



MINISTRY OF ENVIRONMENT AND ENERGY
Male' Republic of Maldives

REQUEST FOR PROPOSALS

*Consultancy Services for Survey, Design of Sewerage Facilities in Ga.
Villingili – New Settlement Area, Maldives*

September 2017

Issued By:
The Procurement Unit
Ministry of Environment and Energy

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1 SCHEDULE OF CRITICAL DATES

ACTIVITY	ACTION DATE
Advertise	6 th September 2017
Release of Request for Proposal	6 th September 2017
Last Date of Registration	17 th September 2017 – before 12:00 PM
Last day to submit queries (by Proponents)	17 th September 2017 – before 12:00 PM
Last day to send answers to queries (by Client)	19 th September 2017 – before 12:00 PM
Deadline to submit proposals	26 th September 2017 – before 11:00 AM

2 SUBMISSION REQUIREMENTS

Consultants shall submit all the documents listed under Sections 6 (TECHNICAL PROPOSAL - STANDARD FORMS), Section 7 (FINANCIAL PROPOSAL - STANDARD FORMS). Furthermore, the following documents shall be submitted for the bids to be considered sufficiently responsive.

Please CHECK in the BOXES to confirm the submission of the required documents.

a) If a company is showing interest;

- 1. company profile
- 2. company registration certificate
- 3. organization chart of the team proposed
- 4. CVs of the Individuals (Inclusive of a copy of the National Identity Card)
- 5. List of water and sewerage related EIA completed by the company in the last 3 years.
- 6. Proposed equipment and methodology of works
- 7. Cost breakdown of major activities. The total cost shall be clearly indicated.
- 8. GST Registration Certificate

1. LETTER OF INVITATION

Subjects: Consultancy Services for Survey, Design of Sewerage Facilities in Ga. Villingili – New Settlement Area, Maldives

1. The Government of the Republic of Maldives has allocated funds in the Annual Budget 2017 towards the Provision of Sewerage Infrastructural Development in Ga. Villingili New Settlement Area and intends to apply part of the proceeds towards procuring the services of survey and design consultancy of this project.
2. The services include Survey Works, Preparation of Preliminary Design and Detailed Design and Tender Documents and Environment Impact Assessment for the Provision of Sewerage Facilities in Ga. Villingili – New Settlement Area, Maldives.
3. The Government of Maldives, represented by Ministry of Environment and Energy (MEE), now invites interested eligible consultants to submit their proposals according to the Request for Proposals (RFP). Interested parties must provide information indicating that they are qualified to perform the services (brochures, description of similar assignment, experience in similar conditions, availability of appropriate skills among staff, etc.). Parties may associate to enhance their qualifications.
4. The RFP document, in the English language will be available on the Ministry website www.environment.gov.mv.
5. Interested parties may obtain further information on request by writing to procurement@environment.gov.mv
6. The proposals are expected to be submitted to the following address by 1100 hours local time on 26th September 2017, 11:00 hours.

Procurement Unit
Ministry of Environment and Energy
Green Building, Handhuvaree Hingun,
Maafannu, Male', 20392
Republic of Maldives
Fax: +960-3018-301 Tel: +960-3018-453

2. INSTRUCTIONS TO CONSULTANTS

2.1 Introduction

- a) The Client named in the **Data Sheet** will select a consultancy firm from those issued with the Letter of Invitation.
- b) The Consultants are invited to submit Technical Proposal and a Financial Proposal for the contract named in the **Data Sheet**. The Proposal will be the basis for contract negotiations and ultimately for a signed Contract with the selected Party.
- c) The Client will select a consultancy firm (the Consultants) from those who show interest to this call for proposals, in accordance with the method of selection specified in the **Data Sheet**.
- d) As a direct response to this document, interested parties must provide their detailed proposals for the ***“Request for Proposals - Consultancy Services for Survey, Design of Sewerage Facilities in Ga. Villingili – New Settlement Area, Maldives ”***. The standards and other statements on such provision and legislative compliance made by the parties as part of their proposals will form a binding part of the final contract document.
- e) The Consultants shall bear all costs associated with the preparation and submission of their proposals and contract negotiation. The Client is not bound to accept any proposal, and reserves the right to annul the selection process at any time prior to Contract award, without thereby incurring any liability to the Consultants
- f) The Client reserves the right to accept or reject any Proposal and to terminate the tendering process without awarding a contract. The parties should be aware that it is unlikely that the Client will be in a position to go forward with any proposals that fails to meet the statutory and essential requirements, set out in the Terms of Reference.

