Border Environment Cooperation Commission
Expansion of the Wastewater Collection System for the Unserved Area of Colonia Alcatraces in Tijuana, BC

1. General Criteria

1.a Project Type

Project Name:	Expansion of the Wastewater Collection System for Unserved Area of Colonia Alcatraces in Tijuana, Baja California.
Project Sector:	Domestic Water and Wastewater Hookups

1.b Project Category

Category:	Community Environmental Infrastructure Project – Community-wide impact.

1.c Project Location and Community Profile

Community:	Municipality of Tijuana, Baja California, Mexico.
Location:	The project is located in the municipality of Tijuana, in the northwestern side of the State of Baja California, Mexico. Tijuana borders the United States–San Diego, California Metropolitan Area– to the north, the municipality of Playas de Rosarito to the south, the Pacific Ocean to the west, and the municipality of Tecate to the east.
Location within the border:	The project is located within the 100 km (62.5 mi) of the US-Mexico border area. The project area, named Alcatraces, is located approximately 13.5 km (9 miles) south of the U.S-Mexico International Border in Tijuana, Baja California, approximately at the following coordinates : Latitude 32°25’25” N and longitude 117°00’38” W.
Figure:	The following figure shows the location of the municipality of Tijuana, Baja California.

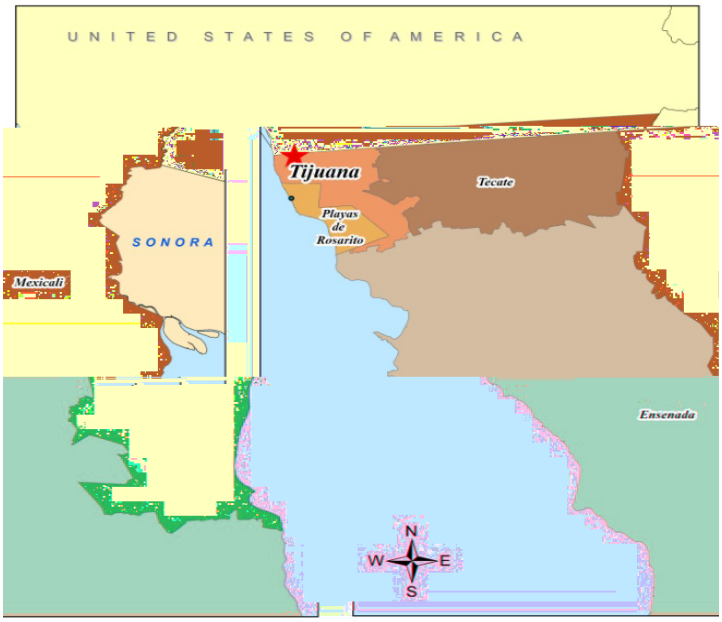


Figure 1.1 Tijuana, Baja California, México.

Demographics

Current population:	1,641,168 residents
Growth rate:	2.7 %
Reference:	INEGI year: 2005, CONAPO 2010
Economically active population:	793,112 residents
Reference:	INEGI Year: 2000
Median per capita income:	$ 16,148 U.S Dollars PCC
References:	For Mexico, the median per capita income was estimated by BECC using the XII General Population and Housing Census of 2000 by INEGI based on the ONU guidelines for estimating Minimum Wages
Economic activity:	Manufacturing industry, tourism, trade, and services
Marginalization rate:	-1.90, Very low

Services

Community:	Tijuana
Water System	
Water coverage:[1]	99.49%
Water supply source:	Colorado River, Abelardo Rodriguez Dam, and wells
Number of hookups:[2]	514,306

[1] Source: CEA BC, November 2010
[2] Source: CEA BC, November 2010

Wastewater Collection System

Coverage:[3] 91 %

Number of connections:[4] 470, 278

Wastewater Treatment

Coverage: 92.3%

Wastewater Treatment Plant (WWTP) and treatment technologies:

Plant	Type	Capacity
SAB	Lagoon system	1,100 lps (25MGD)
Rosarito Norte	Activated Sludge	210 lps (4.8 MGD)
PITAR	"	1,100 lps (25MGD)
La Morita	"	254 lps (5.8 MGD)
Arturo Herrera	"	460 lps (11 MGD)

Approximately 90% of the wastewater water generated by Tijuana is collected by the existing sewerage system and sent by pumping and/or by gravity to the International Wastewater Treatment Plant (IWWTP), the San Antonio de los Buenos (SAB), La Morita, and Arturo Herrera plants. PITAR and SAB have their final discharge into the Pacific Ocean while La Moria and Arturo Herrera plants discharge to the Alamar River.

