PLANT & EQUIPMENT

Station	Asset Type	Registration No	Purchase Year	Notes
Honiara	Water Supply Department			
	Nissan Utility	AB3126	2006	Maintenance Vehicle
	Nissan Utility	AB3129	2006	Operation Vehicle
	Nissan Utility	AB3627	2007	Maintenance Vehicle
	Nissan Utility	AB3658	2007	Maintenance Vehicle
	Planning and Design Department			
	Isuzu Utility	A8068	1998	New Connections Vehicle
	Toyota Hilux	AB1442	2005	Meter Replacement Vehicle
	Waste Water Department			
	Isuzu Double Cab Utility	A9387	1999	Maintenance Vehicle
	Enviroment Department	AB554	2004	Water Quality Monitoring Vehicle
	Technical Services			
	Suzuki	AB1369	2005	Electrical Vehicle
	Isuzu Utility	A8065	1998	Maintenance Vehicle
	Caterpillar Backhoe - 428B	A5159	1995	
	JCB Backhoe - CX	A3683		Not functioning
	Hino CraneTruck	A6069		
	Ingersol Air Compressor - P250W			
	Genset - FGWilson (P44E), 44KVA(35.2KW)			
	Dewatering Water Pump		(2005)	
	Sewer Rods - Qty 100		2004	Flexi Rods (8mm x 1.5m)
	Welding Machine		(2005)	
	Mobile Generator		2006	Gen power - 4.0 HP, 3.1 KW
	Concrete Mixer 1		1997	EP 35T YAMAHA 4.2HP diesel
	Concrete Mixer 2		1997	EP 35T YAMAHA 4.2HP diesel
	Compacting Hammer		1997	Rammer DS 72Y
	Concrete Poker		2006	KM170F air cooled, 4.4 Hp, Diesel
	Hydraulic Jack (10 tonne)		(2005)	
Tulagi	Leak Detection Equipment Ultrasonic Flow Meter Metal Detector Leak Nosie Detector 30hp Yamaha Engine		2001	
	OBM Boat		1995	
Auki	Toyota Landcruiser	AB	2006	Maintenance Vehicle
Noro	Toyota Landcruiser	AB	2007	Maintenance Vehicle

6) Daily operation times of water tankers by Zone areas

None

7) Procurement of chemicals in 2006 (fill in Table 5.1)

Table 5.1 Procurement of Chemicals in 2006

No.	Type of chemicals	Total Quantity	Total Cost	Domestic or Imported country
1	*Calcium hypochlorite*	*13,160 kg*	*SBD$189,052.00*	*PNG/Australia*
2				

8) Status of the procurement (Do you procure enough chemicals?)

9) Provide an organizational chart of Operation and Maintenance sections.

10) For the operation and maintenance chart, provide the total staff number with job descriptions (manager, engineer, technician, administrator, etc.) and number in each department and section

11) Fill in Table 5.2 for water production costs.

Table 5.2 Water Production Costs

Item \ Fiscal year	2004	2005	2006
Served population			
Served ratio (%)			
Number of water meters			
Total production (m^3)			
Total revenue water (metered and estimated) (m^3)			
Revenue water ratio (%)			
Total production cost (　　$)			
Cost per produced water ($/$m^3$)			

N.B. You are not required to fill in the grey area.

5.2 Monitoring of Water Quality and Quantity

Answer the following questions about each Honiara, Auki and Noro cities.

1) Describe methods for monitoring water quality, quantity and water level of water sources.

a. Frequency

- *Water quality monitoring is done at source once every week.　As shown in the attached weekly time table, samples are collected from the sources every Monday.*

b. Monitoring institution

- *SIWA staff collects samples and analysis are done at the SIWA Water Quality Laboratory.*
- *Honiara City Council's Environmental Health Staff also collected samples from the sources on Monday and analysis are done at the Public Health Laboratory.*

c. Monitored items

SIWA do analysis for the following water parameters every week.

- *Physical -　pH, turbidity, dissolved oxygen, hardness*
- *Microbiological – total coli-form, fecal coli-form*
- *Chemical – Following chemicals are monitored once a month – copper, lead cyanide, chromium, calcium, magnesium, zinc, manganese, potassium, iron, nitrate, nitrite, sulfate, lead, phosphorous, aluminum, phenol, chloride, Nitrogen ammonia.*

The public health laboratory does monitoring for only total coli-form and fecal coli-form.

