



CERTIFICATION AND FINANCING PROPOSAL

STATE OF BAJA CALIFORNIA WATER UTILITIES SUSTAINABILITY BOND

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EXECUTIVE SUMMARY

STATE OF BAJA CALIFORNIA WATER UTILITIES SUSTAINABILITY BOND

Project Name:	State of Baja California Water Utilities Sustainability Bond (the “Project”).
Project Type (Sector):	Water and wastewater.
Objective:	Improve the water distribution and wastewater collection systems, as well as drinking water and wastewater treatment in the state of Baja California.
Expected Outcomes:¹	<p>The estimated environmental benefits resulting from the Project are:</p> <p>(i) Improve access to sustainable drinking water service:</p> <ul style="list-style-type: none">• Increase water treatment capacity, through the expansion of existing plants and construction of new facilities, by 440 liters per second (lps) or 10.0 million gallons per day (mgd)• Rehabilitate five existing water treatment plants with a combined capacity of 5,938 lps (135.5 mgd)• Replace 45.3 kilometers (28.1 miles) of water distribution lines.• Improve the reliability of the:<ul style="list-style-type: none">○ Water supply from groundwater sources by replacing low-performing or inoperative wells for a production capacity of 240 lps (5.5 mgd), and○ Transmission infrastructure by replacing pump equipment required to support a surface water supply capacity of 5,900 lps (134.7 mgd)

¹ Final outcomes will be assessed based on the actual project components to be implemented with NADBank financing.

	<p>(ii) Eliminate risks of untreated or inadequately treated wastewater discharges:</p> <ul style="list-style-type: none"> • Increase wastewater treatment capacity, through the expansion of existing plants and the construction of a new facility, by 470 lps (10.7 mgd). • Rehabilitate seven existing wastewater treatment plants with a combined capacity of 2,735 lps (62.4 mgd). • Rehabilitate 94.9 kilometers (59.0 miles) of wastewater collection infrastructure. <p>(iii) As a result of the aforesaid works, improve water and wastewater services for an estimated 1,046,000 existing households.</p>
Population to Benefit:	3,263,496 residents.
Sponsor:	State of Baja California (the State).
Borrower:	State of Baja California.
Project Cost:	\$3,000 million Mexican pesos.
NADB Loan Amount:	Up to \$3,000 million Mexican pesos.

CERTIFICATION AND FINANCING PROPOSAL

STATE OF BAJA CALIFORNIA WATER UTILITIES SUSTAINABILITY BOND, BAJA CALIFORNIA

1. PROJECT OVERVIEW AND EXPECTED OUTCOMES

The Sponsor, through the issuance of a sustainability bond, will finance various productive public investments, including the transfer of funds to the state water utilities to improve the performance and reliability of their systems for seven municipalities in the state of Baja California. Under the Project, the utilities will implement infrastructure projects to improve production, transmission and treatment of drinking water supply; improve and expand the water distribution and wastewater collection systems; and improve and expand wastewater treatment capacity, benefitting approximately 3,263,496 residents in the state.

The estimated environmental benefits resulting from the Project are:²

- (i) Improve access to sustainable drinking water service:
 - Increase water treatment capacity, through the expansion of existing plants and the construction of new facilities, by 440 lps (10.0 mgd).
 - Rehabilitate five existing water treatment plants with a combined capacity of 5,938 lps (135.5 mgd).
 - Replace 45.3 kilometers (28.1 miles) of water distribution lines.
 - Improve the reliability of the:
 - i. Water supply from groundwater sources by replacing low-performing or inoperative wells for a production capacity of 240 lps (5.5 mgd).
 - ii. Transmission infrastructure by replacing the pump equipment required to support a surface water supply capacity of 5,900 lps (134.7 mgd).
- (ii) Eliminate risks of untreated or inadequately treated wastewater discharges:
 - Increase wastewater treatment capacity, through the expansion of existing plants and the construction of a new facility, by 470 lps (10.7 mgd).
 - Rehabilitate seven existing wastewater treatment plants with a combined capacity of 2,735 lps (62.4 mgd).
 - Rehabilitate 94.9 kilometers (59.0 miles) of wastewater collection infrastructure.

² Final environmental and human health benefits will be assessed based on the actual project components to be implemented with NADBank financing and reported under the Framework considerations.

