

**SOUTHEASTERN WYOMING
INTEGRATED SOLID WASTE MANAGEMENT PLANNING AREA
EXISTING FACILITIES REPORT
CITY OF CHEYENNE**

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SUBMITTED BY: Trihydro Corporation

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1.0 INTRODUCTION

1.1 PURPOSE

In the spring of 2007, the City of Cheyenne passed a resolution to prepare a multi-jurisdictional integrated solid waste management (ISWM) plan with the City of Laramie and the Eastern Laramie County Solid Waste Disposal District. On July 13, 2007, a letter of intent was submitted to the Wyoming Department of Environmental Quality, Solid and Hazardous Waste Division (WDEQ/SHWD) identifying these three entities as planning partners. The group is collectively known as the Southeast Wyoming Planning Group (SWPG). The purpose of the ISWM plan is to evaluate existing waste management systems within the planning area, and identify alternatives that may provide cost-effective and environmentally sound solutions for the next 20 years. The purpose of this interim report is to present the results of planning activities completed to date by Trihydro Corporation (Trihydro) specifically regarding the existing solid waste management systems within the City of Cheyenne, Wyoming.

1.2 ORGANIZATION OF THIS REPORT

The results of solid waste planning activities completed for Laramie County are summarized in the following sections of this report:

Section 2.0 – Methodologies

Section 3.0 – Existing Facility Profiles

Section 4.0 – Population and Waste Stream Estimates and Forecasts

Section 5.0 – References



2.0 METHODOLOGIES

Specific methodologies were utilized to prepare comprehensive and consistent comparisons of waste management systems. The following information is provided to describe these methodologies, as well as the associated assumptions and limitations.

2.1 INVENTORY OF EXISTING FACILITIES

Trihydro developed a survey to capture information regarding existing waste management facilities within the project planning area, and distributed these surveys to facility operators to obtain their written responses. Trihydro reviewed the written answers to the survey questions and the supporting documentation, and then presented follow-up questions, as necessary, in an attempt to further clarify specific issues. Copies of the completed surveys for existing facilities within the local project planning area are provided in Appendices A through D. Supplemental information provided by the owners/operators is noted either in the surveys, the report text, or under specific line-items in the full cost accounting worksheets provided in Appendices F through H. The descriptions and analyses of existing waste management systems presented in this report are based on and limited by the information provided by the owners/operators of the facilities.

2.2 FULL COST ACCOUNTING

The Full Cost Accounting (FCA) methodology used for this project is generally based on the methodology described in *Full Cost Accounting for Municipal Solid Waste Management: A Handbook* (EPA 1997). The FCA methodology accounts for the time-value of money throughout the life-cycle of a facility, which includes development (i.e., up-front), operation, and closure/post-closure (i.e., back-end) costs, but does not include remediation, contingent, environmental degradation, or social costs. All costs were converted to equivalent annual costs over the operating life of the facility, and correlated to the annual tonnage of waste managed to estimate a cost per ton for each facility.

The annual inflation rate, as defined by Wyoming Solid Waste Rules and Regulations Chapter 7 “Financial Assurance Requirements” was used to estimate a long-term average annual effective rate (*i*) for this project (WDEQ 1998D). From 1994 through 2007, the annual inflation rate ranged from approximately 1.1% to 3.2%, and averaged approximately 2.2%. Based on this data, an average annual effective rate of 3% was selected for this project. While the current economic climate has heightened concerns that the future annual inflation rate could increase over 3% for a period of years, the average annual inflation rate over the entire planning period (through 2027) would have to differ

substantially from the historical record to require adjustment of the estimated annual costs presented herein. Facility assets were depreciated by the “straight-line” method over the associated useful life of the asset. Default estimates of the useful life of assets were used if asset-specific estimates were unavailable from the operator. Default estimate values are listed in Appendix E.

The FCA methodology was applied to existing facilities that compose the core infrastructure of the local waste management system (i.e., landfills, transfer stations, recycling centers, and composting facilities). FCA data were compiled using a series of worksheets and associated guidelines, as follows:

Worksheet #1 - Full Cost Accounting Summary Sheet

Worksheet #2 - 2007 Development Costs

Worksheet #3 - 2007 Operating Costs

Worksheet #4 - 2007 Closure & Post-Closure Costs

Worksheet #5 - 2007 Revenues

Worksheet #6 - 2007 Closure/Post-Closure Cost Guideline

The FCA methodology was limited to those facilities that are owned by cities, counties, or public non-profit organizations that were able to provide financial information. FCA worksheets were developed for each of the core facilities, as applicable. Analysis of financial information for privately-owned facilities and/or contractors was limited to available service rate schedules.

Closed facilities (i.e., landfills) that may be present within the planning area were omitted from the scope of work for this project. Closed facilities may be a financial liability to the respective responsible parties, primarily due to long-term monitoring costs, but also due to potential remediation costs. Remediation costs are outside the scope of the full cost accounting methodology. More importantly, the potential costs associated with closed facilities are unlikely to change whether the existing waste management system is maintained or replaced by an alternative system. Therefore, for the purposes of this project, it was assumed that the selection of the existing waste management system or a preferred alternative is independent of the potential costs associated with closed facilities.

Collection services are also an important component of any waste management system. Collection services are often provided by some combination of public entities, private companies, and individuals, and the costs associated with each

type of service provider can be highly variable. In addition, many collection service fees are inclusive of tipping fees at a particular facility. Due to the variable nature of collection service costs and the nature of the associated fee structure, collection system costs were excluded from the FCA analysis of individual facilities.

2.3 POPULATION ESTIMATES AND FORECASTS

Local populations within the service areas of existing facilities were estimated based on data from the 2000 Census (WDAI 2007). Population estimates and forecasts prepared by local planning departments were available, and these estimates were used in lieu of the federal growth rate estimates. *PlanCheyenne*, a comprehensive planning document, was adopted by both the City of Cheyenne and Laramie County at the end of 2006 (City of Cheyenne 2006). This planning document recommends application of a 2% annual growth rate to both the city and county populations for planning purposes. Local planning department personnel believe that population fluctuations along the Front Range have the potential to impact population growth in Laramie County. In addition, available data on numbers of residential building permits, and water and sewer taps conflict with conservative national estimates of growth in the area. Future population forecasts were thus prepared by multiplying the revised 2005 Census Bureau estimate issued in 2008 by the average annual county growth rate (2%) for 2006 through 2027, which is the end of the planning period for this project.

2.4 WASTE STREAM ESTIMATES AND FORECASTS

Default waste generation rates for existing facilities were initially estimated using data published by the U.S. Environmental Protection Agency. In 2005, the national average generation rate for municipal solid waste was approximately 4.5 pounds per person per day (EPA 2006). In 1996, the national average generation rate for construction and demolition wastes was approximately 2.8 pounds per person per day (EPA 1998). Based on these averages, the total default waste generation rate was estimated to be approximately 7.3 pounds per person per day. The EPA data was used in lieu of the estimate provided in Wyoming Solid Waste Rules and Regulations Chapter 1, Section 1.e.i (6.6 pounds per person per day, municipal solid waste and construction/demolition waste) due to the fact that the EPA data was more recent and based on a larger data set (WDEQ 1998A). For some City of Cheyenne facilities, site-specific weight data were available for the incoming waste stream. Therefore, site-specific tonnage data and volume estimates provided by the City of Cheyenne were used in lieu of the default data to estimate current waste generation rates.

For this Existing Facilities Report, forecasts of the amounts (i.e., tons) of wastes that will be generated, diverted, and disposed throughout the planning period were based on the assumption that current waste generation, diversion, and disposal rates (i.e., pounds per person) will remain constant. This assumption is considered to be conservative based on several considerations. First of all, the national waste generation rate since 1990 has been relatively constant (EPA 2006). Furthermore, current waste diversion rates in Wyoming are generally low, and are expected to remain consistent or increase during the planning period, which would result in either a consistent or declining waste disposal rate. As part of the integrated solid waste management process, the City of Cheyenne has set additional MSW and CDW diversion goals which will be accounted for in the waste forecast included in the upcoming report regarding the economic analysis of alternative systems.

General waste stream characteristics were also estimated using EPA data (EPA 1998; EPA 2006; EPA 2007). The relative percentages of specific waste types (e.g., yard wastes, recycling commodities, household hazardous waste, concrete, clean wood, metal) were multiplied by the default waste generation rates to provide a general estimate of the weight of specific waste types that could potentially be diverted from the incoming waste stream. For City of Cheyenne facilities, specific weight data were available for commodities diverted from the incoming waste stream. Therefore, local data were used to estimate current diversion rates for specific waste types.



3.0 EXISTING FACILITY PROFILES

The following information provides general descriptions of existing facilities operated by the City of Cheyenne, along with summaries of current capacity, regulatory, and financial issues. The City of Cheyenne solid waste management facilities include the Happy Jack Landfill #1, the Felix Pino Transfer Station, and the Cheyenne Compost Facility. Additional solid waste management facilities exist within the city, most notably the F.E. Warren Air Force Base Recycling Facility and Compost Yard, Magic City/Enterprises/ECO Recycling Center and Tatoonie Incorporated. Solid waste management activities at each of these facilities are briefly summarized in Section 3.4.

3.1 CITY OF CHEYENNE – HAPPY JACK LANDFILL #1

The City of Cheyenne Happy Jack Landfill #1 is a Type I landfill located at 1461 Happy Jack Road, approximately 10 miles west of Cheyenne, Wyoming, in Township 14 North, Range 68 West, Sections 33 and 34 (Figure 3-1). The facility, which serves the western two-thirds of Laramie County (School District #1), is owned and operated by the City of Cheyenne and began receiving wastes in 1966. The permitted landfill area encompasses approximately 148 acres. There are three structures on site including a 128 square foot (sf) gate attendant office, an equipment storage/shop (5,250 sf), and one scale house with two scales (770 sf). Compactors and dozers are used to bury loose waste in segregated, lined trenches.

During 2007, municipal solid wastes (MSW) and construction/demolition wastes (CDW) were transported to the facility by city-managed collection trucks, commercial haulers, and the general public. In addition to MSW and CDW, other types of wastes were disposed on site, including industrial wastes, petroleum contaminated soils, non-friable asbestos, and dead animals. The City of Cheyenne instituted a yard waste ban in 2003 and as a result, little to no yard waste or clean wood is disposed on site; these materials are diverted to the Cheyenne Compost Facility. Minimal, bulky yard waste (such as large tree stumps) and some wood (such as particle board) are accepted at the landfill and are processed and used as alternative daily cover. The Happy Jack Landfill #1 also accepts a number of recyclable commodities including white goods and scrap metal; these are sold for salvage.

Since the capacity of the Happy Jack Landfill #1 is limited, MSW has since been routed through the Felix Pino Transfer Station and transported to the North Weld County Landfill in Ault, Colorado. This transition commenced in July 2008, and as of mid-2009, it is anticipated that only construction/demolition wastes will continue to be accepted at the Happy Jack Landfill #1. To increase CDW diversion, the City of Cheyenne plans to upgrade the current landfill facilities to include a dedicated CDW recycling facility within the next five years.

3.1.1 CAPACITY CONSIDERATIONS

The original permitted capacity of the Happy Jack Landfill #1 was estimated to be approximately 8,000,000 cubic yards (cy). As of March, 2009, the remaining permitted capacity of the facility is approximately 811,000 cy. Based on the current service area, construction-demolition waste disposal rates, and operating practices, the landfill will reach capacity by the year 2012. Due to landowner issues, there are currently no plans to expand the permit boundary for the facility. However, the City of Cheyenne is examining whether additional disposal capacity can be obtained within the permit boundary through excavation of older unlined cells and re-disposal in lined cells, vertical expansion or other permit modification. Alternate landfill locations are also under consideration to meet the city's solid waste disposal needs.

3.1.2 REGULATORY CONSIDERATIONS

The current operating permit for the Happy Jack Landfill #1 was issued by the WDEQ/SHWD on January 26, 1999, and renewal applications were submitted to WDEQ/SHWD in 2004 and 2008. The facility is currently operating under an extension based on the 1999 permit.

The current operating permit for the facility requires the disposal of municipal solid wastes into cells with engineered containment and leachate collection systems. The facility is divided into north and south fill areas, with five trenches in the north and four trenches in the south. The northern, unlined trenches, I and II, are the oldest trenches and have received final cover. Between 1991 and 1996, engineered caps were constructed over the unlined southern trenches (I, II, III, and IV). From 1998 to 2003, three northern trenches (III, IV, and V) were constructed with engineered containment systems, including liners and leachate collection systems. The active trench, northern trench V, has been constructed to direct the collected leachate to a central pond located on site.

During 2007, the environmental monitoring network for the facility included twenty-seven groundwater monitoring wells, monitored three times per year. Groundwater samples from four of the monitoring wells are analyzed for WDEQ, Solid Waste Rules & Regulations, Chapter 2, Baseline and Appendix B parameters (WDEQ, 1998B). Samples from the remaining wells are analyzed for Baseline and Appendix A parameters (WDEQ, 1998B). During 2008, three additional groundwater monitoring wells were installed at the facility and are currently being monitored on a quarterly basis for Baseline and Appendix A parameters. Various metals and volatile organic compounds have been detected in groundwater samples at statistically significant levels.

Methane concentrations are measured quarterly at one methane well and in two locations within the equipment building. Methane has been detected at concentrations in excess of 25% of the Lower Explosive Limit (LEL) in the methane well only. Two wind monitoring systems are also located on site; these are primarily used to check wind speed to determine whether landfill closure is necessary due to high winds. The landfill closes when winds speeds are 30 miles per hour or more.

3.1.3 FINANCIAL CONSIDERATIONS

Based on the City of Cheyenne's Sanitation Fee Schedule (July 1, 2007), the tipping fee for wastes disposed at the Happy Jack Landfill #1 was \$41.40 per ton. Various sanitation fees apply to residential, commercial, multi-tenant, or motel clients. For example, sanitation collection fees and landfill disposal fees were billed to individual residents at an average rate of \$15/month; however these are not itemized separately. The majority of facility revenues are provided by sanitation collection fees and user tipping fees.

The FCA analysis of the Happy Jack Landfill #1 was generally based on development costs estimated by the operator, actual operating expenditures and revenues for the 2006-2007 fiscal year (FY0607), and closure/post-closure costs estimated by Trihydro. Copies of the FCA worksheets (# 1 through #6) for the facility are provided in Appendix F. The average life-cycle cost of the facility was estimated to be approximately \$ 1,989,000 per year. In FY0607, the facility managed approximately 100,021 tons of waste. Based on that tonnage, the average life-cycle cost of managing wastes at the facility in FY0607 was approximately \$20 per ton. The operator did not report any revenues from the sale of commodities diverted from the waste stream.

Significant assumptions and limitations associated with the FCA analysis of the facility include:

- Historical documentation regarding the costs of facility development, non-routine site improvements, and in-kind services by other government entities was limited. The estimated average annual operating costs, therefore, may not fully describe the life-cycle cost of the facility.
- Current closure/post-closure costs were estimated by Trihydro based on both published data and actual regional costs using the general task categories defined by Solid Waste Guideline #12 "Participation in the State Trust Account" (WDEQ 1997).
- Tonnage estimates were provided by the operator in the site survey document and these data were used to estimate the annual tonnage of waste managed in FY0607.

- The FCA analysis for the Happy Jack Landfill #1 was completed based on FY0607 data which reflects landfill operations during a time period when MSW was still being accepted. Wastes were not yet being hauled to the North Weld County Landfill in Ault, Colorado.
- The analysis does not include costs for the proposed CDW diversion upgrades. These costs are to be included in the upcoming report regarding economic analysis of alternative systems.

