shall make presentations to the relevant NWSDB staff on detailed design prior to finalization, on agreed intervals during the designs.

2.3.3 Procurement Process Assistance Stage

2.3.3.1 Assistance in Pre-Qualification (PQ)

The Consultants shall:

- a) Define technical and financial requirements, capacity and/or experience for PQ criteria taking into consideration technical features of the project;
- b) Prepare PQ documents in accordance with the latest version of Standard Prequalification Documents under Japanese ODA Loans;
- c) Assist NWSDB in PQ announcement, addendum/corrigendum, and clarifications to the applicants' queries;
- d) Assist to evaluate PQ applications in accordance with the criteria set forth in PQ documents; and
- e) Assist to prepare a PQ evaluation report for approval of the PQ evaluation committee.

2.3.3.2 Assistance during the Bidding

The Consultants shall:

- a) Assist NWSDB in issuing bid invitation, conducting pre-bid conferences, issuing addendum/corrigendum, and clarifications to bidders' queries.
- b) Assist for the technical clarification during bid evaluation in accordance with the criteria set forth in the bidding documents. In such evaluation assistance, the Consultant shall carefully confirm that bidders' submissions in their technical proposal including, but not limited to, site organization, mobilization schedule, method statement, construction schedule, safety plan,

have . been prepared in harmony each either and will meet such requirements set forth in applicable laws and regulations, specifications and other parts of the bidding documents;

- c) Assist Technical Evaluation Committees (TECs) in preparation of bid evaluation reports for approval of the procurement committees and to submit an independent report to JICA.
- d) Assist NWSDB in contract negotiations by preparing agenda and facilitating negotiations including preparation of minutes of negotiation meetings;
- e) Assist to prepare a draft and final contract agreement.
- f) Assist in tender awards and signing the contract agreements.

2.4. Facilitation of implementation of Environmental Management Plan (EMP), Environmental Monitoring Plan (EMoP) and Resettlement Action Plan (RAP)

The Consultant shall:

- a) Update EMP, as appropriate; incorporate necessary technical specifications with design and contract documentation;
- b) During the preparation of bidding documents, clearly identify environmental responsibilities as explained in the Environmental Impact Assessment/Initial Environmental Examination report and Environmental Monitoring Plan;
- c) Update and/or prepare RAP as necessary based on detailed design in accordance with the agreed resettlement framework, including entitlement matrix and compensation plan, coordinate with various agencies in preparing the procedures for timely land acquisition and disbursement of compensation to affected persons;
- d) Assess the social impact and prepare necessary social development plans. The plan should be based on indigenous people development framework, as required;
- e) Monitor land acquisition and compensation activities being undertaken by NWSDB and district authorities, and report the activities in monthly progress reports;
- f) Assist NWSDB in the capacity building of NWSDB staff on environmental management through on-the-job training on environmental assessment techniques, mitigation measure planning, supervision and monitoring, and reporting.

2.5 Technology Transfer

The Consultant shall carry out the technology transfer as an important aspect in design works. The Consultant shall provide the opportunity to NWSDB officers and staffs to be involved in the working team of the Consultant during the design and pre-contract administration works for their capacity building wherever possible. If requested by NWSDB, the Consultant shall brief and demonstrate the survey and design procedure and pre-contract management process and procedures. The consultant shall assist NWSDB and its staff to build their capacity as a part of on-the-job-training under the Project.

2.6 Guidance for Public Awareness Campaign

The purpose of public awareness campaign is to inform and educate the general public of the present situation of health damage in the project area caused by the use of

groundwater, the objectives of the proposed project, the importance of connection to a proposed water supply system under the project and payment of water tariff for sustainable operation and management of water supply facilities.

The Consultant shall:

- a) Arrange the data on health damage in the project area focusing on dental and skeletal fluorosis and Chronic Kidney Diseases. (CKD)
- b) Analyse the demographic characteristics of the project area such as sex, age, ethnic, religion, occupation, income, coverage by water supply, sanitation and power supply, etc.,
- c) Develop the strategy including approach and methodology to extend the Public Awareness Campaign.
- d) Organize the public information and education campaign teams by selecting the staff mainly from NWSDB and being reinforced by the use of external resources as required.
- e) Decide the assignment of respective staff in the public information and education campaign.
- f) Unify the campaign team through trial practice and brainstorming
- g) Hold the seminar/public information campaign on the date and at places as scheduled at least twelve (12) times.
- h) Improve & adjust the content of the seminar according to the people's response at the previous seminar.
- i) Prepare the report summarizing the public information and education campaign including the evaluation of the effect and recommendation for future extension of publi9 awareness campaign.
- j) Awareness of farmers on water management.

2.7 Nature of and limit to the responsibilities, which the Consultant is to undergo.

The Consultant shall perform the Services and carry out their obligations hereunder with all due diligence, efficiency and economy, in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and deploy appropriate advance technology and safe and effective equipment, machinery, materials, computer software and methods. The Consultants shall always act, in respect of any matter relating to this Contract or to the Services, as faithful advisers to the Employer, and shall at all times support and safeguard the Employer's legitimate interests in any dealings with sub consultants or third parties.

The Consultants shall obtain the Employer's prior approval in writing before taking any of the following actions.

- a) Appointing such members of the personnel as is listed in **Section 2.9** merely by title but not by name;
- b) Entering into a sub contract for the performance of any part of the services, it being understood (a) that the selection of sub consultant and the terms and conditions of the sub contract shall have been approved in writing by the Employer prior to the execution of the sub contract, and (b) that the consultants shall remain fully liable for the performance of the services by the sub consultant and its personnel pursuant to this contract.
- c) Any variation of the scope of the Consultancy Service.

d) Any variation orders to the Contractor during Contract execution

2.8 The Man Month Schedule and Expected Time Schedule

The team shall comprise Professional international consultants having allocated 65 person-months and Professional local consultants and technical administrative support staff having allocated 120 and 199 person-months maximum. The consultants will be engaged over 21 months duration of consulting services. Refer to **Annex 4** for proposed Implementation Schedule.

All necessary Technical and Administrative supporting staff (having allocated 384 PM) should be provided by the consultant by referring **Annex 5**.

It is the Consultant's responsibility to select the optimum team and to propose the professionals whom he believes will best meet the needs of NWSDB without exceeding total person months proposed for each category

2.9 The qualification and Expertise required and Detailed Scope of Works for Experts

Key Experts (International)

Position	Qualification	Experience
Team Leader	Professionally Qualified Civil Engineer and Graduate (B.Sc.) in Civil Engineering/ contract management and Masters/or PE Qualification in a relevant field and Should be a member of recognized professional Institution.	 Total Experience At least 20 years after graduation experience Project Related Experience At least 15 years experience out of which 10 years experience in Water Supply projects including; a) Design b) Project Management c) Contract Management of major projects with ICB contracts At least ten years experience in similar water supply Projects as a Team Leader of a project more than 25 million US\$.
Water Treatment Expert	Professionally Qualified Civil Engineer and Graduate (B.Sc.) in Civil Engineering and Masters/or PE Qualification in a relevant field and Should be a member of recognized professional Institution.	 Total Experience At least 15 years after graduation experience Project Related Experience At least 8 years experience in designs of water treatment plants and at least 3 years experience in Operation and Maintenance of Water Supply Facilities Experience as a water treatment specialist in at least two urban water supply projects of which each having water treatment plants of capacity at least 20,000 m³/day.
Civil Engineer (Water Treatment Plant)	Professionally Qualified Civil Engineer Graduate (B.Sc.) in Water Supply/ Civil Engineering and Should be a member of recognized professional Institution.	 Total Experience At least 15 years after graduation experience Project Related Experience At least 10 years experience in Design/ Operation and Maintenance of Water Supply Facilities Experience as a Civil Engineer in at least two urban water supply projects of which each having WTP of capacity at least 20,000 m3/d and contract amount is more than 5 million US\$. Experience in ICB contract is desirable.

Position	Qualification	Experience
Civil Engineer (Water Transmission)	Professionally Qualified Civil Engineer and Graduate (B.Sc.) in Water Supply/ Sanitation /Civil Engineering and related field and Should be a member of recognized professional Institution.	 Total Experience At least 15 years experience Project Related Experience At least 10 years experience in design/operation and maintenance of Water Supply transmission Facilities including minimum 8 years experience in water supply design. Experience as a Civil Engineer in at least two urban water supply projects of which each having more than 200 km transmission/distribution system. Experience in ICB contract is desirable.
Mechanical Engineer	Professionally Qualified Mechanical Engineer Graduate (B.Sc.) in Mechanical Engineering and related field Should be a member of recognized professional Institution.	 Total Experience At least 15 years Project Related Experience At least 7 years experience in design/ operation and maintenance of Water Supply Facilities and related field Experience as a Mechanical Engineer in four urban water supply projects of which each contract amount is more than 5 million US\$. Experience in ICB contract is desirable -two urban water supply projects
Electrical Engineer	Professionally .Qualified Electrical Engineer Graduate (B.Sc,) in Electrical Engineering and related field and Should be a member of recognized professional Institution.	Total ExperienceAt least 15 yearsProject Related Experience• At least 7 years experience in design/ operation and maintenance of Water Supply Facilities and related field• Experience as an Electrical Engineer in four urban water supply projects of which each contract amount is 5 million US\$.• Experience in ICB contract -two urban water supply projects
Hydrologist	Professionally Qualified Hydrologist and Graduate (B.Sc.) in Hydrology and Should be a member of recognized professional Institution.	Total ExperienceAt least 15 years experienceProject Related Experience• At least 7 years experience in four urban watersupply projects of which each contract amount is5 million US\$.• Experience in ICB contract -two urban watersupply projects

Key Experts (Local)

Position	Qualification	Experience
Deputy Team Leader	Chartered Civil Engineer and Graduate (B.Sc.) or equivalent in Civil Engineering/ and Masters Qualification in a relevant field.	 Total Experience At least 20 years after graduation experience Project Related Experience At least fifteen years experience combined experience in Water Supply projects including; (i) Design (ii) Project Management (iii) Contract Management (iii) Contracts At least five years experience in similar water supply Projects as a Co-Team Leader or Deputy Team Leader of a project more than 15 million US\$
Structural Specialist	Chartered Civil Engineer and Graduate (B.Sc.) or equivalent in Civil Engineering and Masters Qualification in Structural Engineering	Total ExperienceAt least 15 years after graduationexperienceProject Related Experience• At least 10 years experience in design/operation and maintenance of WaterSupply Facilities• Experience as a structural specialistin at least two urban water supplyprojects of which each contract amountis more than 10 million US\$
Civil Engineer (Intake & Water Treatment Plant)	Chartered Civil Engineer and Graduate (B.Sc.) or equivalent in and Masters Qualification in Water Supply Engineering /Environmental Engineering	 Total Experience At least 15 years after graduation experience Project Related Experience At least 10 years experience in design/ operation and maintenance of Water Supply Facilities Experience as a Civil Engineer in two urban water supply projects of which each contract amount is more than 5 million US\$. Experience in ICB contract is desirable

Position	Qualification	Experience
Civil Engineer (Reservoirs, Pumping	Chartered Civil Engineer and Graduate (B.Sc.) or equivalent in Water Supply/	Total ExperienceAt least 15 years after graduation experienceProject Related Experience
Stations, Towers, Transmission & Distribution)	Sanitation /Civil Engineering and related field	 At least 10 years experience in design/ operation and maintenance of Water Supply transmission Facilities, reservoirs, pumping stations and towers Experience as a civil Engineer in two urban water supply projects of which each contract amount is more than 5 million US\$. Experience in ICB contract is desirable.
Civil Engineer- Pipeline	Chartered Civil Engineer and Graduate (B.Sc.) or equivalent in Water Supply/ Sanitation /Civil Engineering and related field	Total ExperienceAt least 15 years after graduation experience Project Related Experience • At least 10 years experience in design/ operation and maintenance of Water Supply transmission Facilities, reservoirs, pumping stations and towers• Experience as a civil Engineer in two urban water supply projects of which each contract amount is more than 5 million US\$.Experience in ICB contract is desirable
Mechanical Engineer	Mechanical Engineer Graduate (B.Sc.) or equivalent in Mechanical Engineering and related field	Total ExperienceAt least 15 years after graduation experience Project Related Experience • At least 7 years experience in design/ operation and maintenance of Water Supply Facilities and related field• Experience as a Mechanical Engineer in four urban water supply projects of which each contract amount is more than 5 million US\$• Experience in ICB contract is desirable -two urban water supply projects

Position	Qualification	Experience
Electrical Engineer	Electrical Engineer Graduate (B.Sc.) or equivalent in Electrical Engineering and related field	Total ExperienceAt least 15 years after graduation experience Project Related Experience • At least 7 years experience in design/ operation and maintenance of WaterSupply Facilities and related field• Experience as an Electrical Engineer in four urban water supply projects of which each contract amount is 5 million US\$.• Experience in ICB contract -two urban water supply projects
Instrumentation Specialist	Electrical Engineer Graduate (B.Sc.) or equivalent in Electrical Engineering and related field	Total ExperienceAt least 15 years after graduation experience Project Related Experience • At least 7 years experience in design/ operation and maintenance of WaterSupply Facilities and related field• Experience as an Electrical Engineer in four urban water supply projects of which each contract amount is 5 million US\$.• Experience in ICB contract -two urban water supply projects

Other Experts (Local)

Position	Qualification	Experience
Procurement Specialist	Graduate in Civil Engineering (B.Sc.) or equivalent and Masters Qualification inproject management and Diploma in Procurement and construction claims	 Total Experience At least 15 years after graduation experience Project Related Experience At least 7 years experience as a Procurement Specialist Experience in two urban water supply projects of which each having ICB contract more than 10 million US\$. Experience in JICA projects is
Environmental Specialist	Bachelor degree in Engineering/environmental science/Agriculture	 Total Experience At least 15 years after graduation experience Project Related Experience Not less than six years experience in environmental Assessments with reference to water pollution, waste water, sanitation, and the impact of construction works and at least two years experience with a recognized consulting firm/National water utility Organization
Public Awareness Campaign Specialist	Bachelor degree in Social Science	 <u>Total Experience</u> At least 10 years after graduation experience <u>Project Related Experience</u> At least two years experience with a recognized consulting firm /National water utility Organization Having experience in conducting Public awareness campaigns
Architect	Professionally qualified graduate Architect and should be a member of recognized professional institution	 Total Experience At least 10 years after graduation experience Project Related Experience Not less than 5 years experience in architectural buildings and industrial/water or wastewater treatment plant plans, familiar with green building techniques & practice on energy efficient buildings and at least two years experience with a recognized consulting firm

Position	Qualification	Experience		
Quantity Surveyor	Professionally qualified Quantity Surveyor with Bachelor degree or equivalent in Quantity surveying and should be a member of recognized professional institution	Total Experience:At least 10 years after graduationexperienceProject Related Experience:• At least two years experience in water treatment plant estimates with a recognized consulting firm//National water utility OrganizationNote:An input of 8 man months of a Quantity Surveyor (local) shall be allocated exclusively for the use of Planning & Design Section in Head Office.		
Micro- Biologist/ Chemist	A graduate in the relevant field with a Master Degree in Micro- Biology/ Chemistry/ Limnology	 TotalExperience: At least 10 years after graduation experience Project Related Experience Not less than 10 Years experience in the drinking water sector specially in enumeration of Algae and other constituents/species in impounded water bodies with emphasis on Algae & Cyanobacterial control and at least five years in recognized consulting firm 		

2.10 Task of the Experts

2.10.1 The Tasks of the Key Experts

International Experts

The specific tasks include, but not limited to;

Position	Main Tasks
Team Leader	
	1. Shall bear the overall responsibility and shall represents the project Consultant's Team in all matters relating to the performance of services, coordinating with all other consultant's staff to deliver excellent product during the stipulated time schedule.
	2. Shall oversee and Supervise the Consultant's services
	3. Assume direct responsibility for day-to-day consulting services including day to day management of all consultants' staff and coordination among and with them.
	 Review existing studies/documents and other resources available and formulate a best implementation approach including programmatic project schedule;
	5. Prepare PQ and bid evaluation report for JICA,
	6. Coordinate interfaces between Consultancies (Phase 1 & Phase 2)
	7. Check the bidding documents prepared by the local consultants and ensure all bidding documents are complete in every respect:
	8. Assist PD to conduct pre-bid conferences, issuing addendum/corrigendum, and
	9 Assist in PO, evaluation of hids:
	10. Assist NWSDB in contract negotiations:
	11. Assist to prepare a draft and final contract agreement.
	12. Assist tender awards and signing the contract agreements
Water	1. Carry out bench scale testing and pilot testing for average and critical
Treatment	conditions of raw water quality
Expert	2. Decide the required water treatment process and to review the Intake, wTP components proposed by the preparatory survey studies
	3. Prepare the preliminary (basic) designs of the Intake and WTP.
	4. Prepare WTP detailed Process Diagrams
	5. Assure resource optimization including the treatment plant waste treatment and re-cycling
	6. Advise on the degree of Automation and controlling required for the optimum performance of the WTPs and distribution systems in collaborations with Electrical and Mechanical Engineers
	7. Advise on preparation of Sequence of Operation (SOO) for the treatment plants
Civil Engineer	1. Assist the Water Treatment expert in preparing the basic design of the water
(Intake &	treatment plant including water intake facilities
Water Treatment	2. Direct the local Consulting Engineers attending the detailed designs of the water treatment plant including water intake facilities and check the detailed
Plant)	designs done by the local Consulting engineers
	 Prepare Technical Specifications Check and certify the drawings and BOQs

Civil Engineer	1. Assist the water treatment expert in preparing the basic design of the water
(Water	supply transmission and distribution systems including storage reservoirs and
Transmission)	towers
	2. Direct the local Engineers attending the detailed designs including network
	models of the water Transmission and Distribution systems
	3. Select appropriate modelling software with the consultation of PD
	4. Check Network models
	5. Prepare Technical Specifications
	6. Check and certify the drawings and BOQs
	7. Develop course module on network installation and maintenance training and
	Conduct 3 days Water Distribution and Network Installation and Maintenance
	Training Course for NWSDB RSC-NC & P&D staff
Mechanical	1. Design of the mechanical equipment
Engineer	2. Prepare specifications, Mechanical layouts and drawings;
C	3. Assist during commissioning of project components
	4. Assist Team Leader for preparation of O&M manuals
	5. Direct the local Mechanical Engineers for mechanical designs and check the
	designs
	6. Direct the local Mechanical Engineers in their day-to-day activities
	7. Support the O&M training
Electrical	1. Designs of the electrical equipment
Engineer	2. Prepare specifications, electrical layouts and drawings;
	3. Assessment of the power requirements and establish power availability and
	assist NWSDB staff obtaining the requirement from CEB;
	4. Assist Team Leader for preparation of the O&M manuals
	5. Direct the local Electrical Engineers for electrical designs and check the
	designs
	6. Direct the local Electrical Engineers in their day-to-day activities
	7. Check the performance of an instrumentation system
Hydrologist	1. Carry out suitable hydrological investigations for proposed water resources
	and review the extraction methodology;
	2. Prepare detailed Engineering designs for extraction;
	3. Recommend and find the solutions for protection of water resources and their
	catchments prepare cost estimation;
	4. Analyzing the effect of environmental changes on water flow,
	5. Planning of water resource development by forecasting and monitoring water
	usage and rainfall,
	6. Assessing the relationship between rainfall & run off of tank catchment

Local Experts

Position	Main Tasks
Deputy Team	1. Shall assist the Team Leader in all matters relating to the performance of
Leader	services.
	2. Shall assist the Team Leader to oversee and supervise the Consultant's
	services
	3. Assumes direct responsibility for day-to-day consulting services including day
	to day management of all consultants' staff during the absence of the team
	leader
	4. Prepare of basic designs
	5. Prepare detailed designs including the specifications, drawings and BOQs etc.,
	for all the project components
	6. Develop bloding documents, including bill of quantities and specifications for the water treatment plant following HCA guidelines
	7 Conduct topographical geotechnical and other surveys:
	8 Formulate and use GIS base for details design works
	9 Liaise with others to ensure adequate site investigations carried out for the
	design of the water supply and distribution systems and for the contractor's
	bidding requirements
	10. Liaise with other specialists to ensure a consistent philosophy and integrated
	approach to the design and operation of the distribution system;
	11. Advise on O&M requirements such as training, human resources, etc.
	12. Assist to prepare a draft and final contract agreement
Structural	1. Carry out all structural designs and necessary structural drawings and
Specialist	specifications including BOQs for the entire project;
	2. Identify the necessary soil investigations required for the structural designs
	and administer that work
	3. Liaise with other specialists to ensure consistent philosophy and integrated
	approach to the design
Civil Engineer	1. Review structural designs
(Intake &	2. Assist the water supply experts in preparing the basic design of the water
Water Trootmont	2 Corry out detailed designs of the Intakes Pay water mains, water treatment
Plant)	5. Carry out detailed designs of the intakes, Kaw water mains, water treatment
1 Iant)	A Prepare Technical Specifications
	5 Check Drawings and Bill of Quantities
	6. Assist the Deputy Team Leader
Civil Engineer	1. Review structural designs
(Reservoirs.	2. Assist the water supply expert in preparing the basic design of the water
Pumping	treatment plant including reservoirs, pumping stations, towers transmission
Stations,	and distribution lines.
Towers,	3. Carry out detailed designs of the Water storage reservoirs, pumping stations,
Transmission	Elevated towers, Transmission & distribution networks
&	4. Prepare Technical Specifications
Distribution)	5. Check Drawings and Bill of Quantities
Mechanical	1. Attend to the detailed design of mechanical equipment
Engineer	2. Prepare specifications, mechanical layouts and drawings;
Electrical	1. Attend detailed Designs of Electrical equipment
Engineer	2. Design associated PLC control system/SCADA systems
	3. Prepare specifications, electrical layouts and drawings;
	4. Assessment of the power requirements and establish power availability and
	assist NWSDB starr obtaining the requirement from CEB;
Environmental	1. Update Environmental management Plan (EMP)
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Specialist	2. Prepare programs and strategies to improve / protect these catchments with
-	short term / long term perspectives in consultation with other experts
Procurement	1. Prepare pre-qualification requirements and evaluation;
Specialist	2. Prepare bidding documents compliant with JICA's latest standard bidding
-	requirements
	3. Design post-qualification criteria which should comply with JICA's
	guidelines
	4. Organize and identify with NWSDB staff in contract packaging and
	preparing procurement time schedules for each contract package in
	consultation with project staff
	5. Prepare sample Evaluation Reports to ensure JICA's and GOSL requirements
	are satisfied
	6. Assist the TEC members during evaluation
Architect	1. Design environmental friendly and energy efficient building designs, for
	water treatment plants, waste water treatment plants, pump houses and
	intakes, landscaping treatment plants, towers and intake facilities
	2. Provide design, specification for interior decorations including interior
	lighting, selecting furniture for plant offices, colour coding and painting of
	structures, exterior lighting etc.
	3. Design necessary buffer zones and other architectural features for noise and
	odour control
Quantity	1. Prepare BOQs, according to CESSM code for water supply systems and SLS
Surveyor	code for buildings
	2. Prepare rated BOQs
	3. Prepare work norms and material/day work schedules
	4. Prepare cost estimates
Public Awareness	1. Analyse the demographic characteristics of the project area such as sex, age,
Campaign	ethnic, occupation, income, coverage by water supply, sanitation and power
Specialist	supply, etc.
	2. Arrange the data on health damage in the project area focusing on dental and
	skeletal fluorosis and chronic kidney diseases (CKD)
	3. Develop the strategy including approach and methodology to extend the
	public awareness campaign
	4. Organize the public information and education campaign teams through
	selecting the staff mainly from NWSDB and being reinforced by the use of
	external resources as required
	5. Decide the assignment of respective start in the public information and
	education campaign
	6. Unity the campaign team through trial practice and brainstorming
	7. Design, implement, and monitor the public awareness campaigns for farmers
	holders for inspection of water treatment plants
	8 Develop methods of mobilizing community participation in the design
	b. Develop methods of mobilizing community participation in the design, management construction and $\Omega \& M$ of community water supply and
	sanitation.
	9 Conduct public awareness campaigns / seminar at the date and places as
	scheduled at least eight (8) times on issues related to water conservation
	reduction of NRW, efficient irrigation water management practices for
	farmers, importance of pipe born water water related diseases catchment
	protection, preventing water pollution and sanitation in household level
	10. Improve and adjust the content of the seminar according to the people's

	11. Prepare the report summarizing the public information and education	
	campaign including the evaluation of the effect and recommendation for	
	future extension of public awareness campaign	
2.6	1 That and meaning of relations to an entry of the second se	
M1cro-	1. Test and recommend relevant parameters of raw water; especially with	
Biologist/Chemist	respect to the fresh water Algae/Cyanobacteria and Nutrients.	
	2. Advise the process design of water treatment plants during designing stage to	
	suit the raw water qualities and to assure resource optimization including the	
	treatment plant	
	Advise the pilot water quality testing	
	4. Advise preparation of sequence of operation (SOO) for the treatment plants	
	5. Assist in adjusting water quality and treated effluent of water treatment plants	
	during commissioning	
	6 Advise on chemical dosing during commissioning stage	
	o. Advise on chemical dosing during commissioning stage	
	7. Identify and recommend the list of requirements for the Laboratory to	
	procurement officer.	
	8. Prepare manual for day to day Operation & Maintaining of plants Preparation	
	of Algae, Nutrient Control & Monitoring system	
	9. Training O&M staff including Chemists for trouble shooting	

2.11 The Reports and Documents

Within the scope of consulting services, the Consultant shall prepare and submit reports and documents to Project Director / Project manager in charge in NWSDB as shown in Table 2.13. The Consultant shall provide electronic copy of each of these reports.

Stage	Type of Report	Timing	No. of
			Copies
Consultancy	Monthly Progress Report	Every month (by the 10 th day of	10
Services		each month	
	Quarterly Progress Report	Every quarter (at every three	10
		months)	
Pre-Design	Inception Report	Within 1 month after	10
		commencement of the services	
	Project Definition Report	Within 3 months after	10
		commencement of the services	
Detailed	Draft Design Report	Within 8 months after	10
Design		commencement of the services	
	Final Design Report including	Within 10 months after	10
	drawings & Cost Estimates	commencement of the services	
Tender	Pre-Qualification Document	Within 5 months after	10
Assistance	Report	commencement of the services	
	Bidding Documents each	At appropriate timing	15
	(Draft)		
	Bidding Documents each	At appropriate timing	20
	(Final)		
	Pre-qualification Evaluation	At appropriate timing	10
	Report		
	Technical Evaluation Report	At appropriate timing	10
	Tender Evaluation Report	At appropriate timing	10
Assistance in	Environmental Monitoring	At appropriate timing	10
Environment	Report		

Table 2.13

and	Land Acquisition and	During land acquisition and	10
Resettlement	Resettlement Monitoring	resettlement implementation	
Monitoring	Report	period	
	Environmental and Social Plan Report	At the end of the services	10

Contents to be included in each report are as follows:

a) Monthly Progress Report:

Shall briefly describe all the activities carried out and progress for the previous month. Problems encountered or anticipated will be clearly stated, together with actions to be taken or recommendations on remedial measures for correction. Also indicates the work to be performed during the coming month.

b) Quarterly Progress Report

Shall present the progress status of the Project.

c) Inception Report:

Shall present the methodologies, schedule, organizations, etc.;

d) **Project Definition Report**

Shall present the design criteria, Design Concepts, Key plans, Preliminary Designs, Lay outs and standards use by the consultant in detailed designs. Also indicate the Network modelling software, Surge analysis software, Structural modelling software etc.;

e) Draft Design Report

Shall present the detailed engineering design including draft detailed designs, cost estimates, procurement plan etc.; incorporating the NWSDB comments on Project Definition Report.

f) Final Design Report

Shall present the final detailed designs, final cost estimates and finalized procurement plan incorporating the NWSDB comments on Draft Design Report, provided by and the Consultant

g) Pre-qualification Document Report

Shall present the pre-qualification documents and its evaluation criteria.

h) Bidding Document Report

Shall present bidding documents and bid evaluation criteria.

i) Pre-qualification Evaluation Report

Shall present the results of the evaluation and the criteria to select the qualified applicants

j) Technical Evaluation Report

Shall present the results of technical evaluation and the criteria to recommend the qualified applicants.

k) Tender Evaluation Report

Shall present the results of the tenders and the criteria to select the most responsible contractors.

I) Environmental Monitoring Report

Shall present the environmental impacts and implementation of environmental mitigation measures during and after the construction stage. Environmental monitoring forms attached as Appendix will be filled and attached to the Report.

m) Land Acquisition and Resettlement Monitoring Report

Shall present the progress of land acquisition and resettlement implementation. RAP monitoring form attached as Appendix shall be filled and attached the Report.

n) Environmental and Social Plan Report

Shall present the EMP, EMoP and RAP prepared by the consultants.

2. Client's input and Counterpart Personnel

A certain range of arrangements and services will be provided by NWSDB to the Consultant for smooth implementation of the Consulting Services. In this context, NWSDB will:

(1) Report and data

Make available to the Consultant existing reports and data available with NWSDB related to the Projects as required.

(2) Office Space

During the pre-Design, Design and procurement assistance stages and consultants shall have their own offices with necessary equipment, furniture and utility and shall accommodate the office space for NWSDB project staff and counterpart officials. The Consultant's requirement for office space, office rental including necessary equipment, furniture and utilities, should be clearly stated in the proposal with cost for providing such facilities. Such equipment and furniture shall be handed over to employer after completion of the project.

(3) Cooperation and counterpart staff

The Client shall provide the following counterpart officials for effective implementation of the Consulting Services;

- 01 No. Engineer (civil)
- 02 01 No. Engineering Assistant (civil)
- (4) Assistance and exemption

Use its best efforts to ensure that the assistance and exemption, as described in the Standard Request for Proposal issued by JICA, will be provided to the Consultant, in relation to

- Work permit and such other documents;
- Entry and exit visas, residence permits, exchange permits and such other documents
- Clearance through customs;
- Instruction and information to officials, agent and representatives of the Sri Lankan Government;
- Exemption from any requirement for registration to practice their profession;
- Privilege pursuant to the applicable law in Sri Lanka.





ANNEX 2. PROJECT COMPONENTS

COMPONENT ITEMS		QUANTITY
< <lot a="">> Intake, WTP, Reservoirs</lot>		
Intake	Capacity:	28,800m ³ /d
WTP	Capacity:	$15,000 \text{m}^3/\text{d}$
Elevated Tanks and Ground Sumps		
Elevated Tanks and reservoirs		16 nos.
same for ex-Bowser Area		5 nos.
< <lot b="">>Transmission and Distribution Pipe</lot>		
Pipe Works		
Transmission Main		126,100 m
Transmission Sub-main		24,300 m
Distribution Main		326,700 m
Bridges		1,955 m
Flowmeters		35 nos.
< <lot c="">> Distribution Sub-System</lot>		
Pipe Works		
Distribution Sub-system		330,000 m
Distribution Sub-system in ex-Bowser Area		390,740 m
< <lot d="">> Vehicles</lot>		
Vehicles		7 types 16 nos.
< <lot e="">> Heavy Duty Machines</lot>		
Heavy Duty Machines		7 types 13 nos.









ANNEX 3.2. ORGANIZATION CHART OF PMU

ANNEX 3. IMPLEMENTATION SCHEDULE

The TOR shall cover Phase 2 D/D and T/A of the schedule below:

	2015	2016	2017	2018	2019	2020	
	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12 1	2 3 4 5 6 7 8 9 10 11 12	INDUIU
< <phase &="" 2="" a="" d="" for="" system="" t="" wahalkada="">></phase>							
Selection of Consultant (3)							ю
Execution of Consulting Services							21
Preparation of Detailed Design including preparation o	f bidding documents (10)						10
Preparation of Prequalification Documents (2)							2
Prequalification (2) (Lot A and Lot B)							2
Bidding (3) (Lot A)							°
Technical Evaluation (1)							-
Financial Evaluation (1)							-
<< Phase 2 C/S for Wahalkada System>>							
Selection of Consultant for C/S (20)							12
Execution of Consulting Services (35)							35
Construction Schedule	2015	2016	2017	2018	2019	2020	
Lot A: Intake. WTP: and Reservoirs	0	0	0	9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	30
	0	0	0	10	12	11	33
Lot B: Transmission and Distribution Main				1 1 1 1 1 1 1 1 1 1		1 1 1 1 1 1 1 1	3
				10	12	11	33
Lot C: Distribution Sub-system				1 1 1 1 1 1 1 1 1 1 1		1 1 1 1 1 1 1 1 1	
Lot D: Vehicles	0	0	0	6 1 1 1 1 6	0	 	9
Lot E: Heavy Duty Machines	0	0	0	6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0	0	9

ANNEX5. ESTIMATED PERSON-MONTHS FOR CONSULTING SERVICES

	Position	PM
Pro-A	Foreign Staff	
1	TeamLeader	18.0
2	Water Treatment Specialist	3.0
3	Civil Engineer - WTP	10.0
4	Civil Engineer - Pipelines 1	10.0
5	Civil Engineer - Pipelines 2	7.0
6	Mechanical Engineer	6.0
7	Electrical Engineer	6.0
8	Contract Specialist	3.0
9	Hydrologist	2.0
	Sub-Total A	65.0
Pro-B	Local Staff	
1	Deputy Team Leader	22.0
2	Environmental Specialist	1.5
3	Geo-technical Engineer	1.5
4	Civil Engineer-1 for WTP1	10.0
5	Civil Engineer-2 for Reservoirs & Towers	10.0
6	Civil Engineer-3 for Pipelines 1	10.0
7	Civil Engineer-4 for Pipelines2	10.0
8	Civil Engineer-5 for Pipelines3	8.0
9	Civil Engineer-6 for Pipelines4	8.0
10	Mechanical Engineer	2.0
11	Electrical Engineer	2.0
12	Instrumentation Engineer	3.0
13	Structural Engineer	7.0
14	Architect	7.0
15	Building Utilities Engineer	3.0
16	Chemist	2.0
17	Quantity Surveyor1	5.0
18	Procurement Specialist	5.0
19	Public Awareness campaign Expert	1.0
20	IEC Specialist	2.0
	Sub-Total B	120.0
Staff (C. Project Office Support	
1	Assistant Engineer	20.0
2	Inspector/Surveyor	20.0
3	CAD Operator	68.0
4	GIS Specialist	3.0
5	Office Manager	22.0
6	Accountant	22.0
7	Clerk	22.0
8	Office Aid	22.0
	Sub-Total C	199.0
	Total	384.0

Terms of Reference (TOR)

Construction Supervisory Services for Anuradhapura North Water Supply Project Phase 2

1. The Background including the Project Summary

1.1 Background

The Government of Sri Lanka will undertake the Anuradhapura North Water Supply Project Phase 2 (the ANWSP2) with financial assistance from the Japan International Cooperation Agency (hereinafter referred to as "JICA"). Anuradhapura is located about 250km away from Colombo. The project area of ANWSP2 covers the six (6) Divisional Secretariat Divisions (DSDs) namely Kebithigollewa, Kahatagasdigiliya, Horowpothana and Padaviya for the Wahalkada Water Supply System, and Rambewa and Medawachchiya Anuradhapura District. The location map is attached as **Annex 1**. The objective of the Project is to provide safe drinking water to the area which does not have access to water supply system and to increase water supply coverage by constructing surface water systems in Anuradhapura North area where the people depend on unsafe ground water which causes dental and skeletal fluorosis, Chronic Kidney Diseases (CKD) and thereby contributing to improved hygienic status and health condition in the area.

1.2 **Project Summary**

The Project comprises the following sub scheme:

Wahalkada Water Supply Scheme which provides drinking water supply to the four (4) Divisional Secretariat Divisions (DSDs) namely Kebithigollewa, Kahatagasdigiliya, Horowpothana and Padaviya.

A part of Mahakanadarawa Water Supply Scheme which provides drinking water supply to the three (3) Divisional Secretariat Divisions (DSDs) namely Rambewa, a small part of Mihinthale, and Medawachchiya. Main part of Mahakanadarawa Water Supply Scheme will be constructed in the Anuradhapura North water Supply Project Phase 1 (ANWSP1). Distribution sub-systems in isolated areas in Rambewa and Medawachchiya will be included in ANWSP2.

The detail components of the Project are attached as Annex 2.

1.3 Project Implementation Arrangement

The National Water Supply and Drainage Board (NWSDB) will be the Project's Implementing Agency. The Executing Agency will be the Ministry of City Planning and Water Supply.

Project Management Unit (PMU) has been set up in NWSDB for project implementation. The PMU is headed by the Project Director who is reporting to the Additional General manager of Water Supply Project [Addl. GM WSP] of NWSDB.

2. The Consulting Services

The consulting services shall be provided by an international consulting firm (hereinafter referred to as "The Consultant") in association with national consultants in compliance with the Guidelines for the Employment of Consultants under Japanese ODA Loans (April 2012).

