

Border Environment Cooperation Commission

Expansion of the Wastewater Collection and Treatment System in San Luis Río Colorado, Sonora.

1. General Criteria

1.a Project Type

The City of San Luis Río Colorado proposes an improvement of its wastewater collection system in order to eliminate the discharges of untreated wastewater throughout various areas of the city. The project consists of expanding the sanitary sewage system, the installation of electro-mechanical equipment at the existing South Lift Station, construction of a pressurized wastewater forcemain, and the construction of the third module for the Wastewater Treatment Plant, including the construction of the infiltration lagoons for final disposal of the effluent.

This Project belongs to BECC's sectors of Wastewater Treatment and Domestic Water and Wastewater Hookups.

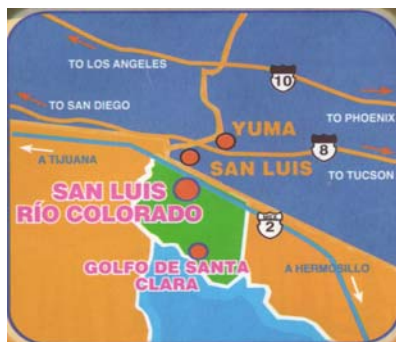
1.b Project Categories

The project is considered within the Community Environmental Infrastructure Project Category – Community Impact. It addresses the need to expand the hydraulic infrastructure of the city for wastewater collection and treatment. The project sponsor is the Water, Wastewater and Sanitation Utility (OOMAPAS, for its initials in Spanish) of San Luis Río Colorado, and the certification is for the Wastewater Collection and Treatment System, which is part of Phase II of the Comprehensive Improvements to the Water, Wastewater Collection and Sanitation Systems project, also known as PIMAAS.

1.c Location of the Project and Community Profile

The city of San Luis Río Colorado, Sonora, is located in the northwest of Mexico. It is limited to the north by the US-Mexico border and its sister city, San Luis, Arizona; to the west by the municipality of Mexicali, BC; to the east are the municipalities of Plutarco Elías Calles and Puerto Peñasco; and the Gulf of Santa Clara is to the south.

The following image shows the geographic location of San Luis Río Colorado.



Demographics

According to the II Population and Housing Census, carried out by the National Institute of Statistics, Geography and Data Processing (INEGI, for its initials in Spanish) in 2005, the municipality of San Luis Río Colorado has a population of 157,076, with a municipal annual growth rate of 1.66%. According to population projections of the National Population Council (CONAPO for its initials in Spanish), the current population (2007) of San Luis Río Colorado is 161,795 inhabitants. The average per capita income amounts to US\$419.50¹.

Municipal Environmental Services

According to the OOMAPAS, the city's service coverage of drinking water reaches 97% of the population, and the wastewater collection and treatment service reaches 50% of the city's population.

1.d Legal Authority

OOMAPAS was officially created in December 28, 1993, and reported in the Official Register of the State of Sonora on December 30, 1993.

The OOMAPAS was created as Decentralized Public Agency of the Municipality of San Luis Río Colorado. It has legal authority to manage its own assets and its organizational structure includes a Governing Board, an Advisory Board, a General Director and a Commissioner as granted by state law No. 104 on Drinking Water and Sewage Systems of the State of Sonora. The OOMAPAS has the legal authority to implement and operate this project.

The project complies with international agreements between Mexico and the United States, targeted at improving the environment and the quality of life of border residents. There are six bilateral agreements between both countries related to air quality, water quality, land protection and pollution control, and all of them have been taken into account since the onset of the project. These agreements are:

- 1889 International Boundary Convention
- 1944 Water Treaty
- 1983 La Paz Agreement, or Border Environmental Agreement
- 1990 Integrated Border Environmental Plan (IBEP)
- 1994 North American Free Trade Agreement (NAFTA)
- Border 2012 Program

¹ Source: NADB estimation based on statistics from INEGI and Comisión Nacional de Salarios Mínimos.

1.e Project Summary

Project Description

The wastewater collection and treatment system in the city consists of approximately 248 miles of sewage lines, one lift station, and a wastewater treatment plant that serves about 50% of the population.

To solve the issue of collection, treatment and final disposal of wastewater in San Luis Río Colorado, OOMAPAS has implemented a three phase comprehensive sanitation program.

Phase I is under construction and is estimated to begin operations during 2007. It consists of the expansion of approximately 22.4 miles of sewer lines, the construction of a new wastewater treatment plant with a capacity of 9.12 MGD, and the construction of one new lift station to convey the wastewater to the treatment plant. This phase of the project was previously certified by BECC in June 2000.

The current project, consists of the construction of a wastewater collection and treatment system as part of the PIMAAS Phase II Project that will allow the wastewater collection and treatment service coverage to increase from 49% to 73%.

