Technical Memorandum on Solid Waste Disposal Alternatives for Park County

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Submitted by

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Park County, Montana Draft Technical Memorandum Regarding Solid Waste Disposal Alternatives

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1.0 Introduction

1.1 Purpose

1.1.1 Costs for Disposal Alternatives

The purpose of this technical memorandum is to review existing methods of handling waste from unincorporated portions of Park County and to provide estimated costs for several waste disposal alternatives available to the County. The City of Livingston has its own separate solid waste management system so refuse from the City is not addressed by the memorandum. This memorandum should not be viewed as a complete update to the September 2006 Solid Waste Management Plan (SWMP, the Plan) prepared for the County and the City. Instead, the memorandum has a distinct and narrow focus – costs for disposal alternatives – that reflects guidance and direction from the County to Bell & Associates, Inc.

Appendix A to this Technical Memorandum contains a detailed discussion of the types and categories of waste and disposal sites as defined by the State of Montana. Appendix A also contains an overview of the State's Solid Waste Management Plan and its priorities.

1.2 Background

1.2.1 Status of Landfill Operated by Park County

The unlined, Class II Park County Landfill cannot accept municipal solid waste (MSW) due to a court decree arising from the 1981 Sundling vs. Park County case. The Landfill is used for disposing of inert materials such as construction and demolition (C & D) debris. Previously the Landfill had taken MSW. Under the 1981 court order the County was then prohibited from disposing of MSW in this landfill. More specifically, the restriction on disposal of MSW arose from problems caused by migration of debris such as paper and plastics blown by wind from the landfill upon the plaintiff's (Raymond R. Sundling) property. In response to the court order and to mitigate the wind–blown debris nuisance, Park County constructed a MSW incinerator in 1982.

1.2.2 Previous Legal Actions

Park County Concerned Citizens (PCCC) undertook legal action before the Montana Sixth Judicial District Court concerning the decision made by the County Commissioners to close the incinerator, claiming that this issue should have been decided by a vote of the public. The first agreement between the parties was dated October 12, 2004 and called for the preparation of a plan to examine the short– and long–term disposal needs and options for the County. Subsequently Zia Engineering & Environmental Consultants, LLC (Zia) was retained to develop the plan, which at the time included both the City of Livingston and Park County. The Solid Waste Management Plan was completed in September 2006.

A second legal action was undertaken by PCCC claiming the County did not fulfill the terms and conditions of the original agreement. As a result the Court issued an Injunction Order against

the County dated May 4, 2007. This led eventually to a second agreement between the parties dated September 2, 2010 requiring that the 2006 Plan be reviewed and updated with special emphasis on determining the technical and economic feasibility of incineration.

The incinerator noted in Section 1.2.1 was finally taken out of service in April 2005 because it was not in compliance with federal air emission standards. Considering the age of the incinerator, the Park County Commissioners determined that bringing it into compliance was neither economically nor operationally feasible. In an effort to find a solution to solid waste disposal, the County established a transfer station at the incinerator site and engaged a private contractor (Envirocon, Inc.) to transport trash by rail to the privately owned and operated Valley View Landfill. Valley View Landfill is located in Jefferson County on Highway 518 between East Helena and Montana City.

The contract between the County and Envirocon was for an initial period of five years with automatic five–year extensions (contract was signed August 20, 2004). The contract covers the transport and disposal of residential and commercial solid waste (also referred to as municipal solid waste) consistent with the waste categories of Class II and IV as defined by the Montana Solid Waste Management Act and the applicable Administrative Rules of Montana.

On November 2, 2005, the City of Livingston, Town of Clyde Park and Park County entered into an inter–local agreement for the County to handle and dispose of solid waste collected from throughout the County including the refuse picked up by the City of Livingston within its municipal boundaries. The County unincorporated areas are served by several convenience centers or “Green Box” sites maintained and operated by the County. Refuse is compacted at the Transfer Station into specially designed rail containers called “Bottles” for transport. Appendix B offers a more detailed description of the County’s solid waste system.

1.2.3 2006 Solid Waste Management Plan

In view of the developments described in Section 1.2.2, an inter–local sub–committee of jurisdictional representatives decided to undertake a comprehensive review of the area’s solid waste management and seek a long–term, reliable solution to its waste collection, handling and disposal needs. Zia Engineering & Environmental Consultants, LLC (Zia) was selected to prepare a Solid Waste Management Plan for the City of Livingston and Park County. The Final Plan was issued in September 2006. The Plan’s recommendations were as follows:

1. Continue with the Envirocon contract for rail hauling of trash to Valley View Landfill.
2. City of Livingston and Park County should proceed to form a joint Solid Waste Management Authority.
3. The Authority should contract with the City of Livingston to provide collection of solid waste in those County areas adjoining the municipal boundaries.
4. The Authority should evaluate the advantages and disadvantages of operating 17 Green Box sites and consider consolidation of some sites.

5. Green Box sites should be refurbished with compactors and other necessary equipment so that the Bottles can be filled and transported directly to rail cars (similar to the operation at Cooke City). 24–hour access to Green Box sites should be re–evaluated and possibly curtailed so that the sites can be economically manned during operating hours.

6. Modifications should be made in the operations of the Green Box sites to make them easier and more efficient to manage while offering a higher level of service. Modifications could include the following:

    - Established days and hours of operation
    - Elimination of small dumpsters
    - Use of roll–off compaction units for trash storage as at Cooke City
    - Partially or fully enclosed maintenance buildings that can be locked
    - Larger containers for recyclables that are simple to maintain, don't overflow, and don't need to be emptied so frequently

7. Multiple solid waste committees should be consolidated into one advisory committee that reports to the joint Authority. This new advisory committee should have a diverse membership representative of Park County as a whole.

8. Consider setting up a Central Recycling and Reuse Center.

9. Consider adoption of solid waste diversion goals and timelines.

10. A small incinerator facility to handle garbage at Cooke City should be considered as an alternative to hauling waste through Yellowstone National Park during inclement weather. Air emission requirements for a small incinerator facility may be exempted making such a facility economically feasible.

11. Court decree of 1981 in Sundling vs. Park County restricting disposal of municipal solid waste in the existing permitted Park County Class II landfill should be re–visited and re–negotiated.

The 2006 Plan was not adopted by either the County or City. The City determined in 2007 that it was no longer in its best interests to continue using the County Transfer Station. The City constructed its own transfer station and secured a 10–year waste hauling contract with a private service provider that commenced in January 2008. The County continued its contract with Envirocon for the rail–haul transport of waste generated in County unincorporated areas.

1.3 Approach

1.3.1 Methodology

Five primary disposal alternatives have been identified:

1. The existing transfer and landfill operation.
2. Participation in the City of Livingston transfer operation.
3. Modification of the existing County Landfill so that it complies with all applicable State and Federal statutes (Subtitle D, Resource Conservation and Recovery Act), and related regulations for the disposal of municipal solid waste.
4. Establishment of a new Subtitle D compliant landfill in Park County for municipal solid waste.
5. Establishment of an incinerator / Waste – to – Energy (WTE) facility.
    a. Incineration
    b. WTE Steam Generation
    c. WTE Electricity Generation

1.3.2 Current and Projected Population for County Unincorporated Areas

The reported 2010 population of the entire County including the City of Livingston is 15,636. There has been a slight decrease of 58 people over the last decade. (Growth rate was -0.3%) Therefore it is assumed population growth for the upcoming decade will be negligible. Livingston is the County seat and the only incorporated city in the county. Livingston has a population of 7,044 people and comprises 45 % of the County's total population. Since the City of Livingston operates its own collection and disposal system, its population base and waste generation will not be considered in the projection of waste tons for the County system. It is the unincorporated portions of the County that contribute to the County's solid waste system.

1.3.3 Current and Projected Disposed Waste Quantities

Waste delivered to the Park County Transfer Station over the past five years by source is summarized in the Table 1 on the next page.

Table 1: Incoming Waste Tons to the Transfer Station (T/S) by Source

Time Period	City of Livingston [1]	County Collection[2]	Drop – off at T S[3]	Cooke City[4]	Total
FY 2006-07	4,334	5,639	195	238	10,405
FY 2007-08		5,711	168	256	6,135
FY 2008-09		5,382	137	217	5,736
FY 2009-10		5,359	123	219	5,700
FY 2010-11		5,404	106	219	5,729
County Average (2008 to 2011)	**0**	**5,464**	**133**	**228**	**5,825**

Before the City of Livingston opened its transfer facility it was delivering an average of 5,000 tons per year to the County Transfer Station for disposal. With the City of Livingston utilizing its own transfer and disposal arrangements the County Transfer Station has averaged 5,825 annual tons of incoming waste over the last four years. Inert waste is disposed at the County Landfill. The same trend of decreased waste from the City was also experienced at the landfill starting in 2007. The following table summarizes incoming waste tons to the landfill from 2006 to 2011:

Table 2: Incoming Annual Waste Tons to the Landfill by Source

Time Period	City[5]	County	Total
FY 2006-07	2,478	3,060	5,538
FY 2007-08	1,422	2,753	4,175
FY 2008-09	864	2,604	3,468
FY 2009-10	633	2,555	3,188
FY 2010-11	875	2,229	3,104
County Average (2008 to 2011)	**948**	**2,535**	**3,484**

Based on Tables 1 and 2, it was determined that approximately 8,000 tons per year of refuse from the County unincorporated areas would be available for each of these alternatives. While it

[1] Tonnage from City of Livingston collection routes
[2] Tonnages from County Green Box sites and County residents
[3] Small quantities of waste, usually per bag, dropped off by County residents
[4] Waste collected from Cooke City only
[5] Waste from City of Livingston self-haulers

is reported that the combined incoming tonnage to the County landfill and transfer station in 2010 was approximately 8,800 tons, 7,800 tons are directly controlled by the County from collections or from residents and businesses who pay the annual assessment. Other assumptions were made that facilitate comparing the costs of the alternatives (Section 1.3.4). Cost per ton for incineration are portrayed at two different annual tonnage levels – 7,000 and 14,000 – to demonstrate the impact of these tonnage levels on costs per ton. The 1,000 ton difference for the incineration analysis is waste tons that can't be burned.

Over the last four years the County Landfill has handled an average of 3,484 tons of inert waste annually. A majority of the waste delivered to the County Transfer Station can be incinerated whereas a majority of the waste delivered to the County Landfill cannot be incinerated because it consists of non–combustibles that will not burn such as glass, metal, concrete, and soil. Some other items like large, bulky waste and materials such as sewage sludge and dead animals are not conducive to incineration. It is assumed that 90 % of the County's municipal solid waste and 40 % of the inert waste from the landfill can be incinerated. This is approximately 6,600 tons per year (rounded up to 7,000 tons). The remaining 1,000 tons of waste would be disposed at the same location as the ash; however, the two materials would have to be segregated for transport.

Capital and operating expenses for each alternative were calculated. Section 3.6 presents a summary of these costs. The population growth in the County over the last decade was flat (-0.3%) (Section 1.3.2); therefore, the assumed growth rate in waste tons for the foreseeable future will be flat as well.

1.3.4 Other Key Assumptions

Solid waste facility project costs typically increase from the initial planning stages to the commencement of operations. An annual inflation index of 3 % has been assumed. Costs have been compounded annually to estimate the expenses related to any facility construction examined in this memorandum.

The RFP requested the Project Team solicit inquiries from neighboring jurisdictions and entities on the availability of waste that could be directed to a Park County incinerator. However, at this preliminary stage of investigation statements from jurisdictional / entity representatives regarding this topic could only be considered as speculative and not as definitive commitments.

A telephone survey was completed by County staff to Gallatin, Sweet Grass, and Meagher Counties as well as Yellowstone National Park. Representatives from Gallatin and Sweet Grass explained that both jurisdictions have effective low cost disposal options and speculated their elected bodies would not have an interest to ship waste to Park County for disposal. No reply was given by Meagher County for their approximately 900 annual tons. An official from Yellowstone said they may be interested and could contribute up to 2,300 tons of waste annually. The survey results made by County staff to neighboring jurisdictions are included in Appendix J.

The more relevant consideration is what impact varying amounts of incoming waste tons would have on the cost per ton for incineration **regardless of the sources**. Therefore, costs per ton have been estimated based on two levels of incoming waste tons from undetermined sources.

For all the disposal alternatives investigated it is assumed that the County's trash collection methods and costs will remain the same as they are now. It is emphasized that the total solid waste management cost for any alternative is the collection cost plus the disposal cost. This memorandum focuses on the disposal cost for each alternative. **Determining the collection cost was not part of the consultant's scope of work.**

2.0 Existing Solid Waste Management Program

2.1 Costs

2.1.1 Transfer and Disposal

Waste generated from within the County unincorporated areas is hauled to the County's Transfer Station. It is compacted into metal containers or "Bottles" for transport to the Valley View Landfill in Jefferson County via Montana Rail Link. About 4 % or 200 tons per year of inert waste from the Transfer Station is taken to the County's Landfill. The cost of operating the County's disposal system, including the Transfer Station and Landfill, over the last three years is summarized in the following table:

Table 3: County Transfer Station (T/S) Costs

Cost Category	Calculation	Actual 2008-09	Actual 2009-10	Actual 2010-11
A / Labor		$ 452,233	$ 278,187	$ 120,440
B / Operations		$ 96,483	$ 37,857	$ 14,956
C / General & Admin		$ 185,455	$ 91,297	$ 113,125
D / Disposal		$ 215,636	$ 216,743	$ 257,948
E / Total Costs	E=Σ A to D	$ 949,806	$ 624,085	$ 506,469
F / Disposed Tons		5,359	5,491	5,729
G / Disposal Cost per Ton	G=D / F	$ 40.24	$ 39.47	$ 45.02
H / T/S Cost per Ton	**H=E / F**	**$ 177.25**	**$ 113.66**	**$ 88.40**

2.1.2 Landfill

Inert waste such as construction and demolition debris and sewage sludge is disposed at the County Landfill. The majority of the customers served at the landfill are self–haul County residents and commercial customers. Also accepted at the Landfill is organic waste such as

yard debris and brush which is burned on a regular basis. Recyclable bulky metal items including white goods / appliances are stored at the Landfill for sale to scrap dealers. The following table summarizes the cost of the Landfill operation over the last three years.

Table 4: Landfill Operational Costs

Cost Category	Calculation	Actual 2008-09	Actual 2009-10	Actual 2010-11
A / Labor		$ 179,746	$ 170,189	$ 154,465
B / Operations		$ 79,812	$ 69,078	$ 73,942
C / General & Admin		$ 113,382	$ 112,450	$ 118,909
D / Closure		$ 109,268	$ 98,593	$ 98,593
E / Total Cost	E=Σ A to D	$ 482,209	$ 450,310	$ 445,909
F / Disposed Tons[6]		2,473	2,252	2,226
G / Disposal Cost per Ton	**G=D / F**	**$ 194.95**	**$ 199.94**	**$ 200.29**

3.0 Disposal Alternatives

3.1 Existing Transfer and Landfill Operations

The waste disposal system utilized by the County is primarily funded through an annual assessment on all County households and businesses outside the City of Livingston. Solid waste is an enterprise fund which operates from the assessment of fees to County residents and businesses. Fund balances for disposal operations (transfer and landfill) are adequately funded. Landfill closure and post-closure costs for the County's landfill are completely funded. The current assessment per household is $185 a year. Businesses are assessed based on their function which is tied to the amount of waste generated. Additional revenues are generated from disposal fees for out-of-County waste generators and the sale of scrap metal. According to the County staff, at the present time there is no need to increase the assessment to residents and businesses.

Reported waste disposed at the Transfer Station and the Landfill from fiscal year 2010-11 totaled 8,834 tons. Waste tons from County collection operations (the Green Box sites) and County residents (self-haulers) have averaged just slightly over 8,000 tons.[7] The additional tons delivered to both facilities were generated from other sources such as commercial contractors

[6] Disposed waste tons do not include white goods (large appliances) or yard debris.

[7] Total incoming waste to the County Transfer Station is 5,825 tons (Table 1) plus 2,535 tons disposed at the County Landfill (Table 2).

and business customers. Those additional tons are not under the direct control of the County and are subject to variation from one time period to another. The approximate 8,000 tons per year being handled at the Transfer Station and Landfill are under County control and therefore offer the most reliable baseline for purposes of developing cost estimates for disposal alternatives.

Figure 1. Park County operations at the Transfer Station (left) and Landfill (right)

During the fiscal year 2010-11, the County spent $952,378 to operate the Transfer Station and the Landfill. Fees assessed for the disposal operations[8] were $1,206,625. The combined cost per ton for the County disposal system was $119.71 ($952,378 / 7,956 tons). It is emphasized again this figure does not include the cost for collection and delivery of waste from the Green Box sites to either the Transfer Station or Landfill.

Table 5: Park County Disposal System Costs

System Cost	ACTUAL FY09	ACTUAL FY10	ACTUAL FY11
Labor	$ 631,979	$ 448,376	$ 274,906
Operations	$ 176,295	$ 106,936	$ 88,897
General & Admin	$ 298,837	$ 203,747	$ 232,034
Transfer Station Disposal	$ 215,636	$ 216,743	$ 257,948
Landfill Closure Cost	$ 109,268	$ 98,593	$ 98,593
Total Cost	$ 1,432,015	$ 1,074,395	$ 952,378
Total Disposed Waste Tons	8,210	7,952	7,956
Cost per Waste Ton	$ 174.43	$ 135.10	$ 119.71

[8] Fees and assessments are allocated to disposal and collection. The costs reported in this memorandum are for disposal operation s only.

3.2 City of Livingston Program

Under this alternative the County would be using the City's transfer station for disposal. The current cost to dispose of waste with the City is $53 per ton.

3.2.1 Estimated Capital Cost

None anticipated.

Fig. 2. City of Livingston Transfer Station

3.2.2 Estimated Operation Costs

The cost of utilizing the Livingston Transfer Station would be assessed on the number of tons delivered to the facility. Since the City is able to accept and dispose of construction and demolition debris based on its service agreement with Montana Waste Systems, all waste tons currently disposed at the County Landfill and the County Transfer Station would be delivered to the Livingston Transfer Station for disposal. This alternative would eliminate the need to operate the County Transfer Station and Landfill. At approximately 8,000 tons of waste attributed to the County at a cost of $53 per ton, the County's expected annual cost would be $424,000 (8,000 tons per year X $ 53 / ton = $ 424,000). This alternative would be an approximate savings of $500,000 a year to County residents and businesses ($952,378 system cost in 2010-11 from Section 3.1 above less $424,000 = $528,378).

3.3 County Landfill

3.3.1 Estimated Capital Cost

If the County decided to construct an engineered containment system capable of accepting municipal solid waste at the existing County Landfill, the transfer operations would cease and all waste would be delivered to the landfill. The cost to permit and construct is approximately $2,100,000. These costs assume a 5 acre lined cell with volume of 240,000 cubic yards and a tonnage capacity of approximately 200,000 tons of waste. The landfill would be large enough to accept 20 years of County waste. Assuming the build costs were financed over the 20 year life at 5% interest, the annual cost would be $168,500 or approximately $21 ton.

3.3.2 Estimated Operation Costs

Daily operational costs of the landfill would increase by approximately $700,000 per year to $1,230,000 for additional labor, equipment, and outside services related to the maintenance of the lined cell. Waste would be compacted using a landfill compactor such as a Caterpillar 826H. Daily cover of waste and future cell excavation would be provided by a scraper and dozer combination. The cost for the daily operations of the landfill would be $154 per ton ($1,230,000 operational cost / 8,000 tons). Combined with the annual build cost of $168,500, the cost per ton for waste disposal is approximately $175 per ton.

3.4 New Landfill in County

3.4.1 Estimated Capital Cost

Constructing a new lined landfill will require locating a site that has favorable soils suitable for excavation, a deep water table, a relatively flat area to keep water runoff at a minimum, easy access to a primary roadway, and ample acreage (20+) for future expansion. Finding such a site would be a challenge and could be very expensive. Costs for site selection are difficult to estimate at this time because the number and location of potential land parcels that would be evaluated is unknown. However, it is certain that the County would have to retain an environmental engineering firm to assist with the site selection and assessment. This is a potentially time-consuming and costly process.

Assuming such a site exists within close proximity to the City of Livingston and could be purchased by the County, permitting the site could take up to four years and range in cost from $300,000 to $600,000. Build costs would be comparable to the previous alternative of the County lining a new cell at the current landfill location.

3.4.2 Estimated Operation Costs

Operational costs for this alternative are comparable to those noted in Section 3.3.2

3.5 Incineration / Waste – to – Energy (WTE) Facility

3.5.1 Incineration Operational Assumptions

Incineration is the combustion of MSW with no energy recovery while WTE is incineration with recovery of energy. The unincorporated Park County waste consists of approximately 7,000 tons of material suitable for incineration per year, which converted to a facility daily capacity equates to approximately 22 tons per day. For estimating purposes, we analyzed the cost of facilities of 22 and 44 tons per day per Sections 1.3.3 and 1.3.4. At an 87.2% capacity factor, these facility sizes would be capable of processing up to 7,000 tons per year (tpy) and 14,000 tpy, respectively. We also analyzed energy recovery at each capacity in the form of steam sales and electricity. Steam export provides a more economical alternative than electrical generation but would require identification of a reliable near-by customer to purchase the steam. In addition to these energy recovery options, incineration was evaluated. A discussion of permitting considerations, technology description and economic considerations follows.

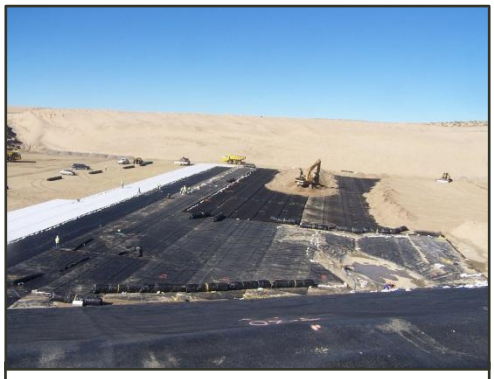


Fig.3. Engineered cell construction

3.5.2 Permitting Considerations

The development of an incinerator / waste-to-energy facility will require two permits from the Montana Department of Environmental Quality (MDEQ):

- A Solid Waste Management System License, and
- An Air Quality Management Permit

Each of these permitting processes is described briefly below. The permitting timeline is incorporated into the schedule presented in the following section. A permit is required for the solid waste that will be delivered to the facility and stored on the tipping floor prior to incineration. The air emissions permit is required for the combustion process. A permit is not required for the energy recovery process. Both permits can be pursued simultaneously.

The Solid Waste Management System License will be required as described in Subchapter 5 (Refuse Disposal) of Chapter 17.50 of the MDEQ Solid Waste Management rules. The Solid Waste Management System License process is well defined in the regulations. The application for the license includes a MDEQ processing protocol that stipulates maximum review cycle timeframes summarized below which can be found in MCA, 17.50.513, Processing of Solid Waste Management System License Application:

MDEQ is required to review each submitted license application within 60 days to ensure that it is complete. If the application is incomplete, the MDEQ must notify the applicant within fifteen days and will postpone processing the application until the material necessary to complete the application is received and the application is determined to be complete. If the requested additional information is not received within 90 days, a new application must be submitted. The MDEQ will determine when an application is complete. Once the application is deemed complete, the MDEQ has 60 days to complete any public scoping process; 90 days to complete an environmental review unless a detailed statement pursuant to 75-1-201, MCA, is required; and 180 days to complete a detailed statement pursuant to 75-1-201, MCA.

This language indicates that the MDEQ processing of a Solid Waste Management System License application could be completed within a year assuming the MDEQ review and approval process were to proceed uninterrupted. We estimate the preparation of the permit application documents once a site is established and the design parameters were defined to require approximately six months. For planning purposes the permitting process would require a minimum period in the range of eighteen months to two years. More time would be necessary if additional special studies are required.

State solid waste regulations are usually developed primarily for landfill operations and transfer stations and involve protection of the groundwater and proper containment and management of solid waste together with any associated liquids and contaminants. The regulations further require control of litter, odors and vectors. The MDEQ regulations are similar in this respect to most state solid waste permitting regulations and, although it could be a lengthy process, complying with the regulations would not be difficult.

The Montana Air Quality Permit will be required under Subchapter 7 (Permit, Construction, and Operation of Air Contaminant Sources) of Chapter 17.8, Air Quality. The application for a Montana air quality permit would also be a lengthy process that follows generally the prevention of significant deterioration (PSD) permitting process required by the Federal Environmental

Protection Agency (EPA). Essentially, if the facility will be a "major" source of pollution, the facility will be required to undergo the PSD process. A major source in this case is one that would have the potential to emit quantities in excess of 100 tons per year of any of the criteria pollutants. The criteria pollutants are ozone, carbon monoxide (CO), nitrogen oxides (NOx), sulfur oxides (SOx), particulate matter (PM10), and lead. The applicant will be required to demonstrate that best available control technology (BACT) will be used for each criteria pollutant for which the facility has the potential to emit greater than the threshold quantity. A facility of the size anticipated for Park County is likely a "minor" source and may not be subjected to such a rigorous process. Whether or not specifically required by the permitting process, air quality control systems would likely be utilized to control acid gasses, particulate matter, heavy metals and complex organics. Waste-to-energy or incinerator systems are highly scrutinized and in many cases provide emission control systems beyond regulatory requirements for public support.

The permit application would include a pollutant by pollutant analysis of BACT and an air quality analysis. BACT is a case-by-case decision that considers energy, environmental, and economic impacts. The main purpose of the air quality analysis is to demonstrate that emissions will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS) or PSD increment. PSD increment is the amount of pollution an area is allowed to increase. PSD increments prevent the air quality in clean areas from deteriorating to the level set by the NAAQS. The air quality analysis would involve an assessment of existing air quality and predictions of ambient concentrations that will result from the project, using dispersion modeling.

An application for a Montana Air Quality Permit to Construct (PTC) also includes a set of prescriptive review cycles. The PTC must be submitted 180 days before construction begins. The review timelines from the rules are summarized below:

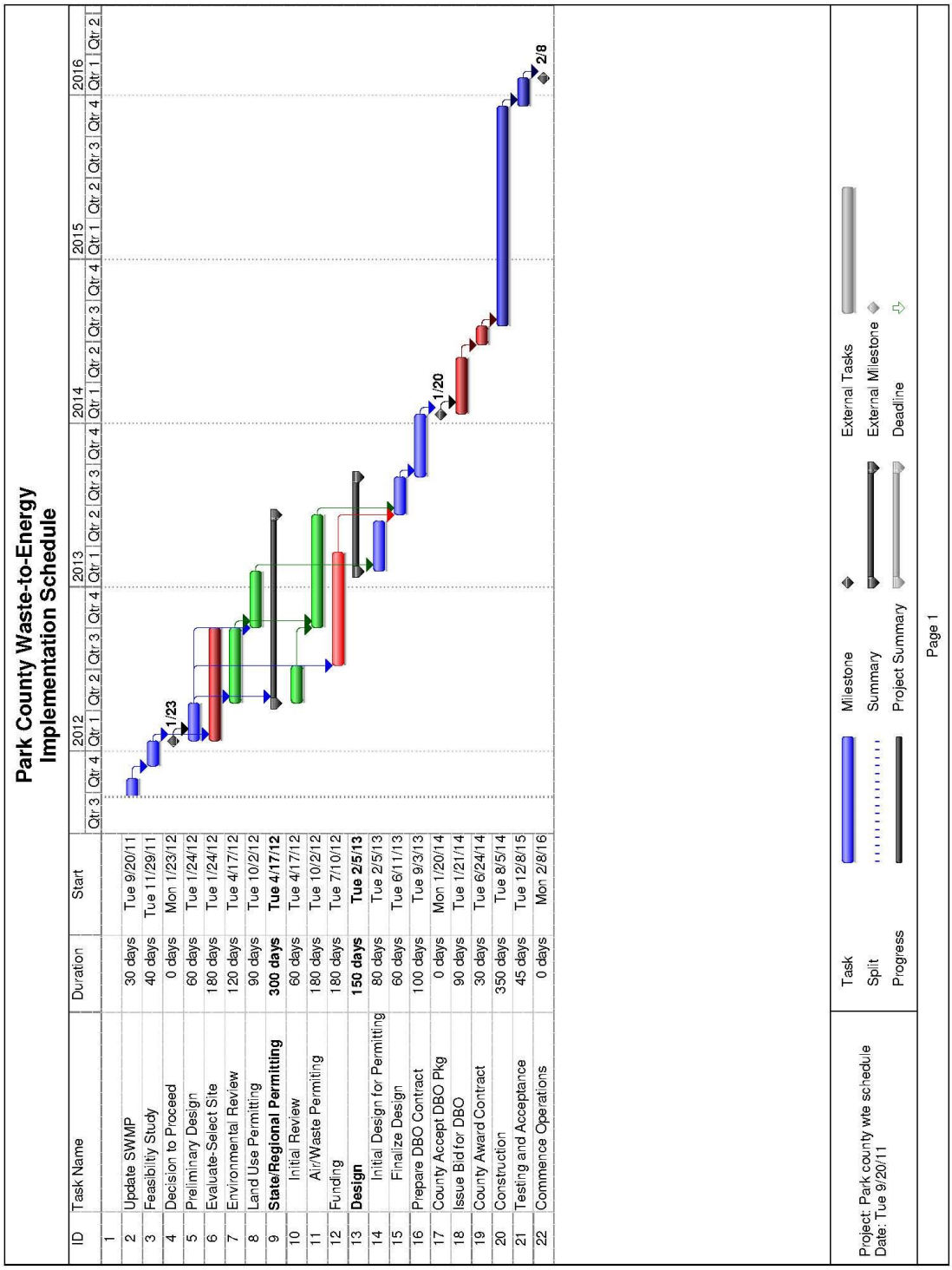
The application is not considered filed until all required fees and all information and completed application forms have been submitted to the MDEQ. If an application is incomplete, the MDEQ is required to notify the applicant within 30 days after receiving an application. Within 40 days after receiving a complete application for a permit, the MDEQ will make a preliminary determination as to whether the permit should be issued, issued with conditions, or denied. Generally, a 30-day public notice period will be provided to allow public comment on the proposed permit.

