



# **CERTIFICATION PROPOSAL**

## **WASTEWATER COLLECTION PROJECT**

### **LOMA BLANCA, CHIHUAHUA**

*Revised: November 6, 2017*

# CERTIFICATION PROPOSAL

## WASTEWATER COLLECTION PROJECT LOMA BLANCA, CHIHUAHUA

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## EXECUTIVE SUMMARY

### WASTEWATER COLLECTION PROJECT LOMA BLANCA, CHIHUAHUA

- Project:** The proposed project consists of the construction of a wastewater collection system, including the installation of yard-line connections from the home to the wastewater collection system, as well as the decommissioning of existing on-site wastewater disposal systems for the community of Loma Blanca, in the municipality of Juarez, Chihuahua (the “Project”). The wastewater flows from the new WWCS will be treated at the South-South Wastewater Treatment Plant (WWTP) in Ciudad Juarez, Chihuahua
- Project Objective:** The purpose of the Project is to provide access to and facilitate the use of first-time wastewater collection and treatment services to the community and thus eliminate exposure to untreated or inadequately treated wastewater discharges, contributing to the reduction of water pollution and the risk of waterborne disease.
- Expected Project Outcomes:** The Project is expected to generate environmental and human health benefits related to the following Project outcomes:
- Provide wastewater services to 100% of the community by connecting 993 existing homes to the wastewater collection system.
  - Decommission all existing on-site wastewater disposal systems to prevent potential contamination.
  - Eliminate approximately 9 liters per second (lps) or 0.2 million gallons per day of untreated or inadequately treated wastewater discharges.<sup>1</sup>
- Population Benefitted:** 4,993 residents of the community of Loma Blanca, Chihuahua.<sup>2</sup>
- Project Sponsor:** State water agency, *Junta Central de Agua y Saneamiento del Estado de Chihuahua* (JCAS).<sup>3</sup>
- Project Cost:** US\$1,740,000.

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<sup>1</sup> Source: Final design.

<sup>2</sup> Documented based on household survey.

<sup>3</sup> The proposed wastewater infrastructure will be operated by the local utility, *Junta Rural de Agua y Saneamiento de San Isidro* (JRAS), which will receive technical support from JCAS.

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**Grant:** US\$630,000 grant from the Border Environment Infrastructure Fund (BEIF) funded by the U.S. Environmental Protection Agency (EPA).

**Uses & Sources of Funds:**  
(US\$)

Uses	Amount	%
Construction*	\$ 1,740,000	100.0
<b>TOTAL</b>	<b>\$ 1,740,000</b>	<b>100.0</b>
Sources	Amount	%
Mexico (CONAGUA; local)**	\$ 1,110,000	64.0
NADB-BEIF (EPA grant)	630,000	36.0
<b>TOTAL</b>	<b>\$ 1,740,000</b>	<b>100.0</b>

\*Includes construction, contingencies, supervision and taxes.

\*\* Mexican National Water Commission (CONAGUA).

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## WASTEWATER COLLECTION PROJECT LOMA BLANCA, CHIHUAHUA

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### 1. ELIGIBILITY

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#### **Project Type**

The Project falls within the eligible category of wastewater collection.

#### **Project Location**

The Project will be implemented in the community of Loma Blanca in the municipality of Juarez, Chihuahua, and is adjacent to the U.S.-Mexico border. Its geographical coordinates are: Latitude 31°34'47" North and Longitude 106°17'55" West.

#### **Project Sponsor and Local Authority**

The Project sponsor is the *Junta Central de Agua y Saneamiento de Chihuahua* (JCAS or the "Sponsor"), a decentralized agency of the State of Chihuahua, with legal personality and its own assets, as established in Chihuahua State Water Law.<sup>4</sup> Among its many powers and responsibilities is the promotion, development, coordination, execution and supervision of municipal water utilities and their infrastructure.<sup>5</sup> For this Project, JCAS will receive all external funding and manage the related Project implementation activities. Upon completion of the Project, operation of the infrastructure will be performed by a local water utility.

