

Cost Assessment Questionnaire

Please provide the information requested below:

Plan Prepared for the County of: *Spokane*

Prepared by: *CH2M HILL*

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Date: *July 17, 2007*

Definitions

Please provide these definitions as used in the Solid Waste Management Plan and the Cost Assessment Questionnaire.

Throughout this document:

YR.1 shall refer to 2004.

YR.3 shall refer to 2006.

YR.6 shall refer to 2009.

Year refers to: *Calendar* (January 01 to December 31)

1. **Demographics:** To assess the generation, recycling and disposal rates of an area, it is necessary to have population data. This information is available from many sources (e.g., the State Data Book, County Business Patterns, or the State Office of Finance and Management).

1.1. Population

- 1.1.1. What is the total population of your County/City?

YR.1: 432,000 YR.3: 446,364 YR.6: 462,636

- 1.1.2. For counties, what is the population of the area **under your jurisdiction?** (Exclude cities choosing to develop their own solid waste management system.)

See 1.1.1.

1.2. References and Assumptions

Population growth is based on intermediate forecast from the Washington State Office of Financial Management.

2. **Waste Management Generation:** The following questions ask for total tons recycled and total tons disposed. Total tons disposed are those tons disposed of at a landfill, incinerator, transfer station or any other form of disposal you may be using. If other please identify.

2.1. Tonnage Recycled – Financial Model

- 2.1.1. Please provide the total tonnage recycled in the base year and projections for years 3 and 6.

YR.1: 241,043 YR.3: 251,575 YR.6: 268,245

Note: (tonnage includes recycling and composting)

2.2. Tonnage Disposed

- 2.1.2. Please provide the total tonnage disposed in the base year and projections for years 3 and 6.

YR.1: 336,984 YR. 351,709 YR.6: 375,014

Note: (tonnage is total waste generated minus 41% for recycling component)

2.2. References and Assumptions

Tonnage generated based on projected 2004 tonnage, excluding private recyclers within Spokane County. Tonnages are calculated at 1.0 percent population growth rate.

3. **System Component Costs:** This section asks questions specifically related to the types of programs currently in use and those recommended to be started. For each component (i.e., waste reduction, landfill, composting, etc.) please describe the anticipated costs of the program(s), the assumptions used in estimating the costs and the funding mechanisms to be used to pay for it. The heart of deriving a rate impact is to know what

programs will be passed through to the collection rates, as opposed to being paid for through grants, bonds, taxes, and the like.

3.1 Waste Reduction Programs

3.1.1. Please list the solid waste programs which have been implemented and those programs which are proposed. If these programs are defined in the solid waste management plan, please provide the page number. (Attach additional sheets as necessary.)

Numbers listed after the programs indicate the page number in the Spokane County Solid Waste Management Comprehensive Plan, 2004 for reference.

Staffing levels are to remain similar to current levels and existing programs will continue as long as they remain effective. New programs will be implemented if they can be done within operating budgets or if new funding sources become available.

Implemented:

- ***School and Youth Education:***
 - Public and Private Schools (4-2)
 - Youth Publications (4-2)
 - Other Youth Activities: presentations, WTE Tours (4-2)
- ***Public Outreach:***
 - Brochures (4-3)
 - Publications (4-3)
 - Recycling Hotline (4-3)
 - Advertising (4-4)
 - Booths at Fairs (4-4)
 - World Wide Web Home Page (4-5)
 - 2good2toss Materials Exchange (4-5)
- ***Outreach in Coalition with Other Entities:***
 - Spokane Youth Environmental Conference (4-5)
 - The Green Zone (4-5)
- ***Business and Institutional Education:***
 - Waste Reduction Assessment Program (WRAP) (4-6)
 - U.S. Green Building Council (4-8)
 - Northwest Eco-Building Guild - Inland Chapter (4-8)

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- ***Home Composting:***
 - Master Composting Program (4-8)
 - Training (4-8)
 - Compost Fairs (4-8)
 - Other Activities (presentations, and “Leaf Letter”) (4-9) publication
 - Grasscycling (4-9)

Proposed:

- ***Product Stewardship:***
 - Develop partnerships with private sector organizations to provide reuse and recycling options for selected products (4-15)
 - Use purchasing power to encourage product stewardship (4-16)
 - Support product stewardship efforts (4-16)
- ***Procurement:***
 - Use purchasing power to influence markets for recovered materials (4-17)
 - Incorporate environmental performance into purchasing decisions (4-19)
- ***Internal Waste Reduction Practices:***
 - Implement in-house waste reduction programs and practices (4-20)
- ***Waste Reduction Education:***
 - Continue waste reduction education programs (4-21)
 - Provide financial assistance for private waste reduction efforts (4-21)
 - Provide recognition for waste reduction successes (4-21)
- ***Waste Materials Exchanges:***
 - Continue administration of waste/materials exchange, 2good2toss (4-22)
 - Promote private waste exchanges (4-22)

3.1.2. What are the costs, capital costs, and operating costs for waste reduction programs implemented and proposed?

Implemented:

YR.1: \$2,075,000 YR. \$2,171,000 YR.6: \$2,444,000

Note: Costs include waste reduction, recycling and composting components)

Proposed:

YR.1: \$2,075,000 YR.3: \$2,171,000 YR.6: \$2,444,000

Note: Moderate Risk Waste Program is excluded from these numbers.

3.1.3. Please describe the funding mechanism(s) that will pay the cost of the programs in 3.1.2.

Implemented:

Waste reduction and recycling programs will be funded by a combination of tipping fees, CPG Grants from the Washington State Department of Ecology, and revenues from sales of recycling (see Table 4.2 of Cost Assessment).

Proposed:

Proposed programs would be done with operating budgets used for current implementation of programs unless additional funding sources become available.

3.2. Proposed Recycling Programs

3.2.1. Please list the proposed or implemented recycling program(s) and their costs and proposed funding mechanism or provide the page number in the draft plan on which it is discussed. (Attach additional sheets as necessary.)

Numbers listed after the programs indicate the page number in the Spokane County Solid Waste Management Program Update 2004 for reference.

Implemented:

- *Rate Incentives (5-3)*
- *Facility Drop-off sites (5-4)*
- *Specialized Recycling Operations (5-4)*
 - White Goods and Appliances (5-4)
 - Scrap Metal and other Specific Materials(5-4)
 - Ferrous Metals Reclamation (5-5)
 - Household Batteries (5-5)
 - Motor oil and antifreeze collections (Section 12)
 - Yard Debris collections (Section 5.3.1.1)

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- ***Outreach Programs (5-5)***
 - School and Youth Education (5-5)
 - Public Outreach (5-5)
 - Education and Outreach Programs in Coalition with Other Entities (5-6)
 - Business and Institutional Education (5-6)
 - ***Spokane County Recycling Programs (5-7)***
 - ***Municipal Recycling Facilities and Programs (5-7 through 5-12))***
 - Airway Heights - drop-off recycling container (Sunshine Disposal, hauler); roll-off yard waste collection container (Sunshine Disposal, hauler)
 - Cheney - city operated recycling facility, collects glass and cardboard from Eastern Washington University;
 - Composting: materials collected and hauled by City to wastewater treatment plant
 - Deer Park - curbside recycling by Sunshine Disposal
 - Composting: curbside collection of yard waste by Sunshine Disposal
 - Liberty Lake - curbside recycling by Waste Management, Community Clean-Up Day
 - Composting: curbside collection of yard waste by Waste Management
 - Medical Lake - city operated recycling drop off facility
 - Composting: city hauls collected yard waste to WTE Facility
 - Millwood - curbside collection of yard waste by Waste Management
 - Spangle - recycling collection site; contracted to processor
 - Spokane - city operated curbside recycling, multi-family recycling collection, workplace recycling programs, commercial recycling, System drop-off recycling areas, and access to private drop-off/buy-back centers
 - Composting: curbside collection of yard waste by City employees

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- City of Spokane Valley – curbside recycling by Waste Management
 - Composting: curbside collection of yard waste by Waste Management
 - Fairchild AFB – curbside recycling, collection points and a Recycling Center; Waste Management contracted hauler
 - Composting: curbside collection of yard waste by Waste Management
 - *Fairchild Air Force Base Facilities and Programs (5-12)*
 - *Recycling Haulers (5-15)*
 - *Private Processing Recycling Facilities (5-17 through 5-26)*
 - *Composting Facilities, Operations and Programs: (5-26)*
 - Clean Green (5-27)
 - Spokane Master Composter Program (5-28)
 - The Green Zone – public learning center that supports “earth-friendly” ideas including composting (5-28)
 - *County Composting Programs (5-28)*
 - *Municipal Composting Facilities and Programs (5-28)*
 - *Private Facilities (5-30)*

Proposed:

