UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

October 26, 2012

# FINDING OF NO SIGNIFICANT IMPACT

## TO ALL INTERESTED GOVERNMENT AGENCIES AND PUBLIC GROUPS:

In accordance with the environmental review guidelines of the Council on Environmental Quality found at 40 Code of Federal Regulations (CFR) Part 1500, and with the use of the implementing environmental review procedures of the United States Environmental Protection Agency (EPA) found at 40 CFR Part 6 entitled "Procedures for Implementing the Requirements of the Council on Environmental Quality on the National Environmental Policy Act" as guidance, the EPA has performed an environmental review of the following proposed action:

Loma Blanca Wastewater Collection and Potable Water Distribution Project
Proposed by Junta Central de Agua Y Saneamiento de Chihuahua (JCAS)
Located in Loma Blanca, Chihuahua, Mexico

Estimated EPA Share: $ 1,083,000

The community of Loma Blanca is located southeast of the Municipality of Ciudad Juárez; in the state of Chihuahua, Mexico. Residents do not have adequate wastewater collection or wastewater treatment infrastructure and use latrine pits for their waste. Many residents discharge untreated wastewater directly into streets and vacant land; compounding the public health and safety hazard for area residents. The lack of wastewater collection and treatment infrastructure in the area creates a potential source of surface and ground water contamination. Also, odors from the latrines, cesspools, and untreated wastewater in the open-air canals permeate the area. Loma Blanca is also in need of potable water system repairs and rehabilitation. Residents are exposed to health risks through the use of unpermitted connections or must have potable water hauled to their homes.

JCAS proposes to install a wastewater collection system to serve Loma Blanca. In total, 680 residences would be connected to the wastewater collection system, which would provide service to the existing population of 2,904 people. The collected wastewater would flow, via gravity, to the wastewater conveyance pipeline and would be conveyed to the Juárez South-South WWTP located in San Isidro for treatment. Based on the population of the proposed service area; the project area would generate wastewater at a rate of approximately 237,000 gallons per day.

JCAS also proposes to expand and rehabilitate the potable water distribution system. This consists of extending the distribution system to 280 new households, and making improvements to 400 existing connections. To provide sufficient and consistent flow, a pump station would be installed to pump water from existing wells and storage tanks into an existing elevated water tank located within Loma Blanca. The water would flow via gravity from the elevated storage tank to the distribution system throughout the community. The project would include some rehabilitation of existing water storage tanks and adjustments to ensure adequate volume and pressure in each household.

Re: Loma Blanca Wastewater
and Drinking Water FNSI

EPA Region 6 has performed an environmental review and assessment on the Environmental Information Document, and other supporting data, prepared for the proposed Loma Blanca Wastewater and Potable Water Infrastructures Project. The environmental review and assessment process did not identify any potentially significant adverse environmental impacts associated with the proposed action. The project individually, cumulatively over time, or in conjunction with other actions will not have a significant adverse effect on the quality of the environment. Accordingly, the EPA Region 6 has made preliminary determination that the proposed project is not a major federal action significantly affecting the quality of the human environment, and that preparation of an Environmental Impact Statement (EIS) is not warranted.

Comments regarding this preliminary decision not to prepare an EIS and issue a Finding of No Significant Impact (FNSI) may be submitted to the U.S. Environmental Protection Agency, Office of Planning and Coordination (6EN-XP), 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202-2733. All comments will be taken into consideration. No administrative action will be taken on this decision during the 30-day comment period. This preliminary decision, and the FNSI, will become final after the 30-day comment period expires if no new information is provided to alter this finding.

Responsible Official,

John Blevins
Director
Compliance Assurance and
Enforcement Division

Enclosure

# ENVIRONMENTAL ASSESSMENT
# for the
# PROPOSED LOMA BLANCA WASTEWATER COLLECTION AND POTABLE WATER DISTRIBUTION PROJECT
# CHIHUAHUA, MEXICO

