



CERTIFICATION PROPOSAL

REHABILITATION OF *COLECTOR PONIENTE*: SEGMENT 1A IN TIJUANA, BAJA CALIFORNIA

Revised: May 20, 2019



CONTENTS

EXECUTIVE SUMMARY	1
1. PROJECT OBJECTIVE AND EXPECTED OUTCOMES	3
2. ELIGIBILITY	3
2.1. Project Type and Description	3
2.2. Project Location.....	3
2.3. Project Sponsor and Legal Authority.....	4
3. CERTIFICATION CRITERIA	4
3.1. Technical Criteria	4
3.1.1. General Community Profile	4
3.1.2. Project Scope	7
3.1.3. Technical Feasibility.....	8
3.1.4. Land Acquisition and Right-of-Way Requirements	9
3.1.5. Project Milestones.....	9
3.1.6. Management and Operation.....	10
3.2. Environmental Criteria	10
3.2.1. Environmental and Health Effects/Impacts	10
A. Existing Conditions	10
B. Project Impacts.....	11
C. Transboundary Impacts.....	12
3.2.2. Compliance with Applicable Environmental Laws and Regulations.....	12
A. Environmental Clearance	12
B. Mitigation Measures	13
C. Pending Environmental Tasks and Authorizations.....	14
3.3. Financial Criteria.....	14
4. PUBLIC ACCESS TO INFORMATION	15
4.1. Public Consultation.....	15
4.2. Outreach Activities	15
5. RECOMMENDATION	18

EXECUTIVE SUMMARY

REHABILITATION OF COLECTOR PONIENTE: SEGMENT 1A IN TIJUANA, BAJA CALIFORNIA

- Project:** The proposed project consists of the continued rehabilitation of a deteriorated section (Segment 1A) of the sewer trunk line known as “Colector Poniente”, located in northwestern Tijuana, Baja California (the “Project”).
- Objective:** The purpose of the Project is to eliminate exposure to untreated or inadequately treated wastewater discharges by replacing deteriorated wastewater infrastructure prone to leaks and failure, and thus help reduce water pollution and the risk of waterborne diseases.
- Expected Outcomes:** The Project is expected to generate environmental and human health benefits related to the following outcomes:
- Improve wastewater collection and conveyance infrastructure for up to 23,506 existing residential wastewater connections and benefit approximately 87,000 residents.
 - Reduce the risk of pipeline failures resulting in untreated or inadequately treated wastewater discharges to the Tijuana River, which would prevent:
 - Approximately 177 liters per second (lps) or 4 million gallons per day (mgd) of uncontrolled wastewater discharges.¹
 - Transboundary wastewater flows to the U.S.
- Population Benefitted:** 87,000 residents in Tijuana, Baja California.²
- Sponsor:** Local water utility, *Comisión Estatal de Servicios Públicos de Tijuana* (CESPT).

¹ The flow volume is estimated based on the 23,506 wastewater connections served by the segment of the trunk line to be rehabilitated, 176 liters (46.5 gallons) of wastewater generated per person a day, and 3.70 persons per household (Source: Baja California 2012 Technical Standards for Water and Sewer System Projects, *Normas técnicas para proyecto de sistemas de agua potable y alcantarillado – 2012, Gobierno del Estado de Baja California*).

² Estimate based on the 23,500 connections served by the segment of the trunk line to be rehabilitated and 3.70 persons per household.

Estimated Construction Cost: US\$6,460,000.

NADB Funding: US\$2,420,000 grant from the Border Environment Infrastructure Fund (BEIF) funded by the U.S. Environmental Protection Agency (EPA).

Uses and Sources of Funds:

Uses	Amount (US\$)	%
Construction*	\$ 6,460,000	100.0
TOTAL	\$ 6,460,000	100.0
Sources	Amount (US\$)	%
Mexican funds (federal, state & local)	\$ 4,040,000	62.6
NADB-BEIF (EPA grant)	2,420,000	37.4
TOTAL	\$ 6,460,000	100.0

* Estimated costs include 16% value-added tax (VAT), 10% for supervision and 10% for contingencies on BEIF funded components.

Project Status:

Key Milestones	Status
Environmental clearance – U.S.	Complete
Environmental clearance – Mexico	Complete
Final design	Complete
Procurement for BEIF grant components	Anticipated in 3rd quarter of 2019
Construction period with BEIF grant	Estimated period of 12 months

CERTIFICATION PROPOSAL

REHABILITATION OF THE COLECTOR PONIENTE: SEGMENT 1A TIJUANA, BAJA CALIFORNIA

1. PROJECT OBJECTIVE AND EXPECTED OUTCOMES

The proposed project consists of the continued rehabilitation of a deteriorated section (Segment 1A) of the trunk line known as “Colector Poniente”, located in northwestern Tijuana, Baja California (the “Project”). The purpose of the Project is to improve wastewater collection and conveyance infrastructure for up to 23,506 existing residential wastewater connections and to reduce the risk of pipeline failures, which would prevent approximately 177 liters per second (lps) or 4 million gallons per day (mgd) of untreated or inadequately treated wastewater discharges, thereby helping reduce water pollution and the risk of waterborne diseases, as well as transboundary wastewater flows into the United States.

