

Border Environment Cooperation Commission Wastewater Collection Improvements Project in Clint, El Paso County, Texas

1. General Criteria

1.a Project type

Project Name: Wastewater Collection Improvements Project in Clint, El Paso County, Texas.

Project Sector: Domestic Wastewater Hookups

1.b Project Category

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

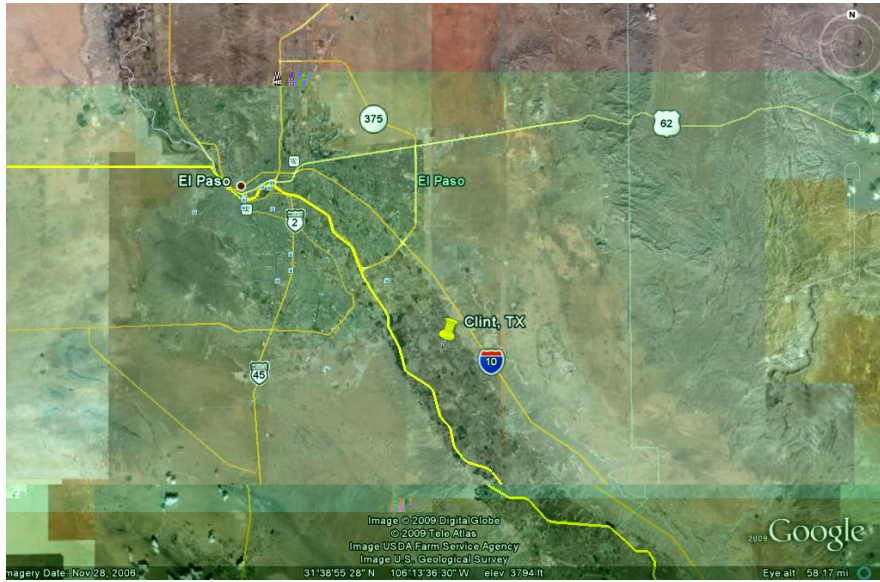
1.c Project Location and Community Profile

Community : Clint, El Paso County, Texas

Location: Clint, Texas is located in El Paso County, in West Texas. It is approximately 30 miles east of downtown El Paso. Clint is approximately 4 miles north from Valle de Juarez, in the state of Chihuahua, Mexico. The Lower Valley Water District (LVWD) is a water utility which provides water and wastewater services to communities located in El Paso County, east of the City of El Paso. The service area includes the Towns of Socorro, San Elizario, Clint, Sparks, and areas in between. The wastewater treatment for these communities is provided by the Roberto Bustamante Wastewater Treatment Plant owned by the El Paso Water Utilities.

Location in the border: The project is located within the 62.5 mi (100 km) of the US-Mexico border area.

Figure: The following figure shows the location of the Town of Clint.



Town of Clint, El Paso County, Texas.

Demographics¹

Current population:	980 residents (2000 US Census)
Growth rate:	6.00 %
Economically active population:	456 residents
Median Household Income:	\$ 34,000 Dollars
Predominant economic activity:	Agriculture/Schools
Marginalization rate:	16.6 %

Services

Community: Town of Clint

Water System²

Water coverage:	90 %
Length of water pipelines:	9 miles (14.5 km)
Domestic hookups:	96 %
Commercial hookups:	4 %
Industrial hookups:	0 %
Water supply source:	El Paso Water Utilities
Number of water hookups:	230

Wastewater Collection System³

Wastewater collection coverage:	5 %
Length of sewage pipelines:	1 mile (1.6 km)

¹ Source: US Census Bureau Year 2000

² Source: LVWD

³ Source: LVWD

Number of sewage connections:	20
Domestic hookups:	100 %
Commercial hookups:	0 %
Industrial hookups:	0 %
Wastewater Treatment⁴	
Wastewater treatment coverage:	5 %
WWTP and treatment technologies:	Activated Sludge; 39 MGD (1,708.5 lps) capacity
Solid Waste⁵	
Solid waste collection:	90%
Final disposal:	Sanitary landfill
Street Paving⁶	
Street paving coverage:	85%