## 1.0 GENERAL PROJECT INFORMATION

### 1.1 Purpose and Need for Proposed Action

The Fiscal Year 2012 Appropriations Act for the Environmental Protection Agency (EPA) included special Congressional funding for drinking water and wastewater construction projects. Junta Central de Agua Y Saneamiento de Chihuahua (JCAS) was selected to receive appropriations funding support from the EPA for the construction of the Loma Blanca Wastewater Treatment Infrastructure, and potable water distribution system extension and rehabilitation. Currently, the area does not have adequate wastewater collection or treatment infrastructures, and residents discharge waste into aging latrines and septic systems. Many residents also discharge untreated wastewater directly into the streets or vacant land. The new Wastewater Treatment Infrastructure would provide wastewater treatment capacity for approximately 2,904 people in the community of Loma Blanca. Loma Blanca is also in need of potable water system repairs and rehabilitation. Residents are exposed to health risks through the use of unpermitted connections or must have potable water hauled to their homes. The potable water improvements are expected to benefit the entire population of Loma Blanca.

The community of Loma Blanca is located in the southeastern portion of the Municipality of Juárez, in an area known as Valle de Juárez (Juárez Valley), and has an approximate population of 2,904. The area is in northern Mexico, within the state of Chihuahua, approximately one-half mile south-southwest of the United States (US)-Mexico border, and 15 miles southeast of Ciudad Juárez.

### 1.2 Proposed Action

Under the Preferred Alternative, a wastewater collection system would be installed to serve Loma Blanca. In total, 680 residences would be connected to the wastewater collection system, which would provide service to the existing population of 2,904 people. The wastewater collection system would consist of 94,816 ft of 8-in-diameter polyvinyl chloride (PVC) household connection pipeline and 10,170 ft of 15-in-diameter PVC collector pipeline. The estimated total cost of the proposed wastewater collection system would be approximately US $1,506,100. The wastewater collection systems would be segmented to allow maintenance and additions to portions of the system without having to interrupt service to the entire system. In total, the system would include 310 access points (manholes). The collected wastewater would flow, via gravity, to the wastewater conveyance pipeline and would be conveyed to the Juárez South-South WWTP located in San Isidro for treatment. Once operational, the proposed wastewater collection system in Loma Blanca would function passively.

Based on the population of the proposed service area and wastewater generation estimates of approximately 82 gallons, per person, per day; the project area would generate wastewater at a rate of approximately 237,000 gallons per day. In its initial phase, the Juárez South-South WWTP will operate with a capacity of 11.4 million gallons per day and, following development of its final phase, would operate at a capacity of 45.7 million gallons per day.

Implementation of the Preferred Alternative would expand and rehabilitate the potable water distribution system. This consists of extending the distribution system to approximately 280 new houses currently lacking approved connections, and making improvements to approximately 400 existing connections. Construction of the water distribution system would be segmented to allow shutdown and maintenance of portions of the distribution grid. To provide sufficient and consistent flow, a pump station would be installed to pump water from existing wells and storage tanks into an existing elevated water tank located within Loma Blanca. The water would flow via gravity from the elevated storage tank to the distribution system throughout the community. The project would include some rehabilitation of existing water storage tanks and adjustments to ensure adequate volume and pressure in each household. The estimated total cost of the proposed improvements would be US$798,395. The water would be managed by JCAS and would meet water quality standards in Mexico.

Construction activities related to the Preferred Alternative include trenching, pipe laying, soil stockpiling, covering pipes with stockpiled soil, and operation of construction equipment. Equipment needed for construction of wastewater collection networks would likely be acquired in Mexico, and construction labor would be provided by companies in Mexico. Construction activities would likely occur Monday through Friday between 8 a.m. and 5 p.m.

## 2.0 ALTERNATIVES

### 2.1 Alternatives Considered by the Applicant

Three alternatives were considered for the proposed project. No other alternatives were considered feasible or practical solutions for improving the wastewater infrastructure needs in the Valle de Juárez.

#### 2.1.1 Alternative 1 - Preferred Alternative

This alternative calls for the installation of a new wastewater collection system that relies on gravity flow and would connect to a wastewater conveyance pipeline adjacent to Route 2. Additionally, the JCAS potable water system would be extended to 280 households currently lacking connections, 400 existing connections would be rehabilitated, and water pressure would be maintained primarily via gravity flow from a storage tank located in an elevated portion of the community.