2. ELIGIBILITY

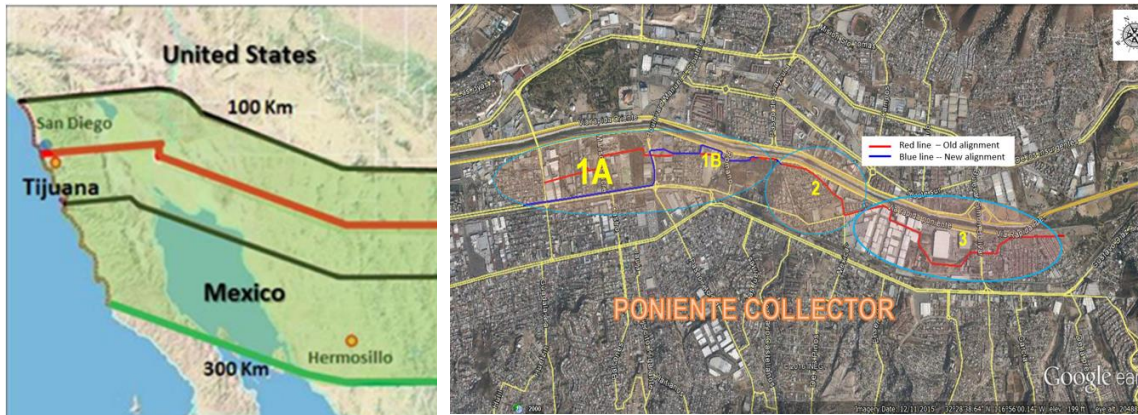
2.1. Project Type and Description

The Project falls within the eligible sector of wastewater.

2.2. Project Location

The Project will be implemented in the city of Tijuana, Baja California, which is adjacent to the U.S.-Mexico border. Tijuana is in the northwest region of the state of Baja California, approximately 16 miles south of the city of San Diego, California. Colector Poniente runs parallel to the Tijuana River for about 10 miles, conveying wastewater north to the Colector Internacional, which runs parallel to the U.S.-Mexico border. Segment 1A of Colector Poniente begins near Manuel J. Clouthier Avenue and continues northwest approximately 1.8 km (1.2 miles). The Project is located approximately four miles south of the border and is roughly centered at the following coordinates: Latitude 32.48° North and Longitude 116.94° West. Figure 1 shows the location of Tijuana and the Colector Poniente.

Figure 1
PROJECT LOCATION MAP



2.3. Project Sponsor and Legal Authority

The Project sponsor is the local water utility in Tijuana, *Comisión Estatal de Servicios Públicos de Tijuana* (CESPT or the “Sponsor”), a decentralized public entity with legal personality and its own assets established by Decree No. 44 of the V Legislature of the State of Baja California, which was published on December 16, 1966. The utility was created to provide water and wastewater services to the municipalities of Tijuana and Playas de Rosarito, Baja California.³

3. CERTIFICATION CRITERIA

3.1. Technical Criteria

3.1.1. General Community Profile

The Project is expected to benefit residents in the community of Tijuana, Baja California. As reported by the Mexican national statistical institute, INEGI, the population of Tijuana was 1,641,570 in 2015, which represented approximately 50% of the state population. According to the projections of the Mexican national population council, CONAPO, Tijuana grew at an average annual rate of 2.4% from 2010 to 2015 and is expected to grow at an average annual rate of 1.3% from 2016 to 2030, which is close to the national growth rate of 1.8%.⁴

According to the 2014 Economic Census, Tijuana contributed 51.9% to the gross product of the state in 2013, and its main activities are manufacturing (57.6%), retail trade (9.2%), wholesale trade (6.7%) and other sectors (26.5%).

³ In Mexico, a “*municipio*” or municipality has a jurisdiction similar to a county in the United States.

⁴ Mexican national population council, *Consejo Nacional de Población* (CONAPO).

The section of the trunk line that will be rehabilitated under this Project receives wastewater flows from three areas in the Tijuana River watershed identified as El Sainz, Mexico Lindo and La Mesa. The number of residential accounts in these three areas total 23,506, representing a population of nearly 87,000 people.⁵

The following table summarizes the status of public services and infrastructure in Tijuana.

