

LANE COUNTY SOLID WASTE MANAGEMENT PLAN

Prepared for:

**Lane County Public Works Department
Waste Management Division**

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CHAPTER 1: EXECUTIVE SUMMARY

1.1 PURPOSE OF THE PLAN

The purpose of the *2002 Lane County Solid Waste Management Plan (SWMP)* is to provide a guide for the development and operation of an effective solid waste management system in the years to come. It will be a road map for making decisions to enhance and improve the quality of services currently being provided.

The SWMP documents existing solid waste programs and facilities, describes opportunities for improving the solid waste management system, evaluates alternatives and recommends programs, facilities and financial mechanisms which will achieve the County's goals. As specific recommendations are implemented, more detailed study and analysis may be needed to ensure the County's overall goals are met.

1.2 PLANNING PROCESS

Development of this plan began in November 1994, when the Waste Management Division (WMD) hired a consultant to revise the *Solid Waste Management Plan Update, 79-80*. A countywide public involvement process was utilized, with the Waste Management Policy Advisory Committee (WMPAC) acting as a central participant in developing the plan. WMPAC consisted of one County Commissioner, representatives from five cities, and six citizens representing for-profit, non-profit and at-large interests. A public forum was held to obtain public input into the draft in March 1995. Although the consultant's Draft Plan was submitted to Waste Management Division staff in June 1996, this plan was never reviewed or adopted by the Lane County Board of Commissioners.

In the following years, local conditions, regulations, funding issues and federal and state standards changed substantially. In response to these changes, County staff revised and updated the 1996 Draft Plan to create the current document, the *2002 Lane County Solid Waste Management Plan (SWMP)*.

Development of the SWMP occurred through a countywide public involvement process that included local officials, haulers, recyclers and the public. The Resource Recovery Advisory Committee (RRAC) participated in the development of the SWMP by reviewing revised program and facility recommendations and by providing advice and comments on all issues addressed by the SWMP.

1.3 PLAN GOALS

The SWMP is designed to set priorities and provide guidance for managing the County's solid waste in the years to come. The County's primary objectives for solid waste management are:

- To provide for an integrated solid waste management system that achieves an appropriate balance of waste prevention, reuse, recycling and land disposal.

- To reduce long-term per capita waste generation and to increase the amount of materials recovered through waste prevention, recycling and reuse.
- To provide local long-term solid waste disposal capacity.
- To provide a high level of customer service to the people of Lane County.
- To develop and maintain a sound funding basis for the solid waste management system.
- To maintain system flexibility to respond to changing waste management technologies, public preferences, regulations and circumstances.

1.4 KEY ISSUES

The focus of the 2002 SWMP is to examine the performance of existing programs, identify deficiencies in the present system and recommend how the County may best allocate its resources to efficiently meet the demands of the solid waste system in the future. Several key issues were highlighted as part of the public involvement process, including:

1. Emphasis on waste prevention.

Oregon's waste management hierarchy places waste prevention over reuse, recycling, energy recovery and disposal. This SWMP places more emphasis on waste prevention as a preferred long-term strategy for reducing the amount of waste disposed in landfills. The SWMP examines alternatives for increased waste prevention, including education programs, sustainability policies, product stewardship initiatives and recycled product procurement.

2. Reduction of toxic materials in landfill.

Lane County is concerned about the long-term effects of disposing toxic materials in its landfill. Particular areas of concern include electronic waste and household hazardous waste. The SWMP presents opportunities to improve the recovery rate of these materials. The primary focus of the work in this area is identifying opportunities for collecting toxic materials and enhancing existing household hazardous waste collection programs.

3. Availability of long-term solid waste disposal.

Lane County must continue its long-term commitment to landfill technology to provide an economically efficient and environmentally sound solid waste disposal alternative for its citizens, and to provide sufficient time to develop closure and post-closure funds. The SWMP examines issues related to expanding the landfill, including the importance of local disposal options, environmental stewardship and fiscal responsibility.

1.5 RECOMMENDATIONS

The SWMP looks at each component of the solid waste system including waste prevention, recycling, collection and transfer, disposal, special waste, administration and funding. Discussion of the needs and alternatives for each area are presented in corresponding chapters of the SWMP.

Each chapter of the SWMP also contains recommendations for advancing the management of solid waste in a comprehensive and coordinated approach. These recommendations are designed to build upon existing infrastructure to establish the framework for implementing specific programs.

Recommendations presented in this section were developed based on the public input and review process. An assessment was made of solid waste management needs in Lane County and alternatives evaluated for each component of the system. Recommendations based on this analysis were presented to the RRAC and Waste Management Division staff.

The preferred alternatives were divided into two tiers for implementation. Tier 1 recommendations are intended for immediate implementation. Tier 2 includes long-term goals and recommendations that require further review before implementation. For specific information about each recommendation, refer to the appropriate chapters.

1.5.1 CHAPTER 4: WASTE PREVENTION

Tier 1 Recommendations:

- Follow through on development of waste prevention media campaign.
- Initiate countywide waste prevention awareness survey.
- Provide additional staffing and training to expand the Master Recycler Program.
- Develop and adopt a Lane County Sustainability Policy.
- Target broader, countywide audience with waste prevention education campaigns.
- Develop relationship with non-profit partner for educational outreach in rural areas.

Tier 2 Recommendations:

- Encourage product stewardship in local businesses and industries through focused educational programs.
- Encourage product stewardship through County purchasing policies.
- Support product stewardship legislation and policy creation.
- Work with service providers to establish countywide waste prevention goals.
- Encourage strong leadership commitment and employee involvement in sustainable development practices.

1.5.2 CHAPTER 5: RECYCLING

Tier 1 Recommendations:

- Encourage development of curbside yard debris collection in Springfield and in smaller cities.
- Initiate computer monitor and television recycling program.
- Facilitate development of long-term program for recycling of electronics.
- Expand Trash Buster Awards Program to include awards for multiple categories.
- Encourage expansion of recycling opportunities for multi-family and commercial generators.
- Assist in development of used mattress and block foam recycling systems.
- Perform annual audits of material recovery facilities.
- Adopt recycled product procurement standards for Lane County government.
- Set a recovery rate goal of 54% by 2007.

Tier 2 Recommendations:

- Perform home composting waste audit to apply for additional recovery rate credits.
- Evaluate potential of food waste collection and co-collection of yard debris with food/other organics.
- Encourage adoption of commercial recyclables collection requirements for haulers in smaller cities.
- Promote comprehensive curbside recycling in rural areas.
- Promote recycled product procurement by businesses and institutions.
- Support local business efforts to create new markets for recyclable materials.
- Support product stewardship legislation and electronic products recycling initiatives.
- Emphasize promotion of recycled product procurement within County government organizations.
- Continue to provide opportunities for public and affected group involvement in planning and implementation of recycling program.

1.5.3 CHAPTER 6: COLLECTION & TRANSFER

Tier 1 Recommendations:

- Train fee collectors in use of new technology and customer service.
- Maintain and upgrade rural transfer station infrastructure.
- Evaluate alternatives for bringing electricity to all rural transfer stations.
- Develop comprehensive operations plan for transfer program.
- Redesign the Central Receiving Station's recycling area.

Tier 2 Recommendations:

- Reevaluate hours and/or days of operation at rural transfer stations as necessary.
- Hire personnel to monitor illegal dumping and security of rural transfer stations.
- Enhance transfer station security.
- Enhance recycling opportunities at rural transfer stations.

- Implement improvements at the Central Receiving Station to accommodate expanded recycling opportunities and other County needs.
- Reevaluate rate structure for residential and commercial dumping at transfer stations.

1.5.4 CHAPTER 7: DISPOSAL

Tier 1 Recommendations:

- Continue to develop and expand the SML to provide long-term disposal.
- Emphasize dedication to resource recovery and recycling.
- Maintain compliance with federal and state permitting requirements.
- Work with federal and state agencies to develop short- and long-range plans for landfill expansion and mitigation of development impacts.
- Enhance efficiency through operational practices and equipment acquisitions.
- Repair, replace or upgrade infrastructure as necessary.
- Emphasize habitat protection and restoration.

Tier 2 Recommendations:

- Pursue stronger interagency coordination and planning to prepare for future disposal needs.
- Remain flexible when responding to changing technologies, public preferences and new laws.
- Explore new industry developments for alternate methods of waste treatment.
- Encourage the continuation and expansion of EPUD's methane gas capture program.
- Develop a long-term management strategy for leachate management.

1.5.5 CHAPTER 8: SPECIAL WASTE

Tier 1 Recommendations:

- Target "high hazard" wastes in education and collection efforts.
- Initiate a survey to identify conditionally exempt generators in Lane County.
- Target education programs at conditionally exempt generators.
- Utilize Master Recycler Program to implement an aggressive HHW education program.
- Explore methods of reusing materials disposed at HHW Collection Center.
- Check between 1-2% of incoming commercial loads for illegal materials.

Tier 2 Recommendations:

- Expand the load check program as necessary to prevent illegal disposal.
- Increase HHW collection events at remote transfer stations.
- Train additional WMD staff to assist in HHW collection events.
- Review staffing levels if and when demands for HHW collection increase.

- Expand HHW Collection Center operating hours as necessary to meet demand.

1.5.6 CHAPTER 9: ADMINISTRATION & FUNDING

Administration Recommendations:

- Continue to use RRAC as primary public involvement mechanism.
- Establish clear performance measurement standards for solid waste programs.
- Promote electronic access to waste management services.
- Periodically reevaluate solid waste administration practices to meet changing principles and policies.

Funding Recommendations:

- Develop the Short Mountain Landfill to provide long-term disposal for Lane County residents.
- Continue to utilize and enforce the System Benefit Fee to fund system-wide services.
- Periodically reassess tipping fees to ensure equity and fairness, reflect changing policies and technology, and ensure SBF supports increased waste recovery efforts.
- Maintain waste management system independent from the Lane County General Fund.
- Provide assured financial resources for closure and post-closure of the SML.
- Review the institution of waste collection franchises.

CHAPTER 2: INTRODUCTION

2.1 PREFACE

Lane County, working cooperatively with local jurisdictions, the private sector and the public, has been able to achieve an effective and efficient integrated solid waste management system that includes long-term solid waste disposal, transfer facilities, curbside recycling, waste prevention and recycling programs, and household hazardous waste recovery. However, as the County's population continues to grow, there are increasing amounts of waste requiring disposal, a growing demand for recycling services, and a heightened awareness that some wastes are hazardous to the environment and require special management. Heightened regulatory oversight and state recycling mandates, when combined with the changing dynamics and increasing toxicity of the waste stream, demand the consideration of new strategies for managing this increasing amount of waste. To address these needs and meet future demands, a road map – a Solid Waste Management Plan – is required.

The purpose of the *2002 Lane County Solid Waste Management Plan (SWMP)* is to give the County, cities, citizens and the private sector that road map. This is a plan that provides decision-makers with a general direction as to facilities and programs that will be needed to maintain an effective solid waste management system in the years to come.

2.2 PLAN PURPOSE AND GOALS

The 2002 SWMP presents a comprehensive long-term approach to solid waste management in the County providing citizens and decision-makers with a guide to implement, monitor and evaluate future solid waste facilities and programs. This plan is a tool to guide that management.

The County's primary objectives for solid waste management are:

- To provide for an integrated solid waste management system that achieves an appropriate balance of waste prevention, reuse, recycling and land disposal.
- To reduce long-term per capita waste generation and to increase the amount of materials recovered through waste prevention, recycling and reuse.
- To provide local long-term solid waste disposal capacity.
- To provide a high level of customer service to the people of Lane County.
- To develop and maintain a sound funding basis for the solid waste management system.
- To maintain system flexibility to respond to changing waste management technologies, public preferences, regulations and circumstances.

The SWMP is designed to set priorities and provide guidance for managing the County's solid waste in the years to come. These guiding principles provide direction to decision-makers for implementing the recommended programs and services. It should be recognized that solid waste practices, regulations and technologies are dynamic in nature and will result in a need to periodically update and revise the SWMP.

2.3 PLANNING HISTORY

Development of this plan began in November 1994, when the Waste Management Division hired a consultant to revise the existing plan, the *Solid Waste Management Plan Update, 79-80*. The Waste Management Policy Advisory Committee (WMPAC) reviewed this document from January 1995 through July 1995. In March 1995, a public forum was held to obtain public input into the draft. The consultant's Draft Plan was submitted to County Waste Management staff in June 1996. This Draft Plan was never reviewed or adopted by the Lane County Board of Commissioners.

Local conditions, funding issues and federal and state regulations changed dramatically after the creation of the Draft Plan. In response to these changing conditions, County staff have revised and updated the Draft Plan to create the current document, the *2002 Lane County Solid Waste Management Plan (SWMP)*.

Development of this SWMP occurred through a countywide public involvement process that included meetings with the Resource Recovery Advisory Committee (RRAC) and open public forums. The RRAC participated in the development of the 2002 SWMP by reviewing revised program and facility recommendations and by providing advice and comments on all issues addressed by the SWMP. RRAC membership includes representatives from community groups, recyclers, environmental interests, haulers, business and local government.

2.4 REGULATORY REVIEW

This section describes the federal, state and local regulations that guide solid waste management in Lane County. It does not include descriptions of all existing solid waste statutes, but rather those that most significantly impact waste management in Lane County.

2.4.1 Federal Regulations

In 1976, Congress passed the Resource Conservation and Recovery Act (RCRA) to address the environmentally safe management of municipal, commercial and industrial waste. In 1984, RCRA was revised through the passage of the Hazardous and Solid Waste Amendments. These amendments broadened the requirements placed on generators and processors of hazardous wastes.

In 1991, the U.S. Environmental Protection Agency (EPA) promulgated the Solid Waste Disposal Facility Criteria, Final Rule (40 CFR 257 and 259). Subtitle D of this standard is the section that has the greatest impact on municipal and regional solid waste management.

The primary goal of Subtitle D is to encourage solid waste management practices that are environmentally sound, maximize use of recoverable materials and encourage resource conservation. Subtitle D contains technical standards for the management of solid waste landfills, including location restrictions, requirements for facility design and operational guidelines, groundwater monitoring, corrective action measures and closure/post-closure requirements for solid waste landfills.

Congress has assigned primary responsibility for regulating solid waste to state and local governments. States are required to incorporate federal standards into their solid waste permitting programs. In the State of Oregon, the Department of Environmental Quality (DEQ) takes primary responsibility for regulating solid waste.

2.4.2 State Regulations

Pursuant to ORS 459.015, the DEQ is responsible for assuring effective programs, cooperation among local government units and coordination of solid waste management programs throughout the state. A large part of their effort involves providing advisory, technical and planning assistance to local government units, communities and business groups. The types of technical assistance include informational materials, workshops and seminars. In addition, the DEQ initiates, conducts and supports research, surveys and demonstration projects to encourage resource recovery.

The DEQ is the agency with permitting and enforcement authority over disposal facilities. This includes agency enactment of two Oregon Administrative Rules (OAR) that make the permitting of solid waste facilities contingent upon the completion of solid waste plans. The first, OAR 340-61-026, does not allow DEQ to issue a new solid waste facility permit unless the proposed facility is compatible with the adopted local solid waste plan. The second rule, OAR 340-91-020, adopted in 1992, states that a waste reduction program, approved by DEQ, must be in place before permits for disposal facilities can be approved by the Department.

The DEQ is also responsible for regulatory development and oversight. Numerous regulations have been issued that govern solid and hazardous waste management, but the most comprehensive is Oregon Revised Statutes (ORS) Chapter 459. ORS 459 delegates to counties the authority to establish a coordinated solid waste management program. The regulation also prioritizes methods of managing solid waste as follows:

- 1) To reduce the amount of solid waste generated;
- 2) To reuse material for the purpose for which it was originally intended;
- 3) To recycle material that cannot be reused;
- 4) To recover energy from solid waste that cannot be reused or recycled;
- 5) To dispose of solid waste that cannot be reused, recycled or from which energy cannot be recovered by landfilling or other method approved by the Department.

The 1991 Recycling Act (SB 66)

Senate Bill (SB) 66 extended the Recycling Opportunity Act of 1983, establishing a statewide goal of 50% materials recovery by the year 2000. To reach this goal, the 1991 Act set specific recovery rates for wastesheds and identified recycling program component choices for cities and counties based on population. Communities with a population between 4,000 and 10,000 must implement items a, b and c from the list below or select any three program elements from the list. Communities with populations of more than 10,000 must implement a, b and c from the list below and one additional element or implement at least five of the elements from the list. The list of program elements includes the following:

- a. Curbside containers for all residential customers.
- b. Weekly collection of recyclables on the same day as garbage service.
- c. Expanded promotion and education program.
- d. Multifamily recycling service for all complexes of five or more units.
- e. Yard debris recycling program.
- f. Commercial recycling program for businesses with ten or more employees.
- g. Expanded recycling depot opportunity.
- h. Rate incentives for residential recycling.

By 1997, it was clear that Oregon would not meet the 2000 goal. Consequently, the legislature passed House Bill (HB) 3744, which established new recovery rate goals for each wasteshed in Oregon. These goals are intended to move the State to a 50% recovery rate by 2009. The required recovery rates for Lane wasteshed (i.e. Lane County) are 45% by 2005, and 54% by 2009.

Through an aggressive waste reduction program conducted by haulers, recyclers, local governments, businesses and the public, Lane County has exceeded the state mandates set forth in SB 66, and thus far, those set forth in HB 3744. Lane County's recovery rate reached 52% in 2000, leading all wastesheds with the highest recovery rate in Oregon.

2.4.3 Statewide Planning Goals

Oregon's statewide planning goals provide a framework from which to integrate solid waste management plans with local land use plans. Two goals adopted by the Land Conservation and Development Commission (LCDDC) specifically address solid waste issues. Goal 6 deals with the quality of air, water and land resources. Goal 11 addresses public facilities and service. The parts of these goals that mention solid waste issues are presented below.

Goal 6: Quality of Air, Water and Land Resources

“To maintain and improve the quality of the air, water and land resources of the state.”

- All waste and process discharges (including solid waste) from existing and future developments shall not violate applicable state or federal environmental quality statutes, rules and standards.

- Local comprehensive plans should designate alternative areas suitable for use in controlling pollution, including but not limited to wastewater treatment plants, solid waste disposal sites and sludge disposal sites.
- A management program that details the respective implementation roles and responsibilities for carrying out this goal should be established for the comprehensive plan.

Goal 11: Public Facilities and Services

“To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.”

- A provision for key facilities shall be included in each comprehensive plan. To meet current and long-range needs, a provision for solid waste disposal sites, including sites for inert waste, shall be included in each plan.
- Plans should provide for a detailed management program to assign respective implementation roles and responsibilities to those governmental bodies operating in the planning area and having interests in carrying out the goal.

Lane County’s existing solid waste management plan meets these planning requirements, and has been adopted by reference as the “primary instrument to effect” Goal 11’s solid waste requirements in the *Lane County Comprehensive Land Use Plan*. Adoption of this revised SWMP will require passage of an ordinance to update the *Lane County Comprehensive Lane Use Plan*. The Eugene/Springfield Metro Plan will not need to be updated but will incorporate by reference this SWMP, as the Eugene/Springfield Metro Plan Public Facilities and Services Plan Policy G.24 states that “the Lane County Solid Waste Management Plan, as updated, shall serve as the guide for the location of solid waste sites, including sites for inert waste, to serve the metropolitan area.”

2.4.4 Local Regulations

The primary responsibility for managing solid waste in Oregon is assigned to local governments. Under ORS 459, counties have a broad range of authorities to design, construct and operate facilities and services, contract for such facilities and services and generate revenue. In addition, cities and counties are given authority to establish franchises or licenses for refuse collection.

Lane County Waste Management Division

While individual cities in Lane County franchise or license waste haulers to provide refuse collection and recycling services within incorporated areas, the primary responsibility for managing solid waste in Lane County rests with the Lane County Public Works Department Waste Management Division (WMD), as overseen by the Lane County Board

of Commissioners. The WMD is committed to providing “a solid waste management system that is environmentally sound and socially acceptable while balancing convenience with economics” and a “high level of service to the people of Lane County.” The Division meets these goals by:

- Operating transfer, landfill, special waste and recycling programs in compliance with all regulations;
- Educating generators in waste reduction and recycling techniques, the management of hazardous wastes, and proper disposal; and
- Creating a fee structure that covers all costs, provides for capital improvements and encourages waste reduction.

2001 Lane County Strategic Plan

The Lane County Board of Commissioners adopted a strategic plan in 2001 that required departments to refine their planning to meet designated countywide goals. The *2001 Lane County Strategic Plan*'s core strategies of service improvement, wise resource allocation, documented performance and responsible revenue development were used in this SWMP to evaluate the current performance of and develop recommendations to improve the County's solid waste system.

2.5 PLAN ORGANIZATION

This plan is organized to provide the reader with a background and information base prior to considering alternatives and making specific recommendations for solid waste management programs. It represents a progressive building-block approach for understanding issues and evaluating alternatives that meet established goals. This introductory chapter provides information as to the primary purpose of the SWMP. It presents overriding goals and policies that constitute the driving forces behind the management recommendations.

Chapter 3, Background and Waste Stream Assessment, describes characteristics of the County and its existing solid waste system. It includes detailed discussion of the composition of solid waste in Oregon and other waste stream information.

Chapters 4-9 address various components of the solid waste system including: waste prevention and reuse, recycling, collection and transfer, disposal, special waste management, administration and funding. Each component addressed in these chapters is presented in terms of the following elements:

- Describe existing conditions
- Identify needs and issues to be addressed

- Discuss and evaluate alternatives to meet specific issues
- Make recommendations for implementation

This plan addresses the status of existing programs for meeting state mandates, for providing an equitable level of service and for delivering cost-effective services to all constituents. It recommends specific programs that are intended to enhance the services currently provided and to set forth an integrated and coordinated approach for managing solid waste in the future. As specific recommendations are implemented, more detailed study may be needed to assure that the County's overall goals are attained.

CHAPTER 3: BACKGROUND & WASTE STREAM ASSESSMENT

3.1 INTRODUCTION

This chapter describes the demographic characteristics of Lane County. It presents a background discussion of the existing solid waste system including recycling programs, collection services and transfer and disposal sites. The chapter concludes with an analysis of existing waste stream characteristics and waste stream projections.

3.2 CHARACTERIZATION OF THE PLANNING AREA

Lane County was established on January 28, 1851, from Benton and Linn County land. The present county boundaries were established by 1856 and encompass 4,620 square miles stretching from the Pacific Ocean to the Cascade mountain ranges. Approximately 57% of the acreage of Lane County is controlled by federal agencies, including the U.S. Forest Service, the Bureau of Land Management and the U.S. Army Corps of Engineers, including large portions of the western and high Cascade mountain ranges. Neighboring counties include Douglas to the south, Lincoln, Benton and Linn to the north, Deschutes to the east, and Klamath to the southeast.

Approximately 30% of the population lives in the unincorporated county, while the remaining live in 12 cities, 8 of which are clustered in the central portion of the County in the southern Willamette Valley (see Figure 3-1). The majority of Lane County's population (59%) lives in the Eugene/Springfield metropolitan area, the largest metropolitan area in Oregon outside of Portland.

Lane County experienced an average population growth of 14.2% between 1990-2000, rising from 284,080 in 1990 to 322,959 in 2000, compared to the average statewide growth rate of 20.4%. The Oregon Office of Economic Analysis's Long-Term Population & Employment Forecast for Lane County predicts Lane County's population will increase by 13% to 374,499 in 2010, and to 419,842 by 2020. Most of this growth is expected to occur in the incorporated areas of Lane County, with the greatest expansion occurring along the I-5 corridor in the Eugene/Springfield Metro area.

Figure 3-1

Population for Lane County and Its Cities

	1990	2000	2001	% Change 1990- 2000	1990-2000 Annual Average Growth Rate	% Change 2000- 2001
Oregon	2,842,321	3,421,399	3,471,700	20.4%	1.9%	1.5%
Lane County	282,912	322,959	325,900	14.2%	1.3%	0.9%
Eugene	112,669	137,893	140,550	22.4%	2.0%	1.9%
Springfield	44,683	52,864	53,450	18.3%	1.7%	1.1%
Cottage Grove	7,402	8,445	8,670	14.1%	1.3%	2.7%
Florence	5,162	7,263	7,460	40.7%	3.5%	2.7%
Junction City	3,670	4,721	4,730	28.6%	2.6%	0.2%
Creswell	2,431	3,579	3,580	47.2%	3.9%	0.0%
Oakridge	3,063	3,148	3,150	2.8%	0.3%	0.1%
Veneta	2,519	2,755	2,840	9.4%	0.9%	3.1%
Dunes City	1,081	1,241	1,260	14.8%	1.4%	1.5%
Coburg	763	969	970	27.0%	2.4%	10.0%
Lowell	785	857	860	9.2%	0.9%	0.4%
Westfir	278	276	280	-0.7%	-0.1%	1.4%
Incorporated	184,506	224,011	227,800	21.4%	2.0%	1.7%
Unincorporated	98,406	98,948	98,100	60.0%	0.1%	-0.9%

Sources: 1990 and 2000 Figures from U.S. Census,
2001 population estimate from Center for Population Research and Census, PSU

3.3 DESCRIPTION OF THE SOLID WASTE SYSTEM

The solid waste system in Lane County consists of waste prevention, reuse and recycling, collection, transfer, special waste, and waste disposal facilities and services. This section is intended to provide a brief overview of these elements. More information on and evaluations of each program can be found in Chapters 4-9.

