TERMS OF REFERENCE

CONSULTING SERVICES FOR THE DESIGN AND SUPERVISION OF WATER AND SANITATION SYSTEMS – PETITE MARTINIQUE RAINWATER HARVESTING AND WATER STORAGE PROJECT

1. BACKGROUND

1.1 The Basic Needs Trust Fund (BNTF) Programme is a regional grant-funded initiative of the Caribbean Development Bank (CDB), which started over 45 years ago and is now in its eleventh phase. BNTF is one of the CDB's Key instruments for addressing poverty reduction by providing access to basic public services through the provision of social and economic infrastructure and the development of skills to enhance employability, community management, and engagement. The eleventh phase of the BNTF Programme (BNTF 11) will continue to assist poor and vulnerable communities in nine BNTF Participating Countries (PC's), vis., Barbados, Belize, Dominica, Grenada, the Co-operative Republic of Guyana, Jamaica, Montserrat, Saint Lucia, St. Vincent and the Grenadines and Suriname. The BNTF Programme also includes a Regional Coordination component, which is managed by CDB and supports programme implementation and management, and monitoring and evaluation.

1.2 Each PC has an established Implementing Agency (IA) which reports to an executing ministry, and is responsible for the administration of sub-projects in the respective country. BNTF 11 focuses on three key sectors/area: Education and Human Resource Development (including citizen security, youth at risk, livelihoods, and micro-enterprise development); Water and Sanitation, and basic Community Access and Drainage. The design of the sub-projects in these sectors/areas ensures gender inclusive participation by communities and transparency in community decision-making in the identification and priority setting process.

1.3 The Government of Grenada (GOGR) has received financing from the CDB towards the cost of financing BNTF 11 Project and intends to apply a portion of the proceeds of this financing to eligible payments under contracts for **Consultancy Services for the Design and Supervision of Water and Sanitation Systems –Petite Martinique Rainwater Harvesting and Water Storage Project.**

2. OBJECTIVE

2.1. The objective of this consultancy is to provide technical support to the IA during the implementation of the BNTF 11 Country Project. Consulting firms will be required to review existing designs and estimates (where available); advise on scope and adequacy of sub-project proposals, and provide revised preliminary designs and summary estimates, and detailed design and Bill of Quantities. The work must consider thematic areas such as gender, climate change, renewable energy, and environmental assessment and seek to integrate disaster mitigation measures into infrastructure sub-projects. Firms will also be required to provide technical inspection of construction works.

2.2. The proposed intervention consist of:

Sub-Project: Petite Martinique Rainwater Harvesting and Water Storage Project

Proposed Scope of Work:
The proposed project involves the construction of a 50,000-gallon reinforced concrete water storage cistern with an integrated rainwater catchment. The design should also make provision for the future installation of a cold storage unit above the cistern. The project will also include the installation of a solar-power water purification system, drainage to manage desludging and overflow discharge, an automated water level monitoring system, and any associated plumbing and electrical works. Additionally, the project will be designed and constructed so that all components and features meet hurricane- resistant standards.

3. SCOPE OF SERVICES AND REPORTING REQUIREMENTS

Design Services

Preliminary Design Services

The Consultant shall provide the architectural and engineering service necessary for the preparation of preliminary designs, plans and specifications for the Works and estimates of cost thereof in sufficient detail to allow GOGR to consider and approve the suitability of such designs for the purposes for which the Works are intended, complying with the following requirements:

(a) Review and collect relevant data in addition to conducting all necessary topographic and cadastral surveys by engaging the services of a licensed Land Surveyor, and geotechnical investigations to inform the designs.

(b) The designs, plan and drawings shall conform to the standards published by OECS Building Codes and relevant American Codes and Standards, and normally accepted design codes and practice.

(c) Prepare a draft Environmental and Social Management Plan (ESMP) per sub-Project.

(d) Advise on the need for a more detailed climate vulnerability risk assessment following the initial climate risk screening.