Table 1
BASIC PUBLIC SERVICES AND INFRASTRUCTURE IN TIJUANA

Water System*			
Coverage	99.9%		
Supply source	Colorado River, Rodriguez Dam and local wells		
Number of connections	578,074		
Wastewater Collection*			
Coverage	90.8%		
Number of connections	525,361		
Wastewater Treatment*			
Coverage	99% of collected wastewater		
Treatment facilities	Plant	Type	Capacity
	San Antonio de los Buenos	Oxidation ponds	1,100 lps (25 mgd)
	South Bay International	Activated sludge	1,100 lps (25 mgd)
	La Morita	Activated sludge	254 lps (5.8 mgd)
	Arturo Herrera	Activated sludge	460 lps (10.5 mgd)
Solid Waste**			
Collection coverage	80%		
Final disposal	Municipal landfill		
Street Paving**			
Coverage	71.3%		

*Source: CESPT, December 2018.

**Source: Tijuana 2014-2016 Municipal Development Plan (*Plan municipal de desarrollo 2014-2016 de Tijuana*).

lps = liters per second; mgd = millions of gallons a day

Local Wastewater System Profile

CESPT operates the water and wastewater systems for Tijuana and Playas de Rosarito, Baja California. Approximately 98% of the water supply for the two communities comes from the Colorado River, and the remaining 2% is groundwater obtained from Tijuana and Playas de Rosarito aquifers. Surface water from the Colorado River is conveyed through a 125-km (78-mile) aqueduct with a capacity of up to 5.3 cubic meters per second or 120 million gallons a day (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 Dam, is treated at the El Florido Water Treatment Plant and then distributed to the Tijuana and Rosarito urban areas.⁶

⁵ Calculation is based on 3.70 persons per household.

⁶ Source: Baja California State Water Commission (CEABC)

The wastewater system currently serves more than 525,000 connections with coverage reaching approximately 91% of households in the two municipalities. CESPT operates three major wastewater treatment plants (WWTP): San Antonio de los Buenos (SAB) WWTP, La Morita WWTP and Arturo Herrera WWTP. The South Bay International Wastewater Treatment Plant (SBIWTP), located in the United States and operated by the U.S. Section of the International Boundary and Water Commission (IBWC), also treats wastewater flows from Tijuana. With the addition of other small treatment facilities, the utility has a maximum treatment capacity of more than 3,280 liters per second (lps) or nearly 75 mgd to serve Tijuana. The effluent from all wastewater treatment facilities serving Tijuana is eventually discharged into the Pacific Ocean. In the case of the SAB WWTP, the effluent quality does not comply with the current discharge permit.

CESPT regularly conducts video inspections of its wastewater collection infrastructure through manholes. This effort has identified aging and deteriorated wastewater collection lines requiring major rehabilitation investments to prevent failures that could result in raw wastewater discharges to the Tijuana River. All of the collection lines identified for rehabilitation have shown evidence of damage, often in the form of breaks and collapses. Manholes that are spaced too far apart do not allow for adequate line maintenance, which could lead to concrete deterioration from the buildup of hydrogen sulfide (H₂S) gas, as well as unpleasant odors.

Heavy rainfall during the 2016-2018 winter seasons, along with aged and deteriorated infrastructure in the wastewater collection system, caused several sections of a trunk line to collapse spilling untreated wastewater into the Tijuana River, where it eventually flowed into the United States. This situation generated a formal complaint from the U.S. Government. To address this issue, the State of Baja California instructed CESPT to develop a Comprehensive Wastewater Treatment and Reuse Plan with the following objectives: reduce untreated wastewater discharges to the Pacific Ocean, improve the management of treated wastewater discharges to the Tijuana River basin, increase the use of treated water through groundwater replenishment, address sludge disposal, prioritize infrastructure development and establish a financial strategy.

The immediate actions proposed by the plan include improvements to the San Antonio de los Buenos (SAB) WWTP and the rehabilitation of critical sewer mains. CESPT has initiated the development of feasibility studies for the SAB WWTP and is already completing rehabilitation of segments 1B, 2 and 3 of Colector Poniente, which will reduce the risk of discharges to the Tijuana River.⁷ The proposed Project will further support this objective. CESPT also continues to provide emergency maintenance for collapsed lines and improve control of system bypasses that are needed to divert wastewater flows to a downstream manhole during planned operation and maintenance activities, rather than allowing their discharge to the Tijuana River.

The proposed Project will replace 1,874 meters (about 6,147 ft) of deteriorated pipe in the Colector Poniente, which currently conveys an average of about 177 lps (4 mgd) within the Project area. The Project is needed to protect public health and the environment by minimizing the risk of line breaks that can cause sewage overflows onto local streets and into the Tijuana River. For these reasons, the Project was prioritized for funding through the U.S.-Mexico Border Water Infrastructure Program of the U.S. Environmental Protection Agency (EPA).

