

CARIBBEAN DEVELOPMENT BANK

TWO HUNDRED AND EIGHTY-SIXTH MEETING OF THE BOARD OF DIRECTORS

TO BE HELD IN TRINIDAD AND TOBAGO

JUNE 3, 2019

PAPER BD 40/19

**NOTIFICATION OF APPROVAL BY THE PRESIDENT OF A GRANT –
TECHNICAL ASSISTANCE – DEVELOPMENT OF A WATER SECTOR
STRATEGIC PLAN, FEASIBILITY STUDY AND PREPARATION OF DETAILED DESIGNS
FOR SELECTED INTERVENTIONS - THE COMMONWEALTH OF DOMINICA**

In accordance with the authority delegated by the Board of Directors (the Board) at its Two Hundred and Seventieth Meeting (Minute 270.32), the President approved a grant to the Government of the Commonwealth of Dominica (GOCD) of two million, one hundred and twenty-one thousand, two hundred and ninety-nine Pounds Sterling (£2,121,299) from the Special Funds Resources of the Caribbean Development Bank, allocated from funds provided by the United Kingdom through the Department for International Development to CDB under the United Kingdom Caribbean Infrastructure Partnership Fund (the Grant). The Grant is to assist GOCD in meeting the cost of consultancy services to develop a water sector strategic plan, a prioritised list of capital works, detailed costing and designs for selected interventions as well as capacity building interventions, on the terms and conditions referred to in paragraph 11 of the attached Paper.

2. It is a condition of the aforementioned delegated authority that each project approved by the President, and the terms and conditions thereof, be reported to the Board at its first convenient scheduled Meeting after approval of the project.
3. The Board is therefore asked to note the approval by the President of the Grant and the terms and conditions thereof.



CARIBBEAN DEVELOPMENT BANK

**TECHNICAL ASSISTANCE – DEVELOPMENT OF A WATER SECTOR
STRATEGIC PLAN, FEASIBILITY STUDY AND PREPARATION OF DETAILED DESIGNS
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Notified at the Two Hundred and Eighty-Six Meeting of the Board of Directors on June 3, 2019

BD 40/19

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JUNE 2019

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**TECHNICAL ASSISTANCE – DEVELOPMENT OF A WATER SECTOR
STRATEGIC PLAN, FEASIBILITY STUDY AND PREPARATION OF DETAILED DESIGNS
FOR SELECTED INTERVENTIONS FOR THE COMMONWEALTH OF DOMINICA**

1. APPLICATION

1.01 By letter dated November 29, 2018, the Government of the Commonwealth of Dominica (GOCD) applied to the Caribbean Development Bank (CDB) for support to assist in financing the development of a strategic plan for the water sector, feasibility and designs for select interventions. This will include technical assistance (TA) for the engagement of a consultant to: (a) develop a climate resilient water sector strategic plan including capacity building activities for the Dominica Water and Sewerage Company Limited (DOWASCO) and institutional strengthening for the Water Resource Management Activities in Dominica; and (b) development of a prioritised list of capital works and a feasibility study which will include detailed costing and designs for the select interventions.

1.02 The beneficiary of this TA will be GOCD and the executing agency will be DOWASCO.

2. BACKGROUND

2.01 The Dominican economy reflects many of the traditional features of a small open economy. This includes a high level of dependence on external trade as a proportion of gross domestic product (GDP), dependence on single sector export products (in this case agriculture) and tourism revenue; high levels of under-employment and unemployment; and dependence on foreign capital (both public and private sector) for investment into productive sectors and for infrastructural development. Economic development, in particular, is significantly affected by both natural and external factors.

2.02 Dominica has a high Human Development Index of 0.715 and is ranked 103 out of 189 individual countries¹. Poverty in Dominica is relatively high when compared to other countries in the Region. According to the 2009 Country Poverty Assessment, 28.8% of the population living in 22.8% of the households was below the poverty line. An additional 11.5% of the population was considered to be vulnerable, in that they could fall below the poverty line in the event of a major natural hazard event, social or economic shock.

2.03 Dominica is extremely exposed to multiple natural hazards, which may occur simultaneously, ranking twelfth in the Composite Vulnerability Index, produced by the Commonwealth Secretariat and the World Bank, and is impacted almost annually by tropical weather systems (see Figure 1). “The average economic losses associated with extreme hydro-meteorological events are equivalent to roughly 7.4% of GDP. Singular events like Hurricane Dean (2007) adversely affected the island, with significant damage to buildings and infrastructure estimated at 58% of GDP, or USD162 million (mn). More recently in 2011, record level flooding and landslides associated with heavy rain caused more than USD100 mn in damage. In April 2013, heavy rains caused landslides, flooding and a 40-foot deep split in a section of the East Coast main road. In December 2013 heavy rains caused widespread damage to infrastructure and housing in the range of USD20 mn”. In 2015, the country was ravaged by Tropical Storm Erika, resulting in damage amounting to over 90% of GDP. Over 15,000 persons were affected (22% of the population).

2.04 On September 18, 2017, Dominica was impacted by Hurricane Maria with catastrophic effect. The Post-Disaster Needs Assessment (PDNA) concluded that Hurricane Maria resulted in total damage of XCD2.51 billion (bn) (USD931 mn) and losses of XCD1.03 bn (USD382 mn), which amounts to 226% of

¹ UNDP 2018. *Human Development Indices and Indicators: 2018 Statistical Update*.

the 2016 GDP. Strong winds, flooding, landslides, falling trees and power outage damaged the 43 water supply areas.

2.05 The pre and post Hurricane Maria poverty indices show an increase in the levels on the indigent, poor and vulnerable segments of the population. A PDNA² revealed, *inter alia*, that subsequent to Hurricane Maria, 30 persons had lost their lives, 34 were declared missing, and 75% of the housing stock had been moderately to severely damaged or destroyed. A Vulnerability and Needs Assessment³ reported that 57.3% of households surveyed indicated that they had lost their main source of income and 68.9 % of heads of household were unemployed. The population of Dominica was estimated 72,000 (prior to September 2017) however, this has decreased (after September 2017).

2.06 Production and distribution pipelines were damaged or washed away, intake systems were blocked with sand and debris, and storage tanks, pumps, physical structures and access roads were damaged. Damage to the Roseau wastewater treatment plant affected 5,190 households and included lift stations, mains, manholes, interceptor pipes, sewer lines, 3 major bridge crossings, gravity mains and about 3,000 service connections. The Canefield and Jimmit sewerage systems were blocked by flood debris.

Water Supply and Wastewater Services

2.07 DOWASCO is a limited liability company, wholly owned by GOCD. DOWASCO was established by an Act of Parliament - Water and Sewerage Act No. 17, in December 1989 (the Act) and was incorporated in the same year under the Companies Ordinance of the Laws of the Commonwealth of Dominica. Pursuant to the Act, DOWASCO was granted an exclusive licence for the development and control of water supply and sewerage facilities in Dominica. Water supply in Dominica is normally serviced through 43 discrete subsystems covering nearly all the population (over 95%) living on the island. DOWASCO has initiated a series of interconnections of these, initially independent subsystems, in order to gain greater reliability and reduce operational and maintenance costs. Although Dominica is a country rich in water resources, climate variability and climate change represent threats to the reliability of the provision of potable water supply.

2.08 The majority of the water supply systems are based entirely on gravity flow with fairly simple intake structures upstream in nearby rivers. Distribution is provided through galvanized steel, ductile iron, high density polyethylene (HDPE) and Polyvinyl Chloride (PVC) pipes from storage tanks. There are a number of systems pumping water to elevated storage above the communities. Transmission pipeline lengths are relatively long with an average 18,400 feet (ft), or 3.5 miles for each of the systems. Water storage is provided through concrete or metal tanks. Water treatment facilities are limited to disinfection (adding chlorine) in most of the subsystems. Water provision is temporally curtailed during heavy rains, as the source waters become turbid with high silt content and water storage is limited.

2.09 DOWASCO provides sewerage services to the city of Roseau and environs, and the communities of Canefield and Jimmit. The Roseau Sewerage System treats sewage from approximately 3,250 residential units, commercial, industrial and Government institutions in Roseau and its immediate environs. The sewage collected undergoes primary treatment at the Baytown Sewage Plant, where the treated effluent is

² **Post-Disaster Needs Assessment: Hurricane Maria September 18, 2017** - Government of the Commonwealth of Dominica (with technical and financial support from the Global Facility for Disaster Reduction and Recovery, the European Union, the United Nations, the Organisation of Eastern Caribbean States, the Eastern Caribbean Central Bank, and the World Bank Group) dated November 9, 2017.

³ **Vulnerability and Needs Assessment Post-Hurricane Maria, conducted in December 2017** - Ministry of Social Services, Government of the Commonwealth of Dominica in collaboration with World Food Programme and UNICEF, conducted in December 2017.

discharged to the sea at a depth of 200 ft. below mean sea level and at a distance of 1,200 ft. from the shore. The sewage plant has a treatment capacity of over 500,000 gallons of wastewater a day.

3. PROPOSAL

3.01 It is proposed that CDB provide a grant in an amount of two million one hundred and twenty-one thousand, two hundred and ninety-nine Pounds Sterling (£2,121,299) from its Special Funds Resources (SFR) allocated from the Reconstruction Window of the United Kingdom Caribbean Infrastructure Partnership Fund (UKCIF), to assist GOCD in the development of a strategic plan for the water sector. This will include TA for the engagement of a consultant to: (a) develop a climate resilient water sector strategic plan to include capacity building activities for DOWASCO and institutional strengthening for Water Resource Management Activities in Dominica; and (b) develop of a prioritised list of capital works and a feasibility study which will include detailed costing and designs for the select interventions.

3.02 The total cost of the TA is estimated at two million, one-hundred and seventy-six thousand, four hundred and forty-nine Pounds Sterling (£2,176,449). Counterpart funding, equivalent to one hundred and ninety-five thousand four hundred and sixty Easter Caribbean Dollars (XCD195,460) will be provided by GOCD through DOWASCO. The Terms of Reference (TOR) for the consultancy services are provided in Appendix 1. The output of the consultancies will form the basis for the preparation of a capital works project.

3.03 The proposed TA project examines the critical issues in the development of a climate resilient water sector with the objective of developing a:

- (a) Water Supply Resiliency Implementation Plan;
- (b) Water Pollution Control Implementation Plan;
- (c) DOWASCO Institutional Strengthening Plan;
- (d) Capacity Strengthening Plan for Water Resources Management; and
- (e) Capacity Building Program for Water Resources Monitoring in Dominica.

3.04 Consistent with the agreement relating to UKCIF, the Programme is being managed under standard CDB Policies, Procedures and Guidelines⁴. Accordingly, the proposed TA project, in addition to being consistent with the purpose and objectives of UKCIF, is also consistent with:

- (a) CDB's Strategic Objective of supporting inclusive and sustainable growth and development within its Borrowing Member Countries.
- (b) CDB's Corporate Priority of strengthening and modernising social and economic infrastructure.
- (c) CDB's TA Policy and Operational Strategy of commitment to strengthening the synergies between TA operations and the Bank's investment lending.
- (d) CDB's Gender Equality Policy and Operational Strategy.

⁴ Memorandum of Understanding between DFID and CDB. Annex 1 - Governance arrangements and how funds will be disbursed. Governance Arrangements - Clause 2.

- (e) CDB's Climate Resilience Strategy.
- (f) GOCD's Growth and Poverty Reduction Strategy (GPRS) 2015-2019.
- (g) GOCD's Public Sector Investment Programme (PSIP).
- (h) Sustainable Development Goals (SDGs) 5, 9 and 13⁵.

3.05 Based on the Performance Rating System which is detailed in Appendix 2, the Project has been assessed as 3.75 - highly satisfactory. This suggests that it is likely to contribute to development effectiveness.

4. OUTCOME

4.01 The expected outcome is the enhanced capacity of GOCD to make informed decisions on the redevelopment of a gender-responsive and climate resilient water sector in Dominica. This will facilitate the infrastructure re-development, water resource management initiatives as well as institutional strengthening of DOWASCO. This TA is expected to support GOCD in undertaking a capital project that results in climate resilient water supply and wastewater infrastructure which will be a catalyst critical to the redevelopment of the country. This improved climate resilient infrastructure will be key to a number of economic sectors that the country depends on including agriculture, manufacturing and tourism. It is expected that the capital project will also include a water resource management component and capacity building for DOWASCO. A Results Framework is presented in Appendix 3.

5. JUSTIFICATION

5.01 The TA is consistent with the strategic objectives of GOCD to enhance the welfare of the people of Dominica by providing quality, affordable and resilient water and sewerage services in an environmentally sustainable manner, and which objective has become more urgent in the aftermath of Hurricane Maria.

5.02 Over the years, a number of challenges to the water sector have been identified which impede adequate provision of services. These include but are not limited to, (RSAP 2018)⁶: seasonal water shortages; inadequate water and wastewater services; poor quality of service; high non-revenue water volumes; inadequate tariffs to ensure cost recovery; and inadequate investment in critical infrastructure. These issues have been exacerbated by the frequent extreme rainfall events in recent years and most significantly by Hurricane Maria in September 2017.

5.03 The water sector underpins all sectors in the country and is necessary for any economic activity. Water is life and is a basic human need. To address the aforementioned challenges and to ensure the development of a climate resilient water sector in Dominica, areas such as: governance; climate informed decision support; resources management; water services provision, capacity building and sensitisation need to be addressed. In addition, the proposed TA project provides an opportunity to examine the social inequities that may exist in the provision of water supply and wastewater management services in Dominica.