3.3.1 Waste prevention and reuse

The citizens of Lane County have been active in waste prevention and reuse for many years. In Lane County, waste prevention is a joint effort between county and city governments, non-profit agencies, commercial and industrial businesses, and private citizens. Programs include: discounts on disposal fees to non-profit agencies that generate waste as a by-product of their reuse (“thrift”) operations, collection of reusable household goods by non-profit agencies at County-operated facilities, waste prevention and recycling education contracts between BRING Recycling and Lane County, educational brochures, Web site listings, volunteer education, and numerous non-profit efforts to promote the reuse of items such as computers, electronics and demolition debris.

3.3.2 Recycling programs

Licensed, franchised and other haulers provide rigid containers and curbside collection of recyclables such as glass, steel cans, aluminum (cans and foil), newspaper, cardboard, mixed waste paper, plastic containers and waste oil. The Lane County Waste Management Division provides local and countywide waste prevention and recycling education and promotion, as well as multi-material depots for source separated recyclable materials at the Glenwood Central Receiving Station (CRS) and at fifteen rural transfer sites. Private non-profit agencies and for-profit companies assist Lane County in operating and/or collecting materials at the Glenwood Central Receiving Station (CRS) and maintain their own recycling depots in convenient locations throughout Lane County. These agencies also participate in special collection events, such as block foam or electronics scrap collection, and other public events and festivals. Additionally, local governments in Lane County operate complex recycling programs that include curbside collection, education efforts, and in some cases, composting programs and yard debris collection.

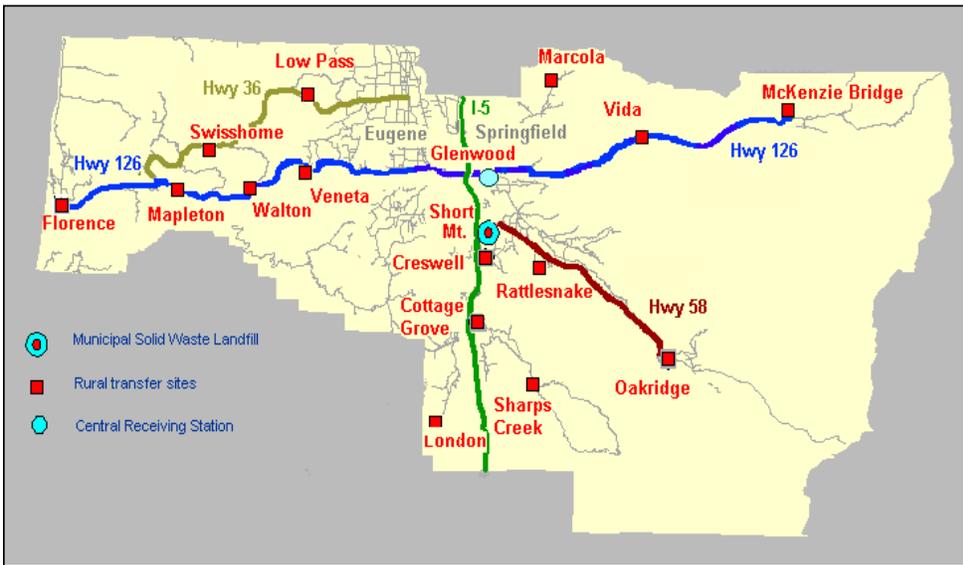
3.3.3 Refuse collection

In most of Lane County, commercial haulers perform solid waste and recycling collection. Services provided include collection of solid waste from residences and businesses and, where appropriate, collection of source-separated recyclables and yard debris. Incorporated municipalities regulate these collection services through licenses, franchises or municipal collection. Rural residents either contract with garbage services where available, or self-haul waste and recyclables to a rural transfer station.

3.3.4 Transfer facilities

Most solid waste in Lane County is either collected by a commercial hauler or self-hauled to one of 16 transfer stations operated by the Lane County Waste Management Division (see Figure 3-2). The rural transfer stations provide reasonably convenient access to recycling and proper waste disposal for Lane County residents who either chose not to utilize or do not have access to curbside collection services. The Glenwood Central Receiving Station (CRS), located between Eugene and Springfield, acts as the transfer station for the Eugene/Springfield Metro area.

**Figure 3-2
Map of Lane County Transfer System**



3.3.5 Disposal facilities

Lane County has one operational municipal solid waste (MSW) landfill facility permitted under OAR 340-93-050, as well as several County-owned landfills that are no longer receiving waste and/or have closure permits from DEQ. The only MSW landfill in Lane County that currently accepts MSW is the Short Mountain Landfill (SML). This County-owned and -operated facility has been in service since December 1976.

There is one privately-owned landfill in the jurisdiction (Delta Sand & Gravel) that accepts demolition and construction debris. Other waste disposed at the Delta Sand and Gravel Landfill includes tire shreds, oversized tires, dirt, rock, land clearing debris (such as stumps) and inert demolition debris, such as rubble, asphalt, and concrete.

3.3.6 Special waste programs

All generators are prohibited from disposing of a number of items with their garbage, including but not limited to appliances, asbestos, auto bodies, burning materials, infectious waste, lead acid batteries, used oil and tires. Some of these banned materials, including asbestos, infectious waste, industrial waste and contaminated soils, may be disposed at the Short Mountain Landfill with prior approval. Others (including tires, appliances, used oil, antifreeze, construction/demolition debris, and lead acid batteries) are collected curbside or at Lane County transfer stations as part of the recycling program.

Products that are generally classified as household hazardous waste (HHW), such as mercury-containing items, pesticides, herbicides, poisons, corrosives, reactives, solvents, fuels, oil-based paints and cleaning products, can be delivered to Lane County's Household Hazardous Waste Collection Facility. Constructed in early 1998, this facility was the first permanent household hazardous waste collection facility in Oregon outside of the Portland Metro area.

3.4 WASTE STREAM ASSESSMENT

This section presents a summary of the various components of the waste stream and the corresponding solid waste management system in the County; it also forecasts future disposal and recycling levels. The information contained in this section will assist in determining future solid waste management needs in Lane County.

3.4.1 Definitions

Before proceeding with the waste stream assessment, it is important to clarify definitions. For the purpose of this analysis, the total waste stream is defined as tons of solid waste disposed of and recycled in Lane County. Most types of solid waste are landfilled, while other wastes are recycled or disposed of in sites designated for a specific type of special waste. Each waste category has its own characteristics and handling requirements.

Municipal solid waste (MSW) is the largest component of the waste stream. In Lane County, most MSW consists of waste generated by residences, businesses and other waste generators not producing special wastes.

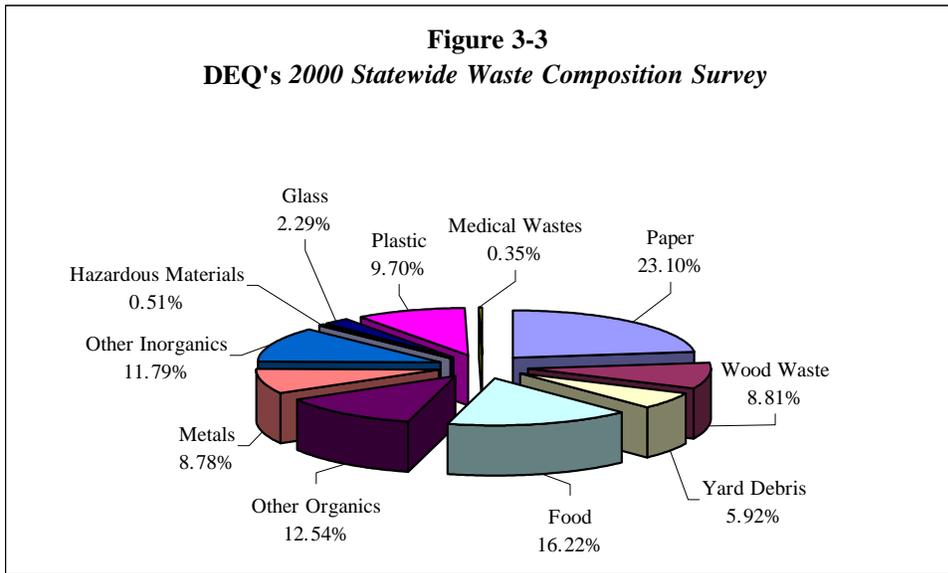
Special wastes include industrial waste, treated wood waste, demolition debris, hazardous waste, infectious waste, contaminated soils, sludges, septic tank pumpings and tires.

Recycled waste typically includes various grades of paper, metals, glass, plastic packaging, used oil and antifreeze, yard debris, some woody wastes, appliances and lead acid batteries.

Figures used in the SWMP reflect a key difference between disposed quantities and generated quantities. Disposed solid waste is considered to be all solid waste disposed at a landfill. On the other hand, waste generation is defined as all waste generated in the County and is calculated as the sum of all disposed waste plus the materials that are recycled.

3.4.2 Waste stream composition

The composition of the waste stream is important because it provides a description of the distribution and quantity of the materials, including recyclable and compostable materials, in the waste stream. DEQ has not performed an intensive survey of Lane County's waste stream since 1993. Dramatic changes in recovery rates, waste collection practices, disposal technology, etc., have made this old data unreliable. However, DEQ's bi-annual statewide waste stream analysis, which excludes the Portland Metro area but includes sampling from Lane County, gives a reasonably accurate picture of the State's, and by extension Lane County's, current waste stream composition. The results of the DEQ's *2000 Statewide Waste Composition Survey* are presented in Figure 3-3. It is assumed, for purposes of this plan, that the DEQ waste composition data reflects the Lane County waste stream.



As Figure 3-3 shows, the largest components of the waste stream are, in order:

Other Organics*	43.49%
Total Paper	23.10%
Other Inorganics**	11.79%
Plastics	9.70%
Metals	8.78%
Glass	2.29%
Hazardous Materials	0.51%
Medical Wastes	0.35%

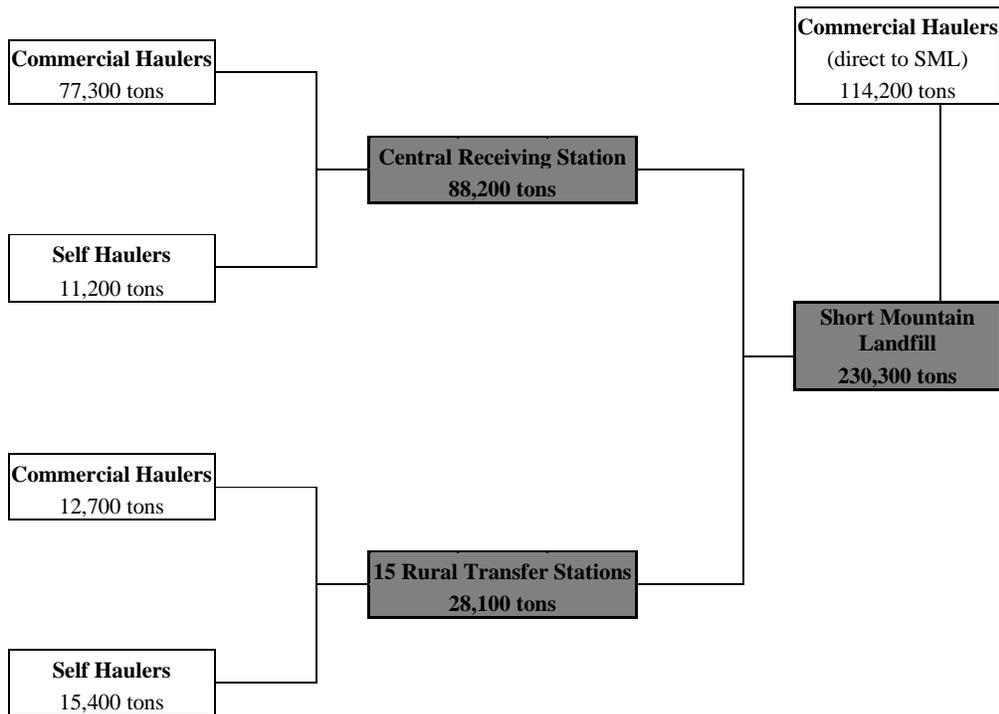
*Other organics include wood waste, yard waste and food waste.

**Other inorganics include rock, soil, construction debris, wallboard, etc.

3.4.3 Disposed Waste

Figure 3-4 illustrates the flow of solid waste through the County's 15 rural transfer sites, the Central Receiving Station and the Short Mountain Landfill in 2000. As Figure 3-4 shows, 51% of waste disposed in Lane County passed through one of the County's 16 transfer stations prior to disposal at the SML in 2000. The CRS received 78%, or 88,200 tons, of this waste, while the 15 rural sites accounted for 22%, or 28,100 tons. Approximately 49%, or 114,000 tons, of disposed waste was hauled directly to the landfill and bypassed the transfer stations.

Figure 3-4
2000 Lane County Solid Waste Disposal Facility Use



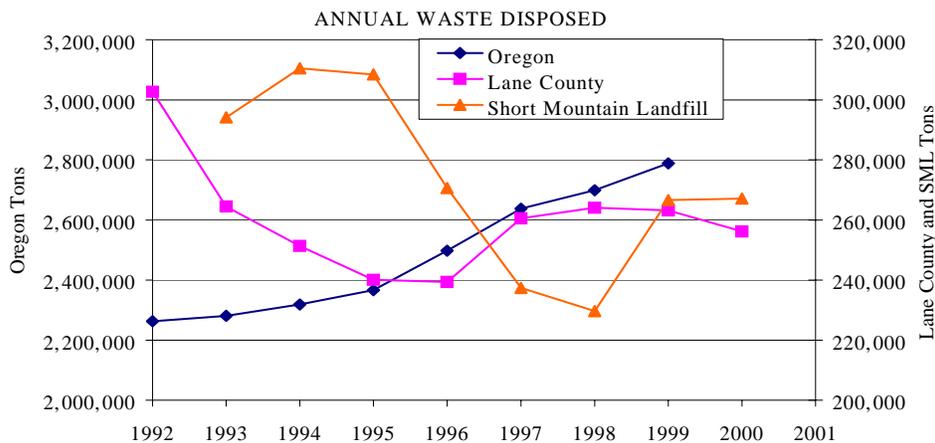
Self-haulers are the primary users of the 15 rural sites, as only three of these sites (Oakridge, Florence, and McKenzie Bridge) accept waste from commercial haulers. Figure

3-4 indicates that self-haulers accounted for 11.5% of all waste collected in the County system in 2000. This figure has changed little over the last ten years.

Short Mountain Landfill:

Figure 3-5 illustrates annual disposal tonnages for the Short Mountain Landfill between 1992 and 2001. Approximately 246,800 tons of waste were disposed at the SML in 2000. In Calendar Year (CY) 2001, the SML received approximately 230,300 tons of waste. Decreased tonnage can be attributed to economic recession and increased material recovery. The current waste cell in use at the SML is expected to provide landfill capacity until 2004. Construction of a new cell in 2002 will provide capacity through 2008.

Figure 3-5
Annual Disposal
Short Mountain Landfill, Lane County and State of Oregon, 1992-2001



Delta Sand and Gravel:

Some wastes counted as disposed in Lane County are deposited at places other than the Short Mountain Landfill, including demolition debris disposed at the Delta Sand and Gravel Landfill. This landfill received approximately 35,000 tons of demolition debris in

2000 and 40,000 tons in 2001. Despite increasing amounts of disposed waste, this landfill should not reach capacity within the next twenty years, as new landfill capacity is created whenever gravel is removed for sale from other parts of the property.

Regional landfills:

Approximately 8,475 tons of waste generated in Lane County were exported to regional landfills other than the Short Mountain Landfill in 2000. Most of this MSW went to the Coffin Butte Landfill in Benton County. Smaller amounts of waste went to landfills in Douglas, Yamhill, Baker, and Washington counties. The percentage of exported waste is down from previous years due to the passage of the System Benefit Fee Ordinance (see Chapter 9 for more information).

3.4.4 Special Waste

Use of the Lane County Household Hazardous Waste Collection Center has grown significantly each year since it opened in 1998. This facility collected 113,200 pounds in 1999, 157,200 pounds in 2000, and 166,200 pounds in 2001. In the first quarter of 2002, the facility collected 30% more material than in the same period in 2001. It appears that use of this facility is continuing to expand and will do so for the foreseeable future.

3.4.5 Recycled Waste

The remainder of the County's generated waste, approximately 216,000 tons, was recycled. Lane County residents recycled an average of 1,337 pounds per person in 2000, exceeding the Oregon average of 1,028 pounds per capita. DEQ calculated that Lane County recovered approximately 46% of its generated waste in 2000, as compared to the statewide average of 39%. With additional credits for home composting, waste prevention education and reuse, Lane County's total 2000 recovery rate was 52%. The recovery rate was calculated as follows:

$$\text{recovery rate (\%)} = \text{recovery (tons)} / (\text{disposal (tons)} + \text{recovery (tons)})$$

Waste counted for purposes of the recovery rate calculation include materials:

- Collected through curbside recycling,
- Collected through the Bottle Bill,
- Recycled from businesses,
- Dropped-off at County transfer stations, and
- Dropped-off at other sites, such as at BRING's depots, or at Lane Forest Products and Rexius, two privately-owned compost sites.

However, many other wastes are recovered which are not counted by DEQ, including:

- Scrap metals delivered to commercial processing yards or recovered from industrial sources,
- Reusable household goods and reusable building supplies collected at the County's transfer stations or delivered to "thrift" collection points,
- Wood pallets collected for reuse,
- Recycled auto bodies,
- Yard debris utilized in home composting systems, and
- A substantial amount of recycling by the forest products industry, such as the resale of bark dust.

Figure 3-6 shows the most recent statewide survey results on recovered materials in Oregon. This data provides the most up-to-date information on the types and percentages of materials recovered in the State, and by extension, Lane County.

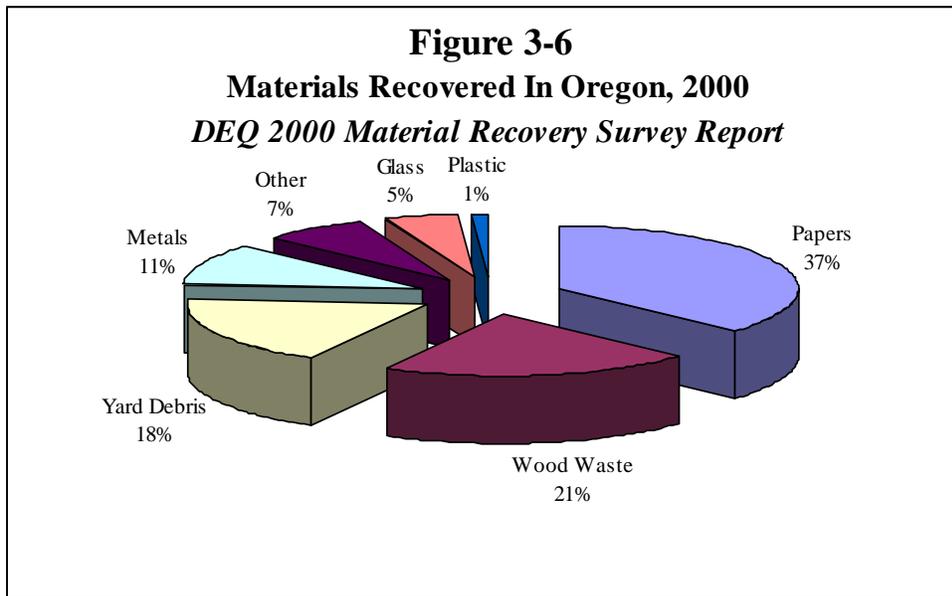


Figure 3-7 compares the overall tonnage of recovered materials in Lane County to the amount of materials recovered through Lane County's transfer station recycling depots. This figure reveals the importance of private enterprise driven recycling in Lane County, as the majority of recycling (95%) occurs without the County's direct assistance. This figure also shows that materials recovery has been increasing steadily in Lane County over the last few years. However, the County will need to continue to expand recycling and reuse efforts to reach the 54% goal required by HB 3744 by 2009. Methods for reaching this goal are discussed in more detail in Chapter 5, Recycling.

Figure 3-7
Material Recovery Comparison, 1998-2000

	Rural Transfer Stations	CRS	County Buildings**	County Total	DEQ Tonnage for Lane County	% recycled through County System	Recovery Rate for Lane Wastashed
1998	4,774	4,501	208	9,483	171,707.87	5.5%	44%*
1999	5,333	4,621	81	10,036	180,382.50	5.6%	47%*
2000	5,412	4,680	178	10,271	216,531.50	4.7%	52%*

* Recovery rates include any 2% credits earned by wastashed for waste prevention, reuse or home composting programs.

** Materials picked up from Lane County Public Service Building and Public Works Complex in Delta by Weyerhaeuser.

3.4.3 Waste stream generation forecast

To evaluate and plan for future disposal needs for Lane County, waste generation projections must be made. For planning purposes, the focus of this waste stream generation forecast centers on the amount of waste that will be received at the Short Mountain Landfill. Future development and expansion plans for this facility hinge on long-term waste forecasts.

Figure 3-5 shows the amount of waste disposed annually for the State of Oregon and Lane County as calculated by the DEQ, and the tonnage received at the SML. This graph shows that waste disposed in Lane County and at the SML has decreased from 1992 levels, while the State as a whole has increased. The difference between Lane County and the SML in the early 1990's can be attributed to wood waste taken for daily cover that is not counted by DEQ as waste and in the mid to latter 1990's to waste leaving the County for other disposal sites. For the purpose of projecting the amount of waste to be received at the Short Mountain Landfill in the future, however, it is assumed that waste volumes will increase in accordance with the statewide trend. Between 1992-2001, statewide waste disposal amounts have increased 2.6% per year.

The Short Mountain Landfill received approximately 230,000 tons of waste in CY 2001. The current cell in operation at the Short Mountain Landfill is expected to reach capacity in early 2004. To provide adequate long-term disposal capacity for Lane County, the Short Mountain Landfill would have to be expanded to accept an annual tonnage of 466,000 tons of waste by 2040 (assuming an annual growth rate of 2.6%). To meet this need, the current site development plan, entitled *Site Development Plan, Short Mountain Landfill, April 30, 2001*, incorporates plans for an additional 154 acres of landfill capacity for a total footprint of 226 acres (see Chapter 6 for more information on this plan). The expansion area would provide 43.2 million cubic yards beyond the capacity of the current footprint, and would last until 2044. (Appendix #3, *2002 Closure and Post Closure Maintenance Cost Estimates Memorandum*, provides more information on waste projections.)

If the SML is not expanded, Lane County will be forced to develop alternate long-range disposal options for its citizens. These options, which include waste export, incineration or the construction of a new disposal site, were evaluated extensively as part of this planning effort. The *Draft Lane County Comprehensive Solid Waste Management Plan, March 1999* (available at the Waste Management Division offices at 3100 E. 17th Street, Eugene, Oregon) contains a detailed cost-benefit analysis on each alternative to SML expansion. As the 2000 Lane County Board of Directors found these alternative solid waste disposal options unacceptable for financial and environmental reasons, this plan recommends that Lane County pursue the expansion of the SML as outlined in the 2001 *Site Development Plan* (see Chapter 7 for further analysis of disposal alternatives and recommendations for future disposal).

CHAPTER 4: WASTE PREVENTION

4.1 INTRODUCTION

State of Oregon law (ORS 459.015) establishes a hierarchy whereby citizens and businesses are to manage their wastes. Waste prevention and reuse sit at the top of the solid waste management hierarchy, above recycling, energy recovery and disposal. This hierarchy is significant, for while the amount of waste each Oregonian recycles has increased each year, so has the amount of waste each Oregonian generates and disposes. By decreasing the volume of material that must be recycled or disposed, waste prevention programs decrease the costs and environmental problems associated with used material collection, processing, disposal and remanufacturing.

Waste prevention involves reducing the amount of waste generated on an individual and/or group basis, and is accomplished by changing personal behavior so that new habits are developed that result in a lower level of waste generation. Reusing a grocery bag and buying materials in bulk to reduce packaging waste are typical examples of waste prevention.

Reuse means diverting an item from the waste stream for continued uses, or returning it to the economic stream to be used by someone else for its original purpose. Much of waste reuse happens at the personal or generator level. Garage sales and the want ads are examples of such reuse. Examples of private enterprise-driven reuse in Lane County include for-profit and not-for-profit businesses that sell previously owned tires, furniture, clothing, sports equipment, computers or electronics, cars, etc.

Lane County has a key role to play in facilitating and encouraging waste prevention and reuse. ORS 459A.010(2)(c) requires that “counties establish an expanded education and promotion program ... to inform solid waste generators of the manner and benefits of reducing, reusing, recycling and composting material and to promote use of recycling services.” In addition to this basic educational program requirement, the “Opportunity to Recycle” Act stipulates that Lane County is eligible to apply for a 2% credit towards its recovery rate for a waste prevention program that meets the requirements set forth in ORS 459A.010(4)(b). Lane County received these credits in 2001, but must continue to develop and expand waste prevention and reuse education programs to apply for these credits in the future.

