

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

TRINIDAD AND TOBAGO

**CONDITIONAL CREDIT LINE FOR INVESTMENT PROJECTS (CCLIP) FOR THE
NATIONAL WATER SECTOR TRANSFORMATION PROGRAM
(TT-O0007)**

**FIRST INDIVIDUAL OPERATION: TRINIDAD AND TOBAGO NATIONAL
WATER SECTOR TRANSFORMATION PROGRAM
(TT-L1055)**

LOAN PROPOSAL

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ABBREVIATIONS	
AOP	Annual Operating Plans
CCLIP	Conditional Credit Line for Investment Projects
CF	Consulting Firm
EA	Executing Agency
ESA	Environmental and Social Assessment
ESMP	Environmental and Social Management Plan
ESMR	Environmental and Social Management Report
ESS	Environmental and Social Strategy
GoRTT	Government of the Republic of Trinidad and Tobago
IDB	Inter-American Development Bank
IMGD	Imperial Million Gallons per Day
IWRM	Integrated Water Resource Management
LRP	Livelihood Restoration Plans
MPU	The Ministry of Public Utilities
NRW	Non-revenue Water
O&M	Operation and Maintenance
PEP	Pluriannual Execution Plan
PEU	Project Execution Unit
POD	Proposal for Operation Development
POM	Program Operations Manual
PSC	Program Steering Committee
PWD	Persons with Disabilities
RIC	Regulated Industries Commission
SESA	Strategic Environmental and Social Assessment
SESMF	Strategic Environmental and Social Management Framework
SPC	Special Purpose Company
SPF	Safeguard Policy Filter
SSF	Safeguard Screening Form
SWIT	Smart Water Infrastructure Technology
WASA	Water and Sewerage Authority
WRA	Water and Resources Agency
WTP	Water Treatment Plants

PROJECT SUMMARY
TRINIDAD AND TOBAGO
CONDITIONAL CREDIT LINE FOR INVESTMENT PROJECTS (CCLIP) FOR THE NATIONAL WATER SECTOR
TRANSFORMATION PROGRAM

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FIRST INDIVIDUAL OPERATION: TRINIDAD AND TOBAGO NATIONAL WATER SECTOR TRANSFORMATION PROGRAM
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Financial Terms and Conditions						
Borrower: Republic of Trinidad and Tobago				Flexible Financing Facility^(a)		
Executing Agency: The Ministry of Public Utilities (MPU)				Amortization Period:	25 years	
				Disbursement Period:	4 years	
Financing	CCLIP Line		First Operation		Grace Period:	5.5 years ^(b)
Source	Amount (US\$)	%	Amount (US\$)	%	Interest Rate:	SOFR Based
IDB (Ordinary Capital):	315,000,000	100	80,000,000	100	Credit Fee:	(c)
					Inspection and Supervision Fee:	(c)
					Weighted Average Life (WAL):	15.25
Total:	315,000,000	100	80,000,000	100	Currency of Approval:	Dollars of the United States of America
Project at a Glance						
<p>Objective of the CCLIP and the First Operation. The general objective of the Conditional Credit Line for Investment Projects (CCLIP) and the first operation under the CCLIP is to improve the efficiency, quality, sustainability and resilience of potable water supply service and water security in Trinidad and Tobago (T&T).</p> <p>Specific Objectives of the First Individual Operation. The specific objectives of the first operation are to: (i) improve operational efficiency and reliability of water supply services; (ii) improve quality of water services for underserved communities in T&T; and (iii) develop capacity and provide institutional strengthening to the Ministry of Public Utilities (MPU) and the Water and Sewerage Authority (WASA) to improve governance and sustainable management of water resources. To achieve these objectives, it will be necessary to effectively upgrade and manage production, transmission and distribution and reduce water losses; and utilize innovative technology, digital transformation and data driven management systems. Achieving these objectives will contribute to reducing the need for Government support to meet operational expenditure and reduce reliance on desalinated water.</p> <p>Special Contractual Conditions Precedent to the First Disbursement. The borrower, through the Ministry of Public Utilities (MPU), shall provide evidence to the satisfaction of the Bank that the Executing Agency (EA): (i) has established the Program Execution Unit (PEU) by appointing the Program manager, the engineers, the financial and the procurement specialists and the Environmental and Social specialists (¶3.1); (ii) has approved the Program Operations Manual (POM) OEL#4, in the terms agreed with the Bank and it has entered into effect; and (iii) a steering committee has been established (¶3.7).</p> <p>Special Contractual Conditions for Execution. The borrower, through MPU and WASA, shall present to the satisfaction of the Bank evidence that: (i) agreements have been signed with Special Purpose Companies (SPCs) prior to the execution of activities under Component 2 and for Components 1 and 3, respectively; (ii) prior to the start of works to construct new Water Treatment Plants (WTP), WASA has demonstrated the possession of the real property where each of the WTP will be constructed in accordance with laws and regulations of the borrower; (iii) prior to the start of works for the drilling of new wells, WASA has demonstrated the possession of the real property where each of the wells will be developed in accordance with laws and regulations of the borrower; (iv) prior to the execution of non-revenue water services under Component 3, the Sub-EA has signed a Co-Management Performance Based Contract with a specialized consulting firm (CF); (v) prior to the start of works to replace mains, WASA has demonstrated the possession of the right of way and real property that may be required; and (vi) it has committed to transfer resources to WASA in the event revenues from tariffs do not cover WASA's operating costs. (¶3.8).</p> <p>See also the special contractual conditions in Annex B of the environmental and social management report (ESMR) (REL#3).</p>						
Exceptions to Bank Policies. None.						
Strategic Alignment						
Challenges^(d):		SI <input checked="" type="checkbox"/>		PI <input checked="" type="checkbox"/>		EI <input type="checkbox"/>
Cross-Cutting Issues^(e):		GE <input checked="" type="checkbox"/>	and DI <input checked="" type="checkbox"/>	CC <input checked="" type="checkbox"/>	and ES <input checked="" type="checkbox"/>	IC <input checked="" type="checkbox"/>

^(a) Under the Flexible Financing Facility (document FN-655-1), the borrower has the option to request modifications to the amortization schedule, as well as currency, interest rate, commodity, and catastrophe protection conversions. In considering such requests, the Bank will take into account operational and risk management considerations.

^(b) Under the flexible repayment options of the Flexible Financing Facility (FFF), changes in the grace period are possible as long as the Original Weighted Average Life (WAL) and the last payment date, as documented in the loan agreement, are not exceeded.

^(c) The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors during its review of the Bank's lending charges, in accordance with the relevant policies.

^(d) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

^(e) GE (Gender Equality) and DI (Diversity); CC (Climate Change) and ES (Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

I. PROJECT DESCRIPTION AND RESULTS MONITORING

A. Background, problem addressed, and justification

- 1.1 **Country Profile.** The twin island Republic of Trinidad and Tobago (T&T) is in the Southern Caribbean, just off the coast of Northeastern Venezuela and South of Grenada in the Lesser Antilles. It is a resource rich and multi-cultural country. According to the Central Statistical Office, the 2021 mid-year estimates indicate that the population of T&T was approximately 1,367,558 people. The World Bank reports that the Gross Domestic Product (GDP) per capita of T&T is US\$17,129.91.¹ T&T is the leading Caribbean producer of oil and gas, and the economy is heavily dependent upon these resources, but it also supplies manufactured goods, notably food and beverages, as well as cement to the Caribbean Region.
- 1.2. **Water and sanitation sector in T&T.** According to the WHO/UNICEF Joint Monitoring Program,² 93% of the population in T&T had access to a piped improved drinking water source in 2020 while sewerage coverage³ was reported as 40% in 2018. Data from WASA indicated that during the dry season it produced 217 Imperial Million Gallons per Day (IMGD) in 2018 from all sources, which is greater than the 163 IMGD estimated customer consumption. However, this production does not seem to be sufficient to satisfy the aggregate demand consisting of high customer consumption and high estimated Non-Revenue Water (NRW).⁴ In terms of sources of water, surface water is the largest source utilized by WASA at 60%, followed by groundwater at 20% and desalination at 20% (45 IMGD). Current availability of water in T&T is estimated as 697,083 IMG/Year. Actual abstraction averages 84,248 IMG/year and represents about 12% of available water resources.
- 1.3. Data from WASA in 2018 indicated that during the dry season, the supply/demand deficits for the different Water Supply Zones were as follows: Northeast (-25 IMGD); Northwest (-14.6 IMGD); Central (-17.7 IMGD); South (-28 IMGD); and Tobago (-4.6 IMGD). These deficits resulted in intermittent water supply to consumers across the country. Quantity and quality deficits have consequences for the provision of water services and are an indicator of exposure to health risk⁵ that worsens when it coincides with the areas of greatest poverty. It is estimated that for 2021 overall, 31% of WASA's customers receive 24 hours, 7 days per week service in the wet season and 33% in the dry season. This is particularly relevant since there is a positive link⁶ between environmental quality, health⁷ and

¹ The World Bank. GDP per capita (current US\$) - Trinidad and Tobago. [DOI](#).

² WHO/UNICEF JMP, Data portal <https://washdata.org/data/household#!/> (last accessed 10/03/2022).

³ CASTALIA, Business Plan and Price Control Proposal for WASA: 2019-2024 (July 2019).

⁴ Non-Revenue Water is equal to the total amount of water flowing into the water supply network (the System Input Volume) minus the total amount of water that commercial, industrial, and domestic consumers are authorized to use (the Billed Authorized Consumption).

⁵ The intermittence of the service can affect the quality of the water. IDB Technical Note. "*Suministro intermitente Lecciones de un estudio de caso en Arraiján, Panamá*", Nelson, Kara L.; Erickson, John ([DOI](#)).

⁶ Prüss-Ustün, A., et al. 2014 y Kremer, M., et al. 2007.

⁷ Impact studies such as the one by Ziegelhöfer, Z (2012) show that the provision of communal water supply can be effective in improving child health if the targeted population shows adequate hygiene

availability of quality water services.⁸ The probability of contracting water-borne diseases decreases when there are quality W&S services,⁹ which has a direct effect in reducing infant mortality and morbidity.¹⁰

- 1.4. **Water availability outlook.** Based on data on water availability, T&T has annual renewable water resources of 0.630 IMG (2,864 cubic meters¹¹) per capita, which is greater than the 0.220 IMG (1,000 cubic meters¹²) per capita threshold below which a country is considered water scarce. However, this availability is threatened by climate change, inadequate long-term water resources planning, insufficient storage, pollution of water resources, watershed degradation and lack of Integrated Water Resources Management (IWRM).
- 1.5. **Sector's institutional framework.** The MPU is responsible for sector policy and oversees the performance of WASA. The water sector regulatory agencies are: the Regulated Industries Commission (RIC), the economic and service quality regulator; Environmental Management Authority (EMA), the environmental regulator; Occupational Safety and Health Authority (OSHA) regulates safety, health and welfare in the workplace; and Central Tenders Board, while not a regulator, manages the tendering processes and facilitates the functioning of Tender Evaluation Committees, in the name and on behalf of the Government of Trinidad and Tobago (GoRTT) and Statutory Bodies. The service provider is WASA, a state-owned utility mandated by the Water and Sewerage Authority Act of 1965 to manage the water and sewerage sector. The Water and Resources Agency (WRA), as a division within WASA, has the responsibility to manage water resources and is the resource regulator for all other abstractors except WASA. WRA, as a division of WASA has not been able to regulate water resources effectively and independently. Based on best practices in the region and around the world, WRA, as a regulatory body, should be separate from WASA, the service provider, so WRA can effectively regulate water resources. On July 28, 2022, the Government announced its decision to restructure WASA under a comprehensive transformation plan as well as to implement a series of urgent infrastructure works to improve the provision of water supply services to underserved communities.
- 1.6. **WASA indicators and determinants of the main problems.** Despite achieving high water supply coverage (¶2.2), WASA faces a myriad of issues and challenges that contribute to low operating efficiency and low quality of water service related to low operational performance, wastage and excessive consumption, and the overall poorly performing management of WASA. As a result of these problems, WASA's customers do not receive an adequate reliable water service although the

awareness and behavior. According to an experimental impact evaluation carried out by the IDB in smaller communities in Bolivia, access to quality W&S services reduce the incidence of diarrhea in the subgroup aged 6 to 17 years by 10 percentage points, [Celhay, P. et al. \(2021\)](#).