⁵ SDG 5: Gender Equality. SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation. SDG 13: Take urgent action to combat climate change and its impacts.

⁶ RSAP 2018 – Regional Strategic Action Plan on Governance and Building Climate Resilience in the water sector in the Caribbean, 2018.

5.04 The resulting strategic plan will serve as a roadmap for medium to long-term interventions in the water sector. This TA will facilitate DOWASCO in the identification of climate resilient least-cost options for upgrading the water supply and wastewater infrastructure. This includes the development of detailed designs which would facilitate the appraisal and financing of infrastructure projects. This aligns with other climate resilient initiatives ongoing in Dominica in various sectors supported by the Bank and other International Financial Institutions (IFIs). Other significant outputs of the TA are a water supply resiliency plan, water pollution control plan, a capacity strengthening plan for water resources management, and a capacity building programme for water resources monitoring. Further the proposed project approach provides for a high degree of stakeholder consultation and participation to ensure ownership of the outputs.

5.05 The Project is further justified given that gender considerations have been included throughout the Project cycle development. A detailed gender analysis is included in the TOR for the development of the water sector strategic plan as shown in Appendix 1 and this is expected to facilitate the development of the proposed capital project proposal. This would include gender-specific considerations which would impact the economic and social outcomes for women and men. Table 5.1 presents the Gender Marker for the Project and Appendix 4 shows the Gender Marker Analysis.

TABLE 5.1: GENDER MARKER SUMMARY

Gender Marker	Analysis	Design	Implementation	M&E*	Score	Code
	1.0	0.5	0.5	1.0	3.0	GM⁷

*M&E – Monitoring and Evaluation

6. EXECUTION

6.01 The Project will be implemented by DOWASCO, through the existing Project Management Unit (PMU). A preliminary assessment of DOWASCO, conducted by CDB Staff, concluded that the organisational structure and technical capacity of DOWASCO could not effectively support the efficient implementation of their present projects, those being funded and to be funded by CDB. Under the management of the existing PMU it has been demonstrated that project implementation and management functions within DOWASCO, and more specifically of CDB funded projects, have improved. This project is the second of two major CDB funded projects (the Third Water Supply Project (Water Area – 1 Network Upgrade Project being the first) which DOWASCO will be implementing. It shall be a condition of the Grant that the Beneficiary by June 15, 2019 or such other date CDB may agree establish a Technical Working Group (TWG) to adequately review the project outputs. In the minimum the TWG shall include officers from the Ministry of Planning and the Climate Resilient Execution Agency for Dominica (CREAD). It will be a condition precedent to first disbursement of the Grant that the Project Coordinator (PC) of the PMU be assigned to the project by DOWASCO subject to CDB’s ‘no objection’. As indicated in Appendix 5, the PC will have the day-to-day responsibility for project coordination, arranging contacts with all Government and other personnel for project-related discussions, and supervision of the consultants. Additional PMU support staff will be assigned by DOWASCO, as required, during the implementation of the project. It will be a condition precedent to first disbursement of the Grant that DOWASCO maintain the existing PMU established to manage CDB-financed portfolio of projects, as PMU for this Project. DOWASCO will also collect and store, in a location accessible to the consultants, all existing maps, reports, drawings, studies, and any other relevant documentation required for the consultancies.

⁷ GM: the project is Gender Mainstreamed when gender considerations have been taken fully in to account.

6.02 CDB will be kept informed of the Project’s progress by reports submitted by the consultants, through DOWASCO, in accordance with the TOR set out in Appendix 1. This TA project is estimated to span a duration of 15 months (See Implementation Schedule at Appendix 6). The first disbursement from the Grant is projected by May 31, 2019, with full disbursement by October 31, 2020, or such later date(s) as CDB may specify.

7. RISK ASSESSMENT AND MITIGATION

7.01 The risks which have been identified possibly impacting the implementation of the project are presented in Table 7.1 below.

TABLE 7.1: RISK AND MITIGATION

Risk Category	Risk Type	Description of Risk	Mitigation Measures
Developmental	Institutional Capacity/ Co-ordination	Inadequate Project Management Capability within DOWASCO’s core staff to implement this project resulting in delays, quality or cost issues. Constraints due to inter agency collaboration and information retrieval post-Hurricane Maria due to competing demands.	Use of Project Management Resources from existing CDB Project Management Unit. Build capacity in early stage. Lessons learnt from previous project to be incorporated Coordination of Project Activities in collaboration with the CREAD and others.

8. COST AND FINANCING

8.01 The total cost of this TA project is estimated to be £2,176,449 and is detailed in the Budget in Appendix 7. The Summarised Financing Plan is illustrated in Table 8.1 below.

TABLE 8.1: SUMMARISED FINANCING PLAN
(£)

Item	CDB (UKCIF)	GOCD/ DOWASCO	Total
Engineering Services Consultations Project Management and Admin Support Contingency	2,121,299	55,150	2,176,449
Total	2,121,299	55,150	2,176,449
Percentage	97	3	100

* CDB-funded contingency for Engineering Services

8.02 CDB will fund the development of strategic plans, feasibility study for recommended capital works, surveys, designs and associated assessments, which account for 97% of the costs or £2,121,299. The cost of the assignment is reflective of current rates for similar services. GOCD through DOWASCO will meet the remaining 3% of the costs or £55,150, in kind, which will consist of local project management support, office accommodation, local transportation, and miscellaneous expenses.

8.03 CDB's contribution of £2,075,429 is eligible for financing from CDB's SFR, UKCIF.

9. PROCUREMENT

9.01 The procurement of consulting services, financed from the proceeds of the CDB Grant, will be in accordance with CDB's Guidelines for the Selection and Engagement of Consultants by Recipients of CDB Financing (October 2011). The procurement of consulting services was initiated and has progressed significantly to negotiations with the preferred tenderer. The Procurement Plan is provided at Appendix 8. Any revisions to this Plan shall require CDB's prior approval.

10. LOANS COMMITTEE RECOMMENDATION

10.01 Loans Committee considered this proposal on December 17, 2018 and agreed to recommend it for the approval of the President.

11. RECOMMENDATION

11.01 It is recommended that the President approves a grant to GOCD of an amount not exceeding two million, one hundred and twenty-one thousand, two hundred and ninety-nine Pounds Sterling (£2,121,299) from CDB's SFR allocated from UKCIF resources, to be used by GOCD, to develop a water sector strategic plan on CDB's standard terms and conditions, and on the following terms and conditions.

TERMS AND CONDITIONS

No.	Subject	Terms and Conditions of the Grant
1.	Parties	<u>Bank:</u> Caribbean Development Bank <u>Beneficiary:</u> <i>Government of the Commonwealth of Dominica (GOCD)</i> <u>Executing Agency:</u> <i>Dominica Water Company (DOWASCO)</i>
2.	Amount of Grant	The Bank agrees to make available to the Beneficiary by way of grant an amount not exceeding <i>two million one hundred and twenty-one thousand, two hundred and ninety-nine Pounds Sterling (£2,121,299)</i> (the Grant) comprising: <u>Special Funds Resources (SFR):</u> <i>GBP2,121,299 UKCIF Resources</i>

No.	Subject	Terms and Conditions of the Grant
3.	Purpose	<p>The purpose for which the Grant is being made is to assist the Beneficiary in: (a) <i>developing a climate resilient water sector strategic plan including capacity building activities for DOWASCO, and institutional strengthening for Water Resource Management Activities in Dominica; and (b) the development of a prioritised list of capital works, feasibility study including detailed costing and designs for select interventions (the Project).</i></p>
4.	Payment of Grant	<p>Except as the Bank may otherwise agree, the Grant shall be paid to the Beneficiary periodically following receipt by the Bank of: (i) a request in writing from the Beneficiary for such funds; and (iii) an account and documentation, satisfactory to the Bank in support of expenditures incurred by the Beneficiary in respect of, and in connection with, the Project.</p> <p>Except as the Bank may otherwise agree, the Bank shall not be under any obligation to make: (i) the first payment of the Grant until the Bank shall have received:</p> <p>(aa) a signed copy of the contract between the Executing Agency and the consultants, and (bb) evidence, acceptable to the Bank, that the condition(s) precedent to first disbursement of the Grant has/have been satisfied; and</p> <p>(ii) any subsequent payments following the first payment until the Bank shall have received the requisite number of copies of the reports or other deliverables, in form and substance acceptable to the Bank, to be furnished for the time being by the consultant(s) and the PC to the Bank in accordance with the Terms of Reference – Development of a Water Sector Strategic Plan for Dominica and the Duties and Responsibilities of the Project Coordinator; and (iii) payments exceeding one million nine hundred and nine thousand one hundred and sixty-nine Pounds Sterling (GBP1,909,169), representing <i>ninety percent (90%)</i> of the amount of the Grant, until the Bank shall have received:</p> <p>(aa) the requisite number of copies of the final report or other deliverables, in form and substance acceptable to the Bank, to be furnished to the Bank in accordance with the Duties and Responsibilities of the Project Coordinator and the Terms of Reference – Development of a Water Sector Strategic Plan for Dominica; and (bb) a certified statement of the expenditures incurred by the Beneficiary/the Executing Agency in respect of, and in connection with, the Project.</p> <p>Except as the Bank may otherwise agree, total disbursements of the Grant shall not exceed in the aggregate <i>ninety-seven percent (97%)</i> of the cost of the Project.</p>

No.	Subject	Terms and Conditions of the Grant
		The Grant shall not be used to meet any part of the costs of the Project which consists of identifiable Taxes imposed under the laws of the Project Country.
5.	Period of Disbursement	<p>The first payment of the Grant shall be made by <i>May 31, 2019</i> or such later date as the Bank may specify in writing.</p> <p>The amount of the Grant may be disbursed up to <i>October 31, 2020</i> or such later date as may be specified in writing by the Bank.</p>
6.	Procurement	<p>Except as provided below, procurement shall be in accordance with the following procedures set out and/or referred to in the Grant Agreement, or such other procedures as the Bank may from time to time specify in writing:</p> <p><i>CDB's Guidelines for the Selection and Engagement of Consultants by Recipients of CDB Financing (2011)</i></p> <p>The Beneficiary/Executing Agency shall comply with the procurement requirements set out in the Procurement Plan. Any revisions to the Procurement Plan shall require the Bank's prior approval in writing.</p>
7.	Condition Precedent to First Disbursement	<p>The Beneficiary/ shall, by the 60th day after the date of the Grant Agreement, or such later date as the Bank may agree, furnish or cause to be furnished to the Bank, evidence acceptable to the Bank, that the following condition/s has/have been satisfied:</p> <p>PC has been assigned.</p>
8.	Project Implementation / Execution	<p>Except as the Bank may otherwise agree, the Beneficiary shall execute the Project through the Executing Agency; make the Grant available to the Executing Agency for the purposes of the Project; and take all necessary steps to facilitate and ensure the performance by the Executing Agency of its obligations set out herein.</p> <p>The Executing Agency, as a condition of the Beneficiary making the proceeds of the Grant available to it, undertakes to observe and perform the obligations on its part to be observed and performed as set out and referred to herein. The Executing Agency shall:</p> <p>(i) implement the Project; (ii) carry out the Project at all times with due diligence and efficiency, with management personnel whose qualifications and experience are acceptable to the Bank and in accordance with sound technical, environmental, administrative, financial and managerial standards and practices; and (iii) institute and maintain organisational,</p>

No.	Subject	Terms and Conditions of the Grant
		<p>administrative, accounting and auditing arrangements for the Project, acceptable to the Bank.</p> <p>The Beneficiary/Executing Agency collect and store, in an accessible location, all existing maps, reports, drawings, studies, and any other relevant documentation required for the consultancy, including data created as a result of the Project.</p>
9.	Project Management	<p>The Executing Agency shall for the duration of the project assign as PC, a person whose qualifications and experience are acceptable to the Bank and who shall be responsible for the day-to-day coordination and management of the project, and shall carry out the duties described in the Duties and Responsibilities of the Project Coordinator. The qualifications and experience of any person subsequently appointed to the position of PC shall be acceptable to CDB.</p> <p>The Beneficiary shall for the duration of the Project retain the services of the PMU established to manage CDB financed projects as the PMU for the Project. Additional PMU support staff will be assigned by DOWASCO, as required, during the implementation of the project</p> <p>The Beneficiary shall by June 15, 2019 establish a Technical Working Group (TWG) whose responsibility would be to adequately review the Project outputs. In the minimum the composition of the TWG those officers mentioned in paragraph 6.01 of this paper.</p>
10.	Engagement of Consultants	<p>The Beneficiary/Executing Agency shall, in accordance with the procurement procedures applicable to the Grant, select and engage consultant(s) to provide the following consulting services and shall, within a timeframe acceptable to the Bank, implement such recommendations arising therefrom, as may be acceptable to the Bank:</p> <p>Consultancy Services for the Development of a Water Sector Strategic Plan for Dominica.</p>
11.	UK CIF Conditions	<p>The Beneficiary shall:</p> <p>(i) ensure that the contract(s) under the Project provide for the acknowledgement of, and that each deliverable produced under the Project contains, a visibility statement acknowledging that the resources of the Grant have been provided by DFID through</p>

