



CERTIFICATION AND FINANCING PROPOSAL

EQUIPMENT FOR SANITARY LANDFILL OPERATIONS AND WASTE COLLECTION IN THE CINCO MANANTIALES REGION, COAHUILA

Submitted: May 25, 2016

CERTIFICATION AND FINANCING PROPOSAL
EQUIPMENT FOR SANITARY LANDFILL OPERATIONS
AND WASTE COLLECTION IN THE
CINCO MANANTIALES REGION, COAHUILA

CONTENTS

EXECUTIVE SUMMARY	2
1. ELIGIBILITY	4
2. CERTIFICATION CRITERIA	
2.1 Technical Criteria	
2.1.1. Project Description	5
2.1.2. Technical Feasibility.....	10
2.1.3. Land Acquisition and Right-of-way Requirements.....	11
2.1.4. Management and Operations.....	11
2.2 Environmental Criteria	
2.2.1. Compliance with Applicable Environmental Laws and Regulations	12
2.2.2. Environmental Effects/Impacts	14
2.3 Financial Criteria	
2.3.1. Uses and Sources of Funds.....	16
2.3.2. Program Criteria Compliance	17
2.3.3. Conclusion	17
3. ACCESS TO PUBLIC INFORMATION	
3.1 Public Consultation.....	17
3.2 Outreach Activities	17

EXECUTIVE SUMMARY

EQUIPMENT FOR SANITARY LANDFILL OPERATIONS AND WASTE COLLECTION IN THE CINCO MANANTIALES REGION, COAHUILA

- Project:** The proposed project consists of the acquisition of heavy equipment for landfill operations and waste collection in the Cinco Manantiales Region of the state of Coahuila, Mexico, which comprises the municipalities of Allende, Morelos, Nava, Villa Unión and Zaragoza (the “Project”).
- Project Objective:** The purpose of the Project is to achieve proper solid waste management in the Cinco Manantiales Region through the purchase of equipment for landfill operations and garbage collection, which will help reduce inadequate solid waste disposal and related risks for soil and groundwater contamination, as well as vector-related diseases and other harmful effects.
- Expected Project Outcomes:** The Project is expected to generate environmental and human health benefits related to the following Project:
- a) Improved landfill operations for the disposal of up to 75 metric tons of solid waste per day.
 - b) Full compliance with applicable laws and regulations.
 - c) Improved solid waste management services for approximately 21,600 households.
- Population Benefitted:** 77,800 residents of the Cinco Manantiales Region in Coahuila.¹
- Project Sponsor:** *Asociación Pro-limpieza de los Cinco Manantiales de Coahuila, A.C.* the non-profit organization that operates the regional sanitary landfill.
- Project Cost:** \$8,831,200 pesos (US\$551,950).²

¹ Source: Mexican national statistical institute, INEGI, Mexican Census, 2010.

² Unless otherwise noted, all U.S. dollar figures are quoted at an exchange rate of \$16.00 pesos to the dollar.

BOARD DOCUMENT BD 2016-10
 CERTIFICATION AND FINANCING PROPOSAL
 CAP GRANT, CINCO MANANTIALES, COAHUILA

NADB Grant Amount: Up to US\$500,000 from NADB’s Community Assistance Program (CAP) to cover up to 90% of the project cost.³

Uses & Sources of Funds:

Uses	Amount (Pesos)	Amount (US\$)	%
Equipment*	\$8,831,200	\$551,950	100.0
TOTAL	\$8,831,200	\$551,950	100.0
Sources	Amount (Pesos)	Amount (US\$)	%
NADB CAP grant	\$7,948,080	\$496,755	90.0
Sponsor equity	883,120	55,195	10.0
TOTAL	\$8,831,200	\$551,950	100.0

* Includes a service agreements for the collection trucks and value-added tax (VAT).

³ Since part of the project costs will likely be paid in pesos, the Bank is requesting a grant amount in dollars that will allow for possible fluctuations in the exchange rate.

CERTIFICATION AND FINANCING PROPOSAL
EQUIPMENT FOR SANITARY LANDFILL OPERATIONS
AND WASTE COLLECTION IN THE
CINCO MANANTIALES REGION, COAHUILA

1. ELIGIBILITY

Project Type

The Project falls within the eligible category of solid waste.