Altogether, the permitting process would require a minimum of approximately eighteen months including preparation time assuming all submissions to the MDEQ are complete. If any background monitoring or collection of meteorological data is required, the schedule could be extended accordingly. The permitting process could be completed together with preliminary design and project development.

The estimated cost of permitting can range from $200,000 to $500,000 for each permit. Since the permit is obtained prior to any facility construction, these costs cannot be financed with the issuance of a bond. Therefore, the County will need from $400,000 to $1,000,000 in the solid waste enterprise fund to cover these costs.

3.5.3 Implementation Schedule

Figure 4 on the following page shows an implementation schedule for a WTE facility based on regulatory requirements and typical timeframes. This schedule indicates approximately four years from the decision to proceed until commercial operation. Although the schedule could be fast-tracked, the implementation of a WTE facility is typically a lengthy process even without extraordinary obstacles. Unusual political opposition, unforeseen regulatory difficulties and other issues can extend a schedule considerably. The permitting timeline described above has been incorporated into the schedule on the following page. The schedule is based on a private sector design, build, and operate procurement process typically used for an incineration / waste-to-energy projects. The procurement process would be based on a Request-for-Proposals or Request-for-Bids issued by the County. The County may need a consultant to assist with the preparation of either the bid or proposal package and for the evaluation / selection of a suitable vendor.


Park County Waste-to-Energy
Implementation Schedule
ID
Task Name
Duration
Start
2012
2013
2014
2015
2016
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Qtr 1
Qtr 2
1 Update SWMP 30 days Tue 9/20/11
2 Feasibility Study 40 days Tue 11/29/11
3 Decision to Proceed 0 days Mon 1/23/12
4 Preliminary Design 60 days Tue 1/24/12
5 Evaluate-Select Site 180 days Tue 1/24/12
6 Environmental Review 120 days Tue 4/17/12
7 Land Use Permitting 90 days Tue 10/2/12
8 State/Regional Permitting 300 days Tue 4/17/12
9 Initial Review 60 days Tue 4/17/12
10 Air/Waste Permiting 180 days Tue 10/2/12
11 Funding 180 days Tue 7/10/12
12 Design 150 days Tue 2/5/13
13 Initial Design for Permitting 80 days Tue 2/5/13
14 Finalize Design 60 days Tue 6/11/13
15 Prepare DBO Contract 100 days Tue 9/3/13
16 County Accept DBO Pkg 0 days Mon 1/20/14
17 Issue Bid for DBO 90 days Tue 1/21/14
18 County Award Contract 30 days Tue 6/24/14
19 Construction 350 days Tue 8/5/14
20 Testing and Acceptance 45 days Tue 12/8/15
21 Commence Operations 0 days Mon 2/8/16
1/23
1/20
2/8
Project: Park county wte schedule
Date: Tue 9/20/11
Task
Split
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3.5.4 Technology Description

The incineration / waste-to-energy facility would operate on a continuous basis. The facility would be open to receive wastes as necessary to accommodate the public within certain hours of operation, usually around 44 hours per week, to minimize the number of staff to manage this function. Waste would be received at the tipping floor from refuse trucks and dumped either on a storage floor to be loaded into the combustion units with a front-end loader or into a refuse pit to be loaded into the combustion units with an overhead crane. The wastes would be consolidated and stored in the pit area which functions as a stockpile of fuel for the combustion units.

Figure 5. Combustion units loaded by a wheeled front loader (left) and overhead crane (right).

A hydraulic ram pushes waste into the incineration chamber of the combustion units continuously. Facilities in the size range being considered in this report would utilize the modular mass burn combustion units similar to that shown schematically in figure 6.

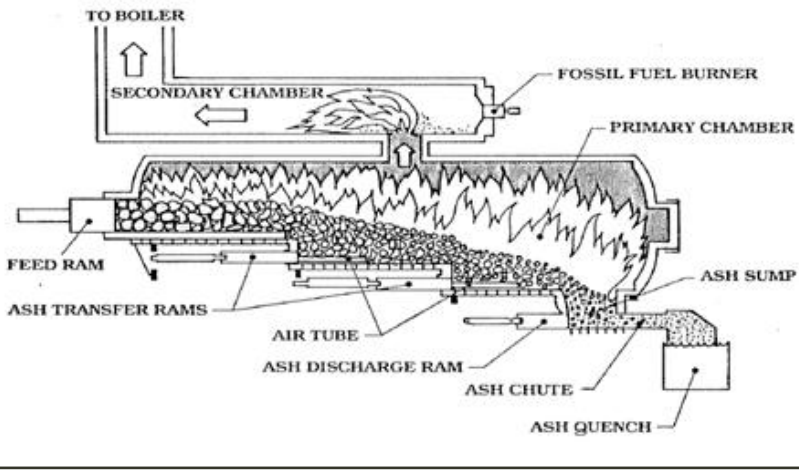


Figure 6 Modular Combustion Unit

Two combustion units, each sized to process approximately half of the waste, would be provided to allow for continued processing with a single unit out of service for scheduled maintenance. Together with the four days of storage provided, this will limit disruptions to refuse collection routes that would be required to deliver waste to alternative locations. After

passing through the unit, ash would be discharged to a quench system and conveyed to a roll-off container for disposal.

For the energy recovery alternatives, hot gasses produced in the combustion process would pass through a waste heat boiler which would produce steam. The steam produced would either be used in a turbine-generator to produce electricity for sale or would be sold to a customer as commercial grade steam. The waste heat boiler for the electrical generation alternative would operate at higher pressure and temperature and would be more costly.

For the incinerator alternative, the hot gasses would pass directly to the air quality control system. Because the gasses would be at a higher temperature, the system would require cooling or quenching systems and would be more costly than for the energy recovery alternatives.

In this analysis three facility configurations were considered:

- Generation of steam for commercial use
- Generation of electricity using a steam powered turbine
- Incineration with no energy recovery

In the first case, the steam generated by the incineration process would be sold to a customer with a process that has a need for steam. This option has economic advantages by not incurring the capital cost of electrical generation equipment and by providing greater revenue. Part of the additional revenue is derived from the ability to sell energy that would otherwise be rejected in a cooling tower or air cooled condenser. Although finding a customer that would purchase steam who is also located near-by and has a demand profile that matches the output of the facility would be a challenge, this alternative presents a best case analysis.

Figure 7. Tubes in Waste Heat Boiler

In the second case, the steam produced would be used to produce electricity. In addition to requiring electrical generation equipment and accessories, this would require operation at higher pressure and temperature which would increase the cost of the waste heat boiler. For the incineration alternative, no steam would be produced, thereby eliminating the cost of the waste heat boiler and the associated steam cycle equipment.

Facilities were sized based on incoming volumes of waste to present a range of expected costs and to show the variation in costs as the different tonnage levels. Facilities of 22 tons per day (tpd) and 44 tpd capacity were considered. These facilities will process up to 7,000 and 14,000 tons of waste annually.

3.5.5 Economic Considerations

The estimates presented herein are conceptual in nature and as such are not based on any specific site or design configuration. The costs are expected to be representative of the size and types of facilities being considered in this evaluation.

Costs of solid waste facilities are often compared based on tipping fees. In order to estimate tipping fees several other cost calculations are required. First, the capital cost is required. Table 5 presents conceptual capital cost estimates for the options being considered. The detailed estimates are provided in the Appendices A through F of this memo. Again, these estimates are conceptual in nature and are intended show variations in the costs based on size differences and whether or not steam or electrical generation is included.

Table 6 - Conceptual Capital Cost

	22 TPD			44 TPD		
	Incineration	Steam	Electric	Incineration	Steam	Electric
Site work	$86,000	$86,000	$86,000	$90,000	$90,000	$90,000
Site Improvements	$800,000	$800,000	$800,000	$900,000	$900,000	$900,000
Buildings	$1,800,000	$2,000,000	$2,000,000	$2,100,000	$2,300,000	$2,300,000
Power Block Equipment	$3,850,000	$5,470,000	$6,690,000	$6,160,000	$8,680,000	$11,110,000
Subtotal Construction	$6,500,000	$8,400,000	$9,600,000	$9,300,000	$12,000,000	$14,400,000
Design / Engineering	$520,000	$670,000	$770,000	$740,000	$960,000	$1,150,000
Permitting	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000
Contingency	$1,300,000	$1,680,000	$1,920,000	$1,860,000	$2,400,000	$2,880,000
TOTAL COST	**$8,500,000**	**$11,000,000**	**$12,500,000**	**$12,100,000**	**$15,600,000**	**$18,600,000**

Note: Costs are rounded and may not total.

The cost per ton for these types of facilities includes two primary components; the capital cost and the operational costs. Capital costs are generally funded using long-term debt; therefore, the tipping fee includes a debt service component. Table 6 estimates the debt service that would be required for each of the alternatives. The financed amount includes 10% for financing costs, interest during construction and reserves. An interest rate of three percent (3%) amortized over twenty (20) years was used to determine the amortized costs.

Table 7 - Annual Debt Service

	22 TPD			44 TPD		
	Incineration	Steam	Electric	Incineration	Steam	Electric
Capital Cost	$8,500,000	$11,000,000	$12,500,000	$12,100,000	$15,600,000	$18,600,000
Financed Amount	$9,350,000	$12,100,000	$13,750,000	$13,310,000	$17,160,000	$20,460,000
Tons Processed (tpy)	7,000	7,000	7,000	14,000	14,000	14,000
Annual Payment	$630,000	$810,000	$920,000	$890,000	$1,150,000	$1,380,000
Debt Service per Ton	**$90**	**$116**	**$131**	**$64**	**$82**	**$99**

Annual operating and maintenance (O&M) costs are presented in Table 7. Labor costs are based on the minimum expected staffing required for facility operations including management, administrative personnel, waste receiving personnel and operating and maintenance personnel for around the clock operation. At this size range, the staffing does not change appreciably with capacity. Facilities maintenance is based on a $0.50 cost per square foot allowance for building maintenance. Building areas are included in the capital cost estimates in the Appendices A through F of this memo. Stationary equipment cost is based on 2% of the stationary equipment capital cost. Rolling stock maintenance is based on typical hourly cost for front-end loader usage in the waste receiving area. Rolling stock replacement cost assumes replacement of a loader every ten years. Utilities include water, sewer, telephone, natural gas, and electricity. The steam-only options require purchase of electricity while the energy generation options purchase electricity only when the facility is operating. All three options will require the purchase of natural gas to start and/or maintain the combustion process. Reagents and chemicals include per ton usage of pebble lime, ammonia and powdered activated carbon for emission controls. Fuel for rolling stock is based on hourly fuel usage of the loader operating in the waste receiving area. The cost of ash hauling and disposal is discussed below. Overhead and profit is estimated at 10% of the annual costs other than insurance. An allowance for insurance is included in the estimate.

Ash from the process will consist of inert materials in the waste stream, a small percentage of unburned material, metals, and products removed by the air quality control system. The ash is quenched prior to removal from the system and will contain approximately 35% by weight moisture. The quantity of ash will be approximately 10% by volume of the incoming MSW and approximately 25% by weight. Ash disposal is often a concern when developing a WTE facility. Heavy metals contained in the MSW received remain in the ash and are more concentrated than in the MSW because there is less total material. In order to be disposed of in a Class II landfill, the ash must be characterized to demonstrate it is not hazardous. The analytical test for the characterization is the toxicity characteristic leaching procedure (TCLP). This test is intended to simulate the conditions in a landfill and how those conditions will affect the material over an extended time. It essentially determines how much, if any, of the metals will leach from

the ash. Typically, ash from a properly designed and operated WTE facility will pass the TCLP test although this is not certain. This would entail the landfill being approved to accept the materials and the ash passing the TCLP test.

The cost analysis is based on disposal at Gallatin County Landfill in Logan, a Class II landfill which is the current recipient of the MSW from the City of Livingston. The estimated ash disposal cost is based on ash amounting to 25% of the incoming MSW by weight, a disposal cost of $37 per ton and a 50 mile haul at a cost of 25 cents per ton mile ($12.50/ton). The $37/ton is the rate that the landfill currently charges for MSW and presumes that the ash could be used to construct roadways in the landfill or to serve as daily cover. The approximate 1,000 tons of waste rejected because it is not suitable for incineration is assumed to be disposed at Gallatin County and at the same rate.

The following table summarizes the estimated operational line item costs, **in thousand dollar increments**, of each of the six various incineration and WTE alternatives.

Table 8 - Annual Operation and Maintenance Costs ($ 1,000's)

	22 TPD			44 TPD		
	Incineration	Steam	Electric	Incineration	Steam	Electric
Labor	$615	$685	$685	$657	$734	$734
Facilities maintenance	$4	$5	$5	$5	$5	$5
Stationary equip maintenance/replace	$51	$63	$76	$82	$102	$128
Rolling stock maintenance	$9	$9	$9	$11	$11	$11
Rolling stock replacement costs	$17	$17	$17	$17	$17	$17
Utilities	$42	$54	$34	$54	$77	$38
Reagents/chemicals	$21	$21	$21	$42	$42	$42
Fuel for rolling stock	$19	$19	$19	$23	$23	$23
Ash / waste reject disposal	$109	$109	$109	$178	$178	$178
Overhead & profit	$85	$94	$94	$103	$115	$114
Insurance	$25	$25	$25	$40	$40	$40
Total O&M costs ($1,000s/year)	$997	$1,101	$1,094	$1,212	$1,344	$1,330
Cost per Ton ($/ton)	**$142**	**$157**	**$155**	**$87**	**$96**	**$96**

Note: Costs are rounded and may not total.

Table 8 sums the annualized capital cost and O&M costs to yield anticipated tipping fees for the options being considered. Steam revenues are based on generation of three pounds of steam per pound of waste and net revenue of $5.50 per 1,000 pounds of steam. Electricity revenues are based on 350 kW/ton generation and net revenue of $0.06/kW.

Table 9 – Total Disposal Cost per Ton for Incineration / WTE

	22 TPD			44 TPD		
Tipping Fee Items	**Incineration**	**Steam**	**Electric**	**Incineration**	**Steam**	**Electric**
Annual Operating Cost from Table 7	$142	$157	$155	$87	$96	$96
Annual Debt Service from Table 6	$90	$116	$131	$64	$82	$99
Less Annual Energy Revenue	($0)	($33)	($20)	($0)	($33)	($20)
Projected Tipping Fee	**$232**	**$240**	**$267**	**$151**	**$145**	**$174**

As can be seen in the economic comparisons provided above, the lowest costs is for the larger-sized, 44 tpd system. The difference in estimated tip fee cost between the larger 44 tpd system and the smaller 22 tpd system is approximately $90 - $95 per ton. This difference is due to economies of scale that relate to the large amount of fixed costs in the capital and O&M costs as compared to the variable costs of both systems. For example, the cost of the building and associated site improvements for both the 22 tpd and 44 tpd facilities is approximately the same and there is little difference in the labor cost of operating the different sized facilities. However, the 44 tpd system processes twice the quantity of waste resulting in a lower per-ton tip fee. In addition, as discussed above, an approximate savings of $30 per ton can be realized if steam were able to be sold instead of conversion to electricity. Incineration with no energy recovery would result in tipping fees relatively close to the steam sales alternative.

3.5.6 Summary

The technology defined for this project would make use of small modular mass burn incinerator. Facility sizes for 22 tpd and 44 tpd were analyzed, each employing either incineration only or with energy recovery through the generation of commercial steam or electrical power. Incineration provides the lowest cost alternative for the smaller sized facility and a cost slightly higher than the commercial steam alternative. The generation of commercial steam is more financially attractive than generating electricity because the cost of the electrical generation equipment can be avoided. However, finding a steam customer that is near-by and has a demand profile that matches the output of the facility would be a necessity to make this power generation option viable. The production of electricity entails distribution to either the grid or sole sourcing the power to a nearby customer. The addition of electrical generation equipment has

other associated costs. Producing electricity requires steam to be produced at higher pressure and temperatures and would increase the cost of the waste heat boiler.

The incineration or waste to energy facility will require two permits from the Montana Department of Environmental Quality; 1) a Solid Waste Management System License and 2) a Montana Air Quality Permit. Altogether, the permitting process would take approximately eighteen months to two years. This timeframe would include permit preparation time. If any background monitoring or collection of meteorological data is required, the schedule could be extended. The permitting process could be completed together with preliminary design and project development during the same time period.

3.5.7 EPA Regulation on Landfill Emissions

Once of the questions raised by the PCCC was the impact of new Federal greenhouse gas regulations on municipal solid waste landfills. It was the opinion of the PCCC's legal counsel that these rules would require the closure of landfills thereby making incineration a viable disposal alternative. As it is currently interpreted, the rules will require additional reporting by landfill owners, not closure. To address the concerns of PCCC, we have included a recent article from Waste Age Magazine in Appendix H that explains the new regulations and the impact on landfill owners.

3.5.8 Pending EPA Regulation on Incineration

The two most significant areas of rulemaking underway at a federal level are the review and revision of the National Ambient Air Quality Standards (NAAQS) and the development of new Maximum Achievable Control Standards (MACT). These rules would be addressed through the previously described MDEQ air permitting process and could affect the ability to permit a municipal waste combustion system in Park County. These rules are discussed below.

Under the Clean Air Act, EPA is required to review and, if appropriate, revise the air quality criteria for the primary (health-based) and secondary (welfare-based) national ambient air quality standards (NAAQS) every 5 years. The NAAQS establish the ambient air quality that must be maintained off site. HDR has been tracking the development of these standards which are in different phases for various pollutants. The following is the status of the anticipated changes to NAAQS standards:

- NAAQS for lead reduced from 1.5 to 0.15 µg/m3 (3-month average)
- NAAQS for NO2 and SO2 were specified as 1-Hr averages which is far more far more stringent than prior annual average NAAQS
- Ozone (O3) 8-hr NAAQS currently reduced from 85 ppb to 75 ppb, has been proposed for 60-70 ppb but delayed to 2013 per Administration.
- PM2.5 24-hr was reduced from 65 to 35 µg/m3 in 2006. Annual PM2.5 15 µg/m3 NAAQS planned for reduction in 2011 (11-13 µg/m3 range) – no proposal yet.

During the air permitting process, atmospheric modeling is used to demonstrate that a proposed facility will comply with the NAAQS standards. For a facility of the size required for Park County, these changes to the NAAQS should not be significant.

The development of Municipal Waste Combustor (MWC) MACT is expected to follow the medical waste incinerator MACT rule development. In June of this year the District of Columbia Circuit Court issued a decision in a lawsuit regarding the medical waste incinerator MACT rules. The decision upheld the rules and allowed the EPA to move forward with their implementation. While not directly applicable to MSW fired units, the EPA has apparently been awaiting this decision to move forward on MWC MACT rules. While these rules are anticipated to be quite stringent, they will apply to units larger than the size envisioned for Park County. However, it remains to be seen whether or not EPA promulgates standards for units under 35 tpd.

3.6 Summary of Disposal Alternatives

Table 10 – Comparison of Disposal Alternatives

Alternatives	Annual Tons	Additional Capital Cost	Annual Capital Cost	Annual Operating Cost	Annual Cost (Annual Capital + Operating)	Cost per Ton
1. Existing Operation	8,000	$ 0	$ 0	$952,000	$952,000	$120
2. Livingston Transfer Station	8,000	$ 0	$ 0	$424,000	$424,000	$53
3. Lined Cell at County Landfill	8,000	$2,100,000	$169,000	$1,230,000	$1,398,500	$175
4. New Landfill with Lined Cell	8,000	Land Purchase + $2,100,000	Land Note + $169,000	$1,230,000	$Land Amortization + $1,398,500	$200 to $250
5. Incineration (22 TPD)	7,000	$8,500,000	$630,000	$997,000	$1,627,000	$232
6. WTE Steam (22 TPD)	7,000	$11,000,000	$810,000	$1,101,000	$1,911,000	$240
7. WTE Electricity (22 TPD)	7,000	$12,500,000	$920,000	$1,094,000	$2,014,000	$267
8. Incineration (44 TPD)	14,000	$12,100,000	$890,000	$1,212,000	$2,102,000	$151
9. WTE Steam (44 TPD)	14,000	$15,600,000	$1,150,000	$1,344,000	$2,494,000	$145
10. WTE Electricity (44 TPD)	14,000	$18,600,000	$1,380,000	$1,330,000	$2,710,000	$174

Appendix A - Additional Relevant Background Information

Waste Groups and Types of Disposal Facilities

According to Administrative Rule of Montana 17.50.503, "Solid wastes are grouped based on physical and chemical characteristics which determine the degree of care required in handling and disposal and the potential of the wastes for causing environmental degradation or public health hazards." Solid wastes in Montana are categorized into three groups as summarized in the table below.

Table A – 1: Solid Waste Groups and Categories

Waste Group	Waste Category	Examples of Materials
Group II	Decomposable Wastes and Mixed Solid Wastes (excluding regulated hazardous wastes)	Municipal and household solid wastes such as organic materials, paper, cardboard, glass, metal, plastics. Commercial and industrial wastes such as packaging materials, liquid or solid industrial process wastes, crop residues, chemical fertilizers.
Group III	Wood Wastes and Non – Water Soluble Solids	Inert solid waste such as unpainted brick, dirt, rock, and concrete, industrial mineral wastes, untreated wood materials, and vehicle tires.
Group IV	Construction and Demolition Wastes	Construction or demolition wastes and asphalt (excluding regulated hazardous wastes).

These waste groups are disposed in the proper corresponding waste facilities according to Administrative Rule of Montana 17.50.504, as follows:

> "Disposal facilities are classified according to their respective abilities to handle various types of solid waste. Systems of acceptable disposal may entail containment of waste with assured protection against leachate migration or may take advantage of natural treatment processes such as evaporation, chemical and microbiological degradation, filtration, adsorption, and attenuation. Solid waste management facilities may involve ponds, pits, lagoons, land spreading areas, impoundments, or landfills. Although facilities are broadly classified as to the solid waste groups they may accept, specific restrictions may be placed on individual disposal units or disposal areas. As an example, many Class II landfills may not be acceptable places for the disposal of Group II liquids or sludges. Such restrictions, if any are warranted, shall be specified on the solid waste management system license."

The three types of disposal facilities are summarized in the table below.

Table A – 2: Types of Disposal Facilities

Facility Class	Type(s) of Refuse Accepted	Exceptions
Class II	Group II, Group III, Group IV (does not include regulated hazardous wastes)	Some Class II landfills will be unable to accept certain types of refuse as specified by the specific solid waste management system license.
Class III	Group III only	No exceptions
Class IV	Group III or Group IV	Conditionally exempt small quantity generator hazardous waste that is generated as a part of a construction or demolition project and that cannot be removed from the construction and demolition waste may be included in waste disposed of in Class IV units.

The table below shows the correlation between the waste groups and disposal facility types:

Table A – 3: Correlation Between Waste Groups and Disposal Facility Types

Waste Group	Waste Category	Examples of Materials	Disposal Facility
Group II	Decomposable Wastes and Mixed Solid Wastes (excluding regulated hazardous wastes)	Municipal and household solid wastes such as organic materials, paper, cardboard, glass, metal, plastics. Commercial and industrial wastes such as packaging materials, liquid or solid industrial process wastes, crop residues, chemical fertilizers.	Class II
Group III	Wood Wastes and Non – Water Soluble Solids	Inert solid waste such as unpainted brick, dirt, rock, and concrete, industrial mineral wastes, untreated wood materials, and vehicle tires.	Class II, Class III, Class IV
Group IV	Construction and Demolition Wastes	Construction or demolition wastes and asphalt (does not include regulated hazardous wastes).	Class II, Class IV

Solid Waste Management Policies and Priorities

Montana has adopted the "Reduce, Reuse, and Recycle" approach in waste management according to the State's Integrated Waste Management Plan (IWMP, Final Draft, 2006). Furthermore, it is understood Montana has established goals for decreasing and diverting the amount of solid waste that is generated statewide through source reduction, reuse, recycling, and composting measures and programs. The target waste reduction / diversion rates and timeframes are:

17 % by 2008

19 % by 2011

22 % by 2015

In particular, the IWMP asserts (page 75) "The State of Montana will regulate solid waste incineration and enforce laws to protect the public health and welfare of Montana citizens. Source reduction, reuse, composting, and recycling of materials will be encouraged as a preferred alternative to incineration of solid waste."

Appendix B - Park County Existing Solid Waste Management Practices

Landfill

Due to the 1981 Sundling vs. Park County Count Decree, municipal solid waste from the residential or commercial sectors may not be disposed at the Park County Landfill. However, as a Class II landfill the facility can accept other kinds of Group II, III, and IV wastes. Typical materials disposed at the landfill include construction / demolition debris, pallets, lumber, carpet, furniture, drywall, toilets, windows, doors, lamps, sheetrock, mattresses, and asphalt shingles.

Transfer Station

The Transfer Station operated by the County receives municipal solid waste from the County's Green Box sites. Garbage is unloaded inside the Transfer Station, compacted into Bottles, and then transported to the adjacent rail yard to be loaded on to rail cars. Bottles are then loaded on the rail cars to the Valley View Landfill near East Helena in Jefferson County. The compactor at the Transfer Station has a six cubic yard hopper. There is also a compactor at the Cooke City convenience center with a four cubic yard hopper.

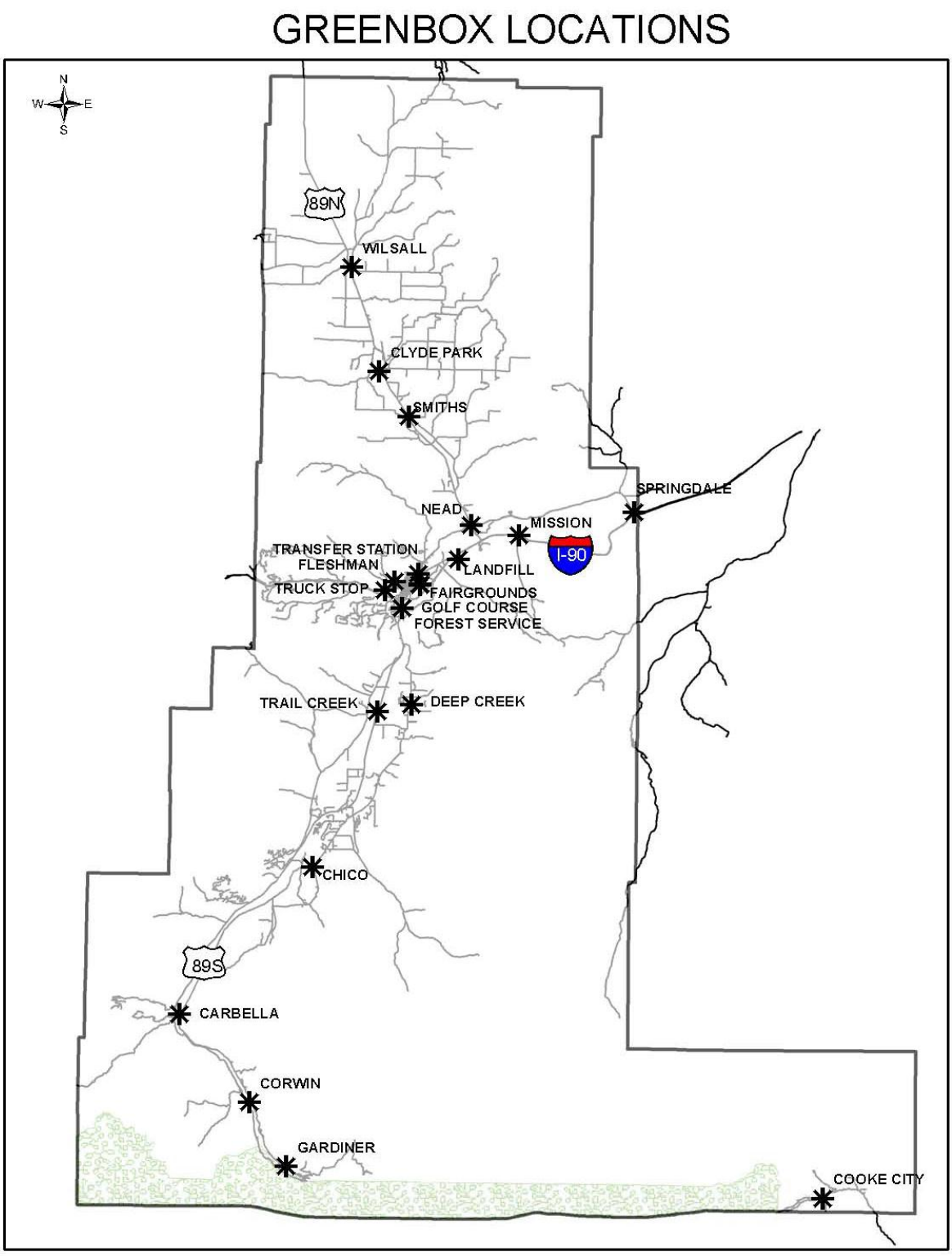
Immediately adjacent to the area inside the Transfer Station where garbage is unloaded is a small downstroke baler used for baling recovered cardboard. Automobile batteries, anti – freeze, and motor oil are accepted at the Transfer Station for reuse / recycling. Recycling bins from Headwaters Cooperative Recycling for newspaper, glass containers, aluminum cans, and tin cans are situated near the entrance to the Transfer Station. There is also a roll – off container available to the public for disposal of larger bulky items.