Solid Waste

Collection coverage: 100%

Final disposal: Landfill

Street Paving

Coverage: 60%

1.d Legal Authority

Project sponsor: Comisión Estatal de Servicios Públicos de Tijuana (CESPT)

Legal representative: Hernando Durán Cabrera

Legal instrument to demonstrate legal authority: Decree No. 44, V Legislature of the State of Baja California

Date of instrument: December 16, 1966

Compliance with agreements:

- 1889 International Boundary Convention
- 1944 Water Treaty
- 1983 La Paz Agreement, or Border Environment Agreement
- 1990 Integrated Border Environmental Plan (IBEP)

[3] Source: CEA BC, November 2010
[4] Source: CEA BC, November 2010

	- 1994 North American Free Trade Agreement (NAFTA) - Border 2012 Program - Minute 283 (CILA/IBWC)

1.e. Project Summary

Project description and scope:	The project consists of the construction of wastewater collection infrastructure for the unserved area Alcatraces in Tijuana, Baja California. **<u>Wastewater Collection</u>** - Construction of sewer lines Installation of approximately 8,648 meters (28,373 ft) of 8 inches diameter PVC pipelines. - Construction of wastewater sub-collector Installation of approximately 1,470 meters (4,823 ft) of PVC and Polyethylene pipelines in diameters of 8 to 10 inches. Wastewater generated in the project area (approximately 8.78 lps or 0.2 MGD) will be treated at the Rosarito Norte wastewater treatment plant which has adequate treatment capacity. Treated effluent will be discharged into the Pacific Ocean via the Reforma creek.
Population served:	3020 residents
Number of connections:	733
Project cost:	$ 4,854,730 dollars[5]
Project map:	Figure 1.2 shows the location of the unserved area Alcatraces in the municipality of Tijuana.

[5] The number includes the cost of two projects: 1) Expansion of the wastewater collection system for unserved areas Alcatraces and 2) Expansion of the wastewater collection system for unserved area Ejido Plan Libertador & Ampliación. Information related to the latter will be presented in a separate certification document.

Figure 1.2 Alcatraces in Tijuana, BC.

1.f Project Justification

Project justification:

- Residents from the area Alcatraces currently lack wastewater collection services and rely on latrines, septic tanks without drainfields, or discharges to open drains for their wastewater disposal. The implementation of the proposed project will provide access to appropriate wastewater collection and treatment services to approximately 3,020 residents. This action will reduce human contact with contaminated water as well as with vectors of waterborne diseases.

- The municipality of Tijuana has an estimated 10% wastewater collection deficiency. The project implementation will help reduce the backlog by extending the wastewater collection system to serve approximately 733 households.

- Approximately 8.7 lps (0.2 MGD) of the wastewater flow generated in the project area will receive treatment prior to being discharged into the Pacific Ocean. By eliminating the use of latrines, septic tanks without drainfields, and open drains, the proposed project will contribute to reduce the potential for groundwater and surface water contamination resulting from the inappropriate discharge of untreated wastewater.

Urgency of the project or consequences of no action:	• The lack of this adequate wastewater service jeopardizes the health of residents in the project area, since they are exposed to having contact with untreated wastewater and thus are at risk of acquiring associated diseases. According to morbidity statistics for Tijuana (see Table 2.1) intestinal diseases show the highest incidence among all types of diseases. • The inappropriate discharge of untreated wastewater in the project area results in wastewater runoff, which flows to the Pacific Ocean, contributing to water contamination.
Prioritization Process category:	Category 1

Pending Issues:

None

Criterion Summary:

The project falls within BECC priority sectors and meets basic general criteria.