- *Residential Recycling:*
 - Continue to strive to satisfy the State’s priorities for recycling (5-36)
 - Evaluate recycling programs to determine feasibility of adding or removing materials (5-37)
 - Monitor public education efforts (5-37)
 - Electronic waste recycling (5-37)
 - Assess single stream recyclables collection (5-38)
 - Expand curbside or drop-off collection to rural areas (5-39)
 - Evaluate front-end processing of waste to improve recovery of material prior to incineration (5-39)

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- Evaluate the current residential recycling system for potential improvements that will increase diversion at the lowest cost with the highest effectiveness (5-40)
 - Explore technology to distill all plastics together for recycling (5-41)
 - **Commercial Recycling:**
 - Continue to support and encourage private efforts to divert recyclable materials from commercial sources (5-41)
 - Continue to encourage non-residential recycling through incentives, technical assistance and recognition programs (5-42)
 - Encourage food waste management by commercial sector (5-42)
 - Establish a Recycling Market Development Zone in Spokane County (5-43)
 - Establish a Resource Recovery Zone in Spokane County (5-44)
 - **Composting:**
 - Expand yard waste collection efforts (5-45)
 - Build a local facility for municipal compost (5-46)
 - **Public Recycling**
 - Provide recycling at public venues and events (5-47)
 - Provide centralized neighborhood recycling bins (5-47)

3.3 Solid Waste Collection Programs

3.3.1 Regulated Solid Waste Collection Programs

Fill in the table below for each **WUTC regulated** solid waste collection entity in your jurisdiction. (Make additional copies of this section as necessary to record all such entities in your jurisdiction.)

	YR.1	YR.3	YR.6
Waste Management of Washington, Inc (G-237)			
Residential			
Customers	<i>Not provided</i>	<i>Not provided</i>	<i>Not provided</i>
Tonnage	70,408	73,224	80,840
Commercial			
Customers	<i>Not provided</i>	<i>Not provided</i>	<i>Not provided</i>
Tonnage	75,874	78,909	87,115

Sunshine Disposal and Recycling (G-199)

Residential			
Customers	0	0	0
Tonnage	0	0	0
Commercial			
Customers	156	161	170
Tonnage	16,100	18,123	21,550

Empire Disposal Inc. (G-75)

Residential			
Customers	4,311	4,355	4,487
Tonnage	7,276	7,349	7,572
Commercial			
Customers	825	834	347
Tonnage	412	433	489

* Commercial tonnage includes roll-offs. Regular commercial container service is commingled with residential can service due to collection method (rear load only). Commercial customer count includes roll-offs and container service.

Newman Lake Disposal, Inc. (G-171)

Residential			
Customers	445	467	528
Tonnage	418	439	496
Commercial			
Customers	0	0	0
Tonnage	0	0	0

3.3.2 Other (non-regulated) Solid Waste Collection

3.3.3 Fill in the table below for solid waste collection entities in your jurisdiction.
(Make additional copies of this section as necessary to record all such entities in your jurisdiction.)

	YR.1	YR.3	YR.6
Airway Heights			
Residential			
Customers			
Tonnage	999	1,049	1,185
Commercial			
Customers			
Tonnage	1,039	1,091	1,233
Cheney			
Residential			
Customers			
Tonnage	2,128	2,234	2,525
Commercial			
Customers			
Tonnage	1,039	1,091	1,233
Deer Park			
Residential			
Customers			
Tonnage	704	739	835
Commercial			
Customers			
Tonnage	1,005	1,108	1,252
Medical Lake			
Residential			
Customers			
Tonnage	3,518	3,694	4,174
Commercial			
Customers			
Tonnage	691	726	820
Rockford			
Residential			
Customers			
Tonnage	90	95	107

	YR.1	YR.3	YR.6
Rockford (continued)			
Commercial			
Customers			
Tonnage	74	78	88
Spangle			
Residential			
Customers			
Tonnage	163	171	193
Commercial			
Customers			
Tonnage	133	140	158
Spokane			
Residential			
Customers	61,171	62,133	
Tonnage	80,764	83,995	92,730
Commercial			
Customers	2,812	2,809	
Tonnage	30,018	31,219	34,465

3.4 Energy Recovery and Incineration (ER&I)

3.4.1 Facility Information:

Name: Spokane Regional Waste-to-Energy Facility

Location: 2900 South Geiger Boulevard, Spokane

Owner: Spokane Regional Solid Waste System

Operator: Wheelabrator Spokane, Inc.