⁸ To close access gaps, reduce inequalities and make the benefits materialize, according to the Bank's flagship publication [DIA 2020](#): From structures to Services, in addition to investing in infrastructure, it is necessary to ensure that the services are of quality and that users use the infrastructure properly.

⁹ Galiani et al. (2009); found reductions in the presence, frequency, and severity of episodes of diarrhea in children due to the expansion of the network and improvement of the quality of the water service in Argentina.

¹⁰ Wagstaff and Claeson 2004, ([DOI](#)); Gamper-Rabindran, et. al. 2010, y Schady, N., 2015.

¹¹ Food and Agriculture Organization of the United Nations, FAO AQUASTAT Reports, Country profile Trinidad and Tobago, 2015.

¹² [Water scarcity](#).

utility receives high subsidies from the GoRTT to finance operating costs, there is high water availability, and there is also a water production level that should suffice to provide more than adequate supply per capita.

- 1.7. Main challenges contributing to WASA's low operational efficiency include: (i) NRW estimated to be somewhere between 40% to 50%¹³ or 99 IMGd; (ii) high levels of water demand and consumption,¹⁴ estimated a domestic average of 350 l/person/day; and overall total of 583 lpcd; (iii) low levels of metering,¹⁵ with only about 4% coverage of all consumers; (iv) suboptimal network performance due to aged infrastructure, little to no pressure management, network bottlenecks, low storage capacity, limited system interconnectivity and lack of timely preventative and corrective maintenance, affecting distribution capacity; and (v) very limited measurement of the inputs and outputs of WASA's network.
- 1.8. On the other hand, the overall level of management performance of WASA is characterized by: (i) high accounts receivables and low collection¹⁶ rate of 85%;¹⁷ (ii) over-reliance on desalination plants that is billed in scarcely available US dollars instead of maximizing the use of abundant groundwater; (iii) the average tariff of US\$0.43 per cubic meter is one of the lowest in the region¹⁸ in contrast to the average for Caribbean countries of US\$2.34. Consequently, WASA has not been able to recover its O&M costs for at least the last decade, resulting in WASA being funded predominantly through government subsidies, at around US\$294¹⁹ million per annum; (iv) labor productivity of 12.8 employees per 1,000 water connections,²⁰ compared to a regional average of 4; (v) poor accountability for the subsidies allocated because of low oversight capacity; and (vi) low implementation of IWRM and water sector governance to protect watersheds and ground water recharge areas, thereby increasing vulnerability to climate change, natural disasters and exacerbating intermittent water supply.
- 1.9. **Banks sector knowledge.** Regarding the Bank's assistance to the sector, in December 2009, a Non-reimbursable Technical Cooperation "Preparation of Wastewater Rehabilitation Program" ([ATN/OC-11932-TT](#)) was approved. The outputs of the TC served as a basis for the preparation of the US\$50 million "WASA Modernization and Wastewater Infrastructure Rehabilitation Program" ([2600/OC-TT](#)), which was approved in 2011. The Bank also financed "Multi-Phase Wastewater Rehabilitation Program – Phase I" ([2890/OC-TT](#)) approved in December 2012, as well as the TC "Preparation for the Rehabilitation of Sewage Infrastructure in Trinidad & Tobago" ([ATN/OC-13507-TT](#)) for the preparation of that

¹³ This level is considered high when compared to international benchmarks. [ADERASA \(2013\)](#) indicates that, in general, NRW levels below 30% characterizes a well-performing utility. However, the economic level of a water utility's losses should be considered when setting specific goals for NRW levels.

¹⁴ While domestic metering and an increase in tariff are essential to reduce domestic consumption, there must be a commensurate increase in customer service levels; a balancing act that will require careful planning by WASA.

¹⁵ Metering rate is the percentage of customers that have a meter installed at their premises.

¹⁶ Collection rate is the percentage of revenues that are collected before completing 90 days in arrears.

¹⁷ Castalia, Business Plan and Price Control Proposal for WASA: 2019-2024 (July 2019).

¹⁸ From the Castalia Report "Governance Position Paper on the Caribbean Water and Sanitation Sector - Final Report and Action Plan".

¹⁹ Exchange rate TT\$6.7981 = US\$1.00; 27 July 2021 <https://www.central-bank.org.tt/>

²⁰ The average in LAC is 4 staff per 1,000 connections (ALOAS, 2008). It is considered that between 2 and 3 staff per 1,000 connections is reasonable (IDB, 2017).

loan. Under both loan operations, wastewater collection and treatment systems were constructed in Southwest Tobago, the Malabar Catchment (40 million liters per day (MLD)) wastewater treatment plant that is expected to benefit 108,630 persons by the design year 2035) and the San Fernando catchment (under construction 45 MLD wastewater treatment plant). These treatment works have improved environmental conditions by increasing the amount of wastewater treated in compliance with Schedule II, Permissible Levels of the Water Pollution Rules 2019 of the EMA. In the water sector at Regional level the Bank financed several projects that targeted NRW Reduction and SWIT such as WSC Support Program - New Providence Water Supply and Sanitation Systems Upgrade ([2624/OC-BH](#), US\$80 million) and the Kingston Metropolitan Area (KMA) Water Supply Improvement Programme ([2633/OC-JA](#), US\$133 million).

- 1.10. The Bank continued with an Intraregional Technical Cooperation, “Knowledge Exchange between Trinidad & Tobago, The Bahamas and Jamaica about NRW Reduction”, ([ATN/OC-17230-TT](#)) January 28–31, 2019. In September 2019, the Bank submitted to the MPU a Guidance Brief: “Action Plan for improving water supply in Trinidad and Tobago”. An updated Guidance Brief was submitted to the MPU in February 2020. This proposed loan operation builds on the Guidance Brief.
- 1.11. **Lessons learned.** Lessons learned from past operations²¹ in the Bahamas and Jamaica have been included in the design of this operation as follows: (i) a performance-based contract has been recommended for this operation because it has proven to be a suitable contractual arrangement to achieve substantial reductions of NRW, as demonstrated in the case of the Bahamas and Jamaica. In the case of The Bahamas, NRW was reduced from 57% to 23% under [2624/OC-BH](#) (US\$81 million) and, in the case of KSA Jamaica, NRW was reduced by 30% under [2633/OC-JA](#) (US\$133 million); (ii) furthermore, in the Bahamas and Jamaica projects, a co-management approach whereby the NRW reduction consulting firm forms a project team with WASA’s staff was critical to ensure training of staff from the beginning of the contract. This co-management arrangement has been recommended for this operation. Private sector participation in targeted activities such as NRW reduction can bring efficiency and results in a short timeframe; (iii) External technical assistance has proven critical given the existing context and constraints in terms of quality of service and management and the qualifications of WASA’s staff. The contract will be designed to include proper incentives to generate increased results and achieve expected outcomes. IDB support and continuing external support are essential if the utility is to make progress in meeting this challenge.
- 1.12. **Government Strategy.** The Sub-Committee of Cabinet Report on the performance of WASA dated December 11th, 2020, recommended four (4) strategic pillars to guide the management of the water sector over the next three (3) years: (i) Pillar 1 to stabilize WASA operations and build public confidence in the operations of the water sector and Government’s strategic intent; (ii) Pillar 2 to improve operational efficiency²² and customer service; (iii) Pillar 3 to

²¹ Multi-Phase Wastewater Rehabilitation Program- Phase I (\$246.5 million) ([2890/OC-TT](#)); WASA Modernization and Wastewater Infrastructure Rehabilitation Program (\$50.0 million) ([2600/OC-TT](#)); Trinidad and Tobago Organic Waste Municipal Curbside Recycling Programme (MCRP) (\$250,000).

²² As highlighted in [DIA 2020](#), the sustainability of services is not only based on infrastructure, but also on the way in which these services are managed and regulated.

strengthen financial management; and (iv) Pillar 4 to restructure the water sector. The current loan operation, TT-L1055 and its Conditional Credit Line for Investment Projects (CCLIP) are aligned with Pillars 1, 2 and 4 as the general objective of the CCLIP and the first operation under the CCLIP is to improve the efficiency, quality, sustainability and resilience of water supply service and water security in T&T. While the specific objectives of the first operation are to: (i) improve operational efficiency and reliability of water supply services; (ii) improve quality of water services for underserved communities in T&T; and (iii) develop capacity and provide institutional strengthening to the MPU and WASA to improve governance and sustainable management of water resources. More specifically, Component 1 - Water Stabilization and Improvement of the TT-L1055 supports Pillars 1 and 2, Component 2 - Support for Water Sector Transformation supports Pillar 4 and Component 3 Network Optimization supports Pillar 2 and also contributes to Pillar 3 through the NRW Program that can improve financial performance by reducing physical and commercial losses.²³ On this basis, the Program contributes to realize the GoRTT's Strategy for the sector.

- 1.13. **Bank's strategy with the country.** This operation is aligned to the IDBG Country Strategy 2021-2025 (GN-3071) with the GoRTT, under the Strategic Objective "Enhancing the Digital Delivery of Service through promoting digitalization of operation processes, and adoption of smart water infrastructure technologies and related information and communication technologies". The operation will address WASA's services by, rehabilitation and network optimization, organizational and capacity development, integrated water resources management and by leveraging expertise in water loss reduction, which can lead to reductions in operating costs and subsidies. The project is included in the 2022 Operational Program Report (GN-3087). In addition, the Program is aligned with the IDBG Country Strategy 2021-2025 on the cross-cutting issues of climate change and environmental sustainability and gender equality and diversity.
- 1.14. **Strategic alignment.** The Program is consistent with the Second Update to the Institutional Strategy (AB-3190-2) and is aligned with the development challenges of Social Inclusion and Equality by improving access to quality water supply services, and Productivity and Innovation by using innovative technologies and management information systems to reduce water losses, improve the management of WASA, and its operational efficiency and the use of innovative management arrangements (particularly under Component 3). Furthermore, it also aligns with the cross-cutting themes of: (i) Gender and Diversity by developing and implementing a gender and diversity strategy to address gender gaps and promote the inclusion of diversity in WASA, as well as implementing measures to ensure

²³ Quantitative studies found in the literature show that NRW indices can be reduced through sectorization, better pressure control by hydraulically optimizing those sectors (pressure control and network replacement) and micro and macro metering. Like that of [Da Silva \(2008\)](#) in Brazil, with a direct impact on unsatisfied demand. Studies in Zimbabwe, Turkey, China, and Greece have also provided evidence that leak detection through pressure management reduces water loss (Karadirek et al., 2012, Marunga et al., 2006, Kanakoudis et al., 2008, Xu et al., 2014). Additionally, updating and extending online supervision, monitoring and control systems through an integrated platform has a direct effect on the reduction of NRW [Dobricenau, M. et al \(2008\)](#). Additional evidence for the effectiveness of NRW control interventions in Algeria, Israel, Jordan, and Morocco is described and discussed in [Baghdali, L. et al. \(2013\)](#). Finally, [Rizzo, A. et al. \(2008\)](#) present a discussion on how real loss control strategies can be applied to apparent losses and the effect on NRW levels.