2. Human Health and Environment

2.a Compliance with Applicable Environmental Laws and Regulations.

Environmental and human health conditions addressed by the proposed project:

- Appropriate wastewater collection and treatment. Residents in the project area currently lack wastewater collection service and discharge their wastewater to open drains or rely on latrines, septic tanks and drain fields and cesspools.

- Reduce the risk for communicable waterborne diseases caused by human contact with raw wastewater runoff resulted from the lack of wastewater collection in the project area.

- Reduce soil and surface water contamination, since it has been estimated that a portion of the runoff resulting from inappropriate wastewater discharges in the project area will eventually discharge to the Pacific Ocean.

Human health

As shown in the health statistics section below, there are an important number of cases per year of waterborne diseases in Tijuana, where the project area is located. The statistics registered a number of cases of intestinal diseases, helmintiasis, amebiasis, and scabiosis. It is expected that the project implementation will contribute to reduce the number of cases of the waterborne diseases mentioned above.

Environmental

Residents of the project area currently lack wastewater collection services and rely on latrines, septic tanks without drainfields, or discharges to open drains for their wastewater disposal.

Untreated wastewater discharges in the project area due to a lack of wastewater collection, is a potential source of disease-causing organisms and soil, surface and groundwater contamination.

The inappropriate disposal of untreated wastewater in the projects area results in wastewater runoff, which flows to the Pacific Ocean, contributing to its contamination.

The environmental conditions addressed by the project are:

- Households without adequate wastewater collection: 733
- Flow of untreated wastewater discharges to the environment: 8.7 lps (0.2 MGD)

The project meets the following applicable environmental laws and regulations:	- Official Mexican Standard NOM-001-SEMARNAT-1996, which establishes the maximum permissible levels of contaminants for wastewater discharges into national waters and territories. - Official Mexican Standard NOM-002-SEMARNAT-1996, which establishes the maximum permissible levels of contaminants for wastewater discharges to urban or municipal wastewater collection systems. - Official Mexican Standard NOM-003-SEMARNAT-1997, which establishes the maximum permissible levels of contaminants for reclaimed water use for non-potable uses.
Environmental and human health benefits the project is expected to achieve:	
Human Health	According to the "World Health Organization Water, Sanitation and Hygiene Links to Health FACTS AND FIGURES – *updated November 2004", sanitation projects can have the following benefits to human health: - Improved sanitation reduces diarrhea morbidity by 32%. - Access to safe water and sanitation facilities and better hygiene practice can reduce morbidity from ascariasis by 29%. - Project implementation is expected to contribute with the reduction of the number of cases of waterborne diseases in the unserved area Alcatraces in Tijuana.
Environmental	By eliminating the use of latrines, septic tanks without drainfields, and open drains, the proposed project will contribute to reduce the potential for groundwater and surface water contamination resulting from the inappropriate disposal of untreated wastewater. The following are the expected project environmental benefits: - Households with wastewater collection and treatment:733 - Flow of collected and treated wastewater: 8.7 lps (0.2 MGD)

2.b Human Health and Environmental Impacts.

Human Health Impacts	
Direct and indirect benefits:	- The project will help reduce groundwater and surface water contamination. - The project will reduce soil contamination.

Health statistics:

Waterborne diseases are caused by pathogenic microorganisms that are directly transmitted as a result of inadequate wastewater disposal practices which may result in human contact with raw wastewater and unsafe water supplies.

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. Waterborne diseases may be caused by protozoan, viruses, bacteria, and intestinal parasites.

Supporting figures:

The following table shows waterborne disease statistics for the city of Tijuana. As shown below, the number of cases has dropped throughout the years despite the population's growth. Projects to improve water services, such as the provision of wastewater collection and treatment services contribute to improve the communities' public health.