(e) In the absence of a grievance redress mechanism (GRM) at the BNTF IA level, the Consultant should prepare a project level GRM for public disclosure, to facilitate the receipt, acknowledgement and resolution of concerns and complaints related to the sub-projects.

(f) Deliver one (1) hard copy and one (1) electronic copy of the Preliminary Design Report to the BNTF Implementing Agency (IA) and one (1) electronic copy to the CDB.

(g) Conduct community consultations to obtain information on existing environmental issues, past hazard events and hazard vulnerability of the proposed sub-project sites(s) and surrounding areas; and community disaster preparedness and response. The Consultant shall discuss consideration for improving resilience to climate change and natural hazard events.

Final Design Services

3.1. Following review of the preliminary designs items, the BNTF IA and CDB shall provide feedback regarding the incorporation of resilience measures and ESMP requirements into the designs, and the BNTF IA shall instruct the Consultant whether to proceed to the Final Design Stage. Upon receipt of such instruction, the Consultant shall prepare:

(a) Detailed designs with associated calculations. The consultant shall furnish one (1) hard copy and one (1) electronic copy to the IA and one (1) electronic copy to the CDB.

(b) The final designs and contract plans to a suitable scale with all dimensions clearly shown, and indicating details of construction for all structures or other Works to be built. The Consultant shall furnish one (1) hard copy and one (1) electronic copy of each final drawing to the IA and the Designated Representatives of the Beneficiary Community, and one (1) electronic copy to the CDB.

(c) Specifications including a description of each item, materials to be used, properties of materials, methods of measurements, basis for payment, and all other technical requirements for the construction of the Works in accordance with the designs and plans. The Consultant shall furnish one (1) bound copy and one (1) electronic copy on such specifications to the IA and one (1) electronic copy to the CDB.

(d) An estimate of the quantities of the various items of work required for the Works prepared in appropriate form, for use, where applicable, in a unit-price type of construction contract;

(e) Estimates of the construction cost for the Works as confidential information for the IA and the CDB to serve as guidelines to the IA and the CDB in analysing proposals for the construction components of the Works.

(f) A Final ESMP per sub-project. Relevant components of the ESMP are to be integrated into the Tender Document.

(g) Notices to Tenderers, proposal forms for construction contracts, performance bonds and such other documents required for the tendering of the Works where such works are to be constructed by contract.

Environmental Mitigation Measures

3.2. In keeping with the requirements of the approved ESMPs, the Consultant is required to:

(a) Review the environmental mitigation measures specified in the Contract and ensure that the Contractor is aware of the said measures.

(b) Enforce compliance with environmental guidelines for quality control, environmental and social management, and health and safety, within the limits of the Contracts.

(c) Report on the positive and negative findings of the environmental and social management supervision activities and the performance of the Contractor in complying with the ESMP (including any non-compliances, need for corrective action, and emerging opportunities) via the monthly reports on environmental and social performance.

(d) Immediately inform the IA and CDB of any violation or accident that might merit the suspension of works until the corrective/mitigation actions have taken place.

(e) Assess any changes in the physical, environmental or other conditions that may have occurred since the time of the project preparation/design, advise on the effect of these on project costs and/or time, and put in place adequate measures to deal with these circumstances. If required, he/she shall propose revisions to the Construction Contract documents, which shall be sanctioned by the Client / Employer prior to revisions becoming effective. The Consultant shall take full responsibility for all the Construction Contract Documents.

3.3. In the event that the engineering estimates of the construction cost, inclusive of an allowance for minimum ten (10) percent contingency, Value Added Tax (VAT), price increases and ancillaries, where applicable, exceed the allocated end-of-construction costs, the Consultant shall, if requested by the BNTF IA, modify the Works in consultation with the IA and the CDB, so as to bring the estimated cost of the Works within, or as near as possible to, the allocated end-of-construction costs. Any such modification shall be included in the Final Design Services for the purpose of sub-paragraph 3.2 above.