⁷ Rehabilitation of Colector Poniente in Tijuana, Baja California was certified on November 9, 2017.

3.1.2. Project Scope

The proposed Project consists of the rehabilitation of approximately 1,874 linear meters (6,146 ft) of the Colector Poniente. The Project has been designed in four consecutive sub-sections, described as follows:

- Section 1: 455 meters (1,492 ft) of 42-inch diameter pipe;
- Section 2: 446 meters (1,463 ft) of 42-inch diameter pipe;
- Section 3: 311 meters (1,020 ft) of 42-inch diameter pipe; and
- Section 4: 662 meters (2,171 ft) of 42-inch in diameter pipe.

The general layout of the Project is shown in Figure 2.

Figure 2
LOCATION OF COLECTOR PONIENTE 1A CONSTRUCTION COMPONENTS



Originally, CESPT considered using the existing alignment for the Project; however, upon further analysis, CESPT determined that there were many rights-of-way and technical issues that could affect the successful implementation of the Project. The proposed alignment was modified, which increased the overall cost. Additional technical alternatives were analyzed to identify the most cost-effective solution.

Mexican funding will likely be available prior to Project certification; therefore, procurement for the first three sections is expected during the second quarter of 2019. A grant from the Border Environment Infrastructure Fund (BEIF) is expected to support the construction of the remaining segment.

3.1.3. Technical Feasibility

The final design of the proposed works was completed in accordance with the recommendations provided in the water and wastewater manuals (MAPAS) developed by the Mexican National Water Commission (CONAGUA). It also includes the implementation of green building practices as part of the technical construction specifications. The final design documents were reviewed by CONAGUA and NADB. The Project received technical validation from the regional offices of CONAGUA in the State of Baja California through official correspondence dated March 21, 2019 (BOO.807.06/084).

During the hydraulic modeling and final design process, technical options for pipe diameter, material and alignment were evaluated. To identify the most appropriate technology, the evaluation considered the following technical factors:

- Proposed layout of the trunk line and related sewer mains
- Constructability
- Capital cost
- Operation and maintenance cost
- Materials and equipment reliability
- Environmental impact
- Social/community acceptance
- Topography
- System reliability
- Rights of way and easement requirements
- Pavement removal and replacement
- Technology and sustainable practices

The current condition of the pipeline was assessed through closed-circuit television (CCTV) inspections and incident reports of problems with the lines, such as breaks, leaks or odors. The decision to rehabilitate or replace a particular segment using an open trench or pipe bursting method was based on the feasibility of each option. Specific factors taken into account included the condition of the existing line; the location of the line in relation to traffic, buildings and trees; and the presence or absence of scale and/or deflection that could affect the suitability for pipe bursting. Other constructability criteria that were used to screen alternatives or locations included those that would require extended closure of major roadways in the city or that would be prohibitively expensive.

Pipe diameters were selected using appropriate slopes and velocities to prevent silting, clogging, and septic conditions in the pipes, as well as over-excavation or the need for pumping facilities that could increase both capital and operation and maintenance (O&M) costs. Peak and maximum instantaneous flow rates were taken into consideration to determine necessary capacity and pipe diameter. The analysis also considered using various pipe materials in compliance with applicable standards and regulations. High-density polyethylene, PVC and asbestos-cement pipes were evaluated, taking into consideration their characteristics and suitability for the soil type in the Project area.

For the proposed Project, an open-trench process and PVC pipes were selected, which have proven to be reliable and are frequently used in the Tijuana wastewater collection system.

3.1.4. Land Acquisition and Right-of-Way Requirements

All sewer mains and conveyance systems will be installed within existing municipal easements and rights-of-way. No additional land or rights of way acquisition will be required.

3.1.5. Project Milestones

Once the Notice to Proceed is issued for rehabilitation of Segment 1A of Colector Poniente, the work is expected to take approximately 12 months to complete. Potential factors affecting the Project completion timeline, such as issues with traffic control, weather or the delivery of the materials, were considered in estimating the construction period.

Construction permits will be the responsibility of the contractor and are considered a construction task. To prevent untreated wastewater discharges from flowing into the Tijuana River during construction, wastewater flows will be pumped to an existing manhole downstream when needed.

Table 2 provides a summary of the critical Project milestones and their respective status.