- accessibility of the public to WASA's facilities and other areas of opportunity for inclusion; (ii) Institutional Capacity and the Rule of Law by improving WASA's governance, management and efficiency, including innovative systems for commercial and operational management and includes the use of performance-based contracts; Gender Equality and Diversity since it seeks to provide incentives to incorporate the gender approach at WASA; and (iii) Climate Change and Environmental Sustainability by including adaptation measures to manage expected impacts on local hydrology due to changes in meteorological events including extremes, to reduce excessive consumption, wastage and physical water losses. **79.36%** of the Program's resources are invested in CC adaptation activities, according to the [Joint Methodology of the Multilateral Development Banks](#). These resources contribute to the IDB Group's goal of increasing the financing of CC-related projects to 30% of approvals in 2022.
- 1.15. In addition, the accompanying TC, ([ATN/OC-18337-TT](#)) and the project will contribute to the Corporate Results Framework 2020-2023 (GN-2727-12) through the product, "Households with access to new or improved water services", and "Institutions with strengthened management and digital technology capabilities".
- 1.16. **Other strategies and sector frameworks.** The operation is aligned with the Sustainable Infrastructure Strategy for Competitiveness and Inclusive Development (GN-2710-5), particularly with the priority area of "Supporting the construction and maintenance of social and environmentally sustainable infrastructure to contribute to increasing the quality of life", and consistent with (i) the Water and Sanitation Sector Framework's Dimensions of Success (GN-2781-8) for universal access and improved service and social and environmental sustainability; (ii) the Climate Change Sector Framework (document GN-2835-8) with the premise of dimension 4, "countries advance with the mainstreaming of CC in the sectors"; and (iii) the Gender and Diversity Sector Framework (GN-2800-8) related to the provision of quality public services that promote gender equality or the empowerment of women, as well as projects that support social inclusion of PWD.
- 1.17. **Gender equality, inclusion, and diversity.** Gender Situation and People With Disabilities (PWDs). In 2018, Trinidad and Tobago developed a National Policy on Gender and Development. The policy serves as a framework to mainstreaming gender across the government and was designed to promote gender equality in the country as part of the National Development Strategy (2016-2030). Regarding violence against women, sexual harassment is not criminalized yet and legal actions could only be pursued in the case of criminal assault.²⁴ Occupational segregation is high in T&T. According to a recent World Bank study,²⁵ women are underrepresented in technical and executive positions in companies that provide water and sanitation services,²⁶ despite being important users and main decision makers on the use of water in the home. One of the barriers is the lack of training opportunities, lack of equipment and friendly environments, lack of professional development opportunities. Regarding WASA personnel, the company has a total of 4,716 people, of which 3,357 (71.2%) are men and 1,359 (28.8%) are women.

²⁴ [Office of the Prime Minister of Trinidad and Tobago, 2018.](#)

²⁵ World Bank (2019), <https://openknowledge.worldbank.org/handle/10986/32319>.

²⁶ Women make up 17.7% of water utility staff, 22.8% of people in engineering, and 23.3% in managerial positions (World Bank, 2019).

When reviewing the percentages of women and men working in different positions in WASA, it is observed that distribution of positions follows a pattern like that of the world: in operational, technical, engineering and management positions, women have a low participation, while their presence is concentrated in administrative positions. Regarding PWDs, Trinidad and Tobago Population and Housing Census indicated that there are approximately 52,244 persons living with a disability, which is equivalent to 4% of the total population of 1,328,019. The most common types of disabilities identified through the Census were disabilities related to walking (32%), visual (28%) and speaking (14%). There is no specific data about the presence of people with disabilities in WASA.

- 1.18. **Gender and people with disabilities strategy.** It is proposed to develop and implement a Diagnosis of the Gender and PWDs situation and its subsequent Action Plan for WASA, to: (i) promote the equal participation of women, men and PWDs in the workplace, at all levels of the organization; (ii) build an institutional culture sensitive to gender and PWDs; (iii) design strategies to promote the balance between work, family, and personal life; (iv) design and implement conduct codes to prevent and address sexual harassment in the workplace. Carrying out this diagnosis will include the use of the Focused Analysis of Gender Equality and Inclusion of Diversity tool from AquaRating (AQR²⁷) to establish a baseline with respect to the good practices that the company implemented in terms of Gender and PWDs and identify opportunities to implement additional practices. In addition to the gender approach, the recommendations generated from this Diagnosis must include a PWDs perspective and consider the concepts of universal accessibility to guarantee PWDs the enjoyment or full exercise of all spaces on equal terms with other people, all based on the Convention on the Rights of Persons with Disabilities²⁸ ([OEL#5](#)).
- 1.19. **Climate change and environmental sustainability.** The main expected impacts of climate change affecting water availability for T&T are: (i) increase in temperature, resulting in higher evapotranspiration rates and loss of available surface water; and (ii) decrease in precipitation, which could significantly reduce groundwater and aquifer recharge. In addition, climate change scenarios show: (iii) an increase in frequency and intensity of storm surge and extreme rainfall, causing damage to infrastructure from flooding and erosion; and (iv) sea level rise, leading to increased flooding, increased erosion, loss of wetlands, loss of ecosystems, saline intrusion into aquifers, and displacement of coastal communities. To respond to these impacts, climate resilience will be considered under two perspectives. On one hand, water infrastructure financed by the Program will include in its design climate proofing considerations (resilience of the Program) and on the other hand activities that will contribute to reducing the vulnerability of local communities to the impacts of climate change on water availability through recovery of water from physical losses (avoiding unnecessary abstraction of water), and additional storage and improvements in the efficiency of the water system's operation (resilience through the Program) ([OEL#6](#)).

²⁷ The AquaRating performance evaluation tool was designed by the Bank in close collaboration with the International Water Association to assess the performance of water utilities based on a set of performance indicators and best practices. It includes a set of Focused Analyses on specific topics (e.g., Climate change management, innovation management, water loss management).

²⁸ United Nations Convention on the Rights of Persons with Disabilities.

- 1.20. **Innovation and digital transformation.** The Network Optimization component considers the use of Smart Water Infrastructure Technologies (SWIT) through remote monitoring and implementation of SCADA automation, which have the potential to contribute significantly towards improved service delivery and efficiency ([DIA 2020](#)). Examples of SWIT to be used include District Meters Areas (DMAs), Smart Metering Reading (AMR), pressure management, active leak detection, hydraulic modelling, energy efficiency measures, and implementation of NRW-relevant information management systems. In addition, the project provides for: (i) technical support during the execution of the works and the subsequent operation thereof by a specialized NRW consulting firm, under a fixed and variable results-based payment modality. One of the main objectives of technological innovation is to improve the operational efficiency and infrastructure sustainability this could be achieved through data integration. Data integration refers to an integrated asset management system which will integrate the operational information in terms of customer database, financial management, operational and maintenance protocols, operational costs, contracts, designated human resources, etc. The handling of this platform will result in lower operational costs and longest asset life.
- 1.21. **Alignment with the Public Utilities Policy (document GN-2716-6).** The proposed operation is aligned with the Public Utilities Policy (OP-708) criteria: (i) financial sustainability (¶2.15); and (ii) economic feasibility (¶2.12); and its objectives: (a) promote access: the Program will contribute to increase access to improved services for underserved groups; (b) deliver a reliable quality of service: increased levels of service, including water quantity, quality and improved supply to 24/3 or better; (c) deliver a service efficiently: the Network Optimization component will support WASA to increase its efficiency in water supply provision through enhanced operation of a smart network with the aim of reducing operating costs by decreasing commercial and physical losses; improved governance, accountability and transparency; (d) create suitable incentives and programs to manage service demand: regulate user demands and conservation of water resources; and (e) promote sustainability of public utilities through: financial, environmental and social sustainability.

B. Objective, components, and cost

- 1.22 The general objective of the Conditional Credit Line for Investment Projects (CCLIP) and the first operation under the CCLIP is to improve the efficiency, quality, sustainability and resilience of potable water supply service and water security in T&T. The specific objectives of the first operation are to: (i) improve operational efficiency and reliability of water supply services; (ii) improve quality of water services for underserved communities in T&T; and (iii) develop capacity and provide institutional strengthening to the MPU and WASA to improve governance and sustainable management of water resources. To achieve these objectives, it will be necessary to urgently and effectively upgrade and manage production, transmission and distribution and reduce water losses; and utilize innovative technology, digital transformation and data driven management systems. Achieving these objectives will contribute to reducing the need for Government support to meet operational expenditure and reduce reliance on desalinated water.

- 1.23 **Component 1. Water Stabilization and Improvement (US\$44.0 million).** This component will finance the development of a comprehensive Program to urgently stabilize water supply services to prevent further service decline throughout the country and to improve quality of water service in underserved communities with a level of service below 24/3. The activities to be financed to increase the treatment capacity and be able to meet projected demands include: (i) construction of new water treatment infrastructure in six locations at Ravine Sable, Sangre Grande, Santa Cruz-Green Meadows, Goldsborough River, Blue Basin and Mayaro, inclusive of intakes; (ii) refurbishment & upgrading of the water treatment infrastructure for nine WTPs at Freeport, Caroni, North Oropouche, Guanapo, Maraval, Navet, Hillsborough, Chatham and Courland; (iii) drilling and equipping of three new wells at Freeport; (iv) rehabilitation of El Socorro high lift and booster station; and (v) drilling and equipping new wells at Penal, Chatham/Palo Seco, and Tucker Valley.
- 1.24 **Component 2. Support for Water Sector Transformation (US\$2.74 million).** The objective of this component is to develop capacity and provide institutional strengthening to MPU and WASA to improve governance and a sustainable management of water resources. This component will finance the application of the Bank's AQR performance evaluation tool, which will be initiated as soon as WASA designates the appropriate staff to work with the tool. The results of the assessment will inform the effort to restructure and transform WASA, including addressing issues such as: (i) gender equality, diversity, and inclusion at the company level, such as a Self-Esteem and Leadership Training Plan and a Technical Capacity Building Plan, aimed at the women of the company, to promote their participation in the areas technical, operational, engineering and leadership; guarantee PWDs the enjoyment or full exercise of all spaces on equal terms with other people, all based on the Convention on the Rights of Persons with Disabilities; among others;²⁹ and (ii) Resilience to Climate Change, Natural Disasters and Risk management and promulgation throughout WASA. The component will also finance a study, which will make recommendations to improve the MPU's technical oversight capacity for coordination of water sector transformation and stabilization. Furthermore, the component will finance the development and implementation of a plan to manage disaster risk and climate change. In addition, institutional strengthening will be carried out to separate the functions of water resources management from WASA and to implement IWRM supported by a HydroBID based information system.
- 1.25 **Component 3. Network Optimization (US\$31.0 million).** This component will finance urgent priority works to optimize network performance and reduce non-revenue water. These works will be executed through a Co-Management Performance Based Contract (PBC) with a specialized Consulting Firm (CF) to be contracted by WASA. This would allow for the seamless transfer of know-how and expertise to WASA that is crucial to the long-term sustainability and success of the project. The CF will be required to prepare and commence the implementation of a NRW Reduction Strategy and Program for the country. The water audit under [ATN/OC-18337-TT](#) will provide production and transmission flows and pressure data as well as hydraulic models to inform the NRW Program. Reduction of commercial and physical losses as part of the NRW Reduction Program will be

²⁹ For more details, see ¶1.19 and [OEL#5](#).

implemented. The CF will also provide strategic advice and technical support to the Executive Team of WASA in the transformation of WASA. Under this component, flow and pressure monitoring and water loss reduction and monitoring will be achieved through: (i) the replacement of aged and fragile transmission and distribution network to reduce water loss and high leakages in Petit Valley, Freeport, Wallerfield and Pt. Fortin; Mt. Lambert, North West; Nelson Street, POS; Laventille; Valsayn South; and La Cuesa; (ii) Installation of 256 bulk meters and loggers to monitor production for various production facilities (water treatment plants, wells and booster stations) throughout T&T; (iii) selective implementation of DMAs/PMAs, targeted leak detection and repair, SWIT, and management information systems; (iv) implementation of remote monitoring and control SCADA automation for real-time analysis of the most critical areas around T&T; and (v) training and capacity building of WASA personnel in water loss management and SWIT.

