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PHILIPPINE WATER REVOLVING FUND FOLLOW-ON PROGRAM

**BUSINESS CASE AND MODEL CONTRACT
FOR A SEPTAGE MANAGEMENT PROJECT UNDER A
PUBLIC PRIVATE PARTNERSHIP ARRANGEMENT**



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Part I: Introduction and Business Case of a Septage Management Project under a Public Private Partnership Arrangement

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ACRONYMS

BCR	-	Benefit-Cost Ratio
BOT	-	Build-Operate-Transfer
CEND	-	Confiscation, Expropriation and Deprivation
CFU	-	Colony Forming Unit
CHD	-	Center for Health Development
COA	-	Commission on Audit
DAO	-	DENR Administrative Order
DENR	-	Department of Environment and Natural Resources
DOH	-	Department of Health
EIRR	-	Economic Internal Rate of Return
EMB	-	Environmental Management Bureau
EO	-	Executive Order
EPC	-	Engineering Procurement Contract
EPC	-	Engineering, Procurement and Construction
ESC	-	Environmental Sanitation Clearance
FIRR	-	Financial Internal Rate of Return
ICC	-	Investment Coordination Committee
IRR	-	Implementing Rules and Regulations
LGU	-	Local Government Unit
LWUA	-	Local Water Utilities Administration
MPN	-	Most Probable Number
NEDA	-	National Economic Development Authority
O&M	-	Operation and Maintenance
PBAC	-	Pre-Qualification, Bids, and Awards Committee
PPE	-	Personal Protective Equipment
PPP	-	Public Private Partnership
PWRF	-	Philippine Water Revolving Fund
SAU	-	Septage Acceptance Unit
SBR	-	Sequencing Batch Reactor
SpTP	-	Septage Treatment Plant
USAID	-	United States Agency for International Development
WACC	-	Weighted Average Cost of Capital
WD	-	Water District
WSP	-	Water and Sanitation Program

Part I: Introduction and Business Case of a Septage Management Project under a Public Private Partnership Arrangement

1. INTRODUCTION

The USAID-funded Philippine Water Revolving Fund Support Program and its Follow-on Program have helped several water districts prepare feasibility studies for septage management projects. Many water districts have signified interest to explore a public-private partnership arrangement in the project implementation and operation. These projects, even with the most conservative assumptions have been found to be financially viable, with secure revenue streams and manageable technical and political risks; thus lending themselves to PPP arrangements.

This report establishes the business case and presents a model contract for a build-operate-transfer (BOT) modality executed under Republic Act 6957 as amended by Republic Act 7718 or the BOT Law and its Implementing Rules and Regulations (IRR). The business case will serve as a guide for implementing the project under a BOT arrangement. It covers the following:

- Rationale
- Project scope, technical features and estimated costs
- Financial and economic analysis
- PPP structure and risk allocation
- Government approval process and procurement
- Project management plan

The model contract is drawn inherently from the Bulk Water Supply Contract prepared by the National Economic Development Authority (NEDA), and tailor-fitted for a septage management project of a water district. The NEDA contract having been reviewed and vetted by government PPP approving authorities serves as a good base for the septage management contract and ensures consistency with espoused PPP principles and policies of the government. The model contract also contains the minimum scope prescribed under the BOT Law IRR, as follows:

- Contractual arrangement, term and scope of work
- Technical specifications and performance standards
- Implementation milestones

- Cost recovery structure and adjustment formula
- Performance security and insurances
- Acceptance test and procedures
- Warranty period and procedures (after transfer)
- Grounds for and effects of contract termination including modes for dispute settlement
- Compliance with all other applicable laws, rules and regulations.

2. BUSINESS CASE FOR SEPTAGE MANAGEMENT PROJECT

This business case serves as a guide for Water Districts wishing to implement septage management services through a public-private partnership arrangement.

RATIONALE

The Presidential Decree 198, the special charter creating water districts explicitly provides water supply and sanitation services as basic mandates of water districts. However, 40 years from inception, investments in sanitation services remain nil. The lack of community-wide wastewater treatment facilities has resulted to unabated pollution, contaminating and degrading sources of water supply. As a direct offshoot, water-borne diseases are the third leading cause of morbidity and mortality. Moreover, tourism and fisheries sector have suffered from lost revenues. The estimated economic losses from all these is a staggering PhP78 billion a year¹.

Fortunately water districts' awareness and interest in protecting water supply sources through waste water treatment is growing. However this interest is dampened by reluctance to invest because of the perception that wastewater treatment services operate at a loss, thereby necessitating a cross subsidy from water supply services.

With this consideration, septage management was introduced to water districts as the first line of intervention that can effect a 50% reduction on the pollution load and can be self-liquidating. Other options, such as combined drainage and sewer with interceptors and the sewerage systems are much more efficient but require much larger investments (see table).

Strategy	Pollution Reduction Potential	CAPEX Cost (PhP '000) per household
Increase septic tank use	Up to 50% (for new, properly constructed septic tanks)	5 to 10
Improve septic tank design	Up to 50% (retrofit)	2 to 5
On-site secondary treatment systems	Up to 90%	20 to 40
Septage Management Program	Up to 50% (for properly constructed and improved septic tanks)	2 to 3
Separate sewerage system	Up to 90%	90 and up
Combined (interceptor) sewerage system	Up to 90% (during dry weather only)	30 to 70

¹ *Economic Impacts of Sanitation in the Philippines* (2008) by the Water and Sanitation Program (WSP)

PROJECT SCOPE

Septic tanks are the most common measure for point source wastewater treatment but their efficiency is maintained only if they are desludged every 3 to 5 years. Septage management has three components: i) desludging of septic tanks, ii) septage treatment, and iii) proper disposal of or re-use of treated effluent and residual bio-solids. The project capital investment includes the construction of a septage treatment plant and procurement of vacuum trucks for collecting and transporting the septage from the septic tanks to the treatment plant. Below is a sample profile of a septage management project.

Box 1. Profile of the Baliwag Water District Septage Management Project

Objective	To provide community wide waste water treatment services to Baliwag Municipality through septage management
Description	<p>Septage management services will cover desludging of septic tanks every five years, transport and treatment in a septage treatment plant, and disposal of effluent and bio-solids in an environmentally acceptable manner.</p> <p>The treatment process will use a fully mechanized system, consisting of the following:</p> <ul style="list-style-type: none"> • Preliminary Treatment : mechanical bar screen, macerator and septage acceptance unit • Primary Treatment : chemical dosing system and dewatering unit • Secondary Treatment : Sequencing Batch Reactor • Tertiary Treatment : disinfection
Size/Location of Treatment Plant	<p>Lot Size- 2,000 sq m</p> <p>Location- Barangay San Roque</p>
Coverage and Target Population	All water districts customers in all of the 27 barangays of Baliwag. The barangays are grouped in Zones 1-5. Zone 1 will be served on the first year of operation, Zone 2 in the second year and so on until all zones are covered. The second cycle starts in year 6. By 2015, 5% of the households not connected to the water district will be served too.

Demand Projection	<p><u>Basic Assumption (project demand by 2015)</u></p> <ul style="list-style-type: none"> • Total Concessionaires Served by the District =28,983 • No. of Residential Household =28,347 • No. of Commercial/Institutional Establishments =636 • Percentage of Houses that has Septic Tanks =75% • Percentage of Houses Septic Tank are accessible =70% • Average Septic Volume Extracted from Septic Tanks =1.5 m³ • Average Septic Volume Extracted for Com./Inst. Establishments ST =4 m³ • Desludging Cycle =5 years • Operational days / Year = 213 days a year
Minimum Capacity	<p>Septage Treatment Plant- 24 m³/day Vacuum Trucks – two (2) five- m³ trucks Dump Truck - 1</p>

The project shall cover the franchise area of the Water District which is usually the area within the administrative boundaries of the LGU. In the case of metropolitan Water Districts, the franchise area covers two or more LGUs. The project is envisioned to cater initially to Water District customers². Depending on the ordinance that may be passed and implemented by the LGU, the project can also cover non-Water District customers and possibly treatment of septage collected by private desludgers.

The project is a first-stage community-wide sanitation solution as opposed to the ultimate solution that is a sewerage system. The project aims to lower considerably the pollution levels in receiving bodies of water and in underlying aquifers thereby reducing harmful effects to health and enhancing the potential in fisheries, tourism, etc. and improving the living conditions of the people in general.

REVIEW OF TECHNICAL OPTIONS

Treatment and disposal facilities for septage can utilize mechanized or non-mechanized technology:

Mechanized technology involves automated handling and dewatering of septage with minimal intervention of operators and is designed to optimize solid-liquid (bio-solids and filtrate) separation and enhance pollutant removal in the downstream process. The

² The average coverage of water districts in terms of population served in their respective franchise areas is at 50%.

preliminary treatment for this process involves removing inert solids using septage acceptance units (screening and grit removal), followed by mechanized de-watering using for example screw or belt press. The de-watered solids may be used as soil conditioner or landfill cover, while the filtrate is further treated biologically using a high-rate aeration system, which is a process used for sewage treatment prior to disposal into a receiving body of water.³

Non-mechanized technology generally involves pond systems requiring relatively large footprints. The preliminary treatment involves the removal of non-biodegradable inert components of the septage (i.e., mostly plastic materials). The septage is then allowed to stabilize in ponds for 30-45 days to further remove organic contaminants. The accumulated sludge at the bottom of the pond is usually pumped out and dewatered using drying beds. When sufficiently dried, the sludge may be used as soil conditioner or landfill cover.⁴

There are obviously pros and cons to the two technical options, most notably the land area required, efficiency and ease in operation. Mechanized plants require smaller footprints compared to non-mechanized systems (for example a plant with a 70 cubic meters capacity per day require a 1,100 square meter lot for a mechanized system and 4,000 square meters for the non-mechanized system). Mechanized plants have more reliable and consistent process in meeting effluent standards but require higher capital outlay for the equipment compared to the mainly civil works component of the non-mechanized system. In terms of ease in operation, mechanized plants require less human handling and intervention but will have higher operating costs (e.g., for power, chemical, spare parts replacement).

³ Philippine Water Revolving Fund Support Program's Business Model for a Water District Septage Management Program,

⁴ Ibid.

Figure 1. Fully-Mechanized Septage Treatment Plant Components



Septage Acceptance Unit

The hose of the desludging truck is hooked to the septage acceptance unit (SAU), where the solid waste and sludge are automatically separated.

For semi-mechanized systems, the SAU is replaced with mechanical



Screw Press for de-watering/ separation of sludge and filtrate

The screw press is one example of a de-watering equipment.

Other options include centrifuge decanter, belt press or filter press.



Activated Sludge/Aeration Tank

Conventional Activated Sludge system is perhaps the most popular and widely-used for wastewater treatment.

Oxidation Ditch is a modification of the Conventional Activated Sludge.

Sequencing Batch Reactor (SBR) combines the operation of aeration and solid settlement in a single system.

Figure 2. Non-Mechanized Septage Treatment Plant Components



Mechanical Screens

The mechanical screens are used to separate the solid waste from the sludge. This is a cheaper alternative to the septage acceptance unit, but will involve manual handling of the solid waste.



Ponds

Pond systems typically comprise a treatment train, which involves a series of ponds: anaerobic – facultative – aerobic – maturation, to achieve BOD and pathogen reduction prior to discharge to the environment.



Drying Beds

The drying beds are used for the treatment of the bio-solids, before these can be used as landfill cover. The bio-solid can also be used as soil conditioner but this will require further treatment prior to land application, alkaline stabilization or composting.

ESTIMATED COST

Sample cost estimates of fully mechanized and non-mechanized treatment systems having the same capacity are shown side by side in Box 2.

Box 2. Sample Cost Estimate

Fully Mechanized Treatment System			Non-Mechanized Treatment System		
Item	Qty.	Amount	Item	Qty.	Amount
1. Site development	1,100 m2	550,000	1. Site development	4,000 m2	2,000,000
2. Septage treatment plant			2. Septage treatment plant		
2.1 Septage acceptance unit	1 no.	9,000,000	2.1 Mechanical screens	2 no.	200,000
2.2 Septage holding tanks/FOG removal	120 m3	1,200,000	2.2 Ponds	1,575 m2	2,362,500
2.3 Dewatering units: screw press	1 no.	9,000,000	2.3 Drying beds	210 m3	2,100,000
2.4 Activated sludge: aeration tank	47 m3	470,000	2.4 Chlorine contact chamber	2 m3	30,000
2.5 ASS plate settlers	12 m3	180,000	2.5 Sludge pump to drying bed	2 no.	200,000
2.6 Sludge digester	2 m3	30,000	2.6 Process piping and accessories	1 lot	250,000
2.7 Chlorine contact chamber	2 m3	30,000	2.7 Cake storage and handling unit	15 m3	150,000
2.8 Sludge pump to digester and AS	4 no.	400,000	2.8 Electro-mechanical works	1 lot	160,000
2.9 Blower	2 no.	300,000	2.9 Instrumentation works	1 lot	80,000
2.10 Process piping and accessories	1 lot	750,000			
2.11 Cake storage and handling unit	15 m3	150,000			
2.12 Electro-mechanical works	1 lot	8,244,000			
2.13 Instrumentation works	1 lot	1,648,800			
3. Support facilities			3. Support facilities		
3.1 Administration building	30 m2	750,000	3.1 Administration building	30 m2	750,000
3.2 Motorpool/washing bay	150 m2	900,000	3.2 Motorpool/washing bay	150 m2	900,000
3.3 Office equipment	1 lot	2,000,000	3.3 Office equipment	1 lot	2,000,000
3.4 Chlorine house/chemical storage	20 m2	500,000	3.4 Chlorine house/chemical storage	20 m2	500,000
3.5 Laboratory	20 m2	500,000	3.5 Laboratory	20 m2	500,000
3.6 Building for SAU and dewatering	100 m2	2,500,000	3.6 Genset building	20 m2	500,000
3.7 Blower room and genset building	50 m2	1,250,000	3.7 Utility vehicle	1 no.	700,000
3.8 Utility vehicle	1 no.	700,000	3.8 Dump truck	1 no.	2,000,000
3.9 Dump truck	1 no.	2,000,000			
4. Contingencies		4,305,300	4. Contingencies		1,538,300
5. Engineering cost		6,156,600	5. Engineering cost		2,199,700
6. Procurement of lot	1,100 m2	3,300,000	6. Procurement of lot	4,000 m2	12,000,000
7. Vacuum trucks	4 no.	20,000,000	7. Vacuum trucks	4 no.	20,000,000
Total		76,814,700	Total		51,120,500

The typical cost structure of a septage management project is given below:

Table 1. Capital Costs (PhP Million)

SpTP Capacity (m ³ /day)	Fully Mechanized System				Non-Mechanized System			
	Land	Plant	Trucks	Total	Land	Plant	Trucks	Total
15	0.9	47.5	5.0	53.4	1.2	9.5	5.0	15.7
30	1.6	48.6	10.1	60.3	3.4	13.3	10.1	26.9
35	5.6	48.9	12.9	67.4	9.3	13.2	12.9	35.4
40	2.1	49.4	15.2	66.7	6.7	13.6	15.2	35.5
45	3.9	49.8	15.1	68.8	5.9	13.7	15.1	34.7
50	0.6	55.5	18.0	74.1	2.1	14.2	18.0	34.3
55	4.2	51.7	18.8	74.7	10.7	15.6	18.8	45.0
60	1.0	50.6	16.0	67.6	5.0	15.9	16.0	36.9
65	0.3	52.1	22.1	74.5	1.3	19.3	22.1	42.7
70	2.2	60.4	24.1	86.6	8.1	16.5	24.1	48.6
85	5.3	53.3	17.9	76.5	16.8	18.7	17.9	53.4
100	2.3	71.0	29.4	102.6	12.1	20.9	29.4	62.4
110	2.4	72.0	30.0	104.3	8.1	24.7	30.0	62.8
140	1.2	89.9	40.0	131.1	7.6	25.3	40.0	72.9
150	3.0	90.2	33.0	126.2	8.2	33.4	33.0	74.6
255	7.0	134.6	58.3	199.9	71.8	43.3	58.3	173.4
390	7.0	196.6	90.1	293.7	71.8	55.7	90.1	217.6

Figure 3. Capital Cost Curves

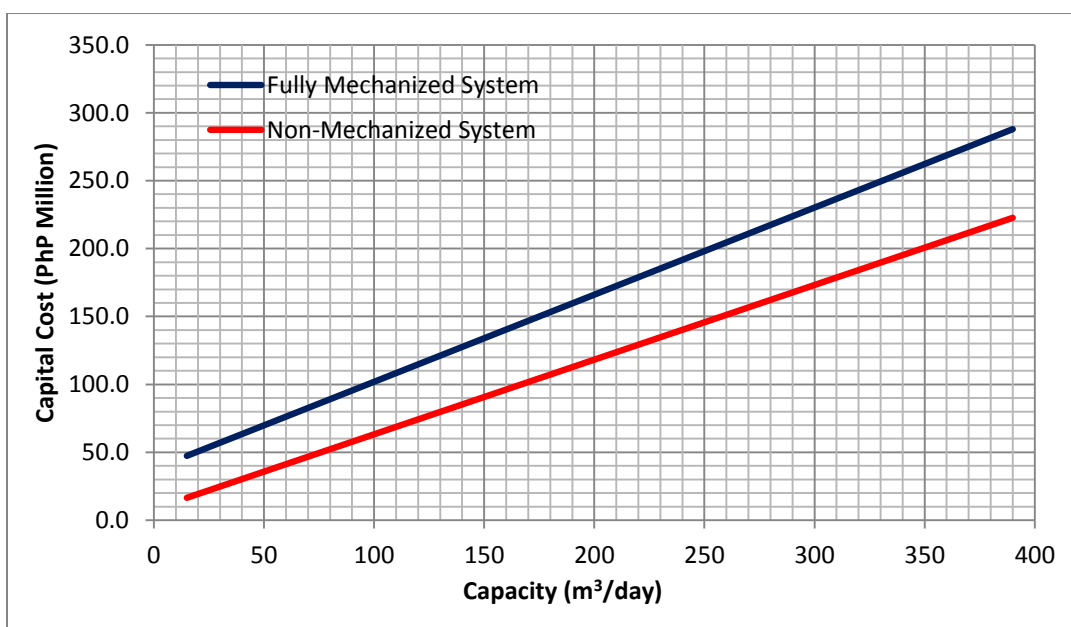


Table 2. Plant O&M Costs (Php Million/year)

SpTP Capacity (m ³ /day)	Fully Mechanized System					Non-Mechanized System				
	Personnel	Office	Treatment	WQ Tests	Sub-Total	Personnel	Office	Treatment	WQ Tests	Sub-Total
15	1.08	0.12	0.25	0.12	1.57	1.08	0.12	0.01	0.12	1.33
30	1.59	0.16	0.35	0.24	2.34	1.50	0.15	0.01	0.24	1.90
35	1.48	0.15	0.47	0.24	2.34	1.21	0.12	0.01	0.24	1.58
40	1.54	0.15	0.47	0.24	2.41	1.36	0.14	0.01	0.24	1.75
45	1.79	0.18	0.51	0.24	2.72	1.52	0.15	0.01	0.24	1.93
50	1.60	0.16	0.51	0.24	2.51	1.51	0.15	0.01	0.24	1.91
55	1.94	0.20	0.68	0.24	3.05	1.61	0.16	0.02	0.24	2.02
60	1.64	0.17	0.74	0.24	2.79	1.64	0.17	0.02	0.24	2.07
65	1.58	0.16	0.70	0.24	2.68	1.32	0.13	0.02	0.24	1.71
70	1.61	0.17	0.76	0.24	2.78	1.48	0.15	0.02	0.24	1.89
85	2.15	0.22	1.17	0.24	3.78	1.75	0.17	0.03	0.24	2.19
100	2.02	0.20	1.08	0.24	3.53	1.89	0.18	0.03	0.24	2.34
110	1.99	0.20	1.29	0.24	3.72	1.82	0.19	0.03	0.24	2.28
140	2.05	0.19	1.52	0.24	4.00	2.05	0.19	0.04	0.24	2.52
150	1.64	0.17	1.62	0.24	3.67	1.64	0.17	0.04	0.24	2.09
255	3.09	0.31	3.50	0.36	7.26	2.69	0.27	0.08	0.36	3.40
390	4.03	0.40	5.35	0.36	10.14	3.36	0.34	0.13	0.36	4.19

Annex 1 presents how the capital and O&M costs were derived.

Figure 4. Plant O&M Cost Curves

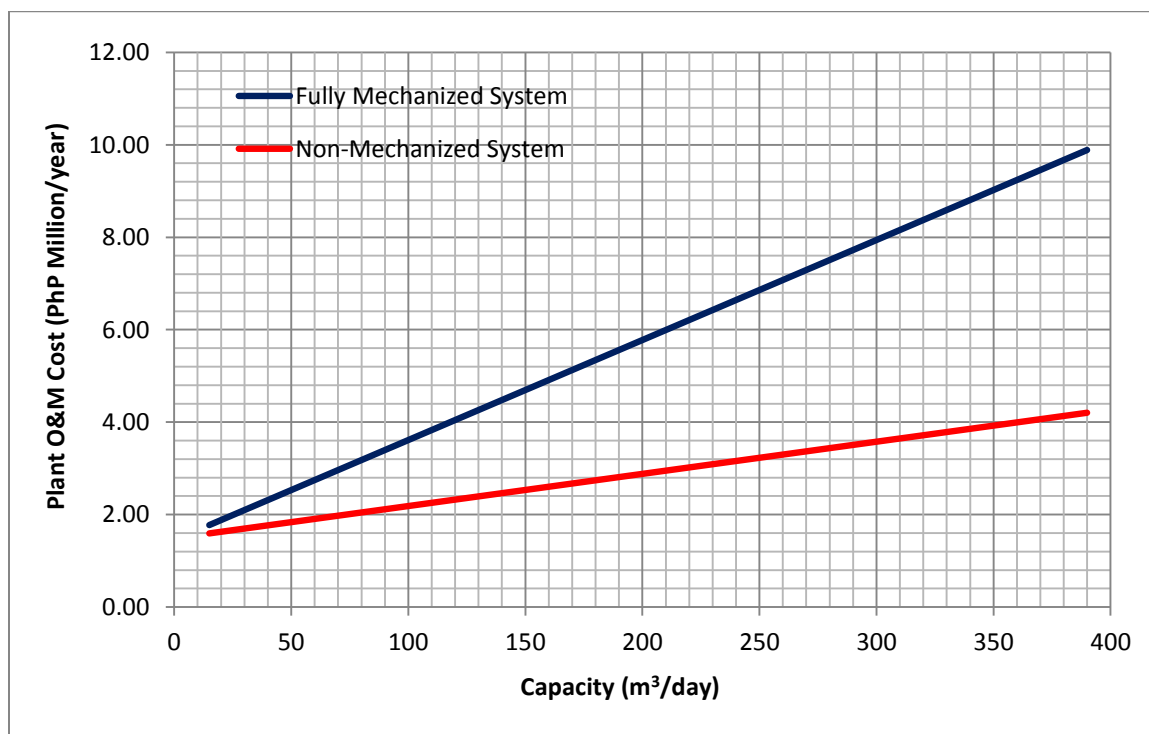
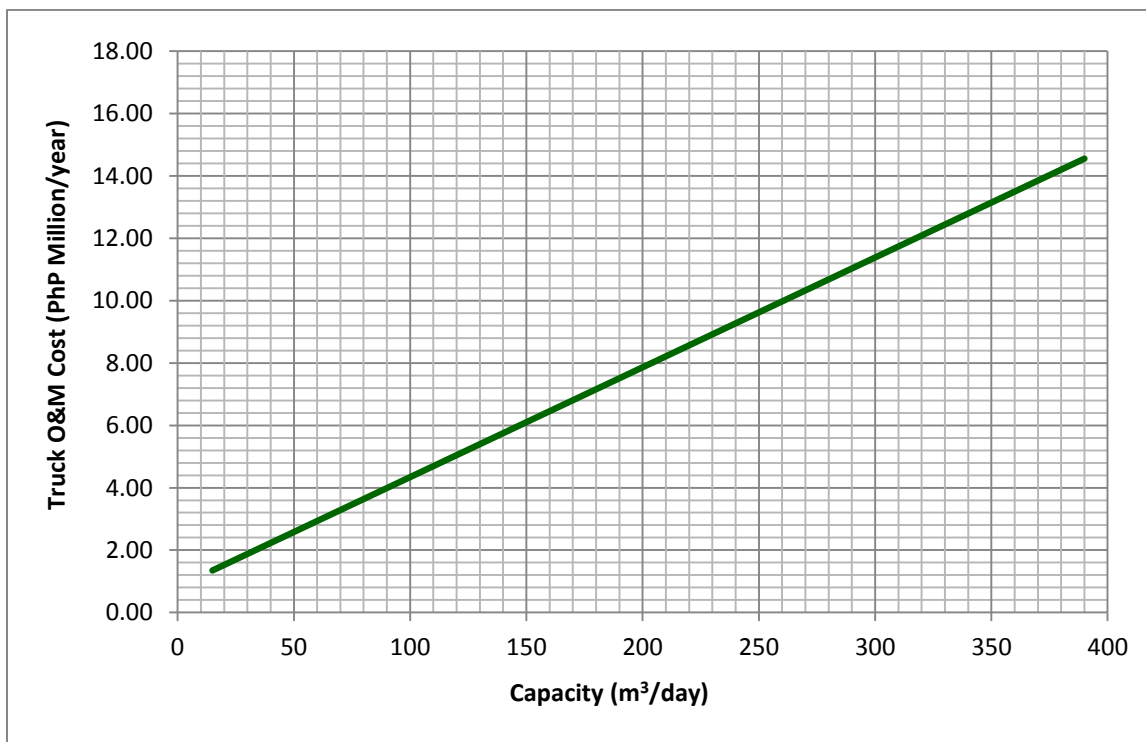


Table 3. Truck O&M Costs (PhP Million/year)

SpTP Capacity (m ³ /day)	Fully Mechanized and Non-Mechanized Systems				
	Personnel	Registration & Insurance	Fuel	Parts & Maint	Sub-Total
15	0.29	0.04	0.34	0.17	0.83
30	1.02	0.12	0.51	0.25	1.90
35	1.15	0.12	0.98	0.45	2.70
40	1.18	0.15	0.89	0.45	2.66
45	1.15	0.15	1.13	0.53	2.95
50	1.27	0.17	0.95	0.54	2.94
55	1.16	0.18	1.30	0.66	3.30
60	1.09	0.12	0.47	0.23	1.91
65	1.74	0.20	1.59	0.77	4.30
70	1.53	0.20	1.33	0.84	3.90
85	1.44	0.20	1.34	0.63	3.61
100	2.10	0.26	1.70	0.75	4.81
110	1.82	0.24	1.58	0.77	4.41
140	2.46	0.32	1.34	0.66	4.78
150	1.37	0.20	1.11	0.54	3.22
255	3.79	0.48	3.70	2.04	10.01
390	5.51	0.76	6.05	3.15	15.47

Figure 5. Truck O&M Cost Curve



INVESTMENT PROGRAMMING

Septage treatment plants are scalable. As demand increases equipment can be added to increase the capacity of the plant. Thus the initial investments are not lumpy rather infusions can be phased as need for expansion occurs. The only limitation is on the size of the plot of land for the treatment plant. Thus, it is advisable to buy land with an area adequate to accommodate future expansion.

Likewise, additional trucks can be purchased as demand increases. Note, however, that trucks will need replacement every 10 years.

DEMAND ANALYSIS

The proper projection of the septage volume for collection over a period of time is crucial to septage management planning because the amount that needs to be collected daily will determine the number of trucks, size of the plant, ergo the investment requirement. The best way in estimating the septage volume is to get actual data from septage haulers and desludgers and facilities receiving septage. However, there will likely be no record keeping or if available may be underestimated considering that only a small number of households practice regular desludging. In the absence of a septic tank inventory, the use of incomplete data on the frequency and number of septic tanks may not be representative of the entire population under study.

Given these conditions, projecting volume using the typical tank volume/ pump-out frequency is best, for which the following information is necessary:

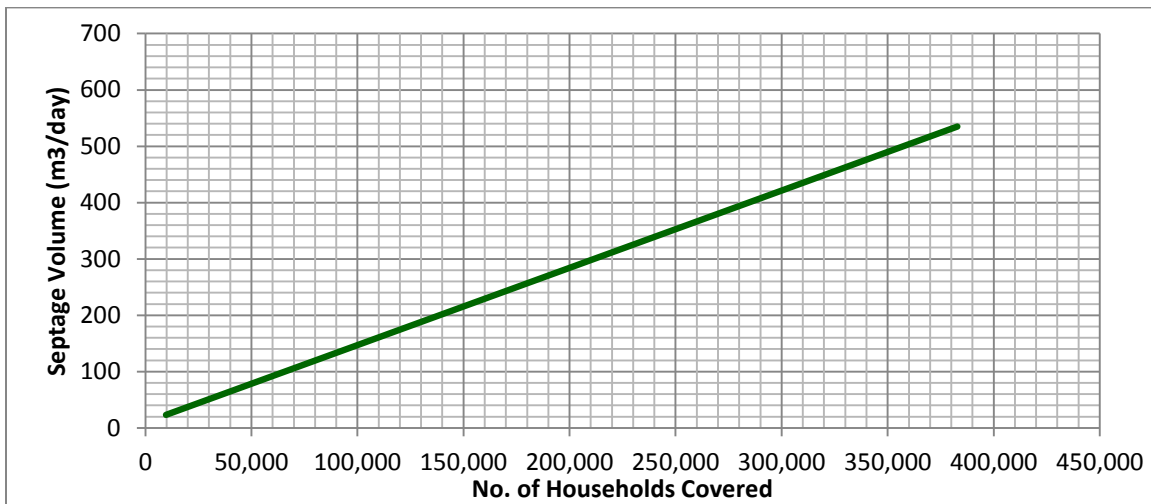
1. Projected household population and estimated household population in the franchise area and estimated growth rate
2. Projected water service connection and estimated service connection growth in the franchise area
3. Projected number of households with septic tanks
4. Assessment of accessibility of septic tanks (for example empirical data from the Manila Third Sewerage Project Master Plan show 80% accessibility)
5. Septic tank average septage volume
6. Frequency of desludging (DOH recommends desludging every 3 to 5 years)
7. Days of operation per year

8. The working formula used to estimate septage volume is shown below:

$$\text{Daily Septage Volume (m}^3\text{/day)} = \frac{\text{No. of accessible septic tanks} \times \text{average septage volume per septic tank (m}^3\text{)}}{\text{Days of operation per year (days/year)} \times \text{desludging frequency (years)}}$$

9. Willingness to pay survey to determine overall market viability. Willingness to pay refers to the maximum amount a person would be willing to pay, sacrifice or exchange in order to receive a good (such as clean water) or to avoid something (such as ill health). The market demand curve for the service originates from what house hold respondents are willing to pay for the service. The survey questions were constructed by starting with a *high* price; asking WD customers if they are willing to pay for the service at that price; decreasing the price and repeating the process. This will eventually give the Market Demand Curve.

Figure 6. Number of Households Covered and Septage Volume



ECONOMIC ANALYSIS

Intuitively, septage management projects will have very high economic viability considering that there are no existing community-wide wastewater treatment facilities in most water district areas. We can assume that from zero to a positive intervention, even if it is able to address only 50% of the pollution load, will still redound to high economic internal rates of return.

The principal objective of the economic analysis is to evaluate the impact of the project on the economy as a whole. The economic viability of the project is determined by calculating the economic internal rate of return (EIRR) and the benefit-cost ratio (BCR) of the project. A project is considered economically viable if the calculated EIRR is higher than 15%, the social discount rate prescribed by the National Economic and Development Authority (NEDA), and if the BCR is greater than one.

The projection period for the economic analysis may be 30 years. The septage management facility is estimated to have a useful life of 50 years, the site development works are estimated to last for 20 years and the useful life of the treatment plant equipment is 15 years. It is deemed reasonable to consider two full life cycles of treatment plant equipment and thus, a 30-year projection period.

While there are significant unquantifiable benefits, only the quantifiable economic benefits should be included in the analysis. In this way, the quantification of benefits is conservative. Benefits measured here, such as health benefits and environmental impacts, are assumed to accrue only to the households that will be directly covered by the septage project; although in reality positive externalities will accrue to the whole population in the project's influence area.

Economic benefits- Since the septage management project is a sanitation improvement project, the quantification of benefits utilizes the concept of per capita benefit due to sanitation improvement, which is primarily based on the study *Economic Impacts of Sanitation in the Philippines* (2008) by the Water and Sanitation Program (WSP), a multi-donor program administered by the World Bank. The study estimated the economic costs of poor sanitation and reckoned that sanitation improvements will result in the avoidance of these economic costs. The economic costs that will be avoided include health impacts, water resource-related impacts, tourism impacts and other welfare impacts. The per capita economic costs are detailed in Table 4 below.

Table 4. Per capita economic costs of poor sanitation

Type of impact	Per capita economic costs of poor sanitation		
	USD (2005)	PhP (2005)	PhP (2012)
Health			
Health care costs	0.4	22.03	30.46
Productivity costs	0.7	38.56	53.31
Premature death costs	11.0	605.93	837.73
Water			
Drinking water costs	1.4	77.12	106.62
Fish production losses	0.1	5.51	7.62
Domestic water use-related costs	2.3	126.69	175.16
Other welfare			
Time use	0.3	16.53	22.85
Life choices	0.2	11.02	15.23
Tourism			
Tourism costs	0.5	27.54	38.08
Total	16.90	930.92	1,287.05

Source: Table 8, *Economic Impacts of Sanitation in the Philippines* (2008)

Economic costs- Economic costs differ from financial costs because the former reflect shadow prices, and should exclude transfer payments such as taxes. Shadow prices are deemed important when there are imperfections in a market, which imply that the accounting costs do not reflect the true value of funds. The shadow prices used are based on the prescriptions of the NEDA, which are as follows:

Foreign exchange = Php1.20 per peso equivalent of the financial cost of foreign exchange

Unskilled labor = Php0.60 per peso equivalent of the financial cost of unskilled labor

In the reckoning of economic costs, the accounting costs for taxes are also not considered because these are merely transfers within the economy, that is, a transfer of resource from one economic agent (i.e., tax-paying firms and households) to another economic agent (i.e., the government), and do not represent creation of value. Economic costs also do not account for inflation. Thus, the costs should be in constant prices.

Rates of return of septage management projects, considering sanitation services are currently nil are expected to be very high. For example the feasibility study of Metro Cebu showed more than 100% EIRR.