Project Location

The Project is located in the Cinco Manantiales region of the state of Coahuila, approximately 50 kilometers (31 miles) south of the U.S.-Mexico border.

Project Sponsor and Legal Authority

The Project sponsor is *Asociación Pro-limpieza de los Cinco Manantiales de Coahuila* (“Association” or the “Sponsor”), a partnership formed by the municipalities of Allende, Morelos, Nava, Villa Unión and Zaragoza and the private company MICARE, a subsidiary of the steel mill Altos Hornos de Mexico, S.A.B. de C.V. (AHMSA). The partnership is structured as a nonprofit organization founded on July 4, 2014 for the purpose of strengthening solid waste management services and operate the Cinco Manantiales Landfill, which serves all five of the aforementioned municipalities. The organization is governed by a Board of Directors, chaired by MICARE and composed of an operations director (MICARE), a treasurer and a secretary (staff from the municipalities) and the mayors of the municipalities of Allende, Morelos, Nava, Villa Union and Zaragoza, Coahuila.

The Sponsor has the legal authority to acquire, own and operate the equipment for landfill operations and will also be responsible for acquiring the waste collection vehicles and distributing those to the five municipalities. Each Municipality is responsible for the operation and maintenance of its collection trucks.

2. CERTIFICATION CRITERIA

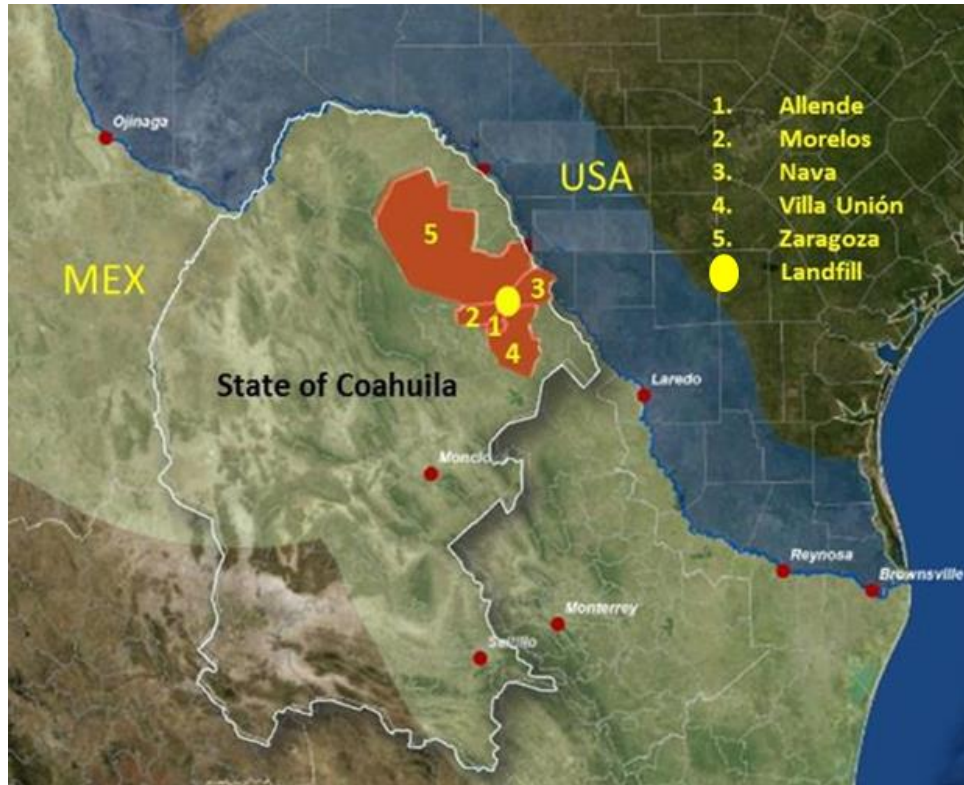
2.1. TECHNICAL CRITERIA

2.1.1. Project Description

Geographic Location

The Project is located in the Cinco Manantiales Region of the state of Coahuila, which includes the municipalities of Allende, Morelos, Nava, Villa Unión and Zaragoza. The landfill that serves these five municipalities is located in the municipality of Allende. Its municipal seat, Ciudad Allende, is located about 31 miles southwest of Piedras Negras, COAH and Eagle Pass, TX. Figure 1 shows the approximate location of the Project.

