Border Environment Cooperation Commission
South Central Solid Waste Authority
Solid Waste Landfill Expansion,
Transfer Station Improvements and Equipment Replacement
City of Las Cruces and Dona Ana County, NM

General Criteria

1. **Type of Project**. *The project consists of the expansion of the Municipal Solid Waste Landfill (MSWL), by opening the second cell, improvements to the transfer station and the replacement of the operation and maintenance equipment for the South Central Solid Waste Authority (SCSWA) in Dona Ana County, NM.*

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2. **Project Location**. *The SCSWA, the project sponsor, is located in Dona Ana County in the State of New Mexico, approximately 35 miles north of the U.S./Mexico border, and is located inside the 62-mile border zone.**The current population of Dona Ana County, including the City of Las Cruces, is approximately 176,000, and the population is expected to reach 245,000 in the year 2020.***

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3. **Project Description and Work Tasks**

*The project consists of the expansion of the SCSWA**s MSWL, by the construction of a second cell, repairs to the transfer station and the replacement of the operation and maintenance equipment. The MSWL will serve most of the County**s existing population. In 1990, Dona Ana County and the City of Las Cruces entered into an agreement to cooperate and seek solutions to solid waste disposal problems on a regional basis. The SCSWA was created to provide solid waste transfer and disposal services to the areas of Dona Ana County, including the City of Las Cruces. The New Mexico Environment Department (NMED) issued permits # SWM-071306 and SWM-071307 for the Corralitos landfill and the transfer station, respectively. The permit for the Corralitos landfill cover the entire 640 acre site. The city acquired some used equipment and leased other equipment to operate and maintain the SCSWA**s facilities.*

*The SCSWA**s landfill facility is divided in east and west phases, the east phase was divided into 11 cells with typical cells averaging 20 acres in area. Cell 1 was constructed in 1995 and began operation in 1996. In 2000, Cell 1 began approaching capacity and construction of Cell 2 was started. Because funding limitation, only half of Cell 2 was developed (Cell 2A). At this time, cell 2A is approaching its capacity and the SCSWA needs to start the construction of the remaining Cell 2 (Cell 2B).*

When the SCSWA started operation, in 1996, the heavy equipment purchased for the operation and maintenance of the facility, was already used but in good condition. At this time the SCSWA intends to replace all of the operation and maintenance equipment due to the fact the equipment has reached its useful life, and intends to evaluate the leasing of other equipment.

4.**** **Compliance with International Treaties and Agreements**. *The project will not have any international impact, as all operations are monitored and approved by the NMED. The MSWL will not receive or send waste from or to other sites.*

Human Health and Environment

1. **Human Health/Environmental Need**. *The project will address human health and environmental concerns by providing adequate solid waste collection and disposal for the residents of Dona Ana County and City of Las Cruces.*

   The existing City's Municipal Solid Waste Landfill (MSWL) facility east phase was designed for eleven (11) cells, Cell 2A has a remaining life of approximately 6 months. In order for the SCSWA to continue utilizing its MSWL, a Cell 2B must be constructed and in operation on or before the first cell is full and closed.

   The project will allow the citizens of Dona Ana County and the surrounding areas to continue to properly dispose of municipal solid waste. This project minimizes potential for illegal dumping in and around the city due to the proximity of the MSWL.

2. **Environmental Assessment.** *The SCSWA was granted a permit to operate and maintain a MSWL facility in 1995 from the NMED, and began operation in 1996. An environmental Assessment was performed for the Corralitos landfill site during the master planning stage. In addition an archaeological study report, a geotechnical investigation and endanger and threatened plant and animal species was conducted for the site.*

3. **Compliance with Environmental and Cultural Resource Laws and Regulations**.

   The project complies with all and Environmental and Cultural Laws and regulations based on the application of the Federal Subtitle D rules, and the NMED technical guidance.

