Border Environment Cooperation Commission
Project Certification Document
Wastewater Collection and Treatment Project in Sonoyta, Sonora

1. General Criteria

1.a Project Type

Project name:	Wastewater Collection and Treatment Project in Sonoyta, Sonora
Project sector:	Wastewater Hookups and Wastewater Treatment

1.b Project Category

Category:	Community Environmental Infrastructure Project – Community-wide impact

1.c Project Location and Community Profile

Communities	Sonoyta, Municipality of General Plutarco Elías Calles.
Location:	The municipality of General Plutarco Elias Calles is located in the northeastern portion of the state of Sonora. Sonoyta is the head of the municipality, and it borders with the U.S. and Lukeville, Arizona to the north; the municipality of Pitiquito to the south; the municipality of Caborca to the west; and the municipalities of Atil, Oquitoa, Sáric, and Tubutama to the east.
Location within the border:	The project is located within the 62 km border area, approximately 2 miles south from the U.S.-Mexico Border.
Figure:	The following figure shows the location of Sonoyta Sonora.

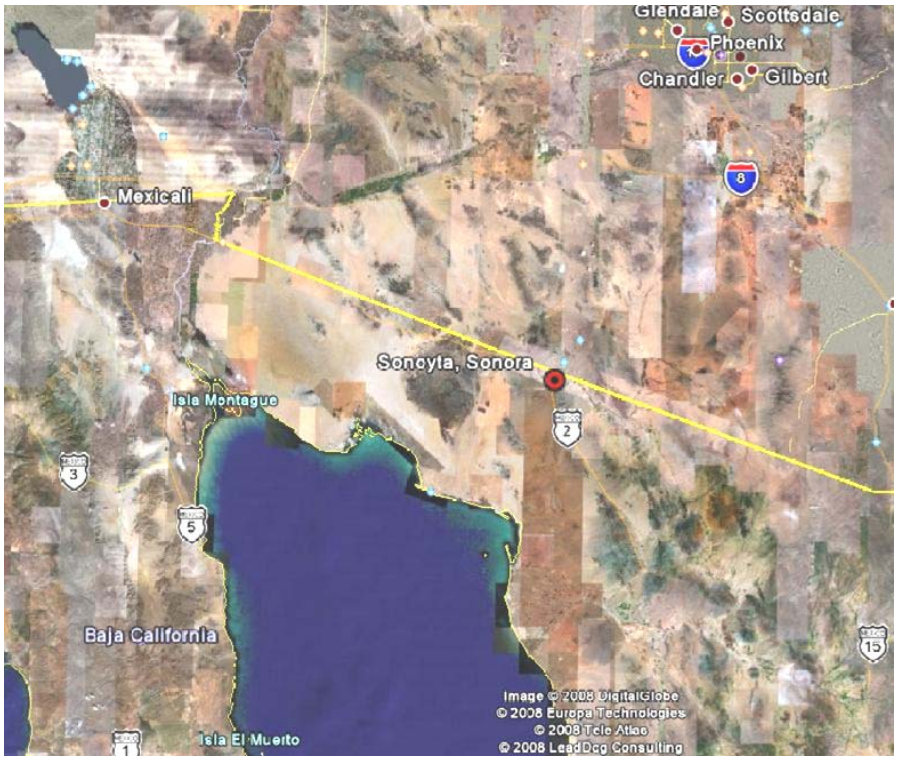

Figure 1. Location of Sonoyta, Sonora (Source: Google Earth).

Demographics	
Current population:	12,439 inhabitants
Growth rate:	1.40 %
Reference:	INEGI Year: 2005
Economically active population:	3,845 inhabitants
Reference:	INEGI Year: 2005
Median per capita income:	MX$ 3,157 per month
Reference:	BECC/NADB estimation based on statistics by INEGI and the National Commission on Minimum Wages
Principal economic activity:	Trade
Marginalization rate:	1.32, very low

Services	
Community:	Sonoyta
Water Distribution System:	
Water coverage:	91.7%
Current length of water pipelines:	69 km (43 miles)
Domestic hookups:	86 %
Commercial hookups:	14 %

Industrial hookups:	>1 %
Water supply source:	Groundwater (4 wells)
Number of water hookups:	3,806
Wastewater Collection System:	
Wastewater coverage:	65 %
Current length of sewer pipelines:	42 km (26 miles)
Number of sewer connections:	1,774
Wastewater Treatment:	
Wastewater treatment coverage:	65 %
Capacity:	16 lps (0.365 MGD)