FINANCIAL ANALYSIS

Septage management operation could and should be self-sustaining. A financially viable septage management operation must be able to recover all costs and able to service its financial obligations. Full cost pricing means, recovery of:

- Project development cost including studies, design, land, equipment, trucks and other capital costs
- Interest and principal repayment or debt service
- Operations and maintenance cost for the entire process of desludging, transport, treatment and disposal
- Annual contributions to the capital repair and replacement reserve fund.

The key considerations, in setting the price are:

- Full cost recovery will be based on the served population only
- Cash flow approach is used in determining the revenue requirements
- The frequency of desludging will be every five (5) years
- The combined life-line tariff for water supply and septage services should not exceed 5% of the monthly income of the lowest income group (LIG cap set by LWUA)

In the absence of LWUA pricing guidelines for septage management services the water districts have assumed different approaches, namely: percentage of the water bill, fixed rate per volume of water consumed and fixed rate. Most water districts which have prepared septage management feasibility studies preferred the second option.

Table 5 below shows the range of feasibility indicators based on the 17 feasibility studies conducted by the PWRF Support Program. Note that the test of financial viability is if the financial internal rate of return (FIRR) is higher than the weighted average cost of capital (WACC). The WACC is the weighted average of the cost of equity and debt. For example if the equity is 30% of the capital and the desired return is 15%, and the debt is 70% with an interest rate of 10%, the WACC is computed as follows: $(.30 \times .15) + (.70 \times .10) = 0.115$ or 11.5%. In this particular example the project is viable if the FIRR is higher than 11.5%.

Table 5. Summary of Septage Management Project Feasibility Study Results

Water District	Population	Treatment Capacity (m3/day)		Capital Cost* (Million PhP)		Tariff (PhP/m3 of water consumed)	FIRR (%) (WACC)
		Phase 1	Phase 2	Phase 1	Phase 2		
Baliwag	145,790	30	40	50	7	1.09	19.77 (9.51)
Cabanatuan City	267,626	50	75	87	20	1.67	27.10 (10.40)
Hagonoy	139,063	45		63		2.04	14.94 (9.88)
Mabalacat	236,428	70	100	77	27	1.95	14.78 (9.83)
San Jose Del Monte City	530,877	110	150	101	26	1.90	14.02 (9.47)
Laguna	162,527	45		67	3	1.99	14.83 (10.05)
San Pablo City	246,137	35	60	36	8	1.20	21.50 (10.90)
Puerto Princesa	232,418	Feasibility Study on-going					
Camarines Norte	214,749	55		74	3	3.16	14.57 (9.82)
Bacolod City	529,330	100	140	101	61	1.65	14.43 (9.51)
Metro Iloilo	733,286	60	110	68	35	2.60	19.83 (9.07)
Metro Kalibo	73,054	50		60	14	4.60	21.47 (9.06)
Metro Roxas	156,448	40		63	18	3.15	22.05 (9.07)
Metro Cebu	1,997,604	350	585	335	469	1.65	12.70 (9.55)
Isabela City	93,882	15		16		1.20	19.40 (9.65)
Tagum	229,186	50	70	87	9	3.10	13.10 (9.44)
General Santos	596,497	65	110	74	34	1.76	14.20 (9.62)
Metro Kidapawan	131,040	50		67	4	3.12	13.47 (9.62)

PUBLIC PRIVATE PARTNERSHIP (PPP) MODALITY

The spectrum of PPP modalities as shown in Figure 7 below presents several options for water districts. The range from service contract to privatization is underpinned by three general criteria: the ownership of the infrastructure, the extent of risk transfer and access to private finance. The extreme right implies that: the infrastructure is owned by the private sector investor; most risks are assumed by the private sector investor; and private finance is used.

Figure 7: PPP Spectrum with Different Types of Modalities⁵



The choice of the PPP modality is a policy consideration. It could be access to private sector skills and knowhow or to address financing gaps. Table 6 below shows the benefits of each modality.

Table 6: Factors in the Selection of PPP Modality⁶

PPP Modality	Private Investment	Private Sector Efficiency	Management Skills	Technical Skills
Service Contract- a contractual arrangement for a defined scope of work for the service required, period of performance and payment	None	Some	Little	Yes
O & M Contract- a contractual arrangement for the operation and management of a facility, the payment for which may be fixed or performance-based	None	Some	Some	Yes
Build Transfer- a contractual arrangement whereby the project proponent undertakes the financing and construction of an infrastructure facility and after its completion turns it over to the government agency, which shall pay the proponent on an agreed schedule its total investment cost plus a reasonable rate of return thereon ⁷	None	Some	Some	Yes
Build Lease Transfer – a contractual arrangement whereby a project proponent is authorized to finance and construct an infrastructure facility and upon its completion turns it over to the government agency on a lease arrangement for a fixed period, after which ownership of the facility is	None	Yes	Yes	Yes

⁵ PEGR RA 006-4 Project Report, Business Case Methodology Report, February 2009

⁶ Ibid

⁷ Section 1.3F of the Implementing Rules and Regulations of the BOT Law

PPP Modality	Private Investment	Private Sector Efficiency	Management Skills	Technical Skills
automatically transferred to the government agency ⁸				
Build Operate Transfer (BOT)- a contractual arrangement whereby the private proponent undertakes the construction financing, operation and maintenance of an infrastructure facility. The proponent operates the facility over a fixed term during which it is allowed to collect a tariff not exceeding that proposed in the bid to recover its investment and O&M cost. The proponent transfers the facility to the government agency concerned at the end of the fixed term not exceeding 50 years ⁹ .	With private investment	Yes	Yes	Yes
Build Operate Own- a contractual arrangement whereby a private proponent is authorized to finance, construct, own, operate and maintain an infrastructure facility from which the private proponent is allowed to recover its total investments, operating and maintenance costs plus a reasonable return thereon by collecting tariffs ¹⁰	With private investment	Yes	Yes	Yes

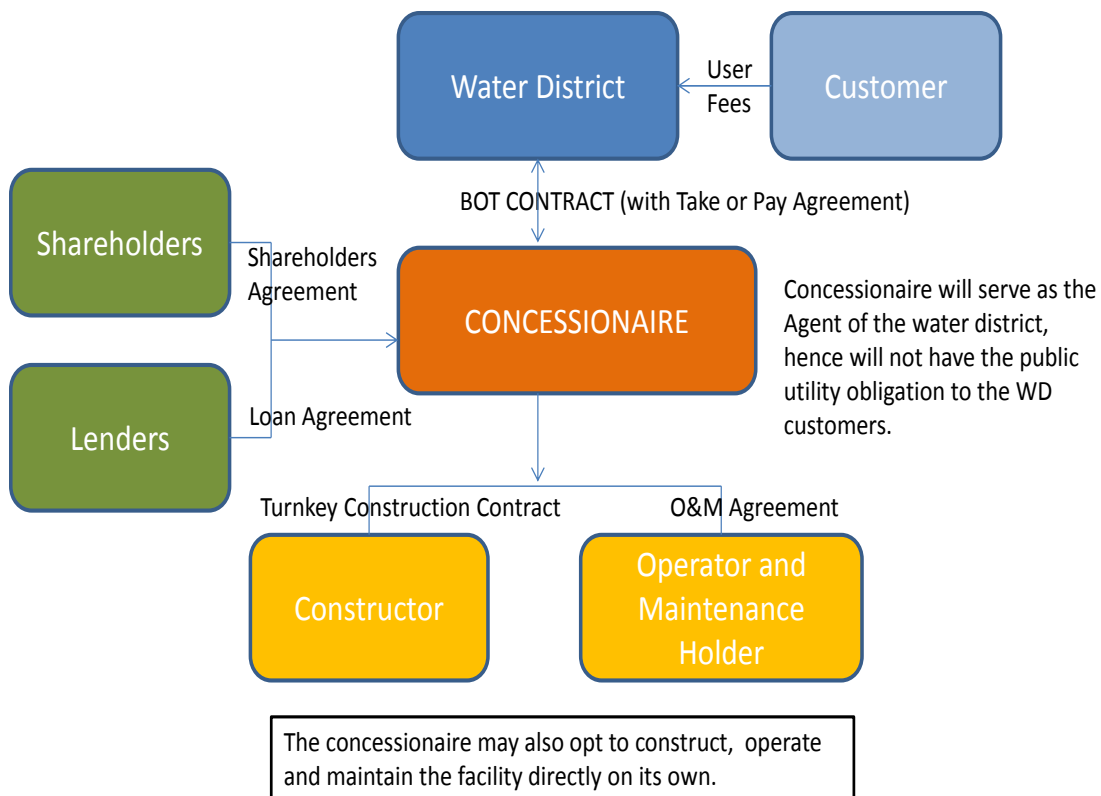
Septage management is commercially viable and with manageable market risk, as such is appropriate for the BOT modality.

Key characteristics of the BOT modality are private financing through equity and debt, and the assumption of major risks by a private company. A BOT project structure for septage management is complex but not complicated. It involves several stakeholders who are contractually bound, as shown in Figure 6.

The main contracting party with the water district is the concessionaire. The concessionaire manages several other agreements, such as the financing agreement, the contract with the engineering, procurement and construction (EPC) contractor and the contract with the operator; the latter two are different from the concessionaire. The water district has no direct responsibility to the lender or contractors.

⁸ Ibid
⁹ Ibid
¹⁰ Ibid

Figure 8: Typical BOT Project Structure



Water District- The water district is the government contracting entity. It is responsible for preparing and procuring the project. It will provide the land for the treatment plant and will be the off-taker.

Concessionaire- The concessionaire is responsible for the design, financing, construction, maintenance and operation of the septage management services on behalf of the water district. The concessionaire is the owner during the concession period and realizes profits on the initial investment from revenues collected from users through the water district. The concessionaire may directly construct and operate the facility or it can commission it to third parties. The concessionaire may commission a contractor, through a turnkey Engineering Procurement Contract (EPC), to construct the facility.¹¹ The contractor is responsible for the construction of the project and for hiring subcontractors, suppliers, and consultants. If not the operator the concessionaire may also enter into an O&M sub-contract with another company. Procurement of the contractor and the O&M operator will be the sole responsibility of the concessionaire.

¹¹ EPC stands for Engineering, Procurement and Construction.

Shareholders- The shareholders are the equity contributors or project sponsors.

Lenders- Debt financing is generally obtained from private banks. Equity finance is supplied by the private proponent and therefore investors include both shareholders and lenders.

PAYMENT STRUCTURE

Following an availability PPP arrangement, there will be a minimum off take payment to the private company. The basic principles for determining the off take price are full cost recovery and incentivizing efficiency. The payment structure is based on the following considerations:

Scheduled Service- refers to periodic desludging of households and commercial establishments based on the schedule of the water district, using a five-year interval

- Scheduled services will be paid through a monthly flat fee¹² from each household or commercial establishment connected to the water district. In the feasibility study the water district will determine the revenue requirement for the estimated capital cost and operation and maintenance cost for the service. It will then
 - set the tariff cap that will be charged to all households and commercial establishments it serves;
 - provide the schedule of households and commercial establishments that will be deslugged on an annual basis;
 - provide the projection of the additional number of households and commercial establishments that will be served over the life of the contract; and
 - prescribe the parametric rate adjustment formula.

The payment to the private company will be a percentage of the tariff cap multiplied by the number of households and commercial establishments in the schedule provided by the water district. The company that bids the lowest percentage of the tariff cap will be awarded the contract.

¹² COMMENTARY: The payment to the private company will be based on a flat fee considering that the cost of service will be more or less the same. However the water district can set a different pricing structure, such as percentage of the water bill.

- **Unscheduled Service-** refers to requests for service of households or commercial establishments outside of the water district’s schedule. Unscheduled services will be paid lump sum on a “pay per service” basis. The water district will prescribe the lump-sum fee that the private company will charge, as well as the parametric adjustment formula therefor. These information will be disclosed in the bid terms of reference
- **Third party Tipping/Disposal and Desludging Service-** the private company will be allowed collateral business by accommodating other desludgers who will dispose septage in treatment plant. It can also opt to offer desludging service to customers outside of the service area of the water district. The private company can set its tariffs for said service, provided it takes on the risk for the capital investment for the additional capacity to serve these customers, as well as the market risk.

RISK IDENTIFICATION, ASSESSMENT AND ALLOCATION¹³

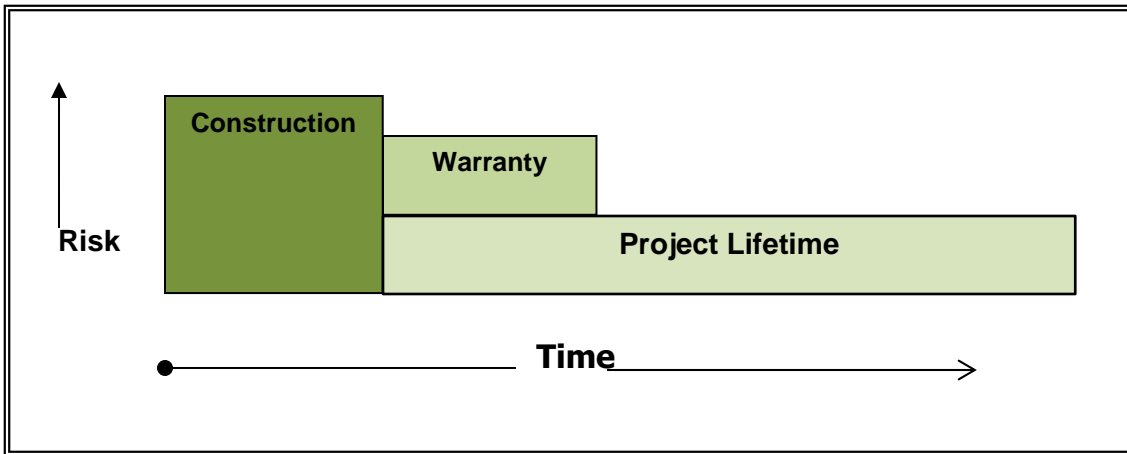
The basic tenet of risk allocation is: an identified risk should be borne by the party best able to manage the specific risk at least cost. Deviation from this principle defeats the purpose of a PPP arrangement.

This is not the same objective of maximizing the risk transfer to the private proponent. To do so will be counter-productive as it could actually increase the cost of the PPP project, because the private proponent will be forced to attach a cost premium to manage that risk. This would raise the total costs of the project, and ultimately the tariffs. Thus, a proper risk allocation between the GOP and the private sector entity should generate incentives to and penalties on the private sector entity to supply cost-effective and better infrastructure and service delivery.

There are three categories of project risks that occur within the different stages of the PPP project life. These are: (1) general risks, (2) pre-commissioning risks, and (3) commissioning or project lifetime risks. Generally construction is the riskiest phase of most PPP projects, tapering off at operation phase. For septage management projects however, the disparities are not big and risk levels relatively low. This will be discussed in the succeeding sections.

¹³ PPP Center, PPP Manual for LGUs, 2012

Figure 9: PPP Project Stages and Corresponding Risks



GENERAL RISKS

General risks are project risks present at different phases of the project life. Key examples include:

Type of Risk and Definition	How can it be covered?
<p>Procurement risk- This refers to the risk that the government approval and procurement process will experience failure to attract sufficient qualified bidders and/or responsive offers.</p>	<p>The water district can conduct market soundings once the FS is completed, and prepare a clear cut bid terms of reference to avoid any ambiguous provisions that could potentially be contentious.</p>
<p>Force majeure events beyond the control of the parties- Examples of force majeure events that could disrupt the project at any stage of its life cycle are (1) natural disasters—floods, storms or earthquakes; (2) man-made disasters—fires, riots, mass strikes, blockades by third-party governments or terrorist attacks. They may cause a temporary interruption resulting in construction delay, cost overruns or loss of revenue or even destruction beyond repair.</p>	<p>Some of these risks are insurable, namely: fires, floods, and typhoons. Uninsurable force majeure events can be shared by the WD and private proponent.</p>
<p>Political risks- These risks are caused by acts of the government, including LGUs that adversely affect the project, namely: (1) traditional political risks such as confiscation, expropriation and deprivation (CEND risks) of the project company's assets or the imposition of new taxes that jeopardize the project company's prospects of debt repayment and investment recovery; (2) regulatory risks such as introduction of more stringent standards for service delivery, the opening of the service to</p>	<p>These risks should be covered by the water district.</p>

Type of Risk and Definition	How can it be covered?
<p>competition, or the imposition of tariffs which do not reflect full cost recovery; and (3) quasi-commercial risks such as breaches by the WD on contractual obligations or project interruptions due to board or management changes.</p>	
<p>Non-performance of government undertaking- Although this may be classified as a political risk, it is also a major commercial risk especially since septage management contracts will likely be structured as availability PPPs. Under this arrangement the WD commits to pay a predetermined amount based on a minimum volume or level of service provided. If its collection efficiency falls, the WD may not have enough resources to pay for the service.</p>	<p>The water district can get a guarantee from LGUGC to cover its undertakings under the availability (or off-take) PPP arrangement. Effectively, if the WD is unable to buy the pre-agreed level of service at the contracted price, the private proponent will be paid by LGUGC.</p> <p>The WD pays an annual premium for this guarantee, and backs it up by assignment of revenues.</p>
<p>Inflation and financial risks- Inflation refers to price increases over time. Financial market risks commonly relate to fluctuations in loan interest rates. If fixed rate financing is unavailable, the project company faces the possibility that interest rates may rise and force the project company to bear additional financing costs. For certainty proponents can get loans with fixed interest rates.</p>	<p>The WD should allow the proponent fee adjustments based on a pre-agreed parametric rate adjustment formula for inflation and financing costs. Proponents should be advised to hedge. As an example the PWR offers hedging mechanisms, the JICA component is fixed for 15-20 years, and the PFI component, while re-priced quarterly has a one-time option to fix the rate.</p> <p>Proponents will also be allowed to re-finance loans if the conditions are better. However the WD can require sharing of the refinancing windfall.</p>
<p>Right of way risk- Septage management projects require land acquisition for the treatment plant. The Clean Water Act requires the LGU to provide the site. The footprint for the treatment plan varies according to the treatment option used. The manual/low-technology option, using a series of ponds requires at least 5000 square meters; while the semi and the fully mechanized options require much less; at least 1,000 square meters only.</p>	<p>Land acquisition is best undertaken by the water district, either through a transfer from the LGU or through direct purchase of the lot. For expedience, it is better for the water district to procure the lot so that it will not be beholden to the LGU and so that the timing of the procurement is within its control. The cost of the land can be recovered from the tariffs.</p>
<p>Regulatory risks- The WD will charge a tariff for the septage management services. Currently, LWUA has no clear guidelines for tariff setting for septage projects, other than the following: the combined water supply and septage lifeline tariffs should not exceed 5% of the monthly income of the lowest income group in the WD's service area.</p>	<p>With availability PPP arrangement, the water district necessarily takes on the regulatory risk. Rightly so because the WD has the knowledge and wherewithal to submit to the tariff approval process of LWUA and will be directly collecting the fees from its concessionaires.</p>

PRE-COMMISSIONING RISKS

The main risks that the parties may face during the pre-commissioning period are: (1) completion risks - the project cannot be completed at all; (2) construction delay risks — the project cannot be delivered according to the agreed schedule; (3) cost overrun risks — the actual construction cost exceeds the original cost estimates; and (4) performance risks - the project fails to meet the performance criteria at completion.

The project company, its contractors and suppliers, can in certain cases create risks. For instance, construction cost overrun and delay in completion may be the result of inefficient construction practices, wastes, insufficient budgeting or lack of coordination among contractors. Failure of the project to meet performance criteria may also be the result of defective design, inadequacy of the technology used or faulty equipment delivered by the project company’s suppliers.

However, some of these risks may also result from specific actions by the WD, LGU or other public authorities. Performance failures or cost overruns may be the consequence of the inadequacy of the technical specifications provided by the WD in the bid terms of reference. Delays and cost overruns may also be brought about by actions of the WD subsequent to the award of the project (delays in obtaining approvals and permits, additional costs caused by changes in requirements due to inadequate planning, interruptions caused by inspecting agencies or delays in delivering the land on which the project is to be built). General legislative or regulatory measures, such as more stringent safety, labor or environmental standards, may also result in higher construction or operating costs.

Other risks that occur in the pre-commissioning period include delays in project completion due to force majeure and the bankruptcy of shareholders and suppliers.

Type of Risk and Definition	How can it be covered?
<p>Construction delay or failure to complete the project- The inability of the concessionaire to complete the project may be for a variety of reasons: lack of funds, technical incompetence of the contractor, or negligence.</p>	<p>If the delay or failure to complete construction is due to the fault of the concessionaire, it shall remunerate the water district for the damage caused. Remuneration is assured through the posting of a construction bond, in any of the following forms: cash bond, bank guarantee or surety bond. As the project is completed the value of the construction bond can be reduced accordingly.</p>

Type of Risk and Definition	How can it be covered?
Cost overrun- The contractor incurs significant cost overrun	If the concessionaire is hiring a third party contractor to build the facility, it should require a lump sum, date certain, fixed price turnkey contract. Any cost overruns will then be the responsibility of the contractor.
Performance risk- The facility was built no in accordance with the performance specifications and standards	This risk can be covered by a warranty period and performance bond, also in the form of cash bond, bank guarantee or surety bond. The performance bond should be made enforceable during the operating phase of the project.

COMMISSIONING/PROJECT LIFETIME RISKS

Commissioning risks may occur throughout the project’s operating period. There are different risks that may crop up within or long after the warranty period, as shown below.

Type of Risk and Definition	How can it be covered?
Debt service interruption risks - Lenders may require an escrow arrangement for a reserve fund to cover forward debt service and protect itself from sudden decreases in cash flow that may disrupt remittance of debt repayment.	For the extent of risks of a PPP septage project, a reasonable escrow account is three months’ worth of debt service.
<p>Market or commercial risks- These relate to the possibility that the project cannot generate the expected revenue because of changes in market prices or in demand for the goods or services it generates. Both constituents of commercial risk may seriously impair the project company’s capacity to service its debt and may compromise the financial viability of the project.</p> <p>Commercial risks vary greatly according to the sector and type of project. The risks may be regarded as minimal or moderate where the project company has a monopoly over the service concerned or when it supplies a single, or at best, a few clients through a standing off-take agreement. However, commercial risks may be considerable in projects that depend on market-based revenues, in particular where the existence</p>	<p>At the minimum, the WD will have to set an environment in which the local PPP project will operate in. There are three general approaches of mitigating this type of risk.</p> <p>First, the WD undertakes a pledge of no competition, i.e., promises not to set up or allow an establishment of a competing facility during the cooperation period.</p> <p>Second, there is a ‘take or pay’ arrangement wherein the WD commits to ‘buy’ a specific number of units of the service being provided by the PPP facility whether or not there is sufficient demand for such service. In this case, cash transfer from the WD is set in place, and should be sufficient to at least cover the private proponent’s debt payment.</p>

Type of Risk and Definition	How can it be covered?
of alternative facilities or supply sources makes it difficult to establish a reliable forecast of usage or demand.	On the part of the water district, this risk is mitigated by imposing a fee included in the water bill; non-payment of which can result to disconnection of the water supply service.
<p>Operating risks- During the operational phase the parties may face the risk that the completed project cannot be effectively operated or maintained to produce the expected capacity, output or efficiency (performance risk); or that the operating costs exceed the original estimates (operation cost overrun risk). The WD and the users in the host community may be severely affected by an interruption in the provision of needed services. The WD may have to deal with safety risks or environmental damages due to improper operation of the project.</p>	This type of risk can be covered by performance guarantees in an operating and maintenance contract, which is assumed primarily by the private partner. The contractor should be asked to issue a performance bond in favor of the water district.

The most critical risks, based on past experience in this type of PPP Project are those related to:

- Land availability and acquisition, if the former is not available at the point of tender;
- The construction and operation of the infrastructure;
- Market or commercial viability of the infrastructure; and
- The regulatory environment.¹⁴

Clearly, the degree of sharing market risk is a negotiation item, and whether the WD is willing to share such a risk in the first place depends on the priority of the septage management project and on the resources available to the WD. Again the objective should not be maximizing risk transfer to the private proponent rather judicious allocation to the party who has the best ability to handle and mitigate the risk.

¹⁴ Experience has shown these risks to have the greatest impact on the success of a project.

RISK ALLOCATION PROCESS

The choice of a PPP modality clearly dictates what risks are applicable; therefore, the analysis of risks is in the context of a BOT modality. In particular, the key considerations in the allocation are:

Risks	Who bears them?	Why?
Pre-contract risks	Water District	They occur before contracting
Site acquisition	Water District	Can procure in advance to avoid delays
Design, construction and commissioning	Private Proponent	Was awarded the contract based on ability to manage the construction of the plant and installation of equipment
Sponsor and financial risk	Private Proponent	Project is financially viable and market risk is borne by the water district
Operating risk	Private Proponent	Proponent is in control of the design and construction and installation of equipment
Demand risk	Water District	Service will be limited to water district customers
Industrial relations	Private proponent	Proponent manages its work force
Government policy	Water District	Outside of control or influence of the private proponent
Force majeure	Both	Best practice is sharing of these risks

Annex 2 discusses in more depth the risk allocation for BOT septage management projects¹⁵. It shows the types of risks, who bear them, the rationale for it, possible mitigating measures and allocation instrument.

INSTITUTIONAL AND LEGAL ASPECTS

Water districts as government owned and controlled corporations have two options on the legal bases for PPP project implementation. These are the BOT Law (RA 6957 as amended by RA 7718) or the Joint Venture Guidelines (EO 423). The BOT Law and its Implementing Rules and Regulations have clear cut and robust guidelines for project structuring, procurement and contracting; and more appropriate for a BOT modality. Thus, the BOT Law is the recommended legal mandate.

¹⁵ Adopted from NEDA ICC guidelines on risk allocation

QUALITY REGULATION

Quality regulation is under the purview of the following agencies:

- Department of Health

The DOH regulations on septage collection are embodied in the Operations Manual on the Rules and Regulations Governing Domestic Sludge and Septage that was issued in June 2008. Prior to the implementation of a septage management program, the project proponent or service provider must secure an Environmental Sanitation Clearance (ESC) from the Center for Health Development (CHD) of the DOH. This requirement applies to all new septage management activities, expansion or modification.

The DOH Operations Manual also requires a Manifest System from the project proponent or service provider of sludge collection and transport. The collection and transport service provider must complete the manifest form by providing the details of origin and volume of sludge collected, and details of septage handling/transport and treatment. The service providers are required to retain copies of the manifest forms for a minimum of 3 years.

Other pertinent provisions of the Operations Manual include collection in coordination with Barangay officials, collection vehicle requirements such as: early warning devices, spill control and absorbent materials, and display of company name, contact number and logo. Desludging workers are required to wear appropriate personal protective equipment (PPE).

- Department of Environment and Natural Resources

The following table shows the effluent requirements for the filtrate treatment set forth by the DENR in its Administrative Order No. 35 (DAO-35).

Parameter	Unit	Class A,B,SB	Class C	Class D	Class SC
Color	PCU	100	100	150	-
pH	unit	6.0-9.0	6.5-9.0	6.0-9.0	6.0-9.0
5-day BOD (20oC)	ppm	30	50	120	100
COD	ppm	60	100	200	200
TSS	ppm	50	70	150	150
MBAS (surfactant)	ppm	2.0	5.0	-	5
Fats, oil and grease	ppm	5.0	5.0	-	10
Phenols	ppm	0.05	0.1	-	0.5
Total Coliform	MPN/ 100 ml	3,000	10,000	-	-

For **Class AA** waters, no sewage or trade effluent discharges are allowed. DAO-35 includes penalty provisions for non-compliance. The Environmental Management Bureau (EMB) of the DENR is mandated to monitor and enforce the above requirements.

- Department of Agriculture

DA classifies bio-solids based on the requirements shown in the following table.

Classification	Requirements
Class A	<p>Fecal coliform density of less than 1000 most probable number (MPN)/g total dry solids.</p> <p>A Salmonella specific density of less than 4 MPN per 4 g dry solids.</p>
Class B	<p>Treatment by processes to significantly reduce pathogens or equivalent processes.</p> <p>At least seven samples should be collected at the time of use or disposal and analyzed for fecal coliform during the monitoring period.</p> <p>The geometric mean of the densities of these samples will be calculated and should meet the following criteria: less than 2.0×10^6 MPN/g total solids or less than 2.0×10^6 colony forming units (CFU)/g total solids.</p>

DA's criteria for land application as fertilizer or soil conditioner are as follows:

	Fertilizer	Conditioner
Total NPK (nitrogen, phosphorous, potassium)	5-7%	3-4%
C:N (carbon-nitrogen ratio)	12:1	12:1
Moisture content	<35%	<35%
Organic matter	>20%	>20%

Pathogenic requirements include:

Fecal streptococci	<5 x 10 ³ /g compost
Total coliform	<5 x 10 ² /g compost
Salmonella	0
Infective parasites	0

The upper limits of contents of various heavy metals are as follows:

Heavy Metals	mg/kg dry weight
Zn	1,000
Pb	750
Cu	300
Cr	150
Ni	50
Hg	5
Cd	5

ECONOMIC REGULATION

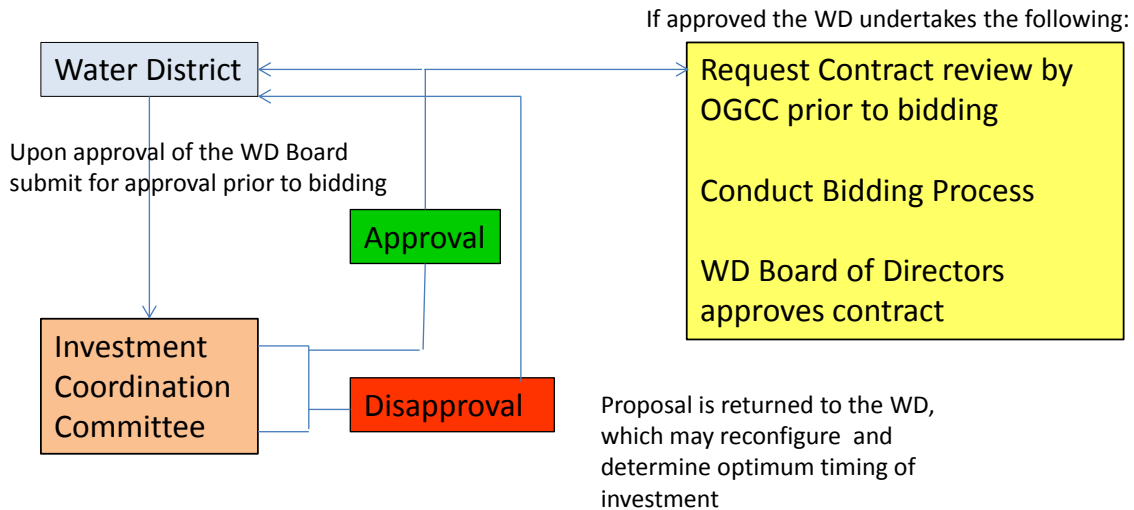
The Local Water Utilities Administration based on Presidential Decree 198 vests LWUA with the mandate to approve tariffs and set performance standards of water districts both in water supply and sanitation services. LWUA allows cost-based pricing, but sets the following limitations:

- The combined lifeline tariff for water supply and sanitation services should not exceed 5% of the monthly income of the lowest income group.
- The tariffs cannot increase more than 60% of the previous rate for each adjustment.
- A tariff band within a five-year period can be set with three (3) adjustments within this period.

PPP APPROVAL PROCESS

Figure 10 below illustrates the approval process under the BOT Law.

Figure 10. Summary of Approval Process



ICC Approval

The BOT Law requires all national BOT projects to be approved by ICC. Projects costing more than Php300 million and negotiated projects are required to be approved further by the NEDA Board. The requirements of the ICC are as follows: i) feasibility study and ii) filled up project evaluation forms. ICC shall approve the project, including bid parameters and risk allocation.

The request for approval is submitted by the water districts after Board approval of the project.

Draft Contract Review

The draft contract should be approved by the WD Board and reviewed by the Office of Government Corporate Counsel prior to bidding.

Procurement (Competitive Bidding)¹⁶

As a general rule government entities should procure through competitive bidding. The procurement process takes off from the approval of the project for tender by ICC. The process will be managed by the Water District’s Pre-Qualification, Bids and Awards Committee or PBAC. The general manager of the WD is required to constitute a PBAC with the following composition. The PBAC shall be responsible for preparation of tender documents, publication, pre or post qualification, and the administration of the bidding process.

Regular Members (Voting)	
Chairman	At least third ranking officer of the WD
Member-Secretary	Legal officer of the WD
Member (provisional)	A technical officer knowledgeable with the technical aspects of the project; duly designated by the GM on the specific septage project
Member	Officer knowledgeable in management/ operation
Member	Officer knowledgeable in finance
Provisional Members/ Observers (Non-voting)	
Technical officer (provisional)	From regulatory body (e.g., LWUA, EMB, DOH)
Two private sector representatives (observers)	<ul style="list-style-type: none"> • From duly recognized Contractors association • Facility user or duly recognized accounting association
COA (observer)	One representative from COA
PPP Center (observer)	One representative from the PPP Center
Note: A quorum of the PBAC shall be composed of the simple majority of voting members. The Chairman shall vote only in case of a tie.	

The stages in the competitive bid process include: preparation of tender documents, invitation to qualify and bid, bid preparation and pre-bid conferences, bid submission and evaluation, and contract award. The process and requirements are discussed in detail in Annex 3.

PROJECT MANAGEMENT PLAN

A Project Management Plan to control and measure project inputs and outputs is critical to the effective and timely management of the project. A Project Management Plan is required to ensure that decisions are made and made at the right time for projects to proceed in a timely fashion. The Project Management Plans will include:

¹⁶ Culled from the BOT Law Implementing Rules and Regulations

- The key activities to be undertaken;
- Who or what organization is responsible for the activity;
- The time for each activity to be commenced and completed;
- The documentation that is required as an input and an output from each activity.

MARKET SOUNDING

There are several ways to assess the market interest:

- Conduct a briefing forum with representatives from potential private companies that can provide the service
- Undertaking individual interviews with the market to obtain both formal and informal advice on their views.

Annex 1. Cost Estimates

CAPITAL COSTS

The basic components of a Septage Management Program are the following: (1) Septage Treatment Plant (SpTP) and (2) vacuum trucks. The SpTP will require support structures in order to operate efficiently.

1. Land Acquisition

The land where the treatment facility will be constructed is normally the responsibility of the LGU but the item is still priced to get the full cost of the project. Considerations for selecting site for SpTP include proximity to the service area, land use, social acceptability, availability, topography, vulnerability to disasters, and of course, the market price. Land prices vary widely depending on the locality and degree of urbanization.