- (iii) As a result of the foregoing works, improve water and wastewater services for an estimated 1,046,000 existing households.³

2. ELIGIBILITY

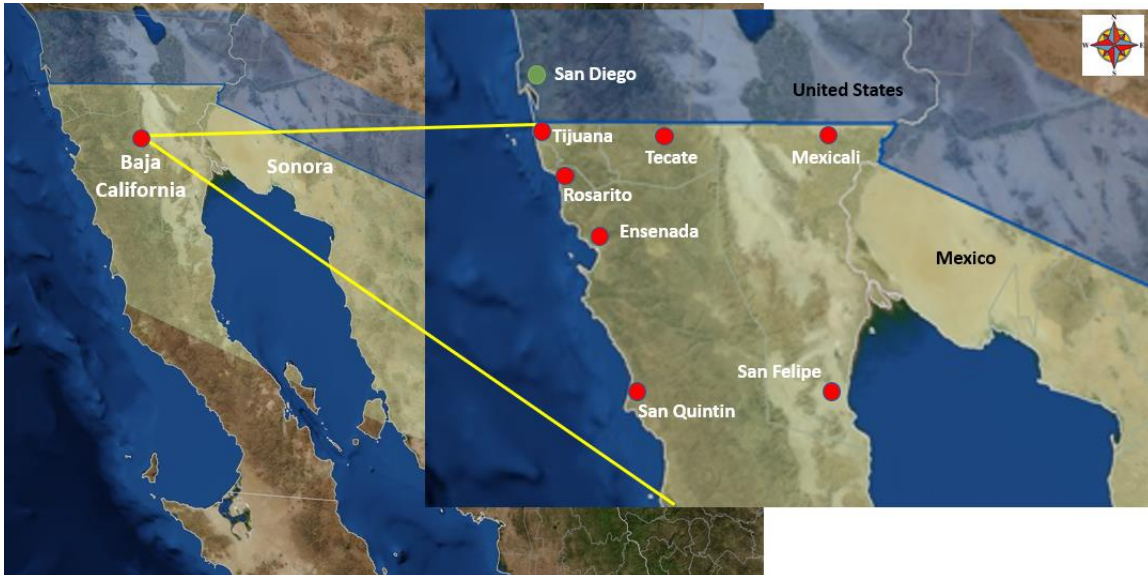
2.1. Project type

The Project falls within the eligible category of water and wastewater.

2.2. Project location

The Project will be implemented within seven municipalities in the State of Baja California—Ensenada, Mexicali, Playas de Rosarito, San Quintin, San Felipe, Tecate and Tijuana—all of which are within the defined U.S.-Mexico border region. Figure 1 illustrates the geographic location of the Project and benefitting communities.

Figure 1
PROJECT LOCATION MAP



³ Source: State Ministry for Water Management, Treatment and Protection (SEPROA), *Informacion Bono Sostenibles, Organismos Operadores de Baja California* [Baja California Water Utilities Sustainability Bond Information]. The 1,045,992 connections were calculated based on the population benefitted as established by the Sponsor using an average of 3.12 persons per household as reported by the Mexican national institute of statistics (INEGI).

2.3. Project Sponsor and Legal Authority

The project sponsor is the State of Baja California (the “Sponsor”), a public entity legally constituted in accordance with Articles 40 and 43 of the United Mexican States Constitution and the Articles 1, 4 and 11 of the Constitution of the Free and Sovereign State of Baja California. The Baja California State Congress will need to approve a decree under the provisions of the Financial Discipline Law for States and Municipalities, authorizing a pledge of the State payroll tax to fund the proposed bond.

3. CERTIFICATION CRITERIA

3.1. Technical Criteria

3.1.1. General Community Profile

The population of Baja California has grown considerably in the last 50 years and is projected to follow a similar trend over the next 30 years. According to the National Institute of Statistics and Geography (INEGI), Baja California had a population of 3,769,020 in 2020 and was growing at an average annual rate of 1.8%. The municipalities of Playas de Rosarito and Tijuana had the highest average growth rates at 3.5% and 2.2%, respectively. The National Population Council (CONAPO) projects that by 2030 the state population will reach 4,138,349 with an average annual growth rate of 1.08% and that by 2050 the population will be nearly 4.8 million.

The state of Baja California accounted for 3.26% of Mexico’s gross domestic product (GDP) in 2020. According to the INEGI’s GDP by State (PIBE), the main economic activities contributing to the state PIB are manufacturing (26%), real estate services (11.5%), retail trade (9.9%) and wholesale trade (9.7%).⁴

Baja California Water and Wastewater Systems

In Baja California, the Ministry for Water Management, Treatment and Protection (SEPROA) is the state entity responsible for all aspects of water resource management. Its main functions include designing and coordinating public policy for water resource management, promoting water efficiency and facilitating the planning and coordination of public services. The State Water Commission (CEA), is the consultive body of SEPROA and among other responsibilities, supplies bulk water to the four water utilities that provide municipal water and wastewater services. CEA and the utilities report to and are supervised by SEPROA. For the purposes of simplicity in this proposal, when CEA and the utilities are referenced together or interchangeably, they will be called the “State Water Entities.”

⁴ Source: INEGI, Producto Interno Bruto por Entidad Federativa [GDP by state]. Año Base 2013 [2013 base year]. Serie de 2003 a 2020 [2003-2020 Series]. 2020 revised, <https://www.inegi.org.mx/programas/pibent/2013/#Tabulados> - Sistema de Cuentas Nacionales de México.