The *Junta Rural de Agua y Saneamiento de San Isidro* (JRAS-San Isidro) is the local utility responsible for providing water and wastewater collection services in the rural community of Loma Blanca. JRAS has the legal authority to operate and maintain the water treatment, storage and distribution systems, as well as wastewater collection systems. The wastewater flows collected in its service area are discharged to the South-South collector operated by the *Junta Municipal de Agua y Saneamiento de Juarez* (JMAS-Juarez) and treated at the Valle de Juarez Wastewater Treatment Plant (WWTP), also known as the South-South WWTP, which is operated by a private concessionaire under contract with JMAS.

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<sup>4</sup> Source: *Ley del Agua del Estado de Chihuahua*, Chapter 9.

<sup>5</sup> Source: *Ley del Agua del Estado de Chihuahua*, Chapter 10.

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## 2. CERTIFICATION CRITERIA

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### 2.1. TECHNICAL CRITERIA

#### 2.1.1. Project Description

##### Geographic Location

The community of Loma Blanca is located in the municipality of Juarez in the state of Chihuahua, approximately three miles southeast of the urban area of Ciudad Juarez and three miles northwest of San Isidro, Chihuahua. It is directly across the Rio Grande from the community of San Elizario, Texas. Figure 1 shows the location of Loma Blanca.

**Figure 1**  
**PROJECT VICINITY MAP**



##### General Community Profile

Based on the results of the last census conducted by the National Institute of Statistics and Geography (INEGI), the community had 2,169 residents in 2010. According to demographic projections developed by the National Population Council (CONAPO), in 2017, the community had grown to approximately 3,177 residents. However, in 2016, JCAS conducted a household survey of the locality and determined Loma Blanca had 4,993 residents. Information on economic activity in the community of Loma Blanca is not available.

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Loma Blanca does not currently have a centralized wastewater collection and treatment system. Residents use latrines and substandard on-site sanitary systems for wastewater disposal. Occasionally, untreated wastewater is directly discharged onto the streets and vacant lots. This practice threatens local surface and groundwater quality and poses a health risk for residents. For these reasons, the Project for the construction of the wastewater collection system in Loma Blanca was selected as a Category 1 priority for funding through the U.S.-Mexico Border Water Infrastructure Program of the U.S. Environmental Protection Agency (EPA).

**Project Scope and Design**

To provide wastewater collection and treatment services to Loma Blanca, JCAS proposes building a gravity wastewater collection system that will discharge into the South-South collector main, which flows to the Valle de Juarez WWTP. The construction of the wastewater collection system is planned as part of a multiyear investment program, including local, state, and federal funds, as well as grant funds from EPA.

Based on the final design, the proposed wastewater collection system includes the following components:

- 43,606 m (142,614 ft) of sewer lines, using 8-inch diameter PVC pipe;
- 1,644 m (5,394 ft) of sewer collectors, using 12- and 18-inch diameter PVC pipes;
- Two canal crossings and two road crossings;
- 993 residential connections, including yard lines and the decommissioning of 980 on-site sanitary systems

Figure 2 shows the area of implementation of the proposed Project.



**Figure 2**  
**LOMA BLANCA WASTEWATER COLLECTION SYSTEM SERVICE AREA**



The following table outlines the multiannual program for the construction of the wastewater collection system.