Figure 1
PROJECT VICINITY MAP



General Community Profile

According to the 2010 Mexican census, the municipalities of Allende, Morelos, Nava, Villa Union and Zaragoza, have a combined population of 77,800 residents, which represents 2.8% of the state's population. Altogether, they contribute 1.04% to Coahuila's gross domestic product (GDP). According to the 2009 economic census, the average per-capita income in the state of

Coahuila is \$168,200 pesos. Table 1 shows the average per capita income of the five municipalities.

**Table 1
 GENERAL ECONOMIC INFORMATION**

City	Population ^A	Average per capita income (pesos) ^B	Percentage of State's GDP ^B
Allende	22,675	\$ 27,750	0.14 %
Morelos	8,207	20,300	0.04 %
Nava	27,928	134,800	0.81%
Villa Union	6,289	4,700	0.01 %
Zaragoza	12,702	4,850	0.04%
Total	77,801		1.04 %
State of Coahuila ^C			
	2,748,391	\$101,015	

^A Source: INEGI 2010 Mexican Census.

^B Source: INEGI 2009 Economic Census.

^C Source of average per capita income in Coahuila: INEGI, Coahuila Statistical Perspective, December 2012

According to the 2009 economic census, the economically active population in this region totals 13,736. Manufacturing constitutes the most important sector, employing 36.6% of the working population, followed by commerce which accounts for 21.06% of the work force, and mining which provides 18.11% of total employment in the region.

Table 2 shows the status of basic public services and infrastructure for each of the five municipalities located in the region.

**Table 2
 BASIC PUBLIC SERVICES AND INFRASTRUCTURE***

Water System	Allende	Morelos	Nava	Villa Union	Zaragoza
Coverage	96%	97%	94%	95%	96%
Number of hookups	6,048	2,161	6,769	1,691	3,462
Wastewater Collection					
Coverage	89%	85%	88%	81%	94%
Number of connections	5,620	1,907	6,316	1,457	2,754
Wastewater Treatment					
Coverage	0 %	0 %	0 %	0 %	0 %
Treatment facilities	None	None	None	None	None
Solid Waste					
Collection coverage	80%	80%	85%	75%	80%
Final disposal	Cinco Manantiales Landfill			Open-air dumpsite	
Street Paving**					
Coverage (urban area) ^b	65%	70%	80%	65%	60%

* Source: INEGI, 2010, unless otherwise indicated.

** Information provided by each Municipality, March 2015.

Solid Waste Management Profile

In 2013, the State of Coahuila established a solid waste prevention and comprehensive management program to help all municipalities improve solid waste management and promote environmental protection. The program emphasizes the need to increase infrastructure and standardize waste management practices, including collection, transportation, storage, resource recovery and final disposal.

As part of this effort, the State government promoted the creation of Asociación to operate the regional landfill and ensure compliance with applicable standards and regulations, as this type of public-private partnership has proven to be successful for many years in the municipality of Monclova and surrounding communities. Private-sector participation provides an element of continuity during changes in municipal government. Within this partnership, MICARE serves as the chair of the Asociación and is responsible for the management, operation and maintenance of the landfill. Each Municipality pays a monthly fee that altogether covers 50% of the operating and maintenance (O&M) costs, while MICARE provides the other 50%.

The regional landfill is classified as Type B (50 to 100 tons per day), complies with Mexican federal standard NOM-083 SEMARNAT-2003 and has an overall expected useful life of 40 years. The landfill occupies 40 hectares (99 acres) of land to the north of Ciudad Allende. Approximately 45 metric tons of waste are deposited in the landfill on a daily basis. Cell No. 1 initiated operations in September, 2014 and will reach full capacity in approximately one year. Cell No. 2 is currently under construction, and the Sponsor expects to initiate its operation by the end of 2016. The Sponsor owns heavy equipment and machinery to operate the landfill, including an 826-C compactor (1994 model) for soil and waste compaction; a 953D front-end loader (2010 model) for soil and waste distribution; and a dump truck (2012 model) to move soil for covering waste.