No.	Subject	Terms and Conditions of the Grant
		<p>UKCIF, and that the UKaid logo is utilised in accordance with DFID standards for use of the UKaid logo;</p> <p>(ii) facilitate and permit, during implementation of the Project, and up five (5) years after the end of UKCIF, any authorised representative of the Bank or DFID to conduct investigations of credible suspicion of or actual fraud, corruption or any other financial irregularity, impropriety or wrong doing and, if necessary, provide an appropriate refund in accordance the refund provisions herein; and</p> <p>(iii) permit the Bank, or DFID, or any person appointed thereby, to audit the expenditures financed by the Grant, and to provide the Bank, or the appointed person with all reasonably required assistance, documents and information.</p>
12.	Reports and Information	<p>Except as the Bank may otherwise agree, the Beneficiary shall furnish or cause to be furnished to the Bank the reports and information set out in the Reporting Requirements of the TOR in the form specified therein, or in such form or forms as the Bank may require, not later than the times specified therein for so doing.</p>
13.	Beneficiary's/ Executing Agency's Contribution to the Project	<p>Except as the Bank may otherwise agree, the Beneficiary/ Executing Agency shall meet or cause to be met:</p> <p>(i) the cost of the items designated for financing in the Budget;</p> <p>(ii) any amount by which the cost of the Project exceeds the estimated cost set out in the Budget; and (iii) the cost of any other items needed for the purpose of, or in connection with, the Project.</p> <p>Except as the Bank may otherwise agree, the Beneficiary/Executing Agency shall provide or cause to be provided, all other inputs required for the punctual and efficient carrying out of the Project which are not being financed by the Bank.</p>
14.	Suspension, Cancellation and Refund	<p>The Bank shall be entitled to suspend, cancel or require a refund of the Grant, or any part thereof, if the whole or any part of the UKCIF Resources is suspended, cancelled, or required to be refunded, except that the Beneficiary shall not be required to refund any amount of the Grant already expended by the Beneficiary on the components of the Project to be financed from the Grant and not recoverable by the Beneficiary, unless that amount already expended was misappropriated due to proven fraudulent, unethical or other activity of wrong doing.</p>

12. APPROVAL

Signed: W^m Warren Smith
President
Caribbean Development Bank

May 13, 2019
Date

SUPPORTING DOCUMENTATION

- Appendix 1: - Draft Terms of Reference – Development of a Water Sector Strategic Plan for the Commonwealth of Dominica
- Annex 1 to Appendix 1: - Environmental Impact Assessment
- Annex 2 to Appendix 1: - Social Impact Assessment and Gender Analysis
- Appendix 2: - Performance Rating System
- Appendix 3: - Results Framework
- Appendix 4: - Gender Marker Analysis
- Appendix 5: - Duties and Responsibilities of the Project Management Unit
- Appendix 6: - Project Implementation Schedule
- Appendix 7: - Project Budget
- Appendix 8: - Procurement Plan
- Figure 1: - Map of Dominica

DRAFT TERMS OF REFERENCE

**DEVELOPMENT OF A WATER SECTOR STRATEGIC PLAN FOR
THE COMMONWEALTH OF DOMINICA**

1. INTRODUCTION

1.01 The Commonwealth of Dominica is located at 15°N, 61°W, occupying a central position in the eastern Caribbean archipelago. The French territories of Guadeloupe and Martinique are the closest neighbouring islands. The country has an area of 750 km² and a population estimated at 72,000 persons. Dominica is a water-rich country. Its climate is classified as a humid tropical marine with distinct dry and wet seasons. Dominica is volcanic in origin and is characterised by very rugged and steep terrain with approximately 90 miles of coastline. The island's volcanic natural history remains evident in continuing seismic activity. Dominica has a forest area of 45,000 hectares, constituting more than half of the island.

1.02 Dominica's economy reflects many of the traditional features of a small open economy. This includes a high level of dependence on external trade as a proportion of gross domestic product (GDP), dependence on single sector export products (in this case agriculture) and tourism revenue, high levels of under-employment and unemployment, and dependence on foreign capital (both public and private sector) for investment into productive sectors and for infrastructural development. Economic development, in particular, is significantly affected by both natural and external factors.

1.03 Dominica is extremely exposed to multiple natural hazards, which may occur simultaneously, ranking 12 in the Composite Vulnerability Index, produced by the Commonwealth Secretariat and the World Bank, and is impacted almost annually by tropical weather systems. The average economic losses associated with extreme hydro-meteorological events are equivalent to roughly 7.4% of GDP. Singular events like Hurricane Dean (2007) caused extensive damage to the island, estimated at 58% of GDP, or USD162 million (mn), with significant damages to buildings and infrastructure. More recently in 2011, record level flooding and landslides associated with heavy rain caused more than USD100 mn in damage. In April 2013, heavy rains caused landslides, flooding and a 40-foot deep split in a section of the East Coast main road resulting in two deaths, and more recently in December 2013, heavy rains caused widespread damages to infrastructure and housing with damages in the range of USD20 mn. As recently as 2015 the country was ravaged by Tropical Storm Erika, resulting in damage amounting to over 90% of GDP. Over 15,000 persons were affected (22% of the population).

1.04 On September 18, 2017, Hurricane Maria hit Dominica with catastrophic effect. The Post-Disaster Needs Assessment concluded that Hurricane Maria resulted in total damages of XCD2.51 billion (bn) (USD931 mn) and losses of XCD1.03 bn (USD382 mn), which amounts to 226% of 2016 GDP. Strong winds, flooding, landslides, falling trees and power outage damaged the 41 water supply areas, 16 were heavily damaged and 21 moderately damaged. Production and distribution pipelines were damaged or washed away, intake systems were blocked with sand and debris, and storage tanks, pumps, physical structures and access roads were damaged. Damage to the Roseau wastewater treatment plant affected 5,190 households and included lift stations, mains, manholes, interceptor pipes, sewer lines, three major bridge crossings, gravity mains and about 3,000 service connections. The Canefield and Jimmit sewerage systems were blocked by flood debris.

1.05 The Government of Commonwealth of Dominica (GOCD) has applied for financing from the Caribbean Development Bank (CDB) utilising resources provided through the United Kingdom Caribbean Infrastructure Partnership Fund and intends to apply proceeds of this financing to eligible payments under a contract for which this invitation is issued. Payments by CDB will be made only at the request of GOCD

and upon approval by, and will be subject in all respects to the terms and conditions of the Financing Agreement.

1.06 Dominica Water and Sewerage Company Limited (DOWASCO), the Executing Agency, now wishes to procure consultancy services for the preparation of a Water Sector Strategic Development Plan for Dominica. The consultant will be required to, *inter alia*, become familiar with the DOWASCO legislation, policies, structure, operations and infrastructure, determine the challenges experienced with the operation and maintenance of the existing infrastructure with respect to financial viability, sustainability, efficiency, efficacy, and climate resilience, establish the suitability of the existing operations and infrastructure based on the preceding considerations, industry best practice as adapted, and environmental conditions. In consultation with key stakeholders, the consultant will then prepare a strategic plan for the water sector, develop a prioritised list of capital works and capacity building interventions as well as detailed costing and designs for selected interventions.

1.07 The objective of the consultancy is to undertake the necessary investigations and analyses and design more appropriate, robust and resilient water supply and wastewater infrastructure, operational and physical, for Dominica. The outcome(s) of this assignment shall contribute to the development of the Water Sector in Dominica. The duration of the assignment is not expected to exceed 15 calendar months.

2. OBJECTIVE

2.01 The Objective of the Consultancy is to develop: (a) a gender responsive, climate resilient, economically and technically sound strategic plan for the water sector including capacity building activities and; (b) a feasibility study and preparation of detailed designs for select interventions.

3. SCOPE OF WORK

3.01 The consultant is requested to conduct all the activities to assess the existing conditions of the water supply and sewerage systems, in reference to efficiency and resiliency, and to prepare plans of actions required to make the infrastructure more resilient and to strengthen the institutional capacity to accomplish the goal set by GOCD. A time horizon of 30 years has been adopted. The expected results are summarised in the core deliverables:

- (a) Component 1: Climate Resilient Water Sector Strategic Plan as follows:
 - (i) Task 1: Development of a Water Supply Resiliency Implementation Plan.
 - (ii) Task 2: Development of a Wastewater System Implementation Plan.
 - (iii) Task 3: Development of an Institutional Strengthening Plan for DOWASCO.
 - (iv) Task 4: Development of a Capacity Strengthening Plan for Water Resources Management in Dominica.
 - (v) Task 5: Development of a Capacity Building Program for Water Resources Monitoring in Dominica.

- (b) Component 2: Options, Engineering Design and Implementation Plan of Action
 - (i) Task 6: Development of Options to Increase Climate Resilience.
 - (ii) Task 7: Feasibility Study Detailed Designs for Prioritised Capital Works.

Task 1: Water Supply Resiliency Implementation Plan

3.02 Needs Assessment:

- (a) **Detailed Description of the Existing System:** The consultant is expected to identify and characterise the water resources availability in the island, as well as the existing infrastructure and institutional arrangements used for the provision of water supply to the population. It also includes the analysis of water demand. The consultant is anticipated to undertake the following tasks:
- (i) **Water Resources Availability in Dominica:** The consultants will prepare a comprehensive water budget for the Island (a model detailing inputs, outputs and changes in storage for the entire island as well as for the main watersheds as a function of the water supply they provide to the population. A target of 20 watersheds and sub-watersheds is envisioned for detailed modelling. Criteria for the selection of these watersheds should be agreed with the Project Coordinator. Hydrologic modelling, as allowed by the existing information, should be on a monthly basis for average conditions, for the observational period of key climate variables, and for selected future climate scenarios (rainfall in particular, see below):
- (aa) Surface waters
1. Watershed analysis (GIS-0based characterisation). The consultant is expected to use the LIDAR¹ information being prepared for the entire island.
 2. Hydrometric network (critical analysis, gaps, requirements, recommendations)
 3. Surface water budget analysis, on a monthly basis, for the entire island and for the selected watersheds for detailed analysis.
 4. Analyses of droughts. Based on the analysis of available information, the consultant will estimate the minimum flows available at the intake structures for each of the selected watersheds, and use these results to estimate the minimum flows at other sites of interest.
- (bb) Subsurface waters: The consultant is expected to review the existing information to identify and delimit existing aquifers. Based on best available geological information and for areas preliminary classified with good groundwater potential to complement or replace surface water during extreme events, an initial water potential assessment will be conducted;
- (cc) Building a comprehensive water budget for Dominica.
- (dd) Water quality. Compilation and analysis of existing information, in particular in relation with source waters, water supplied to customers and the frequency and duration of high turbidity, or intense rainfall events.

¹ The consultant is expected to agree with the Environmental Coordinating Unit on the timing and use of the LIDAR data.

(ii) **Infrastructure and Operation:**

- (aa) Inventory and basic characterisation of the main water infrastructure: The consultant will develop a GIS based description of the main water supply infrastructure and its characteristics, such as main dimensions, construction/reconstructions/rehabilitation dates, materials, status, photos, maintenance and repair needs. This will be primarily within DOWASCO, however, the inventory should extend to other water users' infrastructure, as identified during field visits and surveys, or by information provided from local sources.
- (bb) Overview of future proposals, e.g.: expansion plans, master plans, new projects within DOWASCO as well as other users.
- (cc) Identification of existing operation rules within DOWASCO and other users.
- (dd) Performance assessment:
 - 1. Selection of Key Performance Indicators (KPIs). The consultant will, in agreement with the Project Coordinator and the GOCD, select a set of performance indicators in the six categories indicated in Table 1. The performance indicators should be selected from internationally accepted lists, such as those provided by the World Bank, International Water Association (IWA), and other institutions promoting benchmarking and performance improvements in water utilities. A list of suggested, but non-obligatory, KPIs is presented as a guide in Table.1.
 - 2. Data collection, inputs estimation and calculation of KPIs for the most recent three years for which the data are available.
 - 3. Analysis and recommendations for performance improvement. Based on the careful analysis of the information provided by the estimated values of the KPIs, and representative values for well performing utilities of similar size, the consultant will provide recommendations for implementation of high impact actions (low hanging fruit) on the performance of DOWASCO.
- (ee) Cost Analysis (DOWASCO): DOWASCO, with the financial support of CDB, is conducting a Cost of Service and Rate Analysis. The consultant will have access to the reports as soon as they are available. The consultant is expected to use the information contained in the on-going study, and complement as needed, in order to undertake the following:
 - 1. Identification and quantification of inputs required for the adequate provision of water supply services.
 - 2. Assess maintenance and replacement costs including requirements, budgets / assignments.

3. Estimate capital investments including requirements, sources, budget / assignments.
4. Assess other outlays (licences, subsidies, taxes, etc.)
5. Liabilities, Financial cost estimation, Economic costs assessment, Assessment of tariffs and tariffs adjustment procedures, including a review of the on-going tariff study.
6. Billing and collection, Surcharges and subsidies.
7. Revenues, Historic analysis, at least for the past 4 years.
8. Preliminary projections, corporate projections. No less than three scenarios should be explored, including full financial sustainability.

(ff) Demand Estimation:

1. **Population Analysis:** Demographic analysis and projections (a planning horizon of 30 years was adopted) by major geographic division if possible. The analysis should include the potential relocation of population following recent trends.
2. **Economic Activities:** Identification of main water use economic activities, past growth and projections, differentiated by gender where relevant.
3. **Water Demand:** Per-capita water demand analysis, including spatial distribution (by main geographical centre if relevant), and projected growth; water demand per main economic sector; price elasticity of water demand (residential [per income group if feasible and sex of head of household], commercial, industrial, institutional, and agricultural).
4. **Environmental Water Needs and Contributions -** Identification of environmental constraints to water operations (ecological discharges, etc.)

