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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

August 25, 2006

Ms. Penny Hansen, Regulatory Analyst
WA Utilities and Transportation Commission
1300 South Evergreen Park Drive SW
PO Box 47250
Olympia, WA 98504-7250

RE: *Preliminary Review of Clallam County Comprehensive Solid Waste Management Plan, Preliminary Draft, June 2006*

Dear ~~Ms. Hansen:~~ Penny

Ecology is forwarding the formal submission of the Clallam County *Preliminary Draft, Comprehensive Solid Waste Management Plan Update 2006* for preliminary review under RCW 70.95.090 and 70.95.094. Enclosed are two copies of the plan which include the cost assessment questionnaire.

Ecology received this plan on August 16, 2006. Under the Interagency Agreement, comments from WUTC plan reviewers should be sent within 45 days from the date the plan is received by the WUTC.

Please forward copies of your correspondence with Clallam County to me, and also please inform me of the date when this item will be presented at the WUTC public meeting.

Thank you for your continued cooperation and assistance in plan review.

Sincerely,

Tami Ramsey
Regional Planner
Solid Waste & Financial Assistance Program

Enclosures

cc: Carole Washburn, WUTC
Tom McCabe, City of Port Angeles, Public Works & Utilities Department
Bob Martin, Clallam County, Utilities & Emergency Management

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

August 25, 2006

Mr. Tom McCabe, Project Manager
City of Port Angeles Public Works & Utilities Dept.
321 East Fifth Street, PO Box 1150
Port Angeles, WA 98362-0217

RE: *Preliminary Review of Clallam County Comprehensive Solid Waste Management Plan, Preliminary Draft, June 2006*

Dear Mr. McCabe: Tom

On August 16, 2006, Ecology received three copies of the Clallam County *Comprehensive Solid Waste Management Plan Update 2006* indicating, per your cover letter, that the SEPA Checklist and WUTC Cost Assessment Questionnaire were provided in the plan.

However, there was no reference in your cover letter or in a separate letter from SWAC, indicating their participation in the draft of this plan. Perhaps one is in the mail to me? Also missing was the inter-local agreements between the county and cities for managing solid waste in the county. Please advise when I can expect these required documents.

Since I have direct knowledge that the SWAC was involved in the preparation of this draft, I hereby accept your request for a preliminary draft review of the county's plan. I will forward two copies of the Plan to the Washington Utilities and Transportation Commission for their review, as required, and they will schedule the hearing for the review of the cost assessment.

Per statute RCW 70.95.094, Ecology has a maximum of 120 days from August 16, 2006 to review and comment on the draft plan. My comments will be forthcoming on or before December 14, 2006. As previously discussed, I fully expect you will receive my comments well in advance of the deadline.

I feel compelled to forewarn you that final approval will at least be contingent upon receipt of a letter from SWAC addressing their participation in the planning process, and copies of the inter-local agreements between the county and cities for solid waste management and planning.

Thank you, Tom, and everyone involved, for the effort put into preparing this document. If you have any questions on the progress of my review or any other questions, please contact me at (360) 407-6612 or via email at tmor461@ecy.wa.gov . .

Sincerely,

Tami Ramsey
Regional Planner
Solid Waste and Financial Assistance Program

cc: Penny Hanson, WUTC
Carole Washburn, WUTC
Bob Martin, Clallam County Utilities & Emergency Management

ORIGINAL

CLALLAM CO.

Preliminary Draft

Comprehensive Solid Waste Management Plan Update 2006

Prepared for

Port Angeles
321 E 5th Street
PO Box 1150
Port Angeles 98362

Prepared by

Parametrix
5700 Kitsap Way, Suite 202
Bremerton, WA 98312-2234
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June 2006 | 255-2191-014 (01/01)

Preliminary Draft

Comprehensive Solid Waste Management Plan Update 2006

Prepared for

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Port Angeles 98362

Prepared by

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ACRONYMS

BMP	best management practice
CCEH	Clallam County Environmental Health
CDL	Construction, Demolition, and Land-Clearing
CSWMP	Comprehensive Solid Waste Management Plan
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
ILA	interlocal agreement
JSWAB	Joint Solid Waste Advisory Board
MRW	moderate risk waste
MSW	municipal solid waste
NRCS	National Resource Conservation Service
OCC	Olympic Corrections Center
OFM	Washington Office of Financial Management
ORCAA	Olympic Region Clean Air Agency
RCW	Revised Code of Washington
SEPA	State Environmental Policy Act
SWAC	Solid Waste Advisory Committee
WAC	Washington Administrative Code
WSU	Washington State University
WUTC	Washington Utilities and Transportation Commission

FOREWORD

This Comprehensive Solid Waste Management Plan (CSWMP) Update 2006 was prepared to provide a guide for future solid waste activities within Clallam County and in compliance with the Solid Waste Management Act (Revised Code of Washington (RCW) 70.95), which states:

"Each County within the State, in cooperation with the various cities located within such county, shall prepare a coordinated, comprehensive solid waste management plan" (Section 70.95.080).

The minimum contents of this CSWMP are specified by state law (RCW 70.95.090) and further described in Guidelines for the Development of Local Solid Waste Management Plans and Plan Revisions issued by the Washington Department of Ecology (Ecology 1999). The Solid Waste Management Act further specifies that this CSWMP must "be maintained in a current and applicable condition" through periodic review and revisions (RCW 70.95.110).

This CSWMP addresses solid waste management throughout the county. The incorporated areas, which include the cities of Forks, Port Angeles, and Sequim, had the option to develop their own plans but chose to participate in the County's planning process. Because this CSWMP may impact their current and future solid waste management options, the Makah Tribe, the Quileute Tribe, the Elwha and Jamestown Bands of the S'Klallam Tribe, and the Olympic National Park Service also had the opportunity to participate in the process.

This CSWMP Update 2006 was adopted by Clallam County, its municipalities, and the Tribes, as documented in Appendix B.

Clallam County plans to initiate the next CSWMP review in 2009 and adopt the update in 2011. In the interim, Clallam County may address any significant changes in regulatory standards or operational requirements through a plan amendment.

EXECUTIVE SUMMARY

INTRODUCTION

Clallam County first began preparing solid waste management plans in 1972. From its humble beginnings and over the years, the County's program has expanded to include curbside and drop-off collection of recyclables and yard debris, composting of biosolids and yard debris, and many other efforts to improve waste management.

This CSWMP was prepared in a cooperative effort by consultants and staff from Clallam County, the City of Port Angeles, the City of Sequim, the City of Forks, the Solid Waste Advisory Committee (SWAC), and the Washington State Department of Ecology (Ecology). The SWAC members represent not only the interests of their respective agencies and businesses, but as residents and members of the community, they also represent the public's interest.

Renewing and continuing the commitments established in the 2000 CSWMP, the objectives of this updated plan are to:

- Review the recommendations of the previous plan.
- Describe the newly established solid waste system, including the transition from landfilling to a transfer station and waste export.
- Review current solid waste regulations and policies giving particular attention to waste stream reduction, recycling, and future disposal needs.
- Extend the planning period to 2025 and develop current waste generation data.
- Review existing facilities and solid waste handling practices, and identify additional needs.
- Assess alternatives and develop recommendations for future action, incorporating the results of recent studies done for Clallam County, the City of Port Angeles and others.
- Give particular consideration to alternatives that involve the expertise of private industry wherever those capabilities are available.
- Develop capital cost estimates and implementation schedules for required improvements with emphasis on those improvements required within this planning period (by 2011).
- Provide guidelines for an equitable balance between convenience, expense, environmental quality, and public health and welfare.
- Incorporate flexibility to anticipate future needs.
- Encourage cooperative and coordinated efforts among government agencies, private companies and the public to achieve effective management of solid waste.
- Provide a road map to guide the County through anticipated changes in solid waste disposal caused by the future closure of the Port Angeles Landfill.

BACKGROUND

Three changing conditions drive the need to update the County's plan: (1) continued population growth which correspondingly increases the amount of waste in the County system; (2) conversion to an export system; and (3) the State's new direction for managing waste as represented in Ecology's 2004 *Beyond Waste* Project.

Population Growth

Based on data from the Washington Office of Financial Management, an estimated 56,204 people lived in Clallam County in 1990. Between 1990 and 2000, the County population grew by approximately 14 percent to 64,179 in 2000. The 2005 population was 66,800. Between 2005 and 2025, the County population is projected to continue to grow consistently. By 2025, the County population is expected to total approximately 77,749.

As the population continues to grow, the amount of waste generated by the County will also continue to grow. For example, approximately 55,762 tons of municipal solid waste was generated by the County in 1996, compared to an estimated 71,115 tons in 2005. In the future and in the absence of waste prevention activities, more waste must be handled through the solid waste management system of collection, transfer, disposal, recycling, and composting facilities. This plan reviews the adequacy and capacity of the existing system to meet the future needs, and makes recommendations if needed.

Conversion to an Export system

The Port Angeles Landfill is scheduled for closure in late 2006. The Makah Tribal Council is proceeding with plans to close the Neah Bay Landfill. These are the only remaining landfills that accept municipal solid waste. Siting a new municipal solid waste landfill in Clallam County is not feasible due to a variety of factors including climate, geography, land use, and the availability of a lower cost option to export waste. Thus the City of Port Angeles and the Makah Tribal Council are both proceeding with the development of transfer stations at their respective landfill sites. From the Port Angeles Transfer Station, municipal solid waste destined for disposal will be exported to permitted landfills outside the county. This plan updates the needs and opportunities presented by the ongoing conversion to an export disposal system.

Beyond Waste Objectives

The *Beyond Waste* Project represents a new direction for the State. The former quantitative goals for recycling and composting were replaced with a 30-year vision with 5-year milestones for measuring success. The new goals are:

- Significantly reduce most wastes and the use of toxic substances in Washington's industries.
- Significantly reduce small-volume hazardous wastes from businesses and households.
- Expand the recycling system in Washington for organic wastes such as food wastes, yard waste, and crop residues.
- Reduce the negative impacts from the design, construction, and operation of buildings.
- Develop a system to measure progress in achieving our goals.

This plan begins to address the approach for meeting these goals within Clallam County. As new direction and programs from the *Beyond Waste* Project materialize, the County will evaluate and adjust this CWSMP on a case-by-case basis.

SUMMARY OF CONDITIONS AND RECOMMENDATIONS

An overview of existing conditions and a narrative summary highlighting some of recommendations are provided below. A table follows that identifies lead agency, implementation schedule, cost, and funding source for each recommendation. The full text of the recommendations is provided as Appendix A.

Solid Waste Collection, Transfer, and Disposal

There are six garbage collection operations in Clallam County. These operators currently take the municipal solid waste (MSW) to the Port Angeles Landfill, the Neah Bay Landfill, the Blue Mountain Drop Box and Recycling Center prior to disposal at the Port Angeles Landfill, or a private transfer station prior to export out of the County for disposal.

When the Port Angles Landfill closes at the end of 2006, MSW that used to go to that landfill will go to a new transfer station being developed on the landfill site, prior to export out of the County for disposal. When the Neah Bay Landfill is eventually closed, MSW from the Makah Reservation will go to a new transfer station at the Neah Bay site, and then be exported. Future disposal facilities within the County will likely be limited in purpose and will be considered on a case by case basis.

Although incineration of municipal solid waste provides an alternative to waste export, the cost is far higher than export. The City of Forks and Port of Port Angeles are pursuing the development of a biomass-to-energy facility in western Clallam County which will handle shake and shingle industry wood waste that used to be burned. Clallam County will continue to evaluate opportunities for the incineration of select waste streams, energy recovery from landfill gas, biomass-to-energy, and biogas-to-energy operations on a case-by-case basis. These technologies are worth considering, given the State's focus on reducing organics in MSW, as described in *Beyond Waste,* as well as the significant amount of organic waste in Clallam County's disposed waste stream (estimated in Chapter 3).

Based on population projections, Clallam County has estimated future MSW quantities and found that the existing collection system and existing and planned transfer stations and drop box facilities should be able to handle the projected increases. As a contingency, the hours of operation or number of containers at a facility could be increased, or additional drop-box facilities could be considered.

Otherwise collection, transfer, and disposal recommendations are focused on methods for supporting the diversion of materials from the disposed waste stream. For example, Clallam County could add drop boxes for source-separated yard debris or additional types of recyclables at existing facilities, where not already available and depending in part on observations made at the facilities.

Waste Prevention, Recycling and Composting

In addition to adopting Ecology's new goals as identified in *Beyond Waste*, the SWAC recommends a goal of 30 percent diversion (waste prevention, recycling and composting) for the next 5 years, with an eventual goal of 40 percent waste diversion (by weight) for the County in the long term.

Waste Prevention

Waste prevention is defined as those methods and activities that avoid the creation of waste. The focus of waste prevention is and will continue to be public information and education with themes of reducing the weight and volume of waste collected; increasing material and product life through repair and reuse; reducing or eliminating packaging; and decreasing product consumption. These activities currently range from utility bill inserts, advertisements, and speakers at public forums and will include waste audits, a waste reduction program web page, and recognition for businesses in the future. Through the business waste audits, opportunities to reduce commercial food waste, as well as other waste streams, will be considered. Clallam County and its municipalities will provide an example for the businesses by adopting existing or developing their own waste reduction programs within the County and its municipalities.

A Waste Reduction Committee is being established which will be dedicated to waste reduction in Clallam County. This committee will provide general waste reduction policy research, advice to government entities, educational outreach, and volunteer support for waste reduction opportunities, and will augment and support the SWAC.

Recycling

Clallam County already recycles approximately 20 percent of its solid waste. As with waste prevention, existing recycling efforts will continue, including maintaining existing curbside collection programs and drop box sites, as well as public information and education. To increase the recycling rate, additional and expanded recycling efforts will concentrate on three areas: additional amounts and grades of currently-recycled materials, additional materials from the commercial/industrial waste stream, and additional construction and demolition materials. Specific opportunities in these three areas will be identified through business waste audits and the observations of transfer and drop box facility operators. Clallam County will also consider expanding curbside collection in unincorporated areas, establishing additional drop-off sites around the County and during tourist season, and promoting recycling at special events such as festivals.

Clallam County will also encourage and support school district efforts to expand the existing school recycling and education programs to increase recycling tonnages and to reinforce other education efforts. To increase the number of these programs, the Clallam County Waste Reduction Committee will arrange a meeting for interested persons from other schools that do not have such programs in place to share information.

Clallam County and the cities will consider revising their purchasing policies to encourage or require the use of recycled materials. In so doing, the County and cities would help to build the local market for recycled materials and promote the idea of purchasing recycled products.

Composting

Composting can be defined as the controlled biological decomposition of yard debris to produce a beneficial product. For the purpose of the CSWMP, the term "composting" also includes the chipping of brush. Currently, a significant portion of the yard debris appears to be diverted through backyard composting or mulching, mulching through the City of Sequim's operation, or co-composted with biosolids at the City of Port Angeles' operation. Thus these programs will be continued to the extent that capacity and end-use markets allow.

Previously, the City of Port Angeles has not charged residents for either curbside collection or self-haul of yard debris to the Port Angeles Landfill. That policy has changed as of July 1,

2006. With the introduction of fees, the amount of yard debris diverted through the city's facility may decrease. Thus the city will closely monitor the amount of yard debris received at its co-compost facility as well as through its landfill and future transfer station. If yard debris is being re-directed to other, private recycling/composting operations, then the city may consider accepting some special wastes (e.g., wood or ash) as a feedstock to its co-compost operation.

The County and its cities will continue to develop end-use markets for compost, hog fuel, and mulch, and lead by example by maximizing its own use of these products.

SPECIAL WASTES

These wastes generally require special handling and disposal for one or more reasons, such as potential toxicity, large quantities, or size and weight problems. Most of these wastes are best disposed of somewhere other than in a municipal solid waste disposal system. Sixteen special wastes are identified in the CSWMP, and specific recommendations are developed for ten special wastes (agricultural wastes, animal carcasses, ash, auto hulks, construction and demolition wastes, contaminated soils, electronic wastes, moderate risk wastes, pharmaceutical wastes, and wood wastes). Conditions and recommendations for five of the special wastes are summarized below.

Agricultural Waste

Although the amount of farmland in Clallam County has decreased substantially over the past 50 years, the amount of agricultural wastes generated in the County is still significant. Most of these wastes do not require offsite disposal, but rather are managed onsite. However, depending on how manure is handled and applied, nearby surface waters could be contaminated. To address this concern, the Clallam Conservation District and the National Resource Conservation Service (NRCS) will continue to work with producers around the County to implement best management practices (BMPs) to minimize the potential contamination of surface waters with agricultural waste. Further, The Clallam County Planning Commission's Agricultural Sub-committee is currently undergoing a review of the local ordinances affecting agricultural composting and will be providing recommendations for changes in the local regulation of agricultural wastes within the next year.

Ash

In Clallam County, significant amounts of ash are produced by the forest products industry from burning hog fuel or pulp and paper sludges. Ash is currently disposed in either the Port Angeles Landfill or the Lawson Limited Purpose Landfill, or exported out of the County for disposal. Although ash can be managed in the foreseeable future through the Lawson Landfill and the Port Angeles Transfer Station, opportunities to reuse or recycle this material would be preferable to land disposal. Thus Clallam County will encourage ash-producing companies to explore recycling or other disposal alternatives first (e.g., land application). If future capacity allows, the City of Port Angeles may consider accepting clean ash at its co-compost facility.

Construction, Demolition, and Land-Clearing (CDL) Wastes

As recently estimated, Clallam County residents dispose of approximately 7,000 tons of CDL waste per year (excluding any major projects). When the County fully converts to exporting its waste, the cost of exporting CDL waste will be high. Recycling of this type of waste may be less costly and would be environmentally preferable. Thus Clallam County will promote existing opportunities for the reduction, reuse, and recycling of CDL wastes; enhance the recycling of CDL wastes by establishing expanded markets for the materials; and only

consider the development of a limited purpose disposal site for non-recyclable CDL wastes if existing methods for disposing or diverting the waste are inadequate, especially for big demolition projects.

Moderate Risk Wastes

Moderate risk waste (MRW) includes household hazardous wastes and wastes from small-quantity generators. MRW produced in Clallam County include pesticides, acids, oil-based paints, cleaning solvents, dry-cleaning solvents, petroleum wastes, used batteries, and medical or pathogenic wastes. Currently, hazardous wastes are not accepted at the Port Angeles Landfill. Instead, separate collections of MRW have been conducted.

When it becomes operational, the new Port Angeles Transfer Station will include a MRW Facility. Materials accepted will include fuels, solvents, pesticides, antifreeze, used oil, corrosives, fluorescent lamps, oxidizers, and oil-based paint products. Items received into the facility will be sorted, and those items suitable for reuse will be segregated and stored on display shelves. These items will be available to the general public during regular business hours at no charge. Otherwise, MRW will be managed in accordance with applicable regulations.

Clallam County will resume countywide educational efforts for proper disposal or reuse of MRW, and provide information on the new MRW Facility at the Port Angeles Transfer Station. The County will also consider continuing collection events in the outlying portions of the County because Port Angeles may not be convenient for all County residents.

Wood Waste

The forest products industry in Clallam County generates wood shavings, chips, sawdust, log ends, bark, hog fuel, sorting yard wastes, pulp and paper mill sludges, and boiler ash. Wood waste is also accumulated through the operation of marine terminals and adjacent log yards. Many of the major producers of wood waste already recycle it through private companies for use as a soil amendment, hog fuel, and paper making. However, the Port Angeles Landfill currently remains a disposal destination for a portion of the wood waste. Its upcoming closure will leave the County without an economical local disposal option for wood waste. Thus alternatives for reusing or recycling this waste are increasingly cost effective.

Clallam County will explore the possibility of recovering additional amounts of wood waste through use as composting or hog fuel. If necessary, Clallam County and its municipalities will increase the market for landscaping mulch produced from log yard waste through public procurement programs. Clallam County will also consider proposals for alternative methods for managing wood waste, such as biogas to energy, on a case by case basis.

Table ES-1. Summary of Recommendations

Activity	Lead Agency	Schedule	Cost	Funding Source
In-County Transfer and Drop Box:				
T1) The Clallam County SWAC, JSWAB, and other governmental agencies should continue to work together to develop plans and programs, while also continuing to explore viable alternatives, for waste export and transfer and related options, such as extended hours of operation, additional drop boxes, and additional facilities.	Clallam County, others	Ongoing		Tipping fees
T2) Study the possibility of placing additional containers at all transfer and drop box sites to collect source-separated yard wastes and to collect additional recyclable materials.	Clallam County, others	Ongoing		Tipping fees
T3) Develop a plan for periodically monitoring municipal solid waste received at transfer and drop box facilities, with an emphasis on noting significant quantities of potentially-recyclable materials (yard waste, scrap metals, textiles, etc.).	JSWAB & West Waste	Every 2 years		Tipping fees
T4) Develop a consistent methodology for estimating annual per capita disposal rate, which will be used in combination with other data to assess the effectiveness of and needs for the solid waste program.	JSWAB	By January 1,2008		Tipping fees
T5) Consider user fees at the transfer and drop box facilities for recyclable materials if the average market price for recyclables drops so low that collection of recyclables becomes a significant net loss for the facilities.	JSWAB & West Waste	As needed		Tipping fees
Incineration:				
I1) Evaluate new proposed incineration projects for select waste streams and/or locations based on an objective review of the potential impacts to human health and environmental quality, as well as a comparison to alternative disposal methods.	Clallam County, SWAC and JSWAB	As needed	Minimal	Tipping fees
I2) Consider energy recovery from landfill gas in the future if and when this becomes economically feasible.	City of Port Angeles	Ongoing	Minimal	Grants/tipping fees

Table ES-1. Summary of Recommendations (continued)

Activity	Lead Agency	Schedule	Cost	Funding Source
In-County Landfilling:				
LF1) Encourage and support the closure of the Neah Bay Landfill. If the Neah Bay Transfer Station does not proceed, consider directing the waste generated on the Makah reservation to one of the other two transfer stations in Clallam County.	Makah Tribe	Ongoing	Unknown but significant	Tribal funds (and grants as available)
LF2) Consider proposals and options to develop special-purpose landfills, such as wood waste or construction and demolition waste landfills, as they are proposed.	Clallam County Environmental Health (CCEH) and JSWAB	Ongoing	Unknown	Permit fees
Waste Export/Import:				
WE1) As planned, export solid waste from the new Port Angeles Landfill Transfer Station to the Waste Connections Finley Butte Landfill in Boardman, Oregon following closure of the Port Angeles Landfill at the end of 2006	JSWAB	Upon landfill closure at the end of 2006		Tipping fees
WE2) Encourage West Waste to continue their waste export activities and to possibly expand these activities as needed to serve additional west end customers who are currently shipping waste to the Port Angeles Landfill.	SWAC	Ongoing		Collection fees
WE3) Require any contracts with private businesses for waste export services to identify alternative disposal plans, including alternative routes and modes of transportation, should natural disaster or other conditions require re-routing.	SWAC, CCEH	As needed		Tipping and/or permit fees
Alternative Disposal Methods				
ADM1) Pursue the development of a biomass-to-energy facility in Clallam County.	Clallam County Economic Development & SWAC	As needed	Minimal	Grants
(ADM2) Consider proposals for alternative disposal methods, such as biogas to energy, on a case by case basis.	SWAC	As needed		Permit fees and private funds
Waste Prevention:				
WP1) Continue public information and education with themes of reducing the weight and volume of waste collected; increasing material and product life through repair and reuse; reducing or eliminating packaging; and decreasing product consumption	City of Port Angeles and CCEH	ongoing	$40,000-$50,000/year	Tipping Fees and Grants
WP2) Establish a citizen advisory/action group to help with public education efforts.	SWAC	July 2006	minimal	Tipping fees for staff time
WP3) Use existing county and city websites to promote business waste reduction.	City of Port Angeles	ongoing		Tipping Fees

Table ES-1. Summary of Recommendations (continued)

Activity	Lead Agency	Schedule	Cost	Funding Source
Waste Prevention (continued):				
WP4) Conduct waste audits, targeting small to medium-sized businesses first, on the assumption that the larger businesses have the staff and other resources to best meet their needs. Consider the idea of waste exchanges and similar activities directed specifically at businesses for future implementation.	City of Port Angeles and Citizen Committee	2007	$2,000	Grants
WP5) Depending on the results of business waste audits, consider developing a pilot program for reducing commercial food waste.	SWAC	As needed		Grants
WP6) Provide an example for the above businesses by adopting WasteWi$e or developing waste reduction programs within the county and its municipalities	City of Port Angeles & Clallam County	2008		Grants
WP7) Recognize businesses that do a good job of implementing waste reduction programs and practices.	SWAC	2007		Grants
WP8) Support reuse events organized and implemented by others.	City of Port Angeles	ongoing		Grants and tipping fees
WP9) Better publicize the availability of less-frequent collections in the rural areas, and consider a similar approach throughout Clallam County.	West Waste	ongoing		Tipping fees
WP10) Evaluate the waste prevention program based on whether or not the activities recommended above have been conducted. Back up this performance-based evaluation by conducting surveys every few years to test changes in public attitudes and practices.	City of Port Angeles	annually		Grants
WP11) Supplement the performance-based evaluation with an assessment of trends in per capital disposal rates.	JSWAB	January 1, 2008		Tipping fees
Recycling:				
R1) 30% near-term and 40% long-term waste diversion goal.	Clallam County	Annually		Utility rates and tipping fees
R2) Continue to recycle the same designated recyclables.	Clallam County	Annually		Utility rates and tipping fees revenue
R3) Concentrate additional and expanded recycling efforts on three areas: amounts and grades of currently-recycled materials, materials from the commercial/industrial waste stream, and construction and demolition materials.	City of Port Angeles			Utility rates and tipping fees revenue
R4) Continue public education, and promoting new programs should be modeled after existing efforts.	City of Port Angeles	Ongoing		Tipping fees and grants
R5) Consider additional curbside collections in the rural areas, and opportunities to establish drop-off or curbside collections in Tribal Reservations should be supported.	City of Port Angeles	Ongoing		Collection rates

Table ES-1. Summary of Recommendations (continued)

Activity	Lead Agency	Schedule	Cost	Funding Source
Recycling (continued):				
R6) Maintain existing drop-off sites and consider additional sites in the county. Also consider additional sites for temporary operation during the tourist season, if these can be operated cost-effectively by private recycling firms.	SWAC and Olympic National Park	Every spring		Tipping fees and revenues from commodities
R7) Recycling programs in schools should be maintained and expanded.	Public and Private Schools and City of Port Angeles; Waste Reduction Committee			School funds and avoided disposal costs; grants
R8) Promote recycling at special events such as sport activities and public festivals. Cooperate with private haulers, festival organizers, and volunteers to provide recycling bins and collection.	Clallam County, cities	Ongoing		Tipping fees, revenue
R9) Monitor and consider any proposals for the processing of recyclables within the county that may reduce the cost of exporting materials while creating jobs within the county.	SWAC and Waste Reduction Committee	Ongoing		Tipping fees and grants
R10) Lead by example. Consider implementing expanded recycling programs, purchase of recycled materials, and adoption of policies that require this for all of departments in and vendors for the county and its municipalities.	Clallam County, cities	2007		Tipping fees and grants
R11) Together with private collectors, closely examine the potential for local markets for glass and other materials	SWAC and Waste Reduction Committee	2007		Tipping fees and grants
R12) Require all companies and agencies collecting recyclables in Clallam County to report their data to Ecology.	Clallam County, cities and collectors.	Annually	Minimal	Public and private funds for staff
Composting:				
C1) In Port Angeles, continue curbside collection, processing, and co-composting yard waste at the Port Angeles Co-composting Facility. Increase the amount of materials processed to the extent of the facility's capacity. Investigate methods for increasing capacity through accelerated composting techniques.	City of Port Angeles	Ongoing		Tipping fees
C2) Closely monitor the amount of yard debris coming in to the co-composting facility to determine if new fees are affecting diversion. If yard debris is being diverted through other (i.e., private) operations, consider accepting additional waste streams (e.g., ash, wood) as a co-compost feedstock or yard debris from other areas of the county. If yard debris is being disposed of unlawfully, revisit rate structure.	City of Port Angeles	Ongoing		Tipping fees

Table ES-1. Summary of Recommendations (continued)

Activity	Lead Agency	Schedule	Cost	Funding Source
Composting (continued):				
C3) Continue collecting and chipping brush collected at the Sequim drop box. Increase the amount of brush and woody materials processed to the extent the end-uses for chips can accommodate. If capacity becomes an issue for this operation, consider expanding the operation at its current site or a new site or replacing with a composting operation that can also handle other waste streams	City of Sequim	Ongoing		City fees
C4) Continue to develop end uses such as mulch, hog fuel, and compost, and other uses that may also be identified. Lead by example. The county (and its municipalities) should maximize use of these products in its own projects.	Clallam County, cities	Ongoing		Tipping fees
C5) Consider separate collection of yard debris by Olympic Disposal and West Waste in their respective solid waste collection service areas if quantities set out for collection increase significantly.	Clallam County and haulers	Ongoing		Collection fees (significant increase)
C6) Encourage neighborhood chipping services.	City of Port Angeles	Ongoing		Grants and tipping fees
C7) Continue public education to encourage residents to handle their yard debris separately through backyard composting and use of mulching mowers. Work with Washington State University Extension to establish a Master Composter Program in Clallam County to present educational programs. Expand educational efforts beyond the City of Port Angeles to other areas of the county	Clallam County, cities	Ongoing		Grants
Special Wastes:				
AG1) Continue to work with producers around the County to implement BMPs to minimize the potential contamination of surface waters with agricultural waste.	Clallam Conservation District and National Resource Conservation Service	Ongoing		Conservation Commission
AN1) During the next planning period, identify ideas and alternatives for disposing of animal carcasses.	CCEH and SWAC	Ongoing		Grants
ASH1) Encourage the ash-producing companies to explore recycling or other disposal alternatives first. For example, encourage them to investigate land application and industrial applications such as cement.	SWAC, ash producers, and regulatory agencies	Ongoing		Grants and private funding

Table ES-1. Summary of Recommendations (continued)

Activity	Lead Agency	Schedule	Cost	Funding Source
Special Wastes (continued):				
ASH2) The first priority for the Port Angeles Co-Composting Facility is the diversion of yard debris. However, if additional, private-sector alternatives develop to compete with the City's operation, consider accepting additional materials such as clean ash at the facility.	City of Port Angeles	Ongoing		Tipping fees
AUTO1) During the next planning period, identify ideas and alternatives for managing the disposal or accumulation of auto hulks.	SWAC, County, and cities	Ongoing		Grants and private sources
CDL1) Promote existing opportunities for recycling of CDL wastes as part of the public education efforts conducted for waste reduction and recycling. In particular, the County and its municipalities should help promote the Built Green concept.	County and cities Waste Reduction Committee	Ongoing		Grants
CDL2) Enhance the recycling of CDL wastes by establishing expanded markets for the materials. These markets include using processed concrete and asphalt concrete for county and municipal public works projects, especially roads and utilities, and processing clean wood material as hog fuel for area hog-fuel boilers.	SWAC and JSWAB	Ongoing		Private sources
CDL3) Consider the development of a limited purpose disposal site for non-recyclable CDL wastes if existing methods for disposing or diverting the waste are inadequate, especially for big projects such as the Elwha Dam demolition. If a separate site is developed and if sufficient quantities of recoverable materials are observed being disposed at this site, additional recycling operations should be considered for those materials.	SWAC and JSWAB	As needed		Permitting fees and private funding
CS1) Explore new technologies for managing contaminated soil.	Clallam County	Ongoing		Private sources
EW1) Continue to work with and educate the public on how to handle electronic waste and hold periodic collection events.	CCEH, City of Port Angeles	Ongoing		Grants and tipping fees
MRW1) Resume countywide educational efforts for proper disposal or reuse of moderate risk waste (MRW). Provide information on the new MRW Facility at the Port Angeles Transfer Station.	CCEH, City of Port Angeles	Ongoing		Grants and tipping fees
MRW2) Consider continuing MRW collection events in the outlying portions of the county because Port Angeles may not be convenient for all county residents.	CCEH, City of Port Angeles	Ongoing		Grants and user fees

Table ES-1. Summary of Recommendations (continued)

Activity	Lead Agency	Schedule	Cost	Funding Source
Special Wastes (continued):				
PW1) Work with the two hospital districts, retail suppliers, and other healthcare providers to develop a public education program on how to properly dispose of pharmaceutical waste.	CCEH	Ongoing		Tipping fees and grants
WD1) Explore the possibility of recovering additional amounts of wood waste through composting, hog fuel, and biomass-to-energy.	SWAC	Ongoing		Private sources
WD2) If necessary, increase the market for landscaping mulch produced from log yard waste through public procurement programs. As appropriate, encourage private sector companies to follow the public sector's lead in procurement of landscaping mulch produced from log yard waste.	SWAC	Ongoing		Grants
WD3) Consider proposals for alternative methods for managing wood waste, such as biogas to energy, on a case by case basis.	SWAC and JSWAB	2007		COMBINE 1 AND 2
WD4) Should the amount of wood waste managed in the solid waste stream increase substantially due to markets, regulations, or other outside influences, collaborate with private companies to develop new ideas for managing this waste stream.	SWAC, private companies	TBD		Tipping fees and grants

1. INTRODUCTION

1.1 ROLE AND PURPOSE

This Comprehensive Solid Waste Management Plan (CSWMP) Update 2006 was prepared to provide a functional planning guide for solid waste activities within Clallam County. This CSWMP was developed in response to the Solid Waste Management Act, Chapter 70.95 of the Revised Code of Washington (RCW), which states:

> "Each County within the State, in cooperation with the various cities located within such county, shall prepare a coordinated, comprehensive solid waste management plan" (Section 70.95.080).