1.d Legal Authority

Project Sponsor:	Lower Valley Water District
Legal Representative:	David Carrasco, General Manager
Legal Instrument demonstrating legal authority:	The Information Form of the Lower Valley Water District (TEX. WAT. CODE ANN. §49.455 VERNON SUPP.1996)
Date of instrument :	June 24, 2004
Compliance with international agreements:	<ul style="list-style-type: none"> - 1889 International Boundary Convention - 1944 Water Treaty - 1983 La Paz Agreement, or Border Environment Agreement - 1990 Integrated Border Environmental Plan (IBEP) - 1994 North American Free Trade Agreement (NAFTA) - Border 2012 Program

⁴ Source: LVWD

⁵ Source: LVWD

⁶ Source: LVWD

1.e Project Summary

Project description and scope:

At present, the residents of the Town of Clint do not have a sewer collection system in place. The onsite septic tanks and cesspools cause a public health nuisance, and do not meet new state and local health and safety standards.

Wastewater Collection

In general, the project will involve the installation of pipeline, a lift station, force main, several manholes, service connections and pavement patch replacement. The wastewater will flow by gravity to an existing 18-inch (450 mm) diameter interceptor that is located along the Middle Drain. The size of pipe required to accommodate the wastewater flows generated by the area residents is an 8-inch (219 mm), 12-inch (305 mm) and 15-inch (375 mm) diameter pipe throughout the project area. The construction of the project will result in a total of 60 gpm (3.79 lps) additional wastewater flows; Phase I will generate approximately 25 gpm (1.58 lps), while Phase II will generate approximately 35 gpm (2.21 lps). The proposed pipe material is PVC. The wastewater collected will be treated at the Roberto Bustamante Wastewater Treatment Plant operated by the El Paso Water Utilities (EPWU). The capacity of the plant is 39 MGD and currently treats 29 MGD.

The project has been separated in two phases for construction. Phase I is to be funded by the U. S. Department of Agriculture-Rural Development Program. Border Environmental Infrastructure Funds (BEIF) will only be applied to this phase of the project. The Texas Water Development Board will fund Phase II. The certification of the project applies to both Phases, which will be constructed concurrently.

Population benefited:

1,099 people

Number of connections served:

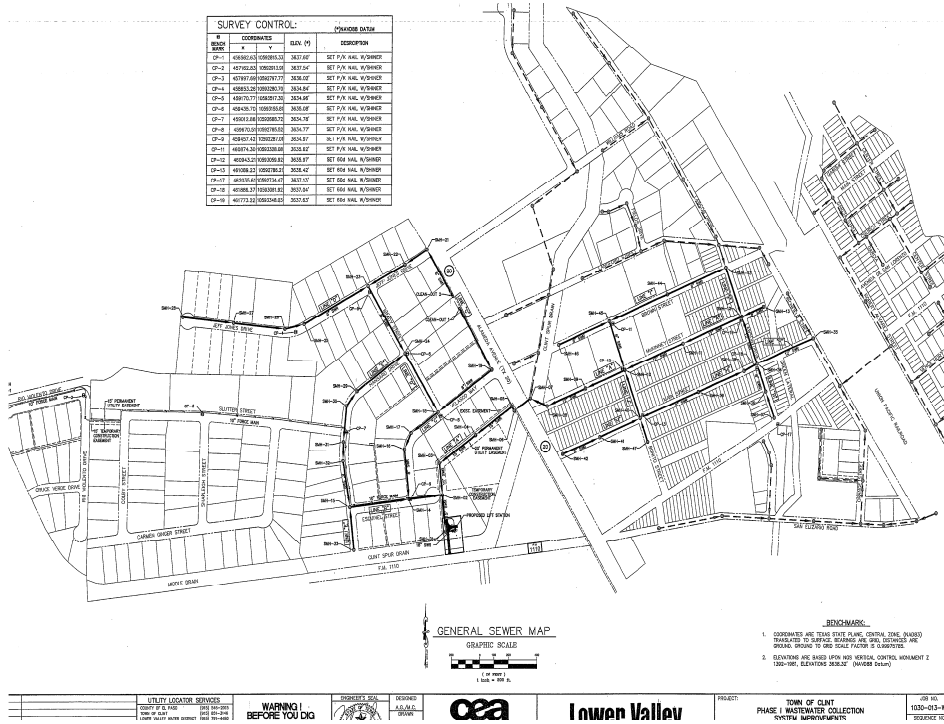
289 (Phase I: 124; Phase II: 165)

