Border Environment Cooperation Commission

City of Del Rio, Texas
Municipal Solid Waste Landfill Operation Improvements

General Criteria

1. Type of Project

The project consists of two components: 1) the purchase a landfill compactor to improve compaction, extend the life of the landfill and improve the efficiency of the City of Del Rio' s Municipal Solid Waste Landfill (MSWL) operations; and 2) to construct a new cell within the permitted landfill since the current cell (Cell No. 3) is expected to reach its capacity in early 2004.

2. Project Location

The City of Del Rio, the project sponsor, is located in Val Verde County in the State of Texas, on the U.S./Mexico border adjacent to Ciudad Acuna, Mexico. The Del Rio landfill site is located southeast of Del Rio, 500 feet south of U.S. Highway 90 on the southeast side of Railroad Avenue at the Calaveras Creek Crossing in Val Verde County. The Del Rio municipal landfill facility receives non-hazardous waste from the city of Del Rio, Val Verde County and Laughlin Air Force Base, as well as non-hazardous industrial waste from maquiladoras in Ciudad Acuna, Mexico.

The current population in the City of Del Rio and the County of Val Verde are approximately 37,000 and 47,000, respectively. The population of the City and the County are expected to reach 44,960 and 55,000, respectively, by the year 2020. The adjacent Ciudad Acuna has a current population of about 120,000, and is projected to have a population of 253,500 by the year 2020.

3. Project Description and Work Tasks

The Texas Natural Resources Conservation Commission (TNRCC), now the Texas Commission on Environmental Quality, (TCEQ), issued a Municipal Solid Waste Permit No. 207A to the City of Del Rio to operate a 106 acre site, as a Type I Municipal Solid Waste Facility. Moore Services, Inc. (MSI) has been operating the landfill under a contract with the City of Del Rio since 1975, and continues to operate the landfill.

The permitted landfill has six planned Subtitle D cells along with a " Pre-Subtitle D cell" which was filled prior to the construction of Subtitle D Cell No.1. Currently, Cell No. 1 and Cell No. 2 are at capacity. Cell No. 3 began receiving waste on a daily basis in February 2002 and is expected to reach its capacity in early 2004.

In addition to the above problem, compaction at the landfill has been determined to a problem with the life of the landfill. The current in-place compaction ratio of 478 lbs/cy is a poor use of the landfill space. Proper landfill operation with effective landfill compaction equipment should attain an in-place density of approximately 1,000 lbs/cy depending upon the weight of the compactor, thickness of the waste lift, and number of passes over the lift of waste. Benefits of increasing the in-place compaction ratio would more than double the life of the landfill.

The project proposes to address the two above problems with construction of Cell No. 4 and procurement of a compactor to improve operations and extend the life of the landfill. These activities are urgently required to assure that the City meets its Permit requirements and prevent any environmental and health hazard in the area.

4. Compliance with International Treaties and Agreements

The project is in compliance with Mexico and U.S. agreements relating to improvements in the environment and the health conditions of border residents, including the La Paz Agreement, the Comprehensive Border Environment Plan, the Border 2012 Program and the North American Free Trade Agreement.

The City of Del Rio landfill does not have any negative cross-border environmental impact and all operations are monitored and approved by the TCEQ. The landfill currently receives non-hazardous waste from maquiladoras in the City of Acuna, Mexico, but this could cease in one year since the City of Acuna has started to construct a proper sanitary landfill of its own. BECC and NADB are providing assistance for completion of the landfill. The maquiladoras are required to export all materials imported duty-free into Mexico under NAFTA, whether as a final product or waste, or they must " nationalize" those materials and pay applicable duties if sold or disposed of in Mexico. Thus, the maquiladoras presently have agreements with MSI to dispose of their non-hazardous waste in the Del Rio landfill. MSI charges maquiladoras $50/ton for receipt and disposal of waste received at the site. With the construction of a proper landfill in Acuna, the decision for maquiladoras to dispose of their non-hazardous solid waste in Mexico or Del Rio will be a matter of cost to the maquiladoras. It is projected that the maquiladoras will find it less costly to properly dispose of their non-hazardous waste in Acuna, and plans for the Acuna landfill also assume this.

Human Health and Environment

1. Human Health/Environmental Need

The project addresses human health and environmental concerns by providing adequate solid waste disposal for the residents of the City of Del Rio and adjacent areas within the County of Val Verde.