The Solid Waste Management Act also specifies that this CSWMP must "be maintained in a current condition and reviewed and revised periodically..." Review and revision as necessary is required at least every five years. (RCW 70.95.110). This Plan serves as an Update to the November 2000 CSWMP.

This CSWMP addresses solid waste management throughout Clallam County. The incorporated areas, which include the cities of Forks, Port Angeles, and Sequim, had the option to develop their own plans but chose to participate in the County's planning process through interlocal agreement. The Olympic National Park also participated in the planning process and adopted this Plan (see Resolutions of Adoption). Tribal Councils also participated in the planning process, including the Makah Tribe, the Quileute Tribe, and the Elwha and Jamestown Bands of the S'Klallam Tribe.

The minimum contents of a CSWMP are specified by state law (RCW 70.95.090) and further described in the Guidelines for the Development of Local Solid Waste Management Plans and Plan Revisions, December 1999 issued by the Washington State Department of Ecology (Ecology 1999). In summary, the CSWMP must contain:

- Inventory of existing solid waste handling facilities, including an assessment of any deficiencies in meeting current disposal needs.
- Estimated needs for solid waste handling facilities for the next twenty years.
- Program for the development of solid waste handling facilities consistent with minimum functional standards and comprehensive land use plans. A six-year construction and capital acquisition program and a financing plan for capital and operational costs must also be included.
- Program for surveillance and control.
- Inventory of solid waste collection needs and operations, including information on collection franchises, municipal operations, population densities of areas covered by either franchised or municipal operations, and projected solid waste collection needs for a period of six years.
- Comprehensive waste reduction and recycling element that provides for reduction of wastes, provides incentives and mechanisms for source separation, and provides opportunities for recycling source-separated materials.
- Waste reduction and source-separated recycling strategies, including residential collection programs in urban areas, drop-off or buy-back centers in rural areas, monitoring methods for programs that collect source-separated materials from nonresidential sources, yard waste collection programs, and education programs.

- Recycling strategies including descriptions of markets, a review of waste generation trends, waste composition information, a description of existing programs and suggestions for additional services, and an implementation schedule.
- Assessment of the impact that implementation of the CSWMP's recommendations will have on solid waste collection costs.
- Review of potential sites for solid waste disposal facilities.

1.2 RELATIONSHIP TO OTHER SOLID WASTE PLANS & AGREEMENTS

This CSWMP retains the information from several plans and studies dealing with landfill disposal, transfer stations, incineration of solid waste, and hazardous waste management within the County that were incorporated in the 2000 CSWMP.

Additional sources for information in this update include:

- The Clallam County Construction, Demolition, and Land-Clearing Debris Waste Assessment 2004,
- Solid Waste Processing Facility Development and Management Service Agreement 2005,
- Interlocal Agreement Regarding Regional S.W. Export and Transfer System 2004,
- Draft Port Angeles Transfer Station / MRW Operations Plan 2006,
- Draft Port Angeles Co-compost Facility Operations Plan 2006, and
- Draft Blue Mountain Drop-Box and Recycling Center Operations Plan 2006.

1.3 PREVIOUS SOLID WASTE PLANS

In September 1972, the first solid waste planning document, the Comprehensive Plan for Solid Waste Management, was completed for Clallam County by URS/Hill, Ingman, Chase and Company of Seattle, Washington. In 1981, an attempt was made by Clallam County and the City of Port Angeles to update this plan through an in-house effort, but this plan was never completed. In 1983, Parametrix, Inc. of Bellevue, Washington, was contracted by Clallam County to revise and update the CSWMP. The final draft of this update was completed in September of 1984, but was not adopted by all jurisdictions. By 1988, solid waste data had significantly changed, so the County's Solid Waste Advisory Committee (SWAC) began to update the 1984 draft plan. At the same time, substantial changes were occurring with state laws and it proved to be impractical to finish revisions to the plan in 1988.

In late 1989, SCS Engineers was retained to finish the process of revising the CSWMP, beginning with the 1988 draft. A final draft of the new CSWMP was completed in December 1992, adopted by the County and cities, and received final approval from Ecology in April 1993.

In 1999, Green Solutions was enlisted to update the 1993 plan. The result was the November 2000 CSWMP. This plan followed Ecology's new Guidelines for the Development of Local Solid Waste Management Plans and Plan Revisions, December 1999. A summary of the Recommendations from the 2000 plan are listed in Table 1-1.

Table 1-1. Status of Recommendations From the 2000 SWMP

Activity	Schedule	Status
Waste Prevention:		
WP1) Continue public education.	Annually	Ongoing
WP2) Reuse ranch at Blue Mountain Transfer Station and swap event.	By July 2001	Not feasible
WP3) Conduct business waste audits, consider waste exchange.	By July 2001	Ongoing
WP4) Promote less-frequent garbage collection in rural areas, consider same throughout County.	Annually, ongoing	Ongoing
WP5) Volume-based and other rates throughout County, and consider adoption of service ordinance.	By July 2002	Ongoing
WP6) Assessment of goal using performance-based standards.	Annually	Ongoing
Recycling:		
R1) 30% waste diversion goal.	Annually	Ongoing
R2) Recommended list of materials for recycling.	Annually	Completed
R3) New programs for additional and expanded recycling.	Phase in over 3 years	Completed
R4) Continue public education, and promoting new programs should be modeled after existing efforts.	Ongoing	Ongoing
R5) Consider additional curbside collections in the rural areas, and opportunities to establish drop-off or curbside collections in Tribal Reservations should be supported.	Ongoing	In review
R6) Existing drop-off sites should be maintained, additional sites may be needed in Forks, in the Clallam Bay-Neah Bay area, and during the tourist season.	Ongoing	In review
R7) Recycling programs in schools should be maintained and expanded.	Ongoing	Ongoing
R8) Recycled paper should be purchased for special projects, other local market development should be considered.	Ongoing	In review
R9) All companies and agencies collecting recyclables in Clallam County must report their data to Ecology.	Annually	Ongoing
Composting:		
C1) Most yard debris should be diverted from the waste stream through;		
• C1a) Chipping of brush.	Ongoing	Completed
• C1b) A composting facility should be established at the Port Angeles Landfill, if the City of Port Angeles concludes that this is a cost-effective activity.	Completed	Completed
• C1c) Drop-off sites for yard debris should be established at the transfer stations.	Ongoing	Partially completed
• C1d) Separate collection of yard debris could be considered by Olympic Disposal and West Waste in their respective solid waste collection service areas.	By Jan 2001	In review

Table 1-1. Status of Recommendations From the 2000 SWMP (continued)

	Activity	Schedule	Status
Composting (continued):			
	• C1e) Public education should be continued to encourage residents to handle their yard debris separately.	Ongoing	Ongoing
Waste Collection:			
WC1)	Port Angeles and Sequim should consider switching to smaller garbage containers.	ASAP	Completed
WC2)	Incentive rates should be instituted throughout Clallam County.	By 2005	Completed
In-County Transfer:			
T1)	The Clallam County SWAC and other governmental agencies should continue to develop programs while also exploring viable alternatives for waste transfer and related options. The County should consider placing additional containers at transfer sites to collect yard debris and additional recyclable materials.	Ongoing	Partially complete
T2)	If the Neah Bay Landfill is closed, the Makah Reservation should consider building a transfer station.	Pending	Completed
T3)	Transfer station operators should keep notes of the materials that are disposed for a one-week period, to note amounts of recyclable materials.	Ongoing	Completed
T4)	User fees for recyclable materials should be considered if market prices drop to point of significant losses for the transfer stations.	As requested	In review
T5)	Consider closing one of the transfer stations near Forks, if economically necessary.	NA	Completed
Incineration:			
I2)	New incineration projects proposed in the future should be evaluated based on potential impacts and a comparison to alternative disposal methods.	As needed	Completed
I3)	Energy recovery from landfill gas could be considered in the future if and when it becomes economically feasible.	Ongoing	Ongoing
In-County Landfilling:			
L1)	By October 2002, begin the process for developing waste export as an alternative disposal system.	Completed	Completed
L2)	Disposal facilities should be operated as an enterprise fund, and wherever possible a cost-of-service approach should be used.	Ongoing	Completed
L3)	The closure of the Neah Bay Landfill should be encouraged and supported.	Ongoing	Completed
L4)	Special-purpose landfills or disposal alternatives for special waste streams should be considered as they are proposed.	Ongoing	Completed

Table 1-1. Status of Recommendations From the 2000 SWMP (continued)

	Activity	Schedule	Status
Waste Export/Import:			
WI1)	Port Angeles may pursue waste import if necessary to use remaining landfill capacity, but not if it causes premature closure of landfill.	Ongoing	Completed
WE1)	Export of solid waste is the preferred alternative to meet future disposal needs.	Completed	Completed
WE2)	West Waste should continue their waste export activities.	Ongoing	Completed
WE3)	A "north-south corridor" to serve western Clallam and Jefferson Counties is recommended	By mid-2001	Not implemented
WE4)	Contracts with private businesses for waste export must identify alternative routes and disposal plans, and the regional solid waste landfill used for Clallam County must meet or exceed all minimum functional standards.		Completed
Regulation and Administration:			
RA1)	Interlocal agreements are the recommended approach for developing and implementing a new disposal system.	Adopted	Completed
Special Wastes:			
S1)	Ash disposal alternatives need to be examined prior to the closure of the Port Angeles Landfill (in 2006) and the Lawson Landfill (2009).		Completed
S2)	The Solid Waste Advisory Committee (SWAC), Clallam County Health Department, and wastewater treatment plants should cooperate to develop adequate disposal methods for sewage contaminated solid wastes and septage.		Completed
S3)	Recycling options for construction and demolition wastes should be promoted by the County, and development of a disposal site for separate handling of non-recyclable construction and demolition wastes should be considered.	New site by 2006	Completed
S4)	Clallam County should resume educational efforts for proper disposal of moderate risk wastes and joint activities with Jefferson County.		Completed
S5)	The possibility of recovering additional wood waste through composting or hog fuel should be explored.		Completed
S7)	If necessary, the market for landscaping mulch produced from log yard waste should be increased through public and private procurement.		Completed

1.4 PROCESS AND SCHEDULE FOR UPDATING THE CSWMP

This CSWMP serves as a Five-Year Update to the Year 2000 CSWMP. This plan was prepared in a cooperative effort by consultant Parametrix, Inc. and staff from Clallam County, the City of Port Angeles, the City of Sequim, SWAC, and Ecology. The SWAC members at the time of developing the CSWMP included:

Appointed Members:

- James Bay, City of Sequim
- Rod Fleck, City of Forks
- Brent Gagnon, West Waste
- Steve Hoskins, Hartnagel Building Supply
- Bob Martin, Clallam County
- Tom McCabe, City of Port Angeles
- Steve Pendleton, Makah Tribe
- Jim Underwood, Citizen at Large
- Betsy Wharton, City of Port Angeles

Staff:

- Carol Baker, Lower Elwha Tribe
- Helen Freilich, City of Port Angeles
- Jennifer Garcelon, Clallam County
- Craig Jacobs, Clallam County
- Kent Kovalenko, Murray's Olympic Disposal
- Penny Linterman, Clallam County
- Annette Nesse, Jamestown Tribe

* the SWAC seat for the waste hauling/recycling industry is shared on a rotating basis (changing annually) between Olympic Disposal, West Waste and Waste Management

In addition, a representative of Ecology participates on the SWAC. These SWAC members represent not only the interests of their respective agencies and businesses, but as residents and members of the community, they also represent the public's interest. SWAC members submit applications and are appointed based in part on their amount of community involvement.

The process of updating and adopting this CSWMP involved updating the data and text to reflect the solid waste system at the time of writing this Plan, developing new recommendations and solid waste projections, and retaining pertinent text from the 2000 Plan. The following methodology was applied:

- Development of a first draft of the CSWMP for SWAC review and comment.
- Development of a State Environmental Policy Act (SEPA) checklist and the Washington Utilities and Transportation Commission (WUTC) Cost Assessment Questionnaire.

- Incorporating SWAC's comments to create the Preliminary Draft CSWMP, and distributing copies of this document for review and comment by the public, Ecology and WUTC.
- Incorporation of public, WUTC and Ecology comments to create a Final Draft of the CSWMP.
- Technical review by Ecology to ensure correct incorporation of comments, and permission to proceed with adoption.
- Adoption of the Final Draft by cities, Tribes, and Clallam County.
- Submittal of the Final CSWMP with resolutions of adoption to Ecology for final review.
- Final approval by Ecology.

Ecology's Planning Guidelines require that solid waste management plans be reviewed at least every five years, and updated if necessary. The 5-year period begins when the current plan has received final approval from Ecology (projected to be in 2006). Allowing time for an update if necessary, this plan should be reviewed in 2009 with a goal of adopting an updated CSWMP by December 2011. Before that time, however, it may be necessary to revise this CSWMP due to changes in regulatory standards or operational requirements. If change occurs, one that causes part of this CSWMP to be outdated, the SWAC could recommend that the document be amended. If Clallam County and all the signatories to the CSWMP concur, then the plan will be amended.

1.5 GOALS AND OBJECTIVES OF THE CSWMP

The objectives that were established by Clallam County for this update of the Comprehensive Solid Waste Management Plan were to:

- Review the recommendations of the previous plan.
- Describe the newly established solid waste system, including the transition from landfilling to a transfer station and waste export.
- Review current solid waste regulations and policies giving particular attention to waste stream reduction, recycling, and future disposal needs.
- Extend the planning period to 2025 and develop current waste generation data.
- Review existing facilities and solid waste handling practices, and identify additional needs.
- Assess alternatives and develop recommendations for future action, incorporating the results of recent studies done for Clallam County, the City of Port Angeles, and others.
- Give particular consideration to alternatives that involve the expertise of private industry wherever those capabilities are available.
- Develop capital cost estimates and implementation schedules for required improvements with emphasis on those improvements required within a 6-year period.
- Provide guidelines for an equitable balance between convenience, expense, environmental quality, and public health and welfare.
- Incorporate flexibility to anticipate future needs.

- Encourage cooperative and coordinated efforts among government agencies, private companies and the public, to achieve effective management of solid waste.
- Provide a road map to guide the County through anticipated changes in solid waste disposal caused by the future closure of the Port Angeles Landfill.

Under the previous CWSMP, waste diversion goals were derived from the state under RCW 70.95 and Ecology's *Guidelines for the Development of Local Solid Waste Management Plans and Plan Revisions* (Ecology 1999). These goals included the following:

- Waste reduction is the top priority.
- Source separation of recyclable materials is the preferred method.
- Washington State will achieve a statewide recycling rate of 50 percent by 2007.
- Residential and commercial yard debris will be eliminated from landfills where effective alternatives to disposal are available by 2012.
- Steps should be taken to make recycling at least as affordable and convenient to the ratepayer as mixed waste disposal.

RCW 70.95 does not mandate that each County or city actually achieve 50 percent waste diversion since it is recognized that less-populated areas have greater barriers to cost-effective collection and marketing of recyclable materials. Instead each community is required to set a goal that suits its situation, provided that the goal is based on justified and sound reasoning and the state as a whole strives to meet the 50 percent goal.

The state's original goal of 50 percent recycling and composting (under RCW 70.95) has not yet been met. Data show that recycling approached 40 percent at one time (in 1996), but now is fairly constant around 33 percent.

In 2004, Ecology released an updated and combined State of Washington Hazardous Waste Management Plan/Solid Waste Management Plan. Known as the *Beyond Waste* Project, the plan's vision is to "...transition to a society where waste is viewed as inefficient, and where most wastes and toxic substances have been eliminated. This will contribute to economic, social and environmental vitality."

Beyond Waste represented a new direction for the state. The former goals of recycling and composting listed above were replaced with a 30-year vision with 5-year milestones for measuring success. The new goals are to:

- Significantly reduce most wastes and the use of toxic substances in Washington's industries.
- Significantly reduce small-volume hazardous wastes from businesses and households.
- Expand the recycling system in Washington for organic wastes such as food wastes, yard waste, and crop residues.
- Reduce the negative impacts from the design, construction, and operation of buildings.
- Develop a system to measure progress in achieving our goals.

The state goals listed above are adopted into the CSWMP.

2. BACKGROUND OF THE PLANNING AREA

This chapter first describes the environmental, demographic, and land use conditions of Clallam County. Then the potential for siting new solid waste management facilities in Clallam County is discussed, based in large part on these conditions.

2.1 DESCRIPTION OF THE PLANNING AREA

An understanding of environmental, demographic and land use conditions in Clallam County is important in this process because it provides a point of reference for discussions of existing solid waste practices and future solid waste handling needs. To address the primary aspects of environmental conditions in Clallam County, this section is divided into two parts: the natural environment and the human environment. The description of the natural environment includes a brief review of topography, geology, soils, and climate. The second part covers the demographic and land use characteristics of Clallam County.

2.1.1 Natural Environment

Clallam County is located on the Olympic Peninsula in the northwestern corner of Washington State. The County is bordered by the Pacific Ocean to the west, the Strait of Juan de Fuca to the north, and Jefferson County to the east and south. The Olympic Mountains form a significant geographic barrier across most of the southern part of the county. Eighty miles separate the western and eastern boundaries. Clallam County encompasses a total of 1,750 square miles.

2.1.1.1 Topography

The topography of Clallam County is extremely varied, with a range in elevation from sea level to over 7,000 feet above sea level. The dominant topographical feature is the Olympic Mountains, which comprise a major portion of Clallam County and neighboring Jefferson County to the south. These mountains are a densely timbered wilderness with numerous streams and steep slopes. The remaining area of Clallam County is rugged foothills and coastal terraces. Two large lakes, Lake Ozette and Lake Crescent, and several smaller lakes are located in the county.

2.1.1.2 Geology and Soils

The Olympic Peninsula is a region of complex geologic history. Bedrock sequences of sedimentary, igneous, and metamorphic rocks occur on the Peninsula in a variety of stages of deformation as a result of major tectonic activity. Repeated glaciation of the area has modified older bedrock deposits and left behind deposits of unconsolidated clay, silt, sand and gravel on much of the lowlands and foothills of the Olympic Peninsula.

Two major bedrock features occur on the Olympic Peninsula: the peripheral rocks and the core rocks. The peripheral rocks are Miocene to Eocene in age and consist of sandstone, argillite, and conglomerate that are layered with basaltic volcanic rocks of the Crescent Formation. The peripheral rocks are folded and faulted, but in general are stratigraphically continuous. The core rocks are also Miocene to Eocene in age but are much more deformed than the peripheral rocks. Metamorphic lithology and textural characteristics are very common in the core rock assemblages.

2.1.1.3 Climate

The climate of Clallam County is primarily maritime in character with cool dry summers and wet mild winters. The Olympic Peninsula has the widest range of rainfall in the United States, however, and in Clallam County the average annual rainfall varies from 16 inches in Sequim (in the eastern part of the county) to 130 inches in Olympic National Park (in the western part of the county). The average number of days in which there is 0.1 inch or more of rain is approximately 160 days in the western part of the County, 79 days in Port Angeles and 57 days in Sequim. Temperatures are mild in the non-mountainous portion of Clallam County, averaging approximately 49° F over the year. The typical range between high and low daily temperatures is 12 degrees in the winter and 21 degrees in the summer. Temperature extremes throughout a year are rarely less than 15° F or more than 96° F in the populated portions of the county.

Snowfall is heavy in the mountainous regions, and at higher elevations it remains until late in the summer. During many winters little or no snow is experienced at lower elevations.

2.1.2 Human Environment

2.1.2.1 Current Population/Demographics

The Washington Office of Financial Management's Official April 1, 2005 Estimate indicates that the population of Clallam County was 66,800 people in 2005 (OFM 2005). Table 2-1 shows the county's population distribution.

The largest of Clallam County's three incorporated areas, Port Angeles, has 28 percent of the population. The other two incorporated areas, Sequim and Forks, contain 7 and 5 percent of the county's population, respectively. Over half of the county's population (60 percent) is located in the unincorporated areas. Over the past 25 years, the population over 65 years of age has been steadily increasing as a percentage of the total population.

Table 2-1. Clallam County Population by Area

	1990[a]	2000	2005
Incorporated Areas:			
Forks	2,838	3,120	3,125
Port Angeles	17,710	18,397	18,640
Sequim	3,617	3,617	4,730
Subtotal, Incorporated	24,165	25,851	26,495
Tribes	2,289[b]	3,244[c]	3,173[d]
Unincorporated Areas:			
Subtotal, Unincorporated	32,039	38,328	40,305
Other Unincorporated	25,975	35,084	37,132
Clallam County, Total	56,204	64,179	66,800

Source: Office of Financial Management, Forecasting Division June 28, 2005.

a From "1997 Population Trends", by the State of Washington, Office of Financial Management, September 1997, unless otherwise noted.

b Figure for residents of Native American heritage from 1990 census data (USDC 1991).

c Figure for residents of Native American heritage from 2000 census data (USDC 2001).

d Estimated figure based on 1980, 1990 and 2000 data.

2.1.2.2 Future Population/Demographics

Table 2-2 shows previous and projected population figures for Clallam County. Evaluating trends in population is useful for estimating future solid waste generation. The Office of Financial Management estimates that the population of Clallam County will reach 77,749 people by 2025 (OFM 2005). This is an increase of approximately 16 percent over the 20-year planning period of this CSWMP. It is assumed that waste quantities generated in Clallam County will increase in proportion to this amount (by about 16 percent), before any impacts caused by expanded waste prevention and recycling activities are taken into consideration.

Table 2-2. Clallam County Population Trends

Year	Total Population	Percent Change[a]
1960	30,022	n/a
1970	34,770	15.8
1980	51,648	48.5
1990	56,204	8.8
2000	64,179	14.2
2010	67,754[b]	5.6
2020	74,349[b]	9.7
2025	77,749[b]	4.6

a Percent change calculated by dividing the increase from the previous year by the amount in the previous year.

b From "Historical and Projected Population for Growth Management and Other Purposes", by the State of Washington, Office of Financial Management, February 2002 (intermediate series).

2.2 EVALUATION OF POTENTIAL SITES FOR SOLID WASTE FACILITIES

2.2.1 Solid Waste Facility Siting Process

Any new facilities sited in the future will have to meet the state and local standards current at that time. State standards include the following:

- Criteria for Municipal Solid Waste Landfills (WAC 173-351), which address siting, design, and operation of municipal solid waste (MSW) landfills.
- Solid Waste Handling Standards (WAC 173-350), which address siting, design and operation of other solid waste handling facilities, such as transfer stations, compost facilities, and limited purpose facilities.

Local standards include the Clallam County Solid Waste Regulations (Chapter 41.10 of the Clallam County Code) which specifies local solid waste standards, Clallam County Zoning Code (Chapter 33 of the Clallam County Code,) and the Clallam County Comprehensive Plan (Section 31), which designate solid waste disposal facilities as conditional uses in all forestry and rural residential zones, and in certain other zones. Other local land use plans may apply depending on whether the proposed site(s) are in a city's jurisdiction.

The siting process for a new solid waste facility would usually include the following steps below. These steps typically apply to solid waste landfills, but could generally apply to other facilities (e.g., composting, recycling, etc.).

Step 1: Site Identification

For a public facility, the process of identifying sites may include soliciting nominations from citizens and interested parties, identifying major landholders and city/County properties, and other activities to initially identify as many sites as practical. For a private site, the site selection process may consist primarily of an inventory of sites currently available for purchase.

Step 2: Broad Site Screening

The second step typically involves evaluating potential sites for "fatal flaws", such as unsuitable neighboring land use, distance from the point of waste generation, site size, or presence of slopes, floodplains, wetlands, surface water, or shorelines. For a public site, the goal should be to retain up to 12 sites after this step is completed. For a private facility or other cases where there may be only a few sites to begin with, one or two sites should survive this evaluation.

Step 3: Detailed Site Ranking

After sites with fatal flaws have been eliminated, the remaining sites should be evaluated using more detailed criteria such as the availability of utilities (water, sewer, and electricity), traffic impacts and road access, and other factors affecting the ability to develop and use the site. For a publicly owned site, no more than four sites should remain after this step is completed.

Step 4: Detailed Site Evaluation

The final step in evaluating sites involves assessing impacts in accordance with the State Environmental Policy Act. This step should result in the recommendation of a preferred site.

Step 5: Siting Decision

The decision to proceed with a recommended site should be based on environmental, engineering, cost, and political factors. At this point, more detailed plans and drawings can be developed, the permit process can begin, and other documents and approvals (such as an Environmental Impact Statement, if required) can be sought.

2.2.2 Solid Waste Facility Siting Factors

A new MSW landfill located in the County would be required to meet the siting standards listed in WAC 173-351-130 and -140. These standards meet or exceed the federal regulations under the Resource Conservation and Recovery Act (RCRA), Subtitle D (40 CFR Part 258).