(gg) Financial Sustainability Analysis:

1. Financial modelling, financial projections, scenario analyses (Elimination of surcharges, Elimination of subsidies, dealing with liabilities, enhancing performance.
2. Climate change and its potential impacts, incorporation of this information would come from the assessment below.
3. Identification of financial options, Identification of policy and regulatory options to ensure sustainability.

(hh) Climate Vulnerability Assessment:

1. The Climate Vulnerability Assessment should include:
 - (i) identification of climate variables of interest and defining

baseline conditions; (ii) selection of climate change scenarios, based on best available information; and (iii) defining design parameters for climate variables of interest.

2. Identification of climate variables of interest; the following climate variables are to be analysed, but the consultant is at liberty to add other variables as relevant.
3. Seasonal (monthly) precipitation; precipitation variables defining drought conditions; daily precipitation analysis, including rainfall as input for flood analysis and to assess the potential increase of water “lost” to the sea due to intensification of the precipitation with climate change; temperature (and its potential effect on evapotranspiration, greater water consumption and heat waves); Winds and their impact on buildings and infrastructure.
4. Selection of climate change scenarios. Based on the Dominica’s National Communications to the UNFCCC, and best available information, for example from the Caribbean Community Climate Change Centre, CIHM, NOAA, NCAR, World Bank Climate Change Portal, etc. The selection of relevant climate change scenarios will be guided by the specific country climate database and the information available, such as from downscaled climate models. Based on the selected scenarios the consultant will define the trends (compatible with historic information) that characterize the climate variables of interest, as defined in the previous task. The consultant is expected to provide climate scenarios for mid-century and end of century.
5. Design parameters for climate variables of interest by mid-century. The consultant is required to define the conditions under which the performance of the System will be assessed. In particular the information generated shall provide inputs to allow the estimation of future monthly water budgets (see section on *Water Resources Availability in Dominica*, above), develop parameters to assess the vulnerability of the main infrastructure vulnerable to climate impacts (in particular floods and winds) and assess future drought conditions as well as heat waves. The consultant is expected to estimate extreme events with returns periods of 50 years, 100 years and 200 years. No design scenario should include design variables lower than the maximum observed or inferred value from historical events.

(ii) Assessing the impacts of climate change on the following:

- Water availability and the analysis of droughts (quantitative), Extreme events impacting infrastructure: winds, floods, heat waves (minimum value to use shall not be below the maximum historical value observed or inferred), Extreme events impacting operations: droughts, heat waves (quantitative), Water demand and increasing

temperatures and dealing with heat waves (quantitative).

- **Potential Barriers to Adaptation or Existing Opportunities:** The consultant will explore what can constrain the ability of DOWASCO to adapt including: Legislation and regulation; management policies and procedures; human and financial capital; and information and science. The consultant should also consider how to take advantage of any existing opportunities that encourage adaptation, such as greater stakeholder awareness of climate change, which can allow bolder decisions to be taken. The consultant is requested to use secondary information and interviews with key stakeholders and knowledgeable individuals in the characterisation of the organisational context in which the adaptation planning must take place.

(jj) Prioritisation of Vulnerable Components and Sites:

- The consultant is expected to suggest the methodology to prioritise those sites and components that require detailed assessments and possible investments to increase their resiliency. The consultant's method should include a validation step, through which stakeholders and shareholders can review and fine-tuning the results. The Methodology should include:
 - Preparation of training and support material for the proposed Multi-Criteria Evaluation methodology to assess the vulnerability of components/sites of the water supply system. The consultant shall indicate, in its technical proposal, the suggested methodology to prioritise those components or sites that need works to enhance the resilience of the system. In this activity the consultant prepares the didactic materials required to train a group of stakeholders on the approach suggested.
 - Establishment of a stakeholder consultative working group. The consultant, in direct contact with the Project Coordinator, will select a group of stakeholders to take part in a participatory process to identify components or sites in the water supply system that ought to be treated to enhance the resilience of the system. This consultative working group should include individuals with previous experience in DOWASCO, persons with technical knowledge in designing, managing or operation water infrastructure, and gender equity community representatives of the community.

(kk) Present methodological approach: The multi-criteria approach should be introduced and the preliminary criteria categories and indicators should be presented in detail, with justification but highlighting the role of the

consultative working group of choosing the categories and indicators that they think are representative and meaningful for Dominica.

(II) Adjust criteria selection - Participatory process by which the stakeholders revisit the selection of criteria's categories and indicators to apply.

- The consultant will collect and process the data required to estimate the indicators selected for each criteria. Under the guidance from the consultant, the stakeholders will assess the indicators of vulnerability for each component in the system. The consultative working group will study the consultant's results of the estimation of indicators and the conformation of criteria's categories, propose adjustments as they consider appropriate and prepare a recommendation as to the weights each indicator and category should receive.
- Prioritise components for further study of resilient measures. Based on the adopted weights, categories and indicators the consultant prepares a scoring process to assign to each component its due "criticality" score.
- Validate results via a shareholders participation process. The shareholders are requested to validate the selected categories and indicators, and to suggest the weights to apply, from their perspective. The final results, a weighted average of the suggested weights as proposed by each shareholder and by the stakeholders group should be used to finalise the scoring process and prioritise sites and components for further consideration.

(mm) Environmental and Social Impact Assessment:

- This will include two phases, an initial phase will focus the Environmental and Social Impact Assessment (ESIA) on the existing water systems, including projects under development at DOWASCO. Once the sites and components for further consideration have been analysed, and rehabilitation and resiliency measures defined, a Phase II environmental and social analysis is requested.
- The Phase I ESIA should involve broad gender-sensitive stakeholder consultation. It should also include:
 - An update of the analysis of both qualitative and quantitative socio-economic benefits.
 - The identification and analysis of direct and indirect environmental, natural hazard, climate change, social and gender impacts and risks; and measure for maximising project benefits for vulnerable groups in particular.

- The characterisation of the extent and quality of available data, explaining significant information deficiencies and any uncertainties associated with predictions of impact. Where necessary prepare recommendations for obtaining the missing information as well as any associated costs.
- Following the satisfactory conclusion and acceptance of the Phase I Report, the consultant should proceed with the Phase II activities. The Phase II ESIA will follow the completion of the engineering activities identifying the resiliency options to include in the corresponding implementation plan. This more detailed ESIA should revalidate the study's social, technical and financial conclusions and make recommendations on the final project elements.
- Complete the ESIA of the proposed works: This should include broad gender sensitive stakeholder consultation and proposed areas of participation by residents and other stakeholders during the implementation and operation of the entire system. The consultant should present to stakeholders, proposed and recommended project options and provide a report on the public hearing and stakeholder consultations. Refer to Annex 1 and Annex 2 for additional details

(nn) Operations and Maintenance Assessment:

- The consultant will conduct a capacity assessment of the Operations and Maintenance Division in DOWASCO. The main objective is to assess the existing capabilities to monitor the water supply system, operate it, provide timely maintenance and repairs, respond to service complaints by customers, and react during and after extreme events in re-establishing reliable provision of potable water to the population. The assessments should include personnel, training, equipment, procedures, management tools, and data collection technology and systems.

Task 2: Development of a Wastewater System Implementation Plan

3.03 DOWASCO provides wastewater services to the city of Roseau and environs, and the communities of Canefield and Jimmit. The Roseau Sewerage System treats wastewater from approximately 3,250 residential units, commercial, industrial and Government institutions in Roseau and its immediate environs. The wastewater collected undergoes primary treatment at the Baytown Sewerage Plant where the treated effluent is discharged to the sea at a depth of 200 ft. below main sea level and at a distance of 1,200 ft. from the shore. The wastewater plant has a treatment capacity of over 500,000 gallons per day.

3.04 The city of Portsmouth and surrounding communities are requesting a sewerage system, including main collectors, treatment facility and outfall to the sea. The consultant shall review the Feasibility Study, EIA, Final Designs, Drawings and Tender Documents which were prepared for proposed Portsmouth Sewerage System prepared by consultant Hydroplan in 2009 under the European Union-funded West Coast

Water and Sewerage Project. The Project was not implemented due to lack of adequate funding. This new assessment should provide guidance into the need for such a sewerage system, its extent, cost and feasibility.

3.05 The Wastewater component contemplates three sets of activities: (i) an assessment of needs, based on the development of a water quality map for Dominica and its interpretation of critical sites; (ii) the preparation of feasibility studies to address the issues identified in the previous step, including the study for the city of Portsmouth; and (iii) the engineering design and implementation plan of the viable works agreed by the GOCD and DOWASCO.

3.06 The purpose of this activity is to develop a water quality map for Dominica to inform the GOCD and DOWASCO on the main water pollution issues faced by the country. The identification of critical sites will inform next steps.

3.07 Dominica, through the Environmental Health Unit (EHU), in the Ministry of Health and Social Services, maintains a water-quality monitoring program covering the entire island. Water monitoring includes a yearly assessment of water quality of recreational waters, and a water supply monitoring program based on weekly samples focus on the determination of chlorine content. The EHU laboratory is partially functional at this time, due to the damages suffered during Hurricane Maria, and it is temporally using and supporting the water lab at DOWASCO. Both institutions, and the Forest Department, have expressed their interest on supporting a sampling campaign to characterise the quality of the water environment in Dominica. The consultant is expected to undertake the following tasks:

- (a) **Institutional Coordination:** Under the guidance of the Project Coordinator, the consultant will draft the terms of a Memorandum of Understanding (MOU) to specify coordination arrangements and shared responsibilities, to be signed among the participating agencies. The MOU should create a Water Quality Working Group tasked with developing a national water pollution assessment, and indicate that DOWASCO will provide its laboratory and associated personnel. EHU will provide support in data sampling and lab processing. The Forest Department will collaborate in data sampling, and the consultant will complement their needs in personnel, data processing, and Geographic Information System (GIS) support.
- (b) **Sampling Programme Design:** Prepare a water-quality sampling program, in consultation with the participating agencies, to assess the environmental quality of the waters in Dominica. Sampling methods, sampling point, frequency, lab test determinations needed should be proposed by the consultant and reach an agreement with the other participants.
- (c) **Water Quality Characterisation:** The consultant will prepare a detailed schedule of activities to carry out the water quality sampling and processing program. The consultant will provide additional personnel as might be needed, as approved by the PC, for the execution of the sampling program. The consultant will assess the existing quality control mechanism, make suggestions, and verify its application.
- (d) **Mapping and Visualisation:** A GIS will be used to locate all sampling sites and through a relational database, archive all information collected and guide local personnel for archiving and retrieving historical records. As the final product, a map of Dominica will be prepared with a layer indicating water quality, with the possibility of retrieving historical water-quality information.

3.08 Stakeholder Consultations: Preliminary results from the water quality analysis will be shared with key stakeholders for their comments. Further consultations will be made with a broader gender equitable group of community representatives, interest groups, civil society, and government agencies and with the shareholders, represented by the Ministry of Health and Social Services, the ministry in charge of the sector, the finance ministry, and DOWASCO's Board of Directors.

Task 3: Development of an Institutional Strengthening Plan for DOWASCO

3.09 To develop a water supply system that provides reliable, affordable and resilient quality water and sewerage services in an environmental sustainable manner, there is need for a resilient infrastructure and the institutional capacity for managing the water supply and sanitation system and the available water resources in Dominica. In this section, the main objective is to assess the existing institutional capacity and elaborate a capacity-strengthening plan of action to: (i) enhance management, operations and maintenance to gain efficiency and affordability; (ii) establish a governance structure and functioning to assure effective and resilient management performance; and (iii) reinforce coordination among government agencies to monitor water availability and quality to maintain environmental sustainability and enhance resilience on the provision of water and sewerage services.

3.10 The consultant is expected to undertake an institutional capacity assessment, elaborate two or three institutional strengthening options for consideration of Dominica's authorities, and formulate an institutional capacity strengthening plan to achieve the indicated objectives. The consultant is expected to carry out the following activities:

Institutional Capacity Assessment

3.11 The consultant is expected to propose a participative institutional capacity assessment methodology. The proposed method should be applicable to three areas:

- (a) The enabling environment includes the following topics: Legal and policy setting, Regulation, Governance, Performance monitoring.
- (b) Corporate or organisation elements comprise: Management capabilities, Technical capacity, Financial and economic, Social and community relations, Human Resources, Project management and investment execution.
- (c) Technologies and support activities include: Technology, GIS, Enterprise Management System, Communications, Supporting activities and equipment.

3.12 The consultant is requested to propose a methodology incorporating the following activities:

- (a) Information gathering and data collection, including previous organisational assessments, policies, regulation and governance reviews, procedures, roles and responsibilities.
- (b) Elaborate structured surveys and interviews to gather and updated information, and opinions from stakeholders and active participants in the organisation.
- (c) Perform surveys and interviews covering the general performance of DOWASCO and of selected divisions/departments and units.

- (d) Convene focus groups to explore strengths and weaknesses, risks and opportunities, for the entire organisation and for selected divisions, departments and units. Through the focus groups, identify main challenges faced by the organisation.
- (e) Analyse the information collected and assess core capabilities and challenges.