2.2 Conflict of interest

- a) A Party (including its Personnel) that has a business or family relationship with a member of the Client’s staff who is directly or indirectly involved in any part of, (i) the preparation of the Schedule of requirements, (ii) the selection process, or (iii) supervision of the Contract, may not be awarded a Contract, unless the conflict stemming from this relationship has been resolved in a manner acceptable to the Government throughout the selection process and the execution of the Contract.
- b) The Consultants have an obligation to disclose any situation of actual or potential conflict that impacts their capacity to serve the best interest of their Client, or that may reasonably be perceived as having this effect. Failure to disclose said situations may lead to the disqualification of the Consultants or the termination of its Contract.

2.3 Fraud and Corruption

The Client requires that all parties including Consultants and their agents (whether declared or not), personnel, sub-contractors, sub-Consultants, service providers and suppliers, observe the highest standard of ethics during the selection and execution its contracts. In pursuance of this policy, the Client:

- a) defines, for the purposes of this provision, the terms set forth below as follows:
 - i. “corrupt practice” is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii. “fraudulent practice” is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
 - iii. “collusive practices” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - iv. “coercive practices” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party.
 - v. “obstructive practice” is
 - deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
 - acts intended to materially impede the exercise of the relevant government authorities’ inspection and audit rights.
- b) will reject a proposal for award if it determines that the recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- c) will cancel the portion of the contract if it determines at any time that representatives of the Client or of a beneficiary were engaged in corrupt, fraudulent, collusive, or coercive practices during the selection process or the execution of that contract, without the Consultants having taken timely and appropriate action satisfactory to the Client to address such practices when they occur; and
- d) will take action against any Party or an individual at any time, in accordance with rules and regulations including by publicly declaring such Parties or individual ineligible, either indefinitely or for a stated period of time.

2.4 Proposal Validity

The Data Sheet indicates how long the Proposals must remain valid after the submission date. The Client will make its best effort to complete negotiations within this period. Should the need arise; however, the Client may request to extend the validity period of proposals. The Parties who agree to such extension shall confirm that they maintain the availability of the Professional staff nominated in the Proposal, or in their confirmation of extension of validity of the Proposal, The Consultants could submit new staff in replacement, who would be considered in the final evaluation for contract award. Consultants who do not agree have the right to refuse to extend the validity of their Proposals.

2.5 Language of Proposal

The proposal documents must be in written English.

2.6 Preparation of Proposals

- a) The Proposal, as well as all related correspondence exchanged by the Consultants and the Client, shall be written in the language (s) specified in the RFP.
- b) In preparing their Proposal, Consultants are expected to examine in detail the documents comprising the RFP. Material deficiencies in providing the information requested may result in rejection of a Proposal.
- c) Alternative professional staff shall not be proposed, and only one curriculum vitae (CV) may be submitted for each position.

2.7 Technical Proposal Format and Content

The Technical Proposal shall provide the information indicated in the following paras from (a) to (f) using the attached Standard Forms (4. Technical Proposal).

- a) A brief description of the Consultants' organization and an outline of recent experience of the Consultants and, in the case of joint venture, for each partner, on assignments of a similar nature are required in Form TECH-2. For each assignment, the outline should indicate the names of Sub-Consultants/ Professional staff who participated, duration of the assignment, contract amount, and Consultant's involvement. Information should be provided only for those assignments for which the Consultants were legally contracted by the client as a corporation or as one of the major consultancy firm/organization within a joint venture. Assignments completed by individual Professional staff working privately or through other organisations cannot be claimed as the experience of the Consultants, or that of the Consultant's associates, but can be claimed by the Professional staff themselves in their CVs. Consultants should be prepared to substantiate the claimed experience if so requested by the Client.
- b) Comments and suggestions on the Terms of Reference including workable suggestions that could improve the quality/effectiveness of the assignment.

- c) A description of the approach, methodology and work plan for performing the assignment covering the following subjects: technical approach and methodology, work plan, and organization and staffing schedule. Guidance on the content of this section of the Technical Proposals is provided under Form TECH-3. The work plan should be consistent with the Work Schedule (Form TECH-6) which will show in the form of a bar chart the timing proposed for each activity.
- d) The list of the proposed professional staff team by area of expertise, the position that would be assigned to each staff team member, and their tasks (Form TECH-4).
- e) CV's of the professional staff signed by the staff themselves or by the authorized representative of the professional staff (Form TECH-5).
- f) The Technical Proposal shall not include any financial information. A Technical Proposal containing financial information may be declared non responsive.

2.8 Clarification and Amendment of RFP Documents

- a) During the RFP process, questions or clarifications regarding this RFP document must be requested in writing to the person and address stated in the **Data Sheet**.
- b) Any additional documentation issued by the Client during the tender process shall be deemed to form part of this RFP and shall supersede any part of the RFP where indicated. The Client may also exercise the option to extend the tendering period and/or postpone the proposal submission date in the event that subsequent documentation is issued.