Other solid waste facilities that are required to comply with WAC 173-350 (e.g., composting, recycling, inert waste), must meet the siting standards listed in WAC 173-350. Generally, these are listed in WAC 173-350-040, Performance Standards. Specific requirements are listed in:

- WAC 173-350-210 (Recycling),
- WAC 173-350-220 (Composting),
- WAC 173-350-230 (Land application),
- WAC 173-350-240 (Energy recovery and incineration facilities),
- WAC 173-350-300 (On-site storage, collection, and transportation standards),
- WAC 173-350-310 (Intermediate solid waste handling facilities – e.g. transfer stations and drop boxes),

- WAC 173-350-320 (Piles used for storage or treatment)
- WAC 173-350-330 (Surface impoundments and tanks)
- WAC 173-350-350 (Waste tire storage and transportation)
- WAC 173-350-360 (Moderate risk waste handling)
- WAC 173-350-400 (Limited purpose landfills), and
- WAC 173-350-410 (Inert waste landfills).

The subsections below describe the siting standards for landfills listed in WAC 173-351-130 and -140. There may be other issues that affect other solid waste handling facilities, however, these are not listed below for simplicity purposes. Siting for other waste handling facilities must meet requirements in WAC 173-350 as well as any other local and federal regulatory requirements.

2.2.2.1 Soils and Geology

The soils and underlying geology are important considerations for solid waste management facilities. Geology, groundwater, and the availability of appropriate soils are critical factors. The appropriate type of soil varies somewhat depending on the type of solid waste handling facility, but any structure, such as a transfer station or recycling center, must be built upon a stable foundation. The soils in Clallam County are generally acceptable for foundations.

A variety of soils are required for the construction and operation of a landfill. Silts, clay or claylike soils are used for landfill liners and final cover (caps) because these fine-grained soils tend to retard the movement of precipitation, gas, and leachate. Porous soils, such as sands and gravels, are undesirable because these may permit rainfall to enter the landfill (increasing leachate and gas production) and allow the uncontrolled migration of landfill leachate and methane gas. Thus, sand or gravel is not suitable for landfill cover or liners; however, gravel is often used for intermediate cover because it provides better traction for landfill machinery in wet weather. Coarse-grained materials such as sand and gravel, common in Clallam County, can also be used for gas venting and leachate collection systems. Detailed soils studies would be necessary for evaluating potential sites for landfills.

2.2.2.2 Groundwater

Distance to groundwater, measured in feet or in terms of the time that surface water takes to travel through the soil to the groundwater, is an important criterion for the siting of solid waste disposal facilities. Shallow layers of groundwater and/or short travel times are a problem due to the risks associated with spills and contaminated runoff from waste facilities. Other factors, such as existing and potential beneficial uses of the groundwater, are also significant considerations, especially if the groundwater is, or could be, used for drinking water. A large percentage of the population in Clallam County depends on private wells for drinking water supplies. Groundwater must also be considered when siting or designing landfills because shallow groundwater can result in higher construction and maintenance costs, interfere with excavation, and require non-standard foundations.

2.2.2.3 Flooding

Areas known to experience flooding are not good sites for solid waste facilities. Solid waste facilities often entail risks not associated with other types of development, such as the potential to create contaminated runoff. Additionally, solid waste facilities must remain operational during and after natural disasters to handle the large amount of debris that may be created.

2.2.2.4 Surface Water

Two large lakes, Lake Ozette and Lake Crescent, and several smaller lakes are located in the county. Numerous creeks and rivers are also present, generally draining from interior areas to the coastline. Regulatory standards require that new MSW landfills be located more than 200 feet from surface waters, thus eliminating a substantial amount of land for a water-rich area such as Clallam County.

2.2.2.5 Slope

Much of Clallam County is mountainous with slopes that are prohibitive for landfills and other solid waste disposal facilities. Steep slopes pose problems for site development and future access to the site. The lower valleys and coastal terrace areas have gentler slopes; therefore, these areas could receive consideration for siting solid waste handling facilities. However, these areas also have high value for other purposes, such as agriculture and housing.

2.2.2.6 Cover and Liner Materials

Cover and liner materials are important because their presence at landfill sites reduces the cost of construction, operations, and maintenance. These materials include silt and clay for liners and caps; sand and gravel for gas venting, leachate collection, and road construction; and a variety of materials that can be used for intermediate cover. Clay is a scarce material in parts of Clallam County, in which case synthetic liners may be more cost-effective to use for landfilling operations.

2.2.2.7 Capacity

The Criteria for Municipal Solid Waste Landfills specify various landfilling requirements based on size. For example, landfills that receive 100 tons per day or more of solid waste must meet the extensive requirements for landfill operations as shown in Chapter 173-351 WAC. If a new landfill were constructed to serve only a part of Clallam County, the capacity may be less than this and it could be designed to less stringent standards. Even with fewer controls, however, the cost of constructing and operating a landfill, on a per ton basis, increases rapidly as the size of the landfill decreases. On a per ton basis, it is likely that any savings incurred for less stringent design requirements would be more than offset by the lower economies of scale.

2.2.2.8 Climatic Factors

Most of Clallam County receives extremely high amounts of precipitation, which poses a serious problem for MSW landfills due to the potential for generation of large quantities of leachate. Other types of solid waste handling facilities are less affected, but care must still be taken to avoid surface water contamination by runoff. The eastern side of the county, especially in the area of Sequim, receives low amounts of rainfall, but again much of the land in this area has considerable value for other purposes (agricultural and residential usage).

2.2.2.9 Land Use

Existing land use in Clallam County ranges from the relatively dense residential, commercial and industrial development in the Port Angeles and Sequim areas to the undeveloped land and forested areas of the Olympic Mountains. The wood products industry has historically been a major factor influencing the development in the county. Historic communities are found along the shores of the Strait of Juan de Fuca, the Sol Duc River, and the Forks Prairie.

The City of Port Angeles, which is centrally located along the east-west transportation corridor with an active port and harbor, continues to be the center of economic activity.

A breakdown of the county's land area by ownership reveals that only a small portion of the County is available for private ownership. Approximately 48 percent of all land in the County is under federal ownership, including portions of the Olympic National Park and Forest, Native American reservations, and various Coast Guard installations. Olympic National Park is a major presence drawing over 3 million visitors annually. Approximately 14 percent of the County is in state ownership and 25 percent is owned by timber companies.

In addition to Port Angeles, development has occurred in two smaller incorporated areas, Forks and Sequim, and in a number of rural residential areas. The land use pattern to the east was primarily agricultural, with a present trend towards residential development. West of Port Angeles, there are several resort developments as well as isolated timber and commercial fishing areas. The larger communities in the west end include Forks, Lake Pleasant, LaPush, Sekiu, Clallam Bay, Neah Bay, and Joyce. To the east of Port Angeles are Sequim and a number of smaller communities.

2.2.2.10 Air Emissions and Air Quality

At present, the Olympic Region Clean Air Agency (ORCAA) is monitoring Clallam County for particulate levels to verify the area is meeting ORCAA air quality goals. Fugitive road dust is a contributor to particulate values, and in winter it is probable that woodstove emissions are a significant contributor.

Many of the air quality regulations are directed at mFajor sources of air pollutants. Major sources in Clallam County are K Ply Inc and Nippon Paper Industries in Port Angeles, which are both subject to Federal Clean Air Act Title V (Public Law 88-206, 77 Stat. 392. December 17, 1963, 42 U.S.C. 7401 et seq., as amended) Air Operating Permits (http://www.orcaa.org/aop.html; accessed June 2006).

Historically, manufacturers of shingle and shake roofing materials in western Clallam County burned wood waste in wigwam or cyclone burners that were "grandfathered" by existing regulations. However, current regulations prohibit the open burning of mill waste (WAC 173-400-050). As of the last plan update (2000), the few older ones that were grandfathered were being used less. In July 2005, ORCAA enforced a federal standard that removed any such grandfathering of these wood burners. Currently, these manufacturers are long hauling wood waste throughout the region. The City of Forks and Port of Port Angeles are pursuing the development of a biomass-to-energy facility, using gasification or incineration processes permitted by the U.S. Environmental Protection Agency (EPA) or ORCAA, to handle cedar waste as well as other portions of the mill waste generated in western Clallam County and Jefferson County. See Section 5.5.

Siting and operating a new landfill, new solid waste facility, or biomass-to-energy could impact air quality. Dust, gases, odors, particulates, and vehicle emissions are all potentially increased by solid waste operations. In certain cases, however, the centralization of such emissions is often preferable to the historical diffuse burning of waste. Any proposal not already being evaluated as part of the existing regulatory process (i.e., through EPA or ORCAA) should be studied by the SWAC for net air quality impacts.

2.2.2.11 Summary of Siting Factors

Based on the preceding discussion of siting factors, it can be concluded that only very limited portions of Clallam County would be available for siting a MSW landfill; other potential solid waste facilities may be evaluated on a case-by-case basis. Most of the southern portion of the County is undesirable for large facilities due to its mountainous terrain. This area is

also generally not available because it falls within the Olympic National Forest or National Park boundaries.

The western half of the County is not appropriate for siting a MSW landfill due to the high amounts of rainfall received, up to 130 inches per year. This amount of precipitation complicates runoff and leachate controls for disposal sites. Although solid waste handling facilities could be located on the west end of the County, these facilities should be restricted to transfer stations or other operations with low potential for generation of contaminated runoff. Facilities such as transfer stations also need to be conveniently located for public use and typically require less acreage. Local conditions will further restrict potential siting areas, however, including conditions such as current and adjacent land use, surface water, potential for flooding, and public opposition.

The eastern half of the County is climatically and geographically more suitable for solid waste disposal facility locations. However, the County would in all probability not be successful in siting a MSW landfill because of more prevalent agricultural and residential use, zoning, growth pressures, and the stated goal of the Clallam County Comprehensive Plan to "*...encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks...*".

In conclusion, siting a new MSW landfill in Clallam County is not considered feasible. Siting of other solid waste facilities should be considered on a case-by-case basis.

3. COMPOSITION OF WASTE STREAM

3.1 INTRODUCTION

Identifying the quantity and composition of solid waste in Clallam County is necessary to provide the basis for determining solid waste programs and handling needs for the next twenty years. The total solid waste stream for Clallam County consists of various types of wastes including paper, metals, glass, wood waste, organics such as yard debris, and consumer products such as computers, carpet, furniture, etc. Commercial and industrial generators also produce a number of special waste streams that are not handled as part of the municipal solid waste stream. These special wastes include wood waste, construction and demolition debris, ash, and a variety of sludges and other wastes. Special wastes are discussed in Chapter 7. This CSWMP is primarily concerned with the wastes that are generally referred to as municipal solid waste (MSW), which is produced by residential, commercial, and industrial generators.

3.1.1 Solid Waste Quantities

This section compares the current MSW disposal and recycling (i.e., generation) quantities with those quantities from nine years ago, with future forecasts of MSW to 2025. Past MSW quantities were derived from the 1996 version of the County Solid Waste Management Plan. Current municipal solid waste quantities were developed from information provided by the disposal site operators (such as the Port Angeles Landfill), waste collection operators, industries, and tribes and is shown in Table 3-1. These figures do not include the special wastes that are handled separately from the municipal solid waste stream. Future projections of solid waste quantities assessed two scenarios. The first scenario assessed the yearly rate of disposal and recycling and was based on the existing per capita generation and disposal rates assuming no change in these rates over time. The second scenario assessed the yearly rate of disposal and recycling that would occur if 40 percent of the waste stream were diverted by 2025.

3.1.1.1 Past (1996) MSW Disposal and Recycling Quantities

As shown in Table 3-1, the County generated approximately 55,762 tons of MSW in 1996. Port Angeles accounted for approximately 33 percent and Sequim accounted for approximately 7 percent of this total. Of this total quantity generated, the County recycled approximately 11,358 tons of material. The per capita generation rate in the County was 5.04 lbs per day, the per capita recycling rate was 1.04 lbs per day, and the disposal rate was 4.00 lbs per day in 1996.

3.1.1.2 Existing (2005) MSW Disposal and Recycling Quantities

In 2005, the County generated approximately 71,115 tons of MSW, which represents an estimated 17 percent increase from 1996. The quantity of MSW generated in Port Angeles in 2005 increased by 8 percent from 1996 (see Table 3-1). The quantity of MSW generated by Sequim increased 45 percent, which was the largest change in the mass of MSW generation over the last nine years. This corresponds to the rapid growth in population in the Sequim area in the last decade. The eastern County areas outside Sequim and Port Angeles increased their MSW generation by 14 percent between 1996 and 2005. The amount of waste generated by percentage in the urban areas of Sequim and Port Angeles as compared to the County decreased slightly from 1996 to 2005 to approximately 39 percent, indicating a slight overall increase in the percentage of waste generated outside the more urbanized areas. Over the last nine years, the per capital waste generation rate increased slightly from 5.04 lbs per person

per day to 5.33 lbs per person per day (excluding West Waste and Tribal Lands for which 1996 data are not available). The per capita recycling rate also increased slightly from 1.04 to 1.15 lbs per person per day. Similarly, the per capita disposal rate increased from 4.0 lbs per day to 4.16 lbs per day between 1996 and 2005.

Table 3-1. Municipal Solid Waste (MSW) Quantities

Waste Origin/Type	Tons of Solid Waste[a]		Percent Change
	1996	2005	1996-2005
Port Angeles MSW[b]	18,366	19,834	8%
Sequim MSW[c]	4,177	6,037	45%
Eastern County MSW	21,861	24,827	14%
Western County MSW (West Waste)	n/a	5,000	n/a
Tribal Lands	n/a	1,100	n/a
Total MSW Disposed (Tons)	**44,404[f]**	**56,798**	**14%[f]**
County Recycled Material	11,358	14,317	26%
Total Waste Generated (Tons)	**55,762**	**71,115**	**17%[f]**
Per Capita Waste Generation Rate/day (lbs)	5.04[d,f]	5.83[e]	6%[f]
Per Capita Recycling Rate/day (lbs)	1.04	1.15	11%
Per Capita Disposal Rate/day (lbs)	4.00[f]	4.66	4%[f]

a Does not include compost, special wastes, or waste collected on tribal lands.
b Includes municipal collections (residential and commercial accounts) and residential self-haul from Port Angeles residents.
c Municipal collections from residential and commercial accounts.
d Used population of 60,494 and 365-day year.
e Used population of 66,800 and 365-day year. Per capita generation rate is 5.33 and disposal rate is 4.16, if West Waste and Tribal Lands are excluded.
f Excluding West Waste and Tribal Lands, for which 1996 data are not available.

3.1.1.3 Future (2025) MSW Disposal and Recycling Quantities

As stated above, two scenarios were prepared to assess future waste generation and recycling in the county. Scenario 1 assumes that the per capita waste disposal and recycling rates increase at the same rate as they have over the past nine years. Thus, there would be a 4 percent increase in the per capita disposal rate and an 11 percent increase in the per capita recycling rate by the year 2015. Similarly, there would be another increase of 4 percent and 11 percent for the per capita disposal and recycling rates, respectively, between the years 2015 and 2025 (thus the per capita disposal and recycling rates would be 4.50 lbs per day and 1.42 lbs per day, respectively). These rates were converted to tons, multiplied by 365 days, and multiplied by the projected population to obtain estimates of the total yearly volume of disposal and recycling waste in tons.

Scenario 2 took the estimated total volume of waste (91,622 tons) from Scenario 1 and assumed that the plan goal of a 40 percent diversion of waste was met in the year 2025. The results of Scenarios 1 and 2 are shown in Table 3-2.

Under Scenario 1, the County is projected to dispose of approximately 71,517 tons of material and recycle 20,105 tons (the total waste generation would be approximately 91,622 tons) in 2025. This is an increase of approximately 26 percent for the total weight of MSW disposed and a 41 percent increase in the total weight of recycled material.

Table 3-2. Projected Solid Waste Quantities

Year	Population	Projected Tons of Solid Waste[a]			
		Scenario 1: Current Rate[b]		Scenario 2: Based on Goals[c]	
		Disposed	Recycled	Disposed	Recycled
2005	66,800	56,798	14,317	56,798	14,317
2015	71,051	62,842	16,552	---	---
2025	77,749	71,517	20,105	54,973	36,649

[a] Based on per capita disposal and per capita recycling rates shown in Table 3-1 for 2005.
[b] Assumes same percentage breakdown for disposal and recycling (80% and 20%, respectively) as shown in Table 3-1 for the year 2005.
[c] Assumes goals shown in Chapter 6 are met (i.e., assumes waste diversion of 40% by 2025 based on total volume estimate of 91,622 tons).

Under Scenario 2, it is estimated that the County would dispose approximately 54,973 tons of material and recycle 36,649 tons of material. The amount of MSW disposed would be slightly less than what is currently landfilled. As compared to Scenario 1, there would be a reduction in the amount of MSW disposed by approximately 16,544 tons. This represents a potential decrease in the amount of material that would have to be disposed if the County was able to meet this goal.

3.1.1.4 Solid Waste Composition

The composition of MSW is extremely varied and encompasses all nonhazardous residential and commercial refuse generated in the County. Table 3-3 shows the estimated composition of disposed MSW for Clallam County. The waste composition data shown in Table 3-3 was derived from a recent study conducted by the County (Green Solutions 2003). This information was augmented by data from the City of Port Angeles that included a 2004-2010 Solid Waste Load Forecast (2004), the Port Angeles Landfill Permit Renewal Application (2004), and data from Ecology (2003).

The specific sources examined in the County's waste characterization study include single-family homes, apartments, residential self-haul, commercial self-haul, and several types of businesses. The solid waste composition figures shown in Table 3-3 are typical of the waste streams in many areas, but it should be noted that the figures are only an approximation of Clallam County's waste stream. Since the data for the specific waste streams (residential, commercial and industrial) are derived from a study of broad regional areas, these figures may or may not accurately reflect the composition of the waste stream as generated in Clallam County. Statistical accuracy of the figures shown in Table 3-3 is presented in Appendix A of the Clallam County Waste Composition Study.

Organic material makes up the largest component of MSW in the County. Based on the 2003 Waste Composition Study, approximately 10,798 tons or 21 percent of the MSW waste stream in 2003 was organic material. This is followed closely by paper waste, which comprised 9,674 tons or 19 percent of the waste stream. Other components in order of magnitude included wood waste (14 percent), plastics (12 percent), residual material (such as ash, dust, sludges at 10 percent), consumer products (8 percent), metals (7 percent), and glass and special waste (3 and 0.9 percent, respectively).

The composition of waste in the County can be expected to change in the future due to changes in consumption patterns, packaging methods, disposal habits, and other factors. These changes are difficult to predict in the long term. Furthermore, implementation of this CSWMP will affect waste composition in Clallam County by affecting purchasing and disposal habits (waste reduction) and by affecting the quantity and types of materials recycled and composted.

Table 3-3. Estimated 2003 Solid Waste Composition in Clallam County[a]

Material	Residential Waste		Commercial Waste		Industrial Waste		Tribal Waste		Total Waste Stream	
	Percent	Tons/Yr	Percent	Tons/Yr	Percent	Tons/Yr	Percent	Tons/Yr	Percent	Tons/Yr
PAPER										
Cardboard	3.28	741	5.37	911	2.40	229	4.58	80	3.86	1,882
Newspaper	2.57	582	2.03	345	0.10	9	2.44	42	1.92	936
Other Groundwood	0.40	90	0.58	99	0.05	5	0.14	2	0.38	193
High-Grade Paper	1.04	235	1.21	205	0.06	5	4.55	79	1.03	445
Magazines	2.62	592	1.44	244	0.07	7	1.60	28	1.71	843
Low-Grade Paper	5.58	1,262	6.42	1,089	2.53	242	5.72	99	5.29	2,593
Compostable	4.52	1,023	6.18	1,048	0.41	39	5.75	100	4.35	2,111
Other Paper	1.12	252	0.97	165	2.65	253	1.09	19	1.36	671
Paper Subtotal	**21.12**	**4,777**	**24.21**	**4,107**	**8.27**	**790**	**25.87**	**450**	**19.90**	**9,674**
PLASTIC										
PET Bottles	0.86	193	1.23	209	0.94	89	5.51	96	1.15	492
HDPE Bottles, Clear	0.59	132	0.32	54	0.88	84	0.97	17	0.57	271
HDPE Bottles, Colored	0.67	152	0.50	85	0.25	24	0.52	9	0.53	261
Film and Bags	4.12	931	6.32	1,072	3.30	315	6.27	109	4.77	2,318
Bottles 3-7	0.08	18	0.08	14	0.06	6	0.00	0	0.07	38
Expanded Polystyrene	0.51	115	1.09	186	0.13	13	1.82	32	0.68	314
Other Plastic Packaging	1.63	370	1.61	274	1.19	114	1.01	17	1.52	757
Other Plastic Products	2.65	598	3.80	645	1.85	177	1.04	18	2.83	1,420
Other Plastic	0.75	169	0.42	71	1.67	159	0.00	0	0.78	399
Plastic Subtotal	**11.85**	**2679**	**15.38**	**2,609**	**10.27**	**982**	**17.14**	**298**	**12.91**	**6,270**

Table 3-3. Estimated 2003 Solid Waste Composition in Clallam County (continued)

Material	Residential Waste		Commercial Waste		Industrial Waste		Tribal Waste		Total Waste Stream	
	Percent	Tons/Yr	Percent	Tons/Yr	Percent	Tons/Yr	Percent	Tons/Yr	Percent	Tons/Yr
METAL										
Aluminum Cans	0.85	192	0.81	138	0.94	90	2.51	44	0.91	420
Aluminum Foil	0.16	36	0.17	28	0.08	8	0.10	2	0.15	73
Other Aluminum	0.07	15	0.06	11	0.02	2	0.00	0	0.06	28
Copper	0.00	0	0.01	2	0.06	6	0.00	0	0.01	7
Other Non-Ferrous	0.06	14	0.02	3	0.01	1	0.00	0	0.04	18
Tin Cans	1.92	435	1.00	170	2.07	198	1.40	24	1.63	803
White Goods	0.00	0	1.37	232	1.92	183	0.00	0	0.82	415
Ferrous	1.40	316	2.41	408	1.69	162	1.54	27	1.79	886
Mixed	2.36	534	1.45	247	0.93	88	2.27	39	1.79	869
Metal Subtotal	**6.82**	**1,542**	**7.30**	**1,238**	**7.73**	**739**	**7.81**	**136**	**7.18**	**3,519**
GLASS										
Clear Beverage	1.52	344	1.60	272	0.07	7	1.93	33	1.29	623
Clear Other	0.94	212	0.36	62	0.04	4	0.29	5	0.55	277
Brown Beverage	1.14	257	0.95	162	0.05	5	2.40	42	0.91	424
Brown Other	0.01	1	0.01	2	0.00	0	0.00	0	0.01	3
Green Beverage	0.68	154	0.62	105	0.00	0	0.61	0	0.53	259
Green Other	0.02	5	0.00	0	0.00	0	0.00	0	0.01	5
Plate Glass	0.03	8	0.02	3	0.00	0	0.00	0	0.02	11
Non-Glass Ceramics	0.22	50	0.11	18	0.00	0	0.00	0	0.13	68
Other Glass	0.16	36	0.07	12	0.00	0	0.11	2	0.10	48
Glass Subtotal	**4.71**	**1,066**	**3.74**	**635**	**0.17**	**16**	**5.35**	**93**	**3.56**	**1,717**

Table 3-3. Estimated 2003 Solid Waste Composition in Clallam County (continued)

Material	Residential Waste		Commercial Waste		Industrial Waste		Tribal Waste		Total Waste Stream	
	Percent	Tons/Yr	Percent	Tons/Yr	Percent	Tons/Yr	Percent	Tons/Yr	Percent	Tons/Yr
ORGANICS										
Yard Debris	5.54	1,252	1.90	323	0.01	1	0.26	5	3.11	1,576
Food Waste	18.98	4,293	17.81	3,022	0.90	86	23.92	416	15.37	7,401
Manure	2.84	643	0.20	34	0.06	5	1.46	25	1.39	682
Diapers	3.06	693	2.05	347	0.14	13	4.52	79	2.23	1,053
Carcasses	0.04	9	0.00	0	0.00	0	0.00	0	0.02	9
Other Organics	0.18	41	0.20	34	0.02	2	0.00	0	0.15	77
Organics Subtotal	**30.64**	**6,931**	**22.16**	**3,760**	**1.13**	**108**	**30.17**	**524**	**22.26**	**10,798**
CONSUMER PRODUCTS										
Computers	0.54	122	0.23	38	0.00	0	0.00	0	0.32	160
Other Electronics	0.89	201	0.74	125	0.01	1	0.00	0	0.64	327
Synthetic Textiles	0.41	93	0.42	71	0.06	6	0.00	0	0.33	169
Organic Textiles	0.73	165	0.35	60	0.11	11	0.00	0	0.46	236
Mixed/Unknown Textiles	3.09	699	1.75	297	0.49	47	3.76	65	2.18	1,043
Shoes	0.43	97	0.15	25	0.00	0	0.00	0	0.24	122
Tires/Other Rubber	0.66	149	0.55	94	0.38	36	0.13	2	0.55	279
Furniture	0.72	163	1.39	235	0.14	13	0.00	0	0.81	412
Carpet	0.08	18	3.26	553	1.30	124	0.00	0	1.37	695
Carpet Padding	0.00	0	2.006	349	0.89	85	0.00	0	0.85	434
Rejected Products	0.00	0	0.00	0	3.56	340	0.00	0	0.67	340
Other Composite	0.39	88	0.03	5	0.00	0	0.00	0	0.18	93
Consumer Product Subtotal	**7.94**	**1,795**	**10.92**	**1,853**	**6.94**	**663**	**3.89**	**68**	**8.61**	**4,311**
WOOD and C&D										
Wood	4.30	973	5.85	992	18.92	1,808	1.93	33	7.48	3,772
C&D	2.53	573	1.59	269	26.04	2,488	0.00	0	6.55	3,330
WOOD and C&D Subtotal	**6.84**	**1,546**	**7.43**	**1,261**	**44.96**	**4,296**	**1.93**	**33**	**14.03**	**7,103**

Table 3-3. Estimated 2003 Solid Waste Composition in Clallam County (continued)

Material	Residential Waste		Commercial Waste		Industrial Waste		Tribal Waste		Total Waste Stream	
	Percent	Tons/Yr	Percent	Tons/Yr	Percent	Tons/Yr	Percent	Tons/Yr	Percent	Tons/Yr
SPECIAL WASTES										
Special Waste Subtotal	**0.95**	**215**	**0.90**	**152**	**1.38**	**132**	**0.18**	**3**	**0.99**	**499**
RESIDUALS										
Ash	0.02	4	0.10	17	0.33	32	0.00	0	0.10	52
Dust	0.23	52	0.13	22	0.00	0	0.00	0	0.15	74
Fines/Residue	8.89	2,011	7.73	1311	1.37	131	7.67	133	7.05	3,452
Sludges/Other	0.00	0	0.00	0	17.44	1,666	0.00	0	3.28	1,666
Residual Subtotal	**9.14**	**2,066**	**7.96**	**1350**	**19.14**	**1,829**	**7.67**	**133**	**10.57**	**5,245**
TOTALS	**100**	**22,616**	**100**	**16,965**	**100.0**	**9,555**	**100.0**	**1,738**	**100.0**	**50,874**

a. From "2003 Clallam County Waste Composition Study"", by Green Solutions, June 2003 (Table 20).

C&D = construction and demolition debris.

3.1.2 Recycled Material Composition

Table 3-4 shows the estimated composition of recycled material in the County in 2004. This information was derived from survey data developed by Ecology. It does not include some diverted materials such as antifreeze and CDL waste. Corrugated paper, yard debris and mixed paper made up the largest components of the recycling stream. Approximately 4,459 tons of corrugated paper was recycled, which comprised approximately 31 percent of recyclables. There was 3,413 tons of yard debris recycled (for composting), which was approximately 24 percent of the recycled material. Mixed paper made up 8 percent of the recycled material (1,139 tons). Other major components of the recycling stream included white goods, newspaper, used oil, food waste, and rendering.

Table 3-4. Recycled Quantities by Material (2004)

Material	Tons
Aluminum Cans	131.22
Container Glass	404.08
Corrugated Paper	4,459.17
Electronics	8.21
Ferrous Metals	121.83
Fluorescent Light Bulbs	4.32
Food Waste	295.10
Food Waste: Fat & Bone	461.34
Food Waste: Used Cooking Oil	150.18
Gypsum	3.01
HDPE Plastics	89.67
LDPE Plastics	20.18
Mixed Paper	1,139.21
Newspaper	619.73
Nonferrous Metals	150.26
Other Recyclable Plastics	0.24
PET Bottles	51.34
Photographic Films	0.13
Rendering	425.65
Textiles (Rags, Clothing)	5.0
Tin Cans	126.43
Tires-recycled	95.85
Toner Cartridges	0.44
Used Oil	547.88
Vehicle Batteries	186.53
White Goods	949.68
Wood	457.0
Yard Debris	3,412.97
Total Tons	**14,317**
Recycling Rate (as a percentage of generation)	**20%**

SOURCE: The "2004 Washington State Recycling Survey" by the Washington Department of Ecology (Ecology 2006a). The results shown may be affected by the lower reporting rate that occurred for the 2004 recycling survey.

4. COLLECTION AND TRANSFER

4.1 INTRODUCTION

The purpose of this chapter is to:

- Review existing waste collection and transfer activities in Clallam County.
- Identify the needs, problems, or opportunities not yet addressed by existing collection and transfer facilities and programs.
- Suggest alternatives to meet the identified needs and opportunities.
- Recommend future programs or actions as appropriate to meet the needs and abilities of the County and the County's residents, businesses, and service-providers.
- Provide implementation schedules and planning-level costs for the recommended programs and facilities.
- Meet the requirements of Chapter 70.95 RCW.