1.d Legal Authority

Project applicant:	O.O.M.A.P.A.S de General Plutarco Elías Calles
Legal representative:	David Reyna Núñez
Legal document to demonstrate authority:	The project sponsor is the Municipality of General Plutarco Elías Calles, through the water and wastewater utility, *Organismo Operador Municipal de Agua Potable, Alcantarillado y Saneamiento* (OOMAPAS), which is responsible of providing water and wastewater services according to *artículo 3º, fracción I de la ley de Agua Potable y Alcantarillado para el Estado de Sonora* (Article 3, Fraction I of the State of Sonora Drinking Water and Sewage Law).
Date of document:	Thursday, July 4th, 1994
Compliance with agreements:	- 1889 International Boundary Convention - 1944 Water Treaty - 1983 La Paz Agreement, or Border Environment Agreement - 1990 Integrated Border Environmental Plan (IBEP) - 1994 North American Free Trade Agreement (NAFTA) - Border 2012 Program

1.e. Project Summary

Project scope and description:	The project proposes the construction of "phase 1" of a new lagoon-based wastewater treatment system with a 30 lps (0.685 MGD) capacity and lift station, construction of two wastewater conveyance lines and the expansion of the wastewater collection system (WWCS). This new facility, Figure 2, will replace the existing 16 lps (0.365 MGD) WWTP, which is overloaded and fails to meet effluent quality standards;

	the new WWTP will be located 2.36 km (1.46 miles) northwest of the current facility and will discharge to Rio Sonoyta, and a later possible use for agriculture irrigation. The wastewater conveyance lines will carry Sonoyta's wastewater by gravity to the new lagoon treatment system. The expansion of the WWCS will include new service to benefit the following settlements or *colonias:* Ejido Hombre Blanco, Ejido Pápagos, and Barrio Las Botellas, see Figure 3. Approximately 720 new residences will receive first time service.
Components:	<u>Wastewater Collection System (WWCS)</u> - Construction of approximately 6.15 km (3.84 miles) of 8-inch sewer lines and 30 manholes. - Construction of a 2.9 km (1.81 miles), 14-inch *16 de Septiembre* collector. - Construction of a 2.5 km (1.56 miles), 18-inch wastewater main. <u>Wastewater Treatment Plant (WWTP)</u> Construction of phase 1 of a new Wastewater Treatment Plant with capacity of 30 lps (0.685 MGD). The proposed WWTP will consist of headworks, anaerobic lagoon, facultative lagoon and a polishing lagoon.
Population served:	12,439 inhabitants
Project cost:	US $2.614 million

Project map:

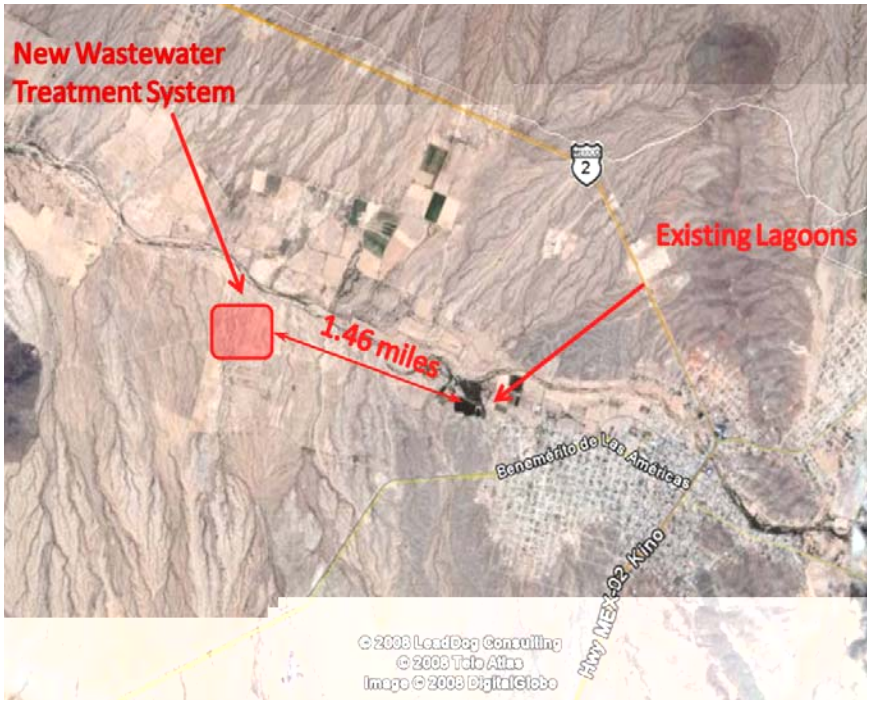

Figure 2. Location of the lagoon-based system and site of the new proposed system (Source: Google Earth).

