Attachment A

Executive Proposed

Solid Waste Disposal Fees for 2013 and 2014

July 2012

King County

Department of Natural Resources and Parks

Solid Waste Division

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INTRODUCTION

To renovate of the region's solid waste transfer system and provide funds to continue safe, sustainable, and environmentally sound management of our region's solid waste, the Solid Waste Division (the division) of the Department of Natural Resources and Parks is proposing a rate increase that would be effective January 1, 2013. Under this proposal, the Basic Fee would increase from $109.00 to $121.75 per ton for the two-year period of 2013 and 2014. The effect on the average single-family household would be about 65 cents per month, which is estimated to represent a less than four percent increase on the average monthly residential solid waste bill. Approximately twelve and one-half percent of the Basic Fee will fund transfer system upgrades.

This rate supports continued implementation of the adopted *Solid Waste Transfer and Waste Management Plan*, which calls for a complete renovation of the of the nearly 50-year-old urban transfer system. Over the next 15 years, renovation of this essential system will be the biggest contributor to solid waste fee increases. This rate proposal anticipates bond lengths that will allow the cost of the transfer system to be paid when current interlocal agreements (ILAs) with King County cities expire in 2028. Longer term financing, which would lessen the rate impact, would be possible if the county and cities agree to longer-term ILAs. Currently (as of July 2012), discussions with the cities are ongoing.

A new rate for 2013 and 2014 will also provide the funds necessary to:

- Provide convenient disposal and recycling services for residents and businesses,
- Support waste prevention and recycling programs that will protect the environment while increasing sustainability and quality of life in the region, and
- Extend the life of the Cedar Hills Regional Landfill (Cedar Hills) and ensure sufficient reserves for closure and post-closure care for thirty years after closure.

Building a modern transfer system

When the new Shoreline Recycling and Transfer Station opened in 2008, it was recognized under the national Leadership in Energy and Environmental Design (LEED) rating system earning a platinum certification, the highest rating possible.

Soon after, construction began on the new Bow Lake Recycling and Transfer Station. Phase one, the transfer building with garbage compactors and recycling for appliances, scrap metal, yard waste and clean wood, opens July 2012. In 2013, phase two, with expanded recycling, will be complete.

Close on the heels of the Bow Lake Recycling and Transfer Station will be a new facility at the Factoria Transfer Station location, followed by replacement of the Algona and Houghton Transfer Stations.

All new recycling and transfer stations will meet green building, safety and environmental standards, accommodate projected growth in the region, and incorporate best practices in transfer and transport operations, as well as offer myriad recycling opportunities for residential and business customers. All garbage loads will be compacted and weighed before leaving the facility, which will reduce the total number of loads needing to be transported, saving transport costs and reducing greenhouse gas emissions, and effectively eliminating under loaded and over loaded trailers.

Beginning in late 2007, a nationwide financial crisis triggered a precipitous decline in the amount of waste being disposed. Over the next several years as tonnage declined there was a corresponding drop in revenue. While tonnage is not expected to return to former levels for many years, it is beginning to stabilize and modest growth is expected over the next couple of years.

In response to declining revenue, the division repeatedly cut costs in many areas. Some of these cuts were necessary to achieve immediate savings, but hindered the division's ability to provide some services. This proposed rate supports restoration of the popular basic recyclables collection at transfer facilities and of a number of waste prevention and recycling programs.

The new rate would also ensure that funds supporting the Cedar Hills landfill – from development of a new disposal area through closure and 30 years of post-closure care – are sufficient to enable the division to meet or exceed environmental regulations. At this time, disposal at Cedar Hills is significantly less expensive than the projected costs of other disposal options. By extending the life of the landfill and delaying the transition to a new disposal method, the county will be able to keep rates lower longer. The additional landfill capacity will save ratepayers an estimated $100 million compared to other disposal alternatives.

SUMMARY OF PROPOSED FEES

The following fees are proposed to change on January 1, 2013.

***Basic Fee*:** A fee charged to commercial collection companies that collect materials curbside and to residential and business self-haulers who bring solid waste to the transfer facilities. The Basic Fee accounts for more than 95 percent of fee revenues. See page 9 for more information.

***Regional Direct Fee*:** A discounted fee charged to commercial collection companies that haul solid waste to the Cedar Hills landfill from their own transfer stations and processing facilities, thus bypassing county transfer stations. The fee recognizes the lower cost of providing this service and is approximately 85 percent of the Basic Fee.

***Yard Waste and Clean Wood Fee*:** A fee for separated, clean yard waste and clean wood delivered to facilities that have separate collection areas for these materials. Based on direct costs, the proposed *reduced* yard waste and clean wood fee is approximately 60 percent of the Basic Fee. See page 10 for more information.

***Special Waste Fee*:** The fee charged for certain materials, such as asbestos and liquids, which require special handling, record keeping, or review. Two fees are proposed to reflect the various handling and tracking requirements of different materials. See page 11 for more information.

***CFC Appliance Fees*:** The fee charged for appliances containing chlorofluorocarbons (CFCs), such as refrigerators and air conditioners. The fee will increase to reflect higher handling costs. (Fees for appliances that do not contain CFCs, such as washing machines, dish washers, and stoves will not increase.) See page 12 for more information.

Unsecured Load Fee: In accordance with state law, a fee is assessed to vehicles arriving at transfer facilities with a load that is not secured to prevent any part of the load from falling out of the vehicle while the vehicle is moving. The unsecured load fee has not changed since 1994. See page 13 for more information.

Table 1. *Comparison of current and proposed fees*
all fees are per ton, except appliances which are per item

	Last Change	Current Fee	Proposed Fee	Change in Fee	Percent Change
Basic	**2012**	**109.00**	**121.75**	**12.75**	**11.7%**
Regional Direct	**2012**	**93.50**	**103.50**	**10.00**	**10.7%**
Yard Waste and Clean Wood	**2008**	**82.50**	**75.00**	**(7.50)**	**(9.1%)**
Special Waste	**2008**	**145.00**	**145.00**	**---**	**---**
Special Waste - extra handling	**---**	**145.00**	**175.00**	**30.00**	**20.7%**
Appliances CFC	**1994**	**24.00**	**30.00**	**6.00**	**25.0%**
Appliances Non-CFC	**1994**	**10.00**	**10.00**	**---**	**---**
Unsecured loads[1]	**1994**	**5.00**	**20.00**	**15.00**	**300.0%**

[1] *Unsecured load fees are $3.00, $5.00, or $10.00 depending on vehicle size – currently most vehicles are charged $5.00.*

RATE MODELING PROCESS

The division determines fees using five economic and financial models – the Tonnage, Landfill Reserve Fund (LRF), Construction, and Capital Equipment Recovery Program (CERP) models, and, finally, the Operating Fund model, which incorporates the other models as well as projected expenditures, revenues, and other assumptions. The Operating Fund model projections through 2032 can be found in Appendix B.

Fees are calculated to ensure that:

- Revenues are sufficient to cover the costs of operations and services
- Funds are available for landfill closure and maintenance and capital investment projects for the transfer and disposal system
- A reserve Operating Fund balance is maintained

What follows is a description of the five key inputs – financial, tonnage, revenue, expenditures, and target fund balance.

Financial Assumptions

Forecasts for inflation are used throughout the rate modeling process to help estimate future operational and capital costs, while forecasts for interest earnings are used to calculate revenue that will be earned on fund balances.

In 2011, the value of interest earned was less than inflation. As of March 2012, the King County Office of Economic and Financial Analysis is forecasting that this will occur again in 2012 and continue through 2017. This is particularly significant for the long-term landfill reserve fund which will finance landfill closure and 30 years of post-closure care. Spending from these accounts will begin in about 2025 and is expected to continue through 2058; making interest earned a considerable factor in the amount that needs to be put aside. The county is looking at how the funds being held might be invested differently to earn a higher rate of return, but for this proposal, uses the real rate of return forecast for the County's investment pool.

For more information, see *http://www.kingcounty.gov/business/Forecasting/Forecasts.aspx*.

Tonnage Forecast

The most fundamental input to the rate models is the projection of tons of waste expected to be disposed at division facilities during each year of the planning horizon. The division uses a planning forecast model to predict waste generation over the 20-year period. The forecast model relies on established statistical relationships between waste generation and various economic and demographic variables that affect it, such as population, employment, and income, among others. Over the next several years, disposal tonnage is expected to remain fairly flat, while recycling at transfer facilities will increase as new transfer stations with the capability of handling a greatly expanded number of recyclables are built. A description of the tonnage forecasting process and tonnage forecasts through 2032 can be found in Appendix A.

As of June 2012, the following tons are forecast to enter the county's solid waste system in 2013 and 2014.

Table 2. ***2013 and 2014 tonnage forecast by site***

	2013	2014
Transfer facilities		
Algona Transfer Station	135,300	131,300
Bow Lake Recycling & Transfer Station	243,400	247,200
Enumclaw Recycling & Transfer Station	19,200	19,900
Factoria Transfer Station	120,000	122,900
Houghton Transfer Station	147,400	148,500
Renton Transfer Station	61,000	61,500
Shoreline Recycling & Transfer Station	44,300	44,600
Vashon Recycling & Transfer Station	7,800	7,900
Cedar Falls Drop Box	3,300	3,500
Skykomish Drop Box[2]	1,000	1,000
Subtotal	***781,700***	***787,300***
Cedar Hills Regional Landfill direct		
Regional direct waste	15,000	15,000
Special waste	1,500	1,500
Other municipal solid waste	9,500	11,000
Subtotal	***26,000***	***27,500***
Total disposed	**807,700**	**814,800**
Yard/wood waste (transferred to a compost facility)	8,500	9,500

[2] *Solid waste collected at the Skykomish drop box is transported to the Houghton transfer station for disposal. Projected tons for Skykomish are shown for illustrative purposes, but are counted in the Houghton tonnage figures.*

System total	**816,200**	**824,300**

Revenue Projections

The Solid Waste Division is an enterprise fund managing nearly all of its expenses with revenues from fees collected at its transfer facilities and the landfill. About 95 percent of the division's revenue comes from these fees. Of the remaining five percent of revenues, the most significant source is the Local Hazardous Waste Management Program (LHWMP). LHWMP pays for the handling of household hazardous waste; these revenues and expenditures are not included in the rate model. Additional sources of revenue include interest earned on fund balances; revenue from the sale of recyclable materials received at division transfer facilities and from a fee on recyclables collected in unincorporated areas; grants to help clean up litter and illegal dumping and to support waste prevention and recycling; and revenue from the sale of landfill gas from Cedar Hills. Based on economic and market conditions, revenues from the sale of recyclable materials and interest earned can vary considerably.