The activities discussed in this chapter are organized into two sections:

4.2 Solid Waste Collection

4.3 In-County Transfer

4.2 SOLID WASTE COLLECTION

4.2.1 Existing Conditions

There are six garbage collection operations in Clallam County, including the City of Port Angeles, Waste Management, Gary's Disposal, Murrey's Olympic Disposal (Waste Connections, Inc.), the Quileute Tribal Council, and West Waste. The City of Port Angeles and the Quileute Tribal Council provide collection services within their respective jurisdictions. Waste Management provides garbage collection services in the City of Sequim. Gary's Disposal provides collection services on the Makah Reservation. Murrey's Olympic Disposal and West Waste have contracts to collect waste from various businesses and agencies, and are franchised to collect waste in the unincorporated areas of the County. Each of the collection operations is discussed in greater detail below, and is summarized in Table 4-1. The service areas are shown in Figure 4-1.

4.2.1.1 City of Port Angeles

The City of Port Angeles Solid Waste Utility collects garbage from over 6,500 residential accounts and 800 commercial accounts using four semi-automated trucks. Refuse collection is mandatory for the residents in the City of Port Angeles. The Solid Waste Utility provides service to residential customers on a weekly basis, or an every other week basis upon request. Residents typically use a 90-gallon container that is placed at the curb. Additional containers can be requested at an additional fee. Personalized service is provided to senior citizens and disabled residents.

Table 4-1. Summary of Existing Conditions

Area and Service Provider	Garbage Collection		Curbside Recycling	Curbside Yard Debris	Disposal Location
	Residential	Commercial			
City of Forks;					
West Waste	X	X			Roosevelt Landfill
City of Port Angeles;					
Murrey's Olympic Disposal		X			PA Landfill
Municipal Crews	X	X			PA Landfill
Waste Connections			X	X	n/a
City of Sequim;					
Waste Management	X	X	X		PA Landfill or out of County for export
Tribal Lands;					
Gary Disposal (for Makahs only)	X	X			Neah Bay Landfill
Quileute Crews	X	X			Roosevelt Landfill (via West Waste)
Unincorporated Areas;					
Murrey's Olympic Disposal	X	X	X		PA Landfill
West Waste	X	X			Roosevelt Landfill

Commercial customers may receive collection service one to six days per week. Commercial customers have the option of using the Utility's service, self-hauling directly to the landfill, or in special cases they may contract with Murrey's Olympic Disposal. Murrey's Olympic Disposal serves accounts within the City of Port Angeles with the prior approval of the city, collecting waste from those businesses using roll-offs and compactors.

Collection rates for the City of Port Angeles are shown in Appendix C. The population density of Port Angeles is 1,893 people per square mile (2002 data).

4.2.1.2 Waste Management

Refuse collection is mandatory for residents in the City of Sequim. The City's Public Works Department no longer provides collection services. Instead, the city currently contracts with Waste Management for these services.

Solid waste is collected weekly from residential customers using semi-automated collection trucks. Residents can use 32, 64, or 96-gallon garbage containers, with the collection fee varying accordingly. Residential solid waste is collected weekly. Commercial customers can use 1-1/2, 3, or 6 cubic yard roll-off containers, again with the collection fee varying accordingly. Commercial collection varies from 1 to 5 times per week, depending on customer need, using semi-automated collection trucks.

Waste Management transports solid waste collected in Sequim for disposal at either the Port Angeles Landfill or out of the County for disposal. Rates charged are shown in Appendix C. The population density of Sequim is 825 people per square mile (2002 data).

Gary's Disposal

Gary's Disposal currently provides collection service within the community of Neah Bay and other parts of the Makah Reservation.

For the Makah Reservation, Gary's Disposal provides refuse collection service by contract for Tribal members and institutions. Residential service is provided with a 13-cubic-yard rear-loading truck. The Tribal Council pays for residential collection for both tribal and non-tribal members. Businesses are billed directly by Gary's Disposal. Refuse is currently hauled to the Neah Bay Landfill.

Murrey's Olympic Disposal (Waste Connections, Inc.)[1]

Murrey's Olympic Disposal, a Waste Connections, Inc. company, has a fleet of trucks with various capacities and capabilities that are used in Clallam County. The fleet includes rear packer trucks and front-end loaders, trucks that can handle containers that are one, two and three cubic yards, and tilt frame (roll-off) trucks for hauling drop boxes with capacities of 10, 20, 25, 30, 40 and 53 cubic yards.

Murrey's Olympic Disposal has contracts to provide refuse collection services for Olympic National Park and Sequim Bay State Park, and is franchised by the Washington Utilities and Transportation Commission (WUTC) to collect refuse in parts of Clallam County. The WUTC franchise (Certificate G-9) grants Murrey's Olympic Disposal the authority to provide waste collection services to residents and businesses (at their request) in the unincorporated areas of the County. This franchise overlaps with West Waste's service area, which also has a franchise to collect garbage in the unincorporated areas west of Lake Crescent.

Murrey's Olympic Disposal collects waste from drop boxes and compactor units in the City of Port Angeles (i.e., from businesses that need to use larger containers that cannot be emptied by the City's collection equipment). Waste from all of their collections in Clallam County is hauled to the Port Angeles Landfill. Murrey's Olympic Disposal also currently contracts with Clallam County to operate the Blue Mountain Drop Box and Recycling Center[2] and collects refuse in neighboring Jefferson County.

Refuse collection rates effective at this time for Murrey's Olympic Disposal are shown in Appendix C. The population density for the town of Forks and the unincorporated areas of Clallam County is 24.4 people per square mile (2002 data).

The Quileute Indian Reservation

The Quileute Tribal Council provides garbage collection services for the residents of the Quileute Indian Reservation through the La Push Utilities Department. The garbage is brought to West Waste's transfer facility and then exported to the Roosevelt Landfill for disposal.

Other Tribes: As noted above, Gary's Disposal provides garbage service for the Makah Tribe. The remaining two reservations are the Lower Elwha Indian Reservation (located on the Strait of Juan de Fuca west of Port Angeles), and the Jamestown S'Klallam Reservation

[1] The City of Port Angeles contracts with "Waste Connections." The County contracts with "Murray's Olympic." They are part of the same company.

[2] Effective January 1, 2007, this facility will operate under a City of Port Angeles contract.

(located along the south end of Sequim Bay). Solid waste collection and disposal services for these reservations are provided as part of the regular solid waste management system in Clallam County.

West Waste

West Waste has a contract with the City of Forks to collect garbage on a non-mandatory basis from homes and businesses in that city (i.e., homes and businesses choose whether to subscribe to the collection service). West Waste also has contracts with Clallam County Parks and the Coast Guard Station at Neah Bay, and has a WUTC franchise (Certificate G-251) to collect garbage from homes and businesses in the unincorporated areas of Clallam County west of Lake Crescent. This franchise area overlaps with Murrey's Olympic Disposal franchise.

The current rates charged by West Waste are shown in Appendix C.

4.2.1.3 State Regulations

The WUTC supervises and regulates garbage collection companies. Their authority (RCW 81.77 and WAC 480-70) is limited to private collection companies and does not extend to municipal collection systems operated by a city or to private haulers operating under contract to a city. For the operations under their jurisdiction, WUTC may require reports, fix rates, and regulate service areas and safety practices.

Cities and towns have several options for managing solid waste collection under state laws. None of these options eliminate the right of a waste generator to haul their own waste. These options are:

- If a city does not wish to be involved in the regulation of garbage collection within its boundaries, collection services would be provided by franchised collectors certificated by the WUTC.
- The city may require a franchised collector to secure a license from the city.
- The city may award contracts for collection for all or part of the city.
- The city may operate its own municipal collection system.

The WUTC would not have jurisdiction over the last three options (RCW 81.77.020).

Various motor vehicle standards also apply to trucks transporting solid waste.

4.2.1.4 Local Regulations

Garbage collection service is mandatory in the cities of Port Angeles and Sequim, but not in the town of Forks or other parts of the county. Additional provisions for garbage collection contained within the City of Port Angeles' municipal code (see Appendix C) address collection rates, prohibition of placing trash from outside the City into garbage containers, recycling program requirements, and prohibition of certain types of waste (e.g., dangerous wastes, large quantities of construction and demolition debris, dead animals, and wastes containing excessive liquids). Additional provisions for garbage collection are contained within Sequim's municipal code (see Appendix C).

As a result of the conversion to a regional export and transfer system, a Joint Solid Waste Advisory Board (JSWAB) has been formed to advise the SWAC, City Council, and County Commissioners.

4.2.1.5 Federal Regulation

RCRA requires that federal facilities comply with substantive and procedural laws and regulations of State and local governments. Thus, military installations and federal agencies must operate in a manner consistent with local solid waste management activities and policies.

4.2.1.6 Needs and Opportunities

Additional incentives for recycling could be provided through incentive rates for garbage collection.

Future waste quantities have been estimated (see Table 3-2), and the existing collection system is anticipated to be able to handle the projected increase.

4.2.1.7 Alternative Methods

Collection Rate Structures

Several types of collection rates could be used (or used more extensively) in Clallam County, including incentive rates and combined solid waste fees. Volume-based rates, as described in Section 4.2.1, have already been implemented. Incentive rates provide a discount from typical garbage collection fees if residential customers participate in a curbside recycling program. Combined solid waste fees are structured so that the cost of garbage collection and recycling (and also possibly yard waste collection) is combined into one fee, and people are encouraged to recycle because "they are already paying for it".

Incentive fees are used in other parts of the state, such as rural parts of Pierce County. This is an excellent method to encourage participation in curbside recycling programs, although a possible drawback is that it may support the public's mistaken impression that garbage haulers make large profits from recycling programs.

Combined solid waste rates are also currently used in other areas of the state, but are considered less of an option for Clallam County because this rate has both the drawbacks of incentive rates (i.e., hides the true costs) without providing a clear incentive for recycling or volume reduction.

Service Ordinance

The adoption of a service ordinance by the County can be a method to effectively implement specific programs in the rural areas, areas that normally the County would have little control over (barring a collection district or another special mechanism). Service ordinances can be a means of requiring that franchised haulers provide certain services in those areas, such as recycling or yard waste collection services. A service ordinance may be needed to implement incentive rates or other rate structures in the unincorporated areas of the County (see Section 4.2.4).

Mandatory versus Voluntary Garbage Collection

Alternative methods to meet collection needs for Clallam County consist of mandatory versus voluntary services. Currently about 35 percent of the county's population is in areas where collection service is mandatory, and the remainder is largely in rural areas where it is voluntary.

Mandatory collection programs throughout the rest of Clallam County would provide some benefits, but not without possible drawbacks. Benefits include a reduction in illegal dumping; a reduced need for enforcement of illegal dumping, littering, and other laws; and greater ability to provide curbside recycling programs (assuming a combination of recycling services

with garbage removal). Mandatory collection, however, can act as a disincentive for those who are actively trying to reduce wastes, as well as being unpopular in general.

Mandatory collection in unincorporated areas could be provided through a solid waste collection district. State law (RCW 36.58A) enables a county to establish such a district. The concept of a solid waste district is discussed in greater detail in Chapter 6.

4.2.1.8 Recommendations

No additional recommendations are made for changing the collection system in Clallam County.

4.2.2 In-County Transfer and Drop Box Facilities

4.2.2.1 Existing Conditions

An interlocal agreement (ILA) has been executed between Clallam County and the City of Port Angeles for cooperation and implementation of the regional solid waste export and transfer system (see Appendix C). The ILA identifies the respective roles and responsibilities of the County and City of Port Angeles, and establishes the JSWAB. The JSWAB consists of members from both the city and the county, and acts as an advisory committee to the Port Angeles City Council, the Clallam County SWAC, and others as necessary. Among other things, the JSWAB makes recommendations for the management and operation of the solid waste export and transfer system.

Two transfer/drop box facilities are currently operating in Clallam County. The County-owned Blue Mountain Drop Box and Recycling Center is operated by Murrey's Olympic Disposal (Waste Connections, Inc.). West Waste and Recycling owns and operates a private transfer station in Forks. A third transfer station is currently under construction at the Port Angeles Landfill and is expected to begin operation in 2007. A fourth transfer station is being designed for the Makah Reservation area, so the Neah Bay Landfill can eventually be closed. Descriptions of these facilities are provided below. The Blue Mountain and Port Angeles facilities are part of the regional export system implemented by ILA.

Blue Mountain Drop Box and Recycling Center

The Blue Mountain facility is located at the site of the Blue Mountain Dump, which was closed in 1974, and is on land leased from the Department of Natural Resources (DNR). It is located between Port Angeles and Sequim on Blue Mountain Road approximately 1.5 miles south of Highway 101. The current hours of operation are Mondays and Wednesdays from 9:00 a.m. to 5:00 p.m., and Saturdays from 9:00 a.m. to 5:00 p.m. An attendant staffs the station during these hours.

The facility is a direct discharge type employing two 53 cubic yard containers and is covered for wind and rain protection. The containers are supplied by Murrey's Olympic Disposal. The container on the west side of the facility is used for garbage, while the container on the east side is used for commingled recyclable materials (tin cans, aluminum cans, and plastic bottles). The waste from this transfer station is hauled to the Port Angeles Landfill.

Smaller containers are also provided for additional types of recyclable materials, including newspaper, cardboard, glass, non-ferrous metals, oil and antifreeze. There is no charge for dropping off recyclables. Customers bringing loads of waste to this transfer station are charged a minimum fee and then an incremental based on weight additional. There is a scale on-site for determining the weight of loads. Refrigerators and freezers are not accepted at this site.

West Waste Transfer Station

West Waste constructed and began operating their transfer station in Forks in 2000. Waste handled by this transfer station includes waste collected by West Waste and self-haul waste brought to it. Hours of operation for accepting self-haul waste are Thursdays, Fridays and Saturdays from 9:00 a.m. to 5:00 p.m., and the site is staffed during these hours.

The waste from this transfer station is being exported by another garbage handling company (Harold LeMay Enterprises) to a rail loading facility outside of the County and ultimately to Roosevelt Regional Landfill in Klickitat County, Washington.

Containers are provided at the transfer station for collection of some recyclable materials, including cardboard, mixed paper, aluminum cans, and used motor oil, at no charge. West Waste also accepts white goods, other appliances, car batteries, and tires for a fee.

Port Angeles Landfill Transfer Station

A new transfer station is currently being constructed at the Port Angeles Landfill site, located at 3501 West 18th Street, near the airport. This transfer station is scheduled for completion by the end of 2006, and will replace the current solid waste landfill operation at the site which is scheduled to be discontinued in late 2006. As described in Chapter 5, the County will convert to a waste export system at that time.

Waste Connections, Inc. will operate the transfer station. The station will be open to the public from 9 a.m. to 5 p.m. Monday through Saturday. The site will be staffed during these hours.

The transfer station area is approximately 10.7 acres. The facility will include a transfer building and associated operations, a recycle area, a metal and special waste area, and a moderate risk waste facility. In addition, a co-compost facility will continue to be operated on the former landfill site. These facility features replace, maintain, or improve the current level of service provided by the Port Angeles Landfill.

- The transfer building is designed to handle up to 900 tons per day of municipal solid waste. The tipping floor is designed to separate commercial from self-haul customers. Under normal operations, all MSW received each day will be deposited into transfer trailers and removed from the facility within 24 hours.
- Materials accepted at the recycle area may include but are not limited to newspaper, mixed paper, corrugated cardboard, plastic (HDPE and PET), color-segregated glass, aluminum cans, and tin cans.
- Materials accepted at the metal and special waste area may include but are not limited to properly bagged asbestos waste, used tires, white goods, scrap metal, creosote-treated lumber, painted lumber, and contaminated soils.
- Materials accepted at the moderate risk waste facility may include but are not limited to cleaners, solvents, pesticides, auto batteries, used motor oil, and used antifreeze.
- The co-compost facility will be used for the storage and processing of yard waste delivered by commercial and residential customers, and biosolids delivered by the city's wastewater treatment plant.

Additional details are available in the Port Angeles Transfer Station Operational Plan (SCS Engineers, 2006).

Neah Bay Transfer Station

The Makah Tribe has obtained funding to design a new transfer station at the site of their existing landfill. The preliminary concept for the station includes a recycling area for the collection of used oil, batteries, cardboard, paper, and other recyclables. The Makah Tribe is seeking additional funds for the construction of the facility, which is not likely to occur before 2007. After the facility is constructed and operational, the Tribe will seek funds for the closure of the landfill.

4.2.2.2 Needs and Opportunities

Transfer and drop box facilities are now located so that the majority of residents and businesses in Clallam County have reasonably good access to a disposal or transfer site. With the anticipated construction of a transfer station and closure of the Neah Bay Landfill, which is used solely by Makah Reservation, all residents within the County will have access to a transfer or drop box facility.

Besides the proposed Neah Bay transfer station and the new Port Angeles transfer station, additional transfer and drop box facilities should not be needed in the future unless there are major shifts in population centers or new areas of population growth occur. Improvements at the existing transfer and drop off facilities may be needed in the future to meet changing needs (for new approaches to yard waste or other wastes) or due to changes in state or local regulatory requirements. Although the Lake Creek and Clallam Bay transfer stations have been closed, the sites are still under County control and the facilities could be reactivated as a contingency.

Recycling collection at the transfer and drop box facilities is an important opportunity for recycling for many people in the county. Collecting recyclable materials through drop-off containers at these facilities is a relatively inexpensive method to collect these materials, although some of the materials still may not be cost-effective to collect (i.e., market revenues are not covering the costs of handling the materials).

4.2.2.3 Alternative Methods

Private ownership is an alternative to public construction and ownership of transfer and drop off facilities. Operation of transfer stations can be accomplished by either the public or private sector, even if the facility is publicly owned.

An alternative to the no-fee recycling now offered at some of the transfer and drop box facilities would be a user-pay system for some or all recyclables. Not all of the materials currently collected are sufficiently valuable to cover the costs of preparing and transporting the materials to market, but the value of other materials helps to make recycling in general a cost-effective activity. Should markets for more of the materials worsen sufficiently so as to shift this balance and recycling becomes a significant financial loss for the transfer stations, then funds would need to come from somewhere else to help cover the costs of this activity. Although a user-pay system would not be popular, it may be the most sensible and feasible method for generating the additional revenues needed to keep recycling a cost-effective activity. Other alternatives could include grant funds or absorbing the losses (if short term),

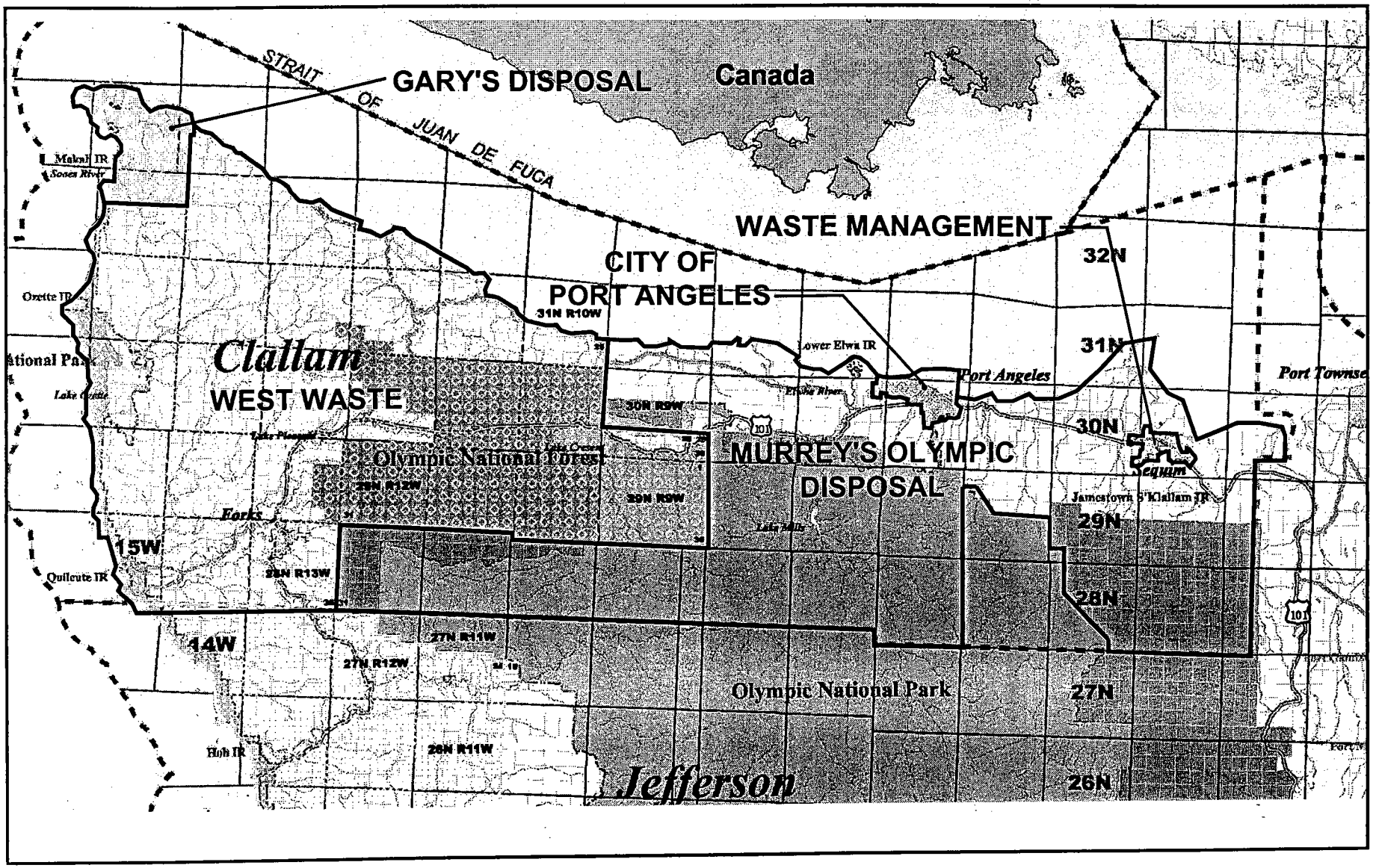
If user fees are implemented at additional transfer and drop box facilities, these fees should be kept lower than fees for garbage so that customers still have a financial incentive to recycle. In addition, a brochure or other educational material explaining the need for user fees, plus providing some forewarning, would be necessary to minimize negative public reaction.

4.2.2.4 Recommendations

The following recommendations are made for changes in the transfer system in Clallam County:

- The Clallam County SWAC, JSWAB, and other governmental agencies should continue to work together to develop plans and programs, while also continuing to explore viable alternatives, for waste export and transfer and related options. For example:
  - Should access or capacity become an issue at the Blue Mountain Drop Box and Recycling Center, consider extending the hours of operation and/or adding additional drop boxes.
  - Should unlawful disposal or access to the transfer/drop box facilities from remote areas of eastern Clallam County become an issue, consider siting an additional drop box facility to serve this area. (T1)
- Study the possibility of placing additional containers at all transfer and drop box sites to collect source-separated yard wastes (see discussion in Section 6.4.4) and to collect additional recyclable materials (see discussion in Section 6.3.4). One of the better methods for determining the need for additional containers is careful observations on the types and amounts of materials currently being disposed at the transfer and drop box facilities. (T2)
- Through the JSWAB, develop a plan for periodically monitoring municipal solid waste received at transfer and drop box facilities, with an emphasis on noting significant quantities of potentially-recyclable materials (yard waste, scrap metals, textiles, etc.). This could involve asking transfer and drop box facility operators to keep notes of the materials that are disposed for a one-week period. These results should be reported to the County and the City of Port Angeles for consideration in implementing new recycling activities at these facilities (i.e., additional containers) and/or conducting additional promotional efforts to encourage waste prevention and recycling. (T3)
- Through the JSWAB, develop a consistent methodology for estimating annual per capita disposal rate, which will be used in combination with other data to assess the effectiveness of and needs for the solid waste program. This could be patterned after the data presented in Section 6.2.2. (T4)
- Consider user fees at the transfer and drop box facilities for recyclable materials if the average market price for recyclables drops so low that collection of recyclables becomes a significant net loss for the transfer stations. Do not implement user fees without the concurrence of the Clallam County SWAC, JSWAB, Port Angeles City Council and County Commissioners. Furthermore, announce any user fees at least 90 days in advance, and prepare and distribute a flyer or brochure explaining the new system beginning at least one month in advance. (T5)

Table ES-1 identifies the responsible implementing agency, the preliminary implementation schedule, and estimated cost for each of these recommendations.



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SCALE IN FEET

Figure 4-1
Clallam County
Solid Waste Collection
Service Areas

5. DISPOSAL

5.1 INTRODUCTION

The purpose of this chapter is to:

- Present existing and proposed waste disposal activities in Clallam County.
- Identify the needs, problems, or opportunities not yet addressed by the existing disposal facilities and programs.
- Meet the requirements of Chapter 70.95 RCW.

The solid waste management activities discussed in this chapter are organized into the following sections:

5.2 INCINERATION

5.3 IN-COUNTY LANDFILLING

5.4 IMPORT/EXPORT

5.5 ALTERNATIVE DISPOSAL METHODS

5.2 INCINERATION

5.2.1 Existing Conditions

Incineration is used to reduce the weight and volume of waste requiring landfill disposal. With an energy recovery system, it can also be a method of producing electricity and/or heat (steam). There are currently no incinerators in Clallam County permitted for general solid waste disposal. However, there are examples of conversion of specific waste streams such as wood into heat and/or power. These opportunities are discussed in Section 5.5. This section of the CSWMP discusses the incineration of municipal solid waste.

City of Forks Waste-to-Energy Feasibility Study

A study prepared for the City of Forks (SCS 1988) examined the feasibility of a waste-to-energy facility for the west end of Clallam County. This study was funded in part by the Economic Development Administration (U.S. Department of Commerce). The major reason for conducting the study was the imminent closure of the nearby Lake Creek Landfill. The study, completed in 1988, concluded that a waste-to-energy facility for general solid wastes would not be cost effective either for Forks or for the west end of Clallam County. The study also concluded that a pile burner/lumber dry kiln might be cost-effective for disposal of wood waste only. A biomass-to-energy study has more recently been completed, and is discussed in Section 5.5 below.

City of Port Angeles Waste-to-Energy Feasibility Study

A study prepared for the City of Port Angeles (Beck 1988) analyzed a variety of options for waste-to-energy facilities. It concluded that costs would range from $63.18 per ton to $129.42 per ton (1988 dollars, levelized costs for a period of twenty years). The least expensive option assumed sale of steam to Daishowa America (now Nippon Paper Industries), a matching grant from Ecology for 50 percent of the capital costs, and some form of flow control. Flow control (no longer an option legally) would be necessary to ensure a steady supply of waste to the incinerator, and waste would need to come from an area larger than the city's boundaries. The study recommended that the City and County work together to

develop a solid waste management plan that would provide the framework for further exploration of a waste-to-energy facility.

Existing Incinerators in Other Areas

There are a few facilities in Washington that currently incinerate solid waste. The City of Spokane operates an incinerator using mass burn technology. This facility is functioning well although it has experienced occasional problems with air quality and other issues, and the cost of operation has not dropped to the lower levels of earlier projections. As a result, the Spokane area has one of the highest disposal costs in the state. Washington State University (WSU) in Pullman opened a new incinerator in 1999. The WSU incinerator supports teaching, research, and support missions for medical and pathological waste in a clean and cost effective fashion.

5.2.2 Needs and Opportunities

While there is a need in the County for disposal of solid wastes now and in the future, these needs are currently being met adequately by the Port Angeles Landfill (until late 2006) and soon by the Port Angeles Transfer Station. When the landfill closes, waste will be exported from the County for disposal, using the new transfer station. The cost of municipal solid waste incineration could not compete with waste export. The two most recent studies of incineration in Clallam County (described above and now nearly twenty years old) concluded that the cost of incineration is considerably higher than landfill disposal. Furthermore, the cost projected by one study (Beck 1988) would be considerably higher now due to adjustments for twenty years of inflation and because large grants for capital equipment from Ecology and flow control are no longer available.

The feasibility of energy recovery may be better for landfill gas. The presence of recoverable amounts of landfill gas presents both a need and an opportunity. There is a need to collect and control landfill gas to prevent it from migrating off-site (and possibly causing explosion hazards and odor problems). Collection of this gas at the landfill also provides an opportunity to recover energy. Landfill gas-to-energy would be more feasible if the cost of energy increases, but at this time insufficient amounts of gas are being produced to maintain a cost-effective energy recovery program. The City of Port Angeles should continue to evaluate gas production rates and possibly consider further evaluation of a gas-to-energy program in the future.

5.2.3 Alternative Methods

Incineration of solid waste is an effective method of volume reduction, although the greater expense of incineration compared to landfilling is a limiting factor. Incineration is generally considered where there are environmental concerns with other disposal options, a lack of suitable land (including a high groundwater table that prevents siting a landfill), a market exists for energy recovered from waste combustion, and/or where population densities are high and land is scarce. At the present time, there appear to be no factors that would strongly favor incineration over other disposal methods in Clallam County.

The Port Angeles Landfill is currently using a flare system to burn off landfill gas. There is not sufficient clean gas being generated to burn the flare continuously or to support an alternative method of handling it (such as energy recovery).

5.2.4 Recommendations

The following recommendations are being made for incineration facilities:

- Evaluate new proposed incineration projects for select waste streams and/or locations based on an objective review of the potential impacts to human health and environmental quality, as well as a comparison to alternative disposal methods. (I1)
- Consider energy recovery from landfill gas in the future if and when this becomes economically feasible. (I2)

Table ES-1 identifies the responsible implementing agency, the preliminary implementation schedule, and estimated cost for each of these recommendations.