2.9 Communications

Except as provided in the preceding section relating to questions about this RFP, No parties shall contact any officers, employees, or team members of Client with respect to this RFP. Any oral communication with a Client employee concerning this RFP is not binding on the Client and shall in no way alter any specifications, term or condition of this RFP or any contract documents.

2.10 Submission, Receipt, and Opening of Proposals

- a) The original proposal (Technical Proposal and Financial Proposal) shall contain no interlineations or overwriting, except as necessary to correct errors made by the Consultants themselves. The person who signed the proposal must initial such corrections.
- b) An authorized representative of the Consultants shall initial all pages of the original Technical and Financial Proposals. The authorization shall be in the form of a written power of attorney accompanying the Proposal or in any other form demonstrating that the representative has been duly authorized to sign. The signed Technical and Financial Proposals shall be marked "Original".
- c) Consultants shall submit a "Compliance Statement" stating that the offer is made in accordance with the Request for Proposal. Consultants who offer additional or alternative conditions shall clearly state those in their proposals.

- d) The technical proposal and financial proposal must be submitted in ONE sealed envelope to the address indicated in the **Data Sheet**. The original and all copies of the Technical Proposal shall be clearly marked “Technical Proposal” Similarly, the original Financial Proposal shall be clearly marked “Financial Proposal” followed by the name of the assignment, and with a warning on the sealed envelope indicating “Do Not Open before the DEADLINE of Submission of Proposals.” The Client shall not be responsible for misplacement, losing or premature opening if the envelope is not sealed and/or marked as stipulated. This circumstance may be case for Proposal rejection. If the Financial Proposal is not submitted will constitute grounds for declaring the Proposal non-responsive
- e) The Proposals must be sent to the address indicated in the **Data Sheet** and received by the Client no later than the date specified in the **Data Sheet**, or any extension to this date. Any proposal received by the Client after the deadline for submission shall be returned unopened.
- f) The Client shall open the Technical and Financial Proposal immediately after the deadline for their submission. The Financial Quotes i.e. the total prices shall be read aloud and recorded. A record of this submission will be provided to the bidders.

2.11 Evaluation of proposals

- a) From the time the Proposals are opened to the time the Contract is awarded, the Consultants should not contact the Client on any matter related to its Technical and/or Financial Proposal. Any effort by Consultants to influence the Client in the examination, evaluation, ranking of Proposals, and recommendation for award of Contract may result in the rejection of the Consultants’ Proposal.
- b) The evaluation committee shall evaluate the Technical Proposals on the basis of their responsiveness to the Technical Requirements, applying the evaluation criteria, sub-criteria, and point system specified in the **Data Sheet**. Each responsive Proposal will be given a technical score (St). A Proposal shall be rejected at this stage if it does not respond to important aspects of the RFP, and particularly the Technical Requirements or if it fails to achieve the minimum technical score indicated in the evaluation criteria specified in the **Data Sheet**.
- c) Proposals did not meet the minimum qualifying mark or will be considered non responsive to the RFP and Schedule of Requirements, that their proposals will not be considered for further evaluation. The Client shall notify in writing Consultants that have not secured the minimum qualifying mark.
- d) The consultant is **REQUIRED** to submit Financial Proposal, using for this purpose the Financial Proposal Submission Forms in FIN-1 (One financial proposal submitted with all the FIN-1 Forms).
- e) The Evaluation Committee will correct any computational errors. When correcting computational errors, in case of discrepancy between a partial amount and the total amount, or between word and figures the formers will prevail.

- f) The **highest** evaluated Financial Proposal (Fm) will be given the maximum financial score (Sf) of 100 points. The financial scores (Sf) of the other Financial Proposals will be computed as indicated in the **Data Sheet**. Proposals will be ranked according to their combined technical (St) and financial (Sf) scores using the weights (T = the weight given to the Technical Proposal; P = the weight given to the Financial Proposal; T + P = 1) indicated in the Evaluation Criteria: $S = St \times T\% + Sf \times P\%$. The Party achieving the highest combined technical and financial score will be invited for negotiations.