The benefits to the environment will be primarily through the proper handling and disposal of waste and the conservation of land with improved compaction. The construction of the new cell to properly dispose of the projected waste load will assure that the City continues to meet its obligations

for safe handling and disposal of wastes. The addition of a new compactor in landfill operations will double the life of the existing landfill site and thus lessen the requirement for additional land for waste disposal. The landfill operations will include implementation of the strict closure rules and 30-year post-closure maintenance period.

The City of Del Rio' s Type 1 Municipal Landfill operates under TCEQ amended Permit No. 207A. The Texas Department of Health (TDH) approved the permit amendment, granted as a lateral expansion to a 102-acre landfill permitted on October 1, 1979, on January 11, 1990. TDH was incorporated into the TNRCC, recently incorporated into the TCEQ, which now regulates landfills under Environmental Protection Agency (EPA) Subtitle D regulations, Municipal Solid Waste Disposal Facility Criteria.

The City applied for and received a Permit Modification to comply with EPA Subtitle D federal regulations for MSWL in 1995. The City operates the landfill under the strict requirements of the Texas Administrative Code Chapter 330, which governs the design, construction, operation, and maintenance of MSWLs. Regular inspections are conducted by the TCEQ staff to assure that the landfill is operating within these rules and that the environment is protected to the extent possible.

Human health is an important issue in the proper construction and operation of a landfill, and minimizing disposal areas is an important economic and financial consideration as well as a health issue. There are some benefits to be realized by compacting the waste more densely. Factors that could affect human health in the landfill operation include: 1) the occurrence of insects and vermin is reduced, 2) there will be a reduction in leachate generation, and 3) the placement of alternate daily cover (tarps) on the landfill is less risky to landfill workers walking on more compact refuse.

2. Environmental Assessment

The landfill complies with all environmental criteria. The City was granted a permit to operate and maintain a MSWL Type I facility in 1979 from the Texas Department of Health, now the TCEQ, and began operation in 1980. Operations on this facility ceased in 1990, and the then TNRCC inspected and approved its closure in March 1999. This landfill area is in the 5-year post-closure maintenance requirement. During this period, the landfill operator is maintaining the vegetative cover on that landfill area and inspects the site for signs of leachate seepage. No problems have been detected.

The current landfill area commenced accepting waste in 1990. In the more than 22 years of operation of the entire landfill site there are no known damages to the environment such as leachate seeps or surface runoff of contaminated water that pollute either the groundwater or surface water bodies. There has been no known

endangerment to wildlife or migratory birds, and based on all observations and regulatory inspections, there have been no negative impacts to the environment. Fortunately, the site is underlain by more than 80 feet of Del Rio Clay Formation, which is typically comprised of impervious clay. Because of the lack of shallow groundwater and the impervious nature of the underlying formation, the TCEQ has waived the requirements for groundwater monitoring. Given the nature of the underlying formation and the landfill construction that includes a liner and leachate collection system, the site is considered to be environmentally safe and poses no threat to human health.

The new Cell No. 4 is designed to be constructed in strict adherence to the state and federal regulations governing the construction of Type I municipal landfills, and in keeping with the all the requirements of the existing Permit No. 207A for the landfill site. There is no requirement for any additional approvals by TCEQ for Cell No. 4 as it is already approved under the permit. However, construction of the liner system, including the leachate system and protective cover, must be, and will be inspected by a licensed geotechnical engineer and the engineer must prepare and submit a Soil Liner Evaluation Report to TCEQ for approval before waste can be placed in the cell. Regarding the landfill compactor, the City has received a TCEQ permit modification to include the compactor in the list of equipment of the Site Operating Plan.

3. Compliance with Environmental and Cultural Resource Laws and Regulations

The project complies with all and environmental and cultural laws and regulations in accordance with the Federal Subtitle D rules, the Texas 30 TAC § 330 rules and TCEQ technical guidance for solid waste disposal facilities.

Technical Feasibility

1. Appropriate Technology

Construction of Cell No. 4 (8.5 acre area) will allow the City to continue uninterrupted service of collecting and disposing of waste from Del Rio and Val Verde County. The landfill is already permitted, and new cells are constructed as needed. Cell No. 3 is nearing capacity and Cell No. 4 must be ready to accept waste when capacity in Cell No. 3 is reached early next year. The construction of the new cell will allow the City to continue to manage

waste disposal in a proper and environmentally safe manner in accordance with its TCEQ permit. The continued use of the permitted landfill site is technically and financially the most appropriate solid waste management solution to meet requirements.