5.3 IN-COUNTY LANDFILLING

5.3.1 Existing Conditions

Three disposal sites are currently operating in Clallam County: the Port Angeles Landfill, the Neah Bay Landfill, and a limited purpose landfill (Lawson Landfill near Port Angeles). Other sites are closed or engaged in closure and post-closure activities (see Table 5-1).

Table 5-1. Current Landfills in Clallam County

Site Name	Operator	Facility Type and Tonnage	Permitted?	Comp. WAC[a]	Operational Status
Lawson Landfill, Port Angeles	Nippon	Limited purpose landfill	YES	Yes	Operating
Neah Bay Landfill, Neah Bay	Makah Tribal Council	Solid waste landfill	NA[b]	No	Operating
Port Angeles Landfill, Port Angeles	City of Port Angeles	Solid waste landfill	YES	Yes	Operating

a Comp. WAC = Complies with WAC 173-351
b NA = Not Applicable

Current standards for municipal solid waste landfills are primarily contained in the State's Criteria for Municipal Solid Waste Landfills (WAC 173-351), which contains standards for planning, siting, operations, and closure of landfills. Standards are also contained in the County Solid Waste Regulations.

The above landfills are described below. The limited purpose landfill, Lawson Landfill, is discussed further in Chapter 7.

City of Port Angeles Landfill

The City of Port Angeles owns and operates this landfill, which is located within city limits. This landfill provides disposal services to residential, commercial, and industrial customers throughout Clallam County. The Port Angeles Landfill is currently the only disposal site in Clallam County that is open to the general public for solid waste disposal (although there are also transfer stations that accept waste from the general public).

Self-haulers arriving with brush or other yard wastes are directed to dump it separately where these items are stockpiled for later chipping and composting. In addition to disposal and composting, a recycling program is conducted at the landfill site. White goods (large appliances), scrap metal, yard waste, aluminum and tin cans, glass bottles, plastic bottles,

mixed waste paper, cardboard, newsprint, catalogs, magazines, used oil, antifreeze, and car and truck batteries are collected for recycling.

The Port Angeles Landfill will operate until late 2006. Reserve accounts for closure and post-closure costs have been established and are being funded by a portion of the landfill tipping fee. Following the landfill closure, a transfer station, a recycle area, a moderate risk waste facility, and a co-compost facility will continue to operate on the site.

Neah Bay Landfill

This disposal site is located on the Makah Reservation at Neah Bay. Much of the waste deposited at this site is burned to reduce its volume. The facility is under the jurisdiction of the Makah Tribal Council and technically not the responsibility of Clallam County.

The Makah Tribal Council commissioned the preparation of a comprehensive solid waste management plan in 1982 to develop overall solid waste management strategies for the entire reservation including the existing disposal site. This plan was completed in 1983 and was approved by the Tribal Council and Ecology (PSR 1983). The Makah Plan recommended closure of the Neah Bay Landfill and construction of a transfer station to haul waste to the nearest permitted disposal facility.

Currently, preliminary funding has been obtained, and a transfer station is being designed for the Makah Reservation area. The Tribe is seeking additional funds for construction of the station, which seems unlikely to occur before 2007. After the transfer station is constructed and operational, the Tribe will seek additional funds to close the landfill.

Lawson Limited Purpose Landfill

The Lawson Landfill is the only permitted limited purpose disposal site remaining in Clallam County. Nippon Paper Industries disposes of approximately 40,000 cubic yards of ash per year in this landfill. The landfill is estimated to have remaining capacity adequate until the year 2018. Chapter 7, Special Waste, provides additional discussion.

5.3.2 Needs and Opportunities

As discussed below, alternatives are being developed for when the two municipal solid waste landfills are closed.

The possible closure of the Neah Bay Landfill has been discussed for years. Since this landfill does not meet current environmental standards, this activity should be made a high priority. This landfill, however, and the Makah reservation in general, are not within the jurisdiction of the County or state.

5.3.3 Alternative Methods

Port Angeles Landfill

A new transfer station is currently being constructed at the Port Angeles Landfill site. This transfer station is scheduled for completion in 2006, and will replace the current solid waste landfill operation at the site which is scheduled to be discontinued in late 2006.

Neah Bay Landfill

Currently, a transfer station is being designed for the Makah Reservation area, so the Neah Bay Landfill can eventually be closed. Waste collected at the transfer station would be hauled to a disposal or waste export facility inside or outside of the county.

Other Landfills

Limited-purpose landfills, such as wood waste or inert landfills for other materials, have occasionally been operated in Clallam County and will possibly be proposed again in the future to handle wastes from specific companies or other sources. This type of landfill typically provides a cost-effective disposal option for local industries without excessive environmental impacts.

5.3.4 Recommendations

The following recommendations are made for the disposal system in Clallam County:

- Encourage and support the closure of the Neah Bay Landfill. If the Neah Bay Transfer Station does not proceed, consider directing the waste generated on the Makah Reservation to one of the other two transfer stations in Clallam County. (LF1)
- Consider proposals and options to develop special-purpose landfills, such as wood waste or construction and demolition waste landfills, as they are proposed. (LF2)

Table ES-1 identifies the responsible implementing agency, the preliminary implementation schedule, and estimated cost for each of these recommendations.

5.4 IMPORT/EXPORT

5.4.1 Existing Conditions

Existing Waste Import Activities

No waste is currently imported from outside Clallam County.

Existing Waste Export Activities

Exporting solid waste to disposal sites outside of the County began in November 1998 with the export of waste by West Waste. Previously, waste export had not been used for Clallam County wastes, except for small quantities of special wastes (such as animal carcasses and biomedical waste) that are sent to special facilities. Through 2006, the need to export was avoided because of the availability of the Port Angeles Landfill.

Clallam County also partners with Jefferson County for the management of certain special wastes.

5.4.2 Needs and Opportunities

Waste Import Needs and Opportunities

There are currently no needs relating to waste import from outside Clallam County.

Waste Export Needs and Opportunities

With the closure of the Port Angeles Landfill in late 2006 and construction of a new transfer station on the landfill site, waste generated in Clallam County will be exported to a regional landfill outside of the county. As described in Chapter 4, an ILA has been executed between the City of Port Angeles and Clallam County for coordinating, implementing, and operating this system (Appendix C).

5.4.3 Alternative Methods

Waste Import Alternatives

Waste import alternatives are not applicable since no waste is currently imported for sources outside Clallam County.

Waste Export Alternatives

Waste export is a system of shipping wastes to a large regional landfill. The three regional landfills used by communities in the Pacific Northwest are located in areas that reduce operating expenses due to low precipitation, favorable soils and hydrogeological conditions, and other factors. The use of these facilities by large communities (Seattle, Snohomish County and Portland, Oregon) has further reduced the disposal cost at regional landfills by creating significant economies of scale. Although transportation costs to send waste to these landfills from Clallam County is significant, the low disposal cost makes this option cost-competitive with other disposal options. The Solid Waste Disposal Feasibility Study conducted for the City of Port Angeles (Parametrix 1993) concluded that waste export would be less expensive than the other disposal options evaluated, including the continued use of the Port Angeles Landfill.

The potential benefits associated with waste export include:

- Solid waste disposal becomes largely a variable cost, thus making it easier to realize savings associated with waste prevention and recycling.
- Additional cost savings occur due to a reduced regulatory burden.
- Significant reductions in long-term liability and environmental risks are possible, although jurisdictions using a large regional landfill, in combination with other jurisdictions and private companies, may be liable for future environmental damage under the CERCLA.
- The waste is sent to landfills that are more environmentally optimal (e.g., better terrain and climate).

The exporting of waste from Clallam County was selected as the preferred waste disposal alternative when the Port Angeles Landfill closes in late 2006. Currently, Waste Connections (under contract with the City of Port Angeles) is constructing a transfer station at the landfill site. Chapter 4 presents a discussion of the existing and proposed in-County transfer system. Waste Connections will accumulate waste at the new Port Angeles Landfill Transfer Station and transport the waste to Finley Buttes Landfill for ultimate disposal.

The Finley Buttes Landfill is located 13 miles southeast of Boardman in Morrow County, Oregon. This landfill was purchased by Waste Connections in February 1999. This landfill is located on 1,200 acres of rangeland and receives about 9 inches of precipitation a year. The landfill has an estimated capacity of 40 million tons, or about 200 years of capacity at the current waste flow. The landfill currently receives waste from Clark County, Washington and Morrow County, Oregon.

5.4.4 Recommendations

Waste Import

No recommendations are being made for waste import.

Waste Export

The following recommendations are made for waste export:

- As planned, export solid waste from the new Port Angeles Landfill Transfer Station to the Waste Connections Finley Butte Landfill in Boardman, Oregon following closure of the Port Angeles Landfill at the end of 2006. (WE1)
- Encourage West Waste to continue their waste export activities and to possibly expand these activities as needed to serve additional west end customers who are currently self hauling waste to the Port Angeles Landfill. (WE2)
- Require any contracts with private businesses for waste export services to identify alternative disposal plans, including alternative routes and modes of transportation, should natural disaster or other conditions require re-routing. Any regional solid waste landfill used for Clallam County waste must meet or exceed all MFS requirements. (WE3)

Table ES-1 identifies the responsible implementing agency, the preliminary implementation schedule, and estimated cost for each of these recommendations.

5.5 ALTERNATIVE DISPOSAL METHODS

This section is intended to address disposal methods that are not already addressed in other sections of this chapter. It specifically addresses:

- Biomass-to-energy
- Biogas-to-energy

These alternative disposal strategies are important because of the amount of organic waste currently generated in Clallam County and the potential for future changes to increase the amount of wood waste that must be addressed through the solid waste system (see Section 7.5).

5.5.1 Biomass-to-Energy

Biomass-to-energy facilities operate on similar principals as incinerators although instead of using trash to produce electricity, organic material known as "biomass" is used as fuel for the incinerator. Energy recovery by a biomass-to-energy facility may be even greater than that of landfill gas. The only biomass-to-energy facilities currently operating in Clallam County are some of the mills, which generate steam to produce heat and electricity (e.g., Nippon).

A joint document between Ecology and WSU on the inventory of biomass in the state concludes that a significant amount of biomass exists in Clallam County (Ecology & WSU 2005). According to the joint document, organic waste in Clallam County totals 520,181 tons, which equates to 518.97 million kilowatts of energy. This figure does not account for the commercial waste generated by cedar mills in the western part of the county. The cedar mills, Allen's Logging, and Portac generate an estimated 92,700 green tons (versus dry ton) of mill and wood waste annually (Siemens, 2006). The majority of this waste stream is in the form of hog fuel. The remaining is used in some cases for production of paper products.

As a result of the closure of wigwam and cyclone wood burners (described in Section 2.2.2.10), the City of Forks, the UW Olympic Natural Resource Center, and the Clallam County Economic Development Council (EDC) undertook a study (RTI 2005) to see what alternatives could be available in the short and long term to producers of wood waste (i.e., shake and shingle manufacturers) that previously used burning to remove such waste. The study recommended an approach to biomass energy conversion. Further discussions with ORCAA, EPA, Ecology and the CCEH reaffirmed that simple storage for future waste hauling would have a limited period of permitted time. Bioenergy options were then fully pursued. In June 2006, Siemens provided the EDC and its associated study partners (Clallam County, PUD, Port of Port Angeles, City of Port Angeles, and the City of Forks) with a report that indicates that a portion of this waste stream could be utilized in two separate but compatible projects:

- First, a 1.2 mW heat system or 3.2 mW combined heat and power system could be implemented in the industrial park. The determining factor for the size of the system depends on the users of the steam output. The City of Forks is reviewing the potential users in the industrial park and, together with the Port of Port Angeles, is pursuing implementation of this project.
- The second project consists of the installation of two smaller wood chip boilers. One would generate only heat for a swimming pool facility, and the second boiler would generate heat for the school district. These boilers would remove the facilities' dependence on fossil fuels and would consume almost all of the cedar waste (i.e., amounting to less than 5 percent of the total wood waste generate by the cedar mills, Allen's logging, and PorTac). The City of Forks is pursuing the implementation of the two boilers.

These facilities would take wood waste only. All would require very specific ORCAA and EPA permits. Until those are in place, the cedar mill owners are long hauling the waste that was previously burned locally.

5.5.2 Biogas to Energy

Clallam County has received a request to study a waste biomass to biogas to energy alternative. Under this alternative, yard debris, food waste, and manure are anaerobically decomposed to create electricity. Alternatives such as this one are worth considering given the State's focus on reducing organics in MSW, as described in *Beyond Waste,* as well as the amount of organic waste generated in the County.

5.5.3 Recommendations

The following recommendations are made for alternative technologies:

- Pursue the development of a biomass-to-energy facility in Clallam County. (ADM1)
- Consider proposals for alternative disposal methods, such as biogas to energy, on a case by case basis. (ADM2)

6. WASTE DIVERSION

6.1 INTRODUCTION

The purposes of this chapter are to:

- Review existing waste prevention, recycling, and composting activities in Clallam County to identify the needs, problems, or opportunities for reducing the amount of waste being landfilled through existing facilities and programs.
- Suggest alternatives to meet the identified goals for diverting waste.
- Recommend future programs or actions for reducing waste that are appropriate to the needs and abilities of the County and the county's residents, businesses, and service-providers.
- Present implementation schedules and costs for the recommended waste diversion programs and facilities.
- Meet the requirements of RCW 70.95.

As described in Chapter 1, the *Beyond Waste* Project presents a new direction for the state, which replaces the former 50-percent diversion goal of RCW 70.95. This section addresses the approach for meeting these goals—past and present—within Clallam County. As new direction and programs from the *Beyond Waste* Project materialize, the County will have to evaluate and adjust this CWSMP on a case-by-case basis.

This chapter is divided into four sections that describe various waste diversion methods. These sections are:

6.2 WASTE PREVENTION

6.3 RECYCLING

6.4 COMPOSTING

6.5 ALTERNATIVE TECHNOLOGIES

6.2 WASTE PREVENTION

6.2.1 Existing Conditions

Waste prevention (or waste reduction) is defined as those methods and activities that avoid the creation (generation) of waste. Recycling is not included as waste prevention because recycling handles materials after they have been created as a waste. The success of waste prevention efforts depends on public information and education to a greater extent than other components of the solid waste management system.

The City of Port Angeles and Clallam County continue to encourage waste prevention efforts through a variety of public education methods. Methods have included inserts in utility bills, brochures, speakers at various organizations, and advertisements in the newspaper, on television, and radio. This is a joint program of the City of Port Angeles and Clallam County, with much of the staff, coordination, and funds provided by the city. The annual cost for City and County staff time, travel, materials and related expenses is the equivalent of one full-time employee.

Swap events, garage sales, consignment and second hand shops have also proven to be very popular. Many unwanted items have been diverted from the waste stream by being either donated to second hand businesses or offered for sale at swap meets, garage sales, and consignment shops.

There are a number of retail stores and personal activities that are occurring in Clallam County that promote the reuse of products and materials. These activities are reducing waste, but are difficult to measure. No data are available as to the quantity of waste diverted by these activities, but activities that result in waste prevention include:

- Secondhand stores and consignment shops
- Person-to-person transfers (sales or gifts)
- Garage sales, want ads, and swap meets
- Antique stores
- Pawn shops
- Charity and thrift stores
- Used bookstores
- Clothing and food banks
- Sales of surplus materials by contractors
- Auto wrecking and parts dealers
- Used car, truck and boat dealers
- Precious metals and coin dealers
- Used building material stores

The reuse of commercial or industrial wastes through a waste exchange can be considered as either waste prevention or recycling, depending on how the waste is used in a new manufacturing process. Waste exchanges are available in this area, such as the Pacific Materials Exchange or the Industrial Materials Exchange sponsored by Seattle and King County.

Clallam County and the City of Port Angeles also currently members of the 2good2toss.com program, which is sponsored by Ecology, in which residents can post unwanted large household items and reusable building materials for free on the internet. All items posted must be less than $99, many are free. Interested parties may contact the owner of the items and inquire further.

Volume-based rates are currently used in the unincorporated areas of Clallam County, as well as the cities of Forks, Sequim, and Port Angeles, with subscription rates for garbage collection increasing with higher volumes of garbage service.

Backyard composting is discussed in Section 6.4. Some additional waste reduction programs are described in more detail in Chapter 7 Special Wastes:

- The reuse store for moderate risks wastes at the new Port Angeles Transfer Station.
- The Built Green Program for reducing construction, demolition, and land clearing wastes.

There are no disposal bans or other mandates currently in effect in Clallam County that would qualify as waste prevention. Under ORCAA, no outdoor burning of yard waste is allowed in Port Angeles. By 2007, this prohibition will extend to other areas within the urban growth boundaries. In Port Angeles, yard waste cannot be disposed in garbage collection containers.

6.2.2 Needs and Opportunities

Ongoing Education and Promotion

Waste prevention is an activity that impacts all other aspects of solid waste management by decreasing the amount of waste generated. Thus, promoting waste prevention activities is an investment that will reduce the future cost of solid waste collection, processing, and disposal.

Organics

Organic wastes are a focus of the State's *Beyond Waste* Project. Food waste comprised an estimated 15 percent of Clallam County's disposed waste stream in 2003, and represents a significant opportunity to reduce waste in the future.

Measuring Program Effectiveness

Monitoring per capita waste generation rates has been proposed by some, but a reduction in waste quantities of five percent (a typical goal for waste prevention efforts) can be easily masked or artificially "created" by unrelated fluctuations in waste quantities. Measuring the results of waste prevention activities can be very difficult, because of the following:

- Many diversion activities are dependent on the actions of individuals and/or small businesses.
- The rate of tourism can increase or decrease year to year, and seasonally drive up the amount of waste generated and disposed, independent of the county's population. Ongoing educational efforts for waste prevention cannot reach visitors as effectively.
- Increased disposal costs or economic hardships could cause more people to burn trash in their backyards or illegally dump waste, leading to reductions in waste volumes through undesirable methods.

Regardless of these difficulties, per capita generation rates and/or per capita disposal rates, when analyzed over a period of years and considered in light of the above variables, can provide some insights for developing new strategies for reducing waste. The table below depicts the per capita MSW generation rates for Clallam County over a period of five years. It should be noted that the per capita disposal rates in the table above are calculated differently than those estimated in Chapter 3 because a different data source was used, and the focus is narrowed to MSW excluding special waste streams.

Table 6-1. MSW Per Capita Disposal

Year	Rate (lbs/person/day)
2000	2.4
2001	2.8
2002	3.0
2003	3.0
2004	3.5

SOURCE: Disposal quantities are based on MSW quantities reported in Ecology's solid waste disposal data (http://www.ecy.wa.gov/programs/swfa/solidwastedata/recycle/CountyTotals04.xls; accessed June 2006.) Population is based on figures presented in Chapters 2 and 3.

Generally, the per capita waste disposal rate has been increasing slightly. This could be the result of better reporting or other anomalies, as described above. Thus the data should be interpreted collectively with other information.

Most recommendations from the previous solid waste management plan (GS 2000) have been implemented over the past few years. Maintenance of these programs will ensure the continued promotion of waste prevention, but additional reuse opportunities for residents and businesses should be pursued and monitored, as described below.

6.2.3 Alternative Methods

Additional waste prevention can be accomplished by encouraging the reuse of materials and products through "reuse ranches," swap events, and other activities. Waste prevention can also be promoted through the use of variable rate structures. These types of rates can take many forms, but many are designed to charge waste generators according to the amount of waste produced. Volume-based garbage collection rates are currently used throughout the county. Other options are described in Chapter 4.

Waste audits are the most effective way of identifying methods to reduce wastes produced by industrial and commercial businesses, and the audits could also be used as an opportunity to encourage the use of recycled materials and opportunities for energy and water conservation. It is often possible for someone trained in recycling audits to go into a business and identify waste prevention and recycling opportunities that may be overlooked by the business operators. As one focus, large commercial generators of food waste could be identified and pilot programs potentially developed for reducing or diverting this waste stream.

Instead of trying to quantitatively measure overall waste reduction, the success of the waste reduction program could be evaluated using several alternative methods:

- Measure/monitor the amount of a specific material disposed of.
- Track the number of compost bins distributed and estimate quantity of yard debris composted per household per year.
- Monitor whether or not planned activities are actually conducted and appear to be reaching the target number of people.
- Monitor the number of "hits" on the waste reduction website.

In addition to surveys, waste composition studies could be helpful in determining waste prevention results. Accomplishing this with any accuracy would require an extensive analysis of current (baseline) waste composition and future waste composition, and then identifying an indication of whether specific materials have been reduced. A final possibility is to continue to monitor advancements made by the EPA and other states that are working to develop better waste prevention measurement methods, which may provide improved methods in the future.

The EPA created a program for waste reduction in 1994 known as the WasteWi$e program. It is a free, voluntary program through which organizations eliminate municipal and industrial solid wastes. The program offers flexible guidelines allowing waste reduction programs tailored to participants needs. Among the program participants in Washington State are the cities of Richland and Tacoma, King and Kitsap counties, Puget Sound Energy, Boeing, Weyerhaeuser and the University of Washington. Offering a web page link to the EPA WasteWi$e program and guidance to Clallam area entities wishing to participate would be a low cost opportunity for Clallam County to encourage waste reduction.

Public education is also a relatively low cost method of increasing waste reduction. Public mailings and notices with bills are a good method of contacting residents and businesses. However, another alternative is to create a web page aimed at businesses with information on setting up a waste reduction program that includes items such as program guidelines, technical assistance, analyzing the business's waste stream, calculating savings, and waste reduction strategies. This type of web-based program has been used successfully at the state level in Washington, Oregon and California and could be applied at the County level, with techniques focused on the business waste stream in the County and the county's specific opportunities for waste reduction.

6.2.4 Recommendations

The following recommendations are made for waste prevention activities in Clallam County:

- Continue public information and education with themes of reducing the weight and volume of waste collected; increasing material and product life through repair and reuse; reducing or eliminating packaging; and decreasing product consumption.

  Share the responsibility for this with cities, Tribal Councils, and schools, with private sector involvement as appropriate. A shared approach will improve results through increased exposure to information on waste prevention, and because individuals may be more receptive to information from one source over another. In all cases, public information materials should be distributed with other mailings, such as utility bills and property tax statements, as much as possible to reduce mailing costs. (WP1)

- Establish a Waste Reduction Committee dedicated to waste reduction in Clallam County. This committee will provide general waste reduction policy research, advice to government entities, educational outreach, and volunteer support for waste reduction opportunities. The committee will be comprised of citizens, and the City of Port Angeles Waste Reduction Specialist will serve the committee in the capacity of recording secretary and general committee staff. This committee will augment and support the SWAC. Among other things, this group could monitor programs and initiatives developed by the state as a result of the *Beyond Waste* Project for applicability in Clallam County. (WP2)

- Use existing County and city websites to promote business waste reduction. Sources of information could be state web sites, the EPA publication Business Guide for Reducing Solid Waste, and other solid waste disposal entities (such as the City of Portland METRO, King County Solid Waste, etc.). At a minimum, provide a link from the County and City of Port Angeles web sites to existing waste reduction program web pages. (WP3)

- Conduct waste audits, targeting small to medium-sized businesses first, on the assumption that the larger businesses have the staff and other resources to best meet their needs. Assistance in conducting the waste audits could be provided by volunteers (e.g., the citizen advisory/action group). Consider the idea of waste exchanges and similar activities directed specifically at businesses for future implementation. (WP4)

- Depending on the results of business waste audits, consider developing a pilot program for reducing commercial food waste. (WP5)

- Provide an example for the above businesses by adopting WasteWi$e or developing waste reduction programs within the County and its municipalities. (WP6)

- Recognize businesses that do a good job of implementing waste reduction programs and practices. (WP7)
- Support reuse events organized and implemented by others. (WP8)
- Better publicize the availability of less-frequent collections in the rural areas, and consider a similar approach throughout Clallam County. (WP9)
- Evaluate the waste prevention program based on whether or not the activities recommended above have been conducted. Back up this performance-based evaluation by conducting surveys every few years to test changes in public attitudes and practices. These surveys could also be used to test the effectiveness of various public education methods, by asking respondents where or how they had received information on waste prevention techniques. (WP10)
- Supplement the performance-based evaluation with an assessment of trends in per capital disposal rates. See Chapter 4 for additional discussion. (WP11)

Table ES-1 identifies the responsible implementing agency, the preliminary implementation schedule, and estimated cost for each of these recommendations. Recommendations for supporting green building initiatives and moderate risk waste reuse are described in Chapter 7.

6.3 RECYCLING

6.3.1 Existing Conditions

Recycling in Clallam County is handled primarily through private companies, and in some cases through contracts with municipalities. Program promotion is frequently conducted by the public sector. For example, the City of Port Angeles has encouraged recycling through city utility inserts, brochures, ads in a variety of locations, and many other activities. Table 6-2 shows a summary of services currently available to various sectors in the County, including curbside collection of recyclable materials, drop-off sites within a reasonable distance, and special arrangements with various service providers ("provider arrangements").

Table 6-2. Current Recycling Services in Clallam County

Geographic Area	Single-Family Homes	Apartments	Commercial
Cities:			
Port Angeles	C, D	PA, D	C (for OCC), PA, D
Sequim	C, D	C, D	C (for OCC), PA, D
Forks	D	D	PA (OCC, MP), D
Tribal Lands	D	D	D
Unincorporated Areas:			
Joyce	PA, D	PA, D	PA, D
Clallam Bay/Sekiu	–	PA (for OCC, MP)	PA (for OCC, MP)
Other Unincorporated	C, D		PA (for OCC, MP)

C = Curbside collection
PA = Provider arrangements
D = Drop-off
OCC = Corrugated cardboard
MP = Mixed paper

According to data from the 2005 Washington State Recycling Survey (Ecology 2006), approximately 14,317 tons of materials were recycled from Clallam County in 2005 (see Table 3-1). This amount represents 20.1 percent of the total amount of municipal solid waste generated.

Existing Collection Methods

Four types of collection methods are employed in Clallam County for recycling: drop-off sites, buy-back centers, household (curbside) collections, and commercial collections.

Drop-Off Sites: Drop-off sites are facilities that accept materials, at no charge or payment, and may consist simply of an unattended container.

The contract for the operation of the Blue Mountain Drop Box and Recycling Center requires the contractor to separately receive recyclable materials (aluminum cans, glass, plastic, tin cans, cardboard and newspaper) deposited by people who haul garbage to the stations.

The Port Angeles Landfill has two collection points for recyclable materials. Waste Connections provides unattended drop-off containers at the landfill entrance for several materials. Mixed waste paper and cardboard are collected in two 30-yard containers, and another container is provided for tin cans, aluminum cans, glass bottles (clear, green, and brown), and plastic bottles (HDPE and PET only). Glass is collected in a separate container (all three colors). In the tipping area for waste, containers or space is provided for people to separately drop off white goods (appliances), yard debris, tires, scrap metal, antifreeze, car batteries, and motor oil. When the landfill closes, these recycling services will continue at the new transfer station.

In Forks, West Waste provides containers at its transfer station for collection of some recyclable materials, including aluminum cans, cardboard, mixed paper, and used motor oil for no fee, and white goods, tires, car batteries, and wood debris for a fee.

In addition, waste such as used motor oil, nickel-cadmium batteries, and printer cartridges, are accepted for recycling by a number of private companies. These companies can be identified in the City of Port Angeles' "Information-Residential Waste Disposal and Recycling" brochure, which can be downloaded from the City's website, and the yellow pages under "recycling." Ecology also provides recycling information for Clallam County via its recycling hotline and website.

Buy-Back Centers: A number of private companies buy back materials such as aluminum cans and other nonferrous metals such as copper, brass, and tin. Clallam County residents and businesses also take material to scrap yards in neighboring counties, as well as setting aside metals for collection by scrap dealers who occasionally come to Clallam County to pick up the materials. These companies can be identified through the same informational resources identified for drop-off recycling sites.

Curbside Recycling: Curbside recycling has been provided in Port Angeles and Sequim since July 1, 1991. Together, Port Angeles and Sequim have approximately 10,000 homes. In addition, about 1,000 multi-family units (apartments) in Sequim are provided with recycling services, and curbside collection of yard debris is offered to homes in Port Angeles.

Murrey's Olympic Disposal offers curbside recycling services in unincorporated parts of the County.

Collection from Commercial Generators: Private companies collect recyclables from commercial accounts in Port Angeles, Sequim, Forks, and surrounding areas. Materials collected can include cardboard, mixed waste paper, tin cans, aluminum cans, glass, and plastic bottles.

Clallam Bay Corrections Center collects its own recyclable materials, as well as those from the Olympic Corrections Center in Jefferson County. A recyclable drop box is also located at the center's warehouse and is available and accessible for public use. Recyclables are transported to various locations outside the county.

Materials Collected for Recycling in Clallam County

A wide variety of materials can theoretically be recycled. It may not be possible to recycle some materials in Clallam County, however, due to low market prices, higher transportation costs (caused by greater distance to markets), and the relatively small quantities generated in the County. The following list summarizes all those materials that are being recycled by the various programs in the county, but this is not intended to imply that all programs in all areas of the County can recycle all of these materials:

Newspaper	Corrugated Cardboard
High-Grade Paper	Mixed Waste Paper
Glass	Aluminum Cans and Foil
Tin Cans	Ferrous Metals and White Goods (appliances)
Non-Ferrous Metals	PET Bottles
HDPE Bottles	Asphalt
Concrete	Wood
Motor Oil	Car Batteries
Antifreeze	Tires
	Alkali Batteries

Processing and Marketing of Recyclables

Currently, the processing and marketing of recyclable materials is performed primarily by the private companies that are collecting the materials. Except for one battery recycling operation, recyclables are currently exported from the County for processing and marketing.