Table 2
PROJECT MILESTONES

Key Milestones	Status
Environmental clearance – U.S.	Completed March 24, 2017
Environmental clearance – Mexico	Completed May 5, 2017
Final design	Completed in March 2019
Procurement for BEIF grant component	Anticipated in the third quarter of 2019
Construction period with BEIF grant	Estimated period of 12 months

3.1.6. Management and Operation

Management and operation of the proposed Project will be the responsibility of CESPT. The utility currently serves 578,074 water hookups and 525,361 wastewater connections in Tijuana and treats approximately 2,719 lps (62.1 mgd) of wastewater from the urban area. According to the metrics compiled by the Mexican institute of water technology, *Instituto Mexicano de Tecnología del Agua* (IMTA) and the Mexican Ministry of Environment and Natural Resources (SEMARNAT) in the 2015 Comprehensive Utility Management Program, CESPT is considered one of the most efficient water utilities in Mexico.

The utility has an O&M manual that includes routine tasks, as well as procedures to address unexpected conditions, in order to ensure proper operation of the system. The utility is organized in various departments, including: Water Treatment, Wastewater Treatment, Operation and Maintenance, Construction, and Management. The impact of the proposed Project on CESPT's O&M budget and procedures has been reviewed and is considered sustainable.

As an important sustainable management practice, CESPT has implemented a pretreatment program to control the quality of wastewater discharges from industrial and small business customers into its wastewater collection system, in coordination with the Baja California Ministry of Environmental Protection (SPA). Wastewater quality must comply with Official Mexican Standard NOM-002-SEMARNAT-1996, which regulates the quality of wastewater discharged into municipal wastewater collection systems. The pretreatment program also complies with BEIF program requirements and the covenants established in BEIF grant agreements for projects previously funded in Tijuana.

3.2. Environmental Criteria

3.2.1. Environmental and Health Effects/Impacts

A. Existing Conditions

Deteriorated wastewater lines increase the potential for breaks and leaks, resulting in raw sewage spills, which in turn increases the risks of water contamination, exposure to raw sewage and the vulnerability of residents to waterborne diseases.

Waterborne diseases may be caused by protozoan, viruses, bacteria and intestinal parasites. An individual may become ill after drinking water that has been contaminated with these organisms, eating uncooked foods that have been in contact with contaminated water or through poor hygiene habits that contribute to the dissemination of diseases by direct or indirect human contact. Table 3 shows waterborne diseases statistics for the city of Tijuana, B.C. for the period 2013-2016.

Table 3
WATERBORNE DISEASE STATISTICS FOR TIJUANA, B.C.

Disease	No. of Cases			
	2013	2014	2015	2016
Intestinal diseases	51,599	64,036	52,397	43,613

Source: Ministry of Health, Epidemiological Monitoring Coordinating Unit, General Morbidity, New Cases in Tijuana.

Due to its proximity to the Tijuana River, wastewater spills onto local streets in the Project area are likely to flow into the river. In the fourth quarter of 2018, the utility had to address a major break in the pipeline, which resulted in discharges to the river. At any given time, the river may contain storm water flows, effluent from wastewater treatment plants located in Mexico, “fugitive” untreated wastewater discharges and other unidentified sources, which may impair its water quality. Since the Tijuana River flows from Mexico into the U.S. and empties into the Pacific Ocean through the Tijuana River Estuary, the poor quality of the river flows reaching the ocean in the U.S. may lead to beach closures in San Diego County, California.

B. Project Impacts

The rehabilitation of Segment 1A of Colector Poniente will significantly reduce the risk of the exposure to untreated wastewater and the potential contamination of surface and groundwater by preventing leaks and spills. The Project is expected to generate environmental and human health benefits related to the following Project outcomes:

- Improve wastewater collection and conveyance infrastructure for up to 23,506 existing residential wastewater connections and benefit approximately 87,000 residents.
- Reduce the risk of pipeline failure resulting in untreated or inadequately treated wastewater discharges to the Tijuana River, which would prevent:
 - Approximately 177 liters per second (lps) or 4 million gallons per day (mgd) of uncontrolled wastewater discharges.⁸
 - Transboundary wastewater flows to the U.S.

The overall results of the Project will be positive, as it will improve wastewater infrastructure and system reliability, helping to ensure that untreated wastewater flows are safely conveyed to the treatment plants, and thus will protect natural resources and human health by preventing surface and groundwater contamination and exposure to untreated discharges.

⁸ The flow calculation is based on the 23,506 wastewater connections served by the segments of the trunk line to be rehabilitated. It estimated to be 177 lps (4 mgd) based on 176 liters (46.5 gallons) per person per day of wastewater and 3.70 persons per household (Source: Baja California 2012 technical standards for water and sewer system projects, *Normas Técnicas para Proyecto de Sistemas de Agua Potable y Alcantarillado – 2012, Gobierno del Estado de Baja California*)

To enhance the benefits of the Project, the final designs include the implementation of green building practices as part of the technical construction specifications, with a specific focus on energy efficiency and optimal operational performance.