This Phase includes the following elements:

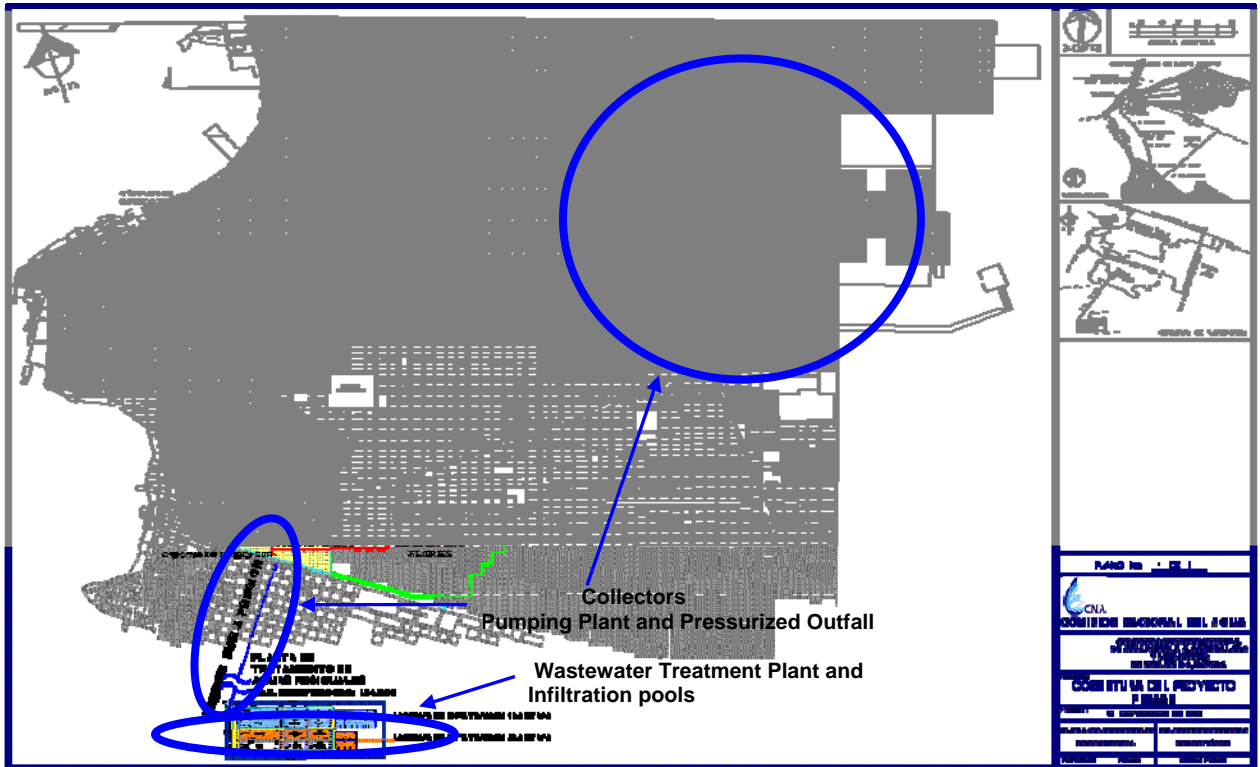
- Wastewater Collection System Expansion:
 - **Guadalupe Victoria Subcollector** with a length of 4,654 lf of 30" diameter PVC pipe, and 1,250 lf of 24" diameter PVC pipe.
 - **Chihuahua Subcollector** with a length of 65,620 lf of 8" diameter pipe, 1,476 lf of 10" diameter PVC pipe, 3,005 lf of 15" diameter PVC pipe, 2,559 lf of 18" diameter PVC pipe, and 4,185 lf of 24" diameter PVC pipe.
 - **Zacatecas Subcollector** with a length of 101,939 lf of 8" diameter PVC pipe, 4,257 lf of 10" diameter PVC pipe, 423 lf m of 12" diameter PVC pipe, 427 ft of 15" diameter PVC pipe, 1.286 ft of 18" Diameter PVC pipe, and 8,220 lf of 24" diameter PVC pipe.
- South Lift Station Electro-mechanical Equipment. During Phase II, three of six sections of equipment that will comprise the regulation station and lift station shall be supplied and installed; each pump will have a capacity of 6,499 gal/min, a total pumping load of 75 lf, and an efficiency of 84%. Two pumping sections shall operate in regular conditions and one will remain as a reserve. The operating power capacity of the sections shall be 800 HP.
- South forcemain. Construction of the second south outfall through a pressurized 30" diameter PVC pipe, with a length of 18,253 lf.
- WWTP Third Module. Construction of the third module of the WWTP which will increase the capacity from 9.12 MGD to 13.68 MGD.
- Infiltration Lagoons. Construction of four infiltration lagoons with a capacity of 4.56 MGD for final disposal of the effluent from the Wastewater Treatment Plant.