2) Describe methods for monitoring water quality and quantity at service taps.

a. Frequency

- *Samples are collected from service taps by SIWA staff three times a week on Mondays, Wednesdays and Fridays.*
- *Samples are also collected by Honiara City Council at service taps every week on Mondays.*
- *Free chlorine residual are also done every day, 7 days a week for free chlorine residual, since SIWA's aim is have free chlorine residual in all systems at all times.*

b. Monitoring institution

- *Samples collected by SIWA staff are analyzed at the SIWA laboratory.*
- *Samples collected by Honiara City Council are analyzed by at the Public Health Laboratory.*

c. Monitored items

- *SIWA monitored items are, pH, turbidity, dissolved oxygen, total coli-form and fecal coli-form.*
- *Public Health Lab monitored items are total coli-form and fecal coli-form.*

Weekly Work Program for Environment Department

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1. Mix chlorine if need to. 2. Chlorine residual tests 3. Check dosing pumps and chlorination system. 4. Collect samples at sources (before treatment) for microbiological analysis 5. . Collect samples from outlets for microbiological analysis. 5. Other jobs assigned by EE.	1. Analysing of Monday samples 2. Mix chlorine if need to. 3. Prepare samples and incubate. 4. Other jobs assigned by EE.	1. . Collect samples from outlets for microbiological analysis. 2. Mix chlorine if need to. 3. Chlorine residual tests 4. Check dosing pumps and chlorination system. 5. Other jobs assigned by EE.	1. Mix chlorine if need to. 2. Chlorine residual tests 3. Check dosing pumps and chlorination system. 4. Other jobs assigned by EE. 5. Collect samples for physical and chemical analyses **(this is to be done monthly only)** Analyses of Wednesday samples	1. Enter all results in the watakwal database 2. Mix chlorine if need to. 3. Chlorine residual tests 4. Check dosing pumps and chlorination system. 5. Collect samples from outlets for microbiological analyses 6. Other jobs assigned by EE.	1. Analyses of Friday samples 2. Mix chlorine if need to. 3. Chlorine residual tests 4. Check dosing pumps and chlorination system. 5. Other jobs assigned by EE.	1. Chlorine residual tests 2. Check dosing pumps and chlorination system. 3. Other jobs assigned by EE.

Stock Inventory/Lab Testing Equipment

Description	Quantity	Model /N0	Supplier
Incubator	1	142300	Biolab
Water Bath	1	142320-26	Biolab
Quantity-tray sealer	1	2X	Hach
UV ultraviolet Light	1	WB7	Biolab
DR/4000 spectrophotometer meter	1	FN12Box	Biolab
Conductivity meter	2	50150-00	Hach
DO meter	2	50050-00	Hach
PH meter	2	50175-00	Hach
Oven	1	201	Hach
Cyanide kit	1		Hach
COD machine	1	151	Selby
Distil Machine	1	EMA0500	Hach
Pocket calorimeter CL_2	2	58700-00	Hach
Pocket colorimeter Pb	1	58700-21	Hach
Tensette pipet 10ml	1		Hach
Tensette pipet 5ml	1		Hach

DIVISION: ENGINEERING SERVICES

NO OF POST(S)	POST DESCRIPTION/DESIGNATION	GRADE	REMARKS
1	Divisional Manager	Contract/9	2 years contract appointment
	Technical Services		
1	Electrician	5	Alick Koburu
1	Mechanic/Fitter	4	Vacant
1	Carpenter	4	Willie Ladofoa
1	Assistant Electrician	4	Vacant
2	Backhoe Operator	4	Manoa Bero, Patterson Gavai
	Water Supply Department		
1	Engineer	8	Chris Meriko
4	Works Officer	5	Samuel Hape, Colin Misikona, Martin Delefasia
4	Plumber	4	Jimson Paolo
4	Field Worker	2/3	Atkin Bera
2	Pump Operator	2/3	Brown Mamui, Wilson Dawea, Colson Kamaro
	Waste Water Department		Lawrence Hasi, Logino Vatohi
1	Engineer	8	
1	Works Officer	5	
1	Plumber	4	Eric Unga
1	Field Worker	2/3	Andrew Kopeinao
			Vacant
			Patrick Tealei
	Environmental Department		
1	Engineer	8	
1	Quality Control Officer	5	
1	Field Worker	2/3	Jacob Houtarau
			Wycliffe Maebule
			Cecil Halumae
	Planning & Design Department		
1	Engineer	8	
1	GIS Officer	6	
1	Technical Officer	6	Allan Lilia
2	Works Officer (Project & Metering)	5	Vacant
2	Plumber	4	Vacant
2	Field Worker	2/3	Moses Ramo, Robert Hopa
			Eric Gnokro, John Iro
	Provincial Operations Department		Andrew Kafekuli, William Nalo
1	Engineer	8	
2	Supervisor Province	7	
3	Senior Works Officer	6	Silas Talosui
2	Plumber	4	Benjamin Billy
3	Field Worker	2/3	Joseph Male, George Blamoli, Charles Fox
			Charlie Oliver
			John Ferawane, Alick Naqu