This chapter describes current waste prevention and reuse programs and activities in Lane County, reviews needs and issues, examines alternatives for addressing these needs and makes recommendations for strengthening Lane County’s waste prevention efforts.

4.2 EXISTING WASTE PREVENTION AND REUSE PRACTICES

The citizens of Lane County have been active in waste prevention and reuse for many years. In Lane County, waste prevention is a joint effort between county and city governments, non-profit agencies, businesses, industries and private citizens. A review of

existing waste prevention and reuse efforts reveals the importance of this partnership in creating a thriving waste prevention culture.

Lane County Waste Management Division's waste prevention program relies upon close cooperation with a number of non-profit organizations. Examples include:

- ❑ Substantial (33%) discount on disposal fees to non-profit agencies that generate waste as a by-product of their reuse ("thrift") operations.
- ❑ A dedicated area for the collection of "white goods" and a host of other reusable items at the Glenwood Central Receiving Station (CRS), the County's largest solid waste transfer station, which is managed by contracts with St. Vincent DePaul and BRING Recycling. Both organizations provide staffing at the CRS to assist the public.
- ❑ Contract with St. Vincent DePaul to remove chlorofluorocarbons (CFCs) and motors from "white goods" set aside at each of the County's transfer stations. Repairable appliances are retrieved by St. Vincent's for reconditioning and re-sale or donation to low-income residents. The County recycles non-repairable appliances as scrap metal.
- ❑ Contract with BRING Recycling to provide waste prevention and recycling education services. In 2001, BRING delivered the message of recycling and waste prevention through more than 5000 contacts with school groups and more than 11,000 community contacts of various types, including a quarterly Newsletter, an exhaustive Web site, special events, etc.

Other Lane County waste prevention programs include:

- ❑ Educational brochures on waste prevention, such as *Waste Prevention & Recycling at Lane County Transfer Stations* (in both English and Spanish), *Tips and Tools to Reduce Junk Mail*, and *Alternatives to Household Hazardous Waste*.
- ❑ Extensive County Web site with information on waste prevention and reuse alternatives.
- ❑ Master Recycler Program coordination and management. Master Recyclers are community volunteers who receive at least 30 hours of comprehensive training in all aspects of solid waste and then go into the community to help others learn how to reduce, reuse, recycle and rethink.

Non-profit agencies, including BRING Recycling, Goodwill, St. Vincent DePaul, and the Salvation Army, are active agents for waste prevention and reuse within Lane County in addition to the above-mentioned programs.

- ❑ BRING Recycling collects and sells reusable building materials through the BRING Warehouse in Eugene.

- BRING Recycling provides a deconstruction service in order to rescue building materials generated by demolition and/or remodeling of small commercial and residential buildings.
- BRING Recycling sponsors special events such as periodic collections of electronic equipment.
- St. Vincent DePaul initiated an ongoing computer reuse and recycling program in August 2001 that includes the repair and resale of donated computer parts. Parts that cannot be repaired are transported to a vendor in Portland to be recycled.

Local governments and public agencies also have a large role to play in waste prevention.

- The **City of Eugene** has an established Waste Prevention Policy that is supported by management and City staff. The Solid Waste and Recycling Program focuses on the benefits of waste prevention, reuse and composting through such programs as the SMART Program (Saving Materials and Resources Today), which specifically targets commercial waste generators with free waste audits, etc. The City of Eugene also encourages waste prevention through a progressive rate structure in their residential waste collection licenses. This structure awards those who dispose of less, as service for smaller containers is significantly less expensive than for larger containers.
- The **City of Springfield** has an active “Green Committee” that promotes waste reduction and recycling within the organization. Sanipac Inc., the City’s franchised waste hauler, handles waste prevention and reuse education for the City by providing waste prevention and reuse messages on its Web site and through quarterly residential and commercial newsletters to customers.
- The **City of Florence** received a grant from DEQ in 2001 to hire an intern from the University of Oregon to implement a recycling, reuse and waste prevention education and promotion campaign in that jurisdiction. The City has begun to expand their waste prevention program to include participation in special collection events. The City has also worked with DEQ and Lane County to sponsor periodic household hazardous waste collection events to keep hazardous materials out of the landfill.
- The **University of Oregon** is committed to policies and processes that will reduce solid waste generation; firstly through prevention, secondly through reuse, and finally through recycling. Their internal program, Campus Recycling, is well supported by ongoing staffing and targeted promotion. The program includes campus-wide and departmental reuse exchanges for office materials and furniture.

4.3 NEEDS AND ISSUES

In May 2000, Governor Kitzhaber, through Executive Order EO 00-07, directed the State of Oregon to develop and promote policies and programs that will assist Oregon to meet a

goal of sustainability within one generation (by 2025). The Oregon Department of Environmental Quality's Waste Policy Leadership Group (WPLG) reviewed Oregon's solid waste policies in light of this directive and made the following recommendations to the Oregon Legislature in 2000:

By 2005, and for subsequent years, achieve a 0% annual increase in per capita municipal solid waste generation.

By 2009, and for subsequent years, achieve a 0% annual increase in total municipal solid waste generation.

According to DEQ's 2000 *Material Recovery Survey*, Lane County's per capita waste generation rate is the second highest in Oregon. Consequently, Lane County must increase its efforts in waste prevention and reuse in order to meet the above goals.

The following issues and needs were identified in the areas of waste prevention and reuse:

- Limited awareness of waste prevention education opportunities outside of Eugene/Springfield Metro area
- Focus of education efforts is disproportionately weighted toward recycling with too little emphasis on prevention
- Difficulty in tracking effectiveness of waste prevention education efforts
- Reduced viability of Master Recycler Program
- Lack of strong internal policy within Lane County government
- Need for interagency coordination

4.4 ALTERNATIVES AND EVALUATION

This section discusses alternate methods for expanding Lane County's existing waste prevention program to meet identified needs. An evaluation of each alternative is included. These programs are intended as supplements or enhancements to existing efforts, rather than as replacements for programs that are already established.

4.4.1 General Public Education and Information

- 1) Waste prevention media campaign –**
Lane County could develop a waste prevention media campaign that emphasizes waste prevention and reuse over recycling.

In order to decrease per capita waste generation, Lane County must increase citizens' awareness and understanding of waste prevention. In 2000, DEQ awarded a grant to Lane County Waste Management for a waste prevention education and promotion campaign. The County should follow through on the development and dissemination of public educational and promotional materials focused on waste prevention and reuse.

2) Waste prevention survey –

Lane County could initiate a countywide survey to gauge the public's awareness of waste prevention issues and motivating factors for reuse and waste prevention that would increase waste prevention and reuse practices.

The promotional campaign outlined in 1) above is intended to coincide with a public motivation and awareness survey. This survey could serve as a baseline to determine existing attitudes and the success of existing and new media promotions and education efforts. Additional grant monies may be needed to perform additional measurement and follow-up survey work.

3) Target countywide audience –

Existing and proposed waste prevention education campaigns could be expanded to target a broader, countywide audience.

Current waste prevention educational programs and opportunities are heavily focused on the Eugene/Springfield Metro area. Expanding current educational efforts to include the greater Lane County area would enable the citizens of rural Lane County and the smaller cities to receive the information they need to help the County meet its waste prevention goals.

Lane County could find a non-profit partner to act as an educational outreach arm in rural Lane County and in the smaller cities.

Greater effort could be made to include cities like Cottage Grove, Florence, and Oakridge in educational efforts. Establishing a contract with a non-profit organization for waste prevention education (similar to the position BRING Recycling holds in Eugene/Springfield) would require fostering of partnerships with local agencies and should be considered a long-term goal. Alternately, BRING Recycling's educational contract could be reworded to increase its emphasis on rural education.

4) Consumer awareness initiative –

Lane County could target a specific product in a consumer awareness initiative.

Lane County could make a concerted effort to improve consumers' waste-wise buying decisions by coordinating with local retailers or grocery outlets to develop pilot education initiatives targeting a number of discreet shopping practices, consumer decisions and/or products. Efforts might focus upon changing bagging behavior in grocery stores, reducing waste in holiday gift giving, or assisting new home buyers/renters to reduce their waste

volumes. Grant or research funding might be available to assist the County with some of these efforts.

5) School Waste Prevention Promotion –

School education programs could be expanded to integrate in-school waste prevention and recycling practices with other "green schools" efforts.

Focusing on school-age children encourages the long-term sustainability of waste prevention initiatives. The Eugene 4J District has undertaken some unique efforts that combine education on recycling issues with the development of in-school recycling systems. This program could be expanded to address key waste prevention objectives and replicated in other jurisdictions. Staff or a contractor would be needed to develop and implement appropriate programs.

4.4.2 Waste Prevention/Reuse Aimed at Businesses and Industry

1) Master Recycler Program expansion –

Lane County could hire a Master Recycler Program Coordinator to provide training and oversight of volunteers and to place more focus upon business, industrial and special waste prevention education.

The Master Recycler Program could be an effective method of spreading the County's waste prevention education efforts, particularly in the commercial, industrial and special waste arenas. With additional training and assistance, Master Recyclers could help Lane County meet the State's goal for 0% net increase in per capita waste generation. However, the Master Recycler Program needs additional, long-term County staff oversight to maintain training and activity schedules.

2) Product stewardship –

Lane County could support federal, state and local legislation encouraging product stewardship.

Lane County could facilitate a paradigm shift toward "zero waste" and sustainable production by actively supporting product stewardship legislation. Product stewardship is a principle that directs all actors involved in the life cycle of a product to take responsibility for the impacts to human health and the natural environment that result from the production, use and disposal of the product. Agencies such as the Product Stewardship Institute assist state and local government agencies in establishing cooperative agreements with industry and developing other initiatives that reduce the health and environmental impacts from consumer products. Lane County could support product stewardship by joining such organizations and by supporting local, state and federal legislation. (Refer to the appendix for contact information.)

Lane County could encourage product stewardship through County and other local government purchasing policies.

Product stewardship encourages manufacturers and retailers to develop and sell products that contain fewer toxic materials, can be recycled and/or contain recycled materials. By developing policies that encourage the purchasing of such products by local governments, Lane County could actively encourage both the development of such products and public awareness of such products.

Lane County could undertake a campaign to encourage product stewardship within a targeted business community.

A primary aim of product stewardship is to internalize the costs of end of life management of products such as electronics, mercury-containing products and carpets, into the costs of producing and selling those products so that the government and the general taxpaying public do not pay those costs. Lane County could develop a program to encourage product stewardship within local industries and businesses. Interested citizen groups and local businesses that have initiated sustainability programs could assist in identifying products for which pilot education initiatives could be undertaken. Grants or other funding might be available to assist the County with these efforts.

4.4.3 Lane County Waste Prevention Policies

1) Countywide goals & cooperation –

Lane County could work with cities and service providers to establish countywide waste prevention goals.

Lane County should establish a policy that encourages cooperation with cities and service providers in order to implement effective and well-coordinated programs. Improving and maintaining cooperation and coordination will require more frequent communication and interaction among all players.

2) Promotion of Sustainability Policy within County Government –

The Lane County Board of Commissioners could develop and adopt a Sustainability Policy that confirms Lane County's commitment to sustainable development.

Executive Order 00-07 directs agencies to take actions to promote sustainable practices within government operations in order to demonstrate how to reduce waste. Implementing this directive on a local basis should be one of Lane County's long-term goals. To meet this goal, Lane County needs to develop and adopt a Sustainability Policy that encourages the development and implementation of sustainability measures in all aspects of county government, including facilities construction and operation, purchasing, energy usage, vehicle use and maintenance, information systems operations, and publishing and distribution. The policy should include the development of "sustainability committees" within each department. (Refer to the appendix for sustainability policy examples.)

Lane County could look for opportunities to cooperate with state and other local government agencies on sustainable development policy development.

Many state and local government agencies in the Northwest are actively working on integrating sustainable development policies into their operations. Lane County could look for opportunities to develop partnerships with these agencies, which would allow the County to learn from others' successes and/or mistakes while expanding awareness of and interest in sustainability.

4.5 RECOMMENDATIONS

The above alternatives have been divided into two tiers for implementation (see below). Tier 1 is intended for immediate implementation. Tier 2 includes long-term goals for waste prevention and recommendations that require further review before implementation. All recommendations are intended to enhance the services currently provided and provide for an integrated and coordinated approach for integrating waste prevention into Lane County's future solid waste management system.

TIER 1: SHORT-RANGE WASTE PREVENTION RECOMMENDATIONS

- Follow through on development of waste prevention media campaign.
- Initiate countywide waste prevention awareness survey.
- Provide additional staffing and training to expand the Master Recycler Program.
- Develop and adopt a Lane County Sustainability Policy.
- Target broader, countywide audience with waste prevention education campaigns.
- Develop relationship with non-profit partner for educational outreach in rural areas.

TIER 2: LONG-RANGE WASTE PREVENTION RECOMMENDATIONS

- Encourage product stewardship in local businesses and industries through focused educational programs.
- Encourage product stewardship through County purchasing policies.
- Support product stewardship legislation and policy creation.
- Work with service providers to establish countywide waste prevention goals.
- Encourage strong leadership commitment and employee involvement in sustainable development practices.

CHAPTER 5: RECYCLING

5.1 INTRODUCTION

In 1997, HB 3744 established recovery rate goals for each watershed in Oregon. These goals are intended to move the State to a 50% recovery rate by 2009. The required recovery rates for Lane watershed (i.e. Lane County) are 45% by 2005, and 54% by 2009.

In 2000, Lane County recovered approximately 46% of its generated solid waste through recycling and reuse efforts. Additional credits totaling 6% from documented programs in waste prevention, reuse and home composting gave Lane County a total recovery rate of 52%. Consequently, it is reasonable to assume that Lane County will meet its 2005 recovery rate goal, provided interest and participation in recycling do not decline. However, the County will need to expand recycling and reuse efforts to reach 54% by 2009.

Chapter 5 gives a brief overview of the regulatory framework behind recycling, reviews existing recycling collection and processing programs in Lane County, identifies needs and issues, evaluates alternatives for expanding efforts and ranks recommendations. The objective of this section is to evaluate new programs and present recommendations that Lane County may reasonably implement to maximize the volume of recyclables collected.

5.2 EXISTING RECYCLING AND RECOVERY PRACTICES

5.2.1 Regulatory Framework

ORS 459A requires cities and counties to implement an “opportunity to recycle” program. A list of potential program elements includes:

- (a) At least one durable recycling container to each residential service customer;
- (b) Weekly on-route collection of source separated recyclable materials to residential customers, on the same day that solid waste is collected;
- (c) An education and promotion program to inform solid waste generators of the manner and benefits of reducing, reusing, recycling and composting material and to promote use of recycling services;
- (d) Recyclables collection at multi-family dwelling complexes (+5 units);
- (e) Residential yard debris program;
- (f) On-site commercial recycling collection;
- (g) Expanded depot program (1 per 25,000 people);

- (h) Progressive residential rates;
- (i) Commercial organics/compost collection.

Cities with more than 4,000 people and any county responsible for the area between the city limits and the urban growth boundary of such city must implement the first three elements (or any four items from the list). Cities with a population of more than 10,000 and any county responsible for the area between the city limits and the urban growth boundary of such city must implement the first three items plus one additional program element (or any five items from the list).

Lane County and its cities meet or exceed these program requirements, as detailed in the following section. For additional information on Lane County's existing recycling efforts, refer to the annual *Lane County Opportunity To Recycle Report*. (This report is located at the Waste Management Division offices, 3100 E. 17th Ave., Eugene, Oregon.) For a generalized summary of Lane County's recycling pathways, refer to Figure 5-1. Many of the actors involved in collecting and marketing Lane County's recyclables are shown on this diagram either by name or within a general category of material handlers.

5.2.2 Curbside collection

Licensed, franchised or other haulers who provide residential refuse service in the cities of Eugene, Springfield, Florence, Cottage Grove, Oakridge, Junction City, Veneta and Creswell provide rigid containers and curbside collection of recyclables for single family residents (including units in duplexes or triplexes) on the same day as solid waste collection. The standard curbside materials collected in all of these programs are glass, steel cans, aluminum (cans and foil), newspaper, cardboard, mixed waste paper, plastic containers and waste oil.

5.2.3 Education programs

Chapter 4, Waste Prevention, detailed local and countywide waste prevention and recycling education and promotion efforts. In compliance with state regulation, haulers in Lane County provide their customers with quarterly information on recycling opportunities and requirements. The City of Eugene Solid Waste and Recycling Program, Lane County Waste Management, BRING Recycling, and Sanipac all maintain extensive Web sites that promote and educate the public on waste prevention and recycling and provide information on collection sites, separating materials and household hazardous waste disposal. These agencies also participate in special collection events, such as block foam or electronics scrap collection, and other public events and festivals.

5.2.4 Residential yard debris program

The City of Eugene and the City of Springfield (through Sanipac) offer leaf collection programs within city limits. Eugene provides delivery of leaves to residents who can use the material. Springfield recycles collected material through Rexius. The City of Eugene

recycling program “branched out” in 2001 to provide a Curbside Yard Debris Program as part of regular garbage and recycling service within city limits.

5.2.5 On-site commercial recycling collection

Eugene and Springfield offer on-site commercial recycling. Eugene has an ordinance requiring its licensed haulers to offer on-site commercial recycling to businesses with more than 10 employees and occupying more than 1000 square feet. Springfield offers similar commercial recycling services to interested businesses through their franchise

Figure 5-1
Overview of Lane County Recycling Pathways

with Sanipac. Materials collected include newspaper, paper, glass, tin cans, cardboard and plastic.

Recyclables collection at multi-family sites is frequently considered a commercial collection service because of the refuse container servicing equipment that is required. Multi-family sites are served through a variety of means, including curbside collection and depot collection.

5.2.6 Depot collection

The Lane County Waste Management Division provides numerous multi-material depots for source separated recyclable materials. Up to 24 different materials are accepted at the Glenwood Central Receiving Station (CRS) and at fifteen rural transfer sites operated by Lane County (including Cottage Grove, Creswell, Florence, London, Low Pass, Mapleton, Marcola, McKenzie Bridge, Oakridge, Rattlesnake, Sharp's Creek, Swisshome, Veneta, Vida and Walton). Waste Management Division personnel assist the public in dropping off recyclables at the CRS and other transfer sites. Figure 5-2 provides a summary of recycling depots in Lane County and the materials that are collected at these locations.

Private non-profit agencies and for-profit companies assist Lane County in operating and/or collecting materials at the Glenwood Central Receiving Station (CRS) and maintain their own recycling depots in convenient locations throughout Lane County. Figure 5-2 details materials collected by some of these groups.

Weyerhaeuser has a contract to collect, process and market recycled materials at the rural transfer sites, except scrap metal, which the County collects and delivers to a metals processor.

5.2.7 Progressive residential rates

The City of Eugene encourages waste prevention, reuse and recycling through a progressive solid waste collection rate structure. Under this program, customers are given a range of can sizes to choose from and the cost of disposal increases with can size and frequency of pick up. There is no discount for additional cans. Customers who recycle, however, get a rebate on their monthly bill.

Sanipac also provides Springfield residents with a choice of 32-, 60- or 90- gallon containers. Rates increase with the size of container, effectively encouraging people to reduce the amount they dispose.

5.2.8 Organics Collection

The City of Eugene's Solid Waste and Recycling Program emphasizes the importance of organics collection. Specific projects include: the sale of discounted commercial worm bins to businesses with 5-25 employees; in-vessel composters to schools; an experimental food reuse program with Food For Lane County involving produce collection at supermarkets;

and an ongoing study with DEQ to determine pathogen content of food waste contaminated by meat products. The City of Eugene maintains all necessary DEQ permits for these compost programs, and is currently applying for site approval for a compost facility at Bloomburg Park in southeast Eugene that is designed to accept leaves and other debris from City projects for use by the Solid Waste and Recycling Program.

**Figure 5-2
Recycling Depots**

Other composting programs operate in the Eugene/Springfield Metro area. Rexius Forest By-Products, Inc. operates collection/processing sites in Eugene and Springfield. In addition to providing yard waste grinding services, Rexius diverts yard trimmings, grass clippings, brush, old fencing, wood shingles and clean woody debris from the landfill into its recycling program. Lane Forest Products also offers retail yard and yard debris recycling centers in Eugene and Springfield that accept yard debris and wood, sod, soil and rocks. The University of Oregon's composting yard occupies nearly 15,000 sq. ft. of paved surface. Material is brought in daily by the groundskeepers and source separated in staging areas. Each organization maintains a permit with DEQ for their operations.

5.2.9 Other recycling efforts

Household hazardous waste

The Lane County Household Hazardous Waste Collection Center, located at the CRS, accepts household hazardous waste for recycling and/or proper disposal from Lane County residents. Items collected at this facility include: used motor oil, transmission fluid, brake fluid, paint, fluorescent light bulbs, pesticides, insecticides, herbicides, fungicides, household cleaners, solvents, degreasers, adhesives, gasoline and unwanted fuels, pool chemicals, photographic chemicals, paint thinners, items containing mercury, unwanted or outdated medications and ammunition. Lane County's Special Waste Program is discussed in detail in Chapter 8.

Commercial Direct

A number of large supermarkets, distribution warehouses, printers, industrial facilities and other sites in Lane County generate sufficient volumes of cardboard, office paper, scrap metal or other materials to justify on-site processing or baling equipment. This capability allows these generators to market their materials directly to regional end markets or in greater volume when combined with supplies from other sites in the Northwest. For example, supermarkets frequently bale supplies of cardboard and plastic film and ship them back in returning trailers to a regional distribution warehouse where they are combined with material from other stores and sold under a single contract. This collection avenue has been responsible for a significant amount of recovery that is currently credited to the County.

Material Recovery Facilities (MRFs)

The Eugene-Springfield area has two material recovery facilities or MRFs (EcoSort and McKenzie Recycling). These facilities have played a significant role in increasing Lane County's recycling recovery rate. MRFs remove targeted recyclable materials from commercial mixed waste and send the residual waste (waste requiring disposal after reusable and/or recyclable materials have been separated) to the Short Mountain Landfill for disposal.

Lane County's post-MRF Residues Standard (LM 60.875(2)(j)) grants discounts on residual waste disposal at the Short Mountain Landfill based on the level of recovery achieved. To qualify for the discount, MRFs must be in compliance with all permits, including disposal site permits issued by DEQ, land use permits, etc., submit monthly reports to the Lane County Waste Management Division verifying that they have achieved an average recovery rate of no less than 15%, and ensure their residual waste contains less than 5% putrescible waste. To receive the maximum discount, MRFs must achieve a 25% recovery rate. In 2001, recovery at Lane County's two qualifying MRFs averaged 27% by weight of the incoming stream.

5.3 NEEDS AND ISSUES

Although Lane County and its cities are currently meeting or exceeding the program requirements of the Opportunity to Recycle Act, additional efforts will need to be made to increase the County's recovery rate. The following problems and needs in the areas of recycling and composting have been identified:

- Importance of resource recovery due to limited long-term capacity of the SML
- Need to increase recovery rate to meet watershed goals for 2005 and 2009
- Expanding importance of organics recovery
- Need to keep toxic materials out of the landfill
- Need to develop recycling methods and markets for materials that are dangerous and/or difficult to dispose
- Need to emphasize commercial recycling
- Need for enhancement and recognition of private and public investment in recycling
- Importance of strong County commitment to recycling

5.4 ALTERNATIVES AND EVALUATION

A list of alternatives was developed after reviewing Lane County's identified problems and needs. These alternatives are intended as supplements or enhancements to existing efforts rather than as replacements for programs that are already established. Alternatives related to household hazardous waste are discussed in Chapter 8.

5.4.1 Organics

- 1) Curbside yard debris collection –**
Haulers could provide curbside yard debris collection in Springfield and in smaller cities.

For many residents who do not have access to a pick-up or trailer, regular collection of yard debris at the curb provides a convenient alternative to self-hauling. The City of Eugene has recently implemented a curbside yard debris program that may divert as much as 10,000 tons of yard debris per year from the Short Mountain Landfill. Lane County should actively encourage the adoption of similar programs in other cities.

2) Home composting waste audit –

Lane County could initiate a home composting waste audit to apply for additional composting recovery rate credits under OAR 340-090-0045.

Many Lane County citizens actively participate in home composting of organics and yard debris. While tracking this type of waste recovery is difficult, doing so might allow Lane County to receive more than the standard 2% recovery rate credit offered for residential composting programs (OAR 340-090-0045). Documenting the extent of home composting could entail individual waste stream assessments, targeted population surveys or countywide public surveys. Additional staff or a contractor may be needed to develop and implement such an effort.

3) On-site food/organics collection –

Haulers could provide special collection routes for food and other organics to be used for composting.

The collection of food waste from restaurants, food service, food processing or food distribution establishments could divert a large amount of organic material from the waste stream. However, the difficulty of separating meat products from such food waste currently hinders the creation of an organics recycling system. The City of Eugene, in partnership with DEQ, is currently exploring the impact of meat products in organics composting. If current DEQ policy is changed in the light of this research, Lane County could actively support the development of a local food waste collection system.