3.2 CITY OF CHEYENNE – FELIX PINO TRANSFER STATION

The Felix Pino Transfer Station (Transfer Station) is located on 10 acres of land owned by the City of Cheyenne at 220 North College Drive in Cheyenne, Wyoming (Figure 3-1). The facility started operations in 1985 to accommodate transfer of wastes to Happy Jack Landfill #1. Since July 2008, all western Laramie County MSW collected by city trucks has been managed by the Transfer Station prior to delivery to the North Weld County Landfill in Ault, Colorado. As of the middle of 2009, it is anticipated that the Happy Jack Landfill will no longer accept MSW and that all MSW will be transferred to Ault, either via the Transfer Station or directly via private haulers. The City of Cheyenne plans to install a scale to track the additional waste tonnage anticipated by 2009; the cost for scales is included in the attached FCA.

The Felix Pino Transfer Station also provides facilities for household hazardous waste (HHW) collection and serves as the headquarters for city-managed recycling efforts. The FCA analysis includes costs for all three facility functions, although it is referenced throughout this report simply as the “Transfer Station.”

The main transfer station building, built in 1985, is a 17,780 sf structure which includes the tipping floor, administrative offices, and storage for hazardous waste and electronic waste (e-waste). In 1997, a mobile office, oil storage tank and an explosion proof storage building (~300 sf) were also constructed on-site. The explosion-proof building is for storage of specific hazardous wastes. In 2007, the recycling operation associated with the Transfer Station consisted of seven blue bin haul-all containers, seven roll-offs, two recycling collection trucks, and one cardboard compactor unit. The blue bins are located throughout the city, and the commodities are transported by the City of Cheyenne to Magic City Enterprises (ECO Recycling Center).

As mentioned above, the Transfer Station accepts local MSW for transfer. The facility also accepts and contracts disposal of e-waste, HHW, lead-acid batteries, used oil, antifreeze, paint, and pesticides. The blue bin recycling program accepts and manages recyclable commodities including newspapers, magazines, cardboard, plastic, glass,

aluminum, steel cans, and mixed recyclables. Glass is used by the City of Cheyenne to create aggregate for use at the landfill, plastics are sent to Colorado for recycling, and the remaining source-separated recyclables are transferred to the ECO Recycling center.

The City of Cheyenne implemented a small pilot program for single-stream recycling in January 2008 with the intent to implement the program city-wide by the end of 2009. As part of this effort, the City of Cheyenne plans to expand the transfer station to handle the expected increased volume of single-stream recyclables. The costs associated with the single-stream recycling program are not included in the FCA analysis of the existing system, but will be included in the upcoming report regarding economic analysis of alternative systems.

3.2.1 CAPACITY CONSIDERATIONS

During 2007, approximately 49,527 tons were processed at the Transfer Station. The Transfer Station capacity has not been determined, however, the facility is expected to successfully manage the volumes of MSW formerly disposed at the Happy Jack Landfill #1 (approximately 75,268 tons/yr during 2007). Some of the additional MSW will be in the form of single-stream recyclables and this will be accommodated by a planned transfer station expansion specifically designed to handle the recyclables stream. Assuming a default value of 30 years for the useful life of a transfer station, the existing facility may need to be replaced/upgraded by 2015.

3.2.2 REGULATORY CONSIDERATIONS

The current Solid Waste Chapter 2 operating permit (File #50.217) for the Felix Pino Transfer Station was renewed by the WDEQ/SHWD in May 2008 and will expire in May 2016. The Transfer Station is currently in compliance with regulatory standards.

3.2.3 FINANCIAL CONSIDERATIONS

The FCA analysis of the Felix Pino Transfer Station was generally based on development costs estimated by the operator and actual operating expenditures and revenues for FY0607. Copies of the FCA worksheets (# 1, #2, #3, and #5) for the facility are provided in Appendix G. The average life-cycle cost of the facility was estimated to be approximately \$ 1,303,000 per year. In FY0607, the facility managed approximately 49,527 tons of waste. Based on that tonnage, the average life-cycle cost of managing wastes at the facility in FY0607 was approximately \$26 per ton. The average annual life-cycle cost of managing wastes at the facility in FY0607, including the sale of commodities, was approximately \$25 per ton.

Significant assumptions and limitations associated with the FCA analysis of the facility include:

- Historical documentation regarding the costs of facility development, non-routine site improvements, and in-kind services by other government entities was limited. The estimated average annual operating costs, therefore, may not fully describe the life-cycle cost of the facility.
- Tonnage estimates were provided by the operator in the site survey document and these data were used to estimate the annual tonnage of waste managed in FY0607. The FCA analysis does not include costs for anticipated MSW diversion upgrades, including facility expansion and single-stream recycling equipment. Costs for these upgrades will be included in the upcoming report regarding the economic analysis of alternative systems.
- The FCA analysis uses the diverted waste forecasts based on the FY0607 recycling programs which did not include single-stream recycling. The future report regarding the economic analysis of alternative systems will incorporate waste stream diversion rates anticipated for city-wide, single-stream recycling efforts.

3.3 CITY OF CHEYENNE – COMPOST FACILITY

The City of Cheyenne’s Compost Facility is located on 7 acres of land at 3714 Windmill Road in Cheyenne, Wyoming (Figure 3-1). The facility property is leased from the Airport Board by the City of Cheyenne for a nominal annual fee. Following a pilot project to ensure community support, the facility began receiving yard wastes in 1999. The amount of compostable materials directed to the facility increased substantially in 2003, after the City of Cheyenne banned disposal of yard waste at Happy Jack Landfill #1.

The compost facility accepts yard waste and clean wood as well as animal manure from Cheyenne’s annual Frontier Days festivities. The city has a contract with a Colorado composting company to help market Cheyenne’s final compost products/dyed wood chips/mulch as well as provide Cheyenne with poultry manure to accelerate the composting process. The facility has a mobile office and equipment storage shed on-site. Composting equipment used to break up the yard waste and turn piles to make final compost includes a front end loader, a tractor with a bucket, a compost screener, and a roto-chopper.

3.3.1 CAPACITY CONSIDERATIONS

Based on information provided by the operator, the Compost facility processed approximately 12,000 tons in 2006 and has the current capacity to process approximately 23,000 tons per year. Assuming a default value of 40 years for composting operations, the facility may need to be replaced by 2039.

3.3.2 REGULATORY CONSIDERATIONS

The Compost facility is managed at an in-town location and is not associated with the Cheyenne landfill or transfer station properties. Since the facility handles only yard waste, clean wood, and manure, a WDEQ/SHWD permit is not currently required. Should the facility accept dead animals, biosolids, or biodegradable food products, WDEQ/SHWD regulatory oversight may be required to address potential vector attraction. Currently, there are no plans to expand or relocate the facility or to accept these additional waste streams.

3.3.3 FINANCIAL CONSIDERATIONS

The FCA analysis of the Cheyenne Compost Facility was generally based on development costs estimated by the operator as well as actual operating expenditures and revenues for FY0607. Copies of the FCA worksheets (#1, #3, and #5) for the facility are provided in Appendix H. The average life-cycle cost of the facility was estimated to be approximately \$ 434,000 per year. In FY0607, the facility managed approximately 12,300 tons of waste. Based on that tonnage, the average life-cycle cost of managing wastes at the facility in FY0607 was approximately \$35 per ton. The average annual life-cycle cost of managing wastes at the facility in FY0607, including the sale of commodities, was approximately \$18/ton.

Significant assumptions and limitations associated with the FCA analysis of the facility include:

- Historical documentation regarding the costs of facility development, non-routine site improvements, and in-kind services by other government entities was limited. The estimated average annual operating costs, therefore, may not fully describe the life-cycle cost of the facility.
- No facility development costs were identified since the facility was initiated by the City of Cheyenne Parks Department using minimal resources. Some major capital expenditures (e.g., the cost of purchasing equipment), however, were included in the FCA analysis of operating costs.
- Tonnage estimates were provided by the operator based on compost volume measurements taken at the site in FY0607.

3.4 ADDITIONAL COMMUNITY FACILITIES

In addition to the solid waste management facilities operated by the City of Cheyenne, there are other public/private entities involved in various aspects of recycling and composting. The most notable of these are the recyclables drop-off and compost yard at F.E. Warren Air Force Base, the Magic City Enterprises/ECO Recycling Center, and the

Tatooine Incorporated electronics recycling facility. There are likely other smaller services available that are not currently represented within this report.

3.4.1 F.E. WARREN AIR FORCE BASE RECYCLING FACILITY AND COMPOST YARD

Since 1993, F.E. Warren Air Force Base has operated a drop-off recycling facility and compost yard on the base property located at 5303 Randall Avenue, Cheyenne, Wyoming. The recycling operation is an outdoor facility that covers approximately 14,500 sf. Recycling dumpsters are located at the site for general personnel access. Recyclable products collected at the base during FY0607 include: newspapers and magazines, cardboard, office paper, shredded privacy paper, #1, #2, and #3 plastics, glass, aluminum, steel cans, scrap metal, cooking oil, printer cartridges, CDW, spent fuel oil, e-waste, used paint, anti-freeze, used oil, and lead-acid batteries. The recyclable commodities are sold to various private or non-profit vendors and the hazardous materials are disposed of by appropriate contractors (Appendix C). Supplemental information pertaining to the annual tonnage collected and the associated revenue from these commodities is also provided in Appendix C. This recyclable commodity stream does not directly affect City of Cheyenne facilities.

The compost yard is currently located on a 229,388 sf site apart from the recyclables drop-off area. Yard waste, pallets, manure, sawdust, compost, and mulch are received and/or processed at the facility. During FY0607, the Air Force Base compost yard produced 258 tons of compost and 14 tons of mulch for use on base property.

In 2007, all non-recyclable MSW from the air force base was transported to the Happy Jack Landfill #1. For Cheyenne's existing facility FCA analysis, it is assumed that the diverted materials will continue to be diverted without affecting the existing composting or recycling facilities managed by the City of Cheyenne. Accordingly, the only waste stream generated by the base and accounted for in the FCA analysis is the MSW transferred to the Happy Jack Landfill #1.

3.4.2 MAGIC CITY ENTERPRISES

Magic City Enterprises is a non-profit business providing services for mentally challenged adults (clients). The ECO Recycling Center is one segment of the business that offers employment opportunities for clients. The recycling center was established in 1996 and is located at 1780 Westland Road, Cheyenne, Wyoming, on approximately 3 acres of land. The facility accepts newspaper, magazines, office paper, cardboard, aluminum, and steel cans (Appendix D). The facility uses two balers for cans and two balers for paper products to prepare the commodities for market. The ECO



Recycling Center processed 1,526 tons of paper products and 544 tons of corrugated cardboard during 2006. In 2007, the volumes increased to 2014 and 659 tons, respectively (McCracken 2008). Since the recycling center collects source-separated commodities from various community sources, the volumes may be subject to change upon implementation of a city-wide, single-stream recycling program.

3.4.3 TATOOINE INCORPORATED

Tatooine Incorporated recycles and reconditions electronic wastes (e-waste) such as computers, printers, copiers, televisions, etc. The business was established in 1996 and was the first licensed Wyoming regional resource for e-waste disposal. In 2007, Tatooine handled e-waste collected by the City of Cheyenne as well as F.E. Warren Air Force Base, as noted in the site surveys. E-waste recycling is currently a cost rather than a revenue source for solid waste management facilities. Tatooine offers various rates dependent on market fluctuations. Since Tatooine Incorporated is a private business, specific financial information, including e-waste handling rates, is not available for publication.

3.5 FINANCIAL SUMMARY

The FCA information for the three City of Cheyenne facilities, based on the data and assumptions described in this report, were combined to summarize an overall average annual life-cycle cost of solid waste management. The average annual life-cycle cost of these facilities, including the sale of commodities and special services, was approximately \$3,469,000, of which 57.3% were landfill costs, 36.3% were transfer station costs and 6.4% were compost facility costs. These facilities managed approximately 114,134 tons of waste and commodities in 2007, for an average annual life-cycle cost of approximately \$30 per ton.



4.0 POPULATION AND WASTE STREAM ESTIMATES AND FORECASTS

The following information provides general estimates and forecasts of service populations and waste stream characteristics for existing facilities in the City of Cheyenne.

4.1 CITY OF CHEYENNE

The service area for these facilities includes the City of Cheyenne, F.E. Warren Air Force Base and the surrounding rural areas within Laramie County School District #1.

4.1.1 POPULATION ESTIMATES AND FORECASTS

Service population estimates and forecasts for the City of Cheyenne solid waste management facilities are summarized in Table 4-1. The 2000 Census indicated that 81,607 people resided in Laramie County (WDAI 2007), and 77,267 of those people resided within Laramie County School District #1, the service area for the Cheyenne solid waste management facilities. The 2007 population estimate and the 2027 forecast were prepared by multiplying the base 2000 census data by the average annual growth rate of approximately 2.0% for Laramie County, in accordance with the *PlanCheyenne* comprehensive planning document adopted in 2006. The 2007 estimate and the 2027 forecast of the facility's service population are 84,133 people and 125,017 people, respectively.

4.1.2 WASTE STREAM ESTIMATES AND FORECASTS

The characteristics of the 2007 waste stream received at the Happy Jack Landfill #1, Felix Pino Transfer Station, and Composting Facility are summarized in Tables 4-2, 4-3, and 4-4, respectively, and are based on site-specific data. The tonnages and relative percentages of the 2007 waste stream that were diverted from disposal are also summarized in Tables 4-2, 4-3, and 4-4. The 2007 cumulative waste generation rate was approximately 7.5 pounds per person per day and approximately 1,989 tons of MSW, 4,733 tons of CDW, and 12,300 tons of compostable material were diverted from disposal during 2007. As mentioned in Section 2.4, waste stream forecasts were based on the assumption that current waste generation, diversion, and disposal rates (i.e., pounds per person) will remain constant. The 2027 forecast of the amount of wastes that will be generated for disposal (tons per year and cumulative tons) is summarized in Table 4-1. The 2027 forecast of the amount of wastes that will be diverted from disposal (tons per year), is also summarized in Table 4-1.

4.2 SUMMARY

The following summary information is provided for the City of Cheyenne as a whole, and is based on the data and assumptions described in this report.

In 2007:

- The service population for the City of Cheyenne facilities was approximately 84,133 people
- The average waste generation rate was approximately 7.5 pounds per person per day
- Approximately 114,134 tons of waste were generated
- Approximately 95,112 tons of waste were disposed in a landfill
- Approximately 19,022 tons of waste were diverted from disposal
- The cumulative waste diversion rate was approximately 16.7 %

In 2027:

- The service population will be approximately 125,017 people
- Approximately 169,597 tons of waste will be generated
- Approximately 141,331 tons of waste will be disposed in a landfill
- Approximately 28,266 tons of waste will be diverted from disposal

Between 2007 and 2027:

- Approximately 2,452,303 tons of waste will be disposed in a landfill

5.0 REFERENCES

- City of Cheyenne. 2006. Cheyenne Area Master Plan. Includes Community Plan, Parks and Recreation Master Plan, and Transportation Master Plan. Cheyenne, WY. November 2006. Available on-line via: <http://www.plancheyenne.com/>.
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- EPA. 1998. Characterization of Building-Related Construction and Demolition Debris in the United States. EPA 530-R-98-010. June 1998.
- EPA. 2006. Municipal Solid Waste in the United States: 2005 Facts and Figures. EPA 530-R-06-011. October 2006.
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- Wyoming Department of Administration and Information (WDAI). 2007. Demographic Information. Available from: Economic Analysis Division via the Internet: (http://eativ.state.wy.us/demog_data/demographic.html).
- Wyoming Department of Environmental Quality (WDEQ). 1997. Solid Waste Guideline #12: Participation in the State Trust Account. January 22, 1997.
- WDEQ. 1998A. Chapter 1 General Provisions. Solid Waste Rules and Regulations. Filed October 15, 1998.
- WDEQ. 1998B. Chapter 2 Sanitary Landfill Regulations. Solid Waste Rules and Regulations. Filed October 15, 1998.