Project Cost:

\$6.4 Million-Phase I
\$5.2 Million-Phase II

Project Map:

The following figures show the proposed collection system map to provide first time wastewater service to Clint residents.



1.f Project Justification

Project justification:

- Approximately 95% of the town's households are not connected to a centralized wastewater collection system. Residents in the project area discharge their wastewater to open drains or rely on latrines, septic tanks and cesspools.
- Approximately 60 gpm (3.79 lps) of wastewater go untreated due to the failure of the area's septic systems resulting in a health issue related to the direct contact with raw wastewater.
- The proposed project will allow for the wastewater to be collected for the entire city reducing the potential for human contact with contaminated water as well as with vectors of waterborne diseases such as pests and other organisms.
- The project will increase the wastewater collection coverage up to 100% with the installation of approximately 289 new connections.
- The wastewater collected by the system will be treated at the Roberto Bustamante Wastewater Treatment Plant operated by the EPWU. The capacity of the wastewater treatment plant is 39 MGD (1,708.5 lps) and currently treats 29 MGD (1,270.6 lps). An inter-local agreement was signed between the Lower Valley Water District and EPWU on June 28, 1989.

Urgency of the project or consequences of no action:

The lack of these services jeopardizes the health of area residents, inasmuch as they are exposed to having contact with wastewater and thus are at risk of acquiring associated diseases.

Prioritization Process Category:

Category 1.

Pending Activities:

None

Criterion Summary:

The project complies with BECC's general criteria.

2. Human Health and Environment

2.a Compliance with Applicable Environmental Laws and Regulations.

Environmental and Public Health needs addressed by the prop0 Tc0T-E55hr

- Appropriate wastewater collection and treatment. Residents in the project area currently lack wastewater collection service and discharge their wastewater to open drains or rely on latrines, septic tanks and cesspools.
- The reduction of the risk for communicable waterborne diseases caused by potential human contact with raw wastewater runoff as a result of the lack of wastewater collection in the project's area.
- Reduce the risk of soil and surface water contamination resulting from inappropriate wastewater discharges in the project area, potentially reaching the Rio Grande.

The project meets the complies with the following applicable environmental laws and regulations:

- The project complies with Texas Administrative Code, Title 30, Part 1, Chapter 217: Design Criteria for Domestic Wastewater Systems.
- In addition, coordination and approval of the following state and federal agencies has taken place for the development of the project:
 - Texas Historical Commission
 - Texas Parks and Wildlife
 - US Army Corps of Engineers
 - USDA National Resource Conservation Service
 - Texas Commission on Environmental Quality (TCEQ)
 - U.S. Environmental Protection Agency (EPA)
 - US Fish and Wildlife
 - International Boundary and Water Commission
 - Federal Emergency Management Agency
 - US Department of the Interior

2.b Human Health and Environmental Impacts.

Human Health Impacts

Direct and Indirect human health benefits:

- The project would prevent discharges of untreated wastewater into open drains and latrines and reduce the risk of waterborne diseases.
- The project would reduce groundwater contamination.
- The project would reduce soil contamination.

Health statistics:

Waterborne diseases are caused by pathogenic microorganisms that are directly transmitted as a result of inadequate wastewater disposal practices and unhealthy 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 having bad hygiene habits that contribute to the dissemination of diseases by direct or indirect human contact. Waterborne diseases may be caused by protozoa, viruses, bacteria, and intestinal parasites.