Institutional Strengthening Options

3.13 The consultant shall propose a coherent approach to identify capacity building actions or options for the provision of quality, affordable and resilient water supply and sanitation services to all the population. The consultant is expected to identify no less than two, preferably three, alternatives to achieve the desired goal.

Identification of Strategic Options

3.14 The consultant is expected to delineate a wide range of potential options for reaching the desired organisational performance. The range of options should include the “enabling environment”, and “corporate capabilities.” The other area of capacity building, “technology and support activities” would be studied later. In particular, the consultant will search for coherent options for the following areas: (a) legal and policy environment; (b) regulation, including different options to execute the roles and responsibilities of a regulator; (c) governance, with emphasis on accountability, transparency and community oversight; (d) financial sustainability either through tariffs or through government commitments stated in such a way that provides access to capital markets; and (e) management options, including the possible participation of the private sector in many forms and levels of management control.

Shareholders Consultations

3.15 In addition consultations will be conducted with the shareholders, represented by the Ministry of Public Works, Water Resources and Ports, the Ministry of Health and Social Services, Board of Directors, and the Finance Ministry. Presentations material should include a description of the work conducted, core institutional gaps identified, and the description of the proposed options to build the institutional capacity in the sector. The consultant shall provide a comprehensive analysis of the pros and cons -for the specific conditions of Dominica- and for each option. Comments and suggestions should be documented and the response by the consultant reported.

Updating Technology Use and Supporting Activities

3.16 The consultant is expected to provide DOWASCO with the analysis and detailed recommendations for the implementation of a technological overhaul. It should cover all aspects of corporate activity. Emphasis will be given to implementation of an Enterprise Management System, linking all management activities and facilitating internal communication and coordination. Equally important is design and implementation of a comprehensive GIS system in support of all technical, planning, operational and maintenance activities.

3.17 The consultant is expected to support DOWASCO with the preparation of the technical specification for the systems, the selection of most appropriate options available in the market, design the implementation process, and prepare the documentation required for acquiring the systems and receiving the support for their full implementation. Technology: GIS, Enterprise Management System, Communications, Supporting activities and equipment, including laboratories.

Task 4: Strengthening the Water Resources Capacity in Dominica

3.18 The Water Resources Sector was recently transferred to the oversight of the Ministry of Public Works, Water Resources and Ports. As an element of the consolidation of the enabling environment for the resilient and efficient provision of water supply and sanitation services, the consultant shall conduct studies towards developing a detailed Capacity Strengthening Plan centred in the Ministry. The consultant is expected to execute the following activities:

Institutional Capacity Assessment

3.19 The consultant is expected to propose a participative, gender sensitive institutional capacity assessment methodology applicable to the specific case of the Ministry of Public Works, Water Resources and Ports. The proposed method should be applicable to three areas: (a) the legal framework and existing policies; (b) institutional capabilities to monitor, oversee, and sustainably manage the water resources in the country, and (c) governance structure and institutional set up adopted for managing the water resources.

3.20 The consultant is expected to review the existing legislation, regulations and policy statements, to identify roles and responsibilities, and to assess gaps or needs (disaggregated by sex) required for the sustainable and resilient management of the water resources in Dominica.

3.21 The institutional capacity assessment will also include the analysis of water resources governance in Dominica. The consultant will map all key stakeholders, identify sex-disaggregated roles and responsibilities, and characterise links and mode of communications, coordination and guidance mechanisms, and participation in decision making for the sector.

3.22 The preparation of the institutional strengthening component will be divided in five areas:

- (a) **Governance:** For the selected option the consultant will identify key roles and responsibilities and provide the guidance required - documentation detailing process and procedures - and design the capacity strengthening needed for all participants disaggregated by sex.
- (b) **Policy Formulation:** Based on the review of previous and existing policies, and on the process followed for their formulation, the consultant will propose a procedure to follow, indicating core participants and stakeholders for consultation. The consultant will develop a training program for the core participants to gain further competence in economic policy formulation applied to sustainable and resilient water resources management.
- (c) **Regulation:** Regulations apply to the users of water resources. The consultant will indicate the key elements of regulation, as per the options selected by the GOCD, and identify core actors and responsibilities. The consultant will prepare a detailed training program for those with an active role in the regulation of water resources.
- (d) **Monitoring:** Monitoring the sustainable use of water resources in Dominica will be accomplished through the reporting of the users, as well as by the operation of the hydro-meteorological network, under the oversight of the Ministry of Public Works, Water Resources and Ports. In this section the consultant will use a selected number of key performance indicators, KPIs, which water users will have to report. The consultant will design the training required by the identified water users (those with some licence to extract

water from natural sources, or to use water bodies to dispose by products in their productive processes).

- (e) **Enforcement:** Based on the agreed governance structure and institutional set up for the sustainable and resilient management of the water resources, the consultant will prepare the documentation and materials required for training those with the responsibility for enforcing the Laws and regulations.

Task 5: Monitoring Water Resources in Dominica: Hydro-meteorological Network Operation and Water Quality

3.23 This activity seeks to complement the efforts underway in Dominica for the strengthening of the hydro-meteorological network through the Pilot Program for Climate Resilience (PPCR) program, under the guidance of the World Bank. It places emphasis on the institutional arrangements and capacity building to operate and maintain the data collection network and manage the information system for data capture, quality assurance, archiving, retrieving and analysis. As indicated previously, several agencies have responsibility on the operation of hydro-meteorological networks, including water quantity and quality. This chapter seeks to contribute to the on-going efforts by strengthening the institutional capacity of those agencies. Hydro-meteorological data is fundamental to the sustainable and resilient management of the water sector in general, and contributes to enhancing the performance of DOWASCO in achieving its vision.

Institutional Capacity Assessment

3.24 The consultant is expected to propose a participative institutional capacity assessment methodology applicable to the specific case of Dominica. The proposed method should be applicable to the following areas: (a) legal framework and applicable policies; (b) institutional arrangements; (c) data collection and processing; (d) information management; (e) human resources; (f) coordination; and (g) governance.

Consultation with Stakeholders and Shareholders

3.25 Preliminary results from the assessment of institutional challenges faced by the hydro-meteorological network will be shared with the Project Coordinator, Ministry of Public Works, Water Resources and Ports, DOWASCO, UK DFID and CDB for comments. In addition, consultations will be conducted with the shareholders, represented by the Ministry of Health and Social Services, DOWASCO Board of Directors, and the Finance Ministry. Presentations material should include a description of the work conducted, core institutional gaps identified, and the description of the proposed options to build the institutional capacity in the sector. The consultant shall provide a comprehensive analysis of the pros and cons -for the specific conditions of Dominica- and for each option. Comments and suggestions should be documented and the response by the consultant reported.

Task 6: Development of Options to Increase Resilience

Development of Options

3.26 The activities in this section seek to explore a wide range of technical and managerial options to increase resilience in the provision of potable water to the population in Dominica. The consultant is expected to conduct feasibility analysis of the options identified and present its conclusions and recommendations.

Feasibility Analysis

3.27 Among the options to investigate, the consultant will include the following: For each priority subsystem, site or component the consultant will conduct a feasibility analysis on the applicable identified options to build resilience to the provision of water supply to the population. This implies the siting and sizing of the identified options and the estimate of its contribution to the resilience of the system.

3.28 The consultant is expected to conduct the following activities: Identification of viable alternatives. Viable options include those set of interventions that build resilience into the system and are technically, socially and environmentally feasible. For each site or component of interest the consultant will select viable options for further analysis. Preliminary designs will be used for siting and sizing.

- (a) **Costs Estimates:** Based on the preliminary design the costs will be estimated, including operation and maintenance costs for a period no less than ten years.
- (b) **Costs/benefits or Costs/effectiveness Analysis or a Multi-Criteria Analysis:** The consultant will adopt a clear and consistent methodology to select the set of options for further consideration. Cost – effectiveness implies that all alternatives (combination of measures to increase resiliency) achieve the same level of protection (same level of performance in the provision of potable water supply to the population).
- (c) **Recommendation of Alternatives:** Based on the previous analyses, the consultant will select the combination of measures that combined will achieve the level of resilience sought for the water supply system in Dominica.

Stakeholder Consultations

3.29 Gender-sensitive consultations with relevant stakeholders will be undertaken in consultation with the GOCD and DOWASCO (with wide representation of communities, interest groups, civil society, and government agencies) including the Board of Directors DOWASCO, the ministry responsible for the sector and the finance ministry.

Feasibility Analysis

3.30 The interpretation of the Water Pollution Vulnerability Assessment will identify critical sites that require further analyses. The consultant is requested to conduct a feasibility analysis for at least three sites. The study of the sewerage system for the city of Portsmouth is one site of interest. The costs and benefits of water quality control measures should be explore and recommendations provided to the GOCD for further consideration. A quantitative analysis is preferred but a qualitative approach could be justified on the basis of lack of information, after due diligence by the consultant. The consultant is expected to conduct the following activities:

- (a) **Identification of Options for Pollution Control:** For each of the selected sites the consultant is to identify and characterize the source of pollution and to formulate a range of possible pollution control mechanism (works, regulations, market mechanisms for pollution control, and other options). An economic analysis of the different options should support the presentation of the pros and cons of each option. Such pollution control mechanisms should be presented for consideration to the Project Coordinator. A preliminary design of the suggested pollution control works and other measures should be prepared, including capital and operation and maintenance costs.

- (b) **Environmental and Social Impact Assessment:** The ESIA is thought as having two phases. An initial phase will focus the ESIA on the existing water sewer system, including rehabilitation under development at DOWASCO. Once the critical sites have been defined and their feasibility assessed, a Phase II environmental and social analyses is requested. The Phase I ESIA should involve broad but site-specific stakeholder consultation. It should also include:
- (i) An update of the analysis of both qualitative and quantitative socio-economic benefits.
 - (ii) The identification and analysis of direct and indirect environmental, natural hazard, climate change, social and gender impacts and risks; and measure for maximising project benefits for vulnerable groups in particular.
 - (iii) The characterisation of the extent and quality of available data, explaining significant information deficiencies and any uncertainties associated with predictions of impact. Where necessary prepare recommendations for obtaining the missing information as well as any associated costs.

Following the satisfactory conclusion and acceptance of the Phase I Report, by GOCD, and DOWASCO, the consultant should proceed with the Phase II activities. The Phase II ESIA will follow the completion of the activities identifying the water pollution control options to include in the implementation plan. This more detailed ESIA should revalidate the feasibility study's technical and financial conclusions and make recommendations on the final project elements

- (c) **Complete the ESIA of the Proposed Works:** This should include broad gender sensitive stakeholder consultation and proposed areas of participation by residents and other stakeholders during the implementation and operation of the works. The consultant should present to stakeholders, proposed and recommended project options and provide a report on the public hearing and stakeholder consultations. Refer to Annex 1 and Annex 2 for additional details

Feasibility of Recommendation of Alternatives

3.31 For each critical site, the consultant will conduct a feasibility analysis on the applicable identified options for water pollution control. This implies the sitting and sizing of the identified options and the estimate of its contribution to alleviate the pollution adverse impacts on the community and on the environment.

3.32 The consultant is expected to conduct the following activities:

- (a) **Identification of Viable Pollution Control Measures:** Viable options include those set of interventions that reduce pollution and are technically, socially and environmentally feasible. For each site the consultant will select viable options for further analysis. Preliminary designs will be used for sitting and sizing.
- (b) **Costs estimates:** Based on the preliminary design the costs will be estimated, including operation and maintenance costs for a period no less than 10 years.

- (c) **Costs/benefits or Costs/effectiveness Analysis:** The consultant will adopt a clear and consistent methodology to select the set of options for further consideration. Cost – effectiveness implies that all alternatives (combination of measures to reduce pollution) achieve the same level of protection to the community and to the environment.
- (d) **Recommendation of Alternatives:** Based on the previous analyses, the consultant will select the combination of measures that combined will achieve the level of water quality control sought for the waters in Dominica.

Consultations

3.33 Preliminary results from the feasibility analysis will be shared with the PC, DOWASCO, for their comments. In addition, consultations will be made with stakeholders (with wide representation of communities, interest groups, civil society, and government agencies) and with the shareholders, represented by the Ministry of Health and Social Services, Board of Directors, the ministry in charge of the water sector, and the finance ministry. Presentations material should include a description of the work conducted, including diagnosis and feasibility, and a description of the limitations encountered and of the confidence on the achievement of the expected results and on the costs estimates. Comments and suggestions should be documented and the response by the consultant reported. The text of the feasibility analysis will be adjusted incorporating comments and suggestions in coordination with the Project Coordinator, UK DIFID and CDB.