3.4. If any additional sub-surface investigations or other field survey work of a substantial nature is required for design work, such services shall be for the account of the BNTF IA. Should additional sub-surface investigations be required, the extra engineering work for preparing specifications, supervising the drilling and making laboratory tests will be negotiated between the IA and the Consultant as additional services.

Pre-Construction Services

3.5. Where the Works are to be carried out by contract, the consultant shall use CDB's invitation to bid form and BNTF Procurement Guidelines, advise the BNTF IA on the qualification of proposed tenderers, use BNTF's bid evaluation report format, assist in procuring tenders by the IA, review the tenders received, advise as to whether they appear to be correct and responsive to the tender documents, make recommendations for the award of the construction contract within one week of tender opening, and participate in pre-bid meeting with the IA.

4. TECHNICAL INSPECTION OF CONSTRCTION SERVICES / SUPERVISION SERVICES

4.1. It is hereby accepted by the Consultant that the Supervision portion of this outlined Scope of Works is not automatic and is subject to a review of the Consultant's performance during the Design or Formulation phase. The Consultant shall provide the following professional services for the technical inspection of construction services for the Works, reporting to both the BNTF IA and the CDB:

(a) Provide the necessary Engineers, Inspectors, and Surveyors per sub-project, with relevant qualifications, to oversee the performance of the Works, and require that such performance be in accordance with the plans and specifications prepared by the Consultant. Such Engineers, Inspectors, and Surveyors will have no obligation or authority to determine the manner in which the Contractor performs the construction work unless specifically provided for in the specifications. They will investigate, report, and advise on unusual circumstances which may arise during construction.

(b) Revise designs to suit unforeseen conditions which may arise during construction.

(c) Undertake environmental monitoring during construction in keeping with 3.3 and the sub-project's ESMP; and apply the Consultant Environmental Checklist (included in the BNTF Guidance Manual) when site inspections are conducted.

(d) Submit monthly reports on environmental and social performance, which include an assessment of the Contractor's performance in complying with the ESMP, the effectiveness of mitigation measures, identification of opportunities for enhancing resilience, and any major environmental, health and safety issues that have occurred over the reporting period.

(e) Consult with and advise the BNTF IA and GOGR during the construction period.

(f) Conduct monthly progress meetings between the Consultant, Contractor and the BNTF IA, and prepare and issue minutes of said meetings.

(g) Submit monthly reports on the progress of the Works including photographs in duplicate as required, progress charts/programmes and drawings to the IA and the CDB in a form acceptable to the CDB describing the construction work accomplished

and maintaining appropriate construction records to be submitted to the IA and the CDB on Completion of the Works. As a guide, the BNTF reporting format for project inspection by consultants should be used for reporting on the Works.

(h) Check all shop and working drawings prepared by the Construction Contractor and suppliers to ensure full compliance of such drawings with the requirements of the Consultant's designs, plans and specifications.

(i) Advise the IA on the suitability of sub-contractors.

(j) Recommend and oversee tests to be performed on materials and equipment to be incorporated in the Works, such as testing of concrete cylinders, special soil tests and compaction tests.

(k) Review and approve monthly estimates and invoices submitted by the Construction Contractor for payment of work completed and prepare payment certificates; and ensure that advanced payments to the Construction Contractor are utilised for the intended purpose.

(l) Ensure that the Contractor has a site diary and that it is kept up to date and is accessible to all visitors.

(m) Issue specific instructions to the Contractor and record these in the Site Record Book / Site Diary.

(n) Verify the quantity and quality of materials being delivered to the site. This to recorded.

(o) Supply the Contractor with geometric surveys, schedules, specifications, bills of quantities and other Contract Documents to allow him/her to prepare a construction schedule and to review and/or revise such schedule upon receipt as well as periodically during the execution of the Works.

(p) Ensure that benchmarks and other survey information are used to properly set out Works.

(q) Prepare and supply to the Contractor variation orders with revisions to contract drawings, additional specifications or details that may be required for the proper execution of the Works, after having received approval from the Client/Employer for those variations. The Consultant must present to the Client/Employer any variations, including an estimate of cost, identified within twenty-four (24) hours of identification. The details of the variation must then be provided to the Client/Employer within two (2) weeks of identifying the need for a variation(s) on site.