The only alternative to having a new cell ready to accept waste is to collect and transport the waste to a permitted landfill. There are no regional or local permitted landfills available that are technically and financially feasible alternatives for City use. The nearest landfill is in Uvalde, about 72 miles away, and BECC has confirmed that the Uvalde landfill is not capable of handling the increased volume of waste and has no plans to entertain accepting outside waste.

The use of the latest proven and cost-effective equipment for achieving the highest in-place density of refuse in a landfill is also critical to maximize efficiency and to the minimize cost and land requirements for waste disposal. Testing has proven that landfill compactors, properly operated, can achieve in-place densities of 1,000 lbs/cy or more, depending on the weight of the compactor, number of passes over the waste, and moisture content of the waste. This compares to the current method of waste compaction of about 478 lbs/cy.

The use of a compactor designed for landfill use is the most appropriate technology for any landfill that handles significant volumes of waste. The local user can operate and maintain the machinery without creating dependency on high levels of resource inputs from outside the community. Based on guidance in the *Caterpillar Waste Disposal Handbook* for a city with a population between 20,000 and 60,000 handling between 50 and 150 tons of waste per day, the proper waste compactor for the City is the Caterpillar Model 816F. However, the volume of waste currently being handled is in excess of 150 tons per day and is projected to grow. In the fiscal year ending August 31, 2002, 48,646 tons of waste was landfilled. On a 6-day workweek, this translates to more than 160 tons per day. For these reasons, the purchase of a Model 826G Series II compactor, or equivalent, is proposed under the project. Caterpillar rates the compaction capability of the 826G between 1,000 and 1,600 lbs/cy, and these compaction rates have been proven to be attainable in landfills at Denton and Dallas as well as smaller landfills.

Landfill operators and owners using the Caterpillar 826 landfill compactor were contacted by the City' s engineering consultant to ascertain the in-place densities being obtained. Managers at Dallas, Denton, and Irving, Texas all use model 826 compactors. Mr. Dave Dugger, Denton landfill manager, reported that they had an in-place density of 1,278 pounds per cubic yard for their last volume report. Ms. Mary Nix, of the City of Dallas, reported an in-place density of 1,250 pounds per cubic yard. The City of

Irving consistently exceeds 1,000 pounds per cubic yard in-place density. All of these figures discount any air space taken up by the daily cover. It is believed that 1,000 pounds per cubic yard is a conservative figure that will be attainable for the Del Rio landfill.

Solid Waste Data

The Del Rio MSWL is used for the disposal of municipal solid waste and for waste consisting domestic waste, commercial and industrial non-hazardous waste, 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 the city of Del Rio, Laughlin Air Force Base, Val Verde County and maquiladora waste from Acuna, Mexico. More than 50% of the Class II/ClassIII non-hazardous waste, consisting primarily of vinyl, foam, plastic, and paper products, comes from maquiladoras in Acuna, Mexico. Prior to February 1, 1996, volume into the landfill was estimated based on the capacity of the vehicle entering the landfill. Gate scales were installed and became operational on February 1, 1996.

The following table shows the amount and type of waste land-filled for the last seven years. The waste volume estimates for FY 1996 are considered high due to unverifiable estimates for the first five months of that Fiscal Year.

Del Rio Landfill Waste Quantities

Waste Category	FY 96 Tons	FY 97 Tons	FY 98 Tons	FY 99 Tons	FY 2000 Tons	FY 2001 Tons	FY 2002 Tons
Residential	20,159	16,861	16,393	15,849	14,826	15,194	18,788
Commercial	12,521	12,521	10,557	15,589	14,385	14,554	16,552
Institutional	0	3,679	4,208	2,943	2,537	2,600	3,444
Recreational	301	326	315	687	500	513	581
Brush	3,900	600	602	916	700	717	1,342
Const. & Demolition Debris	92	170	180	1,030	400	604	2,013
Non-Hazardous Class II/III	7,700	8,615	8,769	6,441	3,998	5,643	5,477

Dead Animals	28	25	27	30	28	28	448
TOTALS	**52,038**	**42,797**	**41,050**	**41,685**	**37,354**	**38,852**	**48,646**

Between fiscal years 1997 and 2001, waste volumes remained fairly constant. In April 2002, Del Rio experienced a severe hailstorm that destroyed numerous roofs. Volumes increased by up to 500 tons or more per month for the next few months because of the roofing materials coming into the landfill. Requests for roll-off containers increased during the period, and at one time MSI, the operator, was unable to keep up with the requests. This, in part, may account for the large increase in FY 2002 (September 1, 2001 – August 31, 2002). However, in calendar year 2002, the volume of waste received in the landfill was almost 51,000 tons (average of 4,236 tons per month). Based on volume reports, volume may have decreased the first two months of calendar year 2003, but data is insufficient to state that with certainty. The average for January and February 2003 was 3,872 tons per month, which is projected to be 46,500 tons for the year.