WDEQ. 1998C. Chapter 6 Transfer, Treatment and Storage Facility Regulations. Solid Waste Rules and Regulations. Filed October 15, 1998.

WDEQ. 1998D. Chapter 7 Financial Assurance Requirements. Solid Waste Rules and Regulations. Filed October 15, 1998.



TABLES

**TABLE 4-2. 2007 ANNUAL WASTE STREAM SUMMARY
HAPPY JACK LANDFILL #1, CITY OF CHEYENNE, WYOMING**

2007 Service Population	84,133
Default MSW Generation Rate ¹ (lbs/person/day)	4.5
Default CDW Generation Rate ² (lbs/person/day)	2.8
Actual MSW Generation Rate (lbs/person/day)	4.9
Actual CDW Generation Rate (lbs/person/day)	1.6

Waste Stream	2007 Population Data			2007 Site-Specific Data			
	Generated (tons)	Divertable (tons)	(%)	Received at All Cheyenne Facilities (tons)	Received at Landfill (tons)	Diverted (tons)	(%)
Municipal Solid Waste (MSW)	69,094			89,557	75,444		
Yard Wastes		9,051	13.1%			7	0.0%
Food Wastes		8,222	11.9%				0.0%
Newspaper		3,386	4.9%				0.0%
Magazines		691	1.0%				0.0%
White Office Paper		1,866	2.7%				0.0%
Junk Mail/Directories/Commercial Printing		3,938	5.7%				0.0%
Cardboard		8,706	12.6%				0.0%
Plastics #1 (PET)		207	0.3%				0.0%
Plastics #2 (HDPE)		207	0.3%				0.0%
Glass Bottles/Jars		3,040	4.4%				0.0%
Aluminum Cans		415	0.6%				0.0%
Steel Cans		622	0.9%				0.0%
Lead-Acid Batteries		691	1.0%				0.0%
Electronic Wastes		760	1.1%				0.0%
White Goods		1,036	1.5%				0.0%
Tires		1,244	1.8%			169	0.2%
Household Hazardous Waste ³		484	0.7%				0.0%
Used Oil							0.0%
Antifreeze							0.0%
Paint							0.0%
Pesticides							0.0%
Construction and Demolition Waste (CDW)	42,992			24,577	24,577		
Concrete		10,748	25.0%			1,395	5.7%
Asphalt		430	1.0%			3,287	13.4%
Clean Wood		6,449	15.0%				0.0%
Metal		2,150	5.0%			51	0.2%
Special Solid Waste (SSW)							
Petroleum Contaminated Soils				719	719		
Non-Friable Asbestos				20	20		

	For All Cheyenne Facilities	For Cheyenne Landfill
Municipal Solid Waste Receipt Rate (tons) =	89,557	75,444
Municipal Solid Waste Diversion Rate (tons) =	14,289	176
Municipal Solid Waste Diversion Rate (%) =	16.0%	0.2%
Construction/Demolition Waste Receipt Rate (tons) =	24,577	24,577
Construction/Demolition Waste Diversion Rate (tons) =	4,733	4,733
Construction/Demolition Diversion Rate (%) =	19.3%	19.3%
Cumulative Municipal and Construction/Demolition Diversion Rate (%) =	16.7%	4.9%
Special Waste Receipt Rate (tons) =	739	739

NOTES

- 1 Based on 2005 national average (EPA 2006)
- 2 Based on 1996 national average (EPA 1998)
- 3 Based on national average (EPA 2006)

**TABLE 4-3. 2007 ANNUAL WASTE STREAM SUMMARY
FELIX PINO TRANSFER STATION, CITY OF CHEYENNE, WYOMING**

2007 Service Population	84,133
Default MSW Generation Rate ¹ (lbs/person/day)	4.5
Default CDW Generation Rate ² (lbs/person/day)	2.8
Actual MSW Generation Rate (lbs/person/day)	5.8
Actual CDW Generation Rate (lbs/person/day)	1.6

Waste Stream	2007 Population Data			2007 Site-Specific Data			
	Generated (tons)	Divertable (tons)	(%)	Received at All Cheyenne Facilities (tons)	Received at Transfer Station (tons)	Diverted (tons)	(%)
Municipal Solid Waste (MSW)	69,094			89,557	49,257		
Yard Wastes		9,051	13.1%				0.0%
Food Wastes		8,222	11.9%				0.0%
Newspaper		3,386	4.9%			1,171	1.3%
Magazines		691	1.0%			42	0.0%
White Office Paper		1,866	2.7%				0.0%
Junk Mail/Directories/Commercial Printing		3,938	5.7%				0.0%
Cardboard		8,706	12.6%			173	0.2%
Plastics #1 (PET)		207	0.3%				0.0%
Plastics #2 (HDPE)		207	0.3%				0.0%
Glass Bottles/Jars		3,040	4.4%			176	0.2%
Aluminum Cans		415	0.6%			3	0.0%
Steel Cans		622	0.9%			46	0.1%
Lead-Acid Batteries		691	1.0%			6	0.0%
Electronic Wastes		760	1.1%			101	0.1%
White Goods		1,036	1.5%				0.0%
Tires		1,244	1.8%				0.0%
Household Hazardous Waste ³		484	0.7%				0.0%
Used Oil						6	0.0%
Antifreeze						1	0.0%
Paint						3	0.0%
Pesticides						1	0.0%
Other						19	0.0%
Other (may include plastics)						65	0.1%
Construction and Demolition Waste (CDW)	42,992			24,577	0		
Concrete		10,748	25.0%				0.0%
Asphalt		430	1.0%				0.0%
Clean Wood		6,449	15.0%				0.0%
Metal		2,150	5.0%				0.0%
Other							0.0%
Special Solid Waste (SSW)							

	For All Cheyenne Facilities	For Cheyenne Transfer Station
Municipal Solid Waste Receipt Rate (tons) =	89,557	49,257
Municipal Solid Waste Diversion Rate (tons) =	14,289	1,813
Municipal Solid Waste Diversion Rate (%) =	16.0%	3.7%
Construction/Demolition Waste Receipt Rate (tons) =	24,577	0
Construction/Demolition Waste Diversion Rate (tons) =	4,733	0
Construction/Demolition Diversion Rate (%) =	19.3%	0.0%
Cumulative Municipal and Construction/Demolition Diversion Rate (%) =	16.7%	3.7%
Special Waste Receipt Rate (tons) =	0	0

NOTES

- 1 Based on 2005 national average (EPA 2006)
- 2 Based on 1996 national average (EPA 1998)
- 3 Based on national average (EPA 2006)

**TABLE 4-4. 2007 ANNUAL WASTE STREAM SUMMARY
CHEYENNE COMPOST FACILITY, CITY OF CHEYENNE, WYOMING**

2007 Service Population	84,133
Default MSW Generation Rate ¹ (lbs/person/day)	4.5
Actual MSW Generation Rate (lbs/person/day)	5.8

Waste Stream	2007 Population Data			2007 Site-Specific Data			
	Generated (tons)	Divertable (tons)	(%)	Received at All Cheyenne Facilities (tons)	Received at Composting Facility (tons)	Diverted (tons)	(%)
Municipal Solid Waste (MSW)	69,094			89,557	12,300		
Yard Wastes		9,051	13.1%			12,300	13.7%
Food Wastes		8,222	11.9%				0.0%
Newspaper		3,386	4.9%				0.0%
Magazines		691	1.0%				0.0%
White Office Paper		1,866	2.7%				0.0%
Junk Mail/Directories/Commercial Printing		3,938	5.7%				0.0%
Cardboard		8,706	12.6%				0.0%
Plastics #1 (PET)		207	0.3%				0.0%
Plastics #2 (HDPE)		207	0.3%				0.0%
Glass Bottles/Jars		3,040	4.4%				0.0%
Aluminum Cans		415	0.6%				0.0%
Steel Cans		622	0.9%				0.0%
Lead-Acid Batteries		691	1.0%				0.0%
Electronic Wastes		760	1.1%				0.0%
White Goods		1,036	1.5%				0.0%
Tires		1,244	1.8%				0.0%
Household Hazardous Waste ²		484	0.7%				0.0%
Used Oil							0.0%
Antifreeze							0.0%
Paint							0.0%
Pesticides							0.0%
Other							0.0%
Other							0.0%
Construction and Demolition Waste (CDW)				24,557	0		
Special Solid Waste (SSW)							

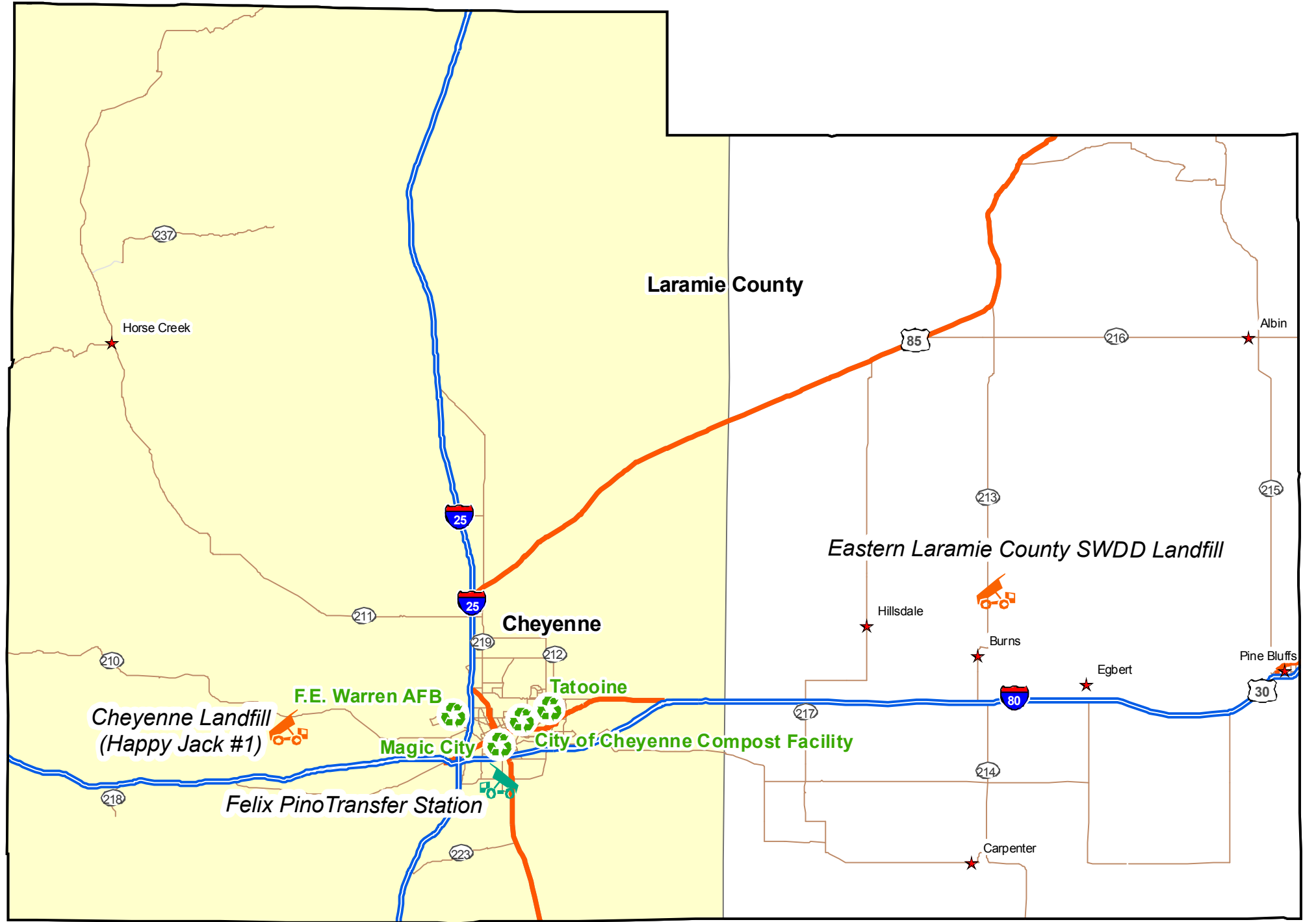
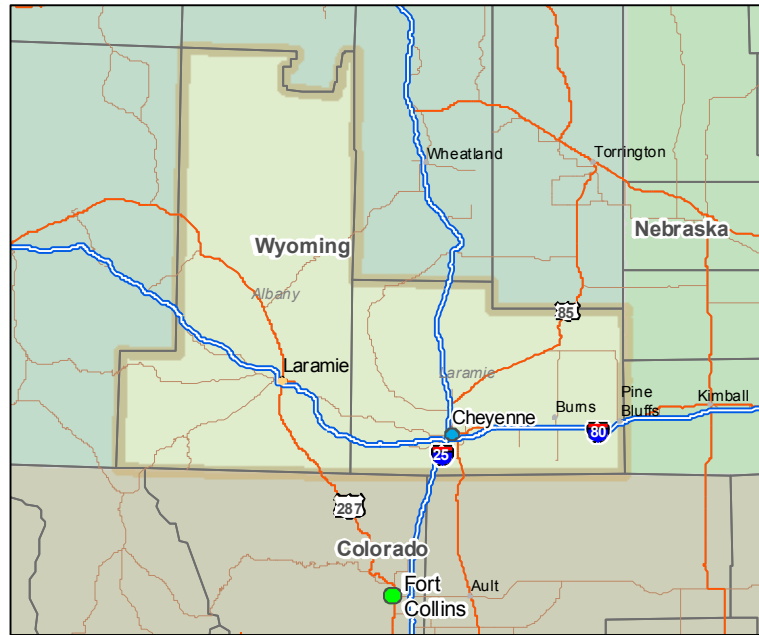
	For All Cheyenne Facilities	For Cheyenne Compost Facility
Municipal Solid Waste Receipt Rate (tons) =	89,557	12,300
Municipal Solid Waste Diversion Rate (tons) =	14,289	12,300
Municipal Solid Waste Diversion Rate (%) =	16.0%	100.0%
Construction/Demolition Waste Receipt Rate (tons) =	24,557	0
Construction/Demolition Waste Diversion Rate (tons) =	4,733	0
Construction/Demolition Diversion Rate (%) =	19.3%	0.0%
Cummulative Municipal and Construction/Demolition Diversion Rate (%) =	16.7%	100.0%
Special Waste Receipt Rate (tons) =	0	0

NOTES




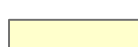
- 1 Based on 2005 national average (EPA 2006)
- 2 Based on national average (EPA 2006)

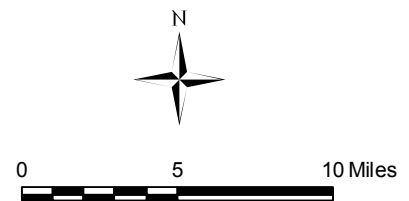
FIGURES

REGIONAL LOCATION MAP SHOWING PLANNING AREA



EXPLANATION

-  ACTIVE LANDFILL
-  TRANSFER STATION
-  RECYCLING CENTERS
-  CHEYENNE LANDFILL SERVICE AREA




1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307.745.7474 (F) 307.745.7729

FIGURE 3-1
EXISTING WASTE MANAGEMENT SYSTEM
CHEYENNE, WYOMING

SOUTHEAST WYOMING INTEGRATED SOLID WASTE
MANAGEMENT PLANNING PROJECT

Drawn By: BR | Checked By: MB | Scale: 1" = 6 Miles | Date: 7/25/08 | File: W_Laramie_Cnty.mxd

APPENDIX A

EXISTING FACILITY SURVEY

CITY OF CHEYENNE – HAPPY JACK LANDFILL #1

INTEGRATED SOLID WASTE MANAGEMENT PLAN
SOUTHEAST WYOMING PLANNING AREA

EXISTING FACILITY SURVEY

Last Updated: March 25, 2009

Please provide as much detailed information as possible for each of the following survey questions by left-clicking on the gray box after “Answer” and entering your response. As an alternative, you may write your responses on a separate sheet of paper using the numbering system provided below. If a particular question is not applicable, indicate so by entering “**NA**”, and provide a brief explanation.