Expenditure Projections

For each year of the planning horizon, projections are made for the division's costs based on operational factors as well as forecasts for inflation. The fees charged at county facilities pay for:

- Transfer facility upgrades and landfill capital projects
- Operation of transfer facilities and solid waste transport
- Operation of the Cedar Hills landfill
- Purchase and maintenance of equipment and vehicles
- Education and promotion related to waste prevention and recycling
- Administrative expenses and overhead
- Closure and post-closure care of the Cedar Hills landfill
- Monitoring and maintenance of closed and custodial landfills

Expenditures can be divided into four broad categories: operating costs, administrative costs, debt service, and transfers to other funds.

Operating Costs

Operating costs include the day-to-day expenses for transfer, transport, and landfill operations, including maintenance of equipment and facilities, and management of landfill gas and wastewater. It also includes business and

The Cedar Hills Landfill

The Cedar Hills Regional Landfill is the largest public landfill in Washington State and the only active landfill remaining in King County. The landfill was first approved for solid waste disposal under a Special Permit issued by the King County Board of County Commissioners in 1960 and began receiving waste in the mid-1960s. Under current assumptions – tonnage forecasts, operating conditions, and approved development – the landfill is projected to reach capacity at the end of 2025.

Disposal at Cedar Hills is significantly less expensive than the projected costs of other disposal options. By extending the life of the landfill and delaying the transition to a new disposal method, the county will be able to keep rates lower longer.

The Solid Waste Division pays rent to the County's General Fund for use of the landfill property. Rent is based on property appraisal. The current rent schedule extends through 2014. A new rent schedule will begin in 2015.

A summary of the most recent market rent appraisal can be found in Appendix F.

occupation (B&O) tax, rent for use of the Cedar Hills landfill property (see sidebar), and an emergency contingency to cover some costs related to weather-related events or other small emergencies.

Administrative Costs

This cost category includes administrative functions that support operations, such as engineering, finance, and management. It also includes grants to the cities and other waste prevention and recycling programs and services provided by the division.

Debt Service

Debt service is the payment of interest and principal on bonds and loans. General obligation (GO) bonds backed by the full faith and credit of the county's General Fund have been issued to pay for development of major transfer facility capital projects. It is anticipated that with approval of the King County Council, GO bonds will be issued for future transfer facility capital projects. More information on the Capital Improvement Program is provided in Appendix C.

Cedar Hills landfill capital projects are not funded through debt financing, but through the Landfill Reserve Fund discussed later in this section.

Transfers to Other Funds

Transfers from the Solid Waste Operating Fund to reserve funds constitute a portion of the division's costs. These funds were established to ensure that the division can meet future obligations, or expenses, some of which are mandated by law. Contributions to reserve funds are routinely evaluated to ensure they are adequate to meet short- and long-term needs. Paying into reserve funds stabilizes the impact on rates for certain expenses by spreading the costs over a longer time period, and ensures that customers who use the system pay the entire cost of disposal. The four reserve funds – the construction fund, the capital equipment recovery program fund, the landfill reserve fund, and the post-closure maintenance fund – are discussed below.

The division deposits bond proceeds and contributions from the Operating Fund into the **Construction Fund** to finance new construction and major maintenance of transfer facilities and other properties owned by the division. Contributions from the Operating Fund result in less borrowing and consequently a lower level of debt service. More information on the Capital Improvement Program is provided in Appendix C.

The **Capital Equipment Recovery Program** (CERP) is codified in KCC 4.08.280. The purpose of the CERP is to provide adequate resources for replacement and major maintenance of solid waste rolling stock (primarily long-haul trucks and trailers) and compactors. New equipment is purchased from the Operating Fund, but after the initial purchase, replacements are funded from the CERP.

By accumulating funds in the CERP, the division ensures that it is able to cover the variable expenditures that come with replacing needed equipment even while revenue fluctuates, without impacting rates. Annual contributions to the CERP are calculated by projecting future replacement costs, salvage values, and equipment life. Contributions are adjusted to reflect changes in facilities and operations that affect equipment needs. The contributions are held in an account, earning interest, until needed. More information on the CERP is provided in Appendix D.

The **Landfill Reserve Fund** (LRF), codified in KCC 4.08.045, covers the costs of four major accounts maintained for the Cedar Hills landfill, shown below. The new area development and facility improvement accounts ensure sufficient funds for capital projects. The cell closure and post-closure maintenance accounts are mandated by federal and state law.

- *New area development account*: Covers the costs for planning, designing, permitting, and building new disposal areas.
- *Facility improvements account*: Covers a wide range of capital investments required to sustain the infrastructure and operations at the landfill, such as enhancements to the landfill gas and wastewater systems.
- *Closure account*: Covers the cost of closing operating areas within the landfill that have reached capacity. These contributions help the division prepare incrementally for the cost of final closure of the entire landfill.
- *Post-closure maintenance account*: Accumulates funds to pay for post-closure maintenance of the Cedar Hills landfill for 30 years.

The sum of all four accounts, based on projected cost obligations, makes up the LRF contribution from the operating fund. Projected cost obligations are based on the current plan for the landfill. More detail on the LRF is provided in Appendix E.

When Cedar Hills closes, the division will discontinue its contributions to the LRF. After closure, the balance of the LRF will be transferred to the Post-Closure Maintenance Fund.

The **Post-Closure Maintenance Fund** is a separate fund that pays for the maintenance and environmental monitoring of nine closed and custodial landfills in the county. Federal and state laws require this fund for closed landfills; the county has also included funding for custodial landfills – landfills which were not operated by the county, but for which the county assumed responsibility. At this time, the balance of this fund is sufficient to cover expenses, thus no money is currently being transferred to the fund. However, additional funds may be needed in the future. Although many of these landfills have met the obligatory number of years of post-closure care, there are on-going needs for monitoring and maintenance. The division will work with regulators to assess these needs and will review the fund to ensure that it remains sufficient.

Target Fund Balance

Finally, the model considers that when all revenues and expenditures are taken into account, the division would retain an average balance in the Operating Fund sufficient to cover 45 days of direct operating costs.

PROPOSED FEES

Basic Fee

A Basic Fee is calculated using the tonnage forecast, projected costs and projections of revenue from other sources, including fund balance, and fund balance requirements.

First, the division's expenditures over the rate period are estimated, including operating and administrative costs and transfers to reserve funds; then, anticipated revenues from all non-fee sources, such as grants, interest income, and sale of landfill gas, and available fund balance are subtracted from the total expenditures to arrive at the amount of fee revenue that will be needed to support the system over the rate period. That amount is divided by the forecasted tons to determine a per-ton Basic Fee. Other fees are determined using both the Basic Fee as a foundation and factors specific to those fee categories.

Shown in Table 3, are the per ton costs of the different expenditure categories for each year of the rate period and the rate period average. Based on expenditures alone, the Basic Fee for the rate period would be $126.98; however, the fee is then adjusted to account for non-tip fee revenue and use of available fund balance, for a final Basic Fee of $121.75.

Table 3. ***Basic Fee – 2013 and 2014 per ton cost***

	2013 cost per ton	2014 cost per ton	Rate Period Average
Operating Costs			
Transfer & Transport Operations	$30.77	$31.73	$31.30
Disposal Operations	$15.41	$15.69	$15.58
B & O Tax	$1.92	$1.82	$1.87
Rent - Cedar Hills	$11.12	$4.09	$7.61
Emergency Contingency	$0.18	$0.18	$0.18
City Mitigation	$0.17	$0.18	$0.18
Administrative Costs			
Finance & IT	$7.59	$7.85	$7.73
Engineering	$6.76	$7.06	$6.92
SWD Administration	$6.94	$7.11	$7.04
Overhead	$4.05	$4.18	$4.12
Planning & Communications	$1.79	$1.85	$1.82
Legal Services	$0.35	$0.37	$0.36
Recycling & Environmental Services			
Waste Prevention & Recycling Programs	$7.18	$7.39	$7.30
Grants to Cities	$1.24	$1.24	$1.24
Reserves			
Landfill Reserve Fund	$12.01	$12.40	$12.22
Capital Equipment Recovery Program Fund	$4.69	$4.69	$4.69
Construction Fund	$1.22	$1.22	$1.22
Capital Program Debt Service	$12.68	$16.27	$14.50
Public Health Transfer [3]	$1.09	$1.09	$1.09
Total expenditures	$127.15	$126.38	$126.98
Adjustments			
Other Revenue			($4.80)

[3] *The division transfers a portion of fees to Public Health to help fund its solid waste related work.*

Fund Balance	($0.43)
Basic Fee Proposed	**$121.75**

Yard Waste and Clean Wood Fees

The division is proposing to reduce the fee for yard waste and clean wood waste from $82.50 per ton to $75.00 per ton.

For over 20 years, through education, incentives, mandates, and infrastructure development, the county has prioritized diversion of yard waste from disposal. While curbside collection has been very successful, until recently capacity was not widely available at transfer facilities. With the opening of the Shoreline Recycling and Transfer Station in 2008 and the 2012 opening of a new Bow Lake Recycling and Transfer Station, the county is beginning to optimize collection of yard waste and clean wood at its transfer facilities.

The increased capacity and efficient designs of new transfer stations can be leveraged to allow the division to reduce the fee for this service. The reduced fee will provide an incentive for customers to separate yard waste and clean wood from garbage for recycling[4], while still covering the system-wide costs of providing the service. Historically, the only facilities accepting these materials for recycling were the Enumclaw Recycling and Transfer Station and the Cedar Falls Drop Box and hauling of the material was by contractors. Now at the Shoreline and Bow Lake Recycling and Transfer Stations, and all new stations in the future, yard waste and clean wood can be transported by division trucks in large transfer trailers, increasing efficiency while reducing both costs and greenhouse gas emissions.