**2.1.2 Alternative 2**

Alternative 2 involves the construction of a wastewater collection system, pump/lift station, and wastewater treatment system in Loma Blanca. The collection system would have the same alignments and construction components as the Preferred Alternative; however, under Alternative 2 the collection system would be conveyed via a lift station to a WWTP constructed in Loma Blanca. This alternative would require the acquisition of two parcels for the construction of the lift station and a WWTP. The proposed WWTP would be a natural system relying on a facultative wastewater stabilization pond and a subsequent polishing pond.

Under Alternative 2, the potable water distribution system would have the same alignments, construction components, and construction schedule as those presented for the Preferred Alternative. The project would also include some rehabilitation of water storage tanks and adjustments to ensure adequate volume and pressure in each house; however, under Alternative 2, water pressure would be maintained through construction of a pump station that would be responsible for maintaining adequate volume and flow.

**2.1.3 Alternative 3 – No-Action Alternative**

Under the No Action Alternative, no wastewater collection system or potable water infrastructure improvements would be constructed in the project area. The use of inadequate latrines and septic systems would continue. Untreated and improperly treated wastewater would continue to enter the environment directly, resulting in continued public health concerns as well as contamination of surface water, stormwater and groundwater. Additionally, much of the community's population would continue to have insufficient access to potable water.

**2.2 Alternatives Considered but Eliminated from Detailed Study**

Apart from those alternatives already described and compared within this EID, no other alternatives have been considered to provide feasible, practical solutions to improve wastewater infrastructure in Loma Blanca.

**3.0 ENVIRONMENTAL SETTING**

The proposed Loma Blanca project would be located in the Municipality of Juárez. The project area is within the State of Chihuahua in northern Mexico. This region of Chihuahua, known as Juárez Valley, lies along the Rio Grande, which forms the international boundary between the US and Mexico.

The Municipality of Juárez has an area of approximately 1,875 square miles and is bounded by the Rio Grande and the US to the north; the Municipality of Guadalupe to the east; the municipalities of Guadalupe, Villa Ahumada, and Práxedis Guerrero to the south; and the Municipality of Ascensión to the west. According to the Instituto Nacional de Estadística y Geografía (INEGI); the population of Juarez was 1,321,004 in 2010. Elevation within the Municipality of Juárez ranges from 3,675 to 6,070 feet above mean sea level.

El Paso County, the US County that borders the project area, comprises 1,015 square mi and includes several cities, including El Paso, Fabens, and Socorro. The primary land use in this area along the US-Mexico border is agriculture.

The project area is in the arid Mexican Highland floristic region, which is a part of the Chihuahuan Desert that covers the northern part of the high plains between 3,000 feet and 6,600 feet above sea level. Based on vegetation classification in Mexico, the predominant vegetation is xeric scrublands, which are characterized by bushy flora with variable heights, typically less than 12 feet tall. The remaining area is used for agriculture and temporary irrigation, and therefore does not typically support native plants.

The Juarez Valley region was formed by two geological units corresponding to the Cenozoic through Quaternary eras and the Mesozoic through Cretaceous eras. Rock outcroppings in the valley are primarily sedimentary and from the Mesozoic era. The valley floor contains alluvial material with deposits of gravel, sand, and clay. Lithic material underlying alluvial deposits are primarily limestone and sandstone, with thicker layers towards outer margins of the valley and thinner layers in the valley's center.

Soil in this region is typical of Mexican altiplano (high plains). Soil types present include Solonchak and regosol. This area is part of the Hydrologic Region RH-24 (Bravo-Conchos), which also includes the Rio Grande Basin.

## 4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

### 4.1 Air Quality

Air quality in a given location is determined by the concentration of various pollutants in the atmosphere. The EPA establishes national ambient air quality standards (NAAQS) for criteria pollutants. NAAQS represent maximum levels of background pollution limits necessary to protect human health. In Mexico, the Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT) establishes normas ambientales para aire; which are Mexico's equivalent to U.S. air quality standards. Odor sources near the proposed project site include latrines, untreated wastewater discharges, and pesticide applications on nearby farmland. Odors from untreated wastewater are noticeable adjacent to canals, and possibly greater distances depending on weather conditions.

Air quality in the proposed project area is better than that of the City of El Paso and Ciudad Juárez due to less vehicle traffic, industrial operations, and construction activities. Ciudad Juárez contributes to the ambient air quality by means of more than 300 assembly plants and industrial operations, high vehicular traffic, and dust generated from vehicular traffic on unpaved roadways. The primary air pollutants of concern in the general area are particulate matter less than or equal to 10 microns in size ($PM_{10}$), particulate matter less than or equal to 2.5 microns in size ($PM_{2.5}$), and carbon dioxide (CO). Particulate matter generated by ground disturbing activity would occur intermittently during construction, and diesel and gas engines would generate CO emissions.