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3. DATA SHEET

2.1.a	<p>Name of the Client:</p> <p>Ministry of Environment and Energy Green Building, Handhuvaree Hingun, Maafannu, Male', 20392, Republic of Maldives www.environment.gov.mv</p>
2.1.b	<p>Financial Proposal to be submitted together with Technical Proposal in two different envelopes on the same day and time specified.</p> <p><i>Please write name of the Consultancy assignment and indicate whether it is Financial Proposal or Technical Proposal on the envelopes.</i></p> <p>Name of the assignment is: “Request for Proposals - Consultancy Services for Survey, Design of Sewerage Facilities in Ga. Villingili – New Settlement, Maldives”</p>
2.1.c	<p>The method of selection would be in accordance to the procedures set out in the National Procurement Regulations issued by the Ministry of Finance and Treasury</p>
2.4 Validity	<p>Proposals must remain valid up to 90 days after the submission date.</p>
3.8 Clarifications and Amendments of RFP Documents	<p>Interested consultants may obtain further information on request by writing to the address below no later than 17th September 2017 on 12:00 PM.</p> <p>Procurement Unit Ministry of Environment and Energy Green Building, Handhuvaree Hingun, Maafannu, Male', 20392 Republic of Maldives Fax: +960-3018-301 Tel: +960-3018-453</p>
3.10 Submission, Receipt, and Opening of Proposals	<p>The proposals are expected to be submitted to the following address by 11: 00 hours local time on 26th September 2017, Tuesday.</p> <p>Procurement Unit Ministry of Environment and Energy Green Building, Handhuvaree Hingun, Maafannu, Male', 20392 Republic of Maldives Fax: +960-3018-301 Tel: +960-3018-453</p>

3.11 Evaluation of Proposals	Criteria, sub-criteria, and point system for the evaluation of Full Technical Proposals are:		<u>Points</u>
	(A) Company Profile:		[100]
	1.	No. of similar projects	[40]
	2.	Value of previous assignments	[40]
	3.	Organisational structure	[20]
	Total A = []		
	(B) Project Team		[100]
	1.	Sewerage/ Civil Engineer	[25]
	2.	Electro-Mechanical Engineer	[25]
	3.	Quantity Surveyor	[25]
	4.	EIA Specialist	[25]
	Total B = []		
	The number of points to be assigned to each of the above positions or disciplines shall be determined considering the following three sub-criteria and relevant percentage weights:		
	1.	Education and qualifications	[25%]
	2.	Experience	[65%]
3.	Experience in the region and language	[10%]	
(C) Approach, Methodology & Work plan		[100]	
1.	Approach & Methodology	[50]	
2.	Work plan of the Assignment	[50]	
Total C = []			
Technical Score (St) = $A/100*[W1] + B/100*[W2] + C/100*[W3]$			
Weights Distribution			
W1	Company Profile	[20]	
W2	Project Team	[60]	
W3	Approach & Methodology	[20]	
The minimum technical score (St) required to pass is: 70 Points			
The formula for determining the financial scores is the following: $Sf = 100 \times Fm / F$, in where Sf is the financial score, Fm is the <u>lowest price</u> and F the price of the proposal under consideration.			
The weights given to the Technical and Financial Proposals are: T = [0.6], and P = [0.4]			

Technical Proposal - Standard Forms

FORM TECH-1: Technical Proposal Submission Form

[Location, Date]

To: [Name and address of Client]

Dear Sirs:

We, the undersigned, offer to provide the consultancy service for “*Request for Proposals - Consultancy Services for Survey, Design of Sewerage Facilities in Ga. Villingili – New Settlement Area, Maldives*” in accordance with your Request for Proposal dated [Insert Date] and our Proposal. We hereby submit our Proposal, which includes this Technical Proposal, and our Financial Proposal sealed under a separate envelope.

We hereby declare that all the information and statements made in this Proposal are true and accept that any misinterpretation contained in it may lead to our disqualification.

If negotiations are held during the period of validity of the Proposal, we undertake to negotiate on the basis of the proposed staff. Our Proposal is binding upon us and subject to the modifications resulting from Contract negotiations.

We undertake, if our Proposal is accepted, to initiate the services and fulfill the terms and conditions related this contract.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [In full and initials]: _____

Name and Title of Signatory: _____

Name of Firm: _____

Address: _____

FORM TECH-2: Consultant’s Organization and Experience

A - Consultant’s Organization

[Provide here a brief description/background (Include Organizational chart) of your organization and each associate for this assignment.]