The Anuradhapura North Water Supply Project plans to be implemented under Japanese ODA loan and the Consulting Services consists of the following parts:

Construction Supervision, Safety Matter, Environmental Matters, Technology Transfer and Awareness Programmes of Wahalkada Water Supply System.

2.1 The Objectives of the Consultancy Assignment

The objective of the consulting services assignment is to achieve and ensure the quality and efficiency of the project implementation through the proper Construction supervision, Contract administration, Public awareness campaigns, and environmental matters of Wahalkada Water Supply System and the technology transfer and training for capacity building of NWSDB staff.

2.2 Funding Source for Consultancy Services

The Government of Sri Lanka intends to use part of the proceeds of the Japanese ODA Loan No.______ for eligible payments for consulting services for which this TOR is issued.

2.3 The Scope of the Consulting Services

The Consultant shall perform his duties during the construction period in accordance with the contracts to be executed between NWSDB and the contractors (Packages A, B, C, D and E). FIDIC MDB Harmonized Edition (2010) complemented with the Specific Provisions as included in the Standard Bidding Documents under Japanese ODA Loans for Procurement of Works will be applied to the civil works of the Project. The Consultant shall function with the authorities and responsibilities of the role of Engineer's representative in case it is provided in the Contract Documents of this Project. In this context, the Consultant shall:

- a) Act as the Engineer's Representative to execute construction supervision and contract administration services in accordance with the power and authority delegated by NWSDB
- b) Review, analyse and make recommendations to the Employer concerning variations and claims which are to be ordered/issued by NWSDB;
- c) Provide recommendation to NWSDB for acceptance of the Contractor's Performance security, advance payment security and required insurances.
- d) Review and recommend for approval the proposal submitted by the contractors which include work program, method statements, material sources, manpower and equipment deployment. In light of Section 3.03 of Guidelines for the Employment of Consultants under Japanese ODA Loans (April 2012), the Consultant shall pay attention, in particular, to whether such proposals will meet the safety requirements set forth in the applicable laws and regulations, the specifications or other parts of the contract;
- e) Make no design change at site unless any unforeseen situation.
- f) Provide guidance for unforeseen matters.
- g) Review, verify and further detail the design of the works, recommend to approve the Contractor's working drawings and if necessary, issue further drawings and/or give instructions to the Contractor;
- h) Ensure that all the affected utility services are promptly relocated by the contractors.
- i) Carry out field inspections on the contractor's setting out to ensure that the works are carried out in accordance with drawings and other design details and approve the same.
- j) Direct and guide the supervising Engineering staff of the contractor to ensure adequate rate of progress and quality in the field.
- k) Regularly monitor physical and financial progress against the milestones as per the contract so as to ensure completion of contract in time;
- 1) Supervise the works so that all the contractual requirements will be met by the contractors, including those in relation to i) quality of the works, ii) safety and iii) protection of the

environment. In light of Section 3.03 of Guidelines for the Employment of Consultants under Japanese ODA Loans (April 2012), the Consultant shall confirm that the accident prevention officer proposed by the contractor is duly assigned at the project site and that construction works are carried out according to the requirements set forth in the applicable laws and regulations, the specifications or other parts of the contract;

- m) Inspect all construction materials at site, check and verify quality test reports.
- n) Supervise field tests, sampling and laboratory tests to be carried out by the contractors;
- o) Develop checklist and other formats for the supervisory staff.
- p) Review and approve the bar schedules submitted by the contractors.
- q) Inspect the construction method, equipment to be used, workmanship and quality of work at the site.
- r) Survey and measure the work output performed by the contractors and recommend to issue payment certificates such as interim payment certificates and final payment certificate as specified in the contract;
- s) Coordinate the works among different contractors employed for the Project;
- t) Assist NWSDB in coordinating with the external agencies including preparation of minutes of all meetings. It is very essential to have smooth continued coordination meetings with Road Authorities, Local Authorities, Utility Agencies such as Ceylon Electricity Board and Sri Lanka Telecom Ltd., NWSDB Operation and Maintenance (O&M) Section, etc.
- u) Conduct weekly progress meeting, preparation of minutes and reporting. This shall include critical review and advise on timely execution of Contractor's detail work programmes, machinery and manpower inputs, etc., and identification and advising on removal of hindrances and obstacles to smooth execution of the programmes.
- v) Carry out timely reporting to NWSDB for any inconsistency in executing the works and suggest appropriate corrective measures to be applied;
- w) Inspect, verify and determine claims issued by NWSDB in accordance with the civil works contract;
- Perform the inspection of the works and recommend to issue certificates such as the Taking-Over Certificates, Performance Certificate as specified in the civil works and contract;
- y) Supervise commissioning and carry out testing during commissioning;
- z) Provide periodic and/or continuous inspection services during defects liability period and if any defects are noted, recommend to instruct the contractor to rectify;
- aa) Check and recommend to certify as-built drawings for the parts of the works designed by the contractors, if any: Prepare and submit an operation and maintenance manual for the facilities constructed in the Project; and Prepare and submit reports to NWSDB, which are detailed in Clause 2.13 of the TOR in relation to the implementation of the Project.
- bb) Prepare an efficient and effective strategy to provide water service connections to individual consumers during the construction period itself;
- cc) Ensure a set up for better NRW management and maintenance;
- dd) Conduct training program for O&M staff during WTP commissioning;
- ee) Prepare an asset registry,
- ff) Assist to obtain approval from other organizations such as RDA, PRDA, Pradeshiya Saba, etc.,
- gg) Evaluation and recommendation for approval of time extension claims, etc.,
- hh) Coordination of works among the contractors engaged in the project including organizing, conducting and preparation of minutes for progress meetings, design review meetings and preparation of progress reports.
- ii) Assist the Engineer in preparation of cash flow statements & disbursement schedules
- jj) All possible claims that may arise, for which notices given or not, should be identified in advance and action shall be taken to maintain detail contemporary records, as are reasonable and may be material to the claim, with the Consultant and the Contractor together with necessary signatures, etc.

2.4 Safety Measures

The Consultant shall;

- a) Review the safety plans submitted by the bidders from the point of view of securing the safety during the construction (Refer to Paragraph (2), Section 4.02 Scope of the Project and of the Consulting Services of the Guidelines for the Employment of Consultants under Japanese ODA Loans, April 2012).
- b) Review the Programme submitted by the contractors from the point of view of securing the safety during the construction and requires them to submit further details, if necessary.
- c) Confirm that an accident prevention officer proposed by the contractor is duly assigned at the project site during the supervision of the construction works and ensure the work is carried out according to the safety plan as well as the safety measures prescribed in the Programme. If consultants recognize any questions regarding the safety measures in general including the ones mentioned above, the consultants shall require the contractors to make appropriate improvements.
- d) Supervise the contractor to implement an HIV-AIDS awareness programme of the contractor certainly.

2.5 Facilitation of Implementation of Environmental Monitoring Plan (EMoP) and Resettlement Action Plan (RAP)

The Consultant shall;

- a) Supervise EMP implementation and undertake regular compliance monitoring to ensure that the civil works are implemented in accordance with the EMP; and
- b) Assist NWSDB staff on environmental management through on-the-job training on environmental assessment techniques, mitigation measure planning, supervision and monitoring and reporting.
- c) Further, when it becomes necessary, update and/or prepare RAP in accordance with the related JICA's guidelines as necessary based on detailed design in accordance with the agreed resettlement framework, including entitlement matrix and compensation plan, coordinate with various agencies in preparing the procedures for timely land acquisition and disbursement of compensation to affected persons; and
- d) Update EMP and EMoP with the related JICA's guidelines, when it becomes necessary.

2.6 Technology Transfer

The Consultant shall carry out the technology transfer as an important aspect in design, construction supervision and O&M works. The Consultant shall provide the opportunity to NWSDB offices and staffs to be involved in the working team of the Consultant during the supervision works for their capacity building wherever possible. If requested by NWSDB, the Consultant shall brief and demonstrate the construction supervision and contract management process and procedures. The consultant shall assist NWSDB and its staff to build their capacity as part of on-the-job training under the Project.

2.7 Training for Capacity Development of NWSDB's Staff

The objectives of capacity building and development are twofold. First is to enhance the capacity/ability of the RSC (NC) to perform the activities related to the operation and maintenance of the newly constructed facilities. Second is to enhance the existing skills of key staff, as well as identified group(s) of personnel with the competencies required to manage, operate and maintain the new facilities/system thereby transforming organizational and individual potentials into actuality.

The Consultant shall:

- a) Conceptualize and develop the five-year RSC(NC) Training Plan for implementation by the proposed Training Unit of the regional support centre;
- b) Develop the training modules, materials and manuals for the following training programme/courses:
 - The technical courses:
 - i) Project management;
 - ii) Water Treatment Plant Operations and Maintenance;
 - iii) Network Designs
 - The non-technical courses:
 - i) Human Resources Management (focus on Training and Development);
 - ii) Public Information, Education and Communication;
 - iii) Trainer's Training
- c) Use new technical software for design and construction of water supply systems and train the NWSDB staff for the above and all software should be handed over to NWSDB; and
- d) Conduct the actual training for the identified training programmes (as enumerated) for the concerned / identified personnel of the RSC (NC) of NWSDB following the training needs analysis.

2.8 Guidance for Public Awareness Campaign

The purpose of public awareness campaign is to inform and educate the general public of the present situation of health damage in the project area caused by use of groundwater, the objectives of the proposed project, the importance of connection to a proposed water supply system under the project and payment of water tariff for sustainable operation and management of water supply facilities.

The Consultant shall:

- a) Arrange the data on health damage in the project area focusing on dental and skeletal fluorosis and Chronic Kidney Diseases (CKD),
- b) Analyse the demographic characteristics of the project area such as sex, age, ethnic, religion, occupation, income, coverage by water supply, sanitation and power supply, etc.,
- c) Develop the strategy including approach and methodology to extend the Public Awareness Campaign which shall be prepared with considerations on gender and poverty to attain the well attendance of them.
- d) Organize the public information and education campaign teams through selecting the staff mainly from NWSDB and being reinforced by the use of external resources as required,
- e) Decide the assignment of respective staff in the public information and educational campaign,
- f) Unify the campaign team through trial practice and brainstorming,
- g) Hold the seminar/public information campaign at the date and place as scheduled at least twelve (12) times,
- h) Improve & adjust the content of the seminar according to the people's response at the previous seminar,
- i) Prepare the report summarizing the public information and education campaign including the evaluation of the effect and recommendation for future extension of public awareness campaign, and
- j) Raise awareness of farmers on water management.

2.9 Nature of and limit to the responsibilities, which the Consultant is to undergo

The Consultant shall perform the Services and carry out their obligations hereunder with all due diligence, efficiency and economy, in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and deploy appropriate advance technology and safe and affectivity equipment, machinery, materials, computer software and methods. The Consultants shall always act, in respect of any matter relating to this Contract or to the Services, as faithful advisers to the Employer, and shall at all times support and safeguard the Employer's legitimate interests in any dealings with sub consultants or third parties.

The Consultants shall obtain the Employer's prior approval in writing before taking any of the following actions:

- a) Appointing such members of the personnel as listed in **Section 2.11** merely by title but not by name;
- b) Entering into a sub contract for the performance of any part of services, it being understood (a) that the selection of sub consultant and the terms and conditions of the sub contract shall have been approved in writing by the Employer prior to the execution of the sub contract, and (b) that the consultants shall remain fully liable for the performance of the services by the sub consultants and its personnel pursuant to this contract.
- c) Any variation of the scope of the Consultancy Service
- d) Any variation orders to the Contractor during Contract execution

In the process, it is necessary that detail diary extracts (including those of expatriate staff) are submitted to the Project Management Unit (PMU). Also during the construction stage, it is necessary that the Consultant's staff is available for supervision during Saturdays.

2.10 The Man Month Schedule and Expected Time Schedule

The team shall comprise Professional international consultants having allocated 42.5 personmonths and Professional local consultants having allocated 256.0 person-months maximum. The consultants will be engaged over 47 months duration of consulting services, including Defect Liability Period. Refer to **Annex 3** for proposed Implementation Schedule.

All necessary Technical and Administrative supporting staff (having allocated 357.0 personmonths) should be provided by the consultant by referring to **Annex 4.**

It is the Consultant's responsibility to select the optimum team and to propose the professionals which he believes best meets the needs of NWSDB without exceeding total person months proposed for each category.

2.11 Qualification and Expertise Required and Detailed Scope of Works for Experts

Key Experts (International)

Position	Qualification	Experience
Team Leader	Professionally Qualified Civil Engineer and Graduate (B.Sc.) in Civil Engineering/ construction or PE management and Masters/or PE Qualification in a relevant field and Should be a member of recognized professional Institution.	Total ExperienceAt least 20 years after graduation experience Project Related Experience • At least 15 years' experience out of which 10 years' experience in Water Supply projects including; a) Design b) Project Management c) Contract Management of major projects with ICB contracts• At least ten years' experience in similar water supply Projects as a Team Leader of a project more than 25 million US\$.
Water Treatment Expert	Professionally Qualified Civil Engineer and Graduate (B.Sc.) in Civil Engineering and Masters/or PE Qualification in a relevant field and Should be a member of recognized professional Institution.	 <u>Total Experience</u> At least 15 years after graduation experience <u>Project Related Experience</u> At least 8 years' experience in design of water treatment plants and at least 3 years' experience in Operation and Maintenance of Water Supply Facilities Experience as a water treatment specialist in at least two urban water supply projects of which each having water treatment plants of capacity at least 20,000 m³/day.
Civil Engineer (Water Transmission)	Professionally Qualified Civil Engineer and Graduate (B.Sc.) in Water Supply/ Sanitation/Civil Engineering and related field and Should be a member of recognized professional Institution.	 <u>Total Experience</u> At least 15 years' experience <u>Project Related Experience</u> At least 10 years' experience in design/ operation and maintenance of Water Supply transmission Facilities including minimum 8 years' experience in water supply design. Experience as a Civil Engineer in at least two urban water supply projects of which each having more than 200 km transmission/distribution system. Experience in ICB contract is desirable.

Position	Qualification	Experience
Mechanical Engineer	Professionally Qualified Mechanical Engineer Graduate (B.Sc.) in Mechanical Engineering and related field Should be a member of recognized professional Institution.	 Total Experience At least 15 years Project Related Experience •At least 7 years' experience in design/ operation and maintenance of Water Supply Facilities and related field •Experience as a Mechanical Engineer in four urban water supply projects of which each contract amount is more than 5 million US\$. •Experience in ICB contract is desirable -two urban water supply projects
Electrical Engineer	Professionally .Qualified Electrical Engineer Graduate (B.Sc,) in Electrical Engineering and related field and Should be a member of recognized professional Institution.	 <u>Total Experience</u> At least 15 years <u>Project Related Experience</u> At least 7 years' experience in design/ operation and maintenance of Water Supply Facilities and related field Experience as an Electrical Engineer in four urban water supply projects of which each contract amount is 5 million US\$. Experience in ICB contract -two urban water supply projects

Civil Engineer

(Intake & Water

Treatment Plant)

Key Experts (Loc	Key Experts (Local)		
Position	Qualification	Experience	
Deputy Team Leader	Chartered Civil Engineer and Graduate (B.Sc.) or equivalent in Civil Engineering/ and Masters Qualification in a relevant field.	Total ExperienceAt least 20 years after graduationexperienceProject Related Experience•At least 15 years' experiencecombined experience in Water Supplyprojects including;(i)Design(ii)Project Management(iii)Contract Management of majorprojects with ICB contracts• At least 5 years' experience in similarwater supply Projects as a Deputy TeamLeader of a project more than 15million US\$	
Structural Specialist	Chartered Civil Engineer and Graduate (B.Sc.) or equivalent in Civil Engineering and	Total ExperienceAt least 15 years after graduationexperienceProject Related Experience	

•At least 10 years' experience in design/

•Experience as a structural specialist in

projects of which each contract amount

operation and maintenance of Water

at least two urban water supply

At least 15 years after graduation

• At least 10 years' experience in

• Experience in ICB contract is

design/ operation and maintenance of

• Experience as a Civil Engineer in two urban water supply projects of which each contract amount is more than 5

is more than 10 million US\$

Project Related Experience

Water Supply Facilities

Supply Facilities

Total Experience

experience

million US\$.

desirable

Masters Qualification in

Chartered Civil Engineer

equivalent in and Masters Qualification in Water

and Graduate (B.Sc.) or

Supply Engineering

/Environmental

Engineering

Structural Engineering

Key Expe

Position	Qualification	Experience
Civil Engineer (Reservoirs, Pumping Stations, Towers, Transmission & Distribution)	Chartered Civil Engineer and Graduate (B.Sc.) or equivalent in Water Supply/ Sanitation/Civil Engineering and related field	Total ExperienceAt least 15 years after graduation experienceProject Related Experience• At least 10 years' experience in design/ operation and maintenance of Water Supply transmission Facilities• Experience as a civil Engineer in two urban water supply projects of which each contract amount is more than 5 million US\$.• Experience in ICB contract is desirable.
Mechanical Engineer	Mechanical Engineer Graduate (B.Sc.) or equivalent in Mechanical Engineering and related field	Total ExperienceAt least 15 years after graduation experience• At least 15 years' experience• At least 7 years' experience in design/ operation and maintenance of Water Supply Facilities and related field• Experience as a Mechanical Engineer in four urban water supply projects of which each contract amount is more than 5 million US\$• Experience in ICB contract is desirable -two urban water supply projects
Electrical Engineer	Electrical Engineer Graduate (B.Sc.) or equivalent in Electrical Engineering and related field	Total ExperienceAt least 15 years after graduation experienceProject Related Experience• At least 7 years' experience in design/ operation and maintenance of Water Supply Facilities and related field• Experience as an Electrical Engineer in four urban water supply projects of which each contract amount is 5 million US\$.• Experience in ICB contract -two urban water supply projects

Other Experts (Local)

Position	Qualification	Experience
Procurement Specialist	Graduate in Civil Engineering (B.Sc.) or equivalent and Masters Qualification inproject management and Diploma in Procurement and construction claims	 Total Experience At least 15 years after graduation experience Project Related Experience At least 7 years' experience as a Procurement Specialist
		 Experience in two urban water supply projects of which each having ICB contract more than 10 million US\$. Experience in JICA projects is
Environmental Specialist	Bachelor degree in Engineering/environmental science/Agriculture	Total Experience At least 15 years after graduation experience
		 Project Related Experience Not less than 6 years' experience in environmental Assessments with reference to water pollution, waste water, sanitation, and the impact of construction works and at least two years' experience with a recognized consulting firm/National water utility Organization
Public Awareness Campaign Specialist	Bachelor degree in Social Science	Total Experience At least 10 years after graduation experience
		 Project Related Experience At least 2 years' experience with a recognized consulting firm /National water utility Organization Having experience in conducting Public awareness campaigns
IEC Specialist	Bachelor degree in Social Science	Total Experience At least 10 years after graduation experience
		 Project Related Experience At least 2 years' experience with a recognized consulting firm /National water utility Organization Having experience in conducting Public awareness campaigns

Architect	Professionally qualified graduate Architect and should be a member of recognized professional institution	 Total Experience At least 10 years after graduation experience Project Related Experience Not less than 5 years' experience in architectural buildings and industrial/water or wastewater treatment plant plans, familiar with green building techniques & practice on energy efficient buildings and at least 2 years' experience with a recognized consulting firm
Quantity Surveyor	Professionally qualified Quantity Surveyor with Bachelor degree or equivalent in Quantity surveying and should be a member of recognized professional institution	Total Experience: At least 10 years after graduation experience Project Related Experience: • At least 2 years' experience in water treatment plant estimates with a recognized consulting firm//National water utility Organization Note: An input of 8 man months of a Quantity Surveyor (local) shall be allocated exclusively for the use of Planning & Design Section in Head Office.
Micro- Biologist/ Chemist	A graduate in the relevant field with a Master Degree in Micro- Biology/ Chemistry/ Limnology	TotalExperience:At least 10 years after graduationexperience Project Related Experience • Not less than 10 years' experience inthe drinking water sector specially inenumeration of Algae and otherconstituents/species in impoundedwater bodies with emphasis on Algae& Cynobacteria control and at leastfive years in recognized consultingfirm

2.12 Task of the Experts

2.12.1 The Tasks of the Key Experts

International Experts

The specific tasks include, but not limited to;

Position

Team Leader

Main Tasks

- 1. Shall bear the overall responsibility and shall represents the project Consultant's Team in all matters relating to the performance of services, coordinating with all other consultant's staff to deliver excellent product during the stipulated time schedule.
 - 2. Shall oversee and Supervise the Consultant's services
 - 3. Assume direct responsibility for day-to-day consulting services including day to day management of all consultants' staff and coordination among and with them.
 - 4. Review existing studies/documents and other resources available and formulate a best implementation approach including programmatic project schedule;
 - 5. Contract management and administration;
 - 6. Develop and implement quality assurance programme;
 - 7. Recommend contract payments;
 - 8. Review, analyse and make recommendations to the Employer concerning variations and claims which are to be ordered/issued by NWSDB;
 - 9. Recommend to issue the commencement order to the Contractors;
 - 10. Evaluation of time extension claims and make recommendations
 - 11. Provide recommendation to NWSDB for acceptance of the Contractor's Performance security, advance payment security and required insurances.
 - 12. Explain and/or adjust ambiguities and/or discrepancies in the Contract Documents and recommend to issue any necessary clarifications or instructions;
 - 13. Review, verify and further detail the design of the works, recommend to approve the Contractors' working drawings and if necessary, issue further drawings and/or give instructions to the Contractor;
 - 14. Review and recommend to approve the proposals submitted by the contractors
 - 15. Make necessary design changes and amendments at site
 - 16. Provide guidance for unforeseen matters.
 - 17. Progress reporting
 - 18. Prepare necessary documentation to obtain approval from all concerned authorities such as local authorities, Provincial Road Authority, Road Development Authority, Ceylon Electricity Board, Central Environmental Authority, Telecom, Police or any other related institutions for laying pipes and construction of other structures;
 - 19. Present designs, Progress of works at agreed time schedules and milestones to NWSDB staff and other stakeholders including arranging of field trips if necessary
 - 20. Briefly present and demonstrate the studies, surveys, design procedures, treatment process, conceptual designs, detailed designs, and contract management process and procedures to NWSDB staff
 - 21. Prepare Asset registry;
 - 22. Prepare institutional arrangement for O&M;
 - 23. Prepare training programmes for NWSDB designs, construction supervision and O&M staff and organize and conduct the training.
 - 24. Certify all the drawings, BOQs, Cost Estimates and specifications
 - 25. Ensure the safety conditions at work sites
 - 26. Supervise commissioning and carry out testing during commissioning;

	 27. Review O&M manuals 28. Develop a course module on project management including project coordination, contract administration, over-all supervision over the implementation of the project and conduct 3 days Project Management Training Course for the NWSDB project staff 29. Conduct training needs analysis for RSC-NC as the basis for the training plan and arrange to conduct the identified training programmes (as enumerated) for the concerned/identified personnel of the RSC-NC of NWSDB following the training needs analysis.
Water Treatment Expert	 Assure resource optimization including the treatment plant waste treatment and re-cycling Advise on the degree of Automation and controlling required for the optimum performance of the WTP and distribution systems inn collaborations with Electrical and Mechanical Engineers. Advise on preparations of Sequence of Operation (SOO) for the treatment plants Supervise commissioning of WTP and carry out testing and adjusting water quality of WTP during commissioning Advise on chemical dosing during commissioning stage. Preparing manuals for day to day operation & maintaining of plants Training O&M staff for trouble shooting Guiding O&M staff on preventive maintenance Give directions to the local consulting engineers attending the detailed designs of the water treatment plant and water intake facilities Develop a course module on water production & Treatment Training and treatment plant Operation & Maintenance for NWSDB(RSC-NC) Staff
Mechanical Engineer	 Check the shop drawings submitted by the contractors Assess the substitution of products proposed by the contracts Assist during the commissioning of project components Assist Team Leader for preparation of O&M manuals Direct the local Mechanical Engineers in their day-to-day activities Supervise the installation works of mechanical equipment Attend the trial operation of mechanical equipment Check the performance of an instrumentation system. Support the O&M training
Electrical Engineer	 Assess the power requirements and establish power availability and assist NWSDB staff obtaining the requirement from CEB; Assist during commission of project components Assist Team Leader for preparation of O&M manuals Direct the local Electrical Engineers in their day to day activities Check the shop drawings submitted by the contractors Assess the substitution of products proposed by the contractors Supervise the installation work of Electrical equipment Attend the trial operations of Electro-mechanical equipment Check all the performance of an instrumentation system Support the O&M training

4.2-2 - 14

Local Experts

Posit	ion		Main Tasks
Deputy Team 1. Leader			Shall assist the Team Leader in all matters relating to the performance of services.
		2.	Shall assist the Team Leader to oversee and supervise the Consultant's services
		3.	Assumes direct responsibility for day-to-day consulting services including day to day management of all consultants' staff during the absence of the team loader
		4	Encure cite cofety acquirements
		4.	Ensure site safety requirements
		5.	conduct weekly progress meetings at sites, preparation of minutes and reporting. This shall include critical review and advice on timely execution of Contractor's detail work programmes, machinery and manpower inputs etc., and identification and advising on removal of hindrances and obstacles to smooth execution of the programmes.
		6.	Inspect all construction material at site, check and verify quality test reports.
		7.	Supervise field test, sampling and laboratory test to be carried out by the contractors;
		8.	Develop checklist & other formats for the supervisory staff (NWSDB staff)
		9.	Review and approve the bas schedules submitted by the contractors.
		10.	Inspect the construction method, equipment to be used workmanship at the sites
		11.	Ensure Quality assurance and control of plant, materials and workmanships at the sites.
		12.	Supervise the commissioning and carry out testing during commission:
		13.	Prepare O&M manuals and construction record drawings (As Built Drawings)
		14.	Prepare an efficient and effective strategy to provide water service connections to individual consumers during the construction period itself
	15.	Ensure a set up for better NRW management and maintenance	
		16.	Provide periodic and/or continuous inspection of services during defects
			liability period and if any defects are noted, recommend to instruct to contractor to rectify:
Structura Specialis	al st	1.	Identify the necessary soil investigations required for the structural designs and administer such work
-Periain		2.	Liaise with other specialists to ensure consistent philosophy and integrated

approach to the design3. Provide necessary advises to carry out all construction works in order to comply with the design codes

Position		Main Tasks
Civil Engineer	1.	Assist the Deputy Team Leader in contract supervision of the water treatment
(Intake &		plants including water intake facilities
Water	2.	Assist the Deputy Team Leader in inspection all construction materials at site,
Treatment		check and verify quality test reports of the water treatment including water
Plant)		intake facilities.
·	3.	Assist the Deputy team leader in supervise field tests, sampling and
		laboratory test to be carried out by the contractors of the water treatment plant
		including water intake facilities;
	4.	Assist the Deputy Team Leader in developing a checklist & other formats
		for the supervisory staff. (NWSDB Staff) of the water treatment plant
		including water intake facilities;
	5.	Assist the Deputy Team Leader in reviewing and approving the bar schedules
		submitted by the contractors of the water treatment plant including water intake
		facilities:
	6.	Assist the Deputy Team Leader in inspecting the construction method.
		equipment to be used, workmanship at the sites of the water treatment plant
		including water intake facilities:
	7	Assist the Deputy Team Leader in quality assurance and control of plant
	7.	materials and workmanship at sites of the water treatment plant including water
		intake facilities.
	8	Assist the Deputy Team Leader in supervising the commissioning and carrying
	0.	out of testing during commissioning of the water treatment plant including
		water intake facilities.
Civil Engineer	1	Assist the Deputy Team Leader in contract supervision of the Reservoirs PS
(Reservoirs	1.	Towers Transmission & Distribution System:
Pumping	2	Assist the Deputy Team Leader in inspecting all construction materials at site:
Stations	2.	check and verify quality test reports of Reservoirs PS. Towers Transmission &
Towers		Distribution System:
Transmission	3	Assist the Deputy Team Leader in supervising field tests campling and
	5.	laboratory test to be carried out by the contractors of the Reservoirs PS. Tower
& Distribution)		Transmission & Distribution System:
Distribution)	4	Assist the Deputy Team Leader in developing a checklist & other formats for
	4.	the supervisory staff (NWSDB staff) of the Beservoirs DS Tower
		Transmission & Distribution System:
	5	A solid the Deputy Team Leader in reviewing and approving the her schedules
	5.	Assist the Deputy Team Leader in reviewing and approving the bar schedules
		Distribution System
	C	Distribution System;
	0.	Assist the Deputy Team Leader in Inspecting the construction method,
		Transmission & Distribution System:
	7	Againt the Deputy Team Loader in quality accurance and control of plant
	7.	Assist the Deputy Team Leader in quality assurance and control of plant,
		Protection Systems
	0	A solid the Deputy Team Leader in supervising the commissioning and community
	о.	Assist the Deputy Team Leader in supervising the commissioning and carry out
		Distribution Sectory
Mashaniaal	1	Distribution System;
Fraincar	1.	A second the sub-stitution of the dusts mean and but the contractors
Engineer	2. 2	Assess the substitution of products proposed by the contractors
	3. 1	Attend the trial expertises and testing's of mechanical equipment
	4. 5	Attend the trial operations and testing s of mechanical equipment
F 1	Э. 1	Support the O&M training
Electrical	1.	Check the shop drawings submitted by the contractors
Engineer	2.	Assessment of the power requirements and establish power availability and
	-	assist NWSDB staff obtaining the requirement from CEB;

3. Assist during commissioning of project components

Position

TOR 2

Main Tasks

- 4. Assist Team Leader for preparation of O&M manuals
- 5. Assess the substitution of products proposed by the contractors
- 6. Supervise the installation work of Electrical equipment
- 7. Attend the trial operation of Electro-mechanical equipment
- 8. Check the performance of a instrumentation system
- 9. Support the O&M training

2.12.2 The Tasks of the other Experts

Position		Main Tasks
Environmental	1.	Update Environmental management Plan (EMP)
Specialist	2.	Prepare programs and strategies to improve/protect these catchments with short
		term/long term perspectives in consultation with other experts
Procurement	1.	Prepare pre-qualification requirements and evaluation;
Specialist	2.	Prepare bidding documents compliant with JICA's latest standard bidding
		requirements
	3.	Design post-qualification criteria which should comply with JICA's guidelines
	4.	Organize and identify with NWSDB staff in contract packaging and preparing
		procurement time schedules for each contract package in consultation with
		project staff
	5.	Prepare sample Evaluation Reports to ensure JICA's and GOSL requirements
		are satisfied
	6.	Assist the TEC members during evaluation
Architect	1.	Supervise and confirm that all water treatment plants, waste water treatment
		plants, pump houses and intakes, landscaping treatment plants, towers and intake
	•	facilities shall be constructed as per specifications.
	2.	Supervise the contractor to follow the specification for interior decorations
		including interior lighting, selecting furniture for plant offices, colour coding
	~	and painting of structures, exterior lighting etc.
	3.	Design necessary buffer zones and other architectural features for noise and
Omentita	1	odour control
Quantity	1. 2	Charling relevant documents for contractors' claims and variations
Surveyor	2.	Drepage of east estimates
Dublic). 1	Analyse the demographic characteristics of the project area such as say age
Awaranasa	1.	Analyse the demographic characteristics of the project area such as sex, age,
Campaign		supply etc
Specialist	2	Arrange the data on health damage in the project area focusing on dental and
Specialist	2.	skeletal fluorosis and chronic kidney diseases (CKD)
	3	Develop the strategy including approach and methodology to extend the public
	5.	awareness campaign
	4	Organize the public information and education campaign teams through
		selecting the staff mainly from NWSB and being reinforced by the use of
		external resources as required
	5.	Decide the assignment of respective staff in the public information and
		education campaign
	6.	Unify the campaign team through trial practice and brainstorming
	7.	Design, implement, and monitor the public awareness campaigns for farmers
		and arrange site visits to farmer organizations leaders and other relevant stake
		holders for inspection of water treatment plants.
	8.	Develop methods of mobilizing community participation in the design,
		management, construction, and O&M of community water supply and
		sanitation;
	9.	Conduct public awareness campaigns / seminar at the date and places as
		scheduled at least twelve (12) times on issues related to water conservation,

Position	Main Tasks
	reduction of NRW, efficient irrigation water management practices for farmers,
	importance of pipe born water, water related diseases, catchment protection,
	preventing water pollution and sanitation in household level.
	10. Improve and adjust the content of the seminar according to the people's response at the previous seminar.
	11. Prepare the report summarizing the public information and education campaign including the evaluation of the effect and recommendation for future extension
	of public awareness campaign.
Micro-	1. Advise on the pilot water quality testing
Biologist/Che	2. Advise preparation of sequence of operation (SOO) for the treatment plants
mist	3. Assist in adjusting water quality and treated effluent of water treatment plants during commissioning
	4. Advise on chemical dosing during commissioning stage
	5. Identify and recommend the list of requirements for the Laboratory to procurement officer.
	6. Prepare manual for day to day Operation & Maintaining of plants Preparation of Algae, Nutrient Control & Monitoring system

7. Training O&M staff including Chemists for trouble shooting

2.13 The Reports and Documents

Within the scope of consulting supervisory services, the Consultant shall prepare and submit reports and documents to Project Director/Project Manager in charge in NWSDB as shown in Table 2.13. The Consultant shall provide electronic copy of each of these reports.

	Table 2.13 Reports	and Documents	
Stage	Type of Report	Timing	No. of
			Copies
Consultancy Services	Monthly Progress Report	Every month (by the 10 th day of next month	10
Construction Supervision	Operation and maintenance Manual	One month after the commissioning of the plant	10
_	Construction Completion	Within 1 month after	10
	Report (and As-Built drawing, if any)	completion of Commissioning	
	Project Completion Report (for submission to JICA)	At the end of the services	10
Training	Training Plan	At appropriate timing in accordance with the Inception Report	10
	Training Execution and Evaluation Report	Within 1 month after training	10
Other Report	Technical Report	As required or upon request	As required

Contents to be included in each report are as follows:

a) Monthly Progress Report:

Shall briefly describe all the activities carried out and progress for the previous month. Problems encountered or anticipated will be clearly stated, together with actions to be taken or recommendations on remedial measures for correction. Also indicates the work to be performed during the coming month.

- b) Operation and Maintenance Manual: Shall contain technical procedures for the appropriate operation and maintenance of all project facilities
- c) Construction CompletionReport: Shall comprise full size As-Built drawings for all the structures and facilities completed in a format appropriate to the Employer, and the final details of the construction completed together with all data, records material tests results, field books
- d) Project Completion Report (for Submission to JICA): Shall comprise a full report of the project according to JICA requirements

3. Client's input and Counterpart Personnel

A certain range of arrangements and services will be provided by NWSDB to the Consultant for smooth implementation of the Consulting Services. In this context, NWSDB will:

(1) Report and data

Make available to the Consultant existing reports and data available with NWSDB related to the Project as required.

(2) Office Space

During the construction stage, the consultants shall have their own offices with necessary equipment, furniture and utility and shall accommodate the office space for NWSDB project staff and counterpart officials. The Consultant's requirement for

office space, office rental including necessary equipment, furniture and utilities, should be clearly stated in the proposal with cost for providing such facilities. Such equipment and furniture shall be handed over to employer after completion of the project.

(3) Cooperation and counterpart staff

The Client shall provide the following counterpart officials for effective implementation of the Consulting Services:

01 No. Engineer (civil)

01 No. Engineering Assistant (civil)

(4) Assistance and exemption

Use its best efforts to ensure that the assistance and exemption, as described in the Standard Request for Proposal issued by JICA, will be provided to the Consultant, in relation to

- Work permit and such other documents;
- Entry and exit visas, residence permits, exchange permits and such other documents
- Clearance through customs;
- Instruction and information to officials, agent and representatives of the Sri Lankan Government;
- Exemption from any requirement for registration to practice their profession;
- Privilege pursuant to the applicable law in Sri Lanka.



COMPONENT ITEMS		QUANTITY
< <lot a="">> Intake, WTP, Reservoirs</lot>		
Intake	Capacity:	28,800m ³ /d
WTP	Capacity:	15,000m ³ /d
Elevated Tanks and Ground Sumps		
Elevated Tanks and Reservoirs		16 nos.
same for Isolated Area		5 nos.
< <lot b="">>Transmission and Distribution Pipe</lot>		
Pipe Works		
Transmission Main		126,100 m
Transmission Sub-main		24,300 m
Distribution Main		326,700 m
Pipe Bridges		1,955 m
Flowmeters		35 nos.
< <lot c="">> Distribution Sub-System</lot>		
Pipe Works		
Distribution Sub-systems		330,000 m
Distribution Sub-systems in Isolated Areas		390,740 m
< <lot d="">> Vehicles</lot>		
Vehicles		7 types 16 nos.
< <lot e="">> Heavy Duty Machines</lot>		
Heavy Duty Machines		7 types 13 nos.