The site of the SpTP should be adequate to contain all the required facilities. For fully mechanized treatment systems, area computations are done for the Septage Acceptance Unit (SAU), equalization and holding tank, dewatering unit, aeration tanks, sludge digester, office, laboratory, blower room, genset building, chemical dosing and storage, motor pool, parking and open spaces.

For non-mechanized systems, the areas common to both technology options are estimated plus those for the bar screens, lagoons/ponds and drying beds. Normally, non-mechanized treatment systems require areas about four times bigger than fully mechanized ones.

2. Site Development

Site development works involve clearing and grubbing, earthmoving/site grading, construction of perimeter fence, gates, driveways, parking, and landscaping.

3. Treatment Plant

a. Screening

In selecting the SAU equipment, the following are considered: minimum capacity per unit, number of units required, hours of operation per day, minimum acceptance time per unit, number of desludging, total time to desludge, facility water required, maximum solids input and the amount of screenings. The minimum capacity of a SAU is 90 m³/hr of septage intake. An optional stand-by

unit is not recommended because of high price. SAU requires about 15-20 m² floor area per unit.

For mechanical bar screens, the amount of solids screened can be determined based on experience that there is about 0.88 m³ solid wastes per 500 m³ of septage. The area for screens is approximated using this volume.

b. Dewatering

The size of the equalization and holding tank is computed to handle the volume of the incoming septage and translated into dimensions of the tank by assuming the depth that excludes the freeboard to get the floor area. The width and length are then computed by assuming length as normally twice the width.

In sizing the screw press, the following are considered: total flow, capacity per unit, number of units required, hours of operation per day, washwater and polymer dosing, solids input, exit volume, and sludge produced. The minimum capacity of screw press is usually 10 m³/hr. Screw press may be operated from 8 to 12 hours continuous. There should be at least two units. The stand-by unit may run alternately with the operating unit.

The volume of the sludge digester is determined on the basis of the weight of sludge produced.

Drying beds are sized based on the required retention time which is normally 10 days. The volume required is then computed based on the incoming sludge which is normally 30% of the septage volume, and given the assumed tank depth, the surface area is calculated.

c. Effluent Treatment

Conventional activated sludge is most popular and widely-used among mechanized treatment systems. It relies on decomposition of organic matter by aerobic microorganisms. Diffusers placed in the bottom of the tank to supply air to microorganisms, which metabolize the organic matter present within the wastewater. For the aeration tank, the tank volume is computed using the total flow and aeration time for the given BOD and air requirement. The tank dimensions are then computed. The plate settler volume is computed using the design detention time of the plate settler and the tank dimensions are similarly determined.

For non-mechanized systems, the ponds are typically 2 to 5 meters in depth, equipped with mechanical aerators or paddle-mixers to provide air/oxygen for aerobic treatment. Ponds require bigger land areas to handle the volume of

filtrate, and allow sufficient detention times to effectively remove solids and BOD. Ponds are sized based on the required retention time which is normally 45 days. The volume required is then computed based on the incoming septage, and given the assumed depth, the surface area is calculated.

4. Support Facilities

The office, motor pool/wash bay, laboratory and blower room/genset building constitute the support buildings of a SpTP. The area of each structure is estimated. Building construction costs are estimated on a per square meter basis.

The utility vehicle and dump truck are also part of the support facilities. The utility vehicle will be used to ferry personnel and necessary supplies while the dump truck will be used to transport bio-solids out of the SpTP to approved disposal sites.

5. Contingencies

Cost allowance of 10-15% of the above items is applied to cover physical and price contingencies.

6. Engineering Cost

Engineering works include preparation of feasibility study and detailed design, tendering assistance, and construction supervision. These normally account for about 13% of the construction cost.

7. Vacuum Trucks

The number and sizes of trucks to be procured are reflected on the feasibility study that considered hauling distances, truck speed/traffic conditions, width of roads and maneuverability. Depending on these conditions, an annual fleet schedule is prepared to meet the septage volume projections of the zones.

OPERATION AND MAINTENANCE COSTS

Septage Management Program operations can be grouped into two major categories: (1) treatment plant operations and (2) desludging operations.

1. Treatment Plant Operations

a. Personnel

SpTP operations will require a Plant Manager, operators, maintenance technician, chemist, secretary-clerk, utility man, security guard, driver and laborers. The number of personnel is dependent on the size or capacity of the treatment plant.

In a relatively small Water District, the Plant Manager may report directly to the General Manager. Bigger ones may include in the middle a Department Manager for Septage Management Services. In big Water Districts with a number of SpTPs, a Plant Manager may not be necessary for each treatment plant. Likewise, only one chemist will be needed. Minimum number of dump truck drivers must also be analyzed.

Salaries depend on prevailing local rates. Computation of salaries includes all employee benefits.

b. Office Operation

The cost of SpTP office operation includes consumable office items, laboratory supplies, water supply for domestic, irrigation and cleaning purposes, electricity for the buildings and plant perimeter lighting, telephone bills/communications, printing, fuel and maintenance of service vehicle, and other miscellaneous costs.

c. Water Quality Tests

Standard effluent quality tests apart from those performed inside the SpTP premises shall be carried out by a reputable independent laboratory using samples taken on a random basis. To compute the costs, the estimated number of tests/samples shall be multiplied by the prevailing price of the standard effluent quality test.

d. Septage Handling and Treatment

Septage handling and treatment consists of screening, dewatering and filtrate treatment. For fully mechanized treatment technology, the costs are estimated using Septage Acceptance Unit (SAU) for screening, screw press for dewatering, and activated sludge process for filtrate treatment. For non-mechanized treatment technology on the other hand, the costs are estimated using mechanical bar screens for screening, ponds for filtrate treatment, and drying beds for dewatering.

1) Screening

The SAU unlike mechanical bar screens will require power. Given the price of electricity in PhP/kw-hr, and the capacity of the SAU in m^3/hr and its power rating in kw, the cost of electricity is computed using the design septage volume and the number of hours the SAU will operate.

2) Dewatering

The screw press will also require power. The cost is computed in the same manner as the SAU.

During this process, polymer will be applied in the screw press. Given the price of the chemical in PhP/kg, the chemical dosage, and the capacity of the screw press in m^3/hr , the total weight of polymer is computed using the design septage volume to get the total cost of chemical.

3) Sludge Transfer

Power is required for sludge transfer in both technology options. For fully mechanized system, the pump will transfer sludge to the sludge digester while for non-mechanized system, the pump will transfer sludge to the drying bed. Given the price of electricity in PhP/kw-hr, and the capacity of the pump in m^3/hr and its power rating in kw, the cost of electricity is computed using the design septage volume and the number of hours the pump will operate.

4) Chlorine Disinfection

At the end of the filtrate treatment for both fully mechanized and non-mechanized systems, disinfection shall be performed using chlorination. Given the price of chlorine in PhP/kg and the chemical dosage, the total weight of chlorine is computed using the design septage volume to get the total cost of chemical.

e. Land Lease

There may be cases when the site of the treatment plant is not sold but leased. Instead of the usual cost of land that appears in the investment cost, this item will be treated as part of the operational cost.

2. Desludging Operations

a. Personnel

Desludging operations will require a Section Head, desludging coordinators, vacuum truck drivers, helpers and mechanics. There shall be one driver and one helper for each vacuum truck regardless of the size or capacity of the vacuum truck.

The Section Head shall report directly to the Plant Manager or to the Department Manager for Septage Management Services. The desludging coordinators shall be responsible for informing the households regarding the schedule of desludging. Their number depends on the number of trucks of the program.

Salaries depend on prevailing local rates. Computation of salaries includes all employee benefits.

b. Registration and Insurance

As required by law, all vacuum trucks, dump trucks and utility vehicle used for the purpose of the septage management program shall be registered with the Land Transportation Office annually. These vehicles shall also be provided with comprehensive insurance coverage and the cost of which shall be included in the operational costs.

c. Fuel

Fuel for each vacuum truck shall be estimated assuming 8 hours a day operation using an acceptable average speed, fuel consumption in km/liter and the prevailing price of diesel per liter.

d. Spare Parts and Maintenance

The cost of spare parts and vehicle maintenance is estimated as a percentage of the investment cost of the vehicles. The annual cost of maintaining mechanical equipment is normally in the vicinity of 3-4% of the vehicle cost.

Annex 2. Risk Allocation Matrix

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
Pre-contract risks					
Existing structure (refurbishment/extension)	Risk that the procurement process will experience any of the following: (a) failure to attract sufficient qualified bidders and/or responsive offers; (b) prolonged and expensive negotiations; or (c) collapse of negotiations.	Water District	Government does not have a partner yet at this stage, so it has no option but to bear this risk.	<ul style="list-style-type: none"> Carefully prepare and manage the procurement process Ensure that the WD's procurement team is experienced and competent Establish a procurement schedule commensurate with project complexity 	Since there is no agreement yet signed with any other party, there is no specific allocation instrument
Site Risk					
Site conditions	Risk that unanticipated adverse geological conditions (geotechnical risk) are discovered which cause construction cost to increase and/or cause construction delays	Private-except when complex geological conditions are present and project is WD solicited; private to absorb only up to a specific cost amount, after which WD assumes	<ul style="list-style-type: none"> WD to conduct soil test prior to bid Private sector is expected to make its own due diligence assessment of geotechnical risks 	<ul style="list-style-type: none"> Private firm will pass to builder which relies on expert testing and due-diligence Give private firm enough time to do site studies 	Contract clause requiring private proponent to provide performance bond
Permits and approvals	Risk that necessary approvals (for example,	Private proponent with the assistance of the WD	Private is better informed about the rationale for its	WD to obtain in advance of the bidder proposal LGU ordinance supporting	Contact clause stipulating the schedule to obtain

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
	environmental license, environmental management plan, construction permit) may be obtained or may be obtained only subject to unanticipated conditions which have adverse cost consequences or cause prolonged delay		request; and WD is better informed and positioned to influence the speed of the approval process, particularly in situations that are complex or sensitive	septage management program. [Note: This is however not absolutely necessary but is nice to have.] Private proponent to secure all other permits.	permits and approval and stipulating liquidated damages payable to private proponent in case of delay
Environmental liabilities created during operation	Risk that the use of the project site over the contract term has resulted in significant environmental liabilities (clean up or rehabilitation required to make the site fit for future anticipated use)	Private proponent	Private proponent is able to manage the use of the asset and attend to its maintenance and refurbishment according to the environmental requirements known at the proposal stage	During procurement private proponent must demonstrate financial capacity or support to deliver the site in the state required by the government at the end of the contract	Contract clause defining what constitutes environmental liability and the mechanism to estimate the private partner's liability and pursue payment
Availability of site	<ul style="list-style-type: none"> Risk that tenure/ access to a selected site which is not presently owned by WD or private proponent cannot 	<ul style="list-style-type: none"> WD to assume risk 	WD has a better understanding of procedures, has special powers of acquisition and use of land for infrastructure and its usually in best	<ul style="list-style-type: none"> Research cadastral records and obtain expert advice Complete land acquisition prior to proposal stage Conduct soil test 	Secure the site before bidding

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
	be negotiated <ul style="list-style-type: none"> • Risk of costs and delays in negotiating land acquisition 		position to manage; WD is in better position to negotiate where policy discourages use of compulsory acquisition power		
Design, construction and commissioning risk					
Design	Risk that the design of the facility is substandard, unsafe, or incapable of delivering the services at the anticipated cost and specified level of service (often resulting in long term increase in recurrent costs and long-term inadequacy of service)	Private proponent will be responsible except where an express government mandated change has caused the design effect	Private proponent has more experience, knowledge and control over the variables that determine the quality of the design (i.e., experience, competent staff, etc.)	<ul style="list-style-type: none"> • Ensure that the feasibility study is available well in advance of the procurement process to adequately inform the design process • Incorporate strict experience and competency requirements in the procurement process • Private proponent may transfer risk to builder/architects and other subcontractors while maintaining primary liability; WD has the right to abate service charge payments where the problem cannot be suitably remedied 	<ul style="list-style-type: none"> • Contract clause requiring performance bond • Contract clause stipulating liquidated damages

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
Construction	Risk that events occur during construction which prevent the facility being delivered on time and on cost	Private except when: <ul style="list-style-type: none"> The event is one for which relief as to time or cost or both is specifically grounded under the contract, such as force majeure or WD intervention 	<ul style="list-style-type: none"> Private proponent has more experience, knowledge and control over the variables that influence construction cost and control over construction process (i.e., schedule, equipment, materials and technology, etc.)—this assumes that private proponent has enough information to estimate costs and start operations on schedule and as planned A possible exception is in contractually agreed upon situations that classify as force majeure or WD intervention. 	<ul style="list-style-type: none"> Incorporate strict experience and competency requirements in the procurement process Ensure that feasibility study is available well in advance of the procurement process Private firm generally will enter into a fixed term, fixed price building contract to pass the risk to a builder with the experience and resources to construct so as to satisfy the private firm’s obligations under the contract 	<ul style="list-style-type: none"> Contract clause requiring performance bond Contract clause stipulating liquidated damages

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
Commissioning	Risk that either the physical or the operational commissioning tests which are required to be completed for the provision of services to commence, cannot be successfully completed	Private- although WD will assume an obligation to cooperate and facilitate prompt attendance on commissioning tests	Private proponent is in control of the design and construction process and its inputs, and therefore better positioned to manage the risk	Incorporate strict experience and competency requirements in the procurement process	Contract clause requiring a performance bond Contract clause stipulating liquidated damages (until all physical and operational commissioning tests passed)
Sponsor and Financial Risk					
Interest rates pre completion	Risk that prior to completion local currency interest rates may move adversely	Private	Private proponent, as part of its due diligence, should get information regarding the factors influencing local currency interest rates and hedge if the interest rate regime is volatile	Get loans with hedging instrument such as interest rate caps. Currently private banks offer variable rates with one time option to fix	Contract clause allocating financing risk to the private proponent at construction stage
Interest rates post completion	Risk that after completion interest rates may move adversely	Private	Private proponent in control of selecting and arranging long-term financing	<ul style="list-style-type: none"> Interest rate hedging instruments (for example, interest rate caps) Use local currency financing 	Contract clause holding WD harmless
Inflation	Risk that value of payments received during the term is eroded by inflation	Shared <ul style="list-style-type: none"> WD to assume part of it by allowing total or 	WD has more experience and information regarding the factors that	<ul style="list-style-type: none"> WD to transfer part of it to users by allowing total or partial indexing of payments to inflation 	Contract clause defining payment adjustment mechanisms

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
		partial indexing of payments to inflation • Private to assume remainder risk through the methodology adopted to maintain value	influence inflation	rate • WD to ensure its payment do not overcompensate for inflation and to avoid any double payment for after costs adjustments (for example, changes in exchange rate)	
Financing unavailable	Risk that when debt and/or equity is required by the private firm for the project it is not available then and in the amounts and on the conditions anticipated	Private	Private proponent is responsible for arranging finance	WD requires all bids to have fully documented financial commitments with minimal and easily achievable conditionality	Contract clause requiring firm letters of credit from reputable financial institutions
Sponsor risk	<ul style="list-style-type: none"> • Risk that the private proponent is unable to provide the required services or becomes insolvent • Risk that the private proponent is later found to be an improper person for 	WD	If this risk materializes, there is no private proponent to transfer the risk to	<ul style="list-style-type: none"> • Ensure project is financially remote from external financial liabilities • Ensure adequacy of finances under loan facilities or sponsor commitments supported by performance bond • Ensure adequacy of finances through the use of non-financial 	<ul style="list-style-type: none"> • Contract clause requiring a performance bond and letters of credit • Contract clause requiring minimum liquidity and debt ratios

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
	involvement in the provision of these services • Risk that financial demands on the private proponent exceed its financial capacity causing corporate failure			evaluation criteria and due diligence on private partner	
Further finance required due to WD action	Risk that by reason of a change in law, policy or other event additional funding is needed to rebuild, alter, re-equip etc., the facility which cannot be obtained by the private firm (resulting in no funding available to complete further works required by WD)	WD takes risk that private finance is unavailable- however, private proponent to assume best efforts obligation to fund at agreed rate of return with option on WD to pay via an increase in fees over the balance of the term via a separate capital contribution	WD has more information and is better positioned to manage risk	WD to satisfy itself as to likelihood of need arising, likely criticality if it does arise, and see financial capacity of private to finance and if not, WD to raise funds through internal funds or credit financing.	<ul style="list-style-type: none"> • Contract clause of best efforts obligation by private to fund with option on WD to compensate via fee increase or capital contribution • Contract clause providing a buy-out (put) option or termination with compensation for private, should finance not be obtained and facility cannot be further operated

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
Change in ownership	Risk that a change in ownership or control of the private firm results in a weakening in its financial standing or support or other detriment to the project	Shared <ul style="list-style-type: none"> • WD risk as to the adverse consequence of a change if it occurs; • Private firm risk that its commercial objectives may be inhibited by a restrictive requirement for WD consent to change 	<ul style="list-style-type: none"> • If change occurs, the ability of private proponent to manage risk is diminished • Private proponent would have to accept requirement to sign agreement, hence if condition is not acceptable, it would walk away from the project 	<ul style="list-style-type: none"> • WD requirement for its consent prior to any change in control • Private firm will seek to limit this control to circumstances where substantive issues are of concern such as financial capacity and probity 	Contract clause requiring WD consent prior to any change in control, and providing ability to influence or prevent change only in specific circumstances
Tax changes	Risk that before or after completion the tax imposed on the private firm, its assets or on the project, will change	Private if and when: <ul style="list-style-type: none"> • Tax increases or new taxes arising from general changes in tax law WD, if and when <ul style="list-style-type: none"> • Tax increases or new taxes arising from discriminatory changes in tax law 	<ul style="list-style-type: none"> • General changes in tax law affect all businesses in the country • The WD is in better position to influence specific discriminatory tax law changes affecting the project 	Private proponent to incorporate in project due-diligence- financial returns of the private proponent should be sufficient to withstand general tax law changes	<ul style="list-style-type: none"> • Contract clause providing compensation terms for discriminatory changes in tax law or allowing tariff increase to cover impact of tax change • Contract clause providing a buy-out (put) option or termination with compensation

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
					for private proponent when no other compensation mechanism is available
Operating Risk					
Maintenance and refurbishment	Risk that design and/or construction quality is inadequate resulting in higher than anticipated maintenance and refurbishment cost	Private	Private proponent is in control of design and construction processes	Private firm to manage through long-term subcontracts with suitably qualified and resourced sub-contractors	<ul style="list-style-type: none"> Contract clause imposing penalties (and possible termination) for not meeting specific and well defined performance, level of service, and quality specifications Contract clause requiring performance bond from private proponent
Changes in output specification outside agreed specification range	Risk WD's output requirements are changed after contract signing whether pre or post commissioning	Water District	WD is in better position to manage and mitigate the occurrence of the risk	WD to minimize the chance of its specifications changing and, to the extent they much change, it will ensure the design is likely to accommodate it at least	<ul style="list-style-type: none"> Contract clause of best efforts obligation by private to fund with option on WD to

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
	<ul style="list-style-type: none"> • Change prior to commissioning may require a design change with capital cost consequences on the significance of the change and its proximity to completion • Change after completion may have a capital cost consequence or a change in recurrent cost only (for example, where an increase in output requirements can be accommodated within existing facility capacity) 			expense; this will involve considerable time and effort in specifying the outputs up front and planning likely output requirements over the term	compensate via fee increase or capital contribution <ul style="list-style-type: none"> • Contract clause providing a buy-out (put) option or termination with compensation for private, should finance not be obtained and change makes project unviable
Operator failure	Risk that a subcontract operator may fail financially or may fail to provide contracted service to specification (failure	Private	Private proponent is fully and primarily liable for all obligations to the WD irrespective of whether it has passed the risk to a	WD to carry out due diligence on principal subcontractors for probity and financial capacity and commission a legal review of the major subcontractors including	<ul style="list-style-type: none"> • Contract clause imposing penalties (and possible termination) for not meeting specific and well

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
	may lead to service unavailability and a need to make alternate delivery arrangements with corresponding cost consequence)		subcontractor	the guarantees or other assurances taken by the private partner; if failure does occur the private proponent may replace the operator or the WD may require operator replacement	defined performance, level of service, and quality specifications <ul style="list-style-type: none"> Contract clause requiring performance bond from private partner
Technical obsolescence or innovation	<ul style="list-style-type: none"> Risk of the contracted service and its method of delivery not keeping pace, from a technological perspective, with competition and/or public requirements Private partner's revenue may fall below projections either via loss of demand (user pays model) payment abatement (availability 	Private -- except where contingency is anticipated and WD agrees to share risk possibly by funding a reserve	Private proponent is able to use its expertise and know-how to minimize the risk	<ul style="list-style-type: none"> WD to develop detailed, well-researched output specifications Private proponent to develop detailed, well-researched design solution Private proponent may have recourse to designer, builder or their insurers Private proponent to arrange contingency/ reserve fund to meet upgrade costs subject to WD agreement as to funding the reserve and control of reserve funds upon default; Both partners to monitor obligations in 	<ul style="list-style-type: none"> Contract clause imposing penalties (and possible termination) for not meeting specific and well-defined performance, level of service, and quality specifications Contract clause defining the condition required of the facility at the end of the term Contract clause requiring performance

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
	model) and/or operating cost increasing; - WD may not receive contracted service at appropriate quantity/quality			the contract	bond from private • Contract clause specifying mechanism to establish a reserve fund (private, public-private, public)
Demand risk					
Demand risk	Risk that operating revenues fall below forecast as a result of decrease of service volume(i.e., traffic volume, water or power consumption) attributable to an economic downturn, tariff increase or change in consumer habits	Water district: • WD through an availability payment or a minimum revenue guarantee	• Where WD is the primary off-take it has better information to manage risk	• WD and private to perform independent market demand analyses commensurate with project scale and characteristic	Contract clause stipulating the availability payment or mechanism to establish minimum revenue payments
Non-technical losses (tariff avoidance)	Risk of a portion of users or customers not paying or evading payment for service, leading to a shortfall in cash flows	Water District as payment collection is controlled by WD	WD has better access to information needed to identify non-paying users and stop/continue service to them	WD to incorporate measures (technological, business processes, and otherwise) to identify non-paying customers and prevent and deter non-payment	Contract clause for off-take payments to private proponent

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
Industrial relations risk					
Industrial relations	Risk of strikes or industrial action causing delay and cost to the project	Private	Private proponent has better information about and control over the causes of industrial action	Private proponent (or its sub-contractors) manage project delivery and operations	Contract clause requirement payment of liquidated damages to WD
Government policy risk					
Approvals	Risk that additional approvals required during the course of the project cannot be obtained	Private, except when: WD has initiated the change requiring approval	WD is in better position to manage and mitigate the occurrence of the risk	Private to anticipate requirements	Contract clause to specify private proponent compensation mechanism (for example liquidated damages)
Changes in law/ policy	Risk of a change in law/policy of WD only, which could not be anticipated at contract signing and which has adverse capital expenditure or operating cost consequences for the private firm	Private if and when: <ul style="list-style-type: none"> Changes occur in general law and are not project or service specific WD if and when: <ul style="list-style-type: none"> Changes are discriminatory and directed specially and exclusively at the project or the services 	<ul style="list-style-type: none"> General changes in law affect all businesses in the country WD is in better position to influence specific discriminatory tax law changes affecting the project 	<ul style="list-style-type: none"> Private proponent to incorporate in project due-diligence- financial returns of the private proponent should be sufficient to withstand general law/policy changes WD to monitor and limit (where and possible) changes which may have these effects or consequences on the project WD to require the private firm to effect the change in a way that the 	<ul style="list-style-type: none"> Contract clause allowing compensation to private in a pre-specified formula Contract clause to allow pass through to end users

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
				financial effect on WD in minimized (for example, pay on a progressive scale); • WD to pass through to end users	
Regulation	Risk that where there is a statutory regulator involved there are pricing or other charges imposed on the private firm which do not reflect its investment expectations	Private except when: • Tariffs and payments are pre-specified in the contract	The private proponent has the ability to undertake its own assessment of the regulatory system	Private firm to assess regulatory system and may make appropriate representations	Payment to the private proponent is not subject to approval of the regulator. Adjustment of payment to the proponent is through a parametric formula defined in the contract.
Force majeure risk					
Force majeure	Risk that inability to meet contracted service delivery (pre or post completion) is caused by reason of force majeure events	<ul style="list-style-type: none"> • Private takes risk of loss or damage to the asset and loss of revenue when risk is insurable (for example, earthquake, floods, fire and drought) • WD take some risk of service 	<ul style="list-style-type: none"> • Private proponent can buy insurance from the marketplace—commercial • WD is better positioned to manage uninsurable risks 	<ul style="list-style-type: none"> • Private to purchase insurance for insurable risks • If uninsurable, private firm may self-insure by establishing reserve funding; • If uninsurable, WD to establish contingency for alternate service delivery 	<ul style="list-style-type: none"> • Contract clause to expressly define events that will constitute acts of God and political force majeure events • Contract clause to • relieve private from conse-

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
		discontinuity both as to contracted service and core service when risks are uninsurable (i.e., terrorism acts, war, civil unrest, etc.)			quences of service discontinuity; <ul style="list-style-type: none"> • Contract clause to • require that if insurable, private must ensure availability of insurance proceeds towards asset repair and service resumption and WD is to be given the benefit of insurance for service disruption costs
Asset ownership risk					
Default and termination	Risk of loss of the facility or other assets upon the premature termination of lease or other project contracts upon breach by the private firm and	Private firm will take the risk of loss of value on termination	Private firm has more knowledge of the underlying causes of default and can identify risk earlier than WD	<ul style="list-style-type: none"> • Only serious breaches by the private firm to lead to termination • Private proponent to be given time and opportunity to remedy defaults by the private proponent which may lead to termination 	<ul style="list-style-type: none"> • Contract clause to define options for remediation of default • If and when necessary, contract clause to define method to

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
	without adequate payment			<ul style="list-style-type: none"> • If termination occurs pre-completion WD may (but need not to) make payment for value in the project on a cost to complete basis; • If termination occurs post completion the private proponent may receive fair market value less all amounts due to WD • WD to require step in rights to ensure access and service continuity until ownership/ control issues are resolved 	establish compensation to private in case of termination (pre and post completion)
Residual value on transfer to WD	Risk that on expiry or earlier termination of the services contract the asset does not have the value originally estimated by WD at which the private proponent agreed to transfer it to the WD	Private	Partner can incorporate life cycle maintenance, refurbishment, and performance requirements into the design facility, and can manage these process during the term of the contract	<ul style="list-style-type: none"> • WD to impose on the private maintenance and refurbishment obligations; • WD to ensure an acceptable maintenance contractor is responsible for the work, commission regular surveys and inspections; • WD may require private to establish a dedicated sinking fund 	<ul style="list-style-type: none"> • Contract clause specifying the conditions in which assets are to be transferred to the WD at the end of the term • Contract clauses stipulating the performance indicators and frequency of monitoring of

Risk	Definition	Preferred Allocation	Rationale	Possible Mitigation Strategies	Allocation Instrument
				to accumulate funds sufficient to bring the asset to agreed condition and/or (if required) obtain performance bonds to ensure the liability is satisfied	these indicators <ul style="list-style-type: none"> Contract clause requiring the extension of the performance security (within a band of 90 days to 1 year) to cover the cost of bringing the facility up to the desired standard.

Annex 3. Competitive Bidding Process

Preparation of Tender Documents- The tender documents shall consist of:

- Instruction to Bidders shall establish the rules of the bidding. It shall therefore be clear and comprehensive and shall contain the information below:
 - i. Description and objectives of the Project including a statement on the use of the BOT Law for its implementation
 - ii. Description of the BOT contractual arrangement
 - iii. Bid submission procedures and requirements, which shall include the manner of submission, number of copies, where submission will be, deadline, and permissible mode of submission
 - iv. Investment incentives and government contribution (e.g. land)
 - v. Bid security and its validity period
 - vi. Milestones
 - vii. Methods, parameters and criteria for technical bid evaluation
 - viii. Parameters and criteria for the financial component of the bids: lowest proposed percentage of the set tariff per connection at the start of operation; parametric rate adjustment formula will be prescribed
 - ix. Minimum amount of equity from the private partner
 - x. Parametric rate adjustment formula
 - xi. Requirements of concerned regulatory bodies
 - xii. Current rules and regulations of the BSP
 - xiii. Revenue sharing arrangement if any
 - xiv. Nationality and ownership requirements as required by law

- Minimum design, performance standards and specification, financial and economic parameters
 - i. Minimum design and performance standards and specifications including the appropriate environment standards of DENR/EMB, DOH, and DA, shall be defined based on the desired quantity and quality of outputs of the facility, and shall state that non-compliance will be a ground for rejection of bid.
 - ii. Economic/financial parameters
 - 1) Discount rate, foreign exchange rate and inflation factor as prescribed by NEDA ICC
 - 2) Maximum period of project construction
 - 3) Fixed term of operation and payment of fees by the WD
 - 4) Formula and indices for the adjustment of fees
 - 5) Revenue share if applicable
 - 6) Minimum amount of the equity as prescribed by NEDA ICC

- Draft Contract as approved by the Board of Directors- The GM shall ensure that the draft contract is in accordance with the parameters, terms and conditions of the Board and NEDA ICC. The draft contract shall define the basic and legal relationship of both parties. It shall have the following mandatory terms and conditions:
 - i. Description of the BOT arrangement under an availability scheme, terms and scope of work
 - ii. Project technical specifications and system features
 - iii. Implementation milestones including those for securing approvals; project completion dates
 - iv. Cost recovery scheme, i.e., fees for services paid for by the water district
 - v. Liquidated damages
 - vi. Performance and warranty bonds
 - vii. Minimum insurance coverage, such as Contractors' all risk, motor vehicle, workmen's compensation, third party liability or comprehensive general liability insurance
 - viii. Acceptance tests and procedures
 - ix. Warranty period and procedures after transfer of the facility and other operating assets
 - x. Grounds for and effects of contract termination including modes for settling disputes
 - xi. Manner and procedures for the resolution of warranty against corruption, and compliance with all applicable laws, rules and regulations.
- Bid form
- Forms of bid security
- Other documents as may be required by the government entity

Process Flow for the Competitive Bid- The WD can opt to use prequalification or single-stage qualification and bidding process. The process flow for the former is summarized in Table 9 and the latter in Table 10.

Table A3.1. Process Flow for Competitive Bidding (Pre-qualification)

Activity	Timeline (calendar days)	Responsibility
Publication of invitation to pre-qualify and bid	Publish once every week for 3 consecutive weeks	PBAC advertises in at least two (2) newspaper of general circulation and one (1) local newspaper; and in the website of the WD and PPP Center
Submission of prequalification (PQ) documents	At least 15 days from last date of publication	Private proponent

Activity	Timeline (calendar days)	Responsibility
Prequalification	20 days from deadline of submission of PQ documents	PBAC
Inform bidders of qualification or disqualification	5 days from approval of PQ evaluation	PBAC
Issuance of tender documents to prequalified proponents	No specified deadline from PQ evaluation	PBAC
Pre-bid conference	For projects costing less than PhP300 million, at least 30 days before bid submission; and for projects above said amount, at least 60 days before bid submission	PBAC
Bid preparation	No specific timeline, will depend on what is stipulated in the Instruction to bidders	Private proponent to submit two envelopes, one for the technical proposal and the other the financial proposal
Bid evaluation	Technical evaluation- 20 days from bid opening Financial evaluation- 15 days from the completion of the first stage evaluation	PBAC to review technical proposal first; and then the financial proposal bidders passing the technical evaluation
Recommendation to award	Within 3 days from completion of financial evaluation	PBAC
Decision to award/ Notice of Award (NOA)	3 days from submission of recommendation of PBAC; and issuance of NOA within 5 days from approval	WD Board
Compliance with conditions precedent	20 days from receipt of NOA	Private proponent
Approval/execution of agreement	Within 5 days from submission compliance statements and conditions precedent	GM upon authority of the Board and designated representative of the private proponent
Submission of the signed contract to: PPP Center	Upon execution	GM

Table A3.2. Process Flow for Competitive Bidding (Single-stage Qualification and Bidding)

Activity	Timeline (calendar days)	Responsibility
Publication of invitation to pre-qualify and bid	Publish once every week for 3 consecutive weeks	PBAC advertises in at least two (2) newspaper of general circulation and one (1) local newspaper; and in the website of the WD and PPP Center
Issuance of tender documents to prequalified proponents	Immediately after the publication of the invitation	PBAC
Pre-bid conference	For projects costing less than PhP300 million, at least 30 days before bid submission; and for projects above said amount, at least 60 days before bid submission	PBAC
Submission of qualification (PQ) documents and bid proposal	Date of submission will be as stipulated in the Instruction to Bidders	Private proponent will submit 3 envelopes: qualification, technical and financial proposal
Qualification	10 days from deadline of submission of qualification and documents	PBAC
Inform bidders of qualification or disqualification	5 days from approval of PQ evaluation	PBAC
Bid evaluation	Technical evaluation- 20 days from bid opening Financial evaluation- 15 days from the completion of the first stage evaluation	PBAC
Recommendation to award	Within 3 days from completion of financial evaluation	PBAC
Decision to award/ Notice of Award (NOA)	3 days from submission of recommendation of PBAC; and issuance of NOA within 5 days from approval	WD Board
Compliance with conditions precedent	20 days from receipt of NOA	Private proponent
Approval/execution of agreement	Within 5 days from submission compliance statements and conditions precedent	GM upon authority of the Board and designated representative of the private proponent
Submission of the signed contract to: PPP Center	Upon execution	GM

Direct Negotiation- Direct negotiation is allowed when there is only one complying bidder, as defined below:

- If after advertisement, only one bidder applies for pre-qualification, is pre-qualified and submits a complying proposal.
- If after advertisement, more than one bidder submits only pre-qualification documents, only one pre-qualifies and submits a complying bid.
- If after prequalification of more than one bidder, only one submits a complying bid.
- If after prequalification, more than one bidder submit bids but only one is found compliant.

The head of agency shall set the timetable for the negotiations. The negotiation will be on the financial proposal only. The financial proposal should be compliant with the bid parameters set.

Contract Approval - The Water District General Manager shall execute and sign the contract for the project as approved within 5 days from receipt by the winning bidder of the notice from the water districts that all conditions stated in the notice of award have been complied with.