The following costs were included in the fee calculation:

- Transfer station handling – labor, utilities, equipment maintenance and fuel
- Hauling – contractor, or division labor, equipment and fuel depending on site
- Processing (composting)
- Transfer station recycling program management

The proposed fee does not anticipate that large quantities of other organics, such as food waste, will be included in the materials collected. Periodic evaluation of costs will be required as new transfer facilities that have the capacity to handle this material open, and to incorporate market and other changes.

[4] *Separation is not mandatory.*

Special Waste Fee

Special Wastes are non-hazardous waste materials that require special handling or record-keeping or both. Special Waste may be disposed after it is cleared through the division's waste clearance program. The additional costs of managing these materials are reflected in the Special Waste Fee. Whether the Special Waste Fee is applicable is determined when a waste clearance is issued; some materials that are reviewed through the waste clearance program are, based on handling requirements, charged the Basic Fee rather than the Special Waste Fee.

Some Special Wastes, such as asbestos, are more expensive to manage due to more stringent handling and record-keeping requirements. This rate proposal recommends moving from a single Special Waste Fee to two different per-ton fees that reflect the requirements of the different materials – a standard fee and a fee for materials that require extra handling and/or tracking.

This rate proposal seeks to balance the actual costs of reviewing, handling, and tracking the various types of special waste with the benefits of keeping the special waste fee low enough to encourage citizens to use the waste clearance process to dispose of special waste materials properly. The higher fee for materials that require extra handing or tracking more closely reflects the cost of providing the service.

Table 4. ***Special Waste – proposed fee by waste type***

Waste Type	Category	Fee
Asbestos	Special Waste - Extra Handling	$ 175.00
Medical Waste	Special Waste - Extra Handling	$ 175.00
Contaminated Soil	Special Waste - Extra Handling	$ 175.00
Fuel Tanks	Special Waste - Extra Handling	$ 175.00
Empty Drums	Special Waste	$ 145.00
Industrial Waste - Cedar Hills[5]	Special Waste	$ 145.00
Liquids	Special Waste	$ 145.00
Other Special Waste[6]	Special Waste	$ 145.00
Dead Animals	Special Waste	$ 145.00
Wet Vactor Waste	Special Waste	$ 145.00

[5] *Industrial waste is variable; depending on content it may require special handling and disposal at the Cedar Hills Regional Landfill, while some materials may be disposed with regular waste at the transfer stations.*

[6] *Includes materials that require a Certificate of Destruction, proprietary materials and business records, and contaminated plants. Bulky waste or waste from other categories, such as Food Products, may also be placed in this category if additional handling is required.*

CFC Appliance Fees

An increased fee for appliances that contain chlorofluorocarbons (CFCs) will allow the division to expand the number of transfer facilities that accept these items for recycling. Currently, appliances are accepted at the Shoreline, Enumclaw, and Vashon facilities. The division plans to add the service at the Bow Lake Recycling and Transfer and the Houghton and Renton Transfer Stations.

In accordance with the county's waste acceptance rule, appliances may not be disposed at transfer facilities or the landfill. While most appliances are recyclable, appliances that contain CFCs must be processed first to ensure proper removal of these environmentally harmful chemicals. The fee increase reflects these additional costs.

The following costs were included in the fee calculations:

- Transfer station handling – labor and equipment maintenance and fuel
- Hauling
- Processing
- Transfer station recycling program management
- Site improvement costs to allow for collection at the Houghton and Renton facilities

The division is not proposing to increase the fee for non-CFC appliances. Through process changes, costs related to handling non-CFC appliances will be covered by the current fee and revenue from their sale as scrap metal. This revenue will also partially offset the cost of accepting CFC-containing appliances.

Unsecured Load Fee

Since 1994, as required by state law, the division has assessed an unsecured load fee at its transfer facilities and landfill. The current fee is $3.00, $5.00, or $10.00 depending on vehicle size. An increase in the fee to $20.00 for all vehicles is proposed.

Unsecured loads do more than just create litter; road debris causes about 400 accidents every year in Washington State. Driving with an unsecured load is also against the law, with fines ranging from $216.00 to $5,000.00 with the possibility of jail time. Between 2006 and 2010, the division assessed more than 10,000 unsecured load fees, but the goal is not just to assess fees, it is to educate customers about the law and the dangers of transporting an unsecured load and encourage them to act responsibly. Since 2006, the division has partnered with other governmental agencies, including law enforcement and private citizens to educate motorists on the secured load law through media campaigns and events, distribution of educational materials, a secured load website, and law enforcement emphasis patrols. The division plans to continue its education efforts, but believes that a higher fee is needed to improve compliance.

To determine an appropriate fee, the division reviewed unsecured/uncovered load fees charged by other jurisdictions and found that there is no standard – fees range from lows of $5 to $10 and up. In Walla Walla, Washington, the fee is $70.00, and in some jurisdictions in other states it is double the disposal fee. The proposed $20.00 fee reflects the need to emphasize this important issue, while not being so high as to be seen as excessively punitive.

Current King County Code 10.12.040 also requires that private transfer facilities within the jurisdiction of King County charge the unsecured load fee, so this would increase the fees assessed at those facilities as well. In accordance with Revised Code of Washington 70.93.097, current K.C.C. 10.12.040 also specifies that the fees collected be deposited no less often than quarterly in the division's operating fund.

APPENDIX A

Tonnage Forecast Through 2032

TONNAGE FORECAST

To predict solid waste generation over the long term, the planning forecast model relies on established statistical relationships between waste generation and various economic and demographic variables that affect it, such as:

- Population of the service area
- Employment
- Household size in terms of persons per household
- Per capita income (adjusted for inflation)

Increases in population, employment, and per capita income and decreases in household size typically lead to more consumption and hence more waste generated. For the long-term planning forecast the following trends are expected[7]:

- Population is expected to grow at a steady rate of one percent per year. Population growth is directly correlated with the amount of waste generated, i.e., more people equals more waste generated.
- Employment is expected to increase following recovery from the recession at an annual rate of 1.8 percent. Increased employment activity typically leads to an increase in consumption and waste generation.
- Household size is expected to decrease from an average of about 2.6 persons per household to 2.4 persons per household. The trend in household size reflects a nationwide move toward smaller family size and an aging population. Because a "household" implies a certain level of maintenance, mail, purchasing, and so on, a decrease in household size tends to increase waste generation per capita.
- Per capita income is expected to grow by about two percent per year through 2032, adjusted for inflation. As with employment activity, increases in income typically lead to an increase in consumption and waste generation.

Developing the tonnage forecast is a two-step process, in which waste disposal and waste diversion are calculated separately. In the first step, an econometric model is used to relate historical data for waste disposal and recycling to past demographic and economic trends in the region. Once these relationships are established, the model can be used to project future waste generation based on expected trends over the planning period. This first step produces a baseline disposal forecast, which assumes that the percentage of waste recycled remains constant.

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[7] *The data used are the most recent available. Projections for population and household size are based on data developed by the Puget Sound Regional Council (PSRC). Data provided by PSRC are based on U.S. Census and other data sources and developed in close cooperation with the county and cities. Income and employment data are provided by the local economic forecasting firm of Dick Conway and Associates.*

In the second step, goals for waste prevention and recycling are used to calculate how much additional material is expected to be diverted from disposal given the same demographic and economic trends. This information is then used to adjust the baseline forecast. Data on tons of materials recycled are provided by the curbside collection companies, division data from transfer facilities, and survey data collected annually by the Washington State Department of Ecology.

Since 2007 there has been a great deal of uncertainty and unpredictability in variables used in the division's forecasting model to predict the short-term (one- to five-year) trends in solid waste generation. To respond to this uncertainty, the division has adjusted its approach to short-term forecasting, using a more flexible system of ongoing monitoring while reviewing the model's assumptions.

This interim forecasting method involves:

- Monitoring solid waste tons delivered to division transfer facilities and the Cedar Hills landfill on a daily basis
- Regular monitoring of regional and state-wide economic forecasting activities (Dick Conway, King County economic forecast, Washington State Economic and Revenue Forecast Council)
- Monitoring state-wide tax revenue streams, particularly in the home improvement sector, furniture store sales, clothing sector, and other key markets
- Communicating regularly with other jurisdictions about trends in their service areas

This information has been used to forecast short-term tonnage and subsequent revenues for use in critical budgeting, expenditure control, and management of capital projects over the three- to five-year period. The division will continue to use this interim forecasting method until the economy recovers from the recession and some degree of predictability returns. Once that occurs, the forecasting model will need to be adjusted and recalibrated to reflect any changes created by the multi-year recession and recovery periods. As of mid-2012, economists are indicating that the recession is over, although economic recovery will take some time. In the solid waste industry, garbage tonnage has not returned to 2007 levels, but declines have begun to moderate. It may be 2014 before sufficient economic recovery occurs to grasp the long-term effects of the recession. In the meantime, the division routinely updates its long-term, 20-year forecast for use in future planning.

Table 1-A shows the tonnage forecast through 2032. Short-term forecasting methods are used through 2016 and revert to the traditional long-term forecasting method in 2017.