The project will provide 8,961 new hookups to the wastewater collection system. The cost of each hookup to the house is US\$126.45, which would be charged to the user at the moment that the service is requested. This cost is not included in the total cost of this project.

The proposed improvements are based on the Sanitary Sewage System Improvements Master Plan (BECC 2003), and the recommendations from Value Engineering which was carried out in August, 2006.

Phase III is proposed by OOMAPAS for the future. It would consist of 50 miles of sewer lines (including subcollectors and laterals) in zones that now lack service, and the expansion of the wastewater treatment plant capacity from 13.68 MGD to 18.24 MGD.

The following drawing indicates the different components of PIMAAS Phase II Project.



Project Justification

The construction of the PIMAAS Phase II Project will significantly reduce pollution problems caused by untreated wastewater, thus reducing the potential for human contact with wastewater and potential bacteria that are vectors for diseases. It will also reduce the potential for groundwater and surface water contamination by eliminating the use of latrines, cesspools and wastewater discharges to open-air drains. The effluent from the wastewater treatment plant will be discharged into infiltration lagoons.

During the FY 05/06 Prioritization Process this project was evaluated as Category 1 due to the lack of wastewater treatment infrastructure.

Important issues for Certification:
 The Project falls within the BECC’s priority sectors and complies with General Criteria.

Pendent issues:
 None.

2. Health and Environment

2.a Compliance with Applicable Environmental Laws and Regulations

In order for the project to comply with existing regulations, the OOMAPAS coordinated with the federal and state agencies to determine the type and scope of environmental studies required by law. The project complies with the National Water Law, specifically with the second and fourth chapters which deal with water management and the rights to exploit and use national water resources respectively, and the following applicable Mexican Official Norms:

- Mexican Official Norm NOM-001-SEMARNAT-1996, which sets the allowed maximum limits of wastewater contaminants in national waters and property.
- Mexican Official Norm NOM-002-SEMARNAT-1996, which established the maximum allowed limits of contaminants in wastewater within urban or municipal drainage systems.
- Mexican Official Norm NOM-004-SEMARNAT-2002, which establishes the specifications and maximum allowed limits of contaminants for the use and disposition of bio-solids.

2.b Human Health and Environmental Impacts

Human Health Impacts

The project unserved areas' wastewater is disposed untreated to latrines and cesspools. The lack of wastewater collection for half of the population has resulted in sewer overflows and runoffs creating a risk for the transmission of diseases due to the residents' contact with wastewater. The purpose of this project is to address contamination risks to existing public health and groundwater and to prevent risks inherent to inappropriate wastewater management.

The development of this project will help address these issues and improve public health conditions as follows:

- (1) Human health conditions will be improved by reducing or eliminating wastewater overflows and the risk of human contact with sewer as a result of an improved wastewater collection system.
- (2) Reduced potential for soil and aquifer contamination that may result from the inadequate use of latrines and septic tanks in areas that lack wastewater collection service, as well as from the use of poorly maintained lines and the discharge of raw wastewater to agricultural canals.
- (3) The construction and operation of the proposed WWTP and construction of new collection lines should reduce groundwater, surface water and soil contamination.

Human Health Information

Human health statistics for San Luis Rio Colorado are limited. However, the high incidences of diseases associated with the lack of adequate wastewater treatment are known. Water borne diseases such as hepatitis A, measles, shigelosis, and tuberculosis reported in the Rio Colorado Basin are presented in the following table.

Table 3-7. Water-borne diseases reported in the Rio Colorado Basin (Incidence per 100,000 inhabitants)

Cuenca del Rio Nuevo	Amibiasis			Hepatitis A			Shigelosis			Fiebre Tifoidea		
	1988	1998	% de Cambio	1988	1998	% de Cambio	1988	1998	% de Cambio	1988	1998	% de Cambio
Condados en EUA												
Yuma, AZ	0	0	0	40.2	25.7	-36	25.8	6.0	-77	0	0	0
Pima, AZ	0.5	0.6	20	22.5	29	29	41.3	24.2	-41	0	0	0
Santa Cruz, AZ	3.7	18.4	397	74.4	42.0	-44	26.1	23.6	-10	0	0	0
Cochise, AZ	0	9.0	---	74.8	17.8	-76	11.4	3.6	-68	0	0	0
Ciudades Mexicanas												
Nogales, SN	956	757	-21	54.4	5.0	-91	Sin Datos	1.0	---	2.8	1.0	-64
Agua Prieta, SN	956	63.0	-93	54.4	5.0	-91	Sin Datos	1.0	---	2.8	0	-100
San Luis Río Colorado, SN	787	318	-60	28.4	10.0	-65	Sin Datos	5.0	---	8.4	0	-100

Fuente: Organización Panamericana de la Salud
Internet: <http://www.fep.paho.org/healthprofiles>

Hepatitis A is a liver disease associated with unhealthy wastewater disposal and the use of an inadequate or contaminated water supply. Shigellosis is often the result of poor sanitation, lack of water or wastewater facilities, the use of contaminated water and food, and is a condition common to underprivileged areas.