Task 7: The Engineering Design of Selected Works and Formulation of the Implementation Plan of Action

3.34 The consultants will prepare detailed engineering designs for each and all the sites and components recommended to build resilience into the water supply system in Dominica. The consultant is expected to follow engineering best practices in the preparation of the designs and the documentation required for procuring contractors. In addition to the use of WHO water quality standards for the provision of safe drinking water, the consultant is expected to submit for consideration of the PC guides of engineering practice (adopted by governments or international institutions) applicable to Dominica. In particular, the consultant should propose and follow quality control mechanisms to insure the quality of the products delivered. The designs should be complemented with the formulation of a clear and well-supported Implementation Plan of Action. The consultant is expected to conduct the following activities:

- (a) **Site Investigations:** For the selected sites and components field, surveys should be carried out to identify the need for specific site investigations. The consultant will suggest the type of surveys needed, sampling methods, required time and costs. The PC, previous no-objection from UK DFID and CDB, shall approve such investigation before any work is done.
- (b) **Selection of Design Criteria and Parameters, Incorporating Climate Resilience:** The consultant is expected to define, through a technical memorandum, the selected design criteria and design parameters to be use. Natural hazard management and climate change parameters, which are to be defined during the functional engineering studies, shall be highlighted, identified and appropriate mitigating, adaptation and resilience-building measures incorporated into the final designs.
- (c) **Design Drawings and Construction Specifications:** Prepare functional engineering reports, setting out the routes for potable water and their appurtenances; water treatment facilities; pumping stations; water storage reservoirs; and transmission mains. Provide

alternate methods of construction or materials, which may be appropriate and advantageous in terms of capital costs, and land requirements. Prepare construction specifications for all the works shown on the drawings for which the consultant is responsible. The specifications shall be clear and concise with a statement setting forth the general scope of work followed by a description of the various classes of work, segregated by trade and under appropriate sections and headings. The quality of the materials and workmanship required of the contractor or supplier will be described in detail.

- (d) **Bill of Quantities and Cost Estimates:** Elaborate a Bill of Quantities for each site or subsystem, as per instructions of the PC. Provide the client with a pre-tender engineer's cost estimate based on the final design. This should indicate the anticipated division between local and foreign costs.
- (e) **Environmental and Social Management Plan (ESMP):** Prepare a Draft ESMP including recommended measures to avoid or mitigate negative environmental and social impacts; recommended measures to facilitate social and gender-specific benefits; stakeholder engagement plan and recommendations of public education programmes as appropriate; grievance mechanisms; recommended monitoring arrangements/requirements, along with institutional responsibilities (during implementation and the post construction periods); and the costing for all environmental, social and gender-related protection requirements and action plans.
- (f) **Plans and Specifications for Approval:** Submit the plans and specifications, for approval to the client and the appropriate authorities, as required. Attend meetings at the offices of DOWASCO and authorities to discuss the designs and provide explanations for the purpose of furthering approvals.
- (g) **Develop Contract Documentation:** Contract documents will be prepared in accordance with Caribbean Development Bank's (CDB) standard bidding documents, including: performance and maintenance bond forms; form of tender; schedule of quantities; articles of agreement; general conditions of the contract; and any special conditions that may be required.

4. ADDITIONAL SERVICES - CONSTRUCTION SUPERVISION AND CONTRACT ADMINISTRATION

4.01 On the successful completion of Phase I of the scope of services and in keeping with CDB Guidelines for the Selection and Engagement of Consultants (October 2011) paragraph 3.10, the Consultant may be requested to extend their scope of services to Phase II – Construction Supervision and Contract Administration. Should this extension be requested of the consultant the requisite scope of services will be issued. The consultant's capacity and capabilities to execute the construction supervision and contract administration should be demonstrated in this submission.

5. IMPLEMENTATION ARRANGEMENTS

5.01 DOWASCO and the Ministry of Public Works, Water Resources and Ports will appoint a PC. PC will facilitate the work of the consultant(s) and assist access to all studies, reports and data relevant to the completion of the exercise and will act as liaison between the consultant(s) and GOCD officials and stakeholders.

6. QUALIFICATIONS AND EXPERIENCE OF KEY SPECIALISTS

6.01 It is the consultant's responsibility to ensure that the team has an appropriate mix of key and non-key experts required to satisfy the full requirements of the terms of reference (TOR).

6.02 As a guide only, it is considered that the consulting team is likely to need to include the following key experts, from which a team leader (the candidate must have performed the function of team leader on at least two complex projects within the past five years) may be selected and proposed. All of the members of the Consulting Team must have excellent communication and interpersonal skills and must be fluent in English. The key experts required for the Consultant's Team and their minimum qualifications and experience are as follows:

Key Expert No. 1: Water Supply and Sanitation Management Specialist	
Education	Professional in related areas, specialisation in business management, preferably MBA
Experience	Professional experience of 15 years, with a minimum of 3 years as General Manager of a water utility, or 5 years as department head (upper echelon) in a water utility. 8 years of experience as consultant. At least 3 years of experience working in the Caribbean.
Key Expert No. 2: Hydraulic Engineer Specialist	
Education	Civil and hydraulic engineer, with minimum Master of Science (or equivalent) degree in hydraulics, including river hydraulics.
Experience	No less than 10 years of experience as professional (registered) engineer, with experience in the design of water intake structures and river training works in mountainous landscapes.
Key Expert No. 3: Climate Change Specialist	
Education	Preferably a Master's Degree in a relevant field, including atmospheric science, engineering with concentration on climate related issues from a recognised university.
Experience	At least 7 years' work experience in the area of climate change impacts adaptation and mitigation. Experience with CVA/CRVA procedures is a requirement. He/she should demonstrate experience identifying the climate change parameters to be assessed; the collection of relevant local historical climate data and climate change projections; identifying the probabilities of specific climate change occurrences; conducting field investigations with local stakeholders to identify existing vulnerabilities; and the identification of adaptation options, including their costs and benefits and prioritisation.
Key Expert No. 4: Human Resources Management Specialist	
Education	Engineer, Economist, Administrator or Social Scientist with graduate studies on Human Resources Management
Experience	No less than 10 years of professional experience and 5 years of experience working on HR management, HR planning, gender analysis, or consulting on HR topics.

Key Expert No. 5: Water Policy and Governance Specialist	
Education	Engineer, Economist or Administrator with Master of Science degree on Economics, Administration, or Economic Regulation
Experience	No less than 10 years of professional experience. At least 5 years of experience in policy formulation and governance analysis.
Key Expert No. 6: Information Technology Specialist	
Education	Systems Engineer, Engineer or Administrator with a Master of Science degree, or equivalent. Specialist on Enterprise Management System, or similar.
Experience	No less than 10 years of professional experience. At least 5 years of experience managing, planning or implementing IT in businesses environment. Experience implementing an Enterprise Management System, or equivalent, is required

6.03 Other specialised professionals are needed to guide the execution of the proposed studies. The consultant is free to form its team including the Key Personnel and other professional. The following list is suggested:

Non Key Expert No. 1: Water Supply and Sanitation Engineer Specialist	
Education	Professional engineer with a Master of Science degree on Water Supply and Sanitation or related areas.
Experience	Professional experience of 15 years, with a minimum of 10 years consulting on the analysis and design of water supply and sanitation system. At least 3 years of experience working in the Caribbean.
Non Key Expert No. 2: Hydrologist	
Education	Civil and water resources engineer, with minimum Master of Science (or equivalent) degree in water resources and hydrology.
Experience	No less than 10 years of experience as professional (registered) engineer, with experience in the analysis of extreme events, flood determination and flood modelling. Experience with drought determination is highly desirable. Experience working in the Caribbean is also desirable.
Non Key Expert No. 3: Financial Specialist	
Education	Economist, Administrator, Engineer with a Master's Degree in Economics or a MBA.
Experience	At least 7 years' work experience in economic and financial analysis, financial model formulation and financial projections.
Non Key Expert No. 4: GIS Specialist	
Education	System Engineer, Engineer, or equivalent, with advanced studies on computer aided design or geographical information system.
Experience	No less than 5 years of professional experience and 3 years of experience working on CAD and/or GIS systems.
Non Key Expert No. 5: Social and Gender Specialist	
Education:	Preferably a Master's Degree in Social Policy, Gender and Development Studies or related discipline.

Experience:	The candidate should preferably have 10 years' experience in development projects using participatory qualitative and quantitative research methods in accordance with the policy, guidelines and requirements of major International Financial Institutions. Knowledge of vulnerable groups (including women, youth, elderly, children, PWDs, indigenous peoples, and gender issues affecting men and women, respectively is critical for this assignment. Experience with infrastructure, transportation and/or climate resilient projects will be distinct assets.
Non Key Expert No. 6: Environmental Management Specialist	
Education	Civil or Environmental Engineer or equivalent, preferably with a Master's Degree in environmental science from a recognised university.
Experience	At least 7 years' work experience in the area of environmental assessment and in the preparation of environmental management plans. Experience with ESIA/EIS procedures is a requirement.

7. REQUIREMENTS AND INPUTS

7.01 DOWASCO and the Ministry of Public Works, Water Resource Management and Ports, through the PC will facilitate access to the consultants: plans, reports and operating records of the existing facilities that might be necessary and applicable in the execution of the work required under these TOR.

7.02 The consultants will be responsible for obtaining all additional information, the execution of all studies, surveys and other services necessary for the correct execution of the work required under these TOR.

7.03 The PC will assist the consultants in obtaining from government departments and other sources, other basic data that might be necessary for the execution of the work required under these TOR.

8. REPORTING REQUIREMENTS AND DELIVERABLES

8.01 The consultants shall submit the following Reports to the PC:

- (a) **Assessment of the Water Supply System (Works, Operation and Maintenance) :** The consultant will submit within five (5) months a detailed report of all the activities conducted and its diagnosis of the water supply system in Dominica, its operation and maintenance, and its vulnerabilities to extreme events. PC should forward comments on the Report to the consultants within four weeks of receipt.
- (b) **Recommended Options to Build Resilience in the Water Supply System in Dominica:** The consultant will submit the Feasibility Analysis, including the recommended options to build resilience in the water supply in Dominica within nine (9) months. The process followed should be summarised and the recommended alternatives should be presented in detail. PC should forward comments on the Report to the consultants within two weeks of receipt.
- (c) **Water Supply Resiliency Implementation Plan of Action:** The Water Supply Resiliency Implementation Plan of Action should be submitted within fifteen (15) months of the Project start. In addition to the presentation of the designs criteria used, and the description of the works and measures needed to build resiliency to the water supply system in Dominica, the document shall include the Implementation Plan of Action. All design

drawings and supporting documents shall be included, as well as the corresponding procurement documentation.

The Implementation Plan of Action shall indicate the recommended institutional arrangements to manage the execution of all the works and measures contemplated in the plan. Prepare an execution plan, with well-defined timelines and associated flow of resources, identify implementation risks and propose risk mitigation actions, define a monitoring and evaluation schedule, with clear performance indicators. PC should forward comments on the Report to the consultants within four weeks of receipt.

- (d) **Water Pollution Vulnerability Assessment for Dominica:** This report is to be submitted within 6 months from the start of the Project. It should provide a clear description of the process followed, the participating agencies, the results obtained and their interpretation, limitations encountered and confidence indicators of the results presented. Recommendations for future work should be included, as well as the preliminary identification of sources of funding. PC should forward comments on the Report to the consultants within two weeks of receipt.
- (e) **Water Pollution Control in Dominica: Feasibility Analysis:** The Feasibility Analysis, including the recommended options for water quality control in critical sites in Dominica shall be delivered within nine (9) months from the start of the Project. The process followed should be summarised and the recommended alternatives should be presented in detailed. The document should indicate the expected water quality level envisioned for each critical site. The population benefited should be estimated and disaggregated by gender. The presence of vulnerable groups should be noted in each case. PC should forward comments on the Report to the consultants within two weeks of receipt.
- (f) **Water Pollution Control Implementation Plan of Action:** The Water Pollution Control Implementation Plan of Action is to be submitted within fifteen (15) months of the Project initiation. In addition to the presentation of the designs criteria used, and the description of the works and measures comprising the water pollution strategy for Dominica, the document shall include the Implementation Plan of Action. All design drawings and supporting documents shall be included, as well as the corresponding procurement documentation.

The Implementation Plan of Action shall indicate the recommended institutional arrangements to manage the execution of all the works and measures contemplated in the plan. Prepare an execution plan, with well-defined timelines and associated flow of resources, identify implementation risks and propose risk mitigation actions, define a monitoring and evaluation schedule, with clear performance indicators.

- (g) **DOWASCO Capacity Assessment:** The core objective of this report is to identify the areas where DOWASCO requires capacity building to perform as intended, assuring quality, affordable and resilient water and sewerage services in an environmental sustainable manner to all its population. The consultant should report the methodology used, the information collected and the main challenges DOWASCO is facing, at each level of analysis. Previous to its submission, within four (4) months of the start of the Project, the document should be circulated among the shareholders for their comments and suggestions. PC should forward comments on the Report to the consultants within two weeks of receipt.