The Texas Water Development Plateau Regional Water Plan, Chapter 2, Current and Projected Population and Water Demand, shows the year 2000 population of Val Verde at 47,276. That population is projected at 55,033 in the year 2020. A waste generation rate of approximately 46,000 tons per year (discounting the approximate 4,000 tons per year from Mexico) for a population of 47,276 county residents would translate to about 1,950 pounds of waste per person per year going into the Del Rio Landfill. Currently, approximately 3,000 to 4,000 tons per year come from across the border, but this is expected to cease once the City of Acuna constructs and operates its own proper landfill. The City of Acuna has started

construction of a landfill that could possibly be completed in one year. NADB and BECC are providing assistance to the City of Acuna for completion of that landfill.

While projecting population and waste volumes in the future is somewhat subjective, the best information available is developed for the Texas Water Development Plateau Regional Water Plan. Using the current county population figures, including the population at Laughlin AFB, Comstock, and Langtry, and considering that the population and waste volume over the next few years will grow at a normal pace, the useful life of Cell No. 4 is about 5.5 years (considering an in-place density of 1,000 pounds/cubic yard, a capacity of approximately 550,000 cubic yards, and 50,000 tons per year). This assumes that the current generation rate of 1,950 pounds per year per person (5.4 pounds per person per day) is sustained.

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 once the equipment is acquired and in operation, and approved by the TNRCC for the MSWL facility.

3. Compliance with Applicable Design Standards and Regulations

The proposed MSWL operation and maintenance was developed to comply with all requirements of Federal Subtitle D Municipal Solid Waste Disposal Facility Criteria, including a TCEQ permit modification to include the compactor in the list of equipment of the Site Operating Plan.

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Financial Feasibility and Project Management

1. Financial Feasibility

The total estimated costs for construction of Cell No. 4 and procurement of the landfill compactor are $2.043 million as shown below.

Project Estimated Costs

ITEM	COST
Landfill Compactor	**$403,000**
Design and Preparation of Construction Documents Cell No. 4	**60,000**
Bidding Assistance	**10,000**
Construction Management, Engineering During Construction	**20,000**
Geotechnical Quality Control, SLER Preparation Cell No. 4	**60,000**

City Inspection Services Cell No. 4	**40,000**
Construction Cell No. 4	**1,450,000**
TOTAL	**$2,043,000**

The estimated cost for the compactor is based on current equipment prices, and the estimated cost of the new cell is based on a preliminary design by Chiang Patel & Yerby. . The City expects to contract a consultant to complete the final design by mid-May, with a request for bids and award of a construction contract as soon as possible thereafter.

The financial analysis of the project confirms that with a NADB grant of $500,000, the City has the capacity to fund the balance of project costs via a $1.404 million bond issue and $139,000 of its own funds as shown below.

Planned Financing Structure

Source	Amount (US$)	%
Certificates of Obligation	**1,404,000**	**68.7**
City Contribution	**139,000**	**6.8**
NADB-SWEP Grant	**500,000**	**24.5**
Total	**2,043,000**	**100 %**

Basic assumptions of the financial analysis included a projected increase of two percent each in annual operating revenues and expenses. The reasoning behind the use of the same percentage growth rate of two percent for both revenue and expenses is that the City of Del Rio currently has a Sanitation Contract with Moore Services, Inc. (MSI) which charges a fixed fee per tonnage. The population in Val Verde County is projected to increase from 47,276 in 2000 to 55,033 in 2020 (less than 1% annual population growth), with virtually all of the growth occurring in City of Del Rio. The resale or trade-in value of the compactor at the end of the seven-year period of operation (average life of the compactor) was not considered. The collection rate was estimated at 92 percent. As landfill usage increases, the amount the City collects as a fee and the fee charged by MSI both increase for self-sustainability.