Supporting figures:

The following table shows waterborne and arboviral diseases for the City of El Paso, TX provided by El Paso City-County Health and Environmental District in their Notifiable Conditions Report for the past five years.

Disease	No. of Cases				
	2005	2006	2007	2008	2009
Amebiasis	0	3	0	2	1
Botulism, wound	0	1	0	2	0
Campylobacteriosis	20	42	42	24	7
Cryptosporidiosis	1	1	2	6	0
Cyclosporiasis	0	0	0	0	0
Dengue	0	0	0	0	0
Escherichia coli, enterohemorrhagic	0	1	1	1	0
Hepatitis A (acute)	37	18	15	22	5
Malaria	0	1	0	1	0
Poliomyelitis, acute paralytic	0	0	0	0	0
Salmonellosis	70	97	119	122	20
Typhoid Fever	0	0	1	0	0
Vibrio infection, including cholera	0	0	0	0	0
West Nile Virus – Fever	0	0	0	6	0
West Nile Virus – Neuroinvasive	0	1	27	18	0

Table 2.1 – Waterborne and Arboviral diseases in El Paso, Texas

Source: El Paso City-County Health and Environmental District

Environmental Impacts

Direct and indirect benefits:

The construction of new wastewater collection systems will improve the health of the entire Town of Clint. Deteriorated septic systems and cesspools will be decommissioned making the surroundings safer and hazard free.

The proposed alternative allows for the improvement of the wastewater collection system. This would have a positive impact in air resources, water resources, biological resources, socioeconomic, municipal services, and public health by reducing

the overflowing wastewater from septic systems into yards, drainage ditches, and groundwater.

Environmental impacts:

Minor environmental impacts are anticipated from the construction of the different project phases, provided the project tasks are implemented in accordance with the specifications included in the Environmental Information Document and mitigation measures established in it are taken into account.

These impacts include:

Construction Phase

- Disturbance of streets by construction traffic.
- Dust from construction activities at the site.
- Runoff from trenches and cleared areas.
- Gas emissions from construction machinery.

Mitigation actions:

Mitigation measures will be:

- The Storm Water Pollution Prevention Plan, required by NPDES storm water permit for construction activities, will minimize potential runoff problems.
- Dust control measures, such as wetting of access roads, will be implemented.

Impacts:

The environmental impact resulting from the project will be positive overall, given that the project increases wastewater collection coverage, reducing environmental contamination and improving the quality of life of area residents by curtailing potential health hazards.

Transboundary Impacts

Due to the proximity of the Town of Clint with various communities in the El Paso County and border communities in Mexico, there are frequent border crossings between cities. The construction of new wastewater collection systems in currently unserved areas will have a direct positive impact on the health of residents of cities such as El Paso and Ciudad Juarez and the entire region, since these actions will reduce the risk of waterborne diseases caused by the lack of inappropriate wastewater management. Furthermore, the projects will reduce human contact with raw wastewater.

Formal Environmental Clearance

Environmental Clearance:

Pursuant to the U.S. National Environmental Policy Act (NEPA), an environmental information document was developed and submitted for consideration to the EPA. A 30-day public review notice was published on October 8, 2009. A Finding of No

Significant Impact (FONSI), establishing that the project will not result in significant environmental impacts that may affect the U.S. border area, was issued on November 12, 2009.

Pending Activities

None

Criterion Summary:

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

3. Technical Feasibility

3.a Technical Aspects

In general the project will involve the installation of pipeline, a lift station, force main, 108 manholes, pavement patch replacement, service connections and a dewatering operation.

Project Development Requirements

Design criteria:

The project was developed following guidelines established by EPA/TCEQ for the construction of this type of infrastructure. Additionally, the construction to be accomplished is not expected to impact protected areas or ecological reserves.

The collection system proposed for the Town of Clint consists of the construction of one lift station, force main facilities, manholes, and collector and trunk lines. The existing collection system in the nearby Town of San Elizario will accommodate the design and wastewater flows contributed by the Town of Clint. The flows generated by the project will flow from the new lift station to a sewer line with a capacity for 1,400 gpm (88.3 lps). Currently this line operates with less than 10% capacity and it will be sufficient to carry the additional flows generated by the project.