The municipalities of Allende, Morelos and Nava transport their solid waste to the landfill for final disposal. Although the collection vehicles used by these three communities are in good condition, they are used extensively, typically operating 16 hours a day, resulting in the need for new equipment to maintain and improve solid waste collection services. Because of the deteriorated conditions of the collection vehicles used by the municipalities of Villa Union and Zaragoza, the solid waste collected in those communities is disposed of in an open dumpsite. The proposed Project will provide new vehicles to serve these communities in order to improve their capacity to transport the waste to the regional landfill.

Table 3 describes the collection fleet and service coverage in the Cinco Manantiales region.

Table 3
WASTE COLLECTION VEHICLES AND SERVICE COVERAGE

Municipality	Service Coverage	Collection Fleet			Notes
		Capacity (m ³)	Model Year	Mechanical Conditions	
Allende	80 %	15	2010	Poor	New equipment required to improve service and increase coverage.
		15	2010	Good	
		15	2010	Good	
		15	2013	Good	
Morelos	80 %	15	1998	Poor	New equipment needed to replace old vehicle and improve service.
		15	2002	Good	
		15	1998	Poor	
Nava	85 %	15	1997	Poor	New equipment required to improve service and increase coverage.
		15	2000	Poor	
		19	2001	Poor	
		19	1997	Poor	
		19	1995	Poor	
Villa Union	75 %	15	1999	Poor	New equipment required to transport solid waste to landfill.
		15	1999	Poor	
		15	1984	Poor	
Zaragoza	80 %	15	1999	Poor	New equipment required to transport solid waste to landfill.
		15	1999	Poor	
		15	1984	Poor	

The implementation of the proposed Project will address the deficiencies in collection service related to the equipment conditions described above and improve solid waste management in the five municipalities, as well as enhance landfill operations.

Project Scope and Design

The proposed project consists of the acquisition of equipment for solid waste collection and landfill management and includes the following components:

- Two solid waste collection vehicles, 21 yd³ (16 m³) or larger. Specifications include a hydraulically-powered mechanism to scoop waste out of the loading hopper and compress it against a moving wall. These vehicles are proposed for the municipalities of Allende and Zaragoza
- Three solid waste collection vehicles, 16 yd³ (12 m³) or larger. Specifications include a hydraulically-powered mechanism to scoop waste out of the loading hopper and compress it against a moving wall. These vehicles are proposed for the municipalities of Nava, Morelos and Villa Union.
- One rubber tire wheel loader/backhoe. Specifications include a hydraulically-powered mechanism to scoop waste and other materials, an extendible dipper, and a one-cubic-

yard capacity loader bucket with a bolt on the cutting edge. This vehicle will be used for daily landfill operations.

- One water tank truck. Specifications include 8,000-liter (2,100-gallon) capacity to help control dust in and around the sanitary landfill, including access roads and cover material. This vehicle will be used for daily landfill operations.

Figure 2 provides examples of the type and brand of heavy equipment that may be purchased.

Figure 2
EXAMPLE OF EQUIPMENT AND VEHICLES



Backhoe



Collection vehicle



Water tank truck

To assure adequate maintenance of the new collection equipment, the procurement process will also include the purchase of a maintenance service package for a minimum of two years. The procurement process will be carried in accordance with NADB policies and procedures. It is estimated that once notice of grant approval is received, the procurement process will take approximately three to four months. Table 4 shows the expected Project milestones

Table 4
PROJECT MILESTONES

Key Milestones	Status
Bidding process	Anticipated for the third quarter 2016
Equipment delivery	4 months after notice to proceed

2.1.2. Technical Feasibility

Design Criteria

The main objective of the proposed Project is to provide the equipment necessary to carry out solid waste collection and disposal services in an orderly and efficient manner and continue complying with Mexican standard NOM-083/SEMARNAT-2003. According to that standard, a sanitary landfill should provide for the final confinement of solid waste without harming or endangering the health and safety of the public.