- 1.26 **Program management and other costs (US\$2.26 million).** This component will finance administrative expenses including, support for Project Execution Unit (PEU) dedicated staff, audits, monitoring and evaluation, communication, and supervision and implementation of an Environmental and Social Management Plan (ESMP) ([OEL#9](#)).

C. Key results indicators

- 1.27 The Results Matrix (Annex II) includes the products and results of the Program. Table I-1 presents some key Result Indicators.

Table I-1 – Key Results Indicators

Result Indicator	Unit of Measure	Baseline (2022)	Target EOP
Households with improved water supply service (at least 24/3) in underserved targeted communities	# Households	0	310,665
Households with improved water supply service (up to 24/3) in underserved surrounding communities	# Households	0	84,705
Amount of water produced by new water treatment plants	IMGD	0	22
Number of days that the rehabilitated water treatment plants are offline	# of days/year	15	1
Water infrastructure projects that incorporate disaster and climate change risk management strategies	%	0	100

- 1.28 **Benefits and Beneficiaries.** Regarding the implementation of the works under the NWSIP the main benefits are far reaching to ensure improved service quality, continuity and access to water supply to underserved communities with a level of service below 24/3 with the corresponding benefits in improved quality of life, to an estimated 1,025,000 persons (some 310,665 households) directly and an estimated 279,500 persons (some 84,705 households from surrounding communities). The Program will also benefit an estimated 16,841 commercial, charitable institutions, agricultural and industrial customers in the Ravine Sable,

Sangre Grande, Santa Cruz-Green Meadows, Goldsborough River, Blue Basin, Mayaro, Freeport, Caroni, North Oropouche, Guanapo, Maraval, Navet, Hillsborough, Chatam and Courland supply zones through the stabilization of water supply services and network optimization. With respect to the network optimization, the main benefits are related to an improvement in the efficiency and the quality of the water supply service from water loss reduction by replacement of aged transmission and distribution network in the vicinity of Petit Valley, La Cuesta, Freeport, Wallerfield and Pt. Fortin, directly benefiting some 45,300 persons (approximately 11,300 households accounted for in the 310,665 households) and indirectly to all population in T&T. Especially benefitting low-income underserved populations who bear the brunt of water shortages, through the promotion of environmental sustainability associated with the reduction of water losses, as well as gender equity and social inclusion through the promotion of opportunities for women. Also, WASA will benefit from improving water loss planning and capacity for NRW reduction through operational, commercial, and technical management, and MPU will benefit from institutional strengthening on oversight. The WRA will be strengthened to improve IWRM.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 Modality and financial structure. Justification for the Conditional Credit Line for Investment Projects (CCLIP).** The Bank is proposing to provide financing for water sector support through the CCLIP instrument as significant investments over an extended period will be required to achieve wider water sector transformation and undertake long-term infrastructural improvements to improve water supply, increase water security, protect watersheds, and water resources, strengthen sector institutions, and support the sector in its planning capacity and execution. The CCLIP will allow the GoRTT to access financing through several phased loan operations that are smaller tranches of commitment and provide greater flexibility to define the individual loan operations. In addition, the CCLIP will allow the Bank to support the development of water and sanitation services in the medium and long-term.
- 2.2 Strategy and project design.** A CCLIP is proposed with Bank financing for an amount up to US\$315 million from Ordinary Capital resources to be implemented through three individual loan operations over a ten-year period. The first operation is designed as a Specific Investment Loan for an amount of US\$80 million with a disbursement period of four years to allow sufficient time to procure and implement a 3-year co-management contract. To support the preparation of the project, a non-reimbursable Technical Cooperation in the amount of US\$800,000 has been approved ([ATN/OC-18337-TT](#)), which will finance field work to conduct a water audit (¶1.25).
- 2.3 CCLIP Eligibility and First Operation.** The proposed CCLIP complies with the requirements established in the paragraph 3.2 of Annex III of document GN-2246-13, "Proposed Amendments to the Conditional Credit Line for Investment Projects (CCLIP) and the Multi-Phase Program Loans", and paragraph 3.6 of the Operational Guideline for CCLIP (GN-2246-15), since the objectives of the credit line are within the priorities defined in the Country Strategy with the IDB

Group 2021-2025 (GN-3071), specifically with the strategic objective of “Enhancing the digital delivery of services”. The first operation is also in compliance with the eligibility criteria of paragraphs 3.5 (i) to (iv) of Annex III of document GN-2246-13 and in paragraph 3.9 of the CCLIP Operational Guidelines (GN-2246-15), considering that: (i) the objective of the first operation contributes to the achievement of the CCLIP sectoral objective (§1.22); (ii) the use of the Platform for the Analysis of Institutional Capacity (PACI) indicated that the MPU has a satisfactory institutional capacity. However, the design of the operation will include actions to improve the institutional capacity of the executing agency (§1.24); and (iii) the operation is included in the sector and components of the CCLIP (§1.23-1.25).

Table II.1. Summary of Program costs (US\$ million)³⁰

Components	IDB	Total	%
Component I Water Stabilization and Improvement	44.00	44.00	55.00
New Water Treatment Plants	18.10	18.10	22.63
Refurbished Water Treatment Plants	18.40	18.40	23.00
New and Rehabilitated Wells	6.70	6.70	8.38
Rehabilitation of El Socorro high lift and booster station	0.80	0.80	1.00
Component II Support for Water Sector Transformation	2.74	2.74	3.43
Support of the Transformation Plan & Organizational Restructuring Implemented	1.84	1.84	2.30
Institutional strengthening & IWRM Implemented	0.20	0.20	0.25
Climate Change and Disaster Resilience Implemented	0.45	0.45	0.56
MPU capacity building and training on supervision and monitoring of WASA	0.20	0.20	0.25
Gender and PWD Strategy and Action Plan.	0.05	0.05	0.06
Component III. Network Optimization.	31.00	31.00	38.75
Replacement of aged-fragile transmission and distribution network	6.50	6.50	8.13
Installation of bulk meters and loggers to monitor production.	3.60	3.60	4.50
Supervisory Control and Data Acquisition (SCADA)	5.90	5.90	7.38
Targeted DMAs/PMAs	1.50	1.50	1.88
Water loss management and SWIT capacity building of WASA.	0.10	0.10	0.13
Non-Revenue Water Reduction	13.40	13.40	16.75
Program management and other costs	2.26	2.26	2.82
Total	80.00	80.00	100

2.4 Schedule of Disbursements

Table II.2. Estimated Disbursements (US\$ million)

Source	Year 1	Year 2	Year 3	Year 4	Total
IDB	23.28	35.57	14.99	6.14	80.00
%	29.11%	44.47%	18.75%	7.67%	100.00%
Aggregated %	-	73.58%	92.33%	100.00%	100.00%

³⁰ Costs by component or main activity are indicative.

B. Environmental and social safeguard risks³¹

- 2.5 In accordance with the IDB's Environment and Safeguards Compliance Policy (OP-703) and with the environmental and social due diligence, this first operation under the CCLIP has been classified as "Category B" since its types of activities are likely to cause mostly local and short-term negative environmental and associated social impacts and for which effective mitigation measures are readily available. These include potential soil erosion and contamination; water pollution (surface and groundwater); increased noise, vibrations, dust, and emissions; and disruption of biological communities. Additionally, during the operation phase, there is a risk of over-extraction of water resources if specific conditions and avoidance measures are not implemented. Nevertheless, the Program is expected to have mostly positive impacts by improving the access to a constant water supply, improving management of potable water supply and reduction of water losses and NRW. For this first operation, eligibility criteria have been established to exclude interventions submitted to the Bank for Non Objection, that are classified as Category A. Interventions that require physical displacement, land acquisition that leads to impoverishment or permanent economic displacement will be ineligible. However, temporary economic displacement (temporary loss of livelihoods) or indirect impoverishment could happen. In these cases, for the applicable interventions, Livelihood Restoration Plans (LRP) and compensation plans will be prepared during execution. No direct adverse impacts on indigenous peoples or other vulnerable groups are anticipated. The eligibility criteria also exclude significant negative impacts on natural or critical habitats, on critical cultural sites, or heritage.
- 2.6 The Environmental and Social Risk Rating has been classified as "Substantial", mainly due to the magnitude of the proposed physical works and their direct impacts, the broad geographic scope and uncertainty regarding their final location and design, and the risk of conflict over the use of water during the operation phase. The Disaster Risk Rating has been classified as "High", given that potential project areas are typically affected by natural hazards such as floods, drought, landslides, earthquakes, hurricanes and the consequences of climate change. As such, a Disaster Risk Assessment (narrative) has been prepared, and a qualitative Disaster Risk Management Plan will be prepared during execution.
- 2.7 Given the broad geographic scope of potential works and the lack of final design, a framework approach has been adopted to anticipate potential risks and impacts for the proposed types of activities, and to provide a framework for the development of specific mitigation measures. An Environmental and Social Assessment (ESA) ([OEL#11](#)) and an Environmental and Social Management Plan (ESMP) ([OEL#9](#)) have been prepared. Furthermore, coherent with the sectoral objectives of the CCLIP, a Strategic Environmental and Social Assessment (SESA) with its corresponding Strategic Environmental and Social Management Framework (SESMF) ([OEL#10](#)) have been developed. These documents have

³¹ Given that this Operation had its Eligibility Review Meeting before October 31st, 2021, the applicable Operational Policies governing environmental and social aspects are OP-703, OP-704, OP-710, OP-761, and OP-765.

been disclosed on the Bank's external website prior to consideration by the Board, in accordance with the Access to Information policy, OP-102.

- 2.8 A Consultation and Participation Strategy, including a grievance mechanism, has been developed, and disclosed as part of the ESMP ([OEL#9](#)). The consultation event was carried out on November 2nd, 2022, in a hybrid fashion (physically in Port-of-Spain and online via Webinar). There were 120 attendees, of which 70 were women. The participants were mostly positive about the Program and appreciative of the consultation event. Questions and main concerns were focused on technical aspects of the Program (costs, proposed interventions, timeline), stakeholder engagement mechanisms and accountability, compensation mechanisms for eventual private losses, consumption and loss reduction, environmental impacts (especially pollution), and the effect of extreme weather events on the Program. A full consultation report has been disclosed ([OEL#12](#)), and its outcomes have been incorporated into the final versions of the socioenvironmental documents.

C. Fiduciary Risk

- 2.9 Fiduciary risks and Fiduciary assessments of the MPU and WASA were undertaken, and the overall fiduciary risks have been ranked as Medium. The main fiduciary risk identified, as described in the Annex III, was that limited capacity within the MPU and WASA may create bottlenecks and delays in addressing fiduciary matters. Mitigating actions are being addressed through: (i) recruitment or appointment of a procurement specialist and financial/accounting specialist for MPU/PEU; and (ii) training sessions on Bank's policies and procedures for the PEU and the SPCs that will be contracted to support procurement and project management aspects of execution activities (§3.1-§3.3).

D. Other Risks and Key Issues

- 2.10 The following risks were identified as Medium/High: (i) human resources: (a) limited availability of key staff for the implementation of the Institutional Strengthening activities contemplated in the Program: Therefore, WASA will designate key staff with the required knowledge and experience to implement project activities. In addition, MPU will be engaged during the implementation of the Program, which will mitigate that risk. (b) Lack of proper supervision, coordination and monitoring capacity: therefore, the establishment of a dedicated PEU and Steering Committee will ensure coordination among all parties and resolution of bottlenecks; and (ii) Governance framework: lack of coordination and communication among all entities involved in Program execution. Therefore, the establishment of a dedicated PEU to coordinate implementation of project activities and the Steering Committee will ensure proper coordination among all parties involved in the project. The following risk was identified as High: Economic and financial: Challenges in the global supply chain and risks of cost overruns: therefore, the MPU/PEU will develop strategic partnership arrangements with key suppliers based on market research. The execution mechanism with existing entities will be reviewed, if necessary, throughout the implementation.
- 2.11 **Technical feasibility.** The proposed technical solutions fully meet the needs for the improvement of WASA's production and water distribution systems in the most

critical areas of operation. The works defined fully meet the technical requirements for this type of works. More details are shown in the Technical Options and Design ([OEL#2](#)). The above is supported by detailed engineering studies that were carried out by international consulting firms. The diagnosis contemplated different options for rehabilitation, network improvement and institutional strengthening. The options were costed considering local unit prices, technologies, WASA practices and civil works currently being implemented. WASA has extensive experience in these types of works and will acquire new knowledge on operation and maintenance of the new infrastructure as well as non-revenue water reduction and smart water infrastructure technologies during the execution of the Program. Moreover, the most relevant contracts included in this loan will include start up, commissioning, training and operation manuals which will imply a strong knowledge transfer component ([OEL#2](#)).