Table 1 lists the state water entities in Baja California, along with their service area.

Table 1
WATER ENTITIES IN THE STATE OF BAJA CALIFORNIA

Name	Acronym	Service Area
State Water Commission	CEA	Operation of the Colorado River-Tijuana Aqueduct
State Water Utility of Ensenada	CESPE	Ensenada and San Quintin
State Water Utility of Mexicali	CESPM	Mexicali and San Felipe
State Water Utility of Tecate	CESPTE	Tecate
State Water Utility of Tijuana	CESPT	Tijuana and Playas de Rosarito

The characteristics of CEA and the four water utilities in the state of Baja California are presented below.

CEA

CEA operates the Colorado River-Tijuana aqueduct, which conveys water from the Mexicali area through a 125-km (78-mile) water supply line with a capacity of up to 5.9 cubic meters per second or 120 mgd. The aqueduct serves the communities of Tijuana, Tecate, Playas de Rosarito and Ensenada. Before reaching Tijuana, some raw water is diverted to the Las Auras Dam for treatment at the Nopalera Water Treatment Plant and distributed within the community of Tecate. The rest of the raw water is delivered to the El Carrizo Dam and treated at the El Florido Water Treatment Plant. The drinking water is then distributed to the Tijuana, Playas de Rosarito and Ensenada urban areas.

CESPE

CESPE operates the water and wastewater systems for the municipality of Ensenada, which has a population of 561,375 inhabitants. Approximately 16% of the water supply for this community comes from the Colorado River, 16% from the Pacific Ocean through a desalination plant, 5% from local surface water captured at the Lopez Zamora Dam, and the remaining 63% comes from groundwater wells located in the La Mision, Maneadero, Valle de Guadalupe and Ensenada aquifers. Colorado River water is treated at the El Florido drinking water treatment plant in Tijuana and then conveyed to Ensenada through a 65 km (40.4 miles) transmission line, which has a capacity of up to 300 lps (6.8 mgd). The local surface water is treated at the Lopez Zamora Water Treatment Plant (WTP), which has a capacity of 150 lps (3.4 mgd). The distribution system has approximately 1,201 kilometers (746 miles) of waterlines, as well as 28 pump stations. With more than 127,000 service connections, CESPE water coverage is approximately 98%.

The wastewater collection system has approximately 1,040 kilometers (646 miles) of sanitary sewer lines and 38 lift stations. The wastewater system serves more than 111,000 connections with coverage reaching approximately 87.6% of households in Ensenada. CESPE operates four major wastewater treatment plants (WWTPs) with a combined treatment capacity of more than 900 lps (20.5 mgd) to serve Ensenada. The effluent from the wastewater treatment facilities is eventually discharged into the Pacific Ocean.

Table 2 summarizes the water and wastewater services provided by CESPE in the city of Ensenada.

Table 2
WATER AND WASTEWATER SERVICES IN ENSENADA

Water System			
Coverage	98.1%		
Supply source	Colorado River/Lopez Zamora Reservoir, sea water desalination plant and groundwater wells		
Number of connections	127,224		
Wastewater Collection			
Coverage	87.6%		
Number of connections	111,450		
Wastewater Treatment			
Coverage	100% of collected wastewater		
Treatment facilities	Plant	Type	Capacity
	El Naranjo	Activated sludge	500 lps (11.4 mgd)
	El Gallo	Activated sludge	225 lps (5.1 mgd)
	El Sauzal	Activated sludge	130 lps (3.0 mgd)
	Noroeste	Activated Sludge	30 lps (0.7 mgd)

Source: SEPROA, September 2022.

CESPM

CESPM operates the water and wastewater systems for the municipality of Mexicali, which has a population of 1,049,792 inhabitants. All of its water supply comes from the Colorado River. Its water and wastewater systems are divided into four service areas. Mexicali I and II cover the old urban areas of the city, while Mexicali III and IV serve most of the maquiladora industry and new urban developments. Water is treated at three main water treatment plants (WTPs) as follows: 1,850 lps (42.2 mgd) at WTP #1, 2,550 lps (58.2 mgd) at WTP #2 and 600 lps (13.7 mgd) at the Xochimilco WTP. The distribution system has approximately 4,693 kilometers (2,897 miles) of waterlines and serves more than 363,000 connections, with water coverage reaching 98.4% of households.

The wastewater collection system has approximately 3,301 kilometers (2,051 miles) of sanitary sewer lines and 33 lift stations. The wastewater system serves more than 318,000 connections with coverage reaching approximately 84% of households. CESPM operates two major WWTPs with a combined treatment capacity of 2,140 lps (48.9 mgd). The effluent from the Las Arenitas WWTP is discharged into the Hardy River, a tributary of the Gulf of California, and the Zaragoza WWTP discharges into the New River, a transboundary flow that eventually reaches the Salton Sea in the United States.