3.4.2 What is the permitted capacity (tons/ day) for the facility?

Guaranteed annual throughput is 282,200 tons/year. There is no permitted maximum. In 2004, the facility burned 282,479 tons.

3.4.3 If the facility is not operating at capacity, what is the average daily throughput (in tons)?

YR.1: 800

YR.3: 800

YR.6: 800

3.4.4 What quantity (in tons) is estimated to be landfilled, which is either ash or cannot be processed?

YR.1: 140,068

YR.3: 149,309

YR.6: 172,615

3.4.5 What are the expected capital costs and operating costs for ER&I programs (not including ash disposal expenses)?

YR.1: \$6,762,865 YR.3: \$12,529,000 YR.6: \$13,177,000

Note: Capital and operating costs for ER&I are calculated with WTE costs plus share of debt service minus (electrical sales and ash disposal expenses)

3.4.6 What are the expected costs of ash disposal?

YR.1: \$3,616,735 YR.3: \$3,726,522 YR.6: \$3,984,970

3.4.7 Ash disposal will be: *Long-hauled*

3.4.8 Please describe the funding mechanism(s) that will fund the costs of this component.

As shown in Table 4.2 of this cost assessment, this component will be funded by a combination of tip fees, energy sales, interest, and sales of recyclables..

Sixty million dollars of the original WTE facility cost was paid through a grant from the State of Washington.

3.5 Land Disposal Program

3.5.1 Provide the following information for each land disposal facility in your jurisdiction which receives garbage or refuse generated in the county.

Landfill Name: *Northside Landfill*

Owner: *City of Spokane*

Operator: *City of Spokane*

3.5.2 Estimate the approximate tonnage disposed at the landfill by WUTC regulated haulers. If you do not have a scale and are unable to estimate tonnages, estimate using cubic yards, and indicate whether they are compacted or loose.

YR.1: 0 YR.3: 0 YR.6: 0

3.5.3 Using the same conversion factors applied in 3.5.2, please estimate the approximate tonnage disposed at the landfill by other contributors.

YR.1: 13,081 YR.3: 13,344 YR.6: 13,749

3.5.4 Provide the cost of operating (including capital acquisitions) each landfill in your jurisdiction. For any facility that is privately owned and operated, skip these questions.

YR.1: \$321,000 YR.3: \$402,000 YR.6: \$433,000

3.5.5 Please describe the funding mechanism(s) that will recover the cost of each component. Check when done.

The cost of this component will be funded through tip fees.

3.6 Administration Program

3.6.1 What is the budgeted cost for administering the solid waste and recycling programs and what are the major funding sources.

Budgeted Cost

YR.1: \$309,000 YR.3: \$388,000 YR.6: \$418,000

Funding Source

Tip fees.

3.6.2 Which cost components are included in these estimates?

Majority of costs are related to staff needed to administer programs.

3.6.3 Please describe the funding mechanism(s) that will recover the cost of each component.

This component will be funded through tip fees.

3.7 Other Programs

For each program in effect or planned which does not readily fall into one of the previously described categories please answer the following questions. (Make additional copies of this section as necessary.)

3.7.1 Valley Transfer Station – Construction, Demolition, Landclearing and Inert (CDL) site established.

3.7.1.1 *Describe the program, or provide a page number reference to the plan.*

Offer a reuse area at Spokane Valley Transfer Station for CDL materials (recommendation four (4) under Section 7 (Transfer Systems) and recommendation eight (8) under Section 11 (Construction, Demolition, Landclearing, and Inert))

3.7.1.2 *Owner/Operator:*

The System owns the Valley Transfer Station. The operator of the CDL site could be the System or a private operator.

3.7.1.3 *Is WUTC Regulation involved? If so, please explain the extent of the involvement in Section 3.8*

No.

3.7.1.4 *Please estimate the anticipated costs for this program, including capital and operating expenses:*

YR.1__\$50,000__ YR.3__\$50,000__ YR.6__\$50,000__

3.7.1.5 *Please describe the funding mechanism(s) that will recover the cost of this component.*

Additional revenue obtained through tipping fees or grants.

3.7.2 Natural Disaster Debris Sites

3.7.2.1 *Describe the program, or provide a page number reference to the plan.*

Establish locations for staging and storage of natural disaster debris sites.

3.7.2.2 *Owner/Operator:*

The sites would be owned and operated by the System.

3.7.2.3 *Is WUTC Regulation involved? If so, please explain the extent of the involvement in Section 3.8*

No.