No. of Cases						
Disease	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Intestinal diseases by other organisms	36930	33084	31858	34354	33966	34312
Other Helmintiases	1812	1651	1928	1679	1586	1802
Intestinal Amoebiasis	1715	1636	1202	1179	1178	1006
Scabiosis	1187	1275	2103	1105	840	938

Table 2.1 – Waterborne Disease Statistics for Tijuana, B.C.
Source: Secretariat of Health, Epidemiological Surveillance Coordinating Unit, General Morbidity, New Cases. Tijuana 2005-2010

Environmental Impacts

Direct and indirect benefits:

The construction of new wastewater collection systems in Tijuana will reduce health and environmental risks associated to inadequate wastewater collection and lack of wastewater treatment. The proposed project will allow CESPT to collect and treat wastewater generated in the area Alcatraces in compliance with existing federal and state laws and regulations.

Environmental impacts:

The implementation of this project will help eliminate wastewater discharges to latrines or open drains, positively impacting ground and surface water bodies. Wastewater produced in the project area will be collected and treated at the Rosarito Norte WWTP, improving the quality of groundwater and surface waters, including the Pacific Ocean.

	Minor localized short-term environmental impacts are anticipated during the construction period. These impacts will be minimized by implementing the mitigation measures established in the Mexico's Environmental Impact Assessment Document, Manifestacion de Impacto Ambiental (MIA, for its initials in Spanish), and constructing in accordance with specifications established in this MIA . Potential impacts include the following: <u>Construction Phase</u> - Fugitive dust emissions - Gas emissions from construction machinery - Temporary roadway blockages, presence of workers in the area
Mitigation measures:	Mitigation measures in the MIA include: - Application of treated wastewater to reduce fugitive dust emissions - Vehicle tune ups to reduce emissions - Placement of warning signs to prevent potentially hazardous situations
Impacts:	The environmental impact resulting from the project implementation will be positive overall, given that it increases wastewater collection coverage, reducing environmental contamination and improving the quality of life of area residents by curtailing potential health hazards.
Transboundary Impacts	
	Due to the proximity of Tijuana with various communities in the San Diego County in the United States, there are frequent border crossings between cities. The construction of new wastewater collection systems in currently unserved areas will have a positive impact on the health of residents of cities such as San Ysidro and San Diego, California and the entire region, since these actions will reduce the risk of waterborne diseases caused by inappropriate wastewater management. Furthermore, the project will reduce human contact with raw wastewater. Additionally, the implementation of the project will reduce the potential for contamination of local and shared water bodies, such as the Pacific Ocean. According to the transboundary environmental assessment significant impacts are not expected due to the project implementation.

Formal Environmental Clearance	
Environmental Clearance:	Pursuant to the provisions of Baja California's Law of Environmental Protection regarding the environmental impacts of the project, the Secretariat of Environmental Protection for the State of Baja California (SPA, for its initial in Spanish) established through official communication SPA-TIJ-2923/07, that the project required a MIA, an Environmental Impact Assessment in the General Modality. This study was prepared and submitted to the SPA on December 30th, 2008. The project was authorized in the official document SPA-TIJ-1750/09 4.3.0191-MIA/08 issued on June 11th, 2009 after a determination was made that the project complies with all the requirements of the Mexican environmental clearance process. Pursuant to the U.S. National Environmental Policy Act (NEPA), a transboundary environmental assessment was developed and submitted for consideration to the United States Environmental Protection Agency (EPA). A 30-day public review started on March 31, 2009 to receive comments related to the environmental assessment and the Finding of No Significant Impact (FONSI). On May 22, 2009 the EPA issued the final FONSI establishing that the project will not result in significant environmental impacts that may affect the U.S. border area.
Results Measurement Project Matrix Summary	
Results Measurement	**Indicators and Targets**
1. Increase Access and Use of Wastewater Collection Services	Increase wastewater collection service (target = 733 new connections) **Baseline Value** Connections with wastewater collection service= 0
2. Reduction of uncollected WW discharges to water bodies or other (Protection of Natural Resources)	**Indicators and Targets** Eliminate uncollected wastewater discharges (target= 8.7 lps [0.2 MGD]) **Baseline Value** Collected wastewater discharges = 0 lps
Outputs: Goods and services that the project will deliver	Domestic wastewater connections: 733 Construction of 8,648 m (28,373 ft) sewer lines and 1,470 meters (4,823 ft) wastewater sub-collector.

Pending Issues:

None

Criterion Summary:

The project complies with BECC's Human Health and Environment criteria.