Table 3 summarizes the water and wastewater services provided by CESPM in the city of Mexicali.

Table 3
WATER AND WASTEWATER SERVICES IN MEXICALI

Water System			
Coverage	98.4%		
Supply source	Colorado River, treated at WTP#1, WTP#2 and Xochimilco WTP		
Number of connections	363,084		
Wastewater Collection			
Coverage	84.2%		
Number of connections	318,378		
Wastewater Treatment			
Coverage	100% of collected wastewater		
Treatment facilities	Plant	Type	Capacity
	Zaragoza	Oxidation ponds	1,300 lps (29.7 mgd)
	Las Arenitas	Oxidation ponds	840 lps (19.2 mgd)

Source: SEPROA, September 2022.
 WTP = Water treatment plant

CESPTE

CESPTE operates the water and wastewater systems for the municipality of Tecate, which has a population of 108,440 inhabitants. Approximately 75% of the water supply for this community comes from the Colorado River, and the remaining 25% comes from groundwater wells located in the San Jose aquifer. Surface water from the Colorado River is conveyed through a 125-km (78-mile) aqueduct. A portion of this water is diverted and stored at the Las Auras Reservoir and then treated at the 175-lps (4.0-mgd) Nopalera WTP. The distribution system has approximately 1,188 kilometers (738 miles) of waterlines, as well as 13 pump stations, serving more than 41,000 connections with water coverage reaching approximately 95% of households.

The wastewater collection system has approximately 323 kilometers (201 miles) of sanitary sewer lines and 14 lift stations. The wastewater system serves more than 29,000 connections with coverage reaching approximately 79% of households in Tecate. CESPTE operates the Tecate WWTP with a capacity of 210 lps (4.8 mgd). The effluent from this facility is discharged into the Tecate River, which is part of the Tijuana River watershed. Once the effluent reaches the Tijuana River, flows are diverted via lift stations and conveyed to San Antonio de Los Buenos Creek, which empties into the Pacific Ocean. However, when lift station infrastructure is out of operation, transboundary flows occur and are discharged near Imperial Beach, California.

Table 4 summarizes the water and wastewater services provided by CESPTE in the city of Tecate.

**Table 4
 WATER AND WASTEWATER SERVICES IN TECATE**

Water System			
Coverage	95.0%		
Supply source	Colorado River treated at the Nopalera WTP and water wells		
Number of connections	41,217		
Wastewater Collection			
Coverage	79.0%		
Number of connections	29,375		
Wastewater Treatment			
Coverage	100% of collected wastewater		
Treatment facilities	Plant	Type	Capacity
	Tecate	Trickling filters	210 lps (4.8 mgd)

Source: SEPROA, September 2022.
 WTP = Water treatment plant

CESPT

CESPT operates the water and wastewater systems for municipalities of Tijuana and Playas de Rosarito, which together have a population of 2,049,413 inhabitants. Approximately 99.9% of the water supply for the two communities comes from the Colorado River, while the remaining comes from groundwater wells located in the Tijuana and Playas de Rosarito aquifers and occasionally from the Rodriguez Reservoir. Surface water from the Colorado River is conveyed through a 125-km (78-mile) aqueduct with a capacity of up to 5,900 lps (135 mgd), which serves several other communities, including Tecate, before reaching Tijuana and Playas de Rosarito. Raw water is delivered and stored at the El Carrizo Reservoir, is treated at the 5,333-lps (121.8-mgd) El Florido WTP and then distributed to the Tijuana and Rosarito urban areas. CESPT operates a second water treatment plant located at the Rodriguez Reservoir with a capacity of 500 lps (11.4 mgd). The water system has approximately 4,499 kilometers (2,796 miles) of waterlines, as well as 152 pump stations, serving more than 696,000 connections with water coverage reaching approximately 99%.

The wastewater collection system has approximately 3,950 kilometers (2,455 miles) of sanitary sewer lines and 64 lift stations, serving more than 624,000 connections with coverage reaching approximately 88.7% of households. CESPT operates three major WWTPs with a combined treatment capacity of 2,914 lps (66.3 mgd). In addition, the South Bay International WWTP (SBIWTP), located in the United States and operated by the U.S. Section of the International Boundary and Water Commission (IBWC), treats approximately 1,100 lps (25 mgd) of wastewater from the city of Tijuana. With the addition of other small treatment facilities, the utility has a maximum treatment capacity of more than 3,280 lps or nearly 75 mgd. The effluent from all wastewater treatment facilities serving Tijuana and Playas de Rosarito is eventually discharged into the Pacific Ocean.

Table 5 summarizes the water and wastewater services provided by CESPT in the cities of Tijuana and Playas de Rosarito.