- 2.12 **Economic feasibility.** A cost/benefit assessment was performed for all the projects related to water stabilization and network optimization financed by the Program individually and for which economic benefits could be quantified, as well as for all the interventions combined. The costs analyzed were the incremental investment and Operation and Maintenance (O&M) costs. The economic benefits of the individual projects were quantified as the consumer surplus under the water demand curve for residential consumers attributable to increase in water supply (new PWTP and reduction of physical losses in the system) as well as cost savings to consumers due to reduced dependency on alternative, more costly, potable water sources. The results of the analysis show that the individual projects analyzed are socioeconomically feasible with internal rates of return above 12%. The Program overall is economically feasible with an internal rate of return of 54.59%. The analysis was supplemented with the respective sensitivity analysis ([OEL#1](#)).
- 2.13 **Payment capacity.** The average residential water bill represents less than 1% (0.6% in 2018) of the median household income, which is below the affordability threshold. Additionally, there is a subsidy Program that provides partial discounts to eligible low income and vulnerable households.³² It is worthwhile noting that WASA's current tariff level—unadjusted since 1993—is one of the lowest in the region.
- 2.14 **Institutional viability.** The institutional evaluation of the MPU was conducted using the Platform for the Analysis of the Institutional Capacity (ICAP) to define the level of staff and technical support required for the project. The results obtained from the application of ICAP indicate a "Medium" level of capacity development risk. Specific measures will be implemented to improve MPU's capacity for oversight and supervision of execution. To mitigate the limited MPU's experience with IDB policies, a procurement and financial specialists will be hired for the PEU who will be trained in IDB financial and procurement policies. As a Sub-Executing agency, WASA's institutional evaluation was performed using ICAP and the results indicated a "Medium" level of capacity development. WASA's will provide technical engineering input, general oversight, and auditing of scope of completed works. An SPC will be contracted by WASA to perform procurement and project management for Components 1 and 3 with GoRTT resources and will apply IDB

³² [Utility Assistance Program](#).

procurement policies. The PEU's staff will support the execution of the project with staff trained in IDB procurement and financial procedures.³³ Additional experts will be brought in as needed.

- 2.15 **Financial sustainability.** Historical financial analysis indicates that WASA's tariff revenues cover approximately a third of its operating expenditures (not including depreciation and amortization). Consequently, WASA has been dependent on funding and financing guarantees from the government for its financial sustainability. Going forward, to make WASA more self-sufficient, significant increase of its tariff is imperative, and benchmarking analyses have indicated that the average tariff of comparator utilities is several times higher. However, given the problems³⁴ WASA has in terms of its services and efficiency, such tariff adjustment may be posed with challenges. All the Components of this Program directly support enabling factors in this sense.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

- 3.1 **Borrower and Executing Agency.** The Borrower will be the Republic of Trinidad and Tobago, and the Executing Agency will be the Ministry of Public Utilities, which will have oversight over the execution of the entire Program. The MPU will implement the Program through a dedicated PEU comprised of the following staff: (i) a Program manager; (ii) a Manager for each of the three components of the Program; (iii) two Engineers; (iv) a Financial/Accounting specialist; (v) a Procurement specialist; (vi) Environmental and Social specialists; and (vii) a Communication specialist. During the execution of the Program, technical experts will be identified and contracted as needed to support the Project Managers of the PEU. MPU will contract a SPC to support procurement and project management aspects of activities in Component 2 of the Program.
- 3.2 WASA will be acting as a Sub-Executing Agency and will be responsible for providing technical engineering input, general oversight, and auditing of scope of completed works of Components 1 and 3. WASA will establish a PEU in its office of transformation to oversee procurement and payment processes with respect to Components 1 and 3 of the Program. WASA's PEU will consist of a Program manager, a procurement and financial specialists. WASA will contract another SPC to perform procurement and project/contract management of infrastructural works in Components 1 and 3 as well as directly contract and manage the Co-Management PBC with a specialized CF that will perform the NRW activities (§1.25).
- 3.3 Both SPCs' responsibilities will include final validation/approval of designs, technical specifications, selection and contracting of works and consulting services, payment certification and the supervision of agreed upon water supply infrastructural works and institutional strengthening activities. The SPCs' management fees will be paid with the resources of the Borrower. The SPCs will be required to apply IDB's procurement policies and will receive the appropriate training.

³³ Capacity building activities will include on-site training and training workshops conducted by IDB.

³⁴ [IDB \(2021\)](#) and [RIC \(2022\)](#).

- 3.4 The PEU's responsibilities will include: (i) preparation of budgets and disbursement projections; (ii) preparation and implementation, coordination and support of the preparation of the Pluriannual Execution Plan (PEP) and the Annual Operating Plans (AOP) ([REL#1](#)); (iii) monitoring procurement processes for works, goods and services; (iv) preparation of the annual Procurement Plan (PP) for the Program; (v) conducting the financial management of the Program; (vi) monitoring the progress of Program activities; (vii) contracting of the external auditor, planning, management, procurement, environmental supervision for the duration of the execution of the loan; (viii) monitoring of compliance with contractual clauses of the loan; and (ix) preparation of the medium-term evaluation of the Program. WASA's PEU will oversee the implementation of activities for Components 1 and 3 as well as procurement activities in coordination with the SPC.
- 3.5 The Borrower will establish a Program Steering Committee (PSC), chaired by the Ministry of Planning and Development, with the participation of WASA and the MPU. The main objective of the PSC will be to provide a governance and strategic framework and to address any bottlenecks encountered during the project implementation. The PSC's main responsibilities will include: (i) providing oversight and monitoring of the implementation of the Program; (ii) facilitating the work of the PEU; (iii) providing for the necessary inter-institutional coordination among the participating agencies; (iv) monitoring the overall performance of the Program; and (v) reviewing implementation issues and providing direction and/or approval.
- 3.6 **Program Operations Manual (POM).** The project will be governed by the provisions of its POM, which will include: (i) legal-institutional framework; (ii) description of the project and its purpose, objectives, and components; (iii) structure and organization of the PEUs at MPU and in WASA including their organizational chart, functions, responsibilities, and procedures; (iv) use of the resources and eligibility of the investments; (v) fiduciary annexes containing the procedures to follow for procurement operations, payments, financial planning, disbursements, expense reporting, and auditing of the project financial statements; (vi) environmental and social management plan; (vii) monitoring and evaluation plan; and (viii) project execution arrangements. Furthermore, each chapter of the POM will detail the project supervision implications for the executing agency ([OEL#4](#)).
- 3.7 **Special Contractual Conditions Precedent to the First Disbursement:** The borrower, through the Ministry of Public Utilities (MPU), shall provide evidence to the satisfaction of the Bank that the EA: (i) has established the PEU by appointing the Program manager, the engineers, the financial and the procurement specialists and the Environmental and Social specialists ([¶3.1](#)); (ii) has approved the Program Operations Manual (POM) [OEL#4](#), in the terms agreed with the Bank and it has entered into effect; and (iii) a steering committee has been established. These conditions are essential to ensure the timely execution of the project, as they will guarantee the definition of detailed governance arrangements and regulations on operational and fiduciary issues, including the roles and responsibilities of the PEU key staff.
- 3.8 **Special Contractual Conditions for Execution.** The borrower, through MPU and WASA, shall present to the satisfaction of the Bank evidence that: (i) agreements

have been signed with Special Purpose Companies (SPCs)³⁵ prior to the execution of activities under Component 2 and for Components 1 and 3, respectively; (ii) prior to the start of works to construct new Water Treatment Plants (WTP), WASA has demonstrated the possession of the real property where each of the WTP will be constructed in accordance with laws and regulations of the borrower; (iii) prior to the start of works for the drilling of new wells, WASA has demonstrated the possession of the real property where each of the wells will be developed in accordance with laws and regulations of the borrower; (iv) prior to the execution of non-revenue water services under Component 3, the Sub-EA has signed a Co-Management Performance Based Contract with a specialized consulting firm (CF); (v) prior to the start of works to replace mains, WASA has demonstrated the possession of the right of way and real property that may be required; and (vi) it has committed to transfer resources to WASA in the event revenues from tariffs do not cover WASA's operating costs. These conditions are necessary to ensure that the project is appropriately supervised and managed, as well as to facilitate the implementation of the NRW services arrangements agreed upon during the preparation of the operation.

- 3.9 **Procurement Execution.** Procurement activities will be carried out in accordance with the Policies for the Procurement of Goods and Works financed by the Inter-American Development Bank (GN-2349-15), and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (GN-2350-15). All procurement processes must be included in the procurement plan approved by the Bank through the procurement plan execution system, and will be conducted in accordance with the methods, supervision modalities, and thresholds established therein. The executing agency and the Bank have agreed on a procurement plan for the first 18 months of execution ([REL#4](#)). All procurement and/or contracting processes will be subject to ex ante review by the Bank. The bidding documents may include additional sustainability requirements in the procurement process.
- 3.10 **Advance of funds.** The advance of funds will be governed by the provisions of the Financial Management Guidelines for IDB-financed Projects (OP-273-12). After the first disbursement, subsequent disbursements will be subject to justification of 80% of the previous advance.
- 3.11 **Retroactive Financing.** It is anticipated that the project may finance retroactively eligible expenses incurred by the Borrower prior to the date of loan approval, up to the amount US\$4 million (up to 5% of the proposed Bank financing), for Project preparation, preparatory baseline studies, consultancies and works projects underway by the Borrower. These expenses must have been incurred on or after October 3, 2022 (approval date of the Project Profile), and under no circumstances expenditures incurred more than 18 months prior to the loan approval date shall be included.
- 3.12 **Auditing.** During the loan disbursement period, the executing agency will submit to the Bank the project's annual audited financial statements within 120 days of

³⁵ The proposed SPC shall be required to have the technical capacity in procurement and project management, and demonstrate the capabilities, qualifications, and experience in similar infrastructure projects for the types of projects that are included in the Program.

the close of the fiscal year. The audit is to be performed by a Bank-eligible independent audit firm. The determination of the scope and other related aspects will be Governed by the Financial Management Guidelines for IDB-financed Projects (OP-273-12) and the Audited Financial Reports and External Audit Management Handbook. Audits may be financed with project funds.

- 3.13 **Operation and maintenance.** In the first quarter of each calendar year, beginning in the year that the first work financed by the project has been completed, and up to three years after the end of the loan disbursement period, the borrower, through the executing agency, will present to the Bank the annual maintenance plan for any goods and works financed by the operation together with information on the corresponding operations and maintenance processes performed.