Construction impacts associated with the proposed wastewater collection and water distribution system pipeline installation would include short-term, localized fugitive dust emissions during ground disturbance, trenching, and related site preparation activities, and combustion emissions from vehicles and heavy-duty equipment during installation. Construction would occur within the boundaries of the State of Chihuahua, Mexico. Air quality impacts in Mexico from construction, including fugitive dust and vehicle emissions, would be temporary and would be minimized through dust control and standard engineering practices.

Upon completion of the proposed wastewater collection, conveyance and treatment systems, the amount of untreated wastewater discharged directly into the environment would be reduced and result in a beneficial impact on odors in Loma Blanca. Once implemented, the Preferred Alternative would operate under passive systems that do not generate air emissions; therefore, long-term operation of the wastewater collection system under the Preferred Alternative would not result in increased emissions or associated degradation of air quality in either Chihuahua or Texas.

Implementation of the potable water system under the Preferred Alternative would require increased energy use and associated emissions for intermittent operation of a pump system that would lift water to elevated storage tanks located in Loma Blanca. However, the system would operate primarily via gravity flow from the elevated tank, which would limit energy required to maintain water pressure within the system once operational.

Implementation of Alternative 2 would require increased energy use and associated emissions for operation of the proposed lift station, WWTP, and water pump station; however, the machinery required for operation of these elements of the proposed action include standard equipment typically associated with such water and wastewater infrastructure. Although this machinery does emit pollutants as part of the operation process, these emissions would be considered negligible given their size, limited number, remote operating locations, and existing ambient air quality of the region. Therefore, emissions associated with Alternative 2 would be less than significant. The treatment system proposed for the Juárez South-South WWTP is based on an activated sludge system, which is used worldwide for municipal wastewater treatment. This system produces secondary-level effluent that does not generate offensive odors.

Under the No Action Alternative, no new wastewater collection infrastructure or potable water distribution system would be constructed in the project area, and no construction or operations related to wastewater or potable water improvements would occur. If this alternative were selected, there would be no direct impacts with regard to air quality. Under this alternative odors from untreated wastewater would continue in the project area.

**4.2 Noise**

Noise is defined as unwanted sound or, more specifically, as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing or is otherwise annoying. Human responses to noise vary depending on the type and characteristics of the noise, the distance between the noise source and the receptor, receptor sensitivity, and time of day.

The noise environment at the proposed project site in Loma Blanca is characteristic of low- to medium-density residential areas and agricultural areas. Vehicular traffic and farm machinery are the primary generators of noise.

Implementation of the Preferred Alternative or Alternative 2 would involve trenching, soil movement, pipe installation, and ground excavation. Noise generation during construction would be characteristic of the use of construction equipment. Installation of the proposed wastewater collection and conveyance infrastructure in the project area would occur in residential areas.

Construction activities would likely occur from 8 a.m. to 5 p.m., Monday through Friday. Nearby residential receptors would be exposed to short-term construction noise, but no extended disruption of normal activities is expected. Further, provisions would be included in construction plans that require the contractor to make every reasonable effort to minimize construction noise through abatement measures; including proper maintenance of muffler systems. Minimal adverse short-term impacts on the noise environment at and adjacent to the project site would be expected to occur with implementation of the Proposed Action. However, any impacts would be temporary and would not be considered significant. Since no construction would occur in the US and construction noise generated by the Proposed Action would be temporary and would not be audible in the US; no significant short-term direct or indirect construction noise impacts are anticipated to occur in the US under either of the action alternatives.

Long-term noise associated with the implementation of the Preferred Alternative would be minimal as the wastewater collection and conveyance system and the potable water distribution system would operate passively under gravity flow. The occasional operation of the proposed pump system to lift water to the elevated storage tanks would generate minimal noise that would be considered less than significant. Implementation of Alternative 2 would result in operational noise associated with the proposed lift station, WWTP, and water pump system in Loma Blanca; however, such noise emissions would not be expected to exceed ambient noise levels presently occurring in Loma Blanca. Therefore, under implementation of the Preferred Alternative or Alternative 2, no long-term direct or indirect operational noise would occur in the US, and long-term direct or indirect operational noise in Mexico would be negligible.