C. Transboundary Impacts

The proposed Project is expected to have an overall positive impact on the Tijuana River, which is a transboundary water body flowing from Mexico into the United States. Implementation of the Project is intended to prevent future breaks and spills from Colector Poniente, and thus contamination of the river water, which will help protect water resources and the beaches in California.

Moreover, according to the transboundary environmental assessment, no significant negative impacts are expected because of Project implementation.

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-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.
- *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 Project is subject to environmental authorization in accordance with the regulations of the Baja California State Environmental Agency (SPA). According to those regulations, an environmental impact assessment (MIA) was required. The report was prepared and submitted to SPA on March 3, 2017, and the Project was authorized by SPA through Official Letter No. SPA-MXL-1403/2017 issued on May 5, 2017.

Moreover, to be eligible for a BEIF grant supported by federal appropriations to EPA's U.S.-Mexico Border Water Infrastructure Program, the transboundary impacts of the Project must be examined in compliance with the U.S. National Environmental Policy Act (NEPA). To meet this requirement, a Transboundary Environmental Information Document (EID) was developed and submitted to EPA for consideration. The EID presented an assessment of the Project alternatives with respect to the following environmental factors:

- Air quality, odors and greenhouse gas emissions;
- Noise impacts;
- Water quality, hydrology and floodplain impacts;

- Impacts to biological resources and wetlands;
- Impacts to cultural and historical resources;
- Impacts to the geology and soils;
- Impacts to municipal and public services;
- Public health, hazards and waste management;
- Socioeconomic conditions;
- Land use and planning;
- Transportation and circulation;
- Utilities and service systems; and
- Environmental justice.

Based on the findings and conclusions of the EID, EPA Region 9 prepared an Environmental Assessment. On March 24, 2017, EPA issued a Finding of No Significant Impact (FONSI), which establishes that the Project will not result in any significant impacts to the environment that may negatively impact the U.S.-Mexico border area.

B. Mitigation Measures

Although Project implementation will have no significant adverse impact on the environment, mitigation measures have been established to address temporary and minor adverse impacts during construction and operation of the Project. As described in the Environmental Assessment, potential impacts include:

- The local air basin may be temporarily impacted by carbon monoxide, nitrogen oxides and sulfur dioxide emissions due to vehicles and equipment used during construction.
- Noise levels may be elevated during construction activities; however, this impact is short term and will be concentrated in the work area. Potential impacts also include temporary roadway blockages, as well as the presence of workers in the area.
- A temporary increase in soil erosion and particulate matter emissions may be experienced due to construction.
- Surface water resources could be temporarily impacted by storm water runoff during the construction phase.
- Hazardous waste—such as used oil—may be generated during the construction and operation phases.
- Potential loss of vegetation, which may be a habitat during bird migration or nesting.

Typical mitigation measures to be implemented include:

- Application of water to reduce the emission of dust particles and soil erosion;
- Construction to be scheduled between 8 a.m. and 5 p.m. to prevent extended disturbances from noise;
- Vehicle tune-ups to reduce emissions and noise effects;

- Placement of warning signs to prevent potentially hazardous situations;
- Hay bales or silt fences to be placed along rights of way to prevent erosion and contamination of surface water resources;
- Construction that disturbs vegetation will be avoided during the nesting periods from March through August. A qualified biologist will conduct a preconstruction survey within the Project area to identify any sensitive species in the area; and
- All construction personnel will attend a briefing to familiarize workers with potential construction impacts and mitigation measures.

By following the best management practices described in the Environmental Assessment, the temporary impacts due to construction will be minimized. Therefore, the results deriving from implementation of the proposed Project will be positive overall. In addition, the Utility will be responsible for maintaining continuous coordination with the SPA and must comply with any water quality requirements, authorization procedures or recommendations that the Ministry may issue throughout the life of the Project.

C. Pending Environmental Tasks and Authorizations

There are no environmental authorizations pending.

3.3. Financial Criteria

The total estimated cost of the Project is US\$6,460,000, which includes construction, supervision, contingencies and taxes. The Sponsor requested a BEIF grant to support implementation of the Project. Based on a thorough analysis of both the Project and the Sponsor, NADB has determined that the Project meets all BEIF program criteria and is recommending that EPA approve a BEIF grant of up to US\$2,420,000 for its construction. Table 4 presents a breakdown of the sources of funding for the Project.