ANNEX 2. PROJECT COMPONENTS

Terms of Reference

TOR 2

ANNEX 3. IMPLEMENTATION SCHEDULE

The TOR shall cover Phase 2 C/S of the schedule below:

	2015	2016	2017	2018	2010	UCUC	
	1 2 3 4 5 6 7 8 9 10 11 1	2010 21 2 3 4 5 6 7 8 9 10 11 12	2 1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 1:	2 1 2 3 4 5 6 7 8 9 10 11 12	Month
<< Phase 2 D/D & T/A for Wahalkada System>>							
Selection of Consultant (3)							з
Execution of Consulting Services							21
Preparation of Detailed Design including preparation of	bidding documents (10)						10
Preparation of Prequalification Documents (2)							2
Prequalification (2) (Lot A and Lot B)							2
Bidding (3) (Lot A)							з
Technical Evaluation (1)							-
Financial Evaluation (1)							-
<< Phase 2 C/S for Wahalkada System>>							
Selection of Consultant for C/S (20)							12
Execution of Consulting Services (35)							35
Construction Schedule	2015	2016	2017	2018	2019	2020	
Lot A: Intake. WTP, and Reservoirs	0	0	0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1	9	30
	0	0	0	10	12	11	33
Lot B: Transmission and Distribution Main							5
Lot C. Distribution Sub-evetam	 -	 	 	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1	12 • 1 • 1 • 1 • 1 • 1 • 1 • 1 • 1 • 1	11 11 11 11 11 11 11 11 11 11 11 11 11 1	33
Lot D: Vehicles							9
Lot E: Heavy Duty Machines	0	0	0		0	0	9

ANNEX 4. ESTIMATED PERSON-MONTHS FOR CONSULTING SERVICES

	Position	PM
Pro-A Fo	reign Staff	
1	TeamLeader	33.0
2	Water Treatment Specialist	2.5
3	Civil Engineer - WTP	0.0
4	Civil Engineer - Pipelines 1	0.0
5	Civil Engineer - Pipelines 2	0.0
6	Mechanical Engineer	3.5
7	Electrical Engineer	3.5
8	Contract Specialist	0.0
9	Hydrologist	0.0
	Sub-Total A	42.5
Pro-B Lo	cal Staff	
1	Deputy Team Leader	36.0
2	Environmental Specialist	3.5
3	Geo-technical Engineer	0.0
4	Civil Engineer-1 for WTP1	30.0
5	Civil Engineer-2 for Reservoirs & Towers	30.0
6	Civil Engineer-3 for Pipelines 1	35.0
7	Civil Engineer-4 for Pipelines2	30.0
8	Civil Engineer-5 for Pipelines3	0.0
9	Civil Engineer-6 for Pipelines4	0.0
10	Mechanical Engineer	4.5
11	Electrical Engineer	4.5
12	Instrumentation Engineer	1.5
13	Structural Engineer	2.0
14	Architect	4.0
15	Building Utilities Engineer	1.0
16		2.0
17	Quantity Surveyorl	35.0
18	Quantity Surveyor2	29.0
19	Procurement Specialist	1.0
20	Dublic A warm and comparing Funct	1.0
21	Fublic Awareness campaign Expert	3.0
	Sub Total P	3.0
Stoff C	Sub-rotar B	256.0
Stall C.	Assistant Engineer	25.0
2	Inspector/Surveyor	147.0
2	CAD Operator	25.0
3	CIS Specialist	33.0
5	Office Manager	25.0
6	Accountant	35.0
7	Clerk	25.0
8	Office Aid	35.0
0	Sub-Total C	357.0
	Total	655 5
	10101	055.5

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2 3 4 5 6 7 8 9 10 11 12		10 10<	11.0	74.5 05 E	33,539,000.0	0 33,525,000	1 1 <td>111.0 22,200,000 196.5</td>	111.0 22,200,000 196.5
2017 1 2 3 4 5 6 7 8 9 10 11 12	10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	12.0	15.5 07 E	27.3 36,588,000.0	0 0 6,975,000		58.0 11,600,000 85.5
2 3 4 5 6 7 8 9 10 11 12	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	53.0	104.5	161,597,000.0	0 0 47,025,000	1 1 1 1 2 2 2 2 2 2 2 2 2 1 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	141.0 28,200,000 298.5
BillingRate /C Yen LC/ LKR 1	049000 049000 049000 049000 049000 049000 049000 049000 049000 049000 049000 00 049000 00 00 00 00 00 00 00 00 00 00 00 00	0 450000 0 450000					0 200000 0 200000 0 200000 0 200000 0 200000 0 200000 0 200000 0 200000 0 200000 0 200000 0 200000 0 200000 0 200000	
Position	A 1 Team Leader 0.0 A 1 Team Leader 0 A 2 Water Treatment Specialist 0 A 3 Civil Engineer - WTP 0 A 4 Civil Engineer - WTP 0 A 5 Civil Engineer - Pipelines 1 0 A 6 Mechanical Engineer 0 A 7 Flectrical Engineer 0 A 8 Contract Specialist 0 A 9 Hydrologist 0	Pro-B Local Staff B 1 Deputy Team Leader B 2 Environmental Specialist B 3 Geo-technical Engineer B 4 Civil Engineer-1 for WTP1 B 5 Civil Engineer-2 for WTP1 B 5 Civil Engineer-1 for WTP1 B 6 Civil Engineer-2 for Pipelines1 B 7 Civil Engineer-5 for Pipelines2 B 10 Mechanical Engineer B 11 Instrumentation Engineer B 13 Structural Engineer B 15 Building Utilities Engineer B 16 Chemist B 17 Quantity Surveyor1 B 20 Training Expert B 21 Public Awareness campaign Expert	ITotal of Pro-Al	[Total of Pro-B]	Total Cost of FC for Each Month(Pro-A)	Total Cost of FC for Each Month(Pro-B) Total Cost of LC for Each Month(Pro-A) Total Cost of LC for Each Month(Pro-B)	Supporting Staff 2 1 Assistant Engineer 3 2 Inspector/Surveyor 3 3 CAD Operator 5 0 ffice Manager 6 6 Accountant 7 7 Clerk 8 0 ffice Aid	[Total of Supporting Staff] Total Cost of LC for Each Month(SS) Grand Total

Manning Schedule of the Consulting Services for Phase 2
Appendix 4.3-1	November 2015		
	1 USD=	120.1	JPY
Base Cost of Cpnstruction Work of Phase 2	1 USD=	139.0	LKR
Wahalkada Water Supply System	1 LKR=	0.864	JPY

Packag e	Item	Specifications	JPY	Amount LKR	Total JPY	Remarks
Gran	d Total		5.817.879.000	9.586.664.000	14.100.755.000	
A	Lot A: Intake, WTP, Reservoirs		1.371.127.000	3.979.613.000	4.809.512.000	
В	Lot B: Transmission and Distributi	on Pipe	4,109,327,000	3,061,695,000	6,754,631,000	
С	Lot C: Distribution Sub-system		337,425,000	2,466,266,000	2,468,278,000	
D	Lot D: Vehicles		0	63,440,000	54,812,000	
E	Lot E: Heavy Duty Machines		0	15,650,000	13,522,000	
A	< <lot a="">> Intake, WTP, Reservoirs</lot>		1,371,127,000	3,979,613,000	4,809,512,000	
A-1	Intake		79,025,000	208,104,000	258,827,000	
A-2	WTP		782,331,000	1,370,674,000	1,966,593,000	
A-3	Elevated Tanks and Ground Sump	os	509,771,000	2,400,835,000	2,584,092,000	
в	< <lot b="">>Transmission and Distribution</lot>	ition Pipe	4,109,327,000	3,061,695,000	6.754.631.000	
B-1	Transmission Main		2,478,743,000	1,207,722,000	3,522,215,000	
B-2	Transmission Sub-main		63,894,000	91,625,000	143,058,000	
B-3	Distribution Main		1,563,998,000	1,662,969,000	3,000,803,000	
B-4	Miscellaneous works		2,692,000	99,379,000	88,555,000	
с	< <lot c="">>Distribution Sub-System</lot>		337.425.000	2.466.266.000	2.468.278.000	
C-1	Distribution Sub-system		135,116,000	954,706,000	959,982,000	
C-2	Miscellaneous Works		1,795,000	90,668,000	80,132,000	
C-3	ex-Bowser Area in Phase1		73,743,000	489,792,000	496,923,000	
C-4	ex-Bowser Area in Phase2		126,771,000	931,100,000	931,241,000	
D	< <lot d="">> Vehicles</lot>		0	63,440.000	54.812.000	
D-1	Vehicles	7 types 16nos.	0	63,440,000	54,812,000	
E	< <lot e="">> Heavy Duty Machines</lot>		0	15 650 000	13 522 000	
E-1	Heavy Duty Machines	7 types 13 nos.	0	15,650,000	13,522,000	

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120.1	139.0	0.864
1 USD=	1 USD=	1 LKR=

Code	ltem	Specifications	Unit	Quantity	Unit FC(JPY)	Price LC(LKR)	FC(JPY)	Amount LC(LKR)	Total (JPY) R	emark
A	< <lot a="">> Intake, WTP, Reservoirs</lot>						1,371,127,000	3,979,613,000	4,809,512,000	
A-1	Intake		Ls Ls	1			79,025,000	208,104,000	258,827,000	
A-2	WTP		Ls	-			782,331,000	1,370,674,000	1,966,593,000	
A-3	Elevated Tanks and Ground Sumps		Ls	1			509,771,000	2,400,835,000	2,584,092,000	
A-1	Intake						79,025,000	208,104,000	258,827,000	
A-1-1	Civil Works for Intake		Ls	-			1,681,000	173,441,000	151,534,000	
A-1-2	Mechanical Works for Intake		Ls	-			52,844,000	20,636,000	70,674,000	
A-1-3	Electrical Works for Intake		Ls	1			24,500,000	14,027,000	36,619,000	
A-2	WTP						782,331,000	1,370,674,000	1,966,593,000	
A-2-1	Civil Works for WTP		Ls	1			62,932,000	1,031,550,000	954,191,000	
A-2-2	Mechanical Works for WTP		ST	L			490,488,000	179,566,000	645,633,000	
A-2-3	Electrical Works for WTP		rs	L			228,911,000	159,558,000	366,769,000	
A-3	Elevated Tanks and Ground Sumps						509,771,000	2,400,835,000	2,584,093,000	
A-3-1	Elevated Tanks and Ground Sumps		Ls	1			479,394,000	2,029,433,000	2,232,824,000	
A-3-2	Additional E.T. for Phase 1 ex-Bows	ser Area	Ls	1			17,357,000	179,849,000	172,747,000	
A-3-3	Additional E.T. for Phase 2ex-Bows	er Area	Ls	1			13,020,000	191,553,000	178,522,000	

- E	0		-	1	1		1		1	-		1	-	-	-	-	1		_
	Remark																		
	Total (JPY)	258,827,000	151,534,000	70,674,000	36,619,000	151.534.000	151,534,000	70,674,000	70,674,000		36,619,000	36,619,000							
	Amount LC(LKR)	208,104,000	173,441,000	20,636,000	14,027,000	173.441.000	173,441,000	20,636,000	20,636,000		14,027,000	14,027,000							
	FC(JPY)	79,025,000	1,681,000	52,844,000	24,500,000	1.681.000	1,681,000	52,844,000	52,844,000		24,500,000	24,500,000							
	: Price LC(LKR)																		
	Unit FC(JPY)																		
	Quantity		-	-	-		-		-			-							
	Unit		Ls	Ls	Ls		Ls		Ls			Ls							
	Specifications																		
	ltem	Intake	Civil Works for Intake	Mechanical Works for Intake	Electrical Works for Intake	Civil Works for Intake	Civil Works for Intake	Mechanical Works for Intake	Mechanical Works for Intake		Electrical Works for Intake	Electrical Works for Intake							
	Code	A-1	A-1-1	A-1-2	A-1-3	A-1-1	A-1-1	A-1-2	A-1-2		A-1-3 E	A-1-3							-

Lot A-1

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Code	ltem	Specifications	Unit	Quantity			FC(JPY)	
A-2	WTP						782,331,000	1,370,674,000
A-2-1	Civil Works for WTP		Ls	-			62,932,000	1,031,550,000
A-2-2	Mechanical Works for WTP		Ls	-			490,488,000	179,566,000
A-2-3	Electrical Works for WTP		Ls	-			228,911,000	159,558,000
A-2-1	Civil Works for WTP						62,932,000	1,031,550,000
A-2-1-1	Site Work (including Intake Site)		rs	1			0	278,863,000
A-2-1-2	Receiving Well/Distribution Chambe	, L	Ls Ls	-			0	15,112,000
A-2-1-3	Flocculation and DAF		Ls	-			0	65,657,000
A-2-1-4	Rapid Sand Filter		Ls	-			0	76,800,000
A-2-1-5	Granual Activated Carbon (GAC) Fi	ter	Ls Ls	-			0	109,162,000
A-2-1-6	Clear Water Tank and Pump House		Ls	-			0	140,837,000
A-2-1-7	Backwash Recycling Tank and Slud	ge Tank	rs	1			0	41,760,000
A-2-1-8	Sludge Thickener and Pump House		Ls	-			0	20,947,000
A-2-1-9	Sludge Drying Bed		Ls	-			0	47,352,000
A-2-1-10	Lagoon		Ls	1			0	13,830,000
A-2-1-11	Inplant Building Works		Ls	1			0	180,391,000
<u> </u>	Inplant Pipe Works							

Lot A-2

Remarks

Total (JPY)

1,966,593,000

645,633,000

954,191,000

366,769,000

954,192,000

240,938,000

13,057,000

56,728,000

66,355,000 94,316,000 36,081,000

121,683,000

18,098,000

40,912,000

11,949,000

155,858,000

98,217,000

40,839,000

62,932,000

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A-2-1-12

	,000	1,000	 ,000	,000	 								
Total (JP	645,633	645,633	366,769	366,769									
Amount I C(I KR)	179,566,000	179,566,000	159,558,000	159,558,000									
FC(,IPY)	490,488,000	490,488,000	228,911,000	228,911,000									
It Price													
FC(JPY)													
Quantity		-		1									
Unit		Ls		Ls									
Specifications													
ltem	Mechanical Works for WTP	Mechanical Works for WTP	Electrical Works for WTP	Electrical Works for WTP									
Code	A-2-2	A-2-2	A-2-3	A-2-3									

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Code	Item	Specifications	Unit	Quantity.	Unit P	rice LC(LKR)	FC(JPY)	Amount LC(LKR)	Total (JPY)	Remarks
A-3	Elevated Tanks and Ground Sumps						509,771,000	2,400,835,000	2,584,093,000	
A-3-1	Elevated Tanks and Ground Sumps						479,394,000	2,029,433,000	2,232,824,000	
A-3-2	Additional Elevated Tank for Phase	1					17.357.000	179.849.000	172.747.000	
A-3-3	Additional Elevated Tank for Phase	5					13,020,000	191,553,000	178,522,000	
A-3-1	Elevated Tanks and Ground Sumps						479,394,000	2,029,433,000	2,232,824,000	
A-3-1-1	Reservoir Construction		Ls L	-	0		0	1,178,512,000	1,018,234,000	
A-3-1-2	Site Work		Ls	-	0		0	122,630,000	105,952,000	
A-3-1-3	Internal Building Work		Ls L	-	0		0	474,200,000	409,709,000	
A-3-1-4	Internal Pipe Works		Ls	-	0		39,457,000	24,639,000	60,745,000	
A-3-1-5	Yard Pipe Works		Ls L	-	0		26,049,000	24,141,000	46,907,000	
A-3-1-6	Mechanical and Electrical Work		Ls	1	0		413,888,000	205,311,000	591,277,000	
A-3-1-1	Reservoir Construction						0	1,178,512,000	1,018,232,000	
A-3-1-1-1	Kabithigollewa	Ground V=500m3	Ls	-	0	42,879,553	0	42,880,000	37,048,000	
A-3-1-1-2	Kahatagollewa	Ground V=1,000m3	Ls	-	0	65,184,312	0	65,184,000	56,319,000	
A-3-1-1-3	Weerasole	Ground V=1,500m3	rs	L	0	76,996,839	0	76,997,000	66,525,000	
A-3-1-1-4	Horowpothana	Ground V=1,000m3	ST	L	0	65,184,312	0	65,184,000	56,319,000	
A-3-1-1-5	, Kahatagasdigiliya	Ground V=500m3	rs	L	0	42,879,553	0	42,880,000	37,048,000	
A-3-1-1-6	Wahalkada	Elevated V=500m3	rs	L	0	71,792,683	0	71,793,000	62,029,000	
A-3-1-1-7	, Kebithigollewa	Elevated V=750m3	Ls	1	0	93,050,393	0	93,050,000	80,395,000	
A-3-1-1-8	Keb-Kah	Elevated V=250m3	Ls	4	0	50,534,972	0	50,535,000	43,662,000	

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Code	Item	Specifications	Unit	Quantity	Unit	Price		Amount		Remarks
	=	-	1		FC(JPY)	LC(LKK)	FC(JPY)	LC(LKK)	I otal (JPY)	
A-3-1-1-9	Kahatagollewa	Elevated V=250m3	Ls	-	0	50,534,972	0	50,535,000	43,662,000	
A-3-1-1-10	Bogahawewa	Elevated V=2000m3	Ls	L	0	123,700,697	0	123,701,000	106,878,000	
A-3-1-1-11	Horowpothana	Elevated V=500m3	Ls	L	0	71,792,683	0	71,793,000	62,029,000	
A-3-1-1-12	Horowpothana North	Elevated V=250m3	Ls	-	0	50,534,972	0	50,535,000	43,662,000	
A-3-1-1-13	Horowpothana West	Elevated V=750m3	Ls	-	0	93,050,393	0	93,050,000	80,395,000	
A-3-1-1-14	Hamillewa	Elevated V=1250m3	Ls	-	0	100,421,069	0	100,421,000	86,764,000	
A-3-1-1-15	Kahagasdigiliya	Elevated V=1500m3	Ls	-	0	108,180,945	0	108,181,000	93,468,000	
A-3-1-1-16	Rathmalgahawewa	Elevated V=500m3	Ls	1	0	71,792,683	0	71,793,000	62,029,000	
A-3-1-2	Site Work						0	122,630,000	105,950,000	
A-3-1-2-1	Kabithigollewa	Ground +Elevated 500+750m3	m3	1,250	0	9,433	0	11,791,000	10,187,000	
A-3-1-2-2	Kahatagollewa	Ground +Elevated 1,000+250m3	m3	1,250	0	9,433	0	11,791,000	10,187,000	
A-3-1-2-3	Horowpothana	Ground +Elevated 1,000+500m3	m3	1,500	0	9,433	0	14,150,000	12,226,000	
A-3-1-2-4	Kahatagasdigiliya	Ground +Elevated 500+1,500m3	m3	2,000	0	9,433	0	18,866,000	16,300,000	
A-3-1-2-5	Weerasole	Ground only 1,500m3	m3	1,500	0	9,433	0	14,150,000	12,226,000	
A-3-1-2-6	Wahalkada	Elevated only 500m3	m3	200	0	9,433	0	4,717,000	4,075,000	
A-3-1-2-7	Keb-Kah	Elevated only 250m3	m3	250	0	9,433	0	2,358,000	2,037,000	
A-3-1-2-8	Bogahawewa	Elevated only 2,000m3	m3	2,000	0	9,433	0	18,866,000	16,300,000	
A-3-1-2-9	Horowpothana North	Elevated only 250m3	m3	250	0	9,433	0	2,358,000	2,037,000	
A-3-1-2-10	Horowpothana West	Elevated only 750m3	m3	750	0	9,433	0	7,075,000	6,113,000	

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Code	ltem	Specifications	Unit	Quantity	Unit FC(.IPY)	Price	EC(JPY)	Amount I C/I KR)	Total (JPY)	Remarks
A-3-1-2-11	Hamillewa	Elevated only 1250m3	m3	1,250	0	9,433	0	11,791,000	10,187,000	
A-3-1-2-12	Rathmalgahawewa	Elevated only 500m3	m3	500	0	9,433	0	4,717,000	4,075,000	
A-3-1-3	Internal Building Work						0	474,200,000	409,709,000	
A-3-1-3-1	Kabithigollewa		Ls	-			0	62,400,000	53,914,000	
A-3-1-3-2	Kahatagollewa		Ls	-			0	37,100,000	32,054,000	
A-3-1-3-3	Horowpothana		Ls	-			0	79,720,000	68,878,000	
A-3-1-3-4	Kahatagasdigiliya		Ls	1			0	41,200,000	35,597,000	
A-3-1-3-5	Weerasole		Ls	1			0	33,580,000	29,013,000	
A-3-1-3-6	Wahalkada		Ls	-			0	144,400,000	124,762,000	
A-3-1-3-7	Keb-Kah		Ls	1			0	8,500,000	7,344,000	
A-3-1-3-8	Bogahawewa		Ls	1			0	33,300,000	28,771,000	
A-3-1-3-9	Horowpothana North		Ls	1			0	8,500,000	7,344,000	
A-3-1-3-10	Horowpothana West		Ls	1			0	8,500,000	7,344,000	
A-3-1-3-11	Hamillewa		Ls	1			0	8,500,000	7,344,000	
A-3-1-3-12	Rathmalgahawewa		Ls	1			0	8,500,000	7,344,000	
A-3-1-4	Internal Pipe Works						39,457,000	24,639,000	60,745,000	
A-3-1-4-1	Kabithigollewa	Ground V=500m3	m3	500	2,302	3,061	1,151,000	1,531,000	2,474,000	
A-3-1-4-2	Kahatagollewa	Ground V=1,000m3	m3	1,000	2,302	3,061	2,302,000	3,061,000	4,947,000	
A-3-1-4-3	Weerasole	Ground V=1,500m3	m3	1,500	2,302	3,061	3,453,000	4,592,000	7,420,000	

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Code	ltem	Specifications	Unit	Quantity	Unit Price		Amount		temarks
			5	(FC(JPY) LC(LKR)	FC(JPY)	LC(LKR)	Total (JPY)	
A-3-1-4-4	Horowpothana	Ground V=1,000m3	m3	1,000	2,302 3,06	1 2,302,000	3,061,000	4,947,000	
A-3-1-4-5	Kahatagasdigiliya	Ground V=500m3	m3	500	2,302 3,06	1,151,000	1,531,000	2,474,000	
A-3-1-4-6	Wahalkada	Elevated V=500m3	m3	200	3,423 1,27	.8 1,712,000	639,000	2,264,000	
A-3-1-4-7	Kebithigollewa	Elevated V=750m3	m3	750	3,423 1,27	8 2,567,000	959,000	3,396,000	
A-3-1-4-8	Keb-Kah	Elevated V=250m3	m3	250	3,423	856,000	320,000	1,132,000	
A-3-1-4-9	Kahatagollewa	Elevated V=250m3	m3	250	3,423	856,000	320,000	1,132,000	
A-3-1-4-10	Bogahawewa	Elevated V=2000m3	m3	2,000	3,423	6,846,000	2,556,000	9,054,000	
A-3-1-4-11	Horowpothana	Elevated V=500m3	m3	200	3,423	.8 1,712,000	639,000	2,264,000	
A-3-1-4-12	Horowpothana North	Elevated V=500m3	m3	250	3,423	856,000	319,000	1,132,000	
A-3-1-4-13	Horowpothana West	Elevated V=750m3	m3	750	3,423	8 2,567,000	958,000	3,395,000	
A-3-1-4-14	Hamillewa	Elevated V=1250m3	m3	1,250	3,423	.8 4,279,000	1,597,000	5,659,000	
A-3-1-4-15	Kahagasdigiliya	Elevated V=1500m3	m3	1,500	3,423	8 5,135,000	1,917,000	6,791,000	
A-3-1-4-16	Rathmalgahawewa	Elevated V=500m3	m3	500	3,423 1,27	.8 1,712,000	639,000	2,264,000	
A-3-1-5	Yard Pipe Works					26,049,000	24,141,000	46,907,000	
A-3-1-5-1	Kabithigollewa	Ground +Elevated 500+750m3	m3	1,250	1,689 1,15	2,111,000	1,439,000	3,354,000	
A-3-1-5-2	Kahatagollewa	Ground +Elevated 1,000+250m3	m3	1,250	1,689 1,15	2,111,000	1,439,000	3,354,000	
A-3-1-5-3	Horowpothana	Ground +Elevated 1,000+500m3	m3	1,500	1,689 1,15	1 2,534,000	1,727,000	4,026,000	
A-3-1-5-4	Kahatagasdigiliya	Ground +Elevated 500+1,500m3	m3	2,000	1,689 1,15	3,378,000	2,302,000	5,367,000	
A-3-1-5-5	Weerasole	Ground only 1,500m3	m3	1,500	3,130 2,52	8 4,695,000	3,792,000	7,971,000	
A-3-1-5-6	Wahalkada	Elevated only 500m3	m3	500	2,040 2,44	4 1,020,000	1,222,000	2,076,000	

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		Concitiontione	1	Outon tite	Unit	Price		Amount		Domorhe
2000	IIGII	opecilications		Qualitity	FC(JPY)	LC(LKR)	FC(JPY)	LC(LKR)	Total (JPY)	Nelliaina
A-3-1-5-7	Keb-Kah	Elevated only 250m3	m3	250	2,040	2,444	510,000	611,000	1,038,000	
A-3-1-5-8	Bogahawewa	Elevated only 2,000m3	m3	2,000	2,040	2,444	4,080,000	4,888,000	8,303,000	
A-3-1-5-9	Horowpothana North	Elevated only 250m3	m3	250	2,040	2,444	510,000	611,000	1,038,000	
A-3-1-5-10	Horowpothana West	Elevated only 750m3	m3	750	2,040	2,444	1,530,000	1,833,000	3,114,000	
A-3-1-5-11	Hamillewa	Elevated only 1250m3	m3	1,250	2,040	2,444	2,550,000	3,055,000	5,190,000	
A-3-1-5-12	Rathmalgahawewa	Elevated only 500m3	m3	500	2,040	2,444	1,020,000	1,222,000	2,076,000	
A-3-1-6	Mechanical and Electrical Work						413,888,000	205,311,000	591,277,000	
A-3-1-6-1	Kabithigollewa Mechar	Ground +Elevated iical 500+750m3	m3	1,250	21,279	10,483	26,599,000	13,104,000	37,921,000	
A-3-1-6-2	Kabithigollewa Elect	Ground +Elevated rical 500+750m3	m3	1,250	21,889	11,062	27,361,000	13,828,000	39,308,000	
A-3-1-6-3	Kahatagollewa Mechar	Ground +Elevated nical 1,000+250m3	m3	1,250	21,279	10,483	26,599,000	13,104,000	37,921,000	
A-3-1-6-4	Kahatagollewa Elect	Ground +Elevated rical 1,000+250m3	m3	1,250	21,889	11,062	27,361,000	13,828,000	39,308,000	
A-3-1-6-5	Horowpothana Mechar	Ground +Elevated nical 1,000+500m3	m3	1,500	21,279	10,483	31,919,000	15,725,000	45,505,000	
A-3-1-6-6	Horowpothana Elect	Ground +Elevated rical 1,000+500m3	m3	1,500	21,889	11,062	32,834,000	16,593,000	47,170,000	
A-3-1-6-7	Kahatagasdigiliya Mechar	Ground +Elevated nical 500+1,500m3	m3	2,000	21,279	10,483	42,558,000	20,966,000	60,673,000	
A-3-1-6-8	Kahatagasdigiliya Elect	Ground +Elevated rical 500+1,500m3	m3	2,000	21,889	11,062	43,778,000	22,124,000	62,893,000	
A-3-1-6-9	Weerasole Mechar	Ground only nical 1,500m3	m3	1,500	28,983	12,898	43,475,000	19,347,000	60,191,000	
A-3-1-6-10	Weerasole Elect	Ground only rical 1,500m3	m3	1,500	30,659	15,396	45,989,000	23,094,000	65,942,000	
A-3-1-6-11	Wahalkada Mechar	Elevated only iical 500m3	m3	500	5,367	3,130	2,684,000	1,565,000	4,036,000	
A-3-1-6-12	Wahalkada Elect	Elevated only rical 500m3	m3	500	6,526	2,978	3,263,000	1,489,000	4,549,000	

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	Item		Specifications	Unit	Quantity	Unit PI FC(JPY)	rice LC(LKR)	FC(JPY)	Amount LC(LKR)	Total (JPY)	Remarks
		Mechanical	Elevated only 250m3	m3	250	5,367	3,130	1,342,000	783,000	2,019,000	
		Electrical	Elevated only 250m3	m3	250	6,526	2,978	1,632,000	745,000	2,276,000	
		Mechanical	Elevated only 2,000m3	m3	2,000	5,367	3,130	10,734,000	6,260,000	16,143,000	
		Electrical	Elevated only 2,000m3	m3	2,000	6,526	2,978	13,052,000	5,956,000	18,198,000	
_	North	Mechanical	Elevated only 250m3	£m	250	2'367	3,130	1,342,000	783,000	2,019,000	
	North	Electrical	Elevated only 250m3	m3	250	6,526	2,978	1,632,000	745,000	2,276,000	
-	West	Mechanical	Elevated only 750m3	m3	750	5,367	3,130	4,025,000	2,348,000	6,054,000	
5	West	Electrical	Elevated only 750m3	m3	750	6,526	2,978	4,895,000	2,234,000	6,825,000	
1		Mechanical	Elevated only 1250m3	£m	1,250	2'367	3,130	6,709,000	3,913,000	10,090,000	
1		Electrical	Elevated only 1250m3	£m	1,250	6,526	2,978	8,158,000	3,723,000	11,375,000	
≥ S	<i>l</i> ewa	Mechanical	Elevated only 500m3	£m	200	2'367	3,130	2,684,000	1,565,000	4,036,000	
≥	/ewa	Electrical	Elevated only 500m3	m3	500	6,526	2,978	3,263,000	1,489,000	4,549,000	
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Code	Item	Specifications	Unit	Quantity	FC(JPY)	LC(LKR)	FC(JPY)	Amount LC(LKR)	Total (JPY) Rem	arks
A-3-1-3-1	Kebithigollewa		L L	-			0	62,400,000	53,914,000	
1) Guard House		L L	-	0	2,100,000	0	2,100,000	1,814,000	
2)) AE Office		L L	-	0	13,000,000	0	13,000,000	11,232,000	
3)	Dump House	17 × 6.0m	m2	102	0	100,000	0	10,200,000	8,813,000	
4)) Generator Building		د ۲	-	0	7,400,000	0	7,400,000	6,394,000	
5)) Workshop		L L	-	0	11,500,000	0	11,500,000	9,936,000	
(9	Chlorination Building		L L	-	0	2,200,000	0	2,200,000	1,901,000	
(7) Caretaker Quarters		L L	-	0	6,300,000	0	6,300,000	5,443,000	
8) Staff Quarters		L L	-	0	9,700,000	0	9,700,000	8,381,000	
A-3-1-3-2	Kahatagollewa		Ls	-			0	37,100,000	32,054,000	
1) Generator Building		Ls L	-	0	7,400,000	0	7,400,000	6,394,000	
2)	Chlorination Building		Ls L	-	0	2,200,000	0	2,200,000	1,901,000	
3)) Pump House	26.5x8.0m	m2	212	0	100,000	0	21,200,000	18,317,000	
4)) Caretaker Quarters		L L	-	0	6,300,000	0	6,300,000	5,443,000	
A-3-1-3-3	Horowpothana		Ls L	1			0	79,720,000	68,878,000	
(1) Guard House		Ls	L	0	2,100,000	0	2,100,000	1,814,000	
2)) AE Office		Ls	1	0	13,000,000	0	13,000,000	11,232,000	
3)	Dump House	34.4x8.0m	m2	275	0	100,000	0	27,520,000	23,777,000	
4)) Generator Building		Ls	L	0	7,400,000	0	7,400,000	6,394,000	
5)	Chlorination Building		Ls	L	0	2,200,000	0	2,200,000	1,901,000	
(9)	Workshop		Ls	L	0	11,500,000	0	11,500,000	9,936,000	
(r	Caretaker Quarters									

Lot A-3-1-3 Internal buiding work

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Code	Item	Specifications	Unit	Quantity		LC(LKR)	FC(JPY)		Total (JPY)	Remark
8) Staff Quarters		Ls L	-	0	9,700,000	0	9,700,000	8,381,000	
A-3-1-3-4	t Kahatagasdigiliya		Ls L	-			0	41,200,000	35,597,000	
1) Guard House		Ls	-	0	2,100,000	0	2,100,000	1,814,000	
2)) OIC Office		Ls	-	0	13,000,000	0	13,000,000	11,232,000	
3)) Caretaker Quarters		Ls	-	0	6,300,000	0	6,300,000	5,443,000	
4) Chlorination Building		Ls L	-	0	2,200,000	0	2,200,000	1,901,000	
5)) Generator Building		Ls	-	0	7,400,000	0	7,400,000	6,394,000	
(9) Pump House	17×6m	m2	102	0	100,000	0	10,200,000	8,813,000	
A-3-1-3-5	Weerasole		Ls				0	33,580,000	29,013,000	
(1) Pump House	22.1×8m	m2	177	0	100,000	0	17,680,000	15,276,000	
2)) Generator Building		Ls	-	0	7,400,000	0	7,400,000	6,394,000	
3)) Chlorination Building		Ls	-	0	2,200,000	0	2,200,000	1,901,000	
4)) Caretaker Quarters		Ls	-	0	6,300,000	0	6,300,000	5,443,000	
A-3-1-3-6	Wahalkada		Ls	-			0	144,400,000	124,762,000	
(1) Guard House		Ls	L	0	2,100,000	0	2,100,000	1,814,000	
2)) Caretaker Quarters		Ls	4	0	6,300,000	0	25,200,000	21,773,000	
3)) Warehouse		Ls	L	0	10,900,000	0	10,900,000	9,418,000	
4)) Chlorination Building		Ls	L	0	8,400,000	0	8,400,000	7,258,000	
5)) Chemical Building		Ls	1	0	22,600,000	0	22,600,000	19,526,000	
(9) Pump Station	33.5x8m	m2	268	0	100,000	0	26,800,000	23,155,000	
7)) Generator Building		Ls	-	0	7,400,000	0	7,400,000	6,394,000	
8)) Administration Building		<u>u</u>	~	C	41 000 000	C	41 000 000	35 424 000	

Lot A-3-1-3 Internal buiding work

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Code	ltem	Specifications	Unit	Quantity	Unit	Price		Amount		temarks
	Keh-Kah Median				FC(JFY)	LU(LAR)				
A-3-1-3-7			Ls	1			0	8,500,000	7,344,000	
1)	Chlorination Building		Ls	-	0	2,200,000	0	2,200,000	1,901,000	
2)	Caretaker Quarters		Ls	-	0	6,300,000	0	6,300,000	5,443,000	
A-3-1-3-8	Bogahawewa		Ls	1			0	33,300,000	28,771,000	
(1	Guard House		Ls	1	0	2,100,000	0	2,100,000	1,814,000	
2)	OIC Office		Ls	1	0	13,000,000	0	13,000,000	11,232,000	
3)	Chlorination Building		Ls	1	0	2,200,000	0	2,200,000	1,901,000	
4)	Caretaker Quarters		Ls	1	0	6,300,000	0	6,300,000	5,443,000	
5)	Staff Quarters		Ls	1	0	9,700,000	0	9,700,000	8,381,000	
A-3-1-3-9	Horowpothana North		Ls	1			0	8,500,000	7,344,000	
1)	Chlorination Building		Ls	-	0	2,200,000	0	2,200,000	1,901,000	
2)	Caretaker Quarters		Ls	1	0	6,300,000	0	6,300,000	5,443,000	
A-3-1-3-10	Horowpothana West		Ls	-			0	8,500,000	7,344,000	
1)	Chlorination Building		Ls	1	0	2,200,000	0	2,200,000	1,901,000	
2)	Caretaker Quarters		Ls	1	0	6,300,000	0	6,300,000	5,443,000	
A-3-1-3-11	Hamillewa		Ls	1			0	8,500,000	7,344,000	
1)	Chlorination Building		Ls	1	0	2,200,000	0	2,200,000	1,901,000	
2)	Caretaker Quarters		Ls	1	0	6,300,000	0	6,300,000	5,443,000	
A-3-1-3-12	Rathmalgahawewa		Ls	1			0	8,500,000	7,344,000	
1)	Chlorination Building		Ls	1	0	2,200,000	0	2,200,000	1,901,000	
2)	Caretaker Quarters		Ls	-	0	6,300,000	0	6,300,000	5,443,000	