4) Organics co-collection –

Haulers could provide co-collection of yard debris with food/other organics.

The City of Eugene is examining the possibility of co-collecting organics and yard debris. Lane County should monitor the success of this program and encourage other municipalities to adopt similar programs provided it is successful.

5.4.2 Toxic materials

1) Television and monitor recycling –

Lane County could initiate programs and/or landfill bans to encourage computer monitor and television recycling.

Televisions and computer monitors contain picture tubes called cathode ray tubes (CRTs). CRTs contain on average 5 pounds of lead, mercury, cadmium and a number of other

persistent toxic compounds. Harmless while intact, the lead in the screens may contaminate soil and groundwater supplies if the screens are crushed up in a landfill.

Recycling opportunities for televisions and monitors are limited. Many already end up within the municipal solid waste stream. This number may increase dramatically over the next few years, however. The Federal Communications Commission (FCC) has established an accelerated schedule for the national introduction of digital television (DTV). The broadcast television industry must convert from analog to digital transmission by 2006. This conversion will cause a dramatic increase in the number of discarded televisions in the waste stream.

To keep as many of these toxic products out of the Short Mountain Landfill as possible, the County must prioritize the establishment of a permanent recycling system for televisions and computer monitors prior to the DTV conversion. Lane County could work with a local non-profit to establish a permanent collection facility for these items. The County could collect monitors and televisions at its transfer stations for a fee, as they do white goods and tires. Collected materials could be shipped directly or indirectly to a regional recycler. The County could also establish a ban upon the disposal of these items in normal household waste, although an enforcement mechanism would have to be established to make such a ban worthwhile.

2) Electronics recycling –

Lane County could facilitate the development of a long-term program for the recycling of electronics.

Computer monitors and televisions are only one component of the consumer electronics waste stream that also includes computers, VCRs, radios, telephones and small appliances. These products often contain heavy metals and other toxins that may have negative long-term effects when disposed in a landfill. Because of their toxicity, it is important that Lane County actively develop and/or assist in the development of a long-term program for the recycling of electronics.

3) Product stewardship –

Lane County could support local, state and federal electronic product stewardship initiatives.

Product stewardship calls on those involved in a product's life cycle – manufacturers, retailers, users and disposers – to share responsibility for reducing the environmental impacts of those products. Groups such as the National Electronics Product Stewardship Initiative are working to develop national legislation that will include the cost of managing used electronic products in the overall purchase price of new electronics. Lane County could join with other local governments to support these types of product stewardship initiatives.

5.4.3 Local markets and new recycling opportunities

1) Support local end market development –

The County could support efforts of local businesses to create new markets for recyclable materials.

Materials recovered from Lane County's waste stream provide a large feedstock for industries within the region and beyond. The County, its member cities and haulers can support the establishment of local markets for existing and new recycled materials by providing them with quality processed recyclables and by encouraging the development of demand for their products. Targeted assistance might include facilitating permitting, obtaining outside funding and coordinating the involvement and decision-making of various entities.

2) Block foam recycling –

The County could support efforts of local organizations and businesses to create a market for block foam recycling.

Lane County citizens support block foam recycling, as past collection events have shown. At present, however, no local market for such material exists. Lane County could actively support local efforts to create a market for recycled block foam, and could develop or assist in the development of the collection infrastructure.

3) Mattress recycling –

Lane County could encourage and support St. Vincent DePaul's efforts to initiate a collection and recycling system for used mattresses.

Lane County could encourage and support all local efforts to initiate a collection and recycling system for mattresses. The Short Mountain Landfill is ill-equipped to handle disposed mattresses, as their springs jam operating equipment. Lane County could construct an enclosed storage facility at the Short Mountain Landfill for the temporary collection of mattresses, and either ship mattresses directly to regional processing plants for dismantling or assist an agency such as St. Vincent DePaul in doing so.

4) Expanded construction and demolition debris drop-off –

Lane County could provide construction and demolition debris drop-off sites at mid-sized transfer stations (e.g. Florence, Veneta).

To lessen the amount of recyclable material that ends up in the landfill, Lane County could place greater emphasis on the recovery of construction and demolition debris. Adding additional drop-off sites at rural transfer stations could expand the recovery of these products, especially in Florence and Veneta, where construction activity is relatively high but recovery opportunities are low. However, as both stations would require substantial modification to accommodate construction and demolition debris, this alternative is not recommended for immediate implementation but future consideration.

5) Rural curbside collection of recyclables

Lane County could promote comprehensive curbside recycling opportunities in rural areas.

Although curbside collection of recyclables is only required in cities with a population over 4000, many citizens in smaller incorporated communities or in rural areas could benefit from this type of service. As Lane County's goals include increased accessibility to recycling and raising the recycling rate, Lane County could actively promote comprehensive rural curbside recycling. Methods that could be explored include allowing rural collectors to utilize the transfer station recycling areas, establishing financial incentives, providing assistance in education program development and grant research, etc. A cost-benefit analysis studying the impacts of allowing rural collectors to utilize the transfer system could be performed as part of the development of the transfer system operations plan (see Section 6.4.3).

5.4.4 Commercial recycling

1) Multi-family recycling collection –

Lane County could encourage expansion of curbside or depot collection service at multi-family sites.

At present, residents at many, but not all, multi-family sites in Lane County have access to some form of recycling. Lane County could work with Eugene, Springfield and smaller cities to place greater emphasis upon multi-family recycling. Haulers could be encouraged to offer the same curbside service to multi-family sites as is provided to single-family households.

2) Required commercial recycling collection –

Lane County could encourage adoption of commercial recyclables collection requirements for haulers in smaller cities, similar to that adopted by Eugene.

Most haulers in Eugene and in Springfield offer commercial recycling to all interested commercial customers. Haulers in Eugene are required to provide recycling collection (of aluminum, glass, tin cans and plastics) to any business with more than 10 employees and 1000 square feet. A similar requirement in other Lane County cities would assure that most businesses in urban areas have some form of recyclables collection. This program would help small or medium sized businesses that do not otherwise generate adequate volumes of materials to justify making recycling a part of their business culture.

3) Awards and public recognition –

Recourse Recovery Advisory Committee (RRAC) could expand their current awards program to include awards for multiple categories.

Lane County could expand the Trash Buster Award Program to provide higher visibility to all types of partners in waste prevention. Rather than presenting one or two awards per year, annual awards could be presented to outstanding waste prevention/recycling proponents in multiple categories, such as: business, industry, non-profit, government agency and private citizen.

- 4) **Commercial waste audits –**
Lane County could offer additional resources to commercial and industrial generators to encourage recycling.

Lane County, through the Master Recycler Program, could place greater emphasis on performing waste audits at interested businesses and industrial sites. The County could also work to develop and promote a waste assessment “tool kit” for use by businesses that want to tackle their own waste prevention and recycling challenges in a do-it-yourself fashion. The City of Eugene’s SMART program could serve as a model for this effort.

- 5) **Recycled product procurement promotion –**
Businesses and institutions could be encouraged to “Buy Recycled.”

Businesses as well as other nonresidential and residential generators could benefit from information on sources and advantages of recycled content products. Lane County has previously implemented the “Get in the Loop” campaign, directed at improving consumer awareness of the importance of buying recycled. This campaign could be reinitiated in the future to revive interest in buying recycled products. Particular emphasis could be placed on commercial generators in smaller cities such as Florence that were not involved in the original campaign.

- 6) **MRF recovery rate audits –**
Lane County could audit local material recovery facilities to ensure accurate reporting of recovery rates and “dry” residual waste loads.

Lane Manual (LM) 60.875(2)(j)(iii) gives the County authority to audit local material recovery facilities to assure accurate reporting of recovery rates. Lane County should exercise this authority annually or bi-annually to ensure that these facilities are meeting the required recovery rates for discounted disposal.

- 7) **Post-MRF residue waste load audits –**
Lane County could continue to ensure that post-MRF residue loads disposed at the SML are not contaminated by putrescible waste.

Lane County should continue to monitor post-MRF residue loads to the Short Mountain Landfill for contamination by putrescible waste. If loads contain more than 5% putrescible waste, the load should be charged at the standard disposal rate (i.e. not discounted) per the requirements set forth in LM 60.875(2)(j).

5.4.5 County policy and program development

- 1) **County recycled procurement promotion and evaluation –**
Recycled product procurement could be made a County government objective.

By adoption of the recycled-paper-only policy, the County has increased its commitment to procuring recycled content products. Additional recycled procurement policies could be

created and adopted to expand the County's internal commitment to purchasing recycled products. This policy could provide guidance to department purchasers on implementing procurement practices that consider product and equipment longevity, reduce waste, conserve energy and reduce toxins. Ongoing monitoring and evaluation of County agency performance could be used to assess accomplishments to date and to target areas for future emphasis.

2) Support local innovative projects –

The County could provide financial support for innovative private or nonprofit-sponsored waste prevention projects.

Private or nonprofit operators in Lane County often identify innovative projects or concepts that warrant further analysis or testing to evaluate their potential. In the past both Marion County and the Portland Metro region have made funds available to support the development and testing of local efforts. Lane County could initiate a similar grant program, as well as provide assistance in obtaining outside grant funding or in tackling site or permit issues.

3) Recovery rate goal setting –

Lane County could set a recovery rate goal of 54% by 2007.

HB 3744 established a 54% recovery rate goal for the Lane watershed by 2009. Lane County should actively pursue this goal. By setting an internal goal of 54% by 2007, the County will be able to focus efforts on increasing the recovery rate and identify any deficiencies prior to the actual state-mandated target date.

4) Ongoing planning and involvement –

Lane County could continue to provide opportunities for public involvement in the planning process and throughout implementation.

Lane County should continue to encourage participation in the Resource Recovery Advisory Committee (RRAC), a citizen group that assists the County in developing new policies, implementing selected alternatives and evaluating the success of ongoing programs. The RRAC's level of community outreach could be expanded to ensure that the public continues to be involved in recycling program development and evaluation.

5.5 RECOMMENDATIONS

The following section divides the above alternatives into two tiers. Tier 1 recommendations are intended for short-term implementation; Tier 2 contains long-range goals that may require further evaluation or institutional changes prior to implementation.

TIER 1: SHORT-RANGE RECYCLING RECOMMENDATIONS:

- Encourage development of curbside yard debris collection in smaller cities.

- Initiate computer monitor and television recycling program.
- Facilitate development of long-term program for recycling of electronics.
- Expand Trash Buster Awards Program to include awards for multiple categories.
- Encourage expansion of recycling opportunities for multi-family and commercial generators.
- Evaluate creation of block foam recycling system.
- Assist in development of used mattress recycling system.
- Perform annual audits of MRF recovery records.
- Continue to check post-MRF residue loads for putrescible waste contamination.
- Adopt recycled product procurement standards for Lane County government.
- Set a recovery rate goal of 54% by 2007.

TIER 2: LONG-RANGE RECYCLING RECOMMENDATIONS:

- Perform home composting waste audit to apply for additional recovery rate credits.
- Evaluate potential for development of programs for food waste collection and co-collection of yard debris with food/other organics.
- Encourage adoption of commercial recyclables collection requirements in small cities.
- Promote comprehensive curbside recycling in rural areas.
- Initiate recycled product procurement programs for businesses and institutions.
- Support local business efforts to create new markets for recyclable materials.
- Support product stewardship legislation and electronic products recycling initiatives.
- Emphasize promotion of recycled product procurement within County government.
- Continue to provide opportunities for public and affected group involvement in planning and implementation of recycling program.

CHAPTER 6: COLLECTION & TRANSFER

6.1 INTRODUCTION

Most solid waste in Lane County is either collected by a commercial hauler or self-hauled to a facility operated by the Lane County Waste Management Division. Some commercial haulers, as discussed below, haul directly to the Short Mountain Landfill. The rest, along with all self-haulers, funnel their waste through the County's transfer system.

The transfer system is comprised of 16 transfer stations of varying sizes scattered throughout rural and urban Lane County, as well as the vehicles, equipment and staff required to move collected waste to the Short Mountain Landfill. It is the product of a strong County commitment to provide equal service to rural and urban residents. Although many of the small transfer stations cost the County more to operate than they generate in revenues, the proliferation of small stations ensures that all residents have equal access to solid waste disposal and recycling opportunities, regardless of where they live. Protecting this public investment by maintaining and upgrading the transfer stations is one of the Waste Management Division's primary long-range goals.

Chapter 6 gives a brief overview of the collection of solid waste in Lane County and its transfer to the Short Mountain Landfill, identifies collection and transfer issues, evaluates alternatives to meet identified problems, and ranks recommendations. The objective of this section is to evaluate existing conditions and present recommendations that Lane County may reasonably implement to maintain and enhance the collection and transfer system.

6.2 EXISTING CONDITIONS

6.2.1 Collection Services

In most of Lane County, commercial haulers perform solid waste and recycling collection. Incorporated municipalities regulate these collection services through a variety of means (refer to Figure 6-1). Eight cities franchise collection. The cities of Eugene, Florence and Dunes City issue licenses to private haulers. Junction City offers the only municipal collection service in Lane County.

Each municipality establishes its own rate structure for collection services. Services provided include collection of solid waste from residences and businesses and, where appropriate, collection of source-separated recyclables and yard debris. The collected solid waste is taken directly to the Short Mountain Landfill in Goshen, sorted at a material recovery facility (MRF) before shipment to the Short Mountain Landfill, or deposited at a transfer station operated by Lane County Waste Management Division in Florence, Oakridge, or McKenzie Bridge. Recyclables may be sent directly to local or regional end-markets or delivered to local processors.

**FIGURE 6-1
COLLECTION SERVICES IN INCORPORATED AREAS**

Incorporated Area	Collection Service	Type of Arrangement
Coburg	Coburg Sanitary Service	Franchise
Cottage Grove	Cottage Grove Garbage Service	Franchise
Creswell	P & J Disposal	Franchise
Dunes City	Waste Connections	Licenses
Eugene	ASW Disposal, Coburg Disposal, Countryside Disposal Service, Eugene Drop Box, Lane Apex Garbage Service, Royal Refuse Service, Sanipac	Licenses
Florence	Waste Connections	Licenses
Junction City	Junction City	City Service
Lowell	Star Garbage Service	Franchise
Oakridge	Oakridge Sani-Haul	Franchise
Springfield	Sanipac	Franchise
Veneta	Veneta Garbage Service (Waste Connections)	Franchise
Westfir	Oakridge Sani-Haul	Franchise

At present, Lane County does not franchise or license collection services in unincorporated areas, although it has the authority to do so under ORS 459.125.

Pros and cons for franchising collection service in unincorporated Lane County are discussed in Chapter 9, Administration & Funding.

6.2.2 Rural Transfer Stations

Lane County Waste Management Division operates 15 rural transfer stations scattered throughout the County. These rural transfer stations provide reasonably convenient access to recycling and proper waste disposal for Lane County residents who either chose not to utilize or do not have access to curbside collection services.

Eight of the rural stations are on property owned by Lane County. The other seven are on property leased from private firms or government agencies such as the Bureau of Land Management (BLM) or U.S. Forest Service (USFS). The location of each transfer station is shown in Figure 3-2 and discussed in detail in Figure 6-2.

The majority of the rural transfer stations in Lane County began operating in 1973. Later additions include: McKenzie Bridge Transfer Station (1983), Cottage Grove and Creswell Transfer Stations (1986), and Oakridge and Florence Transfer Stations (1991). The last two

replaced County-operated landfills that were closed after elevated regulatory requirements made the operation of the sites unfeasible.

FIGURE 6-2

TRANSFER STATIONS -- LOCATION & USE

FACILITY	LOCATION	OWNERSHIP	NO. DAYS OPEN	WASTE FLOW (tons/year)	CUSTOMER FLOW (vehicles/year)
Glenwood Central Receiving Station (CRS)	Between Eugene and Springfield on 17th Ave. - 0.1 mile west of 17th and Glenwood Blvd. Intersection	Lane Co.	330	88,599	128,809
Cottage Grove	Sears Rd. - 0.5 mile north of Sears Rd. and Row River Rd. intersection	Lane Co.	205	2,999	18,799
Creswell	Cloverdale Rd. - 0.9 miles east of I-5	Lane Co.	205	1,761	10,455
Oakridge	Hills Creek Reservoir Rd. - 0.7 miles south of Hwy 58	Leased	205	2,605	5,113
Florence	Rhododendron Dr. - 1.9 mi north of Ninth Ave. and Rhododendron Dr. intersection	Lane Co.	304	11,979	16,404
McKenzie Bridge	Forest Service Rd. 705 - 0.4 miles from Hwy 126	Leased (USFS)	148	705	2,208
London	London Rd. at mile post 9	Lane Co.	51	189	1,417
Sharps Creek	Sharps Creek Rd. - 0.7 miles west of Row River Rd.	Leased	51	156	940
Vida	North of Hwy 126 at mile post 22, 1/4 mile up gravel BLM road	Leased	205	952	6,069
Low Pass	0.3 mile west of mile post 35 on Hwy 36, 0.4 mile beyond gate on BLM road	Leased	102	599	3,647
Walton	At mile post 32 on Hwy 126	Leased	51	125	698
Mapleton	Hood Creek Rd. - 0.3 mile east of Hood Creek Road and Hwy 126 intersection	Lane Co.	51	136	835
Swishhome	Mile post 9 on Hwy 36 east of Swishhome	Lane Co.	77	235	1,549
Marcola	Shotgun Creek Rd. - Shotgun Creek Road and Marcola Road intersection	Leased	205	918	4,557
Rattlesnake	Rattlesnake Rd. - 2.3 miles south of Hwy 58	Lane Co.	205	1,418	8,335
Veneta	Bolton Hill Rd. - 1.5 miles west of Territorial Rd.	Lane Co.	205	3,407	19,964

Totals:	2600	116,783	229,799
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The layout and facilities of each transfer station vary, as do their operating hours and staffing (see Figure 6-3). Hours and frequency of operation reflect the volume of traffic each site receives. Currently, Sharps Creek, Mapleton, Walton and London Transfer Stations are open one day per week. Swisshome and Low Pass Transfer Stations are open two days per week. McKenzie Bridge is open three days per week. The remaining rural transfer stations are open four days per week, although Florence is open for a total of six days, with two days for commercial wastehaulers only.

FIGURE 6-3

TRANSFER STATIONS -- OPERATIONS SUMMARY							
FACILITY	TRANSPORT VEHICLE	NO. OF BAYS	NO. OF GARBAGE DUMPING STALLS	METALS BAY (NO. OF BOXES)	NO. DAYS OPEN	WASTE FLOW* (tons/year)	VEHICLE FLOW * (customer loads/year)
Glenwood Central Receiving Station (O)	Trailer	N.A.	20	N.A.	330	88,599	128,809
Cottage Grove (O)	Trailer	4	12	No	205	2,999	18,799
Creswell (O)	Drop Box	4	6	Yes (1)	205	1,761	10,455
Oakridge (L)	Drop Box	4	6	Yes (1)	205	2,605	5,113
Florence (O)	Trailer	N.A.	6	N.A.	304	11,979	16,404
McKenzie Bridge (L)	Double Drop Box	2	6	Yes (2)	148	705	2,208
London (O)	Drop Box	2	2	Yes (1)	51	189	1,417
Sharps Creek (L)	Drop Box	2	2	Yes (1)	51	156	940
Vida (L)	Low Profile Trailer	2	4	No	205	952	6,069
Low Pass (L)	Double Drop Box	2	4	No	102	599	3,647
Walton (L)	Drop Box	2	2	Yes (1)	51	125	698
Mapleton (O)	Drop Box	2	2	Yes (1)	51	136	835
Swisshome (O)	Double Drop Box	2	4	Yes (2)	77	235	1,549
Marcola (L)	Low Profile Trailer	2	4	No	205	918	4,557
Rattlesnake (O)	Low Profile Trailer	3	8	No	205	1,418	8,335
Veneta (O)	Low Profile Trailer	3	8	Yes (2)	205	3,407	19,964
					2600	116,783	229,799

* -- CY 2001 statistics

(O) -- Lane Co. Ownership (L) -- Leased Property

The Lane County Waste Management Division provides fee collectors, recycling operators and transfer vehicle operators as staff for the sites. A specially designed Point of Sale

(POS) computer system and an associated database, Waste Look, are used to track customer and disposal volumes at these sites.

Lane County contracts with Weyerhaeuser to collect most materials recycled at the transfer stations (see Figure 5-2). County operators pick up recycled scrap metal, yard debris and construction debris. Other contractors are used to provide for the collection of tires and waste oil.

6.2.3 Glenwood Central Receiving Station (CRS)

The CRS, located in the Glenwood neighborhood between Eugene and Springfield, acts as the transfer station for the Eugene/Springfield Metro area. It is also the primary staging area for staff and the Division's fleet of vehicles and equipment. The CRS was constructed and has been in operation in Glenwood since late 1976. The complex has grown over time to include: central receiving station, resource recovery facility (now decommissioned), voluntary recycling area, vactor facility, household hazardous waste facility, administration offices, equipment repair facilities, etc. The CRS receives 87,000 tons of waste materials per year, which are transported by Lane County operators to the Short Mountain Landfill for disposal.

Many commercial compactors, residential self-haulers and recyclers utilize this transfer station. In 2001, 34,200 commercial vehicles and 94,600 residential self-haulers made use of the site. Approximately 15% of Eugene/Springfield residents self-haul to the CRS.

The recycling area at the CRS is extensive and often very crowded. BRING Recycling, St. Vincent DePaul and Waste Management Division staff maintain recyclables collection areas for 24 different types of materials, including yard and construction/demolition debris. While most recyclables are accepted without charge, users pay fees for materials that are banned from landfill disposal by state law such as tires and white goods.

6.3 NEEDS AND ISSUES

The 2001 *Lane County Strategic Plan's* core strategies of service improvement, wise resource allocation, documented performance and responsible revenue development were used to evaluate the current performance of the County's collection and transfer system. The following list of needs and issues related to waste collection and transfer was developed in light of these strategies:

- Need to ensure high level of customer service
- Need to minimize aesthetic and environmental impacts
- Need to increase hauling efficiency
- Need for continual maintenance and upgrading of facilities and equipment

- Concern over personnel and property security at rural stations
- Concern over on-going problem with illegal dumping
- Need to establish and maintain fair rate structure for residential and commercial users

Needs and issues concerning recycling collection services are discussed in Chapter 5.

6.4 ALTERNATIVES AND EVALUATION

A list of alternatives was developed after reviewing the above needs. These alternatives are intended as supplements or enhancements to existing efforts rather than as replacements for programs that are already established.

For discussion on funding alternatives related to solid waste collection, please refer to Section 9.4. Alternatives relating to curbside recycling collection, curbside yard debris collection and enhancement of commercial recycling collection services are discussed in detail in Section 5.4.

6.4.1 Service improvement

1) Train fee collectors –

The County could prioritize training of fee collectors.

Lane County has over 35 full-time, part-time and substitute fee collectors. Many of these collectors alternate stations; some work only one day per week at a rural site. Maintaining training levels can be a challenge with such a diverse work group, particularly when technological changes occur. Ensuring quality training is essential, however, as fee collectors are the Waste Management Division's primary customer service representatives. Lane County could prioritize the training of fee collectors, particularly in the areas of computer system operation, customer service and recyclables sorting.

2) Upgrade fee collection equipment –

Lane County could update computer equipment in rural transfer stations as new technology becomes available.

In 2001, the County introduced a new computer tracking system at the larger transfer stations. The new Point of Sale (POS) computer system and its associated database, Waste Look, allows administration to track waste disposal and fee collection on a daily basis, enhancing their capability to identify problems and evaluate program efficiency. Fee collectors input data directly into the computer at the larger sites; staff transcribe handwritten data from the smaller sites. The County could take advantage of technological advancement and purchase portable computer systems for the rural transfer stations to allow staff to link to the POS and Waste Look operating systems. The County could also

upgrade other computer or electronic systems as new products are made available or as the old systems lose their flexibility.

6.4.2 Resource maintenance and enhancement

1) Maintenance and upgrading of transfer stations –

Lane County could reevaluate transfer station maintenance needs annually and repair, replace or upgrade infrastructure whenever necessary.

As most of the transfer stations date from the early 1970s, they are in need of constant maintenance. To protect the public's assets, the County must remain vigilant in regards to maintenance and repair of this infrastructure. Maintenance needs are currently evaluated on an annual basis for budgetary predictions. The County should maintain a system of annual maintenance review, as well as investigate opportunities for upgrading facilities whenever feasible.

2) Electricity to remote sites –

The County could evaluate alternatives to bring electricity to remote transfer stations.

The transfer stations at McKenzie Bridge, Walton, Sharp's Creek, Mapleton, Swisshome and Lowpass do not have electricity. Fee collectors at these sites track money and transactions manually. Lane County could reevaluate possible methods of bringing electricity to these sites. Electricity will allow operators and fee collectors to utilize cash registers and computers at these sites, as well as provide light for loading and unloading waste, give staff an added sense of security, and permit the installation of perimeter security lighting. It would also allow operating hours to be changed to enhance customer service.