NOM-083 requires that every landfill have an operation manual and a program to monitor and control environmental impacts. It includes basic operation and closure requirements, but does not specify the equipment required for that purpose. The basic operation requirements for a Type A landfill include solid waste confinement and compaction, daily covering of waste and controlling the unintended dispersion of light materials. It also stipulates that the separation of waste should not interfere with landfill activities. The basic landfill closure requirements include the capture of biogas and leachates, which then must be burned or recirculated back into the landfill, respectively. BECC contracted a consultant to review the equipment proposed by the Sponsor to verify that it would allow the Sponsor to operate the landfill in compliance with these requirements. The consultant verified that based on the volume of handled waste, the requested equipment is appropriate.

A waste collection truck is a vehicle especially designed to pick up municipal solid waste and haul it to a landfill or transfer station. The solid waste collection trucks for each municipality were defined based on the volume of waste generated in each community, the distance to the landfill and the respective operation and maintenance costs.

Selected Technology

Recommendations for appropriate equipment were prepared by the Sponsor based on experience with the existing equipment, including trash containers, changes in service demands, and the need to transport all the solid waste to the regional landfill. BECC and a sector consultant reviewed the appropriateness of the equipment, taking into consideration the size of the landfill, its hours of operation, the volume of waste generated, and local capacity to maintain the equipment. The overall cost of all equipment necessary to operate the landfill in accordance with NOM-083 was also taken into account based on potential funding availability.

The municipality of Nava is the only community that uses an automated side loader system for garbage collection, having distributed more than 180 metallic trash containers for use by its

residents. The municipalities of Allende, Morelos, Villa Union and Zaragoza use rear loader vehicles.

Automated side loader trucks use a hydraulic arm with a gripping claw to grab the trash container and dump the contents into the opening. The waste is compacted by an oscillating packer plate at the front of the loading hopper, which forces the waste through an aperture into the main body and is therefore compacted towards the rear of the truck. An automated side loader only needs one operator and has the additional advantage of reducing on-the-job injuries from repetitive heavy lifting. An automated side loader uses standardized wheeled carts compatible with the truck's automated lift.

Rear loader vehicles, commonly used in Mexico, have an opening at the lower rear portion of the body, where typically a two- or three-man crew throws bags of waste or empties the contents of bins into the truck. A hydraulic paddle or blade is activated periodically to push the trash forward into the body. Rear loaders are usually used to pick up trash in residential areas.

The new collection vehicles are expected to be more cost-efficient, as they consume less fuel and other operational costs are lower compared to older trucks that require more extensive maintenance and frequent replacement of tires and other spare parts.

The landfill equipment specifications were also selected based on the tasks required under NOM 083 for handling solid waste, which include: supplying, dispersing and compacting cover material. In addition to the principal waste management activities, the backhoe and water tanker truck will help supply the cover material needed on a daily basis, facilitate compacting and support environmental impact mitigation measures, such as controlling dust.

2.1.3. Land Acquisition and Right-of-way Requirements

No land acquisition or rights-of-way are required for the Project. The Municipality of Allende, a member of the operating association, holds the title to the landfill property where the equipment will be used. In addition, the Municipalities have the easements and rights-of-ways for the collection routes.

2.1.4. Management and Operation

Each Municipality has an Environmental Department that is responsible for managing, operating and maintaining solid waste services, including collection and disposal. Each Municipality has a fleet of trucks to provide waste collection services to its residents and transport the waste to the final disposal site. Every year, the Municipalities assign a specific budget to their Environmental Department, which allows it to carry out its responsibilities. The estimated annual budgets for collection service range from just over \$400,000 pesos in the smallest community of Villa Union, to more than \$2.1 million pesos in the largest community of Nava.

The implementation of the proposed Project will help the Municipalities of Nava and Allende increase their service coverage and will allow the Municipalities of Morelos, Villa Union and

Zaragoza to replace old collection vehicles in poor condition. Operation and maintenance costs for these three Municipalities are expected to decrease with the new collection vehicles. To ensure adequate maintenance of the new collection equipment, a service package will be purchased with the equipment, which will support the establishment of proper maintenance practices. The old vehicles will be disposed of in compliance with applicable laws and regulations.