(r) Where the Contractor has ceased to perform works as required by the terms of the Construction agreement, the Consultant must advise the Client/Employer and make relevant recommendations (including termination).

(s) Where a Contractor is terminated the Consultant must provide the Client/Employer with a detailed report comprising i) complete inventory of material on site (for civil work projects); ii) an estimated value of the reported inventory; iii) photographs of the inventory and state of the incomplete works; iv) statement on the state of the incomplete works; v) details of the work done to the date of termination; and vi) details of what is required to complete the works.

(t) Review and approve drawings, samples and other submissions of the Contractor only for specific conformity with the design concept of the Project and for compliance with the information given in the Contract Documents.

(u) Review and approve request for Extension of time. The Consultant/Supervisor must present to the Client/Employer the details of an Extension of Time request within two (2) weeks of receiving a request for Extension of Time.

(v) Liaise with the Project Manager and relevant authorities and offer assistance so as to expedite the acceptance and takeover of the Works.

(w) Ensure good occupational health and safety practices (including the wearing of personal protective equipment) are followed on-site during construction.

(x) Make a final inspection of the completed Works recommend the issuing or non-issuing of the completion certificate within 14 days, and prepare a Completion Report to the IA, the Beneficiary Community and the CDB, within 42 days of the end of work by the Construction Contractor, including therein:

i. a checklist of defects and incomplete work with an expected date of completion and endeavour that the contractor attends to all the items within the time period specified;

ii. a Certificate of Practical Completion, a Certificate at making Good Defects, and a Final Certificate as required by the construction contract;

iii. as-built drawings and financial statements setting forth the total cost of all elements of the Works (financial statement will not be required for the completion report for the Beneficiary Community);

iv. the principal design criteria used, a brief history of the construction work, and recommendations as to the future maintenance of the more complex components of the Works;

v. Maintenance Plan to promote, organize and execute routine maintenance works which includes maintenance of building services systems (electrical, plumbing, rainwater catchments, drainage, and sanitation components where relevant) and how to manage this process; and

vi. One (1) hard copy and one (1) electronic copy of the Completion Report shall each be sent to the CDB and the Designated Representative of the Beneficiary Community and One (1) hard copy and one (1) electronic copy thereof shall be sent to the BNTF IA.

5. COMMUNITY ENGAGEMENT AND BENEFITS

5.1. The Consultant shall provide the following professional services for engagement with the Beneficiary Community (men, women, and other social groups where relevant) during sub-project implementation:

(a) in consultation with the BNTF IA ensure community engagement (participation, communication, education and awareness, resilience building) during execution of services up to completion;

(b) review the community needs and assets assessment (CNAA), sub-project profile, environmental screening checklist and any other appraisal documentation outlining the needs to be addressed and the forms of capital to be considered during the implementation of the sub-project;

(c) provide any labor opportunities, as stipulated in the sub-project profile, recognising time implications for both women and men; and

(d) integrate any community commitments to volunteering and other contributions in the activity plan for the Works.

6. REPORTING AND ACCOUNTABILITY

6.1. The Consultant shall contribute to the BNTF sub-project monitoring process and ensure timely completion of acceptable output and outcomes focused reports, complying with the following requirements:

(a) Complete progress and completion reports according to the reporting template provided by the CDB and based on a timetable to be agreed with the IA and the CDB, to inform the IA's sub-project monitoring and completion reports.

(b) Provide details of labour opportunities and other employment generated for community residents (women, men, youth) or members of organisations.

(c) Proactively communicate implementation challenges, problems and risks immediately to the IA and the CDB, while taking necessary steps to address these in keeping with the professional services.

(d) Notify Client/Employer timely if community contribution is not being performed.

(e) Audit, evaluate and report on the sub-projects' environmental and social management performance based on the BNTF Environmental and Social Guidance Manual.