- (h) **DOWASCO Options for Institutional Capacity Strengthening:** The report should emphasise the direction envisioned by the GOCD as results of the consultative process. The report should briefly provide a summary of the main gaps identified, the options explored, and expand on a description of alternative selected by the government, its pros and cons. The report shall include the next steps required for the implementation of adopted option. Submission of the report should be within six (6) months of project initiation. PC should forward comments on the Report to the consultants within two weeks of receipt.
- (i) **DOWASCO Institutional Strengthening Plan:** A core deliverable of the Project is the report defining the plan of action for DOWASCO's capacity strengthening for resilient water supply and sanitation service provision. It should be submitted within ten (10) months of the Project start. The consultant shall prepare a detailed document of the activities proposed, implementation timeline, estimated costs, and provide the documentation required for procuring the services, systems, equipment and technical support required for the execution of the institutional strengthening plan. PC should forward comments on the Report to the consultants within three weeks of receipt.
- (j) **Water Resources Management Institutional Assessment:** This report is due within the eight (8) month after initiation of the Project. The consultant will prepare a brief, but complete, document summarising the activities conducted, the results found including approved comments and suggestions. PC should forward comments on the Report to the consultants within two weeks of receipt.
- (k) **Proposal for Water Resources Management in Dominica:** This deliverable is to be submitted within ten (10) months of initiation of the Project. Reporting the adopted proposal for Water Resources Management in Dominica should indicate the process followed, provide a summary of the main challenges identified, and briefly present the recommended options for water resources management in Dominica indicating pros and cons. The document should highlight the option selected by the GOCD, describe it in detail, and indicate the steps required for its implementation. PC should forward comments on the Report to the consultants within two weeks of receipt.
- (l) **Capacity Strengthening Plan for Water Resources Management in Dominica:** A core deliverable of the Project and is due within month twelve (12) of Project execution. The report should define the plan of action for strengthening Dominica's capacity to manage its water resources in a sustainable and resilient manner. The consultant shall prepare a detailed document of the activities proposed, implementation timeline, estimated costs, and provide the documentation required for procuring the services and technical support required for the execution of the institutional strengthening plan. PC should forward comments on the Report to the consultants within two weeks of receipt.
- (m) **Monitoring Water resources in Dominica: an Institutional Capacity Assessment –** This intermediate report should be submitted within month twelve (12) of Project initiation. The report should emphasise the direction envisioned by the GOCD as results of the consultative process. The report should provide a description of the main gaps identified, the options explored, and expand on a depiction of the alternative selected by the government, its pros and cons. The report shall include the next steps required for the implementation of adopted option. PC should forward comments on the Report to the consultants within two weeks of receipt.

- (n) **Capacity Building Program for Water Resources Monitoring in Dominica:** The consultant shall prepare a detailed document of the activities proposed, implementation timeline, estimated costs, and provide the documentation required for procuring the services and technical support required for the execution of the institutional strengthening plan. This report is a core deliverable of the Project and should be submitted within month fifteen (15) of initiation.

8.02 Six hard copies of all reports are to be submitted (four to PC and one each to UK DFID and CDB). These are also to be submitted in editable electronic format in Microsoft Word/Excel. Drawings are to be submitted in AutoCAD.

9. **DURATION**

9.01 It is expected that the consultancy will be completed over a fifteen (15) month period.

ENVIRONMENTAL IMPACT ASSESSMENT

1. The full Environmental Impact Assessment (EIA) shall at minimum, include the following:
 - (a) Methodology
 - (i) Review of secondary data from reports, studies, hazard risk assessments, geotechnical surveys, hazard risk assessments, and relevant policy documents such as legislation, regulations, standards and policies in the related areas.
 - (ii) Collections of primary data through participatory consultations with all categories of stakeholders in order to introduce the project, facilitate feedback, and gauge perception of the project. Information from the residents in the area on hazard history and impact, environmental impacts will guide in design and location.
 - (iii) Field visits.
 - (iv) Analysis and computation of data.
 - (b) Description of the Environment
 - (i) Assemble, evaluate and present baseline data on the environmental, natural hazard, and climate change characteristics of the study area. Include information on any changes anticipated before the Project commences. The description should include:
 - (aa) **Physical Environment:** geology (general description for overall study area and details for land application sites); topography; soils (general description for overall study area and details for land application sites); monthly average temperatures, rainfall and runoff characteristics; and description of receiving waters (annual average discharge or current data by month, chemical and biological quality and existing discharges). Temporal and spatial trends in key environmental indicators should be identified, where possible.
 - (bb) **Biological Environment:** terrestrial communities in areas affected by construction, facility siting, effluent and construction waste disposal; aquatic and/or marine communities in affected waters; rare or endangered species; sensitive habitats, including parks or preserves and significant natural sites.
 - (cc) **Natural Hazard and Climate Change Vulnerability:** vulnerability of area to flooding, hurricanes, storm surge, earthquakes, sea level rise, temperature and precipitation changes.
 - (dd) **Socio-cultural Environment:** present and projected population; present land use; planned development activities; community structure; present and projected employment by industrial category; distribution of income, recreation; public health; cultural properties; indigenous peoples; customs; and aspirations and attitudes disaggregated by sex as relevant.

- (ee) **Legislative and Regulatory Considerations:** describe the pertinent regulations and standards governing environmental quality, pollutant discharges to surface waters and land, industrial discharges to public sewers, water reclamation and reuse, agricultural and landscape use of sludge, health and safety, protection of sensitive areas, protection of endangered species, siting, and land use control at the international, regional, national and local levels.
- (c) **Determination of the Potential Impacts of the Proposed Project**
 - (i) Conduct a detailed analysis of potential social, environmental, natural hazard, and climate change impact and recommend mitigation measure and an environmental management plan for the water supply project. In this analysis, distinguish between significant positive and negative impacts, direct and indirect impacts, and immediate and long-term impacts. Identify impacts that are unavoidable or irreversible. Wherever possible, describe impacts quantitatively in terms of environmental costs and benefits. Assign economic values when feasible. Special attention should be given to:
 - (aa) Establishing baseline water quality at selected appropriate monitoring points after discussion with Department of the Environment. Assess the extent to which receiving water quality standards and/or beneficial use of objectives will be achieved with the proposed type and level of treatment; and
 - (bb) Potential social, gender and economic impacts related to proposed method for laying of water distribution mains during construction.
- (d) **Analysis of Alternatives to the Proposed Project**
 - (i) Describe technical alternatives and the associated significant environmental, natural hazard, climate change, social and gender impacts that were examined in the course of developing the proposed project and identifying key environmental, natural hazard, climate change and social vulnerability reduction objectives; and options/measures for achieving these objectives. (The concept of alternatives extends to siting and design, technology selection, construction techniques and phasing, and operating and maintenance procedures).
 - (ii) Compare alternatives in terms of potential social, environmental, natural hazard, climate change and social impacts, land and energy requirements, capital and operating costs, reliability, suitability under local conditions, and institutional, training, and monitoring requirements. When describing the impacts, indicate which are irreversible or unavoidable and which can be mitigated. To the extent possible, quantify the costs and benefits of each alternative, incorporating the estimated costs of any associated mitigating measures. Include the alternative of not constructing the Project, in order to demonstrate environmental conditions without it.

- (e) Environmental and Social Management Plan (ESMP)
 - (i) Consult with the social development and gender expert, and collectively develop an ESMP to mitigate negative impacts and maximise project benefits for the vulnerable:
 - (ii) Identify the critical issues requiring monitoring to ensure compliance to mitigation measures and present an ESMP with clear environmental and social monitoring indicators.
 - (iii) Recommend feasible and cost-effective measures to prevent or reduce significant negative environmental, social and gender impacts to acceptable levels.
 - (iv) Recommended measures to maximise social and gender benefits particularly for vulnerable groups.
 - (v) Identify core components of the stakeholder engagement plan with recommendations of public education programmes as appropriate; and grievance mechanisms.
 - (vi) Recommended monitoring arrangements /requirements, along with institutional responsibilities (during implementation and the post construction periods).
 - (vii) Estimate the impacts and costs of those measures and of the institutional and training requirements to implement them, including proposed work programs, budget estimates, schedules, staffing and training requirements, and any other necessary support services to implement the mitigating measures. Identify the costs of any special environmental mitigation measures to be incorporated into the ESMP.
- (f) Stakeholder Consultations
 - (i) Identify appropriate mechanisms for providing information on progress of project preparation and implementation to stakeholders. It is anticipated that there will be considerable public interest concerning issues of vulnerability, resilience, viability, affordability, funding, tariffs and quality of service provision, and the economic benefits to be derived from the Project. Public consultation work should be carried out at an early stage of the ESIA fieldwork and once again when the draft ESIA report is available, before detailed designs commence. The results of the public consultation process should be reported in the ESIA.

SOCIAL IMPACT ASSESSMENT AND GENDER ANALYSIS

1. The Social Impact Assessment (SIA) and Gender Analysis will investigate developmental opportunities and risks related to the execution of the Water Sector Strategic Plan for Dominica; and inform possible mitigating measures to safeguard against any risks identified, as well as other measures to support positive social impacts. It will be conducted in a highly participatory, gender-inclusive manner engaging the communities, particularly with representatives of women and men, vulnerable groups such as children, youth, elderly, indigenous peoples (Kalinago), and persons with disabilities (PWDs).
2. The methodology shall include, but is not be limited to the following:
 - (a) Review of secondary data from reports, studies, gender assessments, poverty assessments, census reports, labour force surveys, and relevant policy documents such as legislation, regulations, standards and policies in the areas of gender and social development including: vulnerable groups of women, youth, PWDs, indigenous peoples, and human trafficking victims.
 - (b) Collection of primary data through participatory consultations with all categories of stakeholders in order to introduce the project, facilitate feedback, and gauge perception of the project in order to gain and/or strengthen buy-in. Interviews, focus groups and other appropriate differential participatory methodologies may be employed for state and non-state stakeholders directly impacted by the works such as Community-Based Organisations, Non-Governmental Organisations, vulnerable groups (to include elderly, children, youth, men, women, PWDs, and indigenous peoples), private sector entities and relevant public agencies. Where applicable, separate focus groups may be convened for youth, PWDs, indigenous peoples, males and females, respectively. Facilitation of participation through the provision of transportation and childcare as well as appropriate timing should be ensured. Data should be disaggregated by sex, age groups, disability status, indigenous groups, and race/ethnicity, where feasible.
 - (c) Execution of site visit exercises to verify, update and fill gaps using community maps, transect walks, snowballing, as well as photographic documentation, and other appropriate participatory approaches.
 - (d) Computation and analysis of data and information collected.
3. The **scope of work** shall examine and report on the following, and related developmental issues:
 - (a) Describe the project areas including demographic, economic, topographical and socio-cultural data, disaggregated by sex.
 - (i) total population of the project areas (communities/villages);
 - (ii) population density of the project areas (communities/villages);
 - (iii) number of households by sex of household head;
 - (iv) labour force participation, employment and occupation; and
 - (vi) prevalence of poverty.

- (b) Investigate the governance and management structure in the water sector, including staff ratios by occupation and sex in DOWASCO, equality in recruitment, workplace policies conducive for women, occupational and health safety, customer and complaints database disaggregated by sex.
- (c) Investigate the tariff structure in the water sector and its connection to social protection policies and payment schemes for vulnerable households that are poor, female headed, and households with children, the elderly, indigenous people, pensioners and PWDs.
- (d) Investigate how the tariff structure would change due to the project, i.e. cost implications for consumers disaggregated by head of household.
- (e) Assess the different economic and social as well as reproductive activities of men and women, in particular those related to water usage.
- (f) Identify baseline access to and usage of water and customer satisfaction for both women and men, and vulnerable groups due to their different reproductive and productive tasks/activities in the household and the socio-economy.
- (g) Identify the effects of the project on time use in the household disaggregated by sex; in case time is freed up by the project, how men and women would use the time differently.
- (h) Identify any health impacts of the proposed water infrastructure at the community and household levels disaggregated by sex.
- (i) Identify any health, sanitation and hygiene behaviours at the household level in the project communities; if possible differentiate between practices of females and males.
- (j) Identify who pays the water bill in the household disaggregated by sex.
- (k) Assess accessibility of the project areas, determine the accessible universal design standards required for use by PWDs, and any other requirements to include the needs of PWDs.
- (l) Identify expected performance/service levels for water, and the potential needs of the population in beneficiary communities of the project areas – disaggregated by sex and vulnerable groups like the elderly, indigenous people, disabled and children – during works and after works are completed.
- (m) Analyse the local labour force and the potential of engaging communities, in particular youth and women, in the construction and maintenance and resilience building phases of the project. Give recommendations on training needs and legal requirements from a procurement perspective. Identify the number of men and women who will benefit from employment during project implementation and subsequent operation.
- (n) Identify any activity related to transactional and commercial sex in the project areas and the possible effect on the construction works.
- (o) Assess whether resettlement/replacement is necessary as an effect of the project and identify possible gender effects taking into account the distribution of male and female-

headed households in the area and the distribution of land titles by sex. Identify possible gender-responsive resettlement and mitigation mechanisms.

- (p) Identify outstanding social issues and concerns in the project areas, including current deficiencies in the water supply arrangements that hinder men and women, and vulnerable groups to fully access services and markets.
- (q) Describe the potential impacts of the project at its various stages (preparation, construction, and operation) on the social context in the immediate surrounding communities. Identify any issues pertaining to the design of the Project that may have social impacts (gender, livelihood or other dimensions).
- (r) In a Gender Action Plan, identify measures required to mitigate any significant negative impacts and measures to enhance gender equality in the project areas:
 - (i) Discuss the adequacy of proposed mitigation measures and measures to enhance gender equality and/or proposed alternative designs for the Project;
 - (ii) Consider measures such as public education in the area of health, training opportunities for vulnerable people to take part in project activities, tariff adjustments, workers code of conduct and grievance mechanisms, measures to compensate for water outages; reform of workplace, human resources and customer policies and processes in DOWASCO; etc.); and
 - (iii) Estimate the cost of the measures and justify their suitability.
- (s) Prepare a detailed monitoring and evaluation plan for monitoring the implementation and evaluating the mitigating measures. Identify gender-responsive outputs and outcomes of the project activities to facilitate gender-responsive results monitoring and evaluation.
- (t) Define Community Participation Mechanisms (CPM) by identifying:
 - (i) Appropriate mechanisms to engage women and men in the decision-making of the project in a gender-balanced way; and
 - (ii) Appropriate gender-sensitive public education communication strategies for providing information on project activities and progress to stakeholders and for receiving timely feedback (pre-project, during implementation and post-implementation).
- (u) Convene a stakeholders' validation workshop, including community groups, representatives of vulnerable population groups (women, elderly, youth, indigenous people and PWDs), GOCD, DOWASCO and government agencies, to discuss the findings of the consultancy and to seek consensus and clarification on issues from participants for incorporation in the Draft Final and Final ESIA Reports and related ESMP. As part of the stakeholders' validation workshop conduct a gender sensitisation training to report on the findings of the gender analysis.