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B - Consultant's Experience

*[Using the format below, provide information on each contract/assignment for which your Organisation, individually as a corporate entity or as one of the major companies within an association, for carrying out **similar consultancy Services.**]*

Contract/Activity Name:	Contract Value (in MVR):
Country: Location within country:	Duration of assignment/activity (months):
Name of Client:	Total no. of staff-months of the assignment:
Address:	Start date (month/year): Completion date (month/year):
Name of associated Parties, if any:	NO of professional staff-months provided by associated Consultants:
Narrative description of Activities/Project:	
Description of actual services provided by your staff within the Activities:	

Firm's Name: _____

FORM TECH-3: Description of Approach, Methodology and Work plan for performing the Assignment

[Technical approach, methodology and work plan are key components of the Technical Proposal. You are suggested to present your Technical Proposal divided into the following three chapters:

- a) Technical Approach and Methodology,*
- b) Work Plan, and*
- c) Organization and Staffing,*

a) Technical Approach and Methodology. In this chapter you should explain your understanding of the objectives of the assignment, approach to carry out the design services for the island and obtaining the expected output. You should highlight the problems being addressed and their importance, and explain the technical approach you would adopt to address them. You should also explain the methodologies you propose to adopt and highlight the compatibility of those methodologies with the proposed approach.

b) Work Plan. In this chapter you should propose the main activities of the assignment, their content and duration, phasing and interrelations, milestones (including interim approvals by the Client), and delivery dates of the reports. The proposed work plan should be consistent with the technical approach and methodology, showing understanding of the TOR and ability to translate them into a feasible working plan.

c) Organization and Staffing. In this chapter you should propose the structure and composition of your team. You should list the main disciplines of the assignment, the key expert responsible, and proposed technical and support staff.]

FORM TECH-4: Team Composition and Task Assignment

<i>Professional Staff</i>				
Name of Staff	Organisation	Area of Expertise	Position Assigned	Task Assigned

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FORM TECH-5: Curriculum Vitae (CV) for proposed Professional Staff

1. **Proposed Position** [*only one candidate shall be nominated for each position*]: _____

2. **Name of Firm** [*Insert name of firm proposing the staff*]: _____

3. **Name of Staff** [*Insert full name*]: _____

4. **Date of Birth:** _____ **Nationality:** _____

5. **Education** [*Indicate college/university and other specialized education of staff member, giving names of institutions, degrees obtained, and dates of obtainment*]: _____

6. **Membership of Professional Associations:** _____

7. **Other Training** [*Indicate significant trainings since degrees under 5 - Education were obtained*]: _____

8. **Countries of Work Experience:** [*List countries where staff has worked in the last ten years*]: _____

9. **Languages** [*For each language indicate proficiency: good, fair, or poor in speaking, reading, and writing*]: _____

10. **Employment Record** [*Starting with present position, list in reverse order every employment held by staff member since graduation, giving for each employment (see format here below): dates of employment, name of employing organization, positions held.*]:

From [Year]: _____ To [Year]: _____

Employer: _____

Positions held: _____

A copy of the National Identity Card need to be attached for each individual.

FORM TECH-6: Work Schedule

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	...
Activity (Work)													

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Financial Proposal - Standard Forms

FORM FIN-1: Financial Proposal submission Form

a) Ga. Villingili – New Settlement

[Location, Date]

To: [Name and address of Client]

Dear Sirs,

We, the undersigned, offer to provide consultancy services for “*Consultancy Services for Survey, Design of Sewerage Facilities in Ga. Villingili – New Settlement Area, Maldives*” in accordance with your Request for Proposal dated [Insert Date] and our Technical Proposal. Our attached Financial Proposal is for the sum of [Insert amount(s) in words and figures¹] which is inclusive of the local taxes.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [In full and initials]: _____

Name and Title of Signatory: _____

Name of Firm: _____

Address: _____

1 Amounts must coincide with the ones indicated under financial proposal in Form FIN-2.

=

FORM FIN-2: Financial Proposal

a) Ga. Villingili – New Settlement Area

	Description	Cost (Maldivian Rufiyaa)
1	Surveying and development of Island Maps	
2	Carrying out required surveys (e.g. topographic surveys etc.) for the sewerage system design works	
3	Sewerage system design and drawings	
4	Electro-mechanical designs and drawings	
5	Structural design and drawings	
6	Development of Environment Impact Assessment	
7	Preparation of Tender Documents and Evaluation Works	
	Sub Total :	
	GST :	
	Total with GST:	

- *This form highlights the major areas of the assignment. The consultancy firm may provide a more detailed proposal elaborating the different components.*
- *The consultancy firm is to submit copy of the GST registration certificate along with the financial proposal.*

*Note: All Price Quotes should be made in Maldivian Rufiyaa
All Payments will be made in Maldivian Rufiyaa.*

4. TERMS OF REFERENCE

Consultancy Services for Survey, Design of Sewerage Facilities in Ga. Villingili – New Settlement Area, Maldives

2.1 INTRODUCTION

Ministry of Environment and Energy (MEE) on behalf of the Government of Maldives is seeking the assistance of a qualified and competent consulting firm for Developing Design of Sewerage Facilities in the Ga. Villingili – New Settlement, Maldives.