B. Summary of arrangements for monitoring results

- 3.14 **Monitoring.** A monitoring and evaluation plan was agreed for the Program ([REL#2](#)), which establishes the use of the PP, PEP, AOP, Financial Plan, as well as the RM and Progress Monitoring Report. The EO will send to the Bank, within the following 60 days at the end of each semester, a report progress which will include, among other, the results obtained and an action plan for the following semester.
- 3.15 **Evaluation.** A mid-term and a final evaluation are planned. A mid-term evaluation will be carried out when the operation reaches 50% disbursement or 30 months since effectiveness. The methodology to assess effectiveness at the end of the project will be a “before and after” analysis, which consists of comparing the baseline values of the Program's results indicators with the values achieved after the interventions have been implemented. Attribution of the results to the Program will be based on a revision of the Program's vertical logic and evidence that supports the links between the results and the products in similar contexts. In addition, an ex post economic evaluation will also be carried out, as part of the final evaluation, comparing the final costs of the investments and O&M with the benefits of the Program.

Development Effectiveness Matrix		
Summary TT-L1055 / TT-LO0007		
I. Corporate and Country Priorities		
Section 1. IDB Group Strategic Priorities and CRF Indicators		
Development Challenges & Cross-cutting Issues	-Social Inclusion and Equality -Productivity and Innovation -Gender Equality and Diversity -Climate Change -Institutional Capacity and the Rule of Law	
CRF Level 2 Indicators: IDB Group Contributions to Development Results	-Households with improved access to water and sanitation (#) -Agencies with strengthened digital technology and managerial capacity (#)	
2. Country Development Objectives		
Country Strategy Results Matrix	GN-3071	Enhancing the digital delivery of services
Country Program Results Matrix	GN-3087	The intervention is included in the 2022 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability		Evaluable
3. Evidence-based Assessment & Solution		10.0
3.1 Program Diagnosis		2.5
3.2 Proposed Interventions or Solutions		3.5
3.3 Results Matrix Quality		4.0
4. Ex ante Economic Analysis		10.0
4.1 Program has an ERR/NPV, or key outcomes identified for CEA		1.5
4.2 Identified and Quantified Benefits and Costs		3.0
4.3 Reasonable Assumptions		2.5
4.4 Sensitivity Analysis		2.0
4.5 Consistency with results matrix		1.0
5. Monitoring and Evaluation		8.4
5.1 Monitoring Mechanisms		2.8
5.2 Evaluation Plan		5.5
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood	Medium High	
Environmental & social risk classification	B	
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury. Procurement: National Public Bidding.
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project	Yes	TT-T1076. This TC supports the preparation of operation TT-O0007 / TT-L1055, which aims to resolve the existing water shortage; improve efficiency, quality and resilience of the service ; as well as, guarantee access to WASH in the face of COVID-19 to vulnerable populations.

Evaluability Assessment Note:

This is the first individual operation under the Conditional Credit Line for Investment Projects (CCLIP), TT-O0007. The general objective of the CCLIP and the first operation is to improve the efficiency, quality, sustainability and resilience of potable water supply service and water security in Trinidad and Tobago (T&T). The specific objectives are to: (i) improve operational efficiency and reliability of water supply services; (ii) improve quality of water services for underserved communities in T&T; and (iii) develop capacity and provide institutional strengthening to the Ministry of Public Utilities (MPU) and the Water and Sewerage Authority (WASA) to improve governance and sustainable management of water resources.

The proposal presents a solid diagnosis. The gaps in water operational efficiency and quality of services are identified and quantified, as well as the institutional challenges faced by WASA to guarantee the sustainability of the services, despite high subsidies from the GoRTT (low collection rate, over-reliance on desalination plants, low implementation of IWRM, among others). To address the problems identified, the program will implement three components: 1) Water Stabilization and Improvement, 2) Support for Water Sector Transformation, and 3) Network Optimization, benefiting around 406,165 households in targeted and surrounding communities. The importance of incorporating gender and diversity, and climate change considerations is highlighted for both the design of projects and in the strengthening of institutional capacities.

The results matrix (RM) reflects the specific objectives of the program and shows a clear vertical logic. The RM includes output and outcome indicators with their respective baseline values, targets, and means to collect the information. For the most part, the result and output indicators are SMART.

The socioeconomic assessment is based on a cost-benefit analysis performed for each of the projects related to water stabilization and network optimization, as well as on an overall assessment. The assumptions made are reasonable and all projects are economically viable, with IRR ranging from 18.04 to 180.5% (overall IRR is 54.6%).

The monitoring and evaluation plan proposes a final evaluation that includes an ex-post cost-benefit analysis and an assessment of the project's effectiveness based on a "before and after" analysis of the specific objective indicators.

RESULTS MATRIX

Project Objective:	The general objective of the CCLIP and the first operation under the CCLIP is to improve the efficiency, quality, sustainability and resilience of potable water supply service and water security in T&T. The specific objectives of the first operation are to: (i) improve operational efficiency and reliability of water supply services; (ii) improve quality of water services for underserved communities in T&T; and (iii) develop capacity and provide institutional strengthening to the MPU and WASA to improve governance and sustainable management of water resources.
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SPECIFIC DEVELOPMENT OBJECTIVES (OE)

EXPECTED RESULTS										
Indicator	Unit of Measure	Base Line (BL)	BL Year	Year					Final Project	Comments ¹ (C) / Means of Verification (MV) / Responsible (R)
				2022	2023	2024	2025	2026	2026	
Specific Objective #1: Improve operational efficiency and reliability of water supply services										
R.1.1 Amount of water produced by new water treatment plants	IMGD	0	2022	0	10	12			22	MV: Monthly report R: WASA C: Project Data New Infrastructure At the country level
R.1.2 Number of days that the rehabilitated water treatment plants are offline	# of days / year	15	2022	15	9	5	2	1	1	MV: Monthly report R: WASA C: The indicator is a simple average all the plants rehabilitated by the program. Specific information for each water treatment plant can be viewed in the technical analysis of the operation. “offline” means that the plant is not functioning, this producing water for distribution.

¹ For a more detailed explanation, refer to the [Monitoring and Evaluation Plan](#).

EXPECTED RESULTS										
Indicator	Unit of Measure	Base Line (BL)	BL Year	Year					Final Project 2026	Comments ¹ (C) / Means of Verification (MV) / Responsible (R)
				2022	2023	2024	2025	2026		
R.1.3 Total number of leaks on targeted pipeline projects	# of leaks per year	91	2022	91	91	19	19	19	19	<p>MV: ARMS Database via daily reports R: WASA C: These figures are based on the current trajectory of leak management and WASA's current leak repair initiatives.</p> <p>Baseline value refers to fiscal year 2021 October 1st – 2022 September 30th.</p> <p>Assumption of one (1) leak per pipeline per year upon completion of project.</p> <p>Real water losses are due to leakages and overflows in the distribution system</p>
R.1.4 Pipe burst rate (per kilometer pipe in targeted communities)	# per km pipe	5.3	2022	5.3	5.3	1.10	1.10	1.10	1.10	<p>MV: ARMS Database via daily reports R: WASA C: Total no of burst divided by the total distance of targeted pipeline to be replaced (per kilometer pipe)</p>

EXPECTED RESULTS										
Indicator	Unit of Measure	Base Line (BL)	BL Year	Year					Final Project	Comments ¹ (C) / Means of Verification (MV) / Responsible (R)
				2022	2023	2024	2025	2026	2026	
Specific Objective #2: improve quality of water services for underserved communities in T&T										
R.2.1 Households with improved water supply service (at least 24/3) in underserved targeted communities ²	# households	0	2022	85,310	225,355				310,665	MV: Distribution schedule zones R: WASA C: Dry season estimates. C: at least 24/3 means that there will be service 24 hours, 3 days a week or better. Only beneficiaries from New and Rehab Water Treatment Facilities were used as there will be duplications if the other projects were to be included.

² **South:** Ravine Sable, Thompson Rd, Sou Lands, Caparo, Palmiste, Todds Road, Todds Station Road, Mamoral, Flanagan Town and Brasso Clearwater, Deep Ravine, Legendre, Mahabalsingh, parts of Rio Claro, Bristol, Mafeking, Ortoire, Coconut Grove, Kernaham, Cascadoux, Cedar Grove, Rabita, Resthouse, Plaisance, Peterhill, Solmon St, Alexis, Panhandle, Chaguanas, Kelly Village/ Cunupia, Caratal, Flanigan Town, Gasparillo, Marabella, Caparo, Brechin Castle, California, Chase Village, Palmiste, Preysal, Balmain, Calcutta Rd#2, Pepper Village, Gran Couva, Brasso Caparo Village, Freeport, Quarry Village, Rancho Quemado, Bennet Village, Santa Flora, Palo Seco, St Francis Village, Erin, Sheila Lamorell Gardens, Dickie Trace, Los Bajos, Waddle Village, Chatham North, Chatham South, Boodram Trace, Point Coco, Unity Road, Augustusville, Southern Main Road from Cap De Ville Junction to Point Coco Ext Junction, Cap De Ville Tank San Fernando, Tableland, Libertville, Robert Village, George Village, Rio Claro, Rio Claro Tabaquite Road, Deep Ravine, Agostini, Clearwater, Cunapo Southern Main Road, Biche, Plum Mitán, Charuma, New Grant, Hindustan, Craguish Village, Matilda, St. Julien, Indian Walk, St. Mary's Village Moruga, Cachippe, Penal Rock Road, Whiteland, Poonah, Piparo, Morne Roche, Sisters Road, Brothers Road, Williamsville, Hardbargain, Buen Intento, Malgretoute, Princes Town, Manahambre, Iere Village Cleghorn, Mount Stuart, Reform, Palmyra, Corinth, Ste. Madeline, St. Charles, Bronte, Borde Narve, Golconda, Picton, Wellington Road, Cunjal, Cumuto, Barrackpore, Monkey Town and Papourie Road.

North East: Sangre Grande, Manzanilla, Guaico Tamana, Valsayn, Curepe, Champs Fleurs, Mt Hope, St. Augustine South, Coalmine & Fishing Pond, Calvary Hill, Pinto Rd, Maturita, Mt. Pleasant, Alenore Gdns, Town of Arima, Windsor Heights, Torricilla Gdns, Heights of Guanapo,

North West: Santa Cruz Old Rd, Petit Curacaye, Gran Curacaye, Saddle Road(Grace Gardens, Sinnanan Gardens, Mayfair), Bourg Mulatresse / Santa Cruz South, La Canoa, Murray Hill, Sun Valley Ext, And Environs, Quarry Road/ Ramkissoon Trace, Santa Cruz North Sam Bocaud, Gasparillo, La Sagesse, Paxvale, Cantaro, Pipiol, Akal Trace, La Pastora Development, Susconosco #2, Cutucupano, Gabriel Greens, Foster Block, Saddle Grove, Saddle Vale, Homestead Garden, Nazarene College, Donald Avenue, Malick, San Juan Barataria. Morvant Laventille, Belmont, St James, Cocorite, Westmoorings, East Dry River POS, Fairways, La Sieva Village, Champs Elysees, Morne Coco Rd, Saddle Hill, Haleland Park, Ellerslie Park, Boissiere Village 1&2.

Tobago: Majuba, Goodwood, James Street, Richmond, Roxborough, Black Rock, Pleasant Prospect, Mt Irvine, Shirvan Road, Grafton, Canaan, Bon Accord, Crown Point, Kilgwyn, Store Bay Local Road, Milford Court, Mt Grace, Whim, Union, Concordia, Idlewild, Harmony Hall, Mt. Pelier, Glen Road, Mary's Hill, Spring Garden, Summer Hill, Providence, Betsy's Hope, Kendal, Belle Garden, Louis D'or.

EXPECTED RESULTS										
Indicator	Unit of Measure	Base Line (BL)	BL Year	Year					Final Project 2026	Comments ¹ (C) / Means of Verification (MV) / Responsible (R)
				2022	2023	2024	2025	2026		
R.2.2 Households with improved water supply service (up to 24/3) in underserved surrounding communities ³	# households	0	2022	66,631	18,074				84,705	MV: GIS Zone and Population Data R: WASA C: Beneficiaries impacted by the project which are outside of the targeted communities Water supply improvement would vary from 1 day supply every 9 days and 24/2 to up to 24/3. Only beneficiaries from New and Rehab Water Treatment Facilities were used as there will be duplications if the other projects were to be included

³ **South:** Caroni system -Longdenville areas (Ragoonanan Rd, Depot Rd, Old Longdenville Rd, Pokhor Rd and environs) Carlsen Field zone, Freeport zone, Libertville, Poole and Tableland areas specifically to benefit indirectly and the wider Navet plant supply zone in general. Gran Couva, Felicity, Nadira Gardens, Penal, Pleasantville, St. Madeline. Cocoyea Village, Marabella, Gasparillo, Grandville, Cape De Ville.