**Table 2**  
**SCHEDULE FOR THE CONSTRUCTION OF THE WASTEWATER COLLECTION SYSTEM**

Concept	Elements*	Budgeted work	Executed work	Status**
Wastewater collection pipelines	PROSSAPYS 2013	26,161 m (85,380 ft)	26,161 m (85,380 ft)	Completed (black)
	PROSSAPYS 2014	13,785 m (45,226 ft)	13,785 m (45,226 ft)	Completed (green)
	PROSSAPYS 2015	900 m (2,953 ft)	0	Pending (pink)
	BEIF	2,760 m (9,055 ft)	0	Pending (red)
Collector (12" diameter)	PROSSAPYS 2015	693 m (2,274 ft)	693 m (2,274 ft)	Concluded (pink)
Collector main (18" diameter)	PROSSAPYS 2015	951 m (3,120 ft)	951 m (3,120 ft)	
Residential connections	PROSSAPYS 2014	239	239	
	BEIF	270	0	Pending (red)
	APARURAL	379	0	
Yard lines	BEIF	988	0	Pending (red)
Stream and road crossings	PROSSAPYS 2015	4	4	Completed (pink)

Source: JCAS

\* PROSSAPYS, a federal water program, *Programa para la Sostenibilidad de los Servicios de Agua Potable y Saneamiento en Comunidades Rurales* (Program for the Sustainability of Water and Wastewater Services in Rural Communities); BEIF, Border Environment Infrastructure Fund; APARURAL, the rural subprogram of the federal water program of the National Water Commission (COANGUA), *Programa de Agua Potable, Alcantarillado y Saneamiento* (PROAGUA).

\*\* Colors refers to lines shown on the above figure

Although the installation of sewer lines has been completed in some areas, no households are currently connected and discharging to the system. Once all of the components are installed, the Loma Blanca wastewater collection system will discharge into the South-South wastewater collector main that connects to the Valle de Juarez WWTP. This collector, which is currently under construction and expected to be completed by the end of 2017, will be operated by JMAS-Juarez.

The Valle de Juarez Wastewater Treatment Plant has an installed capacity of 500 liters per second (lps) or 11.4 million gallons a day (mgd), and its effluent complies with the quality standards required to discharge into national water bodies (NOM-001-SEMARNAT-1996). The plant will not be fully operational until the South-South collector main has been completed, but is expected to receive 350 lps (7.98 mgd) of wastewater generated in Cd. Juarez. The wastewater collected in Loma Blanca is estimated to be 9 lps (205,420 gpd) and in 20 years is projected to reach 25 lps (570,611 gpd).<sup>9</sup> Therefore, the WWTP has sufficient capacity to receive and treat the flows collected by the new wastewater collection system.

As indicated in Table 2, part of the wastewater collection system has already been constructed with Mexican funds. Procurement of the BEIF components and final connection of the new system for operation depends upon the completion of the South-South collector main. Table 3 shows the proposed project implementation timeline.

**Table 3**  
**PROJECT TIMELINE**

Milestones	Status
Procurement	1 <sup>st</sup> quarter of 2018
Construction period	Expected to take nine months

### 2.1.2. Technical Feasibility

#### Design Criteria

The final design of the Project was developed pursuant to the technical specifications established in the Water and Wastewater Manuals developed by the Mexican National Water Commission (CONAGUA). BECC performed a technical assessment to verify compliance with applicable technical guidelines and regulations, and concluded that the project is technically feasible. CONAGUA also performed a technical review and issued its technical validation for the Project.<sup>10</sup>

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<sup>9</sup> Source: JCAS Official Letter No. DT-654/2014, dated July 25, 2014.

<sup>10</sup> Source: Official Letter No. B00.E.22.2-148-A, dated September 4, 2012, issued by the Deputy Department of Operational Technical Assistance at CONAGUA's local office in Chihuahua.

### **Selected Technology**

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

- Proposed layout of the sewer lines
- Required connection points for the system components
- Investment cost
- Operation and maintenance cost
- Reliability of the materials and equipment
- Sustainable practices

The pipe diameter was selected based on the design criteria of CONAGUA, using appropriate slopes and velocities to prevent silting, clogging and septic conditions in the pipes, as well as over-excavation or the need for pumping facilities that could increase Project costs. Peak and maximum instantaneous flow rates were taken into consideration to determine necessary capacity and pipe diameter. The analysis also considered using various pipe materials in compliance with applicable standards and regulations. Polyethylene, PVC and asbestos-cement pipes were evaluated, taking into consideration their characteristics and suitability for the soil type in the Project area. For the proposed Project, PVC was the material selected, which has proven to be reliable for wastewater systems.