3) Provide monthly water quality data at water sources, treatment plants, and service taps for the past one year.
4) Provide the sampling points only for Noro city.
5) List of water quality analysis equipment owned by SIWA, or the SIWA local office

5.3 Management

1) SIWA's latest organization chart and number of staff
2) SIWA's latest "Approved Annual Budget" (Current document: "2004 Approved Annual Budget)

Refer budget document provided to the Preliminary Study Team by SIWA.

3) Describe the financial status of SIWA.

SIWA current liquid assets as at 30th June 2007:

- *Liquid cash – SBD$3 million*
- *Water debtors:*
- *Current -SBD$2.1 million*
- *30 days old –SBD$1.2 million*
- *60 days old –SBD$1 million*
- *90 days plus – SBD$14.2 million*
- *Creditors (liabilities): no major creditors apart from Solomon Islands Electricity (SIEA).*
- *SIWA finances have been stable over the recent years. The funds are very liquid. Management has refocused its efforts towards the collection of outstanding tariff with monthly disconnection exercises for the later part of the year 2007 to increase its current collection rate to the 90 percent level or better.*

4) SIWA's debt balance related to SIEA and measures for resolving its debt

- *SIWA is currently paying SBD$1 million on a monthly basis towards settling its power bills through its monthly tariff collection;*
- *SIWA current power consumption is about SBD$0.5 million per month.*
- *Monthly payments should be gradually increase with improving water sales and tariff collection.*
- *SIWA's debt with SIEA on electricity bills now stands at about SBD$9 million as compared to the SBD$18 million at the beginning of 2007.*

5) Budget for water supply service in fiscal 2005-2006

- *Fiscal year 2005 – SBD$10,216,000.*
- *Fiscal year 2006 – SBD$11,538,500*

6) Provide the financial statements of SIWA for the past 3 fiscal years as shown in Table 5.3)

5.4 Water Tariff System

1) Water tariff system

- *domestic customers - SBD$2.42 per kilolitre.*
- *commercial customers – SBD$7.28 per kilolitre (proposal 3, JICA Study Report).*
- *the above tariff rates came into effect in 0ctober 2006.*

Prior to the above tariff, the following tariff was used:

- *Domestic customers: 0-30kl - $1.00/kl, >30kl - $2.42/kl*
- *Commercial customers: $5.60/kl*

2) Water tariff collection system

- *SIWA applies "user pay" principle;*
- *All customers are metered for consumption and are billed on a monthly basis based on monthly readings from the meters.*
- *Customers are also required to pay their bills on a monthly basis as failure to do so will result in the service being disconnected.*
- *Fees are charged to the customers as penalties for disconnected service as well as on overdue accounts.*

3) Water tariff collection rate in 2007 (first 6 months)

- *Average monthly water sales - SBD$2,521,120*
- *Average monthly revenue collection - SBD$1,908,416*
- *Tariff collection rate – 76%*

4) In case of water tariff delinquency, measures to resolve the delinquency and penalties

- *illegal connections:*
- *disconnection team actively search and disconnect illegal connections;*
- *awareness programmes and community partnership arrangements to strength customer responsibilities and support towards the service;*
- *formalisation and application of easy payment terms;*
- *consider arrangements for shared standpipes.*
- *Prosecution under provisions of the SIWA Act.*