Technical Feasibility

1. **Appropriate Technology**.* *The technology utilized for the operation and maintenance of the SCSWA facilities is the appropriate for the type and size for these facilities. Since 1996, the facility is being operated in accordance to NMED regulations.*

   As required by the permit, following are some of technical issues addressed in this report:

   Solid Waste Data

   The SCSWA facility is used for the disposal of municipal solid waste and for waste consisting exclusively of brush and materials from construction-demolition activities. These wastes are generated from commercial establishments, light industries, institutions, offices, residences and construction site located primarily within Dona Ana County, and consists of similar proportions of materials, paper, glass, metals, etc., as typical municipal waste.

   The City of Las Cruces implemented a recycling program where containers for recyclable materials (i.e. glass, paper, plastics, cardboard, etc) are available to the public at a centralized location. The SCSWA provides an area within the Transfer Station to conduct the recycling operation.

   Landfill construction and operation is the same for both normal municipal solid waste and construction-demolition waste except for the frequency of soil cover.

   Mixed waste (municipal and industrial) may be accepted for disposal at the site, except that Class I, industrial non-hazardous solid waste, may be accepted only if special provisions for such disposal and special handling procedures are approved by the NMED. **Class I industrial non-hazardous solid waste, hazardous waste, or radioactive waste is not proposed for this site.**

Projected/Recorded Waste Quantities in SCSWA Service Area.

Fiscal Year	Population	Recorded Waste Received at Transfer Station (ton)	Estimated Waste Received at Transfer Station (ton)	Compacted Volume at Landfill (cy)	Cumulative Volume R Landfill (cy)
96 - 97	157,368	115,247	---	288,117	
97 - 98	161,522	120,022	---	300,055	
98 - 99	165,786	124,020	---	310,049	
99 - 00	170,163	126,332	---	315,830	
00 - 01	174,682	116,748	---	291,871	
01 - 02	179,922	117,714	---	294,285	
02 - 03	185,320	---	122,275	305,688	
03 - 04	190,880	---	125,943	314,858	
04 - 05	196,606	---	129,722	324,305	
05 - 06	202,504	---	133,613	334,033	
06 - 07	208,579	---	137,622	344,055	
07 - 08	214,836	---	141,750	354,375	
08 - 09	221,282	---	146,003	365,008	
09 - 10	227,920	---	150,383	375,958	
10 - 11	234,757	---	154,894	387,235	
11 - 12	239,452	---	159,541	398,853	
12 - 13	244,241	---	164,327	410,818	

13 - 14	*249,126*	*---*	*169,257*	*423,143*	
14 - 15	*254,109*	*---*	*174,335*	*435,838*	
15 - 16	*259,191*	*---*	*179,565*	*448,913*	
16 - 17	*264,375*	*---*	*184,952*	*462,380*	
17 - 18	*269,662*	*---*	*190,500*	*476,250*	
18 - 19	*275,055*	*---*	*196,215*	*490,538*	
19 - 20	*280,556*	*---*	*202,102*	*505,255*	
20 - 21	*286,167*	*---*	*208,165*	*520,413*	
21 - 22	*291,890*	*---*	*212,328*	*530,820*	

Deposition Rate and Operating Life

The operating life of the site depends upon the volume of waste material ultimately requiring disposal and the rate at which the waste material is brought to the site for disposal. The design solid waste disposal rate utilized in this site application was approximately 335 tons per day. The compaction operation accomplished at this landfill is anticipated to obtain a waste material density of approximately 2.5 cubic yard/ton in place.