Under Asociación Pro-limpieza, MICARE is responsible for the managing, operating and maintaining the regional landfill. Landfill operations are performed by a crew of eight people: a sanitary landfill manager, a general supervisor, three equipment operators, one general laborer and one scale operator and a night guard. There are O&M manuals in place that include routine tasks, as well as procedures to address unexpected conditions and ensure the proper operation of the vehicles.

Each Municipality pays a monthly fee that altogether covers 50% of O&M costs, and MICARE provides the other 50%. The Association's Board of Directors meets every month at MICARE's offices in Piedras Negras, to review budget, the O&M costs of the landfill and the landfill equipment. The estimated operating budget for the landfill is approximately \$2.0 million pesos, annually. Based on the current O&M budget, those funds should be sufficient to support the estimated costs of the landfill operations, including equipment maintenance.

2.2. ENVIRONMENTAL CRITERIA

Using deteriorated or inadequate equipment could compromise landfill operations and lead to groundwater and soil contamination, as well as create an environment conducive to harmful fauna and vectors. Likewise, inadequate or deteriorated collection equipment weakens proper waste management practices, which in the case of Villa Union and Zaragoza has resulted in the improper disposal of solid waste in an uncontrolled dumpsite. Implementing the Project will help the five Municipalities substantially improve solid waste collection and management practices in their communities, as well as support the proper confinement of waste in a sanitary landfill, thus reducing environmental and human health risks related to the accumulation of improperly handled solid waste.

2.2.1. Compliance with Applicable Environmental Laws and Regulations

Applicable Laws and Regulations

The Project does not require any environmental authorizations, as it consists of the acquisition of equipment. However, the equipment acquired through the proposed Project will support the Sponsor's compliance with the following Mexican laws and regulations:

- General Law of Ecological Balance and Environmental Protection (LGEEPA), which establishes the environmental regulatory framework, expands the strategic vision and conveys specific powers and duties to the states and municipalities, so that

environmental problems can be addressed directly.

- General Law for Waste Prevention and Comprehensive Waste Management (LGPGIRS), which seeks to identify the criteria that should be considered by various levels of government in the generation and comprehensive management of solid waste, in order to prevent and control environmental pollution and ensure the protection of human health.
- Mexican federal standard NOM-083-SEMARNAT-2003, which specifies the environmental protection requirements for selecting, designing, constructing, operating, monitoring, and closing final disposal sites and complementary works for municipal solid waste and waste requiring special handling.
- Mexican federal standard NOM-045-SEMARNAT-2006, which establishes the maximum permissible levels of opacity of exhaust fumes from diesel vehicles.
- Mexican federal standard NOM-080-SEMARNAT-1994, which establishes the maximum levels of noise emissions from motor vehicles, motorcycles, and three-wheel motor vehicles, as well as noise measuring methods.
- Mexican federal standard NOM-081-SEMARNAT-1994, which establishes the maximum levels of noise from stationary sources and noise measuring methods.
- Coahuila State Law for Waste Prevention and Comprehensive Waste Management, which establishes the framework for environmental protection and waste management in Coahuila.

Environmental Studies and Compliance Activities

No environmental studies or compliance activities exist related to the acquisition of vehicles. . On November 11, 2010, the Sponsor submitted an Environmental Impact Assessment to the Office of Environmental Control and Urban Environment of Coahuila for the construction and operation of a regional landfill in Cinco Manantiales. On December 21, 2010, the state environmental office issued the permit for the landfill.

Pending Environmental Tasks and Authorizations

There are no environmental authorizations pending.

Compliance Documentation

There is no compliance document required related to the Project.

2.2.2. Environmental Effects/Impacts

Existing Conditions and Project Impact – Environment

Improperly managed urban solid waste poses a risk to human health and the environment. Uncontrolled dumping and improper waste collection causes a variety of problems, including water pollution, the proliferation of insects and rodents, and increased flooding due to blocked drainage canals or gullies. In addition, it may result in safety hazards from fires or explosions.⁴ Proper waste management also supports better control of related greenhouse gas (GHG) emissions that contribute to climate change, by facilitating methane capture.

Project implementation will allow solid waste materials to be processed in a confined structure, preventing their release into the surrounding environment. The Project is expected to generate environmental and human health benefits related to the following Project outcomes.