3) Security of personnel and facilities –

The County could enhance transfer station security.

All of the transfer stations have security problems. Perimeter fences are frequently cut; fee collection booths have been vandalized and robbed; banned items have been improperly disposed; and collected waste has been searched for sensitive information such as credit card bills. Lane County could dedicate resources to enhancing transfer station security through a variety of means, including: dedicated patrols, alarm systems, camera surveillance, perimeter lighting, etc. Initial efforts could be targeted at the larger stations like the CRS, Cottage Grove, Creswell and Florence, where electricity, phone lines and nearby population centers make these upgrades easier to implement. Lane County could monitor the effectiveness of security efforts at these stations before attempting to implement similar measures at more remote sites.

4) Illegal dumping –

The County could hire staff to work on illegal dumping enforcement.

Waste Management contracted with the Lane County Sheriff Department for enforcement services through 1999. A deputy patrolled the transfer stations, responded to reported illegal solid waste dumps and attempted to track down responsible parties. This position was eliminated in 1999 for fiscal reasons. Illegal dumping remains a problem, however, as do security for personnel and facilities at the rural transfer stations. Lane County could investigate the possibility of hiring a full-time staff member to perform duties previously carried out by the Lane County Sheriff. This staff person could provide a level of security to fee collectors and operators isolated at rural stations without electricity.

5) Glenwood CRS redesign –

Lane County could redesign the layout of the recycling area at the Central Receiving Station.

There are many reasons to redesign the CRS, including: confusing flow of residential traffic; lack of parking; little storage space or room to expand within the recyclables collection area; lack of room for expansion for County operations; need for additional space for new recyclables such as TVs and mattresses; etc. Redesigning the layout of the recycling area would demonstrate the County's commitment to waste recovery and potentially increase participation in recycling at the transfer station that services the largest metropolitan area in Oregon outside of Portland. There is little vacant space within the complex, however, and there is no vacant land around the perimeter. Redesigning the entire facility may require complete site closure and reconstruction. Smaller changes, however, could be made without disrupting operations for extended periods. The County could evaluate the possibility of either partial or complete reconstruction of the CRS recycling area. The Resource Recovery Advisory Committee could play a vital role in the design and planning phase of this project.

6.4.3 Performance measurement and improvement

1) Transfer system operations plan –

Lane County could draft an operations plan for the transfer system.

The transfer system currently operates without a detailed operations plan. As a consequence, equipment purchases or facility upgrades have occurred in the past with little or no planning for their integration into the system as a whole. Comprehensive planning could eliminate current problems, ensure future changes are in keeping with and enhance the County's goals, and give operators and collectors clear direction for day-to-day activities. Additionally, the operations plan could be utilized to provide clear performance measurement standards for the Waste Management Division. This operations plan should be updated every five years to reflect changes in the regulatory environment or trends in use, etc.

2) Expansion of operating hours –

The County could expand operating hours at mid-sized rural transfer stations.

At present, the CRS is the only transfer station open 6 days a week (7 days a week during peak season, April 1-October 1). Florence is open Wednesday through Saturday for residential traffic, and Monday through Saturday for commercial traffic. Cottage Grove, Creswell and Oakridge transfer stations are open four days per week, Wednesday through Saturday. These operating parameters could be reevaluated to ensure the County is providing the best possible level of customer service. However, as staffing levels and operation levels would need to be increased if hours changed or additional weekend days were added, the County should only change existing operating parameters if there is a documented increase in demand.

3) Expansion of recycling opportunities –

Lane County could expand recycling opportunities at rural transfer stations.

As population areas expand or new recycling markets are introduced, Lane County could expand recycling opportunities at its large and mid-sized transfer stations. Areas of growth could include construction and yard debris drop-off, as well as the collection of new materials such as block foam, electronic scrap and boxsprings and mattresses. Additional recycling bays may require redesigning or upgrading existing facilities, however. A cost benefit analysis could be performed to determine whether or not the amount of additional recovery would justify this expense. Redesigning the CRS will become increasingly important if new recycling opportunities are to be added to this facility.

6.4.4 Revenue development

1) Weight-based vs. volume-based rates –

The County could reevaluate its rate structure to ensure equity between residential and commercial rates.

Presently, commercial and residential rates are calculated differently at the CRS and at some of the rural stations. Self-haulers in pickup trucks are charged based upon the volume of material they dispose, where as commercial haulers in compactors are charged based upon the weight of their material. Lane County could reevaluate its rate structure to ensure equity between residential and commercial haulers. This might entail adding scales to transfer stations for residential use. A cost benefit analysis could be performed to determine whether or not the rate structure change would justify the expense.

2) Closure of rural transfer stations –

The County could reconfigure the rural transfer station system.

The 1996 Draft Solid Waste Management Plan reviewed several alternative methods of reconfiguring the rural transfer station system to save money. One alternative examined was to reconfigure the system by closing some of the rural sites (including Swisshome, Walton, McKenzie Bridge and Marcola) and expanding the operational hours of facilities that are located near the closed sites. Although this alternative provided marginal cost savings to the Lane County (in staffing, transport, taxes, etc.), the costs of reduced service to the residents of these areas are considered more substantial than the money saved. These

rural transfer stations provide equal access to solid waste disposal and recycling opportunities for all residents and discourage illegal dumping. It is not recommended that Lane County consider closing any of the rural transfer stations at this time.

6.5 RECOMMENDATIONS

The following section divides the previously discussed alternatives into two tiers. Tier 1 recommendations are intended for short-range implementation; Tier 2 recommendations are seen as long-range goals, as they may require institutional changes or further examination. The recommendations are:

TIER 1: SHORT-RANGE COLLECTION & TRANSFER RECOMMENDATIONS:

- Train fee collectors in use of new technology and provide on-going training in the area of customer service.
- Maintain and upgrade rural transfer station infrastructure as necessary.
- Evaluate possible alternatives to bring electricity to all rural transfer stations.
- Develop comprehensive operations plan for transfer program.
- Redesign the Central Receiving Station's recycling area.

TIER 2: LONG-RANGE COLLECTION & TRANSFER RECOMMENDATIONS:

- Reevaluate need to expand hours and/or days of operation or shift hours of operation at rural transfer stations as necessary.
- Hire personnel to monitor illegal dumping and security of rural transfer stations.
- Enhance transfer station security.
- Enhance recycling opportunities at rural transfer stations.
- Implement improvements at the Central Receiving Station as necessary to accommodate expanded recycling opportunities and other County needs.
- Reevaluate rate structure for residential and commercial dumping at transfer stations as necessary.

CHAPTER 7: DISPOSAL

Comment:
Chapter Seven **MUST BE PRINTED IN WORDPERFECT FOR WINDOWS** due to embedded graphics!

7.1 INTRODUCTION

Although waste prevention, reuse and recycling significantly decrease the waste stream, the ability and capacity to dispose of excess municipal solid waste (MSW) remains a crucial element in the management of the overall solid waste system. In order to provide Lane County residents with an environmentally sound and reasonably priced disposal solution, Lane County has chosen to make a long-term commitment to landfill technology.

At their May 31, 2000 meeting, the Lane County Board of Commissioners found that continued landfill operation was the most economically viable alternative for Lane County citizens. Other disposal options (including exportation of waste, incineration, new site development, etc.) will only be explored in the case of failure of the current disposal system. Failing such an occurrence, Lane County intends to develop and enhance the current system.

This chapter evaluates the current solid waste disposal system in Lane County and examines future disposal needs and facility requirements. Specifically, this chapter discusses existing disposal facilities, evaluates current facility needs, presents alternatives to fulfill these needs, and ranks recommendations for short- and long-term implementation.

7.2 EXISTING CONDITIONS

Lane County has one operational municipal solid waste landfill facility permitted under OAR 340-93-050, as well as several County-owned landfills that are no longer receiving waste and/or have closure permits from DEQ. There is one privately owned landfill in the jurisdiction (Delta Sand & Gravel) that accepts demolition and construction debris. The following section briefly describes these facilities.

7.2.1 Short Mountain Landfill

Physical description:

The only MSW landfill in Lane County that currently accepts MSW is the Short Mountain Landfill (SML). This County-owned and -operated facility has been in service since December 1976. The SML is located near Goshen, approximately eight miles south of the Eugene-Springfield metropolitan area (see Figures 3-2 and 7-1). It consists of a 580-acre parcel bounded on the west by Interstate 5, on the south by Camas Swale Creek, and on the north by Short Mountain. The Coast Fork of the Willamette River lies to the east of the site.

Figure 7-1
Map of the Short Mountain Landfill

The landfill operation currently covers 73 acres of the 580-acre parcel. The landfill property includes: a scale house/fee station, Waste Management Division staff offices, equipment storage buildings, a leachate management facility and associated lagoons, a pistol range (operated by the Lane County Sheriff Department), and a model-airplane landing strip (operated by the Eugene Aeronauts). In addition, the Emerald People's Utility District (EPUD) manages a methane gas conversion facility in conjunction with landfill operations.

Operations:

Waste material presently deposited at the SML includes MSW, demolition and construction debris, petroleum-contaminated soils accepted by permit, and other miscellaneous solid waste as defined by OAR 459.005. The majority of the waste stream is MSW transported by Lane County from the County's transfer stations (for information on the County's transfer system, please see Chapter 6). The SML does not normally accept waste from outside of Lane County.

In Calendar Year (CY) 2001, the SML received approximately 230,300 tons of waste. This equates to approximately 758 tons per day (based on 304 days of operation). Tipping fees are either \$45/ton (for non-compacted waste) and \$46/ton (for compacted waste).

The DEQ-approved *Operations Plan, Short Mountain Landfill, April 21, 1995* (available for review at the Waste Management Division offices, 3100 E. 17th Ave., Eugene, Oregon) contains extensive information on the operation of the SML. Disposal requirements for special and/or hazardous wastes are handled separately (see Chapter 8 for more information on Lane County's Special Waste Program).

Existing development:

To date, waste placement has occurred in three of six operational phases delineated in the existing DEQ-approved development plan, entitled *The Engineering Report for the Short Mountain Landfill* (May 1990). Phase III, which began accepting waste in March, 1999, is expected to provide landfill capacity until 2004. This phase incorporates a combination of design and management practices following Federal Resource Conservation Recovery Act (RCRA) Subtitle D standards. These standards are intended to prevent releases of contaminants and protect human health and the environment, and include requirements for an extensive liner system, vector control, groundwater monitoring, methane gas capture and daily coverage. A portion of the landfill outside the active waste cell is used for the disposal of pre-approved asbestos and sharps.

Future development:

A revised operational plan, entitled *Site Development Plan, Short Mountain Landfill, April 30, 2001*, was submitted to the DEQ in order to update and refine the 1990 plan. This document includes plans for a series of 10 lateral expansions to the existing landfill that will provide the citizens of Lane County with approximately 40 years of additional landfill

capacity (see Figure 7-1). Construction on Phase IV, the first of these lateral expansions, began in the summer of 2002.

Although the eventual projected development will impact approximately 110 acres of wetlands that contain *Lomatium Bradshawii*, an endangered plant species, landfill expansion plans have been devised to minimize impact to these plants. The County has obtained permit approval from the DEQ, the Division of State Lands (DSL) and the U.S. Army Corps of Engineers (USACE) for an off-site wetlands mitigation project designed to compensate for unavoidable impacts to the on-site wetlands.

Development, Closure and Post-Closure Funding:

ORS 459.272 requires owners of land disposal sites set aside funds to cover the cost of closure and a minimum 30-year post-closure maintenance period. To meet this requirement, Lane County has chosen to establish separate funds for closure and post-closure maintenance at the Short Mountain Landfill, as well as an independent fund for future cell construction and development. By making annual contributions to these funds, the County reduces the budget impact of future capital expenditures and provides funding for these activities from the current revenue stream. Details on current and projected closure, post-closure and development funding are provided in Appendix #3. Additional information on funding, including alternatives and short- and long-range recommendations, can be found in Chapter 9, Administration & Funding.

7.2.2 Closed Landfill Program

Lane County has three landfills that are “closed” to new municipal solid waste, located in Oakridge, Florence, and Franklin (near Cheshire). The DEQ has issued Closed Landfill Permits for these sites. Permit requirements vary depending upon the characteristics of each landfill, but may include: monthly physical inspections, monitoring for potential groundwater contamination, capping, vegetation control, and site security and maintenance.

7.2.3 Delta Sand and Gravel Demolition Landfill

Delta Sand and Gravel owns and operates a demolition landfill at its gravel pit located on Division Avenue, north of the Belt Line Highway and west of the Willamette River. The site has a solid waste operating permit from DEQ and accepts construction, demolition and land clearing debris; oversized tires and shredded tires; concrete and asphalt.

7.3 NEEDS AND ISSUES

The following list of needs and issues related to long-term solid waste disposal in Lane County was developed through discussions with the Waste Management Division staff and the Resource Recovery Advisory Committee:

- Importance of continued development of the SML

- Importance of compliance with Federal, State and local environmental regulations and permitting requirements
- Interest in new technology and industry developments
- Concern over environmental impacts of current and future waste disposal operations
- Importance of funding for development, closure and post-closure of the SML
- Need for contingency planning for future waste disposal

7.4 ALTERNATIVES AND EVALUATION

The following alternatives were developed after reviewing operational and organizational needs. For discussion on funding alternatives related to solid waste disposal, closure and post-closure, please refer to Section 9.4.

7.4.1 Operations

1) Dedication to waste prevention –

The County could emphasize its dedication to waste prevention and recycling.

Tipping fees generate all of the revenues needed to operate the disposal system. Consequently, Lane County has an economic incentive to accept more waste to generate additional revenue. However, higher waste tonnages will cause the SML to reach capacity more quickly and force Lane County to develop additional, likely more expensive MSW disposal options. It is in Lane County's best interest to maximize the lifespan of the SML through a continued dedication to waste prevention and recycling. Encouraging waste prevention and recycling will extend the use of the SML while preserving valuable resources for future generations. Potential programs include: expanded waste prevention and recycling education programs, consideration of landfill bans, and fee initiatives designed to target specific materials in the waste stream and fund the cost of their recovery or recycling.

2) Meet Federal and State permit requirements –

The County should continue to place a high priority on prompt compliance with Federal and State permitting requirements.

It is important to maintain public trust and confidence in the management of the disposal system. In addition to the SML's operating permit, Lane County currently operates under a large number of federal and state permits (see Appendix #4), including: an National Pollution Discharge Elimination System (NPDES) 1200Z permit for storm water discharge associated with all aspects of SML operation and its future expansion, an NPDES permit for discharge from the leachate treatment system, a Title V Air Quality permit for the SML and closure permits for the Franklin, Florence and Oakridge Landfills. Future lateral expansions to the SML will require permits from DSL and USACE for impacts to

jurisdictional wetlands in accordance with Section 404 of the Clean Water Act. Lane County should continue to maintain compliance with all existing and future regulatory requirements and assure the timely completion of all required studies and analyses as set forth by permit standards and work plans.

3) Maintain and enhance equipment and facilities –

Lane County could reevaluate disposal system maintenance needs annually and repair, replace or upgrade infrastructure whenever necessary.

To protect the public investment in the SML and associated infrastructure, Lane County should prioritize the maintenance and enhancement of equipment and facilities associated with the disposal system. This would require at minimum an annual reassessment of infrastructure needs and the prompt repair and replacement of equipment. It should also include the upgrading of such equipment as necessary.

4) Enhance efficiency –

Lane County could enhance the efficiency of its disposal system through operational practices, equipment purchases, etc.

Increasing regulatory requirements and staffing costs necessitate that Lane County take every opportunity to enhance the efficiency of its disposal operation. Recent examples of efficiency improvements include: purchase of an automatic tarping machine which reduces the need for the hand-placement of tarps, staff scheduling that maximizes the use of compaction equipment, and compactor equipment selection that makes full use of existing landfill air space. Lane County could continue to purchase equipment and modify operational practices whenever possible to enhance efficiency.

5) Leachate facility management –

Lane County could develop a long-term management strategy for the leachate management facility at the Short Mountain Landfill.

SML leachate is currently trucked to the regional Water Pollution Control Facility in Eugene. However, an on-site leachate treatment facility is being developed at the Short Mountain Landfill. This facility treats leachate through a reverse osmosis technology provided by the Pall Corporation. The facility will be operated by the Pall Corporation under a contract that will last for a minimum of two years and a maximum of five years. Prior to the end of the contract, Lane County will need to develop a long-term management strategy for this facility. Options include: WMD operation of the facility, renegotiating with the Pall Corporation for operation of the facility, operation by another third party, and system modification to take advantage of technological improvements. This decision will need to be based upon a review of the performance of the reverse osmosis system, new technological developments and potential changes in federal and state requirements.

- 6) **Methane gas recovery program expansion –**
Lane County could encourage the continuation and expansion of EPUD’s methane gas recovery program at the Short Mountain Landfill.

EPUD currently manages the SML’s methane gas extraction program through a contract with Lane County. Landfill gas is collected via a network of gas collection wells and a system of headers and collection pipes. These collection components convey the methane gas to an onsite power generation plant where the methane gas is converted to electricity. As the landfill expands, Lane County should work closely with EPUD to ensure the continuation and expansion of this program. The recovery of landfill gas not only benefits EPUD and its rate payers by reducing the volume and cost of purchased electricity, but serves Lane County’s interests as well. In the absence of EPUD’s gas recovery system, Lane County would be required to put controls in place to manage landfill gas migration and potential impacts to air quality.

7.4.2 Development

- 1) **Explore alternative disposal methods –**
Lane County could explore alternative disposal methods.

In May of 2000, Lane County prepared an alternative analysis that considered the continued operation of the SML, the closure of the SML and hauling of waste to existing out-of-County solid waste disposal facilities, and the closure of the SML in conjunction with the permitting of a new site within Lane County. A copy of this analysis may be found in the *Site Development Plan, Short Mountain Landfill 2001*. At the May 31, 2000 meeting of the Lane County Board of Commissioners, these alternatives were considered and a finding made that the continued operation of the SML was the most economically viable alternative for Lane County citizens.

Based upon this determination, it is recommended that Lane County continue to operate the Short Mountain Landfill for disposal of solid waste for the duration of this planning period. Lane County will not explore alternative disposal methods unless there is a failure of the existing system.

- 2) **Maximize use of the Short Mountain Landfill –**
Lane County could continue to develop and expand the SML to provide long-term disposal for Lane County residents.

As the Phase III cell at the SML will reach capacity in 2003-2004, Lane County must expand the SML to continue to provide MSW disposal at the site. If developed as proposed in the *Site Development Plan, Short Mountain Landfill 2001*, this expansion could provide capacity until 2044, assuming an average annual tonnage of 300,000 that increases 3% per year due to population growth. It is recommended that Lane County follow this plan to expand the SML, while allowing for plan adaptations in the event of changing disposal needs, regulatory requirements or technological changes.

3) Protect the environment –

Lane County could minimize habitat destruction while maximizing the lifespan of the Short Mountain Landfill.

Northern portions of the SML site are covered with extensive areas of white oak forest and hillside wetlands; southern portions are adjacent to Camas Swale Creek and contain known colonies of Bradshaw's Lomatium, an endangered species. Projected landfill expansions will impact lowlands lying between these two habitats. These lowlands are classified as jurisdictional wetlands, but are considered less sensitive than the adjacent habitats because they have been previously impacted by agricultural, racetrack and land filling activities. Lane County could modify its expansion plans to lessen impacts to more sensitive habitat areas, and should work with federal and state agencies to develop operational plans for work within the expansion areas that will meet or exceed current and future environmental regulations.

4) Interagency planning and coordination –

Lane County Waste Management Division could pursue stronger interagency coordination and planning to prepare for future disposal needs.

It has been determined that wetlands are present within the footprint of the proposed lateral expansions to the SML. Mitigating the impacts of Phase IV required the purchase of a large piece of property to the south of the Short Mountain Landfill and will require the subsequent creation and maintenance of approximately 130 acres of wetlands in perpetuity. Development of Phases V-XIII may or may not require the purchase of additional property and/or wetlands credits.

To ensure comprehensive wetlands mitigation planning, implementation and maintenance, the Waste Management Division may need to work closely with staff from other divisions within the Public Works Department to find alternate wetland mitigation sites for future cell development and to ensure the long-term mitigation and management of these sites.

5) Cooperation with Federal and State agencies –

Lane County could work with federal and state agencies to develop short- and long-range plans for landfill expansion.

Gaining approval for and implementing wetlands mitigation efforts will take extensive coordination with federal and state agencies such as DSL and USACE. These plans may also require the assistance and cooperation of other environmental protection and/or land management agencies. Lane County could cooperate on short- and long-range planning efforts with these agencies from the beginning, to speed the approval process as well as to ensure the long-term success of mitigated wetlands.

6) Maintain flexibility –

Lane County could maintain flexibility when responding to changing technologies, public preferences and new laws.

The 2001 Lane County Strategic Plan emphasizes the importance of innovation and creativity in the pursuit of excellence. Inclusion of this principle into daily site operations and landfill development activity is important. As federal and state regulations, technology and public perceptions change constantly in the waste management arena, Lane County must strive to maintain flexibility in responding to changing circumstances.

7) Explore new industry developments –

Lane County could explore new industry developments for alternate methods of landfill management.

There are a number of reasons why Lane County should explore new industry developments or technologies for landfill management, including: furthering the life-span of the SML, reducing leachate toxicity and generation, lessening disposal of hazardous wastes, and reducing the cost of landfill operations. New technologies and techniques could be integrated into the current disposal system as new cells are developed to divert specific waste streams from inclusion in the MSW landfill. Examples of potential alternate methods include bioreactor technology, which involves reintroducing leachate into landfilled MSW to increase the rate of decomposition and the diversion of specific highly toxic waste stream constituents.

7.5 RECOMMENDATIONS

The following section divides the previously discussed alternatives into two tiers. Tier 1 recommendations are intended for short-term implementation; Tier 2 recommendations are seen as long-range goals. The recommendations are:

TIER 1: SHORT-RANGE DISPOSAL RECOMMENDATIONS:

- Continue to develop and expand the SML to provide long-term disposal.
- Emphasize dedication to resource recovery and recycling.
- Maintain compliance with federal and state permitting requirements.
- Work with federal and state agencies to develop short- and long-range plans for landfill expansion and mitigation of development impacts.
- Enhance efficiency through operational practices and equipment acquisitions.
- Repair, replace or upgrade infrastructure as necessary.
- Emphasize habitat protection and restoration.

TIER 2: LONG-RANGE DISPOSAL RECOMMENDATIONS:

- Pursue stronger interagency coordination and planning to prepare for future disposal needs.
- Remain flexible when responding to changing technologies, public preferences and new laws.
- Explore new industry developments for alternate methods of waste treatment.
- Encourage the continuation and expansion of EPUD's methane gas capture program.
- Develop a long-term management strategy for leachate management.

CHAPTER 8: SPECIAL WASTE

8.1 INTRODUCTION

Requirements for the handling and disposal of certain waste types are established by Oregon state law (ORS 459.005 to 459.105, 459.205 to 459.385, and 459.992) and by federal legislation (including the Federal Resource Conservation and Recovery Act and the Hazardous and Solid Waste Amendments of 1984). This legislation requires all municipalities that manage solid waste disposal to implement programs for the proper disposal of special waste and to keep hazardous waste out of landfills.

To implement this legislation, Lane County Waste Management Division has dedicated resources and staff to a Special Waste Program that:

- o Keeps the Division in compliance with federal and state regulations regarding special and hazardous waste;
- o Monitors and authorizes special waste disposal;
- o Manages the Household Hazardous Waste Collection Center and other hazardous waste collection program elements; and
- o Provides education and technical assistance to customers regarding proper disposal of special and household hazardous wastes.

This chapter provides a brief overview of the regulatory framework that drives Special Waste program activity, reviews existing special waste and household hazardous waste program elements in Lane County, identifies needs and issues, evaluates alternatives for expanding efforts, and ranks recommendations. The objective of this section is to evaluate new programs and present recommendations that Lane County may reasonably implement to minimize the environmental and health impacts of the generation, use and eventual disposal of special and hazardous wastes.

8.2 EXISTING SPECIAL WASTE PROGRAMS

8.2.1 Special waste

DEQ describes “special wastes” as certain wastes that, due to their origin or characteristics, require special handling. Examples include: industrial solid wastes; clean up materials contaminated with hazardous substances; petroleum-contaminated wastes; asbestos; infectious waste; PCBs; construction and demolition materials; large animal carcasses; sewage sludge and grit; septage; agricultural wastes; and oil wastes. These wastes, when disposed in municipal solid waste landfills, may cause personnel safety hazards, create odor and vector problems, generate excessive leachate, lead to excessive settlement, pose a fire hazard or increase the toxicity of leachate.

All generators (both residential and commercial) are prohibited from disposing of a number of these items with their garbage, including but not limited to appliances, asbestos, auto bodies, burning materials, infectious waste, lead acid batteries, used oil and tires. Some of these banned materials, including asbestos, infectious waste, industrial waste and contaminated soils, may be disposed at the Short Mountain Landfill, but must be specifically approved through the Waste Management Division's special waste permit process prior to acceptance for disposal. Others (including tires, appliances, used oil, antifreeze, construction/demolition debris and lead acid batteries) are collected curbside or at Lane County transfer stations as part of the recycling program (for more information on recycled materials, see Chapter 5).