Table 1-A. ***Tonnage forecast through 2032***

June 14, 2012

Year	Total System	Yard Waste	Disposed	Regional Direct	Special Waste	Basic Fee
2013	816,200	8,500	807,700	15,000	1,500	791,200
2014	824,300	9,500	814,800	15,000	1,500	798,300
2015	832,600	9,500	823,100	15,000	1,500	806,600
2016	849,600	12,000	837,600	15,000	1,500	821,100
2017	869,500	13,500	856,000	15,000	1,500	839,500
2018	895,500	16,500	879,000	15,000	1,500	862,500
2019	908,500	16,500	892,000	20,000	1,500	870,500
2020	922,000	16,500	905,500	20,000	1,500	884,000
2021	936,000	16,500	919,500	20,000	1,500	898,000
2022	950,000	16,500	933,500	20,000	2,000	911,500
2023	965,500	16,500	949,000	20,000	2,000	927,000
2024	980,000	16,500	963,500	20,000	2,000	941,500
2025	994,700	16,500	978,200	20,000	2,000	956,200
2026	1,009,600	16,500	993,100	20,000	2,000	971,100
2027	1,024,700	16,500	1,008,200	20,000	2,000	986,200
2028	1,040,000	16,500	1,023,500	20,000	2,000	1,001,500
2029	1,055,600	16,500	1,039,100	20,000	2,000	1,017,100
2030	1,071,500	16,500	1,055,000	20,000	2,500	1,032,500
2031	1,088,600	16,500	1,072,100	20,000	2,500	1,049,600
2032	1,105,000	16,500	1,088,500	20,000	2,500	1,066,000

APPENDIX B

Rate Model Through 2032

Solid Waste Division Financial Forecasting and Rate Model

	2012	2013	2014	2015	2016	2017	2018
Basic Fee	**109.00**	**121.75**	**121.75**	**133.00**	**133.00**	**140.00**	**140.00**
Total System Tons	821,600	816,200	824,300	832,600	849,600	869,500	895,500
Revenues							
Disposal Fees	89,188,050	99,069,212	99,996,711	110,293,601	112,429,350	121,068,985	124,572,638
Public Health Transfer	(887,151)	(880,393)	(888,132)	(919,608)	(959,485)	(1,005,174)	(1,058,400)
Net Disposal Fees	*88,300,899*	*98,188,819*	*99,108,579*	*109,373,993*	*111,469,866*	*120,063,811*	*123,514,239*
Interest Earnings	40,524	31,754	28,755	32,005	149,861	245,138	306,882
Grants	568,000	245,000	170,000	250,000	250,000	250,000	250,000
Landfill Gas	1,097,328	1,116,537	1,404,346	1,468,219	1,468,219	1,468,219	1,468,219
Recycling	296,900	957,722	987,065	1,011,742	1,037,339	1,063,376	1,090,386
Harbor Island Rent Income[8]	895,781	940,570	987,599	1,036,978	1,088,827		
Other Revenue	118,000	169,710	175,713	180,984	186,414	192,006	197,767
Total Revenue	***91,317,432***	***101,650,112***	***102,862,056***	***113,353,921***	***115,650,525***	***123,282,550***	***126,827,492***
Operating Expenditures							
Capital Program Debt Service	5,457,944	10,416,102	13,364,954	18,734,448	21,704,322	24,753,779	28,014,087
Landfill Reserve Fund	7,511,983	9,864,162	10,190,688	10,551,859	11,009,408	11,533,664	12,144,391
Capital Equipment Recovery Program	3,300,000	3,850,000	3,850,000	3,850,000	3,850,000	4,350,000	4,350,000
Construction Fund	2,000,000	1,000,000	1,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Cedar Hills Rent	8,867,391	9,133,412	3,356,901	2,885,000	2,928,000	2,972,000	3,017,000
Emergency Contingency	100,000	150,000	150,000	157,000	157,000	165,000	165,000
City Mitigation[9]		143,256	144,471	146,376	147,438	154,969	159,264
Overhead	3,213,032	3,323,618	3,432,433	3,518,244	3,607,255	3,697,798	3,791,722
SWD Administration	6,229,547	5,703,613	5,838,182	6,013,327	6,193,727	6,379,539	6,570,925
Legal	278,601	290,031	302,033	309,584	317,416	325,383	333,648
Planning & Communications	1,433,285	1,471,872	1,520,331	1,558,339	1,597,765	1,637,869	1,679,471
Finance & IT	5,461,201	6,232,760	6,447,435	6,608,621	6,775,819	6,945,892	7,122,318
Recycling & Environmental Services	4,578,221	5,896,066	6,071,799	6,223,594	6,381,051	6,541,215	6,707,362
WPR City Grants[10]	1,020,079	1,020,079	1,020,079	1,020,079	1,020,079	1,050,000	1,050,000
Engineering	5,081,364	5,557,432	5,797,940	5,942,889	6,093,244	6,246,184	6,404,837
Transfer & Transport Operations	25,971,227	25,280,559	26,066,252	26,717,908	27,393,871	28,081,458	28,794,727
Disposal Operations	11,809,686	12,661,274	12,891,823	13,214,119	13,548,436	13,888,502	14,241,269
B & O Tax	1,609,698	1,579,776	1,495,134	1,654,404	1,686,440	1,816,035	1,868,590
Carryover[11]	1,801,976						
Estimated Under Expenditure[4]	(1,979,617)						
Total SWD Costs	***93,745,617***	***103,574,012***	***102,940,455***	***111,105,790***	***116,411,272***	***122,539,286***	***128,414,610***
Ending Fund Balance	11,562,551	9,638,651	9,560,252	11,808,383	11,047,636	11,790,900	10,203,783
Target Fund Balance (45-day reserve)	8,335,743	8,627,135	8,860,430	9,097,638	9,326,888	9,576,234	9,820,609

[8] Assumes sale or division use of property in 2017

[9] Calculated at 25 cents per ton/mile for full trailers travelling on city streets

[10] Waste prevention and recycling grants distributed to cities on basis of population; a new competitive Zero Waste grant program will be considered for the next rate period

[11] 2012 only

Amount of Above Target	3,226,808	1,011,516	699,822	2,710,745	1,720,748	2,214,666	383,174
	2019	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Basic Fee	**147.00**	**147.00**	**149.00**	**149.00**	**149.00**	**149.00**	**156.00**
Total System Tons	908,500	922,000	936,000	950,000	965,500	980,000	994,700
Revenues							
Disposal Fees	132,596,904	134,599,830	138,522,825	140,628,559	142,948,035	145,118,761	154,234,442
Public Health Transfer	(1,101,656)	(1,146,847)	(1,193,693)	(1,242,164)	(1,294,359)	(1,346,989)	(1,401,728)
Net Disposal Fees	*131,495,248*	*133,452,983*	*137,329,133*	*139,386,395*	*141,653,676*	*143,771,772*	*152,832,714*
Interest Earnings	351,703	405,974	344,904	367,649	373,972	361,898	464,545
Grants	250,000	250,000	250,000	250,000	250,000	250,000	250,000
Landfill Gas	1,468,219	1,468,219	1,468,219	1,468,219	1,468,219	1,468,219	1,468,219
Recycling	1,118,409	1,146,928	1,175,601	1,204,991	1,235,116	1,265,994	1,297,644
Other Revenue	203,700	209,811	216,105	222,588	229,266	236,144	243,228
Total Revenue	***134,887,278***	***136,933,915***	***140,783,961***	***142,899,842***	***145,210,248***	***147,354,026***	***156,556,350***
Operating Expenditures							
Capital Program Debt Service	30,710,638	31,481,491	31,481,491	31,480,991	31,479,741	31,482,491	31,478,741
Landfill Reserve Fund[12]	12,640,728	13,159,256	13,696,780	14,252,956	14,851,855	15,455,749	16,083,845
Capital Equipment Recovery Program	4,350,000	4,350,000	4,250,000	4,250,000	4,250,000	4,250,000	1,950,000
Construction Fund	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Cedar Hills Rent[13]	3,062,000	3,108,000	3,155,000	3,202,000	3,250,000	3,299,000	3,287,583
Emergency Contingency	175,000	175,000	185,000	185,000	195,000	195,000	210,000
City Mitigation	160,235	162,720	165,297	167,782	170,635	173,304	176,010
Overhead	3,889,169	3,988,343	4,088,051	4,190,252	4,295,009	4,402,384	4,512,444
SWD Administration	6,768,053	6,971,095	7,180,227	7,395,634	7,617,503	7,846,028	8,081,409
Legal	342,223	350,950	359,723	368,716	377,934	387,383	397,067
Planning & Communications	1,722,633	1,766,561	1,810,725	1,855,993	1,902,393	1,949,952	1,998,701
Finance & IT	7,305,361	7,491,648	7,678,939	7,870,913	8,067,685	8,269,378	8,476,112
Recycling & Environmental Services	6,879,741	7,055,175	7,231,554	7,412,343	7,597,652	7,787,593	7,982,283
WPR City Grants	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000
Engineering	6,569,441	6,736,962	6,905,386	7,078,021	7,254,971	7,436,346	7,622,254
Transfer & Transport Operations	29,534,751	30,287,887	31,045,084	31,821,211	32,616,742	33,432,160	34,267,964
Disposal Operations[14]	14,607,270	14,979,755	15,354,249	15,738,106	16,131,558	16,534,847	16,948,218
B & O Tax	1,988,954	2,018,997	2,077,842	2,109,428	2,144,221	2,176,781	2,313,517
Total SWD Costs	***133,756,198***	***137,133,840***	***139,715,351***	***142,429,347***	***145,252,899***	***148,128,397***	***148,836,149***
Ending Fund Balance	11,334,863	11,134,937	12,203,548	12,674,043	12,631,392	11,857,020	19,577,222
Target Fund Balance (45-day reserve)	10,082,200	10,337,172	10,597,723	10,861,327	11,131,958	11,409,107	11,706,246
Amount of Above Target	1,252,663	797,766	1,605,825	1,812,715	1,499,434	447,914	7,870,975

[12] *Assumes Cedar Hills Regional Landfill reaches capacity and closes December 2025 - final year of Landfill Reserve Fund contribution 2025*

[13] *Assumes Cedar Hills Regional Landfill reaches capacity and closes December 2025 - final year of rent 2025*

[14] *Assumes Cedar Hills Regional Landfill reaches capacity and closes December 2025 - final year of disposal operations 2025*