### **2.1.3. Land Acquisition and Right-of-Way Requirements**

The construction of the proposed sewer lines in Loma Blanca will be along existing rights of way and easements; therefore, the Sponsor will not be required to obtain additional rights of way.

However, sections of the wastewater collection system will cross the right of way of the Ciudad Juarez-El Porvenir Federal Highway, at kilometers 19+716, 20+815, and 21+ 818, and therefore requires a permit. The required construction permit was issued by the Ministry of Communication and Transportation (SCT).<sup>11</sup>

Additionally, JCAS submitted an application to CONAGUA for a Water Infrastructure gv-3(rad)3( )30(p)3(ip)5(e)9( )TJ

## 2.1.4 Management and Operations

JRAS-San Isidro provides water and wastewater collection services to the communities of San Isidro and Loma Blanca. In Loma Blanca, the utility serves 993 water accounts, and in San Isidro it serves 1,098 residential drinking water and wastewater connections. The utility will receive assistance from JCAS, which has established procedures for the operation and maintenance of wastewater collection systems. Additionally, JCAS will verify that sufficient training is provided and that the necessary financial and human resources are available to ensure the proper operation of the system.<sup>13</sup>

JCAS oversees and authorizes the annual operating budgets of all local water utilities in the state.<sup>14</sup> It does not anticipate any problems in consolidating an annual operating budget for JRAS-San Isidro that includes the activities required to meet the operation and maintenance needs of the new system.

JMAS-Juarez will provide wastewater treatment services to the community through the Valle de Juarez Wastewater Treatment Plant. The Juarez utility, through a private concessionaire, has established procedures for the operation and maintenance of the facility, and has sufficient resources to ensure its proper operation.<sup>15</sup>

## 2.2. ENVIRONMENTAL CRITERIA

### 2.2.1. Compliance with Applicable Environmental Laws and Regulations

#### ***Applicable Laws and Regulations***

The Project is subject to environmental authorization in accordance with the regulations of the State of Chihuahua and the General Law on Ecological Balance and Environmental Protection regarding environmental impact assessment, as determined by the Chihuahua State Ministry of Urban Development and Environment (SEDUE). Moreover, to be eligible for a BEIF grant supported by federal appropriations to EPA's U.S.-Mexico Border Water Infrastructure Program, the transboundary impacts of the Project must be examined in compliance with the U.S. National Environmental Policy Act (NEPA).

JCAS consulted the Office of Ecology at SEDUE regarding the environmental studies required for the proposed Project. The agency informed JCAS that, due to the size and nature of the Project and given the benefits it will provide the community, an Environmental Impact Statement (MIA) is not required. Additionally, the proposed tasks are not expected to impact protected areas or ecological reserves, as they will be developed in rural areas that have previously been impacted.

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<sup>13</sup> Source Information provided by JCAS through email on July 28, 2014.

<sup>14</sup> Source: Chihuahua State Water Law, published in the State's Official Gazette, issue POE 2012.31/No. 26

<sup>15</sup> Source: Information provided by JCAS.

The Project will support compliance with the following official Mexican standards:

- Official Mexican Standard NOM-001-CONAGUA-2011, which establishes the specifications for hermeticity in water distribution systems, residential water connections and wastewater collection systems, as well as methods for testing hermeticity.
- Official Mexican Standard NOM-001-SEMARNAT-1996, which establishes the maximum permissible levels of contaminants in wastewater discharges to national waters and resources.
- Official Mexican Standard NOM-002-SEMARNAT-1996, which establishes the maximum permissible levels of contaminants in wastewater discharges to urban or municipal wastewater collection systems.