Part II: Model Contract of a Septage Management Project under a Public Private Partnership

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Septage Management Project Agreement

This Septage Management Project Agreement (this "Agreement") is made this [the "Signature Date"] at [place], Philippines, by and between: [INSERT NAME OF WATER DISTRICT], a government owned and controlled corporation created under and by virtue of Presidential Decree No. 198, with principal office at [address], Philippines, represented herein by its [General Manager], hereinafter referred to as the "Water District";

and

[INSERT NAME OF COMPANY], a corporation duly organized and existing under the laws of [country of jurisdiction], with its principal office at [address], represented herein by its [company representative], [position], hereinafter referred to as the "Company".

The foregoing entities are hereinafter collectively referred to as the "Parties".

RECITALS:

WHEREAS, the Septage Management Project is the first level of a community wide waste-water treatment intervention that will address growing water pollution that affects quality of the water supply sources [state the rationale for and background of the Project];

WHEREAS, on [date], the Water District obtained the approval of its Board of Directors [if legal basis is BOT Law: the Investment Coordination Committee ("ICC") of the National Economic and Development Authority ("NEDA")] to develop, finance, design, construct, commission, operate, manage and maintain the septage management projects that is capable of processing up to [daily capacity] cubic meters per day of waste water from [indicate service area], treat such waste water and bio-solids to the standards prescribed by the Department of Environment and Natural Resources ("DENR") prior to disposal, under a build-operate-transfer ("BOT") contractual arrangement in line with Republic Act No. 6957, as amended, and its Implementing Rules and Regulations (the "BOT Law");

WHEREAS, the Company has been selected by the Water District to undertake the Project on the terms and conditions set forth in this Agreement as the result of a competitive public bidding process conducted by the Water District under the provisions of the BOT Law and the Company has duly acceded to undertake the Project;

NOW THEREFORE, for and in consideration of these premises and the mutual commitments, obligations and undertakings assumed and accepted hereunder, the Parties have agreed as follows:

1. Definitions, Principles of Interpretation, and Priority of Project Documents

1.1 Definitions

Unless the context otherwise requires, the following terms whenever used in this Agreement shall have the following meanings:

“Accounting Principles” means the generally accepted accounting principles applicable from time to time in the Philippines, as determined by the Financial Reporting Standards Council or its successor body.

“Affiliate” means, with respect to any specified person, any other person that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such specified person. For purposes of this definition, “control” means the ownership, directly or indirectly, or as trustee, personal representative or executor, of more than fifty per cent (50%) of the outstanding capital stock of such person, or other equity interests having the power to elect a majority of the board of directors, or similar body governing the affairs of such person or the power to direct or cause the direction of the business affairs or management of such person.

“Agreement” means this Septage Management Project Agreement signed by the Parties on the Signature Date, including any amendments that may be made from time to time in accordance with its terms.

“As-Built” means, with reference to any drawing or document, the final design drawing or design document for an item which reflects as closely as possible the actual condition and field location of the item shown in the drawing or described in the document taking into account actual field measurements and observations and relevant construction records.

“Auditors” mean the duly licensed independent public accountants appointed by the Company with the prior written approval of the Water District.

“Billing Month” means (i) the period from the Provisional Operations Start Date until the last Day of the calendar month in which the Provisional Operations Start Date occurs; (ii) each successive period of one calendar month thereafter, exclusive of the calendar month in which the Termination Date occurs; and (iii) the period from the first

Day of the calendar month in which the Termination Date occurs until the Termination Date.

“**BOI**” means the Board of Investments of the Department of Trade and Industry.

“**BOT Law**” means Republic Act No. 6957, as amended by Republic Act 7718, and its Revised Implementing Rules and Regulations.

“BOT Law IRR” means the Revised Implementing Rules and Regulations

“**Business Day**” means any Day other than a Saturday, a Sunday, and any day which is a legal non-working holiday in [locality where project is], Philippines or any Day when commercial banks in [•], Philippines are closed.

“**Change-in-Law**” means any of the following events occurring as a result of any action by any Government Authority of the Philippines:

- (a) A change in or repeal of a Legal Requirement;
- (b) An enactment or making of a new Legal Requirement; or
- (c) A change in the interpretation or application of a Legal Requirement, which in any case was not reasonably foreseeable at the Signature Date, but not a change in Taxation and an improvement in septage management project technology or operational policies or practices which are generally regarded by septage management project suppliers or operators and regulatory authorities in [advanced jurisdictions] as appropriate for suppliers and operators to have to make.

“**Change of Ownership**” means:

- (a) any sale, transfer or disposal of any legal, beneficial or equitable interest in any or all of the shares in the Company, including control over the exercise of voting rights conferred on those shares, control over the right to elect, appoint or remove directors, or the right to dividends; and
- (b) any other arrangements that have or may have or which result in the same effect as paragraph (a) above.

“**Claims**” means with respect to any person, any and all suits, sanctions, legal proceedings, claims, assessments, judgments, damages, penalties, fines, liabilities,

demands, reasonable out-of-pocket expenses of whatever kind (including reasonable attorneys' fees and expenses) and losses incurred or sustained by or against such person but excluding any lost profits or other special, incidental, indirect, punitive, or consequential damages suffered by such person.

"**COA**" means the Commission on Audit.

"**Company Event of Default**" is defined in Section 15.1 (Company Events of Default).

"**Company Invoice**" is defined in Section 8.4 (Invoices).

"**Company Parties**" is defined in Section 14.2 (Indemnification by Water District).

"**Company Rectification Plan**" is defined in Section 20.1.1(b) (Termination Procedure).

"**Confidential Information**" is defined in Section 21.4.1(Confidentiality).

"**Consent**" means any permit, license, approval, concession, right, award, registration, certification, waiver, exemption, or other authorization, including any amendments thereto, that is required from any Government Authority under the terms of or in connection with this Agreement.

"**Continuous Construction Date**" means the date on which the Company commences continuous construction activities to build the Facilities at the Site, including clearing, earthworks, excavation, formworks, pile driving, laying of foundations, or other activities approved in writing by the Water District as constituting commencement of continuous construction activities for the Project.

"**Contract Management Body**" is defined in Section 9.1 (Contract Management Body).

"**Contract Year**" means (i) initially, the period starting on the Provisional Operations Start Date and continuing until the end of that calendar year (such initial period being "Contract Year 1") and (ii) thereafter, each successive period consisting of twelve (12) consecutive monthly Billing Months (the first such period being "Contract Year 2" and so on), provided that the last Contract Year shall end on the Termination Date.

"**Day**" means a 24-hour period beginning and ending at midnight, Philippine time.

“Delay Liquidated Damages” is defined in Section 5.8(a) (Liquidated Damages for Delay in Meeting Project Milestones).

“DENR” means the Department of Environment and Natural Resources.

“Design and Technical Specifications” means the design and technical specifications set out in Schedule B (Design and Technical Specifications) to be followed and complied with by the Company in the design, engineering, procurement, and construction of the Project.

“Dispute” means any difference or disagreement of any kind whatsoever arising between the Parties in connection with, arising out of, or relating to the interpretation, implementation, breach, termination, or validity of this Agreement.

“DOH” means the Department of Health

“Dollars”, **“US Dollars”**, and **“US\$”** means the lawful currency of the United States of America.

“ECC” means the Environmental Compliance Certificate issued by the DENR for the Project.

“Effective Date” is defined in Section 2.1 (Conditions Precedent to the Effective Date).

“EIA” means the Environmental Impact Assessment for the Project conducted or caused by the Company to be conducted in line with all applicable Legal Requirements.

“EMB” means the Environment Management Bureau

“EPC Contract” means the turnkey engineering, procurement, and construction contract made or to be made between the Company and the EPC Contractor for the design, engineering, procurement, construction, start-up, testing, and commissioning of the Facilities.

“EPC Contractor” means the contractor or person engaged by the Company under the EPC Contract.

“Equity” means (i) the capital stock of any class issued by the Company and subscribed by the Shareholders of the Company, and (ii) indebtedness of the Company given to it by a Shareholder or an Affiliate of any Shareholder that is subordinated to any indebtedness incurred by the Company under the Financing Agreements.

“**Event of Default**” is defined in Section 15 (Events of Default).

“**Event of Loss**” means any occurrence during the term of the Financing Agreements which results in all or a substantial portion of the Facilities being damaged, destroyed, or rendered unfit for normal operation in accordance with this Agreement.

“**Expert Panel**” is defined in Section 19.2.2 (Establishment and Operation of Expert Panel).

“**Extraordinary Tariff Adjustment**” is defined in Section 8.3.2.2 (Tariff Adjustment Request and Approval).

“**Facilities**” means the water treatment facility and associated equipment and facilities, as more fully described in Schedule B (Design and Technical Specifications).

“**Financial Model**” means the financial base case for the Project as reflected in the computer model prepared by the Company and submitted to the Water District and agreed to by the Lenders, which model incorporates the forecast cash flow statements of the Company including all expenditures, revenues, taxation and financing of the Project together with the projected income statements and balance sheets for the Company over the Operating Period, and details of all assumptions, calculations and methodology used in the compilation thereof, as amended from time to time in accordance with the Financing Agreements.

“**Financing Agreements**” means the agreements or instruments that make available or extend loans, credit, notes, bonds, subordinated debt, letters of credit, credit security, swaps, derivatives, hedging instruments, and other documents relating to the financing or refinancing of the Project provided by any Lender, including any amendments, supplements, extensions, and renewals of that financing or refinancing.

“**Force Majeure Event**” is defined in Section 13.1.1 (Definition of Force Majeure Event).

“**Government Authority**” means any government, department, commission, board, bureau, Water District, regulatory body, instrumentality, fiscal, legislative, judicial, or administrative, national or local, having jurisdiction or authority over the matter in question.

“**ICC**” means the Investment Coordination Committee of the National Economic and Development Authority.

“Independent Laboratory” means the entity appointed by the Parties to take samples of treated effluent and bio-solids and perform required tests to verify conformance with standards set for the quality of effluent and bio-solids.

“Independent Consultant” means the person appointed by the Parties to review the detailed design and to monitor and verify the progress of the construction of the Facilities pursuant to Section 5.4 (Independent Consultant) hereof.

“Initial Shareholders” means all of the Shareholders of the Company as of the Signature Date, the names of which are set out in Schedule P (Ownership Interests in the Company).

“Intellectual Property Rights” means all rights of ownership recognized by law in inventions, technology, copyrighted material, computer software, and firmware, including (a) patents, trademarks, service marks, rights in designs, trade names, copyrights, rights to trade secrets, proprietary information, and know-how in each case whether registered or not; (b) applications for their registration; (c) rights under licenses and consents in relation to any of them; and (d) all forms of protection of a similar nature or having equivalent or similar effect to any of them which may subsist anywhere in the world.

“Invitation to Bid” means the request for proposals dated [•] issued by the Water District calling for bids to carry out the Project.

“Legal Requirements” mean all laws, statutes, orders, decrees, injunctions, Consents, agreements, EIAs, and regulations of any Government Authority having jurisdiction over the matter in question.

“Lender” means any person providing loans or other financing or refinancing to the Company under the Financing Agreements, including its successors, assignees, agents and trustees, but not including any Shareholder or Affiliate of a Shareholder with respect to any indebtedness of the Company that constitutes Equity in the Company.

“Lien” means any mortgage, pledge, lien, security interest, option agreement, claim, charge, or encumbrances of any kind.

“Lock-in Period” is defined in Section 18.3.2 (Restriction on Transfer of Capital Stock of Company).

“LWUA” means Local Water Utilities Administration

“**Maintenance Schedule**” is defined in Section 6.5 (Planned Downtime; Maintenance Program and Schedule).

“**NEDA**” means the National Economic and Development Authority.

“**Non-Political Force Majeure Event**” is defined in Section 13.1.3 (Non-Political Force Majeure Event).

“**Notice of Water District Event of Default**” is defined in Section 20.1.1(c) (Termination Procedure).

“**Notice of Company Event of Default**” is defined in Section 20.1.1(b) (Termination Procedure).

“**Operating Period**” means the period commencing on the Provisional Operations Start Date and ending on the Termination Date.

“**Operating Procedures**” means the plans, methods and procedures for operating the Facilities developed by the Company pursuant to Section 6.2 (Operating Procedures) and Schedule H (Delivery Schedule and Operating Procedures).

“**Operating Security**” is defined in Section 6.3 (Operating Security).

“**Operating Standards**” means the service levels and performance standards for the operation of the Facilities prescribed in Schedule H (Delivery Schedule and Operating Procedures).

“**Operations Start Date**” means the Day on which a final acceptance certificate for the Facilities is issued by the Water District to the Company in accordance with Section 5.6.2 (Final Acceptance).

“**Party**” means the Water District or the Company, as the case may be, and

“**Parties**” means both the Water District and the Company.

“**Penalty Rate**” means [.] percent ([.]%) per annum.

“**Performance Security**” is defined in Section 5.7 (Performance Security).

“Performance Security Issuer” means (i) if the Performance Security is in the form of an irrevocable standby letter of credit, a universal or commercial bank reasonably acceptable to the Water District whose issuer credit rating or long-term unsecured debt obligations are rated at least PRS A by PhilRatings, or (ii) if the Performance Security is in the form of a surety bond callable on demand, a reputable surety company reasonably acceptable to the Water District which is duly licensed and ranked by the Insurance Commission in its latest official publication to be among the top ten (10) surety firms in the Philippines in terms of net worth. “Peso”, “P”, and “PHP” mean the lawful currency of the Republic of the Philippines.

“Philippines” means the Republic of the Philippines.

“Planned Downtime” means any normal maintenance, replacement or servicing of equipment, or other work that is planned or scheduled pursuant to Section 6.5 (Planned Downtime; Maintenance Program and Schedule).

“Planned Downtime Period” is defined in Section 6.5(b) (Planned Downtime; Maintenance Program and Schedule).

“Political Force Majeure Event” is defined in Section 13.1.2 (Political Force Majeure Event).

“Project” means the undertaking, in line with the terms and conditions of this Agreement and all Legal Requirements, to prepare, develop, finance, design, engineer, procure, construct, start up, test, commission, implement, own, operate, manage, and maintain the Facilities and to provide the Services.

“Project Agreements” mean:

- (a) this Agreement;
- (b) the EPC Contract;
- (c) the Shareholders’ Agreement;
- (d) the Financing Agreements; and
- (e) any other material agreement entered into by the Company pursuant to the agreements listed in sub-clauses (a) through (d) above, for the purposes of the implementation of the Project, including any agreement or subcontract

for the management, operation and maintenance, and provision of technical assistance for the Project.

“Project Milestones” mean (i) the Effective Date; (ii) the Continuous Construction Date; (iii) the Provisional Operations Start Date; and (iv) the Operations Start Date.

“Project Milestone Schedule” means the timetable or required dates for completing all the Project Milestones set out in Schedule A (Project Milestone Schedule), as may be amended from time to time in accordance with this Agreement.

“Project Report” is defined in Section 9.2 (Project Report).

“Provisional Operations Start Date” means the Day on which a provisional acceptance certificate is issued to the Company after successful testing and commissioning of the Facilities following the testing procedures provided in Schedule D (Testing and Commissioning).

“Prudent Utility Practice” means applying, in relation to the manner in which the construction obligations and the performance of Services are rendered under this Agreement, the standards, practices, methods and procedures conforming to all Legal Requirements, and exercising that degree of skill, care, diligence, prudence and foresight that would reasonably and ordinarily be expected from a skilled and experienced person engaged in a similar type of undertaking under similar circumstances, including taking reasonable steps to ensure that:

- (a) adequate materials, resources, and supplies are available to meet the Facilities’ needs under normal conditions and reasonably anticipated abnormal conditions;
- (b) sufficient and duly licensed operating personnel (i) are available, (ii) are adequately experienced and trained to operate the Facilities properly and efficiently taking into consideration manufacturers’ guidelines and specifications, and (iii) are capable of responding to abnormal conditions;
- (c) preventive, routine, and non-routine maintenance and repairs (i) are performed on a basis that ensures reliable long-term and safe operation taking into account manufacturers’ recommendations and (ii) are performed by knowledgeable, trained, and experienced personnel who are duly licensed and are using proper equipment, tools, and procedures;

- (d) appropriate monitoring and testing is done to ensure the Facilities are functioning as designed and to provide assurance that equipment will function properly under both normal and abnormal conditions; and
- (e) equipment is operated in a manner safe to workers, the general public, and the environment.

“Required Continuous Construction Date” means the date prescribed in the Project Milestone Schedule for the occurrence of the Continuous Construction Date, as such date may be changed from time to time in accordance with this Agreement.

“Required Effective Date” means the date prescribed in the Project Milestone Schedule for the occurrence of the Effective Date, as such date may be changed from time to time in accordance with this Agreement.

“Required Operations Start Date” means the date prescribed in the Project Milestone Schedule for the occurrence of the Operations Start Date, as such date may be changed from time to time following the terms of this Agreement.

“Required Provisional Operations Start Date” means the date prescribed in the Project Milestone Schedule for the occurrence of the Provisional Operations Start Date, as such date may be changed from time to time in accordance with this Agreement.

“SEC” means the Philippine Securities and Exchange Commission.

“Septage” means the sludge siphoned out of septic tanks in households or commercial establishments, as more specifically described in Schedule G (Raw Septage Sources and Quality).

“Septage Collection Area” means delineation of collection zones in the Water District’s Service Area, which shall be served for desludging of household or commercial establishment septic tanks pursuant to the Septage Collection Frequency.

“Septage Collection Frequency” refers to the collection schedule or how often a household or commercial establishment should be served for desludging as provided under the guidelines promulgated by the Department of Health, or an interval of every five (5) years.

"Septage Treatment Plant" means a fully mechanized facility that will accept raw septage and apply necessary treatment processes to produce clean effluent and stabilized bio-solids before being discharged to the environment.

"Services" mean the operational services to be provided by or on behalf of the Company for the Water District as set forth in Section 7 (Septage Management Service).

"Shareholder" means any person owning any of the outstanding capital stock, of any class, of the Company, including any of the Initial Shareholders.

"Signature Date" means the date of signing of this Agreement as indicated in the preamble.

"Site" is identified in Figure B-1 in Schedule B (Design and Technical Specifications).

"Sponsor" means each of the Initial Shareholders and any transferee of the direct or indirect ownership of the outstanding capital stock of the Company.

"Tariff" is defined in Section 8.1 (Tariff).

"Tariff Adjustment Request" is defined in Section 8.3.2.2 (Tariff Adjustment Request and Approval).

"Tax" means any net income, gross income, gross receipts, sales, use, transfer, gains, ad valorem, franchise, profits, capital gains, license, value-added, withholding, payroll, employment, professional, business, excise, stamp, occupation, premium, property, environmental, windfall profit, documentary, registration, severance, custom duty, governmental fee, other like assessment or charge of any kind whatsoever imposed pursuant to the laws of any national, local, or foreign jurisdiction or by any political subdivision or taxing authority, together with any interest, penalty or other payment charged, and any liability for such amounts under all applicable laws as a result either of being a member of a combined, consolidated, unitary or affiliated group or of a contractual obligation to indemnify any person or other entity.

"Termination Date" means the date when any of the following events occur first:

- (a) termination of this Agreement pursuant to Section 2.3.1 (Termination due to Non-Occurrence of Effective Date);
- (b) termination of this Agreement pursuant to Section 20.1 (Termination due to an Event of Default);

(c) termination of this Agreement pursuant to Section 20.2 (Termination due to Prolonged Force Majeure Events); or

(d) on the [.] ([.]th) anniversary of the Provisional Operations Start Date.

“Termination Notice” is defined in Section 20.1.1(a) (Termination Procedure).

“Total Project Cost” refers to the total cost to be expended to plan, develop and construct the project to completion stage including but not limited to cost of feasibility studies, engineering and design, construction, equipment, land and right of way, taxes imposed on said cost, and development cost.

“Treated Effluent” means one of the by-products extracted from raw septage commonly termed as filtrate by the Company, which will be discharged from the Septage Treatment Plant to bodies of water.

“Treated Waste Water Specifications” means the quality specifications set out in Schedule K (Treated Effluent and Biosolids Quality Specifications).

“Unplanned Downtime” means any temporary loss of function of the Facilities that is not a Planned Downtime and is not the result of a breach by the Company or its subcontractors of any of its obligations under this Agreement.

“Unplanned Downtime Period” is defined in Section 6.6 (Unplanned Downtime).

“Water District” is a government owned and controlled corporation created by Presidential Decree 198, and has the mandate to provide water supply and sanitation services within its franchise area.

“Water District Event of Default” is defined in Section 15.2 (Water District Events of Default).

“Water District Parties” is defined in Section 14.1 (Indemnification by the Company).

“Water District Rectification Plan” is defined in Section 20.1.1(c) (Termination Procedure).

“Water District Step-in Rights” is defined in Section 17.1 (Step-in Rights).

“Water District Service Area” means the areas currently served by the Water District, in contrast to its franchise area, which refers to the entire jurisdiction as authorized in its Conditional Certificate of Conformance.

“Wholly Owned Subsidiary” means an entity that is fully owned by a person except for the minimum or nominal ownership interests that are held by other persons to satisfy the Legal Requirements for the valid existence of such entity.

1.2 Principles of Interpretation

In the interpretation of this Agreement, unless the context otherwise requires:

- a) Words importing a gender include any gender.
- b) Words importing the singular number shall include the plural and vice versa.
- c) References to persons shall include individuals, sole proprietorships, partnerships, associations, trusts, joint ventures, unincorporated organizations, corporations, States, governments and governmental entities.
- d) References in this Agreement to any statute, law, decree, regulation, or other Legal Requirement shall be construed as a reference to such statute, law, decree, regulation, or other Legal Requirement as re-enacted, re-designated, amended, or extended from time to time, except as otherwise provided in this Agreement.
- e) A reference to any person, Party, or entity includes its permitted successors and assigns. A reference to any government agency, Water District or authority shall include any authority succeeding to such Water District's or authority's powers and functions.
- f) The words “include” or “including” shall be deemed to be followed by “without limitation” or “but not limited to,” whether or not they are followed by such phrases or words with the same meaning.
- g) References to a number of days shall refer to calendar days and references to “months” shall refer to calendar months.

- h) The division of this Agreement into articles, clauses and sections and the insertion of headings are for convenience of reference only and shall not affect the construction or interpretation of this Agreement.
- i) The term “this agreement” and similar expressions refer to this Agreement and not to any particular article, clause, section or other portion hereof and include any agreement supplemental hereto.
- j) Unless something in the subject matter or context is inconsistent therewith, references to articles, clauses, sections and schedules are to articles, clauses, sections and schedules of this Agreement.
- k) No provision of this Agreement shall be construed adversely to a Party solely on the ground that that Party was responsible for the preparation of this Agreement or that provision.

ARTICLE I

CONDITIONS PRIOR TO EFFECTIVE DATE

2. Conditions Precedent to Effective Date

2.1 Conditions Precedent to Effective Date

This Agreement shall be effective and the Parties shall be bound by all its terms and conditions on the date (the “Effective Date”) when the following conditions have been fully satisfied or waived by the Parties and a written notice to such effect has been jointly signed by them:

- a) Each of the Project Agreements shall have been duly signed by the parties thereto, shall be in full force and effect, and all conditions precedent to the effectiveness of each Project Agreement shall have been satisfied. The Company shall have also delivered a true and correct copy of each Project Agreement to the Water District.
- b) Certified true copies of resolutions adopted by the board of directors of the Company authorizing the signing, delivery, and performance of this Agreement shall have been delivered to the Water District.

- c) Certified true copies of the articles of incorporation and by-laws including all amendments thereto) of the Company, shall have been delivered to the Water District.
- d) All consents that are required to have been obtained in connection with the execution, delivery, exercise of rights, and commencement of performance of this Agreement shall have been obtained and continue to be in full force and effect, including but not limited to, the relevant Consents listed on Schedule M (Consents).
- e) A certificate in a form and substance reasonably satisfactory to the Water District shall have been issued and delivered by the Lenders to the Water District confirming that the Financing Agreements are in full force and effect and all conditions precedent under the Financing Agreements for the provision of debt financing for the Project have been satisfied.
- f) True and complete printed and electronic copies of the Financial Model certified by the Lenders as part of the requirements to satisfy the condition described in Section 2.1(e) (Conditions Precedent to the Effective Date) shall have been submitted to the Water District.
- g) A certificate in a form and substance reasonably satisfactory to the Water District shall have been delivered by the Company to the Water District either proving the infusion of or expressing the commitment and undertaking of the Initial Shareholders to contribute the necessary equity into the Company.
- h) A true and complete copy, certified by the corporate secretary of the Company, of the unconditional notice to proceed issued by the Company to the EPC Contractor authorizing and directing the EPC Contractor to start work under the EPC Contract.
- i) The Performance Security required from the Company pursuant to Section 5.7 (Performance Security) shall have been executed and delivered to the Water District and shall be in full force and effect.
- j) Certified true copies of certificates of insurance coverage evidencing compliance with the requirements for insurance needed to be in force as of the Effective Date shall have been delivered to the Water District in line with Section 10.2 (Insurance Certificates) and Schedule N (Insurance).

- k) The representations and warranties of the Company in favor of the Water District contained or incorporated herein by reference shall be true and correct in all material respects on and as of the Effective Date and the Water District shall have received a certificate to that effect dated as of the Effective Date and signed by the corporate secretary of the Company.
- l) The Water District shall have received a legal opinion from the Company's external legal counsel, in a form and substance reasonably acceptable to the Water District, concerning the due organization and corporate good standing of the Company and the validity and enforceability of each of the Project Agreements.
- m) The Company has paid the Water District the amount of [•] as reimbursement for the professional fees of the Water District's Project transaction advisors.
- n) No Legal Requirement shall have been enacted, entered, promulgated, or enforced by any Government Authority having jurisdiction over the matter that restrains, prohibits, or declares illegal the consummation of the transactions contemplated in any of the Project Agreements and no action, suit, inquiry, or proceeding shall have been instituted or threatened that seeks to restrain, prohibit, or declare illegal the consummation of the transactions contemplated by any of the Project Agreements. Each Party, through its respective corporate secretary or chief legal officer, shall issue a sworn statement to this effect.
- o) Certified true copies of resolutions adopted by the governing board of the Water District authorizing the execution, delivery, and performance of this Agreement shall have been delivered to the Company.
- p) The Water District shall have obtained all land rights and rights-of-way in respect of the Site in such form and substance sufficient to complete the Project and shall have legal, peaceful and unencumbered use and possession of and access to the Site. Specifically, the Water District should have (i) permit to enter and (ii) writ of possession.
- q) The Water District shall have obtained from the LGU issuance of an ordinance mandating the desludging of septic tanks of all households and commercial establishments.

- r) The representations and warranties of the Water District shall be true and correct in all material respects on and as of the Effective Date and the Company shall have received a certificate to that effect dated as of the Effective Date and signed by the corporate secretary or chief legal officer of the Water District.
- s) The Water District shall submit to the Company a certification from the Local Water Utilities Administration, in a form and substance reasonably acceptable to the Company and the Lenders, concerning the due organization and legal existence of the Water District under the laws of the Philippines and the validity and enforceability of this Agreement.

2.2 Reasonable Efforts to Satisfy Conditions Precedent

- a) Each Party shall use all reasonable efforts to satisfy the conditions enumerated in Section 2.1 (Conditions Precedent to the Effective Date) on or before the Required Effective Date. On each date that a Party believes that any of the conditions precedent has been satisfied, it shall promptly give written notice of that fact to the other Party together with copies of all relevant documents which satisfy that condition.
- b) Without prejudice to the rights of the Parties to terminate this Agreement pursuant to Section 20.2 (Termination due to Prolonged Force Majeure Event), if the occurrence of the Effective Date is delayed by a Force Majeure Event, the Parties shall confer on the effects of such delay and may mutually agree in writing to extend or otherwise adjust the Required Effective Date. The Parties shall endeavor to reschedule activities and resume the performance of their obligations in a way that will avoid or minimize any further delay in the implementation of the Project.

2.3 Non-Occurrence of Effective Date

2.3.1 Termination due to Non-Occurrence of Effective Date

- a) The Water District may extend the period for the Company to comply with its obligations under Section 2.1 (Conditions Precedent to the Effective Date) or may terminate this Agreement with immediate effect by giving written notice

thereof to the Company at any time after the Required Effective Date (unless the Effective Date occurs before such notice is issued) if any of the conditions precedent set forth in Sections 2.1(a) through (n) inclusive has not been satisfied on or before the Required Effective Date.

- b) The Company may extend the period for the Water District to comply with its obligations under Section 2.1 (Conditions Precedent to the Effective Date) or may terminate this Agreement with immediate effect by giving written notice thereof to the Water District at any time after the Required Effective Date (unless the Effective Date occurs before such notice is issued) if any of the conditions precedent set forth in Sections 2.1(n) through (s) and (d) (insofar as Consents that the Water District must secure are concerned) has not been satisfied on or before the Required Effective Date.

2.3.2 Consequences of Termination

If this Agreement is terminated pursuant to Section 2.3.1 (Termination due to Non-Occurrence of Effective Date):

- a) If the Company is at fault, the Water District shall be paid liquidated damages by the Company equal to [•] per cent ([•]%) of the Total Project Cost unless the Company's failure to fulfil any of its conditions precedent was actually due to (i) a Political Force Majeure Event, or (ii) a Water District Event of Default. For this purpose, the Water District shall draw down the amount claimed as liquidated damages from the Performance Security posted by the Company.
- b) If the Water District is at fault, the provisions of Section 20.1.2 (Default Termination Buy-out Provisions) will apply.
- c) This Agreement shall have no further effect. The Parties shall have no further rights and shall be released from all their obligations under this Agreement except in respect of any rights or obligations arising before the termination occurred.

2.4 Specific Provisions Effective on the Signature Date

The following sections shall be binding and effective on the Signature Date and the Parties' rights or obligations under those clauses shall not be conditional on the occurrence of the Effective Date:

- a) Section 1 (Definitions, Principles of Interpretation, and Priority of Documents);
- b) Section 2 (Conditions Precedent to Effective Date);
- c) Section 11 (Representations and Warranties);
- d) Section 13 (Force Majeure);
- e) Section 14 (Indemnity);
- f) Section 16 (Limitation of Liability);
- g) Section 18 (Assignment of Rights; Ownership of the Company);
- h) Section 19 (Dispute Resolution); and
- i) Section 21 (General Provisions).

ARTICLE II

TERM OF THE AGREEMENT

3. Term of the Agreement

3.1 Contract Term

Subject to Section 2.4 (Specific Provisions Effective on the Signature Date), the term of this Agreement shall be (state appropriate period).

3.2 Provisions in Force

From the Signature Date until the Effective Date, only the provisions enumerated in Section 2.4 (Specific Provisions Effective on the Signature Date) shall be in full force and effect. From the Effective Date until the Termination Date, all of the provisions of this Agreement shall be in full force and effect.

ARTICLE III

CONDITIONS AFTER EFFECTIVE DATE

4. Project Implementation

4.1 Project Scope

The Project shall comprise the planning, financing, development, design, engineering, and construction of the Facilities in accordance with the scope and specifications prescribed in Schedule B (Technical Specifications of the Septage Treatment Plant), and the management, operation, repair, and maintenance of the Facilities and the provision of the Services by the Company during the Operating Period, including the transfer of the Facilities upon the Termination Date, in accordance with this Agreement and all applicable laws.

4.2 Grant of Rights

On the terms and subject to the conditions set forth in this Agreement, the Water District hereby grants to the Company in compliance with all Legal Requirements the sole and exclusive right and responsibility during the term of this Agreement to:

- (a) arrange financing for the Project;
- (b) plan, develop, design, build, test, commission, and decommission the Facilities;
- (c) implement the Project in accordance with the Project Milestone Schedule (Schedule A);
- (d) manage, use, occupy, operate, repair, maintain, decommission and refurbish the Facilities; and
- (e) provide and manage the Services.

4.3 Land Acquisition and Right-of-Way

- (a) The Water District shall be responsible at its own cost and expense for obtaining all land or land rights, including rights-of-way, required in order to build, own, and operate the Facilities. Ownership of such land or land rights shall be vested in and remain with the Water District.
- (b) The Company shall assist the Water District, using reasonable efforts, to acquire temporary rights-of-way or construction easements which the Company needs for the construction and operation of the Facilities in addition to those that the Water District may have obtained on or before the Effective Date.
- (c) The Company shall be entitled to the exclusive use and access to such land or rights of way from the Effective Date or on the date the Water District becomes legally entitled to enter upon the land, whichever comes earlier, and until the Termination Date.

4.4 Consents and Approvals

The Company shall at its own cost be responsible for obtaining all Consents required for the financing, building, construction, operation, maintenance, and ownership of the Facilities and the Project other than the Consents that the Water District itself is required to secure including the LGU ordinance pursuant to Section 2.1(q) (Conditions Precedent to the Effective Date) and all permanent rights-of-way or other land rights described in Section 4.3(a) (Land Acquisition and Right-of-Way) above. If requested by the Company, the Water District shall provide reasonable assistance in securing Consents from the relevant national and local government agencies.

5. Construction, Testing, and Commissioning

5.1 Construction Responsibilities of the Company

The Company shall design, engineer, procure, and construct the Facilities in compliance with:

- (a) the Design and Technical Specifications;
- (b) Prudent Utility Practice;
- (c) all relevant design, engineering, and construction standards and practices in the Philippines;
- (d) all applicable Legal Requirements; and
- (e) the Project Milestone Schedule (Schedule A).

5.2 Further Responsibilities Related to Construction

For the purpose of performing its obligations under Section 5.1 (Construction Responsibilities of the Company), the Company shall, among other things, have the right to and be responsible for:

- (a) calling for tenders and awarding contracts with or without tender subject to the Financing Agreements and the provision on transactions with Affiliates of the Company set forth in Section 12.7 (Transactions with Affiliates of Company);
- (b) causing the preparation of final engineering designs and approving or rejecting the same;
- (c) appointing and removing consultants and professional advisors;
- (d) purchasing and installing equipment in the Facilities;
- (e) hiring, organizing, removing and directing staff to manage and supervise the Project;
- (f) entering into contracts for the supply of materials, equipment and services including the connection to all utilities needed during construction and operation at the Site;
- (g) taking the necessary measures to protect people and property, avoid unnecessary interference caused by people and vehicles, minimize traffic, prevent any nuisance and unreasonable noise and disturbance, and ensure that emissions, discharges, and effluents from the Company's construction activities comply with all Legal Requirements; and
- (h) doing all other things necessary or desirable for the timely completion of the Facilities.

5.3 Design and Construction

5.3.1 General Provision

The Company shall undertake the construction of the Facilities, including through the works to be performed by the EPC Contractor and its subcontractors which shall be in conformity with the Design and Technical specifications in all respects and free from defects and deficiencies.