	2026	2027	2028	2029	2030	2031	2032
Basic Fee	**156.00**	**165.00**	**165.00**	**140.00**	**140.00**	**144.00**	**144.00**
Total System Tons	1,009,600	1,024,700	1,040,000	1,055,600	1,071,500	1,088,600	1,105,000
Revenues							
Disposal Fees	160,001,586	171,682,498	174,218,286	150,108,855	152,426,714	159,224,269	161,598,329
Public Health Transfer	(1,458,657)	(1,517,856)	(1,579,413)	(1,643,573)	(1,710,441)	(1,781,618)	(1,854,094)
Net Disposal Fees	*158,542,929*	*170,164,642*	*172,638,873*	*148,465,282*	*150,716,273*	*157,442,651*	*159,744,235*
Interest Earnings	460,946	331,326	328,111	361,084	374,732	380,157	373,058
Grants	250,000	250,000	250,000	250,000	250,000	250,000	250,000
Landfill Gas	1,468,219	1,468,219	1,468,219	1,468,219	1,468,219	1,468,219	1,468,219
Recycling	1,330,085	1,363,337	1,397,420	1,432,356	1,468,165	1,504,869	1,542,491
Other Revenue	250,525	258,040	265,782	273,755	281,968	290,427	299,140
Total Revenue	***162,302,703***	***173,835,564***	***176,348,405***	***152,250,695***	***154,559,357***	***161,336,322***	***163,677,142***
Operating Expenditures							
Capital Program Debt Service[15]	31,483,491	31,480,991	28,231,241				
Capital Equipment Recovery Program	1,950,000	1,950,000	1,950,000	1,950,000	1,950,000	1,950,000	1,950,000
Construction Fund	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Emergency Contingency	210,000	225,000	225,000	240,000	240,000	260,000	260,000
City Mitigation	182,802	185,582	188,398	191,270	194,196	197,344	200,363
Overhead	4,625,255	4,740,886	4,859,408	4,980,893	5,105,416	5,233,051	5,363,877
SWD Administration	8,323,852	8,573,567	8,830,774	9,095,697	9,368,568	9,649,625	9,939,114
Legal	406,994	417,169	427,598	438,288	449,245	460,476	471,988
Planning & Communications	2,048,669	2,099,885	2,152,383	2,206,192	2,261,347	2,317,881	2,375,828
Finance & IT	8,688,015	8,905,215	9,127,846	9,356,042	9,589,943	9,829,691	10,075,434
Recycling & Environmental Services	8,181,840	8,386,386	8,596,045	8,810,947	9,031,220	9,257,001	9,488,426
WPR City Grants[16]	1,050,000	1,050,000	1,050,000				
Engineering	7,812,811	8,008,131	8,208,334	8,413,543	8,623,881	8,839,478	9,060,465
Transfer & Transport Operations	35,124,663	36,002,780	36,902,850	37,825,421	38,771,056	39,740,333	40,733,841
B & O Tax	2,400,024	2,575,237	2,613,274	2,251,633	2,286,401	2,388,364	2,423,975
Future Disposal Cost[17]	55,778,082	58,041,837	60,395,721	62,849,168	65,406,139	68,127,933	70,899,344
Total SWD Costs	***170,266,497***	***174,642,667***	***175,758,872***	***150,609,093***	***155,277,413***	***160,251,178***	***165,242,655***
Ending Fund Balance	11,613,428	10,806,325	11,395,858	13,037,460	12,319,404	13,404,549	11,839,036
Target Fund Balance (45-day reserve)	9,832,765	10,094,907	10,346,064	10,422,332	10,685,885	10,964,488	11,241,618
Amount of Above Target	1,780,663	711,418	1,049,794	2,615,128	1,633,520	2,440,062	597,418

[15] *Assumes all bond debt paid by end of 2028*

[16] *Assumes end of WPR City Grants after ILAs expire in 2028*

[17] *Estimated cost of disposal after closure of the Cedar Hills Regional Landfill is derived from the cost to the City of Seattle for waste export*

APPENDIX C

Capital Improvement Program

CAPITAL IMPROVEMENT PROGRAM

Summary

The Capital Improvement Program (CIP) funded by this rate continues implementation of the transfer system renovation plan as set forth in the collaboratively developed 2006 *Solid Waste Transfer and Waste Management Plan* (Transfer Plan) and approved by the King County Council in 2007. The schedule for the transfer system upgrades has been adjusted as the division has reevaluated sizing and timing of projects due to tonnage changes and with consideration of rate impacts. During this rate period, scheduled property purchase for the new Northeast Recycling and Transfer Station was deferred by one year, which reduced the rate increase by approximately $1.25.

Background

The transfer network has served the region well for nearly five decades; however, all of the urban transfer stations are now outdated and over capacity, with the exception of the Shoreline Recycling and Transfer Station and the newly constructed Bow Lake Recycling and Transfer Station. Along with the growth in population, since the late 1980s there has been an emphasis on recycling to reduce wastes. While recycling containers have been placed at transfer stations, wherever space allows, space constraints limit the number of containers and the range of materials that each site can accommodate. These space constraints prohibit the addition of recycling opportunities for materials that are commonly disposed at the stations, including yard waste and clean wood. Changes in the industry have also created operational constraints. For example, commercial collection trucks are larger than in the past, making it more difficult to unload the vehicles safely and efficiently. Given these and other factors, in 2004 the division and its advisory committees – the Solid Waste Advisory Committee (SWAC) and the Metropolitan Solid Waste Management Advisory Committee (MSWMAC) – embarked on a comprehensive analysis of the urban transfer system to determine how best to update the system to meet current needs.

The urban transfer stations, with the exception of the then under construction Shoreline station, were evaluated using 17 criteria. In general, the criteria focused on the level of service to users, the capacity of stations to handle garbage and recyclables both now and in the future, structural integrity, and the effects of facilities on surrounding communities. Once the criteria were applied to each urban station, the results were used to evaluate its condition to determine whether the station should be reconstructed in its current location, whether it should be closed and a new station built in a different location, or whether it should be closed without being replaced.

The advisory committees worked closely with the division to develop and apply the 17 criteria, evaluate options, and formulate recommendations for upgrading the transfer system. The work of the division and the committees culminated in the Transfer Plan[18].

[18] *The Transfer Plan can be found on-line at* *http://your.kingcounty.gov/solidwaste/about/Planning/documents/Transfer-Waste-Export-Plan.pdf*

As outlined in the Transfer Plan, the Bow Lake and Factoria stations are to be deconstructed, and new recycling and transfer stations built on the existing sites and adjacent properties, and the Houghton and Algona stations to be closed and replaced with newly sited recycling and transfer stations in the Northeast and South County areas respectively. The Renton station was approved for closure.

The activities approved by the County Council in the Transfer Plan include the following:

Bow Lake – deconstruct the existing transfer station and construct a new recycling and transfer station on the existing site and adjacent property purchased from the Washington State Department of Transportation
Factoria – deconstruct the existing transfer station and construct a new recycling and transfer station on the existing site and adjacent properties to the northwest of the site, which the division purchased in 2007
Algona – close the station and replace it with a new recycling and transfer station in the South County area
Houghton – close the station and replace it with a new recycling and transfer station in the Northeast Lake Washington area
Renton – close the station and do not replace it

Figure 1-C. *Capital Improvement Program – Transfer Plan implementation schedule*

	2012	2013	2014	2015	2016	2017	2018	2019
Bow Lake	Phase 1 Open	Phase 2 Open						
Factoria	Design and Permit			Construction		Open		
Northeast			Site		Design and Permit		Construction	Open
South County	Site		Design and Permit			Construction	Open	
Houghton								Close
Algona							Close	
Renton[19]							Close	

[19] *Subject to system re-evaluation*

Additionally, the capital improvement program includes smaller projects, such as the replacement of the Houghton transfer station roof, which took place in 2010 and 2011, improvements to the Cedar Falls drop box, improvements to property on Harbor Island that is owned by the division, and mitigation projects for closed and custodial landfills that are not funded from the post-closure fund.

In 2011 and 2012, the Solid Waste Division (division) took advantage of historically low Bond Anticipation (BAN) rates for short-term borrowing to finance construction of the Bow Lake Transfer and Recycling Station. With construction now wrapping up and bond rates also at historic lows, the division is now planning a shift to long-term financing that will pay the BAN principal and begin the financing of future projects.

Table 1-C. *Capital Improvement Program – Revenues, expenditures, and fund balances*

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Beginning fund balance	6,413,107	10,930,894	1,553,913	1,258,004	2,107,463	2,477,571	2,189,644	3,086,081	2,926,599
Revenues									
Operating fund transfer	2,000,000	1,000,000	1,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Interest earned	25,977	18,699	4,212	5,041	30,063	50,096	73,610	98,181	93,273
Borrowing - Bonds		86,000,000	34,000,000	59,000,000	31,000,000	30,000,000	30,000,000	23,000,000	6,000,000
Borrowing - BANs[20]	35,000,000								
Other revenue[21]					7,700,000				
Total	*37,025,977*	*87,018,699*	*35,004,212*	*61,005,041*	*40,730,063*	*32,050,096*	*32,073,610*	*25,098,181*	*8,093,273*
Expenditures									
Bow Lake	20,537,450	12,072,559	2,727,609						
Factoria	3,548,021	3,254,399	23,146,176	23,119,758	12,988,363	80,901			
Northeast	228,480	522,531	2,603,029	27,137,378	3,991,918	7,441,963	22,436,238	24,124,598	7,622,063
South County	6,688,352	2,410,513	3,890,975	7,363,589	22,068,323	23,737,848	7,636,261		
Other projects	1,055,888	1,000,000	1,000,000	1,025,000	1,050,933	1,077,311	1,104,675	1,133,065	1,161,958
Cedar Falls Drop Box		860,608	11,508						
Closed/custodial landfills[22]	450,000	1,275,070	1,920,823	1,509,856	260,419				
BAN Principal Payment		75,000,000							
Total	*32,508,190*	*96,395,680*	*35,300,120*	*60,155,582*	*40,359,955*	*32,338,022*	*31,177,174*	*25,257,662*	*8,784,021*
Ending fund balance	10,930,894	1,553,913	1,258,004	2,107,463	2,477,571	2,189,644	3,086,081	2,926,599	2,235,851

[20] *Bond Anticipation Notes*
[21] *Factoria/Eastgate property sale*
[22] *Mitigation projects*

APPENDIX D

Capital Equipment Recovery Program

THE CAPITAL EQUIPMENT RECOVERY PROGRAM

The Solid Waste Division's Capital Equipment Recovery Program (CERP) involves both a model and a fund. The CERP Model applies life-cycle costing considerations to SWD capital equipment and is a tool used in determining the timing of asset replacements. The CERP Fund was codified in 1981 (KCC 4.08.280) to ensure the timely and economical replacement of equipment. The fund serves three main purposes: 1) accumulate the financial resources for the replacement of the SWD's rolling stock and stationary compactors on a timely and cost effective basis; 2) stabilize the monetary effects of equipment purchases on the operating fund; and 3) provide stability in the operating budget against the effects of dramatic tonnage decreases.