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Code	ltem	Specifications	Unit	Quantity	Unit Price		Amount	Total (IDV) Re	emarks
A-3-2	Additional Elevated Tank for Phase 1					17 357 000	170 840 000	172 746 000	
A-3-2-1	Reservoir Construction		s	-		000	143.585.000	124.057.000	
A-3-2-2	Site Work		Ls	-		0	9,433,000	8,150,000	
A-3-2-3	Internal Building Work		Ls	-		0	17,000,000	14,688,000	
A-3-2-4	Internal Pipe Works		Ls	-		3,423,000	1,279,000	4,528,000	
A-3-2-5	Yard Pipe Works		Ls	1		2,040,000	2,444,000	4,152,000	
A-3-2-6	Mechanical and Electrical Work		Ls	-		11,894,000	6,108,000	17,171,000	
A-3-2-1	Reservoir Construction					0	143,585,000	124,057,000	
	Kallanchiya	Elevated V=750m3	Ls	-	0 93,050,393	0	93,050,000	80,395,000	
	Konakumbukwewa	Elevated V=250m3	Ls	-	0 50,534,972	0	50,535,000	43,662,000	
A-3-2-2	Site Work					0	9,433,000	8,150,000	
	Kallanchiya	Elevated V=750m3	m3	750	0 9,433	0	7,075,000	6,113,000	
	Konakumbukwewa	Elevated V=250m3	m3	250	0 9,433	0	2,358,000	2,037,000	
A-3-2-3	Internal Building Work					0	17,000,000	14,688,000	
A-3-2-3-1	Kallanchiya					0	8,500,000	7,344,000	
1)	Chlorination Building		Ls	-	0 2,200,000	0	2,200,000	1,901,000	
2)	Caretaker Quarters		Ls	1	0 6,300,000	0	6,300,000	5,443,000	
A-3-2-3-2	Konakumbukwewa					0	8,500,000	7,344,000	
1)	Chlorination Building		Ls	1	0 2,200,000	0	2,200,000	1,901,000	
2)	Caretaker Quarters		Ls	1	0 6,300,000	0	6,300,000	5,443,000	

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	Remarks												
	Total (JPY)	4,528,000	3,396,000	1,132,000	4,152,000	3,114,000	1.038.000	17,172,000	6,053,000	6,825,000	2,018,000	2,276,000	
Amount	LC(LKR)	1,279,000	959,000	320,000	2,444,000	1,833,000	611.000	6,108,000	2,347,000	2,234,000	782,000	745,000	
	FC(JPY)	3,423,000	2,567,000	856,000	2,040,000	1,530,000	510.000	11,894,000	4,025,000	4,895,000	1,342,000	1,632,000	
Price	LC(LKR)		1,278	1,278		2,444	2.444		3,130	2,978	3,130	2,978	
Unit	FC(JPY)		3,423	3,423		2,040	2.040		5,367	6,526	5,367	6,526	
O o o tite	Guanny		750	250		750	250		750	750	250	250	
			m3	m3		m3	m3		m3	m3	m3	m3	
Coortion	opecilications		Elevated V=750m3	Elevated V=250m3		Elevated V=750m3	Elevated V=250m3		Elevated V=750m3	Elevated V=750m3	Elevated V=250m3	Elevated V=250m3	
+0	IIIAIII	Internal Pipe Works	Kallanchiya	Konakumbukwewa	Yard Pipe Works	Kallanchiya	Konakumbukwewa	Mechanical and Electrical Work	Kallanchiya Mechanical	Kallanchiya Electrical	Konakumbukwewa Mechanical	Konakumbukwewa Electrical	
opo C	anno	A-3-2-4			A-3-2-5			A-3-2-6					

Lot A - 15

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	ltem	Specifications	Unit	Quantity	Unit FC(JPY)	Price LC(LKR)	FC(JPY)	Amount LC(LKR)	Total (JPY)	Remarks
Interna	al Building Work				-	-	0	25,500,000	22,032,000	
Nor	th Area						0	8,500,000	7,344,000	
сh	lorination Building		Ls	-	0	2,200,000	0	2,200,000	1,901,000	
Са	etaker Quarters		Ls	-	0	6,300,000	0	6,300,000	5,443,000	
Ce	ntral Area						0	8,500,000	7,344,000	
Chl	orination Building		Ls L	-	0	2,200,000	0	2,200,000	1,901,000	
Ca	retaker Quarters		Ls L	-	0	6,300,000	0	6,300,000	5,443,000	
So	uth Area						0	8,500,000	7,344,000	
ບ່	Iorination Building		Ls	-	0	2,200,000	0	2,200,000	1,901,000	
Ca	retaker Quarters		Ls	-	0	6,300,000	0	6,300,000	5,443,000	
Inter	nal Pipe Works						2,568,000	960,000	3,396,000	
Ž	irth Area	Elevated V=250m3	m3	250	3,423	1,278	856,000	320,000	1,132,000	
ပိ	intral Area	Elevated V=250m3	m3	250	3,423	1,278	856,000	320,000	1,132,000	
So	uth Area	Elevated V=250m3	m3	250	3,423	1,278	856,000	320,000	1,132,000	

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	Total (JPY)	3,114,000	1,038,000	1,038,000	1,038,000	12,882,000	2,018,000	2,276,000	2,018,000	2,276,000	2,018,000	2,276,000			
Amount	LC(LKR)	1,833,000	611,000	611,000	611,000	4,581,000	782,000	745,000	782,000	745,000	782,000	745,000			
	FC(JPY)	1,530,000	510,000	510,000	510,000	8,922,000	1,342,000	1,632,000	1,342,000	1,632,000	1,342,000	1,632,000			
Price	LC(LKR)		2,444	2,444	2,444		3,130	2,978	3,130	2,978	3,130	2,978			
Unit	FC(JPY)		2,040	2,040	2,040		5,367	6,526	2,367	6,526	5,367	6,526			
Outon titu	QUAITIN		250	250	250		250	250	250	250	250	250			
+i -			m3	m3	m3		m3	m3	m3	m3	m3	m3			
Cnonifications	opecilications		Elevated V=250m3	Elevated V=250m3	Elevated V=250m3		Elevated V=250m3	Elevated V=250m3	Elevated V=250m3	Elevated V=250m3	Elevated V=250m3	Elevated V=250m3			
	IIAII	Yard Pipe Works	North Area	Central Area	South Area	Mechanical and Electrical Work	North Area Mechanical	North Area Electrical	Central Area Mechanical	Central Area Electrical	South Area Mechanical	South Area Electrical			
	anno	A-3-3-5	A-3-3-5-1	A-3-3-5-2	A-3-3-5-3	A-3-3-6	A-3-3-6-1	A-3-3-6-2	A-3-3-6-3	A-3-3-6-4	A-3-3-6-5	A-3-3-6-6			

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	Total (JPY)	6,754,631,000	3,522,215,000	143,058,000	3,000,803,000	88,555,000	3,522,214,000	999,558,000	2,522,656,000	143,058,000	964,000	142,094,000	
Amount	LC(LKR)	3,061,695,000	1,207,722,000	91,625,000	1,662,969,000	99,379,000	1,207,722,048	365,837,969	841,884,079	91,625,062	691,510	90,933,552	
	FC(JPY)	4,109,327,000	2,478,743,000	63,894,000	1,563,998,000	2,692,000	2,478,742,542	683,474,000	1,795,268,542	63,894,000	367,000	63,527,000	
Price	LC(LKR)												
Unit	FC(JPY)												
	Quantity												
11-14	OUII												
	specifications	ion Main											
	Item	< <lot b="">> Transmission and Distribut</lot>	Transmission Main	Transmission Sub-main	Distribution Main	Miscellaneous works	Transmission Main	Transmission Main A	Transmission Main B	Transmission Sub Main	Transmission Sub-Main A	Transmission Sub-Main B	
	Code	В	B-1	B-2	B-3	B-4	B-1	B-1(A)	B-1(B)	B-2	B-2(A)	B-2(B)	

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	Total (JPY)	3,000,803,000	962,203,000	2,038,600,000	88,556,000	8,713,000	10,506,000	14,521,000	33,635,000	4,925,000	2,244,000	14,012,000
Amount	LC(LKR)	1,662,969,388	587,465,720	1,075,503,668	99,379,000	10,084,000	12,160,000	16,807,000	38,929,000	2,584,000	2,597,000	16,218,000
	FC(JPY)	1,563,998,000	454,633,000	1,109,365,000	2,692,000	0	0	0	0	2,692,000	0	0
Price	LC(LKR)											
Unit	FC(JPY)											
O. Don tite	QUALIN											
110:4												
Cocifications	opecilications						ffice			Бu		
+	IIAII	Distribution Main	Distribution Main A	Distribution Main B	Miscellaneous works	Provision of Bonds and Insurances	Provision and maintenance of site of	Provision of pipe stores	Provision of site safety	Quality assurance and material testi	Progress documents and drawings	Miscellaneous
0700	COUR	B-3	B-3(A)	B-3(B)	B-4	B-4-1	B-4-2	B-4-3	B-4-4	B-4-5	B-4-6	B-4-7

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Code	Item	Specifications	Unit	Quantity	FC(JPY)	LC(LKR)	FC(JPY)		Total (JPY)	Remarks
B-1	Transmission Main						2,478,742,542	1,207,722,048	3,522,214,000	
B-1(A)	Transmission Main A						683,474,000	365,837,969	999,558,000	
B-1(B)	Transmission Main B						1,795,268,542	841,884,079	2,522,656,000	
B-1(A)	Transmission Main A						683,474,000	365,837,969	999,558,000	
B-1(A)-1	Pipe Works Excavate, install pipes, back fill a	nd compact	Ls	-			652,900,000	313,493,200	923,758,000	
B-1(A)-2	Restoration of Road Pavement		Ls L	-			2,003,000	15,585,797	15,469,000	
B-1(A)-3	Bridges		Ls	-			28,571,000	36,758,972	60,331,000	
B-1(A)1	Pipe Works Excavate, install pipes, back fill a	nd compact	E	41,900			652,900,000	313,493,200	923,758,000	
B-1(A)1-1	HDPE ND400 / OD450		ε	8,200	18,366	8,205	150,601,000	67,281,000	208,732,000	
B-1(A)1-2	HDPE ND350 / OD400		ε	33,700	14,905	7,306	502,299,000	246,212,200	715,026,000	
B-1(A)2	Restoration of Road Pavement						2,003,000	15,585,797	15,469,000	
B-1(A)2-1	Temporary Reinstatement (Carriage	way) RDA/PRDA	m2	1,006	266	2,070	268,000	2,082,420	2,067,000	
B-1(A)2-2	Temporary Reinstatement (Shoulde	r) RDA/PRDA	m2	1,006	133	1,035	134,000	1,041,210	1,034,000	
B-1(A)2-3	Restoration of Pavement (carriagew	ay)RDA/PRDA	t m2	2,011	568	4,419	1,142,000	8,886,609	8,820,000	
B-1(A)2-4	Restoration of Pavement (Shoulder)	RDA/PRDA	t m2	2,011	228	1,778	459,000	3,575,558	3,548,000	
B-1(A)3	Bridges						28,571,000	36,758,972	60,331,000	
B-1(A)3-1	Bridges		Е	735	34,243	41,317	25,168,000	30,367,944	51,406,000	
B-1(A)3-2	Pipe Support		E	375	9,074	17,043	3,403,000	6,391,028	8,925,000	

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	ltem	Specifications	Unit	Quantity	Unit F FC(JPY)	Price	FC(JPY)	Amount I C/I KR)	Total (JPY)	Remarks
	Transmission Main B						1,795,268,542	841,884,079	2,522,655,542	
	Pipe Works Excavate, install pipes, back fill a	nd compact	Ls	-			1,789,079,000	798,560,600	2,479,035,000	
	Restoration of Road Pavement		Ls	L			4,025,000	31,323,479	31,088,000	
	Surge Chamber	100m3	Ls	1			2,164,542	12,000,000	12,532,542	
-										
_	Pipe Works Excavate, install pipes, back fill a	nd compact	E	84,200			1,789,079,000	798,560,600	2,479,035,000	
	HDPE ND450 / OD500		E	51,400	22,777	10,543	1,170,738,000	541,910,200	1,638,948,000	
	HDPE ND300 / OD355		ε	13.900	11.715	6.577	162.839.000	91.420.300	241.826.000	
	HDPE ND400 / OD450 PN16		ε	12.600	27.717	9,484	349,234,000	119.498.400	452.481.000	
	HDPE ND300 / OD355 PN16		E	6,300	16,868	7,259	106,268,000	45,731,700	145,780,000	
	Restoration of Road Pavement						4,025,000	31,323,479	31,088,000	
1	Temporary Reinstatement (Carriage	way) RDA/PRDA 2	m2	2,021	266	2,070	538,000	4,183,470	4,153,000	
01	Temporary Reinstatement (Shoulde) RDA/PRDA 2	m2	2,021	133	1,035	269,000	2,091,735	2,076,000	
	Restoration of Pavement (carriagew	ay)RDA/PRDA	m2	4.042	568	4.419	2.296.000	17.861.598	17.728.000	
	Restoration of Pavement (Shoulder)	RDA/PRDA 4	m2	4,042	228	1,778	922,000	7,186,676	7,131,000	

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	Remark																
	Total (JPY)	143.058.000	964,000	142,094,000	964.000	893,000	71,000	893,000	893,000	71,000	10,000	44,000	17,000				
	Amount LC(LKR)	91,625,062	691,510	90,933,552	691,510	619,600	71,910	619,600	619,600	71,910	10,350	44,190	17,370				
	FC(JPY)	63,894,000	367,000	63,527,000	367,000	358,000	9,000	358,000	358,000	6,000	1,000	6,000	2,000				
	Price LC(LKR)								3,098		2.070	4,419	1,737				
	Unit FC(JPY)								1,791		266	568	223				
	Quantity					L	1	200	200		5	10	10				
	Unit					Ls	Ls	E	E		m2	m2	m2				
	Specifications					nd compact		nd compact			way) RDA/PRDA	ay)RDA/PRDA 4	4				
	Item	Transmission Sub Main	Transmission Sub-Main A	Transmission Sub-Main B	Transmission Sub-main A	Pipe Works Excavate, install pipes, back fill ar	Restoration of Road Pavement	Pipe Works Excavate, install pipes, back fill ar	HDPE ND100 / OD125	Restoration of Road Pavement	Temporary Reinstatement (Carriage	Restoration of Pavement (carriagew	Restoration of Pavement UC/PS				
	Code	B-2	B-2(A)	B-2(B)	B-2(A)	B-1(A)-1	B-1(A)-2	B-2(A)1	B-2(A)1-1	B-2(A)2	B-1(A)2-1	B-1(A)2-2	B-1(A)2-3				

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	Total (JPY)	142,094,000	133,837,000	8,257,000	133,837,000	7,173,000	43,791,000	668,000	82,205,000		8,256,000	1,188,000	5,074,000	1,994,000				
Amount	LC(LKR)	90,933,552	82,614,600	8,318,952	82,614,600	3,139,200	22,085,000	387,200	57,003,200		8,318,952	1,196,460	5,112,783	2,009,709				
	FC(JPY)	63,527,000	62,458,000	1,069,000	62,458,000	4,461,000	24,710,000	333,000	32,954,000		1,069,000	154,000	657,000	258,000				
Price	LC(LKR)					5,232	4,417	3,872	3,098			2,070	4,419	1,737				
Unit F	FC(JPY)					7,435	4,942	3,329	1,791			266	895	223				
	Quantity		L	L	24.100	600	5,000	100	18,400			578	1,157	1,157				
11-21	UNIT		Ls	Ls	ε	E	E	E	E			m2	m2	m2				
Constitution	specifications		nd compact		nd compact	-						way) RDA/PRDA 2	ay)RDA/PRDA 4	4				
	Item	Transmission Sub-main B	Pipe Works Excavate, install pipes, back fill ar	Restoration of Road Pavement	Pipe Works Excavate. install pipes. back fill ar	HDPE ND250 / OD280	HDPE ND200 / OD225	HDPE ND150 / OD180	HDPE ND100 / OD125		Restoration of Road Pavement	Temporary Reinstatement (Carriage	Restoration of Pavement (carriagew	Restoration of Pavement UC/PS				
	Code	B-2(B)	B-1(B)-1	B-1(B)-2	B-2(B)1	B-2(B)1-1	B-2(B)1-2	B-2(B)1-3	B-2(B)1-4		B-2(B)2	B-2(B)2-1	B-2(B)2-2	B-2(B)2-3				

					(Jnit	Price		Amount		
Code	ltem	Specifications	Unit	Quantity	FC(JPY)	LC(LKR)	FC(JPY)	LC(LKR)	Total (JPY)	Remarks
B-3	Distribution Main						1,563,998,000	1,662,969,388	3,000,803,000	
B-3(A)	Distribution Main A						454,633,000	587,465,720	962,203,000	
B-3(B)	Distribution Main B						1,109,365,000	1,075,503,668	2,038,600,000	
B-3(A)	Distribution Main A						454,633,000	587,465,720	962,203,000	
B-3(A)-1	Pipe Works Excavate, install pipes, back fill ar	id compact	Ls	-			448,843,000	542,403,800	917,480,000	
B-3(A)-2	Restoration of Road Pavement		Ls	-			5,790,000	45,061,920	44,723,000	
B-3(A)1	Pipe Works Excavate, install pipes, back fill ar	id compact	E	152,500			448,843,000	542,403,800	917,479,000	
B-3(A)1-1	HDPE ND350 / OD400		E	2,600	16,493	7,663	42,882,000	19,923,800	60,096,000	
B-3(A)1-2	HDPE ND300 / OD355		E	1,900	12,952	6,883	24,609,000	13,077,700	35,908,000	
B-3(A)1-3	HDPE ND250 / OD280		E	3,400	8,205	5,449	27,897,000	18,526,600	43,904,000	
B-3(A)1-4	HDPE ND200 / OD225		E	14,500	5,443	4,585	78,924,000	66,482,500	136,365,000	
B-3(A)1-5	HDPE ND150 / OD180		E	25,000	3,655	4,008	91,375,000	100,200,000	177,948,000	
B-3(A)1-6	HDPE ND100 / OD125		E	76,000	1,952	3,189	148,352,000	242,364,000	357,754,000	
B-3(A)1-7	HDPE ND75 / OD90		Е	29,100	1,196	2,812	34,804,000	81,829,200	105,504,000	
B-3(A)2	Restoration of Road Pavement						5,790,000	45,061,920	44,724,000	
B-3(A)2-3	Restoration of Pavement (carriagew:	ay)RDA/PRDA 4	m2	7,320	568	4,419	4,158,000	32,347,080	32,106,000	
B-3(A)2-4	Restoration of Pavement UC/PS	4	m2	7,320	223	1,737	1,632,000	12,714,840	12,618,000	

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Code	ltem	Specifications	Unit	Quantity		LC(LKR)	FC(JPY)	LC(LKR)	Total (JPY)	Remarks
B-3(B)	Distribution Main B						1,109,365,000	1,075,503,668	2,038,601,000	
B-3(B)-1	Pipe Works Excavate, install pipes, back fill a	nd compact	Ls	1			1,038,370,000	816,055,000	1,743,442,000	
B-3(B)-2	Restoration of Road Pavement		Ls	L			6,615,000	51,476,472	51,091,000	
B-3(B)-3	Bridges		Ls L	-			62,924,000	207,435,995	242,149,000	
B-3(B)-4	Flowmeter to Tank		Ls	-			1,456,000	536,201	1,919,000	
B-3(B)1	Pipe Works Excavate, install pipes, back fill a	nd compact	E	174,200			1,038,370,000	816,055,000	1,743,443,000	
B-3(B)1-1	HDPE ND400 / OD450		E	2,000	20,334	8,633	40,668,000	17,266,000	55,586,000	
B-3(B)1-2	HDPE ND350 / OD400		E	7,900	16,493	7,663	130,295,000	60,537,700	182,600,000	
B-3(B)1-3	HDPE ND300 / OD355		E	8,300	12,952	6,883	107,502,000	57,128,900	156,861,000	
B-3(B)1-4	HDPE ND250 / OD280		٤	29,200	8,205	5,449	239,586,000	159,110,800	377,058,000	
B-3(B)1-5	HDPE ND200 / OD225		E	47,900	5,443	4,585	260,720,000	219,621,500	450,473,000	
B-3(B)1-6	HDPE ND150 / OD180		E	62,000	3,655	4,008	226,610,000	248,496,000	441,311,000	
B-3(B)1-7	HDPE ND100 / OD125		E	16,900	1,952	3,189	32,989,000	53,894,100	79,554,000	
B-3(B)2	Restoration of Road Pavement						6,615,000	51,476,472	51,090,000	
B-3(B)2-3	Restoration of Pavement (carriagew	ay)RDA/PRDA 4	m2	8,362	568	4,419	4,750,000	36,951,678	36,676,000	
B-3(B)2-4	Restoration of Pavement UC/PS	4	m2	8,362	223	1,737	1,865,000	14,524,794	14,414,000	
B-3(B)3	Bridges						62,924,000	207,435,995	242,148,000	
B-3(B)3-1	Bridges		Е	1,220	9,356	16,881	11,414,000	20,595,320	29,208,000	
B-3(B)3-2	Pipe Support		E	10.500	4.906	17.794	51.510.000	186.840.675	212.940.000	

	m				r		1							
	Remark													
	Total (JPY)	1,919,000	361,000	474,000	1,084,000							2		
Amount	LC(LKR)	536,201	100,932	132,473	302,796									
	FC(JPY)	1,456,000	274,000	360,000	822,000									
Drice	LC(LKR)		25,233	18,925	12,617									
l Init F	FC(JPY)		68,481	51,361	34,241									
	Quantity		4	7	24									
	Unit		sou	sou	sou									
	Specifications		ND100	N75	ND50									
	ltem	Flowmeter to CBO/NWSDB Tank	Flowmeter Installation	Flowmeter Installation	Flowmeter Installation									
	Code	B-3(B)4	B-3(B)4-1	B-3(B)4-2	B-3(B)4-3									

Lot C: Distribution Sub-System

 1 USD=
 120.1
 JPY

 1 USD=
 139.0
 LKR

 1 LKR=
 0.864
 JPY

					Unit P	rice		Amount		
Iter	E	Specifications	Unit	Quantity	FC(JPY)	LC(LKR)	FC(JPY)	LC(LKR)	Total (JPY)	Remarks
Lot C>> Distributio	n Sub-System						337,425,000	2,466,266,000	2,468,278,000	
Distribution Sub S	System		E	330,000			135,116,000	954,706,000	959,982,000	
Miscellaneous w	orks for distribution sub s	system					1,795,000	90,668,000	80,132,000	
ex-Bowser Area	in Phase 1		E	160,240			73,743,000	489,792,000	496,923,000	
ex-Bowser Area	t in Phase 2		E	230,500			126,771,000	931,100,000	931,241,000	
stribution Sub	System						135,116,000	954,705,640	959,981,000	
Distribution Su	b System (A)		E	117,000			47,535,000	335,933,096	337,781,000	
Distribution Su	b System (B)		Е	213,000			87,581,000	618,772,544	622,200,000	
scellaneous w	orks for distribution sub sys	stem					1,795,000	90,668,000	80,132,000	
Provision of B	onds and Insurances		Ls	1			0	0	0	
Provision and	maintenance of site office		Ls	L			0	4,025,000	3,478,000	
Provision of pi	oe stores		Ls	1			0	15,126,000	13,069,000	
Provision of sit	e safety		Ls	1			0	38,929,000	33,635,000	
Quality assura	nce and material testing		Ls	L			1,795,000	8,866,000	9,455,000	
Progress docu	ments and drawings		Ls	L			0	2,630,000	2,272,000	
Miscellaneous			Ls	1			0	21,092,000	18,223,000	

Lot C-	1(A)						
Code	Item	Specifications	Unit	Quantity	Unit Price FC(JPY) LC(LKR)	FC(JPY)	
C-1	Distribution Sub System					135,116,000	-
C-1(A)	Distribution Sub System (A)		Ls	-		47,535,000	-
C-1(B)	Distribution Sub System (B)		Ls	-		87,581,000	
C-1(A)	Distribution Sub System (A)					47,535,000	
C-1(A)1	Distribution Sub-main (A)	NWSDB	ε	85,700		31.592.000	-
C-1(A)2	Road Reinstatement (A)	NWSDB	Ls.			3.254.000	-
C-1(A)3	Distribution Sub-main (A)	CBO	E	31,300		11,501,000	-
C-1(A)4	Road Reinstatement (A)	CBO	Ls	-		1,188,000	
C-1(A)1	Distribution Sub-main (A)	NWSDB	E	85,700		31,592,000	
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Domorho	Remarks																				
	Total (JPY)	959,981,000	337,781,000	622,200,000	337,781,000	222,519,000	25,135,000	80,950,000	9,177,000	222,520,000	0	5,048,000	40,256,000	55,713,000	46,777,000	0	0	37,863,000	20,643,000	16,220,000	
Amount	LC(LKR)	954,705,640	335,933,096	618,772,544	335,933,096	220,980,000	25,325,784	80,381,000	9,246,312	220,980,000	0	5,055,600	40,072,900	55,361,800	46,353,600	0	0	37,636,300	20,460,600	16,039,200	
	FC(JPY)	135,116,000	47,535,000	87,581,000	47,535,000	31,592,000	3,254,000	11,501,000	1,188,000	31,592,000	0	680,000	5,633,000	7,880,000	6,727,000	0	0	5,345,000	2,965,000	2,362,000	
Price	LC(LKR)										7,044.00	4,596.00	3,059.00	2,782.00	2,088.00	5,474.00	3,749.00	2,873.00	2,526.00	1,956.00	
Unit F	FC(JPY)										917.00	618.00	430.00	396.00	303.00	738.00	521.00	408.00	366.00	288.00	
Outon tite	- Auanily		1	-		85,700	-	31,300	1	85,700	0	1,100	13,100	19,900	22,200	0	0	13,100	8,100	8,200	
- I Init			Ls Ls	Ls		ш	Ls	E	Ls	E	E	E	E	ш	ш	E	E	E	ш	Е	
Crocifications	opecilications					NWSDB	NWSDB	CBO	CBO	NWSDB											
+	IIAII	Distribution Sub System	Distribution Sub System (A)	Distribution Sub System (B)	Distribution Sub System (A)	Distribution Sub-main (A)	Road Reinstatement (A)	Distribution Sub-main (A)	Road Reinstatement (A)	Distribution Sub-main (A)	PVC ND200/OD225	PVC ND150/OD 160	PVC ND100/OD 110	PVC ND 75/ OD 90	PVC ND 50/ OD 63	PVC ND200/OD225 T600	PVC ND150/OD 160 T600	PVC ND100/OD 110 T600	PVC ND 75/ OD 90 T600	PVC ND 50/ OD 63 T600	
	Anon	C-1	C-1(A)	C-1(B)	C-1(A)	C-1(A)1	C-1(A)2	C-1(A)3	C-1(A)4	C-1(A)1	C-1(A)1-1	C-1(A)1-2	C-1(A)1-3	C-1(A)1-4	C-1(A)1-5	C-1(A)1-6	C-1(A)1-7	C-1(A)1-8	C-1(A)1-9	C-1(A)1-10	

Lot C – 2

	tal (JPY) Remarks	5,135,000	8,044,000	7,091,000	10.950.000	0	2.754.000	8,604,000	8.837,000	6,224,000	0	0	8.092,000	0,703,000	5,736,000		9,177,000	6,588,000	2,589,000		
Amount	LC(LKR) Tot	25,325,784	18,179,766	7,146,018	80,381,000	0	2.757.600	8,565,200	28,654,600 2	16,077,600	0	0	8,044,400	10,609,200	5,672,400		9,246,312	6,637,338	2,608,974		-
	FC(JPY)	3,254,000	2,337,000	917,000	11,501,000	0	371,000	1,204,000	4,079,000	2,333,000	0	0	1,142,000	1,537,000	835,000		1,188,000	853,000	335,000		
rice	LC(LKR)		4,419	1,737		7,044.00	4,596.00	3,059.00	2,782.00	2,088.00	5,474.00	3.749.00	2,873.00	2,526.00	1,956.00			4,419	1,737		
l Jnit P	FC(JPY)		568	223		917.00	618.00	430.00	396.00	303.00	738.00	521.00	408.00	366.00	288.00			568	223		
	Quantity -		4,114	4,114	31,300	0	600	2,800	10,300	7,700	0	0	2,800	4,200	2,900	•		1,502	1,502		
	Unit		m2	m2	ε	E	ε	E	ε	E	ε	٤	Ξ	E	٤			m2	m2		
	Specifications	NWSDB	RDA/PRDA 4 % of pipeline	JC/PS 4 % of pipeline	CBO												CBO	KDA/PRDA 4 % of pipeline	JC/PS 4 % of pipeline		
	Item	Restoration of Road Pavement	Restoration of Pavement (carriageway) F	Restoration of Pavement (Carriageway) L	Distribution Sub-main (A)	PVC ND200/OD225	PVC ND150/OD 160	PVC ND100/OD 110	PVC ND 75/ OD 90	PVC ND 50/ OD 63	PVC ND200/OD225 T600	PVC ND150/OD 160 T600	PVC ND100/OD 110 T600	PVC ND 75/ OD 90 T600	PVC ND 50/ OD 63 T600		Restoration of Road Pavement	Restoration of Pavement (carriageway) F	Restoration of Pavement (Carriageway) I		
	Code	C-1(A)2	C-1(A)2-1	C-1(A)2-2	C-1(A)3	C-1(A)3-1	C-1(A)3-2	C-1(A)3-3	C-1(A)3-4	C-1(A)3-5	C-1(A)3-6	C-1(A)3-7	C-1(A)3-8	C-1(A)3-9	C-1(A)3-10		C-1(A)4	C-1(A)4-1	C-1(A)4-2		I

Pamarke	Leiliaiks																				
	Total JPY	622,201,000	261,203,000	28.948.000	298.532.000	33,518,000	261,203,000	0	3,671,000	45,787,000	83,709,000	40,034,000	0	0	43,065,000	31,091,000	13,846,000	28,949,000	20,781,000	8,168,000	
Amount	LKR	618,772,544	259,426,600	29.167.128	296.407.000	33,771,816	259,426,600	0	3,676,800	45,579,100	83,181,800	39,672,000	0	0	42,807,700	30,817,200	13,692,000	29,167,128	20,937,222	8,229,906	
	JPΥ	87,581,000	37,058,000	3.748.000	42.436.000	4,339,000	37,058,000	0	494,000	6,407,000	11,840,000	5,757,000	0	0	6,079,000	4,465,000	2,016,000	3,748,000	2,691,000	1,057,000	
rice	LKR							7,044.00	4,596.00	3,059.00	2,782.00	2,088.00	5,474.00	3,749.00	2,873.00	2,526.00	1,956.00		4,419	1,737	
Unit P	JPΥ							917.00	618.00	430.00	396.00	303.00	738.00	521.00	408.00	366.00	288.00		568	223	
Outantity,	QUAININ		98,700		114.300	-	98,700	0	800	14,900	29,900	19,000	0	0	14,900	12,200	7,000		4,738	4,738	
- Init			٤	Ls L	ε	Ls	u	٤	٤	٤	٤	٤	٤	٤	٤	٤	E		m2	m2	
Specifications	opecilications		NWSDB	NWSDB	CBO	CBO	NWSDB											NWSDB	DA/PRDA 4 % of pipeline	JC/PS 4 % of pipeline	
1tom	IIIAII	Distribution Sub System (B)	Distribution Sub-main (B)	Road Reinstatement (B)	Distribution Sub-main (B)	Road Reinstatement (B)	Distribution Sub-main (B)	PVC ND200/OD225	PVC ND150/OD 160	PVC ND100/OD 110	PVC ND 75/ OD 90	PVC ND 50/ OD 63	PVC ND200/OD225 T600	PVC ND150/OD 160 T600	PVC ND100/OD 110 T600	PVC ND 75/ OD 90 T600	PVC ND 50/ OD 63 T600	Restoration of Road Pavement	Restoration of Pavement (carriageway)R	Restoration of Pavement (Carriageway) L	
0000	AUCOUR	C-1(B)	C-1(B)-1	C-1(B)-2	C-1(B)-3	C-1(B)-4	C-1(B)1	C-1(B)1-1	C-1(B)1-2	C-1(B)1-3	C-1(B)1-4	C-1(B)1-5	C-1(B)1-6	C-1(B)1-7	C-1(B)1-8	C-1(B)1-9	C-1(B)1-10	C-1(B)2	C-1(B)2-1	C-1(B)2-2	

	Item	Specifications	Unit	Quantity	Unit F	Price	EC(IBV)	Amount		Remarks
vistribution Sub-ma	in (B)	CBO								
2	(-)		E	114,300			42,436,000	296,407,000	298,532,000	
PVC ND200/OE) 225		ш	0	917.00	7,044.00	0	0	0	
PVC ND150/O	D 160		E	800	618.00	4,596.00	494,000	3,676,800	3,671,000	
PVC ND100/O	D 110		E	7,800	430.00	3,059.00	3,354,000	23,860,200	23,969,000	
PVC ND 75/ 0	D 90		E	49,300	396.00	2,782.00	19,523,000	137,152,600	138,023,000	
PVC ND 50/ 0)D 63		E	20,700	303.00	2,088.00	6,272,000	43,221,600	43,615,000	
PVC ND200/0	DD225 T600		٤	0	738.00	5,474.00	0	0	0	
PVC ND150/	OD 160 T600		E	0	521.00	3,749.00	0	0	0	
PVC ND100/	OD 110 T600		E	7,800	408.00	2,873.00	3,182,000	22,409,400	22,544,000	
PVC ND 75/	OD 90 T600		E	20,200	366.00	2,526.00	7,393,000	51,025,200	51,479,000	
PVC ND 50/	OD 63 T600		E	7,700	288.00	1,956.00	2,218,000	15,061,200	15,231,000	
estoration of	Road Pavement	CBO					4,339,000	33,771,816	33,518,000	
Restoration c	of Pavement (carriageway)F	RDA/PRDA	ie m2	5,486	568	4,419	3,116,000	24,242,634	24,062,000	
Restoration c	of Pavement (Carriageway)	UC/PS 4 % of pipelin	le m2	5,486	223	1,737	1,223,000	9,529,182	9,456,000	

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	Remarks												
	Total JPY	496,923,000	319,163,000	177,760,000	319,163,000	151,608,000	131,863,000	35,692,000	177,760,000	177,760,000			
Amount	LKR	489,792,000	318,027,000	171,765,000	318,027,000	150,987,000	131,505,000	35,535,000	171,765,000	171,765,000			
	γdΓ	73,743,000	44,388,000	29,355,000	44,388,000	21,155,000	18,243,000	4,990,000	29,355,000	29,355,000			
Price	LKR												
Unit	λdΓ												
Quantity		160,240	100,705	59,535	100,705	49,204	39,581	11,920	59,535	26,535			
Unit		ш	E	E	ш	ш	ш	ш	E	ш			
Specifications	-												
ltem		ex-Bowser Area in Phase1	Rambewa	Medawachchiya	Rambewa	Pipe Extension area GDN 80, 104, 105, 116	Kallanchiya Cluster GDN 89, 92, 95,96, 98	Koonakubukwewa and Peenagama GDN 90, 91	Medawachchiya	Pipe Extension area GDN 62, 63, 48, 76, 77			
Code		C-3	C-3-1	C-3-2	C-3-1	C-3-1-1	C-3-1-2	C-3-1-3	C-3-2	C-3-2-1			