The projects includes the following elements:

Wastewater Collection-Phase I (to be funded with BEIF)

Construction of sewer lines

- Length: 14,600 ft (4,450 m)
- Diameter: 8 in -18 in (219-450 mm)
- Material: PVC
- Force main: 4,300 ft (1,310 m)
- Manholes: 52
- Lift Station: 1

Wastewater Collection-Phase II

Construction of sewer lines

- Length: 19,325 ft (5,890 m)
- Diameter: 6 in -12 in (150-305 mm)
- Material: PVC
- Force main: None
- Manholes: 76
- Lift Station: None

To receive sewer service, the project sponsor will require the dismantling of the existing on-site systems.

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

The final design specifications describe the availability of materials such as paint, plaster, pipes, packages etc, and its characteristics so the contractors have the option to make a selection with low toxicity. It also requires the use of equipment with low energy consumption, and sensors for lighting control. Control systems at the lift stations were specified to maximize energy efficiency and pump life cycle, along with a specific coating system to extend the life of the station, and minimize maintenance. The new design and specifications are based on experience obtained in similar projects, and include features to maximize protection to employee's health while operating the equipment.

It was requested to document any change in materials or actions that imply energy savings or improvements to the environment, during the projects' execution.

Appropriate Technology

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

- Cost
- Land Acquisition/Easement Needs
- Paving Repair
- Traffic Disruptions
- Boring Activity
- Lateral and Drain Crossings
- Constructability
- Future Expansion/Customers

Alternative I. Alternative I consists of constructing a collection system that would divert the wastewater flows in two directions, requiring the need for two lift stations. The smaller lift station (Lift Station B) would serve the existing populated area just northeast of the railroad tracks and would be designed with some contingency for growth near this development. Wastewater from Lift Station B would be pumped via force main to the proposed gravity collection system west of the railroad tracks, making its way to the larger lift station (Lift Station A).

Alternative II. Alternative II consists of one lift station. The routing of the gravity pipeline system is very similar to that of Alternative I. The “trunk lines” and sewer collectors are proposed within the existing street and drain right-of-ways, with some requirements for permanent utility easements and land acquisition. As in Alternative I, the same issues regarding the installation of pipeline along and across FM 1110 apply to this alternative.

Alternative III (Selected Alternative). Alternative III is similar to Alternative II, except that the location of the lift station and part of the trunk lines are proposed in a different location. Where possible, the crossing of the waterways was minimized by splitting direction of flows to avoid boring activity. Most of the sewer mains and manholes would be installed along public right-of-way. The layout of the force main changed with this alternative in order to accommodate the proposed location of the lift station.

Property and Right-of-Way Requirements

Requirements: A total of three easements are required for the project, which have been obtained by the sponsor.

Projects Tasks and Timelines

The construction of the proposed wastewater collection system will begin in February 2010 with the bidding process. The project is estimated to be completed by May 2012, including the closeout activities.

CONSTRUCTION CALENDAR																													
YEAR	2010												2011										2012						
MONTH	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	
Bid Process																													
Construction																													
Completion																													
Closeout Procedures																													

3.b Management and Operations

Project Management

Resources: Management, construction, and operation of the proposed project will be the responsibility of the project sponsor that has the necessary resources and staff available for these purposes.