CERP INVENTORY

By code, the CERP Fund explicitly includes SWD's "rolling stock and stationary compactors." However, since establishment of the CERP Fund, business practice and equipment technology have advanced and SWD's capital equipment now includes significant fixed assets that are not "rolling stock" or "stationary compactors", but have direct operational use, such as the power units for the landfill tippers. In keeping with the intent of the CERP Fund, these major assets are included in the CERP Model.

CERP FUND

The initial purchase of equipment is from SWD's operating fund. After initial acquisition, an annual contribution is made to the CERP Fund for the eventual replacement of CERP Inventory. Also, a 1993 ordinance authorized payment from the CERP Fund for major equipment overhauls in lieu of replacement. All auction, salvage, and buyback income from disposal of SWD equipment is treated as CERP Fund revenue.

CERP Fund Contributions

For each CERP Inventory asset, an annual payment to the CERP Fund is calculated based on assumptions about the asset's life and net future replacement cost (total estimated replacement cost minus estimated salvage/trade-in/buyback income). These annual payments ensure that adequate funds are available to purchase the replacement for that piece of equipment in the scheduled year.

Historical Funding Policies

Prior to 1995, the CERP funding policy was "100 percent" funding, meaning that cash in the fund was 50 percent of replacement cost with the other 50 percent attributed to salvage value of the existing assets. Through 1996, the policy was 40 percent of replacement cost. As of 1997, SWD adopted a minimum funding policy which stated, "Beginning fund balance for any given year is equal to or greater than equipment purchases projected for the same given year." Under this policy, a minimum funding percentage was not used to determine the fund balance. The transfer required from the operating fund to the CERP Fund was reduced substantially with this

change in policy to minimum funding from the 40 percent funding policy. As of 2011, the CERP Fund balance was approximately 27 percent of the net replacement cost of currently held CERP Inventory.

Current Funding Policy

Beginning in 2012, contributions to the Fund are based on a four-year average of the estimated replacement value of equipment due to be replaced within that time frame. The estimated replacement value is adjusted for capitalized repairs and factors for inflation and salvage value. Optimally, fund balance is maintained between 15 percent and 20 percent of total CERP Inventory replacement value.

Budgeting

Budget planning for equipment purchases, rebuilds, and replacements occurs early each year. This may include a revisit of the equipment purchase plans for the current year's Adopted Budget, but is primarily focused on plans for the following year's Budget Request. However, purchase of some items, may require a greater lead time – as much as two years – so budget planning looks beyond the next year for such assets.

The initial purchase of a new asset (expansion of fleet or new type that is not replacing an outgoing asset) is purchased from operating funds and not the CERP Fund. Other than the cost of repairs included in the rebuild program, all equipment repair costs are paid from the Operating Fund.

LIFE-CYCLE COSTING MODEL

The model used for life-cycle costing analysis is a Mean Annual Cost Equivalent (MACE) model, based on an article published by the American Public Works Association.

Main components of the SWD MACE Model are:

- Interest rate and inflation assumptions
- Purchase/In-Service dates
- Estimated lifespan
- Estimated salvage values
- Repair and maintenance costs
- Meter readings

Interest and inflation rates are obtained from King County's Office of Economic and Financial Analysis (OEFA). All other equipment data is obtained from SWD's CCG Faster database.

Note: The use of the CCG Faster software, and therefore accumulation of equipment history data, began in February 2003. Cost and usage data of equipment acquired and placed in service prior to this date is not represented.

MACE Model Function

MACE identifies an average annual payment that is made in order to retain the services of a piece of equipment.

MACE considers the alternative-use or time value of money—a dollar spent ten years from now is not equivalent to a dollar spent today.

Discounting permits comparing alternatives covering multiple time periods; it reduces time streams of expenditures to values which can be easily compared. For example, discounting permits comparing a two-year replacement cycle with a four-year cycle (or any other length chosen to investigate).

The goal in incorporating the use of this tool in the economics of equipment replacement is to minimize the total costs of ownership.

This model is focused on yearly time periods; because of the discount factor, it can be used for mileage or hour usage if these are converted to time equivalents.

The best estimates available are incorporated in the use of this model.

NOTE: $MACE_R$ means the mean annual cost equivalent for replacement period R. See formula below.

$$MACE_R = \left[P - \frac{S_R}{(1+i)^R} + \sum_{t=1}^{R} \frac{X_t}{(1+i)^t} \right] \left[\frac{i\,(1+i)^R}{(1+i)^R - 1} \right]$$

where: i = discount rate
P = purchase price at t=0
t = year (numeral indicator)
S = resale or salvage value
R = year of replacement
X = sum of the year's costs (excluding depreciation, alternative cost of capital and inflation)

Asset Life Expectancies

An asset's life expectancy is based on the Original Equipment Manufacturer (OEM) suggested life which is then adjusted for SWD working conditions and consideration of MACE for that asset. For example, a long-haul tractor's life per OEM is one-million miles for normal usage. However, SWD's usage of this type of vehicle is short-haul with heavy, urban traffic plus regular off-road driving on the landfill. Based on assessment of the model for life-cycle costs and actual

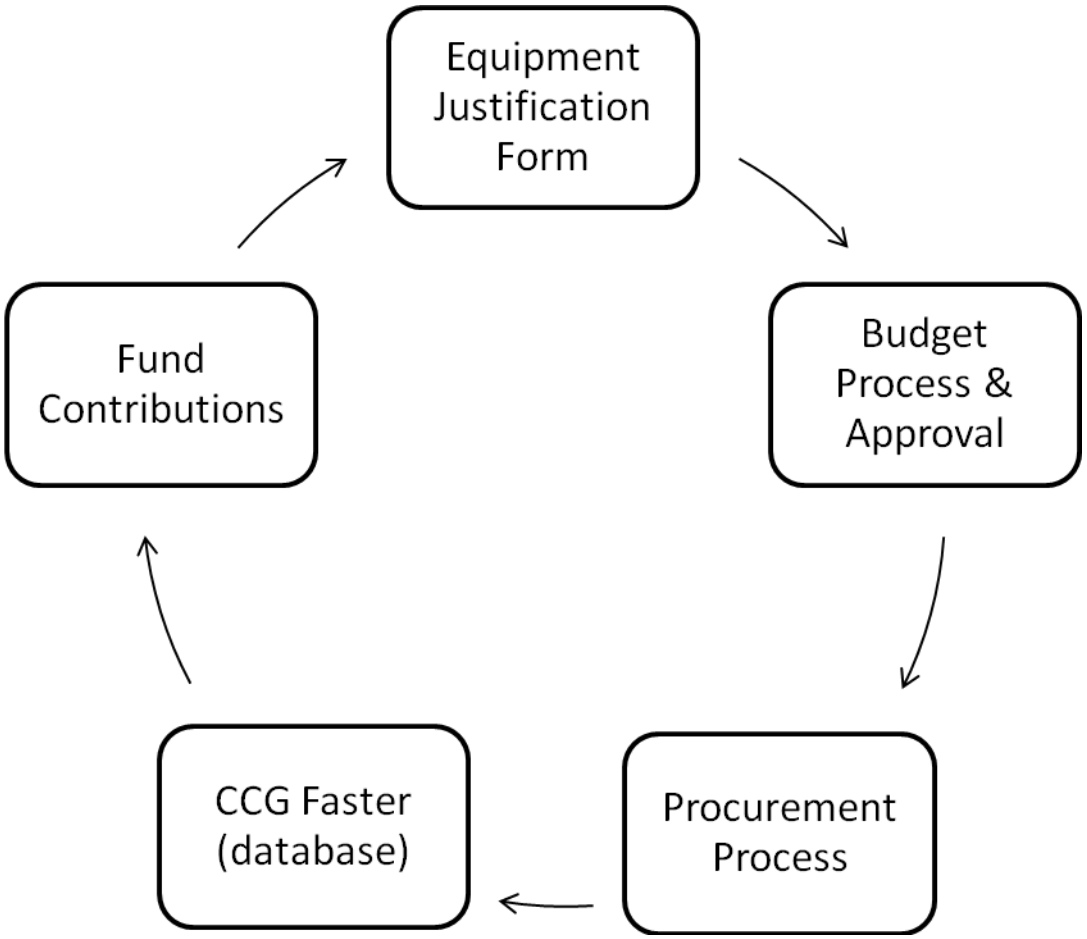
annual usage of 40,000 miles, the SWD-life expectance for long-haul tractors is about 400,000 miles or 10 years.

Some assets may be rebuilt, which will extend their life beyond the OEM suggested life. For example, the original life expectation for a bulldozer is 10,000 hours or 60 months; the expected life extension for a power train overhaul is 10,000 hours or an additional 60 months. Other assets expected to have an extended life as a result of rebuild work are excavators, refuse trailers, pre-load compactors, and hydraulic power units (for tippers). Second rebuilds have not proven cost-effective for extending useful life.

CERP Process

Processes, procedures, and definitions are documented in the division's CERP Manual. The figure below summarizes the process for inventory purchase and replacement.