3.7.2.4 *Please estimate the anticipated costs for this program, including capital and operating expenses:*

YR.1__\$1,000__ YR.3__\$1,000__ YR.6__\$1,000__

3.7.2.5 *Please describe the funding mechanism(s) that will recover the cost of this component.*

Funding mechanism would be tipping fees.

3.8 References and Assumptions (attach additional sheets as necessary)

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4. **FUNDING MECHANISMS:** This section relates specifically to the funding mechanisms currently in use and the ones which will be implemented to incorporate the recommended programs in the draft plan. Because the way a program is funded directly relates to the costs a resident or commercial customer will have to pay, this section is crucial to the cost assessment process. Please fill in each of the following tables as completely as possible.

Table 4.1.1 - Revenue Generation by Facility (2004)

Facility Name	Type of Facility	Per-ton Tip Fee	Transfer Facility Location	Final Disposal Location	2004 Tons Disposed	Total Revenue Generated (Tip Fee x Tons)
Regional WTE Facility	Energy Recovery	\$98.00	2900 S. Geiger Blvd, Spokane	Recycling, RDC	208,817	\$20,464,019
Colbert Transfer Station	Transfer	\$98.00	Elk-Chattaroy Rd, Spokane County	WTE Facility	110,457	\$10,824,786
Valley Transfer Station	Transfer	\$98.00	Kiernan Rd, Spokane County	WTE Facility, RDC	49,582	\$4,859,036
Northside Landfill	Landfill	\$98.00	5502 W. 9 Mile Rd, Spokane	--	7,585	\$743,350

Table 4.1.2 - Tip Fee Components¹

	2004	2006	2009
Project Office Programs			
WR/Recycling	\$1.72	\$1.72	\$1.72
Litter Control	\$1.11	\$1.11	\$1.11
Administration	\$7.00	\$7.00	\$7.00
Debt Services	\$33.18	\$33.18	\$33.18
WTE Operation	\$22.57	\$22.57	\$22.57
RDC - Ash	\$13.53	\$13.53	\$13.53
RDC - CDL/MSW	\$2.00	\$2.00	\$2.00
Transfer	\$11.93	\$11.93	\$11.93
Moderate Risk Waste	\$1.00	\$1.00	\$1.00
Northside Landfill Ops	\$1.93	\$1.93	\$1.93
Regional Cities Grant	--	--	--
Regional Cities Rebate	\$0.42	\$0.42	\$0.42
Composting	\$1.63	\$1.63	\$1.63
Total	\$98.00	\$98.00	\$98.00

¹ Total is estimated tip fee with rate stabilization

4.1.3 Funding Mechanisms

	Amount
CPG Grant - Ecology (see Spokane County Financial Forecast for annual amounts)	\$702,306
Tip Fees	\$33,763,202
Electricity Sales (Change: tons, historic escalation)	\$12,609,696
Investment Interest Income	\$159,470
Recycled Materials Revenues	\$284,838
Miscellaneous/Other	\$44,457
Total	\$47,563,969

4.2 Funding Mechanism Summary

4.2.1 Year One - 2004

Component	Collection						Total
	Tip Fee	Grant	Bond	Tax	Rates	Other ^a	
Waste							
Reduction/Recycling	25%	75%					100%
Composting	100%						100%
Collection	n/a						0%
Energy							
Recovery/Incineration	58%					42%	100%
Transfer	100%						100%
Land Disposal	100%						100%
Administration	100%						100%
Debt Service	57%					43%	100%
Moderate Risk Waste	25%	75%					100%

4.2.2 Year Two - 2006

Component	Collection						Total
	Tip Fee	Grant	Bond	Tax	Rates	Other ^a	
Waste							
Reduction/Recycling	25%	75%					100%
Composting	100%						100%
Collection	n/a						0%
Energy							
Recovery/Incineration	61%					39%	100%
Transfer	100%						100%
Land Disposal	100%						100%
Administration	100%						100%
Debt Service	57%					43%	100%
Moderate Risk Waste	25%	75%					100%

4.2.3 Year Three - 2009

Component	Collection						Total
	Tip Fee	Grant	Bond	Tax	Rates	Other ^a	
Waste							
Reduction/Recycling	25%	75%					100%
Composting	100%						100%
Collection	n/a						0%
Energy							
Recovery/Incineration	58%					42%	100%
Transfer	100%						100%
Land Disposal	100%						100%
Administration	100%						100%
Debt Service	54%					46%	100%
Moderate Risk Waste	25%	75%					100%

^a Includes electricity sales, interest, and sales of recyclables