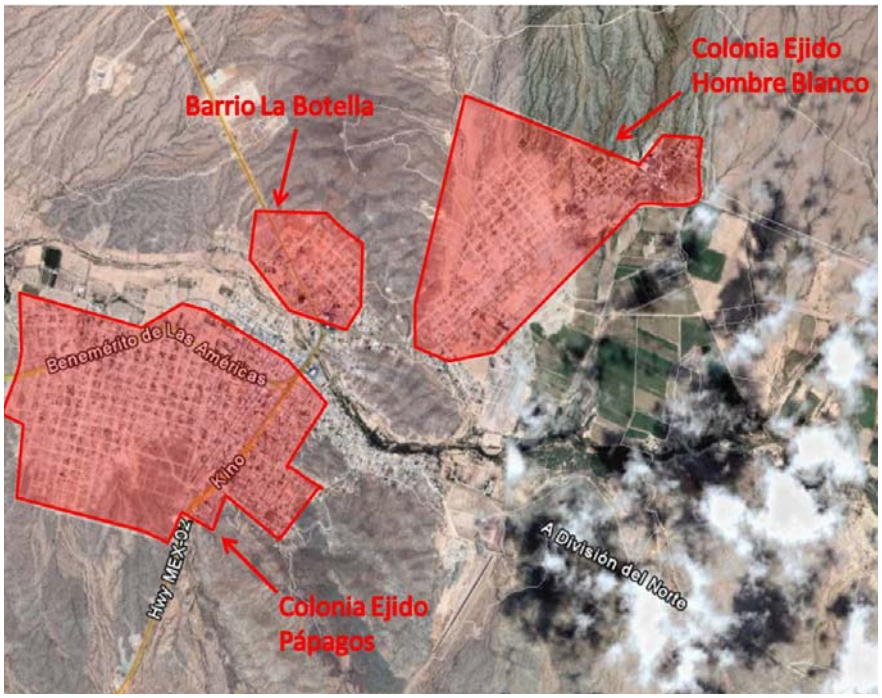

Figure 3. Location of *colonias* unserved by wastewater collection system (Source: Google Earth).

Project Justification	
Project justification:	- The existing WWTP has a capacity of 16 lps (0.365 MGD) with final current flow measurements averaging 16.02 lps. The facility is overloaded and failing to meet its discharge standards. The connection of homes from three additional colonias would overwhelm the system. Also, the urban sprawl is reaching the existing treatment facilities and there are urban settlements at a distance of less than 200 ft away. - The proposed project will increase the wastewater collection coverage from 65% to 88% by adding 720 new connections, reducing the potential for human contact with raw wastewater and organisms that are vectors for associated diseases. - The construction of new WWCS, as well as 720 new sewer connections, will also reduce the potential for groundwater and surface water contamination by eliminating the use of latrines, septic tanks, and raw wastewater discharges to open drains. - Sonoyta plans to upgrade its wastewater collection and treatment systems in two phases: phase 1 considered under BECC certification, will have a capacity of 30 lps (0.685 MGD), phase 2, as needed, which will be fully funded by CONAGUA, CEA and Sonoyta, will add an additional 10 lps (0.228 MGD) of capacity to the WWTP and provide new wastewater service connections.
Urgency of the project or consequences of no action:	The lack of a proper WWCS and WWTP jeopardizes the health of area residents, as it exposes them to an increased risk of gastrointestinal diseases.
Prioritization Process category:	Category 1

Pending Issues:

None

Criterion Summary:

The project falls within BECC priority sectors and meets the criteria.

2. Human Health and Environment

2.a Compliance with Applicable Environmental Laws and Regulations.

Environmental and Public Health needs addressed by the proposed project:

- Wastewater collection is not available to residents of the *colonias* described in Figure 3, and thus wastewater is discharged to open drains, latrines, or cesspools. These untreated wastewaters flow directly into surface and groundwater resources and increase the risk for disease transmission from the potential human contact with contaminated waters and soils. The expansion of the wastewater collection system with 720 new connections will reduce exposure of the residents of these areas to raw wastewater and improve the quality of the groundwater.

- The existing WWTP is overloaded and discharges inadequately treated wastewater that flows overland into the Rio Sonoyta, which is a habitat for the Quitobaquito pupfish, an endangered species from the desert. The implementation of a new WWTP will reduce the contamination loads of the Rio Sonoyta, and will provide reuse water for irrigation, thereby reducing the need for groundwater pumping and drawdown.

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-ECOL-1996, which establishes the maximum permissible levels of contaminants for wastewater discharges to urban or municipal wastewater collection systems.

- Official Mexican Standard NOM-004-SEMARNAT-1996, which establishes specifications and limitations for the management of sludge and biosolids, generated by the removal of sediments in urban or municipal wastewater collection systems, water treatment plants, and wastewater treatment facilities.

INAH Letter No.: CIS/DIR.259/08

2.b Human Health and Environmental Impacts.

Human Health Impacts

Direct and indirect benefits to human health:

The implementation of the project will help reduce groundwater, surface water, and soil contamination.