Table 5
WATER AND WASTEWATER SERVICES IN TIJUANA AND PLAYAS DE ROSARITO

Water System			
Coverage	99.1%		
Supply source	Colorado River treated at the El Florido WTP and water wells		
Number of connections	696,783		
Wastewater Collection			
Coverage	88.7 %		
Number of connections	624,136		
Wastewater Treatment			
Coverage	53% of collected wastewater		
Treatment facilities	Plant	Type	Capacity
	San Antonio de los Buenos (SAB)	Oxidation ponds	1,100 lps (25.0 mgd)
	SBIWTP	Activated sludge	1,100 lps (25.0 mgd)
	Arturo Herrera	Activated sludge	460 lps (10.5 mgd)
	La Morita	Activated sludge	254 lps (5.8 mgd)

Source: SEPROA, September 2022.

WTP = Water treatment plant; SBIWTP = South Bay International Wastewater Treatment Plant.

The state water utilities are required to have sufficient water rights to support necessary extraction and treatment activities. All Baja California drinking water treatment plants must comply with Official Mexican Standard NOM-127-SSA1-2021, and the effluent from the wastewater treatment plants must comply with the quality parameters established in NOM-001-SEMARNAT-1996. All the wastewater treatment plants, with the exception of the SAB WWTP, are in compliance with their respective permits. However, on March 3, 2022, an amendment to NOM-001-SEMARNAT-1996 was published, establishing new maximum permissible levels of contaminants. It is expected that the effluent from some of the WWTPs will not comply with all the quality parameters established in the new regulation. The updated standard is scheduled to go into effect on April 3, 2023. It will be the responsibility of the water utilities to maintain compliance with the standard.

3.1.2. Project Scope

The Project includes investments related to the construction, improvement, rehabilitation and/or replacement of water and wastewater infrastructure, as well as the acquisition of equipment or other purchases required for the provision of efficient and reliable public water services. Based on the Sustainability Bond Framework, the State and water utilities have initially identified the following infrastructure needs to be financed with the proceeds of the Bond:

- Drinking water supply, transmission, treatment and distribution, including but not limited to:
 - Construction of three water treatment plants, increasing treatment capacity by 440 lps (10 mgd).
 - Rehabilitation of five existing water treatment plants with a combined capacity of 5,938 lps (135.5 mgd).

- Rehabilitation of 45.3 kilometers (28.1 miles) of water lines.
- Rehabilitation of the Colorado River-Tijuana Aqueduct pump stations with a capacity of 5,900 lps (134.7 mgd).
- Rehabilitation of water wells with a capacity of 240 lps (5.5 mgd).
- Rehabilitation of two pump stations.
- Wastewater collection, treatment and reuse, including but not limited to:
 - Construction of two wastewater treatment plants, increasing treatment capacity by 470 lps (10.7 mgd).
 - Rehabilitation of seven existing wastewater treatment plants with a combined capacity of 2,735 lps (62.4 mgd).
 - Rehabilitation of 94.9 kilometers (59.0 miles) of sewer lines.
 - Acquisition of 10 sewer vacuum trucks.

It should be noted that the Project scope could change based on final infrastructure needs, as prioritized and implemented by each of the water utilities.

The State will engage an Independent External Consultant (IEC) to provide support in verifying project eligibility, as well as monitoring and reporting on project implementation and the use of the Bond proceeds. Prior to accepting the investment, NADBank will determine eligibility under the Bond Framework or other applicable agreements based on the reports from the IEC.⁵

3.1.3. Technical Feasibility

Project components will be implemented by CEA and the state water utilities, which have demonstrated sufficient experience in designing, construction and operating water and wastewater infrastructure. Final designs must be developed in accordance with the recommendations provided in the Water and Wastewater Manuals published by the Mexican National Water Commission (CONAGUA) and the indicators established by the Government of Baja California in its 2019 Technical Standards for Water and Wastewater Collection System Projects (*Normas técnicas para proyecto de sistemas de agua potable y alcantarillado sanitario, actualización 2019*).

During the final design process, multiple alternatives will be considered. To identify the most appropriate solution, technical alternatives will be evaluated pursuant to the following factors, among others.

⁵ The scope of the services to be performed by the IEC is under development and will be reviewed by NADBank.

Table 6
INFRASTRUCTURE DESIGN EVALUATION FACTORS

General	Water Components		
<ul style="list-style-type: none"> • Capital investment • Operation and maintenance cost • Constructability and project delivery method • Condition of existing infrastructure (i.e., rehabilitation, replacement, capacity impacts) • Topography • Property acquisition • Compliance with applicable norms and regulations • Environmental impacts • Alignment with long-term planning 	<table border="1"> <thead> <tr> <th data-bbox="824 569 1385 604">Wastewater Components</th> </tr> </thead> <tbody> <tr> <td data-bbox="824 604 1385 854"> <ul style="list-style-type: none"> • Water supply source and availability • Appropriate materials and sizing of transmission and distribution lines • Appropriate technology and sizing for pumping and treatment • Treatment capacity available or required • Appropriate sizing, material and slope of collection lines • Appropriate technology and sizing for treatment </td> </tr> </tbody> </table>	Wastewater Components	<ul style="list-style-type: none"> • Water supply source and availability • Appropriate materials and sizing of transmission and distribution lines • Appropriate technology and sizing for pumping and treatment • Treatment capacity available or required • Appropriate sizing, material and slope of collection lines • Appropriate technology and sizing for treatment
Wastewater Components			
<ul style="list-style-type: none"> • Water supply source and availability • Appropriate materials and sizing of transmission and distribution lines • Appropriate technology and sizing for pumping and treatment • Treatment capacity available or required • Appropriate sizing, material and slope of collection lines • Appropriate technology and sizing for treatment 			