Code	ltem	Specifications	Unit	antity	Unit P	rice		Amount		Remarks							
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C-3-1-1	Pipe Extension area in Rambewa		E	49,204			21,155,000	150,987,000	151,608,000								
C-3-1-1-1	PVC ND150/OD 160		E	4,262	618.00	4,596.00	2,634,000	19,588,000	19,558,000								
C-3-1-1-2	PVC ND100/OD 110		E	16,000	430.00	3,059.00	6,880,000	48,944,000	49,168,000								
C-3-1-1-3	PVC ND 75/ OD 90		E	10,782	396.00	2,782.00	4,270,000	29,996,000	30,187,000								
C-3-1-1-4	PVC ND 50/ OD 63		E	18,160	303.00	2,088.00	5,502,000	37,918,000	38,263,000								
C-3-1-1-5	Restoration of Pavement (carriageway)RI	0A/PRDA 4 % of pipeline	m2	2,362	568	4,419	1,342,000	10,438,000	10,360,000								
C-3-1-1-6	Restoration of Pavement (Carriageway) L	C/PS 4 % of pipeline	m2	2,362	223	1,737	527,000	4,103,000	4,072,000								
C-3-1-2	Kallanchiya Cluster in Rambewa		E	39,581			18,243,000	131,505,000	131,862,000								
C-3-1-2-1	PVC ND200/OD 225		Е	3,050	917.00	7,044.00	2,797,000	21,484,000	21,359,000								
C-3-1-2-2	PVC ND150/OD 160		E	2,700	618.00	4,596.00	1,669,000	12,409,000	12,390,000								
C-3-1-2-3	PVC ND100/OD 110		E	7,470	430.00	3,059.00	3,212,000	22,851,000	22,955,000								
C-3-1-2-4	PVC ND 75/ OD 90		E	11,561	396.00	2,782.00	4,578,000	32,163,000	32,367,000								
C-3-1-2-5	PVC ND 50/ OD 63		E	14,800	303.00	2,088.00	4,484,000	30,902,000	31,183,000								
C-3-1-2-6	Restoration of Pavement (carriageway)RI	)A/PRDA 4 % of pipeline	m2	1,900	568	4,419	1,079,000	8,396,000	8,333,000								
C-3-1-2-7	Restoration of Pavement (Carriageway) L	C/PS 4 % of pipeline	m2	1,900	223	1,737	424,000	3,300,000	3,275,000								
Remarks																	
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	Total JPY	35,692,000	399,000	4,933,000	3,995,000	11,628,000	11,241,000	2,509,000	987,000	177,759,000	11,708,000	36,609,000	61,060,000	50,921,000	12,535,000	4,926,000	
Amount	LKR	35,535,000	402,000	4,941,000	3,977,000	11,554,000	11,139,000	2,528,000	994,000	171,765,000	6,593,000	36,442,000	60,675,000	50,461,000	12,630,000	4,964,000	
	JPΥ	4,990,000	52,000	664,000	559,000	1,645,000	1,617,000	325,000	128,000	29,355,000	6,012,000	5,123,000	8,637,000	7,323,000	1,623,000	637,000	
Price	LKR		7,044.00	4,596.00	3,059.00	2,782.00	2,088.00	4,419	1,737		4,008.00	3,059.00	2,782.00	2,088.00	4,419	1,737	
Unit F	γdΓ		917.00	618.00	430.00	396.00	303.00	568	223		3,655.00	430.00	396.00	303.00	568	223	
Quantity		11,920	57	1,075	1,300	4,153	5,335	572	572	59,535	1,645	11,913	21,810	24,167	2,858	2,858	
Unit		ш	ш	E	E	E	E	m2	m2	E	Е	E	E	Е	m2	m2	
Specifications								DA/PRDA 4 % of pipeline	JC/PS 4 % of pipeline						DA/PRDA 4 % of pipeline	JC/PS 4 % of pipeline	
ltem		Koonakubukwewa and Peenagama[	PVC ND200/OD225	PVC ND150/OD 160	PVC ND100/OD 110	PVC ND 75/ OD 90	PVC ND 50/ OD 63	Restoration of Pavement (carriageway)R	Restoration of Pavement (Carriageway) L	Pipe Extension area in Medawachchiya	HDPE 180	PVC ND100/OD 110	PVC ND 75/ OD 90	PVC ND 50/ OD 63	Restoration of Pavement (carriageway)RI	Restoration of Pavement (Carriageway) L	
Code		C-3-1-3	C-3-1-3-1	C-3-1-3-2	C-3-1-3-3	C-3-1-3-4	C-3-1-3-5	C-3-1-3-6	C-3-1-3-7	C-3-2-1	C-3-2-1-1	C-3-2-1-2	C-3-2-1-3	C-3-2-1-4	C-3-2-1-5	C-3-2-1-6	

Lot C – 8

Code	ltem	Specifications	Unita	luantity	Unit P	rice		Amount		Remarks
		-		, ,	JPΥ	LKR	γdſ	LKR	Total JPY	
C-4	ex-Bowser Area in Phase2		m 2	30,500			126,771,000	931,100,000	931,242,000	
C-4-1	Bogahawera Tower Zone GND 4, 8,9, 15		E E	39,000			21,574,000	158,435,000	158,462,000	
C-4-2	Wahalkada Tower Zone GND 146, 143		Е	10,500			5,570,000	40,732,000	40,762,000	
C-4-3	KAH-KEB Median Tower Zone GND 31		E	10,500			5,847,000	43,001,000	43,000,000	
C-4-4	North Horowpothana City Tower Zone GND 137, 123, 142		۰ د	40,000			22,126,000	162,562,000	162,580,000	
C-4-5	West Horowpothana City Tower Zone GND 118		E	9,500			5,137,000	37,655,000	37,671,000	
C-4-6	Halmillewa Tower Zone GND 124, 154		E E	20,000			12,520,000	93,117,000	92,973,000	
C-4-7	Kahatagasdigiliya Tower Zone GND 205,217, 204, 216, 227, 228, 197, 2	200, 199	m 1	01,000			53,997,000	395,598,000	395,794,000	
C-4-1	Bogahawera Tower Zone		E	39,000			21,574,000	158,435,000	158,462,000	
C-4-1-1	PVC ND200/OD 225		E	6,000	917.00	7,044.00	5,502,000	42,264,000	42,018,000	
C-4-1-2	PVC ND150/OD 160		E	8,000	618.00	4,596.00	4,944,000	36,768,000	36,712,000	
C-4-1-3	PVC ND100/OD 110		E	9,000	430.00	3,059.00	3,870,000	27,531,000	27,657,000	
C-4-1-4	PVC ND 75/ OD 90		E	10,000	396.00	2,782.00	3,960,000	27,820,000	27,996,000	
C-4-1-5	PVC ND 50/ OD 63		E	6,000	303.00	2,088.00	1,818,000	12,528,000	12,642,000	
C-4-1-6	Restoration of Pavement (carriageway)RE	A/PRDA 4 % of pipeline	m2	1,872	568	4,419	1,063,000	8,272,000	8,210,000	
C-4-1-7	Restoration of Pavement (Carriageway) U	C/PS 4 % of pipeline	m2	1,872	223	1,737	417,000	3,252,000	3,227,000	

Lot C-4

Code	ltem	Specifications	Unit	Juantity	Unit P	rice		Amount		Remarks
			,		FC(JPY)	LC(LKR)	FC(JPY)	LC(LKR)	Total (JPY)	
C-4-2	Wahalkada Tower Zone		E	10,500			5,570,000	40,732,000	40,762,000	
C-4-2-1	PVC ND200/OD 225		E	1,500	917.00	7,044.00	1,376,000	10,566,000	10,505,000	
C-4-2-2	PVC ND150/OD 160		E	1,500	618.00	4,596.00	927,000	6,894,000	6,883,000	
C-4-2-3	PVC ND100/OD 110		E	2,500	430.00	3,059.00	1,075,000	7,648,000	7,683,000	
C-4-2-4	PVC ND 75/ OD 90		E	3,000	396.00	2,782.00	1,188,000	8,346,000	8,399,000	
C-4-2-5	PVC ND 50/ OD 63		E	2,000	303.00	2,088.00	606,000	4,176,000	4,214,000	
C-4-2-6	Restoration of Pavement (carriageway)R	DA/PRDA 4 % of pipeline	m2	504	568	4,419	286,000	2,227,000	2,210,000	
C-4-2-7	Restoration of Pavement (Carriageway) L	JC/PS 4 % of pipeline	m2	504	223	1,737	112,000	875,000	868,000	
C-4-3	KAH-KEB Median Tower Zone		E	10,500			5,847,000	43,001,000	42,999,000	
C-4-3-1	PVC ND200/OD 225		E	2,000	917.00	7,044.00	1,834,000	14,088,000	14,006,000	
C-4-3-2	PVC ND150/OD 160		ε	1,500	618.00	4,596.00	927,000	6,894,000	6,883,000	
C-4-3-3	PVC ND100/OD 110		ε	3,000	430.00	3,059.00	1,290,000	9,177,000	9,219,000	
C-4-3-4	PVC ND 75/ OD 90		E	2,000	396.00	2,782.00	792,000	5,564,000	5,599,000	
C-4-3-5	PVC ND 50/ OD 63		E	2,000	303.00	2,088.00	606,000	4,176,000	4,214,000	
C-4-3-6	Restoration of Pavement (carriageway)R	DA/PRDA 4 % of pipeline	m2	504	568	4,419	286,000	2,227,000	2,210,000	
C-4-3-7	Restoration of Pavement (Carriageway) L	JC/PS 4 % of pipeline	m2	504	223	1,737	112,000	875,000	868,000	
C-4-4	North Horowpothana City Tower Zone		E	40,000			22,126,000	162,562,000	162,578,000	
C-4-4-1	PVC ND200/OD 225		ш	6,000	917.00	7,044.00	5,502,000	42,264,000	42,018,000	
C-4-4-2	PVC ND150/OD 160		Е	9,000	618.00	4,596.00	5,562,000	41,364,000	41,300,000	
C-4-4-3	PVC ND100/OD 110		E	10,000	430.00	3,059.00	4,300,000	30,590,000	30,730,000	

					L Init F	rice		Amount		
Code	Halmillewa Tower Zone	Specifications	Unit	Quantity	FC(JPY)	LC(LKR)	FC(JPY)	LC(LKR)	Total (JPY)	Remarks
C-4-4-4	PVC ND 75/ OD 90		E	7,500	396.00	2,782.00	2,970,000	20,865,000	20,997,000	
C-4-4-5	PVC ND 50/ OD 63		E	7,500	303.00	2,088.00	2,273,000	15,660,000	15,803,000	
C-4-4-6	Restoration of Pavement (carriageway)R	DA/PRDA 4 % of pipeline	m2	1,920	568	4,419	1,091,000	8,484,000	8,421,000	
C-4-4-7	Restoration of Pavement (Carriageway) L	JC/PS 4 % of pipeline	m2	1,920	223	1,737	428,000	3,335,000	3,309,000	
C-4-5	West Horowpothana City Tower Zone		٤	9,500			5,137,000	37,655,000	37,670,000	
C-4-5-1	PVC ND200/OD 225		٤	1,500	917.00	7,044.00	1,376,000	10,566,000	10,505,000	
C-4-5-2	PVC ND150/OD 160		٤	1,500	618.00	4,596.00	927,000	6,894,000	6,883,000	
C-4-5-3	PVC ND100/OD 110		٤	2,500	430.00	3,059.00	1,075,000	7,648,000	7,683,000	
C-4-5-4	PVC ND 75/ OD 90		E	2,000	396.00	2,782.00	792,000	5,564,000	5,599,000	
C-4-5-5	PVC ND 50/ OD 63		٤	2,000	303.00	2,088.00	606,000	4,176,000	4,214,000	
C-4-5-6	Restoration of Pavement (carriageway)RI	DA/PRDA 4 % of pipeline	m2	456	568	4,419	259,000	2,015,000	2,000,000	
C-4-5-7	Restoration of Pavement (Carriageway) L	JC/PS 4 % of pipeline	m2	456	223	1,737	102,000	792,000	786,000	
C-4-6	Halmillewa Tower Zone		٤	20,000			12,520,000	93,117,000	92,973,000	
C-4-6-1	PVC ND200/OD 225		٤	5,000	917.00	7,044.00	4,585,000	35,220,000	35,015,000	
C-4-6-2	PVC ND150/OD 160		E	6,000	618.00	4,596.00	3,708,000	27,576,000	27,534,000	
C-4-6-3	PVC ND100/OD 110		٤	4,000	430.00	3,059.00	1,720,000	12,236,000	12,292,000	
C-4-6-4	PVC ND 75/ OD 90		٤	2,500	396.00	2,782.00	000'066	6,955,000	6,999,000	
C-4-6-5	PVC ND 50/ OD 63		٤	2,500	303.00	2,088.00	758,000	5,220,000	5,268,000	
C-4-6-6	Restoration of Pavement (carriageway)Ri	DA/PRDA 4 % of pipeline	m2	960	568	4,419	545,000	4,242,000	4,210,000	
C-4-6-7	Restoration of Pavement (Carriageway) L	JC/PS 4 % of pipeline	m2	096	223	1,737	214,000	1,668,000	1,655,000	

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-	Kemarks															
	Total (JPY)	395,794,000	105,045,000	82,601,000	61,460,000	64.392.000	52,676,000	21,263,000	8,357,000							
Amount	LC(LKR)	395,598,000	105,660,000	82,728,000	61,180,000	63,986,000	52,200,000	21,423,000	8,421,000							
	FC(JPY)	53,997,000	13.755.000	11,124,000	8,600,000	9.108.000	7,575,000	2,754,000	1,081,000							
rice	LC(LKR)		7.044.00	4,596.00	3.059.00	2.782.00	2,088.00	4,419	1,737							
Unit P	FC(JPY)		917.00	618.00	430.00	396.00	303.00	568	223							
:	Quantity	101,000	15,000	18,000	20,000	23.000	25,000	4,848	4,848							
2	Unit	E	٤	٤	٤	E	٤	m2	m2							
: : (	Specifications							DA/PRDA 4 % of pipeline	JC/PS 4 % of pipeline							
1 	Haimillewa I ower ∠one	Kahatagasdigiliya Tower Zone	PVC ND200/OD 225	PVC ND150/OD 160	PVC ND100/OD 110	PVC ND 75/ OD 90	PVC ND 50/ OD 63	Restoration of Pavement (carriageway)RI	Restoration of Pavement (Carriageway) L							
-	Code	C-4-7	C-4-7-1	C-4-7-2	C-4-7-3	C-4-7-4	C-4-7-5	C-4-7-6	C-4-7-7							

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Remark s															
Total (JPY)	54,812,000	11,457,000	2,868,000	11,457,000	12,148,000	1,331,000	6,912,000	8,640,000							
Amount LC(LKR)	63,440,000	13,260,000	3,320,000	13,260,000	14,060,000	1.540.000	8,000,000	10,000,000							
FC(JPY)	0	0	0	0	0	0	0	0							
Price LC(LKR)		6,630,000	3,320,000	6,630,000	7,030,000	220,000	8,000,000	10,000,000							
Unit FC(JPY)		0	0	0	0	0	0	0							
Quantity		7	~	7	2	2	<ul> <li></li> </ul>	۲.							
Unit		Nr.	Nr.	Nr.	Nr.	Nr.	Nr.	ed Nr.							
Specifications							capacity: 5 ton	with enclosed cargo be capacity: 8 ton							
Item	Vehicles	Crew Cab	Single Cab	Double Cab	Water Bowser	Motor Cycles	Lorry with Jib Crane	Lorry							
Code	D-1	D-1-1	D-1-2	D-1-3	D-1-4	D-1-5	D-1-6	D-1-7							

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CUIIIpaciuis	Vibrating Hammers Portable Generators
E-1-3 Cr	E-1-4 Vit E-1-5 Pc

Non-Eligible Work by NWSDB

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Code	ltem	Specificactions	Unit	Quantity	Unit Pric FC(JPY) L	ce _C(LKR)	FC(JPY)	Amount LC(LKR)	Total (JPY)	Remarks
Non-elig	ible Wahalkada									
NEW	Service Connections for Phase 2						6,674,000	71,423,048	68,382,000	Non-eligible
NEW-1	Service Connections for Area A						950,000	13,760,934	12,839,000	Non-eligible
NEW-1-1	Service Connections for Area A-1	NWSDB					650,000	9,423,738	8,792,000	Non-eligible
NEW-1-1-1	Domestic House Connections	incl. ND15mm Meter	sou	2,241	252	3,642	565,000	8,161,722	7,617,000	Non-eligible
NEW-1-1-2	. Non-Domestic House Connections	incl. ND25mm Meter	sou	112	763	11,268	85,000	1,262,016	1,175,000	Non-eligible
NEW-1-2	Service Connections for Area A-2	CBO					300,000	4,337,196	4,047,000	Non-eligible
NEW-1-2-1	Domestic House Connections	incl. ND15mm Meter	sou	1,030	252	3,642	260,000	3,751,260	3,501,000	Non-eligible
NEW-1-2-2	Non-Domestic House Connections	incl. ND25mm Meter	sou	52	763	11,268	40,000	585,936	546,000	Non-eligible
NEW-2	Service Connections for Area B						1,201,000	17,406,714	16,240,000	Non-eligible
NEW-2-1	Service Connections for Area B-1	NWSDB					598,000	8,663,124	8,083,000	Non-eligible
NEW-2-1-1	Domestic House Connections	incl. ND15mm Meter	sou	2,060	252	3,642	519,000	7,502,520	7,001,000	Non-eligible
NEW-2-1-2	Non-Domestic House Connections	incl. ND25mm Meter	sou	103	763	11,268	79,000	1,160,604	1,082,000	Non-eligible
NEW-2-2	Service Connections for Area B-2	CBO					603,000	8,743,590	8,157,000	Non-eligible
NEW-2-2-1	Domestic House Connections	incl. ND15mm Meter	sou	2,079	252	3,642	524,000	7,571,718	7,066,000	Non-eligible
NEW-2-2-2	Non-Domestic House Connections	incl. ND25mm Meter	sou	104	763	11,268	79,000	1,171,872	1,091,000	Non-eligible
NEW-3	Procurement of PVC ND 50						4,523,000	40,255,400	39,303,000	Non-eligible
NEW-3-1	PVC ND 50/ OD 63 T600	Procurement only	E	58,200	23.00	205.00	1,339,000	11,931,000	11,647,000	Non-eligible
NEW-3-2	PVC ND 50/ OD 63	Procurement only	E	83,800	38.00	338.00	3,184,000	28,324,400	27,656,000	Non-eligible

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	C = - 16 = - 16		7:~11		Unit	Price		Amount		
Item	specificactions		UNIT	Quantity	FC(JPY)	LC(LKR)	FC(JPY)	LC(LKR)	Total (JPY)	Kemarks
Mahakanadarawa										
vice Connections for Phase 1							7,658,000	77,156,664	74,321,000	Non-eligible
vice Connections for NWSDB							807,000	11,694,654	10,911,000	Non-eligible
omestic House Connections incl. ND15mm Meter	incl. ND15mm Meter	-	SOL	2,781	252	3,642	701,000	10,128,402	9,452,000	Non-eligible
on-Domestic House Connections incl. ND25mm Meter	incl. ND25mm Meter		sou	139	763	11,268	106,000	1,566,252	1,459,000	Non-eligible
vice Connections for CBO										
							799,000	11,581,410	10,805,000	Non-eligible
omestic House Connections incl. ND15mm Meter r	incl. ND15mm Meter	2	sor	2,753	252	3,642	694,000	10,026,426	9,357,000	Non-eligible
on-Domestic House Connections incl. ND25mm Meter n	incl. ND25mm Meter n	C	SO	138	763	11,268	105,000	1,554,984	1,449,000	Non-eligible
curement of PVC ND 50							6,052,000	53,880,600	52,605,000	Non-eligible
VC ND 50/ OD 63 T600 Procurement only	Procurement only		E	130,600	23.00	205.00	3,004,000	26,773,000	26,136,000	Non-eligible
VC ND 50/ OD 63 Procurement only	Procurement only		E	80,200	38.00	338.00	3,048,000	27,107,600	26,469,000	Non-eligible

### **Pipe Works Unit Price**

# Summary

### Transmission

ltem		Suppl	y Cost	Laying	Cost		Total	
ID OD		F/S	S/S	F/S	S/S	F/S	S/S	Ratio
HDPE								
500	560	25,331	34,322	2,431	10,128	27,762	44,450	1.60
450	500	20,221	27,406	2,184	9,499	22,405	36,905	1.65
400	450	16,569	22,157	1,598	7,305	18,168	29,462	1.62
350	400	12,917	17,855	1,497	6,702	14,414	24,557	1.70
300	355	10,223	13,870	1,375	6,266	11,598	20,136	1.74
250	280	6,340	8,596	1,080	5,241	7,420	13,837	1.86
200	250	5,050	6,822	879	4,923	5,929	11,744	1.98
150	180	2,633	3,549	715	4,176	3,348	7,725	2.31
100	110	1,273	1,338	593	3,446	1,866	4,785	2.56
75	90	671	898	476	3,129	1,147	4,027	3.51
PVC Pipe								
250	280	5,316	6,263	923	4,395	6,239	10,658	1.71
200	225	4,445	3,888	860	3,522	5,305	7,410	1.40
150	160	1,610	2,026	753	2,904	2,363	4,930	2.09
100	110	772	859	568	2,518	1,340	3,377	2.52
75	90	508	648	512	2,449	1,020	3,097	3.04
50	63	340	329	322	2,024	662	2,352	3.55
PN16 HDPE								
400	450	24,855	34,005	1,598	7,559	26,453	41,564	1.57
350	400	19,376	26,248	1,497	6,815	20,873	33,063	1.58
300	355	15,334	20,403	1,375	6,379	16,709	26,783	1.60

Distr	ibution								
	ltem		Supply	Cost	Layin	g Cost		Total	
ID	OD		F/S	S/S	F/S	S/S	F/S	S/S	Ratio
HDPE									
	500	560	27,357	38,136	2,517	10,450	29,874	48,586	1.63
	450	500	21,839	30,452	2,266	9,787	24,105	40,239	1.67
	400	450	17,895	24,619	1,658	7,549	19,553	32,168	1.65
	350	400	13,950	19,840	1,551	6,912	15,502	26,752	1.73
	300	355	11,041	15,411	1,422	6,463	12,463	21,874	1.76
	250	280	6,847	9,551	1,115	5,394	7,962	14,945	1.88
	200	250	5,454	7,579	907	5,060	6,361	12,639	1.99
	150	180	2,843	3,945	737	4,293	3,580	8,238	2.30
	100	110	1,375	1,488	611	3,532	1,986	5,020	2.53
	75	90	724	998	494	3,198	1,218	4,196	3.44
PVC	Pipe								
	250	280	5,980	7,265	923	4,494	6,903	11,758	1.70
	200	225	5,001	4,510	860	3,596	5,861	8,105	1.38
	150	160	1,811	2,350	753	2,961	2,564	5,311	2.07
	100	110	868	997	568	2,559	1,436	3,557	2.48
	75	90	572	751	512	2,489	1,084	3,240	2.99
	50	63	383	382	322	2,057	705	2,439	3.46