Health statistics:

Water borne diseases are caused by pathogenic microorganisms that are directly transmitted from inadequate wastewater disposal practices. An individual may become ill after drinking contaminated water containing pathogenic organisms; eating raw or not-fully-cooked foods that have been in contact with contaminated water; having bad hygiene habits that contribute to the dissemination of diseases by direct or indirect human contact. Water borne diseases may be caused by protozoans, viruses, bacteria, and intestinal parasites.

Supporting figures:

The following figure shows a diagnosis analysis from the State Health System, from the General Directorate of Epidemiology of Sonora indicated that communicable diseases that caused acute diarrhea distress in patients from 2002 through 2005 in the "area of concern" were potentially attributed to waterborne causation in most cases. Table 1, shows that the number of people with communicable diseases diagnosed with acute diarrhea is highest in children from 1 to 4 years old. Other groups as 5 to 9 years old and 50 to 59 years old also show a tendency to catch the disease. As noted in the table, Amebiasis and Giardiasis show a similar pattern. Hence, an argument may be presented that projects of this nature contribute to improving the community's health conditions.

Table 1. Waterborne Communicable Diseases in the Municipality of Plutarco Elías Calles (Sonoyta, Sonora)

Description	Age groups											TOTAL
	>1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 44	45 to 49	50 to 59	60 to 65	65 +	
Intestinal Infectious Diseases	53	111	74	71	61	58	101	45	38	16	10	**638**
Amebiasis	1	11	133	10	18	12	17	16	3	2	3	**106**
Giardiasis	0	6	7	4	1	0	4	3	1	0	0	**26**

Environmental Impacts	
Direct and indirect benefits:	- In general, the project's environmental impact will be positive, inasmuch as it will provide sanitary wastewater collection to parts of the three *colonias* that currently lack this service; it will increase the percentage of community residents with wastewater treatment service to 88% and reduce the risk of raw wastewater seepage associated to the use of latrines and septic tanks. - Replacement of the existing out of compliance WWTP with a new one will reduce the discharges of oxygen depriving contaminants and pathogens to the Rio Sonoyta, thereby reducing the risk of human contact with disease causing organisms. - Foul odors and disease vector insects resulting from inadequately treated wastewater and overloaded treatment lagoons will be reduced.
Environmental impacts:	No significant environmental impacts are anticipated from the development of the different project components, provided the project tasks are implemented in accordance with the specifications of the Environmental Assessment and taking into account the mitigation measures established in it. 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 <u>Operation Phase:</u> - Foul odors - System breakdowns
Mitigation measures:	- Irrigation where necessary 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's implementation will be positive overall, considering that: - The project will increase wastewater collection coverage, reducing environmental contamination and improving the quality of life of area residents by curtailing potential health hazards. - The construction of the WWTP will help to comply with the provisions of the Municipal Development Plan as related to the protection of water supply sources; the project will reduce raw and inadequately treated wastewater discharges. The construction of the proposed facility will help reduce gastrointestinal diseases among the community, including the children's population.
Transboundary Impacts	
	No transboundary impacts were identified in the Environmental Assessment (EA). U.S. EPA together with the BECC and others prepared an EA analyzing the potential transboundary environmental impacts of the proposed action. The Environmental Impact Manifest (MIA) did not find any transboundary impacts related to the project. After considering a wide range of regulatory, environmental (both natural and human) and socio-economic factors, the EA did not identify any significant impacts to the environment that would result from the implementation of the proposed wastewater collection system and treatment plant improvements. Moreover, a positive transboundary impact is anticipated from the construction of wastewater collection and treatment services, which will increase wastewater coverage to 88% of the population, many of whom make regular trips across the border. The project will also reduce groundwater contamination to the shared transboundary aquifer. Additionally, water discharged into the Sonoyta River will meet the water quality standards required by CONAGUA established by Official Mexican Standards referred to in section 2.a.
Formal Environmental Clearance	
Environmental clearance:	Pursuant to the provisions of the General Law on Environmental Equilibrium and Protection regarding Environmental Impact Statements, Mexico's Secretariat of the Environmental and Natural Resources (SEMARNAT) established that the project requires a Private Environmental Impact Statement. An EIS (MIA,

	by its initials in Spanish) was prepared and submitted to SEMARNAT on 08/04/2008. SEMARNAT issued the ruling of the EIS on November 10, 2008, establishing 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 impact study was developed and submitted for consideration to the United States Environmental Protection Agency (EPA). A 30-day public review period was opened on 07/25/2008 to receive questions or requests for clarifications. Ultimately, a Finding of No Significant Impact (FNSI) was issued by the EPA on 08/29/2008, establishing that the project will not result in significant environmental impacts that may affect the U.S. border area.

Pending Issues

None

Criterion Summary:

The project establishes the human health and environmental needs to be addressed by the proposed project and to verify compliance with applicable environmental laws and regulations. The EA was completed on February 22, 2008 and EPA issued a Finding of No Significant Impact (FNSI) on 08/29/2008. The MIA was completed on July 25, 2008 and the SEMARNAT ruling was issued in November 10, 2008.