The most common organisms or parasites found in untreated wastewater include: *E. coli* (*Escherichia coli*), cholera (*Vibrio cholerae*), hepatitis A (*Enterovirus ssp*), *Giardia* (*Giardia lamblia*), *Cryptosporidium* (*Cryptosporidium parvum*), and helminth eggs. 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 having bad hygiene habits that contribute to the dissemination of diseases by direct or indirect human contact.

By not implementing the wastewater collection system and treatment improvements, untreated wastewater discharges to the environment will continue causing a high risk of water borne transmitted diseases in the project's area of influence.

Environmental Impacts

Overall, the project will have a positive environmental impact. Sewer service coverage will be increased from 49% to 73% while reducing the risk of wastewater infiltration caused by the use of latrines and cesspools. All construction activities will take place in city areas that have been previously affected.

Minor impacts to the environment will be generated during the construction phase produced by the installation of sewer lines. These impacts include particulate matter emissions, gases generated by the construction equipment, temporary obstruction of streets, and potential hazardous conditions for workers, residents and vehicles.

To reduce the environmental impacts during the construction phase, mitigation measures will be taken such as watering roads to reduce dust, maintaining vehicles to reduce emissions, setting up precautionary signs, installing portable restrooms, etc.

Regarding the operational phase, negative impacts are not anticipated as long as the proposed activities are carried out as specified in the final design and stipulated in the environmental clearance process.

Transboundary Impacts

No transboundary impacts are expected by the implementation of the wastewater collection and treatment project; the wastewater treatment plant is located south the city, away from the border and it will discharge into the infiltration lagoons .

Formal Environmental Clearance

The environmental clearance for the construction of the proposed wastewater collection system and sub-collectors in the area of the collector on 9th Street; the installation of electro-mechanical equipment on the lift station, the south forcemain, and modules 3 and 4, of the wastewater treatment plant, of the PIMAAS Phase II Project, was issued by the Ministry of Urban Infrastructure and Ecology of the State of Sonora to OOMAPAS on September 9, 2005, via Document 10-1164-05. The environmental clearance did not identify significant negative impacts on the environment.

For the required and supplemental construction tasks of module 3 of the wastewater treatment plant, the SEMARNAT, through the Office of Federal Environmental Protection of Natural Resources in the State of Sonora, notified that this component does not require environmental clearance since the project was authorized by the Ministry of Urban Infrastructure and Ecology of the State of Sonora. The official notification number is DS-SG-UGA-IA-0187-06, March 6, 2006.

The Office of Federal Environmental Protection of Natural Resources of SEMARNAT in the State of Sonora issued the official document DS-SG-UGA-IA-0489-06, June 19, 2006, authorizing the Preventive Environmental Impact Report *The Artificial Recharge of the Aquifer via Infiltration Lagoons with Treated Wastewater from the Wastewater Treatment Plant of the City of San Luis Rio Colorado project*.

As for the U.S. environmental assessment process, a transboundary impact study was developed and submitted for consideration to the U.S. Environmental Protection Agency. The study underwent a 30-day public comment period that began on May 2, 2007 and concluded on June 3, 2007. The Finding of No Significant Impact (FNSI) establishes that no significant environmental impacts are expected from the project in the US border. The issuance of the final FNSI by EPA is pending.

Important issues for Certification:

The project resolves a significant human health and environmental problem.

Pendent issues:

None.

3. Technical Feasibility

3.a Technical Aspects.

Project Development Requirements

To implement this project OOMAPAS prepared final designs for:

- Wastewater collection in the subcollectors discharging to the 9th Street Collector: subcollectors Chihuahua, Zacatecas and Guadalupe Victoria.
- South lift station.
- Pressurized wastewater forcemain
- Wastewater treatment plant based on lagoons
- Infiltration lagoons for final effluent disposal.

The final designs were reviewed by the BECC and NADB. They also were validated by the National Water Commission (CNA, by its initials in Spanish), specifying that the designs met their design standards for wastewater collection systems and wastewater treatment.