Green Box Sites

There is no refuse collection service for residences or businesses in the County unincorporated areas (including Clyde Park) outside the City of Livingston jurisdictional boundary. Instead there is a network of 17 Green Box sites or convenience centers for refuse disposal located throughout the County intended to serve the County unincorporated areas. The map in this appendix shows the convenience center locations as well as the Park County Transfer Station and Park County Landfill.

There are five full – time and two part – time attendants who rotate between the various Green Box sites. The sites are supposed to be closed on Wednesday, Sundays, and Holidays. However, walk – through gates at the sites are always open, so in reality access is unrestricted. All the convenience centers have dumpsters or "green boxes" for disposal of household and commercial trash. Seven locations also have larger roll – off containers for bulky items such as construction / demolition waste, metal, wood, furniture, appliances (no freon), mattresses, and carpet. These seven sites include Clyde Park, Wilsall, Springdale, Trail Creek, Chico, Gardiner, and Cooke City. There is also a roll – off container at the County Transfer Station.

Figure B – 1: Green Box /Convenience Center Locations



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This DATA is neither a legally recorded map nor a survey and is not intended to be used as such. No representation is made that features presented accurately reflect true location or correct attribution. The City of Livingston and Park County assumes no liability for any errors or omissions herein. DATA layers are under continued development; therefore, the DATA is current only to the date of delivery.

A front – end loading refuse vehicle is used to empty solid waste from the dumpsters at the Green Box locations. The trash is then hauled to the Transfer Station. Roll – off containers are transported directly to the Park County Landfill.

The Cooke City convenience center is distinctly different than the other Green Box sites. The facility at Cooke City is fully enclosed; has a compaction unit / container for regular residential / commercial trash and a roll – off for larger bulky items; bales recovered cardboard with a small downstroke baler; and serves as a community recycling depot.

Refuse Transport and Disposal

There are 21 specially designed containers (Bottles) for refuse to be transported by railroad to the privately operated Valley View Landfill in Jefferson County. The containers hold approximately 10 to 12 tons of compacted trash. Fifteen were purchased by the County at a cost of about $11,200 each while six were provided by Envirocon, Inc., the rail haul / disposal contractor. Containers are shipped by rail five days per week. Five containers fit on one rail car.

Recycling

An area has been set aside at the Landfill for recovery of scrap metals including appliances. A contractor (AP&R, LLC from Butte) typically comes to the Landfill usually twice per year to remove the material for recycling. A small number of Green Box sites such as Clyde Park and Wilsall, along with the Transfer Station, have recycling bins for newspaper, glass containers, aluminum and tin cans provided and serviced by Headwaters Cooperative Recycling.

Project:	Alternative 5: 22 TPD Incineration
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

CONCEPTUAL MODULAR INCINERATOR FACILITY
CAPITAL COST ESTIMATE SUMMARY

I.	SITEWORK	$86,000
II.	SITE IMPROVEMENTS	$800,000
III.	FRONT END PROCESSING EQUIPMENT	$0
IV.	BUILDINGS	$1,800,000
V.	POWER BLOCK EQUIPMENT	$3,850,000
	SUBTOTAL CONSTRUCTION	$6,500,000
	DESIGN/ENGINEERING (8%)	$520,000
	PERMITTING	$200,000
	CONTINGENCY (20%)	$1,300,000
	TOTAL CAPITAL COST	$8,500,000

Project:	Alternative 5: 22 TPD Incineration
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

I. SITEWORK

Item	Quantity	Units	Unit Price	Item Cost	Total
Geotechnical Services	1	LS	$30,000	$30,000	
Clear and Grub	1	LS	$16,000	$16,000	
Mobilization	1	LS	$30,000	$30,000	
Const. Access, Parking and Laydov	1	LS	$10,000	$10,000	
Subtotal I					$86,000

II. SITE IMPROVEMENTS

Item	Quantity	Units	Unit Price	Item Cost	Total
Earthwork					
General Earthwork(1)	40,000	cy	$7	$280,000	
Finishing Grassing & Grading	10,000	sy	$0.50	$5,000	
Roadways (2)	7,040	sy	$25	$176,000	
Asphalt Pavement, Parking	1,000	sy	$25	$25,000	
Concrete pavement	267	sy	$40	$10,700	
Site Utilities(3)					
Fire Protection Loop and Hydran	1,000	lf	$35	$35,000	
Water Supply	1,000	lf	$25	$25,000	
Natural Gas Supply	2,000	lf	$25	$50,000	
Sewer System	1	LS	$50,000	$50,000	
Electrical	1	LS	$50,000	$50,000	
Site Drainage	1	LS	$50,000	$50,000	
Fencing	1,000	lf	$15	$15,000	
Landscaping	1	LS	$50,000	$50,000	
Subtotal II					$822,000

Notes:
(1) Assumes 3 ft of earthwork over 7 acres
(2) 1/2 mile of 24 ft wide asphalt road
(3) Utilities unit price includes excavation, bedding material, piping installed, backfill, etc. Assumes water and gas near site.

III. FRONT END PROCESSING EQUIPMENT

Item	Quantity	Units	Unit Price	Item Cost	Total
Equipment Purchase	0	LS	$5,000,000	$0	
Equipment Installation	0	LS	$1,000,000	$0	
Electrical	0	LS	$800,000	$0	
Foundations	0	LS	$400,000	$0	
Subtotal III					$0

Notes:

Project:	Alternative 5: 22 TPD Incineration
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

IV. BUILDINGS

Item	Quantity	Units	Unit Price	Item Cost	Total
MSW Receiving Bldg	3,500	SF	$140	$490,000	
Storage Pit	111	CY	$500	$55,556	
MSW storage bldg	2,450	SF	$250	$612,500	
Cranes	0	LS	$750,000	$0	
Power Block	2,625	SF	$250	$656,250	
Admin Bldg	0	SF	$220	$0	
Subtotal IV	8,575				$1,814,000

V. POWER BLOCK EQUIPMENT

Item	Quantity	Units	Unit Price	Item Cost	Total
MSW fired Incinerator	2	ls	$550,000	$1,100,000	
Waste Heat Boiler	2	ls	$0	$0	
Bottom Ash Handling	1	ls	$72,000	$72,000	
Flyash Handling/Conditioning	1	ls	$40,000	$40,000	
Aux Cooling Water System	1	ls	$2,950	$2,950	
Condensate System	0	ls	$0	$0	
Chem Feed	1	ls	$10,000	$10,000	
Circulating Water System	0	ls	$0	$0	
Waste Water System	1	ls	$9,900	$9,900	
Water Treatment	1	ls	$18,000	$18,000	
Fire Protection	1	ls	$12,640	$12,640	
Feedwater System	0	ls	$0	$0	
Compressed Air System	1	ls	$2,700	$2,700	
Service Water System	1	ls	$4,500	$4,500	
Steam Piping	1	ls	$0	$0	
Steam Turbine	0	ls	$0	$0	
Substation & Electrical System	1	ls	$255,000	$255,000	
AQCS	2	ls	$500,000	$1,000,000	
Incinerator Erection (Labor)	2	ls	$330,000	$660,000	
Mechanical Installation (Labor)	1	ls	$139,000	$139,000	
Electrical Installation (Labor)	1	ls	$275,000	$275,000	
Foundations	1	ls	$202,215	$202,215	
Shop Tools & Equip.	1	Allowan	$10,000	$10,000	
Office Furnishings	1	Allowan	$10,000	$10,000	
Spare Parts	1	Allowan	$30,000	$30,000	
Subtotal V					$3,854,000
Subtotal I through V					$6,576,000

Project:	Alternative 6: 22 TPD WTE Steam
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

CONCEPTUAL MODULAR MASS BURN FACILITY
CAPITAL COST ESTIMATE SUMMARY

I.	SITEWORK	$86,000
II.	SITE IMPROVEMENTS	$800,000
III.	FRONT END PROCESSING EQUIPMENT	$0
IV.	BUILDINGS	$2,000,000
V.	POWER BLOCK EQUIPMENT	$5,470,000
	SUBTOTAL CONSTRUCTION	$8,400,000
	DESIGN/ENGINEERING (8%)	$670,000
	PERMITTING	$200,000
	CONTINGENCY (20%)	$1,680,000
	TOTAL CAPITAL COST	$11,000,000

Project:	Alternative 6: 22 TPD WTE Steam
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

I. SITEWORK

Item	Quantity	Units	Unit Price	Item Cost	Total
Geotechnical Services	1	LS	$30,000	$30,000	
Clear and Grub	1	LS	$16,000	$16,000	
Mobilization	1	LS	$30,000	$30,000	
Const. Access, Parking and Laydov	1	LS	$10,000	$10,000	
Subtotal I					$86,000

II. SITE IMPROVEMENTS

Item	Quantity	Units	Unit Price	Item Cost	Total
Earthwork					
General Earthwork(1)	40,000	cy	$7	$280,000	
Finishing Grassing & Grading	10,000	sy	$0.50	$5,000	
Roadways (2)	7,040	sy	$25	$176,000	
Asphalt Pavement, Parking	1,000	sy	$25	$25,000	
Concrete pavement	267	sy	$40	$10,700	
Site Utilities(3)					
Fire Protection Loop and Hydran	1,000	lf	$35	$35,000	
Water Supply	1,000	lf	$25	$25,000	
Natural Gas Supply	2,000	lf	$25	$50,000	
Sewer System	1	LS	$50,000	$50,000	
Electrical	1	LS	$50,000	$50,000	
Site Drainage	1	LS	$50,000	$50,000	
Fencing	1,000	lf	$15	$15,000	
Landscaping	1	LS	$50,000	$50,000	
Subtotal II					$822,000

Notes:
(1) Assumes 3 ft of earthwork over 7 acres
(2) 1/2 mile of 24 ft wide asphalt road
(3) Utilities unit price includes excavation, bedding material, piping installed, backfill, etc. Assumes water and gas near site.

III. FRONT END PROCESSING EQUIPMENT

Item	Quantity	Units	Unit Price	Item Cost	Total
Equipment Purchase	0	LS	$5,000,000	$0	
Equipment Installation	0	LS	$1,000,000	$0	
Electrical	0	LS	$800,000	$0	
Foundations	0	LS	$400,000	$0	
Subtotal III					$0

Notes:

Project:	Alternative 6: 22 TPD WTE Steam
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

IV. BUILDINGS

Item	Quantity	Units	Unit Price	Item Cost	Total
MSW Receiving Bldg	3,500	SF	$140	$490,000	
Storage Pit	111	CY	$500	$55,556	
MSW storage bldg	2,450	SF	$250	$612,500	
Cranes	0	LS	$750,000	$0	
Power Block	3,500	SF	$250	$875,000	
Admin Bldg	0	SF	$220	$0	
Subtotal IV	9,450				$2,033,000

V. POWER BLOCK EQUIPMENT

Item	Quantity	Units	Unit Price	Item Cost	Total
MSW fired Incinerator	2	ls	$550,000	$1,100,000	
Waste Heat Boiler	2	ls	$330,000	$660,000	
Bottom Ash Handling	1	ls	$72,000	$72,000	
Flyash Handling/Conditioning	1	ls	$40,000	$40,000	
Aux Cooling Water System	1	ls	$5,900	$5,900	
Condensate System	0	ls	$22,500	$0	
Chem Feed	1	ls	$10,000	$10,000	
Circulating Water System	0	ls	$15,800	$0	
Waste Water System	1	ls	$19,800	$19,800	
Water Treatment	1	ls	$18,000	$18,000	
Fire Protection	1	ls	$15,800	$15,800	
Feedwater System	0	ls	$14,400	$0	
Compressed Air System	1	ls	$5,400	$5,400	
Service Water System	1	ls	$4,500	$4,500	
Steam Piping	1	ls	$5,400	$5,400	
Steam Turbine	0	ls	$360,000	$0	
Substation & Electrical System	1	ls	$392,000	$392,000	
AQCS	2	ls	$400,000	$800,000	
Boiler Erection (Labor)	2	ls	$528,000	$1,056,000	
Mechanical Installation (Labor)	1	ls	$686,000	$686,000	
Electrical Installation (Labor)	1	ls	$275,000	$275,000	
Foundations	1	ls	$251,904	$251,904	
Shop Tools & Equip.	1	Allowan	$10,000	$10,000	
Office Furnishings	1	Allowan	$10,000	$10,000	
Spare Parts	1	Allowan	$30,000	$30,000	
Subtotal V					$5,468,000
Subtotal I through V					$8,409,000

Project:	Alternative 7: 22 TPD WTE Electricity
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

CONCEPTUAL MODULAR MASS BURN FACILITY WITH ELECTRIC GENERATION
CAPITAL COST ESTIMATE SUMMARY

I.	SITEWORK	$86,000
II.	SITE IMPROVEMENTS	$800,000
III.	FRONT END PROCESSING EQUIPMENT	$0
IV.	BUILDINGS	$2,000,000
V.	POWER BLOCK EQUIPMENT	$6,690,000
	SUBTOTAL CONSTRUCTION	$9,600,000
	DESIGN/ENGINEERING (8%)	$770,000
	PERMITTING	$200,000
	CONTINGENCY (20%)	$1,920,000
	TOTAL CAPITAL COST	$12,500,000

Project:	Alternative 7: 22 TPD WTE Electricity
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

I. SITEWORK

Item	Quantity	Units	Unit Price	Item Cost	Total
Geotechnical Services	1	LS	$30,000	$30,000	
Clear and Grub	1	LS	$16,000	$16,000	
Mobilization	1	LS	$30,000	$30,000	
Const. Access, Parking and Laydov	1	LS	$10,000	$10,000	
Subtotal I					$86,000

II. SITE IMPROVEMENTS

Item	Quantity	Units	Unit Price	Item Cost	Total
Earthwork					
General Earthwork(1)	40,000	cy	$7	$280,000	
Finishing Grassing & Grading	10,000	sy	$0.50	$5,000	
Roadways (2)	7,040	sy	$25	$176,000	
Asphalt Pavement, Parking	1,000	sy	$25	$25,000	
Concrete pavement	267	sy	$40	$10,700	
Site Utilities(3)					
Fire Protection Loop and Hydran	1,000	lf	$35	$35,000	
Water Supply	1,000	lf	$25	$25,000	
Natural Gas Supply	2,000	lf	$25	$50,000	
Sewer System	1	LS	$50,000	$50,000	
Electrical	1	LS	$50,000	$50,000	
Site Drainage	1	LS	$50,000	$50,000	
Fencing	1,000	lf	$15	$15,000	
Landscaping	1	LS	$50,000	$50,000	
Subtotal II					$822,000

Notes:
(1) Assumes 3 ft of earthwork over 7 acres
(2) 1/2 mile of 24 ft wide asphalt road
(3) Utilities unit price includes excavation, bedding material, piping installed, backfill, etc. Assumes water and gas near site.

III. FRONT END PROCESSING EQUIPMENT

Item	Quantity	Units	Unit Price	Item Cost	Total
Equipment Purchase	0	LS	$5,000,000	$0	
Equipment Installation	0	LS	$1,000,000	$0	
Electrical	0	LS	$800,000	$0	
Foundations	0	LS	$400,000	$0	
Subtotal III					$0

Notes:

Project:	Alternative 7: 22 TPD WTE Electricity
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

IV. BUILDINGS

Item	Quantity	Units	Unit Price	Item Cost	Total
MSW Receiving Bldg	3,500	SF	$140	$490,000	
Storage Pit	111	CY	$500	$55,556	
MSW storage bldg	2,450	SF	$250	$612,500	
Cranes	0	LS	$750,000	$0	
Power Block	3,500	SF	$250	$875,000	
Admin Bldg	0	SF	$220	$0	
Subtotal IV	9,450				$2,033,000

V. POWER BLOCK EQUIPMENT

Item	Quantity	Units	Unit Price	Item Cost	Total
MSW fired Modular Boiler	2	ls	$550,000	$1,100,000	
Waste Heat Boiler	2	ls	$385,000	$770,000	
Bottom Ash Handling	1	ls	$72,000	$72,000	
Flyash Handling/Conditioning	1	ls	$40,000	$40,000	
Aux Cooling Water System	1	ls	$6,500	$6,500	
Condensate System	1	ls	$30,000	$30,000	
Chem Feed	1	ls	$10,000	$10,000	
Circulating Water System	1	ls	$15,800	$15,800	
Waste Water System	1	ls	$19,800	$19,800	
Water Treatment	1	ls	$18,000	$18,000	
Fire Protection	1	ls	$15,800	$15,800	
Feedwater System	1	ls	$14,400	$14,400	
Compressed Air System	1	ls	$5,400	$5,400	
Service Water System	1	ls	$4,500	$4,500	
Steam Piping	1	ls	$5,400	$5,400	
Steam Turbine	1	ls	$360,000	$360,000	
Substation & Electrical System	1	ls	$498,000	$498,000	
AQCS	2	ls	$400,000	$800,000	
Boiler Erection (Labor)	2	ls	$561,000	$1,122,000	
Mechanical Installation (Labor)	1	ls	$1,111,000	$1,111,000	
Electrical Installation (Labor)	1	ls	$316,250	$316,250	
Foundations	1	ls	$302,848	$302,848	
Shop Tools & Equip.	1	Allowan	$10,000	$10,000	
Office Furnishings	1	Allowan	$10,000	$10,000	
Spare Parts	1	Allowan	$30,000	$30,000	
Subtotal V					$6,688,000
Subtotal I through V					$9,629,000

Project:	Alternative 8: 44 TPD Incineration
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

CONCEPTUAL MODULAR INCINERATOR FACILITY
CAPITAL COST ESTIMATE SUMMARY

I.	SITEWORK	$90,000
II.	SITE IMPROVEMENTS	$900,000
III.	PROCESSING EQUIPMENT	$0
IV.	BUILDINGS	$2,100,000
V.	POWER BLOCK EQUIPMENT	$6,160,000
	SUBTOTAL CONSTRUCTION	$9,300,000
	DESIGN/ENGINEERING (8%)	$740,000
	PERMITTING	$200,000
	CONTINGENCY (20%)	$1,860,000
	TOTAL CAPITAL COST	$12,100,000

Project:	Alternative 8: 44 TPD Incineration
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

I. SITEWORK

Item	Quantity	Units	Unit Price	Item Cost	Total
Geotechnical Services	1	LS	$30,000	$30,000	
Clear and Grub	1	LS	$20,000	$20,000	
Mobilization	1	LS	$30,000	$30,000	
Const. Access, Parking and Laydov	1	LS	$10,000	$10,000	
Subtotal I					$90,000

II. SITE IMPROVEMENTS

Item	Quantity	Units	Unit Price	Item Cost	Total
Earthwork					
General Earthwork(1)	50,000	cy	$7	$350,000	
Finishing Grassing & Grading	10,000	sy	$0.50	$5,000	
Roadways (2)	7,040	sy	$25	$176,000	
Asphalt Pavement, Parking	1,000	sy	$25	$25,000	
Concrete pavement	267	sy	$40	$10,700	
Site Utilities(3)					
Fire Protection Loop and Hydran	1,000	lf	$35	$35,000	
Water Supply	1,000	lf	$25	$25,000	
Natural Gas Supply	2,000	lf	$25	$50,000	
Sewer System	1	LS	$50,000	$50,000	
Electrical	1	LS	$50,000	$50,000	
Site Drainage	1	LS	$50,000	$50,000	
Fencing	1,000	lf	$15	$15,000	
Landscaping	1	LS	$50,000	$50,000	
Subtotal II					$892,000

Notes:
(1) Assumes 3 ft of earthwork over 10 acres
(2) 1/2 mile of 24 ft wide asphalt road
(3) Utilities unit price includes excavation, bedding material, piping installed, backfill, etc. Assumes water and gas near site.

III. PROCESSING EQUIPMENT

Item	Quantity	Units	Unit Price	Item Cost	Total
Equipment Purchase	0	LS	$5,000,000	$0	
Equipment Installation	0	LS	$1,000,000	$0	
Electrical	0	LS	$800,000	$0	
Foundations	0	LS	$400,000	$0	
Subtotal III					$0

Notes:

Project:	Alternative 8: 44 TPD Incineration
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

IV. BUILDINGS

Item	Quantity	Units	Unit Price	Item Cost	Total
MSW Receiving Bldg	4,000	SF	$140	$560,000	
Storage Pit	100	CY	$500	$50,000	
MSW storage bldg	2,800	SF	$250	$700,000	
Cranes	0	LS	$750,000	$0	
Power Block	3,000	SF	$250	$750,000	
Admin Bldg	0	SF	$220	$0	
Subtotal IV	9,800				$2,060,000

V. POWER BLOCK EQUIPMENT

Item	Quantity	Units	Unit Price	Item Cost	Total
MSW fired incinerator	2	ls	$850,000	$1,700,000	
Waste Heat Boiler	2	ls	$0	$0	
Bottom Ash Handling	1	ls	$100,000	$100,000	
Flyash Handling/Conditioning	1	ls	$80,000	$80,000	
Aux Cooling Water System	1	ls	$5,900	$5,900	
Condensate System	0	ls	$0	$0	
Chem Feed	1	ls	$20,000	$20,000	
Circulating Water System	0	ls	$0	$0	
Waste Water System	1	ls	$19,800	$19,800	
Water Treatment	1	ls	$36,000	$36,000	
Fire Protection	1	ls	$25,280	$25,280	
Feedwater System	0	ls	$0	$0	
Compressed Air System	1	ls	$5,400	$5,400	
Service Water System	1	ls	$9,000	$9,000	
Steam Piping	1	ls	$0	$0	
Steam Turbine	0	ls	$0	$0	
Substation & Electrical System	1	ls	$401,000	$401,000	
AQCS	2	ls	$850,000	$1,700,000	
Incinerator Erection (Labor)	2	ls	$510,000	$1,020,000	
Mechanical Installation (Labor)	1	ls	$242,000	$242,000	
Electrical Installation (Labor)	1	ls	$412,500	$412,500	
Foundations	1	ls	$328,190	$328,190	
Shop Tools & Equip.	1	Allowan	$10,000	$10,000	
Office Furnishings	1	Allowan	$10,000	$10,000	
Spare Parts	1	Allowan	$30,000	$30,000	
Subtotal V					$6,155,000
Subtotal I through V					$9,197,000

Project:	Alternative 9: 44 TPD WTE Steam
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

CONCEPTUAL MODULAR MASS BURN FACILITY
CAPITAL COST ESTIMATE SUMMARY

I.	SITEWORK	$90,000
II.	SITE IMPROVEMENTS	$900,000
III.	PROCESSING EQUIPMENT	$0
IV.	BUILDINGS	$2,300,000
V.	POWER BLOCK EQUIPMENT	$8,680,000
	SUBTOTAL CONSTRUCTION	$12,000,000
	DESIGN/ENGINEERING (8%)	$960,000
	PERMITTING	$200,000
	CONTINGENCY (20%)	$2,400,000
	TOTAL CAPITAL COST	$15,600,000

Project:	Alternative 9: 44 TPD WTE Steam
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

I. SITEWORK

Item	Quantity	Units	Unit Price	Item Cost	Total
Geotechnical Services	1	LS	$30,000	$30,000	
Clear and Grub	1	LS	$20,000	$20,000	
Mobilization	1	LS	$30,000	$30,000	
Const. Access, Parking and Laydov	1	LS	$10,000	$10,000	
Subtotal I					$90,000

II. SITE IMPROVEMENTS

Item	Quantity	Units	Unit Price	Item Cost	Total
Earthwork					
General Earthwork(1)	50,000	cy	$7	$350,000	
Finishing Grassing & Grading	10,000	sy	$0.50	$5,000	
Roadways (2)	7,040	sy	$25	$176,000	
Asphalt Pavement, Parking	1,000	sy	$25	$25,000	
Concrete pavement	267	sy	$40	$10,700	
Site Utilities(3)					
Fire Protection Loop and Hydran	1,000	lf	$35	$35,000	
Water Supply	1,000	lf	$25	$25,000	
Natural Gas Supply	2,000	lf	$25	$50,000	
Sewer System	1	LS	$50,000	$50,000	
Electrical	1	LS	$50,000	$50,000	
Site Drainage	1	LS	$50,000	$50,000	
Fencing	1,000	lf	$15	$15,000	
Landscaping	1	LS	$50,000	$50,000	
Subtotal II					$892,000

Notes:
(1) Assumes 3 ft of earthwork over 10 acres
(2) 1/2 mile of 24 ft wide asphalt road
(3) Utilities unit price includes excavation, bedding material, piping installed, backfill, etc. Assumes water and gas near site.

III. PROCESSING EQUIPMENT

Item	Quantity	Units	Unit Price	Item Cost	Total
Equipment Purchase	0	LS	$5,000,000	$0	
Equipment Installation	0	LS	$1,000,000	$0	
Electrical	0	LS	$800,000	$0	
Foundations	0	LS	$400,000	$0	
Subtotal III					$0

Notes:

Project:	Alternative 9: 44 TPD WTE Steam
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

IV. BUILDINGS

Item	Quantity	Units	Unit Price	Item Cost	Total
MSW Receiving Bldg	4,000	SF	$140	$560,000	
Storage Pit	100	CY	$500	$50,000	
MSW storage bldg	2,800	SF	$250	$700,000	
Cranes	0	LS	$750,000	$0	
Power Block	4,000	SF	$250	$1,000,000	
Admin Bldg	0	SF	$220	$0	
Subtotal IV	10,800				$2,310,000

V. POWER BLOCK EQUIPMENT

Item	Quantity	Units	Unit Price	Item Cost	Total
MSW fired incinerator	2	ls	$850,000	$1,700,000	
Waste Heat Boiler	2	ls	$510,000	$1,020,000	
Bottom Ash Handling	1	ls	$100,000	$100,000	
Flyash Handling/Conditioning	1	ls	$80,000	$80,000	
Aux Cooling Water System	1	ls	$11,800	$11,800	
Condensate System	0	ls	$45,000	$0	
Chem Feed	1	ls	$20,000	$20,000	
Circulating Water System	0	ls	$31,600	$0	
Waste Water System	1	ls	$39,600	$39,600	
Water Treatment	1	ls	$36,000	$36,000	
Fire Protection	1	ls	$31,600	$31,600	
Feedwater System	0	ls	$28,800	$0	
Compressed Air System	1	ls	$10,800	$10,800	
Service Water System	1	ls	$9,000	$9,000	
Steam Piping	1	ls	$10,800	$10,800	
Steam Turbine	0	ls	$720,000	$0	
Substation & Electrical System	1	ls	$614,000	$614,000	
AQCS	2	ls	$700,000	$1,400,000	
Boiler Erection (Labor)	2	ls	$816,000	$1,632,000	
Mechanical Installation (Labor)	1	ls	$1,096,000	$1,096,000	
Electrical Installation (Labor)	1	ls	$412,500	$412,500	
Foundations	1	ls	$406,688	$406,688	
Shop Tools & Equip.	1	Allowan	$10,000	$10,000	
Office Furnishings	1	Allowan	$10,000	$10,000	
Spare Parts	1	Allowan	$30,000	$30,000	
Subtotal V					$8,681,000
Subtotal I through V					$11,973,000

Project:	Alternative 10: 44 TPD WTE Electricity
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

CONCEPTUAL MODULAR MASS BURN FACILITY
CAPITAL COST ESTIMATE SUMMARY

I.	SITEWORK	$90,000
II.	SITE IMPROVEMENTS	$900,000
III.	PROCESSING EQUIPMENT	$0
IV.	BUILDINGS	$2,300,000
V.	POWER BLOCK EQUIPMENT	$11,110,000
	SUBTOTAL CONSTRUCTION	$14,400,000
	DESIGN/ENGINEERING (8%)	$1,150,000
	PERMITTING	$200,000
	CONTINGENCY (20%)	$2,880,000
	TOTAL CAPITAL COST	$18,600,000

Project:	Alternative 10: 44 TPD WTE Electricity
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

I. SITEWORK

Item	Quantity	Units	Unit Price	Item Cost	Total
Geotechnical Services	1	LS	$30,000	$30,000	
Clear and Grub	1	LS	$20,000	$20,000	
Mobilization	1	LS	$30,000	$30,000	
Const. Access, Parking and Laydov	1	LS	$10,000	$10,000	
Subtotal I					$90,000

II. SITE IMPROVEMENTS

Item	Quantity	Units	Unit Price	Item Cost	Total
Earthwork					
General Earthwork(1)	50,000	cy	$7	$350,000	
Finishing Grassing & Grading	10,000	sy	$0.50	$5,000	
Roadways (2)	7,040	sy	$25	$176,000	
Asphalt Pavement, Parking	1,000	sy	$25	$25,000	
Concrete pavement	267	sy	$40	$10,700	
Site Utilities(3)					
Fire Protection Loop and Hydran	1,000	lf	$35	$35,000	
Water Supply	1,000	lf	$25	$25,000	
Natural Gas Supply	2,000	lf	$25	$50,000	
Sewer System	1	LS	$50,000	$50,000	
Electrical	1	LS	$50,000	$50,000	
Site Drainage	1	LS	$50,000	$50,000	
Fencing	1,000	lf	$15	$15,000	
Landscaping	1	LS	$50,000	$50,000	
Subtotal II					$892,000

Notes:
(1) Assumes 3 ft of earthwork over 10 acres
(2) 1/2 mile of 24 ft wide asphalt road
(3) Utilities unit price includes excavation, bedding material, piping installed, backfill, etc. Assumes water and gas near site.