5.4 Independent Consultant

5.4.1 Role

The Parties shall appoint an Independent Consultant with the appropriate national or international standing having relevant experience in the planning, design, development, construction, and operation of similar projects, to review the detailed design to be submitted by the Company to the Water District pursuant to Section 5.5 (Design, Drawings and Other Documents), and to monitor and check the progress of the construction of the Facilities.

5.4.2 Appointment Process

The Independent Consultant shall be appointed through an open, transparent and competitive bidding process to be conducted by the Parties as follows:

- (a) Within thirty (30) Days from the Effective Date, the Water District shall prepare the terms of reference and request for proposals for the selection of the Independent Consultant, and shall submit those documents to the Company for comment and approval, which approval shall not be unreasonably withheld.
- (b) The Company shall publish an open invitation for qualified persons to apply for eligibility and to submit bids.
- (c) The Company shall receive all proposals submitted by candidates for appointment as Independent Consultant and a group comprised of an equal number of representatives from the Water District and the Company shall evaluate the proposals.

- (d) The candidate submitting the most responsive proposal shall be selected as the Independent Consultant for the Project.
- (e) Any dispute between the Parties arising from the selection of the Independent Consultant shall be resolved following the procedures for the settlement of disputes stipulated in Section 19 (Dispute Resolution).

5.4.3 Specific Tasks

The Independent Consultant shall carry out the following tasks and as further set out in the Independent Consultant Contract:

- (a) Review and determination whether the detailed designs meet the Design and Technical Specifications;
- (b) supervision, monitoring, and inspection of work required of the Water District under this Agreement;
- (c) monitoring, inspection and verification of the state and progress of the construction including performance by the Water District of its construction-related obligations under this Agreement;
- (d) participation in testing and commissioning, and deciding whether the Company should be issued a provisional or final acceptance certificate;
- (e) determination of any time extensions for completing the Project Milestones; and
- (f) submission of reports and analyses that the Water District or the Company may reasonably request.

The Independent Consultant shall be required to owe a duty of care to each of the Parties and to act professionally and independently of the Parties, suppliers and consultants and to exercise the standard of care, skill and diligence which would be expected of an expert professional service provider.

5.4.4 Period of Appointment

The Independent Consultant shall serve as such from the date of signing of the Independent Consultant Contract and until [•], the operations starting date. Should either Party have reasonable grounds to believe that the Independent Consultant is not

acting professionally or independently of the Parties, their suppliers and consultants, or exercising the standard of care, skill and diligence which would be expected of an expert professional service provider, either Party may make a written request to the other seeking termination of the appointment.

5.4.5 Cost

The fees and expenses of the Independent Consultant shall be shared and paid equally by the Water District and the Company. The Independent Consultant Contract shall set out the fee of the Independent Consultant and the terms and conditions of payment, provided that the amount of the fee shall not exceed [•].

5.4.6 Access and Confidentiality

- (a) The contract for the retention of the Independent Consultant shall include confidentiality and non-disclosure provisions that provide a level of protection for the intellectual property and other proprietary information of the Company and the Water District, which shall be commensurate with the level of protection provided in Section 21.4 of this Agreement.
- (b) The Company shall provide the Independent Consultant with access to all job sites, installations, documents, personnel and such other information as the Independent Consultant may request for the purposes of carrying out its tasks provided in this Agreement and as more specifically described in Section 5.4.3.

5.5 Design, Drawings and Other Documents

5.5.1 Submission

The Company shall provide the Water District and the Independent Consultant with four (4) printed copies and one (1) electronic copy each of the final detailed engineering designs and plans not later than [•] Days prior to the Required Continuous Construction Date, subject to any agreement of the Parties to submit other designs and plans at a specified period after the Required Continuous Construction Date. These main drawings and technical plans shall include the following:

- (a) final drawings for the general layout of the Project including permanent access roads;

- (b) general and detailed drawings of the Facilities, including all ancillary facilities, structures and civil works;
- (c) final arrangements of plans for the general layout of machineries and equipment; and
- (d) test procedures that meet the requirements for testing provided in Schedule D (Testing and Commissioning).

5.5.2 Review and Comment

- (a) The Water District may, but shall have no obligation to, raise comments or questions on any of the documents submitted in line with this Section 5.5 (Design, Drawings and Other Documents) within [•] Days from their submission, provided that such comments or questions relate to compliance of the documents with the Design and Technical Specifications including Prudent Utility Practice or the other engineering and design requirements of this Agreement. Following the receipt of those comments or questions, the Company shall modify the documents and submit the revised documents to the Water District and Independent Consultant within [•] Days for final review.
- (b) If a written comment is not received by the Company on the original or revised design plans, the Water District shall be deemed to have no comments or further questions thereon.
- (c) The Independent Consultant shall be fully engaged by the Parties in the review, evaluation and analysis of the design plans to ensure that they comply with the Design and Technical Specifications. Independent Consultant shall raise comments or questions on any of the documents submitted in line with this Section 5.5 (Design, Drawings and Other Documents) within [•] Days from their submission, provided that such comments or questions relate to compliance of the documents with the Design and Technical Specifications including Prudent Utility Practice or the other engineering and design requirements of this Agreement. The Company shall consider the findings of the Independent Consultant in any revision of the documents regardless of the fact that the Water District may not have made any comments on the original design plans. If there is an inconsistency in the findings of the Independent Consultant and the comments of the Water District, the matter shall be resolved through mutual discussion involving the Parties and the Independent Consultant.

5.5.3 Disclaimer

The submission of design plans for comment and the review by the Water District of such plans shall not constitute an approval or a warranty on its part of the technical soundness of the final detailed engineering design done by the Company. The Company acknowledges that the Water District does not assume any responsibility for the engineering or construction soundness, safety, or reliability of any part of the Facilities or the Project. A review done by the Water District or the Independent Verifier shall not relieve the Company of any obligation or liability under this Agreement or any other Project Agreement. It shall not also be construed as a waiver by the Water District of any of its rights under this Agreement. Neither the Water District nor the Independent Consultant shall have any liability to the Company or any other person by reason of its review of the design plans in line with this Section 5.5 (Design, Drawings and Other Documents).

5.6 Testing and Commissioning

5.6.1 Testing Procedure; Provisional Acceptance

- (a) The Company shall carry out the testing and commissioning of the Facilities at its cost in accordance with Schedule D (Testing and Commissioning). The Company shall give the Water District and the Independent Verifier not less than thirty (30) Days' prior written notice before commencing any testing and commissioning of the Facilities.
- (b) The Company shall procure and bear the cost of obtaining chemicals and other consumables required for testing and commissioning of the Facilities.
- (c) The Water District shall accept the service for the treatment of the septage into clean effluent and bio solids by the Company during testing and commissioning of the Facilities free of charge without payment of the Tariff for such services. If the quality of the effluent and bio solids does not meet the Treatment Specifications, the Company shall be responsible for disposing such effluent and bio solids properly. The Company shall not be subject to any of the penalties provided under Section 8.2 (Calculation of Payment) during the testing and commissioning of the Facilities.
- (d) Within five (5) Business Days of the Company carrying out the testing and commissioning, the Independent Consultant shall be required to determine

whether the testing has been done in accordance with the relevant testing and commissioning procedures and whether or not the Facilities have satisfied the applicable commissioning and acceptance standards provided in Schedule D (Testing and Commissioning). The determination made by the Independent Consultant shall be final and binding on the Parties, except in case of fraud or manifest error.

- (e) If the Independent Consultant certifies that the Facilities fully meet the commissioning and acceptance standards, the Water District shall issue a provisional acceptance certificate in favor the Company within five (5) Business Days from the receipt of such certification.
- (f) If the Independent Consultant certifies that the Facilities do not fully meet the commissioning and acceptance standards, it shall issue a report to the Parties detailing the reasons why the Facilities do not comply with the commissioning and acceptance standards and specifying the actions that the Company must take to meet such standards. Notwithstanding the assessment made by the Independent Consultant, the Company shall be solely responsible for the engineering or construction soundness, safety, or reliability of any part of the Facilities or the Project.
- (g) The Company shall immediately take the remedial actions necessary to ensure that the Facilities meet the commissioning and acceptance standards, taking into account the report of the Independent Consultant, and shall notify the Water District and the Independent Consultant when they have been carried out. As soon as reasonably practicable, the Company shall conduct further testing and commissioning until a provisional acceptance certificate has been issued.
- (h) If the Company fails to obtain a provisional acceptance certificate on or before the Required Provisional Operations Start Date, such failure shall constitute a delay and a Company Event of Default.

5.6.2 Final Acceptance

If the Facilities meet the Commissioning, Operating and Acceptance Standards for a period of six (6) months from the Provisional Operations Start Date as certified by the Independent Consultant, the Water District shall issue a final acceptance certificate and the Facilities shall thereafter be operated by the Company in accordance with the Operating Procedures and Operating Standards.

5.7 Construction Security

- 5.7.1 On or before the Signature Date, the Company shall provide and deliver to the Water District a surety bond callable on demand in the form set out in Schedule F (Form of Performance Security) as security for the performance by the Company of its obligations under this Agreement from the Signature Date until thirty (30) days after the Provisional Operations Start Date (the "Construction Security"). The Construction Security shall have a value equivalent to five per cent (5%) of the Total Project Cost and shall be issued by a Performance Security Issuer in favor of the Water District.
- (a) The Construction Security shall be reduced proportionately as each Project Construction Milestone is completed following the Project Milestone Schedule A and unless forfeited or otherwise called on by the Water District in accordance with this Agreement, shall be returned to the Company on the date on which the provisional acceptance certificate is issued but only after submitting an Operating Security in exchange pursuant to Section 6.3 (Operating Security).

5.8 Liquidated Damages for Delay in Meeting Project Milestones

- (a) The Company undertakes to complete the Facilities and start the Services on or before the Required Provisional Operations Start Date. If the Provisional Operations Start Date does not occur on or before the Required Provisional Operations Start Date, the Company shall pay the Water District liquidated damages in the amount of [.] for each Day of delay from the Day immediately following the Required Provisional Operations Start Date to and including the Day on which the Provisional Operations Start Date occurs ("Delay Liquidated Damages").
- (b) The Water District shall claim payment of Delay Liquidated Damages accruing under Section 5.8(a) (Liquidated Damages for Delay in Meeting Project Milestones) above through invoices. The Company shall pay any amount due not later than thirty (30) Days after its receipt of each invoice, which may be issued no more frequently than every fifteen (15) Days. If the

Company fails to pay on the due date, then the Water District shall be entitled to draw from the Construction Security the amount of Delay Liquidated Damages due. Notwithstanding Section 15.1 (Company Events of Default), if the Company's liability for Delay Liquidated Damages exceeds the amount available to be drawn under the Performance Security, the Company shall pay the excess upon written demand by the Water District. The Water District shall also have the right to deduct any unpaid amount from any amount otherwise due the Company under this Agreement.

5.9 Project Milestone Schedule

5.9.1 Compliance with Project Milestone Schedule

The Company undertakes to complete the construction and commissioning of the Project in accordance with the Project Construction Milestone in Schedule A, as they may be amended in line with Section 5.9.2 (Extension of Project Milestone Schedule) below. To meet the timetable, the Company shall cause the EPC Contractor to immediately start work on the Project when the Effective Date occurs.

5.9.2 Extension of Project Milestone Schedule

- (a) Dates in the Project Construction Milestone Schedule may be extended only if any of the following events causes or will cause a material delay in achieving one or more Project Milestones:
 - (i) a Water District Event of Default;
 - (ii) a Force Majeure Event;
 - (iii) a delay or failure on the part of the Water District to carry out an obligation under this Agreement, other than an obligation related to payments by the Water District, and which failure or delay directly and proximately prevents the Company from meeting a Project Milestone unless the delay or failure on the part of the Water District is excused under this Agreement, or is attributable to an action or inaction of the Company, its subcontractors, or agents that is inconsistent with this Agreement;
 - (iv) in case of discovered articles described in Section 5.10 Discovered Heritage Resources); or

- (v) upon mutual agreement by the Parties.

- (b) When any of the foregoing events occurs, the Company shall promptly submit to the Water District and the Independent Consultant a written report setting forth in detail reasonably satisfactory to the Water District the reasons for and the expected length of the delay. The Company shall also recommend measures to minimize the period of the delay and provide a supplemental plan that demonstrates that the Project will be completed within the shortest period possible taking into account the effects of the delay. After submission of the report, the Parties and the Independent Consultant shall meet within five (5) Days to consult about the delay and the supplemental plan. The Parties may thereafter agree to equitably adjust the Project Milestone Schedule to the extent that the Company is able to demonstrate that such delay is attributable to any of the events listed in Section 5.9.2(a) (Extension of Project Milestone Schedule).

5.10 Discovered Heritage Resources

If the Company, the EPC Contractor or any subcontractor finds any a fossil, antiquity or other object having artistic, cultural, historic or monetary value or importance discovered on the Site during construction, the Company shall promptly notify the Water District of such discovery and shall take all reasonable steps (including temporary stoppage of work) to prevent its loss or damage. The Company shall also consult with the Water District before incurring any substantial cost in relation to the discovered articles. If the Project Milestone Schedule is affected as a result of any direction given by the Water District, then the Project Milestone Schedule shall be equitably extended. The Company shall be reimbursed for any additional costs reasonably incurred in order to prevent the loss, removal or damage of the discovered articles.

6. Operation and Maintenance

6.1 Operation and Maintenance Responsibilities of the Company

The Company shall be responsible for the management, operation, maintenance, safety and repair of the Facilities from the Provisional Operations Start Date until the Termination Date and shall ensure during such period that the Facilities operate in accordance with all Legal Requirements, Prudent Utility Practice, and the Operating Procedures and Operating Standards.

6.2 Operating Procedures

6.2.1 Submission of Operating Procedures

- (a) The Company shall devise and implement Operating Procedures for the Facilities consistent with Prudent Utility Practice that incorporate the operating and maintenance procedures specified or recommended by equipment suppliers and manufacturers and that will enable the Company to comply with Schedule L (Desludging Schedule and Operating Procedures).
- (b) The Company shall submit the Operating Procedures to the Water District not later than one hundred eighty (180) Days before the expected Provisional Operations Start Date. The Water District shall review and may comment on the Operating Procedures following the same steps provided in Section 5.5.2 (Review and Comment).

6.2.2 Disclaimer – Operating Procedures

The review or approval by the Water District of the Operating Procedures shall not relieve the Company from any liability under this Agreement or any other Project Agreement nor shall it be considered a waiver by the Water District of any of its rights. The Water District shall not be liable to the Company or any other person by reason of any review or approval of the Operating Procedures.

6.2.3 Operating Security

Within five (5) Days from the Operations Start Date, the Company shall provide and deliver to the Water District a surety bond callable on demand in the form set out in Schedule E (Form of Performance Security) as security for the performance by the Company of its obligations under this Agreement from the Provisional Operations Start Date until the Termination Date (the "Operating Security"). The Operating Security shall have a value equivalent to [•] and shall be issued by a Performance Security Issuer in favor of the Water District. The Company shall ensure that the Operating Security is always valid and regularly renewed or extended.

6.3 Company Staff

The Company shall ensure that a sufficient number of its personnel or those of its subcontractors with the necessary qualifications, expertise and experience most appropriate to provide the Services are on duty at the Facilities at all times in accordance with Prudent Utility Practice and the Operating Procedures.

6.3.1 Planned Downtime; Maintenance Program and Schedule

- (a) The Company shall conduct all regularly scheduled maintenance of the Facilities, including repairs, overhauls, improvements, and replacements, in accordance with the maintenance plans and schedules developed pursuant to this Section 6.5.
- (b) The Company shall submit to the Water District, not later than sixty (60) Days prior to the start of each Contract Year (in the case of Contract Year 1, prior to the Required Provisional Operations Start Date), a maintenance plan and schedule for the Facilities for that Contract Year. The maintenance schedule for a Contract Year shall indicate the dates and times during which the normal delivery of Services will be interrupted for each Planned Downtime during that Contract Year (the "Planned Downtime Period" for such Planned Outage). The Company shall coordinate the maintenance schedules with the Water District so as to maximize overlap of any Planned Downtime Period with any scheduled maintenance of the Water District System. The Planned Downtime Period during any Contract Year shall not exceed fifteen (15) days per year.

- (c) A Planned Downtime shall be confirmed by the Parties sixty (60) Days prior to such downtime and reconfirmed twenty-one (21) Days in advance. The Water District may request the Company to reschedule a Planned Downtime for any valid reason and the Company shall make reasonable efforts to accommodate the request consistent with Prudent Utility Practice. If the Company cannot accommodate the request, it shall inform the Water District in writing as early as possible, which should not be later than fifteen (15) Days after its receipt of a request for rescheduling any Planned Downtime.

6.4 Unplanned Downtime

In case any Unplanned Downtime occurs or is foreseen to occur, the Company shall immediately notify the Water District in writing specifying the date and time of the commencement of the Unplanned Downtime and its expected duration. The period of time from the commencement of an Unplanned Downtime until the resumption of normal delivery of the Services shall be termed as an “Unplanned Downtime Period”. Any Unplanned Downtime Period with a duration of more than [.] hours shall be treated as a Non-Political Force Majeure Event affecting the Company.

7. Septage Management Service

Septage management is defined by three service components: (i) desludging of septic tanks to take out the raw septage, (ii) transport of the raw septage to a treatment plant, and (iii) separation of the filtrate and the bio-solid, treatment and disposal thereof.

7.1 Desludging and Transport of Septage

The Company shall be responsible for desludging of septic tanks of households and establishments identified by the Water District based on the agreed zoning and schedule of desludging service (See Schedule L). The desludging frequency shall be every 5 years. For example, if the first zone is served in the first year of operation, it will be served again on the [4th or 6th] year of operation. The desludging operation and the transport of the raw septage to the septage treatment plant shall comply with the requirements and standards set forth in Schedule F2. The Company should have adequate truck capacity to meet the projected volumes as provided for in Schedule J.

7.2 Treatment and Proper Disposal of Septage

From the Provisional Operations Start Date until the Termination Date, the Company shall treat raw septage delivered by desludging trucks and properly dispose the resulting effluent and bio-solids in the [designated body of water and land area respectively]. The effluent and bio solids should pass the quality standards prescribed in Schedule G (Raw Septage Sources and Quality).

The Septage Treatment Plant should have the capacity and minimum specifications standard of operations provided in Schedule B (Technical Specifications of the Septage Treatment Plant). The Company shall expand the capacity of the treatment plant according to the projected volume as provided for in Schedule J.

The Water District shall accept and pay for the septage management service in accordance with Section 8 (Payment). If due to its fault or negligence, the Company fails to provide the service conforming to the quantity and quality required in this Agreement, the Water District shall be entitled to impose a penalty provided for in Section 8.2 (Calculation of Payment) and Schedule P (Tariff) and may enforce payment through the Operating Security if the Company is unable to pay the penalty when due.

7.3 Quantity of Septage Treated and Properly Disposed

7.3.1 Nomination by Water District

Within the first ten (10) days of each year, the Water District shall nominate the households and commercial establishments for the desludging of septic tanks in the given Zone of operations set forth in Schedule F1. The Water District shall furnish the Company the list of current customers' names and addresses for each year of operation.

7.3.2 Acceptance of Nomination and Off-Take Obligation of Water District

- (a) The Company must accept the nomination made by the Water District if the number of households and commercial establishments conform with Schedule F1.

- (b) The Company shall accept or reject a nomination by the Water District within ten (10) days of receiving the Nomination and Acceptance Form of the Water District. If the Company fails to accept or reject the nomination within this period, the nominations shall be deemed accepted by the Company.
- (c) Upon the acceptance or deemed acceptance of a Nomination and Acceptance Form, the Water District shall be obligated to take and pay for the service based on Schedule F1.

7.3.3 Relief from Off-take Obligation

For [•] days in each Contract Year, the Water District shall have the option to reject the take or pay obligation without incurring any penalty under the following conditions:

7.4 Quality of Treated Effluent and Bio-Solids

The Company shall dispose treated effluent and bio solids which meet the Treated Water Specifications as determined in accordance with Schedule G (Raw Septage Sources and Quality).

7.5 Service outside of the Water District service area

7.5.1 Tipping of Septage in Treatment Plant by Third Parties

The Company shall be allowed to accept septage from private desludgers and charge a tipping fee for it subject to the consent of the Water District, which consent shall not be unreasonably withheld, and provided the service requirements of the Water District are met in accordance with this Agreement.

7.5.2 Request for Unscheduled Desludging

The Company may accept request for unscheduled desludging of households or commercial establishments within the service area of the water district and charge a lump sum fee for the service as provided for in Section 8 of this Agreement.

7.6 Improvement and Unplanned Expansion of Facilities

7.6.1 Right to Request for Improvement

The Water District may at any time, by written notice to the Company, propose an upgrade, expansion or alteration to the Facilities or an improvement of the Treated Water Specifications for any reason, including, without limitation, the following:

- (a) the availability of new proven technology in the Philippines or abroad;
- (b) a change in the demand from the Water District's customers; or
- (c) to comply with any Change in Law.

7.6.2 Principles Governing Negotiations

Upon the giving of notice by the Water District, the Parties must negotiate in good faith the terms required to implement the improvement proposed in accordance with the following principles:

- (a) The Company shall be entitled to recover all costs incurred by it to carry out the improvement and to make a reasonable rate of return on any additional investment made for that purpose having regard to existing market conditions at the time the improvement is done.
- (b) Except when a Tariff adjustment is authorized under Section 8.3.2 (Extraordinary Tariff Adjustments), the Water District shall be entitled to determine the method of compensating the Company for the expansion or improvement in the Facilities or the Waste Water Treatment Specifications, including but not limited to an adjustment to the Tariff pursuant to Section 8.3.2 (Extraordinary Tariff Adjustments) or an extension of the Operating Period.
- (c) The essential commercial terms and risk distribution embodied in this Agreement shall also apply to the works carried out in the adoption of the improvement.

7.6.3 Implementation of Improvement

Upon agreement by the Parties, the improvement to the Facilities or the Effluent Treatment Specifications shall be implemented in accordance with the agreed terms and the principles in Section 7.6.2 (Principles Governing Negotiations).

8. Payment

8.1 Tariff

In consideration for the septage management service by the Company, the Water District will pay the Company a tariff monthly, expressed in PHP per household or commercial establishment served by the water district for each Billing Month which shall be computed by applying the formulas and procedures described in this Section 8. The Tariff, as computed, shall include the value-added tax that the Company may be required to pay in relation to provision of the septage management service to the Water District.

8.2 Calculation of Payment

8.2.1 Regular Tariff

The Tariff per household for each Billing Month that shall be paid to the Company shall be based on the pre-agreed schedule of desludging services for households and commercial establishments in pre-determined zones. The Tariff is defined as:

$$\text{Tariff} = \text{base fee} * \text{winning percentage bid}$$

that is, the Tariff is equivalent to the base fee multiplied by the winning percentage bid submitted by the Company. The base fee is determined by the Water District before the competitive public bidding process to undertake the Project. The winning percentage bid, which is the Company's bid that led to its selection by the Water District through the competitive public bidding process, shall not exceed 100 percent of the base fee.

At any given year, the maximum chargeable regular tariff shall be the Tariff adjusted using the Tariff Adjustment Formula in Section 8.3.

8.2.2 Pay per Service

In addition to the Tariff, payment to the Company shall include the following payment per service, as they are actually collected:

- (a) Pay per unscheduled request for desludging service of a household or commercial establishment in the pre-determined zones – This shall be equivalent to the Tariff multiplied by 60 months.
- (b) Tipping fee for septage treatment of the septage collected by private desludging companies – This shall be allowed only if the facility has excess capacity of at least [•] percent, as described in Section [•]. The tipping fee per cubic meter to be set by the Company shall not exceed [•] pesos (PHP [•]) per cubic meter.

8.2.3 Tariff Reduction due to failure of the Company

The Tariff to be paid to the Company shall be reduced in the event the following occur:

- (a) failure of the Company, due to its own action or inaction, to provide desludging service to scheduled households or commercial establishments;
- (b) failure of the Company, due to its own action or inaction, to treat the waste water or bio-solids according to the agreed specifications and standards; or
- (c) failure of the Company, due to its own action or inaction, to deliver septage management service in accordance with the Agreement due to a Political Force Majeure Event.

The Tariff reduction to be imposed as a consequence of the above failures by the Company shall be based on the percentage reduction in service or standards as evaluated by the Water District and as compared with the service schedule, specifications and standards in this Agreement.

8.2.4 Payment during Political Force Majeure Events

In the event of a Political Force Majeure Event due to causes not attributable to either Party (example, floods), the Water District shall pay the Company a fixed fee of [•] pesos (PHP [•]) per household for each Billing Month that the Force Majeure Event occurs.

8.3 Tariff Adjustment

8.3.1 Regular Tariff Adjustment

The Tariff shall be adjusted every other year using the following Tariff Adjustment Formula:

$$\text{Tariff}_t = \text{Tariff}_{t-1} * \frac{\text{CPI}_{t-2}}{\text{CPI}_{t-1}}$$

where Tariff_t = Tariff for the current adjustment period t

Tariff_{t-1} = Tariff for the last adjustment period

CPI_{t-1} = Consumer Price Index at the end of the last adjustment period

CPI_{t-2} = Consumer Price Index at the end of the adjustment period prior to the last adjustment period

In case Tariff_t exceeds Tariff_{t-1} by sixty percent (60%), the tariff to be applied shall be Tariff_{t-1} multiplied by one hundred sixty percent (160%).

8.3.2 Extraordinary Tariff Adjustments

8.3.2.1 Tariff Re-Opener Event

Each of the following shall be a "Tariff Re-Opener Event":

- (a) Improvement and unplanned expansion of services as defined in Section 7.7;
- (b) Non-realization of projected households for desludging that results in high reduction in operating and maintenance expenses;
- (c) The occurrence of a Force Majeure Event that results in losses that are not covered by insurance that the Company is required to obtain and maintain under this Agreement; or

- (d) A change in the waste water treatment specifications due to a Change in Law.

8.3.2.2 Extraordinary Tariff Adjustment Request and Approval

- (a) If one or more Tariff Re-Opener Events occur, either the Company or the Water District may request the Expert Panel for an extraordinary adjustment to the Tariff ("Extraordinary Tariff Adjustment Request"). The LWUA shall have the right to select the members of the Expert Panel from the pool of independent experts nominated by the Parties in accordance with Section 19.2.2 (Establishment and Operation of Expert Panel).
- (b) No Tariff Adjustment Request may be made unless the aggregate impact (positive or negative) of the Tariff Re-Opener Event on the present value of Company's cash flows, as adjusted for inflation, is greater than [•] Pesos (PHP [•]). The Party filing the Tariff Adjustment Request must submit the necessary information to the Expert Panel to prove the occurrence of a Tariff Re-Opener Event and the change in cash flows.
- (c) Upon receipt of a Tariff Adjustment Request, the Expert Panel shall verify the occurrence of the Tariff Re-Opener Event(s) claimed by the requesting Party and its impact on the Company's cash flow. Within [•] Business Days of receiving the Tariff Adjustment Request, the Expert Panel may require the requesting Party to submit additional information in connection with its review.
- (d) The Expert Panel shall approve or disapprove the Tariff Adjustment Request within [•] Business days following receipt of the Tariff Adjustment Request or receipt of the additional information requested by the Expert Panel.
- (e) The Parties shall amend the Agreement to implement the approved adjustment in the Tariff, the "Extraordinary Tariff Adjustment" or ETA prospectively until the Termination Date.

The Tariff with ETA shall have the following formula:

$$\text{Tariff with ETA} = \text{Tariff}_t * (1 + R)$$

where

Tariff_{*t*} = the prevailing tariff at period *t* coinciding with the time when the ETA is requested

R = the difference between the (i) present value of future costs given the Tariff Re-Opener Event and (ii) the present value of future costs without the Tariff Re-Opener Event, divided by the present value of future costs without the Tariff Re-Opener Event; R can be positive or negative.

The Tariff with ETA shall still be subject to regular tariff adjustment defined in Section 8.3.1 above.

8.4 Invoices

At the end of each Billing Month, the Company shall submit to the Water District an invoice (each, a "Company Invoice") in the form set out in Schedule K (Form of Invoice) showing the computation for the Tariff and stating the total amount due and payable from the Water District for the previous Billing Month.

8.5 Payment Terms

The Water District shall pay the amount due in each Company Invoice within (30) Days after the date of receipt by the Water District of such invoice. If the last day for payment is not a Business Day, then payment shall be made on the next Business Day.

8.6 Manner of Payment

All sums payable by the Water District under this Agreement shall be paid in Pesos and remitted in same-day funds on the due date to an account maintained in a bank doing business in [•], Philippines to be specified in writing by the Company to the Water District.

8.7 Taxes

The Company shall be liable for all taxes imposed on the Project and the Facilities. However, any value-added tax on the fee for the septage management service shall be passed on by the Company to the Water District and shall be separately stated in the Company Invoices.

8.8 No Set-Off or Deductions

All payments made by the Water District under this Agreement shall be made free and clear of and without deduction for or on account of any setoff, counterclaim, Taxes, or otherwise, except those particularly allowed under the Civil Code of the Philippines or deductions required by Legal Requirements.

8.9 Penalty for Late Payment

Any amount due which is not paid within the period indicated in this Section 8 shall bear interest at the Penalty Rate from the due date until payment is received by the Company.

8.10 Disputed Invoices

- (a) If the Water District disputes an amount or a computation in a Company Invoice, the Water District shall: (i) send a written notice to the Company informing it of such fact and detailing the basis for the dispute; and (ii) pay the undisputed portion not later than its due date.
- (b) The Parties shall endeavor to settle the billing dispute within thirty (30) Days after receipt by the Company of the Water District's Notice following the steps for the settlement of disputes provided in Section 19 (Dispute Resolution). If the dispute is resolved in the Company's favor, then the amount disputed shall bear interest at the Penalty Rate from the original due date until payment is received by the Company.

9. Contract Management, Monitoring, and Evaluation

9.1 Contract Management Body

Within five (5) Business Days after the Effective Date, each Party shall form a contract management body, either through the appointment of a contract manager or the creation of a contract management unit, which shall be responsible for monitoring, managing and evaluating the full implementation of the Project ("Contract Management Body"). Within two (2) Business Days from its creation, each Party shall immediately send written notice to the other naming the members of its Contract Management Body.

9.2 Project Reports

- (a) Within fifteen (15) Business Days from receipt of the notice referred to in Section 9.1, the Contract Management Bodies of the Parties shall meet and agree on the form of the report which the Parties shall use as a tool to exchange information and to monitor, manage and evaluate the implementation of the Project ("Project Report").

At the same meeting, the Parties shall also agree on:

- i. the Party responsible for monitoring and reporting on each of the indicators; and
 - ii. the frequency that each indicator should be monitored and reported.
- (b) The Parties shall ensure that Project Report will have the following basic information:
- i. performance indicators to determine the Company's compliance with its obligations under the Agreement;
 - ii. performance indicators to determine the Water District's compliance with its obligations under the Agreement;

- iii. major risk factors for the Project and the indicators to determine how such risk factors are affecting the Project;
- iv. the costs of the Project and the Services measured against their expected costs;
- v. any information required by relevant Government Authorities including government oversight agencies and public regulators in accordance with applicable Legal Requirements;
- vi. significant contract management actions taken by each Party;
- vii. any event or condition that has occurred which materially affects the Project or a Party's ability to comply with its obligations under the Agreement or if any of the representations made or warranties given by a Party ceases to be true in any material respect; and
- viii. all other material information that may be included by the Parties.

9.3 Monitoring and Reporting Obligations

- (a) The Parties shall comply with their monitoring and reporting obligations mutually agreed upon pursuant to this Section 9 and embodied in the Project Report.
- (b) For this purpose, the Company shall establish appropriate monitoring and reporting systems to obtain data and perform calculations in order to measure compliance with the Operating Standards and Procedures and other key performance indicators provided in the Project Report.
- (c) Performance of the Facilities and compliance with the Operating Standards and Procedures shall be measured and calculated by the Company on a [•] basis. The Company shall gather the results and make them available to the Contract Management Bodies.
- (d) The Project Reports shall be prepared in English and shall be submitted within [•] Business Days after the end of the calendar month to which they apply. Source data applicable to a Project Report shall be retained by the Parties for a period of at least sixty (60) months after the report is

submitted and shall be furnished to the other Party upon demand. All reports and source data for purposes of validation shall also be stored electronically by the Parties.

- (e) Where a Project Report shows that the operation of the Facilities is below the Operating Standards and Procedures or other performance indicators, the Company shall also separately submit: (i) a full explanation of the reasons for the below-target performance; (ii) the steps that it has or will be taking to ensure that performance is improved to meet the standard; and (iii) the timeframe for their implementation. In case the cause of the below-target performance is not entirely the responsibility of the Company, it shall include a recommended solution in its report that identifies the proposed steps to remedy the other factors that contributed to the below-target performance.
- (f) At the request of the Water District, the Company shall prepare and submit supplemental reports related to the performance of the Facilities or compliance with the Operating Standards and Procedures.

9.4 Regular Meetings

The Contract Management Body of the Parties shall meet once a month or more frequently if necessary in order to discuss the progress of the Project, including but not limited to the following:

- (a) the indicators and information reported using the Project Report;
- (b) any problems or issues in the implementation of the Project and solutions to the same, including preventive or remedial actions which should be taken when the agreed outputs or costs of the Project deviate from their expected values;
- (c) methods for managing significant Project risks; and
- (d) lessons learned from the monitoring and management of the Project and, based on such lessons, the necessary adjustments that can be made in the implementation of the Project in order to improve Project outcomes.

9.5 Regulation of the Company

The Parties acknowledge that the Company is subject to regulation by the DOH on Environment Sanitation Clearance (ESC) and DENR on Environment Compliance Certificate (ECC) and Discharge Permit (DP). The Company shall fully comply with all applicable regulatory issuances and orders of DOH and DENR on septage management services and effluent discharges and Department of Agriculture if the bio-solids are used as fertilizer.