Appropriate Technology

The project will use appropriate technology to the city's operational and maintenance capacity. It was designed to be built, operated, and maintained in a sustainable manner in order to achieve its main objective of collection and treatment of wastewater.

Wastewater Collection System

Two alternatives were considered for the design of the wastewater collection system.

Alternative 1, the preferred alternative, consists of a conventional gravity sewer system selected due to its profitability and ease of operation and maintenance for OOMAPAS. Conventional gravity sewers are typically used in urban areas to collect and transport domestic wastewater. Sewer pipes must be adequately sloped to reduce solids deposition, a minimum velocity of 2 ft/s or more must be maintained without pressuring the pipes. Due to the topography it was necessary to include a lift station in the project design. The construction of the lift station is finished, and only the electro-mechanical equipment was considered for the PIMAAS Phase II Project. The capacity for this phase shall be 9.12 MGD.

Alternative 2 is the no action alternative, was discarded due to the environmental and human health problems generated by disposing untreated wastewaters directly to the environment. The main health risk implications for not implementing the project are for the local inhabitants, as they would be exposed to direct and indirect contact with untreated wastewaters.

Wastewater Treatment

As part of the wastewater treatment planning process, the following alternatives were evaluated:

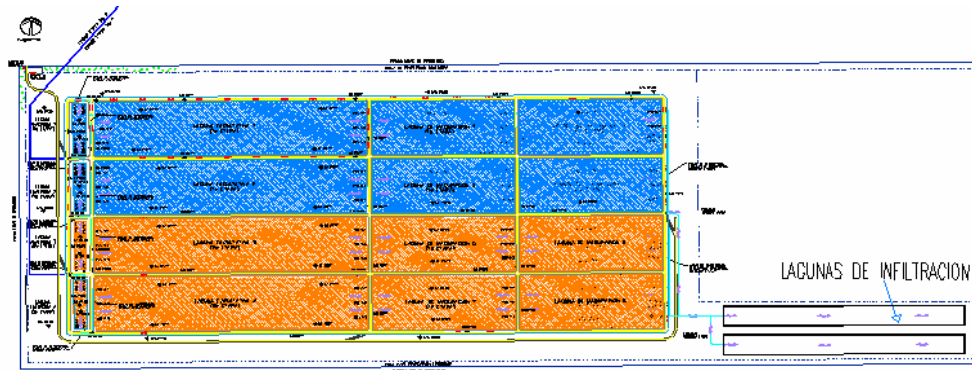
1. Stabilization lagoons (anaerobic digestion, facultative and maturation lagoons in series)
2. Stabilization lagoons (facultative and maturation lagoons in series)
3. Rapid Infiltration (by injection)
4. Land disposal
5. Slow Infiltration (by absorption)
6. Activated sludge, conventional process
7. Activated sludge, extended aeration

The selected alternative, also the alternative selected for the PIMAAS Phase I Project, is the stabilization lagoons alternative. This alternative was selected because under Phase II the intention is to expand of the existing lagoon system.

This alternative includes the following processes:

1. Pretreatment
2. Wastewater intake and distribution box
3. Anaerobic lagoon
4. Facultative lagoon
5. Maturation lagoon
6. Interconnection box
7. Disinfection System

The wastewater treatment plant shall consist of a biological anaerobic, facultative, and maturation lagoon treatment system; there will be no pretreatment as the filtration and screening processes are carried out in the lift stations. The lagoon system design, based on the CNA Lagoon Manual, it was designed to reduce the organic matter, and reduce the helminthes eggs and fecal coliform bacteria to values under those dictated by Mexican Official Standard NOM-001-SEMARNAT-1966.



PLANTA DE TRATAMIENTO

The project considered sludge stabilization for the management and final disposal of the byproducts produced during treatment in order to comply with Mexican Official Standard NOM-004-SEMARNAT-2002. The sludge produced in the treatment process will be extracted from the lagoons in 8 year intervals for use as fertilizer.

The no-action alternative for wastewater treatment was not considered due to its health implications. This alternative was analyzed and rejected due to the risks for human health and the environment. To continue discharging raw wastewaters to latrines and cesspools and eventually to streets risks aquifer contamination and additional population contact with untreated wastewater, a potential risk for transmitting waterborne diseases.

The alternatives analyzed for the final disposal of treated wastewater were the discharge to an irrigation ditch and soil percolation; both alternatives considered effluent quality in compliance with applicable standards. The first alternative was discarded because the utility considered that this option was difficult to implement due to the social implications. To evaluate the second alternative, OOMAPAS developed a project in 2005, for *The Artificially Recharging of the Aquifer via Infiltration of Treated Wastewater*, with

the help of the Universidad Autónoma de Baja California, which included a geo-hydrological study to assess the hydraulic properties of the local aquifer. This study determined the feasibility for recharging the aquifer with treated wastewater due to the permeability and the filtration media. The CNA via their Regional Office in Baja California, authorized the discharge permit of the infiltration lagoons by issuing official document BOO.00.R02.04.5-2932, November 22, 2006.