The following examples illustrate how some special wastes are managed in Lane County:

- ❑ The Waste Management Division collects **household batteries**, such as nickel cadmium, button and lithium batteries, as a special waste at all transfer sites and during household hazardous waste collection events. The County also manages a battery recycling program that involves the collection of batteries from approximately 30 businesses, including camera shops, jewelers, hearing aid suppliers and toy stores. The County provides collection containers and pick-up twice per year.
- ❑ **Petroleum-contaminated wastes** (such as soils from underground storage tank removals and spills) require review and analysis prior to acceptance by the Waste Management Division. If acceptable they are taken for disposal at the Short Mountain Landfill under a special waste permit.
- ❑ Although most segregated **infectious wastes** from Lane County are handled privately and are either sent out of state or to the incinerator in Marion County, Lane County does accept sharps and sterilized infectious wastes for disposal at the Short Mountain Landfill. Sharps are collected in special puncture-resistant containers at all transfer sites and are disposed in the asbestos cell at the Short Mountain Landfill.
- ❑ The County prohibits the disposal of **dead animals** (greater than 80 pounds), including animals from agricultural operations, at any of the transfer stations. Large loads may be disposed at the Short Mountain Landfill with prior approval of County staff.
- ❑ All waste **asbestos** is managed in a dedicated area outside the active waste cell at the Short Mountain Landfill. Disposal requires prior approval by the County under a special waste permit.
- ❑ **Contaminated cleanup materials** are allowed in the Short Mountain Landfill with prior approval. Such materials may include absorbent pads, oil booms, hand tools, rags and diatomaceous earth.

For detailed information on the management of special wastes in Lane County, please refer to the Waste Management Division's *Special Waste Management Plan*. The *Special Waste Management Plan* describes waste characterization, special acceptance, handling, storage,

recordkeeping and disposal procedures for special waste materials at the Short Mountain Landfill and, where applicable, Lane County transfer sites. (This plan is located at the Waste Management Division offices, 3100 E. 17th Ave., Eugene, Oregon.)

8.2.2 Household Hazardous Waste Collection Center

The State of Oregon and Lane County are concerned about the generation, use and eventual disposal by households and small businesses of hazardous products that are harmful to human health and the environment. Examples of such products include: mercury and mercury-containing items (thermostats, thermometers, fluorescent bulbs), pesticides, herbicides, poisons, corrosives, reactives, solvents, fuels, some types of batteries, paints, certain cleaning products, motor oil and antifreeze. These products are generally classified as household hazardous waste (HHW).

To divert these materials from landfills, ORS 459.411 encourages the creation of permanent depots and/or periodic collection events for household hazardous waste and hazardous waste generated by conditionally exempt generators (CEGs). Lane County began conducting annual or semi-annual collection events in 1986 and expanded the program to offer special collection events for CEG's in 1992. These events were so successful and the volume of material collected so substantial that the need for a permanent facility was apparent. Consequently, Lane County applied for and received a permit in 1997 to establish the first permanent household hazardous waste collection facility in Oregon outside of the Portland Metro area.

Lane County's HHW Collection Center was constructed at the Glenwood Central Receiving Station and became operational in July, 1998. This collection facility provides for the proper disposal of household hazardous wastes at no charge to residents of Lane County. It is currently open by appointment each Thursday and on one Saturday per month. The facility served approximately 2,435 households in 2001, up from 1,788 households in 2000. Materials collected totaled nearly 200,000 pounds in 2001.

Almost any type of HHW can be accepted at the collection center, including paint, thinners and other solvents, fuels, pesticides, corrosive materials, pool chemicals and more. Items NOT ACCEPTED include: asbestos (accepted at the Short Mountain Landfill), radioactive materials (including smoke detectors), explosives (ammunition and road flares accepted), infectious wastes (sharps accepted at all Lane County transfer sites), empty containers, dried paint and non-hazardous wastes, including food products, and commercially-generated hazardous waste.

Although commercially-generated hazardous waste is not accepted, businesses that meet DEQ's definition of a small quantity conditionally exempt generator (CEG) can utilize the HHW Collection Center provided they pre-register and pay disposal fees. Lane County sponsors collection events for CEGs on the second Wednesday of each month. All types of businesses can use this program, including printers, painters, auto repair shops, manufacturers, laboratories, government agencies, non-profit organizations, medical offices and photo processors. The facility collected material from 211 CEGs in 2001.

Small quantity or large quantity generators must follow more stringent reporting and waste management handling procedures and are not eligible to use the collection facility.

8.2.3 Rural collection events

Prior to 2001, DEQ sponsored and ran periodic rural collection events in Lane County. When DEQ reduced the frequency of their rural collection events, Lane County began its own program of rural HHW collection events. These collection events are typically held in the spring and fall at the larger rural transfer stations, although the location and frequency of events changes annually based on the level of local interest and available staffing. Special Waste Program staff conducted two collection events in 2001, in Oakridge and in Florence; three events are scheduled for 2002.

8.2.4 Load checks

RCRA Subtitle D (adopted by Oregon in OAR 340-094-0040-11(b)(B)) requires all municipal solid waste landfills to have a program for detecting and preventing the disposal of regulated hazardous wastes, PCB wastes and any other unacceptable wastes. To meet this requirement, Special Waste Program staff checks loads of incoming waste at the Short Mountain Landfill, the CRS and the Florence Transfer Station on a random basis for compliance with rules and standards. Current staffing levels restrict the load check program to approximately 1,000 commercial load inspections per year.

8.2.5 Education opportunities

As it is “in the interest of public health, safety and the environment to provide information and educational programs about alternatives for management of HHW, methods of reusing and recycling HHW, and alternatives to the use of products that lead to the generation of hazardous waste” (ORS 459.411(b)), DEQ has implemented a statewide household hazardous waste public education program. DEQ-prepared pamphlets and brochures on HHW disposal, recycling and non-toxic or less toxic alternatives are available to the public at the HHW Collection Center and the Waste Management Division’s offices, as well as online through Lane County’s and DEQ’s Web sites. Lane County also maintains a phone line to answer questions regarding hazardous waste disposal. Public service announcements and newspaper articles are used to advertise the HHW Collection Center and special events such as the mercury thermometer exchange held in 2001. Staff exchanged 2,500 digital thermometers for mercury thermometers during this event.

8.3 NEEDS & ISSUES

The following issues and needs in the area of special waste have been identified:

- Importance of keeping hazardous waste out of the landfill
- Importance of targeting “high hazard” wastes
- Expanding interest in rural collection opportunities
- Growing popularity of Household Hazardous Waste Collection Center
- Need to reach more conditionally exempt generators
- Health and safety of Special Waste Program staff

8.4 ALTERNATIVES & EVALUATION

A list of alternatives was developed after reviewing Lane County’s identified problems and needs. These alternatives are intended as supplements or enhancements to existing efforts, rather than as replacements for programs that are already established.

8.4.1 Household hazardous waste collection

1) Expand HHW Collection Center hours –

Lane County could expand operating hours at the Household Hazardous Waste Collection Center.

Public interest in and awareness of the HHW Collection Center has grown steadily over the first three years of operation. The facility saw a 36% increase in use between calendar years 2000 and 2001. If interest continues to grow, additional operating hours may be necessary to meet the demand. Lane County could expand operating hours of the HHW Collection Center periodically, based upon continued growth in demand for service. Additional staffing might be necessary to expand existing service levels, however. Lane County should review necessity for additional staffing as the program expands.

2) Additional HHW collection events –

Lane County could increase the frequency of rural HHW collection events.

The County currently conducts two to four HHW collection events outside of the Eugene/Springfield Metro area each year. The County could expand the number of collection events held each year to allow more rural residents an opportunity to dispose of hazardous waste. These events could be scheduled quarterly or semi-annually at specific transfer stations (such as Cottage Grove, Veneta, Vida, Rattlesnake, and Florence), or held periodically at remote transfer stations based upon interest and/or perceived need. The County could partner with local fire departments to offer service in remote areas. Materials

collected would be transported to the permanent facility for proper preparation prior to processing, recycling or disposal. Expansion of existing service levels might require additional staffing, however. To meet this staffing need, the County could train other Waste Management Division staff to help with HHW collection events.

3) Material Reuse

Lane County could explore alternative methods of reusing materials disposed at the HHW Collection Center.

Many of the products disposed at the HHW Collection Center are suitable for reuse. Cans of paint, cleaning products, pesticides and solvents are examples of materials that could be reused rather than disposed if there was a convenient, safe and cost-effective way of transferring this material to interested parties. Lane County could explore alternative reuse programs to reduce the amount of material manufactured and disposed and save in disposal fees. Options include cooperation with BRING Recycling to create a hazardous material reuse program, and shipment of used paint to Portland's Metro for use in their paint recycling program.

8.4.2 Conditionally-exempt generators

1) Initiate CEG survey –

The Waste Management Division could initiate a survey to identify CEGs in Lane County.

Many small businesses and organizations in Lane County may be unaware of both hazardous waste disposal requirements and opportunities. Lane County could initiate a survey to identify CEGs in Lane County. Once identified, these generators could be encouraged to take advantage of Lane County's disposal system. Information gathered by this survey could also be used to develop educational programs that target businesses that are either not properly handling materials or generate "high hazard" waste.

2) Develop CEG-targeted education programs –

Lane County could target education programs for CEGs to encourage waste prevention, use of safer alternatives and proper disposal.

Lane County could develop education programs that target those businesses generating "high hazard" waste. These programs could utilize information gained from surveys (like those suggested above), or be based upon recent technological or industry developments. Expanded educational activities could include: outreach through existing business groups, "brown bag" presentations at scheduled meetings of existing business groups, point-of-purchase education and technical assistance utilizing written educational materials. Targeted materials could be developed for the real estate industry, for example. Master Recycler Program volunteers could provide staffing for this initiative, which might qualify for funding through DEQ grants.

8.4.3 Load check program

- 1) **Expand load check program –**
Lane County could expand the load check program.

To maintain compliance with federal and state law and DEQ permit requirements, Lane County must check a percentage of commercial loads brought to transfer sites for prohibited waste. The industry standard is approximately 1% of all commercial loads. Lane County should continue to meet or exceed this standard. If periodic checks reveal increasing amounts of hazardous waste in commercial loads, the County could increase the number and frequency of load checks at all sites that accept commercial loads.

8.4.4 Education

- 1) **Target “high hazard” wastes –**
Lane County could continue to target “high hazard” wastes in its waste prevention education and collection efforts.

In 1999 the DEQ shifted its emphasis from managing all types of HHW equally well to focusing more effort and resources on those types of wastes which have higher environmental or health impacts. These “high hazard” wastes generally include poisons (pesticides, PCBs, etc.), heavy metals (mercury articles or thermometers and switches, lead-acid and Nickel-Cadmium batteries, etc.), flammables (solvents, gasoline, kerosene, etc.) and reactives and corrosives (acids, bases and oxidizers). Lane County currently places emphasis on these waste types through its education efforts, public service announcements, collection events, etc. As educational programs and/or collection opportunities are expanded in the future, however, the County could place still greater emphasis on preventing these types of waste from entering the solid waste stream.

- 2) **Expand HHW education program –**
Lane County could implement an aggressive education program to encourage the proper use of HHW identification, recycling opportunities, proper handling and disposal, and the use of non-toxic or less toxic alternative products.

Lane County could expand its HHW educational programs in various ways, including: school programs, “cleaner kits” (kits that contain safer substitutes for common household cleaning products), block leader/community group outreach, brochures, direct mail and point-of-purchase education. Examples of program targets could include real estate agents and rental agencies. Master Recycler Program volunteers could assist in these expanded educational programs.

8.5 RECOMMENDATIONS

The following section divides the previously discussed alternatives into two tiers. Tier 1 recommendations are intended for short-term implementation; Tier 2 recommendations are seen as long-range goals, as they may require institutional changes or further examination. The recommendations are:

TIER 1: SHORT-TERM SPECIAL WASTE RECOMMENDATIONS:

- Target “high hazard” wastes in education and collection efforts.
- Initiate a survey to identify conditionally exempt generators in Lane County.
- Target education programs at conditionally exempt generators.
- Utilize Master Recycler Program to implement an aggressive HHW education program.
- Explore methods of reusing materials disposed at the HHW Collection Center.
- Check between 1-2% of incoming commercial loads for illegal materials.

TIER 2: LONG-TERM SPECIAL WASTE RECOMMENDATIONS:

- Expand the load check program as necessary to prevent illegal disposal.
- Increase the number/frequency of HHW collection events at remote transfer stations.
- Train additional Waste Management Division staff to assist in HHW collection events.
- Review staffing levels if and when demands for HHW collection increase.
- Expand HHW Collection Center operating hours as necessary to meet demand.

CHAPTER 9: ADMINISTRATION & FUNDING

9.1 INTRODUCTION

This chapter examines existing practices for administering and financing Lane County solid waste management programs. The chapter reviews existing policies, management organization, ordinances and funding mechanisms currently operating in Lane County. Based on this review, solid waste program administration and funding alternatives are discussed and recommendations made to improve the overall solid waste system.

9.2 EXISTING CONDITIONS

9.2.1 Existing solid waste administrative agencies

Several public agencies are involved in administering and overseeing solid waste activities in Lane County. They are: the US Environmental Protection Agency (EPA), which establishes federal standards for solid waste activities; the Oregon Department of Environmental Quality (DEQ), which administers state and federal solid waste management requirements; municipalities that franchise or license solid waste collection and recycling; Lane County as the waste management authority per ORS 459.125; and the Lane County Public Works Department Waste Management Division (WMD) through the operation of disposal sites, recycling and special waste programs and the actions of a citizen's advisory body - the Resource Recovery Advisory Committee (RRAC).

Oregon Department of Environmental Quality (DEQ)

The State of Oregon, through the Department of Environmental Quality (DEQ), enforces federal and state standards for the operation of land disposal sites, waste transfer stations, and recycling and special waste programs. EPA has delegated authority for RCRA Subtitle D implementation to the DEQ, which oversees solid waste disposal site permit issuance and compliance, solid waste grant administration, local government recycling implementation, household hazardous waste collection event activities, waste prevention/recycling education and resource efficiency activities.

Pursuant to ORS section 459.015, DEQ is responsible for assuring effective programs, cooperation among local government units and coordination of solid waste management programs throughout the state. A large part of their program involves providing educational and technical assistance to government agencies, community and business groups and citizens. Types of technical assistance include informational materials, workshops and seminars. In addition, DEQ initiates, conducts and supports research and demonstration projects to encourage resource recovery. DEQ also provides grants to assist jurisdictions in implementing programs such as waste prevention education and hazardous waste collection.

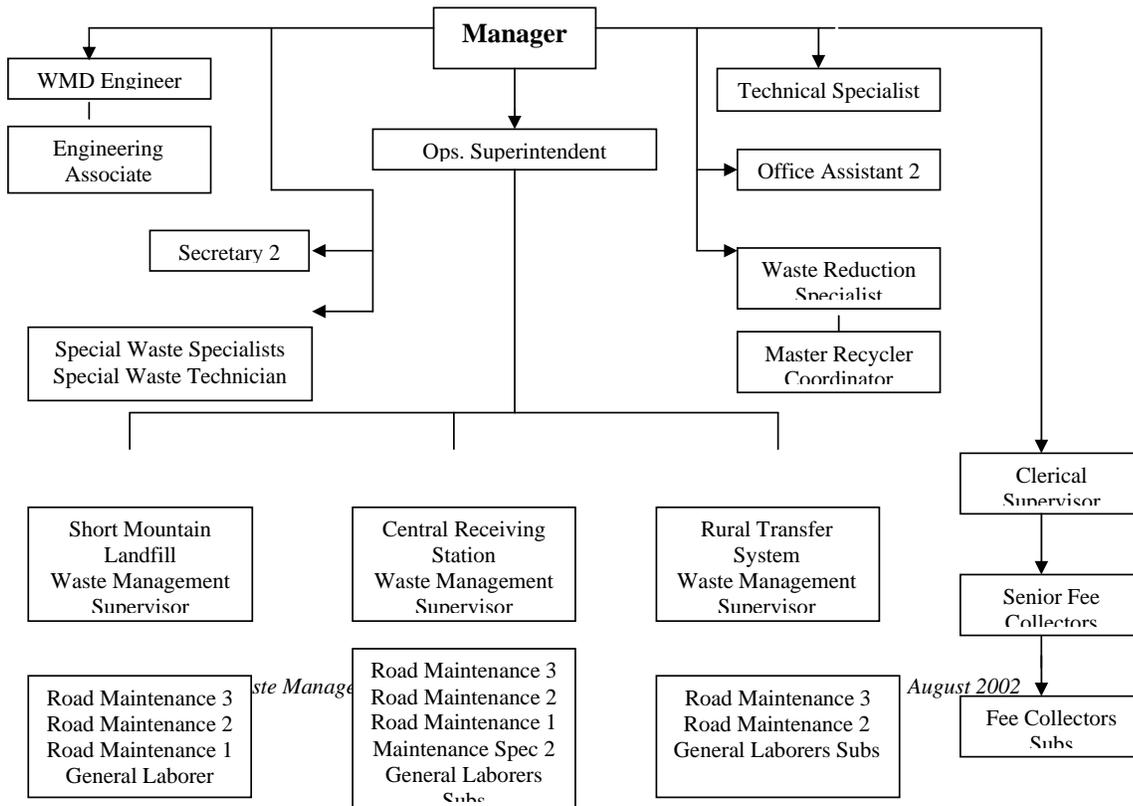
Municipalities

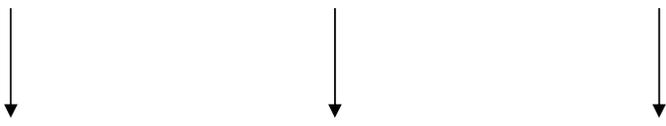
There are 12 incorporated areas in Lane County: Eugene, Springfield, Cottage Grove, Creswell, Coburg, Junction City, Veneta, Lowell, Oakridge, Westfir, Florence and Dunes City. According to state law, cities may license, contract or franchise with private haulers for garbage collection, or elect to provide their own service. Cities are granted the authority to approve rates and program options within the incorporated area. In addition, cities with populations over 4,000 have responsibilities under ORS 459A to ensure that recycling collection and education programs are implemented. Figure 6-1 gives an overview of how the cities within Lane County manage solid waste collection.

Lane County Waste Management Division (WMD)

In the State of Oregon, the primary responsibility for managing solid waste is assigned to counties (ORS section 459.125). Under state law, counties have a broad range of authorities to design, construct and operate facilities and provide services or to contract for such facilities or services. Rather than franchise services or facilities, Lane County has chosen to develop and operate a municipal solid waste landfill and a complex system of rural transfer stations. The County also promotes waste reduction and recycling throughout the County and provides hazardous waste collection services at its Household Hazardous Waste Collection Center. The Waste Management Division (WMD) of the Lane County Public Works Department is responsible for the operation of all elements of the County's solid waste disposal system. WMD's organizational structure is shown in Figure 9-1.

Figure 9-1
Public Works Department Waste Management Division
Organizational Chart





Resource Recovery Advisory Committee (RRAC)

Lane County has had a citizen's advisory body providing oversight on solid waste management issues since 1974. The current body is called the Resource Recovery Advisory Committee (RRAC). This Committee is an advisory panel composed of 17 representatives from local governments, special interest groups and at large citizens. The Board of County Commissioners relies on the RRAC for input in making policy, planning and implementing solid waste services in Lane County. The RRAC provides an important forum for exchanging ideas between solid waste service providers and recipients.

Although each of these partners plays a role in the provision of solid waste services in Lane County, this chapter will focus upon Lane County's administration and funding programs as approved by the Board of County Commissioners and administered by the Waste Management Division.

9.2.2 Funding mechanisms

As the sole municipal solid waste system provider, Lane County has overall responsibility to ensure that waste collection and disposal services are provided in unincorporated Lane County and that there is sufficient revenue to support these services. Responsibility for the provision and funding of these services falls to the Waste Management Division (WMD).

The WMD is organized as an enterprise fund within the Lane County fiscal structure, with an approved base budget of \$32,052,420 for FY 2002/2003 and a staff of 99 employees filling 73 full-time equivalent positions. The WMD manages its operations and capital expenditures out of one fund (#530), which is divided into 10 programs. These programs are Administration, Fee Collection, Recycling, Special Waste, Disposal, Transfer, Closed Landfills, Landfill Development, Landfill Closure and Landfill Post-Closure Care. The Closure and Post-Closure Care funds are required to meet RCRA Subtitle D requirements for long-term funding of municipal solid waste landfills.

Disposal fees

Disposal fees fund the entire municipal solid waste management system, including all elements of the waste hierarchy, from waste prevention to disposal. Although this waste generation-based funding system conflicts with the County's goal of waste reduction, the

current system adequately funds all elements of Waste Management's mission, including expansive recycling initiatives.

When entering a County transfer station or the Short Mountain Landfill, vehicles are charged a unit cost based upon either weight (at the SML, CRS, Cottage Grove and Florence transfer stations) or volume (for non-commercial traffic at the smaller transfer sites). Current disposal fees are \$45 per ton for loose waste, and \$46 per ton for compacted waste. Disposal fees are comprised of two components: the tipping fee and the System Benefit Fee (SBF).

Tipping fees

Tipping fees are charged at the SML and at all County transfer stations, and are used solely to fund landfill operations, such as capital improvements, leachate treatment, landfill development, closure and post-closure care set-asides. This fee is presently \$27.40 per ton.

System Benefit Fee (SBF)

The SBF (currently \$17.60 per ton) is an annually calculated per ton fee that covers programs and services of community benefit that are available to all Lane County residents, such as the rural transfer system, waste prevention and recycling activities, and household hazardous waste and special waste program efforts. The SBF is either paid as part of the disposal fee at the SML or a County transfer station, or separately by those disposing of waste generated in Lane County at a non-County facility. Payment of the SBF is a consequence of generating waste in Lane County, collected and paid by those disposing of the waste.

Lane Manual (LM) 60.875 states, "all individuals, firms, agencies or corporations whether public or private, using solid waste disposal facilities other than Lane County facilities, shall pay to Lane County the SBF assessed against any municipal solid waste which is generated inside Lane County." Hence this fee applies to all present and future private solid waste disposal ventures, such as mixed-waste composters/reactors, material recovery facilities or waste-to-energy facilities, as well as to all solid waste disposed at landfills, whether the disposal occurs within or outside of Lane County. By applying this fee to all solid waste generated in Lane County, the County ensures that all citizens and businesses benefiting from countywide solid waste management services help to support these programs.

The SBF was established by the Board of County Commissioners, enacting Ordinance No. 1-99 in September 1999. The cities of Eugene, Springfield, Creswell, Cottage Grove, Florence and Oakridge currently allow Lane County to enforce the SBF ordinance within their jurisdictional boundaries through Intergovernmental Agreements (IGA's).

Other user fees

User fees are also generated from some recycling programs and from commercial disposal of hazardous waste at the Household Hazardous Waste Collection Center. Fees from these programs are used to cover program-specific costs and do not generate additional revenue for other projects.

9.2.3 Development, closure and post-closure funding

ORS 459.272, which implements federal RCRA Subtitle D in Oregon, requires that landfill owners demonstrate evidence of financial assurance for: (a) the costs of closure of the land disposal site and for post-closure maintenance of the land disposal site; and (b) any corrective action required to be taken at the land disposal site. This financial assurance may be satisfied by insurance, the establishment of a trust fund, surety bond, letter of credit or qualification as a self-insurer.

The County established trust funds for the closure and post-closure of the Short Mountain Landfill in 1999. These trust funds are being developed through annual contributions from tipping fees and are independent of the Lane County General Fund. Lane County submits financial assurance documents to DEQ annually to track the progress of these trust funds and to ensure that adequate funding will be available at the time of closure. The process for determining projected closure, post-closure and development needs is discussed in detail in Appendix #3, a memorandum entitled "Short Mountain Landfill Development, Closure, and Post-Closure Maintenance Funds."

Closure fund

By the end of FY 2003, the closure fund (program #701) will contain \$8,052,365. Annual contributions from tipping fees are made to this fund, which will be drawn down in phases over the remaining lifespan of the SML, as new phases are developed and old phases reach capacity. Closing completed phases prior to complete site closure spreads resources as well as reduces the amount of storm drainage penetration and leachate creation in the completed cells.

Post-closure fund

The post-closure fund (program #702) is projected to contain \$1,390,255 in FY 2003. When the Short Mountain Landfill is closed, this fund will be used to cover a minimum of 30 years of post-closure maintenance and administration. Appendix #3 includes an estimate of post closure maintenance costs as of June 30, 2001. If the Short Mountain Landfill were to close in 2004 (rather than expanding), it is estimated that Lane County would need \$26 million from the Lane County General Fund in addition to program #702 to cover expenses during the 30-year maintenance period. Although the WMD does not currently have enough in its post-closure fund to cover this expense without General Fund subsidies, the current rate of set-asides into this fund will support 30 years of closure provided the SML's lifespan is extended for an additional 40 years from this date as planned in the 2001 *Site Development Plan*.