2.2 BACKGROUND

The Maldives consist of 1190 low-lying coral islands spread over an area of 90,000 Square km in the Indian Ocean. Nearly 200 islands are inhabited, around 90 islands are resorts, and the rest are uninhabited. There are 26 geographical atolls which are grouped into 20 administrative atolls.

A large part of the population in the Republic of Maldives lacks the access to safe drinking water and improved sanitation facilities. Rainwater is the main source of potable water in the inhabited islands but it is available only during rainy months of the year. This causes the island population to rely on groundwater for drinking and cooking during dry period, mainly through domestic wells.

Wastewater disposal systems in most of the islands are developed within the plot known as onsite disposal systems (septic tank and soak pits), with rare cases of offsite disposals (near shore outfalls). In densely populated island environments, the construction, operation and maintenance of these systems is complex, mainly due to the short distance between domestic wells and septic tanks/soak pits, and often suffer from poor performance due to various reasons which include the absence of or limited desludging. Some small-bore sewer systems (SBSS) have been introduced, but those often malfunction, and usually convey raw sewage directly into the near shore lagoon.

Sanitation facilities are poorly designed and constructed without sewage treatment facility, which results in the contamination of groundwater and lagoon with the sewage effluent.

The island communities have therefore been facing the problem of groundwater contamination due to improper sanitation and over-extraction of groundwater. For a number of years, population and development pressures have led to increasing groundwater extraction, resulting in the depletion of the freshwater lens in many densely populated islands, which in turn has led saline intrusion into the groundwater aquifer. Groundwater resources

have also been at risk of bacterial contamination caused by effluent leakage and pollution migration from poorly constructed and maintained septic tanks.

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2.3 SCOPE OF WORKS

Sewerage Component

Phase A1: Data collection – Complementary Diagnosis

First of all, it is necessary to carry out investigations to adjust the works program on the island. This means:

- Carryout Bathymetric survey and performing marine investigations for the siting of the sea outfall structures so that the final location is acceptable in environmental terms.
- Performing topographic surveys of the collection zones in order to define the program of works related to sewer network construction.
- Carrying out the topographic surveys of the sites of the future facilities.
- Carrying out Social and Household Surveys of island
- Carrying out the geotechnical investigations permitting concept and detailed design of the facilities.
- Carryout buried utility services survey for their location and marking their locations in streets of island topographic map
- Defining the construction methods of sewerage system to be used island by island, depending on transport and access.

The Consultants will collect existing data and carry out the necessary investigations to ensure that sufficient information is available to clarify uncertainty regarding the technical choices to be made. In his methodology, the Consultants will precise his data acquisition methods:

- area covered by the investigations;
- duration and degree of accuracy of the measurements to be carried out;
- members of staff in charge of interpreting the data collected.

Outputs of Phase A1

1. Bathymetric Survey Report
2. Topographic Survey Report
3. Social and Household Survey Report
4. Environmental Survey Report
5. Geo-technical Studies Report
6. Environmental Survey Report
7. Dilution and Dispersion of Sewage Modelling Report
8. Buried Utility Services Survey Report

The Consultants will prepare Preliminary Concept Design based on Conventional Gravity System (CGS) with Waste Water Treatment Plant (WWTP) based on Activated Sludge Process with Extended Aeration and submit to MEE for approval.

The Preliminary design report to be submitted by the proponent for water and sewerage projects may contain but not limited to the following:

1. A description of the island
It should include physical and geographical attribute of the area, Numbers of registered households and future projections, size and distribution of population, potential population growth indicators, projections, etc.
2. Consultation with the Community
Description of the consultation with the island council, utility company and the community regarding the facility being proposed and other related issues (meeting's minutes shall be attached with the report);
3. Carryout Option Analysis for the following project infrastructures:
 - Different planning proposals of SPS and sewer network with life cycle cost analysis
 - Different sewage treatment technology options with life cycle cost analysis
 - Different locations of sea outfall disposals with life cycle cost analysis
4. Description of the proposed recommended systems (Sewerage)
 - a) A brief description of the proposed system in the form of a flow chart
 - b) A brief description on the type of treatment (if any).
 - c) A brief description on the sea outfall disposal with Dilution/Dispersion modelling of sewage.
 - d) Brief description on the sludge management.
 - e) Brief description on the SCADA/Process Control and Instrumentation on SPS and STP functioning.