General Information

1. Facility Name and WDEQ File Number
Answer: City of Cheyenne – Happy Jack Landfill #1 (SHWD # 10.080)
2. Physical Address
Answer: 1461 Happy Jack Rd.
3. Township/Range/Section or Latitude/Longitude
Answer: Township 14N Range 68W Section 33 & 34
4. First Year of Operation
Answer: 1966

For each facility contact listed below, identify:

- Entity Name Happy Jack Landfill
- Contact Name Dennis L. Pino
- Mailing Address 2101 O’Neil Ave.
- Phone 1-307-637-6440
- Fax 1-307-637-6443
- Email dpino@cheyennecity.org

5. Landfill Permit Holder
Answer: City of Cheyenne
6. Landowner (if different than Landfill Permit Holder)
Answer: City of Cheyenne
7. Engineer (that prepared most recent permit application)
Answer: Terracon
8. Local Collection Service Providers (city and private)
Answer: City of Cheyenne

Permit Information

Current Application/Permit

9. Date of Current Application
Answer: 2004 and working on renewal application
10. Date of WDEQ Permit Letter
Answer: March 2004
11. Facility Classification (Type I or II)
Answer: Type One
12. Total Acreage
Answer: 147.66
13. Service Area
Answer: Western two-thirds of Laramie County, also known as Laramie County School District No. 1.
14. Service Population ... include date, source, and basis of estimate
Answer: 76,399 (Projected from 1990 Census Data)
15. Operating Hours (days per week, and hours per day)
Answer: Hours 7:00 AM to 4:00 PM – Tuesday through Friday; 9:00 AM to 4:00 PM Monday and Saturday
16. Total Disposal Capacity (cubic yards)
Answer: 8,000,000 CY
17. Remaining Disposal Capacity (cubic yards) ...include date, source, and basis of estimate
Answer: 962 Tons

3/25/09 – Dennis Pino (Director of Solid Waste) – Question: Is this the correct capacity?
Answer: No. The remaining cell can accommodate an additional 486,565 tons, not including additional allowances granted by WDEQ. (Trihydro note: equals 811,000 cy using 1200 lbs/cy compaction rate)

18. Remaining Site Life (years) ... include date, source, and basis of estimate
Answer: 2012

Pending Application/Permit (if applicable)

19. Date of Pending Application
Answer: NA
20. Name of Consultant that prepared Pending Application
Answer: Terracon

21. Nature of Pending Application ... examples: renewal, major amendment
Answer: NA

22. Status of Pending Application
Answer: Work on new permit renewal for March 2008

Liner/Cover System

23. General description of current liner system ... examples: unlined trenches, compacted clay, composite liner, etc.
Answer: Between 1991 and 1993, an engineered containment system (ECS) cap was constructed over trench three of the south trench. This part of the landfill is not lined. The cap was reportedly constructed with 24 inches of compacted, native clay sand protected by 30 inches of compacted cover soil and six inches of topsoil. A Polyvinyl Chloride (PVC) membrane liner was used. In 1996, the South Trench Cap and Trench IV area Fill Surface Water Run-Off project was constructed. The project included an ECS cap over Trench I, II, and IV of the South Trench. A high density polyethylene (HDPE) liner was utilized as the hydraulic barrier layer. A lateral drainage course protective layer was installed over the protective layer. In 1998, the second phase of the North Trench project was constructed. The project included the construction of ECS beneath cells three and 4 of the North Trench. A composite PVC liner over a secondary native clay soil liner was utilized as the hydraulic barrier layer. A leachate collection system was installed over the liner and leachate collection system. In addition portions of the adjacent north slope of the Trench IV area fill were lined with a PVC liner. Cell V was constructed in 2003, using a GO composite liner installed along the bottom and a GCL and LLPE liner installed on the slopes.

24. WDEQ Engineered Containment System Determination ... provide date and summary of determination
Answer: Section 6 (b) GROUNDWATER MONITORING CHEYENNE SANITARY #1 LANDFILL PERMIT

See Section 2(b) (iii) (A) (LX) (6) and (7). Specific Geology and Groundwater. Groundwater Quality and Supporting Documentation and Section 2(b)(iii)(A)(XI)(I.) and (2). Environmental Monitoring Program – Monitoring Well Location, Design and Construction and Groundwater Sampling Program.

25. General description of final cover system
Answer: ENGINEERED LANDFILL CAP
See section 2(b)(iii)(A)(X)(5) of landfill permit, Facility Containment Devices for a description of the landfill cap.

Waste Stream

For each of the waste streams listed below, identify:

- waste acceptance rate (tons, cubic yards, or number) per year, and describe basis of estimate
- how each waste stream is managed ... examples: disposed on-site, transferred off-site, composted, stockpiled for recycling
- If a waste stream is not segregated from your incoming MSW waste stream, enter “**Not Segregated**” as your answer

- If waste stream is not accepted at your facility, enter “**Not Accepted**” as your answer

26. Municipal Solid Waste

Answer:

Annual Weights	Tons/year All Waste	Tons MSW/year	Tons CD/day	Tons CD/year	Tons CD/day
Transfer Station	47444	47444	152.06	3622	
Other City	11622	8000	25.64	6924	11.61
Street & Alley	6924		0.00	10546	22.19
Total City	65990	75444	177.71	14031	33.80
Non-City	34031	20000	64.10	24577	44.97
Total	100021	75444	241.08		78.77
Contractor MSW	15858				
Non-City CD	18173				
Annual Tonnage		75444		24577	
Tons/Day – 6 day week		241.8076923		78.7724359	

3/19/09 – Dennis Pino (Director of Solid Waste) – Question: The above table appears to contain some inconsistencies. Is the following table an accurate interpretation of the above? Also, does the below 47,444 also include the 1,813 tons that were outlined as divertible materials in the Transfer Station survey? Answer: Yes to the first question. No to the second – 47,444 tons does not include divertible materials passing through transfer station.

Annual Weights	Tons/year All Waste	Tons MSW/year	Tons MSW/day	Tons CD/year	Tons CD/day
Transfer Station	47444	47444	152.06		
Other City	11622	8000	25.64	3622	11.61
Street & Alley	6924		0.00	6924	22.19
Total City	65990	75444	177.71	10546	33.80
Non-City	34031	20000	64.10	14031	44.97
Total	100021	75444	241.08	24577	78.77
Contractor MSW	15858				
Non-City CD	18173				
Annual Tonnage		75444		24577	
Tons/Day – 6 day week		241.8076923		78.7724359	

27. Construction/Demolition Waste
Answer: Refer to 7
28. Industrial Waste (identify unique sources)
Answer: Refer to 7
29. Tires
Answer: 168.85
30. Petroleum Contaminated Soils
Answer: 719.08
31. Non-Friable Asbestos
Answer: 20.03
32. Friable Asbestos
Answer: None Excepted
33. Dead Animals
Answer: Don't keep track
34. Infectious Waste
Answer: Not Excepted
35. Concrete
Answer: 1395.07 Tons
36. Asphalt
Answer: 3287.4 Tons
37. Yard Wastes (grass, leaves, brush)
Answer: 7.27 Tons
38. Clean Wood
Answer: 83.89 Tons
39. Scrap Metal
Answer: 50.87 Tons
40. Other Significant Waste Streams (describe)
Answer: Not Available

Recyclable Commodities

For each recyclable commodity listed below, identify:

- location of collection facility (on-site or off-site)
- estimated storage capacity (square footage or volume)
- estimated quantity (tons) processed per year

- market (operator name, location)
- if a recycling service is not offered, enter “**No Service**” as your answer

41. Lead-Acid Batteries
[Answer: Refer to Felix Pino Transfer Station/City of Cheyenne Compost Facility survey.](#)
42. Used Oil
[Answer:](#)
43. Anti Freeze
[Answer:](#)
44. Paint
[Answer:](#)
45. Pesticides
[Answer:](#)
46. Electronic Waste
[Answer:](#)
47. Household/Conditionally-Exempt Hazardous Waste
[Answer:](#)
48. Newspaper
[Answer:](#)
49. Magazines
[Answer:](#)
50. Office Paper
[Answer:](#)
51. Cardboard
[Answer:](#)
52. Plastics (identify types)
[Answer:](#)
53. Glass
[Answer:](#)
54. Aluminum Cans
[Answer:](#)
55. Steel Cans
[Answer:](#)
56. Other Recycling Commodities (describe)
[Answer:](#)

Facility Structures

For each structure listed below, identify:

- construction date & cost
- square footage
- any special uses or features
- if a structure is not present at your facility, enter “**Not Present Onsite**” as your answer
- if a structure is present at an off-site location, identify the location, operator name, and operator phone

57. Scales
Answer: 2 scales in one 11x70 scale house

58. Gate Attendant Office
Answer: 128 square feet

59. Transfer Station
Answer: 17780 square feet

For breakdown of costs refer to # 26 in the Felix Pino Transfer Station survey

60. Shop/Equipment Storage
Answer: 5250 square feet

61. Composting Facility
Answer: Not present on site. The city compost facility is located on 3714 Windmill road.

62. Recycling Center
Answer: Not present on site – Recyclables sent to Magic City Enterprises

63. Other Structures (describe)
Answer: Electronic Waste Structure 1120 square feet
Satellite Hazardous Waste Building – 12X16

3/25/08 – Vicki Nemecek (Assistant Public Works Director) – Question: Please provide construction date and initial costs (specify if estimated) for the following structures.

Answer:

Structure	Construction Date	Initial Cost (specify if estimate)
Scale house	2000	\$80,000
Gate attendant office	2000	\$12,000
Shop/Equipment Storage	1998	\$140,000
E-waste building	2004	\$8,500
Satellite HHW building	2002	\$3,000
Compost Mobile office	2007	\$7,000
Compost Shed	2002	\$500

Facility Equipment

For each piece of equipment listed below, identify:

- make and model
- estimated hours of operation per day or per week
- purchase date and price, or lease period and price
- remaining useful life (years)

64. Compactor

Answer: Cat 836G; 2003; 9 h of operation per day; Trade In 2007

65. Dozer

Answer: Cat Dozer/Ripper D8R; 2001; 8 h of operation per day; Trade in 2011
Cat Crawler Tractor D7R; 2001; 6 h operation per day; Trade in 2016

66. Scraper

Answer: CAT 621G; 2001; 7 h operation per day; Trade in 2011
CAT 621G; 2002; 7 h operation per day; Trade in 2012

67. Loader

Answer: 936E Cat; 1989; 8 h operation per day; Trade in 2008

68. Grader

Answer: 140G Cat; 1983; 2 h operation per day; Trade in 2016

69. Dump Truck ... include description of type (end, belly, or side)

Answer: GMC 7500 end; 2001; 2 h operation per day; Trade in 2011

70. Special Use ... examples: wind rower, baler, chipper, grinder

Answer: NA

71. Other Equipment (describe)

Answer: Misc. shop equipment; tire cutters, oilers, mower/tractor, 4-wheeler, packers, mad vac for picking papers and trash hauling trailer

Excel file – Facility vehicles and useful life information. Outlines purchase price and useful life of specific equipment used at each City of Cheyenne facility. March 25, 2008.

Environmental Monitoring Program

Groundwater

72. Number of Wells Sampled

Answer: Per Bill Brewer – Trihydro Corporation. Happy Jack landfill samples 27 groundwater monitoring wells

3/19/2009 – Caroline Brewer of Trihydro Corporation – 3 additional wells were installed during 2008 and are being monitored quarterly for Appendix A parameters.

73. Sampling Frequency

Answer: Per Bill Brewer – Trihydro Corporation. Three times per year

74. Sampling Parameters (routine, baseline, Appendix A, Appendix B)
 Answer: Per Bill Brewer – Trihydro Corporation. Varies with four wells are required to sample Appendix B parameter list and the remaining wells are required to sample Appendix A parameter list
75. Volatile Organic Compounds Detected? (yes/no)
 Answer: Per Bill Brewer – Trihydro Corporation - yes
76. Statistically Significant Increases Confirmed? (yes/no ... list relevant parameters)
 Answer: Per Bill Brewer – Trihydro Corporation – yes for various metals and volatile organic carbons (VOCs)
77. Groundwater Protection Standards Exceeded? (yes/no ... list relevant parameters)
 Answer: Per Bill Brewer – Trihydro Corporation – see historical routine monitoring reports

Methane

78. Number of Wells/Points Sampled
 Answer: Per Bill Brewer – Trihydro Corporation – 1 methane well and 2 monitoring points in the equipment storage building and in the shop
79. Sampling Frequency
 Answer: Per Bill Brewer – Trihydro Corporation - quarterly
80. Methane detected? (yes/no)
 Answer: Per Bill Brewer – Trihydro Corporation – yes in the monitoring well only
81. Has methane ever been detected levels that are equal to or greater than 25% of the Lower Explosive Limit at the boundary of your facility? (yes/no)
 Answer: Per Bill Brewer – Trihydro Corporation – yes in well

Other

82. Other Monitoring Systems (if present, describe)
 Answer: 2 – Wind Monitors

Other Facility Information

83. Title and general description of work for each full- and part-time position
 Answer: 1 – Foreman III
 1 – Foreman II
 2 – Equipment OP III
 1 – Equipment OP II
 2 – Equipment OP I (paper pickers)
 1 – Landfill Attendant
84. In-place density of municipal solid waste (describe basis of estimate)
 Answer: Per Bill Brewer – Trihydro Corporation – 1000 lbs/cy

85. In-place density of construction/demolition waste (describe basis of estimate)
[Answer: Per Bill Brewer – Trihydro Corporation – not available](#)

86. Ratio of waste to daily cover (describe basis of estimate)
[Answer: 17% Daily Cover](#)

87. Describe recent or pending regulatory violations or issues
[Answer: Unknown](#)

[Per Bill Brewer – Trihydro Corporation - none](#)

88. Describe recent or pending operational issues
[Answer: Out of dirt](#)

Financial Information

Provide copies of the following documents:

89. Fee Schedule
[Answer: See Attachment](#)

90. Development Costs ...examples: planning and/or siting studies, purchase of land, initial design/permitting costs ... include detailed description of date, purpose, and amount

[3/25/08 – Vicki Nemecek \(Assistant Public Works Director\) – Question: Does the city have any old financial records that may contain information regarding the original costs that were incurred to design, permit, and construct the Happy Jack landfill? For example costs for planning studies, land acquisition, site investigations \(GW, geotechnical\), engineer design and permits, infrastructure other than buildings \(ie roads\), and environmental monitoring systems. Answer: NA](#)

[12/9/2008 – Meeting with Dennis Pino \(Director of Solid Waste\) – Land originally cost \\$80,000; Development costs minimal; water well installed](#)

91. Operating Budget ... include current fiscal year, and previous four years (if available), with full detail of revenues and expenditures
[Answer: See Attachment](#)

[3/25/08 – Vicki Nemecek \(Assistant Public Works Director\) – Question: In the Full Cost Accounting FY2006 document/Operating Costs worksheet does “professional services” refer to contract work? Answer: Yes. Excel file provided to clarify what service was provided for each line-item.](#)

[3/25/08 – Vicki Nemecek \(Assistant Public Works Director\) – Question: The costs for the large FY0607 annual expenses titled Loan and Bond Payment and Equipment Acquired Lease are not represented in any specific percentage in the provided worksheet titled City of Cheyenne FCA FY2006/Operating Costs. Can you provide a percentage that should be allocated to the landfill, transfer station and the composting facility? Note Recycling and HHW will be included in the economic analysis for the transfer station so](#)

the % for those can be added to the transfer station. Answer: Landfill 35% Transfer Station 60% Compost Facility 5%

3/25/08 – Vicki Nemecek (Assistant Public Works Director) – Question: Where in the City of Cheyenne FCA are line items like utilities and telephone for the landfill operations? The landfill does not have an allocated % for '432-14-01 Telephone and 432-14-03 Light, Fuel, and Power'; please estimate the annual cost to be allocated to the landfill for the landfill's economic analysis. Answer: Light \$4,500, Propane \$3,847, Telephone \$1,200

Document - City of Cheyenne, Sanitation Department, Statement of Revenue and Expenditures. (2004 – 2008)

Excel file – City of Cheyenne Full Cost Accounting FY2006 (Oct 2007). Multiple worksheets titled Wages and Benefits, Landfill Equipment, Other Vehicle and Equipment, Operating Costs, Overhead Costs, Tons Data, Compost, and Summary.