The volume available for solid waste disposal is termed air space, and the approximately air space in the landfill is:

**** *Cell* *1,425,000 C.Y.*

**** *Cell* *2,413,167 C.Y.*

**** *Cell* *3,401,333 C.Y.*

Projected Expansion of the Corralitos Regional Landfill East Phase

Fiscal Year	Cumulative Volume Received at Landfill (cy)	Cell No.	Length (ft)	Width (ft)	Cover Height (ft)	Available Volume (cy)	Adjusted Available Volume (cy)
96 - 97	*288,117*	*Cell 1*	*850*	*1,200*	*60*	*2,266,667*	*1,425,000*
97 - 98	*588,172*						
98 - 99	*898,221*						
99 - 00	*1,214,051*						
00 - 01	*1,505,922*	***Started Construction of Cell 2A***					
01 - 02	*1,800,207*	*Cell 2A*	*385*	*1,200*	*70*	*1,197,778*	*988,167*
02 - 03	*2,105,895*						
03 - 04	*2,420,752*	***Starting Construction of Cell 2B***					
04 - 05	*2,745,057*	*Cell 2B*	*385*	*1,200*	*70*	*1,197,778*	*988,167*
05 - 06	*3,079,090*						
06 - 07	*3,423,145*	***Starting Construction of Cell 3***					
07 - 08	*3,777,520*	*Cell 3*	*820*	*1,200*	*60*	*2,186,667*	*1,362,000*
08 - 09	*4,142,527*						
09 - 10	*4,518,485*						
10 - 11	*4,905,720*	***Starting Construction of Cell 4***					
11 - 12	*5,304,572*	*Cell 4*	*1,210*	*630*	*70*	*1,976,333*	*1,558,200*
12 - 13	*5,715,390*						
13 - 14	*6,138,532*						
14 - 15	*6,574,370*	***Starting Construction of Cell 5***					
15 - 16	*7,023,282*	*Cell 5*	*1,210*	*630*	*70*	*1,976,333*	*1,558,200*
16 - 17	*7,485,662*						
17 - 18	*7,961,912*	***Starting Construction of Cell 6***					
18 - 19	*8,452,450*	*Cell 6*	*1,210*	*580*	*70*	*1,819,481*	*1,434,533*
19 - 20	*8,957,705*						
20 - 21	*9,478,117*	***Starting Construction of Cell 7***					
21 - 22	*10,008,937*	*Cell 7*	*1,210*	*580*	*70*	*1,849,556*	*1,461,600*
		Cell 8	*1,210*	*570*	*70*	*1,788,111*	*1,409,800*
		Cell 9	*1,230*	*570*	*70*	*1,817,667*	*1,436,400*
		Cell 10	*1,210*	*520*	*70*	*1,631,259*	*862,633*
		Cell 11	*1,230*	*520*	*70*	*1,658,222*	*879,900*

Environmental Impact

The development of the SCSWA Corralitos landfill for the disposal of municipal solid waste will not adversely impact on the environment or public health. The landfill is designed, constructed, and operated to confine the solid waste material and prohibit its release into the environment.

In addition, with the drainage plan, existing surface and groundwater will be further protected by site operating procedures which insure that there is minimal contact between any rainfall runoff and refuse, and that any water which does contact the waste, such as direct rainfall, will not be discharged from the site.

Other issues addressed in the report include provisions related to Wet Weather, Windblown Waste, Endangered Species, Special Waste, Fire Control Facilities, Subsidence, Closure Plan and Post-Closure Plan.

As part of the integral project, the SCSWA plans to replace the following equipment:

EQUIPMENT	QUANTITY	BUDGETED AMOUNT
Trailer waste transportation	*6*	*$270,000*
Truck Rigs transportation	*3*	*$225,000*
Service Truck	*2*	*$40,000*
Scraper	*1*	*$405,000*
Dozer waste compaction	*1*	*$345,000*
********** TOTAL		**** $1,285,000

2. **Operation and Maintenance Plan**. *An operation and maintenance plan is included in the facility plan. The final operation and maintenance plan must be prepared during final design and completed and approved by the NMED prior to initiating operations in the MSWL facility.*

3. **Compliance with Applicable Design Standards and Regulations.** *The proposed MSWL expansion was developed to comply with all requirements of Subtitle D Modification from NMED.*

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Financial Feasibility

1. **Financial Feasibility**. *The NADB is currently performing a financial evaluation to determine the financial feasibility of the project. This analysis will determine what level of grant SCSWA can receive from this institution and what the impact of the proposed project on user fees would be under different grant/loan arrangements, as described below. The findings of the analysis will be presented to the SCSWA during the second public participation meeting, which has been scheduled for the last week of January 2003.*

   The following table summarizes the estimated construction cost and purchase of equipment for the proposed project.