Table 5.3 SIWA Financial Statements for the Past 3 Years

Items	2005	2006
A. Total Income	19,909,086.98	21,840,601
B. Recurrent Expenses		
B.1 Employee Costs		
Salaries & Wages	2,537,047.30	2,643,002
Allowances	624,924.07	537,380
NPF Contributions	205,485.94	98,509
Others	240,069.03	42,834
B.2 Administration Costs		
Board members Allowance	281,626.63	45,788
Audit & Accounting fee	28,875.00	289,189
Awareness & Public relations	204,701.08	111,745
Education & Training	72,022.01	22,204
Accommodation & Housing	902,522.64	990,554
Computer & Office Equipments	98,305.14	123,465
Printing, stationery & Postage	253,196.54	337,021
Telephone	169,307.32	192,912
Transport & Travel	81,263.85	166,568
Others	475,870.50	798,753
B.3 Operation Costs		
Electricity	5,730,758.76	9,866,296
Motor Vehicles & Machine Repairs	551,724.95	525,374
Fuel & Lubricants	597,734.15	481,956
Chemicals	31,399.92	228,120
Land Rental / Compensation	54,055.10	97,867
Others	711,318.86	265,262
C. Balance (A.-B.)		**3,975,802**
D. Capital Costs		
System maintenance	1,808,786.69	735,193
Project Works	2,346,991.98	653,557
Tools & Equipments	651,940.55	1,309,557
E. Balance before Grant Aid (C.-D.)	**1,249,158.97**	**1,277,495**
F. Government / Grant Aids	0	0
G. Total Balance (E. +G.)	**1,249,158.97**	**1,277,495**

6. Water Supply Improvement Project

6.1 Water Supply Improvement Project for Honiaram Auki, and Noro Cities

1) Fill in Table 6.1 by explaining project water supply important.

- *JICA Funded Emergency Follow Up Project 2005/6*
- *ADB Funded Auki Water Supply Improvement Project 2006/7*

Table 6.1 Water Supply Improvement Projects

No.	Name of plan	Year published	Target year	District covered	Brief description (including target water demand)
1					
2					

2) Describe the SIWA investment plan with costs and details, if any.

6.2 Water Supply Projects in the Past Three Years for Honiaram Auki, and Noro Cities

Table 6.2 Water Supply Projects in the Past 3 Years

No.	Name of project	Solomon Gov. /Donor*	Cost	Project period	Current status of progress
1					
2					

*ADB, World Bank, other countries

6.3 Ongoing Water Supply Projects for Honiaram Auki, and Noro Cities

Table 6.3 Ongoing Water Supply Projects in Honiaram Auki, and Noro Cities

No.	Name of project	Content	Solomon Gov. /Donor*	Cost	Project period	Outline and current status of the project
1						
2						

*ADB, World Bank, other countries

7. Environmental and social considerations

7.1 Refer to the attached "Questionnaire (Environmental and Social Consideration)" for the detail questions on environmental issues.

8. Laws, Design Criteria, etc

8.1 Design criteria for water supply facilities

8.2 Standard specifications for water supply works or source of the standard

9. Others

9.1 Local consultants and survey companies

Provide the following lists.

1) List of topographic survey companies
2) List of soil investigation companies
3) List of laboratories for water quality analysis
4) List of water flow measurement companies
5) List of Geophysical survey companies
6) List of natural and social environmental survey companies including environmental assessment

9.2 Local suppliers and contractors

1) List of suppliers of pipe materials, pumps, valves, etc.
2) List of local civil engineering contractors
3) List of local drilling contractors

Questionnaire

(Environmental and Social Considerations)

Preliminary Study

on

the Project for Improvement of Water Supply System in Honiara and Provincial Centers in the Solomon Islands

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June, 2007

Japan International Cooperation Agency (JICA)

1. Addressee

To Environment Conservation Department (ECD), Ministry of Mines and Energy (MME), and Solomon Islands Water Authority (SIWA)

2. Contents

This questionnaire consists of two parts, general and key questions. The general questions will gather information to confirm and reinforce understanding of the current environmental and social situation. The key questions will cover issues essential to conduct this preliminary study.

2.1 General Questions

JICA prepared the Guidelines for Environmental and Social Considerations in April 2004. Referring to these guidelines, we appreciate it if you would prepare answers to the following questions regarding environmental and social considerations for this Project, and kindly make copies including relevant laws and regulations and other related document for us.

Notes:

A.....The mark "A" in the "Remarks" column indicates that the data and information would be collected by the JICA Study Team.

Availability.....Indicate the availability of each data and information item by the marking; "○" for available items and "×" for unavailable items in the "Availability" column.