Excel file – City of Cheyenne Landfill – Haul – Waste to Energy comparison spreadsheet

Excel file – Professional Service Descriptions. Break-down of line-item contract services. March 25, 2008.

Document – City of Cheyenne Solid Waste Disposal Options – September 24, 2007

Document – City of Cheyenne Sanitation Fee Schedule – July 1, 2008

Document – Professional Services Agreement between the City of Cheyenne and Waste Management Disposal Services of Colorado – July 1, 2008

- 92.** Non-Routine Capital Expenditures ... examples: land, equipment, structures, monitoring systems ... include detailed description of project, date, cost and funding source for both historical and anticipated expenditures

Answer:

3/25/08 – Vicki Nemecek (Assistant Public Works Director) – Question: What were the excavation and liner system installation date (year only) and costs for the most recent cell? What is the remaining life (years) of the cell? Answer: Cells one and two 1994 \$1.5M, Cells three and four 1998 \$900,000, Cell five 2004 \$1.2M.

- 93.** Contract Services ... include detailed description of contract services associated with the routine facility operations, such as routine compaction and covering, trench excavation, composting, waste hauling, etc.

Answer: Trihydro, Terracon and Wyoming Salvage

- 94.** Financial Assurance ... include copies of most recent work sheets for calculating your closure and post-closure premiums for the State Guarantee Trust Account

Answer:

Document - City of Cheyenne 2007 State Guarantee Trust Account Invoice

95. Other Relevant Documents ... examples: audits, customer surveys, planning studies

Answer:

Excel file – City of Cheyenne, Landfill-Haul-Waste to Energy comparison spreadsheet

Document – City of Cheyenne Solid Waste Disposal Options – September 24, 2007

96. Other Relevant Information ... examples: availability or suitability of adjacent land for lateral expansion, local opposition to existing operations

Answer:

APPENDIX B

EXISTING FACILITY SURVEY

CITY OF CHEYENNE – FELIX PINO TRANSFER STATION / COMPOST FACILITY



INTEGRATED SOLID WASTE MANAGEMENT PLAN
SOUTHEAST WYOMING PLANNING AREA

EXISTING FACILITY SURVEY

Last Updated: March 19, 2009

Please provide as much detailed information as possible for each of the following survey questions by left-clicking on the gray box after "Answer" and entering your response. As an alternative, you may write your responses on a separate sheet of paper using the numbering system provided below. If a particular question is not applicable, indicate so by entering "**NA**", and provide a brief explanation.

General Information

1. Facility Name
Answer: Felix Pino Transfer Station / City of Cheyenne Compost Facility
2. Physical Address
Answer: Transfer Station 220 N. College Dr. / Compost 3714 Windmill Road
3. Township/Range/Section or Latitude/Longitude
Answer: Transfer Station Township 13N Range 66W Section 3 County Laramie
4. First Year of Operation
Answer: Transfer Station 1985 / Compost 1999
5. Total Acreage
Answer: Transfer Station 10 Acres / Compost 7 Acres
6. Operating Hours (days per week, and hours per day)
Answer: Recycling 7 days a week 8 hrs. per day, Compost seasonal 44 hours per week.
7. Is your facility required to have a permit from the WDEQ/SHWD? If your answer is "Yes", provide permit number, and expiration date.
Answer: Yes, Under renewal (SHWD File # 50.217)

For each facility contact listed below, identify:

- Entity Name
 - Contact Name
 - Mailing Address
 - Phone
 - Fax
 - Email
8. Owner/Operator
Answer: City of Cheyenne
 9. Landowner (if different than Owner/Operator)
Answer: City of Cheyenne

Recyclable Commodities

For each recyclable commodity listed below, identify:

- estimated storage capacity (square footage or volume)
- estimated quantity (tons) processed per year
- market (operator name, location)
- if a recycling service is not offered, enter “**No Service**” as your answer

10. Lead-Acid Batteries

Answer: 10 by 30 storage shed with secondary containment – 12,000 pounds – Wyo. Salvage

11. Used Oil

Answer: 1,000 gallon storage tank with secondary containment 1,500 gallons Tri-State

12. Anti Freeze

Answer: 4 – 55 gallon drums of oil base paint. Clean Harbors Environmental Services

13. Paint

Answer: 12- 55 gallon drums of oil base paint Clean Harbors Environmental Services.

14. Pesticides

Answer: 3- 55 gallon drums Clean Harbors Environmental Services.

15. Electronic Waste

Answer: 101.23 Tons Tatoonie Electronic Systems

16. Household/Conditionally-Exempt Hazardous Waste

Answer: 85- 55 gallon drums of various (Hazardous wastes) Clean Harbors Env. Services

17. Newspaper

Answer: 1170.893 Tons

18. Magazines

Answer: 42.0555 Tons

19. Office Paper

Answer: 0

20. Cardboard

Answer: 173.0635 Tons

21. Plastics (identify types)

Answer: Ones and twos No weight, sold with Base plastics. Magic City Enterprises

22. Glass

Answer: 176.28 Tons Landfill (Line leachate wells)

23. Aluminum Cans
Answer: 3.30895 Tons
24. Steel Cans
Answer: 46.0825 Tons
25. Other Recycling Commodities (describe)
Answer: 65.0085 Tons - Mixture of items.

Facility Structures

For each structure listed below, identify:

- construction date & cost
- square footage
- any special uses or features
- if a structure is not present at your facility, enter "**Not Present Onsite**" as your answer

26. Shop/Equipment Storage
Answer: Transfer Station \$2.8 million - constructed 1985
27. Recycling Center
Answer: compacter unit with two boxes. \$497,597.00
28. Other Structures (describe)
Answer: Transfer Station (1997) - Explosion proof building, mobile office and oil storage tank \$50,000. Compost Facility (1999) - Mobile office, shed, front end loader, tractor/loader with bucket, compost screener and Roto chopper \$432,500.00

Facility Equipment

For each piece of equipment listed below, identify:

- make and model
- estimated hours of operation per day or per week
- purchase date and price, or lease period and price
- remaining useful life (years)

29. Baler (if more than one, describe each)
Answer: No
30. Rolling Stock ... examples: loader, collection trucks, trailers
Answer: Two Haul-all trucks 1998-1999 Replace 2009-2010
Haul-All containers Replace in year 2018.
Seven roll-off containers, Roll-off compacter unit and two boxes. Compost site front end loader 2005, tractor/loader with bucket 2007 and compost screener 2005.

12/9/08 – Dennis Pino/Vicki Nemecek (City of Cheyenne) – Question: Could you confirm the annual cost of \$5,260 for the 'portable screen plant' should be allocated to composting? Answer: Portable screen plant should be removed from inventory – costs not to be included.

31. Other Equipment (describe)

Answer: RotoChopper

Excel file – Facility vehicles and useful life information. Outlines purchase price and useful life of specific equipment used at each City of Cheyenne facility. March 25, 2008.

Other Facility Information

32. Title and general description of work for each full- and part-time position

Answer: One Recycling Driver
One compost foreman/ operator
One operator
One part-time office manager

33. Describe recent or pending regulatory violations or issues

Answer: In compliance

34. Describe recent or pending operational issues

Answer: Renewal transfer station permit

Financial Information

Provide copies of the following documents:

35. Fee Schedule

Answer: Attached

36. Development Costs ...examples: planning and/or siting studies, purchase of land, initial design/permitting costs ... include detailed description of date, purpose, and amount

3/25/08 – Vicki Nemecek (Assistant Public Works Director) – Question: Does the city have financial information for the start up costs (minus the equipment and buildings; i.e. permits, engineer design, roads etc) for the composting facility? Answer: Compost facility was started by the Parks Department. That financial information is no longer available.

37. Operating Budget ... include current fiscal year, and previous four years (if available), with full detail of revenues and expenditures

Answer: Attached

3/25/08 – Vicki Nemecek (Assistant Public Works Director) – Question: In the Full Cost Accounting FY2006 document/Operating Costs worksheet does “professional services” refer to contract work? Answer: Yes. Excel file provided to clarify what service was provided for each line-item.

3/25/08 – Vicki Nemecek (Assistant Public Works Director) – Question: The costs for the large FY0607 annual expenses titled Loan and Bond Payment and Equipment Acquired Lease are not represented in any specific percentage in the provided worksheet titled City of Cheyenne FCA FY2006/Operating Costs. Can you provide a percentage that

should be allocated to the landfill, transfer station and the composting facility? Note Recycling and HHW will be included in the economic analysis for the transfer station so the % for those can be added to the transfer station. Answer: Landfill 35% Transfer Station 60% Compost Facility 5%

Document - City of Cheyenne, Sanitation Department, Statement of Revenue and Expenditures. (2004 – 2008)

Excel file – City of Cheyenne Full Cost Accounting FY2006 (Oct 2007). Multiple worksheets titled Wages and Benefits, Landfill Equipment, Other Vehicle and Equipment, Operating Costs, Overhead Costs, Tons Data, Compost, and Summary.

Excel file – Professional Service Descriptions. Break-down of line-item contract services. March 25, 2008.

- 38.** Non-Routine Capital Expenditures ... examples: land, equipment, structures, ... include detailed description of project, date, cost and funding source for both historical and anticipated expenditures
Answer: No
- 39.** Contract Services ... include detailed description of contract services associated with the routine facility operations
Answer: A-1 Organics for a mass production plan for the City Compost Facility
- 40.** Other Relevant Documents ... examples: audits, customer surveys, planning studies
Answer: No
- 41.** Other Relevant Information ... examples: availability or suitability of adjacent land for lateral expansion, local opposition to existing operations
Answer:

3/25/08 – Vicki Nemecek (Assistant Public Works Director) – Question: Do you want the proposed costs of the additional recycling center at the Happy Jack landfill added to the current operating costs? Are there other operating costs pertaining to current landfill/transfer station/composting that are definitely going to occur within next few years that you want accounted for in the current economic analysis? Please provide description, cost and year estimated to be built etc. Answer: Yes. C&D Recycling \$1.5M 2009 and Curbside Recycling \$2M 2009 & 2010. (Note: These costs could not be included in the current operating costs because of associated changes in waste volumes but are included in costs for various alternatives.)

3/19/09 – Email from Dennis Pino – Yard waste ban went into effect in 2003.

APPENDIX C

**EXISTING FACILITY SURVEY
FRANCIS E. WARREN AIR FORCE BASE**

INTEGRATED SOLID WASTE MANAGEMENT PLAN
SOUTHEAST WYOMING PLANNING AREA

EXISTING FACILITY SURVEY

Last Updated: May 12, 2008

Please provide as much detailed information as possible for each of the following survey questions by left-clicking on the gray box after "Answer" and entering your response. As an alternative, you may write your responses on a separate sheet of paper using the numbering system provided below. If a particular question is not applicable, indicate so by entering "**NA**", and provide a brief explanation.

General Information

1. Facility Name
Answer: Francis E. Warren AFB
2. Physical Address
Answer: Southeast Wyoming; adjacent to the city of Cheyenne, WY
3. Township/Range/Section or Latitude/Longitude
Answer: Current Drop Off Recycling Facility: 41-08-36, 104-51-19
Compost Yard: 41-08-08, 104-52-03
Base General: 41-09-50, 104-51-42
4. First Year of Operation
Answer: 1993 for Drop Off Recycling Facility and Compost Yard
5. Total Acreage
Answer: Base acreage: 5866 acres
6. Operating Hours (days per week, and hours per day)
Answer: Compost Yard: 1 Nov to 30 Apr: Friday & Saturday 12-5pm
1 May to 31 Oct: Wednesday-Saturday 10am-7pm
7. Is your facility required to have a permit from the WDEQ/SHWD? If your answer is "Yes", provide permit number, and expiration date.
Answer: No

For each facility contact listed below, identify:

- Entity Name: Compost Yard and Drop Off Recycling Facility
 - Contact Name: Kim Mickley
 - Mailing Address: 90 CES/CEVV, 300 Vesle Drive, FEW AFB, WY 82005
 - Phone: 307-773-2594
 - Fax: 307-773-4153
 - Email: Kim.Mickley1@warren.af.mil
8. Owner/Operator
Answer: Department of Defense, United States Air Force, Francis E. Warren AFB

9. Landowner (if different than Owner/Operator)
Answer: Same as above

Recyclable Commodities

For each recyclable commodity listed below, identify:

- estimated storage capacity (square footage or volume)
- estimated quantity (tons) processed per year
- market (operator name, location)
- if a recycling service is not offered, enter “**No Service**” as your answer

10. Lead-Acid Batteries
Answer: capacity varies per shop; 157.76 tons processed/year; Defense Reutilization Marketing Service (DRMS), Fort Carson, CO for missile batteries and Andersens Sales and Salvage of Greeley, CO for non-missile batteries
11. Used Oil
Answer: capacity varies; 1.51 tons; Tri State Oil, Cheyenne, WY
12. Anti Freeze
Answer: capacity varies; 0.28 tons; Tri State Oil, Cheyenne, WY
13. Paint
Answer: capacity varies; 1.37 tons; DRMS, Fort Carson, CO
14. Pesticides
Answer: None
15. Electronic Waste
Answer: Government E-waste: capacity varies; 11.37 tons; DRMS, Fort Carson, CO
16. Household/Conditionally-Exempt Hazardous Waste
Answer: Household E-waste: 40 cubic yard dumpster; 13.52 tons; Tatoonie Electronic Systems, Cheyenne, WY
17. Newspaper
Answer: capacity varies; 181.35 tons; Magic City Enterprises (MCE), Cheyenne, WY
18. Magazines
Answer: capacity varies; 181.35 tons; Magic City Enterprises (MCE), Cheyenne, WY
19. Office Paper
Answer: capacity varies; 23.5 tons; MCE, Cheyenne, WY
20. Cardboard
Answer: capacity varies; 355 tons; MCE, Cheyenne, WY
21. Plastics (identify types)
Answer: Types: #s 1-3; capacity varies; 14.16 tons; MCE, Cheyenne, WY

22. Glass
Answer: capacity varies; 12.97 tons; COORS Brewing Company, Golden, CO
23. Aluminum Cans
Answer: capacity varies; 1.47 tons; MCE, Cheyenne, WY
24. Steel Cans
Answer: capacity varies; 8.39 tons; MCE, Cheyenne, WY
25. (Other Commodities) Answer: Diesel fuel; 0.38 tons; Tri State Oil, Cheyenne, WY
26. Scrap Metal: capacity varies; 353.20 tons; Wyoming Salvage, Cheyenne, WY
27. Compost: capacity varies; 258 tons; FEW AFB, WY
28. Mulch: capacity varies; 14 tons; FEW AFB, WY
29. Reuse (trees, sawdust, pallets, manure, etc): capacity varies; 363 tons; FEW AFB
30. Donation (trees, sawdust, pallets, manure, etc): capacity varies; 177 tons; FEW AFB
31. Cooking oil: capacity varies; 16.4 tons; Platte Valley, Scotts Bluff, NE
32. Privacy Act Paper: capacity varies; 2.85 tons; A THRU Z Document Destruction, Cheyenne, WY
33. Printer Cartridges: capacity varies; 2.4 tons; ACCESS Computer Products, Loveland, CO
34. Bentonite Clay: capacity varies; 60 tons; local giveaway, Cheyenne, WY
35. Spent Fuel Oil for refining: capacity varies; 2550 tons; Eagle Springs Refinery, Ely, NV
36. Construction & Demolition Debris (Concrete and/or asphalt): capacity varies; 2261 tons; Simons' and/or Willits' Pit, Cheyenne, WY