PERFORMANCE RATING SYSTEM

Criteria	Score	Justification
Relevance	4	<p>The provision of climate resilient water supply systems delivering a reliable and safe potable water supply to the population and to facilitate the growth and redevelopment of key economic sectors is key to expanding employment opportunities and driving economic growth.</p> <p>The water sector has been plagued with a myriad of challenges including (a) poor infrastructure to ensure delivery of a reliable water supply and sewerage services, (b) inadequate water resource management, (c) poor governance issues, (d) weak institutional capacity and (e) inadequate mainstreaming of climate change considerations.</p> <p>The proposed consultancy supports development of a climate resilient water sector strategic plan and will include the designs required to develop a capital project that will result in better access to water supply and sewerage services for all residents.</p> <p>The project is consistent with CDB's strategic and corporate objectives, TA and Gender policies SDGs 9 and 13, as well as the objectives of UKCIF.</p>
Efficacy	4	The proposed consultancy will address engineering, economic, social and gender, environmental and disaster risk reduction, and climate resilience issues. The strategic objective of capacity building in DOWASCO will also be a key outcome.
Efficiency	4	The projected cost of the consultancy is based on current professional rates as well as similar recent initiatives, and as such is considered acceptable especially considering the level of investment expected with the capital project.
Sustainability	3	The proposed approach provides for a high degree of stakeholder consultation and participation to ensure ownership of the outputs. Designs will incorporate climate variability considerations and key issues of capacity building. The capacity of DOWASCO will be assessed and strengthened.
Overall Score	3.75	Highly Satisfactory

RESULTS FRAMEWORK

Design Summary	Performance Indicators/Targets	Data Sources/Reporting Mechanisms	Critical Assumptions
<p>1. IMPACT: GOCD undertakes a transformational capital project which contributes to the provision of climate resilient water supply and sewerage services which will underpin the economic development of the country through the redevelopment of all sectors. This will also expand employment opportunities during and after implementation.</p>			
<p>2. OUTCOME:</p> <p>1. Enhanced capacity of GOCD to develop a Climate resilient and gender responsive water sector.</p>	<p>1. Capital programme recommending medium and long term investments required for the redevelopment of the sector by adopted by GOCD August 2020</p> <p>2. Recommendations on designs from the studies, which were informed by gender-responsive engagement of stakeholders and beneficiaries, accepted and used by DOWASCO to inform decisions related to the upgrade of infrastructure Target – February 2020.</p>	<p>1. GOCD/ DOWASCO decision documents.</p> <p>2. Hurricane Maria DALA Reports.</p>	<p>1. Adequate resources made available by DOWASCO to support the development of the strategic Plan</p> <p>2. DOWASCO priorities remain consistent.</p>
<p>3. OUTPUTS:</p> <p>1. Recommendations for the redevelopment of the water supply and wastewater infrastructure and associated construction costs.</p> <p>2. Recommendations for enhancing gender equality, environmental sustainability and climate resilience.</p> <p>3. Capacity building programme for DOWASCO institutional strengthening as well as water resources management.</p>	<p>1a. Feasibility study, final designs and tender documents for recommended climate resilient and environmentally sustainable infrastructure upgrades by February 2020.</p> <p>1b. Climate Vulnerability Assessment, Environmental, Social Impact Assessment by February 2020.</p> <p>2. Gender Analysis and Gender Action Plan completed by February 2020.</p> <p>3. All plans developed by February 2020 (Water Supply Resiliency Implementation Plan, Water pollution Control Implementation Plan, DOWASCO Institutional Strengthening Plan, Capacity Strengthening Plan for Water Resources Management.</p>	<p>1. Monthly project reports from DOWASCO.</p> <p>2. Bi-monthly consultants' Reports.</p>	<p>1. Acceptance of recommendations for the redevelopment of the water supply and waste water infrastructure.</p> <p>2. Adequate gender-responsive stakeholder engagement in consultations.</p> <p>3. DOWASCO will incorporate the capacity building programme within their work programme.</p> <p>3b. GOCD will incorporate recommendations to enhance water resources management and monitoring in Dominica.</p>
<p>4. ACTIVITIES/INPUTS</p>	£		
Item	CDB (UKCIF)	GOCD	Total
1. Engineering Services	}	}	}
2. Consultations	}	}	}
3. Project Management and Admin	2,121,299	55,150	2,176,449
4. Contingency	}	}	}
Total	2,121,299	55,150	2,176,449
			<p>1. Consultancy Contracts.</p> <p>2. CDB supervision reports.</p> <p>3. CDB disbursement records.</p>
			<p>Timely availability of GOCD/ DOWASCO counterpart contribution.</p>

GENDER MARKER ANALYSIS

Project Cycle Stage	Criteria	Score
Analysis: Introduction/ Background/ Preparation	Consultations with women/girls/men/boys and relevant gender-related or sector-related public or private organisations have taken place.	0.5
	Social analysis identifies gender issues and priorities.	0.25
	Macroeconomic analysis identifies gender issues and priorities.	0.25
Design: Project Proposal/ Definition/ Objective/ Description	To address the needs of women/girls and men/boys, concrete interventions to reduce existing gender disparities have been designed. Effect on project outcome is direct.	0
	Project objective / outcome includes gender equality.	0.5
Implementation: Execution	Implementation arrangements (gender mainstreaming capacity building or gender expertise in implementing agency) to enhance the gender capacity of the implementing agency. Effect on project outcome is indirect.	0.0
	TOR of project coordinating unit / project management unit include responsibilities of gender mainstreaming, especially at the levels of the Project Coordinator/Director and the Monitoring and Evaluation (M&E) Officer.	0.5
M&E: Results-Monitoring-Framework (RMF)	Sex-disaggregated data included in the baselines, indicators and targets of the RMF.	0.5
	At least one gender-specific indicator at the outcome and/or output level in the RMF.	0.5
Score:		3.0

Scoring Code
Gender Mainstreamed: if 3 to 4 points.

Gender Mainstreamed (GM):

The project is assessed as gender mainstreamed when gender considerations have been taken fully into account.

The project includes TOR for a detailed gender analysis and is expected to inform the design of a capital project proposal with explicit gender interventions which would impact economic and social outcomes for women and men.

**DUTIES AND RESPONSIBILITIES OF
THE PROJECT MANAGEMENT UNIT**

PROJECT COORDINATOR

1. The Project Coordinator (PC) will report to the Chief Engineer, DOWASCO. He/she will be responsible for coordinating and monitoring all aspects of the implementation of the Caribbean Development Bank's portfolio of projects. PC shall be assigned to the Project and will be supported by one Project Engineer (PE), and administrative staff. PC's duties will include, but will not be limited to:

- (a) preparation/finalisation of terms of references for all consultancy services to be undertaken in the Project;
- (b) revising the Results Monitoring Framework, including the collection of baseline data, for the Project;
- (c) managing the selection and engagement of technical assistance consultants and supervising these consultancies;
- (d) representation of DOWASCO in all its dealings with consultants, suppliers and contractors;
- (e) evaluation of bids and recommendations of the awards for the supply and construction contracts;
- (f) supervision of the Engineering Consultancy and construction contracts;
- (g) management and administration of the implementation of the construction contract;
- (h) cost control;
- (i) preparation and submission of claims to the CDB for disbursement/reimbursement;
- (j) preparation and submission to CDB of quarterly reports on the investment cost of the project in such form or forms as may be specified by CDB, within six weeks after the end of each calendar quarter commencing with the quarter following the assignment;
- (k) keeping separate accounts for project-related expenditures and disbursement activities;
- (l) submission to CDB, within one month after the end of each month, of the monthly progress reports prepared by engineering consultants;
- (m) submission to CDB of the completion report and as-built drawings prepared by engineering consultants, within three months after the date of issue by the engineering consultants of a certificate of practical completion of the contract; and
- (n) preparation and submission to CDB of a Project Completion Report, within six months after practical completion of the works.

2. Prospective candidates should have a minimum of the following qualifications:
 - (a) a Masters Degree or equivalent in Civil Engineering, Construction Management or Project Management with a minimum of 10 years' experience in the management and implementation of civil engineering projects; or
 - (b) a Bachelors Degree or equivalent in Civil Engineering, Construction Management or Project Management with a minimum of 15 years' experience in the management and implementation of civil engineering projects.

PROJECT ENGINEER

3. PE will report to PC and will mainly be responsible for assisting PC with the implementation of the infrastructure works. His/her duties will include, but will not be limited to:
 - (o) assisting PC with the supervision of the engineering consultants, including review of the monthly reports prepared by the engineering consultants;
 - (p) assisting PC with the management and administration of the construction contracts;
 - (q) preparation of the fortnightly progress spreadsheets within two days after the end of each fortnight for submission to PC; and
 - (r) any other duties assigned by PC.
4. Prospective candidates must be civil engineers with a minimum of the following qualifications:
 - (s) a Masters Degree or equivalent in a civil engineering discipline, Project Management, Construction Management or related subject together with a minimum of two years experience in engineering design and supervision, including road works, or project implementation; or
 - (t) a Bachelors Degree in civil engineering and a minimum of five years of suitable experience in engineering design and supervision, including road works or project implementation.

PROJECT IMPLEMENTATION SCHEDULE

**Dominica Water Sector Strategic Plan - TA Project
Implementation Schedule**

Task Name	Duration	Start	Finish	2019				2020				
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Approval of Grant												
Signing of Grant Agreement												
Deadline - Conditions Precedent to first disbursement												
First Disbursement												
Consultancy												
<i>Commencement</i>												
<i>Development of Water Supply Resiliency Implementation Plan</i>												
<i>Development of Water Pollution Control Implementation Plan</i>												
<i>Development of DOWASCO Institutional Strengthening Plan</i>												
<i>Development of Capacity Strengthening Plan for Water Resources Management</i>												
<i>Development of Capacity Building Program for Water Resources Monitoring</i>												
<i>Feasibility, detailed designs and Bid Documents for select interventions</i>												
Project Management												
Assignment of Project Co-Ordinator												
Project Completion Reports												
Final Disbursement												

**PROJECT BUDGET
(GBP)**

Item	CDB (UKCIF)	GOCD/ DOWASCO	Total
Professional Fees	2,121,299	55,150	2,176,449
Percentage	97	3	100

PROCUREMENT PLAN**I. General****1. Project Information:**

Country: Dominica
 Borrower: GOCD
 Project name: Water Sector Strategic Plan
 Project Executing: Dominica Water and Sewerage Company (DOWASCO) Limited

2. **Bank's Approval Date of the Procurement Plan:** December 31, 2018

3. **Period Covered by this Procurement Plan:** March 2019 – October 2020

II. Goods and Works and Non-Consulting Services:

N/A

III. Consulting Services:

1. **Prior Review Threshold: Procurement decision subject to prior review by the Bank as stated in Appendix 1 to the Guidelines for the Selection and Engagement of Consultants:** All

2. **Reference to (if any) Project Operational/Procurement Manual:** For consulting services, CDB's Guidelines for the Selection and Engagement of Consultants (October 2011).

3. **Any Other Special Procurement Arrangements:**

1. To comply with the requirements of UKCIF Finance Agreement, ensure that the contracts with the Consultants provide for the acknowledgement of, and that each deliverable produced by the Consultants under the project contains, a visibility statement acknowledging that the TA has been provided by UKaid and the UKaid logo must be utilised.

4. **Procurement Packages with Methods and Time Schedule:**

1	2	3	4	5	6	7
Ref No.	Assignment (Description)	Estimated Cost (£)	Selection Method	Review by Bank (Prior/Post)	Expected Proposal Submission Date	Comments
1.	Water Sector Strategic Plan and Associated Components		QCBS	Prior	November 2018	

IV. Implementing Agency Capacity Building

The provision of online procurement e-learning by the CDB.

V. Summary of Proposed Procurement Arrangement

Project Component	CDB (UKCIF) (£)										NBF		Total Cost	
	Primary		Secondary		Other						Country	Institution		
	ICB	NCB	RCB	LIB	Shopping	DC	FA	QCBS	CQS	SSS				
1. Engineering Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Consultations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Project Management & Admin Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Contingency	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Project Costs	-	-	-	-	-	-	-	2,121,299	-	-	-	55,150	-	2,176,449

CQS	Consultant Quality Selection	NBF	Non-Bank Financed
DC	Direct Contracting	NCB	National Competitive Bidding
EOI	Expression of Interest	QCBS	Quality and Cost-Based Selection
FA	Force Account	RCB	Regional Competitive Bidding
ICB	International Competitive Bidding	RFP	Request for Proposal
IDC	Interest During Construction	RFQ	Request for Quotation
LIB	Limited International Bidding	SSS	Single-Source Selection

This information is withheld in accordance with one or more of the exceptions to disclosure under the Bank's Information Disclosure Policy.

FIGURE 1

MAP OF DOMINICA



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