North: Malabar, Brazil, San Rapheal, La Horquetta, Mausica South, Carapo, Maloney, Five Rivers & Piarco, Santa Cruz Old Rd, Petit Curacaye, Gran Curacaye, Saddle Road(Grace Gardens, Sinnanan Gardens, Mayfair), Bourg Mulatresse / Santa Cruz South, La Canoa, Murray Hill, Sun Valley Ext, And Environs, Quarry Road/ Ramkissoon Trace, Santa Cruz North Sambocaud, Gasparillo, La Saggessse, Paxvale, Cantaro, Pipiol, Akal Trace, La Pastora Development, Susconosco #2, Cutucopano, Gabriel Greens, Foster Block, Saddle Grove, Saddle Vale, Homestead Garden, Nazarene College, Donald Avenue, North Post, Bagatelle, Santa Rosa, Wallerfield, Belmont, St. Anns, Cascade, Trincity, Cumuto, Malabar, Arouca, Pine Ridge, Bon Air West, Dinsley, Bon Air North, Omera Rd, Samaroo Village, Darwill Gardens.

Tobago: Speyside, Belle Air, Charlotteville, Culloden, Courland, James Street, Plymouth High Points, Bon Accord, Crown Point, Grafton, Shirvan Road, Black Rock, Buccoo, Pleasant Prospect, Mt. Irvine Mt. Pleasant, Carnbee, Lowlands, Les Coteaux, Plymouth, Montgomery, Bethel, Patience Hill, Highlands Road, Easterfield Rd, Calder Hall, Government House Road, Hope, John Dial, Bacolet, Friendsfield, Signal Hill, Orange Hill, Mason Hall, Sandy River, Sou Lands, Riseland, Sherwood Park, Lambeau, Arnos Vale Road, Canoe Bay, Plymouth Road, Orange Hill, Lower Scarborough, Shaw Park & Pumpmil.

EXPECTED RESULTS										
Indicator	Unit of Measure	Base Line (BL)	BL Year	Year					Final Project	Comments ¹ (C) / Means of Verification (MV) / Responsible (R)
				2022	2023	2024	2025	2026	2026	
Specific Objective #3: develop capacity and provide institutional strengthening to the MPU and WASA to improve governance and sustainable management of water resources										
R.3.1 The Water Resources Agency has been separated from WASA	agency	0	2022		1				1	MV: Implementation of Policy R: MPU C: The agency has become an independent entity.
R.3.2 MPU and WASA personnel that complete capacity building in water resources, technical/ managerial skills,	percentage	0	2022		25	25	25	25	100	MV: Training records R: MPU and WASA C: Capacity building to move the transformation plan forward. Disaggregated by sex and persons with disabilities
R.3.3 Water infrastructure projects that incorporate disaster and climate change risk management strategies	%	N/D	2022			100			100	MV: WASA annual reports R: WASA C: Refers only to projects included in the loan
R.3.4 Women working in MPU and WASA who have received training in leadership and self-esteem and/or in strengthening technical capacities	%	0	2022					30	30	MV: training report R: MPU/WASA Gender flag

PRODUCTS											
Products	Unit of Measure	BL	Year BL	Cost (US\$)	Associated Results	Year				Final Goal	Comments (C) / Means of Verification (MV) / Responsible (R)
						2023	2024	2025	2026		
Component #1: Water stabilization and improvement											MV: Final performance certificate R: WASA C: “commissioned” means that the infrastructure complies with technical specifications, and it is performing according to the specifications over a period
New water treatment plants constructed and commissioned	# Plant	0	2022	18,100,000	R.1.1, R.2.1, R.2.2	3	3			6	
Water treatment plants rehabilitated and commissioned	# Plant	0	2022	18,400,000	R.1.2, R.2.1, R.2.2	7	2			9	
New ground water production wells constructed and commissioned	# Well packages	0	2022	4,500,000	R.2.1, R.2.2	3				3	
Ground water production wells rehabilitated and commissioned	#well packages			2,200,000		2				2	
El Socorro booster and lift station refurbished and commissioned	#	0	2022	800,000	R.2.1, R.2.2	1				1	
Component #2: Support for Water Sector Transformation											
Transformation Plan & Organizational Restructuring Implemented	Plan	0	20220	1,840,000	R.1.2, R.3.1				1	1	MV: Report on implementation of the plan R: MPU/WASA. C: “implemented” means that the targets set by GoRTT in the transformation plan have been achieved.

PRODUCTS											
Products	Unit of Measure	BL	Year BL	Cost (US\$)	Associated Results	Year				Final Goal	Comments (C) / Means of Verification (MV) / Responsible (R)
						2023	2024	2025	2026		
Plan to manage disaster and climate change risk developed and implemented	Plan	0	20220	450,000	R.3.3			1		1	MV: Report on implementation of the plan R: MPU/WASA C: "implemented means that Water infrastructure projects incorporate in their design disaster and climate change risk management strategies.
Diagnosis and analysis of hydrogeological changes at the watershed level due to CC and other factors supported by the HydroBID tool developed	Report	0	20220	200,000	R.3.2		1			1	MV: HydroBID Report with Recommendations R: MPU/WASA C: This product is an input to improve existing IWRM
No. of capacity building activities in oversight, monitoring and evaluation completed	# Activities	0	20220	200,000	R.3.2		4	4	4	12	MV: Capacity Building attendance records R: MPU/WASA

PRODUCTS											
Products	Unit of Measure	BL	Year BL	Cost (US\$)	Associated Results	Year				Final Goal	Comments (C) / Means of Verification (MV) / Responsible (R)
						2023	2024	2025	2026		
Diagnosis and Training Plan ⁴ on Gender for WASA developed and implemented	Diagnosis and Training Plan	0	20220	40,000	R.3.2, R.3.4			1		1	MV: Evaluation Report of Plan R: MPU/WASA
Diagnosis and Plan of Action on PWDs for WASA developed	Diagnosis and Plan	0	2022	10,000	R.3.2			1		1	MV: Diagnosis and Plan Report R: MPU/WASA
Component #3: Network optimization											
Aged and fragile transmission and distribution network mains replaced	Km.	0	2022	6,500,000	R.1.3, R.1.4, R.2.2	10	3.	3.6		16.6	MV: Final performance certificate R: WASA
Bulk meters and loggers to monitor production installed	# Meters	28	2022	3,600,000	R.1.3, R.1.4, R.2.2		263			263	MV: Final performance certificates R: WASA
Facilities equipped with Remote Monitoring and Control SCADA Automation	# of facilities equipped with SCADA	0	2022	5,900,000	R.1.3	3	3	3		9	MV: Final performance certificates R: WASA C: Facilities refer to water treatment plants, wells, and pumping stations.
Targeted DMAs/PMAAs implemented	# DMA / PMA	0	2022	1,500,000	R.1.3, R.1.4, R.2.2.		5	5		10	MV: Final performance certificate R: WASA

⁴ The Action Plan on Gender and PWD includes (i) Design and implementation of an Institutional Policies for the inclusion of Gender and PWDs aspects in WASA, (ii) Design and approval of Codes of Conduct to prevent and address sexual harassment in the workplace, (iii) Development and implementation of a Self-Esteem and Leadership Training Plan and a Technical Capacity Building Plan.

PRODUCTS											
Products	Unit of Measure	BL	Year BL	Cost (US\$)	Associated Results	Year				Final Goal	Comments (C) / Means of Verification (MV) / Responsible (R)
						2023	2024	2025	2026		
Training and capacity building of WASA's personnel in water loss management and SWIT imparted	# Training sessions	0	2022	100,000	R.1.3, R.1.4, R.2.2, R.3.2		12	12	12	36	MV: Training session records R: MPU/WASA
Non-Revenue Water reduction Program for this operation's targeted areas implemented ⁵ :	Contract	0	2022	13,400,000	R.1.3, R.1.4, R.2.2, R.3.3				1	1	MV: Final performance certificate R: WASA
Base line study completed	Study	0	2022	1,200,000	R.1.3, R.1.4, R.2.2, R.3.3		1			1	
NRW Reduction Strategy and Program developed	Strategy and Program developed	0		700,000			1			1	
Hydraulic modeling completed	Model	0		2,300,000			1			1	
Integrated Asset Management System developed and implemented	System	0		1,000,000				1		1	
Leak detection and repair completed	# of leaks	0		7,500,000					1	1	
Training in SWIT and change management Plan developed and implemented	Plan	0		400,000					1	1	
Communication campaign developed and implemented	Campaign	0		300,000					1	1	

⁵ NRW services include: (i) Base line study, (ii) NRW Reduction Strategy and Program developed; (iii) Hydraulic modeling completed, (iv) all data integration completed; (v) leak detection and repair diagnosed and repaired; (vi) advice to WASA's Executive Management activities completed; (vii) Training in SWIT and change management Plan developed and implemented; and (viii) Communication campaign developed and implemented.

Country: Trinidad and Tobago **Division:** INE/WSA **Operation No.:** TT-O0007/TT-L1055 **Year:**2022

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Executing Agency (EA): Ministry of Public Utilities.

Operation Name: Trinidad and Tobago National Water Sector Transformation Program. First Individual Operation under the Conditional Credit Line for Water Supply Improvement Programs (CCLIP).

I. Fiduciary Context of Executing Agency

1. Use of country system in the operation (Any system or subsystem that is subsequently approved may be applicable to the operation, in accordance with the terms of the Bank's validation).

<input checked="" type="checkbox"/> Budget	<input type="checkbox"/> Reports	<input type="checkbox"/> Information System	<input type="checkbox"/> National Competitive Bidding (NCB)
<input checked="" type="checkbox"/> Treasury	<input type="checkbox"/> Internal audit	<input type="checkbox"/> Shopping	<input type="checkbox"/> Others
<input checked="" type="checkbox"/> Accounting	<input checked="" type="checkbox"/> External Control	<input type="checkbox"/> Individual Consultants	<input type="checkbox"/> Others

2. Fiduciary execution mechanism

<input checked="" type="checkbox"/>	Co-executors/Sub executors	The Water and Sewerage Authority (WASA) will be a sub-executing agency and will be responsible for providing technical engineering input, general oversight, and auditing of scope of completed works of Components 1 and 3 and procure the selection and award of contract of a specialized consultancy firm in Co-Management Performance Based Contract for NRW that will be finance with the IDB loan resources.
<input checked="" type="checkbox"/>	Particularities of the fiduciary execution	The program will be executed by the Ministry of Public Utilities (MPU) through a Project Executing Unit (PEU) that will be created for the purpose of the implementation of the project. WASA will be the sub- executing agency. For all the components, the Government will hire two (2) Special Purpose Company (SPC) and the management fees will be paid with GoRTT's own resources. The responsibilities of these SPC will include final validation/approval of designs, technical specifications, selection and contracting of works and consulting services, certify payments and the supervision of agreed upon water supply infrastructure works. All contracts let under Components 1, 2, and 3 will be signed by the selected SPC on behalf of the Government GoRTT. WASA will only procure and contract a Specialized Consulting Firm in NRW to execute a Co-Management Performance Based Contract. . These Special Purpose Companies (SPC) will certify payments, which will be paid by the MPU/PEU to the contractors. The two (2) Special Purpose Company (SPC) will apply IDB's procurement policies and receive the respective training. The selection of SPC for components 1 and 3 will require the Bank's no objection based on criteria and minimum experience in procurement management and project management in infrastructure and water sector. The selection of SPC for