2. Fee Rate Model

A fee rate model was prepared as part of the financial analysis and combinations of financing were reviewed, including with and without a NADB grant. It was determined that without a NADB grant, a rate increase would definitely be required. Considering that the City already has a higher rate compared to surrounding communities, and three rate increases were implemented in the years 1994, 1997 and 2000 for rate increases totaling 70.8% -

from $7.32 per month prior to October 1994 to the current $12.50 per month - the financing alternative with a $500,000 NADB grant was selected. This alternative makes it possible to finance the project without a rate increase. Considering possible variances in projected revenues and O&M costs, the NADB grant agreement will include a condition that in the event of a shortfall in the City' s Solid Waste Fund, the City will make up any shortfalls from its General Fund. Currently, the Solid Waste Fund is healthy, including reserves, and it expected that this solid waste revenue fund is sufficient to cover all solid waste management costs.

The annual debt service ratio for the project with the NADB grant is between 0.997 and 1.068 for the period from FY 2004 through FY 2010, and FY 2009 is the only year where there is a shortfall of revenue to cover all expenses and debt service requirements. The shortfall is only $1,572.00.

A comparison of existing solid waste disposal rates between Del Rio and nearby communities is shown below. It should be noted that Del Rio has twice weekly pickup for residential customers while most, if not all, of the towns listed below have only one pickup per week.

RATE COMPARISON

CITY	MONTHLY FEE
Brackettville	$6.50
Camp Wood	$7.50
Hondo	$8.00
Uvalde	$8.00
Sabinal	$11.00
Junction	$12.00
Kerrville	$11.93
Fredricksburg	$9.25
Floresville	$11.77
Del Rio	**$12.50**

3. Project Operation and Management

The City of Del Rio currently has a Sanitation Contract with Moore Services, Inc. (MSI) for collection of refuse and operation of the City owned landfill. The contract was originally entered into in 1975, and has hence been amended 6 times with a current expiration date of July 31, 2003. MSI has the option to renew the contract upon the same terms and conditions for one additional four-year period beginning August 1, 2003, and expiring July 31, 2007. It is expected that MSI will exercise its option for the contract extension, thus no operational or management changes are foreseen.

The City Public Works Director manages and supervises the MSI contract. The City 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.

Public Participation

1. Comprehensive Public Participation Plan

The City of Del Rio submitted an initial public participation plan to the BECC on May 30th and was approved on May 31, 2002 for the compactor only. Subsequently, with the later addition of the construction of Cell No. 4 to the project, the approved plan was updated. 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. Activities planned to be carried out in fulfillment of the plan are presented below.

2. Steering Committee

The steering committee was formed with Mr. Ray Meza, School Principal; Jerry Simpton, Utilities Commissioner; Ms. Dava Clout, past President of the Chamber of Commerce and representative of the medical community; Mr. Frank Larson, business leader; and, Mr. Jesse Fernandez, Vice President, Del Rio National Bank. The committee developed the outreach strategies and attended the public meetings. Advising the committee were Mr. Jack Richardson, Grants Administrator and Airport Manager; Mr. Dharell Campbell, Technical Secretary, City of Del Rio; Mr. Alejandro Garcia, Public Works Director; and Mr. Melvin Green, Chiang, Patel & Yerby Engineers (consultant), and Mr. Joel Martinez, Secretary, City of Del Rio.

3. Local Organizations

Local civic groups and other organizations such as the Del Rio Chamber of Commerce, San Felipe Lions Club, Del Rio Board of Realtors, San Felipe Del Rio Independent, Del Rio Fire and Rescue Department, Del Rio Rotary Club, Elks Lodge, Laughlin Air Force Base, Laughlin/Del Rio American Legion Post #298 and San Felipe Knights of Columbus Council were contacted and solicited for support for the project. Letters of support were promised, but pending receipt by the City, from the Chamber of Commerce, Laughlin Air Force Base, the American Legion, the Lions Club, the Elks Lodge and others.

4. Public Information

Copies of the Facility Plan were to be made available to the public at the City Hall, City Annex, the Civic Center and the Val Verde County Public Library 30 days prior to the 1st public meeting. Fact sheets were developed, in both Spanish and English, including descriptions of the technical, environmental, financial and public participation project components. These fact sheets were posted at City Hall and the U.S. Post office, were to be used by the steering committee to educate the community and to be distributed at the 1st public meeting. Public meeting notices were to be posted in the Del Rio News Herald, City Hall, City Annex, Civic Center and the Val Verde Public Library, including mailings with community water bills.