9.6 Right of Water District to Monitor

- (a) The Water District shall be entitled to inspect, check, test and monitor the Project and the Facilities during the construction period and the Operating Period. The purpose of such monitoring shall be to determine whether the Facilities are being designed, constructed, tested, commissioned, operated and maintained in accordance with the terms of this Agreement.
- (b) The Company shall allow the Water District or its duly authorized representatives to conduct such inspection and monitoring during normal business hours upon reasonable prior written notice to the Company. The monitoring and review shall be conducted in the presence of a duly designated representative of the Company. All costs incurred by the Water District in exercising its monitoring rights pursuant to this Section shall be borne solely by the Water District.
- (c) However, the Water District may also authorize the Independent Consultant to do random, unscheduled inspection and monitoring of the quality of treated effluent and bio-solids.
- (d) The Parties shall use all reasonable efforts to minimize any disruption to the delivery of the Services during a Service inspection.
- (e) The Company shall ensure that the Water District or its agent or representative is given sufficient access to any part of the Facilities to carry out a Service inspection. For this purpose, the Company shall:
 - i. provide assistance and make available equipment or materials as may be reasonably required;
 - ii. not make any part of the Facilities inaccessible; and

- iii. promptly correct any deficiency identified by the Water District or its agent during such Service inspection.

9.7 Financial Reports

9.7.1 Fiscal Year Accounting Principles

The Company shall have a fiscal year ending on December 31 of each year. The Company shall at all times comply with the Accounting Principles and maintain proper books and records in accordance with applicable Legal Requirements.

9.7.2 Financial Reports and Public Audit

- (a) The Company shall keep accurate records of all receipts and expenses related to the operation of the Facilities and to any activity performed on the Facilities by the Company.
- (b) It shall prepare unaudited quarterly financial statements in accordance with the Accounting Principles consistently applied. The quarterly unaudited financial statements shall be duly signed by the Company's chief accountant and shall be submitted to the Water District within thirty (30) Business Days after the end of each quarter for the duration of the Operating Period.
- (c) The Company shall prepare audited annual financial statements in accordance with the Accounting Principles consistently applied. The annual financial statements shall be audited by the Auditors within one hundred twenty (120) Business Days after the end of each fiscal year for the duration of the Operating Period (including the fiscal year in which the Termination Date occurs), the Company shall submit to the Water District an annual report on the Company's management, operations, and finance during the preceding year, including copies of the audited financial statements with the Auditors' notes and comments.
- (d) In addition to the foregoing reports, the Company shall provide the Water District at its request and on a timely basis all financial information in respect of the Company's operations reasonably required to permit the Water District to satisfy its financial, tax, and other reporting requirements.

- (e) The Company acknowledges that the Water District is subject to public audit by the Commission on Audit (“COA”). For this purpose, the Company shall provide on timely basis pertinent information as may be requested by the Water District or COA for purposes of such audit.

10. Insurance

10.1 Required Insurance Policies; Endorsements

- (a) The Company at its cost shall obtain and maintain or cause its subcontractors to obtain, at a minimum, the insurance coverage and policies described in Schedule N (Insurance) and required by the Legal Requirements, the Financing Agreements, and Prudent Utility practice. The Company may procure additional insurance coverage not called for under this Agreement.
- (b) The insurance policies required to be obtained by the Company shall be issued by reputable and financially sound insurers or reinsurers duly licensed by the Insurance Commission and reasonably acceptable to the Water District. All policies shall have the endorsements and other terms set out in Schedule N (Insurance) but the Company shall not be required to obtain any insurance policy at a time when such policy or coverage is not available on reasonable commercial terms in the international or domestic insurance market.

10.2 Insurance Certificates

The Company shall provide the Water District with true and certified copies of insurance policies or certificates of coverage required to be obtained in accordance with this Agreement within ten (10) Days after the date such insurance policies are obtained or renewed.

10.3 Failure to Secure and Maintain Required Insurance

If the Company fails to obtain or maintain any insurance policy or endorsement required by this Agreement, the Water District shall have the right but not the obligation to procure such insurance policy or endorsement at the Company's expense. If the Company fails to reimburse the Water District within seven (7) Days after being notified of the Water District's payment of any insurance premium to obtain the needed insurance cover, the Water District can enforce reimbursement from the Performance or Operating Security in effect at that time. If the Performance or Operating Security is insufficient, the Water District shall deduct the cost of insurance from any amount due and payable by the Water District to the Company under this Agreement.

10.4 Application of Insurance Proceeds

10.4.1 Loss While the Financing Agreements are Effective

If all or a portion of the Facilities is damaged, destroyed, or rendered unfit for normal operation, all insurance proceeds received under any insurance policy other than proceeds of business interruption insurance shall be applied in accordance with the applicable terms of the Financing Agreements.

10.4.2 Loss After the Financing Agreements Have Expired

If after the expiration of the Financing Agreements all or a portion of the Facilities is damaged, destroyed, or rendered unfit for normal operation, the Company shall apply the insurance proceeds (except the proceeds of business interruption insurance) in accordance with the following provisions:

- (a) If the Company determines that the Facilities can be rebuilt, repaired, and restored to permit operation on a commercially viable basis and the insurance proceeds are sufficient to restore such facilities, then all the proceeds shall be applied toward the cost of rebuilding, repairing, and/or restoring the Facilities.
- (b) If the Company determines that the Facilities cannot be rebuilt or can only be partially rebuilt, repaired, and restored or that the insurance proceeds are insufficient to restore such Facilities, then either Party may elect to terminate this Agreement in accordance with Section 20.2.3 (Termination by

Either Party) and all of the insurance proceeds shall be distributed in the following order of priority:

- i. to the payment of any amount that may be due the Water District under this Agreement; then,
- ii. any remaining amount from such proceeds shall be given to the Company or its successors or assigns or to whomever may be lawfully entitled to receive it.

11. Representations and Warranties

Each Party represents and warrants to the other Party that as of the Signature Date and the Effective Date:

11.1 Corporate Existence and Authority

It is a corporation duly organized and validly existing under the laws of [•] and it has all requisite legal power and authority to conduct its business, to own its properties, and to execute, deliver and implement this Agreement.

11.2 Government Consents and Approvals

All Consents required to authorize the execution, delivery, and performance of this Agreement have been obtained and are in full force and effect except for those Consents identified in Schedule Q(Consents) that the Parties have agreed to obtain at a later time.

11.3 Non-contravention of Legal Requirements

The execution, delivery, and performance of this Agreement do not conflict with any Legal Requirements applicable to such Party.

11.4 Validity and Enforceability of Agreement

This Agreement constitutes its legal, valid, and binding obligation, enforceable in accordance with its terms, except to the extent that its enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium, liquidation or other similar laws affecting creditors' rights generally.

11.5 No Adverse Litigation

There is no litigation, arbitration, investigation or proceeding pending, or to its best knowledge, threatened, against or affecting such Party that could reasonably be expected to materially adversely affect its ability to fulfil its obligations under this Agreement or that may affect the legality, validity, or enforceability of this Agreement.

11.6 Due Authorization & Non-contravention of Other Agreements

The execution, delivery, and performance of this Agreement have been duly authorized by all requisite corporate action, and will not: (i) require any further consent or approval of its board of directors, shareholders, or any other third party, other than those that have been obtained, or ii) violate its charter or incorporation documents, or other agreement or instrument to which it is a party or by which it or its property may be bound, or violate any law, judgment, order, writ, injunction, determination, or award presently in effect and applicable to it.

11.7 Continuing Representations and Warranties

The representations and warranties in Sections 11.1 to 11.6 shall be deemed to be repeated by each Party as of the Effective Date and as of December 31 of each Contract Year. Each Party shall immediately notify the other Party in writing if any of the representations and warranties given under Sections 11.1 to 11.6 ceases to be true in any material respect.

12. Company Covenants

12.1 Conduct of Company

The Company shall exercise complete control over its employees, contractors and subcontractors and require them to comply with this Agreement, all applicable Legal Requirements, and all applicable policies of the Company. The Company shall also require its employees, contractors and subcontractors to conform to the highest standards of professionalism and ethical conduct. To the extent permitted by applicable Legal Requirements, the Company shall dismiss or discipline any of its employees, contractors or subcontractors who do not conform to such standards and shall take immediate action at its own expense to correct any violations of such standards.

12.2 Compliance with Legal Requirements and Consents

The Company shall comply with all applicable Legal Requirements and shall comply in all material respects and shall keep in full force and effect all Consents required to be in its name for the performance of its obligations under this Agreement.

12.3 No Other Business

Except with the prior written consent of the Water District, the Company shall not (a) engage in any business activity except those which are reasonably required to implement this Agreement, (b) enter into any merger, consolidation, or amalgamation with any entity or person, or (c) dispose of all or substantially all of its assets except as may be required by the Lenders to enforce any security interest permitted to be granted by the Company to such Lenders pursuant to Section 18.2 of this Agreement.

12.4 Local Content

In cases where goods or services required for the Project are available from both Philippine and non-Philippine suppliers, the Company shall, and shall cause each of its contractors and subcontractors to, assure the participation of such Philippine suppliers, in the call for tenders. When the goods or services of such Philippine suppliers are

reasonably comparable in cost, quality, and delivery time to non-Philippine suppliers of goods or services, the Company, or its contractors or subcontractors, shall acquire such goods or services from such Philippine suppliers.

12.5 Company's Employees

12.5.1 Employment of Philippine Nationals

The Company shall employ qualified Philippine citizens to the maximum extent possible. The Company shall cause its EPC Contractor to do the same.

12.5.2 Status of Company's Employees upon Termination of Agreement

The Water District shall have no obligation to employ or hire any employees of the Company upon the termination of this Agreement. The Company shall be liable for all costs and expenses associated with the termination of the employment or contract of the Company's employees.

12.5.3 Education and Training

The Company shall implement education and training programs designed to upgrade the skills of its employees with a view to bringing the skills of such employees to international standards in accordance with Prudent Utility Practice.

12.6 Anti-Corruption Warranty

The Company warrants that neither it nor its representatives have offered any officer, official or employee of any Government Authority any consideration or commission for this Agreement nor has it or its representatives exerted or utilized any corrupt practice or unlawful influence to secure or solicit this Agreement for any consideration or commission. The Company shall not subcontract any portion or portions of its obligations under this Agreement to any public officer or Water District official or employee or to persons known by the Company to be relatives within the third degree of consanguinity or affinity of any public officer or Water District official or employee directly or indirectly involved in the award of this Agreement or the implementation of the Project. If any consideration or commission is paid to any private person, the Company shall disclose the name of the person and the amount paid. Any breach of the warranties and undertakings in this Section 12.6 shall constitute sufficient ground for the

rescission or cancellation of this Agreement or the deduction of the consideration or commission paid from payments otherwise owed to the Company under this Agreement, without prejudice to the filing of civil or criminal actions against the Company and/or its representatives and officials and employees of the Water District under the Anti-Graft and Corrupt Practices Act and other applicable laws.

12.7 Transactions with Affiliates of Company

Any contract or other transaction entered into by the Company with any of its Affiliates in connection with the Project, whether for the purchase of goods or services or otherwise, shall be entered into on an arms-length basis and on commercial terms that would reasonably be expected to apply in the open market between contracting parties that are not Affiliates. Without limiting the generality of the foregoing, in no event shall the Company, directly or indirectly, pay more than the fair market value for goods or services supplied to it by its Affiliates.

13. Force Majeure

13.1 Force Majeure Events

13.1.1 Definition of Force Majeure Event

A “Force Majeure Event” means any event, condition, or circumstance and the effects thereof not within the reasonable control, directly or indirectly, of the Party affected, but only if and to the extent that:

- (a) such event, condition, or circumstance is not the direct or indirect result of the breach by such Party of any of its obligations under this Agreement or the fault or negligence of such Party, its Affiliates, or any person under the Party’s or its Affiliates’ reasonable control;
- (b) despite the exercise of reasonable diligence, such event, condition, or circumstance cannot be prevented, avoided, or removed by such Party;
- (c) such event, condition, or circumstance has a material adverse effect on the ability of such Party to perform all or a material portion of any of its obligations under this Agreement, and such Party has taken all reasonable

precautions, due care, and alternative measures in order to avoid or mitigate the effects of such event on such Party's ability to perform its obligations under this Agreement; and

- (d) such Party has given the other Party notice in accordance with Section 13.2.1 (Notice of Force Majeure Event).

13.1.2 Political Force Majeure Event

Subject to Section 13.1.1 (Definition of Force Majeure Event), Force Majeure Events may include any of the following (each, a "Political Force Majeure Event"): war (declared or not); hostilities or belligerence; blockade; revolution or insurrection; riot or public disorder; Change-in-Law, expropriation, requisition, confiscation, or nationalization; export or import restrictions other than any in effect as of the Signature Date; closing of harbors, docks, canals, or other assistance to or adjuncts of the shipping or navigation of or within any place; rationing or allocation, whether imposed by law, decree, or regulation by, or by compliance of industry at the insistence of, any Government Authority.

13.1.3 Non-Political Force Majeure Event

Subject to Section 13.1.1 (Definition of Force Majeure Event), Force Majeure Events may include any of the following (each, a "Non-Political Force Majeure Event"): fire; unusual flood or drought; earthquake, volcano, storm, lightning, tide (other than normal tides), tidal wave, unusually severe weather conditions; perils of the sea; accidents of navigation or breakdown or injury of vessels; accidents to harbors, docks, canals, or other assistance to or adjuncts of the shipping or navigation; epidemic or quarantine; strikes or combination of workmen, lockouts, or other labor disturbances (other than those solely affecting the Party claiming the same as a Force Majeure Event); or any other cause similar to the foregoing that meets the requirements of Section 13.1.1 (Definition of Force Majeure Event).

13.2 Responsibilities of the Parties during Force Majeure Event

13.2.1 Notice of Force Majeure Event

The Party seeking to be excused from any delay in the performance of its obligations (other than the payment of money) under Section 13 (Force Majeure) of this Agreement shall advise the other Party in writing of the date of commencement of such Force

Majeure Event, the nature and expected duration thereof, and the actions to be taken to prevent or reduce the effects of such event. The notice shall be sent by such Party not later than ten (10) Days after the date on which such Party first gains knowledge of such Force Majeure Event. If it fails to deliver such notice in accordance with this provision, such Party shall not be entitled to invoke the benefits of this section.

13.2.2 Mitigation

Each Party shall exert all reasonable efforts in accordance with Prudent Utility Practice or other applicable standard to prevent or mitigate the consequences of the Force Majeure Event on the performance of its obligations under this Agreement. The Parties shall consult with each other in good faith and shall use all reasonable endeavors to agree on appropriate terms to mitigate the effects of the Force Majeure Event and facilitate the continued implementation of the Project. The Parties shall exert all reasonable efforts to resume the performance of their obligations as soon as practicable following the declaration of a Force Majeure Event.

13.2.3 Additional Information about Force Majeure Event

Within three (3) Days following the termination of any Force Majeure Event, the Party having invoked such Force Majeure Event as a cause for the failure or delay in the performance of any obligation under this Agreement (other than the payment of money) shall submit to the other Party reasonable proof of the cause and nature of such delay and its effect upon the performance of the obligations of such Party under this Agreement.

13.3 Effect of Force Majeure Events

13.3.1 Delayed Performance Excused

The affected Party shall be excused from performance and shall not be in default of any obligation under this Agreement for so long as its failure to perform such obligation is due to a Force Majeure Event, provided that:

- (a) The affected Party makes continuous diligent efforts to prevent or mitigate the effects of the Force Majeure Event;
- (b) The Water District shall not be entitled to the benefit of this Section 13.3.1 (Delayed Performance Excused) in case of Political Force Majeure Events;

- (c) The Party claiming a Force Majeure Event shall not be entitled to suspend performance or be excused for delayed performance under this Agreement for any greater scope or longer duration than is required by the Force Majeure Event or the delay occasioned thereby and there shall be no presumption that a Party is entitled to or limited by a day-for-day extension of time equal to the period of the Force Majeure Event;
- (d) Neither Party shall be relieved of or excused from its obligations under this Agreement solely because there may be increased costs or other adverse economic consequences incurred through the performance of such obligations; and
- (e) The provisions of this Section 13.3.1 shall not excuse:
 - i. Late payment of money;
 - ii. Late performance by either Party due to such Party's fault or negligence; or
 - iii. Delays resulting from an event, condition, or circumstance which is reasonably foreseeable such as but not limited to (A) weather conditions that are no more severe than any weather condition reported in or predictable from weather data for the period of fifty (50) years prior to the date of this Agreement or (B) unsuitable ground conditions (other than earthquakes or other geologic calamities).

13.3.2 Force Majeure Events prior to Operations Start Date

If a Force Majeure Event occurs prior to the Provisional Operations Start Date that results or will result in a delay in achieving that Project Milestone, then, immediately after the giving of the notice required under Section 13.2.1 (Notice of Force Majeure Event), the Project Milestone Schedule shall be equitably adjusted upon the written agreement of the Parties. If the Parties are unable to agree on an equitable adjustment to the Required Provisional Operations Start Date or other affected Project Milestones within a period of sixty (60) Days after the giving of the notice required in Section 13.2.1 (Notice of Force Majeure Event), such inability to agree shall be considered a Dispute and either Party thereafter shall be entitled to bring such Dispute to arbitration in accordance with this Agreement.

13.3.3 Force Majeure Events on or after Operations Start Date

If a Force Majeure Event occurs on or after the Provisional Operations Start Date, the Tariff payable to the Company shall be reduced accordingly to correspond to the level of Services actually rendered to the Water District during the period that such Force Majeure Event was persisting. The adjustment to the Tariff shall be done in accordance with Section 8.3 (Tariff Adjustment) hereof.

14. Indemnity

14.1 Indemnification by the Company

The Company shall indemnify, defend, and hold harmless the Water District, its directors, officers, employees, and representatives, its Affiliates, agents, advisors, contractors, or licensees and their respective directors, officers, and employees (the "Water District Parties"), from and against all Claims asserted against the Water District or any Water District Party by any third party as a result of the following:

- (a) For any loss of or damage to property or death or injury to persons (except for workers' compensation claims), resulting from any negligent act or omission of the Company or any Company Parties that results from the performance of this Agreement;
- (b) Failure of the Company to comply with any Legal Requirement in the performance of its obligations under this Agreement;
- (c) Failure of the Company to comply with its representations and warranties under Section 11 (Representations and Warranties) of this Agreement; or
- (d) Failure of the Company to comply with its covenants under Section 12 (Company Covenants) of this Agreement.

The Company shall not be obliged to indemnify the Water District to the extent that any of the matters referred to in paragraphs (a) to (d) above is caused by the negligence, misconduct, or breach of this Agreement by the Water District or any Water District Parties or arises as a direct result of the Company acting upon the instruction of the Water District.

14.2 Indemnification by Water District

The Water District shall indemnify, defend, and hold harmless the Company, its shareholders, directors, officers, employees, and representatives, its Affiliates, agents, contractors, or licensees and their respective directors, officers, and employees (the "Company Parties"), from and against all Claims asserted against the Company or any Company Parties for any loss of or damage to property or death or injury to persons (except for workers' compensation claims) resulting from any negligent act or omission of the Water District or any Water District Parties that results from the performance of this Agreement by the Water District, except to the extent such loss, damage, injury, or death is attributable to the negligence, misconduct, or breach of this Agreement by the Company or any Company Parties.

14.3 Indemnification Procedures

14.3.1 Notice of Claim

Each Party shall provide the other Party with written notice of any matter constituting or that may lead to a Claim under this Agreement which may give rise to a request for indemnification under this Section 14 (Indemnity) as soon as such Party becomes aware of the potential Claim.

14.3.2 Defence of Claim

- (a) The indemnifying Party may, at its option and at its expense, control the contest and defence of any claim with respect to which it is or may be obligated to indemnify the indemnified Party under this Agreement and with respect to which it or the indemnified Party is named as a party.
- (b) If the indemnified Party is also named as a party to any such proceeding, the indemnified Party shall have the right to retain its own counsel at its own expense. Except when the interests of the Parties with respect to such Claim are adverse, the indemnifying Party shall (i) keep the indemnified Party and its counsel reasonably informed as to the progress of such contest and defence, (ii) to the extent reasonably practicable give the indemnified Party and its counsel the opportunity to review and comment in advance on all written submissions and filings relevant to the Claim, and (iii) consider in good faith any reasonable suggestions made by the indemnified Party or its counsel or permit the indemnified Party and its counsel to submit

documentation or attend those portions of any meetings and proceedings that relate to the Claim.

14.3.3 Payment of Claim

The indemnifying Party shall pay the indemnified Party within thirty (30) Days after notice to the indemnifying Party of the actual payment of a Claim by the indemnified Party.

15. Events of Default

15.1 Company Events of Default

The occurrence of any of the following events shall constitute a "Company Event of Default":

- (a) The Provisional Operations Start Date has not occurred by one hundred eighty (180) Days after the Required Provisional Operations Start Date.
- (b) The Operations Start Date has not occurred by one hundred eighty (180) Days after the Required Operations Start Date.
- (c) The Company fails to perform any of its obligations under this Agreement (other than a failure that constitutes a Company Event of Default under any other clause of this Section 15.1) which materially and adversely affects the performance of the Service.
- (d) At any time prior to the Operations Start Date, the aggregate amount (without double-counting) of all costs, expenses, and liabilities incurred or reasonably expected to be incurred in order to achieve the Operations Start Date exceeds the amounts available to the Company under the Financing Agreements and any other sources of funding including Equity that are conditionally available to the Company.
- (e) The Company (i) becomes voluntarily or involuntarily the subject of rehabilitation, receivership, or suspension of payment proceedings under any bankruptcy or insolvency law or other law or procedure for the relief of financially distressed debtors; (ii) does not, is unable, or admits in writing its

inability to pay its debts when due or as they mature; or (iii) becomes insolvent, takes or suffers any action for its liquidation or dissolution, or has a receiver or liquidator appointed for all or any substantial part of its assets and, in the event any such occurrence is involuntary, it results in the entry of an order for relief or the adjudication of the Company or any such guarantor of the Company as bankrupt or insolvent and it remains undischarged for a period of thirty (30) Days.

- (f) The Company ceases to prosecute and carry out the Project for more than fifteen (15) Business Days within any period of twenty (20) consecutive Business Days, and with no manifest intention of resumption either in whole or material part.
- (g) The Company ceases to provide all or a substantial part of the Services in accordance with this Agreement for more than fifteen (15) Business Days within any period of twenty (20) consecutive Business Days.
- (h) The Company defaults in the payment of any amount due and payable (which amounts are not in dispute) under this Agreement, which amount exceeds the sum of PHP[•] and such default continues unremedied for a period of sixty (60) Days from receipt by the Company of a notice in writing from the Water District of the amount due and payable.
- (i) The Company fails to provide a suitable replacement Performance Security Issuer with the required qualifications under this Agreement within sixty (60) Days when such Performance Security Issuer (i) fails to satisfy the requirements for the Performance Security Issuer set out in Section 1.1 (Definition of "Performance Security Issuer") of this Agreement, (ii) becomes voluntarily or involuntarily the subject of rehabilitation, receivership, or suspension of payment proceedings under any bankruptcy or insolvency law or other law or procedure for the relief of financially distressed debtors, (iii) does not or is unable to pay its debts when due or as they mature, or (iv) becomes insolvent, takes or suffers any action for its liquidation or dissolution, or has a receiver or liquidator appointed for all or any substantial part of its assets and in the event any such occurrence is involuntary, it results in the entry of an order for relief or the adjudication of the Company's guarantor as bankrupt or insolvent and it remains undischarged for a period of thirty (30) Days.
- (j) A representation or warranty by the Company under Section 11 (Representations and Warranties) is incorrect in any material respect and is

reasonably likely to have a material adverse effect on the ability of the Company to carry out the Project.

- (k) The Company breaches any provision of Section 12.6 (Anti-Corruption Warranty).
- (l) The Company assigns or transfers any of its rights or obligations under this Agreement, except as permitted by Section 18.2 (Permitted Assignment to Financing Parties).
- (m) There is a transfer of an interest in the Company that does not comply with Section 18.3 (Ownership of Company).
- (n) The Operating Security originally provided pursuant to Section 6.3 (Operating Security) or any replacement Operating Security has been fully drawn and the Company has failed to procure within twenty-one (21) Business Days thereafter replacement Operating Security in the amount of PHP[•] and otherwise satisfying the requirements of Section 6.3 (Operating Security).

15.2 Water District Events of Default

The occurrence of any of the following events shall constitute a "Water District Event of Default":

- (a) The Company is ready, willing, and able to perform the Services but the Water District refuses to accept them without justifiable reason or completely obstructs the Company's ability to perform the Services.
- (b) The Water District defaults in the payment of any amount due and payable (which amounts are not in dispute) under this Agreement, which amount exceeds the sum of PHP[•] and such default continues unremedied for a period of sixty (60) Days from receipt by the Water District of a notice in writing from the Company of the amount due and payable.
- (c) The Water District fails to perform any of its material obligations under this Agreement which renders it impossible for the Company to perform its own obligations under this Agreement for a continuous period of sixty (60) Days.

- (d) There is an expropriation, sequestration or requisition of a material part of the Project assets and/or shares of the Company by the Water District or other Government Authority.
- (e) A representation or warranty by the Water District under Section 11 (Representations and Warranties) is incorrect in any material respect and is reasonable likely to have a material adverse effect on the ability of the Company to carry out the Project.
- (f) There is a breach by the Water District of Section 18.1 (No Assignment).

16. Limitation of Liability

16.1 Limitation of Consequential Damages; Other Rights, Remedies, etc.

Neither Party shall be liable to the other Party whether in contract, tort, negligence, warranty, strict liability, breach of a statutory duty, or otherwise for (i) any special, consequential, moral, or punitive damages, (ii) indirect losses, costs, or expenses, or (iii) loss of actual or anticipated profits, loss of opportunities (including opportunities to enter into arrangements with third parties), or loss of use or production. However, this Section shall not limit the liquidated damages specifically provided in this Agreement and the termination payments set forth in Schedule S (Termination Buy-Out and Transfer Provisions).

16.2 Limitation of Liability for Liquidated Damages

- (a) The total liability of the Company for liquidated damages if the Water District terminates this Agreement pursuant to Sections 2.3.1 (Termination due to Non-Occurrence of Effective Date) and 2.3.2 Consequences of Termination) due to non-occurrence of the Effective Date on or before the Required Effective Date shall be the amount of the Performance Security.
- (b) The total liability of the Company for Delay Liquidated Damages pursuant to Section 5.8 (Liquidated Damages for Delay in Meeting Project Milestones) shall not be more than PHP[•].

17. Water District Step-In Rights

17.1 Step-in Rights

- (a) The Water District shall have the option to assume operational responsibility for the Facilities (in the capacity of an operator only) in order to continue operation of the Facilities or complete any necessary repairs to assure the continued delivery of the Services ("Water District Step-in Rights"). Water District Step-in Rights shall arise only upon the occurrence and continuance of a Company Event of Default that could reasonably be expected to materially adversely affect the Company's ability to operate and maintain the Facilities in accordance with this Agreement.
- (b) The Water District shall notify the Company in writing of the following: (i) its intention to exercise Water District Step-in Rights (ii) the reason for its exercise of Water District Step-in Rights; and (iii) the date it will commence exercise of Water District Step-in Right.
- (c) The Water District may only exercise the Water District Step-in Rights under the following conditions:
 - i. Any applicable cure period specified in Section 15 (Events of Default) and Section 20 (Termination) has expired, unless the Water District is requested by the Lenders to step in earlier on their behalf pursuant to the Financing Agreements.
 - ii. For so long as the Financing Agreements remain in effect, the Water District must first obtain the consent of the Lenders.
- (d) During the period of the Water District's exercise of the Water District Step-in Rights, the Water District shall be the operator of the Facilities. The Company's obligation to provide part of the Services covered by the exercise of the Water District Step-in Rights shall be suspended, but the Water District shall retain the right to terminate the Agreement due to a Company Event of Default. The exercise of the Water District Step-in Rights shall not be deemed as or result in a transfer of title to the Facilities or a transfer of the Company's obligations as owner of the Facilities.

17.2 Implementation of Water District Step-in Rights

17.2.1 Water District's Contracts, Consents, etc.

- (a) Within three (3) Days of the Company's receipt of the Water District's notice of its exercise of Water District Step-in Rights, the Company shall assign to the Water District the Company's rights under all agreements necessary to operate the Facilities, provided that such assignment shall automatically cease upon the reversion of operation responsibility to the Company.
- (b) The Company shall promptly take all steps necessary to permit the Water District to exercise as operator of the Facilities the Company's rights under all Consents to the extent such rights are necessary for the Water District to operate the Facilities during the Water District's exercise of Water District Step-in Rights. The Company shall give the Water District access to all design manuals, construction drawings, and other documentation required to operate the Facilities.

17.2.2 Payments to Company and Water District

- (a) During any period in which the Water District exercises the Water District Step-in Rights, the Water District shall continue making payments to the Company in accordance with the terms of this Agreement.
- (b) During the exercise of the Water District Step-in Rights, the Water District shall be entitled to remuneration for the Water District's reasonable costs as an operator.

17.2.3 Payment of Company's Obligations

- (a) The Water District shall have the right to make any payments due from and on behalf of the Company which are necessary to operate the Facilities, including payments for fuel, maintenance, repairs, insurance, taxes, and other operating costs of the Facilities, together with all regularly scheduled payments under the Financing Agreements (pro-rated for the amount attributable to such period), but only to the extent that the Company is unable to meet any such payments.

- (b) The Parties shall cooperate with each other and shall execute and deliver all documents necessary or desirable to make those payments in a timely and proper manner. The remuneration and payments referred to in Section 17.2.2(b) (Payments to Company and Water District) and Section 17.2.3(a) that become payable during this period shall be regarded as funds advanced by the Water District to the Company. The Water District shall send invoices for such amounts and the Company shall promptly reimburse the Water District. The Parties shall resolve disputed amounts on the same terms and conditions as the settlement of disputed invoices provided in Section 8.10 (Disputed Invoices). Notwithstanding the provisions of Section 8.8 (No Set-Offs or Deductions), the Water District may obtain payment by making deductions from any amounts due to the Company pursuant to this Agreement, provided that such payments shall be subordinated to sums owed to the Lenders.

17.2.4 Standards of Operation

During any period when the Water District is operating the Facilities, the Water District shall operate and maintain the Facilities in accordance with Prudent Utility Practice. The Company shall have the right to monitor the Water District's operation of the Facilities to the extent reasonably required to ascertain whether the Water District is operating and maintaining the Facilities in accordance with that standard. The Water District shall have no more liability to the Company than would a third party operation and maintenance contractor with respect to the operation and maintenance of the Facilities by the Water District during the exercise of such step-in rights.

17.2.5 Reversion of Operational Responsibility to Company

The Water District shall return operational responsibility for the Facilities to the Company following any exercise by the Water District of the Water District Step-in Rights reasonably promptly following the cure of the Company Event of Default that led to the exercise of the Water District Step-in Rights. The Water District shall return the Facilities to the Company in a physical condition no worse than the condition of the Facilities at the time the Water District assumed operational responsibility for the Facilities pursuant to such exercise of the Water District Step-in Rights, ordinary wear and tear excepted. The Water District shall not be responsible for or have any liability resulting from any condition of the Facilities or the Site that existed prior to such exercise of Water District Step-in Rights.

18. Assignment of Rights; Ownership of the Company

18.1 No Assignment

Neither Party may sell, assign, or transfer its rights or obligations under or pursuant to this Agreement without the prior written consent of the other Party, except that the Company may assign its rights to the Lenders in accordance with Section 18.2 (Permitted Assignment to Lenders).

18.2 Permitted Assignment to Lenders

- (a) The Water District consents to the collateral assignment of the Company's rights under this Agreement to the Lenders pursuant to the Financing Agreements and agrees:
 - i. To afford the Lenders a reasonable opportunity to remedy any default by the Company or any other event or occurrence which gives the Water District the right to terminate or suspend this Agreement;
 - ii. In the event of a default under the Financing Agreements and a foreclosure sale of the Company's interest in the Facilities, to accept the purchaser of the Company's interest as the successor to the Company under this Agreement, provided that such purchaser (A) if the Operations Start Date has not occurred, has reasonable access to funding necessary to achieve the Operations Start Date on or before the Required Operations Start Date, and (B) meets all legal, technical, and financial qualifications of an operator set by the Water District for the Project, assumes the performance of the Company's obligations under this Agreement (except those obligations that by their nature cannot be performed by any person other than the Company), cures all outstanding payment defaults of the Company under this Agreement, and makes provision reasonably satisfactory to the Water District for the cure of all other outstanding defaults of the Company under this Agreement; and

- iii. In the event of an acceleration of the loans under the Financing Agreements, to enter into, at the request of the Lenders, a replacement agreement substantially similar to this Agreement but that in no event increases the Water District's liabilities with the Lenders or their designee. The Company acknowledges and agrees that any collateral assignment to the Lenders pursuant to the Financing Agreements shall not relieve the Company of its obligations to the Water District under this Agreement.

- (b) The Water District agrees to enter into an acknowledgment and consent agreement with the Lenders as to the foregoing matters and as to such other matters of a type customarily dealt with in consent to an assignment for security purposes of a borrower's interest in a contract as the Lenders may reasonably request.

18.3 Ownership of Capital Stock of Company

18.3.1 Company's Capital Stock

Subject to the rights of the Lenders under the Financing Agreements and except as otherwise provided in Section 18.3.2 (Restrictions on Transfer of Capital Stock of Company), the Company covenants that:

- (a) The proportionate direct and indirect ownership of the capital stock of the Company held by each of the Initial Shareholders shall be as set out in Schedule P (Ownership Interests in Company);

- (b) Each Initial Shareholder is the registered, legal, and beneficial owner of the number of shares of the Company set out opposite its name in Schedule P (Ownership Interests in Company);

- (c) All issued shares shall, when issued, have been authorized, allotted, and called-up and validly issued and registered and fully paid; and

- (d) There are no outstanding liens, options, warrants, rights, calls, commitments, conversion rights, rights of exchange, plans, or other agreements of any character (including rights of first refusal or rights of first offer of any Initial Shareholder with respect to other Initial Shareholders) providing for the purchase, issuance, or sale of any shares of the capital

stock in, or the voting of, the Company, other than as created under the Financing Documents.

18.3.2 Restriction on Transfer of Capital Stock of Company

- (a) From the Signature Date until the second (2nd) anniversary of the Operations Start Date (the "Lock-in Period") no Change of Ownership may occur, except a Change of Ownership arising as a consequence of:
 - i. the grant or enforcement of security in favor of the Lenders over or in relation to any of the shares of the Company pursuant to the terms of the Financing Agreements;
 - ii. any transfer by an Initial Shareholder to its Affiliate of such Initial Shareholder's capital stock in the Company; or
 - iii. any change in legal or beneficial ownership of any shares that are listed on a registered securities exchange.
- (b) After the Lock-in Period, any Initial Shareholder may transfer its direct and indirect ownership interests in the capital stock of the Company, provided, however, that collectively and at any given time the Company's Shareholders shall have the legal, financial, and technical capabilities of successfully carrying out the implementation and operation of the Project that are equal to or better than those of the Initial Shareholders' legal, financial, and technical qualifications.
- (c) If a Shareholder desires to transfer any part of its direct or indirect ownership of the capital stock of the Company, the Company must first submit to the Water District a description of: (i) The proposed transfer of the Shareholder's direct or indirect interest in the capital stock of the Company;(ii) The identity of the proposed transferee; and (iii) If applicable, any proposed amendment to the articles of incorporation and by-laws of the Company. The Water District may request the Company to and the Company shall provide the Water District within five (5) Days following such request, any additional information that the Water District considers necessary for its evaluation of the proposed transfer.