### **Environmental Studies and Compliance Actions**

In accordance with NEPA, EPA developed a Transboundary Environmental Assessment (TEA), which evaluates the environmental impacts that could result from the implementation of the alternatives considered, including the proposed actions. The proposed project is analyzed to identify potential consequences and establishes measures for mitigating potential environmental impacts. If the assessment determines that the environmental impacts of a project are of no consequence, a Finding of No Significant Impacts (FONSI) will be issued.

The TEA addresses the following environmental issues:

- Air quality, odors, and greenhouse gas emissions;
- Noise impacts;
- Water quality, hydrology and floodplain impacts;
- Biological resources and wetland impacts;
- Cultural and historic resource impacts;
- Geology and soils impacts;
- Municipal and public service impacts;
- Public health, hazards and waste management;
- Socioeconomic conditions;
- Land use and planning;
- Transportation and circulation;
- Utilities and service systems; and
- Environmental justice.

Based on the TEA findings and conclusions, EPA Region 6 prepared and issued an Environmental Assessment (EA) and FONSI on October 26, 2012, having determined that the implementation of the proposed Project will not result in significant environmental impacts that could negatively impact the U.S.-Mexico border area.

### **Compliance Documents**

- FONSI issued by EPA on October 26, 2012.
- Official Letter No. DOEI.IA.3007/2010, issued on September 30, 2010 by the Office of Ecology of the Chihuahua State Ministry of Urban Development and Ecology.
- Official Letter No. E058-D/2010, issued on August 17, 2010 by the National Institute of Anthropology and History (INAH).

### **Pending Environmental Tasks and Clearances**

There are no pending environmental tasks or clearances for this Project.

## **2.2.2 Environmental Effects/Impacts**

### **Existing Conditions and Project Impact – Environment**

The community will benefit from the construction of the wastewater collection system, as residents currently do not have access to wastewater collection and treatment services and must resort to substandard on-site sanitary systems. Deficiencies in the existing wastewater disposal systems allow inadequately treated wastewater, sewage and gray water to be discharged into streets, yards and alleys, which poses a serious risk to public health and the environment.

The availability of appropriate wastewater collection infrastructure will protect the health of local residents and prevent the contamination of natural resources in the locality. The Project is expected to generate environmental and human health benefits related to the following Project outcomes:

- Provide wastewater services to 100% of the community by connecting 993 existing homes to the new wastewater collection system.
- Decommission all existing on-site wastewater disposal systems prevent potential contamination.
- Eliminate approximately 9 lps (0.2 mgd) of untreated or inadequately treated wastewater discharges.<sup>16</sup>

### **Mitigation of Risks**

Only minor environmental impacts are anticipated during construction of the Project, provided that the tasks are implemented in accordance with best management practices. Potential impacts that may occur during the construction phase include:

- Emission of dust particles;
- Combustion gas emissions from construction machinery; and
- Temporary roadway blockages and the presence of workers in the area.

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<sup>16</sup> Source: Final design.

Typical mitigation measures to be implemented include:

- Application of water to reduce the emission of dust particles;
- Vehicle tune-ups to reduce emissions; and
- Placement of warning signs to prevent potentially hazardous situations.

By following best management practices, the temporary impacts due to construction will be minimized. Therefore, the environmental impacts resulting from the implementation of the proposed Project will be positive overall.

#### Natural Resource Conservation

The Project contributes to the conservation of natural resources by preventing environmental degradation and reducing the risk of surface and groundwater contamination from untreated or inadequately treated wastewater. Moreover, the wastewater collected in the community will receive secondary treatment, ensuring that the treated effluent can be reused in a wide range of agricultural activities that will have a positive impact on regional water resources.<sup>17</sup>

#### No-action Alternative

The no-action Alternative was not considered viable, since failing to implement the proposed Project would result in continued deficiencies in the collection, treatment and disposal of wastewater generated by the community of Loma Blanca. This situation would expose local residents to serious health hazards and would significantly deteriorate natural resources in the area.