Operation and Maintenance

Organization:	Lower Valley Water District organizational chart
Pre-treatment:	The Lower Valley Water District will comply with the wastewater pretreatment regulations of the Public Service Board – El Paso Water Utilities (PSB-EPWU). These requirements are described in Regulation No. 9, Rules and Regulations Governing the Discharge of Wastewater into El Paso’s Wastewater System. The PSB- EPWU was granted authority for enforcement of pretreatment under the Articles 1111-1118 - Revised Civil Statutes of Texas, the Texas Water Code, the El Paso Municipal Code, and ordinances passed by the City of El Paso, Texas.
Operation plan:	The Final Design incorporates an Operation and Maintenance manual that includes the primary tasks needed to ensure a proper operation of the system and to prevent breakdowns in the proposed infrastructure.
Permits, licenses and other regulatory requirements:	<p>The project applicant has obtained the following permits:</p> <ul style="list-style-type: none">- Water Irrigation District (WID) Permit: purchase of real property for lift station- First Fabens Bank Permit: purchase of site for lift station- TxDOT Permit: boring under Alameda- TxDOT Permit: boring perpendicular to FM 1110 at Richfield- TxDOT Permit: crossing of FM 1110 and Robert Alvarez St <p>The following permits will be obtained during construction:</p> <ul style="list-style-type: none">- WID Permit: crossing green lateral- WID Permit: line running parallel to Clint Spur Drain- WID Permit: crossing green lateral- WID Permit: crossing Clint Spur Drain- UPRR Permit: crossing the railroad at FM 1110 and Richfield St <p>The project was sent for review to the International Water and Boundary Commission (IBWC), as well as its Mexican counterpart, la Comisión Internacional de Limites y Aguas (CILA, for its initials in Spanish). On October 23, 2009, CILA responded that they agreed with the project and had no comments. The same response was received from IBWC on November 4, 2009.</p>

Reviewing Agencies: - BECC, NADB, USDA, EPA, CILA and IBWC

Pending Activities

None

Criterion Summary:

The project complies with BECC's Technical Feasibility Criteria

4. Financial Feasibility

4.a Verification of Financial Feasibility

Financial Conditions

Information Presented: Lower Valley Water District projections.

Summary of Financial Analysis: The District through their user fees has the capacity to service the debt.

Project Total Cost, Financial Structure and Other Capital Investment Plans

Concept: The following financial structure was proposed for the Wastewater Collection Improvements Project for Clint, TX.

Total Cost: \$11,564,152 USD

Financial Structure:

Source	Type	Amount (USD\$)	%
TWDB*	Loan	\$5,182,753	44.8%
Rural Development**	Loan	\$2,290,000	19.8 %
Rural Development	Grant	\$1,350,000	11.7 %
Lower Valley Water District	Cash	\$441,399	3.8 %
NADB-BEIF-Construction Assistance	Grant	\$2,300,000	19.9 %
Total:		\$11,564,152	100.0%

*Texas Water Development Board.
 **United States Department of Agriculture Rural Development.

Dedicated Revenue Source

Revenue Source: The District through their user fees structure has the capacity to service the debt.

4.b Legal Considerations

Project Administration: The BEIF sub-grant requires the project sponsor to contract for the construction manager/supervisor.

Financing Status: Loan and Grant contracts to be signed once project is certified.

Pending Issues:

None

Criterion Summary:

The project complies with the BECC-NADB Financial Feasibility Criteria.

5. Public Participation

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

Local Steering Committee

Date of Establishment: The Steering Committee was formally installed on July 21, 2009 at a meeting held in the LVWD offices.

Local Steering Committee Members: The committee is comprised of the following members:

President: Alberto Trujillo
Secretary: Esteban Olivas
Alternates: Frank Montes
Hector Parada
Maria Covernali

Date of approval of Public Participation Plan: The Comprehensive Community Participation Plan developed by the Steering Committee was approved by the BECC on August 20, 2009.

Public Access to Project Information

Public access to information: The sponsor provided adequate 30-day notice of the public meeting on September 26, 2009. The project's environmental and technical information was noted as available to the public for review in the meeting notice. The Steering Committee, with assistance from the project sponsor, prepared the following to inform the community about the project:

- Flyers
- Newspaper adds

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

Additional outreach activities: Meeting with local organizations

Public meeting: A public meeting was held on October 26, 2009 to inform the public about the technical and financial aspects of the project. Approximately 100 people were in attendance who expressed their support for the project through the exit surveys.

Final Public Participation Report

Final report: The Steering Committee and the sponsor submitted a Final Public Participation Report that demonstrates that the proposed objectives fully met BECC's public participation criterion.