III. PROCESSING EQUIPMENT

Item	Quantity	Units	Unit Price	Item Cost	Total
Equipment Purchase	0	LS	$5,000,000	$0	
Equipment Installation	0	LS	$1,000,000	$0	
Electrical	0	LS	$800,000	$0	
Foundations	0	LS	$400,000	$0	
Subtotal III					$0

Notes:

Project:	Alternative 10: 44 TPD WTE Electricity
Estimator:	MJC
Reviewer:	KJF
Date:	November 8, 2011
Estimate Basis:	Conceptual
Costs:	2011$
Location:	Park County Montana

IV. BUILDINGS

Item	Quantity	Units	Unit Price	Item Cost	Total
MSW Receiving Bldg	4,000	SF	$140	$560,000	
Storage Pit	100	CY	$500	$50,000	
MSW storage bldg	2,800	SF	$250	$700,000	
Cranes	0	LS	$750,000	$0	
Power Block	4,000	SF	$250	$1,000,000	
Admin Bldg	0	SF	$220	$0	
Subtotal IV	10,800				$2,310,000

V. POWER BLOCK EQUIPMENT

Item	Quantity	Units	Unit Price	Item Cost	Total
MSW fired Modular Boiler	2	ls	$850,000	$1,700,000	
Waste Heat Boiler	2	ls	$595,000	$1,190,000	
Bottom Ash Handling	1	ls	$144,000	$144,000	
Flyash Handling/Conditioning	1	ls	$111,800	$111,800	
Aux Cooling Water System	1	ls	$11,800	$11,800	
Condensate System	1	ls	$55,000	$55,000	
Chem Feed	1	ls	$20,000	$20,000	
Circulating Water System	1	ls	$31,600	$31,600	
Waste Water System	1	ls	$39,600	$39,600	
Water Treatment	1	ls	$36,000	$36,000	
Fire Protection	1	ls	$31,600	$31,600	
Feedwater System	1	ls	$28,800	$28,800	
Compressed Air System	1	ls	$10,800	$10,800	
Service Water System	1	ls	$9,000	$9,000	
Steam Piping	1	ls	$10,800	$10,800	
Steam Turbine	1	ls	$720,000	$720,000	
Substation & Electrical System	1	ls	$831,000	$831,000	
AQCS	2	ls	$700,000	$1,400,000	
Boiler Erection (Labor)	2	ls	$867,000	$1,734,000	
Mechanical Installation (Labor)	1	ls	$1,961,000	$1,961,000	
Electrical Installation (Labor)	1	ls	$467,500	$467,500	
Foundations	1	ls	$510,544	$510,544	
Shop Tools & Equip.	1	Allowan	$10,000	$10,000	
Office Furnishings	1	Allowan	$10,000	$10,000	
Spare Parts	1	Allowan	$30,000	$30,000	
Subtotal V					$11,105,000
Subtotal I through V					$14,397,000

Appendix I

Park County Detailed Tonnage and Cost Data

Park County Incoming and Outgoing Waste Amounts
All weights in pounds except annual totals

		Transfer Station							
		TS Revenue	Incoming City Tons	Incoming County Tons	TS Roll Off Box	Waste Out to Envirocon	Cooke City	City Res.	Cardboard
Jul-06	$	29,605.96	987,140	1,201,380	37,360	2,258,880	87,840	50,000	660
Aug-06	$	31,298.86	1,030,740	1,142,780	36,900	2,224,080	74,140	37,320	1,420
Sep-06	$	26,916.81	911,760	993,620	34,740	1,960,780	46,200	26,640	1,000
Oct-06	$	27,177.31	963,640	935,000	30,820	1,925,940	40,420	15,460	600
Nov-06	$	26,250.80	903,040	881,460	30,060	1,791,920	-	11,300	180
Dec-06	$	22,943.64	775,390	790,480	36,000	1,615,440	32,760	16,280	1,260
Jan-07	$	24,620.80	831,440	730,060	31,060	1,635,460	37,340	26,640	940
Feb-07	$	21,667.88	732,140	658,900	24,060	1,409,240	16,400	25,560	380
Mar-07	$	26,521.84	897,000	873,580	33,840	1,856,720	38,520	27,260	820
Apr-07	$	11,775.01	392,420	871,380	28,900	1,314,200	18,160	6,480	2,060
May-07	$	1,007.89	-	1,052,800	29,000	1,050,860	14,820	-	820
Jun-07	$	665.08	-	1,146,040	37,300	1,213,200	68,400	-	740
FY 2006-07	**$**	**250,451.88**	**4,212.36**	**5,638.74**	**195.02**	**10,128.36**	**237.50**	**121.47**	**5.44**
Jul-07	$	593.68		1,199,360	32,820	1,292,400	77,980		460
Aug-07	$	626.37		1,161,100	33,200	1,219,820	80,100		280
Sep-07	$	549.36		1,004,880	29,500	1,080,080	55,080		540
Oct-07	$	834.78		1,050,920	29,320	1,079,620	39,260		170
Nov-07	$	962.91		904,960	30,080	940,000	16,520		120
Dec-07	$	584.03		863,220	30,460	888,180	35,240		100
Jan-08	$	638.84		704,110	22,820	759,400	34,240		680
Feb-08	$	342.29		674,970	23,660	697,600	35,080		460
Mar-08	$	377.72		811,090	24,460	833,560	17,980		200
Apr-08	$	491.95		837,360	25,440	862,560	34,580		360
May-08	$	528.87		1,036,520	29,430	1,043,720	16,960		760
Jun-08	$	1,235.32		1,173,170	25,120	1,213,980	69,640		2,040
FY 2007-08	**$**	**7,766.12**	**-**	**5,710.83**	**168.16**	**5,955.46**	**256.33**	**-**	**3.09**
Jul-08	$	1,592.38		1,182,680	27,900	1,249,260	69,660		440
Aug-08	$	1,572.49		1,101,720	25,920	1,175,680	92,660		100
Sep-08	$	1,035.13		992,910	21,380	1,025,240	47,560		120
Oct-08	$	578.58		879,520	22,510	906,040	17,280		220
Nov-08	$	1,114.38		839,430	22,140	846,560	16,940		
Dec-08	$	1,044.88		804,980	23,040	841,180	31,960		
Jan-09	$	848.48		767,560	21,900	794,380	31,800		
Feb-09	$	1,065.07		619,200	16,300	637,100	16,960		
Mar-09	$	842.89		712,780	18,320	708,380	16,260		
Apr-09	$	780.56		810,110	22,100	819,620	16,420	5,860	
May-09	$	1,414.93		970,610	22,140	984,480	38,140	2,500	120
Jun-09	$	726.02		1,082,620	18,120	1,104,560	39,000	3,580	
FY 2008-09	**$**	**12,615.79**	**-**	**5,382.06**	**130.89**	**5,546.24**	**217.32**	**5.97**	**0.50**
Jul-09	$	348.15		1,190,270	22,920	1,260,000	85,900	4,320	-
Aug-09	$	419.71		1,099,040	20,000	1,160,120	64,040	2,800	
Sep-09	$	574.12		1,005,590	19,540	1,051,460	59,040	4,020	
Oct-09	$	590.75		887,770	21,980	908,280	38,100	6,820	
Nov-09	$	424.92		840,070	15,880	839,940	15,200	2,180	
Dec-09	$	177.25		737,100	20,860	765,380	17,340	1,500	
Jan-10	$	148.97		682,120	13,600	679,640	14,180	1,600	
Feb-10	$	181.77		606,300	13,300	625,500	33,320	1,920	
Mar-10	$	243.79		782,420	16,260	779,740	15,740	820	
Apr-10	$	264.30		794,460	14,740	786,960	17,120	720	
May-10	$	239.30		908,040	16,860	920,740	35,320	320	
Jun-10	$	595.90		1,183,860	17,740	1,203,660	42,400	4,780	
FY 2009-10	**$**	**4,208.93**	**-**	**5,358.52**	**106.84**	**5,490.71**	**218.85**	**15.90**	**-**
Jul-10	$	328.95		1,232,240	20,120	1,270,100	71,700	920	-
Aug-10	$	1,045.35		1,135,760	15,020	1,213,600	89,720	4,600	-
Sep-10	$	718.20		987,740	19,660	1,025,160	60,420	4,160	
Oct-10	$	590.90		875,500	13,080	900,120	37,840	3,320	-
Nov-10	$	464.55		852,260	15,780	848,400	15,080	960	-
Dec-10	$	376.53		768,920	17,380	789,580	-	1,780	1,060
Jan-11	$	140.90		699,090	15,180	704,640	31,020	220	-
Feb-11	$	102.35		555,680	13,240	573,500	15,500	440	
Mar-11	$	286.85		770,470	15,700	778,700	32,780	1,840	-
Apr-11	$	251.25		808,670	16,780	803,680	18,120	800	160
May-11	$	248.30		989,000	13,160	978,440	19,200	3,460	500
Jun-11	$	318.50		1,133,240	14,160	1,160,420	46,600	200	-
FY 2010-11	**$**	**4,872.63**	**-**	**5,404.29**	**94.63**	**5,523.17**	**218.99**	**11.35**	**0.86**

Park County
All weights in

		Landfill (Inert Materials)									
		LF Revenue	County Weight	Free Weight	City Weight	County R/O Weight	Tires	White Goods	Scrap Metal	Grass	Brush
Jul-06	$	38,219.55	135,780	385,720	780,480	274,400	2,080	19,150	176,655	12,342	48,548
Aug-06	$	44,312.15	220,320	170,210	933,460	324,360	5,240	18,310	213,235	14,910	53,630
Sep-06	$	25,298.15	127,840	122,380	510,500	274,620	3,220	19,770	185,150	8,860	28,555
Oct-06	$	19,125.50	107,480	102,260	396,760	186,740	4,350	18,820	134,550	9,570	12,570
Nov-06	$	18,129.10	191,960	95,000	279,720	142,640		7,620	115,750	3,660	42,110
Dec-06	$	15,646.10	165,300	66,180	237,940	111,060	4,980	17,040	100,300	1,160	9,610
Jan-07	$	10,052.85	88,200	92,390	195,790	119,240	1,740	5,290	108,070	200	5,570
Feb-07	$	8,802.85	62,440	52,780	178,500	128,640	60	5,350	102,870	630	3,890
Mar-07	$	17,633.45	154,100	214,350	295,780	208,100	36,320	14,470	186,705	7,990	62,410
Apr-07	$	15,194.90	80,000	145,960	300,400	213,320	13,840	9,390	182,395	10,760	43,380
May-07	$	22,789.03	157,100	181,160	478,560	255,680	13,100	10,740	206,865	18,970	43,550
Jun-07	$	22,583.30	306,940	219,760	367,900	235,300	860	11,160	190,330	16,440	60,605
FY 2006-07	**$**	**257,786.93**	**898.73**	**924.08**	**2,477.90**	**1,237.05**	**42.90**	**78.56**	**951.44**	**52.75**	**207.21**
Jul-07	$	16,515.55	183,045	172,970	285,235	275,180	10,760	9,540	185,570	8,320	47,010
Aug-07	$	21,315.35	246,620	127,460	337,675	338,600	12,220	15,540	201,205	9,265	46,905
Sep-07	$	14,917.55	176,540	122,770	243,460	255,180	1,340	12,360	147,005	5,490	41,610
Oct-07	$	15,400.50	158,480	108,100	281,440	215,460	1,220	4,120	153,760	4,440	25,270
Nov-07	$	11,941.85	110,710	85,540	235,080	139,780	700	1,480	101,920	2,660	21,605
Dec-07	$	8,671.70	95,720	27,890	149,760	105,060	160	4,040	68,840	1,750	2,250
Jan-08	$	10,828.65	93,400	87,390	207,080	103,510	4,760	3,140	70,435		14,080
Feb-08	$	9,622.10	100,820	66,730	166,940	108,720		3,880	77,635	3,530	9,055
Mar-08	$	12,509.20	114,165	111,420	230,072	146,760	2,160	2,690	93,230	1,200	27,940
Apr-08	$	10,717.10	107,780	130,860	182,920	240,740	3,580	6,130	156,475	4,180	28,880
May-08	$	14,526.05	108,600	168,950	293,040	251,240	2,200	3,910	154,280	10,490	53,130
Jun-08	$	15,290.35	208,820	163,080	231,000	247,840	2,760	6,870	162,895	17,330	47,460
FY 2007-08	**$**	**162,255.95**	**852.35**	**686.58**	**1,421.85**	**1,214.04**	**20.93**	**36.85**	**786.63**	**34.33**	**182.60**
Jul-08	$	15,648.50	146,780	141,300	295,230	275,300	1,490	6,530	162,300	8,510	41,070
Aug-08	$	16,175.00	226,360	307,410	252,380	311,440	1,640	3,940	161,000	5,030	92,300
Sep-08	$	12,118.55	133,040	91,590	228,960	258,120	6,100	4,290	135,280	2,940	17,080
Oct-08	$	14,089.80	202,120	97,830	197,520	200,960	5,870	9,690	113,010	7,130	26,510
Nov-08	$	7,890.65	102,000	37,790	93,800	159,490	60	940	90,445	4,360	7,055
Dec-08	$	3,184.95	42,600	24,740	38,920	114,050	3,260	1,200	58,955	1,230	5,580
Jan-09	$	4,011.10	37,020	47,190	72,600	144,880	30	3,440	75,815	1,925	12,235
Feb-09	$	3,750.20	34,820	66,220	71,180	152,990		4,760	86,780	30	26,700
Mar-09	$	4,352.70	36,280	80,760	76,300	132,740	6,780	2,865	83,070	1,430	13,940
Apr-09	$	8,591.05	108,860	153,720	119,960	197,670	4,100	2,300	119,220	4,000	27,220
May-09	$	8,782.45	67,100	157,020	166,520	267,860	60	4,600	163,615	10,610	29,630
Jun-09	$	7,160.10	95,580	247,590	114,960	306,200	200	4,190	265,720	48,810	29,530
FY 2008-09	**$**	**105,755.05**	**616.28**	**726.58**	**864.17**	**1,260.85**	**14.80**	**24.37**	**757.61**	**48.00**	**164.43**
Jul-09	$	8,792.25	118,860	125,720	141,320	283,080	1,780	3,270	154,305	35,210	32,465
Aug-09	$	9,890.67	88,640	128,370	192,440	219,760	220	4,060	130,050	8,630	28,600
Sep-09	$	7,736.05	133,140	166,640	110,860	252,120		2,900	138,905	3,980	42,330
Oct-09	$	6,487.65	73,300	79,050	115,100	163,900	500	4,920	78,990	3,085	43,390
Nov-09	$	23,726.10	578,520	54,340	70,300	118,580	2,620	3,210	66,820	640	22,330
Dec-09	$	6,516.75	108,760	49,740	80,440	106,980	960	4,780	54,230	240	31,050
Jan-10	$	4,446.80	29,360	75,780	89,140	110,100		660	49,490	100	30,550
Feb-10	$	7,568.05	101,240	76,680	76,500	112,700		760	43,710	1,100	42,280
Mar-10	$	4,311.30	40,300	116,010	106,840	210,420		3,140	106,100	2,770	58,750
Apr-10	$	4,656.55	46,100	253,260	121,570	225,140	1,420	320	127,350	12,770	149,870
May-10	$	3,669.75	56,120	116,110	75,500	240,000	220	2,820	127,060	13,010	21,770
Jun-10	$	5,564.55	49,200	173,972	85,660	227,910	1,200	4,320	179,305	13,510	73,970
FY 2009-10	**$**	**93,366.47**	**711.77**	**707.84**	**632.84**	**1,135.35**	**4.46**	**17.58**	**628.16**	**47.52**	**288.68**
Jul-10	$	4,976.80	69,040	182,530	109,440	257,660	1,180	1,960	131,765	18,500	83,270
Aug-10	$	5,410.78	97,090	131,240	98,620	246,920	500	1,060	153,730	5,530	32,630
Sep-10	$	5,277.53	98,800	177,900	92,180	230,460			119,680	4,340	224
Oct-10	$	23,287.10	71,740	102,920	773,660	225,040		6,620	113,915	7,385	32,810
Nov-10	$	3,397.00	38,520	56,400	84,780	125,040	900	560	60,810	2,800	28,810
Dec-10	$	2,600.15	43,700	45,680	50,500	74,800			38,140	1,000	11,590
Jan-11	$	2,131.95	8,280	54,190	66,480	95,300			51,150		2,100
Feb-11	$	2,200.20	13,120	48,320	66,380	71,720			42,660	2,600	9,040
Mar-11	$	3,074.75	17,660	61,520	90,740	170,800	5,320		99,470	2,240	17,980
Apr-11	$	4,341.55	58,300	128,880	99,180	243,140		1,540	138,030	8,930	43,010
May-11	$	3,999.73	46,350	113,660	99,360	318,420			155,830	9,260	24,740
Jun-11	$	5,610.35	85,440	328,352	118,940	319,470			163,380	9,080	62,720
FY 2010-11	**$**	**66,307.89**	**324.02**	**715.80**	**875.13**	**1,189.39**	**3.95**	**5.87**	**634.28**	**35.83**	**174.46**

Account	Description	BUDGET FY09	ACTUAL FY09	BUDGET FY10	ACTUAL FY10	BUDGET FY11	ACTUAL FY11
5400.000.000.343044.000	LANDFILL SCALE CHARGE REVENUE	($200,000.00)	($102,540.28)	($125,000.00)	($93,364.52)	($100,000.00)	($68,128.05)
5400.000.000.343045.000	LANDFILL SALE OF SCRAP	($10,000.00)	($6,079.40)	($10,000.00)	($18,773.60)	($20,000.00)	($19,332.36)
5400.000.000.343046.000	LANDFILL REFUSE PERMIT SALES	($1,500.00)	($874.00)	($1,000.00)	($1,042.00)	($600.00)	($546.00)
5400.000.000.362000.000	LANDFILL OTHER MISC REV	$0.00	$0.00	$0.00	($3,261.25)	$0.00	($12.97)
5400.000.000.363010.000	LANDFILL ASSESSMENT FEE	($265,629.00)	($239,694.00)	($267,855.00)	($300,039.50)	($269,745.00)	($273,968.39)
5400.000.000.363040.000	LANDFILL P&I SPEC ASSESS	($1,000.00)	($2,827.38)	($1,500.00)	($2,471.46)	($2,000.00)	($3,209.42)
5400.000.000.371010.000	LANDFILL INTEREST	($40,000.00)	($77,183.34)	($40,000.00)	($70,574.79)	($70,000.00)	($60,259.60)
5400.000.000.382030.000	LANDFILL GAIN/LOSS FIX ASS	($26,800.00)	($33,080.00)				
5400.000.000.383000.000	LANDFILL TRANSFER IN	($50,000.00)	($41,342.56)	($50,000.00)	($47,074.74)	($50,000.00)	($50,000.00)
	Totals	($594,929.00)	($503,620.96)	($495,355.00)	($536,601.86)	($512,345.00)	($475,456.79)

Account	Description	BUDGET FY09	ACTUAL FY09	BUDGET FY10	ACTUAL FY10	BUDGET FY11	ACTUAL FY 11
5400.000.131.430840.111	LANDFILL P/R PERM FTE	$132,300.00	$122,827.18	$126,467.00	$106,408.72	$96,615.00	$93,765.86
5400.000.131.430840.112	LANDFILL P/R TEMP FTE	$7,500.00	$4,330.00	$0.00	$4,153.27	$8,350.00	$7,383.72
5400.000.131.430840.121	LANDFILL P/R OT	$2,500.00	$884.30	$2,500.00	$25.79	$2,500.00	$167.60
5400.000.131.430840.141	LANDFILL P/R BENEFITS	$58,855.00	$51,365.52	$53,090.00	$58,815.80	$49,615.00	$53,069.30
5400.000.131.430840.210	LANDFILL OFFICE SUPPLIES	$0.00	$339.25	$2,000.00	$784.96	$1,500.00	$78.76
5400.000.131.430840.212	LANDFILL SMALL EQUIPMENT	$0.00	$692.13			$1,000.00	$0.00
5400.000.131.430840.220	LANDFILL OPERATING SUPPLIES	$20,000.00	$1,254.11	$15,000.00	$556.93	$5,000.00	$333.80
5400.000.131.430840.224	LANDFILL JANITORIAL SUPPLIES	$0.00	$76.88				
5400.000.131.430840.230	LANDFILL REPAIR & MAINT. SUPPLIES	$20,000.00	$1,714.85	$20,000.00	$5,290.49	$10,000.00	$5,426.24
5400.000.131.430840.231	LANDFILL FUEL, GAS, DIESL	$40,000.00	$17,264.47	$30,000.00	$14,486.16	$20,000.00	$15,957.84
5400.000.131.430840.232	LANDFILL MOTOR VEHICLE PARTS	$0.00	$194.87				
5400.000.131.430840.233	LANDFILL MACHINERY & EQUIP PARTS	$0.00	$6,832.97				
5400.000.131.430840.312	LANDFILL POSTAGE	$1,000.00	$813.42	$1,000.00	$843.26	$1,000.00	$648.92
5400.000.131.430840.320	LANDFILL PRINTING & DUPLICATING	$0.00	$616.00	$500.00	$977.17	$1,000.00	$499.37
5400.000.131.430840.330	LANDFILL PUBLICITY,SUBSRCIPT,&DUES	$500.00	$126.00	$500.00	$133.00	$500.00	$304.33
5400.000.131.430840.335	LANDFILL ADVERTISING	$0.00	$361.00				
5400.000.131.430840.337	LANDFILL LICENSING FEES	$10,000.00	$4,828.20	$10,000.00	$4,617.80	$6,000.00	$4,528.60
5400.000.131.430840.340	LANDFILL UTILITY SERVICES	$5,000.00	$2,827.31	$4,000.00	$2,339.21	$4,000.00	$2,148.46
5400.000.131.430840.342	LANDFILL TELEPHONE	$0.00	$1,093.32	$1,000.00	$1,784.27	$1,500.00	$1,912.57
5400.000.131.430840.349	LANDFILL INTERNET UTILITY SVCS	$0.00	$294.65				
5400.000.131.430840.350	LANDFILL PROFESSIONAL SERVICES	$30,000.00	$2,346.78	$20,000.00	$4,325.35	$10,000.00	$5,617.54
5400.000.131.430840.352	LANDFILL LITIGATION EXP					$23,000.00	$4,934.94
5400.000.131.430840.353	LANDFILL ACCOUNTING & AUDITING	$4,000.00	$3,759.00	$4,000.00	$962.05	$4,000.00	$953.45
5400.000.131.430840.358	LANDFILL MONITORING-EPA GAS,AIR,H2	$50,000.00	$41,342.56	$50,000.00	$47,074.74	$50,000.00	$51,756.58
5400.000.131.430840.360	LANDFILL MAINT. & REPAIR SERVICES	$40,000.00	$4,527.50	$30,000.00	$1,670.16	$20,000.00	$467.25
5400.000.131.430840.361	LANDFILL VEHICLE REPAIR & MAINT	$0.00	$5,912.08				
5400.000.131.430840.370	LANDFILL TRAVEL	$600.00	$524.49	$1,000.00	$110.00	$1,000.00	$0.00
5400.000.131.430840.510	LANDFILL INSURANCE	$13,500.00	$13,500.00	$13,500.00	$13,500.00	$15,795.00	$15,795.00
5400.000.131.430840.550	LANDFILL TRUSTEE FEES	$12,000.00	$13,548.70	$12,000.00	$14,853.61	$12,000.00	$15,923.36
5400.000.131.430840.580	LANDFILL CLOSURE/POST COSTS	$180,082.00	$109,268.00	$200,462.00	$98,593.00	$120,000.00	$98,593.00
5400.000.131.430840.610	LANDFILL PRINCIPAL dnu	$49,350.00	$0.00				
5400.000.131.430840.620	LANDFILL INTEREST dnu	$9,829.00	$0.00				
5400.000.131.430840.830	LANDFILL DEPRECIATION-TO RET. EARN	$32,000.00	$68,743.00	$32,000.00	$58,176.00		$57,609.00
5400.000.131.490500.610	LANDFILL PRINCIPAL	$0.00	$0.00	$48,514.00	$0.00	$41,316.00	$0.00
5400.000.131.490500.620	LANDFILL INTEREST	$0.00	$0.00	$836.00	$9,828.14	$8,034.00	$8,033.17
	Totals	$719,016.00	$482,208.54	$678,369.00	$450,309.88	$513,725.00	$445,908.66

	BUDGET FY09	ACTUAL FY09	BUDGET FY10	ACTUAL FY10	BUDGET FY11	ACTUAL FY 11
Labor	$201,155	$179,746	$184,057	$170,189	$158,580	$154,465
Operations	$170,000	$79,812	$145,000	$69,078	$106,000	$73,942
General & Admin	$167,779	$113,382	$148,850	$112,450	$129,145	$118,909
Closure Cost	$180,082	$109,268	$200,462	$98,593	$120,000	$98,593
Total Cost	$719,016	$482,209	$678,369	$450,310	$513,725	$445,909

Description	ACTUAL FY10	Estimated Lined Costs
LANDFILL P/R PERM FTE	$106,408.72	$266,000.00
LANDFILL P/R TEMP FTE	$4,153.27	$10,400.00
LANDFILL P/R OT	$25.79	$100.00
LANDFILL P/R BENEFITS	$58,815.80	$147,000.00
LANDFILL OFFICE SUPPLIES	$784.96	$2,000.00
LANDFILL SMALL EQUIPMENT		$1,000.00
LANDFILL OPERATING SUPPLIES	$556.93	$15,000.00
LANDFILL JANITORIAL SUPPLIES		
LANDFILL REPAIR & MAINT. SUPPLIES	$5,290.49	$25,000.00
LANDFILL FUEL, GAS, DIESL	$14,486.16	$50,000.00
LANDFILL MOTOR VEHICLE PARTS		
LANDFILL MACHINERY & EQUIP PARTS		
LANDFILL POSTAGE	$843.26	$1,000.00
LANDFILL PRINTING & DUPLICATING	$977.17	$1,000.00
LANDFILL PUBLICITY,SUBSRCIPT,&DUES	$133.00	$500.00
LANDFILL ADVERTISING		
LANDFILL LICENSING FEES	$4,617.80	$12,000.00
LANDFILL UTILITY SERVICES	$2,339.21	$8,000.00
LANDFILL TELEPHONE	$1,784.27	$1,500.00
LANDFILL INTERNET UTILITY SVCS		
LANDFILL PROFESSIONAL SERVICES	$4,325.35	$25,000.00
LANDFILL LITIGATION EXP		$23,000.00
LANDFILL ACCOUNTING & AUDITING	$962.05	$4,000.00
LANDFILL MONITORING-EPA GAS,AIR,H2	$47,074.74	$50,000.00
LANDFILL MAINT. & REPAIR SERVICES	$1,670.16	$22,900.00
LANDFILL VEHICLE REPAIR & MAINT		$103,800.00
LANDFILL TRAVEL	$110.00	$1,000.00
LANDFILL INSURANCE	$13,500.00	$16,000.00
LANDFILL TRUSTEE FEES	$14,853.61	$12,000.00
LANDFILL CLOSURE/POST COSTS	$98,593.00	$120,000.00
LANDFILL PRINCIPAL dnu		
LANDFILL INTEREST dnu		$41,100.00
LANDFILL DEPRECIATION-TO RET. EARN	$58,176.00	$277,100.00
LANDFILL PRINCIPAL	$0.00	$0.00
LANDFILL INTEREST	$9,828.14	$0.00
Totals	$450,309.88	$1,236,400

Labor	$170,189	$425,500
Operations	$69,078	$267,700
General & Admin	$112,450	$423,200
Closure Cost	$98,593	$120,000
Total Cost	$450,310	$1,236,400