Under the No Action Alternative, no new infrastructure for wastewater treatment or potable water distribution would be implemented. No construction activity would occur under this alternative, and no changes in the existing noise environment would occur. Therefore, no direct or indirect short-term or long-term noise-generating activity or associated impacts would occur in the US or Mexico.

**4.3 Floodplains**

Under the Proposed Action, JCAS would construct infrastructure to accommodate wastewater flows and provide new potable water connections, as well as rehabilitate existing infrastructure in the proposed project area. The proposed project area is entirely within Mexico, and no construction would occur within the US. Construction would be limited to installation of collection and conveyance networks and support infrastructure along existing roadways and previously disturbed areas within Mexico. No construction activity would occur in the US; therefore, no direct or indirect impacts to floodplains in the US would occur under implementation of the Preferred Alternative or Alternative 2.

If the No Action Alternative were selected, no construction or long-term operation of a wastewater collection system or extension and rehabilitation of the potable water system would occur in the proposed project area; therefore, there would be no activities that would result in direct or indirect impacts on floodplains. The funding recipient is responsible for coordination with Comision Internacional de Limites y Aguas (CILA), and must adhere to CILA regulations and recommendations regarding floodplains for the duration of the project.

**4.4 Wetlands**

No natural wetlands exist in or near the proposed project area. Under either the Preferred Alternative or Alternative 2, no construction would occur in the US. Construction activities would be limited to previously developed or disturbed areas and would not result in discharge of stormwater flow, or result in increased sedimentation in US waters or wetlands. Since no wetlands are near the proposed project area; no direct or indirect effects on wetlands in the US or Mexico would occur under implementation of the Preferred Alternative or Alternative 2.

Under the No Action Alternative, no new infrastructure for wastewater collection or water distribution would be constructed or improved. Therefore, no impacts would occur under the No Action Alternative.

**4.5 Ground Water Resources**

The area contains two aquifers: the Hueco Basin and the Mesilla Basin. The water in the aquifer underlying the Juarez Valley varies in quality from potable to highly saline. The aquifer is recharged via rainfall infiltration, irrigation return flows, and minor inflows from other aquifers.

Under the Preferred Alternative and Alternative 2, JCAS would construct infrastructure to provide new potable water connections, as well as rehabilitate existing infrastructure in the proposed project area. Existing potable water infrastructure would be identified prior to construction to limit disruption to current JCAS service during construction activity. It is anticipated that overall potable water usage would remain approximately at existing levels; although household water usage tends to increase with the availability of permanent potable water connections. Improvements to the conveyance system would reduce water loss from leaks or improper connections.

In administering the sole source aquifer program (SSA) under Section 1424 of the Safe Drinking Water Act, EPA performs evaluations of projects utilizing federal dollars for potential impacts to designated SSA's. In a 2011 letter EPA concluded the project does not lie within the boundaries of a designated SSA, and therefore, does not require review under the SSA program.

**4.6 Surface Water Resources**

The main drainage channels in the Juarez Valley are the Canal Principal and the Dren Interceptor. The Canal Principal and Dren Interceptor originally carried clean water from the Rio Grande for irrigation; however, they currently collect treated and untreated wastewater generated in Southeastern Juarez. The affected communities discharge untreated wastewater directly into these channels, and ultimately, to the Rio Grande. Water quality in the Rio Grande adjacent to the project site is considered poor. Pollution sources include agricultural water drainage, wastewater from industrial and residential sources, illegal dumps along the river, and confined animal feeding operations.

Implementation of the Preferred Alternative or Alternative 2 would eliminate the direct discharge of wastewater into the environment, thereby reducing the potential for untreated or poorly treated wastewater to enter surface water and groundwater. Under the Preferred Alternative, wastewater generated from the community of Loma Blanca would be collected and conveyed to the Juárez South-South WWTP. Under Alternative 2, pump stations and a WWTP would be constructed in Loma Blanca, and wastewater generated from the community would be collected and conveyed to a WWTP that would discharge treated effluent to the Rio Grande.