The wastewater collection and wastewater treatment project complies with standard design criteria and standard sanitary engineering practices, and it is based in technical manuals and design guidelines from the CNA. It is noteworthy that the proposed project is an expansion to the existing wastewater collection and treatment systems, currently in operation.

Value Engineering

The Final Design of the PIMAAS Phase II Project underwent a Value Engineering (VE) process in August of 2006, to identify project improvements, reduce construction costs, as well as operating & maintenance costs.

The recommendations from the VE analysis were evaluated in coordination with the OOMAPAS, BECC, NADB and the CNA. Based on this evaluation the pressurized line material was replaced.

Land Acquisition and Rights-of-Way Requirements

OOMAPAS will build the Phase II Project on its own property and in existing right of ways of the PIMAAS Phase I Project, rendering additional steps for the construction and/or operation of the proposed project unnecessary.

Work Schedule

The tasks for this project are as follows:

TASK	2007					2008												2009							
	Ago	Sep	Oct	Nov	Dic	Jan	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Jan	Feb	Mar	Abr	May	Jun	Jul	Ago
Guadalupe Victoria Subcollector*																									
Chihuahua Subcollector																									
Zacatecas Subcollector																									
Refurbishment of the south lift station																									
2nd Transmission Line to WWTP																									
3rd module WWTP.																									
Infiltration basin																									

* The Guadalupe Victoria Subcollector is under construction.

The Project proposed for certification, is expected to be finished by 2009. The Guadalupe Victoria Subcollector is currently under construction.

Technical Process

The treatment process is sufficient to generate treated wastewater with adequate quality for reuse and to eliminate health risks for residents who may have contact with treated water, pursuant to the applicable environmental regulations contained in Official Mexican Standard NOM-001-SEMARNAT-1996. This standard establishes the maximum permissible levels of contaminants for wastewater discharges to national waters and properties.

The technology to be used for the wastewater treatment process is a technology that has been widely employed as a solution for wastewater sanitation in small and medium-size communities.

3.b Management and Operations

Project Management

The Phase II wastewater collection and treatment project will be built and operated by OOMAPAS under its current organizational structure.

Operation & maintenance

OOMAPAS will assign the necessary budget for the project's operation and maintenance. For the operation of the PIMAAS Phase II project the existing staff operating Phase I will be used.

In order to not interfere with the biological treatment at the wastewater treatment plant, the OOMAPAS has a permanent pretreatment program to control discharges to the municipal sewer system to meet the requirements of the NOM-002-SEMARNAT-1996. Through individual discharge permits for non-domestic users, this program establishes the quality levels that must be followed to discharge to the sewer system, with a pretreatment condition if necessary.

In order to operate and control the wastewater treatment process and final disposition of the treated effluent, operation and maintenance manuals developed for operation of the PIMAAS Phase I Project will be used. These shall include the operation, control & maintenance of the lift station and the WWTP.

The operation manual shall help to:

- ✓ Achieve optimal use of the facilities by implementing appropriate operational policies.
- ✓ Facilitate understanding of the basic principles of the process and operational and control techniques to enhance operator skills.
- ✓ Support data collection from the WWTP to facilitate operational monitoring and improvements if required to maintain high operation levels.

The Maintenance Manual shall help to:

- ✓ Maintain equipment operating at maximum efficiency at all times.
- ✓ Reduce stoppages to the minimum during normal operations.
- ✓ Control costs associated with previous practices.
- ✓ Maintaining the highest efficiency level in all maintenance work performed by using the best techniques and continuous personnel training.
- ✓ Formulating and establishing maintenance programs based in the equipment schedule.
- ✓ Establishing and controlling a parts inventory required for maintenance operations.
- ✓ Implementing long term maintenance policies and actions with related areas.

Permit, Licensees, and other Regulatory Requirements

The OOMAPAS has the required CNA permits for the discharge of wastewater and also has the required environmental clearances to develop the project. The wastewater collections and treatment projects have been reviewed by BECC and NADB and validated by CNA.

Important Aspects to Consider for Certification:

- The final design was reviewed by OOMAPAS, BECC, NADB and validated by CNA.