Development fund

A separate fund has been established to cover landfill development costs at the SML through the expected 40-year life of the facility. This reserve fund, like that for closure and post-closure, is supported by annual contributions from tipping fees. In FY 03 this fund balance is projected to be approximately \$5,432,600. Following the completion of construction of Phase IV, the balance will drop to \$1,372,600. Annual contributions are configured to keep pace with projected development needs. The presence of this fund ensures that Lane County does not need to use General Fund monies for expansion projects at the SML.

9.3 NEEDS & ISSUES

WMD staff and the RRAC assisted in the development of the following list of needs and issues related to administration and funding:

Administration:

- Value of public involvement in solid waste planning process
- Need to establish performance measurement standards
- Need for improved electronic access and public interface

Funding:

- Importance of independence from Lane County General Fund
- Long-term commitment to closure and post-closure care of the SML
- Ongoing need to ensure dedicated monies for development of the SML
- Importance of System Benefit Fee to overall waste management system
- Need for periodic review of rate structure
- Need to cover associated costs of increased waste recovery

9.4 ALTERNATIVES & EVALUATION

9.4.1 Administration alternatives

- 1) **Resource Recovery Advisory Committee (RRAC) –**
Lane County should rely upon the RRAC as the primary public involvement mechanism for solid waste planning and administration.

One of the overall goals of the 2001 Lane County Strategic Plan is to “provide opportunities for citizen participation in decision-making, voting, volunteerism and civic and community involvement.” The RRAC currently acts as the primary public involvement mechanism for solid waste planning in Lane County. This committee has provided important guidance on a full spectrum of solid waste issues. Lane County should continue to utilize the RRAC as a key public input forum on waste management issues.

- 2) **Electronic access –**
Lane County should promote electronic access to waste management services.

Lane County could promote expanded electronic access to waste management services. The County Web site could be expanded to include electronic special waste applications, information on regional recycling and reuse options, access to planning documents and development plans, daily tipping amounts, upcoming special collection events, Master Recycler training information, etc. The County could also develop Internet applications that enhance public participation in waste management issues.

- 3) **Performance measurement –**
Lane County should establish clear performance measurement standards for solid waste programs.

The 2001 Lane County Strategic Plan requires that departments “articulate measurable results that focus departmental objectives, plans, strategies and activities, and ... evaluate department performance in achieving the planned results.” Lane County should establish clear guidelines for measuring the performance of the solid waste system and work to incorporate these guidelines into daily practices. Performance measurements could be established for individual programs within the Waste Management Division to achieve this goal. Specific focus could be placed upon SML operations, Special Waste and Transfer.

9.4.2 Funding priorities

- 1) **Independence from Lane County General Fund –**
Lane County should strive to maintain the waste management system independent from the Lane County General Fund.

Lane County currently maintains its waste management system independent from the Lane County General Fund. The WMD should retain this independence from the General Fund by ensuring the stability and security of its funding sources and by maintaining the System Benefit Fee so as to allow the waste management program to continue to support itself.

- 2) **Long-term dedication of closure and post-closure fund –**
Lane County should remain committed to providing assured financial resources for closure and post-closure of the Short Mountain Landfill.

Federal and state law requires that owners of permitted land disposal sites provide financial assurance for closure and post-closure activities. Lane County has been developing funds since 1999 that will provide adequate funding for these activities without utilizing General Fund monies. The County should remain committed to maintaining and increasing these funds and ensure that they remain dedicated for the uses for which they were created. Lane County should also carefully monitor federal rule making on financial assurance to assure that all current federal and state laws are being met.

3) Expansion of the Short Mountain Landfill –

Lane County should continue to develop the Short Mountain Landfill to provide long-term disposal for Lane County residents.

If the County is forced to close rather than expand the Short Mountain Landfill, the Waste Management Division will need to instigate closure and post-closure operations as well as develop an alternate method to meet the community's disposal needs. By continuing to develop the Short Mountain Landfill, Lane County can maintain the current revenue source, defer capital expenditures for closure and allow the accumulation of sufficient funds for post-closure care.

4) Coverage of waste recovery costs

Lane County should ensure fees support increased waste recovery efforts.

There are numerous costs associated with waste recovery. Diverting materials from disposal requires staffing, dedicated facilities, educational outreach, publicity efforts, equipment, etc. Lane County is dedicated to expanding opportunities for recycling in such areas as electronics, mattresses and block foam, and to diverting hazardous materials from the landfill. There must be a corresponding dedication of funds to support expansion efforts. Lane County could periodically reassess user fees and/or the SBF to ensure that recycling and recovery expenses are met as costs increase and/or programs expand. The County could also initiate an educational campaign on the economics of recycling to heighten public understanding and acceptance of potential fee increases.

9.4.3 Funding mechanisms

1) System Benefit Fee –

The County should continue to utilize the System Benefit Fee to fund non-disposal elements of the waste management system.

The System Benefit Fee (SBF) allows Lane County to recoup expenses for countywide services such as rural convenience centers (transfer stations), recycling efforts and household hazardous waste collection activities. All present and future individuals, firms,

agencies or corporations, public or private, should pay to Lane County the SBF assessed against municipal waste generated in Lane County, whether they utilize a Lane County Waste Management Division-operated facility or not (LM 60.875). As this system ensures equity and dedicated funds for programs of community benefit, the County should remain committed to the utilization and enforcement of the SBF.

2) User fees –
Lane County should periodically reassess user fees.

As long as the Lane County continues to support all of its waste management activities through user fees, the County should periodically reassess those fees to ensure adequate resources for future needs as well as to assure that they are fair, reasonable and based on current costs. Fees should also be periodically reassessed to ensure that Lane County's disposal fees are in line with those charged by other regional landfills. This equity will prevent loss of waste to other counties and keep Lane County within a competitive range with other service providers. When disposal fees are increased, the amount per ton by which the rate is increased should also apply to the post-MRF disposal rate.

Special user fees, such as those charged for recycling banned items such as tires and appliances and commercial hazardous waste disposal fees, should be periodically reevaluated to ensure that they cover County expenditures including health care risks to personnel. Additional user fees should be initiated to cover costs of new or expanded recycling efforts, such as mattresses and CRT's.

The System Benefit Fee, which covers programs such as recycling, household hazardous waste collection and waste prevention education, should be periodically evaluated and readjusted to ensure that all services are adequately funded and that all users of these services are contributing to their continued operation.

3) Modify fees to reflect change –
Lane County could periodically reassess or modify fees to reflect changing policies and technologies.

The rapid pace of technological and socio-political change in the disposal, recycling and hazardous waste arenas provides another reason for the periodic review of the fee structure. The current fee structure may become outdated as more costly waste management systems come on line (such as the leachate management system), as recycling efforts are expanded, or as state/federal regulations trigger changes in the waste stream (such as conversion from analog to digital television technology). Lane County should remain flexible to the impacts of such changes and modify fees as necessary to continue to generate funds sufficient to fund system needs and to provide quality service to Lane County residents. Fees should also be reassessed to cover policy changes, such as the hiring of additional staff to prevent illegal dumping or aid in the collection of household hazardous waste.

4) Franchising –
The County could franchise waste collection activities in unincorporated Lane County.

State law allows for the establishment of countywide franchise systems that divide unincorporated areas into service areas, grant exclusive franchises to persons for collection service within those service areas, and establish and collect fees from persons holding those franchises. The benefits of a franchise system lie in the jurisdiction's ability to prescribe the quality and nature of the service to be provided, ensure standard levels of service throughout unincorporated areas, establish and adjust rates for collection service, and ensure dedicated funding sources for waste management programs.

Lane County is currently the only county in Oregon that does not issue waste collection franchises. A franchise system would eliminate the current conflict between Lane County's waste generation-funded system and its waste prevention goals. However, the System Benefit Fee currently provides a dedicated funding source for countywide programs and services without resorting to franchising. If circumstances change and/or the System Benefit Fee eliminated, or if there are other emergent public service reasons to reconsider franchising, the County could franchise waste collection activities in unincorporated Lane County.

9.5 RECOMMENDATIONS

The following section lists recommendations for administration and funding:

ADMINISTRATION RECOMMENDATIONS:

- Continue to use RRAC as primary public involvement mechanism.
- Establish clear performance measurement standards for solid waste programs.
- Promote electronic access to waste management services.
- Periodically reevaluate solid waste administration practices to meet changing principles and policies.

FUNDING RECOMMENDATIONS:

- Develop the Short Mountain Landfill to provide long-term disposal for Lane County residents.
- Continue to utilize and enforce the System Benefit Fee to fund system-wide services.
- Periodically reassess user fees as necessary to ensure equity and fairness.
- Modify user fees as necessary to reflect changing policies and technology.
- Reassess System Benefit Fee as necessary to cover costs of increased waste recovery efforts.

- Maintain waste management system independent from the Lane County General Fund.
- Provide assured financial resources for closure, post-closure and development of the Short Mountain Landfill.
- Review the institution of waste collection franchises.

APPENDIX #1: Glossary

Closure permit: a document issued by the Department bearing the signature of the Director or his/her authorized representative which by its conditions authorizes the permittee to complete active operations and requires the permittee to properly close a land disposal site and maintain and monitor the site after closure for a period of time specified by the Department.

Collection service: a service that provides for collection of solid waste or recyclable material or both.

Commercial solid waste: solid waste generated by stores, offices, including manufacturing and industry offices, restaurants, warehouses, schools, colleges, universities, hospitals, and other non-manufacturing entities, but does not include solid waste from manufacturing activities. Solid waste from business, manufacturing or processing activities in residential dwellings is also not included.

Composting: the managed process of controlled biological decomposition of organic or mixed solid waste. It does not include composting for the purposes of soil remediation. Compost is the product resulting from the composting process.

Conditionally exempt generator (CEG): a generator who generates less than 2.2 pounds of acute hazardous waste as defined by 40 C.F.R. 261, or who generates less than 220 pounds of hazardous waste in one calendar month.

Construction and demolition waste: solid waste resulting from the construction, repair, or demolition of buildings, roads and other structures, and debris from the clearing of land, but does not include clean fill when separated from other construction and demolition wastes and used as fill materials or otherwise land disposed.

Disposal site: land and facilities used for the disposal, handling or transfer of, or energy recovery, material recovery and recycling from solid wastes, including but not limited to dumps, landfills, sludge lagoons, sludge treatment facilities, disposal sites for septic tank pumping or cesspool cleaning service, transfer stations, energy recovery facilities, incinerators for solid waste delivered by the public or by a collection service, composting plants and land and facilities previously used for solid waste disposal at a land disposal site; but the term does not include a facility authorized by a permit issued under ORS 466.005 to 466.385 to store, treat or dispose of both hazardous waste and solid waste; a facility subject to the permit requirements of ORS 468B.050 or 468B.053; a site which is used by the owner or person in control of the premises to dispose of soil, rock, concrete or other similar nondecomposable material, unless the site is used by the public either directly or through a collection service; or a site operated by a wrecker issued a certificate under ORS 822.110.

Energy recovery: recovery in which all or a part of the solid waste materials are processed to use the heat content, or other forms of energy, of or from the material.

Financial assurance: a plan for setting aside financial resources or otherwise assuring that adequate funds are available to properly close and to maintain and monitor a land disposal site after the site is closed according to the requirements of a permit issued by the Department of Environmental Quality.

Franchise: includes a franchise, certificate, contract or license issued by a local government unit authorizing a person to provide solid waste management services.

Hazardous waste: discarded, useless or unwanted materials or residues and other wastes that are defined as hazardous waste pursuant to ORS 466.005.

Household hazardous waste: any discarded, useless or unwanted chemical, material, substance or product that is or may be hazardous or toxic to the public or the environment and is commonly used in or around households and is generated by the household. "Household hazardous waste" may include but is not limited to some cleaners, solvents, pesticides and automotive and paint products.

Industrial waste: solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under ORS Chapters 465 and 466. Such waste may include, but is not limited to, waste resulting from the following processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay and concrete products; textile manufacturing; transportation equipment; water treatment; and timber products manufacturing.

Leachate: liquid that has come into direct contact with solid waste and contains dissolved, miscible and/or suspended contaminants as a result of such contact.

Material recovery facility (MRF): a solid waste management facility that separates materials for the purposes of recycling from an incoming mixed solid waste stream by using manual and/or mechanical methods, or a facility at which previously separated recyclables are collected.

Municipal solid waste landfill: means a discrete area of land or an excavation that receives domestic solid waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under §257.2 of 40 CFR, Part 257. It may also receive other types of wastes such as nonhazardous sludge, hazardous waste from conditionally exempt small quantity generators, construction and demolition waste and industrial solid waste.

Putrescible waste: solid waste containing organic material that can be rapidly decomposed by microorganisms, and which may give rise to foul smelling, offensive products during

such decomposition or which is capable of attracting or providing food for birds and potential disease vectors such as rodents and flies.

Recyclable material: any material or group of materials that can be collected and sold for recycling at a net cost equal to or less than the cost of collection and disposal of the same material.

Recycling: any process by which solid waste materials are transformed into new products in such a manner that the original products may lose their identity.

Resource recovery: the process of obtaining useful material or energy from solid waste, including energy recovery, material recovery and recycling.

Reuse: the return of a commodity into the economic stream for use in the same kind of application as before without change in its identity.

Solid waste: all useless or discarded putrescible and nonputrescible materials, including but not limited to garbage, rubbish, refuse, ashes, paper and cardboard, sewage sludge, septic tank and cesspool pumpings or other sludge, useless or discarded commercial, industrial, demolition and construction materials; discarded or abandoned vehicles or parts thereof; discarded home and industrial appliances; manure, vegetable or animal solid and semisolid materials, dead animals and infectious waste as defined in ORS 459.386. "Solid waste" does not include: Hazardous wastes as defined in ORS 466.005; Materials used for fertilizer, soil conditioning, humus restoration, or for other productive purposes or which are salvageable for these purposes and are used on land in agricultural operations and the growing or harvesting of crops and the raising of fowls or animals, provided the materials are used at or below agronomic application rates.

Solid waste management: prevention or reduction of solid waste, management of the storage, collection, transportation, treatment, utilization, processing and final disposal of solid waste, recycling, reuse and material or energy recovery from solid waste and facilities necessary or convenient to such activities.

Source separate: the person who last uses recyclable material separates the recyclable material from solid waste.

Special waste: any waste material from a business, commercial, or industrial source whose origin, physical state or characteristics would suggest that it may potentially be a hazardous waste, contain hazardous substances or wastes prohibited in municipal landfills, require additional management such as a hazard review or special disposal conditions and/or precautions, carry potential liability, or present health hazards to employees or to the public.

Transfer station: a fixed or mobile facility other than a collection vehicle where solid waste is taken from a smaller collection vehicle and placed in a larger transportation unit for transport to a final disposal location.

Waste prevention: to reduce the amount of solid waste generated or resources used, without increasing toxicity, in the design, manufacture, purchase or use of products or packaging. "Waste Prevention" does not include reuse, recycling or composting.

Yard debris: vegetative and woody material generated from residential property or from commercial landscaping activities. Includes grass clippings, leaves, hedge trimmings and similar vegetative waste, but does not include stumps or similar bulky wood materials.

APPENDIX #2: Waste Prevention and Recycling Resources

The following is a list of websites and organizations dedicated to various elements of product stewardship, recycling, reuse and pollution prevention, including a list of Web sites for Lane County organizations active in these areas.

A. PRODUCT STEWARDSHIP

U.S. EPA Product Stewardship Initiative

This EPA site focuses on national initiatives for advancing product stewardship, extended product responsibility, sustainability, reuse and recycling of electronics, carpet and mercury, and includes extensive background and links on these subjects.

<http://www.epa.gov/epr>

Northwest Product Stewardship Council (NWPSC)

The Northwest Product Stewardship Council (NWPSC) is a group of government agencies, non-profit organizations and businesses located in the Pacific Northwest.

<http://www.productstewardship.net>

Organization for Economic Cooperation and Development (OECD)

International forum of 29 developed countries that analyzes and shares information on policies in a variety of economic and social spheres. The OECD has a library of publications related to extended producer responsibility including case studies on EPR programs. www.oecd.org/env/efficiency/eprworkprogr.htm

National Electronics Product Stewardship Initiative (NEPSI)

NEPSI is a multi-stakeholder dialogue, involving the electronics industry, government, environmental groups, recyclers, and others, with an agreed-upon goal to "develop a system ... to maximize the collection, reuse and recycling of used electronics, while considering appropriate incentives to design products that facilitate source reduction, reuse and recycling; reduce toxicity; and increase recycled content."

<http://www.recyclingadvocates.org/wepsi/>

Western Electronic Product Stewardship Initiative (WEPSI)

WEPSI organizes multi-stakeholder dialogues throughout the Western States, which engage manufacturers, suppliers, distributors, recyclers, non-profit organizations, government and consumers. WEPSI organizers are representatives from federal, state and local agencies and non-profit organizations in the eight-state western region of Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon and Washington.

<http://www.recyclingadvocates.org/wepsi/recycle.htm>

B. REUSE & RECYCLING

The GrassRoots Recycling Network (GRRN)

GRRN's Mission is to eliminate the waste of natural and human resources -- Zero Waste. GRRN advocates for corporate, government and individual responsibility for waste and sets ambitious standards for Zero Waste goals and policies. <http://www.grrn.org>

Materials for the Future Foundation

This non-profit organization focuses on recycling based community economic development in low-income communities, communities of color, and areas of high worker displacement, especially in the San Francisco Bay Area. <http://www.materials4future.org/>

National Recycling Coalition

The Coalition, based in Alexandria, Virginia, provides technical education, disseminates public information on selected recycling issues, shapes public and private policy on recycling and operates programs that encourage recycling markets and economic development. <http://www.nrc-recycle.org>

Repair, Resale and Reuse Council (Technical Council of the California Resource Recovery Association)

The Council brings attention to the reuse and repair industries and businesses in California and the important contributions that these companies make to source reduction through refurbishing and selling goods that might otherwise be landfilled. <http://www.crra.com/rrarc/index.html>

C. ELECTRONICS RECYCLING RESOURCES

Electronic Industries Alliance

The Electronic Industries Alliance (EIA) is a national trade organization that includes the full spectrum of U.S. manufacturers, representing more than 80% of the \$550 billion electronics industry. EIA has developed a [Consumer Education Initiative](#), which educates consumers on the importance of electronics reuse and recycling and provides information on local reuse and recycling opportunities for used electronics. EIA also works with federal and state environmental agencies and regional recycling groups to pilot-test different methods of collection to determine which are most efficient and effective. <http://www.eia.org>

International Association of Electronics Recyclers

The IAER is the first and only trade association for the electronics recycling industry. <http://www.iaer.org>

P.E.P. National Directory of Computer Recycling Programs

A State, National and International Directory of agencies that facilitate donations of used computer hardware for schools and community groups around the world. http://www.microweb.com/pepsite/Recycle/recycle_index.html

The Center for Clean Products and Clean Technologies

The Center for Clean Products and Clean Technologies at the University of Tennessee, Knoxville, focuses on pollution prevention through design and manufacturing processes

with the environment in mind. The web site includes numerous publications and links for extended product responsibility. <http://eerc.ra.utk.edu/clean/>

National Safety Council, Environmental Health Center , Electronic Product Recovery and Recycling (EPR2) Project

The EPR2 Project aims to help identify and prioritize ways to overcome market, economic, regulatory, administrative, and institutional barriers to effective management of electronic equipment throughout its life cycle. <http://www.nsc.org/ehc.htm>

Silicon Valley Toxics Coalition

SVTC is a diverse grassroots coalition that for almost twenty years has engaged in research, advocacy, and organizing associated with environmental and human health problems caused by the rapid growth of the high-tech electronics industry.

<http://www.svtc.org/>

D. POLLUTION PREVENTION & SUSTAINABLE DEVELOPMENT

Pacific Northwest Pollution Prevention Resource Center

The PPRC is the Northwest's leading resource for promoting a cleaner environment through pollution prevention. The site includes information on upcoming meetings, issues pertaining to commercial and industrial pollution and waste prevention. www.pprc.org/

The Zero Waste Alliance

The Alliance is a non-profit organization of universities, government, businesses and other organizations working to investigate the use of Zero Waste as a strategy to obtain cost savings, competitive advantages and reduced environmental impacts. www.zerowaste.org

Fostering Sustainable Behavior

This site was developed for the people who design programs to reduce waste and pollution and other programs to foster sustainable behavior. <http://www.cbsm.com/>

Center of Excellence for Sustainable Development

A project of the U.S. Department of Energy that provides a menu of information and services on how a community can adopt sustainable development as a strategy for well-being. <http://www.sustainable.doe.gov/>

E. REGIONAL

Lane County Public Works Waste Management Division

WMD's website includes information on disposal, recycling and household hazardous waste disposal in Lane County. Special features include a slide show tour of the Short Mountain Landfill and printable brochures on waste prevention, recycling and HHW.

http://www.co.lane.or.us/PW_WMD/

City of Eugene Planning and Development Department Solid Waste & Recycling Program

The Solid Waste & Recycling Program's site contains information on Eugene's SMART program, composting projects, recycling and yard debris collection.

<http://www.ci.eugene.or.us/PDD/swr2/solidwaste&recyclingprogram.htm>

Sanipac Online

This web site is written for the people who live and work in and around the communities of Eugene and Springfield in Oregon. The site includes back residential and commercial newsletters, hints on preparing materials for recycling, and a calendar for yard debris pick-up.

www.sanipac.com

University of Oregon Campus Recycling Program

The Campus Recycling Program maintains an extensive website on waste prevention reuse, recycling, sustainability and product stewardship issues, with links to numerous other regional and national sites.

<http://www.uoregon.edu/~recycle/>

BRING Recycling

BRING Recycling is one of the nation's oldest non-profit recyclers. From collecting and processing household recyclables to teaching kids about using earthworms to compost, BRING's website contains a wealth of practical tips and information on programs for Lane County residents.

<http://www.bringrecycling.org/>

Portland Metro Regional Environmental Management Department

Metro's site includes information on recycling business loans, household hazardous waste collection, recycled paint sales, natural gardening and school programs.

<http://www.metro-region.org/rem/rem.html>

Del Norte Solid Waste Management Authority, Del Norte, CA

This small, rural northern Californian county was the first jurisdiction in the nation to adopt a Zero Waste Plan.

<http://www.northcoast.com/~recycle/>

APPENDIX #3: Closure and Post Closure Maintenance Cost Estimates FY 2000/2001

DATE: October 9, 2001
TO: Ken Sandusky
FROM: Ken Kohl, Waste Management Engineer
SUBJECT: Short Mountain Landfill
Closure and Post Closure Maintenance Cost Estimates - Fiscal Year
2000/2001

PURPOSE

The Lane County general purpose financial statements are audited on an annual basis. Cost estimates for the closure and post closure maintenance of the Short Mountain Landfill, as required by Federal and State regulations, are provided below to assist the auditors in determining Lane County's liability.

This memorandum will provide a discussion of the history of planned development for the landfill (Background), the cost estimates for closure and post closure maintenance (Cost Estimates), and the status of funding the liability (Financial Assurance).

BACKGROUND

To understand why the cost estimates for closure and post closure maintenance change from year to year, it is important to understand that the planned development of the Short Mountain Landfill (SML) has changed over the years. The following paragraphs describe the changes.

Lane County received a Solid Waste Disposal Permit (SWDP) from the Oregon Department of Environmental Quality (DEQ) and SML was opened in December 1976. At that time the capacity of SML was estimated at 12.6 million cubic yards (MCY) and was expected to last 41 years (Design Report, June 1976, page II-6). The 1976 Design Report also assumed receiving 156,000 tons per year, an in-place density of 1,200 lbs/CY, and a 4:1 solid waste to cover ratio (Design Report, page V-5). Tonnages were expected to increase to 208,000 t/yr in 25 years.

Lane County received a new SWDP from DEQ in August 1982 and again in 1987.

The site development plan for SML was updated in the Engineering Report for the Short Mountain Landfill (May 1990). As of December 1989, the Report estimated the volume filled at 3.4 MCY, annual tonnage received at 240,000, an in-place density of 1,200 lbs/CY, and a 5.7:1 solid waste to cover ratio (page 1-8). The existing landfill footprint was estimated at 57 acres (Table 4-6) and a 153-acre expansion (page iii) was planned. Remaining capacity was estimated at 25.5 MCY (including the expansion) and was expected to last to the year 2014, based on 7% annual growth of

waste (page 2-3). While the ultimate footprint did not change from the 1976 plan, the depth of the waste was increased to provide the additional capacity.

In 1992, it was discovered that the area for expansion described in the May 1990 plan contained wetlands and a federally listed endangered plant species. In February 1995, DEQ issued a new SWDP. The expiration date of the permit was March 1, 2000.

In 1995 Phase III was constructed. Phase III consisted of approximately 16 lined acres, a portion of which overlapped the existing landfill (Phases I and II). It was estimated that Phase III would provide 1.5 MCY of capacity (Phase III Fill Sequence Plan, EMCON, September 1998). Phase III was used as an interim leachate storage lagoon until 1998. Phase III began accepting waste in March 1999.