General Question

ITEM	DESCRIPTION	AVAILABILITY	REMARKS
2.1.1 Information on ECD, MME, and SIWA	(1) Number of the staff (2.1) Organization chart including branch offices (3) Major works (4) Responsibilities for water supply relating facility construction and operation		A A A A
2.1.2 Laws and Regulations	Please provide the information on the following natural and social environmental considerations: (1) Environmental Standards and Regulations - Water Quality Standard and Effluent Standard for River, Lake and Sea - Drinking Water Quality Standard - Air Quality Standard and Emission Gas Control Standard - Environmental Quality Standards for Noise & Vibration - Laws and Regulations for Waste Management (2.1) Natural Environment Conservation - Conservation of Ecosystem - Conservation of Threatened and Endangered Species - Conservation of National Park - Conservation of Forest (3) Social Environment Conservation -Conservation of Cultural Heritage - Conservation of Landscape - Resettlement and/or Relocation - Conservation of Indigenous and Tribal People - Water Use including Drinking Water, Irrigation Fishery in River, Lake, and Sea (4) Land - Legal framework of land trade and registration, - Customary land ownership		 A A A A
2.1.3 Roles of Central Government and Local Government	Please provide the information on each role of the central government and the local government to enforce the relevant laws and regulations described on the above:		A

2.1.4 Environmental Assessment System (EIA)	(1) Please provide the information on the environmental assessment (EIA) system for water supply project including the legal basis, the abstract of its system, the authorities concerned and the guidelines. If possible, please provide a copy of the laws, and the guidelines relating to the environmental assessment system. (2) Please provide the information on the EIAs of the other projects, which are on going.		A A
2.1.5 Existing Environmental Considerations for Water Supply Project	Please provide the following information on existing environmental and social considerations for the water supply projects implemented so far: - List of major water supply projects - Abstract of the mitigation measures implemented to conserve the natural and social environment in some typical projects - List of the water supply projects accompanied with relocation and/or resettlement. It is preferable that the list would contain the abstract of the project including the purpose, the period, the number of the relocated people and the families, the compensation program on the relocation and/or resettlement plan, and the problems and their resolves, if any. If possible, could you provide the copies of some environmental assessment reports of the water supply projects accompanied with relocation and/or resettlement? - Are there any epidemics caused by water in the past time?		 A A A A
2.1.6 International Treaty relating to Environmental Conservation	Could you inform us of your current situation of ratification of the international environmental conservation treaties such as "Convention on Wetlands of International Importance, especially as Waterfowl Habitat", and "Convention on International Trade in Endangered Species of Wild Fauna and Flora".		
2.1.7 Environmental Conservation Policy on Water Supply Project	Could you inform us of the environmental key issues based on the natural and social environmental aspects of your country to develop water supply project and how to correspond to these environmental key issues?		A

2.1.8 Information on Natural and Social Environmental Aspects	(1) Indigenous and Tribal People Please provide the information on indigenous and tribal people, which include tribal names, populations, life styles, and distributions, and national policy of conservation for them. (2.1) Threatened and Endangered Species Please provide the information on threatened and endangered species, which include names, characteristics, and distributions, and national policy of conservation for them. (3) National Park and Protected Area Please provide the information on national parks and protected areas, which include names, characteristics, and distributions, and national policy of conservation for them. (4) Cultural Heritage Please provide the information on cultural heritages, which include names, characteristics, and distributions, and national policy of conservation for them. (5) Basic Information Please provide the abstracts on the following information based on the statistical data in major cities and/or areas: - Weathers aspects including temperature and precipitation - Population aspects including working population, and population growth rate - Economic aspects including industrial output and rate of economic growth		A A A A A

2.2Key Question

ITEM	DESCRIPTION	AVAILABILITY	REMARKS
2.2.1 EIA Process	(1) Has the Public Environmental Report (PER) already been submitted to ECD and certified legally? If so, please submit the related document. (2) As the result of the certification of PER, was your request project not required the execution of EIA from ECD?		A A
2.2.2 Stakeholder	(1) Have your request project already been explained to the stakeholders and been gotten the agreement with them? (2) Have you already finished to estimate the economical adverse effects on the stakeholders by the execution of your request project and explained such impacts to the stakeholders? (3) Please provide us the stakeholder list and their contract document on the current water supply facilities. (4) Please provide us with the stakeholder list and their contract document on the water supply system plan requested, if possible.		A A A A
2.2.3 Environmental and Social Condition at the development areas	(1) Please provide us the information on the environmental and social conditions at the development areas and their surroundings you requested. (2) Especially, stakeholders' information is deemed to be essential. (3) Please provide us the information on the environmental and social impacts to excavate the deep wells to pump up the groundwater at the planning sites.		A A A