Figure 1-D. ***Process Flow – CERP Inventory Purchase and Replacement***



Appendix D: Capital Equipment Recovery Program

Equipment Class	Life Expectancy in Years	Inventory Count 1/1/2012	Units due to be Replaced	2012	2013	2014	2015	2016	2017	2018
BACKHOE	20	4	2	-	-	250,000	-	-	-	-
BAILER, CARDBOARD	20	2	0	-	-	-	-	-	-	-
COMPACTOR, LANDFILL	5	3	5	1,000,000	1,000,000	1,000,000	1,034,366	-	-	1,128,738
COMPACTOR, PRELOAD	20	3	0	-	-	-	-	-	-	-
COMPACTOR, STATIONARY	10	11	0	-	-	-	-	-	-	-
CRANE, HYDRAULIC MATERIAL HANDLE	20	1	1	-	180,000	-	-	-	-	-
DOZER, TRACK	5	6	1	-	-	1,000,000	-	-	-	-
EXCAVATOR	10	3	0	-	-	-	-	-	-	-
FORKLIFT	20	1	0	-	-	-	-	-	-	-
FRONT LOADER (1)	10	7	7	1,080,000	-	-	-	360,764	725,823	286,414
GRADER, ROAD, WHEELS	20	1	0	-	-	-	-	-	-	-
HYDRAULIC POWER UNIT	10	3	2	-	-	-	-	-	-	145,274
ROLLER, VIBRATORY	20	1	0	-	-	-	-	-	-	-
SCRAPER	10	4	0	-	-	-	-	-	-	-
SCREENPLANT	15	1	0	-	-	-	-	-	-	-
SEDAN	20	8	4	-	64,000	64,000	-	-	-	-
SERVICE TRUCK WITH CRANE	20	1	1	150,000	-	-	-	-	-	-
SLOPE MOWER	10	2	2	-	130,000	-	-	-	-	166,351
SUV	20	10	5	-	96,000	64,000	-	-	-	-
SWEEPER	10	2	2	200,000	270,000	-	-	-	-	-
TARPING MACHINE	10	1	1	-	90,000	-	-	-	-	-
TRAILER, BELLY DUMP	17	4	0	-	-	-	-	-	-	-
TRAILER, DUMP	10	2	0	-	-	-	-	-	-	-
TRAILER, EQUIP, HYDR. TAIL	13	1	0	-	-	-	-	-	-	-
TRAILER, LO-BOY	25	1	0	-	-	-	-	-	-	-
TRAILER, REFUSE, COMPACTOR	15	16	2	-	-	-	115,176	-	124,685	-
TRAILER, REFUSE, TOP LOAD (2)	9	128	35	-	1,160,000	-	850,000	-	900,000	-
TRAILER, TANK	30	4	0	-	-	-	-	-	-	-
TRUCK, STEAM CLEANER (3)	10	1	1	65,000	195,000	-	-	-	-	-
TRUCK, LONG HAUL TRACTOR	10	55	50	-	-	750,000	2,975,768	2,171,866	1,897,330	982,271
TRUCK, FUEL TANKER	20	2	1	-	-	-	-	-	235,794	-
TRUCK, LUBE	20	3	2	-	250,000	-	-	-	-	261,110
TRUCK, PICKUP	20	35	21	122,000	418,000	416,000	27,026	-	-	71,692
TRUCK, ROAD MAINTENANCE	10	1	1	-	-	-	-	-	-	220,226
TRUCK, SCALE	20	1	1	-	-	-	68,451	-	-	-
TRUCK, WATER	20	1	0	-	-	-	-	-	-	-
TRUCK, VACTOR	10	1	1	-	-	-	-	-	-	501,909
VAN	10	6	6	23,000	-	61,000	-	-	61,903	56,999
YARD GOAT	13	21	8	113,000	360,000	360,000	-	127,799	-	-
TOTAL REPLACEMENT EXPENDITURES BY YEAR				2,753,000	4,213,000	3,965,000	5,070,787	2,660,429	3,945,536	3,820,984
TOTAL REPAIR EXPENDITURES BY YEAR				1,780,000	1,567,000	475,000	1,744,026	1,162,152	1,855,997	1,692,545
TOTAL PROJECTED EXPENDITURES				4,533,000	5,780,000	4,440,000	6,814,812	3,822,581	5,801,533	5,513,529
Computation of Per Year CERP Fund contribution to achieve target 2018 balance:										
Beginning Fund Balance 2012				13,894,852						
Target Fund Balance 2018 (4)				9,141,860						
Projected Revenue 2012-2016				6,732,747						
Projected Expenditures 2012-2016				36,705,455						
Average per year contribution to achieve 2016 target balance				4,203,286	Budgeted as 4 years at $3,850,000 and 2 years at $4,350,000					
(1) Three Loaders are replacing D7 Dozers at new Bow Lake station.										
(2) Replacing with combination contrainer/chassis units as stations are rebuilt with preload-compactors.										
(3) Chassis purchased in first year; body replaced in second year.										
(4) 15% CERP Inventory Replacement Value										

APPENDIX E

Landfill Reserve Fund

Table 1-E. ***Average per ton contribution by account***
2013

New area development	$ 3.25
Facility improvements	$ 0.84
Closure	$ 5.93
Post-closure	$ 2.19
Total	**$ 12.21**

Table 2-E. ***Cedar Hills new area development***

					New Area Development Per ton contribution 2013		$3.25
Year	**Status**	**Cedar Hills Disposal Tonnage**	**Real Interest Rate**	**Transfer**	**Interest Earned**	**Expenditures**	**Year-end Balance**
2012	budgeted	813,900	-2.31%	2,839,697	187,284	34,500	(6,517,655)
2013	forecast	816,200	-1.83%	2,650,993	97,153	233,447	(4,002,957)
2014	forecast	822,500	-2.03%	2,671,455	84,953	3,035,261	(4,281,811)
2015	forecast	837,600	-2.08%	2,720,499	189,924	12,418,770	(13,790,158)
2016	forecast	851,900	-1.11%	2,766,945	196,545	10,600,154	(21,426,823)
2017	forecast	863,500	-0.32%	2,804,621	71,543	4,665,613	(23,216,271)
2018	forecast	878,500	0.30%	2,853,341	(65,412)	28,750	(20,457,092)
2019	forecast	892,000	0.75%	2,897,189	(142,564)	0	(17,702,467)
2020	forecast	905,500	1.10%	2,941,036	(178,551)	0	(14,939,983)
2021	forecast	919,500	1.10%	2,986,508	(147,914)	0	(12,101,389)
2022	forecast	933,500	1.10%	3,031,979	(116,439)	0	(9,185,849)
2023	forecast	949,000	1.10%	3,082,323	(84,367)	50,000	(6,237,893)
2024	forecast	963,500	1.10%	3,129,418	(51,405)	0	(3,159,879)
2025	forecast	978,200	1.10%	3,177,164	(17,284)	0	0
2026	closing	0	1.10%	0	0	0	0
2027	closing	0	1.10%	0	0	0	0
2028	closed	0	1.10%	0	0	0	0

Table 3-E. ***Cedar Hills facility improvements***

					Facility Improvements		
					Per ton contribution 2013		$0.84
Year	**Status**	**Cedar Hills Disposal Tonnage**	**Real Interest Rate**	**Transfer**	**Interest Earned**	**Expenditures**	**Year-end Balance**
2012	budgeted	813,900	-2.31%	650,306	24,111	2,269,534	(1,829,283)
2013	forecast	816,200	-1.83%	685,765	49,425	2,428,821	(3,522,914)
2014	forecast	822,500	-2.03%	691,058	93,899	2,896,371	(5,634,329)
2015	forecast	837,600	-2.08%	703,745	112,163	220,000	(5,038,421)
2016	forecast	851,900	-1.11%	715,759	53,064	200,000	(4,469,597)
2017	forecast	863,500	-0.32%	725,506	13,462	200,000	(3,930,630)
2018	forecast	878,500	0.30%	738,109	(10,985)	200,000	(3,403,506)
2019	forecast	892,000	0.75%	749,451	(23,466)	200,000	(2,877,520)
2020	forecast	905,500	1.10%	760,794	(28,568)	200,000	(2,345,295)
2021	forecast	919,500	1.10%	772,556	(22,649)	200,000	(1,795,388)
2022	forecast	933,500	1.10%	784,319	(16,536)	200,000	(1,227,604)
2023	forecast	949,000	1.10%	797,342	(10,218)	200,000	(640,480)
2024	forecast	963,500	1.10%	809,525	(3,693)	200,000	(34,648)
2025	forecast	978,200	1.10%	821,876	3,039	200,000	590,267
2026	closing	0	1.10%	0	5,393	200,000	395,660
2027	closing	0	1.10%	0	3,252	200,000	198,912
2028	closed	0	1.10%	0	1,088	200,000	0

Table 4-E. *Cedar Hills closure*

					Closure		
					Per ton contribution 2013		$5.93
Year	**Status**	**Cedar Hills Disposal Tonnage**	**Real Interest Rate**	**Transfer**	**Interest Earned**	**Expenditures**	**Year-end Balance**
2012	budgeted	813,900	-2.31%	4,004,388	(239,543)	1,798,780	11,233,106
2013	forecast	816,200	-1.83%	4,837,810	(228,155)	2,369,002	13,473,759
2014	forecast	822,500	-2.03%	4,875,151	(319,383)	356,393	17,673,134
2015	forecast	837,600	-2.08%	4,964,652	(401,653)	1,690,457	20,545,677
2016	forecast	851,900	-1.11%	5,049,412	(253,779)	414,905	24,926,405
2017	forecast	863,500	-0.32%	5,118,168	(82,782)	3,232,403	26,729,388
2018	forecast	878,500	0.30%	5,207,076	79,003	5,997,392	26,018,075
2019	forecast	892,000	0.75%	5,287,094	212,368	691,856	30,825,681
2020	forecast	905,500	1.10%	5,367,112	342,359	4,771,433	31,763,719
2021	forecast	919,500	1.10%	5,450,093	353,134	4,771,433	32,795,512
2022	forecast	933,500	1.10%	5,533,074	364,940	4,771,433	33,922,093
2023	forecast	949,000	1.10%	5,624,946	379,053	4,550,398	35,375,695
2024	forecast	963,500	1.10%	5,710,891	355,079	11,902,384	29,539,282
2025	forecast	978,200	1.10%	5,798,022	306,327	9,180,750	26,462,880
2026	closing	0	1.10%	0	240,598	9,180,750	17,522,728
2027	closing	0	1.10%	0	135,670	10,378,112	7,280,286
2028	closed	0	1.10%	0	39,823	7,320,109	0