7. QUALIFICATIONS AND EXPERIENCE

7.1. The consulting team should consist of persons having appropriate professional and academic qualifications and have relevant experience in the areas of architecture, civil engineering and construction supervision. Specific experience in Community development in the Caribbean will be an asset.

Consulting Team Requirements		
Position	**Qualifications**	**Experience**
Team Lead/Civil Engineer (Key Expert)	Possesses a minimum of a bachelor's degree in civil engineering	The proposed Team Lead/ Civil Engineer shall have a minimum of fifteen (15) years of experience in the preparation of civil/structural designs of buildings and related infrastructures and demonstrate having experience as Team Lead or Project manager on at least three (3) similar projects within the last five (5) years.
Architect (Key Expert)	Possesses a minimum of a bachelor's degree in architecture	The proposed Architect shall have a minimum of five (5) years of experience in the preparation of architectural designs of educational institutions and demonstrate having experience as a Design Architect on at least three (3) similar projects within the last five (5) years.
Cost Consultant/Quantity Surveyor (Key Expert)	Possesses a minimum of a bachelor's degree in civil engineering or quantity surveying	8 years' experience working in the construction industry on similar assignments.
Environmental and Social Analyst / Specialist (Key Expert) as required	Possesses a minimum of a bachelor's degree in environmental science, Environmental Engineering/ Environmental Management, or related field	The proposed Environmental/Social Specialist shall have a minimum of five (5) years of experience in the preparation of environmental and social impact assessments, climate change impact assessments, and the

		development of Environmental and Social Management Plans 9ESMP's).
Site Clerk 1	Possesses a minimum of an Associate Degree in Building Construction or any other equivalent.	5 years' working in the construction industry on similar assignments.
Site Clerk 2	Possesses a minimum of an Associate Degree in Building Construction or any other equivalent.	5 years' working in the construction industry on similar assignments.
Site Clerk 3	Possesses a minimum of an Associate Degree in Building Construction or any other equivalent.	5 years' working in the construction industry on similar assignments.

Note: It is envisaged that inputs would be required from other non-key experts that may include, among others, a geotechnical engineer, a surveyor, CAD technicians, and a MEP engineer.

8. COMMENTS BY THE CONSULTANTS

8.1. The Consultant is requested to make comments on, and suggestions for, improvements to these Terms of Reference. The financial implications, if any, of these recommendations should be indicated separately in the Financial Proposal.

9. DURATION OF THE CONSULTING ASSIGNMENT

9.1. The assignment is expected to be conducted over a period of approximately Twenty- four (24) months. The design will be completed over a period of two (2) months, and the tendering process and construction phase will be completed over a period of ten (10) months. The defects liability period will end twelve (12) months thereafter.

10. DELIVERABLES

10.1. The Consultant will present one (1) hard copy and/or one (1) electronic copy of each report to the BNTF IA, and one (1) electronic copy of each report to the CDB. Copies of all data used in the preparation of the reports shall also be submitted. The BNTF IA and the CDB will forward comments on each report to the Consultant within two (2) weeks of receipt. These reports are as follows:

a) Preliminary Design Report

The report will, *inter alia*, present: the preliminary results of the design process; alternatives to be considered for the sub-project sites and recommendations for the preferred options; and draft site specific ESMP's. Survey results, together with all preliminary design assumptions, technical justifications and estimated cost are to be

presented for approval by the BNTF IA and the CDB no later than six (6) weeks after the signing of the contract.

b) Final Design Report

The report will, *inter alia*, present the final results of the design process and incorporate the selected options and comments by the IA and CDB. All final design assumptions, calculations, drawings, specifications, Bills of Quantities, site specific ESMPs and any other necessary tender documents are to be presented for approval bt the BNTF IA and the CDB no later than eighteen (18) weeks after the BNTF IA instructs the Consultant to proceed to the Final Design Stage.