Under the Preferred Alternative and Alternative 2, the expected impact that treated wastewater would have on the quality of Rio Grande waters is incrementally beneficial, since wastewater contaminant levels would be reduced. The secondary treatment and discharge of wastewater generated in the project areas would improve water quality and decrease the risk of waterborne illness in both the US and Mexico.

Under the No Action Alternative, new infrastructure for wastewater collection, conveyance and treatment would not be constructed, and residents in the proposed project area would continue to discharge wastewater directly into the environment. Since wastewater generated in the project area would continue to be untreated and would reach the Rio Grande, potential impacts on water quality under implementation of the No Action Alternative would be considered adverse in both the US and Mexico.

Section 10 of the Rivers and Harbors Act of 1899 tasks USACE with overseeing any action that may affect navigable waters of the United States. USACE reviewed the project for potential impacts to navigable waters of the U.S., and concluded the project would not impact these resources. The National Park Service administers the National Wild and Scenic River Program, and in a 2012 letter the NPS determined that the project did not require review for impacts to Wild and Scenic Rivers. The International Boundary and Water Commission (IBWC) assess impacts to the shared water resources of Mexico and the United States. The funding recipient is responsible for continued coordination with IBWC, and must adhere to any water quality requirements, permitting processes, or recommendations put forth by the agency for the duration of the project.

**4.7 Biological Resources**

The community of Loma Blanca is moderately developed and clustered along Mexico Route 2. The community is surrounded by intensely cultivated agricultural lands to the North and the East, and undeveloped scrubland to the South and West. The project area is approximately 3,600 feet above sea level and characterized by xeric scrubland flora; typically less than 12 feet tall. The wildlife species in the project area are not considered threatened, endangered, rare, or subject to special protection under Mexican environmental law. There have been no studies of sensitive species conducted in the project area by SEMARNAT, but studies conducted in the Juarez Valley, in similar habitat, indicate a lack of any sensitive species due to the extensive human altered environment. Vegetation has been influenced by urban and agricultural development, and wildlife is now represented by species able to withstand a heavily human-influenced environment. SEMARNAT has not designated any critical habitat in the project area, and the United States Fish and Wildlife Service (USFWS) has not designated critical habitat in El Paso County. The project area is located in the central flyway, and birds protected under the Migratory Bird Treaty Act of 1918 may pass through the project area during migration.

Under the Preferred Alternative and Alternative 2, no construction would occur within the US; therefore, there would be no direct impacts on habitat within the US. In addition, these alternatives would not change the water flows within the US and would therefore cause no direct impacts on aquatic habitats. Based on the distance from habitat areas within the US, short-term noise impacts associated with these alternatives are not anticipated to be perceptible by sensitive species within the US. Therefore, no direct or indirect impacts on biological resources in the US would result from implementation of the Proposed Action.

Construction activities in Mexico under the Preferred Alternative and Alternative 2 would be temporary; construction of a wastewater collection and water distribution network would be limited to existing roadways and previously disturbed areas. Alternative 2 includes construction of a lift station, WWTP, and potable water pump station in Loma Blanca. During the ground-disturbing activities, some more mobile animals would escape to areas of similar habitat, but some sedentary animals that use burrows could be lost during construction.

Due to the developed nature of the project area, however, the diversity and abundance of wildlife is expected to be minimal. No sensitive species or unique habitat has been identified in the project area and no significant impacts on biological resources are expected as a result of the Proposed Action. In the long term, implementation of the Proposed Action would provide beneficial impacts on aquatic communities in the Rio Grande, as wastewater from Loma Blanca would no longer discharge directly into the environment.

Although endangered species, threatened species, species of concern, sensitive species and special category species were not identified in the area of concern, some listed migratory bird species could traverse and/or roost in the area. However, no significant negative impacts would be anticipated with implementation of the Proposed Action because most of the proposed activities would occur in rights-of-way or in previously disturbed areas.

If the No Action Alternative were selected, no construction or long-term operation of a wastewater collection system or potable water distribution system would occur in the proposed project area; therefore, there would be no activities that result in direct impacts on biological resources. Adverse indirect impacts on aquatic communities in the Rio Grande would remain under the No Action Alternative since inadequate and/or untreated wastewater generated in the project area would continue to discharge directly into the environment and eventually flow into the Rio Grande.