6.3.2 Needs and Opportunities

RCW 70.95.090 requires that urban areas receive curbside recycling services. The criteria to be used for classifying areas as urban include state planning guidelines, total population, population density, and any applicable land use or utility service plans. The Clallam County Comprehensive Land Use Plan (2004) is the most relevant land use plan regarding urban designations. This plan designates four areas as "urban growth areas," or UGAs: Port Angeles, Sequim, Forks, and the Clallam Bay-Sekiu area. At least the latter two of these areas, however, do not currently have the population densities to warrant curbside recycling services, and so this CSWMP takes a different approach for designating urban areas. This CSWMP employs the criteria of urban areas with a population over 5,000 residents to designate urban areas. Port Angeles and Sequim are the only cities that currently meet this criterion, and so they are the only cities required by the state to receive curbside recycling service.

Market development is an important aspect of ensuring future demand for the materials that are collected for recycling. There are limited market development opportunities at the local level, but those that are possible are also quite important. First, local applications could be sought for those materials which cannot easily be recycled through more conventional means, or that are simply too expensive to ship to out-of-County markets. An example is glass. The low market value of recycled glass often does not cover the relatively high cost of shipping it to markets in Seattle and Portland. Developing local applications for this material may be preferred and even necessary if more glass is to be collected for recycling.

Another means of market development on a local scale is the purchase of products made from recycled materials, which helps to stimulate demand for the materials collected for recycling. Although rarely is there the opportunity to purchase back products actually made from locally collected materials, the purchase of recycled products still helps stimulate overall demand. In addition, this is an area where the County and cities can lead by example (or by mandate, if they require vendors to use recycled materials), and possibly encourage the private sector and others to also purchase recycled products. (A similar program for developing markets for used building materials is described in Chapter 7.)

There is a need for proper documentation of all recycling that is occurring in Clallam County. Reporting to Ecology the annual amounts handled by various recycling activities will be critical for future monitoring of progress and related activities.

6.3.3 Alternative Methods

Collection Methods

There are a number of options for collecting increased amounts of recyclable materials, including both new methods and existing methods that could be expanded. Alternatives for additional or revised programs include options such as:

- Additional or expanded curbside recycling programs (mandatory or voluntary, commingled or source-separated).
- Increased financial incentives through rates.
- Additional or expanded commercial recycling programs (collections or drop-off).
- Additional or expanded drop-off and buy-back centers (publicly or privately operated).
- Material recovery facilities (private or public, with varying degrees of capacity to handle mixed waste or additional recyclables).

Factors to be considered when evaluating collection options include the objective to maintain private sector involvement where possible (see Chapter 1); the state's requirement to place a priority on waste prevention and recycling efforts (Ch. 70.95 RCW); a state requirement that private haulers use rate structures and billing systems that are consistent with the state's priorities and provide minimum levels of services as established in local comprehensive solid waste management plans (Ch. 81.77 RCW); and the need for a substantial promotion effort to encourage good levels of participation.

Another option that might improve the economics of collecting recyclables in the unincorporated areas of Clallam County is co-collection of recyclables and garbage. Co-collection can take the form of putting separately bagged recyclables into a truck with garbage, or putting recyclables into a separate container on a garbage truck. The use of either approach generally requires a facility to handle both garbage and recyclables or, in the case of placing recyclable in a separate compartment on the truck, recycling and disposal facilities that are located nearby to each other. There appears to be limited opportunity to use either method of co-collection in Clallam County at this time.

Another method for increasing recycling levels is to collect additional types of materials. The three options considered most feasible for Clallam County in this regard are collecting:

- Additional grades of existing materials, such as different grades of paper products, different types of plastics, and aerosol cans.
- Additional types of materials from the commercial/industrial waste stream.

- More construction and demolition materials, as discussed in Chapter 7 Special Wastes.

Processing of Recyclable Materials

Recyclable materials are generally exported out of the County for processing. However, the County should monitor and consider any proposals for the processing of recyclables within the County that may reduce the cost of exporting materials while potentially creating jobs within the county.

Market Analysis for Existing Recyclable Materials

The current and future status of markets for recyclable materials is an important consideration in evaluating the need for additional recycling activities, but it is difficult to address this in a long range planning document such as this CSWMP. Markets for recyclable materials are constantly changing, thus rendering any analysis of current prices obsolete in a short period of time. These changes are caused by many different factors, so it is also very difficult to provide reliable predictions about future market conditions.

Future market prices will be influenced by the economy (local, national and global), prices of competing feedstocks, supply and demand locally and globally, and other factors. Competing feedstocks are often virgin materials, including petroleum for plastics and wood fiber for paper, and recycled materials usually must be lower in price to provide manufacturing companies a financial incentive to modify their systems to use these materials.

Market Development

The purchasing policies of public agencies could be revised to encourage the use of recycled materials. Such purchasing policies may be considered a market-building strategy for recyclable materials. Clallam County and the City of Port Angeles use some recycled paper currently, but the County and cities could choose to use more recycled paper for their documents. This would help increase the demand (and price) for recycled paper, as well as promote the idea of purchasing recycled products.

Local applications could be sought for those materials which cannot easily be recycled through more conventional means, or that are simply too expensive to ship to out-of-County markets. Developing local applications for materials such as glass would be preferred and may even be necessary if more material is to be collected for recycling. One approach that has already been attempted in Clallam County was crushing glass for use as road aggregate, but this was discontinued due to poor economics.

6.3.4 Recommendations

The following recommendations are made for recycling programs in Clallam County:

- The SWAC recommends a goal of 30 percent diversion (waste prevention, recycling and composting) for the next 5 years, with an eventual goal of 40 percent waste diversion for the County in the long term. A relatively greater amount of this waste diversion is expected to occur in the more urban areas of the County, where opportunities for recycling are generally more accessible. The current recycling rate is about 20 percent, which is greater than the interim goal set for 2005 in the previous CSWMP. (R1)

- Continue to recycle the following designated recyclables: newspaper, cardboard, high grade paper, mixed waste paper, glass, aluminum and tin cans, all other metals, plastic bottles (PET and HDPE), concrete, asphalt, clean wood waste, and special wastes such as motor oil, car batteries and antifreeze. (The diversion of yard debris is discussed in the next section on composting.)

  Not all of these materials can be collected by all of the programs in the county. Furthermore, this list of materials may need to be changed in the future due to new markets, market problems, or other conditions that may affect one or more materials. If it becomes necessary to change this list of designated recyclables, the County will recommend and the cities, JSWAB, and SWAC will review the changes. At a minimum the list of designated recyclables will be evaluated bi-annually to ensure that the proper materials are being targeted by the program. (R2)

- Concentrate additional and expanded recycling efforts on three areas: amounts and grades of currently-recycled materials, materials from the commercial/industrial waste stream, and construction and demolition materials. Identify specific opportunities to increase recycling through the following actions:

  - Audit business waste, as described in the Section 6.2 above—an important first step to increasing the recycling of materials from the commercial/industrial waste stream.

  - Use the notes and observations of the transfer station operators, as described in Chapter 4 Collection and Transfer, to identify the need for additional recycling containers at the transfer stations, to recycle additional grades of currently-recycled materials, and/or to conduct additional promotional efforts to encourage recycling. (R3)

- Continue public education efforts. The alternatives for public education that were identified in the previous plan have been implemented and appear to be promoting recycling programs satisfactorily. In addition, combine public education efforts for any new programs with the existing efforts, or model new efforts after the existing efforts. Share the responsibility for this with the cities, Tribal Councils, and schools, with private sector involvement as appropriate. (R4)

- Consider the possibility of establishing additional curbside collections in the rural areas, and support opportunities to establish drop-off or curbside collections on Tribal Reservations. (R5)

- Maintain existing drop-off sites and consider additional sites in the county. Also consider additional sites for temporary operation during the tourist season, if these can be operated cost-effectively by private recycling firms. This could be achieved though a collaborative effort between the recycling firms and tourist facilities (such

as visitor centers, restaurants, parks, hotels, and other facilities). Staff or others would closely monitor these additional sites. (R6)

- Continue and expand school recycle programs to increase recycling tonnages and to reinforce other education efforts. A number of schools have established recycling programs with the help of private recycling companies and cities, and an elementary level educational program has been developed and presented. The school districts would take the lead on expanding recycling programs in the public schools, as well as ensuring that solid waste and recycling educational information is presented at all grade levels. The Waste Reduction Committee will arrange meetings for interested persons from the different schools to share information, as needed. (R7)
- Promote recycling at special events such as sport activities and public festivals. Cooperate with private haulers, festival organizers, and volunteers to provide recycling bins and collection. (R8)
- Monitor and consider any proposals for the processing of recyclables within the County that may reduce the cost of exporting materials while creating jobs within the county. (R9)
- (The public sector should) lead by example. Consider expanded recycling programs, purchase recycled materials, and adopt policies that require this for all of departments in and vendors for the County and its municipalities. (R10)
- In addition and together with private collectors, closely examine the potential for local markets for glass and other materials. (R11)
- All companies and agencies engaged in collecting or processing recyclables in Clallam County must report their data on an annual basis to Ecology. Proper documentation of existing recycling activities will be critical for monitoring future progress and related efforts. If necessary, the County will assist Ecology staff in collecting this information by encouraging companies to file reports on their activities. (R12)

Table ES-1 identifies the responsible implementing agency, the preliminary implementation schedule, and estimated cost for each of these recommendations. Recommendations for recycling construction, demolition, and land clearing wastes, as well as electronic waste (e-waste), are described in Chapter 7 Special Waste

6.4 COMPOSTING

6.4.1 Existing Conditions

Composting can be defined as the controlled biological decomposition of yard debris to produce a beneficial product. Compost has a number of applications, but as a soil amendment it provides organic matter and nutrients, loosens tightly-packed soils, and helps retain moisture.

In this CSWMP, yard debris is defined to include lawn clippings, leaves, weeds, and shrub and tree prunings. Because prunings are included in the definition of yard debris, "composting" as used here includes the chipping of brush. Composting of solid waste, however, is not included here, but is discussed in the next section on alternative technologies.

The garbage collection companies who operate the transfer stations and conduct collections in the rural areas of the County report that rural residents are currently disposing very little yard debris through either means.

Yard Debris Collections and Drop Boxes

Table 6-3 summarizes information on yard debris collection and drop box services currently available, as well as educational programs promoting backyard composting. The City of Port Angeles has the only curbside program, which collects separated yard debris every other week. Currently, there is no charge for yard debris dropped off separately by residents at the Port Angeles Landfill or at the Sequim drop-off site at 169 West Hemlock. As of July 1, 2006, the Port Angeles Landfill (as well as the future transfer station) will charge a fee to accept separated yard debris, and residents of Port Angeles will be charged a separate fee to participate in the curbside collection program.

Table 6-3. Current Yard Debris Services in Clallam County

Geographic Area	Single-Family Homes	Apartments	Commercial
Cities:			
Port Angeles	C, D, BY	D	D
Sequim	D	D	D
Forks	D	D	D
Tribal Lands			
Makah Tribal Land	–	–	–
Other Tribes	D	D	D
Unincorporated Areas:			
Sequim Port Angeles/Joyce	D, BY	D	D
NW Area/Clallam Bay/Sekiu	–	–	–
SW area (around Forks/LaPush)	–	–	–

Source: Ecology (2006b)
C = Curbside collection
D = Drop-off
BY = Backyard composting education program

In addition to the services above, a number of private companies accept yard debris for a fee. The proposed plans for the Neah Bay transfer station do not include the acceptance of source-separated yard debris.

Co-Composting

The yard debris that is collected in the Port Angeles curbside program is currently delivered to the Port Angeles Landfill and stockpiled along with the yard debris that is delivered by landfill (self-haul) customers. Upon accumulation of sufficient material, a mobile tub grinder is hired to process the pile. In 2002, the City of Port Angeles began mixing yard waste with biosolids to produce Class A compost. The corresponding volumes of materials composted are estimated in Table 6-4.

Table 6-4. Composting Volumes

Material	Volume
Biosolids	34 cubic yards per month
Green Waste	68 cubic yards per month
Wood Waste	4 cubic yards per month
Recycled Compost	24 cubic yards per month
Total Mix Volume (~10% Shrinkage)	120 cubic yards per month

SOURCE: Technical memorandum from Price-Moon Enterprises to the City of Port Angeles, dated August 1, 2001.

When the landfill is closed in late 2006, Waste Connections will continue the co-composting operation. Additional information is provided in the Co-Composting Facility Operations Plan (SCS Engineers, 2006).

The Clallam Bay Corrections Center also diverts 4-5 tons/week of food waste to Olympic Corrections Center (OCC) in Jefferson County (27 miles from the City of Forks) where they co-compost it with sludge from the OCC wastewater treatment plant. The Clallam Bay Corrections Center also reuses its own yard debris for bank stabilization and other onsite projects.

Mulching

Yard debris collected at the Sequim drop box is chipped, and the City of Sequim uses the chips for mulch for city projects.

Backyard Composting

The results of a survey in Clallam County (PSR 1989) showed that 53 percent of the residents practice backyard composting. The City of Port Angeles promotes backyard composting through the following activities:

- Periodically purchasing backyard compost bins in bulk and selling them to the public at cost. The city's last sale was in the fall of 2005.
- Providing an interpretive exhibit on composting that is shown at the County Fair, Port Angeles How Show, Kidfest, and StreamFest.
- Giving out free kitchen scrap buckets, pencils, pencil sharpeners, and other promotional items imprinted with a composting message.
- Providing a flyer about backyard composting that is available at City Hall or on the city website.
- Together with WSU Master Gardeners, presenting backyard composting workshops and participating in school assemblies.

Local Regulations

The City of Port Angeles adopted an ordinance in which yard debris cannot be disposed in garbage containers.

6.4.2 Needs and Opportunities

Yard Debris

Yard debris represents a significant portion of the urban residential waste stream in Clallam County. The programs currently in place appear to be effectively capturing much of this waste stream. As estimated in Chapter 3, 1,576 tons of yard debris was disposed in 2003, while slightly over 3,400 tons of yard debris was diverted in 2004. Table 6-5 below shows the amount of yard debris diverted through the Port Angeles curbside collection program and the Port Angeles Landfill, over a period of 5 years.

However, yard debris still made up over 5 percent of the residential waste stream, as estimated in Table 3-3. Thus there is still an opportunity to expand the diversion of yard debris.

Table 6-5. Diversion of Yard Debris (tons)

	City curbside	City self-haul	County self-haul	Commercial self-haul	TOTAL
2001	1271	783	832	608	3494
2002	1424	788	781	244	3237
2003	1409	954	823	122	3308
2004	1445	1172	665	133	3415
2005	1900	1262	621	206	3989

Other Organics

As identified in Section 6.2.2, food waste is a significant portion of Clallam County's disposed waste stream. While composting even a portion of this waste stream could divert a significant amount of waste from disposal, the addition of food waste as a composting feedstock can attract vectors. The Port Angeles Co-composting Facility would need to be fully enclosed.

Based on the 2003 study, other potentially compostable wastes comprised relatively high proportion of the residential waste stream: manure at 2.84 percent, compostable paper at 4.52 percent, and wood at 4.30 percent. Wood waste comprised 5.85 percent of commercial waste and 18.92 percent of industrial waste.

Processing Capacity

The Port Angeles Co-composting Facility is currently operating at about 70 percent of its capacity (5,100 tons/year), and does not have the space to expand beyond that capacity. Clearly, some additional yard debris can still be diverted to this facility. However, with the new fees for yard debris collection and drop off, it is not unreasonable to expect a drop in use of these services. Because no yard debris is allowed in the garbage, diversion through existing and potentially new private operations is likely, depending on the fees the private companies charge. If incoming yard debris declines, the co-compost facility may be able to consider accepting additional kinds of feedstock, such as wood debris or hog fuel ash in the future.

End Use Markets

As with recycling, there is also an ongoing need to create end uses for compost and mulch.

6.4.3 Alternative Methods

Yard Debris Collection and Drop-Off

To maximize the diversion of yard debris, expanded curbside collection and/or additional drop-off sites could be considered, under the following circumstances:

- Enough yard debris is observed in the disposed waste stream from specific areas of the County (e.g., City of Sequim) to make diversion efforts cost-effective.
- The capacity of existing co-composting operation in Port Angeles, mulching operation in Sequim, or private sector processing is sufficient to support the diversion efforts. See discussion below.
- The market for finished compost or mulch is sufficient to support the diversion efforts. See discussion below.

Yard Debris Processing Options

Additional processing facilities or options may be necessary in the future, if the combined capacity of the existing co-composting facility in Port Angeles, mulching operation in Sequim, and private sector processing operations is insufficient to handle additional yard debris and other organic waste streams. The need for additional processing capacity must be balanced with other waste management alternatives such as biogas to energy (described in Chapter 5), which could also use organic wastes as a feedstock.

The processing options for yard debris range from simple and relatively inexpensive systems to more involved systems requiring a larger investment in equipment. The simplest approaches yield wood chips for use as mulch and a coarse grade of compost, while the more intensive systems would produce a high quality soil amendment.

Some of the typical options for composting are passive piles, windrow composting, and in-vessel or similar proprietary covered-pile composting. Of these, in-vessel or covered-pile composting, while the most expensive, offers the best potential for processing a variety of organic and special wastes (e.g., yard debris, biosolids, wood, ash, food).

Product Marketing Options

The success of a yard debris processing system depends on the ability to effectively market the resulting product. While a wide variety of potential markets exist, they vary greatly in the type and quality of product they will accept, the distribution system required to reach them, and the price (if any) they will pay for the product. Some of the markets are described in Table 6-6 below:

Table 6-6. End Use Markets

Product	Market	Use
Unprocessed leaves	Agriculture and livestock farmers	Land application, bedding
Wood chips / bark	Public agencies, wholesale nurseries, landscape contractors, County residents, industry	Weed control, decoration, hog fuel
Mixed yard debris, chipped/ground	Public agencies, wholesale nurseries, landscape contractors, County residents	Decoration
Compost	Public agencies, wholesale nurseries, landscape contractors, farmers, and County residents	Ranges from all-purpose mulch/amendment to high-grade potting medium depending on quality.

6.4.4 Recommendations

Most of the yard debris will need to be removed from the waste stream through backyard composting and centralized facilities to meet Clallam County's overall goal for waste diversion. Yard debris represents a relatively easy material to handle through alternative methods, is present in substantial quantities (and so presents a significant opportunity to reduce the waste stream), and is a resource that should not be taking up valuable landfill space. Other compostable organics also represent a significant portion of the County's waste stream.

To achieve the County's diversion goals, the following programs should be continued or implemented:

- In Port Angeles, continue curbside collection, processing, and co-composting yard waste at the Port Angeles Co-composting Facility. Increase the amount of materials processed to the extent of the facility's capacity. Investigate methods for increasing capacity through accelerated composting techniques. (C1)
- Closely monitor the amount of yard debris coming in to the co-composting facility to determine if new fees are affecting diversion. To determine whether or not increasing quantities of yard waste are being disposed of, use data collected by both the garbage haulers (i.e., number of containers tagged for containing yard debris) and the transfer station operators, as described in Chapter 4.
  - If yard debris is being diverted through other (i.e., private) operations, consider accepting additional waste streams (e.g., ash, wood) as a co-compost feedstock or yard debris from other areas of the county.
  - If yard debris is being disposed of unlawfully, revisit rate structure. (C2)
- Continue collecting and chipping brush collected at the Sequim drop box. Increase the amount of brush and woody materials processed to the extent the end-uses for chips can accommodate. If capacity becomes an issue for this operation, consider expanding the operation at its current site or a new site or replacing with a composting operation that can also handle other waste streams. (C3)
- Continue to develop end uses such as mulch, hog fuel, and compost, and other uses that may also be identified. Lead by example. The County (and its municipalities) should maximize use of these products in its own projects. (C4)
- In addition to Port Angeles and Sequim, separate collection of yard debris could be considered by Olympic Disposal and West Waste in their respective solid waste collection service areas if quantities set out for collection increase significantly. (C5)
- Encourage neighborhood chipping services. (C6)
- Continue public education to encourage residents to handle their yard debris separately through backyard composting and use of mulching mowers. Work with Washington State University Extension to establish a Master Composter Program in Clallam County to present educational programs. Expand educational efforts beyond the City of Port Angeles to other areas of the county. Emphasize the composting of food waste and as well as yard debris. (C7)

Table ES-1 identifies the responsible implementing agency, the preliminary implementation schedule, and estimated cost for each of these recommendations.

6.5 ALTERNATIVE TECHNOLOGIES

6.5.1 Existing Conditions

This section on "alternative technologies" is used to discuss additional methods for diverting materials from the disposal system. The major criteria in this case is the production or preservation of materials, hence approaches which consume materials to produce energy are not included here (these are shown with incineration or alternative technology options in Chapter 5). The use of the term "alternative" here refers to options other than methods that rely upon source separation, which is the preferred method in Clallam County.

Two possibilities for additional diversion technologies have been identified:

- Mixed waste processing systems, and
- Solid waste composting.

Neither of these approaches is currently practiced in Clallam County, but numerous other municipalities in the U.S. are using them. According to a previous report (Biocycle 1998), there were 15 solid waste composting facilities in operation in the U.S. at that time. This technology is more widely used in Europe, where there are many more facilities that have operated successfully for several years. There are many mixed waste processing facilities in operation in the U.S., but an exact figure is unavailable.

Both of these methods process mixed waste (garbage) to remove recyclable or other materials, and both leave a residue that requires disposal in a landfill.

6.5.2 Needs and Opportunities

There are no needs or opportunities that have been identified specifically for mixed waste processing or solid waste composting, although the increased diversion created by either method would help meet the County's goal for recycling. In the case of these technologies, however, this increase in diversion could be relatively expensive, as the capital-intensive facilities generally required for either approach lead to a relatively high cost per ton compared to other recycling and composting methods. The cost per ton in Clallam County would be even higher than typical due to the relatively low volumes of waste generated in the County and the resulting lack of economies of scale.

6.5.3 Alternative Methods

The use of either approach described below requires careful attention to the markets for recovered products and the costs of construction and operation of the required facilities. The marketability of the recovered materials may be hard to determine at the design stage of the facility, since the quality of the materials cannot be certain until the facility is in operation. The construction and operation costs should be clear in most cases, although many facilities have been built that soon required expensive modifications and/or additional expenses to function properly.

Mixed Waste Processing

Mixed Waste Processing Overview: Mixed waste processing requires a facility or system that is designed to accept solid waste (garbage) and process it in various ways to remove the recyclable materials. Processing typically includes mechanical systems, which are effective at removing only certain materials, and manual sorting. Mixed waste processing could be used in place of source separation, although often it is used in addition to traditional recycling programs to remove materials remaining in the waste stream. Mixed waste processing is also

used with a co-collection program, where recyclables are placed in a special bag that is then recovered at a central facility.

Mixed Waste Processing Options: Mixed waste processing systems range in complexity and capitalization from simple dump-and-pick operations to highly mechanized facilities.

With dump-and-pick operations, recovery is typically limited to those materials easily removed (such as cardboard boxes and scrap metal). In this case, the primary requirement is simply that the disposal facility must have a tipping floor to allow loads of waste to be dumped out of collection vehicles onto a flat surface, with space to spread out each load. Other requirements include additional labor to pull out materials plus containers for both temporary and long-term storage of the recovered materials. Dump-and-pick operations may create a situation where workers have extensive contact with raw garbage, with the subsequent risks to their health. A forklift or other equipment is also necessary for moving and emptying the containers used for temporary storage.

In the case of highly mechanized facilities, a great deal of capital equipment (trommel screens, conveyors, air classifiers) and manual labor is used to remove a wider range and greater amount of recyclable materials. A typical facility might include a tipping floor for removing bulky and other non-processible materials, trommel screens (a rotating drum with one or more sizes of holes in the side) and/or air classifiers for the initial separation of waste components, a picking line for manually removing materials, and conveyors to link these elements together. The materials recovered from this type of facility may be lower in quality (dirtier) than source-separated recyclables, and the economics of this approach may hinge on the availability of a waste-to energy plant to purchase the light fraction (paper and plastic) as a fuel.

In any case, waste processing can be a relatively expensive and risky approach for recovering recyclable materials, and so it is usually not pursued unless there is a strong mandate for increased recycling or very high disposal fees (i.e., a high potential for avoided costs). If part of the facility or equipment is already available, however, then mixed waste processing may be more feasible. For instance, if adequate space is already available at a transfer station or other disposal facility then a dump-and-pick operation could easily be cost-effective.

A study conducted for Port Angeles (Parametrix 1993) concluded that mixed waste processing (at $93 to $95 per ton) was close to being economically competitive with other solid waste handling options and could divert approximately 30% of the waste stream. This analysis assumed the remaining waste would be exported and that other recycling programs in the County would be cancelled (existing recycling would be replaced by a central recovery facility, and the cost savings from the cancelled collections was included as an avoided cost). Since that study was developed, however, this type of facility has been proven to be a riskier venture than once thought (several similar facilities have failed) and waste export costs have proven to be significantly lower than projected. Hence, in reality it is unlikely that mixed waste processing could economically compete with other solid waste management or disposal options for the County.

Solid Waste Composting

Solid Waste Composting Overview: Solid waste composting typically involves a number of shredding, composting and screening steps to produce a material that is somewhat similar to yard debris compost. Mixed waste processing is often a front-end element of solid waste composting facilities, and in this case it serves the purpose of removing problematic materials (materials that would interfere with the composting process or the marketability of the end product) as well as recyclables. Conversely, solid waste composting could also be an element of mixed waste processing, where the heavy residuals removed during processing are sent to a composting system.

Solid Waste Processing Options: There are various options for solid waste composting. In the simplest case, this method could be defined to include the diversion of specific materials (such as food waste and clean wood waste) to a composting system that would otherwise handle only yard debris (or yard debris and biosolids).

In the most capital-intensive option, a solid waste composting facility could handle an entire county's waste stream and require a great deal of front-end processing. The differences between this type of a facility and a "mixed waste processing" facility may become blurred and somewhat arbitrary due to the common need for front-end processing and removal of recyclables. Solid waste composting, however, usually includes more shredding or grinding of the incoming waste and more emphasis on removal of physical and chemical contaminants such as plastics and batteries. The actual composting step may take place in an enclosed system ("in-vessel" composting), a trough, or a variety of pile configurations.

As with mixed waste processing, the success of solid waste composting depends on the markets available for the end product and the cost of alternative disposal methods. Even in the best case, solid waste compost typically has much more limited applications than yard debris compost. Solid waste compost usually contains small bits of plastic and glass, since these do not break down in the composting process. These materials detract from the visual appearance of the compost and may cause potential customers to reject it. The concentrations of metals and other contaminants may also be a limiting factor in determining where and how the compost can be used. Hence, applications for solid waste compost are less likely to be found in urban locations, and this approach typically relies on agricultural applications. Forestry applications are also a possibility in Clallam County's case, and this is probably a better long-term possibility than agricultural applications due to the limited (and decreasing) amount of farmland in the County.

A complete cost analysis has not been conducted for this option, but the cost for solid waste composting would be more than mixed waste processing. Since the basic facility for solid waste processing includes a system similar to mixed waste processing plus the additional expense of the composting process, the cost for this option would be considerably greater. Since it was concluded (see above) that mixed waste processing cannot compete economically with other solid waste management options, the same conclusion likely holds true for solid waste composting too.

6.5.4 Recommendations

No alternative technologies, such as mixed-waste processing or solid waste composting facilities or programs, are recommended at this time. Future proposals or opportunities should be evaluated on a case-by-case basis.

7. SPECIAL WASTES

7.1 INTRODUCTION

This chapter describes the management and disposal of special wastes generated in Clallam County. These wastes generally require special handling and disposal for one or more reasons, such as potential toxicity, large quantities, or size and weight problems. Most of these wastes are best disposed of somewhere other than in a municipal solid waste disposal system.

The following special wastes are discussed in this chapter:

7.2 AGRICULTURAL WASTES
7.3 ANIMAL CARCASSES
7.4 ASBESTOS
7.5 ASH
7.6 AUTO HULKS
7.7 BIOMEDICAL WASTES
7.8 BIOSOLIDS
7.9 CONSTRUCTION AND DEMOLITION WASTES
7.10 CONTAMINATED SOILS
7.11 ELECTRONIC WASTES
7.12 MODERATE RISK WASTES
7.13 PHARMACEUTICAL WASTES
7.14 STREET CLEANINGS
7.15 TIRES
7.16 WOOD WASTES

The nature and source(s) for each special waste is described in this chapter, as well as existing programs and facilities in Clallam County for handling these wastes. All of the wastes are also examined for needs and opportunities, but recommendations are not warranted for all fifteen wastes. Instead, specific recommendations are developed for ten special wastes (agricultural wastes, animal carcasses, ash, auto hulks, construction and demolition wastes, contaminated soils, electronic wastes, moderate risk wastes, pharmaceutical wastes, and wood wastes).