c) Monthly Reports (Supervision Services)

i. Progress report

The Consultant will, no later than the specified date of each month, prepare a progress report for each Works contract summarizing the work accomplished for the preceding month. The report will outline any problems encountered (administrative, technical, or financial) and give recommendations on how these problems may be overcome. The reports will detail progress of ongoing works, include analysis and summaries of all tests results, and shall record the status of payment of all contractor's monthly certificates, of all claims for cost or time extensions, minutes of site meetings, monthly weather reports, monthly manpower (workman days inclusive of the number of male and female) and equipment use, and actions required by the BNTF IA or other stakeholders to permit unconstrained works implementation.

ii. Report on Environmental and Social Performance

The Consultant will, no later than the specified date of each month, prepare Reports on Environmental and Social Performance for each Works contract, outlining any environmental and/or social issues over the reporting period and assessing the level of compliance of the contractor with the sub-project ESMP. The Consultant shall report and advise on the need for corrective actions, based on any issues noted and project-related complaints; and shall report any unintended actions (positive and negative) and residual issues over the reporting period.

d) Completion Reports

The Consultant will prepare a comprehensive Completion Report for each of the Works contracts, which reaches substantial completion during the period on the services. These reports must be submitted within 28 days after the completion certificate of each contract, supervision performed, actual versus planned implementation progress and costs, quality assurance and quality control results,

technical issues addressed, and recommendations for future projects of a similar nature, as-built drawings, and the Maintenance Plan.

11. TERMS OF PAYMENT

11.1. The payment schedule is as specified below and summarized in the tables below:

DESIGN SERVICES – PAYMENT OF PROFESSIONAL FEES

Preliminary Design Services– 30%	Upon the completion, submission, and acceptance of Preliminary Design, Draft ESMP, and Reports (Including topographic surveys if required, geotechnical data) and all other tasks described in the TOR, to the entire satisfaction of the Client.
Final Design Services – 60%	Upon the completion, submission, and acceptance of the Final Design Report, Final ESMP, Bidding Document inclusive of Final Drawings, Bills of Quantities, Specifications, Schedule of Material (as required), Charts, etc.
Final Design Payment – 10% (Pre-Construction Services)	Upon the completion of the Pre-Construction Services, that end at the award of the construction contract.
Reimbursable Expenses	Payment for reimbursable expenses, including travelling, will be made upon a) Submission of detailed invoices b) Supporting bills/receipts/documentations
NOTE: Design Stage Incomplete/substandard submission will not be accepted. Reports must be submitted as per the deadlines in the contract. Payments will only be made upon the submission of deliverables. The payment to the consultant is a FIXED FEE together with reimbursable expenses and will be on a stage and performance basis only. All payments will be made within 28 days of approval.	
Payment for reimbursable expenses, including travelling, will be made upon submission of detailed invoices and will also be in conjunction with the above payment schedule during the Design and construction contract period.	
For Design, penalties of 2% deductions per 5 days will be applicable for late submissions up to a maximum of 10% of the contracted total of the Professional fees.	

TECHNICAL INSPECTION / SUPERVISION SERVICES – PAYMENT OF PROFESSIONAL FEES

Supervision	Payments for Technical Inspection Services shall be made on a monthly basis commencing one (1) month after the start of

	the construction Works, upon receipt of the Monthly Progress Reports, including minutes of site meetings, reports on Environmental and Social Performance, and submission of invoice(s) by the Consultant. The amount of each payment due to the Consultant shall be in proportion to the value of the construction works carried out in relation to the total cost of the construction Works, provided, however, that an amount of 5% will be retained until submission of the Project Completion Report, acceptable to the IA and CDB, and an additional 5% will be retained until the submission of the defects liability certificate.
	Note: Monthly reports are due on or before the 10th day of each month for the preceding month. Failure to submit monthly reports will result in a 1% deduction per 5 days after the report is due, and the deduction will not be reinstated.
Reimbursable Expenses	Payment for reimbursable expenses, including travelling, will be made upon submission of detailed invoices, supporting bills/ receipts/ documentations.
	Monthly reports are due on or before the 10th day of each month for the preceding month. Failure to submit monthly reports will result in a 1% deduction per 5 days after the report is due, and the deductions will not be reinstated.