- Improved landfill operations for the disposal of up to 75 metric tons of solid waste per day;
- Full compliance with applicable laws and regulations; and
- Improved solid waste management services for approximately 21,600 households.

There are environmental impacts associated with the daily operation of heavy equipment, such as the emission of dust, air pollutants and noise, for which mitigation measures are required. However, when vehicles are operated and maintained properly, the environmental benefits of the Project outweigh the potential negative impacts, which in the long run are expected to be minimal when compared to the positive environmental impact of improving solid waste management and reducing soil and air contamination and risks to human health. Therefore, the environmental impacts resulting from Project implementation will be positive overall.

Mitigation of Risks

Although Project implementation will have no significant adverse impacts on the environment, the use of best management practices and compliance with local ordinances will address any potential temporary and minor adverse impacts. Equipment warranties and specifications also call for regular maintenance to prolong the useful life and efficiency of the equipment. Service agreements will be acquired with the collection equipment to ensure the establishment of proper maintenance practices.

Moreover, the equipment to be purchased through the Project will be used to carry out activities that are inherently mitigation measures in and of themselves, as required by the solid waste management regulations. Specific mitigation measures using the new equipment are referenced in the landfill O&M manual, including: maintenance and repairs to access ways, cells and terminated areas; dust control; and capture of biogas and leachates.

⁴ Source: U.S. Environmental Protection Agency (EPA), EPA530-F-02-026a (5306W) Solid Waste and Emergency Response, May 2002 (www.epa.gov/globalwarming).

Natural Resource Conservation

The Project will help reduce environmental degradation by improving solid waste management in the area. All solid waste will now be collected and conveyed to the sanitary landfill, where it will be properly and efficiently confined to reduce the risk of soil and water contamination and health hazards resulting from inadequately confined waste material.

No-Action Alternative

The no-action alternative was not considered viable, since the communities do not have the equipment necessary for adequate solid waste collection and disposal, which could prolong the use of improper practices for waste containment and generate significant health and safety hazards for the public. The new equipment will replace vehicles that have been operated well beyond their useful life and/or will augment the collection service fleet to expand solid waste collection coverage.

Existing Conditions and Project Impact – Health

The inadequate management of solid waste produces multiple negative impacts on human health and the environment. Even with the lack of epidemiological studies corroborating a direct link, it is widely recognized that agents exist in garbage that affect human health. Uncollected or inadequately confined waste can cause an increase in the number of registered cases of diseases such as: dengue, leptospirosis, gastrointestinal problems, breathing problems, skin infections and other problems that are worsened when the population lacks basic sanitary services. These same conditions may provoke frequent diarrhea that can lead to episodes of childhood malnutrition.

Human health statistics for the Cinco Manantiales region are limited. However, the 1984-2010 annual morbidity statistics published by the Office of Epidemiology of the Mexican Ministry of Health reports morbidity indicators for the state of Coahuila. Table 5 provides information on the leading causes of communicable diseases in Coahuila during the period from 2010-2013, which are typically related to improper solid waste management.

**Table 5
 LEADING CAUSES OF COMMUNICABLE DISEASES IN THE STATE OF COAHUILA**

Disease	2010		2011		2012		2013	
	Cases	Ranking	Cases	Ranking	Cases	Ranking	Cases	Ranking
Intestinal infections caused by other organisms & undefined diagnosis	157,196	2	157,796	2	175,476	2	162,647	2
Intestinal amebiasis	6,610	13	5,707	13	5,642	14	4,478	14
Other helminthiasis	2,648	18						
Typhoid fever	2,563	19	2,794	20	3,095	19	2,651	18
Paralhyphoid fever & other Salmonellosis	11,610	8	9,528	10	10,745	9		

Source: Mexican Ministry of Health, Office of Epidemiology, Annual Morbidity Reports
http://www.epidemiologia.salud.gob.mx/dgae/infoepid/inicio_anuarios.html

Project implementation is expected to help reduce the health risks associated with inadequately confined solid waste by reducing the possibility of human exposure to decaying garbage, as well as eliminating the breeding grounds for disease-carrying vectors, such as flies and mosquitos.