3. Technical Feasibility

3.a Technical Aspects

The project consists of the construction of a wastewater collection system for parts of the Ejido Hombre Blanco, Ejido Papagos, and Barrio La Botella *colonias*; the project also includes the construction of a wastewater treatment plan (WWTP) for the community of Sonoyta.

Project Development Requirements

Design criteria:

The project was developed pursuant to the technical specifications contained in the Water, Wastewater Collection, and Treatment Manual prepared by CONAGUA's Technical Directorate.

The project includes the following components:

Wastewater Collection

For the proposed expansion of the wastewater collection system the project considers the construction of a sewer network for new service in three *colonias* that are currently unserved (Colonia Ejido Hombre Blanco, Colonia Ejido Papagos y Barrio La Botella), a sewer collector line, a wastewater main, and domestic discharge connections as follows:

- Construction of sewer lines
  - Length: 6.15 km (3.84 miles)
  - Diameter: 8 inches
  - Material: PVC Schedule 80
- Construction of sewer collector
  - Number of collectors: 1
  - Length: 2.9 km (1.81 miles)
  - Diameter: 14 inches
  - Material: PVC Schedule 20
- Construction of wastewater main
  - Number of collection mains: 1
  - Diameter: 18 inches
  - Length: 2.5 km (1.56 miles)
  - Material: PVC Schedule 20
- Domestic discharge connections
  - Number of connections: 720

The project sponsor will carry out supplementary tasks that are not part of the proposed project to be financed with EPA's Border Environmental Infrastructure Fund (BEIF) funds. Said tasks include the future construction of a phase 2 of the WWTP with a capacity of 10 lps (0.228 MGD), when it becomes a necessity by

the municipality. Additionally, 350 wastewater connections for the unserved *colonias* (Figure 3; Ejido Papagos, Ejido Hombre Blanco, and Barrio la Botella) will be completed by the State Water Commission, CEA. The project proposed to be funded by the BEIF will only include 720 domestic connections, the construction of sewer lines as described above, and the first phase of the WWTP as described below.

Wastewater Treatment

- Construction of the phase 1, new Wastewater Treatment Plant
  Capacity: 30 lps (0.685 MGD)
  Technology: Lagoon-based system:
    - One anaerobic lagoon 13.00 x 65.00 m, h = 4.00 m
    - One facultative lagoon 49.00 x 341.00 m, h = 2.00 m
    - One polishing lagoon 46.00 x 228.00 m, h = 1.00 m

- Construction and equipment of lift station
  Total Capacity: 60 lps (1.37 MGD)
  Number of stations: 1

As stated in section 1.e., Project Justification, a new wastewater treatment system is required due to the proximity of existing WWTP lagoons with the urban footprint, which is within 65 meters of the facility. The new WWTP requires sufficient capacity to address the needs of the municipality for the next 20 years, estimated to be 40 lps (0.912 MGD). Consequently, the Final Design proposes the construction of a system with stabilization lagoons, as shown in Figure 4 below:

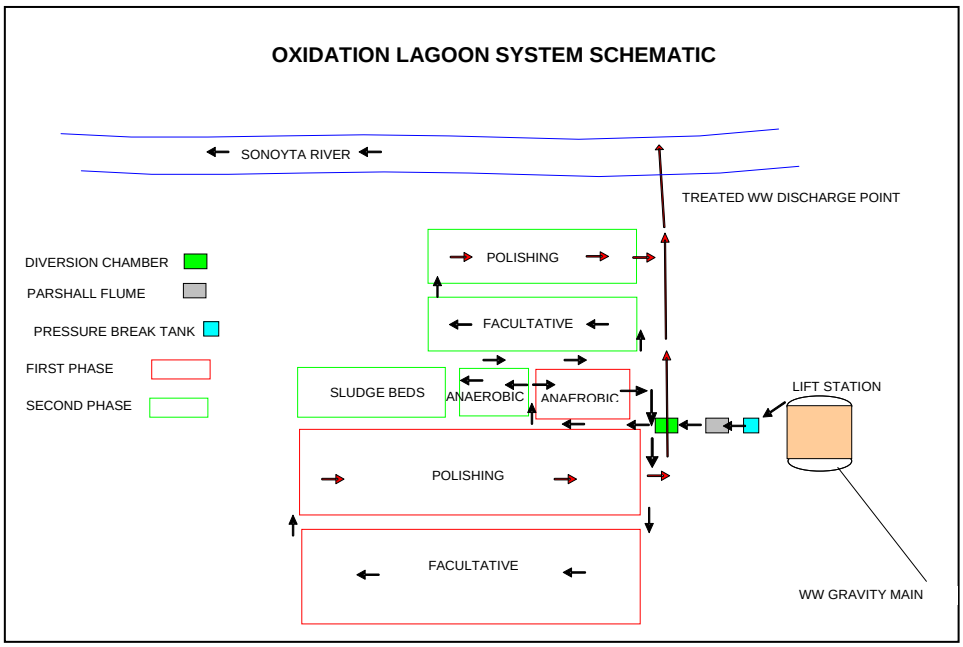

Figure 4. Oxidation Lagoon System Schematic

The figure shows phases, the first phase with a 30 lps (0.685 MGD) capacity, and a second phase, not to be certified with a 10 lps (0.228 MGD) capacity. Each phase will consist of an anaerobic lagoon, a facultative lagoon, and a polishing lagoon. Wastewater treatment initiates with the arrival of wastewater influent through wastewater gravity main discharging to the lift station. Then, wastewater is conveyed to the collection main and reaches a Parshall flume that measures the incoming flow to then send it to the diversion chamber, which will divide the total flow into two flows, one for each phase.

The final design includes the implementation of green building practices as part of the technical construction specifications.

Appropriate Technology

Assessment of alternatives:

As part of the project's development, six alternatives were assessed in the final design for the proposed construction of a new WWTP to meet the objective of treating the total wastewater within the next 20 years (section 3.a., Figure 4).

The selected alternative addressed the goals of reducing organic compounds, suspended solids, parasites, and fecal coliforms in the effluent, as required by Official Mexican Standard NOM-001-ECOL-1996. It was also necessary to reduce construction costs, which demands the use of high workloads in the primary lagoons, and the use of finishing or maturation lagoons at the end of the process.

Wastewater Collection System (WWCS)

Two wastewater collection alternatives were assessed for unserved *colonias.* –the "No Action" alternative and the expansion of sewer system–. The preferred alternative is one that proposes improvements to Sonoyta's wastewater infrastructure: construction of a new wastewater collection system for unserved *colonias*. Inasmuch as wastewater collection lines will be laid on municipal right-of-way and thoroughfares, no additional land needs to be purchased for the project.

- **Alternative 1.** No action alternative. This scenario involves continuing with the current hazardous human health and environmental conditions by not having wastewater collection and disposal services, or having one that fails to comply with applicable regulations and forces residents to dispose of wastewater inappropriately.

- **Alternative 2.** Expansion of the WWCS and discharge structures to the proposed wastewater treatment site. This alternative will provide service to residences lacking connection to the wastewater collection system. This

alternative was selected in order to improve the operation of the WWCS through 720 new connections, a gravity sewer, and gravity main to collect the wastewater produced by the municipality of Sonoyta. This will be eliminating potential contamination of the groundwater by fecal coliform bacteria and other parasites associated with the continued and increased use of cesspools for wastewater disposal.

Wastewater Treatment

As a starting point for the WWTP design was that the quality of the effluent should meet agricultural irrigation requirements, which translates into less than 1,000 fecal coliforms per 100 ml, and less than 1 helminth egg per liter of water. The most viable and cost-effective alternative was selected in concurrence with the Final Design consultant, the sponsor, and the representative of the Sonora State Water Commission (CEA), pursuant to CONAGUA's Official Standards as to the quality of the effluent. Alternative 3 –Construction of a New System– was selected because it will be at a greater distance from human settlements, additionally it will eliminate sources of contamination of groundwater from infiltration, enhancing the life of Sonoyta's inhabitants.

- **Alternative 1.** No Action Alternative. Under this alternative there will be no improvement to the existing wastewater treatment system. This alternative was dismissed, given that this scenario would not eliminate health hazards associated with falling on-site sewage treatment units that overflow sending raw sewage onto the streets. This will allow for continued contamination of surface and groundwater, as well as overall environmental contamination as a result of the disposal of wastewater produced directly into the ground or agricultural drains, with the associated health problems resulting from waterborne diseases and a water quality below official Mexican standards that fails to comply with applicable regulations. The environmental and human health cost is too high.

- **Alternative 2.** Rehabilitation of the Existing Anaerobic and Facultative Lagoon. This alternative proposes the expansion of the existing system and the addition of a new facultative lagoon to operate in series having a total capacity of 27 lps (0.61 MGD). The purchase of an empty tract of land 2 km (1.25 miles) west of Sonoyta is required by the alternative. This alternative will be the cheapest to select but according to the Sonoyta's EA it will have a greater impact to the surface and groundwater, biological resources and the public health, since it will require to continued use of the current treatment lagoons.

- **Alternative 3.** Construction of a New System: Anaerobic Lagoon, Facultative Lagoon, and Polishing Lagoon. This third option will require demand a new site to construct the stabilization system, and the decommissioning of the current treatment facility as soon as the new WWTP is operable, it will require to construct a new 30 lps (0.685 MGD) module as described in section 3.a and Figure 4, but it would not require highly specialized personnel for its operation. Additionally, operation and maintenance costs are low, and enough tract of land is available. The non-monetary evaluation criteria from the EA determined this to be the most appropriate option for this community.