The applicant made a "no effect" determination with respect to threatened and endangered species, and the USFWS agreed, by letter dated July 8, 2012, that Section (7)(a)(2) of the Endangered Species Act consultation was satisfied.

**4.8 Cultural Resources**

The proposed project area is in Loma Blanca, Mexico; therefore no impacts to US historic, archeological or cultural resources will occur. The installation of wastewater collection and potable water distribution systems will occur in a previously disturbed area and therefore no cultural resources are expected to be found in the project area.

Construction activities in Mexico under the Preferred Alternative and Alternative 2 would be temporary. Construction of a wastewater collection network and expansion and rehabilitation of the potable water distribution system would be limited to existing roadways and previously disturbed areas. Alternative 2 includes construction of a lift station, WWTP, and potable water pump station in Loma Blanca. Implementation of the Proposed Action would occur on land that is currently disturbed. Although it is unlikely that cultural resources remain at or near the surface, the potential exists for cultural resources to be encountered during ground-disturbing activities. In the event that cultural resources are discovered during project excavation, site excavation would cease and Instituto Nacional de Antropología e Historia (INAH) personnel would be contacted to determine the appropriate course of action. No adverse impacts on cultural resources in Mexico would be expected with the implementation of the

Preferred Alternative; however, if cultural resources are encountered, INAH would be contacted to determine appropriate handling. Under the Preferred Alternative and Alternative 2, no construction would occur within the US; therefore, there would be no direct or indirect impacts on cultural resources within the US.

Under the No Action Alternative, no new infrastructure for wastewater or potable water would be constructed or improved in the proposed project area. Because no construction would occur, there would be no impacts on cultural resources.

**4.9 Environmental Justice and Protection of Children**

The community of San Isidro does not have a wastewater treatment system and the direct discharge of wastewater into the environment contributes to increased human contact with waterborne pathogens. In addition, the current potable water distribution system does not provide adequate access and many residents rely on unpermitted connections or hauled water. Children and low-income populations may suffer disproportionate impacts from environmental health and safety risks due to their close proximity to environmental hazards.

Construction of the Proposed Action would occur entirely within Mexico. No short-term or long-term impacts are anticipated to occur within the US; therefore, children and minority and low-income populations within the US would not experience direct or indirect disproportionate impacts related to the Preferred Alternative or Alternative 2.

The Proposed Action would result in positive impacts for children, minority populations, and low-income populations within the proposed project area in Mexico. Implementation of a wastewater collection system would reduce the likelihood of surface and groundwater contamination and spread of disease associated with lack of sewage collection. Additionally, expansion and rehabilitation of the potable water system would increase reliability of potable water distribution and reduce use or exposure to untreated water for domestic uses. No adverse impacts on children and minority and low-income populations would occur under implementation of the Preferred Alternative or Alternative 2.

Under the No Action Alternative, no new infrastructure for wastewater collection or water distribution would be constructed or improved in the proposed project area. Implementation of this alternative could be considered adverse with respect to public health since it would not address issues associated with the generation and spread of waterborne disease.

**4.10 Energy**

To comply with Executive Order (EO) 13514, the project has been evaluated for its potential to impact the US federal government's goal to reduce greenhouse gas emissions and energy consumption.

Implementation of the Preferred Alternative is not expected to result in adverse impacts on energy usage by federal or other facilities. Under this alternative, wastewater would flow via gravity to the existing wastewater conveyance system where it would be conveyed to the Juárez South-South WWTP. Minimal increases in energy use would be required to treat the additional flow associated with the project and no new energy infrastructure would be required to accommodate the project. Additionally, the potable water system would maintain pressure primarily via gravity flow. Minimal levels of energy would be required to pump water to elevated tanks located in Loma Blanca, from which potable water would flow via gravity to household connections.

Under implementation of Alternative 2, energy would be required to power a new lift station, WWTP, and pump station in Loma Blanca; however, energy use associated with Alternative 2 would be less than significant when compared to existing energy usage in the region. Therefore, there would be a negligible increase in energy use from current conditions in Mexico.

The No Action Alternative would provide no improvements in the wastewater or potable water infrastructure in Loma Blanca. There would therefore be no changes in energy resources in the US or Mexico.