#### Existing Conditions and Project Impact – Health

Waterborne diseases are caused by pathogenic microorganisms transmitted as a result of inadequate wastewater disposal practices 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. According to the World Health Organization (WHO), sanitation projects can have the following benefits for human health:<sup>18</sup>

- Improved sanitation services reduce diarrhea morbidity by 32%.
- One gram of feces may contain 10 million viruses, 1 million bacteria, 1,000 parasite cysts and 100 helminth eggs.
- Optimization of the water and/or wastewater services and hygiene practices can reduce the overall rate of disease by 4%.

Table 4 shows statistics on waterborne diseases in the State of Chihuahua.

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<sup>17</sup> In Mexico, secondary treatment produces effluent with no more than 75 mg/l of biochemical oxygen demand (BOD) and 75 mg/l of total suspended solids (TSS).

<sup>18</sup> Source: WHO, Water, Sanitation and Hygiene Links to Health, Facts and Figures, November 2004 edition.

**Table 4**  
**WATERBORNE DISEASE STATISTICS FOR CHIHUAHUA**

Disease	2009		2010		2011		2012		2013	
	Cases	Ranking	Cases	Ranking	Cases	Ranking	Cases	Ranking	Cases	Ranking
Intestinal infections caused by other organisms and undefined diagnosis	167,725	2	206,125	2	205,943	2	201,934	2	188,446	2
intestinal amebiasis	6,692	14	6,701	12	5,909	14	5,415	16	4,869	15
Other helminthiasis	5,043	16	4,733	17	4,190	19	-	-	-	-
Paratyphoid fever and other salmonellosis	7,216	12	6,494	13	5,751	15	5,337	18	3,905	12

Source: Developed in-house based on the Morbidity Yearbooks of the Office of Epidemiology of the Mexican Ministry of Health.

Construction of the proposed wastewater collection system is expected to help reduce the health risks associated with uncontrolled wastewater discharges and inadequate on-site wastewater disposal systems. The Project will reduce the possibility of human contact with improperly managed and/or partially treated or untreated wastewater; therefore, it is expected to help reduce the transmission of waterborne diseases.

**Transboundary Effects**

Due to the proximity of Loma Blanca to the U.S. border, there are frequent border crossings with communities located in the southwestern region of Texas. The Project will have a direct positive impact on the health of residents in U.S. communities adjacent to the border and throughout the region, since it will help reduce the risk of waterborne diseases caused by exposure to untreated wastewater. Additionally, the implementation of the project will reduce the potential for contamination of shared water bodies, including the Rio Grande.

No negative transboundary environmental impacts are expected as a result of the Project.

**2.3. FINANCIAL CRITERIA**

The total estimated cost of the Project is US\$1,740,000, which includes construction, supervision, contingencies and taxes. The Sponsor requested a BEIF grant to support implementation of the Project. Based on a thorough analysis of both the Project and Sponsor, NADB has determined that the Project meets all BEIF program criteria and is recommending that EPA approve a BEIF grant of up to US\$630,000 for its construction. Table 5 presents a breakdown of the sources of funds for the Project.



**Table 5**  
**USES AND SOURCES OF FUNDING**  
 (US\$)

Uses	Amount	%
Construction*	\$ 1,740,000	100.0
<b>TOTAL</b>	<b>\$ 1,740,000</b>	<b>100.0</b>
Sources	Amount	%
Mexico (CONAGUA; Local)	\$ 1,110,000	64.0
NADB-BEIF (EPA grant)	630,000	36.0
<b>TOTAL</b>	<b>\$ 1,740,000</b>	<b>100.0</b>

\*Includes construction, contingencies, supervision and taxes.