Projects that involve additional drinking water supply or treatment capacity will be required to demonstrate the authority for the corresponding water rights. For wastewater treatment facilities, applicable discharge permits will be required. Furthermore, to prevent untreated wastewater discharges from flowing into the streets and rivers during construction, wastewater flows will be bypassed to an existing manhole downstream when necessary.

The Sponsor’s IEC will need to confirm the compliance of each infrastructure investment with any permits and the applicable design standards, along with the above factors. Prior to designating an investment as eligible under the Bond Framework or other applicable agreements, NADBank will verify the appropriateness of the documentation provided based on the corresponding report from the IEC.

3.1.4. Land Acquisition and Right-of-Way Requirements

The Project components will be implemented within existing rights-of-way or property owned by the applicable entity. For the components where rights-of-way are needed, the corresponding water agency or utility will be responsible for securing them.

The Sponsor’s IEC will need to confirm property ownership and/or appropriate rights of way for each infrastructure investment. Prior to designating an investment as eligible under the Bond Framework or other applicable agreements, NADBank will verify the appropriateness of the documentation provided based on the corresponding report from the IEC.

3.1.5. Project Milestones

Financial closing is expected to take place by December 2022. After financial closing, the State of Baja California will have an availability period of up to 36 months to initiate infrastructure

investments to be financed with the bond proceeds, as established under the Framework. Projects funded prior to Bond issuance will be eligible for the use of NADBank funds during a lookback period of up to 12 months.

3.1.6. Management and Operation

The State of Baja California, supported by NADBank, has developed a Sustainability Bond Framework (the “Framework”), which establishes the following:

- i. Use of Bond proceeds
- ii. Project evaluation and selection process;⁶
- iii. Management of proceeds; and
- iv. Monitoring and reporting.

The Framework has been designed to align with the green financing standards accepted and followed internationally by financial institutions, including the Green Bond Framework that governs NADBank’s most recent bond issuances. Adherence to the Framework will be mandatory in allocating the proceeds of the Bond. The State will ensure that the bond proceeds are used to support eligible projects under the Framework. Reporting obligations to NADBank or any other potential bond buyer regarding the uses of proceeds will be a requirement under the bond issuance.

The State intends to use the proceeds of the Bond, financed by NADBank, only for water and wastewater infrastructure. NADBank has worked with the state water agencies and utilities on several similar projects with good results. The utilities have demonstrated that their organizational structures, financial controls and ongoing reporting methods are sound, and each one has adequate capabilities to operate and maintain their water and wastewater infrastructure.

An agreement between the State and each individual water entity (the “Agreement”) will be the mechanism to guide the alignment of infrastructure investments and operational performance with the sustainability goals of the State and the eligibility requirement of the Sustainability Bond Framework. The Agreement will include requirements regarding project implementation parameters and repayment terms for the investment in infrastructure financed by the State, as well as operational and financial indicators with targets to demonstrate institutional capacity strengthening and efficiencies as a result of having access to the State’s funding for infrastructure improvements. Incentives and/or penalties may be incorporated into the Agreement to promote long-term performance expectations.

⁶ The infrastructure improvements identified and described in Section 3.1.2. Project Scope, comply both with the Framework criteria and NADBank eligibility criteria.

While the management and operation of the proposed infrastructure improvements will be the responsibility of State Water Entities, as applicable, coordination procedures aimed at meeting the Framework and Agreement objectives are described below:

- a. Once funds are disbursed for the purchase of the sustainability bond into the State or Project Trust, the State Ministry of Finance (SH), with the concurrence of SEPROA, will either:
 - i. Request approval for reimbursement of eligible works funded with State or local proceeds, excluding grants from other sources, that were initiated no more than one (1) year prior to disbursement, or
 - ii. Authorize the allocation of funding to State Water Entities for eligible water and wastewater infrastructure.
- b. The State Water Entities are responsible for procuring, contracting, implementation and oversight of eligible water and wastewater investments.
- c. Upon completion of the construction contract, the new or improved infrastructure will need to be accepted by the corresponding State Water Entity for ownership and operation.
- d. SEPROA, with the assistance of the IEC, will monitor and report regularly on the use of funds in accordance with the Framework and will report compliance under the Agreement between the State and the State Water Entities.
- e. SEPROA will provide regular reports to the Ministry of Finance so it in turn can prepare the Annual Sustainability Bond Report, in compliance with the Framework, for NADBank and other bond buyers.

