

# Barbados Water Authority

## PROJECT MANAGEMENT OFFICE (PMO)

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### BRIEF ON THE BARBADOS WATER INFRASTRUCTURE REHABILITATION PROJECT (BWIRP) – EIB - LOAN NO. [N° EIB-87645]



## PROJECT SUMMARY

DETAILS	
<b>Executing Agency</b>	The Barbados Water Authority (BWA)
<b>Project Coordinator</b>	Mr. Roger Elie - Consultant
<b>Project Engineer</b>	Ms. Tanisha Small - Consultant
<b>Financing Agency</b>	European Investment Bank (EIB)
<b>Terms of Funding</b>	<b>Loan Amount:</b> USD \$ 12,000,000.00 <b>Borrower:</b> Government of Barbados (GOB)
<b>BWA Contribution</b>	<b>Counterpart Funding:</b> BDS\$ 5,260.050.00
<b>Start Date</b>	<b>May 2020</b>
<b>Completion Date</b>	<b>May 2025</b>

## DESCRIPTION OF THE PROJECT

The Barbados Water Infrastructure Rehabilitation Project (BWIRP) is jointly funded by the Corporación Andina de Fomento (CAF), the European Investment Bank (EIB) and the Government of Barbados (GOB). Loan Contract No. 87645 was signed between the Government of Barbados and EIB on May 15, 2020. The Barbados Water Authority is the Executing Agency for the project.

This project is in alignment with the Barbados Water Authority Strategic Plan 2016 – 2021, strategic imperatives listed below:

- Reduce non-revenue water.
- Enhance and update operational infrastructure.
- Implement water resource sustainability projects.

The objective of this program aims at improving the reliability and efficiency of the water supply distribution system as well as its resilience against climate change throughout the island.

The project also includes consultancy services associated to the investments (preparation of designs and supervision of the works) as well as capacity building activities and project management support to BWA. The EIB financing focuses on the water mains replacement component of the project, including the procurement of consultancy services to prepare the detailed designs and the supervision of these works as well as to support the BWA with the procurement activities.

The project will comprise the following investment components:

- a) Rehabilitation and cranes at three pumping stations
- b) Replacement of water mains, estimated at 16km in the central and northern areas of the island.
- c) Procurement of wastewater equipment to support the Sewage Treatment Plants.

## PROJECT BENEFITS

The expected benefits include:

- a) Improved reliability and quality of service to the potable water supply system in Barbados
- b) Enhanced water sector planning capacity in the areas of gender inclusion, non-revenue water (NRW) management and climate change adaptation planning.

The below table lists the benefits by sectors

<b>Benefit Analysis</b>	
<b>Sector</b>	<b>Benefits</b>
BWA Customers	→ Reduced instances of water outages to households, schools, businesses and healthcare facilities
BWA	→ Institutional strengthening through staff training → Reduction in maintenance costs with new mains, water tanks and refurbished reservoirs → Reduced customer complaints → Improved leak detection system and reduction in non-revenue water
Union	→ Enhanced safety conditions for BWA staff
GOB	→ Reduced supplemental funding
Environment and Energy	→ Reduced greenhouse gas emissions and the intensity of greenhouse gas emissions in the provision of water

## TECHNICAL DESCRIPTION

The objectives and benefits described above will be achieved by rehabilitation and optimization of existing infrastructures, reducing, and controlling unaccounted water losses, and long-term planning to improve climate change resilience by implementing the following components.

<b>Specific Objectives</b>	<b>Project Component</b>
Mains Replacement	<b>Investment Works (Component 2):</b>
The purchase and shipping of pipes and fittings specified for the 16km of mains identified for replacement.	<b>Component 2.3a:</b> Purchase pipes & fittings
Mains Replacement - Replace 16km of Potable Water Mains	<b>Component 2.3b:</b> Replace 16km of mains
Supply of the following equipment for the Bridgetown Sewage Treatment Plant: raw wastewater pumps, grinder pumps and aeration blowers as well as to supply a vacuum truck for the sewer network. These upgrades are needed to cope with increasing volumes of water received at the plant, reduce the particle size to improve the efficiency of the treatment process and maintain the sewer network.	<b>Component 2.4:</b> Wastewater Treatment Plant Equipment Upgrades
Supply and install gantry cranes at certain pumping stations to improve safety practices and maintenance at these pumping stations.	<b>Component 2.6:</b> Installation of Cranes for Belle, Hampton and Alleyndale stations
Management and Institutional Strengthening	<b>Component 3.2b:</b> The Design and Supervision of the Replacement of 16K of Water Mains and Upgrade of Equipment at Pumping Facilities.