### **Transmission Line**

<<Preparatory Survey>>

lte	m					Supply Co	ost								Laying Co	ost					1RS=	0.61	JPY
ID	OD	CIF Price	10%	Conv LKR	Fitting&Val	Inland Trans	Supply Price	Contractor OH	Total	NWSDB	Laying	Fittings	Exc.	Earth work	Dewatering	Bedding &	Rock Allw	total	Contractor	Total	TOTAL PRICE	Unit	Price
	02	US\$	Discount	130.00	ve 25%	6%		(7%)	Supply	Rate (ref)		&Valves	Comn	supports	Donatoning	surrounding	50%	Laying	OH (27%)	Install	(LKR)	Yen	LKR
HDPE	500	450.74	407.44	47.007	4 407	4.0.40	00.074	4 057	05 004	00.470		30%		,			0.40	4.045	<b>F47</b>	0.404	07 700	44.550	0.00-
500 450	560	152.71	137.44	17,867	4,467	1,340	23,674	1,657	25,331	22,176		865	697 8 581				349 201	1,915	517	2,431	27,762	14,552	3,907
400	450	99.90	89.91	14203	2,922	877	15,485	1,084	16,569	9,519		618	427	,			231	1,720	340	1,598	18,168	9,519	2.563
350	400	77.88	70.09	9111	2,278	683	12,072	845	12,917	9,519		559	413				207	1,179	318	1,497	14,414	7,444	2,21
300	355	61.63	55.47	7211	1,803	541	9,555	669	10,223	6,774		48	401				201	1,083	292	1,375	11,598	5,909	1,911
250	280	38.23	34.40	4472	1,118	335	5,925	415	6,340	3,514		364	4 324				162	850	230	1,080	7,420	3,685	1,379
200	250	30.45	27.40	3562	891	267	4,720	330	5,050	3,306		296	6 264				132	692	187	879	5,929	2,937	1,114
150	180	15.87	14.29	1857	464	139	2,461	172	2,633	1,788		227	224				112	563	152	715	3,348	1,554	800
100	110	7.68	6.91 3.64	898	225	67 35	1,190	83	1,273	642 527		182	190				95 65	467 375	126	593 476	1,866	//4 /23	597
PVC Pine	30	4.03	5.04	475	20%		027	44	071	521		30%	130				03	575	101	470	1,147	423	400
250	. 280			4140	828		4.968	348	5.316	4140		219.7	338				169	726.7	196	923	6.239	232	5.859
200	225			3462	692		4,154	291	4,445	3462		170.3	338				169	677.3	183	860	5,305	202	4,974
150	160			1254	251		1,505	105	1,610	1254		124.8	312				156	592.8	160	753	2,363	113	2,178
100	110			601	120		721	50	772	601		96.2	2 234				117	447.2	121	568	1,340	73	1,220
75	90			396	79		475	33	508	336		80.6	8 215				107.5	403.1	109	512	1,020	61	920
	<u>63</u>			265	53		318	22	340	265		78	3 117				58.5	253.5	68	322	662	39	598
400	۲E 450	149.84	134.86	17531	4 383	1 315	23 220	1 626	24 855	9 5 1 9		618	427				214	1 250	340	1 598	26 453	14 207	3 163
350	400	116.82	105.14	13667	3,417	1,025	18,109	1,020	19.376	9,519		559	413				207	1,200	318	1,000	20,400	11,098	2.680
300	355	92.45	83.20	10816	2,704	811	14,331	1,003	15,334	6,774		48	401				201	1,083	292	1,375	16,709	8,800	2,283
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lte	m			1		Supply Co	ost						1	1	Laying Co	ost			1		1RS=	0.904	JPY
		CIF Price						Supply a laying										total			· '	Unit Price	
								Contractor										total					
П					Fittings	Clearance &		Contractor transport,loadin	Total	NWSDB			Everyotion	E orth work		Dedding 8	Rock	totai	Contractor	Total	PRICE		
ID	OD	LKR			Fittings &Valves	Clearance & Trans 5%	Supply Price	Contractor transport,loadin g,unloading,inve	Total Supply	NWSDB Rate (ref)	Laying	Fittings	Excavation	Earth work	Dewatering	Bedding &	Rock allowanc	Laying	Contractor OH (27%)	Total Install	PRICE Supply &	Yen	LKR
ID	OD	LKR			Fittings &Valves	Clearance & Trans 5%	Supply Price	Contractor transport,loadin g,unloading,inve stment cost	Total Supply	NWSDB Rate (ref)	Laying	Fittings &Valves 35%	Excavation Comn	Earth work supports	Dewatering	Bedding & surrounding	Rock allowanc e 50%	Laying	Contractor OH (27%)	Total Install	PRICE Supply & Install(LKR	Yen	LKR
ID HDPE Pip	OD	LKR			Fittings &Valves	Clearance & Trans 5%	Supply Price	Contractor transport,loadin g,unloading,inve stment cost .storage,protecti	Total Supply	NWSDB Rate (ref)	Laying	Fittings &Valves 35%	Excavation Comn	Earth work supports	Dewatering	Bedding & surrounding	Rock allowanc e 50%	Laying	Contractor OH (27%)	Total Install	PRICE Supply & Install(LKR	Yen	LKR
ID HDPE Pip 500	OD e 560	LKR 20,178			Fittings &Valves 35% 7,062	Clearance & Trans 5% 1,362	Supply Price 28,602	Contractor transport,loadin g,unloading,inve stment cost .storage.protecti 5,720	Total Supply 34,322	NWSDB Rate (ref)	Laying 1,690	Fittings &Valves 35% 591.5	Excavation Comn 5 2,177	Earth work supports 480.80	Dewatering 155.00	Bedding & surrounding 1,792	Rock allowanc e 50% 1,089	Laying	Contractor OH (27%) 2,153	Total Install 10,128	PRICE Supply & Install(LKR	Yen 29,607	LKR 11,699
ID HDPE Pip 500 450	OD e 560 500	LKR 20,178 16,112			Fittings &Valves 35% 7,062 5,639	Clearance & Trans 5% 1,362 1,088	Supply Price 28,602 22,839	Contractor transport,loadin g,unloading,inve stment cost .storage.protecti 5,720 4,568	Total Supply 34,322 27,406	NWSDB Rate (ref)	Laying 1,690 1,514	Fittings &Valves 35% 591.9	Excavation Comn 2,177 2,090	Earth work supports 480.80 442.80	Dewatering 155.00 148.80	Bedding & surrounding 1,792 1,709	Rock allowanc e 50% 1,089 1,045	Laying 7,975 7,480	Contractor OH (27%) 2,153 2,019	Total Install 10,128 9,499	PRICE Supply & Install(LKR ) 44,450 36,905	Yen 29,607 23,831	LKR 11,699 10,543
ID HDPE Pip 500 450 400	OD e 560 500 450	LKR 20,178 16,112 13,026			Fittings &Valves 35% 7,062 5,639 4,559	Clearance & Trans 5% 1,362 1,088 879	Supply Price 28,602 22,839 18,464	Contractor transport,loadin g,unloading,inve stment cost .storage.protecti 5,720 4,568 3,693	Total Supply 34,322 27,406 22,157	NWSDB Rate (ref)	Laying 1,690 1,514 1,281	Fittings &Valves 35% 591.{ 529.{ 448.3	Excavation Comn 2,177 2,090 1,233	Earth work supports 480.80 442.80 428.00	Dewatering 155.00 148.80 137.80	Bedding & surrounding 1,792 1,709 1,607	Rock allowanc e 50% 1,089 1,045 617	Laying 7,975 7,480 5,752	Contractor OH (27%) 2,153 2,019 1,553	Total Install 10,128 9,499 7,305	PRICE Supply & Install(LKR) 44,450 36,905 29,462	Yen 29,607 23,831 19,216	LKR 11,699 10,543 8,205
ID HDPE Pip 500 450 400 350	OD e 560 500 450 400	LKR 20,178 16,112 13,026 10,497			Fittings &Valves 35% 7,062 5,639 4,559 3,674	Clearance & Trans 5% 1,362 1,088 879 709	Supply Price 28,602 22,839 18,464 14,880	Contractor transport,loadin g,unloading,inve stment cost .storage,protecti 5,720 4,568 3,693 2,976	Total Supply 34,322 27,406 22,157 17,855	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106	Fittings &Valves 35% 591.9 529.9 448.39 387.7	Excavation Comn 2,177 2,090 1,233 1,109	Earth work supports 480.80 442.80 428.00 413.40	Dewatering 155.00 148.80 137.80 124.00	Bedding & surrounding 1,792 1,709 1,607 1,583	Rock allowanc e 50% 1,089 1,045 617 555	Laying 7,975 7,480 5,752 5,277	Contractor OH (27%) 2,153 2,019 1,553 1,425	Total Install 10,128 9,499 7,305 6,702	TOTAL PRICE Supply & Install(LKR ) 44,450 36,905 29,462 24,557	Yen 29,607 23,831 19,216 15,595	LKR 11,699 10,543 8,205 7,306
ID HDPE Pip 500 450 400 350 300	OD e 560 500 450 400 355 215	LKR 20,178 16,112 13,026 10,497 8,154 6 402			Fittings &Valves 35% 7,062 5,639 4,559 3,674 2,854 2,241	Clearance & Trans 5% 1,362 1,088 879 709 550 422	Supply Price 28,602 22,839 18,464 14,880 11,558 0.076	Contractor transport,loadin g,unloading,inve stment cost .storage.protecti 5,720 4,568 3,693 2,976 2,312	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034	Fittings &Valves 35% 591.8 529.9 448.38 387.7 361.9	Excavation Comn 2,177 2,090 5 1,233 1,109 1,109	Earth work supports 480.80 442.80 428.00 413.40 401.60 200.00	Dewatering 155.00 148.80 137.80 124.00 124.00 102.40	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,227	Rock allowanc e 50% 1,089 1,045 617 555 555	Laying 7,975 7,480 5,752 5,277 4,934 4,262	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151	Total Install 10,128 9,499 7,305 6,702 6,266 5,413	TOTAL PRICE Supply & Install(LKR) 44,450 36,905 29,462 24,557 20,136 16,205	Yen 29,607 23,831 19,216 15,595 12,257 9,691	LKR 11,699 10,543 8,205 7,306 6,578
ID HDPE Pip 500 450 400 350 300	OD e 560 500 450 400 355 315 280	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053			Fittings &Valves 7,062 5,639 4,559 3,674 2,854 2,241 1,769	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7 163	Contractor transport, loadin g, unloading, inve stment cost .storage, protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8 596	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804	Fittings &Valves 35% 591.9 529.9 448.39 387.7 361.9 297.19	Excavation Comn 2,177 2,090 1,233 1,109 1,109 924 924	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 103.40	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1 174	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4 127	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1 114	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241	TOTAL PRICE Supply & Install(LKR ) 44,450 36,905 29,462 24,557 20,136 16,305 13,837	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779	LKR 11,699 10,543 8,205 7,306 6,578 5,585
ID HDPE Pip 500 450 400 350 300 250 200	OD e 560 500 450 400 355 315 280 250	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010			Fittings &Valves 35% 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 271	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685	Contractor transport,loadin g,unloading,inve stment cost .storage.protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1.137	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722	Fittings &Valves 35% 591. 529. 448.3 387. 361. 297.1 281. 2252.	Excavation Comn 2,177 2,090 5 1,233 1,109 5 1,109 5 924 924 924 853	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20 369.40	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 103.40 95.40	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462 462 427	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3.876	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923	TOTAL PRICE Supply & Install(LKR) 44,450 36,905 29,462 24,557 20,136 16,305 13,837 11,744	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276	LKR 11,699 10,543 8,205 7,306 6,578 5,585 5,232 4,802
ID HDPE Pip 500 450 400 350 300 250 200	OD e 560 500 450 400 355 315 280 250 225	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010 3,251			Fittings &Valves 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404 1,138	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 271 219	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685 4,608	Contractor transport, loadin g, unloading, inve stment cost .storage, protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1,137 922	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822 5,530	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722 697	Fittings &Valves 35% 529.9 448.35 387.7 361.9 297.15 281.4 252.7 243.95	Excavation Comn 2,177 2,090 1,233 1,109 1,109 924 924 924 853 853	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20 369.40 363.60	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 95.40 95.40	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157 948	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462 462 427 427	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3,876 3,627	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047 979	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923 4,607	TOTAL PRICE Supply & Install(LKR) 44,450 36,905 29,462 24,557 20,136 16,305 13,837 11,744 10,137	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276 5,171	LKR 11,699 10,543 8,205 7,306 6,578 5,585 5,585 5,232 4,802 4,802
ID HDPE Pip 500 450 400 350 300 250 200 150	OD e 560 500 450 400 355 315 280 250 225 180	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010 3,251 2,087			Fittings &Valves 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404 1,138 730	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 271 219 141	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685 4,608 2,958	Contractor transport,loadin g,unloading,inve stment cost .storage.protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1,137 922 592	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822 5,530 3,549	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722 697 616	Fittings &Valves 35% 591.6 529.9 448.36 387.7 361.9 297.15 281.4 252.7 243.95 215.6	Excavation Comn 2,177 2,090 1,233 1,109 1,109 924 924 924 853 853 792	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20 369.40 363.60 348.80	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 95.40 95.40 88.60	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157 948 831	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462 462 427 427 396	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3,876 3,627 3,288	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047 979 888	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923 4,607 4,176	TOTAL PRICE Supply & Install(LKR) 44,450 36,905 29,462 24,557 20,136 16,305 13,837 11,744 10,137 7,725	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276 5,171 3,483	LKR 11,699 10,543 8,205 7,306 6,578 5,585 5,232 4,802 4,417 3,872
ID HDPE Pip 500 450 400 350 300 250 200 150	OD e 560 500 450 400 355 315 280 250 225 180 160	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010 3,251 2,087 1,642			Fittings &Valves 35% 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404 1,138 730 575	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 271 219 141 111	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685 4,608 2,958 2,328	Contractor transport,loadin g,unloading,inve stment cost .storage,protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1,137 922 592 466	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822 5,530 3,549 2,793	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722 697 616 601	Fittings &Valves 35% 529.9 448.35 387.7 361.9 297.15 281.4 252.7 243.95 215.6 210.35	Excavation Comn 2,177 2,090 1,233 1,109 1,109 1,109 924 924 924 924 924 924 924 924 924 92	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20 369.40 363.60 348.80 343.00	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 95.40 95.40 88.60 88.60	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157 948 831 794	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462 462 427 427 396 396	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3,876 3,627 3,288 3,225	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047 979 888 871	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923 4,607 4,176 4,096	TOTAL PRICE Supply & Install(LKR ) 44,450 36,905 29,462 24,557 20,136 16,305 13,837 11,744 10,137 7,725 6,889	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276 5,171 3,483 2,850	LKR 11,699 10,543 8,205 7,306 6,578 5,585 5,232 4,802 4,417 3,872 3,736
ID HDPE Pip 500 450 400 350 300 250 200 150 100	OD e 560 500 450 400 355 315 280 225 180 160 125	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010 3,251 2,087 1,642 1,006			Fittings &Valves 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404 1,138 730 575 352	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 271 219 141 111 68	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685 4,608 2,958 2,328 1,426	Contractor transport, loadin g, un loading, inve stment cost .storage, protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1,137 922 592 466 285	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822 5,530 3,549 2,793 1,711	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722 697 616 601 458	Fittings &Valves 35% 591.9 529.9 448.39 361.9 297.19 281.4 252.7 243.99 215.6 210.35 160.3	Excavation Comn 2,177 2,090 1,233 1,109 1,109 924 924 924 924 924 924 924 924 924 92	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20 369.40 363.60 348.80 343.00 328.40	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 95.40 95.40 88.60 88.60 68.80 0000000000000000000000000000000000	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157 948 831 794 785	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462 462 427 427 396 396 308	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3,876 3,627 3,288 3,225 2,725	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047 979 888 871 736	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923 4,607 4,176 4,096 3,460	TOTAL PRICE Supply & Install(LKR) 44,450 36,905 29,462 24,557 20,136 16,305 13,837 11,744 10,137 7,725 6,889 5,171	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276 5,171 3,483 2,850 1,874	LKR 11,699 10,543 8,205 7,306 6,578 5,588 5,232 4,802 4,417 3,872 3,736 3,098
ID HDPE Pip 500 450 400 350 300 250 200 150 100 75	OD e 560 500 450 400 355 315 280 250 225 180 160 125 110	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010 3,251 2,087 1,642 1,006 787 528			Fittings &Valves 35% 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404 1,138 730 575 352 275	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 271 219 141 111 68 53 26	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685 4,608 2,958 2,328 1,426 1,115 740	Contractor transport, loadin g, un loading, inve stment cost .storage, protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1,137 922 592 466 285 223 150	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822 5,530 3,549 2,793 1,711 1,338 909	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722 697 616 601 458 450 266	Fittings &Valves 35% 529.9 448.35 387.7 361.9 297.15 281.4 252.7 243.95 215.6 210.35 160.3	Excavation Comn 2,177 2,090 1,233 1,109 1,109 1,109 924 924 924 924 924 924 924 924 924 92	Earth work supports 480.80 442.80 413.40 401.60 390.00 378.20 369.40 363.60 348.80 343.00 328.40 328.40 386.00	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 103.40 95.40 95.40 88.60 68.80 68.80 68.80 68.80 68.80	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157 948 831 794 785 785 785	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462 462 427 427 396 396 308 308 308	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3,876 3,627 3,288 3,225 2,725 2,714 2,464	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047 979 888 871 736 733 665	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923 4,607 4,176 4,096 3,460 3,446 3,120	TOTAL PRICE Supply & Install(LKR) 44,450 36,905 29,462 24,557 20,136 16,305 13,837 11,744 10,137 7,725 6,889 5,171 4,785 4,027	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276 5,171 3,483 2,850 1,874 1,565 1,160	LKR 11,699 10,543 8,205 7,306 6,578 5,585 5,232 4,802 4,417 3,872 3,736 3,098 3,053
ID HDPE Pip 500 450 400 350 300 250 200 150 100 75 PVC: Pip	OD e 560 500 450 400 355 315 280 225 180 160 125 110 90	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010 3,251 2,087 1,642 1,006 787 528			Fittings &Valves 35% 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404 1,138 730 575 352 275 185	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 271 219 141 111 68 53 36	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685 4,608 2,958 2,328 1,426 1,115 749	Contractor transport, loadin g, un loading, inve stment cost .storage.protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1,137 922 592 466 285 223 150	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822 5,530 3,549 2,793 1,711 1,338 898	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722 697 616 601 458 450 366	Fittings &Valves 35% 591.9 529.9 448.39 361.9 297.19 281.4 252.7 243.99 215.6 210.39 160.3 157.8 128.7	Excavation Comn 5 2,177 2,090 5 1,233 1,109 9 1,109 9 24 9 24 9 24 9 24 9 24 9 24 9 24 9 2	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20 369.40 363.60 348.80 343.00 328.40 328.40 386.00	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 95.40 95.40 95.40 88.60 88.60 68.80 68.80 56.40	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157 948 831 794 785 785 785 785 771	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462 427 427 396 396 308 308 308 252	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3,876 3,627 3,288 3,225 2,725 2,714 2,464	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047 979 888 871 736 733 665	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923 4,607 4,176 4,096 3,460 3,446 3,129	TOTAL PRICE Supply & Install(LKR) 44,450 36,905 29,462 24,557 20,136 16,305 13,837 11,744 10,137 7,725 6,889 5,171 4,785 4,027	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276 5,171 3,483 2,850 1,874 1,565 1,160	LKR 11,699 10,543 8,205 7,306 6,578 5,588 5,232 4,802 4,417 3,872 3,736 3,098 3,053 2,744
ID HDPE Pip 500 450 400 350 300 250 200 150 100 75 PVC Pipe 250	OD e 560 500 450 400 355 315 280 250 225 180 160 125 110 90	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010 3,251 2,087 1,642 1,006 787 528 4175			Fittings &Valves 35% 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404 1,138 730 575 352 275 185 25% 1,044	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 271 219 141 111 68 53 36	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685 4,608 2,958 2,328 1,426 1,115 749 5,219	Contractor transport,loadin g,unloading,inve stment cost .storage,protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1,137 922 592 466 285 223 150	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822 5,530 3,549 2,793 1,711 1,338 898 6,263	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722 697 616 601 458 450 366	Fittings &Valves 35% 591.8 529.9 448.38 387.7 361.9 297.18 297.18 297.18 297.18 297.18 215.6 210.38 160.3 157.8 128.7	Excavation Comn 5 2,177 2,090 5 1,233 1,109 5 1,109 6 924 924 924 924 924 924 924 924 924 924	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20 369.40 363.60 348.80 343.00 328.40 328.40 328.40 328.40 328.40 328.40	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 103.40 95.40 95.40 88.60 88.60 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.8	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157 948 831 794 785 785 785 771	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462 462 462 462 427 427 396 396 308 308 308 252	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3,876 3,627 3,288 3,225 2,725 2,714 2,464 3,461	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047 979 888 871 736 733 665	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923 4,607 4,176 4,096 3,460 3,446 3,129 4,395	TOTAL PRICE Supply & Install(LKR) 44,450 36,905 29,462 24,557 20,136 16,305 13,837 11,744 10,137 7,725 6,889 5,171 4,785 4,027	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276 5,171 3,483 2,850 1,874 1,565 1,160	LKR 11,699 10,543 8,208 7,306 6,578 5,588 5,232 4,802 4,417 3,872 3,736 3,098 3,053 2,744
ID HDPE Pip 500 450 400 350 300 250 200 150 100 75 PVC Pipe 250 200	OD e 560 500 450 400 355 315 280 250 225 180 160 125 110 90 225	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010 3,251 2,087 1,642 1,006 787 528 4175 2592			Fittings &Valves 35% 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404 1,138 730 575 352 275 185 25% 1,044 648	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 271 219 141 111 68 53 36	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685 4,608 2,958 2,328 1,426 1,115 749 5,219 3,240	Contractor transport, loadin g, un loading, inve stment cost .storage, protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1,137 922 592 466 285 223 150	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822 5,530 3,549 2,793 1,711 1,338 898 6,263 3,888	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722 697 616 601 458 450 366 517 387	Fittings &Valves 35% 591.9 529.9 448.39 387.7 361.9 297.19 281.4 252.7 243.99 215.6 210.38 160.3 157.9 180.99 135.49	Excavation Comn 2,177 2,090 1,233 1,109 1,109 924 924 924 924 924 924 924 924 924 92	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20 369.40 363.60 348.80 343.00 328.40 328.40 328.40 381.20 381.20	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 95.40 95.40 95.40 88.60 68.80 68.80 68.80 68.80 68.80 56.40 67.60 51.60	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157 948 831 794 785 785 785 785 771	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462 462 427 427 396 308 308 308 308 252 380 290	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3,876 3,627 3,288 3,225 2,725 2,714 2,464 3,461 2,773	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047 979 888 871 736 733 665 934 749	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923 4,607 4,176 4,096 3,460 3,460 3,446 3,129 4,395 3,522	TOTAL PRICE Supply & Install(LKR) 44,450 36,905 29,462 24,557 20,136 16,305 13,837 11,744 10,137 7,725 6,889 5,171 4,785 4,027	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276 5,171 3,483 2,850 1,874 1,565 1,160 5,970 3,813	LKR 11,699 10,543 8,205 7,306 6,578 5,585 5,232 4,802 4,417 3,872 3,736 3,098 3,053 2,744 4,054 3,192
ID HDPE Pip 500 450 400 350 300 250 200 150 100 75 PVC Pipe 250 200 150	OD e 560 500 450 400 355 315 280 250 225 180 160 125 110 90 225 110 90	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010 3,251 2,087 1,642 1,006 787 528 4175 2592 1350			Fittings &Valves 35% 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404 1,138 730 575 352 275 185 25% 1,044 648 338	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 219 141 111 68 53 36	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685 4,608 2,958 2,328 1,426 1,115 749 5,219 3,240 1,688	Contractor transport,loadin g,unloading,inve stment cost .storage.protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1,137 922 592 466 285 223 150 1,044 648 338	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822 5,530 3,549 2,793 1,711 1,338 898 6,263 3,888 2,026	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722 697 616 601 458 450 366 517 387 299	Fittings &Valves 35% 591.8 529.9 448.38 387.7 361.9 297.18 297.18 281.4 252.7 243.98 215.6 210.38 160.3 157.8 128.7	Excavation Comn 5 2,177 2,090 5 1,233 1,109 5 1,233 1,109 9 1,109 9 24 9 24 9 24 9 24 9 24 9 24 9 24 9 2	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20 369.40 363.60 348.80 343.00 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 95.40 95.40 95.40 88.60 88.60 68.80 68.80 68.80 56.40 67.60 51.60 41.40	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157 948 831 794 785 785 785 771 1174 948 785 785 771	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462 462 462 427 427 396 396 396 308 252 380 290 232	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3,876 3,627 3,288 3,225 2,725 2,714 2,464 3,461 2,773 2,287	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047 979 888 871 736 733 665 934 749 617	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923 4,607 4,176 4,096 3,460 3,446 3,129 4,395 3,522 2,904	TOTAL PRICE Supply & Install(LKR) 36,905 29,462 24,557 20,136 16,305 13,837 11,744 10,137 7,725 6,889 5,171 4,785 4,027	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276 5,171 3,483 2,850 1,874 1,565 1,160 5,970 3,813 2,130	LKR 11,699 10,543 8,208 7,306 6,578 5,588 5,232 4,802 4,417 3,872 3,736 3,098 3,053 2,744 4,054 3,192 2,574
ID HDPE Pip 500 450 400 350 300 250 200 150 100 75 PVC Pipe 250 200 150 100	OD e 560 500 450 400 355 315 280 250 225 180 160 125 110 90 225 160 110	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010 3,251 2,087 1,642 1,006 787 528 4175 2592 1350 573			Fittings &Valves 35% 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404 1,138 730 575 352 275 185 25% 1,044 648 338 143	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 271 219 141 111 68 53 36	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685 4,608 2,958 2,328 1,426 1,115 749 5,219 3,240 1,688 716	Contractor transport, loadin g, un loading, inve stment cost .storage, protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1,137 922 592 466 285 223 150 1,044 648 338 143	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822 5,530 3,549 2,793 1,711 1,338 898 6,263 3,888 2,026 859	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722 697 616 601 458 450 366 517 387 299 217	Fittings &Valves 35% 591.8 529.9 448.38 387.7 361.9 297.18 281.4 252.7 243.98 215.6 210.38 160.3 157.8 128.7 180.98 135.48 104.68 75.98	Excavation Comn 5 2,177 2,090 5 1,233 1,109 9 1,109 9 24 9 24 9 24 9 24 9 24 9 24 9 24 9 2	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20 369.40 363.60 348.80 343.00 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 351.80	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 95.40 95.40 95.40 88.60 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 56.40 1.40 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157 948 831 794 785 785 785 785 771 1174 948 794 785	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462 462 427 427 396 396 396 308 308 252 380 290 232 174	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3,876 3,627 3,288 3,225 2,725 2,714 2,464 3,461 2,773 2,287 1,983	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047 979 888 871 736 733 665 934 749 617 535	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923 4,607 4,176 4,096 3,460 3,460 3,460 3,460 3,429 4,395 3,522 2,904 2,518	TOTAL PRICE Supply & Install(LKR) 36,905 29,462 24,557 20,136 16,305 13,837 11,744 10,137 7,725 6,889 5,171 4,785 4,027	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276 5,171 3,483 2,850 1,874 1,565 1,160 5,970 3,813 2,130 1,077	LKR 11,699 10,543 8,205 7,306 6,578 5,585 5,232 4,802 4,417 3,872 3,736 3,098 3,053 2,744 4,054 3,192 2,574 2,186
ID HDPE Pip 500 450 400 350 300 250 200 150 100 75 PVC Pipe 250 200 150 100 75	OD e 560 500 450 400 355 315 280 250 225 180 160 125 110 90 225 160 110 90	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010 3,251 2,087 1,642 1,006 787 528 4175 2592 1350 573 432			Fittings &Valves 35% 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404 1,138 730 575 352 275 185 25% 1,044 648 338 143 108	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 219 141 111 68 53 36	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685 4,608 2,958 2,328 1,426 1,115 749 5,219 3,240 1,688 716 540	Contractor transport,loadin g,unloading,inve stment cost .storage.protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1,137 922 592 466 285 223 150 1,044 648 338 143 108	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822 5,530 3,549 2,793 1,711 1,338 898 6,263 3,888 2,026 859 648	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722 697 616 601 458 450 366 517 387 299 217 209	Fittings &Valves 35% 591.8 529.9 448.38 387.7 361.9 297.18 281.4 252.7 243.98 215.6 210.38 160.3 157.8 128.7 180.98 135.48 104.68 75.98 73.18	Excavation Comn 5 2,177 2,090 5 1,233 1,109 9 1,109 9 24 9 24 9 24 9 24 9 24 9 24 9 24 9 2	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20 369.40 363.60 348.80 343.00 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 320 320 320 320 320 320 320 320 320 32	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 95.40 95.40 95.40 88.60 88.60 68.80 68.80 68.80 56.40 67.60 51.60 41.40 31.00 31.00	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157 948 831 794 785 785 785 771 1174 948 785 771	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462 427 427 396 396 396 308 308 252 380 290 232 174 174	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3,876 3,627 3,288 3,225 2,725 2,714 2,464 3,461 2,773 2,287 1,983 1,929	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047 979 888 871 736 733 665 934 749 617 535 521	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923 4,607 4,176 4,096 3,460 3,446 3,129 4,395 3,522 2,904 2,518 2,449	TOTAL PRICE Supply & Install(LKR) 36,905 29,462 24,557 20,136 16,305 13,837 11,744 10,137 7,725 6,889 5,171 4,785 4,027	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276 5,171 3,483 2,850 1,874 1,565 1,160 5,970 3,813 2,130 1,077 886	LKR 11,699 10,543 8,205 7,306 6,578 5,585 5,232 4,802 4,417 3,872 3,736 3,098 3,053 2,744 4,054 3,192 2,574 2,186 2,117
ID HDPE Pip 500 450 400 350 300 250 200 150 100 75 PVC Pipe 250 200 150 100 75 50	OD e 560 500 450 400 355 315 280 250 225 180 160 125 110 90 225 160 110 90 63	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010 3,251 2,087 1,642 1,006 787 528 4175 2592 1350 573 432 219	116		Fittings &Valves 35% 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404 1,138 730 575 352 275 185 25% 1,044 648 338 143 108 55	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 271 219 141 111 68 53 36	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685 4,608 2,958 2,328 1,426 1,115 749 5,219 3,240 1,688 716 540 274	Contractor transport,loadin g,unloading,inve stment cost ,storage,protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1,137 922 592 466 285 223 150 1,044 648 338 143 108 55	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822 5,530 3,549 2,793 1,711 1,338 898 6,263 3,888 2,026 859 648 329	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722 697 616 601 458 450 366 517 387 299 217 209 177	Fittings &Valves 35% 591.8 529.9 448.38 387.7 361.9 297.18 297.18 297.18 297.18 297.18 297.18 210.38 160.3 157.8 128.7 180.98 135.48 104.68 75.98 73.18 61.98	Excavation Comn 5 2,177 2,090 5 1,233 1,109 9 1,109 9 24 924 924 924 924 924 924 924 924 924 9	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20 369.40 363.60 348.80 343.00 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 347.40	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 95.40 95.40 95.40 88.60 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 68.80 0 67.60 51.60 41.40 31.00 26.60	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157 948 831 794 785 785 771 1174 948 794 785 771 532	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462 462 462 462 427 427 396 396 396 308 308 252 380 290 232 174 174 150	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3,876 3,627 3,288 3,225 2,725 2,714 2,464 3,461 2,773 2,287 1,983 1,929 1,593	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047 979 888 871 736 733 665 934 749 617 535 521 430	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923 4,607 4,176 4,096 3,460 3,460 3,460 3,460 3,446 3,129 4,395 3,522 2,904 2,518 2,449 2,024	TOTAL PRICE Supply & Install(LKR) 36,905 29,462 24,557 20,136 16,305 13,837 11,744 10,137 7,725 6,889 5,171 4,785 4,027 10,658 7,410 4,930 3,377 3,097 2,352	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276 5,171 3,483 2,850 1,874 1,565 1,160 5,970 3,813 2,130 1,077 886 555	LKR 11,699 10,543 8,205 7,306 6,578 5,585 5,232 4,802 4,417 3,872 3,736 3,098 3,053 2,744 4,054 3,192 2,574 2,186 2,117 1,739
ID HDPE Pip 500 450 400 350 300 250 200 150 100 75 PVC Pipe 250 200 150 100 75 50 HDPE PI	OD e 560 500 450 400 355 315 280 225 180 160 125 110 90 225 160 110 90 63 PE PE100	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010 3,251 2,087 1,642 1,006 787 528 4175 2592 1350 573 432 219 0 SDR11 PN	116		Fittings &Valves 35% 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404 1,138 730 575 352 275 185 25% 1,044 648 338 143 108 55 35% 6,007	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 219 141 111 68 53 36	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685 4,608 2,958 2,328 1,426 1,115 749 5,219 3,240 1,688 716 540 274	Contractor transport,loadin g,unloading,inve stment cost .storade.protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1,137 922 592 466 285 223 150 1,044 648 338 143 108 55	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822 5,530 3,549 2,793 1,711 1,338 898 6,263 3,888 2,026 859 648 329	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722 697 616 601 458 450 366 517 387 299 217 209 177	Fittings &Valves 35% 591.9 529.9 448.39 361.9 297.19 281.4 252.7 243.99 215.6 210.39 160.3 160.3 157.9 128.7 180.99 135.49 104.69 75.99 73.19 61.99	Excavation Comn 5 2,177 2,090 5 1,233 1,109 9 24 9 24 9 24 9 24 9 24 9 24 9 24 9 2	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20 363.60 348.80 343.00 328.40 328.40 328.40 328.40 328.40 328.40 328.40 351.80 351.80 322.40 347.40	Dewatering 155.00 148.80 137.80 124.00 124.00 103.40 95.40 95.40 95.40 88.60 68.80 68.80 68.80 68.80 56.40 67.60 51.60 41.40 31.00 26.60	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157 948 831 794 785 785 771 1174 948 794 785 771 532	Rock allowanc e 50% 1,089 1,045 617 555 555 462 427 427 396 396 396 308 308 252 380 290 232 174 174 150	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3,876 3,627 3,288 3,225 2,725 2,714 2,464 3,461 2,773 2,287 1,983 1,929 1,593	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047 979 888 871 736 733 665 934 749 617 535 521 430	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923 4,607 4,176 4,096 3,460 3,460 3,460 3,446 3,129 4,395 3,522 2,904 2,518 2,449 2,024	TOTAL PRICE Supply & Install(LKR) 36,905 29,462 24,557 20,136 16,305 13,837 11,744 10,137 7,725 6,889 5,171 4,785 4,027 10,658 7,410 4,930 3,377 3,097 2,352	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276 5,171 3,483 2,850 1,874 1,565 1,160 5,970 3,813 2,130 1,077 886 555	LKR 11,699 10,543 8,205 7,306 6,578 5,585 5,232 4,802 4,417 3,872 3,736 3,098 3,053 2,744 4,054 3,192 2,574 2,186 2,117 1,739
ID HDPE Pip 500 450 400 350 300 250 200 150 100 75 PVC Pipe 250 200 150 100 75 50 HDPE PI 400 350	OD e 560 500 450 400 355 315 280 250 225 180 160 125 110 90 225 160 110 90 63 PE PE100 450 400	LKR 20,178 16,112 13,026 10,497 8,154 6,403 5,053 4,010 3,251 2,087 1,642 1,006 787 528 4175 2592 1350 573 432 219 0 SDR11 PN 19991 15431	116		Fittings &Valves 35% 7,062 5,639 4,559 3,674 2,854 2,241 1,769 1,404 1,138 730 575 352 275 185 25% 1,044 648 338 143 108 55 35% 6,997 5,401	Clearance & Trans 5% 1,362 1,088 879 709 550 432 341 271 219 141 111 68 53 36 53 36	Supply Price 28,602 22,839 18,464 14,880 11,558 9,076 7,163 5,685 4,608 2,958 2,328 1,426 1,115 749 5,219 3,240 1,688 716 540 274 28,337 21,874	Contractor transport,loadin g,unloading,inve stment cost .storade.protecti 5,720 4,568 3,693 2,976 2,312 1,815 1,433 1,137 922 592 466 285 223 150 1,044 648 338 143 108 55	Total Supply 34,322 27,406 22,157 17,855 13,870 10,891 8,596 6,822 5,530 3,549 2,793 1,711 1,338 898 6,263 3,888 2,026 859 648 329 34,005 26 248	NWSDB Rate (ref)	Laying 1,690 1,514 1,281 1,106 1,034 849 804 722 697 616 601 458 450 366 517 387 299 217 209 177 1354 1172	Fittings &Valves 35% 591.8 529.9 448.38 387.7 361.9 297.18 297.18 297.18 297.18 297.18 297.18 297.18 210.38 160.3 157.8 128.7 180.98 135.48 104.68 75.98 73.18 61.98	Excavation Comn 5 2,177 2,090 5 1,233 1,109 9 1,109 9 1,109 9 24 9 24 9 24 9 24 9 24 9 24 9 24 9 2	Earth work supports 480.80 442.80 428.00 413.40 401.60 390.00 378.20 369.40 363.60 348.80 343.00 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 328.40 347.40 428.00 413.40	Dewatering	Bedding & surrounding 1,792 1,709 1,607 1,583 1,349 1,237 1,174 1,157 948 831 794 785 785 771 1174 948 794 785 771 1174 948 794 785 771 1174 948	Rock allowanc e 50% 1,089 1,045 617 555 555 462 462 462 462 427 427 396 396 396 396 396 308 252 380 290 232 174 174 174 150 617 555	Laying 7,975 7,480 5,752 5,277 4,934 4,263 4,127 3,876 3,627 3,288 3,225 2,725 2,714 2,464 3,461 2,773 2,287 1,983 1,929 1,593 5,952 5,366	Contractor OH (27%) 2,153 2,019 1,553 1,425 1,332 1,151 1,114 1,047 979 888 871 736 733 665 934 749 617 535 521 430	Total Install 10,128 9,499 7,305 6,702 6,266 5,413 5,241 4,923 4,607 4,176 4,096 3,460 3,446 3,129 4,395 3,522 2,904 2,518 2,449 2,024 7,559 6,815	TOTAL PRICE Supply & Install(LKR) 44,450 36,905 29,462 24,557 20,136 16,305 13,837 11,744 10,137 7,725 6,889 5,171 4,785 4,027 10,658 7,410 4,930 3,377 3,097 2,352 41,564 33,063	Yen 29,607 23,831 19,216 15,595 12,257 9,691 7,779 6,276 5,171 3,483 2,850 1,874 1,565 1,160 5,970 3,813 2,130 1,077 886 555 29,001 22,517	LKR 11,699 10,543 8,205 7,306 6,578 5,585 5,232 4,802 4,417 3,872 3,736 3,098 3,053 2,744 4,054 3,192 2,574 2,186 2,117 1,739 9,483 8,155

# **Distribution Line**

	y Survey	<u> </u>																			
ltem						Supply Co	ost								Laying Cost				1RS=	0.61	JPY
ID OD	(	CIF Price	10%	Conv LKR	Fitting&Val	Inland Trans		Contractor OH	Total	NWSDB	Laying	Fittings	Exc.		Rock Allw	Total	OH&P	Total	TOTAL PRICE	Unit F	<b>'</b> rice
	1	US\$	Discount	130.00	) ve 35%	6%	Supply Price	(7%)	Supply	Rate (ref)		&Valves	Comn		50%	Laying	27%	Install	(LKR)	Yen	LKR
HDPE		)										40%				· · · · · · · · · · · · · · · · · · ·					
500	560	152.71	137.44	17,867	6,253	1,447	7 25,568	1,790	27,357	/ 23,951		936	69	7	349	1,982	535	2,517	29,874	15,706	4,126
450	500	121.91	109.72	2 14263	4,992	1,155	5 20,410	1,429	21,839	17,963		913	58	1	291	1,785	482	2,266	24,105	12,561	3,514
400	450	99.90	89.91	I 11687	4,090	947	7 16,724	, 1,171	17,895	10,280 ز		665	, 42	7	214	1,306	352	1,658	19,553	10,275	2,709
350	400	77.88	70.09	) 9111	3,189	738	3 13,038	913	13,950	10,280		602	. 41	3	207	1,222	330	1,551	15,502	8,033	2,333
300	355	61.63	55.47	7 7211	2,524	. 584	4 10,319	722	11,041	7,317		518	, 40	1	201	1,120	302	1,422	12,463	6,376	2,011
250	280	38.23	34.40	) 4472	2 1,565	362	2 6,399	448	6,847	/ 3,895		392	. 32	4	162	878	237	1,115	7,962	3,975	1,446
200	250	30.45	27.40	3562	2 1,247	289	Э 5,097	357	5,454	4 3,571		318	, 26	4	132	714	193	907	6,361	3,168	1,167
150	180	15.87	14.29	J 1857	650	150	ວ 2,657	186	2,843	3 1,931		244	. 22	4	112	580	157	737	3,580	1,676	832
100	110	7.68	6.91	1 898	3 314	. 73	3 1,285	90	1,375	693 ز		196	, 19	0	95	481	130	611	1,986	833	620
75	90	4.05	3.64	473	3 166	i 38	в 677	47	724	4 570		194	, 13	0	65	389	105	494	1,218	455	472
PVC Pipe		)			35%	,						30%	,								
250	280	)	1	4140	) 1,449	1	5,589	<i>i</i> 391	5,980	4658		219.7	33	8	169	726.7	196	923	6,903	251	6,491
200	225	)	(	3462	2 1,212	-	4,674	, 327	5,001	3895		170.3	33	8	169	677.3	183	860	5,861	218	5,504
150	160	)	1	1254	439	1	1,693	119	1,811	1411		124.8	31	2	156	592.8	160	753	2,564	119	2,369
100	110	)	(	601	210	1	811	57	868	3 676		96.2	. 23	4	117	447.2	121	568	1,436	76	1,311
75	90	)	1	396	i 139	1	535	, 37	572	2 446		80.6	, 21	5	107.5	403.1	109	512	1,084	62	982
50	63	)	1	265	j 93		358	i 25	383	3 298	4	78	J 11	7	58.5	253.5	68	322	705	40	639

#### <<Supplemental Survey>>

	Item				Supply Co	ost								Laying Co	st					1RS=	0.904、	JPY
			CIF Price				Supply & laying										total				Unit Price	
ID	O	D	LKR	Fittings &Valves	Clearance & Trans 5%	Supply Price	transport,loadin g,unloading,inve stment cost ,storage,protecti on ,OH proffit (20%)	Total Supply	NWSDB Rate (ref)	Laying	Fittings &Valves	Excavation Comn	Earth work supports	Dewatering	Bedding & surrounding	Rock allowanc e 50%	Laying	Contractor OH (27%)	Total Install	TOTAL PRICE Supply & Install(LKR )	Yen	LKR
HDPE I	Pipe			50%																<u>'</u> '		
500	)	560	20,178	10,089	1,513	31,780	6,356	38,136		1690	845	2177	480.8	155.0	1792	1,089	8,228	2,222	10,450	48,586	32,789	12,315
450	)	500	16,112	8,056	1,208	25,376	5,075	30,452		1514	757	2090	442.8	148.8	1709	1,045	7,707	2,081	9,787	40,239	26,376	11,062
400	)	450	13,026	6,513	977	20,516	4,103	24,619		1281	640.5	1233	428.0	137.8	1607	617	5,944	1,605	7,549	32,168	21,275	8,633
350	)	400	10,497	5,249	787	16,533	3,307	19,840		1106	553	8 1109	413.4	124.0	1583	555	5,443	1,470	6,912	26,752	17,257	7,663
300	)	355	8,154	4,077	612	12,843	2,569	15,411		1034	517	1109	401.6	124.0	1349	555	5,089	1,374	6,463	21,874	13,552	6,883
0.57		315	6,403	3,202	480	10,085	2,017	12,102		849	424.5	924	390.0	103.4	1237	462	4,390	1,185	5,575	17,677	10,709	5,831
250	)	280	5,053	2,527	379	7,959	1,592	9,551		804	402	924	378.2	103.4	11/4	462	4,248	1,147	5,394	14,945	8,585	5,449
200	)	250	4,010	2,005	301	6,316	1,263	7,579		722	361	853	369.4	95.4	1157	427	3,984	1,076	5,060	12,639	6,918	4,986
4.54		225	3,251	1,626	244	5,121	1,024	6,145		697	348.5	853	363.6	95.4	948	427	3,732	1,008	4,740	10,885	5,695	4,585
150	)	180	2,087	1,044	157	3,288	658	3,945		616	308	792	348.8	88.6	831	396	3,380	913	4,293	8,238	3,824	4,008
1.00		160	1,642	821	123	2,586	517	3,103		601	300.5	/92	343.0	88.6	794	396	3,315	895	4,210	7,314	3,120	3,862
100	)	125	1,006	503	/5	1,584	317	1,901		458	229	616	328.4	68.8	/85	308	2,793	754	3,547	5,449	2,042	3,190
7/		110	/8/	394	59	1,240	248	1,488		450	225	616	328.4	68.8	/85	308	2,781	751	3,532	5,020	1,700	3,140
	)	90	528	264	40	832	166	998		366	183	504	386.0	56.4	1/1	252	2,518	680	3,198	4,196	1,251	2,812
PVC P	pe	200	4 475	40%		6.054	1 011	7 265		<b>517</b>	250 5	760	201.0	67.6	1171	200	2 5 2 0	055	4 404	11 750	6.944	1 1 0 0
200	)	200	4,175	1,079		0,054	1,211	7,205		017 007	200.0	760	301.2	07.0 51.0	019	300	3,530	955	4,494	11,700	0,044	4,100
200	)	220	2,392	1,100		3,750	752	4,010		307	193.0	500	301.2	51.0	940	290	2,031	620	3,390	6,105	4,357	3,200
100	) \	110	1,330	000		1,900	392	2,350		299	149.0	0 404 240	251.0	21.0	794	232	2,332	544	2,901	2,511	2,410	2,030
	;	00	070 100	200		001	100	997 751		217	100.0	340	201.0	31.0	/ 00 774	174	2,010	520	2,009	3,007	1,201	2,220
50	, )	90 63	43Z 219	94		318	64	382		177	88.5	299	347 4	26.6	532	174	1,900	437	2,409	2 4 3 9	900 605	1 770

Yen Portion : CIF Price + 70% of Overhead

### Laying

Basic laying cost include placing, jointing, transporting from site stores pressure testing & cleaning & desinfection. Excavation cost includes excavation in normal ground (firm sand) preparation of bottom, back filling with selected excavated material, ramming, (98% compaction) and disposal of surplus excavated material Earth work supports & dewatering considered 20% according to site survey. Bedding & surrounding rate anaylized

HDPE For Transmission 30% of rate book allowcation was added additiona 5% to cater the Chambers.(For DI pipes )Pipe laying away from the shoulder

For Distribution 40% of rate book allowcation was added additiona10% to cater the Chambers.(DI)(pipe laying away from the shoulder)

PVC For Transmission 30% of rate book allowcation was added additiona 5% to cater the Chambers.(For DI pipes )Pipe laying away from the shoulder For Distribution 40% of rate book allowcation was added additiona10% to cater the Chambers.(DI)(pipe laying away from the

### shoulder)

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**Supply** Asian countries with out Malaysia 2015 NWSDB Rate Book

PVC type 1000

### HDPE

For Transmission 30% of rate book allowcation was added additiona 5% to cater the Chambers.(DI)(pipe laying away from the sholder) For Distribution 40% of rate book allowcation was added additiona 10% to cater the Chambers.(DI)(pipe laying away from the shoulder)

### PVC

For Transmission 20% of rate book allowcation was added additiona 5% to cater the Chambers.(DI)(pipe laying away from the sholder) For Distribution 35% of rate book allowcation was added additiona 10% to cater the Chambers.(DI)(pipe laying away from the shoulder)

**CHAPTER 6** 

## FINANCIAL AND ECONOMIC CONSIDERATIONS

### National Water Supply And Drainage Board STATEMENT OF COMPREHENSIVE INCOME

Year ended 31 December 2014

		Budget 2014	Actual 2014	Actual 2013
	Note	Rs.	Rs.	Rs.
Revenue	7	18,733,888,000	18,710,049,680	17,074,986,476
Cost of Sales	8	(10,993,514,984)	(11,325,829,471)	(10,015,137,052)
Gross Profit		7,740,373,016	7,384,220,209	7,059,849,424
Other Operating Income and Gains	9	2,475,745,000	1,443,777,097	1,195,405,502
Administrative Expenses	10	(6,311,835,016)	(5,985,331,888)	(5,831,427,723)
Other Operating Expenses	11	(490,000,000)	(334,370,432)	(559,425,320)
<b>Operating Profit / (Loss)</b>		3,414,283,000	2,508,294,987	1,864,401,883
Finance Income	12	145,000,000	213,239,303	225,687,464
Finance Cost	13	(1,237,834,000)	(1,242,530,161)	(1,039,762,873)
Profit / (Loss) before Tax		2,321,449,000	1,479,004,129	1,050,326,475
Provision for Income Taxation	14	(60,000,000)	(53,113,301)	(47,466,069)
Profit / (Loss) for the Year		2,261,449,000	1,425,890,828	1,002,860,406
Other Comprehensive Income for the Year	, Net of Tax			
Total Comprehensive Income for the Year		2,261,449,000	1,425,890,828	1,002,860,406

Accounting Policies & Notes from pages 6 to 27 form an integral part of these Financial Statements.

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## STATEMENT OF COMPREHENSIVE INCOME

Year ended 31 December 2012

		Budget 2012	Actual 2012	Actual 2011
	Notes	Rs.	Rs.	Rs.
Revenue	8	14,759,465,860	14,344,205,499	12,609,703,240
Cost of Sales	9	(10,224,592,139)	(8,821,797,602)	(7,470,490,082)
Gross Profit		4,534,873,721	5,522,407,897	5,139,213,158
Other Operating Income and Gains	10	1,384,558,140	1,586,511,700	1,318,540,370
Administrative Expenses	11	(5,126,575,861)	(5,848,136,492)	(4,680,820,504)
Other Operating Expenses	12	(432,894,000)	(54,474,810)	(227,425,798)
<b>Operating Profit / (Loss)</b>		359,962,000	1,206,308,295	1,549,507,226
Finance Income	14	100,000,000	213,955,983	131,257,102
Finance Cost	13	(2,100,000,000)	(1,013,244,742)	(943,355,146)
Profit / (Loss) before tax		(1,640,038,000)	407,019,536	737,409,181
Taxation	15	(38,000,000)	(40,217,024)	(53,055,544)
Profit / (Loss) for the Year		(1,678,038,000)	366,802,512	684,353,637
Other Comprehensive Income for the Yo	ear, Net of Taxes			
Total Comprehensive Income for the Ye	ar	(1,678,038,000)	366,802,512	684,353,637

Accounting Policies & Notes from pages 6 to 31 form an integral part of these Financial Statements.