3. Technical Feasibility

3.a Technical Aspects

The project consists of the construction of wastewater collection infrastructure for the unserved area Alcatraces in Tijuana, Baja California.

Project Development Requirements

Design criteria:

The project final design was developed pursuant to the wastewater collection technical standards issued by Baja California's Secretariat of Infrastructure and Urban Development, and the technical specifications contained in the Water, Wastewater Collection and Treatment Manual prepared by CONAGUA. The design, also complies with Official Mexican Standard NOM-001-CNA-1995 "Sanitary Sewage System – Specifications for Hermeticity". Final designs were reviewed and approved by BECC and NADB, and validated by CONAGUA.

The project includes the following elements:

Wastewater Collection

- Construction of sewer lines
  Total Length: 8,648 meters (28,373 ft)
  Diameter: 20cm (8")
  Material: PVC

- Construction of sub collector
  Total Length: 1,470 meters (4,823 ft)
  Diameter: 20-25 cm (8 "-10")
  Material: PVC, PEAD

The wastewater collection system in the area Alcatraces consists of the installation of sewer lines and sub-collector that will discharge by gravity in an existing collector that will convey wastewater flows generated (approximately 8.7 lps or 0.2 MGD) to the Rosarito Norte wastewater treatment plant, which has sufficient treatment capacity.

The Rosarito Norte WWTP has capacity to treat up to 210 lps (4.79 MGD) and is located approximately 18 km (11.25 miles) south of the U.S.-Mexico border, in northwestern Playas de Rosarito. The plant provides secondary treatment which includes an extended aeration/activated sludge treatment process (EA/AS) with an oxidation ditch system, UV light disinfection and filtration.

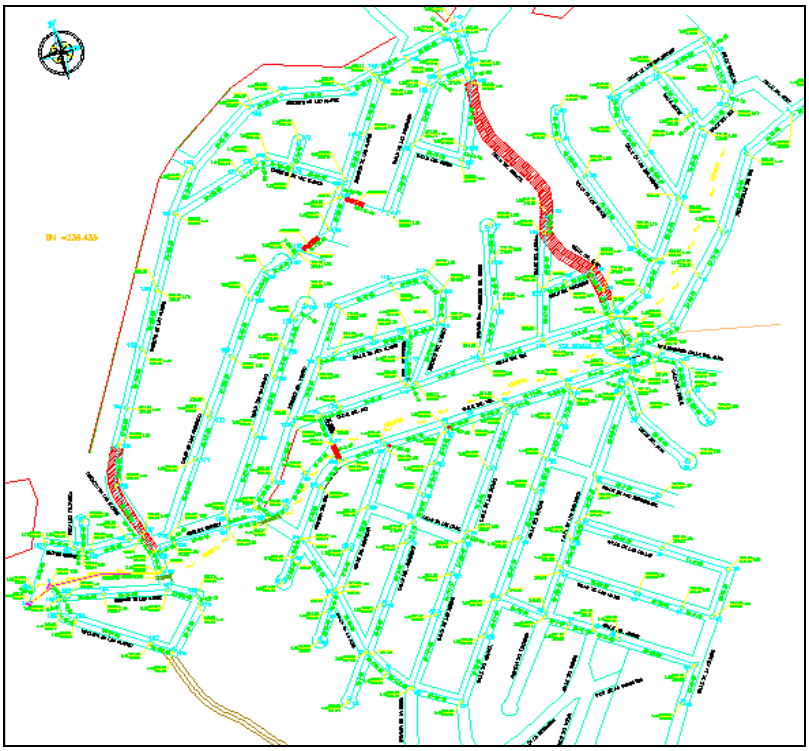


Figure 3.1 Alcatraces Project, in Tijuana, BC.

The treated effluent complies with the Mexican Norms, NOM-001-SEMARNAT-1996 for discharges into the Ocean and with NOM-003-SEMARNAT-1997 for reclaimed water use for non-potable uses. Treated effluent is discharged into the Pacific Ocean via the Reforma creek, 200 m (656.2 ft) upstream.

About 7 lps (0.15 MGD) of the treated effluent are being reused for landscape irrigation. The sludge generated in the treatment plant will be managed, treated and disposed according to the norm NOM-004-SEMARNAT-2002.