Transboundary Effects

Transboundary environmental impacts are not anticipated since the location of the landfill is not adjacent to the United States. However, indirect benefits are expected in the region due to the reduction of transmissible diseases related to the inadequate disposal of solid waste in the area.

Other Local Benefits

Equipment acquisition strengthens the institutional capacity of the municipalities and the Association and promotes sustainable development within the communities, which will improve the quality of life in the region at large.

2.3. FINANCIAL CRITERIA

2.3.1. Uses and Sources of Funds

The total estimated cost of the Project is US\$551,950, which includes the acquisition of six vehicles, service agreements for the collection trucks and value-added tax. The Project Sponsor requested a US\$496,755 grant from NADB through its Community Assistance Program (CAP) to complete the financing of the Project. Table 6 presents a breakdown of the sources of funds for the Project.

**Table 6
 USES AND SOURCES OF FUNDS**

Uses	Amount (MX\$)	Amount (US\$)	%
Equipment*	\$8,831,200	\$551,950	100.0
TOTAL	\$8,831,200	\$551,950	100.0
Sources	Amount (MX\$)	Amount (US\$)	%
NADB CAP Grant	\$7,948,080	\$496,755	90.0
Sponsor equity	883,120	55,195	10.0
TOTAL	\$8,831,200	\$551,950	100.0

* Includes service agreements for the collection trucks and value-added tax (VAT).

Since part of the Project costs will likely be paid in pesos, the Bank is proposing that the Board approve a CAP grant for up to US\$500,000, to cover any possible variation in the dollar amount based on fluctuations in the exchange rate. At no time will the CAP grant exceed 90% of the total Project cost.

2.3.2. Program Criteria Compliance

The proposed Project complies with all CAP criteria. It is located within the U.S.-Mexico border region served by BECC and NADB, is being sponsored by a public-private, non-profit organization that provides a public service and is in an environmental sector eligible for NADB financing. Additionally, as a solid waste project, it is considered a priority under the CAP program. As shown in the above table, the Project Sponsor has agreed to cover 10% of the project cost with its own funds, as required under the program.

Moreover, there are no permits or authorizations required for the implementation of the Project, and the Project Sponsor is ready to initiate bidding for equipment acquisition once funding has been approved.

2.3.3. Conclusion

For the above reasons, NADB proposes providing a CAP grant for up to US\$500,000 to the Asociación Pro-limpieza de los Cinco Manantiales de Coahuila, A.C., for the implementation of the Project.

3. PUBLIC ACCESS TO INFORMATION

3.1. PUBLIC CONSULTATION

BECC published the draft certification and financing proposal for a 14-day public comment period beginning May 4, 2016. The following Project documentation was made available upon request:

- Environmental Clearance for the MIA of the Cinco Manantiales landfill.

The public comment period ended on May 18, 2016, with no comments received.

3.2. OUTREACH ACTIVITIES

The Project is not required to conduct any public outreach activities pursuant to legal, regulatory or funding requirements. Since the Project does not require any environmental permits, no official notice was published in the local media.

BECC conducted a media search to identify potential public opinion or opposition to the Project. Three articles were found related to solid waste management in the Cinco Manantiales Region:

- *Vanguardia MX* (August 2014). “*Evalúan avances del relleno sanitario regional de los Cinco Manantiales*” (Progress on the Cinco Manantiales regional sanitary landfill evaluated)
<http://www.vanguardia.com.mx/evaluanavancesdelrellenosanitarioregionaldeloscincomanantiales-2149246.html>
- *Gobierno de Coahuila* (August 2013). “*Inauguración del Relleno Sanitario Intermunicipal de los Cinco Manantiales*” (Inauguration of Cinco Manantiales Regional Sanitary Landfill). <http://coahuila.gob.mx/agenda/evento/5212177eb3ed879d440000a1>
- *Vanguardia MX* (January 2015). “*Crece manejo de desechos en relleno sanitario de 5 Manantiales*” (Solid waste management growing in Cinco Manantiales).
<http://www.vanguardia.com.mx/crecemanejodedesechosenrellenosanitariodecincomanantiales-2251823.html>

In general, the information identified in the articles describes the efforts of the Sponsor to maintain proper management of the landfill. No opposition was detected in the media search for the Project.