Property and Right-of-Way Requirements

Requirements:

- As mentioned, wastewater collection lines will be laid on municipal right-of-way and easements, thus no additional land needs to be purchased for the project.

- There is a 50-year donation agreement for land use (*commodatum*) for the WWTP site. It has been formalized with a Public Notary and it's in the process of obtaining the National Land Registration.

Project Tasks and Timelines

Timeline:

Table 2. Construction timeline for all project's components.

Sonoyta	2007					2008											2009											
	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December
Activities																												
Gravity wastewater main																												
Construction procurement																												
Construction																												
Gravity sewer																												
Construction procurement																												
Construction																												
Expansion of sewer collection																												
Construction procurement																												
Construction																												
Wastewater Treatment Plant																												
Construction procurement																												
Construction																												

3.b Management and Operations

Project Management

Resources:	The management, construction, and operation of the proposed project will be the responsibility of the applicant. The applicant has available sufficient resources and staff for this purpose.

Operation and Maintenance

Organization:	OOMAPAS serves approximately 1,774 connections in Sonoyta and has a rudimentary operation and maintenance program. OOMAPAS will receive assistance from the Department of Public Works for the development of the water, wastewater collection, and treatment projects, as well as for the operation and maintenance of the existing infrastructure.
Pretreatment:	The project applicant does not have a pretreatment program. According to NOM-002-SEMARNAT-1996, communities with less than 20,000 residents are not required to have pretreatment until 2009. The BEIF grant condition stipulating the development of a pretreatment program is consistent with NOM-002 requiring a program by 2009. The sponsor will develop an industrial and commercial wastewater monitoring and pretreatment program for Sonoyta by 2009.
Operation plan:	The Operation and Maintenance Manual presented as part of the final design includes the primary activities needed to ensure the preventive maintenance of the wastewater collection and treatment system.
Permits, licenses, and other regulatory requirements:	The project applicant has the following documentation available: - Final Design validation issued by CONAGUA - Discharge permit update (in process)
Reviewing agencies:	- BECC - Sonora State Water Commission (CEAS) - NADB - CONAGUA - EPA

Pending Issues:

None

Criterion Summary:

The project is technically feasible. WWTP and wastewater collection final designs for unserved areas were completed by CEAS and validated by CONAGUA. The municipality completed the gravity collection main and sewer collector using local and state funds.

4. Financial Feasibility

4.a Proof of Financial Feasibility

Financial Conditions

Information submitted:

- Historical financial statements
- Financial structure
- Capital investment budget
- Historical and pro forma operation and maintenance budget
- Economic and demographic information about the project area
- Letters of commitment on the financial structure
- Capital investment budget

Results of the analysis: The cash flow generated by OOMAPAS de Sonoyta has been historically sufficient to support the system's operation and maintenance. The capital investment schedule for replacements and new service areas has traditionally been funded by federal CONAGUA programs. The user fee structure is limited, due to the community's low payment capacity.

Project Costs, Financial Structure, and Other Capital Funding Plans

Item:

Conveyance infrastructure and sewer lines:	US$ 1,190,667
Oxidation lagoons:	US$ 1,294,049
Construction management, oversight:	US$ 64,803
Contingency costs:	US$ 64,803

Final cost: **US$ 2,614,322**

Funding structure: The project's total construction cost is currently estimated to be US $2.614 million. Funding source for the project are shown in the table below:

Table 3. Financial Analysis.

Source	Type	Amount (US, dollars)	%
CONAGUA	Grant	295,000	11.28%
Municipality of Sonoyta	Grant	195,667	7.48%
CEA Sonora	Grant	700,000	26.78%
Sonoyta(City and OOMAPAS)	Grant	613,615	23.47%
NADB-BIEF	Grant	810,040	30.99%
Total:		2,614,322	**100%**

Dedicated Revenue Source	
Revenue source:	Not applicable, since funding sources considered for this project do not include a loan or repayable component.

4.b Legal Considerations

Project management:	The project will be managed by the applicant, a utility that has adequate staff to manage the proposed infrastructure, as well as the capacity to address any potential emergency related to the project's operation and maintenance.
Status of funding agreements:	Approval from City Council and Congress Act.

Pending Issues:

None

Criterion Summary:

The financial resources needed to implement the project, to operate and maintain the resulting infrastructure and to meet the project sponsor’s item obligations are sufficient.

5. Public Participation

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

Steering Committee

Date of establishment:	The Steering Committee was formally installed on May 15, 2008 at a meeting held in the Plutarco Elias Calles City Hall.
Steering Committee members:	At this meeting, a Board of Directors was elected, comprised of the following individuals: Chairman: Manuel Ruiz Simo, Technical Secretary: Gloria B. Lizárraga L., Alternates: Jesús A. Tong Rodríguez, Rafael Torres Aldama, Aurelio Ibarra Ruiz, José Hugo Ruiz Moreno, Héctor F. Jimenez Ochoa
Date of approval of Public Participation Plan:	The Comprehensive Community Participation Plan developed by the Steering Committee was approved by the BECC on 06/07/2008.