Landfill Expense with Liner

Account	Description	BUDGET FY09	ACTUAL FY09	BUDGET FY10	ACTUAL FY10	BUDGET FY11	ACTUAL FY11
5410.000.000.343042.000	REFUSE FACILITY SCALE CHARGE REVENUE	($5,000.00)	($13,507.88)	($10,000.00)	($4,484.93)	($5,000.00)	($5,163.63)
5410.000.000.343045.000	REFUSE FACILITY SALE OF SCRAP	($8,000.00)	($22,216.96)	($10,000.00)	($9,307.71)	($5,000.00)	($16,485.90)
5410.000.000.343046.000	REFUSE FACILITY REFUSE PERMIT SALES	($15,400.00)	($9,156.00)	($10,000.00)	($8,678.00)	($5,000.00)	($7,999.00)
5410.000.000.343048.000	REFUSE FACILITY GREENBOX CHARGES	($100.00)	$0.00	($100.00)	$0.00	$0.00	($60.00)
5410.000.000.362000.000	REFUSE FACILITY MISC REV	$0.00	$0.00	$0.00	$0.00	$0.00	($2,535.42)
5410.000.000.363010.000	REFUSE FACILITY ASSESSMENT FEE	($904,404.00)	($815,361.00)	($911,983.00)	($1,031,478.00)	($918,418.00)	($932,657.11)
5410.000.000.363040.000	REFUSE FACILITY P&I SPEC ASSESS	($6,000.00)	($10,606.63)	($7,000.00)	($9,141.55)	($7,000.00)	($11,458.55)
5410.000.000.382030.000	REFUSE FACILITY GAIN/LOSS FIX ASSET	$0.00	$10,942.00				($5,000.00)
	Totals	($938,904.00)	($859,906.47)	($949,083.00)	($1,063,090.19)	($940,418.00)	($981,359.61)

Account	Description	BUDGET FY09	ACTUAL FY09	BUDGET FY10	ACTUAL FY10	BUDGET FY11	ACTUAL FY11
5410.000.130.430820.111	REFUSE FACILITY P/R PERM FTE	$320,000.00	$300,410.19	$295,575.00	$155,107.62	$65,480.00	$52,495.01
5410.000.130.430820.112	REFUSE FACILITY P/R TEMP FTE	$3,000.00	$5,766.70	$4,000.00	$5,860.50		
5410.000.130.430820.121	REFUSE FACILITY P/R OT	$14,000.00	$7,787.79	$10,000.00	$4,433.14	$4,000.00	$1,929.05
5410.000.130.430820.141	REFUSE FACILITY P/R BENEFITS	$142,000.00	$138,268.04	$143,124.00	$112,786.17	$29,575.00	$66,016.42
5410.000.130.430820.210	REFUSE FACILITY OFFICE SUPPLIES	$4,000.00	$310.33	$5,000.00	$626.42	$2,000.00	$504.61
5410.000.130.430820.212	REFUSE FACILITY SMALL EQUIPMENT	$0.00	$156.97	$0.00	$0.00		
5410.000.130.430820.220	REFUSE FACILITY OPERATING SUPPLIES	$16,000.00	$1,949.96	$10,000.00	$1,465.26	$5,000.00	$1,903.46
5410.000.130.430820.224	REFUSE FACILITY JANITORIAL SUPPLIES	$0.00	$101.18	$0.00	$0.00		
5410.000.130.430820.226	REFUSE FACILITY CLOTHING & UNIFORMS	$0.00	$1,301.18	$2,000.00	$942.94	$1,000.00	$508.61
5410.000.130.430820.230	REFUSE FACILITY REPAIR & MAINT. SUPPLIES	$30,000.00	$2,320.49	$15,000.00	$2,785.40	$20,000.00	$8,622.33
5410.000.130.430820.231	REFUSE FACILITY FUEL, GAS, DIESL	$110,000.00	$61,267.21	$85,000.00	$25,129.93	$3,000.00	$3,271.59
5410.000.130.430820.232	REFUSE FACILITY MOTOR VEHICLE PARTS	$0.00	$8,036.91	$0.00	$0.00		
5410.000.130.430820.233	REFUSE FACILITY MACHINERY & EQUIP PARTS	$0.00	$2,728.24	$0.00	$0.00		
5410.000.130.430820.235	REFUSE FACILITY TIRES, TUBES, ETC	$0.00	$491.81	$0.00	$0.00		
5410.000.130.430820.241	REFUSE FACILITY CONSUMABLE TOOLS	$0.00	$1,383.96	$0.00	$0.00		
5410.000.130.430820.312	REFUSE FACILITY POSTAGE, BOX RENT	$2,000.00	$1,626.82	$2,000.00	$777.82	$1,000.00	$700.00
5410.000.130.430820.320	REFUSE FACILITY PRINTING & DUPLICATING	$0.00	$2,220.00	$2,000.00	$2,096.80	$2,500.00	$251.37
5410.000.130.430820.330	REFUSE FACILITY PUBLICITY, SUBSRCIPT, &DUES	$2,500.00	$29.00	$1,500.00	$38.00	$500.00	$80.33
5410.000.130.430820.337	REFUSE FACILITY LICENSING FEES	$2,000.00	$1,485.00	$2,500.00	$1,485.00	$2,000.00	$1,485.00
5410.000.130.430820.340	REFUSE FACILITY UTILITY SERVICES	$17,000.00	$11,737.65	$14,500.00	$9,356.01	$14,000.00	$10,009.18
5410.000.130.430820.342	REFUSE FACILITY TELEPHONE	$0.00	$1,710.29	$2,500.00	$1,688.59	$2,000.00	$1,158.06
5410.000.130.430820.349	REFUSE FACILITY INTERNET UTILITY SVCS	$0.00	$209.65	$0.00	$0.00		
5410.000.130.430820.350	REFUSE FACILITY PROFESSIONAL SERVICES	$35,000.00	$42,791.94	$35,000.00	$1,365.14	$10,000.00	$1,837.03
5410.000.130.430820.352	REFUSE FACILITY LITIGATION EXP					$38,500.00	$7,453.68
5410.000.130.430820.353	REFUSE FACILITY ACCOUNTING & AUDITING	$6,600.00	$7,517.00	$8,000.00	$1,924.10	$8,000.00	$1,070.45
5410.000.130.430820.360	REFUSE FACILITY MAINT. & REPAIR SERVICES	$40,000.00	$5,446.07	$35,000.00	$6,907.46	$15,000.00	$145.00
5410.000.130.430820.361	REFUSE FACILITY VEHICLE REPAIR & MAINT	$0.00	$10,908.32	$0.00	$0.00		
5410.000.130.430820.365	REFUSE FACILITY MAINTENANCE SVCS	$0.00	$80.00	$0.00	$0.00		
5410.000.130.430820.370	REFUSE FACILITY TRAVEL	$1,000.00	$299.20	$1,200.00	$211.20	$1,000.00	$0.00
5410.000.130.430820.371	REFUSE FACILITY MILEAGE	$0.00	$111.20	$500.00	$0.00		
5410.000.130.430820.390	REFUSE FACILITY ENVIROCON FEES	$250,000.00	$215,636.10	$235,000.00	$216,743.00	$235,000.00	$257,948.19
5410.000.130.430820.510	REFUSE FACILITY INSURANCE	$27,000.00	$27,000.00	$30,000.00	$30,000.00	$17,550.00	$17,550.00
5410.000.130.430820.532	REFUSE FACILITY LAND RENT	$6,000.00	$4,012.00	$8,000.00	$1,500.00	$8,000.00	$0.00
5410.000.130.430820.810	REFUSE FACILITY LOSSES TO BAD DEBT	$0.00	$0.00	$0.00	$0.00		
5410.000.130.430820.830	REFUSE FACILITY DEPRECIATION-TO RET. EARN	$45,000.00	$84,705.00	$75,000.00	$40,854.50		$71,530.00
5410.000.130.430820.940	REFUSE FACILITY M & E CAP OUTLAY	$210,000.00	$0.00	$60,000.00	$0.00	$60,000.00	$0.00
5410.000.130.490500.610	REFUSE FACILITY DEBT PRINCIPAL	$6,000.00	$0.00	$0.00	$0.00		
5410.000.130.490500.620	REFUSE FACILITY DEBT INTEREST	$140.00	$0.00	$0.00	$0.00		
	TOTAL REFUSE FACILITY (aka TRANSFER STATION)	$1,289,240.00	$949,806.20	$1,082,399.00	$624,085.00	$545,105.00	$506,469.37
5410.000.132.430820.111	REFUSE COLLECTIONS P/R PERM FTE	$0.00	$0.00	$0.00	$143,734.48	$216,939.00	$230,532.64
5410.000.132.430820.112	REFUSE COLLECTIONS P/R TEMP FTE	$0.00	$0.00	$0.00	$4,274.51	$10,000.00	$12,758.00
5410.000.132.430820.121	REFUSE COLLECTIONS P/R OT	$0.00	$0.00	$0.00	$1,520.02	$10,000.00	$7,310.39
5410.000.132.430820.141	REFUSE COLLECTIONS P/R BENEFITS	$0.00	$0.00	$0.00	$61,321.34	$113,708.00	$113,745.79
5410.000.132.430820.210	REFUSE COLLECTIONS OFFICE SUPPLIES	$0.00	$0.00	$0.00	$76.39	$500.00	$0.00
5410.000.132.430820.220	REFUSE COLLECTIONS OPERATING SUPPLIES	$0.00	$0.00	$0.00	$374.93	$1,000.00	$2,299.64
5410.000.132.430820.226	REFUSE COLLECTIONS CLOTHING & UNIFORMS	$0.00	$0.00	$0.00	$480.49	$1,000.00	$968.56
5410.000.132.430820.230	REFUSE COLLECTIONS REPAIR & MAINT. SUPPLIES	$0.00	$0.00	$0.00	$3,366.03	$10,000.00	$8,422.42
5410.000.132.430820.231	REFUSE COLLECTIONS FUEL, GAS, DIESL	$0.00	$0.00	$0.00	$31,560.98	$70,000.00	$68,078.26
5410.000.132.430820.312	REFUSE COLLECTIONS POSTAGE, BOX RENT	$0.00	$0.00	$0.00	$908.66	$1,200.00	$597.38
5410.000.132.430820.320	REFUSE COLLECTIONS PRINTING & DUPLICATING	$0.00	$0.00	$0.00	$398.59	$1,000.00	$251.38
5410.000.132.430820.330	REFUSE COLLECTIONS PUBLICITY, SUBSRCIPT, &DUES	$0.00	$0.00	$0.00	$0.00	$1,000.00	$100.34
5410.000.132.430820.340	REFUSE COLLECTIONS UTILITY SERVICES	$0.00	$0.00	$0.00	$743.02	$2,000.00	$1,394.35
5410.000.132.430820.342	REFUSE COLLECTIONS TELEPHONE	$0.00	$0.00	$0.00	$559.35	$500.00	$1,396.58
5410.000.132.430820.350	REFUSE COLLECTIONS PROFESSIONAL SERVICES	$0.00	$0.00	$0.00	$1,778.70	$10,000.00	$8,763.13
5410.000.132.430820.352	REFUSE COLLECTIONS LITIGATION EXP					$38,500.00	$7,453.69
5410.000.132.430820.353	REFUSE COLLECTIONS ACCOUNTING & AUDITING	$0.00	$0.00	$0.00	$0.00		$1,070.45
5410.000.132.430820.360	REFUSE COLLECTIONS MAINT. & REPAIR SERVICES	$0.00	$0.00	$0.00	$7,736.67	$20,000.00	$11,032.13
5410.000.132.430820.370	REFUSE COLLECTIONS TRAVEL	$0.00	$0.00	$0.00	$304.00	$1,500.00	$1,307.68
5410.000.132.430820.510	REFUSE COLLECTIONS INSURANCE	$0.00	$0.00	$0.00	$0.00	$17,550.00	$17,550.00
5410.000.132.430820.532	REFUSE COLLECTIONS LAND RENT	$0.00	$0.00	$0.00	$2,557.00	$4,000.00	$3,802.00
5410.000.132.430820.830	REFUSE COLLECTIONS DEPRECIATION-TO RET. EARN	$0.00	$0.00	$0.00	$40,854.50		
5410.000.132.430820.940	REFUSE COLLECTIONS MACHINERY & EQUIP CAP OUTLAY	$0.00	$0.00	$0.00	$0.00	$150,000.00	$0.00
	TOTAL COLLECTIONS	$0.00	$0.00	$0.00	$302,549.66	$680,397.00	$498,834.81
	TOTAL REFUSE FACILITY/COLLECTIONS	$1,289,240.00	$949,806.20	$1,082,399.00	$926,634.66	$1,225,502.00	$1,005,304.18

	BUDGET FY09	ACTUAL FY09	BUDGET FY10	ACTUAL FY10	BUDGET FY11	ACTUAL FY11
Labor	$479,000	$452,233	$452,699	$278,187	$99,055	$120,440
Operations	$200,000	$96,483	$152,000	$37,857	$46,000	$14,956
General & Admin	$360,240	$185,455	$242,700	$91,297	$165,050	$113,125
Disposal	$250,000	$215,636	$235,000	$216,743	$235,000	$257,948
Total Cost	$1,289,240	$949,806	$1,082,399	$624,085	$545,105	$506,469
Check Sum	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Disposed Tons	4,872.63	5,358.52	5,404.29	5,490.71	5,523.17	5,729.26
Disposal Cost per Ton	**$ 51.31**	**$ 40.24**	**$ 43.48**	**$ 39.47**	**$ 42.55**	**$ 45.02**
T/S Cost per Ton	**$ 264.59**	**$ 177.25**	**$ 200.29**	**$ 113.66**	**$ 98.69**	**$ 88.40**

PLANNING COST ESTIMATES
LARAMIE LANDFILL
ENGINEERED CONTAINMENT SYSTEM (7 ACRE CELL)

Planning Cost Estimate
Engineered Containment System (7 acre cell)

Total Footprint (ac)	5
Top Width (ft)	418
Top Width + Anchor Trenches (ft)	448
Bottom Width (ft)	238
Top Length (ft)	523
Top Length + Anchor Trenches (ft)	553
Bottom Length (ft)	343
Surface Water Diversion (ft)	1201
Height (ft)	30

(interactive cell - change the number and values will recalculate)

Volumes	CF	CY
Center	2,445,450	90,572
Sides (2)	924,750	34,250
Ends (2)	642,600	23,800
Corners (4)	324,000	12,000
Volume to Grade		160,622
Volume to 15' Above Grade		80,311
Total Cell Volume		**240,933**

ASSUMPTIONS: 7-ac cell, extends 30-ft below grade, and has 3:1 interior slopes below grade.

Item	Quantity	Units	Unit Cost	Subtotal	Source	Source Detail	Reference No.	Components
Preliminary Excavation/Earthwork (rough excavation)								
Topsoil Stripping and Stockpiling	5,732	CY	$0.86	$4,929	2010 Q4 (increased by 10% for Park County)		31 14 1323 0020	L, E
Scraper	284,575	BCY	$2.20	$626,064	Engineer's Estimate		31 23 1650 1300	L, E
Final Excavation/Earthwork (final 2 feet)								
Dozer	11,700	BCY	$2.79	$32,643	CostWorks 2010 Q4 (increased by 10% for Park County)		31 23 1632 3050	L, E
Wheel Loader	11,700	BCY	$0.91	$10,647	CostWorks 2010 Q4 (increased by 10% for Park County)		31 23 1642 1601	L, E
Trucks	11,700	LCY	$4.06	$47,502	CostWorks 2010 Q4 (increased by 10% for Park County)		31 23 2320 1016	L, E
Grading	34,395	SY	$0.81	$27,860	CostWorks 2010 Q4 (increased by 10% for Park County)		31 22 1610 0100	L, E
Compaction	34,395	SY	$0.50	$17,198	CostWorks 2010 Q4 (increased by 10% for Park County)		31 23 2325 2900	L, E
Water Truck	520	HR	$55	$28,600	Engineer's Estimate		01 54 3340 6950	L, E, M
Liner System								
Excavate Anchor Trench	1,001	BCY	$6.10	$6,103	CostWorks 2010 Q4		31 23 1613 0060	L, E
GCL	217,800	SF	$0.75	$163,350	Vendor Estimate	Colorado Lining Co.	---	L, E, M
HDPE (60 mil)	217,800	SF	$0.80	$174,240	Vendor Estimate	Colorado Lining Co.	---	L, E, M
Backfill and Compact Anchor Trench	1,001	ECY	$2.88	$2,881	CostWorks 2010 Q4		31 23 2323 7540	L, E
Leak Location Survey	217,800	SF	$0.06	$13,068	Vendor Estimate	Leak Location Services	---	L, E
Primary Drainage Layer	217,800	CY	$0.78	$169,884	2010 Q4 (increased by 10% for Park County)			
Geonet (side slopes)	70,050	SF	$0.70	$49,035	Vendor Estimate	Colorado Lining Co.	---	L, E, M
Protective Fill Layer - Wheel Loader	11,000	BCY	$0.91	$10,010	2010 Q4 (increased by 10% for Park County)		31 23 1642 1601	L, E
Protective Fill Layer - Trucks	11,000	LCY	$3.69	$40,590	CostWorks 2010 Q4		31 23 2320 1016	L, E
Protective Fill Layer - Dozer	11,000	CY	$0.82	$9,020	CostWorks 2010 Q4		31 23 2314 4020	L, E
Leachate Collection Sumps (2)								
HDPE Pipe (18 in)	200	LF	$31.72	$6,344	Vendor Estimate	ISCO Industries	---	M
Install HDPE pipe	1	LS	$2,500	$2,500	Engineer's Estimate	ISCO Industries	---	L, E
Pump, Piping, Boxes, Control Panel	1	LS	$8,000	$8,000	Engineer's Estimate		---	M
Install Pumps and Controls	1	LS	$5,000	$5,000	Engineer's Estimate		---	L, E
Surge Protector	1	LS	$3,500	$3,500	Engineer's esimate		---	
Surface Water Management System								
Topsoil Stripping and Stockpiling	233	CY	$0.86	$200	2010 Q4 (increased by 10% for Park County)		31 14 1323 0020	L, E
Dozer	1,400	BCY	$2.54	$3,556	CostWorks 2010 Q4		31 23 1632 3050	L, E
Wheel Loader	1,400	BCY	$0.83	$1,162	CostWorks 2010 Q4		31 23 1642 1601	L, E
Trucks	1,400	LCY	$3.69	$5,166	CostWorks 2010 Q4		31 23 2320 1016	L, E
Topsoil Placement	233	CY	$0.82	$191	CostWorks 2010 Q4		31 23 2314 4020	L, E
Seeding	12.6	MSF	$22.50	$284	Engineer's Estimate	WDOT	---	L, E
Mulching	12.6	MSF	$52.00	$655	CostWorks 2010 Q4		32 91 1316 0350	L, E, M
Subtotal - Labor, Equipment, and Materials				**$1,470,182**				
Contractor								
Mob/Demob	5%			$73,509	Engineer's Estimate		---	
Overhead/Profit	0%			$0	Engineer's Estimate		---	
Subtotal - Contractor Fees				**$73,509**				
Contingency on Build Cost	10%			$147,018	Engineer's Estimate		---	
Subtotal - Contingency Fees				**$147,018**				

TOTAL (2011 Dollars)	**$1,690,710**
F/P Cost Factor (2.5%, 3 years)	1.0506
TOTAL (2013 Dollars)	**$1,776,302**

Landfill Equipment Costs

				Notes
2010 Annual Incoming MSW Tons	6,000			A
Equipment	Cat 826H (81,498 pounds)	Cat D8T Dozer	Cat 627G Scrapper	
Cost	$ 580,000	$ 630,000	$ 730,000	B
Interest @ 4% for 7 years	$ 85,944	$ 93,353	$ 108,171	C
Annual Hours	1,248	416	624	D
Fixed Cost per Hour	$ 76.23	$ 248.40	$ 191.89	E
Annual Fixed Cost	$ 95,135	$ 103,336	$ 119,739	F
Fuel consumption per hr (in gallons)	12	14	16	G
Diesel cost per gallon	$ 3.00	$ 3.00	$ 3.00	H
a. Fuel cost per hour	$ 36.00	$ 42.00	$ 48.00	I
b. R&M per Hour	$ 10.00	$ 10.00	$ 10.00	J
c. supplies and other costs	$ 5.00	$ 5.00	$ 5.00	K
Operational Cost per Hour (a+b+c)	$ 51.00	$ 57.00	$ 63.00	L
Annual Operational Cost	$ 63,648	$ 23,712	$ 39,312	M
Total Cost per Hour	$ 127.23	$ 305.40	$ 254.89	N
Annual Cost	$ 158,783	$ 127,048	$ 159,051	O
Total Cost per ton	**$ 26.46**	**$ 21.17**	**$ 26.51**	P
Equipment R&M Cost	$ 22,880	$ 10,400		
Equipment Operational Costs	$ 103,792	$ 52,624		
Equipment Depreciation	$ 277,143	$ 194,286		
Equipment Interest	$ 41,067	$ 28,789		

Notes

A: Estimated incoming MSW tons
B: Approximate equipment cost
C: Interest cost for equipment at 4% for 7 years
D: Annual operational hours based on incoming tons
E: Equipment Cost plus Interest (Item B + Item C) divided by 7 year estimated life and then divided by Annual Hours (Item D)
F: Equipment Cost plus Interest (Item B + Item C) divided by 7 year estimated life
G: Fuel consumption per hour
H: Assumed cost per gallon for diesel fuel
I: Item e multiplied by Item Fuel Consumption multiplied by Fuel Cost per Gallon (Item G x Item H)
J: Approximate R&M cost per hour
K: Supplies includes filters and fluids
L: Sum of Fuel, R&M costs, and supplies (Item I + Item J + Item K)
M: Annual operational cost is the operational cost per hour multiplied by the annual hours (Item D x Item L)
N: Total cost per hour is the sum of the Fixed Cost per Hour plus the Operational Cost per Hour (Item E + Item L)
O: Annual cost is the Total Cost per Hour multiplied by the Annual Hours (Item D x Item N)
P: Total Cost per Ton is the Annual Cost divided by Incoming MSW Tons (Item O / Item A)

US CENSUS 2010 - CENSUS PLACE POPULATION SUMMARY

NAME	Geography Type	County	Census 2010 Total Population	2010 Rank	Census 2000 Total Population	# Change 2010 to 2000	% Change 2010 to 2000	2000 Rank	Census 1990 Total Population	Notes
Clyde Park town	Town	Park County	288	198	310	-22	-7%	165	282	
Cooke City CDP **	CDP	Park County	75	328	--	--	--	--	--	Previously Cooke City-Silvergate CDP
Cooke City-Silvergate CDP**	CDP	Park County	--	--	140	-65	-46%	230	--	
Corwin Springs CDP	CDP	Park County	109	299	--	--	--	--	--	NEW
Emigrant CDP	CDP	Park County	488	152	--	--	--	--	--	NEW
Gardiner CDP	CDP	Park County	875	100	851	24	3%	99	--	
Jardine CDP	CDP	Park County	57	342	--	--	--	--	--	NEW
Livingston city	City	Park County	7,044	15	6,851	193	3%	13	6,701	
Pray CDP	CDP	Park County	681	125	--	--	--	--	--	NEW
Silver Gate CDP **	CDP	Park County	20	361	--	--	--	--	--	Previously Cooke City-Silvergate CDP
South Glastonbury CDP	CDP	Park County	284	201	--	--	--	--	--	NEW
Springdale CDP	CDP	Park County	42	349	--	--	--	--	--	NEW
Wilsall CDP	CDP	Park County	178	257	237	-59	-25%	188	150	
Wineglass CDP	CDP	Park County	256	211	--	--	--	--	--	NEW

* Previously existing CDP re-named in 2010

** Previously existing CDP split into two CDPs in 2010

***Consolidated City-County Government

Note: Changes in Place populations between years may be due to population growth or decline, due to significant boundary changes, or a combination of factors.

Red text indicates new CDP in 2010

Prepared by the Census and Economic Information Center, Montana Department of Commerce

Source: U.S. Census Bureau, Census 2010 PL 94-171, March 2011; Census 2000 Summary File 1, 2001

CENSUS 2010 - STATE and COUNTY POPULATION SUMMARY

NAME	Geography Type	County	Census 2010 Total Population	2010 Rank	Census 2000 Total Population	# Change 2010 to 2000	% Change 2010 to 2000	2000 Rank	Census 1990 Total Population
Montana	State	All	989,415	--	902,195	87,220	9.7%	--	799,065
Beaverhead County, Montana	County	Beaverhead County, Montana	9,246	23	9,202	44	0.5%	24	8,424
Big Horn County, Montana	County	Big Horn County, Montana	12,865	14	12,671	194	1.5%	14	11,337
Blaine County, Montana	County	Blaine County, Montana	6,491	30	7,009	-518	-7.4%	29	6,728
Broadwater County, Montana	County	Broadwater County, Montana	5,612	34	4,385	1,227	28.0%	37	3,318
Carbon County, Montana	County	Carbon County, Montana	10,078	20	9,552	526	5.5%	21	8,080
Carter County, Montana	County	Carter County, Montana	1,160	52	1,360	-200	-14.7%	50	1,503
Cascade County, Montana	County	Cascade County, Montana	81,327	5	80,357	970	1.2%	3	77,691
Chouteau County, Montana	County	Chouteau County, Montana	5,813	33	5,970	-157	-2.6%	33	5,452
Custer County, Montana	County	Custer County, Montana	11,699	15	11,696	3	0.0%	16	11,697
Daniels County, Montana	County	Daniels County, Montana	1,751	47	2,017	-266	-13.2%	46	2,266
Dawson County, Montana	County	Dawson County, Montana	8,966	26	9,059	-93	-1.0%	25	9,505
Deer Lodge County, Montana	County	Deer Lodge County, Montana	9,298	22	9,417	-119	-1.3%	22	10,356
Fallon County, Montana	County	Fallon County, Montana	2,890	42	2,837	53	1.9%	41	3,103
Fergus County, Montana	County	Fergus County, Montana	11,586	16	11,893	-307	-2.6%	15	12,083
Flathead County, Montana	County	Flathead County, Montana	90,928	3	74,471	16,457	22.1%	4	59,218
Gallatin County, Montana	County	Gallatin County, Montana	89,513	4	67,831	21,682	32.0%	5	50,463
Garfield County, Montana	County	Garfield County, Montana	1,206	50	1,279	-73	-5.7%	51	1,589
Glacier County, Montana	County	Glacier County, Montana	13,399	13	13,247	152	1.1%	13	12,121
Golden Valley County, Montana	County	Golden Valley County, Montana	884	54	1,042	-158	-15.2%	54	912
Granite County, Montana	County	Granite County, Montana	3,079	41	2,830	249	8.8%	42	2,548
Hill County, Montana	County	Hill County, Montana	16,096	11	16,673	-577	-3.5%	11	17,654
Jefferson County, Montana	County	Jefferson County, Montana	11,406	18	10,049	1,357	13.5%	19	7,939
Judith Basin County, Montana	County	Judith Basin County, Montana	2,072	45	2,329	-257	-11.0%	43	2,282
Lake County, Montana	County	Lake County, Montana	28,746	9	26,507	2,239	8.4%	9	21,041
Lewis and Clark County, Montana	County	Lewis and Clark County, Montana	63,395	6	55,716	7,679	13.8%	6	47,495
Liberty County, Montana	County	Liberty County, Montana	2,339	43	2,158	181	8.4%	45	2,295
Lincoln County, Montana	County	Lincoln County, Montana	19,687	10	18,837	850	4.5%	10	17,481
Madison County, Montana	County	Madison County, Montana	7,691	27	6,851	840	12.3%	30	5,989
McCone County, Montana	County	McCone County, Montana	1,734	49	1,997	-263	-13.2%	47	2,276
Meagher County, Montana	County	Meagher County, Montana	1,891	46	1,932	-41	-2.1%	48	1,819
Mineral County, Montana	County	Mineral County, Montana	4,223	38	3,884	339	8.7%	39	3,315
Missoula County, Montana	County	Missoula County, Montana	109,299	2	95,802	13,497	14.1%	2	78,687
Musselshell County, Montana	County	Musselshell County, Montana	4,538	36	4,497	41	0.9%	36	4,106
Park County, Montana	**County**	**Park County, Montana**	**15,636**	**12**	**15,694**	**-58**	**-0.4%**	**12**	**14,484**
Petroleum County, Montana	County	Petroleum County, Montana	494	56	493	1	0.2%	56	519
Phillips County, Montana	County	Phillips County, Montana	4,253	37	4,601	-348	-7.6%	35	5,163
Pondera County, Montana	County	Pondera County, Montana	6,153	31	6,424	-271	-4.2%	32	6,433
Powder River County, Montana	County	Powder River County, Montana	1,743	48	1,858	-115	-6.2%	49	2,090
Powell County, Montana	County	Powell County, Montana	7,027	29	7,180	-153	-2.1%	28	6,620
Prairie County, Montana	County	Prairie County, Montana	1,179	51	1,199	-20	-1.7%	52	1,383
Ravalli County, Montana	County	Ravalli County, Montana	40,212	7	36,070	4,142	11.5%	7	25,010
Richland County, Montana	County	Richland County, Montana	9,746	21	9,667	79	0.8%	20	10,716
Roosevelt County, Montana	County	Roosevelt County, Montana	10,425	19	10,620	-195	-1.8%	17	10,999
Rosebud County, Montana	County	Rosebud County, Montana	9,233	24	9,383	-150	-1.6%	23	10,505
Sanders County, Montana	County	Sanders County, Montana	11,413	17	10,227	1,186	11.6%	18	8,669
Sheridan County, Montana	County	Sheridan County, Montana	3,384	40	4,105	-721	-17.6%	38	4,732
Silver Bow County, Montana	County	Silver Bow County, Montana	34,200	8	34,606	-406	-1.2%	8	33,941
Stillwater County, Montana	County	Stillwater County, Montana	9,117	25	8,195	922	11.3%	26	6,536
Sweet Grass County, Montana	County	Sweet Grass County, Montana	3,651	39	3,609	42	1.2%	40	3,154
Teton County, Montana	County	Teton County, Montana	6,073	32	6,445	-372	-5.8%	31	6,271
Toole County, Montana	County	Toole County, Montana	5,324	35	5,267	57	1.1%	34	5,046
Treasure County, Montana	County	Treasure County, Montana	718	55	861	-143	-16.6%	55	874
Valley County, Montana	County	Valley County, Montana	7,369	28	7,675	-306	-4.0%	27	8,239
Wheatland County, Montana	County	Wheatland County, Montana	2,168	44	2,259	-91	-4.0%	44	2,246
Wibaux County, Montana	County	Wibaux County, Montana	1,017	53	1,068	-51	-4.8%	53	1,191
Yellowstone County, Montana	County	Yellowstone County	147,972	1	129,352	18,620	14.4%	1	113,419