		<p>component 2 will require the Bank's no objection based on criteria and minimum experience in procurement management and project management in the institutional capacity sector particularly in consulting services.</p> <p>A Project Steering Committee (PSC) will be established which will be chaired by the Ministry of Planning and Development with the participation of WASA and Ministry of Public Utilities. The main objective of the PSC will be to provide a governance and strategic framework and to address any bottlenecks encountered during the project implementation.</p>
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3. Fiduciary Capacity

Fiduciary Capacity of the EA	<p>An institutional assessment of the MPU was conducted in September 2022 using the Institutional Capacity Analysis Platform (ICAP) methodology and concluded overall fiduciary capacity as medium. Although the EA has limited experience in the financial management of IDB financed projects, it is considered that it has extensive experience providing ex-post review of all invoices and subsequent approval of payments for IDB-financed loans - 2600/OC-TT and 2890/OC-TT. A similar evaluation of WASA was undertaken and concluded a medium fiduciary risk. The ICAP identified important gaps in procurement and project management. Institutional Analysis (ICAP) - MPU (OEL#12) and Institutional Analysis (ICAP) - WASA (OEL#13)</p>
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4. Fiduciary risks and risk response

Risk Taxonomy	Risk	Risk level	Risk response
Institutional	The lack of MPU experience in following the IDB's policies and the lack of a well-established procurement unit could affect the procurement processes and delay the project.	Medium-low	(i) Recruitment of a Procurement Specialist that will be located in the PEU (Project Execution Unit) that will be under the MPU for the component. (ii) Hiring of two (2) Special Purpose Company (SPC) for performing the procurement and project management for all the components with GoRTT resources that will apply IDB procurement policies. (iii) Training sessions in the IDB procurement policies (GN-2349-15 and GN-2350-15) for the PEU and the SPC. (iv) All national and international competitive bidding process will be subject to ex-ante review by the Bank.
Human Resources	Delays in the cash flow planning, preparation of financial reports and the overall financial management of the loan due to limited experience of the EA in using an automated accounting system and executing the full financial management of donor financed projects.	Medium-low	The recruitment of a suitably qualified financial officer/specialist for the PEU coupled with the provision of training on Bank policies and procedures.

5. Policies and Guides applicable to operation. Policies for the procurement of Goods and Works financed by the Inter-American Development Bank, GN-2349-15 and Policies for the selection and contracting of consultants financed by the Inter-American Development Bank, GN-2350-15 and the provisions established in the loan contract and the procurement plan.

6. Exceptions to Policies and Rules: not applicable.

II. Aspects to be considered in the Special Conditions of the Loan Agreement

Pre-first disbursement conditions:
Exchange Rate: For purposes of Article 4.10 of the General Conditions, the Parties agree that the applicable exchange rate shall be that indicated in paragraph (b)(ii) of said Article. Accordingly, the agreed exchange rate shall be the exchange rate on the effective date on/in which the Borrower, the Executing Agency, or any other person or legal entity in whom the power to incur expenditures has been vested makes the related payment to the contractor, the supplier, or beneficiary.
Type of Audit: Audited Financial Report of the Program, audited by an eligible independent Audit firm, to be submitted to the Bank within 120 days after the end of each fiscal year, beginning with the fiscal year in which the first project expenditures are incurred. The final Audited Financial Report will be submitted within 120 days after the last disbursement date of the loan.

III. Agreements and Requirements for Procurement Execution

<input checked="" type="checkbox"/>	Bidding Documents	<p>For procurement of Works, Goods and Services Different of Consulting executed in accordance with the Procurement Policies (document GN-2349-15), subject to ICB, the Bank's Standard Bidding Documents (SBDs) or those agreed between EA and the Bank will be used for the particular procurement. Likewise, the selection and contracting of Consulting Services will be carried out in accordance with the Policies for the Selection and Contracting of Consultants (document GN-2350-15). The bidding documents may include additional sustainability requirements in the procurement process.</p> <p>MPU/PEU is required to prepare and submit to the Bank, a General Procurement Notice as well as an initial procurement plan which will be updated in accordance with the applicable sections of the Policies and the Loan Agreement. MPU/PEU will be responsible for creating and updating the procurement plan in the Online Bidding Process and Contract Management (OBPCM).</p> <p>Procurement of works, goods and non-consulting services: Contracts for works, goods, and non-consulting services subject to International Competitive Bidding will be carried out using the Standard Bidding Documents and standard contracts issued by the Bank. The procurement processes subject to National Competitive Bidding and Price Comparison will be carried out using bidding documents, request for quotations and form of contracts agreed to by the Bank. Templates of evaluation reports provided by the Bank will be used in conducting all procurement activities.</p> <p>Selection and contracting of consultants: The consulting services contracts will be executed using the Standard Request for Proposals and standard form of contracts issued by the Bank. Templates of evaluation reports provided by the Bank will be used in conducting all procurement activities.</p> <p>Selection of individual consultants: Individual consultants will be selected in accordance with Section V of GN-2350-15.</p> <p>The revision of the technical specifications, as well as the terms of reference of the procurements during the preparation of selection</p>
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		processes, is the responsibility of the Project Team Leader of the project. This technical review can be ex-ante and is independent of the procurement review method.
<input checked="" type="checkbox"/>	Procurement supervision	The method of supervision shall be ex ante supervision for works and Goods/Services, and Consulting Services. During the implementation of the project and based on the performance of the Executing Agency, the supervision method can be modified and agreed in the procurement plan.
<input checked="" type="checkbox"/>	Records and Archives	All records and files will be maintained by MPU/PEU, WASA and the two (2) Special Purposes Companies (SPC), in accordance with accepted best practices, and be kept for up to three (3) years beyond the end of the operation's execution period. The minimum content of records for the procurement process will be indicated in the operations manual.

Main Acquisitions

Description of the procurement	Selection Method	Estimated Date	Estimated Amount US\$
Goods			
Supply and replace aged and fragile transmission and distribution mains (in different areas of TT)	International Competitive Bidding (ICB)	IV Q2023	3,690
Supply and Install equipment for targeted DMAs/PMAs	International Competitive Bidding (ICB)	IV Q2023	1,500
Supply and Installation of Bulk Meters and loggers	International Competitive Bidding (ICB)	III Q2023	3,600
Supply and Install Supervisory control and Data Acquisition SCADA automation	International Competitive Bidding (ICB)	III Q2023	5,900
Works			
Drilling and equipping of 3 new wells at Freeport	International Competitive Bidding (ICB)	III Q2023	3,759
Rehabilitation and upgraded commissioning of Caroni water treatment plant	International Competitive Bidding (ICB)	III Q2023	3,200
Rehabilitation and upgraded commissioning of North Oropouche water treatment plant	International Competitive Bidding (ICB)	III Q2023	3,700
Construction and Commissioning of New Water Treatment plant at Goldsborough River	International Competitive Bidding (ICB)	IV Q2023	3,800
Construction and Commissioning of New Water Treatment plant at Santa Cruz-Green Meadows	International Competitive Bidding (ICB)	IV Q2023	3,900

Description of the procurement	Selection Method	Estimated Date	Estimated Amount US\$
Construction and Commissioning of New Water Treatment plant at Sangre Grande	International Competitive Bidding (ICB)	IV Q2023	4,400
Consulting Firms			
WASA: Selection of specialized firm NRW co-management.	Quality- and Cost-Based Selection (QCBS)	II Q2023	13,400
Institutional Strengthening and IWR	Quality- and Cost-Based Selection (QCBS)	II Q2023	200

SPC (Special Purpose Company)

To access, [[Procurement Plan \(REL#4\)](#)]

IV. Agreements and Requirements for Financial Management

<input checked="" type="checkbox"/>	Programming and Budget	The Ministry of Planning and Development will liaise with the MPU to facilitate the assignment of a Budget Line in the National Budget to allow for drawdowns under the proposed loan.
<input checked="" type="checkbox"/>	Treasury and Disbursement Management	<p>Precedent to the first disbursement, the Ministry of Finance will establish a special account denominated in US Dollars at the Central Bank of Trinidad and Tobago for the program's resources.</p> <p>The Project Cash Flow is characterized by a financial plan which will serve as the basis for the disbursement of funds to the EA to meet liquidity needs as justified in the project's operational instruments. The disbursement mechanism shall be Electronic. The currency to manage the operation is USD.</p> <p>The exchange rate to be used in the transaction will be effective exchange rate on the date of payment of the expense in the local currency.</p> <p>The operation will generally work with a cash flow planning period of 6 months. The Disbursement Method will be 1) Re-imbursement to Borrower of payments made and 2) the Advance of Funds based on 6-month cash flow needs</p> <p>The operation is expected to justify 80% to be used in the justification of accumulated balances pending of justification.</p>
<input checked="" type="checkbox"/>	Accounting, information systems and reporting	Project accounting will be completed under the modified cash basis, in accordance with International Public-Sector Accounting Standards (IPSAS) and the Financial Management Guidelines for IDB-financed Projects (OP-273-12). An automated accounting software/system will be used as the technology platform for the financial management of the operation and the cash base method will be used. In addition to the policies and guides applicable to the operation, the Financial/Operations Manual for the project will be used with the documented definition of internal workflows and controls.
<input checked="" type="checkbox"/>	External control: external financial	The EA will select and/or contract external audit services in accordance with the terms of reference previously agreed between the EA and the Bank. These will establish the type of review, opportunity, and scope. The

	audit and project reports	selected external auditor and the audit rules to be applied must be acceptable to the Bank. According to the nature and risk of the operation, the Audit Services and Level of Eligibility Required for Auditors, may be adjusted over the life of the project depending on the Bank's supervision results. The type of Audited Financial Report that will be required to meet the external audit financial reporting needs in the operation is Audited Financial Statements with a cut-off date of the program's fiscal year end and the filing deadline will be 120 days after the fiscal year end.
<input checked="" type="checkbox"/>	Project Financial Supervision	The operation requires financial supervision for ex-post review of disbursements and internal controls review. Under the responsibility of the fiduciary financial management specialist "on-site" and desktop reviews and supervision visits will also be carried out annually, subject to adjustments during execution.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/___

Trinidad and Tobago. Conditional Credit Line for Investment Projects (CCLIP)
for the National Water Sector Transformation Program (TT-O0007)

The Board of Executive Directors

RESOLVES:

1. To authorize the President of the Bank, or such representative as he shall designate, to enter into such agreement or agreements as may be necessary with the Republic of Trinidad and Tobago, to establish the Conditional Credit Line for Investment Projects (CCLIP) for the National Water Sector Transformation Program (TT-O0007) (the "Line") for an amount of up to US\$315,000,000 chargeable to the resources of the Ordinary Capital of the Bank.

2. To establish that the resources allocated to the Line shall be used to finance individual operations under the Line, in accordance with: (a) the objectives and regulations of the Conditional Credit Line for Investment Projects approved by Resolution DE-58/03, as amended by Resolutions DE-10/07, DE-164/07, DE-86/16 and DE-98/19; (b) the provisions set forth in documents GN-2564-3 and GN-2246-13; and (c) the terms and conditions included in the proposal for the corresponding individual operation.

(Adopted on __ _____ 20__)

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/___

Trinidad and Tobago. Loan ____/OC-TT to the Republic of Trinidad and Tobago
Trinidad and Tobago National Water Sector Transformation Program
First Individual Operation under the Conditional Credit Line
for Investment Projects (CCLIP) TT-O0007

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Trinidad and Tobago, as borrower, for the purpose of granting it a financing aimed at cooperating in the execution of the Trinidad and Tobago National Water Sector Transformation Program, which constitutes the first individual operation under the Conditional Credit Line for Investment Projects (CCLIP) TT-O0007, approved by Resolution DE___/___ on ____ 20___. Such financing will be for the amount of up to US\$80,000,000, from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on ____ 20__)