### STATEMENT OF FINANCIAL POSITION

As at 31 December 2014

		2014	2013
America		<u>Rs.</u>	<u>Rs.</u>
Assets			
Non- Current Assets	Note		
Property ,Plant & Equipment-Net	15	109,865,635,167	107,585,121,159
Intangible Assets	16	52,964,022	102,025,883
Capital Work in Progress	17	149,059,338,602	121,418,014,631
Other Financial assets	18	22,810,677	31,008,001
Total Non-Current Assets		259,000,748,468	229,136,169,674
Current Assets			
Non Operating Assets		117,895,068	117,895,068
Inventories	19	5,623,798,032	3,749,727,493
Trade & Other Receivables	20	5,544,274,105	5,388,788,826
Deposits & Advances	21	9,530,557,311	4,286,653,401
Investments	22	244,262,510	340,970,189
Cash & Cash Equivalents	23	2,756,518,649	1,879,876,757
Total Current Assets		23,817,305,676	15,763,911,735
Total Assets		282,818,054,144	244,900,081,409
Equity and Liabilities			
Equity			
Assets taken over from Government Dept.	24	185,480,387	185,480,387
Staff Welfare Fund	25	15,239,298	15,101,490
Retained Earnings		(10,814,258,221)	(12,240,036,367)
Grants-Government Grants	26	88,161,757,133	81,069,995,266
Capital Grants	27	151,974,122,319	129,350,331,843
Total Equity & Grants		229,522,340,916	198,380,872,619
Non-Current Liabilities			
Loan Payable	28	37,715,434,998	32,146,717,058
Other Deferred Liabilities	29	2,194,044,137	2,152,117,268
Total Non-Current Liabilities		39,909,479,134	34,298,834,326
Current Liabilities			
Trade & Other Payables	30	6,961,191,773	5,246,171,344
Loan Capital Payable		3,440,617,294	4,470,617,294
Loan Interest Payable		2,912,497,278	2,431,658,078
Non Operating Liabilities		71,927,749	71,927,749
Total Current Liabilities		13,386,234,094	12,220,374,464
Total Equity and Liabilities		282,818,054,144	244,900,081,409

#### D. Thotawatte Addl.G.M.(Finance)

The Board of Directors is responsible for the preparation and presentation of these Financial Statements

K. A. Ansar

#### B.W.R.Balasuriya

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Chairman General Manager Accounting Policies & Notes from pages 6 to 27 form an integral part of these Financial Statements. Colombo 20th March 2015

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### STATEMENT OF FINANCIAL POSITION

As at 31 December 2012

		2012 <u>Rs.</u>	2011 <u>Rs.</u>	2010 <u>Rs.</u>
Assets				
Non- Current Assets	Notes			
Property ,Plant & Equipments	31	104,138,121,929	84,358,595,809	73,488,501,348
Intangible Assets	17	153,038,825	204,051,766	255,064,708
Capital Work in Progress	16	103,647,170,880	93,616,616,133	75,122,041,709
Other Financial assets	18	37,818,865	47,021,257	65,483,233
Total Non-Current Assets		207,976,150,498	178,226,284,966	148,931,090,998
Current Assets				
Non Operating Assets		117,763,828	129,519,607	186,528,287
Inventories	19	3,193,201,350	2,942,958,858	2,888,139,263
Trade & Other Receivables	20	4.930.179.819	4.442.510.374	3.953.334.109
Deposits & Advances	21	3,496,450,351	4,456,408,204	5,573,160,188
Investments	22	12,341,312	892,090,141	357,413,810
Cash & Cash Equivalents	23	1,874,266,329	810,401,456	1,415,660,310
Total Current Assets		13,624,202,989	13,673,888,639	14,374,235,967
Total Assets		221,600,353,487	191,900,173,605	163,305,326,963
Equity and Liabilities				
Equity				
Assets taken over from Government Dept.	24	185,480,387	185,480,387	185,480,387
Government Grants	25	77,931,820,155	69,440,023,265	62,617,514,691
Capital Grants	26	116,361,732,845	94,049,872,568	78,517,957,742
Staff Welfare Fund	27	14,415,579	13,935,577	13,468,272
Retained Earnings		(15,412,753,303)	(12,733,326,604)	(12,920,392,765)
Total Equity		179,080,695,663	150,955,985,193	128,414,028,327
Non-Current Liabilities				
Loan Payable	28	29,011,510,716	27,838,903,108	23,070,625,176
Other Deferred Liabilities	29	2,152,080,886	2,528,998,643	2,485,297,289
<b>Total Non-Current Liabilities</b>		31,163,591,602	30,367,901,751	25,555,922,465
Current Liabilities				
Trade & Other Payables	30	4,923,021,889	5,290,853,161	3,654,779,563
Loan Capital Payable		3,592,784,161	2,687,799,521	2,362,323,996
Loan Interest Payable		2,768,276,863	2,464,625,111	3,157,126,784
Non Operating Liabilities		71,983,310	133,008,868	161,145,829
Total Current Liabilities		11,356,066,223	10,576,286,661	9,335,376,172
Total Equity and Liabilities		221,600,353,487	191,900,173,605	163,305,326,963

#### D. Thotawatte Addl.G.M.(Finance & Commercial)

The Board of Directors is responsible for the preparation and presentation of these financial statements

K. HettiarachchiB.W.R.BalasuriyaChairmanGeneral ManagerAccounting Policies & Notes from pages 6 to 31 form an integral part of these Financial Statements.Colombo5th of February 20146.1-1 - 4

# National Water Supply And Drainage Board STATEMENT OF CASH FLOW

Year ended 31 December 2014

		2014	2013
	Note	Rs.	Rs.
Cash Flows From / (Used in) Operating Activities			
Net Profit/(Loss) before Tax		1,479,004,129	1,050,326,475
Adjustments for			
Interest Income	13	(213,239,303)	(225,687,464)
(Profit)/Loss on disposal of Fixed Assets		(1,540,413)	(14,647)
Depreciation	10.2	2,730,436,009	2,586,090,059
Amortization of Intangible Assets	10.2	293,841	-
Grant amortization against depreciation	10.2	(699,693,512)	(590,253,350)
Revaluation surplus	35	(53,710,538)	-
Retiring gratuity provision	29.1	227,136,696	241,659,234
Opening Balance Adjustments	10	25,126.00	-
Interest Expense	13	1,242,530,161	1,039,762,873
Operating Profit before Working Capital Changes		4,711,242,197	4,101,883,179
(Increase)/Decrease in Inventories		(1,874,070,539)	(607,663,128)
(Increase)/Decrease in Debtors, Rece'bles & Deposits		(5,402,599,585)	(1,264,090,309)
Increase/(Decrease) in Creditors & Provisions		1,756,947,297	335,176,667
Cash Generated from Operations		(808,480,630)	2,565,306,409
Tax Paid	14	(53,113,301)	(47,466,069)
Gratuity Paid	11	(227,136,696)	(241,659,234)
Net Cash from Operating Activities		(1,088,730,627)	2,276,181,106
Cash Flows from/(used) in Investing Activities			
Investments in Fixed Assets & Work-In-Progress		(31,492,384,463)	(21,594,999,438)
Withdrawal of other financial assets		8,197,324	6,810,864
Sale proceeds for disposal assets		5,613,335	51,000
Investment Income Received		216,449,698	240,834,475
(Investment) / Withdrawl of Investments		96,707,679	(328,628,877)
Net Cash Flows used in Investing Activities		(31,165,416,426)	(21,675,931,977)
Cash Flows from/(used in) Financing Activities			
Government Grant during the Period		7.768.323.405	5.147.344.801
Capital Grant during the period		23.177.800.978	13.530.554.067
New Loans		5.569.216.314	4.213.780.952
Loan Repayments		(1.030.498.375)	(200.741.478)
Interest Paid		(1,871,942,868)	(1 376 381 658)
VAT payments through treasury funds		(482, 110, 508)	(1,909,195,386)
Pajmente an eugen deuten j rando		33,130,788,946	19,405,361,298
Net Increase in Cash & Cash Equivalents		876,641,892	5,610,428
Cash & Cash Equivalents at the begining of the year		1,879,876,757	1,874,266,329
Cash & Cash Equivalents at the end of the year		2,756,518,649	1,879,876,757

Accounting Policies & Notes from pages 6 to 27 form an integral part of these Financial Statements.

### CASH FLOW STATEMENT

Year ended 31 December 2012

Rs.         Rs.           Cash Hows From / (Used) in Operating Activities         407,019,536         737,409,181           Adjustments for         (213,955,983)         (131,257,102)           Profit/(Loss) disposal of Fixed Assets         3,689,147         1,010,820           Depreciation         2,026,525,175         1,997,682,527           Revaluation loss         776,438,147         474,261,491           Grant amorization against depreciation         (336,788,311)         (277,796,256)           Retiring gratuity provision         (146,340,076)         216,756,879           Prior Year Adjustments         (76,516,584)         (496,354,003)           Non conversion adjustment         534,440,243         (446,168)           Interest Expense         1013,244,742         943,355,146           Operating Profit before Working Capital Changes         3,988,145,035         3,464,602,516           (Increase)/Decrease in Inventories         (250,242,493)         (54,819,595)           (Increase)/Decrease in Debtors, Rece'bles & Deposits         509,984,138         685,915,163           Increase/(Decrease in Debtors, Rece'bles & Deposits         3,784,147,282         57,11,508,326           Tax Paid         (102,017,024)         (180,929,130)         Net Cash from Operations         3,784,147,282         57,11,50		2012	2011
Cash Flows From / (Used in) Operating Activities         407,019,536         737,409,181           Net Profit/(Loss) before Tax         407,019,536         737,409,181           Adjustments for         1         1           Interest Income         (213,955,983)         (131,257,102)           Profit/(Loss on disposal of Fixed Assets         3,689,147         1,010,820           Depreciation         (2026,252,175         1,997,682,527           Revaluation loss         776,836,147         474,261,491           Grant amortization against depreciation         (336,788,311)         (277,796,256)           Retiring gratuity provision         (146,349,076)         216,756,879           Prior Year Adjustments         (76,516,584)         (496,634,003)           Non conversion adjustment         534,440,243         (466,168)           Interest Expense         1,013,224,742         943,355,146           Operating Profit before Working Capital Changes         3,988,145,035         3,464,602,516           (Increase)/ Decrease in Inventories         (250,242,493)         (54,819,959)           Increase/ Decrease) in Creditors & Provisions         (463,739,399)         1,015,810,241           Gratuity Paid         (402,217,024)         (53,035,544)           Gratuity Paid         (402,217,024)		Rs.	Rs.
Net Profit/(Loss) before Tax         407,019,536         737,409,181           Adjustments for         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1 <td>Cash Flows From / (Used in) Operating Activities</td> <td></td> <td></td>	Cash Flows From / (Used in) Operating Activities		
Adjustments for       (213,955,983)       (131,257,102)         Profit/Loss on disposal of Fixed Assets       3,689,147       1,010,820         Depreciation       2,026,552,175       1,997,682,527         Revaluation loss       776,836,147       474,261,491         Grant amortization against depreciation       (336,788,311)       (227,796,256)         Retring gratuity provision       (146,349,076)       216,756,879         Prior Year Adjustments       (76,516,584)       (496,354,003)         Non conversion adjustment       534,440,243       (466,168)         Interest Expense       1,013,224,742       943,355,146         Operating Profit before Working Capital Changes       3,988,145,035       3,464,602,516         (Increase)/ Decrease in Inventories       (250,242,493)       (54,819,595)         (Increase)/ Decrease in Debtors, Recebles & Deposits       509,984,138       685,915,163         Increase/ (Decrease) in Creditors & Provisions       (463,729,399)       1,615,810,241         Cash Grenated from Operations       3,784,147,282       5,711,508,326         Tax Paid       (40,217,024)       (53,055,544)         Gratuity Paid       (19,347,264,249)       Interest Paid         Investments in Work-In-Progress       (10,030,554,746)       (18,494,574,425)	Net Profit/(Loss) before Tax	407,019,536	737,409,181
Interest Income         (213,955,983)         (131,257,102)           Profit/Loss on disposal of Fixed Assets         3,689,147         1,010,820           Depreciation         2,026,525,175         1,997,682,527           Revaluation loss         776,836,147         474,261,491           Grant amortization against depreciation         (336,788,311)         (277,796,256)           Retiring gratuity provision         (146,349,076)         216,756,879           Prior Year Adjustments         (76,516,584)         (446,354,003)           Non conversion adjustment         534,440,243         (446,6168)           Interest Expense         1,013,242,742         943,355,146           Operating Profit before Working Capital Changes         3,988,145,035         3,464,602,516           (Increase)/Decrease in Inventories         (250,242,493)         (54,819,595)           (Increase)/Decrease in Debtors, Recebles & Deposits         509,984,138         685,915,163           Increases/(Decrease) in Creditors & Provisions         (462,729,399)         1,615,801,21           Cash Generated from Operating Activities         3,784,147,282         5,771,508,326           Tax Paid         (402,217,024)         (53,055,544)           Gratuity Paid         (195,686,112)         (180,929,130)           Net Cash from Oper	Adjustments for		
Profit/Loss on disposal of Fixed Assets         3,689,147         1,010,820           Depreciation         2,026,525,175         1,997,682,527           Revaluation loss         776,836,147         474,261,491           Grant mortization against depreciation         (346,786,311)         (277,796,256)           Retring gratuity provision         (146,349,076)         216,756,879           Prior Year Adjustments         (76,516,584)         (496,354,003)           Non conversion adjustment         534,440,243         (466,168)           Interest Expense         1,013,244,742         943,355,146           Operating Profit before Working Capital Changes         3,988,145,035         3,464,602,516           (Increase)/Decrease in Inventorics         (250,242,493)         (54,819,595)           (Increase)/Decrease in Debtors, Rece'bles & Deposits         509,984,138         685,915,163           Increase/(Decrease) in Creditors & Provisions         (463,739,399)         1,615,810,241           Cash Generated from Operations         3,784,147,282         5,711,508,326           Tax Paid         (192,686,112)         (180,922,130)           Ret Cash from Operating Activities         3,548,244,145         5,477,523,652           Cash Flows from/(used) in Investing Activities         9,202,392         18,461,976      <	Interest Income	(213,955,983)	(131,257,102)
Depreciation         2,026,525,175         1,997,682,527           Revaluation loss         776,536,147         474,261,491           Grant amortization against depreciation         (336,788,311)         (277,796,256)           Retring gratuity provision         (146,349,076)         2216,756,879           Prior Year Adjustment         (346,748,024)         (466,168)           Non conversion adjustment         (342,424)         (443,024)           Operating Profit before Working Capital Changes         3,988,145,035         3,464,602,516           (Increase)/Decrease in Inventories         (250,242,493)         (54,819,595)           (Increase)/Decrease in Debtors, Rece'bles & Deposits         509,984,138         685,915,163           Increase/(Decrease) in Creditors & Provisions         (463,739,399)         1,615,810,241           Cash Generated from Operations         3,784,147,282         5,711,508,326           Tax Paid         (40,217,024)         (53,085,544)           Gratuity Paid         (195,686,112)         (180,929,130)           Net Cash from Operating Activities         3,548,244,145         5,477,523,652           Cash Flows from/(used) in Investing Activities         (26,099,213,596)         (13,347,264,249)           Investments in Fixed Assets         (26,099,213,596)         (13,347,264,249) <td>Profit/Loss on disposal of Fixed Assets</td> <td>3,689,147</td> <td>1,010,820</td>	Profit/Loss on disposal of Fixed Assets	3,689,147	1,010,820
Revaluation loss         776,836,147         474,261,491           Grant amortization against depreciation         (336,788,311)         (277,796,256)           Retiring gratuity provision         (146,349,076)         216,756,879           Prior Year Adjustments         (76,516,584)         (496,354,003)           Non conversion adjustment         534,440,243         (466,168)           Interest Expense         1013,244,742         943,355,146           Operating Profit before Working Capital Changes         3,988,145,035         3,464,602,516           (Increase)/Decrease in Inventories         (250,242,493)         (54,819,595)           (Increase)/Decrease in Debtors, Rece'bles & Deposits         509,984,138         685,915,163           Increase/(Decrease) in Creditors & Provisions         (463,739,399)         1.615,810,241           Cash Generated from Operations         3,784,147,282         5,711,508,326           Tax Paid         (195,646,612)         (180,929,130)           Net Cash from Operating Activities         3,548,244,145         5,477,523,652           Cash Flows from/(used) in Investing Activities         10,347,264,249         10,347,264,249           Investments in Fixed Assets         (26,099,213,596)         (13,347,264,249)           Investments in Fixed Assets         (26,099,213,596)         (13,	Depreciation	2,026,525,175	1,997,682,527
Grant amortization against depreciation         (336,788,311)         (277,796,256)           Retiring gratuity provision         (146,349,076)         216,756,879           Prior Year Adjustments         (76,516,584)         (496,354,003)           Non conversion adjustment         534,440,243         (466,168)           Interest Expense         1,013,244,742         943,355,146           Operating Profit before Working Capital Changes         3,988,145,035         3,464,602,516           (Increase)/Decrease in Inventories         (250,242,493)         (54,819,595)           (Increase)/Decrease in Debtors, Rece'bles & Deposits         509,984,138         685,915,163           Increase/(Decrease) in Creditors & Provisions         (463,739,399)         1,615,810,241           Cash Generated from Operations         3,784,147,282         5,711,508,326           Tax Paid         (40,217,024)         (53,045,544)           Gratuity Paid         (195,686,112)         (180,929,130)           Net Cash from Operating Activities         3,548,244,145         5,477,523,652           Cash Flows from/(used) in Investing Activities         9,202,392         18,461,976           Net Cash from Operating Activities         9,202,392         18,461,976           Sale proceeds for disposal assets         8,964,140         4,214,950     <	Revaluation loss	776,836,147	474,261,491
Retiring gratuity provision         (146,349,076)         216,756,879           Prior Year Adjustments         (76,516,584)         (496,354,003)           Non conversion adjustment         534,440,243         (466,168)           Interest Expense         1.013,244,742         943,355,146           Operating Profit before Working Capital Changes         3,988,145,035         3,464,602,516           (Increase)/Decrease in Inventories         (250,242,493)         (54,819,595)           (Increase)/Decrease in Debtors, Rece'bles & Deposits         509,984,138         685,915,163           Increase/(Decrease) in Creditors & Provisions         (463,739,399)         1,615,810,241           Cash Generated from Operations         3,784,147,282         5,711,508,326           Tax Paid         (40,217,024)         (53,055,444)           Gratuity Paid         (195,686,112)         (18,0929,130)           Net Cash from Operating Activities         3,548,244,145         5,477,523,652           Cash Flows from/(used) in Investing Activities         (10,030,554,746)         (18,494,574,425)           Investments in Fixed Assets         (26,099,213,596)         (13,347,264,249)           Investments in Work-In-Progress         (10,030,554,746)         (18,494,574,425)           Withdrawal of other financial assets         9,202,392	Grant amortization against depreciation	(336,788,311)	(277,796,256)
Prior Year Adjustments $(76,516,584)$ $(496,354,003)$ Non conversion adjustment $534,440,243$ $(466,168)$ Interest Expense $1.013,244,742$ $943,355,146$ Operating Profit before Working Capital Changes $3,988,145,035$ $3,464,602,516$ (Increase)/Decrease in Inventories $(250,242,493)$ $(54,819,595)$ (Increase)/Decrease) in Creditors & Provisions $(463,739,299)$ $1.615,810,241$ Cash Generated from Operations $3,784,147,282$ $5,711,508,326$ Tax Paid $(40,217,024)$ $(53,055,544)$ Oratuity Paid       (195,686,112) $(180,929,130)$ Net Cash from Operating Activities $3,548,244,145$ $5,477,523,652$ Cash Flows from/(used) in Investing Activities $10,030,554,746)$ $(18,494,574,425)$ Investments in Fixed Assets $(26,099,213,596)$ $(13,347,264,249)$ Investments in Work-In-Progress $(10,030,554,746)$ $(18,494,574,425)$ Withdrawal of other financial assets $9,202,392$ $18,461,976$ Sale proceeds for disposal assets $8,964,140$ $42,214,950$ Investment / Withdrawl of Investments $879,748,829$ $(53,467,6331)$	Retiring gratuity provision	(146,349,076)	216,756,879
Non conversion adjustment $534,440,243$ $(466,168)$ Interest Expense $1,013,244,742$ $943,355,146$ Operating Profit before Working Capital Changes $3,988,145,035$ $3,464,602,516$ (Increase)/Decrease in Inventories $(250,242,493)$ $(54,819,595)$ (Increase)/Decrease in Debtors, Recebles & Deposits $509,984,138$ $685,915,163$ Increase/(Decrease) in Creditors & Provisions $(46,739,399)$ $1,615,810,241$ Cash Generated from Operations $3,784,147,282$ $57,11,508,326$ Tax Paid $(40,217,024)$ $(53,055,544)$ Oratuity Paid $(195,686,112)$ $(180,929,130)$ Net Cash from Operating Activities $3,548,244,145$ $5.477,523,652$ Cash Flows from/(used) in Investing Activities $(10,300,554,746)$ $(18,494,574,425)$ Investments in Fixed Assets $(26,099,213,596)$ $(13,347,264,249)$ Investments in Work-In-Progress $(10,030,554,746)$ $(18,494,574,425)$ Withdrawal of other financial assets $9,202,392$ $18,461,976$ Sale proceeds for disposal assets $8,964,140$ $22,423,615,611$ Investmen	Prior Year Adjustments	(76,516,584)	(496,354,003)
Interest Expense $1.013,244,742$ $943,355,146$ Operating Profit before Working Capital Changes $3,988,145,035$ $3,464,602,516$ (Increase)/Decrease in Inventories $(250,242,493)$ $(54,819,595)$ (Increase)/Decrease in Debtors, Rece'bles & Deposits $509,984,138$ $685,915,163$ Increase/(Decrease) in Creditors & Provisions $(463,739,399)$ $1,615,810,241$ Cash Generated from Operations $3,784,147,282$ $5,711,508,326$ Tax Paid $(40,217,024)$ $(53,055,544)$ Gratuity Paid $(195,686,112)$ $(18,0929,130)$ Net Cash from Operating Activities $3,548,244,145$ $5,477,523,652$ Cash Flows from/(used) in Investing Activities $10,030,554,746)$ $(18,494,574,425)$ Investments in Fixed Assets $(26,099,213,596)$ $(13,347,264,249)$ Investments in Work-In-Progress $(10,030,554,746)$ $(18,449,574,425)$ Investment finom Received $188,016,031$ $129,926,338$ (Investment Income Received $188,016,031$ $129,926,338$ (Investment J / Withdrawl of Investments $879,748,829$ $(534,676,331)$ Net Cash Flows used in Investing Activities $32,694,383,69500$	Non conversion adjustment	534,440,243	(466,168)
Operating Profit before Working Capital Changes $3,988,145,035$ $3,464,602,516$ (Increase)/Decrease in Inventories         (250,242,493)         (54,819,595)           (Increase)/Decrease in Debtors, Rece'bles & Deposits $509,984,138$ $685,915,163$ Increase/(Decrease) in Creditors & Provisions $(463,739,399)$ $1,615,810,241$ Cash Generated from Operations $3,784,147,282$ $5,711,508,326$ Tax Paid         (40,217,024)         (53,055,544)           Gratuity Paid         (195,686,112)         (180,929,130)           Net Cash from Operating Activities $3,548,244,145$ $5,477,523,652$ Cash Flows from/(used) in Investing Activities $10,030,554,746$ (18,494,574,425)           Investments in Fixed Assets $(26,099,213,596)$ $(13,347,264,249)$ Investments in Work-In-Progress $(10,030,554,746)$ $(18,494,574,425)$ Withdrawal of other financial assets $9,202,392$ $18,461,976$ Sale proceeds for disposal assets $8,964,140$ $4,214,950$ Investment Income Received $188,016,031$ $129,926,338$ (Investment S rom/(used in Investing Activities $32,634,66,550$ $(32,223,911,741)$	Interest Expense	1,013,244,742	943,355,146
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Operating Profit before Working Capital Changes	3,988,145,035	3,464,602,516
(Increase)/Decrease in Debtors, Rece'bles & Deposits       509,984,138       685,915,163         Increase/(Decrease) in Creditors & Provisions $(463,739,399)$ $1,615,810,241$ Cash Generated from Operations $3,784,147,282$ $5,711,508,326$ Tax Paid $(40,217,024)$ $(53,055,544)$ Gratuity Paid $(195,686,112)$ $(180,929,130)$ Net Cash from Operating Activities $3,548,244,145$ $5,477,523,652$ Cash Flows from/(used) in Investing Activities $10,030,554,746)$ $(13,347,264,249)$ Investments in Fixed Assets $(26,099,213,596)$ $(13,347,264,249)$ Investments in Work-In-Progress $(10,030,554,746)$ $(18,494,574,425)$ Withdrawal of other financial assets $9,202,392$ $18,461,976$ Sale proceeds for disposal assets $8,964,140$ $4,214,950$ Investment Income Received $188,016,031$ $129,926,338$ (Investment) / Withdrawl of Investments $879,748,829$ $(534,676,331)$ Net Cash Flows used in Investing Activities $35,043,836,950)$ $(32,223,911,741)$ Cash Flows from/(used in) Financing Activities $32,665,416,044$ $4,768,277,932$ Loan Repayments $(610,990,948)$	(Increase)/Decrease in Inventories	(250,242,493)	(54,819,595)
Increase/(Decrease) in Creditors & Provisions $(463,739,399)$ $1,615,810,241$ Cash Generated from Operations $3,784,147,282$ $5,711,508,326$ Tax Paid $(40,217,024)$ $(53,055,544)$ Gratuity Paid $(195,686,112)$ $(180,929,130)$ Net Cash from Operating Activities $3,548,244,145$ $5,477,523,652$ Cash Flows from/(used) in Investing Activities $1,003,0554,746)$ $(13,347,264,249)$ Investments in Fixed Assets $(26,099,213,596)$ $(13,347,264,249)$ Investments in Work-In-Progress $(10,030,554,746)$ $(18,494,574,425)$ Withdrawal of other financial assets $9,202,392$ $18,461,976$ Sale proceeds for disposal assets $8,964,140$ $4,214,950$ Investment Income Received $188,016,031$ $129,926,338$ (Investment) / Withdrawl of Investments $879,748,829$ $(534,676,331)$ Net Cash Flows used in Investing Activities $(35,043,836,950)$ $(32,223,911,741)$ Cash Flows used in Investing Activities $(610,990,948)$ $325,475,525$ Interest Paid $(686,425,837)$ $(1,635,856,820)$ VAT payments through treasury funds $(1,338,554,755)$ $(1,296,177,$	(Increase)/Decrease in Debtors, Rece'bles & Deposits	509,984,138	685,915,163
Cash Generated from Operations         3,784,147,282         5,711,508,326           Tax Paid         (40,217,024)         (53,055,544)           Gratuity Paid         (195,686,112)         (180,929,130)           Net Cash from Operating Activities         3,548,244,145         5,477,523,652           Cash Flows from/(used) in Investing Activities         1         1(18,494,574,425)           Investments in Fixed Assets         (26,099,213,596)         (13,347,264,249)           Investments in Work-In-Progress         (10,030,554,746)         (18,494,574,425)           Withdrawal of other financial assets         9,202,392         18,461,976           Sale proceeds for disposal assets         8,964,140         4,214,950           Investment Income Received         188,016,031         129,926,338           (Investment) / Withdrawl of Investments         879,748,829         (534,676,31)           Net Cash Flows used in Investing Activities         (35,043,836,950)         (32,223,911,741)           Cash Flows from/(used in) Financing Activities         (610,990,397,371         8,193,233,405           Capital Grant during the Period         9,906,397,371         8,193,233,405           Capital Grant during the Period         2,665,416,044         4,768,277,932           Loan Repayments         (610,990,948)         325,475,525	Increase/(Decrease) in Creditors & Provisions	(463,739,399)	1,615,810,241
Tax Paid       (40,217,024)       (53,055,544)         Gratuity Paid       (195,686,112)       (180,929,130)         Net Cash from Operating Activities       3,548,244,145       5,477,523,652         Cash Flows from/(used) in Investing Activities       1       1         Investments in Fixed Assets       (26,099,213,596)       (13,347,264,249)         Investments in Work-In-Progress       (10,030,554,746)       (18,494,574,425)         Withdrawal of other financial assets       9,202,392       18,461,976         Sale proceeds for disposal assets       8,964,140       4,214,950         Investment Income Received       188,016,031       129,926,338         (Investment) / Withdrawl of Investments       879,748,829       (534,676,31)         Net Cash Flows used in Investing Activities       (35,043,836,950)       (32,223,911,741)         Cash Flows from/(used in) Financing Activities       (35,043,836,950)       (32,252,615,	Cash Generated from Operations	3,784,147,282	5,711,508,326
Gratuity Paid       (195,686,112)       (180,929,130)         Net Cash from Operating Activities $3,548,244,145$ $5,477,523,652$ Cash Flows from/(used) in Investing Activities $10,030,554,746$ (13,347,264,249)         Investments in Fixed Assets       (26,099,213,596)       (13,347,264,249)         Investments in Work-In-Progress       (10,030,554,746)       (18,494,574,425)         Withdrawal of other financial assets       9,202,392       18,461,976         Sale proceeds for disposal assets       8,964,140       4,214,950         Investment Income Received       188,016,031       129,926,338         (Investment) / Withdrawl of Investments       879,748,829       (534,676,331)         Net Cash Flows used in Investing Activities       (35,043,836,950)       (32,223,911,741)         Cash Flows from/(used in) Financing Activities       (610,990,948)       325,475,525         Government Grant during the Period       2,665,416,044       4,768,277,932         Loan Repayments       (610,990,948)       325,475,525         Interest Paid       (686,425,837)       (1,635,866,820)         VAT payments through treasury funds       (1,338,554,755)       (1,296,177,963)         32,559,457,678       26,141,129,236       (605,258,854)         Net Increase in Cash & Cash Equ	Tax Paid	(40,217,024)	(53,055,544)
Net Cash from Operating Activities $3,548,244,145$ $5,477,523,652$ Cash Flows from/(used) in Investing Activities $(26,099,213,596)$ $(13,347,264,249)$ Investments in Work-In-Progress $(10,030,554,746)$ $(18,494,574,425)$ Withdrawal of other financial assets $9,202,392$ $18,461,976$ Sale proceeds for disposal assets $8,964,140$ $4,214,950$ Investment Income Received $188,016,031$ $129,926,338$ (Investment) / Withdrawl of Investments $879,748,829$ $(534,676,331)$ Net Cash Flows used in Investing Activities $(35,043,836,950)$ $(32,223,911,741)$ Cash Flows from/(used in) Financing Activities $(35,043,836,950)$ $(32,223,911,741)$ Cash Flows from/(used in) Financing Activities $(36,64,87,31)$ $(32,223,911,741)$ Cash Flows from/(used in) Financing Activities $(35,043,836,950)$ $(32,223,911,741)$ Cash Flows from/(used in) Financing Activities $(35,043,836,950)$ $(32,223,911,741)$ Cash Flows from/(used in) Financing Activities $(35,043,856,970)$ $(32,223,911,741)$ Cash Flows from/(used in) Financing Activities $(35,043,856,970)$ $(32,223,911,741)$ <tr< td=""><td>Gratuity Paid</td><td>(195,686,112)</td><td>(180,929,130)</td></tr<>	Gratuity Paid	(195,686,112)	(180,929,130)
Cash Flows from/(used) in Investing Activities           Investments in Fixed Assets         (26,099,213,596)         (13,347,264,249)           Investments in Work-In-Progress         (10,030,554,746)         (18,494,574,425)           Withdrawal of other financial assets         9,202,392         18,461,976           Sale proceeds for disposal assets         8,964,140         4,214,950           Investment Income Received         188,016,031         129,926,338           (Investment) / Withdrawl of Investments         879,748,829         (534,676,331)           Net Cash Flows used in Investing Activities         (35,043,836,950)         (32,223,911,741)           Cash Flows from/(used in) Financing Activities         22,623,615,804         15,786,177,156           Government Grant during the Period         9,906,397,371         8,193,233,405           Capital Grant during the period         22,623,615,804         15,786,177,156           New Loans         2,665,416,044         4,768,277,932           Loan Repayments         (610,990,	Net Cash from Operating Activities	3,548,244,145	5,477,523,652
Investments in Fixed Assets $(26,099,213,596)$ $(13,347,264,249)$ Investments in Work-In-Progress $(10,030,554,746)$ $(18,494,574,425)$ Withdrawal of other financial assets $9,202,392$ $18,461,976$ Sale proceeds for disposal assets $8,964,140$ $4,214,950$ Investment Income Received $188,016,031$ $129,926,338$ (Investment) / Withdrawl of Investments $879,748,829$ $(534,676,331)$ Net Cash Flows used in Investing Activities $(35,043,836,950)$ $(32,223,911,741)$ Cash Flows from/(used in) Financing Activities $(9,906,397,371)$ $8,193,233,405$ Government Grant during the Period $9,906,397,371$ $8,193,233,405$ Capital Grant during the period $22,623,615,804$ $15,786,177,156$ New Loans $2,665,416,044$ $4,768,277,932$ Loan Repayments $(610,990,948)$ $325,475,525$ Interest Paid $(686,425,837)$ $(1,635,856,820)$ VAT payments through treasury funds $(1,338,554,755)$ $(1,296,177,963)$ $32,559,457,678$ $26,141,129,236$ Net Increase in Cash & Cash Equivalents $1,063,864,873$ $(605,258,854)$ Cash & Cash Equivalents at the begining of the year $810,401,456$ $1,415,60,310$ Cash & Cash Equivalents of the year $810,401,456$ $1,415,60,310$	Cash Flows from/(used) in Investing Activities		
Investments in Work-In-Progress $(10,030,554,746)$ $(18,494,574,425)$ Withdrawal of other financial assets $9,202,392$ $18,461,976$ Sale proceeds for disposal assets $8,964,140$ $4,214,950$ Investment Income Received $188,016,031$ $129,926,338$ (Investment) / Withdrawl of Investments $879,748,829$ $(534,676,331)$ Net Cash Flows used in Investing Activities $(35,043,836,950)$ $(32,223,911,741)$ Cash Flows from/(used in) Financing Activities $9,906,397,371$ $8,193,233,405$ Government Grant during the Period $9,906,397,371$ $8,193,233,405$ Capital Grant during the period $22,623,615,804$ $15,786,177,156$ New Loans $2,665,416,044$ $4,768,277,932$ Loan Repayments $(610,990,948)$ $325,475,525$ Interest Paid $(686,425,837)$ $(1,635,856,820)$ VAT payments through treasury funds $(1,338,554,755)$ $(1,296,177,963)$ $32,559,457,678$ $26,141,129,236$ Net Increase in Cash & Cash Equivalents $1,063,864,873$ $(605,258,854)$ Cash & Cash Equivalents at the begining of the year $810,401,456$ $1,415,660,310$	Investments in Fixed Assets	(26,099,213,596)	(13,347,264,249)
Withdrawal of other financial assets       9,202,392       18,461,976         Sale proceeds for disposal assets       8,964,140       4,214,950         Investment Income Received       188,016,031       129,926,338         (Investment) / Withdrawl of Investments       879,748,829       (534,676,331)         Net Cash Flows used in Investing Activities       (35,043,836,950)       (32,223,911,741)         Cash Flows from/(used in) Financing Activities       (35,043,836,950)       (32,223,911,741)         Cash Flows from/(used in) Financing Activities       22,623,615,804       15,786,177,156         Government Grant during the Period       9,906,397,371       8,193,233,405         Capital Grant during the period       22,623,615,804       15,786,177,156         New Loans       2,665,416,044       4,768,277,932         Loan Repayments       (610,990,948)       325,475,525         Interest Paid       (1,338,554,755)       (1,296,177,963)         VAT payments through treasury funds       (1,338,554,755)       (1,296,177,963)         32,559,457,678       26,141,129,236       1,063,864,873       (605,258,854)         Net Increase in Cash & Cash Equivalents       1,063,864,873       (605,258,854)       26,141,129,236         Net Increase in Cash & Cash Equivalents       1,014,1456       1,415,660,310	Investments in Work-In-Progress	(10,030,554,746)	(18,494,574,425)
Sale proceeds for disposal assets       8,964,140       4,214,950         Investment Income Received       188,016,031       129,926,338         (Investment) / Withdrawl of Investments       879,748,829       (534,676,331)         Net Cash Flows used in Investing Activities       (35,043,836,950)       (32,223,911,741)         Cash Flows from/(used in) Financing Activities       (35,043,836,950)       (32,223,911,741)         Cash Flows from/(used in) Financing Activities       9,906,397,371       8,193,233,405         Government Grant during the Period       9,906,397,371       8,193,233,405         Capital Grant during the period       22,623,615,804       15,786,177,156         New Loans       2,665,416,044       4,768,277,932         Loan Repayments       (610,990,948)       325,475,525         Interest Paid       (686,425,837)       (1,635,856,820)         VAT payments through treasury funds       (1,338,554,755)       (1,296,177,963)         32,559,457,678       26,141,129,236       1,063,864,873       (605,258,854)         Net Increase in Cash & Cash Equivalents       1,063,864,873       (605,258,854)         Cash & Cash Equivalents at the begining of the year       810,401,456       1,415,60,310	Withdrawal of other financial assets	9,202,392	18,461,976
Investment Income Received       188,016,031       129,926,338         (Investment) / Withdrawl of Investments       879,748,829       (534,676,331)         Net Cash Flows used in Investing Activities       (35,043,836,950)       (32,223,911,741)         Cash Flows from/(used in) Financing Activities       (35,043,836,950)       (32,223,911,741)         Cash Flows from/(used in) Financing Activities       (35,043,836,950)       (32,223,911,741)         Cash Flows from/(used in) Financing Activities       9,906,397,371       8,193,233,405         Capital Grant during the Period       9,906,397,371       8,193,233,405         Capital Grant during the period       22,623,615,804       15,786,177,156         New Loans       2,665,416,044       4,768,277,932         Loan Repayments       (610,990,948)       325,475,525         Interest Paid       (686,425,837)       (1,635,856,820)         VAT payments through treasury funds       (1,338,554,755)       (1,296,177,963)         32,559,457,678       26,141,129,236         Net Increase in Cash & Cash Equivalents       1,063,864,873       (605,258,854)         Cash & Cash Equivalents at the begining of the year       810,401,456       1,415,660,310	Sale proceeds for disposal assets	8,964,140	4,214,950
(Investment) / Withdrawl of Investments       879,748,829       (534,676,331)         Net Cash Flows used in Investing Activities       (35,043,836,950)       (32,223,911,741)         Cash Flows from/(used in) Financing Activities       9,906,397,371       8,193,233,405         Government Grant during the Period       9,906,397,371       8,193,233,405         Capital Grant during the period       22,623,615,804       15,786,177,156         New Loans       2,665,416,044       4,768,277,932         Loan Repayments       (610,990,948)       325,475,525         Interest Paid       (686,425,837)       (1,635,856,820)         VAT payments through treasury funds       (1,338,554,755)       (1,296,177,963)         32,559,457,678       26,141,129,236         Net Increase in Cash & Cash Equivalents       1,063,864,873       (605,258,854)         Cash & Cash Equivalents at the begining of the year       810,401,456       1,415,660,310	Investment Income Received	188,016,031	129,926,338
Net Cash Flows used in Investing Activities         (35,043,836,950)         (32,223,911,741)           Cash Flows from/(used in) Financing Activities         9,906,397,371         8,193,233,405           Government Grant during the Period         9,906,397,371         8,193,233,405           Capital Grant during the period         22,623,615,804         15,786,177,156           New Loans         2,665,416,044         4,768,277,932           Loan Repayments         (610,990,948)         325,475,525           Interest Paid         (686,425,837)         (1,635,856,820)           VAT payments through treasury funds         (1,338,554,755)         (1,296,177,963)           32,559,457,678         26,141,129,236           Net Increase in Cash & Cash Equivalents         1,063,864,873         (605,258,854)           Cash & Cash Equivalents at the begining of the year         810,401,456         1,415,660,310	(Investment) / Withdrawl of Investments	879,748,829	(534,676,331)
Cash Flows from/(used in) Financing Activities         Government Grant during the Period       9,906,397,371       8,193,233,405         Capital Grant during the period       22,623,615,804       15,786,177,156         New Loans       2,665,416,044       4,768,277,932         Loan Repayments       (610,990,948)       325,475,525         Interest Paid       (686,425,837)       (1,635,856,820)         VAT payments through treasury funds       (1,338,554,755)       (1,296,177,963)         32,559,457,678       26,141,129,236         Net Increase in Cash & Cash Equivalents       1,063,864,873       (605,258,854)         Cash & Cash Equivalents at the begining of the year       810,401,456       1,415,660,310	Net Cash Flows used in Investing Activities	(35,043,836,950)	(32,223,911,741)
Government Grant during the Period       9,906,397,371       8,193,233,405         Capital Grant during the period       22,623,615,804       15,786,177,156         New Loans       2,665,416,044       4,768,277,932         Loan Repayments       (610,990,948)       325,475,525         Interest Paid       (686,425,837)       (1,635,856,820)         VAT payments through treasury funds       (1,338,554,755)       (1,296,177,963)         32,559,457,678       26,141,129,236         Net Increase in Cash & Cash Equivalents       1,063,864,873       (605,258,854)         Cash & Cash Equivalents at the begining of the year       810,401,456       1,415,660,310	Cash Flows from/(used in) Financing Activities		
Capital Grant during the period       22,623,615,804       15,786,177,156         New Loans       2,665,416,044       4,768,277,932         Loan Repayments       (610,990,948)       325,475,525         Interest Paid       (686,425,837)       (1,635,856,820)         VAT payments through treasury funds       (1,338,554,755)       (1,296,177,963)         32,559,457,678       26,141,129,236         Net Increase in Cash & Cash Equivalents       1,063,864,873       (605,258,854)         Cash & Cash Equivalents at the begining of the year       810,401,456       1,415,660,310	Government Grant during the Period	9,906,397,371	8,193,233,405
New Loans       2,665,416,044       4,768,277,932         Loan Repayments       (610,990,948)       325,475,525         Interest Paid       (686,425,837)       (1,635,856,820)         VAT payments through treasury funds       (1,338,554,755)       (1,296,177,963)         32,559,457,678       26,141,129,236         Net Increase in Cash & Cash Equivalents       1,063,864,873       (605,258,854)         Cash & Cash Equivalents at the begining of the year       810,401,456       1,415,660,310	Capital Grant during the period	22,623,615,804	15,786,177,156
Loan Repayments       (610,990,948)       325,475,525         Interest Paid       (686,425,837)       (1,635,856,820)         VAT payments through treasury funds       (1,338,554,755)       (1,296,177,963)         32,559,457,678       26,141,129,236         Net Increase in Cash & Cash Equivalents       1,063,864,873       (605,258,854)         Cash & Cash Equivalents at the begining of the year       810,401,456       1,415,660,310	New Loans	2,665,416,044	4,768,277,932
Interest Paid       (686,425,837)       (1,635,856,820)         VAT payments through treasury funds       (1,338,554,755)       (1,296,177,963)         32,559,457,678       26,141,129,236         Net Increase in Cash & Cash Equivalents       1,063,864,873       (605,258,854)         Cash & Cash Equivalents at the begining of the year       810,401,456       1,415,660,310	Loan Repayments	(610,990,948)	325,475,525
VAT payments through treasury funds       (1,338,554,755)       (1,296,177,963)         32,559,457,678       26,141,129,236         Net Increase in Cash & Cash Equivalents       1,063,864,873       (605,258,854)         Cash & Cash Equivalents at the begining of the year       810,401,456       1,415,660,310	Interest Paid	(686,425,837)	(1,635,856,820)
Image: Net Increase in Cash & Cash Equivalents       1,063,864,873       (605,258,854)         Cash & Cash Equivalents at the begining of the year       810,401,456       1,415,660,310	VAT payments through treasury funds	(1,338,554,755)	(1,296,177,963)
Net Increase in Cash & Cash Equivalents         1,063,864,873         (605,258,854)           Cash & Cash Equivalents at the begining of the year         810,401,456         1,415,660,310		32,559,457,678	26,141,129,236
Cash & Cash Equivalents at the begining of the year810,401,4561,415,660,310Cash & Cash Equivalents at the begining of the year1,415,660,3101,415,660,310	Net Increase in Cash & Cash Equivalents	1,063,864,873	(605,258,854)
	Cash & Cash Equivalents at the begining of the year	810,401,456	1,415,660,310
Cash & Cash Equivalents at the end of the period $1,874,266,329$ $810,401,456$	Cash & Cash Equivalents at the end of the period	1,874,266,329	810,401,456