PROPRIETARY FUND TYPE ACTIVITIES-LAND

INPUT BEGINNING OF THE YEAR DATE 7/1/2009
INPUT END OF THE YEAR DATE 6/30/2010

ASSET NUMBER	ASSET DESCRIPTION	DATE PLACED IN SERVICE	DISPOSAL DATE	USEFUL LIFE	COST	CAPITAL ASSETS BALANCE BOY	ADDITIONS	DELETIONS	BALANCE EOY
				N/A	-	-	-	-	-
	ENTERPRISE FUND NUMBER 5400				-	-	-	-	-
	LAND	1/1/1991		N/A	52,528	52,528	-	-	52,528
	ENTERPRISE FUND NUMBER 5410				52,528	52,528	-	-	52,528
	TOTAL ENTERPRISE FUNDS				52,528	52,528	-	-	52,528

PROPRIETARY FUND TYPE ACTIVITIES-BUILDINGS

INPUT BEGINNING OF THE YEAR DATE 7/1/2009
INPUT END OF THE YEAR DATE 6/30/2010

						CAPITAL ASSETS				A/D AND DEPRECIATION EXPENSE			
ASSET NUMBER	ASSET DESCRIPTION	DATE PLACED IN SERVICE	DISPOSAL DATE	USEFUL LIFE	COST	BALANCE BOY	ADD'S	DEL'S	BALANCE EOY	BALANCE BOY	ADD'S	DEL'S	BALANCE EOY
	SCALE BUILDING	10/13/2004		30	6,419	6,419	-	-	6,419	1,016	214	-	1,230
	40' X 90' POLE BUILDING	3/2/2006		30	46,322	46,322	-	-	46,322	5,147	1,544	-	6,691
	2 WATER SHEDS/CORRECTIVE ACTION	1/1/1997		5	1,500	1,500	-	-	1,500	1,500	-	-	1,500
	ENTERPRISE FUND NUMBER 5400				54,241	54,241	-	-	54,241	7,663	1,758	-	9,421
	COOKE CITY BUILDING	1/1/2003		30	101,665	101,665	-	-	101,665	22,027	3,389	-	25,416
	COOKE CITY BUILDING	7/31/2003		30	10,204	10,204	-	-	10,204	2,041	340	-	2,381
	CONVERT INCINERATOR BLD TO TRANSFER STATION BLD	5/11/2005		30	37,472	37,472	-	-	37,472	5,204	1,249	-	6,453
	ENTERPRISE FUND NUMBER 5410				149,341	149,341	-	-	149,341	29,272	4,978	-	34,250
	TOTAL ENTERPRISE FUNDS				203,582	203,582	-	-	203,582	36,935	6,736	-	43,671

BLDGS

PROPRIETARY FUND TYPE ACTIVITIES-IMPROVEMENTS

INPUT BEGINNING OF THE YEAR DATE 7/1/2009
INPUT END OF THE YEAR DATE 6/30/2010

						CAPITAL ASSETS				A/D AND DEPRECIATION EXPENSE				
ASSET NUMBER	ASSET DESCRIPTION	DATE PLACED IN SERVICE	DISPOSAL DATE	USEFUL LIFE	COST	BALANCE BOY	ADD'S	DEL'S	BALANCE EOY	BALANCE BOY	ADD'S	DEL'S	BALANCE EOY
				-	-	-	-	-	-	-	-	-	-
	ENTERPRISE FUND NUMBER 5400				-	-	-	-	-	-	-	-	-
	Chainlink Fencing	1/1/1991		15	4,871.00	4,871	-	-	4,871	4,871	-	-	4,871
	Chain Link fence & core posts	1/1/1993		15	2,531.00	2,531	-	-	2,531	2,531	-	-	2,531
	Fencing- Cooke City	1/1/1995		15	2,848.00	2,848	-	-	2,848	2,753	95	-	2,848
	Fleshman Creek fence	10/27/2004		15	7,785.00	7,785	-	-	7,785	2,465	519	-	2,984
	Eagle fence, JTN,	1/1/1998		10	26,701.00	26,701	-	-	26,701	26,701	-	-	26,701
	Concrete for green box area	6/22/2005		15	7,771.00	7,771	-	-	7,771	2,115	518	-	2,633
	FENCE	1/1/2000		15	5,788	5,788	-	-	5,788	3,666	386	-	4,052
	ENTERPRISE FUND NUMBER 5410				58,295	58,295	-	-	58,295	45,102	1,518	-	46,620
	TOTAL ENTERPRISE FUNDS				58,295	58,295	-	-	58,295	45,102	1,518	-	46,620

PROPRIETARY FUND TYPE ACTIVITIES-MACHINERY AND EQUIPMENT

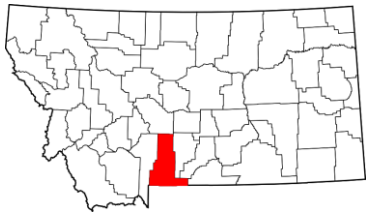
INPUT BEGINNING OF THE YEAR DATE 7/1/2009
INPUT END OF THE YEAR DATE 6/30/2010

					CAPITAL ASSETS					A/D AND DEPRECIATION EXPENSE				
ASSET NUMBER	ASSET DESCRIPTION	DATE PLACED IN SERVICE	DISPOSAL DATE	USEFUL LIFE	COST	BALANCE BOY	ADD'S	DEL'S	BALANCE EOY	BALANCE BOY	ADD'S	DEL'S	BALANCE EOY
	1985 Chevy pickup Lic #49-285	1/1/1985		8	6,500	6,500	-	-	6,500	6,500	-	-	6,500
	VHF Radio & Antennas	1/1/1993		5	600	600	-	-	600	600	-	-	600
	1993 GMC Pickup Lic 49-399	1/1/1993		7	18,327	18,327	-	-	18,327	18,327	-	-	18,327
	2008 JD 755D TRACK LOADER	9/5/2008		10	253,659	253,659	-	-	253,659	21,138	25,366	-	46,504
	2003 3/4 ton Chevy Pickup-Whiting Motors	1/1/2003		5	5,000	5,000	-	-	5,000	5,000	-	-	5,000
	Scale and installation	8/18/2004		10	43,022	43,022	-	-	43,022	21,152	4,302	-	25,454
	18hp Blower	1/19/2005		5	5,662	5,662	-	-	5,662	5,096	566	-	5,662
	2007 VOLVO EC 210CL EXCAVATOR	10/22/2007		10	154,926	154,926	-	-	154,926	27,112	15,493	-	42,605
	2004 John Deere 624J Loader	1/1/2004		10	106,894	106,894	-	-	106,894	58,792	10,689	-	69,481
	ENTERPRISE FUND NUMBER 5400				594,590	594,590	-	-	594,590	163,717	56,416	-	220,133
	VHF Radio & Antennas	1/1/1993		5	1,811	1,811	-	-	1,811	1,811	-	-	1,811
	Forklift - Federal surplus auction	1/1/1996		5	1,607	1,607	-	-	1,607	1,607	-	-	1,607
	Fairbanks Scale System	1/1/1982		10	30,000	30,000	-	-	30,000	30,000	-	-	30,000
	White Chevy Pickup Lic #49-488	1/1/1998		8	19,700	19,700	-	-	19,700	19,700	-	-	19,700
	1992 Dodge Dakota Lic #49-508	1/1/2000		5	5,000	5,000	-	-	5,000	5,000	-	-	5,000
	1996 Chevy S-10 Lic #49-509	1/1/2000		5	6,500	6,500	-	-	6,500	6,500	-	-	6,500
	500 Gallon O-Day Fire Tank	1/1/2000		10	5,907	5,907	-	-	5,907	5,612	295	-	5,907
	1994 Volvo Truck-Lic #49-519	1/1/2001		10	24,500	24,500	-	-	24,500	20,825	2,450	-	23,275
	94 Volvo Dump Box for truck #49-519	1/1/2001		10	10,756	10,756	-	-	10,756	9,143	1,076	-	10,219
	Baler	1/1/2001		10	3,475	3,475	-	-	3,475	2,954	348	-	3,302
	2000 bobcat 753G	1/1/2001		10	17,979	17,979	-	-	17,979	15,282	1,798	-	17,080
	Roll off box - Olympic Sales	1/1/2003		15	5,388	5,388	-	-	5,388	2,335	359	-	2,694
	Bobcat loader	1/1/2003		10	12,150	12,150	-	-	12,150	7,898	1,215	-	9,113
	2004 1500 Chevy Truck 1GCeK14V74E226492	7/21/2004		5	18,750	18,750	-	-	18,750	18,750	-	-	18,750
	Transfer station containers (15 units)	4/20/2005		15	163,875	163,875	-	-	163,875	46,431	10,925	-	57,356
	Reznor Waste Oil Heater	12/5/2005		15	10,123	10,123	-	-	10,123	2,418	675	-	3,093
	Roll off box - Hook Lift System (on '96 Peterbuilt)	6/19/2007		15	33,939	33,939	-	-	33,939	4,714	2,263	-	6,977
	1996 Peterbuilt Truck Chassis - 5410	6/19/2007		10	22,585	22,585	-	-	22,585	4,705	2,259	-	6,964
	1997 DODGE 1 TON PICKUP #1B6MF36D2VJ535378	7/31/2007		7	8,895	8,895	-	-	8,895	2,541	1,271	-	3,812
	BOBCAT S185 LOADER W/PALLET FORKS	9/12/2007		10	26,650	26,650	-	-	26,650	4,886	2,665	-	7,551
	2008 MACK GARBAGE TRUCK	5/31/2008		10	171,409	171,409	-	-	171,409	19,998	17,141	-	37,139
	1983 White Garbage Truck Lic #49-331	1/1/1989		10	10,750	10,750	-	-	10,750	10,750	-	-	10,750
	Repaint Garbage Truck	1/1/1990		10	6,863	6,863	-	-	6,863	6,863	-	-	6,863
	Overhaul Garbage Truck	1/1/1994		5	24,636	24,636	-	-	24,636	24,636	-	-	24,636
	Transmission rebuild warrant 32984	1/1/1999		5	7,984	7,984	-	-	7,984	7,984	-	-	7,984
	1989 Dodge Ram pickup Lic #49-244	1/1/1989		7	20,000	20,000	-	-	20,000	20,000	-	-	20,000
	Pressure Washer	1/1/1990		10	2,099	2,099	-	-	2,099	2,099	-	-	2,099
	King Mobile Radio	1/1/1991		15	652	652	-	-	652	652	-	-	652
	King Mobile Radio	1/1/1991		15	670	670	-	-	670	670	-	-	670
	1996 Volvo garbage truck Lic #49-435	1/1/1996		10	158,609	158,609	-	-	158,609	158,609	-	-	158,609
	1996 International roll off truck Lic #49-452	1/1/1996		10	73,500	73,500	-	-	73,500	73,500	-	-	73,500
	2001 Volvo garbage truck Lic #49-529	1/1/2001		10	139,149	139,149	-	-	139,149	118,277	13,915	-	132,192
	1991 Chevy truck Lic #49-528	1/1/2001		5	7,500	7,500	-	-	7,500	7,500	-	-	7,500
	Cooke City compactor	1/1/2003		20	35,700	35,700	-	-	35,700	11,603	1,785	-	13,388
	175 4 YD Green boxes	1/1/1977		15	46,051	46,051	-	-	46,051	46,051	-	-	46,051
	Roll off box - Olympic Sales	1/1/2003		15	5,388	5,388	-	-	5,388	2,335	359	-	2,694
	1992 Ford Ranger Lic #49-383	1/1/1992		7	9,000	9,000	-	-	9,000	9,000	-	-	9,000
	25 8yd used Green Boxes	1/1/1998		15	9,850	9,850	-	-	9,850	7,552	657	-	8,209
	15 - 8yd Greenboxes	1/1/1992		15	9,375	9,375	-	-	9,375	9,375	-	-	9,375
	CUT- 3 used green boxs	1/1/1998		15	4,500	4,500	-	-	4,500	3,450	300	-	3,750
	2 roll-offs	1/1/2000		15	11,900	11,900	-	-	11,900	7,537	793	-	8,330
	2 roll-offs	1/1/2001		15	11,900	11,900	-	-	11,900	6,743	793	-	7,536
	30 yd roll off box	1/1/2004		15	5,922	5,922	-	-	5,922	2,171	395	-	2,566
	1996 Peterbuilt Truck Chassis - 5420	6/19/2007		10	22,585	22,585	-	-	22,585	4,705	2,259	-	6,964
	30 yd roll off box	1/1/2004		15	5,922	5,922	-	-	5,922	2,171	395	-	2,566
	2004 FREIGHTLINER 1FUJC5DE84HN42381	5/11/2009		10	39,070	39,070	-	-	39,070	651	3,907	-	4,558
	30 YD RECYCLE CONTAINER	5/12/2009		15	7,353	7,353	-	-	7,353	82	490	-	572
	30 YD RECYCLE CONTAINER	5/12/2009		15	7,353	7,353	-	-	7,353	82	490	-	572
	30 YD RECYCLE CONTAINER	5/12/2009		15	7,353	7,353	-	-	7,353	82	490	-	572
	30 YD RECYCLE CONTAINER	5/12/2009		15	7,353	7,353	-	-	7,353	82	490	-	572
	30 YD RECYCLE CONTAINER	5/12/2009		15	7,353	7,353	-	-	7,353	82	490	-	572
	30 YD RECYCLE CONTAINER	5/12/2009		15	7,353	7,353	-	-	7,353	82	490	-	572
	Compactor	1/1/2004		20	39,605	39,605	-	-	39,605	10,891	1,980	-	12,871
	ENTERPRISE FUND NUMBER 5410				1,354,297	1,354,297	-	-	1,354,297	789,377	75,218	-	864,595
	TOTAL ENTERPRISE FUNDS				1,948,887	1,948,887	-	-	1,948,887	953,094	131,634	-	1,084,728

M & E

Appendix J

Neighboring Jurisdiction Waste Survey



Park County Environmental Health
414 E. Callender
Livingston, MT 59047
406-222-4145 Fax 406-222-4109

October 20, 2011

Gallatin County

Spoke with Martin Bey, District Manager

- He has recently been contacted by a facility that is being built in Clark County Idaho to bring their trash to ID for incineration. They are building a pyroloysis unit.
- He has experience with incineration units when he worked in Florida. He felt our rates would go way up if we wanted an incinerator unit. He suggested we contact Clark County, ID and look into hauling our waste to their facility.
- Current tipping fee at the Logan Landfill for municipal solid waste: $27/ton
- He state Gallatin County has enough capacity in the Logan Landfill for many years to come, so they would probably not be interested in bring MSW to an incinerator in Park County.
- Gallatin County might be interested in bringing tires to an incinerator unit in Park County.
- Bey also stated Gallatin County might be interested in pursuing certification to dispose of ash from an incinerator unit.
- He was interested in Park County bringing MSW to the Logan landfill.

Sweet Grass County

Spoke with Gail McPherson, city clerk

- County residents self-haul to the city's transfer station or contract with Allied Waste (the city's hauler) to collect MSW.
- Current tipping fee: $18/Ton
- Approx. 2400 tons/year
- McPherson stated the Town Council would have to consider costs before they could make a decision to bring their trash to an incineration unit in Park County. She felt there would be less transportation costs coming to Park County. Currently MSW is hauled to Billings.

Yellowstone National Park

- Steve Iost says YNP may possibly be interested in bringing Park County their solid waste if an incineration unit was built.
- Holly Long says: $166 Cost/ton currently
- Tonnage/yr = 2300 tons
- Currently they haul waste to West Yellowstone's compost facility.
- Class III and IV wastes (wood, constructions waste, carpet, etc) are handled separately.

Meagher County

- Approximately 900 tons/year
- No answer about whether they would be interested in hauling to Park County or what they currently pay to dispose currently.

Appendix L - Tailoring Talk for the Landfill Owner

Feb 1, 2011 12:00 PM, By Joshua Roth and Pat Sullivan

What the EPA's Tailoring Rule for greenhouse gases means to your landfill.

Last year, the U.S. Environmental Protection Agency (EPA) published the first federal regulation imposing permitting requirements for greenhouse gas (GHG) emissions from a stationary source of air emissions, such as a landfill. This rule, known as the Tailoring Rule, requires applicable sources to comply with two programs created by the Clean Air Act: the Prevention of Significant Deterioration (PSD) permitting program for construction and expansion projects, and the Title V operating permit program.

Traditionally, the Title V and PSD programs have applied to stationary sources that emit regulated pollutants such as carbon monoxide, nitrogen oxides and sulfur oxides at rates of 100 tons per year (tpy) or 250 tpy, depending on the source. However, stationary sources such as production plants, farms and commercial buildings typically emit GHGs at much higher rates than other air pollutants. As such, if the above-mentioned threshold levels also applied to GHG emissions, tens of thousands of small facilities would get caught under the PSD permitting program and millions of facilities would become subject to Title V, EPA estimates.

EPA recognized that this would cause an overwhelming burden on small facilities, as well as on permitting authorities, and thus "tailored" the applicability criteria that determine which GHG emission sources are subject to permitting requirements (hence the name "Tailoring Rule").

The Tailoring Rule became effective on Jan. 2, 2011, and is being implemented in a three-step approach per the following schedule:

Step 1 (Jan. 2 – June 30, 2011)

Step 1 will not impose permitting requirements on a landfill or other facility solely on the basis of its GHG emissions. During this phase, PSD requirements for GHG emissions will apply to new facility construction or facility modifications only if the site is a) already subject to PSD permitting for another pollutant and b) the construction or modification would produce at least 75,000 tpy of carbon dioxide-equivalent (CO_2e).

As for Title V, only those facilities otherwise subject to the program because of their emission of other pollutants are subject to the Tailoring Rule. These facilities must address GHGs if they apply for, renew or review a Title V permit during this period.

Step 2 (July 1, 2011 – June 30, 2013)

In Step 2, GHGs are effectively treated as any other pollutant regulated by the Clean Air Act and are more easily subject to PSD and Title V permitting requirements. In this phase, the construction of a new landfill or other stationary facility would trigger PSD requirements if the site has potential GHG emissions of 100,000 tpy of CO2e.

Furthermore, the modification of an existing landfill or other stationary facility would trigger the requirements in the below scenarios:

• if the existing source has the potential to emit 100,000 tpy of CO2e, and the modification would result in an increase of 75,000 tpy of CO2e, or

• if the existing source has potential emissions of less than 100,000 tpy of CO2e, and the modification would result in an increase of 100,000 tpy of CO2e.

In this phase, all facilities subject to Title V permitting will be required to address GHGs when they apply for a new permit, a renewal or a permit modification. Furthermore, facilities with a potential to emit 100,000 tpy of CO2e will now be required to obtain a Title V permit if they do not already have one and are not otherwise subject to the program.

Step 3 (Begins July 1, 2013)

The Tailoring Rule also commits EPA to conduct additional rulemaking that would apply PSD and Title V to more stationary sources. Under Step 3, EPA is required to complete this rulemaking by July 1, 2012, and the rule will take effect exactly one year later. Step 3 may lower the GHG thresholds for PSD or Title V applicability, but EPA has agreed that no new source or modification with the potential to emit less than 50,000 tpy of CO2e will be subject to the permitting programs before April 30, 2016. This is to limit the administrative burden associated with the Tailoring Rule.

Best Available Control Technology

Sources subject to PSD permitting requirements under the Tailoring Rule will be required to implement Best Available Control Technology (BACT) to minimize GHG emissions. Under PSD, BACT is defined as "an emissions limitation [that] is based on the maximum degree of control that can be achieved." BACT is determined on a case-by-case basis, and considers energy, environmental and economic impacts. BACT can be emissions control equipment or a modification of a production process or method.

Sources that trigger PSD under the Tailoring Rule would need to evaluate BACT using EPA's long-standing, top-down approach. A top-down BACT analysis traditionally involves the following:

• Step 1: Identify all available control technologies.
• Step 2: Eliminate technically infeasible options.
• Step 3: Rank remaining options by emissions control effectiveness.

• Step 4: Evaluate economic, energy and other environmental impacts.
• Step 5: Select BACT.

As of press time, BACT for control of GHG emissions from municipal solid waste (MSW) landfills has not been established. However EPA reportedly is developing a GHG BACT White Paper for MSW landfills, which would provide guidance on controlling this newly regulated pollutant. EPA also has developed a guidance document on PSD and Title V permitting for GHGs that includes an example of one possible BACT for MSW landfills. However, the MSW industry has been critical of this specific example and expects to further work with EPA to refine it in the coming months.

EPA may, at some point, establish presumptive BACT for GHG control from MSW landfills to streamline the PSD permitting process. However, this would require additional EPA review of information, and possibly further rulemaking and/or public review and is not likely to occur for several years.

All MSW landfills with a design capacity of 2.5 million megagrams and 2.5 million cubic meters are subject to the Title V permitting program. Additionally, some landfills that are not that large have emissions of a particular pollutant that exceed a Title V major source threshold. By adding GHGs to the mix, even smaller landfills could be subject to Title V.

Fugitive Emissions

MSW landfills typically emit uncollected methane (CH4) and CO2, and emit CO2 from the combustion of captured landfill gas (LFG) in flares, internal combustion engines, turbines, etc. Landfills also may produce CO2 emissions from the combustion of other fuels (diesel, natural gas, etc.) in boilers, generators and other stationary equipment located on site. Equipment such as dozers, compactors and garbage trucks typically are considered to be mobile sources and thus emissions from their engines would not be regulated under the stationary source permitting requirements.

Under the existing PSD program, fugitive emissions from MSW landfills are not counted when evaluating whether a facility is a major stationary source. Fugitive emissions only are counted when permitting a modification at an existing major stationary source (e.g., a landfill expansion at an existing major PSD facility), including cases where the proposed permitting project is a major source for something other than GHGs. The Tailoring Rule does not change this approach.

For MSW landfills, fugitive emissions also are not counted when evaluating whether a facility is subject to Title V permitting requirements. Again, the Tailoring Rule does not change this approach.

One critical issue is the definition of "fugitive" under the permitting programs. Fugitive emissions are defined as "those emissions [that] could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening." For MSW landfills, EPA has determined this to mean that LFG that cannot reasonably be collected is considered fugitive, while LFG that can reasonably be collected is not considered fugitive, even if it is not currently being collected.

In effect, this essentially means that all uncollected LFG emitted from landfills with comprehensive LFG collection systems should be considered fugitive. However, landfills with poor or no gas

collection systems could have a portion of their LFG emissions considered fugitive (and thus should not be counted under PSD/Title V) while the rest of their LFG emissions would be considered non-fugitive (and thus should be counted).

"Biogenic" Carbon

It is commonly agreed that the methane portion of LFG is"anthropogenic" (i.e., derived from human activities) while the carbon dioxide emitted from landfills is "biogenic" (i.e., natural). In the past, it has been generally accepted that "biogenic" carbon is excluded from GHG inventories, controls and reporting requirements on the basis that it is part of the overall carbon cycle and thus carbon neutral.

The Tailoring Rule, however, reflects a change in this approach in that it originally required that biogenic carbon — such as CO2 emissions from the combustion of LFG — be counted when evaluating a source's applicability to the various PSD and Title V emission thresholds. This could have potentially impacted the MSW landfill industry, in that CO2 emissions from LFG combustion as well as fugitive CO2 (where applicable) would need to be counted. This would represent a significant increase over "anthropogenic-only" MSW landfill emissions, which would include only methane emissions.

However, in response to public comments, on Jan. 12, 2011, EPA agreed to defer, for a three-year period, the inclusion of biogenic CO2 emissions in the PSD and Title V permitting programs. During this period, EPA plans to study the science associated with biogenic CO2 emissions and reconsider their inclusion under the Tailoring Rule. Therefore, at least for the time being, biogenic CO2 emissions (including CO2 in LFG and CO2 from LFG combustion) are not counted when evaluating an MSW landfill's applicability to the Tailoring Rule.

Impacts on MSW Landfills

So how will the Tailoring Rule impact MSW landfills and landfill gas-to-energy (LFGTE) projects? The following tables present summaries of typical LFG flow rates in cubic feet per minute (cfm) for combustion devices and uncollected LFG flows that would trigger the applicable thresholds.

Emission Threshold (tpy CO2e)	Flow (cfm)	LFGTE Plant Size (MW)
100,000	**~3,500**	**~8 to 10**
75,000	**~2,500**	**~6 to 7.5**

The LFG flows in the table below are based on the assumption that biogenic CO2 is included in the emissions evaluation, which it very well may be after the three-year deferral period. The table below provides typical LFG flows that would trigger the thresholds under both scenarios (biogenic included/excluded).

Emission Threshold (tpy CO2e)	Flow with Biogenic CO2 Included (cfm)	Flow Without Biogenic CO2 Included (cfm)
100,000	**~850**	**~8 to 10**
75,000	**~650**	**~6 to 7.5**

If EPA ultimately determines that biogenic CO2 emissions should be excluded, LFG combustion units would be very unlikely to trigger the emission thresholds on their own because essentially only uncombusted methane and a small amount of nitrous oxide would be counted. In this scenario, only combustion units approximately 30,000 cfm or larger (assuming 98 percent methane destruction) would potentially trigger applicability to the Tailoring Rule.

Under the Title V permitting program, fugitive GHG emissions (e.g., fugitive LFG emissions) are not counted against the applicability threshold. Landfills with comprehensive gas collection systems likely will have minimal or no fugitive GHG emissions. Given EPA's interpretation of "fugitive" as it applies to MSW landfills, however, landfills with limited or no gas collection could have significant uncollected (non-fugitive) amounts of GHG emissions that would be counted for Title V applicability.

If biogenic CO2 emissions are not counted, then LFG combustion devices will contribute only very small amounts toward Title V eligibility. However, if after its three-year evaluation EPA determines that biogenic CO2 emissions should be included, then LFG combustion devices would contribute significantly toward eligibility. Though the flow rates associated with the thresholds in Table 2 are not particularly high, landfills at which devices this large would be permitted are likely to be large enough to already be subject to regulation under the Title V program.

Therefore, it seems likely that the Tailoring Rule will only expand the Title V permitting program to a limited number of MSW landfills that otherwise are not already subject to the program. The rule appears likely to impact only those smaller landfills (meaning a design capacity of less than 2.5 million megagrams and 2.5 million cubic meters) with limited or no gas collection and with uncollected (non-fugitive) LFG flows of around 1,000 cfm or more. Also, some landfill sites that don't trigger the threshold with uncollected LFG emissions alone could potentially trigger it if they also have significant GHG emissions from other sources on site (e.g., diesel engines, boilers).

One certain impact of the Tailoring Rule will be that landfills and LFGTE plants already subject to Title V will be required to address GHGs in new Title V permit applications, permit renewals and permit modifications.

PSD Impacts

As the rule is currently written, fugitive emissions only are included when evaluating PSD applicability for existing major facilities and are not considered for new sources or existing minor PSD facilities. Therefore, it is unlikely that the Tailoring Rule will result in PSD applying to many new landfills or landfill expansions with comprehensive gas collection unless the site already is an existing major source or triggers PSD for another pollutant.

PSD could apply, however, to new landfills and landfill expansions that do not feature comprehensive gas collection and that have potential uncollected (non-fugitive) LFG flows of around 1,000 cfm or more.

If EPA ultimately determines that biogenic emissions should be included, PSD applicability could expand to medium and larger-sized MSW landfills during the permitting of a new flare or LFGTE facility. For example, when counting biogenic emissions, a new flare rated at about 3,500 cfm at a landfill that is an existing minor PSD facility might trigger PSD requirements, and a new flare rated at about 2,500 cfm at an existing major PSD landfill might trigger PSD.

Furthermore, fees for PSD applications are typically much higher than for non-PSD applications, so the Tailoring Rule could result in increased permitting costs at some landfills. Finally, GHG BACT could also become a major impact to the site, resulting in additional costs for GHG emissions control.

In Closure

The Tailoring Rule represents the first federal permitting regulation of GHG emissions from landfills, and it comes on the heels of EPA's new Mandatory GHG Reporting Rule that took effect last year and that requires MSW landfills that generate 25,000 metric tons of CO2e to monitor and report GHG emissions.

As it stands now, the Tailoring Rule would require landfills with Title V permits to address GHG emissions in their permits, but it appears unlikely to bring many new landfills into the Title V program on the basis of GHG emissions alone since fugitive and biogenic emissions are not currently counted and since many landfills already are in the Title V program due to the Clean Air Act.