**Table 4
 USES AND SOURCES OF FUNDS
 (US\$)**

Uses	Amount	%
Construction*	\$ 6,460,000	100.0
TOTAL	\$ 6,460,000	100.0
Source	Amount	%
Mexican funds (federal, state & local)	\$ 4,040,000	62.6
NADB-BEIF (EPA grant)	2,420,000	37.4
TOTAL	\$ 6,460,000	100.0

* Estimated costs include 16% value-added tax (VAT), supervision and contingencies on BEIF funded components.

The BEIF grant is expected to support the construction of section 4 of the Project. To be eligible for BEIF funding, EPA requires that every grant dollar be matched with funding from other

sources. As indicated in the above table, total funding from Mexican sources for this Project is estimated at US\$4,040,000.

4. PUBLIC ACCESS TO INFORMATION

4.1. Public Consultation

NADB published the draft certification proposal for a 30-day public comment period beginning April 17, 2019. The following Project documentation is available upon request:

- Final design for Rehabilitation of Segment 1A of Colector Poniente, 2018-2019.
- MIA Resolution No. SPA-MXL-1403/2017 issued by the Baja California Ministry of Environmental Protection on May 5, 2017.
- FONSI issued by EPA on March 24, 2017.
- Technical validation BOO.807.06/084 issued by CONAGUA on March 21, 2019.
- Tijuana Comprehensive Wastewater Treatment and Reuse System Plan, developed by CESPT in April 2017.
- Public Participation Report, including public meeting minutes, pictures, articles, and related materials.

The public comment period ended on May 17, 2019, with no comments received.

4.2. Outreach Activities

CESPT conducted extensive outreach efforts to publicize the characteristics of the Project, including costs and fees, and to obtain the support of residents in the Project area. In accordance with the requirements of the BEIF program, outreach activities included the establishment of a local steering committee, public meetings and access to appropriate project information, as described in the Public Participation Plan.

The Local Steering Committee was established on March 12, 2019, and included members of the community, civic organizations and utility staff. The steering committee developed the Public Participation Plan and periodically met with the Project team to help CESPT disseminate information regarding the Project. The Steering Committee, with assistance from the Project Sponsor, prepared a fact sheet and a PowerPoint presentation about the Project. The Project information was made available to the community at the public meeting held on April 26, 2019, in the meeting room of the Arturo Herrera Wastewater Treatment Plant in Tijuana, Baja California. Approximately 70 residents attended the meeting. During the meeting information was provided about technical and financial components of the Project. A survey conducted during the event indicated that 100% of the attendees fully supported the Project.

A media search was conducted to gauge public awareness of the Project, as well as to detect any possible opposition from the community concerning the proposed investment. While several articles specifically mention the Project, media attention over the past two years has documented recurring conditions related to untreated discharges to the Tijuana River and transboundary flows affecting the shores of Imperial Beach and other communities in California. During the past year, heavy rainfall exacerbated the problems with aged and deteriorated infrastructure in the collection system, such as Colector Poniente. A summary of some of the articles found is presented below.

- *El Sol de Tijuana* (January 15, 2019) – “*Realiza Cespt obras de reposición para aguas residuales*” [CESPT replaces wastewater infrastructure]. CESPT is carrying out complementary connection works to reinforce wastewater conveyance in Colector Poniente, which will help prevent mishaps from breaks while 2 km of the pipeline is being completely replaced.
<https://www.elsoldetijuana.com.mx/local/realiza-cespt-obras-de-reposicion-para-aguas-residuales-2927122.html>
- *Uniradio Informa* (December 13, 2018) – “*Realizan cierre de las playas por descarga de aguas residuales*” [Beaches close following wastewater spill]. After the collapse of Colector Poniente in Mesa de Tijuana, 195 lps (4.45 mgd) of raw wastewater are spilling into the Tijuana River.
<https://www.uniradioinforma.com/noticias/tijuana/550144/realizan-cierre-de-las-playas-por-descarga-de-aguas-residuales.html>
- *San Diego Union Tribune* (December 14, 2018) – “*‘San Diego needs to step up’ to solve sewage spill crisis, Imperial Beach mayor says.*” A raw sewage spill from the Mexican city of Tijuana this week forced beaches in Imperial Beach and Coronado to shut down due to the health risk it poses to lifeguards and to surfers—but the problem isn’t new, and an ongoing challenge is getting authorities to act, said Serge Dedina.
<http://www.sandiegouniontribune.com/opinion/the-conversation/sd-tijuana-river-sewage-spill-imperial-beach-serge-dedina-20181214-htmstory.html>
- *NBC San Diego* (December 17, 2018) – “*IBWC Says More Sewage from Mexico Flowed into US Over Weekend.*” Millions more gallons of polluted water flowed into the United States this weekend despite the federal commission in charge of monitoring that water saying the flow had stopped Friday morning.
<https://www.nbcsandiego.com/news/local/IBWC-Says-More-Sewage-from-Mexico-Flowed-Into-US-Over-Weekend-502999821.html>
- *San Diego Union Tribune* (September 2, 2018) – “*Battle to halt border sewage spills picks up steam.*” The people fighting to fix the decades-long scourge of border sewage pollution know better than to get their hopes up that a solution is in the offing.
<http://www.sandiegouniontribune.com/news/columnists/michael-smolens/sd-me-smolens-border-sewage-20180829-story.html>