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 Steering Committee, with assistance from the project applicant, prepared the following: - Flyers - Power Point Presentation The above was used to inform the community about the project.
Additional outreach activities:	- Development and dissemination of a project fact sheet - Project surveys to document the community's concerns or support for the project.
First Public Meeting:	Advance notice to announce the First Public Meeting was published on "El Semanario," a local newspaper, on 06/20/2008. The first meeting was held on July 22, 2008 and was prepared to inform the public about the technical aspects of the project. The meeting was held at 10:00 hrs. on the scheduled day at the Cesar's Palace meeting hall. Attendees included the Steering Committee, the General Director of OOMAPAS and the Director of Public Works, and BECC

	representatives. The meeting was attended by 16 residents who answered project surveys. 100% 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 September 18, 2008 in Sonoyta. The second public meeting was prepared to inform the community of the project's financial components. The meeting was held at 18:00 hours on the scheduled day at the Cesar's Palace meeting hall. Attendees to the meeting included the Steering Committee members, the General Directors of OOMAPAS and the Director of Public Works, Sonoyta residents, and BECC and NADB representatives. The meeting was attended by 12 residents who answered project surveys. 100% of those surveyed said they were able to fully understand the project and explicitly expressed their support.
Final Public Participation Report	
Final report:	The Steering Committee and the applicant prepared the Final Public Participation Report showing 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 Steering Committee, will provide a general description of public participation activities that may be carried out after the project's certification to support its implementation and long-term feasibility.

Pending Issues:

None

Criterion Summary:

Throughout this criterion project information was made accessible to the public through formal and informal activities.

6. Sustainable Development

6.a Human and Institutional Capacity Building

Project operation and maintenance:

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

- Wastewater treatment
- Wastewater collection

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

- Proposed wastewater treatment system
- Proposed wastewater collection system

Human and institutional capacity building:

Actions within the scope of the project that contribute to institutional and human capacity building for OOMAPAS - General Plutarco Elías Calles include:

- Provide and improve water, wastewater collection, and treatment services in a continuous, efficient, and cost-effective manner.

- Operate a water, wastewater collection and treatment systems that meet applicable local, state, and federal regulations.

- Operate a wastewater collection and treatment system that meets regulations applicable to the utility's operating staff throughout its different areas, to provide essential services that meet the needs of the community.

- Provide training and education for the utility's operating staff throughout its different areas, to provide essential services that meet the needs of the community.

- Optimize the use of scare water resources, and raise public awareness about the importance of water for the development of the community.

- Basic technical training to the operations and maintenance staff responsible for the new infrastructure that will be built as a result of the project's implementation.

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 sets forth the need to develop basic sanitary infrastructure in Sonoyta, such as wastewater collection and treatment services.

The implementation of the project will eliminate risks inherent to inappropriate wastewater management, and treated water will be available for other uses.

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 complies with applicable federal laws and regulations regarding collection, treatment and final disposal of wastewater.

6.c Natural Resource Conservation

- The project contributes to reduce environmental deterioration by building a sewer collector and main that will collect and convey wastewater from existing and future sewer lines to the new WWTP to improve its quality, so as to reduce aquifer contamination and human health hazards resulting from the discharge of raw wastewater to the Sonoyta River, streams or agricultural drains.

- During construction activities, special attention will be given to the Quitobaquito Pupfish and the Sonoyta Mud Turtle to protect both species and their habitat.

- The final design includes the implementation of green building practices as part of the technical construction specifications.

6.d Community Development

- Treated water 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 runoffs. In addition, it supports the harmonious growth of areas that currently lack this service by promoting the development of other infrastructure such as street paving.

Pending Issues:

None

Criterion Summary:

The project meets the intent of the Sustainable Development criterion, recognizing sustainable development activities to be developed by the project sponsor inherent to the project's development.

Available Documentation:

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Plan Maestro para el Mejoramiento de los Servicios de Agua Potable, Alcantarillado y Saneamiento en Sonoyta, Sonora. Febrero 2000. SUR Ingenieros S.A. de C.V., Comisión de Cooperación Ecológica Fronteriza.

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Manifestación de Impacto Ambiental del Proyecto: Proyecto de Ampliación del Sistema de Alcantarillado a Zonas sin Servicio y la construcción de una Planta de Tratamiento de Aguas Residuales en Sonoyta, Sonora. Julio 2008. Informe Final, Modalidad Particular, Sector Hidráulico. Servicios de Ingeniería e Informática, Comisión de Cooperación Ecológica Fronteriza.

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