Also, sites with the greatest chance of triggering PSD (and thus BACT for GHGs) under the Tailoring Rule appear to include existing PSD major sources going for a landfill expansion and new landfills or expansions which trigger PSD for another pollutant [e.g., CO]. If EPA ultimately decides to include biogenic CO2 emissions under the rule, then PSD also could expand to apply to sites that are permitting a large LFGTE plant or LFG flare.

Stay tuned for further modifications or clarifications under the rule that could impact the MSW industry, such as lower applicability thresholds under Step 3 of the rule, reconsideration of the inclusion of biogenic and/or fugitive emissions under the rule, and the issuance of the BACT White Paper for MSW landfills.

Joshua Roth is a project manager in SCS Engineers' Reston, Va., office, and Pat Sullivan is a senior vice president in the firm's Sacramento, Calif., office.

Appendix L

Correspondence from PCCC to Park County

LAW OFFICES
KARL KNUCHEL,P.C.

101 North E Street
P.O. Box 953
Livingston, MT 59047

Karl Knuchel karl@knuchelpc.com
Courtney Lawellin courtney@knuchelpc.com
Erik Coate erik@knuchelpc.com

October 4, 2011

Park County Attorney
c/o Shannon Piccolo
Park County Civil Deputy
414 East Callender
Livingston, MT 59047

Park County Commissioners
Chairman Randy Taylor
414 East Callender
Livingston , MT 59047

Dear Randy and Shannon,

With your permission I want to direct your attention to the minutes of the meetings held March 1, 2011 and August 18th 2011, as well as the breakdown of project costs from Bell (minutes and costs attached) and my letter of March 7, 2011 to Randy and Shannan. PCCC has attempted to be clear and straight forward in its attempt to have the County obtain the best, most complete, and current information about issues and data related to solid waste so that the Commission has the best chance to make good fully informed decisions about long term solid waste disposal in Park County for the taxpayers. The information sought through the Amended Settlement Agreement is for this purpose. One of the elements of the settlement dealt with EPA rules. EPA rules, both those in force and effect now, as well as those rules which exist but have not taken effect (EPA gateway rules), are of consequence as this County looks to the future of its solid waste disposal.

Based on the language of the Amended Settlement Agreement regarding the evaluation of EPA rules, my concerns expressed on behalf of PCCC at the March 1st meeting on that issue, and the expanded cost of the evaluation specifically attributable to EPA rules evaluation (found on page 9 of the Proposal of Bell and Associates), and then the resultant one paragraph summary contained in the Draft Technical Memorandum on Solid Waste Disposal Alternatives for Park County produced by Bell, there is a serious material deficiency in the report with regard to the EPA rules evaluation. This deficiency is also a material breach of the settlement agreement.

PCCC's concerns over the use of landfills into the future have never been limited to concerns about greenhouse gas, no such limitation has never been expressed to Bell or the Commission, in fact quite the opposite was clearly articulated by me in the March 1st, 2011 meeting with both Bell and the Commission present. Therefore, it is difficult to understand how the one paragraph iteration found on page 21 of the current draft report is the result, or that the County paid $4880.00 (7% of the total $69,395.00 cost of the report) for this paragraph, which does not satisfy the terms of the Settlement Agreement.

Additionally, both the minutes from March 1st and my letter of March 7th clearly show that a committee was to be formed by the Commission at the request of Bell and Associates to aid them in addressing concerns of a broad spectrum of "interested stakeholders" in their report. This committee was never formed, never met with Bell and Associates, and some individuals identified as comprising the committee were never contacted or notified of any meetings, whatsoever. Some explanation is would be greatly appreciated.

Given the oversight in notice and publication which is in the process of being corrected, but which will require additional time to be completed, I suggest that there is time for other substantive and material corrections to take place. If additional time is requested for the purpose of correcting deficiencies, I will take that to the membership for their consideration. Please feel free to contact me.

Sincere regards,

Courtney Lawellin

Encl.

Jill Ouellette, HR; and Commission Minutes Clerk John Mueller. No public comment made.

The meeting was scheduled to discuss activities in the Human Resources Department.

Human Resources Analyst Jill Ouellette provided the Commission with an employee FMLA request for signature. Ouellette said she discussed a longevity pay grievance issue with a MACo attorney and will conduct sanitarian position interviews on March 2.

There was discussion about classifications of exempt employees, department heads working from home and how sick and vacation leave benefits are recorded by those employees on timesheets.

@9:49:39 a.m., Durgan made a motion to adjourn the meeting. Malone seconded that motion. The meeting adjourned.

March 1, 2011
Consider Decision on Bell and Associates Updated Scope of Services for Zia Update

@2:00:29 p.m., Chairman Taylor called a meeting to order in the Commissioners Chambers. Commissioners Durgan, Malone and Taylor were present. Also present were Citizens Dick Juhnke, Gay Juhnke, Edith Mundell, Garry Cotant, Jay Kiefer, Nick Currie, Bob Currie, Courtney Lawellin, Jim Hunt, Bruce Martin, Allen Carter, Peter McKenzie and Dennis Dodge; Chris Bell, Bell and Associates (via telephone); and Commission Minutes Clerk John Mueller.

The meeting was scheduled to consider a decision on a Bell and Associates updated scope of services for a Zia Report update.

Commissioner Taylor said Chris Bell of Bell and Associates submitted a revised scope of work for a solid waste services update report that equaled $89,220. Taylor provided that document and a resume of an individual who will conduct the incineration portion of the study for meeting attendees to review. Taylor said he and Nick and Bob Currie talked with Chris Bell about Bell's cost to update the report and proposed conducting the study in two phases with Bell and Associates doing the incineration portion and a team of county stakeholders updating the statistics within the Zia Report. Taylor said such an agreement would cut $40,000 from Bell's proposal. Taylor read into the record a revised scope of work submitted by Bell and Associates, which outlines Phases I and II of the new proposed plan.

Park County Concerned Citizens (PCCC) Attorney Courtney Lawellin said PCCC carefully worded its settlement agreement and the original RFP to ensure all rules in the US EPA's rulemaking gateway pertaining to solid waste were considered in the study update. She said potential future EPA rules may confound the use of landfills and the PCCC wanted to know if incineration was the best option now and into the future.

PCCC Chairman Dick Juhnke said the City of Livingston needs to be involved in the discussions as it would be a vital part of an incineration effort. Taylor said the city has been cooperative and is willing to assist the county in any way it can in its effort to revise its solid waste management plan. He said the city is charging residents $52 per ton and is hauling refuse for $39 per ton with the remainder paying off the new city transfer station. He said charges per ton may be adjusted in 10 years after the transfer station is scheduled to be paid off.

Chris Bell said he relooked at Bell and Associates' scope of work and broke it into two phases with the first being an analysis of disposal options available to Park County. He said those options include the current system used, teaming with the City of Livingston, building a landfill, and incineration. Bell said he and Richard Hertzberg will focus on the first three of options and engineers from HDR will conduct the incineration piece.

He said Bell asked the county to put together a committee of interested stakeholders to gather information for submission to Bell and Associates. He said Bell and Associates will hold a conference with the county team to glean additional information, conduct research on that information, submit a technical memo to the county for review, and present findings of disposal options available to the county. He said at that point the county would make a decision whether to go forward with Phase II of the proposal and update the relevant sections of the solid waste management plan with gathered data.

Bell said he plans on an April 1 start date for gathering information and conducting research and the technical memo will be submitted to the county commissioners and committee by early June. He said Bell will require the county to put together a committee to participate and read the information in total. Bell said he is all for the local folks doing the legwork on the Zia Report updating work to cut overall costs.

Taylor said the next step is to determine what chapters each entity will take on, but the county is agreeable to the two-phase approach as proposed. He said the county will be in touch with Bell and Associates to draft a final contract with the new proposal. Civil Deputy County Attorney Shannan Piccolo asked Juhnke if PCCC will discuss the new study proposal and consider granting the county two additional weeks to finalize a contract with Bell and Associates at its next meeting.

@2:39:27 p.m., Malone made a motion to adjourn the meeting. Durgan seconded that motion. The meeting adjourned.

March 2, 2011
Review Daily Correspondence / Agenda and Briefing on Current County Projects

@8:37:54 a.m., Chairman Taylor called a meeting to order in the Commissioners Chambers. Commissioners Durgan and Taylor were present. Also present were Raea Morris, executive assistant; Mike Inman and Philip Fletcher, community development; and Commission Minutes Clerk John Mueller. No public comment made.

August 18, 2011
Consider Decision of Solid Waste Update Committee on Zia Report Update

@9:02:22 a.m., Commissioner Durgan called a meeting to order in the Commissioners Chambers. Commissioners Durgan and Malone were present. Also present were Shannan Piccolo, civil deputy county attorney; Courtney Lawellin, attorney; Citizens Dick Juhnke, Bob Currie, Jim Taylor and Jim Hunt; and Minutes Clerk John Mueller.

The meeting was scheduled to consider a decision on a Solid Waste Update Committee recommendation for a Zia Report update.

Civil Deputy County Attorney Shannan Piccolo said the county received an outline of solid waste study topics and the meeting was scheduled for the report update committee to review the outline and provide comments, which will be passed on to Bell and Associates. Piccolo said Bell hopes to have a draft report out by the beginning of September, which will be submitted to committee members for review. She said the county would like to hold a phone meeting with Bell a week after the report is reviewed in order for comments to be added into the report.

Bob Currie said he fears the updated report will just be a resubmission of the original report, which is what the Concerned Citizens have been fighting against. Currie said he added two points about incineration (Topics 4.4 and 5.0), as the Concerned Citizens requested the main focus of the report be on incineration.

Jim Hunt said he finds it mystifying the outline has just been presented to committee members as is and questioned who created the outline.

Concerned Citizens Attorney Courtney Lawellin said the committee was set up to assist Bell in addressing citizen concerns and meet the needs of the Commission in making a final decision on county refuse operations, but she is not sure that has happened. Piccolo said her understanding is Bell is first creating a draft report and the committee's ideas will then be added into the report. She said it is not possible to know how much of a report will address any certain topic based on an outline of topics. Hunt said the word "ongoing" should be deleted from Topic 1.2; 1.2.2. - Recent and Ongoing Legal Actions.

Jim Taylor moved to accept the recommendation, especially Topics 4.4 and 5.0, and deletion of "ongoing." Dick Juhnke seconded the motion. Motion passed.

@9:51:44 a.m., Malone moved to adjourn the meeting. Durgan seconded the motion. The meeting adjourned.

August 18, 2011
Signing of FAA Sponsor Certification Document for City/County Airport Project

@1:02:00 p.m., Commissioner Malone called a meeting to order in the Commissioners Chambers. Commissioners Durgan and Malone were present. Also present were

PROJECT COSTS

The fees for the update of the Solid Waste Plan are based on the estimated time to complete the proposed scope of work detailed in the RFP. This proposed fee is a not to exceed fee based on the preceding work program. If the projects can be completed in less than our estimates, then Bell & Associates will bill accordingly. If we find it will take considerably more time due to a change in scope, we will discuss any changes with County staff and will not proceed without prior written authorization. Unless otherwise agreed in writing, fees will be billed monthly at the first of each month for the preceding month and will be payable within 30 days of the date of the invoice.

Task Number and Description	Hours	Cost
2.2.1 Update 2006 Report	120	$14,720
2.2.2 Incineration Analysis	24	$5,000
2.2.3 EPA Evaluation	24	$4,880
2.2.4 Compactor Feasibility Analysis	10	$1,220
2.2.5 County-City Joint SW Operations	24	$2,760
2.2.6 Public Input	26	$2,950
2.2.7 Alternative Recommendation	24	$3,880
2.2.8 Prepare Draft Report	88	$12,400
2.2.9 Review and Revise Report	44	$6,200
2.2.10 Present Final Report to County	56	$9,760
Subtotal Project Hours and Cost	440	$63,770
Travel Expenses		$4,125
Performance Bond (note 1)		$1,500
Total Project Cost		**$69,395**

Note 1: Section 5 of the RFP requires the successful responder to furnish a performance bond prior to the commencement of the project. Typically, a performance bond is utilized for construction projects or service projects such as waste collection and not financial consulting or planning services. Bell & Associates, Inc. does carry Professional Liability Insurance (errors and omissions) as well as General Liability Insurance which is standard for accounting and financial consulting firms. Since this is a requirement that is unique to this specific project, Bell & Associates, Inc. will procure the bond if directed by County staff.

LAW OFFICES
KARL KNUCHEL,P.C.

101 North E Street
P.O. Box 953
Livingston, MT 59047

Karl Knuchel karl@knuchelpc.com
Courtney Lawellin courtney@knuchelpc.com
Erik Coate erik@knuchelpc.com

October 17, 2011

Park County Attorney
c/o Shannon Piccolo
Park County Civil Deputy
414 East Callender
Livingston, MT 59047

Park County Commissioners
Chairman Randy Taylor
414 East Callender
Livingston , MT 59047

Dear Randy and Shannon,

With your permission, this is my reply to the response of October 12, 2011 from the County Civil Attorney and Bell and Associates. Our purpose in writing the letter of October 4, 2011 was to point out deficiencies, in time to remedy them and before further action becomes necessary. We undertook the time to specifically list and attach the minutes where the issues outlined in my letter were addressed. The same is not true for the representations regarding the committee in the county's response. I have spoken to Joe Chapman who was never contacted, and no meeting of any part of the committee (Hartman, Hunt, Currie, and Taylor) involved Bell, as requested by Bell. If my understanding is in error, please provide the minutes which show where any committee collaborated to give the advice requested by Bell, the minutes of which were attached to my letter of October 4, 2011.

Further, I am not aware of any agreement by PCCC to allow the County to perform any task set forth in the Amended Settlement Agreement at a later date. This applies specifically to the obligation to evaluate EPA rules, including those in the EPA rulemaking gateway, that apply to solid waste, and affect the ability of the Commission and the Solid Waste Board to make fully informed decisions. PCCC has never been concerned only with greenhouse gas emissions from landfills, as related in the Bell Draft. In order that any Park County authority responsible for making decisions regarding the disposal of solid waste has adequate information to make such decisions, that information must include laws applicable to disposal, both laws to which we are subject today and laws which have been passed but take effect in the future. The goal of this

report, on which much time and money has been expended, is to provide information to decision makers that allows them to make a well informed long term plan for solid waste disposal. If the report doesn't offer all the relevant information, good long term decisions will not result.

Additionally, it has come to our attention through the inadequacies of the Bell Draft Report as well as at meetings of the Solid Waste Board and their subcommittee that due diligence has not been performed by Bell with regard to the inclusion of outlying counties and other entities (such as Yellowstone National Park) in prospective disposal alternatives. A primary principle of municipal waste systems is, as volume of waste increases the cost per ton for disposal decreases and a significant cost savings is gained. In this case, and while it was specifically required in the Amended Settlement Agreement, no annual tonnage for any entity has been obtained nor has there been any expression of interest or disinterest by any of the outlying entities set for th in the report.

Please feel free to contact me with any questions or proposals, which I will take to the PCCC membership. I feel it is far better to correct deficiencies now than to relitigate those deficiencies yet again.

Sincere regards,

Courtney Lawellin

406/222-0135 - Telephone ♦ 406/222-8517 - Facsimile

Appendix M

Response to Correspondence from PCCC

BELL & Associates, Inc.
1628 NW 33rd Way • Camas, WA 98607 • 360.326.8937 • Fax 360.326.8925

To: Shannan Piccolo – Civil Deputy Park County Attorney

From: Chris Bell - Bell & Associates, Inc.

Re: Questions Regarding the Draft Technical Memorandum

Date: October 8, 2011

This letter is a response to correspondence from Ms. Lawellin dated October 4, 2011 regarding the Draft Technical Memorandum on Solid Waste Disposal Alternatives for Park County. Ms. Lawellin expressed concern regarding the extent the EPA rules are addressed in the draft. The issue of addressing the EPA rules is addressed in Section 3.5.2 of the Technical Memorandum. The Montana Department of Environmental Quality (MDEQ) regulations on solid waste and air quality are in compliance with Federal EPA regulations. We will revise the memo so it is clear that MDEQ regulations have to be uniform with US EPA. In other words, the US EPA has set the applicable regulatory standards and the only change the states can make is to strengthen such standards, not weaken or reduce them.

Specific rules and regulations that would impact the siting, construction, and operation of a solid waste disposal facility are addressed during the permitting process for that facility. During the permitting process detailed explanations would be provided to MDEQ concerning how a proposed facility complies with the applicable regulatory standards. The text provided a general overview of the application requirements from the MDEQ for air and solid waste. We have a copy of both permit applications from MDEQ and will include as an appendix to the technical memorandum. This explanation will make it clear why the permitting process takes time and has a high cost.

Regarding the topic of future EPA rules and their impact on landfilling as a waste disposal method - simply stated, this would be purely a speculative exercise. Existing landfills are permitted and are thus complying with existing regulations. As new rules are developed and promulgated, the requirements are introduced into landfill permits at the time the permits are revised. The most significant Federal regulatory activity currently anticipated to affect landfill practices are written to address greenhouse gas related emissions. Whether or not future regulations change landfilling practices remains to be seen. Controversial regulations and/or regulations that require significant changes are often subject to lengthy legal challenges. As

well, election results can change actions undertaken by a regulatory agency. There are no reasonable means to anticipate what the future EPA solid waste regulations will require.

Finally, it should be noted that Montana's policy on incineration for waste disposal is clearly defined. The 2006 Solid Waste Plan for the County and Livingston references the Draft Montana Integrated Waste Management Plan (page 75) as follows: "The State of Montana will regulate solid waste incineration and enforce laws to protect the public health and welfare of Montana citizens. Source reduction, reuse, composting, and recycling of materials will be encouraged as a preferred alternative to incineration of solid waste." Bell & Associates has recently been advised, in response to our inquiry that this policy statement is still in effect.

At this point we request that further comments or suggested modifications to the technical memorandum from the County, PCCC's legal counsel, or other interested parties be submitted to Bell & Associates by October 14th so that we have time to give them due consideration in producing the final technical memorandum and presentation on November 14.

Appendix N - Comments on the Draft Technical Memorandum

9/28/11 email:

Chris,
You may have noticed during our phone conversation yesterday that I had some misgivings about your findings related to Transfer station operations. It finally came to me (at 2:00 am, of course!) where those misgivings are placed.

Again, I understand that your calculations per ton are simplified and based on expenditures divided by number of tons. But on the surface it is hard to understand how going from $44/ton disposal costs with MRL to $53/ton disposal costs with the city can save money, as section 3.2 concludes. But of course this operations cost estimate depends on the total elimination of the county transfer station.

Currently the transfer station is used by the collections operations for storage and maintenance of the collections vehicles. If the building were not used for compaction, that certainly would reduce electric consumption, fuel for the bobcat, and a number of other operating expenses, not the least of which is staffing. But if the building is not retained for use by the collections department, a substitute facility would have to be found. If the building is retained for use by collections, some of the costs associated with the facility itself would be transferred to the collections side. It is important to note that in either case it would end up increasing the costs of collections.

Even though collections costs are not within the scope of your study, the idea of moving transfer station expenses over to collections doesn't really create a level playing field. It may be more accurate to explain that some transfer station expenses will remain, even if they become collections costs.

Your footnote 8 and Table 1 indicate that the Landfill will not totally close because even if the city takes 2,535 tons of Landfill refuse, there are still 2,511 tons of Class II and IV. So it appears there will still be Landfill expenses. The conclusion that the savings would amount to $500,000 a year does not include the costs of continuing Landfill operations, not to mention retaining some of the expenses of the transfer station.

I understand that your study is to present disposal alternatives, but I really feel your conclusion for alternative 3.2 should include continuing costs of the Landfill and transfer station.

Lani Hartung
Park County Finance Director
414 E. Callender St
Livingston, Mt 59047
(406)222-4135

The City of Livingston's disposal agreement with Montana Waste Systems allows for MSW and C&D waste tons from the County's existing operations to be delivered to their transfer station for disposal. Alternative 2 calls for the elimination of the duplicative services provided by the County and the City; therefore, the County Landfill and Transfer Station would be eliminated. The County's combined disposal cost per ton in 2011 was $120 per ton compared to the City's posed disposal fee of $53 per ton. Any savings from disposal could be utilized for collection operations. One example is the lease on the County's transfer station and truck lot. At $5,000 a year, this cost could be allocated to collection.

Draft Technical Memorandum on Solid Waste Disposal Alternatives for Park County
(Bell study)
Oct 19, 2011

The following are suggested changes and clarifications.

Number or some way identify each alternative on Table 9, page 22. The five alternatives are first listed on page 4 and assigned a number. Suggest adding the same numbers onto Table 9. Also suggest re-ordering Appendices A through F so that they are in the same order as they appear on Table 9 (and Table 5). Rename Technical Appendices in the Table of Contents to match Table 9 (3 changes).

Completed

Suggest numbering all pages from 23 to end.

page 1 Reference to Appendix A, where is it? Reference that Appendix A contains "overview of State's Solid Waste Management Plan," where is it?

page 2 Reference to Appendix B, "more detailed description of the County's solid waste system," where is it?

Completed

page 7 Table 3, what is the source of line F/Disposed Tons? Table 1 page 5? Appendix G?

Park County yearly transmittal worksheets of waste tonnage data to MDEQ
(Vickie Butcher 406-222-4187)

page 8 Change wording from "all County households and businesses" to "all County households and businesses outside of the city of Livingston."

Completed

page 8 Change wording from "county Finance Director" to "county staff."

Completed

page 9 "Fees assessed….were $1,206,625." Because the $1.2 million includes revenue earmarked for collections, suggest moving this sentence to come before, "It is emphasized…does not include the cost for collection, etc."

Completed

page 22 Directly related to the above, Annual Tons under Existing Operation should be 11,000.

Not Completed, the tonnage figures have been updated downward

page 9 Section 3.2.2 states, "it is conceivable that this alternative would reduce or eliminate the need to operate the county transfer station and/or landfill," but the conclusion that there would be a savings of over $500k a year is *based on the total elimination of both the county transfer station and the landfill.* This should be made clear. Also for reasons stated in my memo dated 9/28/11, this would result in a shifting of expenses over to collections, so the end result is *not* a savings of $500k a year. The total elimination of the t/s and landfill would also require capital expenses, which are not factored in.

Completed

October 25, 2011 meeting notes:

- Clarity is needed when discussing the costs of disposal, especially when discussing the city's fee/ton. This cost does NOT include the costs the county would incur for the collection and delivery of the solid waste to the city's transfer station. As presented, the cost may look much lower because they do not include the collection costs.

Section 1.3.4 and Section 3.1 address that the memorandum covers disposal costs only. To further aid the reader, a footnote has been added to the bottom of Section 3.1

- Information is needed about tonnage of solid waste from neighboring counties and Yellowstone Park. (See attached memo)

Completed

- Discuss the permitting process and costs for an incineration unit
- ALL costs associated with building and operating an incinerator need to be included in the presentation
- Cost/ton with the city does not include many costs---for example: tires, Freon containing units

Nov.4, 2011 meeting notes---Solid Waste Work Session
(This committee is working on a Master Plan for Solid Waste collection and transportation)

- Park County would like to record Bell & Associates presentation so we can share it at other public meetings around the county.
- **$53/ton for hauling to the city does NOT include collection and delivery costs this needs to be clearly explained in the final report and in the presentation.** (Several members of the committee felt people did not understand this distinction when they read the draft report and several committee members felt this was an important point and needed to be clearly stated.)

Section 1.3.4 and Section 3.1 address that the memorandum covers disposal costs only. To further aid the reader, a footnote has been added to the bottom of Section 3.1

- Table 9, Section 3.6---it was felt this chart was too busy and should be limited to keep the information clear. Specifically, the following rows should be eliminated:
  - ✓ **"Lined cell at county landfill"**
  - ✓ **"New landfill with lined cell"**
  - ✓ **WTE Steam (22TPD)**
  - ✓ **WTE Steam (44 TPD)**

Table 10 has been updated to further aid the reader on the 10 various disposal alternatives discussed in the memorandum.

When discussing this table, it needs to be clearly pointed out that no matter how the situation is looked at, the cost/ton @ $86 or $53 is much better than the cheapest cost/ton with incineration @ $174. Also, compare capital costs of $8 or $18 million dollars versus capital costs for a new landfill and how willing taxpayers would be to fund these different costs.

The memorandum is presented to provide the reader with facts and information so they can come to their own conclusion and make an informed decision.

Appendix O

Montana Department of Environmental Quality

Solid Waste Facility Permit Application

PERMITING AND COMPLIANCE DIVISION
WASTE MANAGEMENT SECTION
Phone: (406) 444-5300 Fax: (406) 444-1374

TO: Prospective Applicants of a Solid Waste Management System License

The enclosed application is for anyone wishing to apply for a Class II Solid Waste Management System (SWMS) license. Please number or label the attachments or enclosures with your application form and note those which are included from Section IV.

The licensing of an SWMS is not a quick and easy process. Be prepared for this process to take as long as a year to work through the various stages involved. The Department will review the application to insure that it is complete. Unless all the necessary attachments are included, it is unlikely that your application for a license will be considered complete. If additional information is required, the Department will notify the applicant with a "Notice of Deficiency - Request for More Information" letter that will specify the additional information required.

Upon receipt of the completed application, the Department will provide written notification to the local county health officer that an application for a SWMS has been received. The Department will send an invoice for the license review fee to the applicant and the licensing process will be suspended until the license review fee has been received. Once the license application has been determined to be complete, the Department will prepare an Environmental Assessment (EA) pursuant to ARM 17.4.607. An EA is a written analysis of a proposed action to determine if an Environmental Impact Statement (EIS) is required and whether or not the action may have a significant impact on the human and natural environment. Once the EA is completed, a copy of the EA will be mailed to adjacent landowners, local county environmental health officials and interested persons. The Department will also submit a public notice for publication in an area newspaper notifying the public of the availability of the EA and the commencement of the 30-day comment period.

The Department will accept written comments on the proposed project from the public for a period of 30-days following the public notice and the completion of the EA. A public meeting may also be held during the public comment period in order to discuss the proposed project with the public.

At the close of the comment period, comments that were received are reviewed and a final licensing decision is made. The decision may be to approve the license request, deny the request, or request additional information in order to respond to comments.

If the Department decides to issue a license, it will be sent to the local county Health Officer for signature. The Health Officer in the county where the proposed facility will be located must sign the license before it becomes valid. **For this reason, it is important for the applicant to keep the local health authorities informed during the licensing process and to provide them copies of the application materials.**

CLASS II SOLID WASTE MANAGEMENT SYSTEM LICENSE APPLICATION

SECTION I – APPLICANT INFORMATION

Applicant Name:

Applicant Mailing Address:

Applicant Phone: Applicant Fax:

Applicant E-mail Address:

This application is for:

☐ New Class II Landfill ☐ Expansion of an existing facility (if so, facility license number: _____)

☐ Resource Recovery or Processing Facility ☐ Large Composter Operation

☐ Other (please explain)

_____

Are you the owner of the property where the facility is located? ☐Yes ☐No

If yes, attach a copy of the deed or other document that verifies you are the site owner.

If no, provide the name and address of lessor who holds title to the property, attach a copy of the lease or rental agreement, and complete the Landowner Certification in Section V.

Name: _____

Mailing Address: _____

SECTION II –FACILITY INFORMATION

Facility Name:

Facility Mailing Address:

Facility Phone: Facility Fax:

Facility 9-1-1 Address:

Facility Legal Location
(i.e., Section, Township, Range; describe to nearest quarter-quarter section):

Facility Location Geocode:

General description of facility location:

Total acreage of proposed site:_____ Acreage useable for the solid waste system: _____

CLASS II SOLID WASTE MANAGEMENT SYSTEM LICENSE APPLICATION

SECTION III – FACILITY CAPACITY, SERVICE AREA, AND WASTE ACCEPTANCE

Total Disposal Capacity:

Service Area:

Population to be served by the solid waste system:

Describe the estimated life of the facility and attach a description of the method used to make this determination:

(for facility expansions: provide the information pertinent to the additional life the expansion provides to the existing facility)

Waste Type(s) Accepted:

Will any special or unusual wastes* be accepted? ☐Yes ☐No
*(*wastes that require special handling or present unique environmental hazards)*
If yes, describe the wastes:

Do you plan to accept household quantities of hazardous wastes and/or hazardous wastes from conditionally exempt generators? *(Note: these types and quantities of waste may be legally accepted at state licensed "Class II" landfill facilities.)* ☐Yes ☐No

Does the facility plan to burn clean, untreated wood waste? ☐Yes ☐No

What is the proposed opening date for this facility? _____

SECTION IV – ATTACHMENTS (PLEASE NUMBER OR LABEL THE ATTACHMENTS)

☐ Attach the proposed facility Operation and Maintenance (O&M) Plan.
The O&M Plan should include, at a minimum, a general description of the solid waste management system, the days and hours the site is open, site fencing and access controls, equipment to be used at the site, how on-site traffic will be directed and controlled, the types of waste to be accepted, the maintenance schedule regarding handling and disposal of solid wastes, management of special wastes, provisions for litter control, the proposed use of the land after fill area completed, the person(s) responsible for the operation and maintenance of solid waste management system. The O&M Plan must also indicate what measures will be taken to keep water from entering the waste disposal area. Please refer to the Administrative Rules of Montana (ARM) Section 17, Chapter 50, Sub-chapter 11 for the minimum O&M requirements.