**4.11 Cumulative Impacts**

In addition to the construction of wastewater collection systems and expansion and rehabilitation of potable water distribution systems in the project area; JCAS plans to construct a WWTP in San Isidro, and has begun construction of a WWTP in Colonia Esperanza. Proposed improvements to the communities of Jesús Carranza, El Millón and Tres Jacales, Chihuahua, via wastewater collection, conveyance and treatment systems, are also planned. The Juárez South-South WWTP, which is being developed as an independent project, is expected to operate at a future maximum of 45.7 million gallons per day.

The proposed improvements to wastewater infrastructure under the Proposed Action are part of an overarching initiative to improve infrastructure services and environmental conditions in the region. Although projects under this initiative are being implemented separately, they would result in beneficial cumulative impacts in the region. The collection and treatment of wastewater along the Juárez Valley would improve water quality within the vicinity and, ultimately, the Rio Grande. It would also reduce the risk of surface water/groundwater contamination and development and spread of waterborne illness in these areas.

Under the No Action Alternative, wastewater would continue to be discharged directly to the environment. The health and quality of the Rio Grande would be undermined under the No Action Alternative. Residents in the community of Loma Blanca would continue to have inadequate access to potable water. Therefore, this alternative could be considered adverse with respect to public health since it would not address issues associated with the generation and spread of waterborne disease.

**4.12 Unavoidable Adverse Impacts**

Implementation of either action alternative would result only in temporary, adverse impacts such as fugitive dust emissions, vehicle emissions, noise, traffic disruption, soil disturbance, and infrequent interruptions in potable water service during construction. Unavoidable adverse impacts associated with the no-action alternative include discharge of untreated wastewater into the environment, and the risk of contamination of groundwater and surface water.

**4.13 Relationship between Short-term Uses and Long-term Productivity**

In the short term, implementation of the action alternatives would result in temporary, adverse impacts such as fugitive dust emissions, vehicle emissions, noise, traffic disruption, and interruptions in potable water service and soil erosion. Long-term effects of the action alternatives include efficient, controlled wastewater collection and conveyance, and potable water distribution in the project area, resulting in protection of water resources, improved public health and quality of life and socioeconomic benefits. The No Action Alternative would result in adverse impacts on both short- and long-term productivity from continued poor water quality and public health. These impacts would be exacerbated by population growth in the project area.

**4.14 Irreversible and Irretrievable Commitment of Resources**

If the preferred alternative is implemented, irreversible and irretrievable resources committed to the project include energy used to construct the WWTP and pipeline, depreciation in value of the equipment used in construction, monies expended toward workforce expenses during construction, and loss of land and soil resources within the footprint of the WWTP.

**5.0 PUBLIC PARTICIPATION**

Due to security concerns, public meetings in Loma Blanca, Chihuahua, Mexico were cancelled. The projects technical and financial information was made available to the public for review by distributing flyers, making radio and television advertisements, and megaphone announcements. Additionally, a survey form was distributed to citizens to determine their familiarity and acceptance of the project. Approximately 70 residents responded to the project survey; with 100 percent indicating they understood the project and were in support. No comments in opposition of the project were received.

During the process of conducting the environmental review and preparing this Environmental Assessment for the project, coordination has been conducted with all required resource protection agencies and offices to solicit and incorporate their initial review and comments. Copies of this Environmental Assessment will be provided to those agencies and offices for their final review and comments. Other interested parties may request a copy of the Environmental Assessment and/or Environmental Information Document by contacting Keith Hayden, via telephone at (214) 665-2133, electronically at hayden.keith@epa.gov, or in writing from the EPA, Office of Planning and Coordination (6EN-XP), 1445 Ross Avenue, Dallas, Texas 75202-2733.

## 6.0 RECOMMENDATION

Based upon completion of this Environmental Assessment, and a detailed review of the Environmental Information Document for the project, it has been determined that construction activities are considered to be environmentally sound. Therefore, it is recommended a Finding of No Significant Impact be issued.

## 7.0 LIST OF AGENCIES CONTACTED BY BORDER ENVIRONMENT COOPERATION COMMISSION

U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
U.S. Environmental Protection Agency
U.S. National Park Service
El Paso County
International Boundary and Water Commission
Natural Resource Conservation Service
North American Development Bank
Texas Commission on Environmental Quality
Texas Parks and Wildlife Department
Comisión Internacional de Limites y Aguas