Pending Issues:

- None

4. Financial Feasibility and Project Management

4.a Financial Feasibility

The North American Development Bank (NADB), after reviewing the financial information submitted by the Project Sponsor, determined that the financial capacity and structure proposed by the water and wastewater utility of San Luis Rio Colorado (OOMAPAS) are adequate. The information submitted in financial analysis included:

- i) Historical and pro forma financial statements;
- ii) Project's financial structure;
- iii) Capital Investment program;
- iv) Historical and pro forma operating and maintenance budget; and
- v) Economic and demographic information on the project area.

A detailed analysis of the project's financial information is contained in the loan proposal that will be submitted to the NADB Board for authorization. A summary of the financial analysis is presented below.

The total cost of the project is estimated at US \$15.39 million, including construction, supervision, value-added tax and contingencies.

Item	Amount (Million dollars)
Collectors, Lift Station, Pressurized Line, Wastewater Treatment Plant and Infiltration Lagoons	15,386,304
TOTAL	\$15,386,304

The OOMAPAS and NADB have proposed a financial structure that will allow for the successful implementation of the project. The table below summarizes the proposed structure:

Funding Source	Source Type	Amount (Dollars)	%
BDAN-BEIF	Grant	6,154,522	40.00%
OOMAPAS-Estate-Federal Government	GIC ² /Grant	7,693,152	50.00%
NADB	Credit	1,538,630	10.00%
TOTAL		\$15,386,304	100.00

The OOMAPAS has an efficient financial and technical management system; their use of resources and expenditure control has brought positive and satisfactory financial results in the last 5 fiscal years. Thus, the NADB loan shall not affect the utility's financial situation.

4.b Rate/Fee Model

Due to the project characteristics, the OOMAPAS shall not require the implementation of a rate program for this project. The OOMAPAS current rate plan covers their actual needs for operation and maintenance as well as for debt capacity within an acceptable margin. For the fiscal year 2007 the OOMAPAS increased their rates by a 4.23%

² Generación Interna de Caja (Agency's own resources)

4.c Project Management

The project will be managed by OOMAPAS. The utility has adequate staff to manage the procurement and construction of the proposed infrastructure and address any potential contingencies related to the project's operation and maintenance.

Important issues for Certification:

The project was analyzed and determined to be viable.

Pending Issues

None

5. Public Participation

Comprehensive Public Participation Plan

In order to achieve the BECC's objectives regarding public involvement, the City of San Luis Río Colorado submitted to BECC a Public Participation Plan, which was approved on November 9, 2005. Said plan includes naming a follow-up committee, a listing of the entities to present the project for support, public access to the project's information, and holding public meetings. Below is a summary of the activities performed by each.

Local Steering Committee

The Local Steering Committee was nominated on October 20, 2005 with the following members:

- ✓ Chairman: Mauricio Tanuz Navarro, President of CANACINTRA
- ✓ Vice-President: Martín Valtierra, President of CANACO

Meetings with Local Organizations

The project sponsor held several meetings with local organizations to inform the citizens about the project's components.

Public Access to Project Information

The Environmental Information Document and Final Design document were made available to the public at the OOMAPAS offices before the first public meeting held on August 17, 2006. Notice for the first meeting was published 30 days before the meeting date. Also, basic technical information on the project was distributed during public assemblies and was posted at the utility offices with information regarding the project.

Public Meetings

First Public Meeting

The first public meeting was held on August 17 of 2006 at the main hall of the Municipal DIF.

About 140 people attended the meeting, with an important representation of the community, social groups, business and academia. During the meeting, the President of the Steering Committee Mauricio Tanuz Navarro, introduced the remaining members of the committee and described their roles and responsibilities. The project was presented by Jesús Borbón from OOMAPAS who established the features and scope of the project.

Second Public Meeting

The second public meeting is scheduled for July 5, 2007.

Final Public Participation Report

The Steering Committee and the applicant prepared the "Final Public Participation Report" to demonstrate that the proposed objectives were fully met to BECC's satisfaction. This document will be submitted after the completion of the second public meeting.



Important issues for Certification:

The project has wide public support and the supporting documentation is available

Pending Issues

Second public meeting

Final Public Participation Report

6. Sustainable Development

6.a Institutional and Human Capacity Building

The OOMAPAS will be responsible for operation and maintenance of the waste water collection and treatment system. They have the basic human and institutional resources to operate and maintain the proposed sanitation system.

The actions that contribute to strengthen OOMAPAS institutional and human capacity building within the project's scope are:

- Improvements to the utility's wastewater collection infrastructure needs
- Build wastewater treatment system
- Operate a wastewater collection system compliant with current federal and state laws and regulations.
- Training of operators.

The OOMAPAS shall provide basic training to the technicians that will work in operation and maintenance of the new and existing infrastructure, and will use previous experiences from the operation and maintenance of the PIMAAS Phase I Project.