☐ Attach a map that shows the location of the proposed facility, adjacent residences, and access roadways.

☐ Attach a description of adjacent use of land and provide a list of names and mailing addresses of all persons owning land adjacent to the proposed facility.

☐ Attach a map that shows the location of wetlands, springs, and natural drainages on and within one-mile of the facility boundary.

☐ Attach a map that shows the locations of public and private water supplies within one-mile of the facility boundary. Attach copies of well logs for these public and private water supplies.

SECTION IV (CONTINUED)

☐ If the site is located within the 100-year floodplain, attach a copy of the floodplain map.

☐ Attach a map of the proposed facility showing:

a) Fencing.
b) Access control features.
c) Surface water run-on/run-off controls.
d) Location of building(s), scales, tanks, etc...
e) Location of on-site roadways.
f) Location of any surface water or leachate containment structures.

☐ Attach the geologic and soil information for the proposed site that includes a site geologic map and a soil profile to a depth ten (10) to twenty (20) feet below the lowest point solid waste will be deposited.

☐ Attach a copy of the site hydrogeologic report that includes well-logs and information on groundwater availability, quality, and quantity.

☐ Attach the site groundwater monitoring plan or no-migration demonstration documents.

☐ If methane monitoring is required, attach the site methane monitoring plan including a map of the proposed methane monitoring well locations and proposed well design/construction

☐ Attach the cut and fill plan.

☐ Attach a copy of the information confirming that the existing bridges and roads will support loaded vehicles and additional traffic. Describe how the site operations affect the existing local transportation networks and traffic flows. If existing bridges and roads require modification as a result of the licensure of the proposed facility, attach a description of the modification plan and timelines.

☐ If underground tanks or lines will be located at the site, attach a copy of the completed EPA form 7530 (11/85, Rev. 2/86), Notification for Underground Storage Tanks and provide your facility ID number?

_____

☐ Attach a copy of the proposed Financial Assurance in accordance with ARM 17.50.540

☐ Attach a closure plan for the landfill that includes:
soil specifications for the final cover, final cover elevations and drainage details, site-specific revegetation requirements, other pertinent details of site closure, and proposed final use of the landfill upon completion.

☐ Attach a copy of the Montana Natural Heritage Program's (NHP) database information on sensitive, threatened, or
endangered species or habitats on and within on-mile of the facility boundary. The NHP database may be accessed at: http://mtnhp.org/

☐ Attach a copy of the cultural resource file search completed for the site. The search is conducted by the State Historic Preservation Office (SHPO). SHPO charges a fee for this search. A copy of the "File Search Request Form" may be accessed at http://mhs.mt.gov/shpo/forms.asp.

☐ Attach a copy of the proposed deed notation in accordance with the requirements in ARM 17.50.1113.

☐ Attach a copy of the general liability insurance policy in accordance with the requirements in ARM 17.50.1114.

SECTION V - CERTIFICATIONS

LANDOWNER CERTIFICATION

I am the: *(check one)*

Property Owner ☐ Designated Representative of the Property Owner ☐
(Provide verification of status as representative)

By signing this form, I hereby certify that I am aware of the proposed solid waste management system. The applicant has my permission to use the site in accordance with the laws and rules of Montana governing solid waste management and any conditions or provisions imposed by the licensing agency. If the owner/operator of the solid waste management system fails to perform in accordance with any provision or provisions of the license issued pursuant to this application, as the landowner, I will be responsible for executing facility closure and post-closure activities pursuant to the requirements of the license and the solid waste laws and rules.

Property Owner Signature: _____ Date: _____

(attach a copy of the deed or other document that verifies the site owner)

ZONING CERTIFICATION

I hereby certify that the site of the planned solid waste management system is in accordance with local government zoning and ordinances (to be signed by appropriate local government official having knowledge of local zoning ordinances).

Printed Name: _____

Signature: _____ Title: _____

Representing: _____ Date: _____

APPLICANT CERTIFICATION

I am the party responsible for operation of this proposed facility. I certify that the above-described solid waste management system will be constructed and operated in accordance with Sections 75-10-201 through 75-10-233, Montana Code Annotated (MCA), the rules adopted pursuant thereto, and in accordance with conditions which have or may be imposed in the license.

Applicant Printed Name: _____

Applicant Signature: _____

Title: _____ Date: _____

Appendix P

Montana Department of Environmental Quality

Air Quality Permit Application

AIR QUALITY PERMIT APPLICATION FOR STATIONARY SOURCES

Montana Department of Environmental Quality
Air Resources Management Bureau
Permitting Section Supervisor
1520 E. Sixth Avenue
P.O. Box 200901
Helena, MT 59620-0901
Phone: (406) 444-3490 FAX (406) 444-1499
Email: DEQ-ARMB-Admin@mt.gov

For State of Montana Use Only
Permit Application #: _____ AFS #: _____ Application Fee Paid with Application? ☐ Yes ☐ No Amount Paid: _____ Check #: _____

Three complete copies of this application, any associated fees, and the affidavit of publication of the attached public notice must be delivered to the address above. The application may be submitted electronically to the email address provided above; however, the application will not be considered complete until the appropriate permit application fee, affidavit of publication, and certification of truth, accuracy, and completeness are submitted to the Department. Any checks, affidavits, and certifications submitted separately from the application should be clearly identified. The applicant is encouraged to contact the Department with any questions related to this application form.

*Note: This application form should **not** be used for portable sources or oil and gas registrations. Permit application forms for portable sources and oil and gas registrations are available on the Department's website. Applications for Acid Rain permits must be made on nationally standardized forms available from the U.S. Environmental Protection Agency as well as through the Department's application for a Title V Operating Permit.*

§1.0 General Facility Information and Site Description

§1.1 FACILITY NAME AND ADDRESS (As registered with the Montana Secretary of State)

Company Name _____

Facility Name _____

Mailing Address	Physical Address (if different from mailing address)
_____ Address _____ _____ _____ City State Zip	_____ Address _____ _____ _____ City State Zip

§1.2 Contact Information				
	Name	Title	Telephone	Email
Owner				
Facility Manager				
Responsible Official				
Alternate Responsible Official				
Contact Person				
Alternate Contact Person				
[Note: If email address is provided, the Department will send all permit notices (i.e. Preliminary Determination, Department Decision, and Final Permit) electronically.				

§1.3 PERMIT TYPE (Check all that apply)

☐ **Montana Air Quality Permit (MAQP)**

MAQP Permit Action: ☐ New Facility ☐ Modification to Existing Permit # _____ - _____

☐ Synthetic Minor (major source using federally enforceable permit conditions to avoid MACT, NSR, or Title V Operating Permit requirements)

☐ New Source Review

☐ Prevention of Significant Deterioration

☐ Nonattainment Area

☐ **Air Quality Operating Permit (Title V)**

Title V Permit Action: ☐ Initial Air Quality Operating Permit

☐ Renewal of Air Quality Operating Permit #OP_____ - _____

☐ Modification of Air Quality Operating Permit #OP_____ - _____

☐ Minor Modification

☐ Significant Modification

Note: The applicant must also send one copy of the Title V Operating Permit application to the EPA at the following address:

Office of Partnerships and Regulatory Assistance
Air and Radiation Program
US EPA Region VIII 8P-AR
1595 Wynkoop St.
Denver, Colorado 80202-1129

A statement certifying that a copy of the Title V Operating Permit application has been mailed to EPA must accompany the Title V Operating Permit application.

§1.4 Physical Location and Facility Information

Qtr/Qtr Section _____ Section _____ Township _____ Range _____

Latitude (in decimal degrees) _____ Longitude (in decimal degrees) _____ County _____

Will the facility be operating in (or impacting) a nonattainment area? ☐ Yes ☐ No

(*Note: Maps of the state's nonattainment areas can be found at the following website:* http://deq.mt.gov/AirQuality/Planning/AirNonattainment.asp.)

If yes, which pollutant(s) is the area nonattainment for?

_____

Total Property Area (acres) _____ Year Facility Began Operation at Site: _____

General Nature of Business: _____

Standard Industrial Classification (SIC) Codes(s): _____

SIC Description(s):_____

(*Note: SIC Codes can be found at the following website:* http://www.osha.gov/pls/imis/sicsearch.html.)

For MAQP only, **a drawing, sketch, or topographic map of appropriate scale must be submitted** (maximum scale 1"=500', measurement to the nearest 20'), showing at least the following:

a. The property boundaries on which the source is located;

b. The outlines and dimensions of all existing and proposed buildings and stacks;

c. The locations of existing and proposed emitting units, including lat/long coordinates (in NAD83) and elevation (in feet above mean sea level) for each emitting unit. The emissions units and points should be identified as existing or proposed;

d. Any nearby streets, highways, and waterbodies;

e. Any nearby sensitive areas, such as schools, hospitals, parks, residential areas, etc.;

f. A true north arrow; and

g. A graphically displayed scale.

§1.5 **Project Summary** (*Not Required for Title V Operating Permit applications*)

Overview of project, including any new or modified equipment (*attach additional information as necessary*):

_____

_____

_____

_____

Include a process flow diagram showing material balances.

Construction/Installation Schedule:

Expected Construction Start Date: _____ Expected Operation Start Date: _____

Duration (if a temporary source): _____

Optional Information:

Estimate of Capital Expenditure for Proposed Project: $_____

Estimate of Cost of Air Pollution Control Equipment: $_____

_____

§2.0 Emitting Unit Listing

List all existing and proposed emitting units.
For Title V Operating Permits only, note all insignificant emission units.

Note: An **insignificant emissions unit** includes any activity or emissions unit that has the potential to emit less than 5 tons per year of any regulated pollutant, less than 500 pounds per year of lead, less than 500 pounds per year of a hazardous air pollutant, and is not regulated by an applicable requirement, such as a New Source Performance Standard (NSPS) or Maximum Achievable Control Technology (MACT) standard.

EMITTING UNIT		Pollution Control Device	New Source	Existing Source	Insignificant	
ID	Name				Yes	No
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
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			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐

§3.0 Emissions Inventory

A separate Section 3.0 must be completed for each emitting unit listed in Section 2.0.

Emitting Unit ID: _____ Emitting Unit Name: _____

Attach calculations.
The source(s) of all emissions estimates must be indicated (e.g. manufacturer's data, AP-42, source tests, etc.)
If possible, calculations should be submitted electronically using an Excel spreadsheet.

Regulated Air Pollutant	**Allowable Emission Rate(s)**[1]		**Actual Emission Rate(s)** ***(if applicable)***[2]	
	(Lb/Hour)	(Tons/Year)	(Lb/Hour)	(Tons/Year)
PM				
PM_{10}				
$PM_{2.5}$				
SO_2				
NO_x				
CO				
VOC				
Pb				
Other (*specify*):				
Other (*specify*):				
Other (*specify*):				
Other (*specify*):				
Other (*specify*):				
Other (*specify*):				

[1] Allowable emission rate(s) should equal the potential to emit, unless a federally enforceable permit limit is proposed. Potential emissions are to be calculated based on production at the maximum capacity for 8,760 hours per year. Only control practices or equipment which is proposed to be made federally enforceable may be used to limit the potential to emit of the unit.

[2] Actual emission rate(s) should equal the average rate at which the unit actually emitted the pollutant during a two-year period which precedes the particular date and which is representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.

§4.0 Emitting Unit and Control Equipment Information

A separate Section 4.0 must be completed for each emitting unit listed in Section 2.0. Applications for Title V Operating Permits must address significant emission units individually. Insignificant emission units may be addressed as a group. For information that has been previously submitted, the applicant may instead reference the previously submitted information, including the date the material was submitted and the source (i.e. permit application number, etc.)

Emitting Unit ID: _____ Emitting Unit Name: _____

§4.1 Emitting Unit Overview:

Narrative Process Equipment/Process Description (*attach additional sheets as necessary*) _____

_____

_____

Proposed Operational Limitations (*if any*) _____

_____

Source Classification Code (SCC)/ Description: _____

(*Note: SCC Codes can be found at the following website*:
http://cfpub.epa.gov/oarweb/download/WebFIRESCCs.csv)

Regulatory Programs: Indicate all air pollution control programs applicable to this emitting unit:

☐ NSPS: 40 CFR 60, Subpart(s): _____

☐ NESHAPS: 40 CFR 61, Subpart(s): _____

☐ MACT: 40 CFR 63, Subpart(s): _____

☐ Title V Operating Permit – Significant Emitting Unit

☐ Acid Rain (Title IV)

☐ Risk Management Plan

☐ CAM Plan

☐ Other: _____

§4.2 Process Information (*include units***)**:

Type of Material Processed _____

Average Process Rate (tons/hr, gal/hr, etc.)_____

Maximum Rated Design Process Rate (tons/hr, gal/hr, etc.) _____

§4.3 Process Identification

Make_____ Model_____

Type_____ Size_____

Year of Manufacture/Reconstruction _____ Year of Installation _____

Power Source _____

If applicable, provide the following generator information:

Rated Output of the generator (kW) _____

Rated Size of Engine powering the generator (hp) _____

§4.4 Fuel/Combustion Information:

(For variable parameters, indicate the maximum value or a range)

Fuel Type(s) _____

Average Fuel Combustion Rate: _____

Maximum Rated Combustion Rate: _____

Heat Content (Btu rating) _____ Sulfur Content (%)_____ Ash Content (%)_____

§4.5 Emitting Unit Location

Latitude (in decimal degrees): _____ Longitude (in decimal degrees): _____

Datum (NAD27, NAD83, etc.): _____

§4.6 Stack Information (*if applicable*)**:**

Height (feet) _____ Inside Diameter (feet) _____

Exit Gas Temperature (˚F) _____ Exit Gas Flow Rate (ACFM) _____

Exit Gas Velocity (ft/sec) _____ Exit Gas Moisture Content (%)_____

Stack Type (check one):

☐ Downward Exit	☐ Multiple Actual Stacks	☐ Fugitive Source
☐ Horizontal Exit	☐ Building Roof Vent	☐ Process Vent
☐ Vertical Exit	☐ Vertical Exit with Cap	

§4.7 Approximate Operating Schedule:

Hours/Day_____ Days/Week_____

Hours/Year_____ Weeks/Year_____

§4.8 Air Pollution Control Equipment and Practices

Primary and Secondary Air Pollution Control Equipment and/or Procedure Description:

_____

_____

_____

_____

Primary Air Pollution Control Equipment Description:

Make_____ Model_____

Type_____ Size_____

Year of Manufacture_____ Year of Installation _____

Fuel Type(s) _____ Estimated Control Efficiency_____

Estimated Capital Equipment Cost (*not required for Title V Operating Permit applications*) _____

Secondary Air Pollution Control Equipment Description:

Make_____ Model_____

Type_____ Size_____

Year of Manufacture_____ Year of Installation _____

Fuel Type(s) _____ Estimated Control Efficiency_____

Estimated Capital Equipment Cost (*not required for Title V Operating Permit applications*) _____

§4.9 Shakedown Procedures (*not required for Title V Operating Permit applications*)

Describe any shakedown procedures that are expected to affect emissions, including the duration of the shakedown period:

_____

_____

_____

§4.10 Continuous Emission Monitoring System (CEMS) – *check all that apply:*

☐ Opacity – Make _____ Model _____ Year _____

Automatic Calibration Valve: Zero _____ Span _____

☐ TRS – Make _____ Model _____ Year _____

Automatic Calibration Valve: Zero _____ Span _____

☐ NO_x - Make _____ Model _____ Year _____

Automatic Calibration Valve: Zero _____ Span _____

☐ CO – Make _____ Model _____ Year _____

Automatic Calibration Valve: Zero _____ Span _____

☐ O_2 – Make _____ Model _____ Year _____

Automatic Calibration Valve: Zero _____ Span _____

☐ CO_2 – Make _____ Model _____ Year _____

Automatic Calibration Valve: Zero _____ Span _____

☐ Other (*specify*): _____

Make _____ Model _____ Year _____

Automatic Calibration Valve: Zero _____ Span _____

§4.11 Emissions Control Analysis (*not required for Title V Operating permit applications*)

Best Available Control Technology (BACT) is required for all sources obtaining a MAQP. The BACT analysis should be conducted separately for each pollutant emitted from each emitting unit. Control costs (cost per ton of air pollutant controlled) should be calculated for each option. Options may then be eliminated for economic, energy or environmental reasons. The control option that is selected should have controls or control costs similar to other recently permitted similar sources and should be capable of achieving appropriate emission standards. If necessary, a separate start-up/shut-down BACT analyses should be conducted.

Lowest Achievable Emission Rate (LAER) is required for major stationary sources and major modifications located in a nonattainment area. LAER is also required for major stationary sources or major modifications located in an area designated as attainment or unclassified under 40 CFR 81.327, but would cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS) in a nearby nonattainment area. The LAER analysis shall demonstrate that the emission rate proposed is equivalent to the most stringent emission rate achievable or contained in any state implementation plan for a similar source.

Attach BACT/LAER Analysis Results, as applicable.

Applicable Requirement (*check all that apply*): ☐ BACT ☐ LAER

§4.12 Stack Height and Dispersion Technique Analysis (*not required for Title V Operating Permit applications*)

If applicable, supply a stack height and dispersion technique analysis demonstrating compliance with the requirements of the Stack Heights and Dispersion Technique Rule (ARM 17.8, Subchapter 4)

§ 5.0 Project and Site Information

Note: This section is not required to be completed for Title V Operating Permit applications.

Identify the landowner of the proposed project site and the current land use (industrial, agricultural, residential, etc.):

Indicate the approximate distance to the nearest home and/or structure not associated with the proposed project site:

Summarize the aesthetic character of the proposed project site and the surrounding community or neighborhood. Include a description of recreational opportunities and any unique cultures in the area that may be affected by the proposed project:

Describe the noise levels created by the proposed project:

Summarize other industrial activities at or near the site:

List other permits and/or approvals which have been obtained or will be obtained for this project (including MPDES permits, open cut permit, hazardous waste permit, etc.):

Indicate the number of employees currently employed and the increase or decrease in the number of people employed at this site as a result of the proposed project:

Describe any upgrades of utilities that may be necessary to meet the power demands for this proposed project:

Identify the amount of land that will be disturbed, in acres, as a result of this proposed project: _____

Identify any fish or wildlife habitat, animal or bird species, or any known migration or movement of animals at the project site:

Identify any plant species (including types of trees, shrubs, grasses, crops, and aquatic plants) at the proposed project site:

Describe any proposed discharges into surface water or onto the proposed project site:

Identify any potential impacts to wetlands and/or changes in the drainage patterns at the proposed project site:

Summarize the soils and geology of the project site. Include a description of any disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil that would reduce the productivity or fertility of the soil at the site:

Summarize any access to recreational activities or wilderness areas near the proposed project site:

Describe any state, county, city, United States Forest Service (USFS), Bureau of Land Management (BLM), or tribal zoning or management plans and/or goals that might affect the site:

§ 6.0 Instructions on Public Notice For Montana Air Quality Permit

Note: This section is not required to be completed for Title V Operating Permit applications.

The applicant shall publish the following notification no earlier than 10 days prior to the date the applicant's MAQP application will be submitted to the Department, and no later than 10 days following the date of submittal. The notice shall be published **once** in the legal notice section of a newspaper of general circulation in the area affected. (*Note: MAQP applications for solid waste incinerators, subject to 75-10-221, Montana Code Annotated (MCA), or hazardous waste incinerators or boilers or industrial furnaces, subject to 75-10-406, MCA, must publish **three** public notices, each on separate days, in the legal notice section of a newspaper in the county in which the source is proposed be located.*) Any fees associated with publication of this notice are the responsibility of the permit applicant. Questions regarding an appropriate newspaper should be addressed to the Department.

An Affidavit of Publication of Public Notice must be submitted with the application or the permit application will be deemed incomplete. This notice is required by the air quality rules. **The notice to be published must contain all text, excluding the text in italics, within the box below.**

Public Notice

Notice of Application for a Montana Air Quality Permit (MAQP), pursuant to Sections 75-2-211 and 75-2-215, MCA, and the Air Quality Rules). _____,

Name of Applicant(s)

_____ on or about _____ an application for a MAQP or a modification to an

has filed / will file *Date*

existing MAQP from the Montana Department of Environmental Quality. Applicant(s) seeks approval of its application for:

_____

_____

_____

_____

(Brief description of source for which permit is being applied, and a narrative description of the site location such as nearby towns, roads, landmarks, etc.)

The legal description of the site is: Section _____, Township _____, Range _____ in _____ County, Montana.

Within 40 days of the receipt of a completed application, the Department will make a preliminary determination whether the permit should be issued, issued with conditions, or denied. Any member of the public with questions or who wishes to receive notice of the preliminary determination, and the location where a copy of the application and the Department's analysis of it can be reviewed, or to submit comments on the preliminary determination, must contact the Department at Department of Environmental Quality, Air Resources Management Bureau, Air Permitting Section Supervisor at P.O. Box 200901, Helena, MT 59620-0901, telephone (406) 444-3490. Any comments on the preliminary determination must be submitted to the Department within the specified timeframe (within15 or 30 days after the preliminary determination is issued).

§ 7.0 Applicable Requirements

§7.1 Applicable Requirements

Attach a complete listing and description of all applicable air pollution control requirements, including rules and regulations which have been promulgated at the time of the submittal of the application, but which will become effective at a later date. Explain any proposed exemptions from otherwise applicable requirements. Describe or reference any applicable test methods for determining compliance with each applicable requirement.

§7.2 Additional Requirements

Additional requirements may apply. A description of the requirements listed below is included in the Section 7.2 Supplement included on page 18 of this application. **Note which of the following requirements apply to this permit application** (*check each that applies*):

☐ Ambient Air Quality Impact Analysis

☐ Alternative Siting Analysis

☐ Alternative Operating Scenario

☐ Compliance Schedule/Plan

☐ Compliance Certification

☐ Additional Requirements for solid or hazardous waste incinerators or BIFS subject to 75-10-406, MCA

☐ Additional Requirements for Commercial Medical and Commercial Hazardous Waste Incinerators, including BIFS Subject to 75-10-406, MCA

§ 8.0 Certification of Truth, Accuracy, and Completeness

I hereby certify that, to the best of my knowledge, information and belief, formed after reasonable inquiry, the information provided in this permit application is true, accurate, and complete.

(Name, title and signature of corporate officer, responsible official, authorized representative, or designated representative under Title IV 1990 FCAA.)

Name_____
(Print or Type)

Title_____ Phone_____ Email:_____

Signature_____ Date_____
(Original Signature Required)

APPLICATION CHECKLIST

The information contained in the checklist below must be submitted in order for the application to be considered complete. Additional information may be required by the Department. Please contact the Department if there are any questions or if the applicant would like a pre-application meeting with Department personnel.

_____ Completed Application Form
_____ Application Fee
_____ Site Map (Not required for Title V Operating Permit applications)
_____ Process Flow Diagram (Not required for Title V Operating Permit applications)
_____ Emission Inventory Calculations
_____ BACT/LAER Analysis (Not required for Title V Operating Permit applications)
_____ Stack Height and Dispersion Techniques Analysis (if applicable, not required for Title V Operating Permit applications)
_____ Modeling/Risk Assessment Analysis (if applicable, not required for Title V Operating Permit applications)
_____ List of Applicable Requirements
_____ Affidavit of Public Notice (Not required for Title V Operating permit applications)
_____ Certification of Truth, Accuracy, and Completeness – Original Signature (if application form is submitted electronically)

Supplement to Section 7.2 Additional Requirements

- **Ambient Air Quality Impact Analysis** (Not required for Title V Operating Permit applications)

  An ambient air quality impact analysis should include the following:

  1. Existing Air Quality Status – a narrative description of the existing air quality status and copies of any existing air monitoring data reports or dispersion modeling.
  2. Ambient Air Quality Monitoring Requirements – a listing and description of all applicable state or federal ambient air quality monitoring requirements and a detailed description of any proposed ambient air monitoring.
  3. Ambient Air Quality Dispersion Modeling – a description and results of all required ambient air quality dispersion modeling.
  4. Air Quality Related Values Analysis – an analysis of the impairment to visibility, soils, and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial, and other growth associated with the source or modification. (Only required for PSD permit applications.)
  5. Visibility Analysis – a demonstration that emissions from the source will not cause or contribute to an adverse impact on visibility within a federal Class 1 area and that the source is in compliance with the requirements of the Visibility Impact Assessment rules. (Only required for PSD permit applications.)
  6. PSD Increment Analysis – a demonstration of compliance with PSD ambient air increments. (Only required for PSD permit applications.)

- **Alternative Siting Analysis** (Not required for Title V Operating Permit applications.)

  An analysis of alternative sites, sizes, production processes, and environmental control techniques for the proposed source which demonstrates that benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction or modification. This analysis is only required for major stationary sources and major modifications located in a nonattainment area, or for major stationary sources or major modifications located in an area designated as attainment or unclassified under 40 CFR 81.327, but would cause or contribute to a violations of NAAQS in a nearby nonattainment area (i.e., for

those sources required to obtain an MAQP and comply with the requirements of subchapters 9 and 10 of the air quality rules).

- **Alternative Operating Scenarios** (Not required for MAQP applications)

  Sufficient information, as necessary, to define any reasonably anticipated alternative operating scenarios included in the Title V Operating Permit, including location, process, regulatory, and emission data.

- **Compliance Schedule/Plan** (Not required for MAQP applications. Only required for Title V Operating Permit applications for sources already operating.)

  The Compliance Schedule/Plan must include, at a minimum, a description of the compliance status of the source with respect to all applicable requirements, as follows:

  a. For applicable requirements that the source is currently in compliance with, a description of how compliance will be maintained, including a statement that the source will continue to comply with applicable requirements with which it is in compliance;

  b. For applicable requirements that will become effective during the permit term, a statement that the source will (in a timely manner) comply with all applicable requirements that become effective during the permit term, including rules and regulations which have been promulgated at the time of the submittal of the application, but which will become effective at a later date, and a schedule for complying with the applicable requirements; and

  c. For applicable requirements that the source is not currently in compliance with, a narrative description of how the source will (in a timely manner) achieve compliance with all applicable requirements with which the source is not currently in compliance. The compliance schedule shall also include a schedule of measures, including an enforceable sequence of actions with milestones, leading to compliance with all requirements. The compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject. The schedule for submission of certified progress reports shall be no less frequent than once very six months.

The Compliance Schedule content requirements apply to Title IV (acid rain) sources, except as specifically superseded by 40 CFR Part 72 with regard to the schedule and the methods the source will use to achieve compliance with the acid rain emission limitations.

- **Compliance Certification**

  The following certifications must be submitted:

  1. Certification of compliance with all applicable requirements signed by a responsible official; except, in the case of an affected source under the acid rain program, the designated representative of the source shall make this certification. (Not required for MAQP applications.)
  2. A statement of methods used for determining compliance, including a description of the monitoring, recordkeeping, reporting requirements, and test methods. (Not required for MAQP applications. Only required for Title V Operating Permit applications for sources already operating).
  3. A proposed schedule for submitting compliance certifications that is no less than annually during the permit term. (Not required for MAQP applications. Only required for Title V Operating Permit applications for sources already operating).
  4. Certification that all sources owned by the applicant are in compliance with all applicable rules and regulations. (Not required for Title V Operating Permit applications. Only required for PSD permit applications).

- **Additional Requirements for Solid and Hazardous Waste Incinerators or BIFs Subject to 75-10-406, MCA** (Not required for Title V Operating Permit applications. Only required for MAQP applications for Solid or Hazardous Waste Incinerators or Boilers and Industrial Furnaces (BIFs) subject to 75-10-406, MCA.)

  The following information must be submitted:

  1. A health risk assessment showing that the projected emissions and ambient concentrations will constitute a negligible risk to the public health, safety, and welfare and to the environment. That health risk assessment will include evaluation of cumulative risk both to the human health and the environment through all known exposure pathways.
  2. A BACT analysis for all air pollutants, including hazardous air pollutants (HAPs).

3. Three public notices, the form for which is included with the application form, must be published in a newspaper of general circulation in the county where the source is to be located (Section 6 of the permit applications).
4. Ambient air quality impact analysis that describes the ambient impact of all air pollutants including HAPs.

- **Additional requirements for Commercial Medial and Commercial Hazardous Waste Incinerators, Including BIFs Subject to 75-10-406 MCA** (Not required for Title V Operating Permit applications.)

  The following information must be submitted:

  1. A complete description of all the types, amounts, and sources of chlorinated plastics and other materials included in the waste stream that may be a source of, or lead to the creation of chlorinated dioxins, furans, heavy metals, or carcinogens.
  2. A LAER analysis, unless BACT is adequate to prevent exceedance of the applicable federal standards.
  3. A listing and demonstration of compliance with the applicable federal standards.
  4. Compliance disclosure statement containing the following information:
     a. The name, business address, and social security number of the applicant and each principal.
     b. A description of any civil or administrative complaint filed within the five years prior to the submittal of the application against the applicant or any principal for violation of an environmental protection law in Montana and whether the complaint resulted in a civil or administrative penalty.
     c. A description of all judgments of criminal conviction entered against the applicant, or any principal, for the violation of an environmental protection law in another state the five years prior to the submittal of the application that resulted from the operation of a BIF that, if located in Montana, would be subject to the requirements of 75-10-406, MCA.