19. Dispute Resolution

19.1 Mutual Discussions

In case any Dispute occurs, the Parties shall attempt in good faith to settle such Dispute by mutual discussions between the Parties held at the principal office of the Water District and beginning not later than seven (7) Days after the receipt by one Party of a written notice from the other Party of the existence of the Dispute.

19.2 Expert Proceedings

19.2.1 Referral of Disputes to Expert Panel

If a Dispute cannot be settled by mutual discussion within thirty (30) Days or such longer period as may be agreed in writing by the Parties after the commencement of such discussions under Section 19.1 (Mutual Discussions), then the Dispute shall be referred to the Expert Panel for determination.

19.2.2 Establishment and Operation of Expert Panel

- (a) Not later than sixty (60) Days after the Signature Date, each Party shall nominate and ensure availability of six (6) independent experts comprising:
 - (i) two (2) septage management engineers, (ii) two (2) regulatory economists, and (iii) two (2) financial analysts (the "Expert Panel"). The Parties will agree on the panel of experts selected from the experts so nominated by the Parties. The Expert Panel shall be constituted and called upon only when required within thirty (30) Days from receipt of a Party of the written notice of the other Party's decision to refer a matter to the Expert Panel. If the Parties are unable to agree on the composition of the Expert Panel within such thirty (30)-Day period, then either Party may request the International Chamber of Commerce's International Centre for Expertise to appoint the members of the Expert Panel.
- (b) Decisions of the Expert Panel shall be made by simple majority vote of the members. The members of the Expert Panel shall develop their own internal conduct and procedural rules based upon principles of transparency, impartiality, and efficiency. Proceedings of the Expert Panel shall not be required to follow the procedural laws related to formal dispute resolution

processes. The Expert Panel need not be bound by strict rules of law where it considers the application thereof to particular matters to be inconsistent with the spirit of this Agreement and the underlying intent of the Parties.

- (c) All costs incurred in connection with the convening of the Expert Panel and the referral and resolution of a Dispute before it, including reasonable compensation of the members of the Expert Panel, shall be equally shared by the Parties.

19.2.3 Decisions of Expert Panel

Except as otherwise expressly provided in this Agreement, all decisions of the Expert Panel shall be taken within not more than sixty (60) Days after the receipt by the Expert Panel of a request by either Party for a decision of the Expert Panel pursuant to this Agreement or by such later time as may be agreed by the Parties.

19.3 Arbitration

If a Dispute cannot be settled by mutual discussion within thirty (30) Days after the commencement of such discussions under Section 19.1 (Mutual Discussions) and either:

- (a) The Parties agree in writing to refer the Dispute to arbitration rather than to the Expert Panel, or
- (b) There was fraud or manifest error in connection with the decision of the Expert Panel,

then either Party may submit such Dispute to arbitration in accordance with the arbitration rules of the United Nations Commission on International Trade Law (UNICTRAL) for the time being in force, which rules are deemed to be incorporated by reference in this Agreement. The arbitration proceedings shall be conducted in the English language.

19.4 Expert Panel and Arbitral Award

All Expert Panel and arbitral awards shall be in writing and shall state the reasons upon which they are based. The awards shall be final and binding on the Parties. The awards may include an award of costs, including reasonable attorneys' fees and disbursements.

Judgments upon the awards may be entered by any court having jurisdiction thereof or having jurisdiction over the Parties or their assets.

19.5 Enforcement of Award

By execution and delivery of this Agreement each Party hereby accepts and consents to the jurisdiction of the aforesaid Expert Panel and arbitral panel and, solely for purposes of the enforcement of an Expert Panel and arbitral award under this Section 19 (Dispute Resolution), to the jurisdiction of any court of competent jurisdiction, for itself and in respect of its property, and waives in respect of both itself and its property any defense it may have as to or based on sovereign immunity, jurisdiction, improper venue, or inconvenient forum. Each Party hereby irrevocably consents to the service of any process or other papers by the use of any of the methods and to the addresses set for the giving of notices in Section 21.1 (Notices). Nothing herein shall affect the right of any Party to serve such process or papers in any other manner permitted by law.

19.6 Continuing Obligations

Pending settlement of any Dispute pursuant to this Section 19 (Dispute Resolution), the Parties shall continue to comply with and perform their obligations under this Agreement without prejudice to a final adjustment in accordance with a final award rendered by the Expert Panel or by an arbitral panel in accordance with this Section 19 (Dispute Resolution).

19.7 Exclusive Procedure for Resolving Disputes

This Section 19 (Dispute Resolution) sets forth the sole procedures for resolving any Dispute between the Parties, and neither Party may commence or maintain any suit or legal or equitable proceeding concerning a Dispute hereunder until the Dispute has been determined in accordance with the arbitration procedure provided for herein, and then only to enforce or facilitate the execution of the award rendered in such arbitration.

ARTICLE IV CONTRACT TERMINATION

20. Termination

20.1 Termination due to an Event of Default

20.1.1 Termination Procedure

Upon the occurrence of a Company Event of Default or a Water District Event of Default, the following procedure shall apply:

- (a) The non-defaulting Party may give a notice (a "Termination Notice") to the defaulting Party, specifying in reasonable detail the Event of Default and the date on which the non-defaulting Party proposes to terminate this Agreement. Except in the case of paragraphs (b) and (c) below, the Agreement may be terminated on any date specified by the non-defaulting Party in the Termination Notice.

- (b) If a Company Event of Default occurs under Section 15.1 (c), (d) or (l) (Company Events of Default), the Water District may provide written notice of default to the Company (a "Notice of Company Event of Default") within five (5) Days of becoming aware of the Company Event of Default. The Company shall have thirty (30) Days from its receipt of the Notice of Company Event of Default in which to cure such Company Event of Default. If the Company needs more than that period to cure the default, the Company shall deliver to the Water District a plan (the "Company Rectification Plan") within ten (10) Days from the receipt of the Notice of Company Event of Default (or within such longer time as the Water District may approve), specifying the remedial actions the Company plans to take and the number of Days necessary to correct such Company Event of Default. The Company Rectification Plan shall be subject to the Water District's prior written approval, which should not be unreasonably withheld. If (i) such Company Event of Default is not cured within the thirty (30)-Day period (or such longer period as the Water District may have approved), (ii) the Company is not consistently striving to cure such Company Event of Default, or (iii) the Water District withholds its approval of the proposed Company Rectification Plan for valid reasons after not less than ten (10) Days following its submittal, the Water District shall have the immediate

right to terminate this Agreement by delivering a Termination Notice to the Company, which termination shall be effective as of the date specified by the Water District in the Termination Notice, which shall be not less than thirty (30) Days from the date the Company receives the Notice of Company Event of Default.

- (c) If an Water District Event of Default occurs under Section 15.2 (a), (c) or (e) (Water District Events of Default), the Company may provide written notice of default to the Water District (a "Notice of Water District Event of Default") within five (5) Days of becoming aware of the Water District Event of Default. The Water District shall have thirty (30) Days from its receipt of the Notice of Water District Event of Default in which to cure such Water District Event of Default. If the Water District needs more than that period to cure the default, the Water District shall deliver to the Company a plan (the "Water District Rectification Plan") within ten (10) Days from the receipt of the Notice of Water District Event of Default (or within such longer time as the Company may approve), specifying what remedial actions the Water District plans to take and the number of Days necessary to cure such Water District Event of Default. The Water District Rectification Plan shall be subject to the Company's prior written approval, which should not be unreasonably withheld. If (i) the Water District Event of Default is not cured within the thirty (30)-Day period (or such longer period as the Company may approved), (ii) the Water District is not consistently working to cure such Water District Event of Default, or (iii) the Company reasonably withholds its approval of the proposed Water District Rectification Plan after not less than ten (10)Days following its submittal, the Company shall have the immediate right to terminate this Agreement by delivering a Termination Notice to the Water District, which termination shall be effective as of the date specified by the Company in the Termination Notice, which shall be not less than thirty (30) Days from the date the Water District receives the Notice of Water District Event of Default.

20.1.2 Default Termination Buy-Out Provisions

- (a) In the event of termination of this Agreement by the Water District under this Section 20.1 (Termination due to an Event of Default) due to a Company Event of Default, the Water District shall allow the Lenders to enforce their rights under the Financing Agreements. If the Lenders do not exercise their rights under the Financing Agreements or if the Financing Agreements are no longer effective, the Water District shall have the right in its sole discretion to take over and purchase all of the Company's right, title,

and interest in the Facilities and the Project for the purchase price and in accordance with the procedures set forth in Schedule O (Termination Buy-Out and Transfer Provisions).

- (b) In the event of termination of this Agreement by the Company due to a Water District Event of Default, the Water District shall purchase from the Company, and the Company shall transfer to the Water District, all of the Company's right, title, and interest in the Facilities and the Project for the buyout price and following the procedures set forth in Schedule O (Termination Buy-Out and Transfer Provisions).
- (c) Section 20.1 (Termination due to an Event of Default) does not preclude either Party from resorting to dispute resolution pursuant to Section 19 (Dispute Resolution).

20.2 Termination due to Prolonged Force Majeure Event

20.2.1 Termination by Company

The Company may terminate this Agreement if a Force Majeure Event prevents either Party from performing any of its material obligations under this Agreement for a continuous period of one hundred eighty (180) Days. The Water District may require the Agreement to continue if the Water District pays the Company the Tariff and complies with the procedures in Section 20.2.4 (Termination Procedure).

20.2.2 Termination by Water District

The Water District may terminate this Agreement if:

- (a) A Non-Political or Political Force Majeure Event prevents the Water District from performing any of its material obligations under this Agreement for a continuous period of more than one hundred eighty (180) Days;
- (b) A Political Force Majeure Event prevents the Company from performing any of the Services for a continuous period of more than one hundred eighty (180) Days.

20.2.3 Termination by Either Party

Either Party may terminate this Agreement if an event of loss prevents the Company from rebuilding, repairing, and restoring the Facilities or the affected portion thereof as determined in accordance with Section 10.4.2 (Loss After the Financing Agreements Have Expired).

20.2.4 Termination Procedure

If a Party has the right to terminate this Agreement pursuant to this Section 20.2 (Termination due to Prolonged Force Majeure Event), it may give notice to the other Party specifying the date on which this Agreement shall terminate, which date shall not be less than ninety (90) Days from the date of such notice. When such date occurs, subject to the satisfaction of any payment or other obligations hereunder, this Agreement shall terminate and shall no longer be binding.

20.2.5 Force Majeure Termination Buy-Out Provisions

Except for termination of this Agreement as a result of an event of loss caused by a Non-Political Force Majeure Event, in case of termination of this Agreement in accordance with the provisions of this Section 20.2 (Termination due to Prolonged Force Majeure Event), the Water District shall purchase from the Company, and the Company shall transfer to the Water District, the Facilities and the Project for the buyout price and following the procedures set forth in Schedule O (Termination Buy-Out and Transfer Provisions).

20.3 Effect of Termination: Transfer of Facilities

When the Termination Date occurs, the Company shall transfer the Facilities and the Project to the Water District in accordance with the provisions of Schedule O (Termination Buy-Out and Transfer Provisions). The Company shall, at its cost, take all the steps necessary in advance to ensure that the Facilities, including all contracts and licenses, are fully transferable on the Termination Date.

ARTICLE V GENERAL PROVISIONS

21. General Provisions

21.1 Notices

21.1.1 Addresses

All notices, requests, agreements, or consents shall be in writing and in English and shall be deemed to have been duly given: (i) upon delivery if delivered by hand against written acknowledgment of receipt; (ii) on the Business Day following confirmed transmission if sent by e-mail or telefacsimile; provided that such e-mail telefacsimile transmission shall be followed by notification by mail postmarked within three (3) Days; and (iii) upon delivery if sent by certified, registered (return receipt requested), or express mail, first-class postage prepaid, or by an express courier service, marked for overnight delivery. The word "notify" shall be construed accordingly. All notices shall be addressed as follows:

To the Water District:
[Full Water District Name]
[Water District Address]
Telephone: [.]
Facsimile: [.]
Attention: [.]

To the Company:
[Full Company Name]
[Company Address]
Telephone: [.]
Facsimile: [.]
Attention: [.]

21.1.2 Change of Address

A Party may change its address by giving the other Party written notice of such change pursuant to Section 21.1.1 (Addresses), provided that any such change shall not be effective until notice of such change has been received by the other Party in accordance with Section 21.1.1 (Addresses).

21.2 Entire Agreement

This Agreement, together with its Schedules, constitutes the entire agreement between the Parties with respect to the transactions contemplated herein. All previous documents, undertakings, and agreements, whether oral, written or otherwise, between the Parties concerning the subject matter of this Agreement are hereby cancelled and shall not affect or modify any of the terms or obligations set forth in this Agreement.

21.3 Waivers

The failure of a Party to insist upon a strict adherence to any term of this Agreement on any occasion shall not be considered a waiver of any right thereafter to insist upon a strict adherence to that term or any other term of this Agreement. No waiver by a Party of any default or breach of this Agreement shall be construed as a waiver of any other provision, condition, or term hereof or of any other default or breach of the same provision, condition, or term. No delay in the exercise and no single or partial exercise by a Party of any right, remedy, or power hereunder, in equity, or at law, shall preclude any other or further exercise thereof or the exercise of any other right, remedy, or power existing hereunder, in equity, or at law. Any waiver must be in writing and signed by a duly authorized representative of the Party issuing the waiver.

21.4 Confidentiality and Disclosure

21.4.1 Confidentiality

Each Party shall hold in strict confidence from any other person all documents and information concerning any other Party or any of its Affiliates furnished to it or its advisors, consultants, contractors, or agents by the other Party in connection with this Agreement or the transactions contemplated hereby ("Confidential Information"), unless that Party is: REQUIRED TO DISCLOSE ANY SUCH INFORMATION BY JUDICIAL OR ADMINISTRATIVE PROCESS (INCLUDING IN CONNECTION WITH OBTAINING FROM GOVERNMENT AUTHORITIES THE NECESSARY APPROVALS OF THIS AGREEMENT AND THE TRANSACTIONS CONTEMPLATED HEREBY)OR BY OTHER LEGAL REQUIREMENTS;

- (a) Disclosed to persons providing or proposing to provide financing to Seller; or
- (b) Disclosed in an action or proceeding brought by either Party in pursuit of its rights or in the exercise of its remedies hereunder. Notwithstanding the foregoing, this Section 21.4.1 shall not apply to such documents or information that were (i) previously known by the Party receiving such documents or information, (ii) in the public domain (either prior to or after the furnishing of such documents or information hereunder) through no fault of such receiving Party, or (iii) later acquired by such receiving Party from another source so long as such receiving Party is not aware that such source is under an obligation to the other Party to keep such documents and information confidential.

21.4.2 Required Disclosure

Any Party required by any Legal Requirement or in the course of administrative or judicial proceedings or in accordance with required disclosures of publicly-listed companies by registered securities exchanges to disclose information that is otherwise required to be maintained in confidence pursuant to Section 21.4.1 (Confidentiality), may disclose such information notwithstanding the provisions of Section 21.4.1 (Confidentiality); provided, however, that the Party making the disclosure shall give prior notice to the other Party of the requirement and the terms thereof and shall cooperate to the maximum extent practicable to resist or minimize the disclosure of the information. The Party disclosing such information shall use reasonable efforts, at the other Party's cost, to obtain proprietary or confidential treatment of such information by the third party to whom the information is disclosed, and to the extent such remedies are available, shall use reasonable efforts to seek protective orders limiting the dissemination and use of the information at the other Party's cost. For avoidance of doubt, this Agreement does not alter the rights of the Parties to object to the Legal Requirement or proceedings requiring the disclosure.

21.5 Further Assurances

The Parties will do, execute, and deliver, or will cause to be done, executed, and delivered, all such further acts and such other things as each Party may reasonably request for the purpose of giving effect to this Agreement or for the purpose of establishing compliance with the representations, warranties, and covenants of this Agreement. The Parties further assure that they shall perform their obligations in a highly professional and diligent manner, with due efficiency and economy and timely execution of works and other obligations, in all respects with that degree of skill,

diligence, prudence and foresight required from them, and with due attention to the need for fairness, openness and good faith in their dealings.

21.6 Severability

The validity of the remaining articles, clauses, provisions, terms, and parts of this Agreement shall not be affected by a court, administrative board, or other proceeding of competent jurisdiction deciding that an article, section, provision, term, or part of this Agreement is illegal, unenforceable, in conflict with any law, or contrary to public policy. In such event the Parties hereto shall, by amendment of this Agreement, properly replace such provision by a reasonable new provision or provisions that, as far as legally possible, approximate what the Parties intended by such original provision and the purpose thereof.

21.7 Language

This Agreement is being executed in the English language only. All documents, notices, waivers, and all other communications written or otherwise between the Parties in connection with this Agreement shall be in the English language. Any translation of this Agreement or any such communication, if any, shall be for convenience only and shall not be binding upon the Parties.

21.8 Counterparts

This Agreement may be executed in one or more duplicate counterparts and when signed by each of the Parties shall constitute an original and a single binding agreement. Any Party hereto may execute this Agreement by signing any such counterpart (including by facsimile). Signature pages may be detached from multiple separate counterparts and attached to a single counterpart so that all signatures are physically attached to the same counterpart.

21.9 Remedies Cumulative

Except with respect to liquidated damages payable pursuant to this Agreement for non-occurrence of the Effective Date and for delay in achieving the Provisional Operations Start Date, no remedy or right herein conferred is intended to be exclusive of any other

remedy or right, but every such remedy or right shall be cumulative and shall be in addition to every other remedy or right herein conferred or now or hereafter existing at law or in equity.

21.10 Amendments

No amendments or modifications of this Agreement shall be valid except by written agreement signed by duly authorized representatives of the Parties. Minutes of meetings or other informal documents shall not constitute a written agreement for purposes of the preceding sentence.

21.11 Governing Law

This Agreement shall be governed by and interpreted in accordance with the laws of the Republic of the Philippines and shall for all purposes be conclusively deemed to be a Philippine contract.

21.12 Survival

All express representations, warranties, indemnities, and limitations of liability included in this Agreement shall survive its completion or termination for any reason.

[insert signatures]

SEPTAGE MANAGEMENT PROJECT – SCHEDULES

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SCHEDULE A. PROJECT MILESTONE SCHEDULE

Definitions

Except as otherwise defined in this Schedule A, capitalized terms used in this Schedule A have the respective meanings assigned to them in the Septage Management Project Agreement between the Water District and the Company to which this Schedule A is annexed (the "Agreement"). Unless otherwise specified, all references to Sections without other attribution are references to Sections of the Agreement and references to Sections beginning with the letter "A" are references to Sections within this Schedule A.

Project Milestones

As of the Signature Date, the Project Milestones and the required dates for achieving them are as follows:

Project Milestone	Required Project Milestone Completion Date (As of Signature Date)
Required Effective Date	<input type="checkbox"/> months after Signing Date
Required Continuous Construction Date	<input type="checkbox"/> months after Effective Date
Required Provisional Operations Start Date	<input type="checkbox"/> months after Effective Date
Required Operations Start Date	<input type="checkbox"/> months after Effective Date

These dates shall be subject to amendment only in accordance with this Agreement.

SCHEDULE B. TECHNICAL SPECIFICATIONS OF SEPTAGE TREATMENT PLANT

Definitions

Except as otherwise defined in this Schedule B, capitalized terms used in this Schedule B have the respective meanings assigned to them in the Septage Management Project Agreement between the Water District and the Company to which this Schedule B is annexed (the "Agreement"). Unless otherwise specified, all references to Sections without other attribution are references to Sections of the Agreement and references to Sections beginning with the letter "B" are references to Sections within this Schedule B.

Overview

The Facilities shall be designed and constructed to accept septage from vacuum trucks, treat it to the standards specified in Schedule G (Treated Effluent and Bio-solids Specifications). It is the intent that the Septage Treatment Plant shall be suitable in every way for the service required, and the Company shall design the treatment process; supply all materials, labor, equipment; and do all work which may be reasonably implied as being required to meet the prescribed standards.

Components and Capacities of the Facilities

The Facilities shall include the following major components:

Septage Treatment Plant Components

Septage Acceptance Unit- This unit shall be a mechanized equipment that will allow the removal of solid wastes, grits, rocks and other inert solids associated with the septage. The unit must be provided with a solid waste collection and storage system.

Septage Dewatering Unit- This unit must be able to dewater raw septage to at least 20% dry solids.

- Oil and Grease Removal System. The oil and grease removal may be a stand-alone unit or integrated in the acceptance or storage tanks. The purpose of this is to remove substantial amount of floating grease and oil associated in septage prior to downstream treatment.

- Biological Treatment System (for filtrate treatment). The biological treatment system shall be mechanized aerobic system. The primary objective is to remove most of the organic content (in terms of BOD and COD) of the raw septage or filtrate.
- Disinfection System. This must include a chlorination system that will dose appropriate amount of chlorine for disinfection of the treated effluent prior to discharge to receiving body of water. The disinfection unit must provide sufficient contact time using a properly designed contact chamber.
- Excess/Waste Sludge Digester/Stabilization Unit. This unit will handle solids generated from the biological treatment of the raw septage or filtrate.

Support Systems

- Flow meters (influent, effluent and sludge recycling)
- Potable, service and recycle water supply systems
- Chemical dosing systems (alkali/acid, coagulant, flocculant, chlorine, etc.)
- Odor control system
- Effluent pipe line systems
- Electrical and control systems
- Generator

Facilities

- Operations and Maintenance Office
- Laboratory Room including Laboratory Equipment, Apparatus and Glassware
- Blower Room/Stand-by Generator Set Room
- Chemical Storage Room
- Control and Instrumentation Room
- Storm Drainage
- Landscaping
- Fence/Perimeter/Plant Lighting
- Security Office
- Parking Space

The design and construction of the facilities shall be based on the total septage collected from the agreed coverage areas. The design parameters of the Septage Treatment Plant were based on previous septage reported values.

The Company shall design/construct/supply/install all civil works and electro-mechanical facilities to meet the following design capacity.

Table B-1: Design Capacity

Cycle	Year of Operation	Design Capacity (m ³ /day)
1	1-5	
2	6-10	
3	11-15	

B.1 Responsibility of Company

- (a) The Company shall be solely responsible in ensuring that harmful elements found in Raw Septage are removed, destroyed, neutralized, or rendered harmless at the Septage Treatment Plant such that after processing therein it meets the requirements specified in Schedule G.
- (b) The Company shall be solely responsible for determining the nature, quantities, and concentrations contained in and carried by the Raw Septage and for providing the structures, means, processes, plant, energy, labor, and materials and any other provisions necessary for the transformation of Raw Septage into Treated Effluent and Bio-solids at the Facilities at all times of the year.
- (c) The Company shall design, construct, operate, and maintain the Facilities such that they are capable of transforming the Raw Septage into Treated Effluent and Bio-solids of acceptable quality during the term of this Agreement.
- (d) The Company shall be solely responsible for Raw Septage Sampling and Data Collection which the Company will use for designing the Facilities. Schedule F shows the typical characteristics of raw septage.

B.2 Compliance and Compatibility

B.2.1 Compliance with Legal Requirements, etc.

The Company shall design, construct, operate and maintain the Facilities in accordance with all applicable Legal Requirements (including all applicable Legal Requirements arising as the result of a Change-in-Law), Prudent Utility Practice, best international

practice and standards, and manufacturers' recommendations, and, without limitation, the Philippine and international standards listed in Section B.4.3 below.

B.2.2 Non-Exclusive List of Philippine and International Standards

B.2.2.1 Philippine Standards

- Philippine National Standards (PNS)
- National Structural Code of the Philippines (NSCP)
- National Building Code (NBC)
- National Plumbing Code (NPC)
- Philippine Sanitation Code (PSC)
- Philippine Electrical Code (PEC)
- Bureau of Products Standards (BPS)
- National Electric Code of the Philippines (NECP)
- Regulations of the National Fire Protection Association (NFPA)
- LWUA Standard Specifications for Water System Construction (Contract Documents Volume II)

B.2.2.2 International Standards

- U. S. Environmental Protection (EPA)
- American Water Works Association (AWWA)
- American Society for Testing and Materials (ASTM)
- American Concrete Institute (ACI)
- Underwriters Laboratories (UL)
- American National Standards Institute (ANSI)
- American Institute of Steel Construction (AISC)
- National Electrical Manufacturers Association (NEMA)
- Uniform Plumbing Code (UPC)
- American Welding Society (AWS)
- International Standard Organization (ISO)
- International Electromechanical Commission (IEC)
- American Association of the State Highway and Transportation Officials (ASSHTO)
- Other equivalent international standards

B.2.3 Environment Laws and Regulations

- DAO 2003-30, otherwise known as the Revised Implementing Rules and Regulation of PD 1586 (Environmental Impact System)
- RA 9275 and related issuances such as DAO 35 (Revised Effluent Regulation of 1990) and DAO 34 (Revised Water Usage and Classification/Water Quality Criteria)
- RA 6969 (Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990)
- RA 8749 (Philippine Clean Air Act of 1999) and IRR

B.2.4 Resolution of Conflict between Standards

- (a) In the event of conflict between the foregoing standards, the regulations of the appropriate Philippine Government Authority shall take precedence.
- (b) Any reference to a specification, standard, or publication shall be understood to refer to the latest edition of the specification, standard, or publication in effect as of the date of the Request for Proposals. Internationally accepted standards equal to or better than specified standards or specifications are acceptable.

Design Provisions for Testing of Standby Devices

The Company shall design the electrical wiring and instrumentation system such that all standby devices are operated on a duty rotation basis.

B.3 Structural Design Specifications

B.3.1 Design Loads

The Company shall be responsible for the selection of the appropriate design loads or pressures that the structures must be designed to withstand. In no case, however, shall the design loads and factor of safety be less than the values specified in the reference standards listed in Section B.4.3 above.

B.3.2 Design for Durability

System Components	Economic Design Life (years)
• Concrete structures such as buildings, basins, storage tanks, etc.	<input type="checkbox"/>
• Pipes, Valves and Mechanical Piping Works	<input type="checkbox"/>
•	<input type="checkbox"/>
•	<input type="checkbox"/>
• Electro-mechanical works/ Instrumentation Works	<input type="checkbox"/>
• Access Road Pavement(Asphalt)	<input type="checkbox"/>

The Company shall submit to the Water District evidence of track record showing that the proposed materials have a safety factor of at least 1.25 on design parameters required to achieve the economic design life specified above. For this purpose concrete materials shall be designated by design mix and compressive strength. The rest shall be designated by the appropriate industry standard quality classification. Materials or equipment without appropriate industry standard quality classification shall not be used.

B.3.3 Strength of Materials

Where applicable, the Company shall determine for the Facilities the optimal strength of materials and combinations thereof considering water tightness, durability, and other serviceability requirements.

Construction Methods and Quality Assurance System

The documents to be submitted under this Section B.7 shall present the construction methods and procedures including the reason for choosing them. The choice of the construction methods shall be consistent with the Quality Assurance System described in Section B.7 (b), the Health and Safety Management Program described in Section B.8, and the Environmental

Management Program described in Section B.9.

The Quality Assurance System (QAS) shall conform to ISO 9001/9002:2000. The QAS shall include the following components:

- Inspection procedures and guidelines;
- Test procedures and guidelines;
- List of Do's and Don'ts in construction operations;
- Organizational chart showing the flow of documents;
- Manning schedule;
- List of equipment and vehicles needed;
- Documentation system that shall provide audit trail and cover the entire spectrum of quality control including but not limited to the following:
 - Forms needed in recording results of tests and inspections;
 - Accountability of the certifying officers or employees;
 - Systematic recordkeeping, with at least one back-up file at the Water District Project Management Office, of all inspection and test results that will allow easy retrieval and identification of the location of the structural element represented by each inspection or test certificate; and
 - Periodic performance audit of the documentation system.

Health and Safety Management Program

- (a) The Health and Safety Program to be submitted under this Section B.8 shall be in accordance with Occupational Health and Safety Standards (ISO 18001) being enforced by the Philippine Department of Labor and Employment.
- (b) The Health and Safety Program shall include but not limited to the following:

A construction work plan, which must discuss the merits of the planned construction methods and sequencing of activities with respect to safety and health management;

- Emergency response procedures;
- Telecommunication system;
- Routine inspection check list;
- Responsibility assignments;
- Safety job instructions;
- Safety paraphernalia;
- Safety training program;

- Medical and first-aid system;
 - Recording system that will provide audit trail;
 - Manning schedule; and
 - Budget allocation for the Health and Safety Program spread over the cooperation period.
- (c) As a minimum requirement, the Health and Safety Program must be administered by the following practitioners:
- one (1) Chief Safety Officer;
 - two (2) Safety Officer;
 - one (1) physician; and
 - two (2) first-aid nurses.

Environmental Management Program

- (a) The Environmental Management Program shall be in accordance with ISO 14001 and shall implement the requirements of the ECC, including but not limited to the following concerns:
- Maintenance of ecological balance; and
 - Provision of drainage and sanitation facilities that will prevent human and animal waste from draining into the water stream to be tapped
- (b) The Environmental Management Program shall include:
- Bar chart of the implementation of sanitation facilities and other activities to be done;
 - Manning schedule;
 - List of equipment and vehicles needed in the program;
 - Budget allocation for the Environmental Management Program spread over the cooperation period.
- (c) As a minimum requirement, the Environmental Management Program must be administered by one (1) environmental engineer.

Figure B-1. The Site

[Insert location map of the Site.]

SCHEDULE C. VACUUM TRUCKS SPECIFICATIONS

Specifications of Vacuum Trucks

2.5-m³ Vacuum Truck:

- Tuck and Chassis – 2 axles, 4 to 6 tires
- Cab overall width not to exceed 2.5 m
- Sludge Tank – 260 kPa absolute pressure, equipped w/ gauge
- Vacuum Pump System – min. 450 m³/hr @ max. speed of 1500 rpm
- Extension hose – 80 m (60 m x 100 mm, 20 m x 75 mm)
- With auxiliary water tank (1 m³) w/ high pressure washer
- Contents level/volume indicator

5-m³ Vacuum Truck:

- Tuck and Chassis – 2 axles 6 tires, 3 axles 10 tires
- Cab overall width not to exceed 2.5 m
- Sludge Tank – 260 kPa absolute pressure, equipped w/ gauge
- The tank shall be hydraulically tipped by hydraulic cylinder/s at a minimum of 45 degrees (optional)
- Vacuum Pump System – min. 750 m³/hr @ max. speed of 1500 rpm
- Extension hose – 80 m (60 m x 100 mm, 20 m x 75 mm)
- With auxiliary water tank (1m³) w/ high pressure washer
- Contents level/volume indicator

10-m³ Vacuum Truck:

- Tuck and Chassis – 3 axles 10 tires
- Cab overall width not to exceed 2.5 m
- Sludge Tank – 260 kPa absolute pressure, equipped w/ gauge
- The tank shall be hydraulically tipped by hydraulic cylinder/s at a minimum of 45 degrees (optional)
- Vacuum Pump System – min. 780.m³/hr @ max. speed of 1500 rpm
- Extension hose – 100 m (80 m x 100 mm, 20 m x 75 mm)
- With auxiliary water tank (1 m³) w/ high pressure washer
- Contents level/volume indicator

Desludging of Septic Tanks

- Company to submit to the Water District before start of month schedule of septic tanks of customers for desludging
- Company and the Water District to notify concerned customers of schedule of desludging of their septic tanks at least one (1) week in advance
- Household/establishment to open the access manholes of the septic tank
- Company to desludge all accessible chambers of customer's septic tank but to leave liquid portion to about 1/3 of the total septage volume of the septic tank
- Company to fill out Customer's Septic Tank Desludging Form for information on date and time of desludging, number of chambers, accessibility of each chamber, total volume desludged, and Customer's certification on the service rendered
- If there is no septic tank, Customer shall also certify visit by the Company
- Inaccessible households/establishments shall be reported by the Company, stating why Company is unable to service said households/establishments; better if Company can get the customer to certify visit
- List of alternate households/establishments should be ready to substitute for customers without septic tank; Advance notice should also be done
- Three (3) copies of Customer's Septic Tank Desludging Form: for Customer, for Company, and for Water District
- May need WD random inspection

Transport to/from Septage Treatment Plant

- Every trip to the SpTP shall be recorded on "Septage Delivery Form" containing date and time, and volume delivered as verified through the vacuum truck's contents level/volume indicator
- Two (2) copies: for Company and for Water District
- May need WD representative/guard to verify entries

The Company shall be responsible for assessing the route conditions, hauling distances and volume of traffic in the locality from the various septic tanks to be serviced to the Septage Treatment Plant.

SCHEDULE D. TESTING AND COMMISSIONING

D.1 Definitions

Except as otherwise defined in this Schedule D, capitalized terms used in this Schedule D have the respective meanings assigned to them in the Septage Management Project Agreement between the Water District and the Company to which this Schedule D is annexed (the "Agreement"). Unless otherwise specified, all references to Sections without other attribution are references to Sections of the Agreement and references to Sections beginning with the letter "D" are references to Sections within this Schedule D.

D.2 Construction Completion

[Describe the steps and procedures for determining completion of all construction activities including civil works and structures, buildings, installation of mechanical and electrical equipment, and instrumentation, communication and control systems.]

D.3 Commissioning Tests

[Describe the steps and procedures to demonstrate that all items of infrastructure, plant, equipment and systems that form part of the Facilities are capable of operating in accordance with this Agreement. There can be separate pre-commissioning and commercial operation tests.]

D.4 Provisional Operations Start Date and Operations Start Date

[Describe the particular events, circumstances and test results that will lead to the issuance of the provisional and final acceptance certificate by the Water District in accordance with the Agreement.]