The sludge (solids) generated by all treatment plants operated by CESPT, as well as the sludge generated at the South Bay International Treatment Plant in San Diego, is being treated and disposed of at a location called Punta Bandera, approximately 6.8 km (4.2 miles) south of the international border.

Punta Bandera facilities have a surface area of approximately 400,000 m^2, and include space for additional sludge dewatering and 8 sludge disposal cells with a capacity of 23,726 m^3/year (31,032.4 yd^3/yr) (dry base), each. During 2009, this facility received approximately 172 m^3 (225 yd^3) of sludge from the Rosarito Norte plant.

The final design of the wastewater collection system included the implementation of green building practices as part of the technical construction specifications. For example, the final design considered the use of materials suitable for the project and that guarantee durability at a low cost; it also considered use of materials from the region to avoid transportation costs and emissions.

The final design specifications describe the availability of materials such as paint, plaster, pipes, packages etc, and its characteristics so the contractors have the option to make a selection with low toxicity. It also requires the use of equipment with low energy consumption, and sensors for lighting control.

Appropriate Technology

Assessment of Alternatives:

As part of the project development, various alternatives were evaluated based on the following parameters:

- Cost
- O & M Cost
- Material and Equipment Reliability
- Environmental Impacts
- Social/Community Acceptance
- Technology and sustainable practices

The analysis considered the use of various pipe materials in compliance with norms and current regulations. High density polyethylene, PVC and Asbestos-cement pipes were evaluated according to the soil type.

In order to reduce costs and make the best use of the project area topography, the shortest routes were considered for pipe alignments. Crossings through paved avenues were also minimized as well as crossing of drinking water pipes and telephone lines.

Pipe diameters were calculated using slopes and velocities accordingly to avoid silt and at the same time avoid over excavation and/or the use of lift stations that might increase costs. Maximum flow rate and treatment capacity, based on the total number of lots in the area, was also considered for pipe diameter requirements in order to avoid oversized pipelines. Treatment capacity was also taken into account.

Pipe layout was designed based on existing right of ways, according to the urban land use plan.

Based on the design criteria mentioned above, an alternative was selected and final design was developed, considering the environmental impacts and mitigation measures according to the specifications of the MIA, authorized by the state of Baja California.

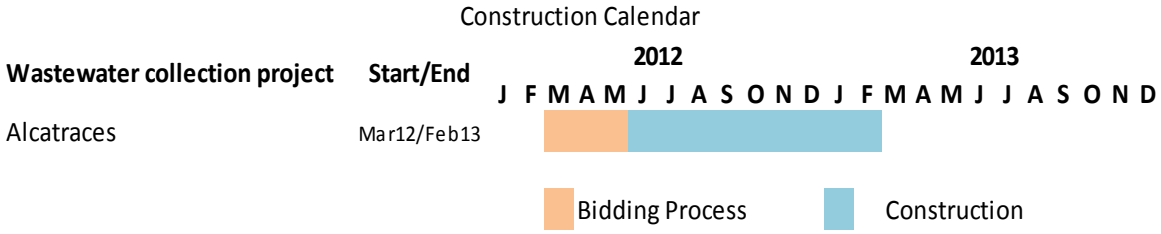
Property and Right-of-Way Requirements

Requirements:

- Most of the sewer lines and sub-collector would be laid on existing municipal rights of way and easements. Additional permitting is under progress.

- The utility will request the corresponding permits and licenses to construct in the right-of-ways and for street closures.

Project Tasks and Timelines



4. Financial Feasibility

4.a Verification of Financial Feasibility

Financial Conditions

Information Presented: CESPT's 2005-2009 financial statements.

Summary of Financial Analysis: CESPT shows the capacity to finance the projects based on NADB conservative assumptions should be able to generate the net operating cash sufficient to cover the debt.

Project total cost, financial structure and other capital investment plans

Item: Expansion of the Wastewater Collection System for the unserved areas Alcatraces, Tijuana and Ejido Plan Libertador and Ampliación Playas de Rosarito, Baja California.