6.b Conformance with Applicable Local, State, and Regional Laws and Regulations and Conservation and Development Plans

As specified in the Chapter 2, the project complies with applicable laws and regulations. The project complements the 2007-2009 Municipal Development Plan to provide services for collection and treatment of wastewater in San Luis Rio Colorado. With the project's implementation, the risks associated with improper handling of wastewater shall be eliminated and treated water will be available for other uses.

At the state level, the project complies with the goals of the 2003- 2009 State of Sonora Development Plan, which calls for the state to develop adequate infrastructure and furnish the appropriate equipment for treating wastewater, for more efficient application of environmental regulations, to address the problems of water management with a long term vision, with financially viable alternatives, socially approved, and environmentally sustainable.

At the federal level, the project complies with applicable standards for collection, treatment, and final disposition of wastewaters.

The project is integrated to the 2012 Border Environmental Program, achieving Objective #1 (Reducing water pollution), & Goal #1 (promoting an increase in residential hookups to sewage and treatment systems), & Goal #4 (promoting improvements in the efficiency of organisms operating water systems). One of the guiding principles of this program is to decrease mayor risks to public health, and to preserve and restore nature.

In order to determine if the project would have negative impacts to existing development and conservation plans of the United States and to establish the necessary mitigation measures, the sponsor coordinated with FEMA Region IX, Arizona State Historic Preservation Office, US Bureau of Indian Affairs, US Bureau of Land Management, City of San Luis, Arizona, US EPA Region 9, Arizona Department of Environmental Quality, International Boundary and Water Commission, Natural Resource Conservation Service, US Army Corp of Engineers, US Fish and Wildlife, and Arizona Department of

Game and Fish. The comments and responses of these agencies are included in the Transboundary Environmental Information Document.

6.c Natural Resource Conservation

Proposed improvements will help conserve community resources by reducing pollution of underground water and public exposure to untreated wastewater drainage. With an efficient sewage and treatment system there shall be increased efficiency in managing regional hydraulic resources.

The project also includes application of sustainable building practices that are part of the specifications of the construction process.

6.d Community Development

Implementing this project is vital for community development, as it will allow development in zones that currently lack residential wastewater and treatment. Installation of a proper treatment system promotes community development, as it helps to reduce pollution in city streets generated by untreated wastewater. The project is a means for applying plans and programs that coincide with the city's urban development. Additionally, the project will allow improvement in the management of local water resources.

Important issues for Certification:

This project meets all sustainable development principles.

Pending Issues

None

Available Project Documentation

“Proyecto Ejecutivo de Sistema de Alcantarillado Sanitario en San Luis Río Colorado, Sonora”, Organismo Operador Municipal de Agua Potable, Alcantarillado y Saneamiento de San Luis Río Colorado, Sonora. 2005

“Proyecto Ejecutivo del Emisor Sur a Presión”, Organismo Operador Municipal de Agua Potable, Alcantarillado y Saneamiento de San Luis Río Colorado, Sonora. 2006

“Proyecto Ejecutivo de la Planta de Tratamiento de Aguas Residuales”, Organismo Operador Municipal de Agua Potable, Alcantarillado y Saneamiento de San Luis Río Colorado, Sonora. 2006

“Proyecto Ejecutivo de Las Lagunas de Infiltración”, Organismo Operador Municipal de Agua Potable, Alcantarillado y Saneamiento de San Luis Río Colorado, Sonora. 2006

“Proyecto Ejecutivo del Cárcamo de Bombeo”, Organismo Operador Municipal de Agua Potable, Alcantarillado y Saneamiento de San Luis Río Colorado, Sonora. 2005

Supplemental Environmental Assessment to the Proposed Improvements to the Wastewater Treatment Plant and Wastewater Collection System. San Luis Río Colorado, Sonora, Mexico
Prepared for: Border Environment Cooperation Commission by Zia Engineering and Environmental Consultants, LLC, 2006.

“Programa Permanente de Pretratamiento de Aguas Residuales Industriales y de Servicio”. Organismo Operador Municipal de Agua Potable, Alcantarillado y Saneamiento de San Luis Río Colorado, Sonora. 2006

Official Register of the Sonora State Government dated December 30, 1993. Council Agreement, in meeting held December 28, 1993, for approval of installation of local Water, Wastewater and Sanitation Utility (OOMAPAS) of San Luis Rio Colorado, Sonora.

State of Sonora Law no. 104 on Drinking Water and Sewage Systems

Final Public Participation Report of the San Luis Rio Colorado, Sonora Wastewater Collection and Treatment Systems Project.

Final Value Engineering Report, San Luis Rio Colorado Wastewater Collection System and Lift Station Improvements, City of San Luis Rio Colorado, Texas. Prepared by Richard Steele, P.E., CDM. July 2006.