## PROJECT STATUS SUMMARY

### Project Component Status/Activities:

Reference/Project Component	Progress to date
<b>Component 3.2b:</b> <i>The Design and Supervision of the Replacement of 16 Kilometers of Water Mains and Upgrade of Equipment at Pumping Facilities.</i>	<ul style="list-style-type: none"><li>• EOI prequalification complete.</li><li>• RFP issued to shortlisted consultants on April 17, 2023, with a submission date of June 13, 2023.</li></ul>

**Appendix B:**

**LIST OF ROADS FOR MAINS REPLACEMENT AND EQUIPMENT TO BE REPLACED OR PROCURED.**

<b>Component 2.3b Mains Replacement (EIB funded)</b>				
<b>Description: Replace 16 km of potable water mains</b>				
<b>Location</b>	<b>Parish</b>	<b>Approx. Length (m)</b>	<b>Main Size (inches)</b>	<b>New Material</b>
Elcock Road	St. George	417	4	PVC
Middleton_a (off Free Hill)	St. George	162	4	PVC
Middleton_b	St. George	273	4	PVC
Middleton_c	St. George	224	4	PVC
Middleton_d	St. George	422	4	PVC
Free Hill to Workmans	St. George	1350	4	PVC
Hope Road to Salisbury	St. George	835	4	PVC
Middleton Road	St. George	420	4	PVC
Highway X (Newbury Junc. to Workmans)	St. George	1029	6	PVC
Highway 3B to Newbury Junction	St. George	1245	4	PVC
Taylor Road to Workmans	St. George	535	4	PVC
Free Hill to Middleton	St. George	274	4	PVC
Vaughn Road	St. Joseph	408	4	HDPE
Frizers New Road	St. Joseph	336	4	HDPE
Horse Hill Police Station to Highway 3	St. Joseph	241	4	HDPE
Suriname Road	St. Joseph	332	4	HDPE
Tourville Road	St. Joseph	754	4	PVC
Spa Hill Road to Chimborazo	St. Joseph	1338	4	HDPE
Ridge Road to Mellows Hill	St. Joseph	2885	6	HDPE
Turners Hall	St. Thomas	609	4	HDPE
Durhams to Well Road	St. Lucy	2200	4	PVC

<b>Component 2.4 Wastewater Treatment Plant Equipment Upgrades (EIB funded)</b>	
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**Description:** develop specifications and bidding documents to procure the below listed equipment

Portable (towable) Generators (35 kVA & 75 kVa)	2
VFDs for Raw Waste Pumps	6
Lift Station Screening	3
Valves (16" Gate)	6
Septic Vacuum Truck (5000 Gln)	1
SCADA Equipment	3
Odour Control Unit	3
Portable Sewage Samplers	2

<b>Component 2.6 Installation of Cranes (EIB funded)</b>	
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**Description:** Supply and install gantry cranes at three pumping stations to improve safety practices and maintenance at these pumping stations.

<b>Location</b>	<b>Diagnosis</b>	<b>Recommendation</b>
Alleynedale, St Peter	Existing crane is no longer in use and a winch is currently used when maintaining and replacing pumps.	Install new crane capable of bearing required loads.
Belle, St Michael	Modern pumps are heavier and existing crane is aged and can no longer safely bear the load when installing and removing pumps.	Install new crane capable of bearing required loads.
Hampton, St Philip	Modern pumps are heavier and existing crane is aged and can no longer safely bear the load when installing and removing pumps.	Install new crane capable of bearing required loads.