Total Cost: **US$ 4,854,730**

Financial Structure:

Source	Type	Amount US	%
Mexico	Grant	$2,276,984	47
NADB-BEIF Construction Assistance	Grant	$1,929,695	40
NADB [1/]	Loan	$648,051	13
Total:		**$4,854,730**	100

[1/] The NADB loan component for these works will come from the original loan authorization by NADB Board as of July 21, 2009 for up to $380 million pesos, and finally approved by State Congress to an amount of $300 million pesos. As described in the Chapter 4 of the $380 million peso loan certification document, other projects certified by BECC can be funded with this loan. Therefore, no additional loan approval from the NADB Board is required.

Primary Source of Income

Revenue Source: CESPT's revenues.

4.b Legal Considerations

Project Management: The project will be managed directly by CEST, which has the legal and technical capacity to implement the projects.

Pending Issues:

None.

Criterion Summary:

The project complies with BECC/NADB's Financial Feasibility Criteria.

5. Public Participation

5.a Community Environmental Infrastructure Projects – Community-wide impact

Local Steering Committee

Date of Establishment: The Local Steering Committee was formally installed on September 11th, 2009 at a meeting held in CESPT facilities.

Local Steering Committee Members: At this meeting, a Board of Directors was selected, and it is formed by the following individuals:

Chairperson:	Martin Reveles
Treasurer:	Bertha Verduzco
Secretary:	Virginia Martínez
Alternates:	Pedro Mariscal
	María Teresita Balderas
	Rufa Méndez

Date of approval of Public Participation Plan: The Comprehensive Community Participation Plan developed by the Local Steering Committee was approved by the BECC on September 15th, 2009.

Public Access to Project Information

Public access to project information: The project's technical and financial information was made available to the public for review. The Local Steering Committee, with assistance from the project sponsor, prepared the following:

- Flyers
- Presentation

The above was used to inform the community about the project.

Additional outreach activities:

- Development and dissemination of project fact sheet
- Project surveys to document the community's concerns or support for the project

Public Meeting: Advance notice to announce the 1st Public Meeting, was published in "El Mexicano," a local newspaper, on September 15th, 2009.

The first meeting was used to inform the public about the technical aspects of the project. The meeting was held at 15:00 pm on October 15th, 2009 at the CESPT facilities. Attendees included the Local Steering Committee, as well as CESPT, and BECC representatives.

	The meeting was attended by more than 112 residents of which 71 answered a project survey; 100% percent of those surveyed said they were able to fully understand the project and explicitly expressed their support.
Second Public Meeting:	A second public meeting was held on March 11th, 2011 at the colonia Plan Libertador. The meeting was attended by approximately 130 residents that expressed their support to the project. During this meeting the community was informed about the project's technical and financial components.
Final Public Participation Report	
Final report:	The Local Steering Committee and the sponsor prepared the Final Public Participation Report to demonstrate that the proposed objectives were fully met to BECC's satisfaction.
Post-Certification Public Participation Activities	
Post-Certification Activities:	The project sponsor, in coordination with the Local Steering Committee, provided a general description of public participation activities that may be carried out after the certification of the project to support their implementation and long-term feasibility.

Pending Issues:

None

Criterion Summary:

The project complies with BECC's Public Participation Criteria.

6. Sustainable Development

6.a Human and Institutional Capacity Building

Project operation and maintenance:

The project sponsor will be the agency responsible for operating and maintaining the system as it relates to:

- Wastewater collection
- Wastewater treatment

The sponsor has the basic institutional and human capacity to operate and maintain the following:

- Proposed wastewater collection system
- Existing Rosarito Norte plant receiving project flows
- Pretreatment program

Human and institutional capacity building:

Actions within the scope of the project that contribute to institutional and human capacity building for the Tijuana Public Works State Commission (CESPT) include:

- Provide wastewater collection, and treatment services in a continuous, efficient, and cost-effective approach.
- Operate wastewater collection and treatment system that meet applicable local, state, and federal regulations.
- Provide training and continuing education to the utility's operating staff throughout its different areas, to offer essential services that meet the needs of the community and provide responsible maintenance of the new infrastructure.
- Optimize the use of scare water resources, and raise public awareness about the importance of water for the community development.