Post-Certification Public Participation Efforts

Post-certification activities: The project sponsor, in coordination with the Steering Committee, provided a general description of public participation activities that may be carried out after the project's certification.

Pending Activities:

None

Criterion Summary:

The project complies with BECC's Public Participation Criteria.

6. Sustainable Development

6.a Institutional and Human Capacity Building

Project Operation and maintenance:

The project sponsor is the responsible institution for the operation and maintenance of the system:

- Wastewater collection

The project sponsor has the basic institutional and human capacity to operate and provide maintenance to the:

- Proposed wastewater collection system

Human and institutional capacity building:

The actions that contribute to the institutional and human capacity building of Lower Valley Water District that are within the reach of the project are the following:

- Basic technical training to the operations and maintenance staff responsible for the new infrastructure that will be built as a result of the project's implementation.
- Operation of a wastewater system that meets applicable regulations through its different areas, to provide essential services that meet the needs of the community.

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

Local and regional plans addressed by the project:

The proposed project concurs with the plans and actions described in the following documents:

- U.S.-Mexico Border 2012 Environmental Program by meeting Goal 1 (reducing water contamination) and Objectives 1 (promoting an increase in the number of household connections to wastewater collection and treatment services) and Objective 4 (promoting improved water utility efficiency).
- One of the program's guiding principles is to reduce major risks to public health and conserving and restoring the natural environment.

Laws and regulations met by the project:

The project complies with regulations applicable to the wastewater collection and treatment.

Impacts to neighboring communities in Mexico:

The development of these projects will prevent untreated wastewater from infiltrating into the groundwater which is shared with Mexico.

6.c Natural Resources Conservation

- Final design includes the green building guidelines which are part of the construction specifications.
- The project contributes to reduce environmental deterioration by the construction of wastewater collection lines and providing the necessary means to connect the community to this service. Wastewater will be collected and conveyed to the Roberto Bustamante Wastewater Treatment Plant to improve its quality so as to reduce contamination and human health hazards resulting from the discharge of raw wastewater to streams or agricultural drains.

6.d Community Development

- The completion of this project is crucial to the development of the community. The tasks proposed by the project will allow adequate treatment and discharge of wastewater. This will contribute to reduce the conditions that favor the proliferation of waterborne and arboviral diseases.
- The improvement of the wastewater collection system will promote community development, as it will reduce contamination in the region and improve the quality of life for residents.
- The project will allow the city to have a greater sewerage coverage, which will help the community development because it reduces the contamination in the streets generated by leaks. Also, it allows the coherent growth of areas that currently lack service, thus promoting other infrastructure such as paving.

Pending Activities:

None

Criterion Summary:

The project complies with BECC's Sustainable Development Criteria.

Available Documents:

- The Information Form of the Lower Valley Water District (TEX.WAT.CODE ANN §49.455 VERNON SUPP.1996).
- Town of Clint Phase I Wastewater Collection System Improvements. May 2009. CEA Group.
- Town of Clint Phase II Wastewater Collection System Improvements. May 2009. CEA Group.
- Environmental Information Document for the Town of Clint Wastewater Improvements, El Paso County, Texas. August 2009. CEA Group.
- Finding of No Significant Impact (FONSI) for the Town of Clint Wastewater Collection System Improvements. (November 12, 2009)
- Regional Wastewater Collection System; Town of Clint, El Paso County, Texas. Preliminary Engineering Report. CEA Group.
- Chapter X. Discharge of Wastewater into the Lower Valley Water District's Wastewater System.
- Contract among the City of El Paso, its Public Service Board and the El Paso County Lower Valley Water District Authority Providing for Water and Sewage Treatment. January 17, 1989.
- Contract Addendum to the Contract among the City of El Paso, its Public Service Board and the Lower Valley Water District Providing for Water and Sewage Treatment, Dated January 17, 1989, as Amended and the Contract to Implement the Contract among the City of El Paso, its Public Service Board and the Lower Valley Water District providing for Water and Sewage Treatment Dated June 28, 1989.
- Final Public Participation Report, Wastewater Collection System Project, Lower Valley Water District, November 2009.