The site development plan was again updated (Engineering Report, June 1996). The 1996 Report assumed annual tonnage received at 300,000, an in-place density of 1,300 lbs/CY, a 9:1 solid waste to cover ratio (page 2-4), and a 0.5% annual growth of waste. The expansion area was changed to stay out of the wetlands. The Report estimated that as of December 1995 the remaining capacity within the existing 72 acre footprint was 3.27 MCY, which would last to the year 1999 (Section 3.1.2). The 100-acre expansion area would provide 18 MCY of capacity and last to the year 2034 (Section 3.1.2.5).

In July 1999, we applied to DEQ for a renewal of the SWDP, in accordance with OAR 340-093-0070(7)(a). Per OAR 340-093-0070(7)(d), the current SWDP remains in effect until DEQ takes action on the renewal application.

In the spring of 2000, as we began planning for the construction of a new landfill cell in the expansion area of the 1996 Report, it was discovered that this expansion area contained sensitive habitats. The entire landfill property was reevaluated for expansion and it was determined that the best alternative was to revert back to the 1990 site development plan with some minor modifications. A new Site Development Plan (2001 SDP) was submitted to DEQ in May 2001. The expansion is estimated at 154 acres for a total footprint of 226 acres. The expansion area would provide 43.2 MCY beyond the capacity within the current footprint, which is projected to last until 2044.

Comment: Table 4 of the Alternatives Analysis, Attachment A to the Joint Permit Application, March 2001. Total acres 225.8, less 72 acre current footprint.

Comment: April 2001 SDP, page 39 of 64.

Implementation of this new site development plan will require the approval of DEQ, the Oregon Division of State Lands (DSL), and the U.S. Army Corps of Engineers (Corps). DEQ will need to approve the site development plan and engineering and construction plans for new cells. The plans are under development and it is expected that they will be submitted to DEQ by the end of this calendar year. In the interim we have met with, and will continue to meet with, DEQ to address their concerns regarding the expansion. Expansion of the landfill into the wetlands will require the issuance of a wetlands fill/removal permit by both DSL and the Corps. The permit application was submitted April 2001. Based on our conversations with these regulatory agencies, we do not believe that there are any “fatal flaws” that would preclude the expansion.

CURRENT VOLUME IN-PLACE

The May 1990 Engineering Report estimated the volume of waste in SML at 3.4 MCY as of December 1989. The change in volume between December 1989 and November 1999, for Phases I and II, was determined from aerial topography using AutoCAD and Eagle Point software, and is estimated at 2,857,696 CY (2,896,453 CY Fill – 38,757 CY Cut) (refer to attached “Prismoidal

Volume Results”, dated 10/27/00). No waste has been placed in Phases I and II since November 1999. The total volume of waste in Phases I and II is estimated at 6.26 MCY.

As of June 15, 2001, it is estimated that Phase III has received 556,541 tons¹ at a volume of 721,000 CY². The density of the waste in place is estimated at 1,544 pounds per cubic yard. As of June 30, 2001, it is estimated that Phase III has received 566,185 tons, which is an estimated volume of 733,000 CY. Phase III has a capacity of 1,589,000 CY. At the current density, the remaining capacity as of June 30, 2001 is 661,000 tons. Assuming that the volume in-place in Phases I and II has not changed since November 1999 (this discounts settlement of the existing waste), the total volume in-place at SML as of June 30, 2000 is estimated at 7.0 MCY.

FUTURE TONNAGE PROJECTIONS

Short Term – Table 1 shows the actual waste received by month at SML as of July 2001. Thereafter, the waste received by month is estimated by forecasting a value based on the previous 12 months and adjusting the monthly total based on historical seasonal fluctuations.

Table 1

	2004	2003	2002	2001	2000	1999	1998
January	14,147	15,824	17,586	18,914	19,575	17,512	17,116
February	13,119	14,689	16,279	16,042	20,853	15,775	17,314
March	14,867	16,662	18,484	18,490	24,400	18,619	22,107
April	14,481	16,246	18,027	18,772	20,365	19,551	21,583
May	14,972	16,813	18,688	20,488	25,264	17,729	18,000
June	15,612	17,551	19,540	19,840	25,695	26,047	20,436
July	15,540	17,495	19,474	20,413	23,949	30,813	21,804
August	15,130	17,056	18,977	22,053	26,181	26,318	19,927
September	14,249	16,081	17,912	20,628	23,462	23,671	18,912
October	13,559	15,320	17,084	19,505	22,273	22,585	18,392
November	12,550	14,197	15,848	17,978	18,705	28,308	16,083
December	11,892	13,469	15,051	16,867	16,376	19,693	17,984
Total	170,118	191,401	212,950	229,989	267,098	266,620	229,658

Long Term – Figure 1 shows the amount of waste disposed annually for the State of Oregon and Lane County as calculated by the DEQ, and the tonnage received at SML. This graph shows that the waste disposed of from Lane County and SML has decreased from 1992 levels, while the State as a whole has increased. The difference between Lane County and SML in the early 1990’s can be attributed to wood waste taken for daily cover that is not counted by DEQ and in the late 1990’s to waste leaving the County for other disposal sites.

¹ 556,906 – 365 tons of asbestos (Jan 2000 – Jun 2001)

² Phase III Volumes, Lane County Department of Public Works Waste Management Division, July 2001

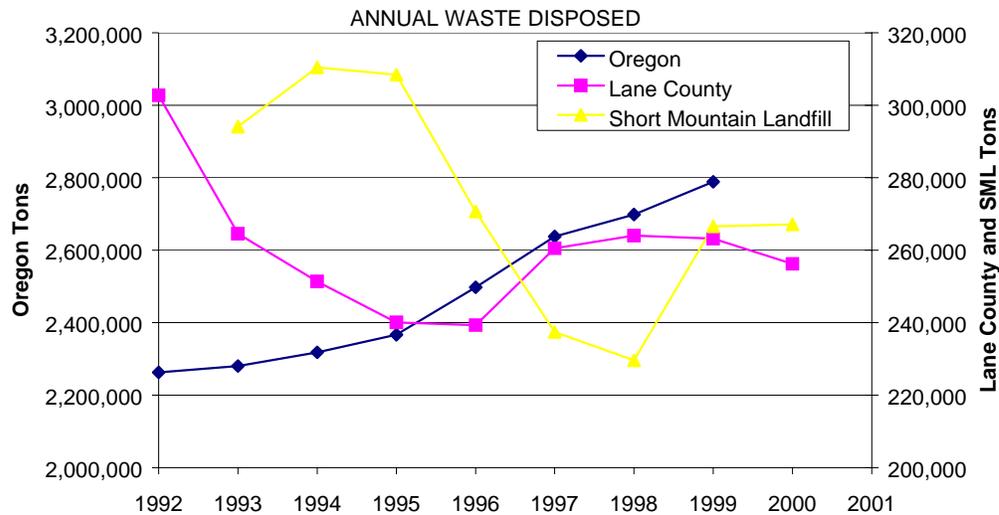


Figure 1

For the purpose of projecting the amount of waste to be received, it is estimated that waste received will increase at 4% per year, which approximates the trend statewide for the last six years.

SITE LIFE

Short Term – Tonnages have been in decline over the last year. If tonnages continue to decline at this rate, the remaining capacity in Phase III will last until October 2004. A more conservative approach is to use the tonnage received during the period from July 1, 2000 through June 30, 2001, 243,177 tons³. At this rate, the remaining capacity will last 2.7 years, or until March 2004. It is important to note that the rate of tonnage received could increase in the future, thereby shortening the time remaining in Phase III.

Long Term – As discussed earlier, the expansion of the landfill as currently planned would provide capacity until the year 2044.

COST ESTIMATES

Fiscal Year 1999/2000 – In 1995, preliminary closure and post closure maintenance plans were developed, including cost estimates. These cost estimates have been updated on several occasions. The latest costs estimates are from a November 2000 memo and are presented in Tables 2 – 5, below.

Table 2 – Closure of Current Footprint as of June 30, 2000

³ 243,491 – 314 tons of asbestos

ITEM	UNIT	UNIT COST	QUANTITY	TOTAL
1 Place & Compact Clean Fill in Open Cells	CY	\$3.24	40,000	\$129,600
2 Acquisition, Placement, Compaction & Grading of Final Cover				
2a Vegetative Layer (12" Soil)	CY	\$4.56	108,093	\$492,906
2b Low Permeability Layer (12" Compacted Clay)	CY	\$5.84	108,093	\$631,265
2c Geonet w/ Geotextile	SF	\$0.51	2,918,520	\$1,488,445
2d 60 mil HDPE FML	SF	\$0.52	2,918,520	\$1,517,630
2e Gas Migration Layer (6" Sand)	CY	\$12.60	54,047	\$680,988
3 Site Security	Acre	\$1,140	72	\$82,000
4 Miscellaneous Improvements	%	56%	\$ 5,022,834	\$2,812,787
5 Development of Closure Construction Documents	%	7.3%	\$ 7,835,621	\$572,000
6 Construction Quality Assurance	%	8.4%	\$ 7,835,621	\$658,192
TOTAL				\$9,066,000

Table 3 – Closure of Ultimate Footprint as of June 30, 2000

ITEM	UNIT	UNIT COST	QUANTITY	TOTAL
1 Place & Compact Clean Fill in Open Cells	CY	\$3.24	40,000	\$129,600
2 Acquisition, Placement, Compaction & Grading of Final Cover				
2a Vegetative Layer (12" Soil)	CY	\$4.56	340,413	\$1,552,285
2b Low Permeability Layer (12" Compacted Clay)	CY	\$5.84	340,413	\$1,988,014
2c Geonet w/ Geotextile	SF	\$0.51	9,191,160	\$4,687,492
2d 60 mil HDPE FML	SF	\$0.52	9,191,160	\$4,779,403
2e Gas Migration Layer (6" Sand)	CY	\$12.60	170,207	\$2,144,604
3 Site Security	Acre	\$1,140	214	\$244,000
4 Miscellaneous Improvements	%	56%	\$ 15,525,397	\$8,694,223
5 Development of Closure Construction Documents	%	7.3%	\$ 24,219,620	\$1,768,032
6 Construction Quality Assurance	%	8.4%	\$ 24,219,620	\$2,034,448
TOTAL				\$28,022,000

Table 4 – Post Closure Maintenance of Current Footprint as of June 30, 2000

	ITEM	UNIT	UNIT COST	QUANTITY	TOTAL
1	Maintenance of Final Cover	Acre	\$320	72	\$23,000
2	Maintenance of Vegetative Cover	Acre	\$114	72	\$8,000
3	Operation and Maintenance of Leachate Management System	LS	\$456,000	1	\$456,000
4	Groundwater Monitoring	LS	\$117,500	1	\$118,000
5	Drainage System Maintenance	Acre	\$107	72	\$8,000
6	Site Inspection	Acre	\$178	72	\$13,000
7	Reports	Acre	\$78	72	\$6,000
TOTAL					\$632,000
		Years	\$632,000	30	\$18,960,000

Table 5 – Post Closure Maintenance of Ultimate Footprint as of June 30, 2000

	ITEM	UNIT	UNIT COST	QUANTITY	TOTAL
1	Maintenance of Final Cover	Acre	\$320	214	\$68,000
2	Maintenance of Vegetative Cover	Acre	\$114	214	\$24,000
3	Operation and Maintenance of Leachate Management System	LS	\$456,000	1	\$456,000
4	Groundwater Monitoring	LS	\$117,500	1	\$118,000
5	Drainage System Maintenance	Acre	\$107	214	\$23,000
6	Site Inspection	Acre	\$178	214	\$38,000
7	Reports	Acre	\$78	214	\$17,000
TOTAL					\$744,000
		Years	\$744,000	30	\$22,320,000

Fiscal Year 2000/2001 Changes – In 1999, approximately 5 acres of closure was constructed along the west (~2 acres) and south (~3 acres) slopes of the landfill. Therefore, the remaining 67 acres will require closure construction when Phase III reaches capacity. For the planned development of 226 acres, only the 3 acres on the south slope would be considered closed. Therefore, 223 acres will require closure construction when Phase XIII reaches capacity.

The Consumer Price Index – All Urban Consumers (CPI-U) for the Portland-Salem area for the first half of 2000 was 176.4. The CPI-U for the first half of 2001 was 181.2, resulting in a 2.72% increase, which will be applied to all costs.

The cost estimates were reviewed by Thiel Engineering (see attached letter of June 4, 2001). The cost estimates have been updated based on Thiel's recommendations, with the exceptions as noted below.

Closure Cost Estimate

Some of the Items have been renumbered.

Item 1 Place & Compact Clean Fill – the subgrade preparation, benches, and drainage discussed by Thiel is typically done annually as part of our interim soil cover projects. Therefore, at the time of

closure only a small area will remain that requires this work. The unit cost of this item is adjusted for inflation.

Item 2 Gas Migration Layer – (Formerly Item 2e) 5 acres of closure constructed in 1999 are excluded.

Item 3a and 3b Low Permeability Layer – (Formerly Item 2b) Thiel’s recommendation of 18-inches of clay applies to landfills with composite liners. Of the current 72 acre footprint, only 16 acres have a composite liner. The remaining 56 acres would only require 18-inches of clay and 6-inches of soil. The addition of a FML (formerly Item 2d) is not required, but would provide better protection. Consequently, less clay should be necessary. However, as part of the 2001 SDP, the final cover will include 24-inches of clay. Therefore, the unlined portions of the landfill only require 12-inches of clay (Item 3a) and the lined portions require 24-inches (Item 3b). In addition, the 5 acres of closure constructed in 1999 are excluded. For closure of the Ultimate Footprint, it is estimated that 18 acres will require 12-inches of clay and that the remaining 208 acres will require 24-inches.

Item 4 FML – (Formerly Item 2d) 5 acres of FML constructed in 1999 and are excluded.

Item 5 Drainage Layer – (Formerly Item 2c) Thiel estimates that a granular layer would provide the same function as the geonet at a lower cost. This item is retitled to “Drainage Layer” to allow more flexibility in the selection of material. The geonet is already in place in the 5 acres that were constructed in 1999 and are excluded.

Item 6 Vegetative Layer – (Formerly Item 2a) The 2001 SDP proposes 18 to 24-inches of soil for this layer. Therefore the cost of this item has been doubled. 5 acres of closure constructed in 1999 are excluded.

Contingency – Thiel proposes a contingency of 15% be added to the construction costs. I agree with Thiel that a contingency is prudent. However, it is my understanding the auditors prefer that a contingency not be included. Therefore, no contingency is provided.

Table 6 – Closure of Current Footprint as of June 30, 2001

ITEM	UNIT	UNIT COST	QUANTITY	TOTAL
1 Place & Compact Clean Fill in Open Cells	CY	\$3.33	40,000	\$133,000
2 Gas Migration Layer	Acre	\$10,962	67	\$734,000
3a Low Permeability Layer (12" Compacted Clay)	Acre	\$10,162	51	\$518,000
3b Low Permeability Layer (24" Compacted Clay)	Acre	\$20,323	16	\$325,000
4 FML	Acre	\$20,673	67	\$1,385,000
5 Drainage Layer	Acre	\$25,841	67	\$1,731,000
6 Vegetative Layer	Acre	\$15,870	67	\$1,063,000
7 Roads and Ditches	Acre	\$7,447	67	\$499,000
8 Erosion Control	Acre	\$770	67	\$52,000
9 Hydroseeding	Acre	\$1,480	67	\$99,000
10 Site Security	Acre	\$1,171	72	\$84,000
11 Surveying	Acre	\$3,082	67	\$206,000
12 Mobilization	%	5.0%	\$ 6,623,000	\$331,000
13 Development of Closure Construction Documents	%	7.3%	\$ 6,623,000	\$483,000
14 Construction Quality Assurance	%	8.4%	\$ 6,623,000	\$556,000
TOTAL				\$8,199,000

Table 7 – Closure of Ultimate Footprint as of June 30, 2001

ITEM	UNIT	UNIT COST	QUANTITY	TOTAL
1 Place & Compact Clean Fill in Open Cells	CY	\$3.33	40,000	\$133,000
2 Gas Migration Layer	Acre	\$10,962	223	\$2,445,000
3a Low Permeability Layer (12" Compacted Clay)	Acre	\$10,162	18	\$183,000
3b Low Permeability Layer (24" Compacted Clay)	Acre	\$20,323	224	\$4,552,000
4 FML	Acre	\$20,673	223	\$4,610,000
5 Drainage Layer	Acre	\$25,841	223	\$5,762,000
6 Vegetative Layer	Acre	\$15,870	223	\$3,539,000
7 Roads and Ditches	Acre	\$7,447	223	\$1,661,000
8 Erosion Control	Acre	\$770	223	\$172,000
9 Hydroseeding	Acre	\$1,480	223	\$330,000
10 Site Security	Acre	\$1,171	226	\$265,000
11 Surveying	Acre	\$3,082	223	\$687,000
12 Mobilization	%	5.0%	\$ 23,652,000	\$1,183,000
13 Development of Closure Construction Documents	%	7.3%	\$ 23,652,000	\$1,727,000
14 Construction Quality Assurance	%	8.4%	\$ 23,652,000	\$1,987,000
TOTAL				\$29,236,000

Post Closure Cost Estimate

Item 1 Maintenance of Final Cover – Based on a conversation with Thiel, Items 1 and 2 were double counted in that Thiel excluded them from consideration in evaluating the estimate for Final cover repairs, grading, revegetation, and plant control. Based on this conversation Items 1 and 2 should total no more than \$170 per acre.

Table 8 – Post Closure Maintenance of Current Footprint as of June 30, 2001

	ITEM	UNIT	UNIT COST	QUANTITY	TOTAL
1	Maintenance of Final Cover	Acre	\$103	72	\$7,000
2	Maintenance of Vegetative Cover	Acre	\$72	72	\$5,000
3	Operation and Maintenance of Leachate Management System	LS	\$710,830	1	\$711,000
4	Groundwater Monitoring	LS	\$120,697	1	\$121,000
5	Drainage System Maintenance	Acre	\$110	72	\$8,000
6	Site Inspection	Acre	\$67	72	\$5,000
7	Reports	Acre	\$23	72	\$2,000
8	Landfill Gas Management	LS	\$16,800	1	\$17,000
	TOTAL				\$876,000
	Years		\$876,000	30	\$26,280,000

Table 9 – Post Closure Maintenance of Ultimate Footprint as of June 30, 2001

	ITEM	UNIT	UNIT COST	QUANTITY	TOTAL
1	Maintenance of Final Cover	Acre	\$103	226	\$23,000
2	Maintenance of Vegetative Cover	Acre	\$74	226	\$17,000
3	Operation and Maintenance of Leachate Management System	LS	\$710,830	1	\$711,000
4	Groundwater Monitoring	LS	\$120,697	1	\$121,000
5	Drainage System Maintenance	Acre	\$110	226	\$25,000
6	Site Inspection	Acre	\$67	226	\$15,000
7	Reports	Acre	\$23	226	\$5,000
8	Landfill Gas Management	LS	\$16,800	1	\$17,000
	TOTAL				\$917,000
	Years		\$917,000	30	\$27,510,000

FINANCIAL ASSURANCE

Federal and State regulations require landfill operators to provide financial assurance for closure and post closure maintenance. These regulations allow local governments to demonstrate financial assurance through the use of the Local Government Financial Test. Lane County submitted the demonstration to the Oregon Department of Environmental Quality in April 1998. Despite this demonstration, as a practical matter it is prudent to set aside funds to fulfill the liability of closure and post closure maintenance. Beginning in FY 1999/2000, Lane County began to set aside funds for closure and post closure maintenance of the ultimate footprint. The following sections discuss funding of closure and post closure maintenance for both the current and ultimate footprints.

Current Footprint - Phases I – III

From Tables 6 and 8, the estimated liability of closure and post closure maintenance of the current footprint in 2004 is \$34.5 million. There is currently \$4.9 million of the Waste Management Divisions reserves designated for this liability. It is projected that an additional \$3.5 million will be set aside over the next two fiscal years, for a total of \$8.4 million that will be available beginning in

2004. Therefore there will be a shortfall of \$26.1 million. However, not all of this liability occurs in 2004 and additional reserves may be available at that time. Table 9 shows the estimated total reserves that will be available at the beginning of 2004. The table projects future revenue and expenses based on revenue and expenses for the last two years.

Table 10 – Projected Reserve Balance

	6/30/00	6/30/01	Annual Increase	6/30/02 Projected	6/30/03 Projected
Tons	246,000	235,000	-2%	230,000	225,000
Revenue (\$millions)	11.4	12.0	3%	12.3	12.6
Operation Expenses (\$millions)	7.2	6.9	-2%	6.8	6.7
Capital Expenses (\$millions)	1.5	2.3	24%	1.0	1.0
Reserves (\$millions)	11.2	13.9		18.4	23.3

Based on this analysis, \$23.3 million in reserves will be available for closure and postclosure maintenance at the beginning of 2004. \$0.8 million of the reserves are needed to pay for the on-site leachate treatment system, leaving a balance of \$22.5 million for closure and postclosure maintenance. The cost to close the landfill in 2004 is estimated at \$8.2 million, leaving a balance of \$14.3 million. The annual postclosure maintenance cost is estimated at \$876,000. An annuity of \$17.2 million is required to fund the 30-year post closure maintenance period. Therefore, there will be a projected shortfall of \$2.9 million if the landfill is to be closed in 2004. It is my understanding that Waste Management had an additional \$3.6 million in our Fleet reserve account as of February 2001. These funds could be used to fund the shortfall.

Ultimate Footprint – All Phases

From the Tables 7 and 9, the estimated liability of closure and post closure maintenance of the ultimate footprint in 2044 is \$56.8 million. There is currently \$4.9 million of the Waste Management Divisions reserves designated for this liability. It is estimated that \$586,000 per year be set aside to fund the closure and that \$681,000 per year be set aside to fund post closure maintenance for a total of \$1.3 million annually. Given that over the last two years revenues have exceeded expenses an average of \$2.8 million per year, it is anticipated that there will be adequate funds for closure and post closure maintenance.

- Attachments: Review of SML Closure and Post-Closure Cost Estimates, Thiel (June 4, 2001)
 2000 DEQ Recovery Report, Lane County
 Consumer Price Index, Portland-Salem, OR, 2000 - 2001
 Prismoidal Volume Results
 Prescriptive Final Cover for Short Mountain Landfill, Figure 19

Cc: Mike Turner
 File 17.3.2.3

APPENDIX #4: Waste Management Division Permits

The following list details permits under which the Waste Management Division operates:

1. Solid Waste Disposal Permit No. 290 issued by the Oregon Department of Environmental Quality (DEQ). Short Mountain Landfill.
2. NPDES Storm Water Discharge General Permit - DEQ.
3. NPDES Waste Discharge Permit No. 101682 - DEQ.
4. Wastewater Discharge Permit No. L-100-S-021799 - City of Springfield.
5. "Agreement" w/ Lane Regional Air Pollution Authority (LRAPA) to allow disposal of asbestos at the Short Mountain Landfill.
6. Title V Operating Permit No. 204740 - LRAPA.
7. Air Contaminant Discharge Permit No. 202536, issued by LRAPA to Emerald People's Utility District. Joint Emerald and Lane County responsibility.
8. Fill/Removal Permit for Phase IV Wetlands Impacts Permit No. 1999-01450 – US Army Corps of Engineers (USACE)
9. Fill/Removal Permit for Phase IV Wetlands Impacts Permit No. 23880-RF – Oregon Division of State Lands (DSL).
10. Agricultural Fireworks Permit No. A072-2002 - State Fire Marshall. Bird control.
11. Depredation Permit No. MB822647-0, US Fish and Wildlife Service. Bird control.
12. Florence Landfill – Solid Waste Disposal Site Closure Permit No. 91 - DEQ.
13. Franklin Landfill – Solid Waste Disposal Site Closure Permit No. 79 -DEQ.
14. Oakridge Landfill – Solid Waste Disposal Site Closure Permit No. 86 –DEQ.
15. Glenwood Central Receiving Station Permit No. 289 – DEQ.
16. Cottage Grove Transfer Station. Permit No. 383 – DEQ.
17. Creswell Transfer Station. Permit No. 384 – DEQ.
18. Florence Transfer Station. Permit No. 416 – DEQ.
19. London Transfer Station. Permit No. 216 – DEQ.
20. Low Pass Transfer Station. Permit No. 226 - DEQ.
21. Mapleton Transfer Station Permit No. 224 - DEQ.
22. Marcola Transfer Station Permit No. 253 - DEQ.
23. McKenzie Bridge Transfer Station Permit No. 363 – DEQ.
24. Oakridge Transfer Station Permit No. 411 – DEQ.
25. Rattlesnake Transfer Station Permit No. 273 – DEQ.
26. Sharp's Creek Transfer Station Permit No. 221 – DEQ.
27. Swiss Home Transfer Station Permit No. 243 – DEQ.
28. Veneta Transfer Station Permit No. 274 – DEQ.
29. Vida Transfer Station Permit No. 229 – DEQ.
30. Walton Transfer Station Permit No. 225 – DEQ.