Facility Structures

For each structure listed below, identify:

- construction date & cost
- square footage
- any special uses or features
- if a structure is not present at your facility, enter "**Not Present Onsite**" as your answer

37. Shop/Equipment Storage
Answer: NA
38. Recycling Center
Answer: 1993; 14,500 square feet; recycle dumpsters

39. Other Structures (Compost Area)
Answer: 1993 then moved in 2002 to a new location; 229,388 square feet; used for composting, mulching, donating and reusing materials

Facility Equipment

For each piece of equipment listed below, identify:

- make and model
- estimated hours of operation per day or per week
- purchase date and price, or lease period and price
- remaining useful life (years)

40. Baler (if more than one, describe each)

Answer: None

41. Rolling Stock ... examples: loader, collection trucks, trailers

Answer: Front End Loader, 1998; remaining life: 5 years

Flatbed trailer, 2003, \$2K

Maxigrinder, circa 1994, 350 K; remaining life: 3 years

2 tub grinders, circa 1994, 5K each; remaining life: 5 years

Log splitter, Oct 2007, Model TW-10RC, Timber Wolf Corporation; \$58 K ; new

Screeener, circa 1994, 25K; remaining life: 2-4 years

Horizontal Grinder, Motor Cat Mode C9, Nov 2007, 247K; brand new

Horizontal Side Eject Baling System, Model# SE503042, Marathon Equip., 50K
brand new & won't be used until we build a recycling facility in 2008

42. Other Equipment (describe)

Answer: AG BAG vehicle, circa 1994; 83 solid waste dumpsters and 20 recycling
dumpsters

Other Facility Information

43. Title and general description of work for each full- and part-time position

Answer: Master Composter: responsible for making compost and ensuring its properties
are acceptable and Assistant Composter whom helps Master Composter

44. Describe recent or pending regulatory violations or issues

Answer: NA

45. Describe recent or pending operational issues

Answer: NA

Financial Information

Provide copies of the following documents:

46. Fee Schedule

Answer: NA

47. Development Costs: planning and/or siting studies are being done in-house for a new recycling facility

48. Operating Budget ... include current fiscal year, and previous four years (if available), with full detail of revenues and expenditures

Answer: FEW Recycling: FY 2008-\$140K, FY 2007-\$119K, FY 2006-81K, FY 2005-80K
FEW Solid Waste Recycling: FY 08-\$315K, FY07-\$303K, FY06-\$362K, FY05-\$373
FEW Composting: FY-08-\$66K, FY07-60K, FY06-\$67K, FY05-\$54K

Revenues	Missile batteries	281 tons	\$5247	
FY 07	Used oil	2.4 tons	\$2182	
	Carboard	468 tons	\$37,440	Note: BX & Exchange
	Printer Cartridges	1.6 tons	\$2666	
	Glass	13.0 tons	\$649	
	Metal	332 tons	\$1574	
	Spent fuel oil	2550 tons	\$773,667	

49. Non-Routine Capital Expenditures ... examples: land, equipment, structures, ... include detailed description of project, date, cost and funding source for both historical and anticipated expenditures

Answer: NA

50. Contract Services ... include detailed description of contract services associated with the routine facility operations

Answer: Not allowed to

51. Other Relevant Documents ... examples: audits, customer surveys, planning studies

Answer: NA

52. Other Relevant Information ... examples: availability or suitability of adjacent land for lateral expansion, local opposition to existing operations

Answer: NA

APPENDIX D

EXISTING FACILITY SURVEY

MAGIC CITY ENTERPRISES / ECO RECYCLING CENTER



INTEGRATED SOLID WASTE MANAGEMENT PLAN
SOUTHEAST WYOMING PLANNING AREA

EXISTING FACILITY SURVEY

Please provide as much detailed information as possible for each of the following survey questions by left-clicking on the gray box after “Answer” and entering your response. As an alternative, you may write your responses on a separate sheet of paper using the numbering system provided below. If a particular question is not applicable, indicate so by entering “**NA**”, and provide a brief explanation.

General Information

1. Facility Name
Answer: Magic City Enterprises / ECO Recycling Center
2. Physical Address
Answer: 1780 Westland Rd
3. Township/Range/Section or Latitude/Longitude
Answer: 14 North, Range 67, West Lot 4, Section 36
4. First Year of Operation
Answer: 1996 ECO
5. Total Acreage
Answer: 3.10 Acres
6. Operating Hours (days per week, and hours per day)
Answer: 7-3 Monday thru Friday
7. Is your facility required to have a permit from the WDEQ/SHWD? If your answer is “Yes”, provide permit number, and expiration date.
Answer: No

For each facility contact listed below, identify:

- Entity Name:
 - Contact Name:
 - Mailing Address:
 - Phone:
 - Fax:
 - Email:
8. Owner/Operator
Answer: Magic City Enterprises
 9. Landowner (if different than Owner/Operator)
Answer: Same as above

Recyclable Commodities

For each recyclable commodity listed below, identify:

- estimated storage capacity (square footage or volume)
- estimated quantity (tons) processed per year
- market (operator name, location)
- if a recycling service is not offered, enter “**No Service**” as your answer

10. Lead-Acid Batteries

Answer:

11. Used Oil

Answer:

12. Anti Freeze

Answer:

13. Paint

Answer:

14. Pesticides

Answer:

15. Electronic Waste

Answer:

16. Household/Conditionally-Exempt Hazardous Waste

Answer:

17. Newspaper

Answer: Yes

18. Magazines

Answer: Yes

19. Office Paper

Answer: Yes

20. Cardboard

Answer: Yes

21. Plastics (identify types)

Answer:

22. Glass

Answer:

23. Aluminum Cans

Answer: Yes

24. Steel Cans
Answer: Yes

25. (Other Commodities)
Answer:

Facility Structures

For each structure listed below, identify:

- construction date & cost
- square footage
- any special uses or features
- if a structure is not present at your facility, enter “**Not Present Onsite**” as your answer

26. Shop/Equipment Storage
Answer:

27. Recycling Center
Answer: Yes

28. Other Structures (Compost Area)
Answer:

Facility Equipment

For each piece of equipment listed below, identify:

- make and model
- estimated hours of operation per day or per week
- purchase date and price, or lease period and price
- remaining useful life (years)

29. Baler (if more than one, describe each)
Answer: 2 Can balers, 2 Paper balers

30. Rolling Stock ... examples: loader, collection trucks, trailers
Answer: Garbage truck, box truck, flatbed

31. Other Equipment (describe)
Answer: Fork lift, Skid loader

Other Facility Information

32. Title and general description of work for each full- and part-time position
Answer:

33. Describe recent or pending regulatory violations or issues
Answer:

34. Describe recent or pending operational issues
[Answer:](#)

Financial Information

Provide copies of the following documents:

35. Fee Schedule
[Answer:](#)
36. Development Costs: planning and/or siting studies, purchase of land, initial design/permitting costs ... include detailed description of date, purpose, and amount
[Answer:](#)
37. Operating Budget ... include current fiscal year, and previous four years (if available), with full detail of revenues and expenditures
[Answer:](#)
38. Non-Routine Capital Expenditures ... examples: land, equipment, structures, ... include detailed description of project, date, cost and funding source for both historical and anticipated expenditures
[Answer:](#)
39. Contract Services ... include detailed description of contract services associated with the routine facility operations
[Answer:](#)
40. Other Relevant Documents ... examples: audits, customer surveys, planning studies
[Answer:](#)
41. Other Relevant Information ... examples: availability or suitability of adjacent land for lateral expansion, local opposition to existing operations
[Answer:](#)

APPENDIX E

USEFUL LIFE GUIDELINES



APPENDIX E. USEFUL LIFE GUIDELINES

Item	Typical Range (years)	Default (years)
One-Time Costs	Balance of Facility Life	
Construction		
Cell Excavation	Life of Cell	
Cell Engineered Containment	Life of Cell	
Vehicles (On-Road)	3 to 12	8
Cars/Trucks ¹	3 to 8	6
Tractor/Trailers	5 to 10	8
Equipment (Off-Road)²	3 to 25	9
Stationary Baler		20
Backhoe	5 to 10	9
Excavator	5 to 10	9
Loader	5 to 10	9
Dozer	5 to 10	9
Compactor	5 to 10	9
Scraper	5 to 10	9
Grader	5 to 10	9
Alternative Daily Cover Applicator		9
Tub Grinder		9
Wind Rower		9
Scales		30
Scale Load Cells		7
Structures	20 to 50	40
Offices	20 to 50	40
Recycling Centers	20 to 50	40
Shops, Equipment Storage	20 to 50	30
Transfer Stations	20 to 50	30
Miscellaneous		
Furniture	5 to 15	10
Computers	3 to 10	5

NOTES

- 1 20,000 miles/year with 120,000 miles maximum
- 2 2,000 hours/year with 18,000 miles maximum

APPENDIX F

**FULL COST ACCOUNTING WORKSHEETS
CITY OF CHEYENNE – HAPPY JACK LANDFILL #1**



**APPENDIX F. WORKSHEET 1. 2007 LIFE-CYCLE COSTS
HAPPY JACK LANDFILL #1**

General Facility Information	
Current year	2007
Beginning of facility operating life (year)	1966
Estimated end of facility operating life (year)	2012
Estimated length of post-closure period (years)	30
Estimated annual waste acceptance rate (tons/year) for 2007	100,021
Estimated average annual rate of inflation (i %)	3%

Costs EXCLUDING the sale of commodities

Phase	Annual Cost	Cost/Ton
Development (Worksheet 2)	\$3,412	\$0
Operating (Worksheet 3)	\$1,923,245	\$19
Closure and Post-Closure (Worksheet 4)	\$61,993	\$1
Total Life-Cycle Costs	\$1,988,650	\$20

Costs INCLUDING the sale of commodities

Phase	Annual Cost	Cost/Ton
Development (Worksheet 2)	\$3,412	\$0
Operating (Worksheets 3, 5)	\$1,923,245	\$19
Closure and Post-Closure (Worksheet 4)	\$61,993	\$1
Total Life-Cycle Costs	\$1,988,650	\$20

**APPENDIX F. WORKSHEET 2. 2007 DEVELOPMENT COSTS
HAPPY JACK LANDFILL #1**

Item	Original Cost ¹	Year Incurred	Annual Cost ²	Basis	Data Source/Rationale
Planning Studies					
Site Investigations					
Land Acquisition					
Land Purchase	\$80,000	1965	\$3,232	ACT	Survey #90: Cost of 1500 acres Per D. Pino
Facility Design/Permitting					
External Infrastructure					
Water Service	\$4,464	1965	\$180	EST	Survey #90: Water well installation estimate by Trihydro.
Construction (Pre-Operation)					
Public Education & Outreach					
Management/Oversight					
Other					
Subtotal			\$3,412		

NOTES

- 1 Value in year incurred
- 2 Calculated by straight line depreciation of original cost over the entire operating life

ABBREVIATIONS

Basis = ACT = Actual cost, based on specific data provided by the operator
 Basis = APP = Approximate cost, based on approximation of data provided by the operator
 Basis = EST = Estimated cost, based on regional data and/or professional judgment

**APPENDIX F. WORKSHEET 3. 2007 OPERATING COSTS
HAPPY JACK LANDFILL #1**

Item	Original Cost ¹	Year Incurred	Useful Life ^{2,3} (years)	Salvage Value ^{4,5}	Annual Cost ^{6,7}	Basis	Data Source/Rationale
Personnel							
Personnel Costs/Benefits for Landfill	\$363,014	2006	1	0	\$363,014	ACT	Survey #91: From "Wages and Benefit" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Landfill Project Manager (431-03-19)	\$56,962	2006	1	0	\$56,962	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Miscellaneous							
Dues and Subscriptions (432-12-01)	\$1,407	2006	1	0	\$1,407	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Travel Non-Local (432-11-01)	\$5,231	2006	1	0	\$5,231	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Local Meeting Expense (432-11-03)	\$81	2006	1	0	\$81	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Clothing (433-21-15)	\$1,754	2006	1	0	\$1,754	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Maintenance Supplies (433-21-05)	\$3,917	2006	1	0	\$3,917	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Food and Medical Supplies (433-21-03)	\$169	2006	1	0	\$169	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Cost Allocation (437-41-01)	\$40,596	2006	1	0	\$40,596	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne; Charges for general administration services
Office Supplies (433-21-01)	\$3,257	2006	1	0	\$3,257	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Advertising (432-13-23)	\$41	2006	1	0	\$41	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Interest Expense (432-17-02)	\$30,049	2006	1	0	\$30,049	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Loan and Bond Payment (432-17-01)	\$262,088	2006	1	0	\$262,088	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne; 35% of total payment allocated to landfill
Contract Services							
Landfill Maintenance (432-13-01)	\$25,582	2006	1	0	\$25,582	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne. Clarified in 3/25/08 email.
Landfill Contract Services (Engineering/Permitting etc) (432-13-01)	\$512,380	2006	1	0	\$512,380	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne. Clarified in 3/25/08 email.
Environmental Monitoring	\$176,900	2006	1	0	\$176,900	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne. Clarified in 3/25/08 email.
Utilities							
Electric (432-14-03)	\$4,500	2006	1	0	\$4,500	ACT	Survey #91
Gas (432-14-03)	\$3,847	2006	1	0	\$3,847	ACT	Survey #91
Phone (432-14-01)	\$1,200	2006	1	0	\$1,200	ACT	Survey #91

**APPENDIX F. WORKSHEET 3. 2007 OPERATING COSTS
HAPPY JACK LANDFILL #1**

Item	Original Cost ¹	Year Incurred	Useful Life ^{2,3} (years)	Salvage Value ^{4,5}	Annual Cost ^{6,7}	Basis	Data Source/Rationale
Vehicles (On-Road)							
Water truck 5442	\$3,500	1956	50	175	\$129	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne; Useful life estimated
Trailer 5459	\$920	1993	20	46	\$59	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne; Useful life estimated
1/2 Ton PU 4x4 5541	\$25,000	1998	10	1,250	\$2,784	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Flatbed With Hoist 5629	\$75,182	2001	10	3,759	\$8,371	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
3/4 Ton PU 5639	\$20,286	2002	10	1,014	\$2,259	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
432-15-01 Small equipment rentals	\$4,882	2006	1	0	\$4,882	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne; rental of small equipment
432-16-01 Maintenance	\$7,485	2006	1	0	\$7,485	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
437-44-01 Fleet Maintenance	\$2,782	2006	1	0	\$2,782	ACT	Survey #91: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne; repair of vehicles
433-21-10 Petroleum Products	\$3,388	2006	1	0	\$3,388	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Equipment (Off-Road)							
Scales (initial purchase)	\$77,915	2001	19	3,896	\$5,167	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Tractor 5493	\$7,300	1968	40	365	\$300	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
D7 Dozer 5604	\$260,000	2001	15	13,000	\$20,699	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
D8 Dozer 5608	\$280,000	2001	10	14,000	\$31,175	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Compactor 836G 5645	\$539,789	2002	15	26,989	\$42,973	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Scraper 621G 5605	\$325,000	2002	9	16,250	\$39,644	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Scraper 621G 5642	\$284,000	2002	10	14,200	\$31,621	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Motor Grader 5466	\$50,830	1983	33	2,542	\$2,328	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Tarp O Matic 5693	\$70,000	2004	10	3,500	\$7,794	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Welder 5458	\$2,305	1992	20	115	\$147	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Generator 5482	\$19,402	1994	20	970	\$1,239	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Madvac And Trailer 5587	\$17,969	2000	10	898	\$2,001	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Compressor 5602	\$11,432	2000	10	572	\$1,273	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne

**APPENDIX F. WORKSHEET 3. 2007 OPERATING COSTS
HAPPY JACK LANDFILL #1**

Item	Original Cost ¹	Year Incurred	Useful Life ^{2,3} (years)	Salvage Value ^{4,5}	Annual Cost ^{6,7}	Basis	Data Source/Rationale
Portable Generator 5614	\$7,150	2001	10	358	\$796	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Generator 5685	\$1,500	2004	4	75	\$383	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Generator 5687	\$1,573	2004	10	79	\$175	ACT	Survey #91: From "Landfill Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Structures							
Scale house	\$80,000	2000	40	0	\$3,464	ACT	Survey #63: One scale house for two scales
Gate Attendant Office	\$12,000	2000	40	0	\$520	ACT	Survey #63
Shop/Equipment Office	\$140,000	1998	40	0	\$6,062	ACT	Survey #63
Construction							
Cell Excavation and ECS of most recent Cell 5	\$1,200,000	2004	8	0	\$171,000	ACT	Survey #92: Only used most recent excavation costs in FCA
Routine Operation & Maintenance							
Special Wastes							
Non-Routine							
Environmental Monitoring System	\$255,900	1989	23	0	\$15,559	EST	Trihydro estimate based on total number and depths of wells for monitoring quality and fluid levels. Installation dates vary.
Other							
State Closure Premium	\$9,543	2006	1	0	\$9,543	ACT	Survey #94: 1/1/2006 State guarantee worksheet provided in fax dated 3/10/08
State Post-Closure Premium	\$4,271	2006	1	0	\$4,271	ACT	Survey #94: 1/1/2006 State guarantee worksheet provided in fax dated 3/10/08
Subtotal					\$1,923,245		

NOTES

- 1 Value in year incurred
- 2 Each item is replaced by an identical item of equal value at the end of the useful life, unless noted otherwise
- 3 Useful life of non-routine items extend through the remainder of the operating life
- 4 Salvage value for each item is assumed to approach "0", unless noted otherwise
- 5 Salvage value for vehicles and equipment is assumed to be 5% of the original cost, unless noted otherwise
- 6 If useful life = 1 year, then annual cost equals original cost
- 7 If useful life >1 year, then annual cost calculated by straight line depreciation of original cost (minus salvage value) over the useful life

ABBREVIATIONS

Basis = ACT = Actual cost, based on specific data provided by the operator

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Basis = EST = Estimated cost, based on regional data and/or professional judgment

**APPENDIX F. WORKSHEET 4. 2007 CLOSURE AND POST-CLOSURE COSTS
HAPPY JACK LANDFILL #1**

Item	Duration (years)	Current Cost ¹	Future Cost ²	Annual Closure Cost ³	Annual Post-Closure Cost ⁴	Basis	Data Source/Rationale
Solid Waste Guideline #12 Closure Costs							
Reclaim Disturbed Areas	1	\$4,290,128	\$4,973,546	\$51,725	\$0	EST	Worksheet 7. Survey #94: Wyoming State Guarantee Trust Account Worksheet.
Demolish Buildings	1	\$12,996	\$15,066	\$157	\$0	EST	Worksheet 7. Survey #94: Wyoming State Guarantee Trust Account Worksheet.
Install Groundwater Wells	1	\$0	\$0	\$0	\$0	EST	Worksheet 7. Survey #94: Wyoming State Guarantee Trust Account Worksheet.
Install Methane Wells	1	\$3,000	\$3,478	\$36	\$0	EST	Worksheet 7. Survey #94: Wyoming State Guarantee Trust Account Worksheet.
Manage Stored Wastes	1	\$18,600	\$21,563	\$224	\$0	EST	Worksheet 7. Survey #94: Wyoming State Guarantee Trust Account Worksheet.
Install Perimeter Fence	1	\$0	\$0	\$0	\$0	EST	Worksheet 7. Survey #94: Wyoming State Guarantee Trust Account Worksheet.
Conduct Final Site Survey	1	\$3,950	\$4,579	\$48	\$0	EST	Worksheet 7. Survey #94: Wyoming State Guarantee Trust Account Worksheet.
Construct Surface Water Structures	1	\$31,347	\$36,341	\$378	\$0	EST	Worksheet 7. Survey #94: Wyoming State Guarantee Trust Account Worksheet.
Closure Certification	1	\$5,000	\$5,797	\$60	\$0	EST	Worksheet 7. Survey #94: Wyoming State Guarantee Trust Account Worksheet.
Solid Waste Guideline #12 Post-Closure Costs							
Conduct Inspections (annual, per year)	30	\$1,000	\$1,159	\$0	\$236	EST	Worksheet 7. Survey #94: Wyoming State Guarantee Trust Account Worksheet.
Conduct Groundwater Monitoring (Type I & II, annual, per year)	30	\$29,700	\$34,431	\$0	\$6,999	EST	Worksheet 7. Survey #72: Assumes 27 wells will be monitored.
Statistical Analysis (Type I, annual, per year)	30	\$2,500	\$2,898	\$0	\$589	EST	Worksheet 7. Survey #76: Assumes one statistical analysis required per year.
Conduct Methane Monitoring (annual, per year)	30	\$1,000	\$1,159	\$0	\$236	EST	Worksheet 7. Survey #94: Wyoming State Guarantee Trust Account Worksheet.
Maintain Perimeter Fence (per year)	30	\$2,495	\$2,892	\$0	\$588	EST	Worksheet 7. Survey #94: Wyoming State Guarantee Trust Account Worksheet.
Remove Perimeter Fence (at conclusion of post-closure period)	1	\$39,199	\$110,302	\$0	\$471	EST	Worksheet 7. Survey #94: Wyoming State Guarantee Trust Account Worksheet.
Maintain Surface Water Structures (per year)	30	\$1,045	\$1,211	\$0	\$246	EST	Worksheet 7. Survey #94: Wyoming State Guarantee Trust Account Worksheet.
Subtotals				\$52,628	\$9,365		

NOTES

- 1 Value in current year
- 2 Value at closure
- 3 If duration = 1 year, then annual cost calculated by straight line depreciation of future cost over the operating life
- 4 If duration > 1 year, then annual cost calculated by straight line depreciation of future cost (multiplied by duration) over the operating life

ABBREVIATIONS

Basis = ACT = Actual cost, based on specific data provided by the operator

Basis = APP = Approximate cost, based on approximation of data provided by the operator

Basis = EST = Estimated cost, based on regional data and/or professional judgment

**APPENDIX F. WORKSHEET 5. 2007 REVENUES
HAPPY JACK LANDFILL #1**

Source	Original Revenue ¹	Year Incurred	Term	Annual Revenue ^{2, 3}	Basis	Data Source/Rationale
Routine						
Landfill	\$1,220,157	2006	1	\$1,220,157	ACT	Survey #91: City of Cheyenne Sanitation Department 2006 statement of revenue and expenditures
Non-Routine						
Other						
Closure Premium Refund	\$60,122	2012	21	\$2,098	EST	Survey #94: Solid Waste Guideline #12 Worksheet ... 3% of Grand Total Closure Cost x 90% (refund)
Post-Closure Premium Refund	\$26,908	2042	51	\$229	EST	Survey #94: Solid Waste Guideline #12 Worksheet ... 3% of Grand Total Post Closure Cost x 90% (refund)
Subtotal				\$1,222,484		
Sale of Commodities		2007	1	\$0		
Subtotal				\$0		
Subtotal for All Revenues				\$1,222,484		

NOTES

- 1 Value in year incurred
- 2 If term = 1, then annual revenue equals original revenue
- 3 If term > 1, then annual revenue is calculated by straight line depreciation of original revenue over the remainder of the operating life

ABBREVIATIONS

Basis = ACT = Actual cost, based on specific data provided by the operator
 Basis = APP = Approximate cost, based on approximation of data provided by the operator
 Basis = EST = Estimated cost, based on regional data and/or professional judgment

**APPENDIX F. WORKSHEET 6. 2007 CLOSURE/POST-CLOSURE COST GUIDELINES
HAPPY JACK LANDFILL #1**

Average Wyoming Localization Factor (ECHOS 2006)	0.79
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Description	Assembly ¹	Line Item ¹	Unit	Cost/Unit (National)	Cost/Unit (Wyoming)	Unit	Cost/Unit	Quantity	Subtotal	Total
Closure / Reclaim Disturbed Area										\$4,290,128
24" Barrier Layer			CY	\$6.42	\$5.07	ACRE	\$16,367	148	\$2,416,707	
Soil testing, Atterberg limits	17 03 0429	01418 4405	EA	\$0.15						
Grain size ASTM D421	17 03 0429	01418 4605	EA	\$0.13						
Soil Density Test, Nuclear ASTM D2922-71	17 03 0429	01418 4736	EA	\$0.35						
Moisture Content	17 03 0429	01418 4751	EA	\$0.42						
Scraper, 15 CY, 621, Grubing, Haul 1 Mile & Spoil	17 01 0516	02109 1100	CY	\$3.00						
Compaction, Sheeps Foot, 8" lifts	17 03 0429	02220 5660	CY	\$1.36						
Compaction Water, \$0.005/gal	17 03 0429	02223 1001	CY	\$1.01						
24" Frost Barrier			CY	\$3.00	\$2.37	ACRE	\$7,648	148	\$1,129,302	
Scraper, 15 CY, 621, Grubing, Haul 1 Mile & Spoil	17 01 0516	02109 1100	CY	\$3.00						
6" Topsoil Layer			CY	\$3.00	\$2.37	ACRE	\$1,913	148	\$282,413	
Scraper, 15 CY, 621, Grubing, Haul 1 Mile & Spoil	17 01 0516	02109 1100	CY	\$3.00						
Seeding			ACRE	\$3,958	\$3,127	ACRE	\$3,127	148	\$461,706	
Mechanical Seeding, 50 Lb/MSY	18 05 0402	02932 0300	CSY	\$2,064						
Large Power Mulcher, Oat Straw, 1" Deep	18 05 0402	02830 2005	ACRE	\$1,894						
Closure / Demolish Buildings										\$12,996
Demolish Buildings			SF	\$2.80	\$2.21	SF	\$2.21	5,875	\$12,996	
Steel, No Disposal, Single-Level Building	17 02 0105	02049 8000	CF	\$0.14						
Closure / Install Groundwater Wells										\$0
Permitting, Installation, Surveying, Report			EA	\$12,500	\$12,500	EA	\$12,500	0	\$0	
2" PVC, average 75-ft deep	General Estimate ²		EA	\$12,500						
Closure / Install Methane Wells										\$3,000
Permitting, Installation, Surveying, Report			EA	\$1,000	\$1,000	EA	\$1,000	3	\$3,000	
1" PVC probe, average 10-ft deep	General Estimate ²		EA	\$1,000						
Closure / Manage Stored Wastes										\$18,600
On-Site Disposal			CY	\$40	\$40	CY	\$40	465	\$18,600	
Wastes that may be managed as MSW	General Estimate ²		CY	\$40						
Closure / Install Perimeter Fence										\$0
Boundary Fence			LF	\$6.72	\$5.31	LF	\$5.31	0	\$0	
5' High, 12 Gauge Galvanized Steel, 2"x4" Mesh	18 04 0105	02712 2102	LF	\$6.72						
Closure / Conduct Final Site Survey										\$3,950
Topography, Re-establish Corners			EA	\$5,000	\$3,950	EA	\$3,950	1	\$3,950	
Data Collection, CADD	General Estimate ²		EA	\$5,000						

**APPENDIX F. WORKSHEET 6. 2007 CLOSURE/POST-CLOSURE COST GUIDELINES
HAPPY JACK LANDFILL #1**

Average Wyoming Localization Factor (ECHOS 2006)	0.79
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Description	Assembly ¹	Line Item ¹	Unit	Cost/Unit (National)	Cost/Unit (Wyoming)	Unit	Cost/Unit	Quantity	Subtotal	Total
Closure / Construct Surface Water Structures										\$31,347
10' Wide Grass Drainage Swale			LF	\$4.96	\$3.92	EA	\$4	8,000	\$31,347	
Rough Grade Small Area w/Dozer 75 HP	33 05 0801	02224 7040	CY	\$0.78						
Remove Topsoil, 6" Deep, Stockpile on Site	33 05 0801	02241 0020	CY	\$1.81						
Spread Topsoil by Loader from Stockpile	33 05 0801	02241 0400	CY	\$1.46						
Large Power Mulcher, Oat Straw, 1" Deep	33 05 0801	02830 2005	ACRE	\$0.44						
Mechanical Seeding, 50 LB/MSY	33 05 0801	02932 0300	CSY	\$0.47						
Closure / Certification										\$5,000
Closure Certification			EA	\$5,000	\$5,000	EA	\$5,000	1	\$5,000	
Inspection, Report (use construction QA/QC data)	General Estimate ²		EA	\$5,000						
Post-Closure / Conduct Inspection (annual)										\$1,000
Inspection, per site, per year			EA	\$1,000	\$1,000	EA	\$1,000	1	\$1,000	
Inspection, Report, 1 event	General Estimate ²		EA	\$1,000						
Post-Closure / Groundwater Monitoring - Type I & II (annual)										\$29,700
Groundwater Monitoring, per well, per year			EA	\$1,100	\$1,100	EA	\$1,100	27	\$29,700	
Baseline & Appendix A, Report, 1 event	General Estimate ²		EA	\$1,100						
Post-Closure / Groundwater Statistics - Type I (annual)										\$2,500
Statistical Analysis			EA	\$2,500	\$2,500	EA	\$2,500	1	\$2,500	
Report, 1 event	General Estimate ²		EA	\$2,500						
Post-Closure / Methane Monitoring (annual)										\$1,000
Methane Monitoring, per well, per year			EA	\$250	\$250	EA	\$250	4	\$1,000	
LEL, Report, 1 event	General Estimate ²		EA	\$250						
Post-Closure / Maintain Perimeter Fence										\$2,495
Boundary Fence			LF	\$0.11	\$0.09	LF	\$0.09	27,720	\$2,495	
Rebuild 1/30th of total LF each year	General Estimate ²		LF	\$0.11						
Post-Closure / Remove Perimeter Fence (at end of post-closure period)										\$39,199
Remove Chain Link Fence			LF	\$1.79	\$1.41	LF	\$1.41	27,720	\$39,199	
Remove & Reuse Chain Link Fence	17 02 0225	02046 0752	LF	\$1.79						
Post-Closure / Maintain Surface Water Structures (annual)										\$1,045
10' Wide Grass Drainage Swale			LF	\$0.17	\$0.13	LF	\$0.13	8,000	\$1,045	
Rebuild 1/30th of total LF each year	33 05 0801		LF	\$0.17						

NOTES

- 1 Costs based on R.S. Means Environmental Remediation Cost Data 2006, unless noted otherwise
- 2 Costs based on general estimate of regional data

APPENDIX G

**FULL COST ACCOUNTING WORKSHEETS
CITY OF CHEYENNE – FELIX PINO TRANSFER STATION**

**APPENDIX G. WORKSHEET 1. 2007 LIFE-CYCLE COSTS
FELIX PINO TRANSFER STATION
(INCLUDES HOUSEHOLD HAZARDOUS WASTE AND RECYCLING)**