- f) Preliminary Concept drawings of Sewerage System.
5. Land Allocation
- Land requirement for administrative building, Pumping stations, Treatment plant including sludge management (if any) should be identified and reported in drawings.
 - Special/protected areas declared under the council or any written law should be identified (if any).
6. Technology
- For the type of technology proposed, the region of the technology should be mentioned in the report. For ease of availability of spare parts, it is proposed to use the technology from the Asia region.
7. Brief Preliminary Environmental Impact Assessment and Mitigation Measures

Note: Depending on the contractual arrangements, any additional contents requested by the client shall be included in the Preliminary design report.

- Outputs of Phase A2**
- Report I will include at least :
 - Preliminary Design Report (including the list of data collected and summary of relevant items enabling the solutions for choosing the initial component to be established.
 - Concept Drawings
 - Preliminary Capital Cost Estimates
 - Preliminary O&M Cost Estimates
 - Environment Impact Assessment Report

Phase A3: Detailed Design

The third stage will concern detailed design of the sewerage System for each island

The Detailed Design Report shall contain three parts:

Part 1 (Main report) will include: The detail design report should be in accordance with EPA Guidelines. (Design Criteria and Technical Specification for Conventional Gravity Sewerage System.)

Part 2 (Bill of Quantities and Cost Estimates i.e. Capital Cost Estimates and Operation and Maintenance Cost Estimates) will include a Bill of Quantities and Cost Estimate for each structure and then by type of works (earth, concrete, mechanical, electrical). The Consultants will also prepare rate analysis of each item of the Bill item based on cost of

material, equipment, transportation, fuel, labor and overheads and taxes and duties etc. All the break up cost shall be supported with internationally recognized manufacturers/suppliers. The unit cost analysis shall also be compared with unit rates of tenders recently submitted by the Bidders for various water supply and sewerage projects. The Consultants will keep this cost estimate confidential.

The capital costs shall be derived from the Bill of Quantities and unit rates developed from recent tender for works in the MEE, using either unit prices or cost curves and indexed to inflation. The minor items will be estimated using historic current rates and prices prevailing in the Maldives islands.

For the mechanical and electrical equipment, cost estimates will be prepared based on recent experience of the cost of similar work and / or quotations from internationally recognized manufacturers and suppliers. The cost estimates will allow for transportation and erection on site, all out-site costs and off-site overheads.

Bill of Quantities and Cost estimates will be established separately for each island.

Part 3 – Detailed Drawings

The Consultants shall prepare Detailed Tender and Construction Drawings on A3 size with scale 1:1000 following the best international practices.

Outputs of Phase A3:

Report II will include the detailed design of the ‘selected solution for each island including:

- the Main Report;
- the Bill of Quantities and Cost Estimate;
- Detailed Tender and Construction Drawings

Final version of the Detailed Design will support preparation of the Tender Documents for the selection of contractors.

Phase A4: Tender Documents

Tender Documents

The Consultants will prepare tender documents accordingly including:

Volume 1: Tender and Administrative Documents

Volume 2: Technical Specifications and Schedules

Volume 3: Drawings and Layouts

Volume 1 will include at least the following:

- **Invitation to Tender;**
- **Description of the Works and Quantities;**
- **Instructions to Bidders;**
- **Qualification Criteria**
- **Conditions of Contract, Form of Tender (and Appendix);**
- **Bill of Quantities and Schedules;**
- **Form of Contract Agreement, Form of Tender Security, Form of Performance Security, Form of Guarantee for advance payment**

Conditions of Contract will be incorporated as the final legal agreement to be drawn up between the Contractor and the Client. The Conditions of Contract would be drawn up in close co-operation with the Client and would incorporate such special clauses as may be required.

The **Bill of Quantities and Schedules** will be prepared for all the tender packages as a basis for tendering and for payment under the Contract. Civil Engineering Standard method of measurement shall be recommended wherever possible.

Volume 2 will include Technical Specifications and Schedules. Technical Specification will be prepared for all items to be constructed, supplied or erected. Materials and work specifications will cover all aspects of materials and equipment to be provided.

The Consultants will use local or national standards where possible. Where no suitable local or national standards exist then international standards such as BS, ASTM, ISO etc. will be used.

Where possible, the specification of materials (locally produced or imported) will be specified. Construction Schedules will be issued in details.

Volume 3 will be based on part 3 of the detailed design drawings. All drawings will show clearly defined contract limits relating to the various divisions of works. Drawings will include general arrangement drawings, sections, elevation, typical details and typical reinforcement detailed. In addition, detailed reinforcement drawings and bar schedules will be included in the tender documents. Drawings for mechanical and electrical equipment will show main outlines and leading dimensions in sufficient details for the manufacturers to design the adequate equipment.

Note: The Tender Document has to be separated into two individual documents i.e. Material Supply & Delivery and Labor Contract Model.