NADBank support to the State through technical assistance, via consultants, consists of: a) development of the Framework and its second-party opinion, b) development of the Agreement, c) support for legal and financial structuring of the bond.

3.2. Environmental Criteria

3.2.1. Environmental and Health Effects/Impacts

A. Existing Conditions

The utilities of Baja California operate with high water and wastewater coverages when compared to many other utilities in Mexico. However, several challenges remain to reach universal coverage, rehabilitate aging infrastructure, and diversify and make their water supply more resilient.

For several years, the region has struggled to have sufficient potable water sources to meet the existing demand and expectations for continued population growth. The State has made efforts to diversify its water source portfolio, including desalination of sea water, but the water supply is still primarily dependent on the Colorado River allocations committed to the region. For 2023, unfortunately, water supply to the region from the Colorado River will be reduced based on drought impacts in the U.S. and Mexico. In particular, the International

Boundary and Water Commission has announced a 7% decrease in water to the State of Baja California in accordance with the international treaty provisions for adjusting allocations due to declining water availability at the storage reservoirs. Improvements to groundwater production and water treatment capacity are key to address drinking water needs.

The drinking water systems in the State serve more than 1,228,000 connections with coverage reaching approximately 97.6% of households and the wastewater systems serve more than 1,083,000 connections with approximately 84.8% coverage. However, a large portion of the water and sewer mains were installed more than 30 years ago. The natural deterioration of pipe materials, as well as increased demand on this core infrastructure due to system expansion, has increased the vulnerability for line breaks and leaks, causing interruptions in drinking water service and frequent discharges of untreated wastewater. These areas have been targeted for immediate rehabilitation or replacement.

Stormwater events in the region further exacerbate the vulnerable conditions created by the aged and deteriorated wastewater infrastructure. Several major sewer mains have collapsed, resulting in untreated wastewater discharges into local rivers, some of which flow into the United States. This situation has generated strong attention and formal complaints from the U.S. Government.

In response, the State of Baja California instructed the State Water Entities to identify and prioritize their water and wastewater investment needs for allocation of Bond proceeds. Funding will be used to increase water supply and treatment capacity and improve water distribution systems, as well as wastewater collection, treatment and reuse efforts to address those needs. These actions include improvements in the main wastewater collection system of Tijuana, as well as the improvement and expansion of the Las Arenitas WWTP and rehabilitation of the major lift stations in Mexicali to prevent transboundary flows. In addition, the State is planning for a critical investment required at the SAB WWTP, which is currently discharging untreated effluent to the Pacific Ocean. Funding to implement this component may come from Mexico's National Infrastructure Fund (FONADIN), along with other sources of funds that could include Bond proceeds.

B. Project Impacts

The Project will improve the infrastructure necessary for providing adequate water and wastewater services in the state. Improved water supply, treatment and distribution will assure safe access to drinking water, an essential service for human health. The rehabilitated collection and conveyance infrastructure will improve system reliability by preventing leaks and spills and thus significantly reduce the risk of exposure to untreated wastewater and the potential contamination of surface and groundwater. The WWTPs will be updated to comply with their respective discharge permits, including any new requirements.

Specifically, the Project is expected to generate environmental and human health benefits related to the following Project outcomes:

- (i) Improve access to sustainable drinking water service:
 - Increase water treatment capacity, through the expansion of existing plants and the construction of new facilities, by 440 lps (10.0 mgd).

- Rehabilitate five existing water treatment plants with a combined capacity of 5,938 lps (135.5 mgd).
 - Replace 45.3 kilometers (28.1 miles) of water distribution lines
 - Improve the reliability of the:
 - i. Water supply from groundwater sources by replacing low-performing or inoperative wells for a production capacity of 240 lps (5.5 mgd).
 - ii. Transmission infrastructure by replacing the pump equipment required to support a surface water supply capacity of 5,900 lps (134.7 mgd).
- (ii) Eliminate risks of untreated or inadequately treated wastewater discharges:
- Increase wastewater treatment capacity, through the expansion of existing plants and the construction of a new facility, by 470 lps (10.7 mgd).
 - Rehabilitate seven existing wastewater treatment plants with a combined capacity of 2,735 lps (62.4 mgd).
 - Rehabilitate 94.9 kilometers (59.0 miles) of wastewater collection infrastructure.
- (iii) As a result of the foregoing works, improve water and wastewater services for an estimated 1,046,000 existing households.

Final environmental and human health benefits will be assessed based on the completed infrastructure investments, as determined eligible for Bond financing and reported by the State on an annual basis.

C. Transboundary Impacts

No negative transboundary environmental impacts are anticipated as a result of the implementation of the Project. Moreover, some infrastructure components are expected to have a positive impact on the U.S. by preventing transboundary flows of untreated wastewater from Mexico.