To be eligible for BEIF funding, EPA requires that every grant dollar awarded to Mexican projects be matched with funding from other sources. As indicated in the above table, total funding from Mexican sources for this Project is estimated at US\$1.11 million. Of that amount, a Mexican match credit of US\$963,865, for works completed or under construction, was requested by CONAGUA and approved by EPA.

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### **3. PUBLIC ACCESS TO INFORMATION**

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#### **3.1. PUBLIC CONSULTATION**

BECC released the draft Certification Proposal for a 30-day public comment period beginning on October 6, 2017. The following Project documentation is available upon request:

- Comprehensive Wastewater Collection Project for the Community of Loma Blanca, Municipality of Juarez, Chihuahua, developed by JBL, February 2011.
- CONAGUA Technical Validation Notices No. B00.E.22.2-148-A, September 4, 2012, and No. B00.E.22.2.-196, December 31, 2012.
- Official Letter No. DOEI.IA.3007/2010, issued September 30, 2010, by the SEDUE Office of Ecology.
- Official Document No. CR.-S.(09-010-011)-01-07/2014, Permit for crossing federal highways, issued by SCT.
- Official Letter No. E058-D/2010, issued August 17, 2010, by the National Institute of Anthropology and History.
- FONSI issued by EPA on October 26, 2012.

The public comment period ended on November 5, 2017, with no comments received.

### 3.2. OUTREACH ACTIVITIES

Due to security concerns, the agencies involved in the Project decided not to establish a Project Steering Committee and not to hold any public meetings in Loma Blanca, Chihuahua. Nonetheless, JCAS conducted outreach activities to provide public access to project information. Technical and financial information about the Project was made available to the public through flyers and announcements made by megaphone, radio and television.

To determine the degree of awareness about the Project within the community, a survey was conducted of the local residents. In addition to asking questions about their knowledge of the Project, residents were asked about their level of acceptance of the proposed new service. Approximately 70 residents completed the survey, and 100% of survey respondents reported understanding the purpose and benefits of the Project and all agreed to support it. No comments expressing opposition to the implementation of the Project were received.

The BECC conducted a media search to identify public opinion about the Project. The articles found described the need to implement the proposed actions, emphasized the negative environmental impacts resulting from the discharge of untreated wastewater into the Rio Grande, and highlighted the measures taken by the Municipal and State Governments to obtain funding for the Project. No opposition to the project was identified in the media search.

References to the Project may be found on the following web sites:

- Water and sewer works begin in Ciudad Juárez. Publication of the *Antorchista Movement*, June 27, 2012, where it is reported that water and sewer works are authorized in Loma Blanca. The article was retrieved from the site on May 8, 2017:  
<http://www.antorchacampesina.org.mx/noticias/2012/nota270612k.html>
- Analysis of citizen participation in water management in 23 localities of the Juárez Valley, Chihuahua, with two variables: external and internal influences of the individual. Citizen participation and water management in the Juárez Valley, Chihuahua. Retrieved from the site on May 3, 2017:  
[https://www.researchgate.net/publication/39251428\\_Participacion\\_ciudadana\\_y\\_gestion\\_del\\_agua\\_en\\_el\\_valle\\_de\\_Juarez\\_Chihuahua](https://www.researchgate.net/publication/39251428_Participacion_ciudadana_y_gestion_del_agua_en_el_valle_de_Juarez_Chihuahua).
- Evaluation of health risks related to exposure to untreated wastewater in the community of Loma Blanca, Chih. "*Evaluation of health risks in the community of Loma Blanca (Distrito de Riego 009) Valley of Juárez (Mexico) due to exposure to untreated wastewater.*" Retrieved from the site on Mayo 3, 2017:  
<http://new.medigraphic.com/cgi-bin/resumenl.cgi?IDARTICULO=23154>

The Project Sponsor has complied with all requirements for providing public access to Project information, and no opposition has been detected about the Project.