FINANCIAL STRUCTURE OF SCSWA FACILITY IMPROVEMENT PROJECT

DESCRIPTION	ESTIMATED COST	PROJECT FUNDING		
		SWEP FUNDS (GRANT)	SCSWA MATCH FUND	LOAN
EXPANSION OF CELL 2B *CONSTRUCTION, CONTINGENCY AND NMGRT*	$1,183,000	$700,000	$483,000	-
IMPROVEMENT AT TRANSFER/RECYCLING STATION - *CONSTRUCTION, CONTINGENCY AND NMGRT*	$137,000	-	-	$137,000
REPLACEMENT AND ADDITIONAL EQUIPMENT	$1,285,000	-	-	$1,285,000
ADMINISTRATION AND ENGINEERING	$50,575		$50,575	-
TOTAL	**$2,655,575**	**$700,000**	**$533,575**	**$1,422,000**

To this date, the SCSWA has not secured, but is willing to issue Revenue Bonds or get a loan from NADB for the construction and expansion of the landfill, and the purchase of equipment.

Proposed Funding Sources

Source	Amount (US$)	%
SCSWA Equity Investment	**627,788**	**24**
NADB Loan	**1,327,787**	**50**
NADB-SWEP Grant	**700,000**	**26**
Total	2,655,575	100 %

2. **Fee Rate Model**: *During the period 1996-2002 the rates increased from $24.45 to $30.70, representing an increase of about 25%. The proposed rates are not expected to increase I the next seven years, as shown in the table below. The fee rate model was prepared by NADB as part of the financial analysis.*

PROPOSED RATES

YEAR	RATE PER TON*
2003	*$30.70*
2004	*$30.70*
2005	*$30.70*
2006-2010	*$30.70*

3. Project Operation and Management. *The project will be managed by the SCSWA, which has been managing successfully the operation of the existing MSWL facility during several years. The SCSWA has the authority to adopt utility rate adjustments, thus giving itself the authority to impose rates, fees and charges.* *The operation of the MSWL facility is to be self-supporting from the fees and charges levied against their users.*

** subject to change based on debt security and lien agreement which is yet to be determined between SCSWA and NADB.*

Public Participation

Comprehensive Public Participation Plan. *The SCSWA submitted a public participation plan to the BECC December 2002, and was approved later that month. The plan comprises the development of a steering committee, meeting local organizations, providing project information to then public, holding public meetings and submitting a final report for the project*

Steering Committee*: The steering committee was formed form the City Planning Committee composed of Ellen Smyth, P.E., Director SCSWA; Klaus Kemmer, City of Las Cruces; Luis Morales, Dona Ana County; Valencia Gavin, Dona Ana County Zoning Commissioner; Oscar Barrientos, Citizen; Vicki Simmons. The committee developed the outreach strategies and attended the public meetings.*

Local Organizations: *Local organizations contacted include the Kiwanis Club; Knights of Columbus; Lions Club; Las Cruces Board of Realtors; and Las Cruces Independent School District. Letters of support were received from the City of Las Cruces, Dona Ana County, and the Border Environmental Health Commission.*

Public Information*: Copies of the proposed Facility Plan and final plans were available at the City Hall and after hours at Branigan Library. Project informational flyers were available in City Hall, Branigan Library and delivered to more than 600 customers at the Solid Waste Authority prior to the public meetings. Public notices were posted at the City Hall and the Branigan Library.*