- *ABC 10 News* (September 28, 2017) - “Port of San Diego and Chula Vista join federal call to stop South Bay sewage spills.” The Port of San Diego and Chula Vista are calling for federal action to stop sewage spills in Tijuana River.
<http://www.10news.com/news/port-of-san-diego-and-chula-vista-join-federal-call-to-stop-south-bay-sewage-spills>
- *El Mexicano.com* (August 3, 2017) – “Estrechan colaboración CESPT y Autoridad EU.” [CESPT and U.S. authorities strengthen cooperation]. CESPT and EPA representatives met to discuss certification and support for the Colector Poniente project.
http://ed.el-mexicano.com.mx/impreso/Tijuana/080317/03-08-2017_TIJ_07A.pdf
- *El Mexicano.com* (August 7, 2017) – “Mantienen cooperación binacional en materia de saneamiento de aguas” [Binational cooperation ongoing for wastewater treatment]. At a binational work meeting, the Head of CESPT reported on the annual sewer system rehabilitation program and a budget increase to address critical sewer mains.
http://ed.el-mexicano.com.mx/impreso/Tijuana/080717/07-08-2017_TIJ_03A.pdf
- *El Mexicano* (August 9, 2017) – “Aguas negras enferman a los agentes de la Border Patrol; Podrían demandar a Tijuana por el derrame” [Border Patrol agents sickened by sewage; could sue Tijuana for spill]. The article describes a 340,000-gallon sewage spill, its effect on the border patrol and the reaction of the Mayor of Imperial Beach.
http://ed.el-mexicano.com.mx/impreso/Tijuana/080917/09-08-2017_TIJ_01A.pdf
- *UniMexicali.com* (March 24, 2017), “Contaminación de playas por arrojar aguas no tratadas; gente enferma” [Beaches contaminated by untreated sewage discharges; people sickened]. WILD Coast denounces contamination of South Bay beaches due to untreated wastewater discharges in the ocean by the San Antonio de los Buenos WWTP.
<http://www.unimexicali.com/noticias/reportajesespeciales/444907/contaminacion-de-playas-por-arrojar-aguas-no-tratadas-gente-enferma.html>
- *San Diego Tribune* (March 24, 2017) – “Tijuana plans new sewage treatment plant, expanded wastewater for re-use”. The article describes Tijuana’s comprehensive wastewater treatment and reuse plan.
<http://www.sandiegouniontribune.com/news/border-baja-california/sd-me-baja-plans-20170323-story.html>
- *Fox 5 San Diego* (March 24, 2017) – “Sewage contamination closes Imperial Beach shoreline.” Announcement of expanded border-area ocean pollution warning due to influxes of storm-driven sewage out of Baja California.
<http://fox5sandiego.com/2017/03/24/sewage-contamination-closes-imperial-beach-shoreline/>

The activities carried out by the Project Sponsor and the articles identified above demonstrate that the public has received updates related to the Project, including its technical aspects, environmental effects, funding structure and financial impacts to residents deriving from implementation of the wastewater collection system improvements. The Project Sponsor

informed NADB that no comments expressing concern about the Project were received during the public outreach process.

The proposed Project is one of many investment efforts currently under development to resolve uncontrolled discharges to the Tijuana River. Based on the media search, no opposition to the Project was detected; however, the Project will help to address the main concerns identified for residents in the Tijuana-San Diego region.

5. RECOMMENDATION

Certification Criteria Compliance

The Project falls within the eligible sector of wastewater collection and treatment and is located in the border region, as required under NADB Charter. The 30-day public comment period ended on May 17, 2019, with no comments received. The project review performed by the NADB Chief Environmental Officer confirms that the Project complies with all the certification requirements, and there are no pending activities required for compliance.

Funding Criteria Compliance

The Project Sponsor applied for funding through the U.S.-Mexico Border Program prioritization process and was selected for technical assistance through the Project Development Assistance Program (PDAP) and construction assistance through the Border Environment Infrastructure Fund (BEIF). The Project meets all BEIF program criteria, and the U.S. Environmental Protection Agency (EPA) has approved a BEIF grant for up to US\$2,420,000 for its construction.

Accordingly, based on the foregoing conclusions as supported and presented in detail in this certification proposal, NADB hereby recommends the certification of the Project.