SCHEDULE E. MINIMUM QUALIFICATIONS OF AN INDEPENDENT CONSULTANT

SCHEDULE F. FORM OF PERFORMANCE SECURITY

The forms of the Construction Security and the Operating Security are set out below:

SURETY BOND

Know All Men By These Presents:

That we, [COMPANY], a corporation duly organized and existing under and by virtue of the laws of the Republic of the Philippines, with office address at [address] and represented by [name of representative], as PRINCIPAL, and [PERFORMANCE SECURITY ISSUER], a corporation duly organized and existing under and by virtue of the laws of [country], with office address at [address] and represented by [name of representative], as SURETY, are held and firmly bound unto WATER DISTRICT in the sum of [.] Pesos (PHP [.]) for the payment of which sum, well and truly to be made, we bind ourselves, our successors and assigns, jointly and severally, firmly by these presents.

The conditions of this Surety Bond are as follows:

WHEREAS, PRINCIPAL, on [date], executed a Septage management project Agreement ("Agreement") with WATER DISTRICT to develop, finance, design, construct, test, commission, own, operate, manage and maintain facilities required to abstract up to [volume] cubic meters per day of raw water from the [insert raw water source and location], Philippines, to treat such raw water into potable water, and to deliver such bulk treated water through a transmission pipeline into the Water District's pipeline network for transmission and distribution of water;

WHEREAS, except as otherwise defined in this Surety Bond, capitalized terms used herein shall have the meanings assigned to them in the Agreement.

WHEREAS, Section 6.3 of the Agreement requires PRINCIPAL to post and deliver a surety bond callable on demand in favor of WATER DISTRICT for the faithful performance by PRINCIPAL of its obligations under the Agreement from the Provisional Operations Start Date until the Termination Date of the Agreement;

NOW THEREFORE, if PRINCIPAL shall faithfully perform all the undertakings, covenants, terms, conditions and agreements under the Agreement from Provisional Operations Start Date until the Termination Date of the Agreement, then this Surety Bond shall be null and void; otherwise, it shall remain in full force and effect. This bond is a penal

bond callable on demand by WATER DISTRICT upon the failure of PRINCIPAL faithfully to perform its obligations under the Agreement from the Provisional Operations Start Date until the Termination Date.

The WATER DISTRICT is hereby irrevocably authorized to make one or more claims for payment against this Surety Bond by presenting to SURETY, at its address set forth above, a written notice, in substantially the form attached as Annex A hereof, that PRINCIPAL has failed to faithfully to perform any of its obligations under the Agreement from the Provisional Operations Start Date until the Termination Date. The aggregate amount of all claims for payment made by WATER DISTRICT shall not exceed [.] Pesos(PHP [.]). Upon receipt of a written notice, SURETY shall pay the amount specified in the notice at the opening of business on the first or second Business Day succeeding the date of such claim for payment notwithstanding any objection which PRINCIPAL might raise against WATER DISTRICT's entitlement to payment. The liability of SURETY under this Surety Bond shall expire on termination of the Agreement and SURETY does not assume responsibility for any liability incurred or created thereafter. This Surety Bond will be cancelled ten (10) days after the expiration unless SURETY is notified in writing of any existing obligation hereunder.

This Surety Bond shall be governed by and construed in accordance with the laws of the Republic of the Philippines.

IN WITNESS WHEREOF, we have set our hands and signed our names on the [date] day of [month] [year] at [city/province], Philippines.

[COMPANY]

Principal

By:

Authorized Representative

[PERFORMANCE SECURITY ISSUER]

Surety

By:

Authorized Representative

ACKNOWLEDGMENT

REPUBLIC OF THE PHILIPPINES)

[City/Province]) S.S.

BEFORE ME, a Notary Public for and in [City/Province] this [date] day of [month] [year]
personally appeared:

Date of Issue Place of Issue

CTC No.

[Company]

[Authorized Representative of Company]

[Performance Security Issuer]

[Authorized Representative of Performance Security Issuer]

all known to me and to me known to be the same persons who executed the foregoing
Surety Bond and they acknowledged to me that the same is their own free voluntary act
and deed.

WITNESS MY HAND AND SEAL, on the date, year and place written above.

Notary Public

Doc. No. _____;

Page No. _____;

Book No. _____;

Series of 200_.

Annex A. Surety Bond

NOTICE OF DEMAND

To: [PERFORMANCE SECURITY ISSUER]
[Address]
Attn: [.]
Re: Surety Bond No. [.]

The undersigned, a duly authorized officer of [Water District], with its principal office at [.] , Philippines make reference to the Septage management project Agreement ("Agreement") dated as of [.] between Water District and [Company], a corporation duly organized and existing under and by virtue of the laws of [.] , with office address at [.] . Water District hereby demands payment under the Surety Bond in the amount of [.] Pesos (PHP [.]) as penalty payment by [Company] under the Agreement for one or more of the following reasons:

[specify breach by Company and proof of consequent damages]

The aggregate amount of this claim and the other previous claims paid under the Surety Bond do not exceed the amount of [.] Pesos (PHP [.]).

IN WITNESS WHEREOF, Water District has executed and delivered this notice on the [date] day of [month] 200[.] at [city/province], Philippines.

WATER DISTRICT

By:
[Name of Authorized Representative]
[Title]

SCHEDULE G. RAW SEPTAGE SOURCES AND QUALITY

G.1 Definitions

Except as otherwise defined in this Schedule F, capitalized terms used in this Schedule F have the respective meanings assigned to them in the Septage Management Project Agreement between the Water District and the Company to which this Schedule F is annexed (the "Agreement"). Unless otherwise specified, all references to Sections without other attribution are references to Sections of the Agreement and references to Sections beginning with the letter "F" are references to Sections within this Schedule F.

G.2 Raw Septage Sources and Quality

The Septage Treatment Plant is basically intended to accept raw septage only from septic tanks receiving wastes from domestic sources. Other sources such as commercial, industrial, hospital sources, etc. can only be accepted if they have DENR-approved on-site primary treatment facilities prior to septage collection.

G.3 Raw Septage Quality

Aside from sewage, Raw Septage contains silts, grits, plastics, rags, hair, grease, scum, and "uncommon" material such as cans, sanitary napkins, dead animals and even jewelries. Septage is highly malodorous due to its low reduction-oxidation (i.e., anaerobic conditions) coupled with the presence of methane, sulfur compounds (hydrogen sulfide) and volatile fatty acids.

The assumptions made are based on previous reported septage characteristics in Metro Manila.

Reported Values

Septage can contain over 30 times the BOD concentration of sewage and 70 times the amount of solids and 80 times the amount of grease (SKM, PIA 2001). The COD to BOD ratio in domestic waste water typically ranges from about 1.8 to 2.2. Septage has a COD to BOD ratio of 4 to 9, indicating the presence of a significant non-biodegradable/inorganic component. Hence, septage must be treated more extensively than ordinary sewage.

Mean concentrations as given by USEPA, Metro Manila septage data taken during 1991 to 1994, and values suggested USEPA for design are all shown in Table F-1. Further information on Metro Manila's septage characteristics are shown in Table F-2 as reported by Montgomery (1991).

Meanwhile, Table F-3 presents the PIA (2001) study on the characteristics of Metro Manila's sewage, based on the samples gathered on septage vacuum trucks, and comparing the constituent values after 30 minutes of settling.

**Table G-1: Septage Mean and Treatment Design Values
 (USEPA and Dagat-Dagatan Data)**

Parameter	Unit	US-EPA Mean Values	US-EPA Design Values	¹ Metro Manila 1994 Data
BOD5	mg/L	5,000	7,000	4,338
COD	mg/L	42,850	15,000	23,250
TSS	% wt.	1.3	1.5	5.3
2TVS/TS	% wt.	0.65	0.63	0.56 to 0.60
TVS	% wt.	2.5	2.5	no data
TVSS	% wt.	0.9	1.0	no data
TS	% wt.	3.9	4.0	no data
LAS	mg/L	157	150	no data
pH	-	6.9	6.0	no data
TKN	mg/L	677	700	no data
TP	mg/L	253	250	no data
NH3-N	mg/L	157	150	no data
Oil and grease	mg/L	9,090	8,000	no data

¹ Data from Design Report of Dagat-Dagatan Septage Treatment Plan, Dec 1994

**Table G-2: Additional Data on Metro Manila Septage
(Montgomery, 1991 Data)**

Parameter	Unit	Septage Supernatant				Septage Sludge			
		No. of Test	Low	Mean	High	No. of Test	Low	Mean	High
BOD	mg/L	13	198	5,532	22,000	no data	no data	no data	no data
COD	mg/L	13	845	12,807	55,200	no data	no data	no data	no data
pH	-	13	6.0	7.0	7.5	12	6.7	7	7.8
TS	mg/L	6	1,165	31,376	152,828	13	1,512	37,419	312,747
TSS	mg/L	13	328	26,517	112,000	no data	no data	no data	no data
TVS	mg/L	5	764	19,245	82,742	13	860	24,608	210,166
TVSS	mg/L	13	98	11,965	54,328	no data	no data	no data	no data
TDS	mg/L	12	188	7,030	72,288	no data	no data	no data	no data
Settleable Matter	mL/L	1	750	750	750	no data	no data	no data	no data
NH3-N	mg/L	14	44	209	725	1	134	134	134
TP	mg/L	14	4.3	12.8	29.5	1	4.6	4.6	4.6
S-2	mg/L	12	4	29.8	80.1	no data	no data	no data	no data
Oil & grease	mg/L	9	200	1,493	5,640	no data	no data	no data	no data
Iron	mg/L	2	1,130	1,160	1,190	no data	no data	no data	no data
Copper	mg/L	2	13	29	45	no data	no data	no data	no data
Zinc	mg/L	2	196	218	240	no data	no data	no data	no data
Nickel	mg/L	2	2.2	3.1	3.9	no data	no data	no data	no data
Manganese	mg/L	2	10	15	20	no data	no data	no data	no data
Cadmium	mg/L	9	0.002	0.257	0.851	no data	no data	no data	no data
Silver	mg/L	2	0.08	0.10	0.12	no data	no data	no data	no data
Mercury	mg/L	9	0.0	0.004	0.028	no data	no data	no data	no data
Lead	mg/L	7	0.014	1.988	8.777	no data	no data	no data	no data

**Table G-3: Septage Settling & Analysis Results for Metro Manila
 (MWSS PIA 2001)**

Parameter	Unit	Septage Sludge				
		No. of Samples	Raw Sludge from Vacuum Trucks, Mean Value	No. of Samples	Supernatant, Upon 30 Minutes of Settling, Minimum Value	Percent Removal, %
BOD	mg/L	7	4,641	8	2,320	50
COD	mg/L	7	16,005	8	8,300	48
COD/BOD	-	7	2.6	-	N.A.	N.A.
pH	-	7	7.5	-	N.A.	N.A.
TS	mg/L	7	19,541	1	980	95
TSS	mg/L	7	16,775	2	4,030	76
TVS	mg/L	7	11,133	1	1000	91
TVSS	mg/L	7	5,301	-	N.A.	N.A.
TVS/TS	mg/L	7	0.54	-	N.A.	N.A.
Settleable Matter	mL/L	1	800	-	N.A.	N.A.
NH3-N	mg/L	7	115	7	107	7
TP	mg/L	7	74	4	44	41
TKN	mg/L	7	678	7	500	26
Oil & grease	mg/L	7	215	8	93	57

Notes: N.A. – not analyzed/applicable

SCHEDULE H. ZONING AND FREQUENCY OF DESLUDGING SERVICE

SCHEDULE I. STANDARDS FOR DESLUDGING AND TRANSPORT OF SEPTAGE

**SCHEDULE J. PROJECTED SEPTAGE VOLUME OF HOUSEHOLDS AND
COMMERCIAL ESTABLISHMENTS TO BE SERVED WITHIN
THE CONTRACT PERIOD**

SCHEDULE K. TREATED EFFLUENT AND BIO-SOLIDS QUALITY

K.1 Definitions

Except as otherwise defined in this Schedule K, capitalized terms used in this Schedule K have the respective meanings assigned to them in the Septage Management Project Agreement between the Water District and the Company to which this Schedule K is annexed (the "Agreement"). Unless otherwise specified, all references to Sections without other attribution are references to Sections of the Agreement and references to Sections beginning with the letter "K" are references to Sections within this Schedule K.

K.2 Treated Effluent and Bio-Solids Specifications

Treated Effluent from the Septage Treatment Plant discharging to water bodies should meet the standards set by the DENR Administrative Order No. 35 (DAO-35) for all parameters as listed in Table K-1. Table K-1: Treated Effluent Specifications (DAO-35)

Parameter	Unit	River Classification*				
		A,B,SB	SC	C	D	SD
BOD ₅	mg/L	30	100	50	120	120
COD	mg/L	60	200	100	200	200
TSS	mg/L	56	150	70	150	**
pH		6-9	6-9	6.5-9	6-9	5-9
Surfactants (MBAS)	mg/L	2	10	5	-	-
Oil and Grease		5	10	5	-	15
Coliform	MPN	3,000	none	10,000	-	-

*Receiving bodies of water are classified according to their beneficial and intended uses

**Not more than 30 mg/L increase during dry season

Location and Type of Receiving Body of Water

The Septage Treatment Plant shall be constructed in (location) with corresponding technical description as shown in (table no. in some other schedule). The Septage Treatment Plant shall discharge to (name of river/body of water) which is categorized according to DENR as Class (). Under no circumstances shall the Company discharge

Treated Water not meeting the standards prescribed by DAO-35 to the said receiving body of water.

The requirements for the quality of Treated Bio-solids are shown in Table K-2.

Table K-2: Recommended Specifications for Biosolids

(DOH Operational Manual for IRR on Septage, 2008 & USEPA)

(a)

Parameter	Plain Organic Fertilizer	Compost or Soil Conditioner	Fortified Organic Fertilizer
Total NPK	5-7%	3-4%	Min 8%
C:N	12:1	12:1	12:1
Moisture Content	≤ 35%	≤ 35%	≤ 35%
Organic Matter	≥ 20%	≥ 20%	≥ 20%

NPK - Nitrogen, Phosphorus and Potassium; C:N - Carbon to nitrogen ratio

(b)

Parameter	Dry weight concentration, mg/kg
Zinc (Zn)	1000
Lead (Pb)	750
Copper (Cu)	300
Chromium (Cr)	150
Nickel (Ni)	50
Mercury (Hg)	5
Cadmium (Cd)	5

(c)

Parameter	Limit
Fecal Streptococci	< 5 x 10 ³ /g compost
Fecal Coliforms	< 5 x 10 ² /g compost
Salmonella	0
Infective Parasitic	0

(d)

Classification	Requirements
Class B	<ul style="list-style-type: none"> • Treatment by processes to significantly reduce pathogens or equivalent processes • At least seven samples should be collected at the time of use or disposal and analyzed for fecal coliform during the monitoring period. The geometric mean of the densities of these samples will be calculated and should meet the following criteria: less than 2.0×10^6 MPN/g total solids or less than 2.0×10^6 colony forming units (CFU)/g total solids.

K.3 Treated Effluent Sampling

K.3.1 Basic Considerations in Sampling

The basic considerations should be taken into account in the selection of the sampling location:

- (a) The location must provide a sample that is representative of the final effluent discharged to receiving body of water.
- (b) It must be downstream of all treatment processes.
- (c) The station should be such that the flow rate of the effluent can be measured.
- (d) The station must be accessible. Safety of the person conducting the sampling must be considered in selecting the site.

Sampling stations or discharge outlets established by the Company must be clearly reflected in the Drainage Layout of the Septage Treatment Plant. This will facilitate sampling by the Company, Water District, Independent Laboratory and DENR.

K.4 Treated Water Testing Procedure

K.4.1 Routine Sampling and Testing by the Company

Routine sampling and testing of Treated Effluent shall be undertaken by the Company according to the schedule and methods specified in Table K.1. The Company may analyze the samples at a laboratory forming part of the Facilities or at an external laboratory or a combination of the two provided only that the competence of the equipment, staff, procedures and record-keeping of the laboratory shall be certified for each analysis required by the Company to be performed there by regular inspection and testing by an internationally recognized laboratory testing organization or, by the DOH and DENR. Copies of the certification and renewal of accreditation of each laboratory shall be provided to the Water District within one (1) week of their receipt by the Company. The results of the sampling and testing of Treated Effluent shall be fully reported to the Water District at weekly intervals. Any sample failing to meet the specification for Treated Effluent shall be reported to the Water District within 48 hours of the analysis results becoming available.

The Company shall allow the Water District unrestricted access to the records of the taking and testing of Treated Effluent samples and to the original records of the results of the laboratory analyses, which the Company shall keep for a minimum of three (3) years before archiving.

The Company shall bear the cost of all routine taking and analysis of Treated Water samples in accordance with Table K.1.

In the event that the Company shall be found to have omitted to take a sample of Treated Effluent or to have omitted to perform a test required in accordance with Table K-1 then for the purposes of this Agreement each Treated Effluent parameter listed in Table K-1 that is untested as a consequence of such omission shall be deemed to have exceeded its maximum permitted value and the consequent provisions of this Agreement shall apply.

K.4.2 Sampling and Testing by the Water District

The Company shall allow the Water District or its nominee's access to the Facilities for the purpose of taking samples of Treated Water for testing at the Water District's laboratory or at an external laboratory. The Water District shall give the Company at least two (2) hours- notice of its intention to visit the Facilities for the purpose of taking samples of Treated Water and shall at all times respect and obey the same written safety and hygiene procedures that the Company requires of its own staff.

The Water District shall bear the full cost of the taking and analysis of its own samples of Treated Water.

K.4.3 Joint Sampling and Testing by the Company and the Water District

In the event that the Water District shall assert and the Company shall deny that the concentration at the discharge point of any parameter has exceeded its maximum permitted value the Company and the Water District shall in the first instance within 24 hours constitute a sampling and analysis team made up of equal number of suitably qualified staff nominated by the Company and the Water District respectively (the "Joint Sampling And Analysis Team"). The Joint Sampling and Analysis Team shall together immediately take samples for testing at the laboratories used by the Company and the Water District for the analysis of Treated Water for the Critical or Non-Critical Parameters whose concentration in Treated Water is contested. The Joint Sampling and Testing Team or its representatives shall jointly certify the validity and accuracy of the results obtained or shall in writing describe the shortcomings in equipment or procedures that shall have given them cause to refuse such certification and shall have the right to undertake or witness the analysis of the samples at each laboratory.

In the event that the two results obtained by the Joint Sampling And Analysis Team are both certified and in agreement that the concentration of any parameter asserted by the Water District to have exceeded its maximum permitted value has or has not exceeded its maximum permitted value then this result shall be binding on both the Company and the Water District and the applicable terms of this Agreement shall apply. Otherwise the Company and the Water District shall agree to either request the Joint Sampling and Analysis Team to take and analyze two additional samples or the dissenting party shall invoke and bear the cost of the procedure for Independent Sampling and Testing specified in SectionK.4.4.

K.4.4 Independent Sampling and Testing

If the procedure for Joint Sampling and Testing specified in SectionK.4.3 is inconclusive and either the Company or the Water District refuses to request the Joint Sampling and Analysis Team to take and analyze additional samples then the dissenting Party shall invoke the requirements of this SectionK.4.4 by notifying the other Party in writing. The written notification shall include the name, address and contact details of a laboratory, certified and accredited to the standards required by SectionK.4.1 (the "Independent Laboratory"), that the dissenting Party proposes to employ at its sole cost to take and analyze definitive samples of Treated Water. The non-dissenting Party shall within one (1) working day from the receipt of the dissenting Party's notification give its written

agreement to the engagement of the proposed Independent Laboratory or shall propose an alternative and similarly accredited laboratory to be the Independent Laboratory.

If within a further two (2) working days the Company and the Water District are unable to agree on the nomination of the Independent Laboratory then the dissenting Party shall have the right to invoke the process for the independent selection of the Independent Laboratory set out in SectionK.4.5. The Independent Laboratory shall be required to immediately take a sample of Treated Water in the quantities and conditions for the analyses required to determine the concentrations of the Critical or Non-Critical Parameters whose concentration in Treated Water is contested (the "Independent Sample").

The Company and the Water District shall immediately grant the Independent Laboratory access to the Facilities for the purpose of taking the Independent Sample. The Company and the Water District may witness but shall on no account interfere with or obstruct the taking, labelling and dispatch of the Independent Sample by the Independent Laboratory for analysis. The Independent Laboratory shall be required to transmit the results of the analysis of the Independent Sample simultaneously to the Company and the Water District within one (1) working day of completion of the analysis. The results of the analysis by the Independent Laboratory shall be binding on both the Company and the Water District in the determination of whether the Treated Water is or is not compliant with the requirements of this Agreement.

K.4.5 Independent Selection of the Independent Laboratory

If the Company and the Water District are unable to agree on an Independent Laboratory fulfilling the requirements of SectionK.4.4 above within three (3) working days of the receipt by the other Party of the dissenting Party's first notification in accordance with SectionK.4.4 then the dissenting Party invoking the provisions of SectionK.4.4 shall notify the other Party in writing of its intention to nominate two experts to carry out the selection of the Independent Laboratory in accordance with the provisions of this SectionK.4.5. This written notification shall include the names and contact addresses of two experts who shall be independent of both the Company and the Water District and shall hold internationally recognized qualifications in water chemistry and analysis (the "Independent Experts"). Upon receipt of this written notification the other Party shall have one (1) working day to require that the dissenting Party replace one of the proposed Independent Experts with an Independent Expert of its own choosing by giving written notification to the dissenting Party of the name of the Independent Expert it wishes to be replaced and the name and contact details of the Independent Expert it proposes as a substitute or it shall be deemed to have accepted both of the Independent Experts nominated by the dissenting Party. The dissenting

Party shall then engage the services of the Independent Experts to select the Independent Laboratory in accordance with the remaining provisions of this SectionK.4.5. The two Independent Experts shall jointly select a third similarly qualified Independent Expert and by simple majority the three Independent Experts shall between themselves and without consultation with the Company or the Water District:

- i) select and engage a sampling team consisting of one or more individuals meeting the requirements of SectionK.4.5 but not including employees of the Company and the Water District who shall be competent and available to take samples of Treated Water in accordance with the provisions of this SectionK.4.5 (the "Independent Sampling Team")
- ii) commission the Independent Sampling Team to take two samples of Treated Water in the quantities, conditions and containers required for the analyses required to determine the concentrations of the Critical or Non-Critical Parameters whose concentration in Treated Water is contested (the "Independent Sample")
- iii) identify and engage the services of a laboratory certified by an internationally recognized laboratory testing and certification organization as competent to determine the concentrations of the Critical or Non-Critical Parameters whose concentration in Treated Water is contested that shall analyze the Independent Sample (the "Internationally Certified Independent Laboratory").

K.4.6 Manpower

All personnel involved in the water quality analysis shall be qualified and trained to perform all works related to the day to day operations of the laboratory accredited by the DOH and/or by DENR.

K.5 Monitoring Program

K.5.1 Frequency of testing

The testing will be done in accordance with the parameters required by RA 9275. At the minimum, a monthly effluent sampling is to be reported to EMB as an attachment to its self-monitoring report (SMR). Any Party may, however, request to have more frequent or less frequent testing upon written notice to the other Party in accordance with Table

K-1. Such change of frequency of testing will be implemented once the requesting Party receives written approval from the other Party.

K.6 Non-Compliance with Treated Effluent Specifications

Where the results of the analyses of Treated Effluent samples carried out in accordance with the provisions of Section K.3 show that the concentration of one or more of the Parameters has exceeded the maximum concentration specified in Table K-1 then the Company must rectify the treatment system within seven (7) days for the effluent to meet the prescribed standards.

Any penalty arising from non-compliance to effluent standards shall be borne by the Company.

SCHEDULE L. DESLUDGING SCHEDULE AND OPERATING PROCEDURES

SCHEDULE M. MONITORING AND EVALUATION PROCEDURES

M.1 Definitions

Except as otherwise defined in this Schedule M, capitalized terms used in this Schedule M have the respective meanings assigned to them in the Septage Management Project Agreement between the Water District and the Company to which this Schedule M is annexed (the "Agreement"). Unless otherwise specified, all references to Sections without other attribution are references to Sections of the Agreement and references to Sections beginning with the letter "M" are references to Sections within this Schedule M.

M.2 Raw Septage Measurement

[Describe the (1) technical specifications for Raw Septage measurement, (2) procedure for making measurements from Raw Septage measurements.]

M.3 Treated Effluent Meters

[Describe the (1) technical specifications for Treated Effluent meters, (2) procedure for making readings from Treated Effluent meters, (3) procedure for recalibration of Treated Effluent meters.]

M.4 Treated Bio-Solids Measurement

[Describe the (1) technical specifications for Treated Bio-Solid measurement, (2) procedure for carrying out measurement of Treated Bio-Solids.]

SCHEDULE N. FORM OF INVOICE

TO: THE WATER DISTRICT

Billing Month Number: _____

Date of Submission: _____

Date of Receipt: _____

Due Date: _____

1. Tariff Computation:
2. Computation of Penalties Applicable to Billing Month
3. Computation of Total Amount Due
4. Payment Instructions

SCHEDULE O. TARIFF

O.1 Definitions

Except as otherwise defined in this Schedule O, capitalized terms used in this Schedule O have the respective meanings assigned to them in the Septage Management Project Agreement between the Water District and the Company to which this Schedule O is annexed (the "Agreement"). Unless otherwise specified, all references to Sections without other attribution are references to Sections of the Agreement and references to Sections beginning with the letter "O" are references to Sections within this Schedule O.

O.2 Tariff Computation Formulae

[Describe the formulae for the computation of the Tariff in accordance with Section 8.]

SCHEDULE P. CONSENTS

P.1 Definitions

Except as otherwise defined in this Schedule P, capitalized terms used in this Schedule P have the respective meanings assigned to them in the Septage Management Project Agreement between the Water District and the Company to which this Schedule P is annexed (the "Agreement"). Unless otherwise specified, all references to Sections without other attribution are references to Sections of the Agreement and references to Sections beginning with the letter "P" are references to Sections within this Schedule P.

P.2 List of Anticipated Consents

The list of Consents that the Parties anticipate as of the Execution Date will be required for the implementation of the Project is set out in Table P-1. The Parties acknowledge and agree that (i) this list is illustrative and not exclusive and that other Consents may be required in order to implement the Project and (ii) except as provided in the Agreement or as Water District may otherwise agree in writing, Company shall be responsible at its sole cost and expense for obtaining and maintaining all Consents, including any Consents that are not listed in Table P-1 that may be required.

TABLE P-1

LIST OF ANTICIPATED CONSENTS

CONSENT

- | | |
|------------|--|
| 1. | Local Water Utilities Administration (LWUA) for tariff adjustment |
| 2 | Department of Environment and Natural Resources (DENR) |
| 2.1 | Environmental Compliance Certificate |
| 2.2 | Soil Disposal Site Permit/Industrial Waste Permit |
| 2.3 | Special Land Use Permit, if applicable |
| 2.4 | Proof of compliance with DENR Administrative Order No. 97-05 on the retention of areas within certain distances along the banks of rivers and streams, if applicable |

- 3** National Commission on Indigenous People (NCIP)
- 3.1** Certification from the National Commission on Indigenous People that no ancestral land is affected by the Project or, if ancestral land is affected, that free and prior informed consents of the indigenous communities concerned have been secured.

- 4** Concerned LGUs
- 4.1** Business/Mayor's permit and license
- 4.2** Sanitary/plumbing permit
- 4.3** Electrical, mechanical permit
- 4.4** Building, excavation permit
- 4.5** Health/sanitation certificate

SCHEDULE Q. INSURANCE

Q.1 Definitions

Except as otherwise defined in this Schedule Q, capitalized terms used in this Schedule Q have the respective meanings assigned to them in the Septage Management Project Agreement between the Water District and the Company to which this Schedule Q is annexed (the "Agreement"). Unless otherwise specified, all references to Sections without other attribution are references to Sections of the Agreement and references to Sections beginning with the letter "Q" are references to Sections within this Schedule Q.

Q.2 Insurance Policies and Terms

Q.2.1 Insurance Coverage during the Construction Period

[List all required insurances during the construction period which may include:

- Marine cargo/transit
- Delay in start-up
- Construction/erection all risks
- Third party liability
- Workmen's compensation/employer's liability
- Motor vehicle and other personal property.]

For each type of insurance, specify the following:

Minimum Cover:

[.]

Minimum Sum Insured:

[.]

Minimum Sub-limits:

[.]

Maximum Deductible:

[.]

Period of Cover:

[.]

Insured Parties:

[.]

Required Coverage:

[.]

Required Extensions:

[.]

Permitted Exclusions:

[.]

Q.2.2 Insurance Coverage after Operations Start Date

The insurance coverage under this Section Q.2.2 shall be reviewed [.] Days before the Required Operations Start Date.

[List all required insurances during the Operating Period which may include:

- All risks insurance
- Business interruption
- Comprehensive general liability
- Terrorism
- Workmen's compensation/employer's liability
- Motor vehicle and other personal property

For each type of insurance, specify the following:

Minimum Cover:

[.]

Minimum Sum Insured:

[.]

Minimum Sub-limits:

[.]

Maximum Deductible:

[.]

Period of Cover:

[.]

Insured Parties:

[.]

Required Coverage:

[.]

Required Extensions:

[.]

Permitted Exclusions:

[.]

Q.2.3 Insurance Policy endorsements

[State the provisions or other clauses which should be incorporated in the insurance policies required under the Agreement.]

SCHEDULE R. TERMINATION BUY-OUT AND TRANSFER PROVISIONS

R.1 Definitions

Except as otherwise defined in this Schedule R, capitalized terms used in this Schedule R have the respective meanings assigned to them in the Septage Management Project Agreement between the Water District and the Company to which this Schedule R is annexed (the "Agreement"). Unless otherwise specified, all references to Sections without other attribution are references to Sections of the Agreement and references to Sections beginning with the letter "R" are references to Sections within this Schedule R.

R.2 Buy-Out Price upon Termination by Company

[Describe formula for buyout price in the event that the Company terminates the Agreement pursuant to the Agreement.]

R.3 Buy-Out Price upon Termination by Water District

[Describe formula for buyout price in the event that the Water District terminates the Agreement pursuant to the Agreement.]

R.4 Termination at end of [.] Anniversary of Provisional Operations Start Date

If the Termination Date occurs, the Company shall transfer the Facilities and the Project to the Water District at no cost to the Water District.

R.5 Computation and Payment of Buy-Out Price

- (a) All amounts payable pursuant to this Schedule R shall be paid in Pesos in immediately available funds within ninety (90) days of the date of termination of this Agreement, provided that all of the Company's rights, title, and interest in the Facilities and the Project are transferred to the Water District, free and clear of all Liens and encumbrances, concurrently with the payment of the proper buyout price.

- (b) It is understood that there shall be no double-counting in the calculation of any buyout price or any other amount payable pursuant to this Schedule R.

R.6 Termination Costs

The Parties agree to carry out the transfer of the Company's rights, title, and interest in the Facilities and the Project and the payment of the Buy-Out Price in a way that would minimize Termination Costs.

R.7 Transfer of Facilities and Project

R.7.1 Assets to be Transferred

If the Company's right, title, and interest in the Facilities and the Project is required to be transferred to the Water District pursuant to this Agreement, upon payment by the Water District of the relevant buyout price, if any, determined in accordance with Section R.2 or Section R.3 of this Schedule R or, if no payment is required to be made by the Water District hereunder, immediately upon termination of this Agreement:

- (a) The Company shall transfer to the Water District, free and clear of all Liens, all of the Company's right, title, and interest in the Facilities and the Project, including, insofar as they are part of or used in, to, and for the Facilities and the Project, all of the Company's right, title, and interest in, to and under:
- i. all raw materials, consumables, and spare parts;
 - ii. all tangible personal property;
 - iii. all intangible personal property, including patents, patent licenses, patent applications, trade names, trademarks, trademark registrations, and applications therefor, trade secrets, copyrights, know-how, secret formulae, and any other Intellectual Property Rights;
 - iv. all Consents, including without limitation the water permit,
 - v. all buildings and fixtures;
 - vi. computerized and non-computerized records, reports, data, files, and information; (vii) all drawings, test results, and documents;

- vii. all warranties of equipment, materials and work;
 - viii. all contract rights and insurance policies;
 - ix. all work in progress under contracts with vendors, suppliers, contractors, and subcontractors; and
 - x. all rights with respect to any insurance proceeds payable to or for the account of the Company, but unpaid at the date of termination of this Agreement, in respect of Company's right, title, and interest in, to and under the Facilities and the Project; and
- (b) The Company shall pay to the Water District amounts, if any, required to be paid by the Company to the Water District hereunder.

R.7.2 Pre-Termination Date Inspection and Repair

Not later than the [.] anniversary of the Provisional Operations Start Date or, in the event the Termination Date will occur earlier than the [.] anniversary of the Provisional Operations Start Date, as soon as practicable after such earlier Termination Date is known to the Parties, the Company shall permit the Water District to inspect the Facilities. Based on the Water District's inspection, the Water District shall issue to the Company a schedule of replacements and repairs of the Facilities that are required in accordance with Prudent Utility Practice and to meet the technical specifications indicated in Schedule B. Thereafter, the Company shall promptly carry out the required replacements and repairs. The Water District shall issue a certificate of compliance after the satisfactory completion of repairs and replacements by the Company and before the payment of the buyout price.

R.7.3 Pre-Termination Date Inspection and Repair

Not later than [.] Days prior to the expected Termination Date, the Company shall deliver to the Water District the required maintenance spare parts and consumables sufficient for three (3) months operation after the Termination Date. For the purpose of determining the quantities required, the Company shall furnish the Water District, within one month (1) following the end of the Contract Year preceding the Contract Year in which the Termination Date is expected to occur, a copy of its annual record of spare parts and consumables utilization and consumption.

R.7.4 Responsibility for Obtaining Consents to Transfer

The Water District shall be responsible for obtaining or effecting, at its own cost, all Consents needed in order to obtain title to the Facilities and the Project and otherwise effectuate the transfer of all of the Company's right, title, and interest in the Facilities and the Project. The Company shall cooperate with the Water District in the identification and acquisition of such Consents, including providing reasonable assistance in the preparation of requests for such Consents.

R.7.5 Training of Personnel

On or before the date falling not later than twelve (12) months before the Termination Date, the Company shall arrange for the training of such personnel as the Water District shall determine are required to operate the Facilities after the Termination Date in accordance with the Operating Standards and Operating Procedures.

SCHEDULE S. OWNERSHIP INTERESTS IN COMPANY

Table S-1: Sponsors' Initial Ownership Interests

Sponsor	No. of Common Shares	Direct and Indirect Ownership Percentage
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Table S-2: Initial Shareholders

Shareholder	No. of Common Shares	Ownership Percentage
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