7.2 AGRICULTURAL WASTES

7.2.1 Existing Conditions

Agricultural wastes result from farming and ranching activities, and includes crop residues and manure. Most agriculture and dairy farming in Clallam County is located on the east side, in the Sequim-Dungeness area, where favorable climate and land characteristics exist. The amount of farmland in Clallam County has decreased significantly over the past 50 years, dropping from 76,000 acres in 1950 to 22,400 acres in 2002 (USDA 2002). This trend is expected to continue, as current agricultural acreage is still being converted to housing and other uses.

The amount of agricultural waste generated in Clallam County was estimated from the County's crop acreage using typical waste generation rates. As shown in Table 7.1, the amount of agricultural wastes is significant. Current practices, however, do not result in

substantial quantities of agricultural waste that require disposal off the farm. Most wastes are incorporated into the soil to enhance fertility or handled on-site in other ways.

7.2.2 Needs and Opportunities

A major concern for manure handling and application is the potential contamination of nearby surface waters. It was previously concluded that agricultural activities are a large contributor of nonpoint source pollution to the County watersheds (Tetra Tech 1988). There is a recognition throughout Washington State of the impacts posed by agricultural waste to water quality and salmon habitat. The listing of several salmon runs as endangered species in March 1999 has triggering a broad range of remedial activities for farms and urban areas alike.

To address these concerns, many farms have implemented best management practices (BMPs) to prevent nonpoint pollutants from entering surface waters. These practices frequently involve the use of low-technology approaches such as using fences to keep livestock away from waterways, pasture rotation, and heavy-use area protection and terracing the land. In Sequim Bay, noticeable reductions in aquatic bacterial counts were observed after local farms began employing best management practices years ago. There are still problems with effective horse and livestock management at some of the small operations, such as manure and mud management issues and the lack of fencing to keep livestock out of streams. The Natural Resources Conservation Service (NRCS), WSU Cooperative Extension Office, and the Clallam Conservation District continue to work on education to address these problems.

Dairy farms were required to develop a dairy nutrient management plan by 2002 for proper manure management. These plans have led to tighter controls over the handling of cow manure. There are only two commercial dairies left in Clallam County, with less than 500 cows total. Both are in the Sequim area.

7.2.3 Alternatives

One of the alternatives being considered for improved handling and disposal of cow manure generated at the dairy farms is composting, including composting the manure with yard debris. Other alternatives are also being considered by the dairy farms, but composting and biogas to energy are essentially the only alternatives that fall within the scope of this CSWMP. Biogas to energy is discussed in Chapter 5.

Options for composting manure include several possibilities for location and mixtures; however, there are many permitting issues associated with on-farm composting, both at the state and local levels. The costs of getting into regulatory compliance can be significant for producers to undertake. A joint facility serving one or more farms may be more cost-effective.

Table 7-1. Estimated Quantity of Agricultural Wastes in Clallam County

Crop or Livestock	Annual Waste Generation Factors[1]	Number Of Units[2]	Annual Tonnages
Grains (Barley)	1.5 tons/acre	340 acres	510
Hay and Pasture[3]	1.5 tons/acre	6,400 acres	9,600
Other Crops[4]	1.5 - 2.0 tons/acre	300 acres	450 – 600
Beef Cows	1.0 ton/head	1,800 head	1,800
Dairy Cows	2.0 ton/head	1,100 head	2,200
Other Cattle and Calves	1.0 ton/head	NA	NA
Hogs[3]	0.3 ton/head[3]	75 head	23
Sheep and Lambs[3]	0.2 ton/head[3]	1,100 head	220
Other Livestock	0.2 - 1.5 ton/head	NA	NA
Chickens	47.0 tons/1,000 birds	150 birds	7
		TOTAL =	**15,000 Tons per Year**

NA = Not Available.

1. From Bulletin No. 2, "Solid Waste Generation Factors in California", 1974, by the California Solid Waste Management Board. Note that wastes are primarily vegetative residues, and wastes from livestock and poultry primarily consist of urine and feces.
2. From "–2002 Census of Agriculture", published jointly by the U.S. Department of Agriculture, National Agricultural Statistics Service.
3. Waste generation rate estimated from values for similar crops or livestock.
4. "Other crops" includes oats for grain, potatoes, vegetables harvested for sale and orchards (USDA 2002).

7.2.4 Recommendations

The Clallam County Planning Commission's Agricultural Sub-committee is currently undergoing a review of the local ordinances affecting agricultural composting and will be providing recommendations for changes in the local regulation of agricultural wastes within the next year.

In the interim, the following recommendation is made for the management of agricultural wastes in Clallam County:

- The Clallam Conservation District and NRCS should continue to work with producers around the County to implement BMPs to minimize the potential contamination of surface waters with agricultural waste. (AG1)

7.3 ANIMAL CARCASSES

7.3.1 Existing Conditions

The two primary generators of animal carcasses in the County are the Humane Society (in Port Angeles) and Battelle Marine Sciences Laboratory (near Sequim). Both the Humane Society and the laboratory currently use Petland Crematorium in Aberdeen for cremation of animals. Battelle sends its hazardous carcasses to Pacific Marine Lab for disposal.

State Patrol and County Sheriff personnel refer information about road kills to the State Highway or County Road departments. The Clallam County Road Department buries carcasses at remote locations on public lands scattered throughout the county.

7.3.2 Needs and Opportunities

There are many road kills in Clallam County, as well as occasional beached mammals. The management of bird remains is a big human health concern due to threats such as the bird flu.

7.3.3 Recommendations

During the next planning period, identify ideas and alternatives for disposing of animal carcasses. (AN1)

7.4 ASBESTOS WASTES

7.4.1 Existing Conditions

Asbestos waste is any material containing more than one percent asbestos by weight. The amount of asbestos generated in Clallam County is typically small (less than 50 tons per year) and is usually from demolition activities and pipeline replacement projects.

Asbestos is considered nonhazardous when properly contained. The Port Angeles Landfill is the only licensed disposal site in the County, although various contractors may also be taking asbestos out of the county for disposal. To accept asbestos-containing waste at the landfill, 24 hours prior notice must be given and the waste must be double-bagged in plastic. The waste must also go though an application process before acceptance. Upon receipt, the waste is placed in a separate area of the landfill, later to be covered with garbage.

When the landfill is closed at the end of 2006, the new Port Angeles Transfer Station will take its place. Ancillary operations at the transfer station include a Moderate Risk Waste (MRW) Facility and a Metals and Special Waste Area. The MRW Facility will not accept asbestos-containing material, except asbestos roofing tar. However, the Metals and Special Waste Area will accept properly bagged asbestos. As stated in the operations plan for the facility: "The handling and storage of asbestos waste at the facility will abide by ORCAA regulations and the applicable permit. Customers with asbestos waste will schedule an appointment to dispose of their load at the facility prior to visiting the facility. Customers will be required to deliver the waste in sealed bags... The asbestos waste will be removed from the facility and hauled to an approved disposal site on a regular basis." Additional information is provided in the *Port Angeles Transfer Station Operation Plan* (SCS Engineers, May 2006).

7.4.2 Needs and Opportunities

Although the management and disposal of asbestos waste is not currently considered a problem in Clallam County, safe handling practices must be continued at the Port Angeles Landfill and implemented at the new transfer station. In addition, less asbestos waste is expected to be generated in the future as the existing stocks of this material are gradually removed and disposed.

7.5 ASH

7.5.1 Existing Conditions

Ash results from the burning of solid fuels such as wood and solid waste. In Clallam County, significant amounts of ash are produced by the forest products industry from burning hog fuel or pulp and paper sludges. The major producers of ash in the Port Angeles area include

Interfor, P A Hardwood, K-Ply and Nippon Paper Industries. Currently, ash from these mills is disposed in the Port Angeles Landfill or, in the case of Nippon, in the Lawson Landfill. Nippon disposes of approximately 15,000 tons of hog fuel boiler ash per year in the Lawson Landfill.

The largest generator of ash in western Clallam County is the Portac sawmill, which generates boiler ash as well as wood waste (sawdust, chips and bark). Portac generates approximately 22 cubic yards a month of boiler ash which they began hauling in 2004 to Soilkey in Tenino.

Some previous generators of ash, such as medical facilities and wood processing facilities, no longer burn these wastes. See Sections 7.8 and 7.16, respectively.

Small quantities of ash are also produced in residential fireplaces and wood-burning stoves. This ash is generally disposed of by burying it on residential property. Some ash from these and other sources may also be brought to the Port Angeles Landfill. At the Port Angeles Landfill, ash is handled in the same manner as municipal garbage. Most of the ash that is brought to the landfill is already mixed with garbage before it arrives.

When the Port Angeles Landfill closes at the end of 2006, the new transfer station will accept ash waste for export with other MSW.

7.5.2 Needs and Opportunities

Although ash can be managed in the foreseeable future through the Lawson Landfill and the Port Angeles Transfer Station, opportunities to reuse or recycle this material would be preferable to land disposal. New options and alternatives have been developed and are discussed below.

As the projects in western Clallam County are developed for wood waste to heat or energy (see Section 5.5), there may be additional amounts of ash that would require disposal or reuse/recycling.

7.5.3 Alternatives

Ash can potentially be used as a feedstock at the Port Angeles Co-Composting Facility. Two conditions limit this alternative:

(1) The facility is already at about 70-percent of its design capacity. If significant quantities of ash are processed through the facility, then the City would potentially not be able to increase the amount of yard debris or other materials (e.g., wood waste) accepted at the facility.

(2) The ash must be tested and meet certain standards for being "clean" (e.g., high salt-content ash is not acceptable).

An additional option that could be investigated by the private ash generators would be land application of ash to agricultural, silvicultural, and open forest lands. Wood waste ash can be a valuable source of nutrients and minerals. This approach is currently being used by other ash generators in the state.

Another alternative to landfilling would be the use of ash in industrial applications, such as its use as an ingredient in high-density concrete or in fertilizer.

7.5.4 Recommendations

The following recommendations are made for changes in the management of ash in Clallam County:

- Although Nippon takes their ash waste to Nippon's Lawson Landfill and the Port Angeles Transfer Station accept ash, encourage the ash-producing companies to explore recycling or other disposal alternatives first. For example, encourage them to investigate land application and industrial uses such as in concrete or fertilizer. (ASH1)

- The first priority for the Port Angeles Co-Composting Facility is the diversion of yard debris. However, if additional, private-sector alternatives develop to compete with the City's operation, consider accepting additional materials such as clean ash at the facility. (ASH2)

7.6 AUTO HULKS

7.6.1 Existing Conditions

Automobile hulks are currently accepted by licensed auto hulk operators for recycling parts and scrap metal. Markets for whole auto hulks are located in Seattle and Tacoma. The Port Angeles Landfill does not accept whole automobile hulks or pieces of automobiles. Auto hulks are also accumulated on private property and are an environmental hazard.

7.6.2 Needs and Opportunities

Auto hulks are often a public nuisance and an environmental hazard. The enforcement of the existing County ordinance (Chapter 19.60 of the Clallam County Code) with respect to auto hulks does not appear to be addressing the issue.

7.6.3 Recommendations

During the next planning period, identify ideas and alternatives for managing the disposal or accumulation auto hulks. One option may be to strengthen the County ordinance with respect to auto hulks. (AUTO1)

7.7 BIOMEDICAL WASTES

7.7.1 Existing Conditions

Biomedical waste is defined by RCW 70.95(k) as "the infectious and injurious waste originating from a medical, veterinary, or intermediate care facility". These wastes require special handling and disposal practices to protect the health and safety of both medical and solid waste disposal personnel. Medical facilities have the responsibility to determine which medical wastes are considered biomedical, and then arrange for the proper handling and disposal of these wastes.

The two largest generators of biomedical waste in the County are the two largest hospitals (in Port Angeles and Forks). Both the Olympic Memorial Hospital in Port Angeles and the Community Hospital in Forks have their biomedical waste transported out of the County by a licensed biomedical waste hauler. (The Community Hospital discontinued use of its incinerator in 2001.)

The Washington State Utilities and Transportation Commission (WUTC) regulates transporters of infectious wastes. Their regulations also allow regular solid waste haulers to refuse to haul wastes that they observe to contain infectious wastes as defined by WUTC.

Small quantities of biomedical waste are also disposed by individuals. The Clallam County Health Department and Port Angeles Landfill frequently get questions regarding the appropriate disposal of sharps (i.e., used needles). Individuals are referred to the disposal sites in Clallam County for current procedures.

7.7.2 Needs and Opportunities

There are adequate systems for handling biomedical wastes from the hospitals and clinics in Clallam County. No additional needs are identified at this time for these generators, but there may be infectious wastes from smaller generators that are not being handled properly. Home health care, for instance, is increasingly practiced for more serious conditions, and there is concern that this may lead to improper handling of infectious waste. This situation should be monitored but requires no immediate actions. Public education may be necessary in the future if it appears that home health care is causing potential problems or risks.

7.8 BIOSOLIDS

7.8.1 Existing Conditions

The six wastewater treatment plants in Clallam County are managed by the City of Port Angeles, City of Forks, City of Sequim, Clallam County (at Clallam bay and Seiku), and Sundland. Clallam County transfers their biosolids to the City of Forks for further processing, and Sundland transfers their biosolids to the City of Sequim for further processing. The City of Sequim and the City of Forks process the biosolids into a Class A product (as rated by Ecology) that is applied for landscaping. The City of Port Angeles composts biosolids with yard debris at the Port Angeles Co-Compost Facility.

7.8.2 Needs and Opportunities

No additional needs are identified at this time for the management of biosolids.

7.9 CONSTRUCTION, DEMOLITION AND LAND-CLEARING (CDL) WASTES

7.9.1 Existing Conditions

Construction, demolition and land-clearing (CDL) wastes are defined simply as the wastes that are generated from construction and demolition activities. These wastes include new and used building materials, concrete, asphalt, soil, stumps, and brush, that is generated at the construction or demolition sites. These wastes are generated at a rate that is proportional to the construction activity in the County and so annual amounts vary depending on population growth and the economic climate. Large, one-time projects (such as the future demolition of the Elwha Dam and 8th Street Bridges) also have a significant impact on annual amounts.

Disposal. In the past, some of this material has been disposed at wood waste sites and the remainder either landfilled or burned on-site. As estimated in the *Clallam County Construction, Demolition, and Land-Clearing Debris Waste Assessment* (Parametrix 2004), Clallam County residents dispose of approximately 7,000 tons of CDL waste per year (excluding any major projects).

Recycling: Part of this waste stream is currently being recycled through several private recycling companies.

Reduction and Reuse: There are also existing opportunities for re-using CDL through several retail stores and thrift stores. The amount of CDL wastes diverted for reuse or recycling is unknown.

The Clallam County Built Green is an environmentally-friendly, non-profit, residential building program. It is sponsored by the Builders Association and directed by a committee with representatives from the Builders Association, the City of Port Angeles, Clallam County, Tribes, businesses, and concerned citizens. The committee is developing a Built Green Checklist that will enable citizens to identify environmentally friendly building practices. A Built Green logo is assurance that a builder has certified that a project contains selected Built Green features and meets the criteria on the Built Green Checklist. The checklist emphasizes, among other things, the selection of non-toxic building materials, the reuse and recycling of construction waste, and where unavoidable the proper disposal of construction waste. Examples include but are not limited to balancing cuts and fills, reusing topsoil onsite, donating removed native vegetation for reuse, grinding stumps and limbs onsite for use as mulch, installing a compost and recycling area, and using materials with recycled content for sheathing, decking materials, insulation, doors, ceramic tile, trim, and tile countertops. The checklist also emphasizes keeping as much of the native landscape as possible or replacing landscape with native vegetation.

7.9.2 Needs and Opportunities

There are several needs and opportunities associated with CDL waste:

- When the landfill closes and an export system is implemented, the cost for self-hauling CDL will increase.
- The high cost associated with treating CDL waste may make it difficult for Contractors to find cost-effective means of disposal.
- Recycling of this type of waste may be less costly and would certainly be preferable for several other reasons.
- When the Elwha Dam is demolished, an estimated 240,000 tons of concrete waste may be generated.

7.9.3 Alternatives

The primary alternatives for this waste stream have been identified above, including disposal at the Port Angeles Landfill or through the Port Angeles Transfer Station, disposal on-site at the point of generation, and diversion through reduction, reuse, or recycling.

Recycling of CDL wastes often requires special facilities and equipment that are dedicated to a specific type of material (wood waste, concrete, or sheetrock), and the waste quantities in Clallam County probably do not warrant such an investment for some of these materials. However, there are specific wastes that can be diverted to existing recovery operations, such as crushing of concrete or asphalt for use as road base, grinding of clean wood waste for use as a fuel or mulch, and more traditional recyclables (cardboard, bottles and cans) that can be recovered from construction site wastes.

7.9.4 Recommendations

The following recommendations are made for changes in the management of CDL in Clallam County:

- Promote existing opportunities for recycling of CDL wastes as part of the public education efforts conducted for waste reduction and recycling. In particular, the County should help promote the Built Green concept. (CDL1)
- Enhance the recycling of CDL wastes by establishing expanded markets for the materials. These markets include using processed concrete and asphalt concrete for county and municipal public works projects, especially roads and utilities, and processing clean wood material as hog fuel for area hog-fuel boilers. Education and public information on alternatives available would be a fundamental component of this program. (CDL2)
- Consider the development of a limited purpose disposal site for non-recyclable CDL wastes if existing methods for disposing or diverting the waste are inadequate, especially for big projects such as the Elwha Dam demolition. If a separate site is developed and if sufficient quantities of recoverable materials are observed being disposed at this site, additional recycling operations should be considered for those materials. (CDL3)

7.10 CONTAMINATED SOILS

7.10.1 Existing Conditions

Soil is considered contaminated if it contains significant quantities of fuel oil, gasoline, or other toxic substances. Contaminated soils generated in Clallam County are usually contaminated with petroleum products. Petroleum-contaminated soils (PCS) are accepted at the Port Angeles Landfill, but only after testing to ensure that the soil meets legal limits for disposal (under 3,200 ppm total hydrocarbons and other tests as appropriate), and then the contaminated soils are used as cover material at the landfill.

Large amounts of petroleum contaminated soil and other wastes from major oil spills may be handled differently than smaller quantities, but are evaluated on a case-by-case basis.

7.10.2 Needs and Opportunities

With the closure of the Port Angeles Landfill, the Port Angeles Transfer Station will accept contaminated soils. The amount of PCS is expected to diminish in the future because there will be fewer occurrences of leaking storage tanks (and old incidents will be cleaned up), due to more stringent storage regulations which became effective several years ago.

For the remaining PCS, new technologies are being developed for treating contaminated soils and avoiding relatively expensive disposal costs.

Treatment and disposal of wastes from large spills should continue to be addressed as they occur, depending on the nature and extent of the contamination.

7.10.3 Recommendations

Explore new technologies for managing contaminated soil. (CS1)

7.11 ELECTRONIC WASTES

7.11.1 Existing Conditions

Electronic wastes are old computers, computer monitors, and televisions. Currently, education materials (e.g., the Recyclopedia) recommend taking televisions and computers to Jefferson County's transfer station in Port Townsend, donating these items to charities or thrift shops, or posting on 2good2toss.com.

7.11.2 Needs and Opportunities

The Washington State Department of Ecology estimates that over 2.8 million computers and nearly 900,000 televisions will be disposed of in Washington State in the next five years. These products contain heavy metals and other chemicals at hazardous levels that make them difficult to dispose of safely. If simply discarded, these products will potentially release hazardous substances to the environment.

In 2004, the Washington State Legislature directed the Department of Ecology to conduct research and develop recommendations for implementing and financing an electronic product collection, recycling, and reuse program within the state. The department completed its research and provided recommendations in 2005. As a result, a new law has been passed, in which the makers of computers and televisions must begin a program by January 1, 2009, to collect and recycle these products. The manufacturers will be responsible for the program cost.

7.11.3 Recommendations

Clallam County should continue to work with and educate the public on how to handle electronic waste. Until implementation of manufacturer programs in 2009, the County should provide information to the public about electronic recycling and provide some periodic collection events. (EW1)

7.12 MODERATE RISK WASTES

7.12.1 Existing Conditions

Small amounts of hazardous materials are used by industries, farming operations, businesses, and homes throughout Clallam County. For most of these, the amount of any waste produced as a result of this usage falls below regulated quantities and so is classified as a "moderate risk waste". Moderate risk waste (MRW) includes household hazardous wastes (wastes produced by residential activities that otherwise meet the definition of a hazardous waste except that they are exempt from regulation) and wastes from small-quantity generators (businesses that produce less than 220 pounds of dangerous waste or 2.2 pounds of extremely dangerous waste per month, and that do not accumulate these wastes in excess of 2,200 or 2.2 pounds, respectively). MRW produced in Clallam County include pesticides, acids, oil-based paints, cleaning solvents, dry-cleaning solvents, petroleum wastes, used batteries, and medical or pathogenic wastes.

Currently, hazardous wastes are not accepted at the Port Angeles Landfill. Instead, separate collections of MRW have been conducted, including some that have been conducted jointly with Jefferson County. There is also an agreement between Jefferson and Clallam Counties that allows Clallam County residents to use Jefferson County's MRW Facility (in Port Townsend) and Clallam County then pays a usage fee. In addition, the Clallam County

Environmental Health, City of Port Angeles, the haulers and others assist people with questions throughout the year.

When the Port Angeles Landfill closes at the end of 2006, the new transfer station will include a MRW Facility. Materials accepted will include fuels, solvents, pesticides, antifreeze, used oil, corrosives, fluorescent lamps, oxidizers, and oil-based paint products. Items received into the facility will be sorted, and those items suitable for reuse will be segregated and stored on display shelves. These items will be available to the general public during regular business hours at no charge.

Additional information regarding the management and disposal of moderate risk wastes in the County can be found in the *Port Angeles Transfer Station Operational Plan* (SCS Engineers, 2006).

7.12.2 Needs and Opportunities

The public must be made aware of the new Port Angeles MRW Facility for both disposal and reuse of MRW.

7.12.3 Alternatives

Alternatives for MRW include increased educational efforts.

7.12.4 Recommendations

The following recommendations are made for changes in the management of MRW in Clallam County:

- Resume countywide educational efforts for proper disposal or reuse of MRW. Provide information on the new MRWF at the Port Angeles Transfer Station. (MRW1)
- Consider continuing collection events in the outlying portions of the County because Port Angeles may not be convenient for all County residents. (MRW2)

7.13 PHARMACEUTICAL WASTE

7.13.1 Existing Conditions

Pharmaceuticals become waste when they have been rejected for use by the patient or otherwise cannot be returned to the supplier for reuse. Pharmaceuticals are supplied as pills, capsules, liquids (for oral or intravenous use), ointments, creams, and other forms that are intended for human or veterinary use. Pharmaceuticals can be obtained via medical prescription or as over the counter products. Pharmaceutical waste is regulated by the Washington State Department of Health's Board of Pharmacy, the United States Drug Enforcement Administration, and Ecology.

7.13.2 Needs and Opportunities

These wastes become a solid waste management concern when they are disposed of inappropriately. Some unused medications when flushed down a drain or toilet and treated through a wastewater treatment plant (or individual septic system) can potentially contaminate groundwater and surface waters. This situation should be monitored. Public education should be the first priority and developed in conjunction with the County's two hospital districts, retail suppliers, and other healthcare providers. Additional actions may need to be developed if it appears that pharmaceutical waste is causing potential problems or risks. This waste stream is expected to rise in Clallam County as the average age of its residents continues to rise.

7.13.3 Recommendations

CCEH should work with the two hospital districts, retail suppliers, and other healthcare providers to develop a public education program on how to properly dispose of pharmaceutical waste. (PW1)

7.14 STREET SWEEPINGS

7.14.1 Existing Conditions

This waste stream is the result of highway and road maintenance. WSDOT currently operates a street sweeping/vactor/storage pad in Port Angeles. This facility is a solid waste pile used to treat and store street sweepings. The sweepings from other public sector operations are disposed of in permitted landfills.

7.14.2 Needs and Opportunities

There may be opportunities to develop additional facilities such as WSDOT's for treating this waste stream. This situation should be monitored but requires no immediate actions.

7.15 TIRES

7.15.1 Existing Conditions

Tires are accepted at the Port Angeles Landfill and will be accepted at the Port Angeles Transfer Station. These tires are exported from the County for recycling. The landfill, however, is handling much fewer tires than they used to, about 5,000 tires per year instead of the 15,000 to 20,000 they previously accepted. Instead, tire companies are reusing or recycling tires outside the solid waste management system.

Otherwise, the automobile service stations and other tire dealers in Clallam County are apparently handling many more tires and these are being hauled out of the county.

7.15.2 Needs and Opportunities

Tires have presented a variety of problems at virtually all waste disposal sites. The storage and disposal of tires poses fire hazards and public health problems associated with the breeding of mosquitoes and rodents. Problems also arise when tires are incorporated into sanitary landfills. Because of their bulkiness and resilience, they tend to surface periodically, damaging the cover materials and allowing water to seep into the landfill.

Based on a national average waste generation rate of approximately one tire per person per year, there is an estimated 64,900 tires generated annually in Clallam County. Disposal at public facilities accounts for only a small portion of these tires. Although it is feared that a portion of these tires are being illegally dumped or "stored" at the site of generation, there is not a great deal of evidence to indicate that this many tires are being improperly handled in Clallam County. Hence, it is assumed that service stations and tire dealers are accepting most of the tires not handled at the landfill.

No specific recommendations are being made at this time for tires, but ongoing efforts to find better alternatives to tire disposal on a statewide basis should be monitored while also watching for improved options that may become available on a local basis.

7.16 WOOD WASTES

7.16.1 Existing Conditions

Wood waste is wood pieces or particles generated as a by-product or waste from the manufacturing of wood products, handling and storage of raw materials and trees and stumps. The definition goes on to stipulate that "this includes but is not limited to sawdust, chips, shavings, bark, pulp, hog fuel, and log sort yard waste, but does not include wood pieces or particles containing chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic."

The forest products industry in Clallam County generates wood shavings, chips, sawdust, log ends, bark, hog fuel, sorting yard wastes, pulp and paper mill sludges, and boiler ash. The major producers of these wastes are K-Ply, P A Hardwood, Nippon, Portac, Interfor, and smaller logging operations and shake or shingle mills. The tenants of the Port of Port Angeles are also a major generator of wood waste. Wood waste is accumulated through their operation of marine terminals and adjacent log yards.

Nippon currently recycles wood waste through other private companies. Logyard waste, for instance, is ground up by another company and then sold as a soil amendment. Nippon has also reduced their wood waste quantities by contracting logyard and chip production activities to other companies. Portac grinds and ships waste bark and other wood to Nippon Port Angeles for use in paper drying. Nippon also burns wood waste for heating purposes, as do K-Ply, Interfor, and Portac.

Hermann Brothers Wood Waste, a private company near Port Angeles, accepts wood waste—such as stumps, large diameter tree limbs, lumber, old decking materials, cedar mill waste—and grinds them. The products are sold for hog fuel to the Pt. Townsend paper mill or for mulch to the public by delivery in large quantities. This facility has the potential capacity to accept much of the County's clean wood waste.

7.16.2 Needs and Opportunities

Quantity Generated

As described in Section 5.5, a significant amount of wood waste is generated in Clallam County. A large portion of this wood never makes it into the solid waste stream. However, there are two situations worth monitoring that could greatly increase the amount of wood waste in the solid waste stream:

- Currently a significant portion of wood waste generated by the collective mills in the region is used in the pulp and paper industry. If international market forces were to

adversely impact the industry demand, a significant amount of wood waste would need to be handled in some fashion.

- Currently timber slash from logging is burned in place. While no changes to the regulations have been proposed, industry groups and others are aware that the Olympic region's air quality measures are receiving national and international attention to protect air quality standards. Such outside influences could have impacts on the manner in which timber slash may be disposed in the future.

Economics

The upcoming closure of Port Angeles Landfill will leave the County without an economical local disposal option for wood waste. Thus alternatives for reusing or recycling this waste are likely to become increasingly cost effective. Large wood waste generators on the west end of the county are already without an economical disposal option.

Technology Development

Europeans have made advances in incineration and gasification technologies that have significantly reduced emissions and ash output and usually exceed state and federal standards. These advances have recently spurred a renewed interest in incineration and/or gasification facilities for specific waste streams such as wood. The City of Forks and Port of Port Angeles are pursuing the development of a biomass-to-energy facility to handle this waste stream. Such uses are discussed in more detail in Section 5.5 of this plan.

Another emergency technology that may become a viable tool for managing wood waste in the future is its chemical conversion to liquid fuel systems (renewable energy).

Other Environmental Considerations

The need for fossil fuel-derived energy is reduced when energy is created from carbon neutral feedstocks such as wood waste. By avoiding truck transportation to distant disposal sites, green house gas emissions associated with combustion of fossil fuels are also reduced.

7.16.3 Alternatives

Alternatives for future wood waste disposal or diversion could include:

- In combination with an enhanced hog-fuel processing program, a new special-purpose landfill(s) could be developed that would continue to take wood waste and ash.
- The materials could be processed to produce value-added products that would have market value (including mulch, compost, hog fuel, and possibly other products).
- The materials could be sent to another compost facility, either for a fee or possibly sold to them as a needed raw material.
- The materials could be used for biomass-to-energy or biogas-to-energy, as described in Chapter 5.

Landfilling has been the most expedient method of disposal for many companies in the past, but future siting of wood waste landfills may become a problem due to the growing population in Clallam County and the lack of available land. Approximately 62 percent of the land in Clallam County is owned by federal or state agencies, and much of the remaining land has an unacceptable slope or is very wet.