3.2.2. Compliance with Applicable Environmental Laws and Regulations

The Project will comply with the following official Mexican standards and regulations:

- Official Mexican Standard NOM-127-SSA1-2021, which establishes the permissible levels of water quality for human use and consumption.
- Official Mexican Standard NOM-001-CONAGUA-2011, which establishes the specifications for hermeticity in water distribution systems, residential water connections and wastewater collection systems, as well as methods for testing hermeticity.

- Official Mexican Standard NOM-001-SEMARNAT-1996, which establishes the maximum permissible levels of contaminants in wastewater discharges to national waters and resources.⁷
- Official Mexican Standard NOM-002-SEMARNAT-1996, which establishes the maximum permissible levels of contaminants in wastewater discharges to urban or municipal wastewater collection systems.

A. Environmental Clearance

The implementation of some Project components might require environmental clearance at the state or federal level. The water utilities are familiar with these requirements and obtain required authorizations on a frequent basis. As several of the anticipated investments will be located either in property already owned by the utility or existing rights of way, the environmental clearance requirements, if any, are managed at the local level. Water supply and either water or wastewater treatment components may require additional environmental documentation and authorizations; however, the financing framework and reporting requirements will assure the proper consultation, studies and authorizations are completed, as applicable, for any components financed by the State's Sustainable Bond.

B. Mitigation Measures

Although the implementation of the identified infrastructure components is not expected to have a significant adverse impact on the environment, appropriate mitigation measures and best management practices will be established to address temporary and minor impacts typically experienced during construction and operation. Mitigation actions identified during the environmental review process will be incorporated into the infrastructure investments by the State Water Entities, as applicable and appropriate.

C. Pending Environmental Tasks and Authorizations

The Sponsor's IEC will need to confirm that the corresponding environmental authorizations and permits were obtained for each infrastructure investment and that the necessary mitigation measures were implemented as required. Prior to designating an investment as eligible under the Bond Framework or other applicable agreements, NADBank will verify the appropriateness of the documentation provided based on the corresponding report from the IEC.

⁷ On March 3, 2022, an amendment to NOM-001-SEMARNAT-1996 was published, establishing new maximum permissible levels of contaminants. The effluent from some of the WWTPs may not comply with all the quality parameters established in the new regulation. The updated standard is scheduled to go into effect on April 3, 2023. It will be the responsibility of the water utilities to maintain compliance with the standard.

3.3 Financial Criteria

NADBank intends to purchase, partially or totally, a sustainable bond to be issued by the State of Baja California in the amount of \$3,000 million pesos.⁸ The Bond issuance will comply with the provisions set forth in the Financial Discipline Law for States and Municipalities and the Mexican Stock Market Law. The proposed amount is allowable under the current metrics set by the Ministry of Finance and Public Credit (SHCP) for the issuance of public debt by the State of Baja California.

The proposed payment mechanism will be a portion of the Payroll Tax of the State of Baja California that has been pledged to a trust and can be used as source of payment for debt issuances that support productive public investments. This type of local revenue has been used previously in Mexico as a source of payment to support productive public investments and is considered a safe and predictable revenue source. It is closely linked to the general performance of the local economy and the public and private payrolls of large, medium, and small taxpayers.

The preliminary analysis performed by NADBank verified that the Project Sponsor has the legal authority to contract the financing and pledge current and future revenue deriving from the Payroll Tax as the source of payment for its obligations under the Bond. The State, as sole owner of the local water utilities, has the legal and financial capacity to manage, operate and maintain the Project through these entities. The utilities are operated by highly skilled professionals that can implement and manage the infrastructure.

The Bond issuance is contingent upon approval by two thirds of the elected members of the State Congress. The authorization will encompass the source of payment and trust payment mechanism described above.

The State and State Water Entities are working on an Agreement to be formalized prior to the Bond issuance, whereby the latter will commit to i) paying back the financing to the State, and/or ii) comply with certain operational and commercial indicators aimed at strengthening their financial and institutional capacities in support of their long-term sustainability.

Considering the characteristics of the Project, and based on the financial and risk analysis performed, the proposed Project is financially feasible and presents an acceptable level of risk. Therefore, NADBank Management supports the purchase of the Baja California Sustainable Bond for up to \$3,000.0 million pesos for the financing of water and wastewater infrastructure investments throughout the state.

⁸ The sustainability bond will comply with the criteria established the Bond Framework.

4. PUBLIC ACCESS TO INFORMATION

4.1. Public Consultation

NADBank published the draft certification and financing proposal for a 30-day public comment period beginning October 6, 2022. The following Project documentation is available upon request:

- Baja California State Development Plan 2022-2027.

4.2. Outreach Activities

NADBank conducted a media search to identify potential public opinion about the Project. No public opposition to the Project has been identified.