Public Meetings: *Two public meetings were held, one on January 27th and the other one on April 28th, 2003.* *The first meeting covered the technical aspects of the proposed project, and at the second meeting the financial aspects of the project, which were received from NADB representatives prior to the meeting, were presented.* *Representatives from the consultants, the City, the County, the SCSWA, BECC and several elected officials were present at the meetings in order to answer questions.*

Sustainable Development

1. Definition and Principles

The project is consistent with BECC's definition of sustainable development: "conservation oriented social and economic development that emphasizes the protection and sustainable use of resources, while addressing both current and future needs, and present and future impacts of human actions" and with the four principles:

1) *"human beings are at the center"they are entitled to a healthy and productive life in harmony with nature".* *This principle is addressed by the purpose of the project, which is to address health risks associated with the present inadequate capacity of the existing SCSWA facilities.* *Healthier lives and better living conditions will result from this project.*

2) *"The right to development"equitably meet"needs of present and future generations."" The construction and expansion of the SCSWA facilities will accommodate growth projected through the year 2020, while addressing a critical need today.*

3) *""environmental protection shall constitute an integral part of the development process""" All environmental parameters have been met.* *The SCSWA has been careful to ensure that natural resources are protected, plant and animal species of concern are not impacted, and cultural heritage issues are recognized. Also, the City of Las Cruces in cooperation with the SCSWA have implemented a recycling program where containers for glass, paper, plastics and cardboard are available to the public at the city's recycling center.*

4) *The stakeholders must be part of any related activity. Stakeholders have been a part of the process since the early part of the project development. Public participation and outreach programs have ensured that public input has been received, considered and employed.*

2. Institutional and Capacity Building

The new expansion will continue to provide the capacity of the SCSWA to provide necessary quality of life services for its residents. In order to minimize the additional operational burden to the Community, the technology chosen is the required of typical facilities in use today. The project will allow the SCSWA to meet all regulatory requirements relative to Solid Waste disposal. Additionally, the project includes the purchase of necessary equipment for the efficient operation of the MSWL facility, brush pick-up and handling, and trash pick-up and handling as well. This equipment will replace the already worn out equipment being used at this time, and that has reached its useful life.

3. Conformance with Applicable Local and Regional Conservation and Development Plans

State legislation and rules from the NMED require development of a Site Operation Plan to be in place in order to start operation. This project meets all the requirements of the approval process.

4. Natural Resource Conservation

As mentioned above, the NMED requires a Site Development Plan addressing equipment, site security, traffic control, vector control, contaminated water, wet weather operations, waste composition, waste control, special waste, fire protection, wind control, cover application, leachate and methane monitoring. Also, recommends improvements to the city's recycling program.

The implementation of the project will enable the SCSWA to keep collecting and disposing adequately the solid waste generated in the community, it will minimize the risk of polluting soil and ground water, and will allow for the purchase of the appropriate equipment to operate the landfill. Also, the recycling program will be improved by providing for the pick-up of recyclables throughout the County, that will contribute to the natural resources conservation.

The expansion of the MSWL facility will comply with state solid waste and health regulations, and is beneficial to the City. Other aspects of the project will specifically enhance the quality of life, such as improving the recycling program. Furthermore, the new expanded facility will further reduce the risk of public exposure to debris spread uncontrolled throughout the County.

Available Documents

- *South Central Solid Waste Regional Management Master Plan*
- *Permit for South Central Solid Waste Corralitos Regional Landfill*
- *Permit for South Central Solid Waste Transfer and Recycling Facility*
- *Corralitos Landfill Sitting Study*
- *Corralitos Landfill Archaeological Study Report*
- *Corralitos Landfill Geotechnical Report*
- *Historical Financial Reports SCSWA*
- *SCSWA Facility Plan*
- *SCSWA Landfill Expansion Final Design*