5. Public Meetings

The public meetings were advertised on February 9, 2003. The first meeting was held on March 17, 2003, covering the technical aspects of the project. The second meeting was held on April 29, 2003, to cover the financial aspects of the project.

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:

Principle 1. "*Human beings are at the center of concerns for sustainable development. 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 environmental health risks associated with any possible inadequate capacity and operation of the existing MSWL facility. Healthier lives and better living conditions will result from this project.

Principle 2. "*The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.*" The proper operation, disposal and compaction of waste of the MSWL facility accommodates projected waste disposal requirements through the next 6-8 years, and the projected increases in capacity of the 106-acre landfill with the use of the new compactor will almost double the projected life of the existing permitted landfill site, through the year 2029.

Principle 3. "*In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.*" All environmental parameters for the project have been met. The City of Del Rio 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 has

implemented a recycling program where containers for glass, paper, plastics and cardboard are available to the public at the city' s landfill entrance.

Principle 4. *" The stakeholders, i.e. the groups and individuals impacted by, and having an impact on development projects, 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 applied.

2. Institutional and Capacity Building

The construction of the new landfill cell and procurement of the new compactor will provide the required capability for the City to provide necessary quality services for its residents. The firm of Moore Services, Inc. (MSI) manages and operates the landfill under a contract with the City of Del Rio, and the City will contract with a separate contractor for the construction of the new cell, supervised by City Public Works Department. The ability of the City to manage the implementation of the project is evident from the more than 20 years of successful operation of the landfill. In fact, most of the excavation required for the new cell has previously been completed. Guidelines for training in the operation and maintenance of the new compactor will be provided by the supplier, thus no problems are foreseen with operation and maintenance, of the compactor.

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

The project conforms to all known applicable local and regional plans, as well as land use and urban development zoning regulations. The landfill has operated at its current location since 1979 in conformance with city planning and zoning statutes and all Federal and State regulations.

4. Natural Resource Conservation

The City has a TCEQ-approved Site Development Plan which addresses equipment, site security, traffic control, vector control, water contamination, wet weather operations, waste composition, waste control, special waste, fire protection, wind control, cover application, leachate and methane monitoring. The implementation of the project conforms to the Site Development Plan and will enable the City of Del Rio to continue and improve collection and safe disposal of solid waste generated by the community.

Currently, the City recycles used tires and white goods. In FY 2002, 18,492 tons of green waste (brush, branches, bark, leaves, and grass) were diverted for beneficial use by chipping and mulching. White goods accounted for 131 tons of recycled metals. There were 67 tons of tires collected. The landfill took 1,026 tons of sludge from the City' s wastewater treatment plants and used it as land application over the old landfill to enhance vegetative growth. Discussions are underway with a hazardous waste disposal contractor to provide

pickup locations for hazardous wastes such as paints and insecticides. At the present time, plans for this service have not been finalized.

The City will soon begin a recycling program for used tires, white goods, used oil, filters, antifreeze, batteries, and brush. While this project will not incorporate waste reduction as such, it will affect additional landfill space by increasing the compaction rate. By this method, the life of the landfill is increased thus saving future land requirements for disposal.
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5. City Development

The growth of the area, including industry, is enhanced with the availability of a safe and properly designed landfill. The project allows the city to assure continued proper operation of the MSWL facility and to meet projected growth. The use of more efficient compaction equipment for the facility will almost double the expected life of the existing 106-acre landfill, thus substantially reducing future land requirements disposal. The landfill is being properly managed by a private sector operator and the revenue generated from the waste collection and disposal fees make the operation self-sustaining.

Available Documents

- Project Certification Document – Including executive summary, general human health and environment, technical feasibility, financial feasibility, community participation and sustainable development sections, with the following attached documents :

1. Maps and site development plan
2. Financial statements and economic information
3. Permits and amendments
4. Environmental compliance certifications
5. Solid waste generation and landfill life tables
6. Project contract documents – Cell No. 3
7. Site Operating Plan
8. Groundwater protection and landfill gas monitoring plan
9. Soil liner quality control plan
10. Final closure plan and post-closure plan with cost estimates
11. TNRCC Inspection reports
12. Land compactor specifications
13. Preliminary design and cost estimate for new Cell No. 4
14. City operating contracts
15. Operating organizational charts and job descriptions