Additional plans or programs:

The sponsor currently manages an educational program called "Cultura del Agua", which aims to promote water conservation and the efficient use of the water resources among the community. There is also a water reclamation program call "Proyecto Morado" this program includes the development of treated wastewater studies to find reuse alternatives and proper implementation. Currently the sponsor uses some of the treated effluent from the Rosarito Norte WWTP for irrigation and landscaping purposes.

6.b Conformance to applicable Local, State, and Regional Regulations and Conservation and Development Plans.

Local and Regional Plans addressed by the project:

The proposed project conforms to applicable plans and actions described in the following documents:

- Master Plan for Improvements to Water, Wastewater and Collection Services
- State Development Plan
- Municipal Development Plan
- The Municipal Development Plan establishes the need to develop basic sanitary infrastructure in Tijuana, such as wastewater collection and treatment services.
- The implementation of the project will eliminate risks inherent to inadequate wastewater management, and treated wastewater will be available for reuse. Use of recycled wastewater will reduce the use of drinking water for landscaping purposes.
- From a regional planning standpoint, the project incorporates actions and tasks included in the National Hydraulic Program (*Programa Nacional Hidráulico*, PNH), such as the reduction of water contamination in a watershed deemed to be a priority to the PNH due to its bi-national condition since the Pacific Ocean is a shared waterbody with the United States.
- The project adheres to the U.S.-Mexico Border 2012 Environmental Program by meeting Goal 1 (Reducing water contamination) and Objectives 1 (promoting an increase in the number of household connections to wastewater collection and treatment services) and 4 (promoting improve water utility efficiency). One of the program's guiding principles is to reduce major risks to public health and conserving and restoring the natural environment.

Laws and regulations met by the project:

The project meets applicable federal regulations pursuant to wastewater collection, treatment, and final disposal.

Impacts to neighboring communities in the U.S.:

The development of this project will prevent untreated wastewater from being discharged into the Pacific Ocean.

6.c Natural Resource Conservation

- The final design includes the implementation of green building practices as part of the technical construction specifications.
- The project contributes to reducing environmental deterioration by extending wastewater collection lines to existing unserved households and providing the necessary means to connect 100% of the project area to this service. Wastewater will be collected

and conveyed to an existing WWTP to improve its quality, so as to reduce groundwater and surface water contamination and human health hazards resulting from the discharge of untreated wastewater to streams or agricultural drains.

6.d Community Development

- The completion of this project is crucial for the development of the community. The tasks proposed by the project will contribute to the appropriate disposal of wastewater, which in turn will reduce the conditions that favor the proliferation of water-borne and arboviral diseases.

- The implementation of wastewater collection systems will promote community development, as it will reduce contamination in the city and improve the quality of life for local residents.

- Treated wastewater will be available for other uses, including agricultural and urban public purposes.

- The project will help the city achieve greater wastewater collection coverage, which in turn will enhance the development of the community, since it will reduce contamination on the streets caused by wastewater runoff. In addition, it supports the harmonious community development by promoting the development of other infrastructure such as street paving.

Pending Issues:

None

Criterion Summary:

The project complies with the Sustainable Development Criteria.

Available Documents

- Final Design, Wastewater Collection systems for colonia Alcatraces CESPT, 2009

- Datos Básicos de proyectos y datos demográficos Tijuana y Playas de Rosarito, CESPT 2008. (Basic Information and Demographic data)

- Análisis y proyecciones de agua residual y saneamiento para Tijuana y Playas de Rosarito. (Wastewater generation and treatment analysis and projections)

- Estudio transfronterizo de impactos ambientales – "Transboundary Environmental Assessment (EA) for the Expansion of the wastewater collection system to unserved areas in the city of Tijuana and Playas de Rosarito, Baja California", Marzo 2009

- Master Plan for Water and Wastewater management, CDM 2003

- Environmental Assessment Tijuana and Playas de Rosarito Potable Water and Wastewater Master Plan, CDM 2003

- DICTAMEN MIA NO. SPA-TIJ-1750/09 4.3.0191-MIA/08

- Public Participation Report