Outputs of Phase A4:

Report III including the tender documents including:

- Volume 1: Administrative and tender documents;
- Volume 2: Technical specifications and schedule;
- Volume 3: Tender Drawings and layouts

Phase – A5 – Prequalification of Contractor

1. The Consultants shall prepare Pre-qualification Documents for pre-qualification of Contractors which shall be prepared based on the best engineering international practices. The Pre-qualification document shall also contain the pre-qualification criteria with scoring system. The pre-qualification criteria must be consistent and give true reflection of Maldivian island Conditions.

The Consultants shall also assist MEE in pre-qualification process of Contractor and

Output of Phase 5

1. Contractor's Pre-qualification Document
2. Contractor Pre-qualification Evaluation Report

prepare Contractor Pre-qualification Report for approval of MEE.

Phase A6 – Tendering process

Consultants will assist MEE in the tendering process till award of contract.

Outputs of Phase 5

Prepare Bids Evaluation Report for approval of MEE

PROJECT TEAM

The following main staff members will be required for the assignment.

Position	Nos
Civil Design Engineer Sewerage	1
Electro-Mechanical Engineer	1
Engineering Surveyor	1

Quantity Surveyor	1
EIA Specialist	1

The Consultancy firm should appoint a TEAM LEADER for this assignment among the professional personnel as indicated in the table above.

2.4 SIMILAR ASSIGNMENTS

To be eligible for this assignment, the consultancy firm must demonstrate past experience in performing the services (description of similar assignments, Value of such assignments). The Firm shall have carried out a minimum of three (3) similar assignments with an average contract value of MVR 100,000.00 each.

2.5 QUALIFICATIONS/EXPERIENCE OF DESIGN CONSULTANCY TEAM

The Consultant should submit full CV's for each of the proposed staff members highlighting the criteria given below.

a. Civil Engineer Sewerage

Bachelor's degree in Civil/Environmental Engineering with minimum 03 years' experience along with Specific experiences in designing sewerage systems. Tertiary certification will be an added advantage.

b. Electro-Mechanical Engineer

Bachelor's Degree in Electrical/Mechanical Engineering with minimum 02 years' experience along with specific experience in designing Electro-Mechanical components of Sewerage Facilities. Tertiary certification will be an added advantage.

c. Quantity Surveyor

Diploma in Civil Engineering with minimum 03 years' experience in preparation of BOQs, Engineer's Cost Estimates, Scrutiny of Contractor's Invoices, Variation Orders etc

d. EIA Specialist

Bachelor's Degree in Environmental Engineering/Environmental Science/Environmental Management with minimum 03 years' experience in conducting Environmental Impact Assessment (EIA). Experience in conducting EIA for Sewerage Systems will be given preference. Tertiary certification will be an added advantage. The Consultant should hold a permanent EIA license and his/her EIA license copy shall be submitted along with a dated letter stating his/her association with the bidding party.

2.6 PAYMENT

Payment will be in accordance with the schedule specified below;

DESCRIPTION	ALLOCATION	REQUIREMENT
Advance Payment	10%	Advance Payment Bank Guarantee - submitted within 30 days of receiving the Letter of Acceptance (15% of the value of the agreed Contract Price).
Phase A1	20%	Preliminary Design and Survey Works completion
Phase A2	40%	Details Design Report completion
Phase A3	40%	EIA Report completion
Phase A3	30%	Tender Documents completion

2.7 DELIVERABLES

Activity No.	Details	Time of Completion	No. of Copies
1	Survey and Investigation Reports	1 month after award of contract	2 hard copies + Soft copy each
2	Preliminary Concept Design Report with Cost Estimates	2months after awarding of contract	2 hard copies + Soft copy
3	EIA Report	1.5 months after submission of Preliminary Concept Design Report	2 hard copies + Soft copy
4	Detailed Design Report as per Design guidelines of EPA	2 months after completion of activity no. 1	3 hard Copies + 1 soft copy

5	Engineer's Cost Estimates		
4	Complete Tender document and Construction Drawings and Contractor Pre-qualification	2 months after completion of activity no. 2	2 hard copies + 1 soft copy

2.8 TECHNOLOGY TRANSFER

The Consultant shall consider the technology transfer as an important aspect of this project. The Consultant shall provide the opportunity to the staffs of the client to be involved in the working team of Consultants during the design phase of the project for their capacity development wherever possible. If requested by Clients staff, the Consultant shall brief and demonstrate the survey and design procedures.

2.9 DURATION OF THE ASSIGNMENT

All surveying, preparation and submission of design documents should be completed within **02 months**. Tender assistance should be given to Client and NTB during tender, evaluation and award stage.