Table 5-E. *Cedar Hills post closure maintenance*[23]

					Post-Closure Per ton contribution 2013		$2.19
Year	**Status**	**Cedar Hills Disposal Tonnage**	**Real Interest Rate**	**Transfer**	**Interest Earned**	**Expenditures**	**Year-end Balance**
2012	budgeted	813,900	-2.31%	0	(768,034)	0	32,480,208
2013	forecast	816,200	-1.83%	1,793,403	(610,797)	0	33,662,813
2014	forecast	822,500	-2.03%	1,807,246	(701,699)	0	34,768,360
2015	forecast	837,600	-2.08%	1,840,424	(742,322)	0	35,866,463
2016	forecast	851,900	-1.11%	1,871,845	(408,506)	0	37,329,801
2017	forecast	863,500	-0.32%	1,897,333	(122,491)	0	39,104,644
2018	forecast	878,500	0.30%	1,930,292	120,209	0	41,155,145
2019	forecast	892,000	0.75%	1,959,955	316,013	0	43,431,114
2020	forecast	905,500	1.10%	1,989,618	488,685	0	45,909,418
2021	forecast	919,500	1.10%	2,020,380	516,116	0	48,445,913
2022	forecast	933,500	1.10%	2,051,142	544,186	0	51,041,241
2023	forecast	949,000	1.10%	2,085,199	572,922	0	53,699,363
2024	forecast	963,500	1.10%	2,117,059	602,337	0	56,418,759
2025	forecast	978,200	1.10%	2,149,359	632,428	0	59,200,546
2026	closing	0	1.10%	0	651,206	0	59,851,752
2027	closing	0	1.10%	0	658,369	0	60,510,121
2028	closed	0	1.10%	0	665,611	0	61,175,732

[23] *After closure, the balance remaining in this account will be transferred to the Post-Closure Fund.*

APPENDIX F

Market Rent Appraisal Report: Cedar Hills Regional Landfill Land Summary

MARKET RENT APPRAISAL REPORT

Cedar Hills Regional Landfill Land

Property Location:
16645 228th Ave. S.E.
Maple Valley, WA 98038

Prepared by:
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Director, King County Solid Waste Division
DNRP - Solid Waste Division
201 S. Jackson St.
Seattle, WA 98104

Date of Valuation	Date of Report
January 1, 2012	May 30, 2012

Executive Summary

Project:	Provide an opinion of the fair market rental value of the Cedar Hills Regional Landfill (CHRLF) land.
Location:	The address is 16645 228th Avenue S.E., Maple Valley, Washington, in unincorporated King County, about four miles south of Issaquah and six miles east of Renton. Also refer to Assessor Parcel Number 212306-9016.
Purpose:	The purpose of this appraisal is to arrive at an opinion of the fair market rental value for the land beneath CHRLF.
Client:	King County Solid Waste Division (KCSWD).
Intended Use/User:	This appraisal report will be used by official representatives of King County for financial planning and budgeting purposes.
Property:	CHRLF is located on a 920-acre site in Maple Valley and includes former refuse areas, active refuse areas, future refuse areas, and a 1,000-foot buffer around the property as well as land utilized for the landfill infrastructure and operating facilities. These areas function together as a single economic unit.
Utilities:	All utilities necessary for landfill operations are available to the property.
Zoning:	The underlying King County zoning is RA-10, a rural area residential zone in King County allowing one dwelling unit per ten acres. CHRLF is authorized as a landfill under a special permit approved by the King County Board of Commissioners in 1960. This permit allows a sanitary landfill and provides for a 1,000-foot-wide buffer zone around the perimeter of the site among other conditions including no open dumping and no burning of garbage. This landfill entitlement is considered in arriving at the appraiser's opinion of land value.
Highest and Best Use:	The highest and best use of the subject property is as a regional landfill. Current landfill usage forecasts indicate that the landfill is expected to reach capacity in 2025. This appraisal is based on the assumption that there are no future economic uses of the landfill land that would produce a positive net present value as of the effective date of this appraisal. Further, this appraisal assumes that post closure liabilities are fully funded by reserves set up by the King County Solid Waste Division. The current and future non-landfill uses of the buffer and other areas on the subject 920-acre site are not included in this appraisal, only the land areas used by CHRLF.

Landfill capacity: Based on KCSWD forecasts, there will be 11,741,427 tons of disposal capacity remaining as of January 1, 2013, and the average annual usage will be 903,187 tons for the thirteen-year period from January 1, 2013 through December 31, 2025.

This appraisal does not include the estimated usage for 2012 (815,900 tons) as this usage period was considered in the 2003 appraisal of CHRLF.

Market rent: The current land rent schedule goes through the end of 2014 and it is based on estimated landfill usage from 1/1/2004 through 12/31/2012.

This current appraisal is based on estimated landfill usage from January 1, 2013 through December 31, 2025 or the end of the economic life of the landfill.

A land rent schedule for this current appraisal is included in the appendices of this report. It was developed based on the following factors: (1) the value of the landfill land as of January 1, 2012, (2) the land owner will have zero reversionary benefit or post closure liability at the end of the economic life of the landfill; (3) the landfill land is a wasting asset, so the rent schedule will include full amortization of estimated landfill value, (4) a 6% rate of return on the unamortized landfill value, and (5) an annual inflation rate of 1.5%.

Methodology: Fair market rental value for the land beneath the landfill starts by estimating the value of the land as entitled for a landfill using a land residual analysis.

The first consideration when completing the land residual analysis is the landfill capacity; this capacity is best estimated based on the forecast disposal tonnage coming into the landfill through the end of the economic life of the landfill. Then the potential income stream from disposal activities over the remaining economic life of the landfill is estimated. Then expenses required to operate the landfill, develop new disposal areas, and monitor old disposal areas, are deducted, along with a reasonable landfill entrepreneurial (business) margin. The amount left over, or residual, is the income that can be attributed to the use of the land. This residual income is capitalized, using a discounted cash flow analysis (yield capitalization), to arrive at fair market value for the underlying land.

Once the value of the land is estimated, land rent can be estimated by calculating the annual payment (rent) required to

	amortize the full value of the landfill land and by providing a reasonable rate of return on investment. Based on this appraisal, a 6% rate of return and an annual inflation rate of 1.5% should be used to develop the rent schedule.
Effective Date of Value:	January 1, 2012
Property Value:	$20,400,000
Appraiser:	Michael E. Murray, MAI, CCIM
File:	CHRLF2011

Summary of Salient Facts and Conclusions

Description	1/1/2012 Appraisal	Comments
Landfill usage forecast (years)	13.00	From 1/1/2013 though the end of the assumed landfill economic life, or 12/31/2025.
Landfill capacity (tons)	11,741,427	Remaining capacity as of 1/1/2013. The previous appraisal included landfill usage through 12/31/2012.
Disposal tonnage forecast (tons)	903,187	This is the average annual disposal tonnage based on the KCSWD forecast from 1/1/2013 through 12/31/2025.
Land value	$20,400,000	Date of value is 1/1/2012.
Market land rent per year	See Appendices	The payment (rent) schedule should fully amortize the landfill value and provide for a 6% rate of return and an annual inflation rate of 1.5%.
Market disposal fee per ton	$40.24	Waste Management's waste transport/disposal charge to Seattle is used in the appraisal to estimate the gross potential disposal income for CHRLF. Estimate for 2013 is $40.24 per ton.
Operating expenses, development costs, improvement amortization as a percentage of revenue (excludes land rent).	76.5%	Based on an analysis of KCSWD operating and capital budgets and waste industry financial statements. See operating data table on next page.
Landfill business margin as a percentage of revenue	15.0%	Based on an analysis of solid waste industry financial statements, discussions with market participants, and available market data.
Residual income attributable to land usage as a percentage of revenue	8.50%	Based on an analysis of the solid waste industry financial statements, discussions with market participants, and available market data.

Summary of Salient Facts and Conclusions - Operating Data Comparison

Solid Waste Company	Year	Stated as a % of Revenue: EBTD*	Depreciation/ Depletion**	EBT***	EBT % of Assets
Waste Management	2010	22.6%	9.5%	13.1%	7.6%
Waste Management	2009	22.4%	9.9%	12.5%	7.0%
Republic Services	2010	22.2%	10.8%	11.4%	4.5%
Republic Services	2009	22.6%	10.6%	12.0%	4.4%
Waste Connections	2010	28.1%	10.1%	18.1%	8.2%
Waste Connections	2009	25.7%	9.9%	15.8%	6.7%
Comparables - Average		23.9%	10.1%	13.8%	6.4%
Subject CHRLF Appraisal	1/1/2012	25.6%	10.6%	15.0%	6.0%

**EBTD - Earnings before taxes and depreciation as a % of revenue.*
*** Dep/Depl as a % of revenue - For CHRLF = subject residual land rent at 8.5%, plus CH facility improvement reserve @ 2.1% = 10.6% on a comparable basis.*
****EBT - Earnings before taxes as a % or revenue - pretax basis for comparison to CHRLF.*

The CHRLF land valuation was based on a land residual analysis (see valuation section of this report*).* In that valuation analysis, the residual income available for land usage equals, on average, 8.5% of gross disposal revenue. This amount combined with the CHRLF facility improvement reserve requirement, which is 2.1% of gross disposal revenue, results in an annual real estate cost estimate of 10.6% of estimated disposal revenue (8.5% + 2.1% = 10.6%). The major private waste service providers in the region (Waste Management, Republic Services, and Waste Connections) own their real estate so direct rental comparisons are not possible. It was informative, however, to compare the subject real estate cost estimate, as a percentage of revenue, to the depreciation and depletion expenses of the comparables as percentages of revenue. The chart above provides this comparison along with other comparisons, including earnings before taxes and depreciation, earnings before taxes, and earnings before taxes as a percentage of total assets. While these companies are complex entities, as is KCSWD, and this sort of general comparison does not yield any direct value conclusions, it is one test of reasonableness providing some guidance as to what a buyer of the landfill might consider reasonable real estate and entrepreneurial margin factors.