General Facility Information	
Current year	2007
Beginning of facility operating life (year)	1985
Estimated end of facility operating life (year)	2015
Estimated length of post-closure period (years)	N/A
Estimated annual waste acceptance rate (tons/year) for 2007*	49,527
Estimated average annual rate of inflation (i %)	3%

Costs EXCLUDING the sale of commodities

Phase	Annual Cost	Cost/Ton
Development (Worksheet 2)	\$20,021	\$0
Operating (Worksheet 3)	\$1,282,630	\$26
Closure and Post-Closure (Worksheet 4)	\$0	\$0
Total Life-Cycle Costs	\$1,302,651	\$26

Costs INCLUDING the sale of commodities

Phase	Annual Cost	Cost/Ton
Development (Worksheet 2)	\$20,021	\$0
Operating (Worksheets 3, 5)	\$1,238,796	\$25
Closure and Post-Closure (Worksheet 4)	\$0	\$0
Total Life-Cycle Costs	\$1,258,817	\$25

*This represents 47,444 tons MSW and approximately 1813 tons recyclables

**APPENDIX G. WORKSHEET 2. 2007 DEVELOPMENT COSTS
FELIX PINO TRANSFER STATION
(INCLUDES HOUSEHOLD HAZARDOUS WASTE AND RECYCLING)**

Item	Original Cost ¹	Year Incurred	Annual Cost ²	Basis	Data Source/Rationale
					Additional \$2.49 million listed under "Structures" on Operating Costs Worksheet
Planning Studies					
Site Investigations					
Land Acquisition					
Land Purchase	\$87,000	1985	\$4,437	ACT	12/17/08 email correspondence from V.Nemecek, City of Cheyenne
Facility Design/Permitting	\$305,565	1985	\$15,584	ACT	12/17/08 email correspondence from V. Nemecek, City of Cheyenne
External Infrastructure					
Construction (Pre-Operation)					
Public Education & Outreach					
Management/Oversight					
Other					
Subtotal			\$20,021		

NOTES

- 1 Value in year incurred
- 2 Calculated by straight line depreciation of original cost over the entire operating life

ABBREVIATIONS

Basis = ACT = Actual cost, based on specific data provided by the operator
 Basis = APP = Approximate cost, based on approximation of data provided by the operator
 Basis = EST = Estimated cost, based on regional data and/or professional judgment

**APPENDIX G. WORKSHEET 3. 2007 OPERATING COSTS
FELIX PINO TRANSFER STATION
(INCLUDES HOUSEHOLD HAZARDOUS WASTE AND RECYCLING)**

Item	Original Cost ¹	Year Incurred	Useful Life ^{2,3} (years)	Salvage Value ^{4,5}	Annual Cost ^{6,7}	Basis	Data Source/Rationale
Personnel							
Transfer Station Salaries and Benefits	\$294,358	2006	1	0	\$294,358	ACT	Survey #37: From "Wages and Benefits" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
HHW Salaries and Benefits	\$14,736	2006	1	0	\$14,736	ACT	Survey #37: From "Wages and Benefits" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Recycling Salaries and Benefits	\$52,513	2006	1	0	\$52,513	ACT	Survey #37: From "Wages and Benefits" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Miscellaneous							
Travel non-local (432-11-01)	\$100	2006	1	0	\$100	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Maintenance Supplies (433-21-05)	\$116	2006	1	0	\$116	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Clothing (433-21-15)	\$3,729	2006	1	0	\$3,729	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Food and Medical Supplies (433-21-03)	\$113	2006	1	0	\$113	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Office Supplies (433-21-01)	\$361	2006	1	0	\$361	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Advertising (432-13-23)	\$98	2006	1	0	\$98	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Interest Expense (432-17-02)	\$13,018	2006	1	0	\$13,018	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Non-Insured Loss (432-13-29)	\$231	2006	1	0	\$231	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Loan and Bond Payment (432-17-01)	\$449,294	2006	1	0	\$449,294	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Contract Services							
432-13-01 Repair blue bins	\$9,972	2006	1	0	\$9,972	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne. Clarified in email dated 3/25/08.
Utilities							
Light, Fuel, and Power (432-14-03)	\$8,526	2006	1	0	\$8,526	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Telephone (432-14-01)	\$186	2006	1	0	\$186	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Maintenance (432-16-01)	\$1,916	2006	1	0	\$1,916	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Vehicles (On-Road)							
Recycling Truck 5552	\$114,547	1998	10	5,727	\$12,754	ACT	Survey #31; From "Other Vehicles and Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne. Clarified in email dated 3/25/08.
Recycling Truck 5563	\$115,270	1999	10	5,764	\$12,834	ACT	Survey #31; From "Other Vehicles and Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne. Clarified in email dated 3/25/08.
Seven Blue Bin Haul-All Containers 9452	\$180,000	1997	21	9,000	\$12,432	ACT	Survey #31; From "Other Vehicles and Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne. Clarified in email dated 3/25/08.

**APPENDIX G. WORKSHEET 3. 2007 OPERATING COSTS
FELIX PINO TRANSFER STATION
(INCLUDES HOUSEHOLD HAZARDOUS WASTE AND RECYCLING)**

Item	Original Cost ¹	Year Incurred	Useful Life ^{2,3} (years)	Salvage Value ^{4,5}	Annual Cost ^{6,7}	Basis	Data Source/Rationale
Equipment (Off-Road)							
Scales (initial purchase)	\$149,000	2008	30	7,450	\$7,219	ACT	Per phone call with Dennis Pino dated 6/4/08
Seven Roll-off containers	\$23,440	2006	10	1,172	\$2,610	ACT	Survey #31; From "Other Vehicles and Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne. Clarified in email dated 3/25/08.
Cardboard Compactor 9352	\$65,000	1997	15	3,250	\$5,175	ACT	Survey #31; From "Other Vehicles and Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne. Clarified in email dated 3/25/08.
936E CAT Loader	\$125,000	1989	19	6,250	\$8,289	EST	Survey #31; From "Other Vehicles and Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne. Clarified in email dated 3/25/08.
Tractor Mower 5431	\$3,925	1988	21	196	\$242	ACT	Survey #31; From "Other Vehicles and Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne. Clarified in email dated 3/25/08.
Structures							
Transfer Station	\$2,494,434	1985	30	0	\$127,216	ACT	Survey #26; Supplemented by email correspondence from V. Nemecek-City of Cheyenne dated 12/17/2008. Includes transfer station, administrative office, and fuel station.
HHW and oil storage building	\$50,000	1997	40	0	\$2,165	ACT	Survey #28
Construction							
Routine Operation & Maintenance							
Small Equipment (433-22-01)	\$7,202	2006	1	0	\$7,202	ACT	Survey #31: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Equipment (433-31-02)	\$926	2006	1	0	\$926	ACT	Survey #31: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Special Wastes							
2006 Recycling Costs	\$59,672	2006	1	0	\$59,672	ACT	Survey #31: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Electronic Wastes	\$51,061	2006	1	0	\$51,061	ACT	Per email from D. Pino dated 1/26/2009.
Household Hazardous Waste	\$123,566	2006	1	0	\$123,566	ACT	From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne; email dated 2/25/08
Non-Routine							
Subtotal					\$1,282,630		

NOTES

- 1 Value in year incurred
- 2 Each item is replaced by an identical item of equal value at the end of the useful life, unless noted otherwise
- 3 Useful life of non-routine items extend through the remainder of the operating life
- 4 Salvage value for each item is assumed to approach "0", unless noted otherwise
- 5 Salvage value for vehicles and equipment is assumed to be 5% of the original cost, unless noted otherwise
- 6 If useful life = 1 year, then annual cost equals original cost
- 7 If useful life >1 year, then annual cost calculated by straight line depreciation of original cost (minus salvage value) over the useful life

ABBREVIATIONS

Basis = ACT = Actual cost, based on specific data provided by the operator
 Basis = APP = Approximate cost, based on approximation of data provided by the operator
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**APPENDIX G. WORKSHEET 5. 2007 REVENUES
FELIX PINO TRANSFER STATION
(INCLUDES HOUSEHOLD HAZARDOUS WASTE AND RECYCLING)**

Source	Original Revenue ¹	Year Incurred	Term	Annual Revenue ^{2, 3}	Basis	Data Source/Rationale
Routine						
Transfer Station	\$77,546	2006	1	\$77,546	ACT	Survey #37: City of Cheyenne Sanitation Department 2006 statement of revenue and expenditures
Non-Routine				\$0		
Other				\$0		
Subtotal				\$77,546		

Sale of Commodities						
Recycling	\$43,834	2007	1	\$43,834	ACT	Survey #37: City of Cheyenne Sanitation Department 2006 statement of revenue and expenditures/Blue Bin Drop-Offs to Magic City/Freon Removal/Haz Waste
Subtotal				\$43,834		

Subtotal for All Revenues				\$121,380		
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NOTES

- 1 Value in year incurred
- 2 If term = 1, then annual revenue equals original revenue
- 3 If term > 1, then annual revenue is calculated by straight line depreciation of original revenue over the remainder of the operating life

ABBREVIATIONS

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APPENDIX H

**FULL COST ACCOUNTING WORKSHEETS
CITY OF CHEYENNE – COMPOST FACILITY**



**APPENDIX H. WORKSHEET 1. 2007 LIFE-CYCLE COSTS
CITY OF CHEYENNE COMPOST FACILITY**

General Facility Information	
Current year	2007
Beginning of facility operating life (year)	1999
Estimated end of facility operating life (year)	2039
Estimated length of post-closure period (years)	
Estimated annual waste acceptance rate (tons/year) for 2007	12,300
Estimated average annual rate of inflation (i %)	3%

Costs EXCLUDING the sale of commodities

Phase	Annual Cost	Cost/Ton
Development (Worksheet 2)	\$0	\$0
Operating (Worksheet 3)	\$433,994	\$35
Closure and Post-Closure (Worksheet 4)	\$0	\$0
Total Life-Cycle Costs	\$433,994	\$35

Costs INCLUDING the sale of commodities

Phase	Annual Cost	Cost/Ton
Development (Worksheet 2)	\$0	\$0
Operating (Worksheets 3, 5)	\$221,320	\$18
Closure and Post-Closure (Worksheet 4)	\$0	\$0
Total Life-Cycle Costs	\$221,320	\$18

**APPENDIX H. WORKSHEET 3. 2007 OPERATING COSTS
CITY OF CHEYENNE COMPOST FACILITY**

Item	Original Cost ¹	Year Incurred	Useful Life ^{2,3} (years)	Salvage Value ^{4,5}	Annual Cost ^{6,7}	Basis	Data Source/Rationale
Personnel							
Salaries & Wages	\$143,966	2006	1	0	\$143,966	ACT	Survey #37: From "Wages and Benefits" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Miscellaneous							
Travel non-local (432-11-01)	\$65	2006	1	0	\$65	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Clothing (433-21-15)	\$2,426	2006	1	0	\$2,426	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Food and Medical Supplies (433-21-03)	\$74	2006	1	0	\$74	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Maintenance Supplies (433-21-05)	\$75	2006	1	0	\$75	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Office Supplies (433-21-01)	\$235	2006	1	0	\$235	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Advertising (432-13-23)	\$63	2006	1	0	\$63	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Interest Expense (432-17-02)	\$9,094	2006	1	0	\$9,094	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Non-Insured Loss (432-13-29)	\$150	2006	1	0	\$150	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Loan and Bond Payment (432-17-01)	\$37,441	2006	1	0	\$37,441	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne; email dated 4/25/08
Contract Services							
Professional Services/A-1 Organics (432-13-01)	\$156,990	2006	1	0	\$156,990	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne; email dated 4/25/08
Utilities							
Light, Fuel, and Power (432-14-03)	\$5,547	2006	1	0	\$5,547	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Telephone (432-14-01)	\$121	2006	1	0	\$121	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Vehicles (On-Road)							
Fleet/Vehicle Maintenance (437-44-01)	\$463	2006	1	0	\$463	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Equipment (Off-Road)							
Front End Loader	\$338,346	2005	10	16,917	\$37,671	ACT	Survey #31, #37: From "Other Vehicles and Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Tractor/Loader with bucket	\$54,000	2007	10	2,700	\$6,012	ACT	Survey #31, #37: From "Other Vehicles and Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Portable Screen Plant	\$36,821	2004	10	1,841	\$4,100	ACT	Screen Plant added per D. Pino - City of Cheyenne, meeting on 12/9/08
Roto Chopper	\$200,000	2006	10	10,000	\$22,268	ACT	Survey #31 ; From "Other Vehicles and Equipment" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne

**APPENDIX H. WORKSHEET 3. 2007 OPERATING COSTS
CITY OF CHEYENNE COMPOST FACILITY**

Item	Original Cost ¹	Year Incurred	Useful Life ^{2,3} (years)	Salvage Value ^{4,5}	Annual Cost ^{6,7}	Basis	Data Source/Rationale
Structures							
Mobile office	\$9,000	2006	30	0	\$459	APP	Costs per D. Pino - City of Cheyenne, meeting on 12/9/08
Shed	\$2,000	2006	10	0	\$234	APP	Costs per D. Pino - City of Cheyenne, meeting on 12/9/08
Maintenance (432-16-01)	\$1,246	2006	1	0	\$1,246	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
500 gal Diesel AST	\$2,200	2002	10	0	\$258	EST	Storage Tank added per D. Pino - City of Cheyenne, meeting on 12/9/08
Construction							
Routine Operation & Maintenance							
Small Equipment (433-22-01)	\$4,685	2006	1	0	\$4,685	ACT	Survey #37: From "Operating Costs" worksheet in Full Cost Accounting FY2006 (Oct 2007) provided by V. Nemecek-City of Cheyenne
Environmental Monitoring	\$350	2007	1	0	\$350	EST	Compost Testing Costs per D. Pino - City of Cheyenne, meeting on 12/9/08
Non-Routine							
Other							
Subtotal					\$433,994		

NOTES

- 1 Value in year incurred
- 2 Each item is replaced by an identical item of equal value at the end of the useful life, unless noted otherwise
- 3 Useful life of non-routine items extend through the remainder of the operating life
- 4 Salvage value for each item is assumed to approach "0", unless noted otherwise
- 5 Salvage value for vehicles and equipment is assumed to be 5% of the original cost, unless noted otherwise
- 6 If useful life = 1 year, then annual cost equals original cost
- 7 If useful life >1 year, then annual cost calculated by straight line depreciation of original cost (minus salvage value) over the useful life

ABBREVIATIONS

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Basis = APP = Approximate cost, based on approximation of data provided by the operator

Basis = EST = Estimated cost, based on regional data and/or professional judgment

**APPENDIX H. WORKSHEET 5. 2007 REVENUES
CITY OF CHEYENNE COMPOST FACILITY**

Source	Original Revenue ¹	Year Incurred	Term	Annual Revenue ^{2,3}	Basis	Data Source/Rationale
Routine				\$0		
Non-Routine				\$0		
Other				\$0		
Subtotal				\$0		

Sale of Commodities						
Compost Fees		2007	1	\$212,674	ACT	Survey #37: City of Cheyenne Sanitation Department statement of revenue and expenditures; 2006 information. Per FCA file/Compost worksheet, the revenue is from sales of compost (Yard waste pick up fees not included)
Subtotal				\$212,674		

Subtotal for All Revenues	\$212,674
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NOTES

- 1 Value in year incurred
- 2 If term = 1, then annual revenue equals original revenue
- 3 If term > 1, then annual revenue is calculated by straight line depreciation of original revenue over the remainder of the operating life

ABBREVIATIONS

Basis = ACT = Actual cost, based on specific data provided by the operator
 Basis = APP = Approximate cost, based on approximation of data provided by the operator
 Basis = EST = Estimated cost, based on regional data and/or professional judgment