Accounting Policies & Notes from pages 6 to 31 form an integral part of these Financial Statements.

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National Water Supply And Drainage Board STATEMENT OF CHANGES IN EQUITY

Year ended 31 December 2013

	Assets from Government			Staf Welfare	Accumulated	
	Departments Rs.	Govt Grants Rs.	Capital grants Rs.	Fund Rs.	<b>Profit/Loss</b>	Total Rs.
Balance as at 1 January 2012	185,480,387	69,440,023,265	94,049,872,568	13,935,577	(12,733,326,604)	150,955,985,193
Prior Year correction -						
Assets recognition and Derecognition		ı	I	I	1,897,421,253	1,897,421,253
Depreciation adjustment for assets recognition and derecogniti	ı				48,525,949	48,525,949
Restated balance as at 1 January 2012	185,480,387	69,440,023,265	94,049,872,568	13,935,577	(10,787,379,402)	152,901,932,395
Net profit for the year		I	I	I	366,802,512	366,802,512
Receipts / Transfers during the year	I	8,491,796,890	22,311,860,277	I	I	30,803,657,167
Transfers to Staff welfare fund	I	I	I	480,002	(480,002)	I
Prior Year Adjustments (Salary arreas 2009)	ı	ı	I	I	(37,642,777)	(37,642,777)
Prior year adj. (GL code 680 error correction)	I	I	I	I	2,419,568	2,419,568
Prior year adjustment (Sewerage)	I	I	I	I	(41, 293, 375)	(41,293,375)
Revaluation Deficit	I	I	I	I	(3,777,509,200)	(3,777,509,200)
Disposal Adjustment	I	I	I	I	(3,050,766)	(3,050,766)
Non conversion adjustments	I	ı		ı	811,327,342	811,327,342
1-1 Balance as at 31 December 2012	185,480,387	77,931,820,155	116,361,732,845	14,415,579	(13,466,806,100)	181,026,642,866
² Net profit for the year	ı	I	I	I	1,002,860,406	1,002,860,406
Receipts / Transfers during the year	I	3,138,175,111	12,989,262,078	I	I	16,127,437,189
Transfers to Staff welfare fund	I	ı		685,911	(685,911)	ı
Balances as at 31 December 2013	185,480,387	81,069,995,266	129,350,994,923	15,101,490	(12,464,631,605)	198,156,940,461

Accounting Policies & Notes from pages 6 to 28 form an integral part of these Financial Statements.

Water Supply And Drainage Board	MENT OF CHANGES IN EQUITY
ationa	ATE
N;	S

Year ended 31 December 2012

	Assets from					
	Government			<b>Staf Welfare</b>	Accumulated	
	Departments	<b>Govt Grants</b>	<b>Capital grants</b>	Fund	Profit/Loss	Total
	Rs.	Rs.	Rs.	Rs.		Rs.
Balance as at 1 January 2011	185,480,387	62,617,514,691	78,517,957,742	13,468,272	(12,920,392,765)	128,414,028,327
Net profit for the year		ı	ı	ı	684,353,637	684,353,637
Receipts / Transfers during the year		6,822,508,574	15,531,914,826	ı	ı	22,354,423,400
Transfers to Staff welfare fund		ı		467,305.23	(467, 305)	
Prior Year Adjustments (Salary arreas 2009)		ı		ı	(440,554,765)	(440,554,765)
Prior Year Adjustments (Ministry Advance write off)		ı	·	ı	(55,799,238)	(55, 799, 238)
Disposal Adjustment		ı		·	(466, 168)	(466,168)
Balance as at 31 December 2011	185,480,387	69,440,023,265	94,049,872,568	13,935,577 -	12,733,326,604	150,955,985,193
Net profit for the year	ı	ı		ı	366,802,512	366,802,512
Receipts / Transfers during the year		8,491,796,890	22,311,860,277	ı	ı	30,803,657,167
Transfers to Staff welfare fund		ı	·	480,002	(480,002)	ı
Prior Year Adjustments (Salary arreas 2009)		ı	·	ı	(37,642,777)	(37,642,777)
Prior year adj. (GL code 680 error correction)		ı	ı	ı	2,419,568	2,419,568
Prior year adjustment (Sewerage)		ı	ı	ı	(41, 293, 375)	(41, 293, 375)
Revaluation Deficit		ı		ı	(3,777,509,200)	(3,777,509,200)
Disposal Adjustment		ı		ı	(3,050,766)	(3,050,766)
Non conversion adjustments		ı	·	ı	811,327,342	811,327,342
Balances as at 31 December 2012	185,480,387	77,931,820,155	116,361,732,845	14,415,579 -	15,412,753,303	179,080,695,663
Accounting Policies & Notes from pages 6 to 31 form an	integral part of these	Einancial Statemen	its.			

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අංක 1776/13 - 2012 සැප්තැම්බර් මස 18 වැනි අඟහරුවාදා - 2012.09.18 No. 1776/13 - TUESDAY SEPTEMBER 18, 2012

(Published by Authority)

### PART I : SECTION (I) — GENERAL

### **Government Notifications**

#### NATIONAL WATER SUPPLY AND DRAINAGE BOARD LAW, No. 2 OF 1974

#### **Notice under Section 84**

NOTICE is hereby given in terms of Section 84 of the National Water Supply and Drainage Board Law No. 02 of 1974 that the following tariffs will be charged with effect from the 01st day of October 2012, from all the consumers supplied with water from the water supply schemes of the National Water Supply and Drainage Board.

This notice replaces with effect from the 01st day of October 2012, the notice appearing in the *Gazette Extraordinary* No. 1588/26 dated 13th February, 2009 in respect of the water tariff applicable to all consumers who are supplied with water by the National Water Supply and Drainage Board.

KARUNASENA HETTIARACHCHI, Chairman.

National Water Supply and Drainage Board, Ratmalana, 18th September 2012.

#### TARIFF 01

Domestic - Samurdhi Receipients

(i) This tariff shall apply to water provided to households of Samurdhi recipients for domestic purposes.

(ii) The monthly charges for supply under this tariff shall be as given in the table below :-

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No. of units	Usage Charge Rs./Unit	Monthly Service Charge Rs.
00-05	5.00	50.00
06-10	10.00	50.00
11-15	15.00	<u> </u>
21-25	58.00	100.00
26-30	88.00	200.00
31-40	105.00	400.00
41 - 50	120.00	650.00
51-75	130.00	1,000.00
Over 75	140.00	1,600.00

#### TARIFF 02

Domestic - Non Samurdhi Tenement Garden

- (i) This tariff shall apply to supplies of water to households, other than those of Samurdhi recipients, residing in tenement gardens, for domestic purposes.
- (ii) The monthly charges for supply under this tariff shall be as given in the table below :-

No. of units	Usage Charge Rs./Unit	Monthly Service Charge Rs.
00-05	8.00	50.00
06 - 10	11.00	65.00
11 - 15	20.00	70.00
16-20	40.00	80.00
21 - 25	58.00	100.00
26-30	88.00	200.00
31-40	105.00	400.00
41 - 50	120.00	650.00
51 - 75	130.00	1,000.00
Over 75	140.00	1,600.00

Other than for Samurdhi Receipients and Tenement Garden

- (i) This tariff shall apply to supplies of water to households, other than those of Samurdhi recipients and residing in tenement gardens, for domestic purposes.
- (ii) The monthly charges for supply under this tariff shall be as given in the table below :-

No. of units	Usage Charge Rs./Unit	Monthly Service Charge Rs.
00-05	12.00	50.00
06 - 10	16.00	65.00
11 - 15	20.00	70.00
16-20	40.00	80.00
21-25	58.00	100.00
26-30	88.00	200.00
31-40	105.00	400.00
41 - 50	120.00	650.00
51 - 75	130.00	1,000.00
Over 75	140.00	1,600.00

#### TARIFF 04

#### Public stand Posts and Garden Taps

(i) This tariff shall apply for the supply of water through public Stand Posts and Garden Taps.

(ii) The monthly charges for supply of water under this tariff shall be as given in the table below :--

No. of units	Usage Charge Rs./Unit	Monthly Service Charge Rs.
00-25	10.00	250.00
26-50	10.00	500.00
51 - 100	10.00	1,000.00
101 - 200	10.00	1,600.00
Over 200	10.00	2,500.00

SCHOOLS AND RELIGIOUS INSTITUTIONS

- (i) This tariff shall apply for supply of water to Government Schools and Government Assisted Schools, Places of Worship in Religious Institutions and Government approved Charitable Institutions.
- (ii) The monthly charges for supply of water under this tariff shall be as given in the table below :--

No. of units	Usage Charge Rs./Unit	Monthly Service Charge Rs.
00-05	6.00	50.00
06 - 10	6.00	65.00
11 - 15	6.00	70.00
16-20	6.00	80.00
21-25	6.00	100.00
26-30	6.00	200.00
31 - 40	6.00	400.00
41 - 50	16.00	650.00
51 - 75	16.00	1,000.00
Over 75	16.00	1,600.00

#### TARIFF 06

#### Commercial

- (i) This tariff shall apply for supply of water to Commercial Institutions, Private Hospitals, Non State Institutions, Tourist Hotels and Guest Houses.
- (ii) The monthly charges for supply of water under this tariff shall be as given in the table below :--

No. of units	Usage Charge Rs./Unit	Monthly Service Charge Rs.
00-25	75.00	290.00
26 - 50	75.00	575.00
51 - 75	75.00	1,150.00
76-100	75.00	1,150.00
101 - 200	75.00	1,840.00
201 - 500	75.00	2,875.00
501 - 1,000	75.00	4,600.00
1,001 - 2,000	75.00	8,625.00
2,001 - 4,000	75.00	14,375.00
4,001 - 10,000	75.00	28,750.00
10,001 - 20,000	75.00	57,500.00
Over 20,000	75.00	115,000.00

#### GOVERNMENT HOSPITALS

- (i) This tariff shall apply for supply of water to Government Hospitals.
- (ii) The monthly charges for supply of water under this tariff shall be as given in the table below :--

No. of units	Usage Charge Rs./Unit	Monthly Service Charge Rs.
00-25	53.00	250.00
26-50	53.00	500.00
51 - 75	53.00	1,000.00
76 - 100	53.00	1,000.00
101 - 200	53.00	1,600.00
201 - 500	53.00	2,500.00
501 - 1,000	53.00	4,000.00
1,001 - 2,000	53.00	7,500.00
2,001 - 4,000	53.00	12,500.00
4,001 - 10,000	53.00	25,000.00
10,001 - 20,000	53.00	50,000.00
Over 20,000	53.00	100,000.00

#### TARIFF 08

#### INDUSTRIES UNDER SMALL AND MEDIUM ENTERPRISES (SME)

- (i) This tariff shall apply for supply of water to Industries under Small and Medium Enterprises (SME).
- (ii) The monthly charges for supply of water under this tariff shall be as given in the table below :--

No. of units	Usage Charge Rs./Unit	Monthly Service Charge Rs.
00-25	56.00	265.00
26-50	56.00	525.00
51 - 75	56.00	1,050.00
76 - 100	56.00	1,050.00
101 - 200	56.00	1,680.00
201 - 500	56.00	2,625.00
501 - 1,000	56.00	4,200.00
1,001 - 2,000	56.00	7,875.00
2,001 - 4,000	56.00	13,125.00
4,001 - 10,000	56.00	26,250.00
10,001 - 20,000	56.00	52,500.00
Over 20,000	56.00	105,000.00

#### 6A I කොටස : (I) ඡෙදය - ශී ලංකා පුජාතාන්තික සමාජවාදී ජනරජයේ අති විශෙෂ ගැසට් පතුය - 2012.09.18 Part I : Sec. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 18.09.2012

#### TARIFF 09

INDUSTRIES OTHER THAN INDUSTRIES UNDER SMALL AND MEDIUM ENTERPRISES (SME) AND GOVERNMENT INSTITUTIONS

- (i) This tariff shall apply for supply of water to Industries and Government Institutions.
- (ii) The monthly charges for supply of water under this tariff shall be as given in the table below :--

No. of units	Usage Charge Rs./Unit	Monthly Service Charge Rs.
00-25	58.00	275.00
26 - 50	58.00	550.00
51 - 75	58.00	1,100.00
76 - 100	58.00	1,100.00
101 - 200	58.00	1,760.00
201 - 500	58.00	2,750.00
501 - 1,000	58.00	4,400.00
1,001 - 2,000	58.00	8,250.00
2,001 - 4,000	58.00	13,750.00
4,001 - 10,000	58.00	27,500.00
10,001 - 20,000	58.00	55,000.00
Over 20,000	58.00	110,000.00

#### TARIFF 10

#### EXPORT PROCESSING ZONES OF THE BOARD OF INVESTMENT

- (i) This tariff shall apply for supply of water to Industries Export Processing Zones of the Board of Investment.
- (ii) The monthly charges for supply of water under this tariff shall be as given in the table below :-

No. of units	Usage Charge Rs./Unit	Monthly Service Charge Rs.
00-25	61.00	290.00
26-50	61.00	575.00
51 - 75	61.00	1,150.00
76 - 100	61.00	1,150.00
101 - 200	61.00	1,840.00
201 - 500	61.00	2,875.00
501 - 1,000	61.00	4,600.00
1,001 - 2,000	61.00	8,625.00
2,001 - 4,000	61.00	14,375.00
4,001 - 10,000	61.00	28,750.00
10,001 - 20,000	61.00	57,500.00
Over 20,000	61.00	115,000.00

#### Shipping

- (i) The monthly charges for supply of water to Ships calling, over at Ports/Harbours shall be as given in the table below :
- (ii) The monthly charges for supply of water under this tariff shall be as given in the table below :--

No. of units	Usage Charge Rs./Unit	Monthly Service Charge Rs.
00-25	480.00	300.00
26 - 50	480.00	600.00
51 - 75	480.00	1,200.00
76 - 100	480.00	1,200.00
101 - 200	480.00	1,920.00
201 - 500	480.00	3,000.00
501 - 1,000	480.00	4,800.00
1,001 - 2,000	480.00	9,000.00
2,001 - 4,000	480.00	15,000.00
4,001 - 10,000	480.00	30,000.00
10,001 - 20,000	480.00	60,000.00
Over 20,000	480.00	120,000.00

#### TARIFF 12

#### BULK SUPPLY

- (i) This tariff shall apply for the bulk supply of water to Local Authorities.
- (ii) The monthly charges for supply of water under this tariff shall be as given in the table below :--

No. of units	Usage Charge Rs./Unit	Monthly Service Charge Rs.
00-25	18.00	275.00
26-50	18.00	550.00
51 - 75	18.00	1,100.00
76 - 100	18.00	1,100.00
101 - 200	18.00	1,760.00
201 - 500	18.00	2,750.00
501 - 1,000	18.00	4,400.00
1,001 - 2,000	18.00	8,250.00
2,001 - 4,000	18.00	13,750.00
4,001 - 10,000	18.00	27,500.00
10,001 - 20,000	18.00	55,000.00
Over 20,000	18.00	110,000.00

#### Tariff 13

#### COMMUNITY BASED ORGANIZATIONS

- (i) This tariff shall apply for the bulk supply of water to Rural Water Supply Schemes maintained by Community based Organization.
- (ii) The monthly charges for supply of water under this tariff shall be as given in the table below :

8A I කොටස : (I) ඡෙදය - ශී ලංකා පුජාතාන්තික සමාජවාදී ජනරජයේ අති විශෙෂ ගැසට් පතුය - 2012.09.18 Part I : Sec. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 18.09.2012

No. of units	Usage Charge Rs./Unit				
01 - 999999999	17.00				

#### Tariff 14

#### BOWSER SUPPLY

- (i) This tariff for supply of water through Bowsers shall be at the rate of Rs. 72.00 per unit.
- (ii) This charge excludes costs incurred for transport and other overheads, which would be recovered on the basis of actuals.

#### DEFECTIVE METERS

If a meter is found to be out of order or if it is removed for repairs or calibration, the consumption, of water during the time that the meter is not available to record consumption, shall be calculated according to the average rate of daily consumption obtained during any two successive readings immediately preceding the removal of meter or the meter becoming defective.

Miscellaneous Charges and Conditions

(1) New Service Connections :

The cost of providing a new service connection will be levied from the consumer.

(2) Testing of water meters at the request of consumers :

The fee for testing of water meters at the request of the consumers, shall be determined by the General Manager of the National Water Supply and Drainage Board, based on costs incurred for the testing of such meter. If on testing such meter it is proved that the meter had been over/under registering by more than 2% of the correct consumption, this fee will be refunded.

(3) Incentive for prompt Payment :

Consumers paying their water bills within 14 working days from the date of issue of the bill will be given a rebate of 2% on the value of the bill. Arrangements are available for consumers to deposit money with the Board in advance to meet the cost of water bills.

(4) Surcharge for delay in Payment :

Consumers are expected to pay bills, within a period of 14 days. If consumers fail to settle the water bill within a period of 30 days from the date of issuing a bill, an additional charge of 2.5% per month on the balance outstanding shall be made from the date the bill was issued.

(5) Disconnection of Service Connections :

The General Manager of the National Water Supply and Drainage Board shall have the power to disconnect the service connection of consumers, whose bills are in arrears for a period of more than 30 days.

(6) *Re-Connection Fee* :

The fee for re-connecting the supply, after the service has been disconnected, shall be determined by the General Manager of the National Water Supply and Drainage Board, based on the costs incurred for such re-connection.

(7) Violation of Regulations :

If any regulation, under which the water supply has been provided, is violated by any consumer, action will be taken under the relevant provisions of the National Water Supply and Drainage Board Law No. 02 of 1974, the National Water Supply and Drainage Board (Amendment) Act, No. 13 of 1992 or any other subsequent amendment to the legislation.

(8) Prevailing taxes will be included when preparing Water Charges

*Note :- One Unit shall be defined as one cubic meter. (1000 Liters)* 

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**CHAPTER 7** 

**OPERATION AND EFFECT INDICATORS** 

	Water Water Quality										
S/N	Name of CBO	Source	I. Hardnaaa	Iron	Manganese	Fluoride	Odour	Color	Turbidity	nH	E. Condictivity
			(CaCO3, mg/L)	(Fe, mg/L)	(Mg, mg/L)	(F-, mg/L)	ououi	(Hazen Unit)	(NTU)	pri	(µS/cm)
Maha	Mahakanadarawa Water Supply System Area										
01	Sw ashakthi CBO	S	-			0.85	None	Clear	0.05	7.86	860
02	lkra CBO	D-1, S-1	-	-	-	0.83	None	Clear	0.06	7.72	950
03	Arunalu CBO	S	-	-	-	0.59	Fishy	Clear	0.1	7.93	940
04	Samagi CBO	D	-			1.01	None	Clear	0	7.76	930
05	Ekamuthu CBO		-			0.32	None	Clear	0.08	7.74	700
	Ekamuthu CBO - Katukaliyawa	S				1.19	_	Clear	0.03	7.77	880
06	Rangiri CBO	D				0.88	None	Clear	0.03	7 79	1080
07	Nildivadabara CRO	0	260/290			0.00	None	Clear	0.00	7.73	740
07		3	360/280	-	-	0.72	-	Clear	0.15	1.11	740
08		5	340	-	-	0.4/0.78	None	Clear			
09	Mahasen CBO	S	80	-	-	0.39	-	clear	0.08	7.6	730
10	Dimuthu CBO	S	312	-	-	0.57	-	Clear	0.12	7.91	610
11	Pragathi CBO	S	344	-	-	1.38	-	Clear	0.05	7.7	1450
12	Jayashakthi CBO	D	-	-	-	1.9	None	Clear	0.06	7.76	1570
13	Samagi CBO	D	332/270/330	-	-	1.08	None	Clear	0.07	7.8	1000
14	Samagi CBO	S	-	-	-	0.5	-	<5	0.02	-	590
15	Ekamuthu CBO	D	-	-	-	0.81	-	<5	0.03	-	650
16	Ran Arulnalu CBO	D	490/720/640	0.03/-/-	-	1.55/1.1/0.36					
17	lsuru CBO	D	High	-	-	0.98	None	Clear	0.05	7.84	1060
18	Randiva Dhahara CBO	S	-	-	-	1.15	None	Clear	0.09	7.76	840
19	Nelum CBO	S	-	-	-	1 11	None	Clear	0.05	7 86	970
20	Dirivamatha CBO	S	250/261/284	-	-	0.83	-	Clear	0.00	7 75	700
20	Diriyamatha CBO	0	230/201/204	_	_	0.00	_	Oldai	0.1	1.15	700
	Mabakubuqollaw a	S	-	-	-	0.69	-	Clear	0.12	7.79	870
21	Gemunu CBO	S		-	-	0.75	-	<5	0.21	-	950
22	Sisila Divadabara CBO	S		_		0.76	None	Clear	0.06	7.86	880
22		3	272/242	-	-	0.70	None	Clear	0.00	7.00	4000
23		3	373/342	-	-	0.86	None	Clear	0.1	7.04	1220
24		5	-	-	-	0.21	None	Clear	0.06	1.15	610
wana	ikada Water Supply System A	Area									Ļ
25	Shakthi CBO	D	324	3.3	-	0.1		N/A			
26	Al-Naja	D	-	-	-	-					
27	CBO not formed & Scheme Not	implemente	ed	-	-	-					
28	Parakum CBO	D	108	0.14	-	1.04	-	Clear	0	7.76	740
29	Suw asehana CBO	D	1.13	-	-	1.13		Clear	0.07	7.76	740
30	Suw asetha CBO	S	-	-	-	0.96		Clear	0.04	7.63	740
31	Vajira CBO	D	262/204	-	-	1.5/1.54					
32	Pragathi CBO	D	-	-	-	0.58	None	Clear	0.08	7.54	1430
33	Janasetha CBO	S	-	-	-	1.37		Clear	0.01	7.85	670
34	Sobasisila CBO	S	-	-	-	0.67		Clear	0.02	7 64	810
35	Randiva	S-2	-	-	-	0.31		Clear	0.14	7 76	760
36	Nilmini	D		_		0.01		0.00	0.14	1.10	, 30
27	Sonath CBO		-	-	-	1.0	None	Clear	0.02	7 75	1240
3/			-	-	-	1.9	None	Ciear	0.02	1.15	1240
38	Eksath CBO	5	296	-	-	1.62	None	Clear	0.02	1.78	860
39	Praja Shakthi	ט	-	-	-	0.42	None	Clear	0.01	7.85	520
40	Apsara	S	-	-	-	1.35		Clear	0.14	7.69	1380
41	Pinibindu CBO	R	Rainw ater s	upply implmer	nted in 60 House	holds. No Pipeo	Water	Supply			
42	Sham Sham	-	-	-	-	-					
43	Ekamuthu CBO	S	264	-	-	0.14		Clear	0.05	7.6	640
44	Pradeepa	D	448	-	-	0.82		Clear	0.01	7.8	1150
45	Upul CBO	D	290	-	-	0.92		Clear	0	7.83	1000
46	Jalasavi	D	-	-	-	1.58		Clear	0.02	7.74	1330
47	Tristar CBO	P	300	-	-	0.001		2,5>	4.1	8.3	
48	Alhidra CBO	 D	300	-	-	0.04	N/A	25	13	69	
10	Adhikwa CBO		280			0.0-	N/A	2.0	1.5	0.0	
====		6	442	-		1.0	N/A	-E	4	76	
00		3	442	-	-	1.0	IWA	<0	1	1.0	
Sril	Lanka Standard SLS 614:2013		250	0.3	0.1	1	#	15	2	0.5-8.5	-
Sril	anka Standard SLS 614:1983	1					#: (	Unobjectiona	able		750/3500

### Appendix 7.2-1 Water Quality of CBO Water Supply Systems

S: Shallow Well, D: Deep Well, R: Rain water tank, Figures after "-" means number of water source. Shaded figure exceeds standard value.

### Appendix 7.2-2 List of CBO Water Supply Systems

			Location			Population of GND			
S/N	Name of CBO	DS	GND	Village	No of Village Covered	No of Village Excluded	Population in Service GND	Population served	
Mahakanadarawa Water Supply System Area									
01	Swashakthi CBO	Rambewa	Kendewa (97), Galkandagama (85)	Kendewa	3	-	3000	755	
02	Ikra CBO	Rambewa	Ikkirigollawa (102)	Ikkirigollawa	3	-	-	3015	
03	Arunalu CBO	Rambewa	Sangilikandarawa (111)	Sangilikandarawa	5	-		915	
04	Samagi CBO	Rambewa	Thalgahawewa (84)	Thalgahawewa	2	0		660	
05	Ekamuthu CBO	Rambewa	Wahamalgollawa (109)	Wamalgollawe	1	-		1220	
06	Rangiri CBO	Rambewa	Wewalkatiya (82)	Wewalkatiya	2	-		590	
07	Nildiyadahara CBO	Rambewa	Maha Kandarawa yaya -01 (94)	Maha Kandarawa Yaya	1	-	1080	715	
08	Eksath CBO	Rambewa	Katukeliya (106)	Katukeliya	3	-	1080	575	
09	Mahasen CBO	Rambewa	Mahakandarayaya - 02 (93)	Weliwewa	3	-	-	755	
10	Dimuthu CBO	Rambewa	Ihala Kolangaswewa (87)	Ihala Kolangaswewa	3	-	1050	325	
11	Pragithi CBO	Rambewa	Bala Honda Wewa(86), Ihala	Bala Hondawewa	4	-	885	635	
12	Jayashakthi CBO	Medawachchiya	Katuwela (66)	Katuwela	3	1		1090	
13	Samagi CBO	Medawachchiya	Halambagaswewa (70)	Halambagaswewa, Palukandawewa	2	-		935	
14	Samagi CBO	Medawachchiya	Ataweeragollewa (56)	Pahala Thammannagama,	3	-	1580	540	
15	Ekamuthu CBO	Medawachchiya	Hirulugama (54)	Hirulugama	1	-		855	
16	Ran Arulnalu CBO	Medawachchiya	Wiralmurippu (64)	Wiralmurippu, Kulikkada	2	-	1375	945	
17	Isuru CBO	Medawachchiya	Kadawathgama (60)	Kadawathgama	3	-	2640	895	
18	Randiya Dhahara CBO	Medawachchiya	Unagaswewa (75)	Unagaswewa	3	-		520	
19	Nelum CBO	Medawachchiya	Kirigalwewa (72)	Kirigalwewa	4	-		680	
20	Diriyamatha CBO	Medawachchiya	Maha Kumbugollawa (46)	Maha Kumbugollawa, Kuda Halmillawa	3	-		890	
21	Gemunu CBO	Medawachchiya	Maha Divulwewa (57)	Maha Divulwewa	1	2		345	
22	Sisila Diyadahara CBO	Medawachchiya	Kidawarankulama (42)	Kidawarankulama	2	-		935	
23	Diriya Shakthi	Medawachchiya	Periyakulama (49), Yakkawewa (50)	Periyakulama	3	1		675	
24	Ridi Nadi	Medawachchiya	Athakade (55)	Athakade	2	1		600	
25	Shakthi CBO	Medawachchiya	Ayyatigewewa (24)	Ayyatigewewa	1	-	2015	1165	
Waha	lkada Water Supply Syst	em Area							
26	Al-Naja	Kebitigollewa	Muslim Attaweerawewa (32)	Attaweerawewa (Paranagama, Aluthgama, Kurulugama)	2	-	2050	Connection	
27	CBO not formed & Scheme Not implemented	Kebitigollewa	Gonumariyaya (25)	Gonumariyaya	-	-	-	-	
28	Parakum CBO	Padaviya	Parakramapura(06), Buddhangala(05), Elikumbulagala (07)	Parakiramapura Town	11	5	-	2820	
29	Suwasehana CBO	Padaviya	18 Kanuwa (02)	18 Kanuwa, Deewara	3	-	1750	945	
30	Suwasetha CBO	Padaviya	Bogahawewa (14)	Bogahawewa	6	-	1750	910	
31	Vajira CBO	Kahadagasdigiliya	Maha Kumbukwewa (222)	Maha Kumbukwewa	2	-		665	
32	Pragathi CBO	Kahadagasdigiliya	Moragahawela (202)	Moragahawela	3	1		640	
33	Janasetha CBO	Kahadagasdigiliya	Ratmalgahawewa(225), Paalichpothana(224), Kiricollawa (226)	Palispothana	5	5	1500	920	
34	Sobasisila CBO	Kahadagasdigiliya	Pandarella(210), Panwella (211)	Kokabe, Panderellawewa, Panwella Thimbiriwewa	4	3		875	
35	Randiya	Kahadagasdigiliya	Ranpathwila (196)	Rotapukuna	2	-		1130	

### Appendix 7.2-2 List of CBO Water Supply Systems (cont'd)

	Name of CBO		Population of GND						
S/N		DS	GND	Village	No of Village Covered	No of Village Excluded	Population in Service GND	Population served	
36	Nilmini	Kahadagasdigiliya	Kokmaduwa(201)	Kokmaduwa	1	3		795	
37	Senath CBO	Kahadagasdigiliya	Gonamaruwewa (223)	Gonamaruwewa, Nelugolla Kade	2	1		385	
38	Eksath CBO	Kahadagasdigiliya	Turukkuragama (234), Maha Kiri Ibbawa (233)	Aluthwattha, Galwala, Hijra Mawatha,	4	3		470	
39	Praja Shakthi CBO	Kahadagasdigiliya	Mahawewa (221)	Wirandagollawa, Mahawewa	5	1		810	
40	Apsara	Kahadagasdigiliya	Meekumbukwewa (212)	Meeminnawala, Aluthwewa, Kumbukwewa	3	-		1480	
41	Pinibindu CBO	Kahadagasdigiliya	Ambagahawewa (213)	Rainwater supply implmented in 60 Households. No Piped Water Suppl					
42	Sham Sham	Kahadagasdigiliya	Weligollawa (218), Kuncha Halmillawa (219)	Weligollawa, Kunchahalmillawa, Ihalamillawa	3	-		210	
43	Ekamuthu CBO	Kahadagasdigiliya	Kumbukgollawa (209)	Kumbukgollawa	1	2		380	
44	Pradeepa	Horowpothana	Wadigewewa (126)	Wadigewewa	5	1		805	
45	Upul CBO	Horowpothana	Parangiwadiya (149)	Parangiwadiya	2	-		905	
46	Jalasavi	Horowpothana	Kapugollewa (140)	Kapugollewa	2	1		785	
47	Tristar CBO	Horowpothana	Agunuchchiya (119)	Parangiwadiya	2	1		215	
48	Alhidra CBO	Horowpothana	Anolondawewa (138)	Alondawewa	2	1		730	
49	Adhikwa CBO	Horowpothana	Weerasole (139)	Weerasole	1	1		-	
50	Hansajala CBO	Horowpothana	Maradankadawala (133)	Maradankadawala	3	2		565	