Recovery of the wood waste through composting or conversion to mulch or hog fuel requires a tub grinder, chipper, or similar piece of equipment for reducing the size of the pieces. Much

of the wood waste is from log yard operations, however, and so contains a significant amount of soil and other contaminants. While this may not be a problem for composting, these contaminants would cause an excessive amount of wear on processing equipment and would reduce the value of end products such as hog fuel.

Composting the shredded wood waste may be a better option, since the soil would then be a beneficial additive. Depending on the demands of potential markets, composting may require up to two years before a usable end product would be ready. The soil would also not be a problem if the shredded material were sold as mulch, in which case the shredded wood waste could be used immediately (again depending on markets). Composting wood waste has two potential drawbacks; the wood waste decomposition process releases carbon into the air (with no offset or carbon release that is achieved if wood waste is used to produce energy) and wood based mulch has been demonstrated to reduce soil productivity, in many cases, by absorbing nitrogen from the soil in the decomposition process.

7.16.4 Recommendations

The following recommendations are made for changes in the management of wood waste in Clallam County:

- Explore the possibility of recovering additional amounts of wood waste through use as composting or hog fuel. (WD1)
- If necessary, increase the market for landscaping mulch produced from log yard waste through public procurement programs. As appropriate, encourage private sector companies to follow the public sector's lead in procurement of landscaping mulch produced from log yard waste. (WD2)
- Consider proposals for alternative methods for managing wood waste, such as biogas to energy, on a case by case basis. (WD3)
- Should the amount of wood waste managed in the solid waste stream increase substantially due to markets, regulations, or other outside influences, the SWAC should collaborate with private companies to develop new ideas for managing this waste stream. (WD4)

8. REGULATION AND ADMINISTRATION

8.1 INTRODUCTION

The six purposes of this chapter are to:

- Identify the regulations and agencies that currently affect solid waste management in Clallam County.
- Identify the needs, problems, or opportunities not yet addressed by the existing system of regulations and administration.
- Suggest alternatives to meet the identified needs and opportunities.
- Recommend future programs or actions as appropriate to the needs and abilities of Clallam County and the County's residents, businesses and service-providers.
- Present implementation schedules and costs for the recommended programs and facilities.
- Meet the requirements of RCW 70.95.

8.2 REGULATION AND ADMINISTRATION

8.2.1 Existing Conditions

At the federal and state levels, the primary regulatory authorities for solid waste management are the Environmental Protection Agency (EPA) and Ecology, respectively. The Environmental Health Division of the Clallam County Department of Health and Human Services (CCEH) is the responsible local authority (per RCW 70.95.160) for issuing permits for solid waste handling operations. The minimum requirements of both the state and federal programs must also be satisfied before a permit can be issued by the local agency.

8.2.1.1 Federal Level

RCRA, as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA) (42 U.S.C. 6901-6987), is the primary body of legislation dealing with solid waste. Subtitle D of RCRA deals with non-hazardous solid waste disposal and requires the development of a state comprehensive solid waste management program that outlines the authorities of local, state and regional agencies. Subtitle D requires that the state program must prohibit "open dumps" and provide disposal of all solid waste in an environmentally-sound manner.

8.2.1.2 State Level

The state Solid Waste Management Act (RCW 70.95), adopted in 1969, provides for a comprehensive, statewide solid waste management program. It assigns primary responsibility for solid waste handling to local governments, giving each community, in cooperation with its cities, the task of setting up a coordinated county solid waste management plan which places an emphasis on waste reduction and recycling programs. Cities may also choose to develop their own solid waste management plans, but this approach is generally prohibitively expensive for a smaller jurisdiction. Only two larger cities in the state (Seattle and Everett) have chosen this option. Enforcement and regulatory responsibilities are assigned to cities, counties, or jurisdictional health departments depending on the activity.

In 1985, Ecology promulgated the Minimum Functional Standards for Solid Waste Handling (WAC 173-304) under the authority granted by RCW 70.95. The Minimum Functional Standards reflected the State's solid waste management priorities at that time and the desire to protect the environment from adverse impacts that may have been created by solid waste disposal facilities. In 2003, Ecology issued WAC 173-350, Solid Waste Handling Standards, which essentially superseded the minimum functional standards. A separate section, Criteria for Municipal Solid Waste Landfills WAC 173-351, issued in 1993, contains the current location, design, and operational criteria for MSW landfills.

RCW 36.58, Solid Waste Disposal, establishes the counties' rights and responsibilities regarding solid waste management, including the authority to establish solid waste disposal districts. The authority to establish solid waste collection districts is provided in RCW 36.58A. These districts can be set up to provide and fund solid waste processing, disposal and/or collection services in the unincorporated parts of the county, and in incorporated areas with the cities' consent.

The Model Litter Control and Recycling Act (RCW 70.93) and associated state regulations (WAC 173-310) generally prohibit the deposit of garbage or refuse on any property not properly designated as a disposal site. There is also a "litter fund" that has been created through a tax levied on wholesale and retail businesses, and the monies from this fund are being used for education, increased litter clean-up efforts by the State, and grants to counties for litter and illegal dump clean-up activities.

8.2.1.3 County Level

In Clallam County, the governmental organizations involved in solid waste management include the Clallam County Road Department and the CCEH.

At the county level, the Clallam County Road Department is the agency primarily responsible for solid waste management activities for Clallam County. The Road Department has been managing the lease for the county-owned and privately operated transfer station (Blue Mountain Drop Box and Recycling Center)[3]. In addition, the Road Department Utilities Coordinator manages the CPG funds provided by Ecology to support solid and hazardous waste activities. Currently, the CPG are the primary source of funding for solid and hazardous waste activities conducted by Clallam County. In the future, funding for countywide solid waste activities may include more collection and disposal revenues. Beginning in 1998, additional grant funds are being received from Ecology for local litter clean-up. These funds have been used to institute a "chain gang" for cleaning up high-litter areas and a few illegal dumping sites.

The CCEH is the local enforcement agency for County and State (WAC 173-350 and 173-351) regulations regarding solid waste activities. The local requirements are promulgated in Clallam County Code 41.10. The CCEH acts on complaints of illegal dumping, and issues permits and conducts periodic inspections of disposal facilities.

The activities of the CCEH are funded through the Division's budget, the permit fee system, and CPG funds from Ecology. As with many other counties in the State, these funds do not cover all of the costs of effectively supporting the mandated programs.

The permit process for disposal facilities requires an application and approval for new sites, and an annual review and renewal for existing permits. The initial application form, developed by the Washington Department of Ecology, requires information about the type of

[3] The City of Port Angeles is assuming responsibility for the operation of this facility per ILA.

wastes to be disposed, environmental conditions of the area and operating plans. Permit fees are based on the type of solid waste facility. Table 8.1 lists the fees associated with different types of facilities. The fees shown in Table 8-1 were established by a resolution of the County Board of Commissioners adopted in December 2002.

Table 8-1. Waste Disposal Permit Fees[1]

No.	Permit	Fee[2]
1	Municipal Solid Waste Facility	
	a. Site Application	$2,000
	b. Annual Permit Renewal	$5,000
	c. Closure Permit	$7,500
	d. Post Closure Permit (Annual Renewal)	$2,500
2	Trasfer Station	
	a. Site Application	$500
	b. Annual Permit Renewal	
	i. Facilities Handling 5,000 tons/yr or greater	$1,000
	ii. Facilities handling less than 5,000 tons/yr	$250
	c. Closure Permit	$400
3	Limited Purpose Landfills	
	a. Site Application	$1,000
	b. Annual Permit Renewal	$3,000
	c. Closure Permit	$4,500
	d. Post Closure Permit (Annual Renewal)	$1,500
4	Biosolids, Composting, and Septic Utilization Permits	
	a. Site Application	$500
	b. Annual Permit Renewal	$250
5	Inert Landfills	
	a. Site Application	$500
	b. Annual Permit Renewal	$500
	c. Closure Permit	$750
	d. Post Closure Permit (Annual Renewal)	$250
6	Recycling Only Facility	
	a. Site Application	$500
	b. Annual Permit Renewal	$250
	c. Facilities Exempt from Permitting but Still Requiring Inspection of LHJ	$60.00/hr
	d. Oil/Antifreeze Collection Drop Boxes	$60.00/site
7	Late Permit Fee	Additional 50% of base permit fee
8	Penalty Fee – Reinspections Required due to Operational Noncomplicance	10% of base fee/event

Notes:
1 From Clallam County Environmental Health
2 Applicable conditions should be summed up for each disposal site to arrive at the total permit fee.

Disposal permits are issued for landfills, transfer stations and other disposal sites. Unpermitted and illegal sites have been a problem in the County. Private residential dumps, though not required to obtain a permit, have created nuisance problems in some areas. County action against these offenses is often slow or nonexistent due to funding and personnel constraints. The County Environmental Health Division has received State grant assistance for enforcement actions and has become more active in dealing with these problems.

8.2.1.4 Other Authorities

Other authorities in Clallam County include the City of Port Angeles Public Works Department, the City of Sequim Utilities Department, the City of Forks Utilities Department, and the Tribal Councils. Each of these entities has its own special area of operations; providing specific services to the residents within that area and enforcing specific rules and regulations. Local rules that affect solid waste management include land use plans and zoning codes.

City of Port Angeles

The Solid Waste Utility for the City of Port Angeles operates the Port Angeles Landfill and the City's solid waste collection system. The landfill is currently slated to close in late 2006. The City is responsible for closure and post-closure funds. . Per Interlocal Agreement (ILA) with Clallam County, the City or its contractor will operate the transfer station that will replace the landfill when it closes, the Blue Mountain Drop Box and Recycling Center, and the export system. A portion of the enterprise funds may be used to meet unanticipated landfill requirements. See Regional Export and Transfer System discussion below.

The Solid Waste Utility also allows a limited number of commercial garbage accounts to be served by Murrey's Olympic Disposal (for customers within Port Angeles whose waste volume exceeds the size of containers provided by the City), and has a contract with Waste Connections for curbside recycling services.

Within the City of Port Angeles, it is compulsory to take a collection service for refuse provided by the City (Port Angeles Municipal Code, Section 13.54). The burning or dumping of solid waste, other than as provided for in the code, is unlawful.

City of Sequim

The City of Sequim contracts with Waste Management Inc. to provide commercial and residential customers with automated refuse collection services within the incorporated area. Curbside recycling service is also contracted out to Waste Management. In addition, the Utility Department provides a drop-off site for residents to self haul yard debris. The budget for the solid waste collection service is derived from previous collection fees.

Within the City of Sequim, the removal and disposal of garbage, refuse and waste matter is compulsory and universal (Sequim Municipal Code, Chapter 8.08). The burning or dumping of solid waste, other than as provided for in the code, is a misdemeanor. Enforcement activities can be funded, in part, through the local solid waste fund.

City of Forks

The City of Forks contracts with a private company, West Waste, for garbage collection services. West Waste provides garbage collection service to the residents of Forks on an optional basis. Many residents choose to haul their own waste to the West Waste Transfer Station.

Tribal Councils

Within Clallam County there are a number of Indian reservations, the largest of which is the Makah Reservation located at Neah Bay. The Quileute Indian Reservation and Ozette village are located on the Pacific Coast. The Lower Elwha Indian Reservation is located on the Strait of Juan de Fuca west of Port Angeles and the Jamestown S'Klallam Reservation is along the south end of Sequim Bay.

The tribes exercise solid waste management authority over tribal lands within their respective reservations. Local and state governments have limited jurisdictional authority over the reservations or their residents in terms of solid waste planning, implementation or taxation.

The tribes must abide by regulations imposed by the Federal Government and outlined in RCRA. The tribes are governed by a Tribal Council or Committee made up of elected members. The Councils hold regular meetings and handle all business affairs of the tribes.

8.2.1.5 Regional Export and Transfer System

In 2004, Clallam County and the City of Port Angeles executed an ILA regarding Regional Solid Waste Export and Transfer System cooperation and implementation. The ILA defines the roles and responsibilities of the County and the City to provide for competitively-priced Regional Solid Waste Export and Transfer System facilities and services; promote the health, safety and welfare of the County's and City's residents; and protect the natural environment throughout the County. Among other things, the ILA:

- Centralizes responsibility for operating and administering the Waste Export and Transfer System with the City; and
- Establishes an enterprise fund into which revenues received from the operation and management of the Regional Solid Waste Export and Transfer System are deposited.

The areas of operation, services provided, and enforcement rules and regulations for each of the local governmental organizations is summarized below.

Per ILA, the County:

- May consider amendments to the County's zoning code, solid waste facility permitting process ordinance, and other applicable ordinances to prohibit solid waste transfer and export facilities that are not consistent with the Plan and to designate the Regional Solid Waste Export and Transfer System.
- Will continue to make a good faith effort to negotiate and execute with Jefferson County an interlocal agreement requiring each county to amend its comprehensive solid waste management plan and other related ordinances and agreements, to the extent permitted by law, to prohibit accepting waste generated outside its boundaries at disposal sites within said county; unless approved as an emergency.
- May consider forming a solid waste disposal district in the eastern part of the County, to the extent it may become necessary to provide a dedicated source of funds to help finance the capital and operations and maintenance costs associated with the Solid Waste Export and Transfer System.
- Shall not construct or have constructed any municipal solid waste export and transfer system in the eastern part of Clallam County without the approval of the Joint Solid Waste Advisory Board.
- Has participated in developing the request for qualifications/proposals and selecting the contractor(s), for designing, building and if appropriate operating the Solid Waste Export and Transfer System facilities, disposal services, and long haul services.
- Has appointed representatives to the Joint Solid Waste Advisory Board.

- Has negotiated and administers the land lease between the County and the Washington Department of Natural Resources enabling the continuation of drop box services at Blue Mountain.

Per ILA, the City of Port Angeles is responsible for the following (among other things):

- Establish the JSWAB to review policies, procedures, costs, rates and operate as an advisory group to the Port Angeles City Council and SWAC.
- Act as custodian of the Regional Solid Waste Export and Transfer System/landfill enterprise fund.
- Incorporate in its annual budget the budget for Regional Solid Waste Export and Transfer System services.
- Provide administrative services for the facilities it operates.
- Consider an ordinance designating the Regional Solid Waste Export and Transfer System as the City's solid waste system and prohibiting solid waste facilities that are not consistent with the system.
- Cooperate with the County in the formation of a disposal district to the extent the district includes incorporated areas of the City of Port Angeles.

8.2.1.6 Land Use Plans

Clallam County's Comprehensive Land Use Plan, Title 31 of the County Code, addresses general issues and goals for each of the land use zones in the County. Since solid waste management is not addressed in any of the zones, any new solid waste management facilities would require a conditional use permit. Other city comprehensive land use plans also do not address solid waste management specifically, but rather set the framework for land use with are carried out in zoning codes.

8.2.1.7 Zoning Codes

Another important set of rules concerning solid waste management activities is zoning codes. In Clallam County, both the County and the City of Port Angeles have adopted zoning codes that address solid waste disposal facilities. The Clallam County Zoning Code classifies parcels according to permitted uses. Under Section 33.50.110 of the Clallam County Zoning Code, solid and liquid waste disposal facilities are permitted only as conditional uses in certain specified zones. The City of Port Angeles classifies disposal sites in Section 12 (M-2-Industrial District) of their Zoning Code that restrict the location of such facilities. The zoning codes are discussed in more detail in Appendix C of this CSWMP.

8.2.2 Needs and Opportunities

There are ongoing needs and opportunities associated with proper management and disposal of garbage and regional approaches to managing the export and transfer of waste.

Proper Management and Disposal of Waste

Additional state and local mechanisms may be needed to ensure that individual households properly manage and dispose of their garbage. Illegal dumping continues to be a problem throughout the County, as does dumping of garbage into containers in the cities of Port Angeles and Sequim. As the City of Port Angeles implements its new fee structure, including new fees for yard debris collection and drop off, the potential for illegal dumping may increase.

Presently, there is opportunity to improve enforcement provisions for illegal dumping, littering, backyard burning and related problems due to the rural nature of the majority of the County. Funds from the State are being used for litter prevention education and a clean-up crew, but this is addressing only part of the problem and does not lead to a permanent solution.

Regional Approach to Waste Export and Transfer

Clallam County and the City of Port Angeles have taken an important first step to creating a regional approach to waste export and transfer by entering into an ILA. To make the regional approach work, the County and City must now execute the provisions of the ILA. Further consolidation of the regional approach may also require the participation of additional parties, such as the City of Sequim.

8.2.3 Alternative Methods

There are several options for addressing the needs and opportunities identified in the previous paragraphs. Illegal dumping in rural areas and in waste containers in the cities of Port Angeles and Sequim could be addressed through increased enforcement activities.

The ongoing need for a central regional authority can be further supported through the formation of solid waste districts or a special district based on Clallam County's home rule charter.

Solid Waste Disposal Districts

Chapters 36.58 and 36.58A of RCW allow the establishment of waste disposal districts and waste collection districts, respectively, within a county. A solid waste disposal district is a quasi-municipal corporation with taxing authority set up to provide and fund solid waste disposal services. A disposal district has the usual powers of a corporation for public purposes, but it does not have the power of eminent domain. The county legislative authority is the governing body of the solid waste district. A disposal district established in eastern Clallam County could assess each resident or business (in incorporated areas only with the city's approval) a pro rata share of the waste exportation cost. This dedicated source of funds could help finance the capital and operations and maintenance costs associated with the Solid Waste Export and Transfer System.

The formation of a solid waste district could also help to discourage illegal dumping by lowering the apparent cost of proper disposal. The assessment by the disposal district would be paid regardless of where the resident or business dumped the waste, or whether it was self-hauled or transported by a commercial hauler.

RCW 36.58.140 states that a disposal district "may levy and collect an excise tax on the privilege of living in or operating a business in the solid waste disposal taxing district, provided that any property which is producing commercial garbage shall be exempt if the owner is providing regular collection and disposal". The district has a powerful taxing authority, since it may attach a lien to each parcel of property in the district for delinquent taxes and penalties, and these liens are superior to all other liens and encumbrances except property taxes.

The funds obtained by a levy may be used "for all aspects of disposing of solid wastes...exclusively for district purposes" (RCW 36.58.130). Potential uses include providing:

- Solid waste planning.

- Cleanup of roadside litter and solid wastes illegally disposed of on unoccupied properties within the district.
- Public information and education about waste reduction and recycling.
- Subsidized waste reduction/recycling activities such as composting, or increasing the types of recyclables received at transfer stations to include tin cans, mixed waste paper, etc.
- Subsidized household hazardous waste collection events to minimize the amount of these wastes entering the waste stream.
- Closure and post-closure costs for landfills and other solid waste facilities.

Clallam County and the SWAC previously discussed the feasibility of a solid waste district and in 1997 decided against taking this approach. At that time, it was concluded that voters would be unlikely to approve a new tax, and that a combination of interlocal agreements and user fees would be a more feasible approach.

However, as stipulated in its ILA with the City of Port Angeles, the County will consider forming a solid waste disposal district in the eastern part of the County, if it becomes necessary to provide a dedicated source of funds to help finance the capital and operations and maintenance costs associated with the Solid Waste Export and Transfer System.

Special District based on Home Rule Charter

The fact that Clallam County is a "home rule charter county" means that the county has powers beyond those shown in state regulations. In summary, a home rule charter county has the ability to implement activities that are approved by a majority vote of the residents, as long as the proposed activity does not directly contradict or violate state regulations. In this case, for instance, the County could create a special district with authority and abilities that differ from collection and disposal districts.

8.2.4 Recommendations

Both Clallam County and the City of Port Angeles should meet their respective commitments, as specified in the ILA for the Regional Solid Waste Export and Transfer System.

Clallam County and the City of Port Angeles should negotiate with the City of Sequim to enter into the ILA as an Additional Party.

9. SEPA ENVIRONMENTAL CHECKLIST

9.1 INTRODUCTION

This chapter contains the environmental checklist as required by the State Environmental Policy Act (SEPA). SEPA, chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help identify environmental impacts from the activities proposed by this Comprehensive Solid Waste Management Plan (CSWMP).

The rest of this chapter is the actual SEPA checklist for the CSWMP. Much of this checklist addresses only the general concerns related to the CSWMP, but specific actions proposed by this CSWMP are addressed as appropriate. It is anticipated that at least one of the activities discussed in the CSWMP, the use of waste export for future disposal purposes, will require one or more separate SEPA processes when more implementation details are developed for it.

ENVIRONMENTAL CHECKLIST

A. BACKGROUND

1. **Name of proposed project, if applicable:**

   Clallam County Comprehensive Solid Waste Management Plan (CSWMP).

   A. Address or general location of site:

   Not applicable. The CSWMP encompasses the entire County.

2. **Name of applicant:**

   Clallam County

3. **Address and phone number of applicant and contact person:**

Project Manager:	**Consultant:**
Robert Martin Emergency Services& Utility Manager Clallam County, Washington (360) 417-2305	Jill Johnston Parametrix, Inc. Bremerton, Washington (360) 377-0014

4. **Date checklist prepared:**

   May 3, 2006

5. **Agency requesting checklist:**

   Washington State Department of Ecology (Ecology). State law for solid waste management plans requires a SEPA checklist.

6. **Proposed timing or schedule (including phasing, if applicable):**

   The Clallam County 78 over the next five years.

7. **Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**

   Yes. State law requires solid waste management plans to be updated every five years. In addition, a few of the recommendations in this CSWMP extend beyond the immediate five-year period, but separate environmental review processes would be conducted for these activities if necessary when plans for these activities are refined.

8. **List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

   NA

9. **Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**

   No.

10. List any government approvals or permits that will be needed for your proposal, if known.

In order to participate in the CSWMP, each local jurisdiction will need to approve and adopt the CSWMP. These jurisdictions include Clallam County, the cities of Port Angeles, Sequim, and Forks. The Makah, Quileute, Lower Elwha and Jamestown S' Klallam Tribal Councils may also participate.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The Comprehensive Solid Waste Management Plan (CSWMP) is a five-year plan for the unincorporated and incorporated areas of Clallam County, including the cities of Port Angeles, Sequim, and Forks. At their option, the Indian Reservations may participate in this CSWMP. Federal rules require that the Olympic National Park and the Olympic National Forest abide by the policies and programs in this CSWMP.

This CSWMP discusses all aspects of solid waste management within the County and incorporated areas, including waste reduction, recycling, composting, energy recovery, collection, transfer, import/export, waste disposal, and regulation and administration. Specific recommendations are made for all of these elements, but in most cases these recommendations represent program or policy refinements that have no significant environmental impacts.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The activities proposed by this CSWMP will generally take place throughout Clallam County, although a few of the recommendations are for specific areas (such as one or more of the cities) or sites.

ENVIRONMENTAL CHECKLIST
(To be Completed by Applicant)

B. ENVIRONMENTAL ELEMENTS

Responses to the following reflect the lack of a specific site for most of the recommendations of the CSWMP.

1. Earth

a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____

The specific sites impacted by the CSWMP's recommendations are generally the existing solid waste facilities and occupied areas in the County, which are flat or rolling.

b. What is the steepest slope on the site (approximate percent slope)?

Specific sites and areas discussed in the CSWMP are generally those with gentle slopes.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Not applicable.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Not applicable.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Not applicable.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Not applicable.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Not applicable.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Not applicable.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

No significant amounts of emissions are anticipated as a result of any of the recommendations made by the CSWMP.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

Not applicable.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Not applicable.

3. Water

a. Surface:

1. **Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.**

   Not applicable.

2. **Will the project require any work over, in or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

   This is not anticipated.

3. **Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

   Not applicable.

4. **Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.**

   This is not anticipated.

5. **Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

   This is not anticipated.

6. **Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

   No.

b. Ground:

1. **Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.**

   This is not anticipated.

2. **Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

   Not applicable.

c. Water Runoff (including storm water):

1. **Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

   Not applicable.

2. **Could waste materials enter ground or surface waters? If so, generally describe.**

   Not applicable.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

Not applicable.

4. Plants

a. Check or circle types of vegetation found on the site:

_____ deciduous tree: alder, maple, aspen, other

_____ evergreen tree: fir, cedar, pine, other

_____ shrubs

_____ grass

_____ pasture

_____ crop or grain

_____ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other

_____ water plants: water lily, eelgrass, milfoil, other

_____ other types of vegetation

All of these types of vegetation can be found in Clallam County.

b. What kind and amount of vegetation will be removed or altered?

None expected.

c. List threatened or endangered species known to be on or near the site.

Not applicable.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Not applicable.

5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

Birds: hawk, heron, eagle, songbirds,

other:_____

Mammals: deer, bear, elk, beaver,

other:_____

Fish: bass, salmon, trout, herring, shellfish,

other:_____

All of these birds and animals can be found in Clallam County.

b. List any threatened or endangered species known to be on or near the site.

Not applicable.

c. Is the site part of a migration route? If so, explain.

Not applicable.

d. Proposed measures to preserve or enhance wildlife, if any:

Not applicable.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Several of the activities recommended in the CSWMP will require small additional amounts of electrical power to support normal, everyday activities. In addition, two recommendations in the CSWMP may increase power supplies in the future ("energy recovery from landfill gas should be considered in the future if landfill gas concentrations and quality rise to economic levels and biomass generation in Forks and biogas options in Port Angeles should also be considered."

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No, this is not anticipated.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Not applicable.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

No, although the CSWMP touches on a related activity (moderate risk waste collections) that should help prevent this type of problem in the future.

1. Describe special emergency services that might be required.

Not applicable.

2. Proposed measures to reduce or control environmental health hazards, if any:

The Port Angeles Landfill will be closing in 2006 and waste disposal efforts will be shifted to transfer station operations on the property. .

b. Noise

1. What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Recommendations in the CSWMP may affect traffic patterns and volumes, but any such impacts are primarily associated with changes in the waste disposal system.

2. What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Not applicable.

3. Proposed measures to reduce or control noise impacts, if any:

Not applicable.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

Not applicable.

b. Has the site been used for agriculture? If so, describe.

Not applicable.

c. Describe any structures on the site.

Not applicable.

d. Will any structures be demolished? if so, what?

Not applicable.

e. What is the current zoning classification of the site?

Not applicable.

f. What is the current comprehensive plan designation of the site?

Not applicable.

g. If applicable, what is the current shoreline master program designation of the site?

Not applicable.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

Not applicable.

i. Approximately how many people would reside or work in the completed project?

Not applicable (no impacts to employment or population levels are anticipated to be caused by any of the CSWMP's recommendations).

j. Approximately how many people would the completed project displace?

Not applicable.

k. Proposed measures to avoid or reduce displacement impacts, if any:

Not applicable.

l. Proposed measures to ensure the proposal is compatible with existing and project land uses and plans, if any:

Not applicable.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

Not applicable.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Not applicable.

c. Proposed measures to reduce or control housing impacts, if any:

Not applicable.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The new Port Angeles Transfer Station will be built to support the disposal system after closure of the landfill. The transfer station building is 38 feet high which does not exceed height of adjacent structures. The building is steel framed with metal siding and roof.

b. What views in the immediate vicinity would be altered or obstructed?

Not applicable.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Not applicable.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Not applicable.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Not applicable.

c. What existing off-site sources of light or glare may affect your proposal?

Not applicable.

d. Proposed measures to reduce or control light and glare impacts, if any:

Not applicable.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Not applicable.

b. Would the proposed project displace any existing recreational uses? If so, describe.

Not applicable.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Not applicable.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, describe.

No, none anticipated.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

Not applicable.

c. Proposed measures to reduce or control impacts, if any:

Not applicable.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Not applicable.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

Not applicable.

c. **How many parking spaces would the completed project have? How many would the project eliminate?**

Not applicable.

d. **Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).**

Unknown.

e. **Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

Unknown.

f. **How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.**

Unknown.

g. **Proposed measures to reduce or control transportation impacts, if any:**

Not applicable.

15. Public Services

a. **Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.**

None anticipated.

b. **Proposed measures to reduce or control direct impacts on public services, if any.**

Not applicable.

16. Utilities

a. **Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.**

Not applicable.

b. **Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

Not applicable.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature _____ Date Submitted _____

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (Do Not Use this Sheet for Project Actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. **How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?**

   By providing for secure disposal of solid wastes and increased recycling activities, the CSWMP is expected to decrease impacts and discharges to water and air, and to provide for more secure handling of toxic or hazardous substances that may be part of the solid waste stream. No substantial increases or decreases in noise levels are expected as a result of the CSWMP's recommendations.

   Proposed measure to avoid or reduce such increases are:

   Not applicable.

2. **How would the proposal be likely to affect plants, animals, fish, or marine life?**

   No significant impacts to plant, animal, fish, or marine life are expected.

   Proposed measures to protect or conserve plants, animals, fish, or marine life are:

   Not applicable.

3. **How would the proposal be likely to deplete energy or natural resources?**

   A small amount of energy and materials will be needed to implement the recommendations in the CSWMP, but this is expected to be more than offset by the energy and resources conserved as the result of increased waste prevention, recycling and composting recommended by the plan.

   Proposed measures to protect or conserve energy and natural resources are:

   Not applicable.

4. **How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?**

   No substantial impacts, either positive or negative, are expected to result from the recommendations in the CSWMP.

Proposed measures to protect such resources or to avoid or reduce impacts are:

Not applicable.

5. **How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?**

   No substantial impacts, either positive or negative, are expected to land or shoreline use as a result of the activities proposed in the CSWMP

   Proposed measures to avoid or reduce shorelines and land use impacts are:

   Not applicable.

6. **How would the proposal be likely to increase demands on transportation or public services and utilities?**

   The waste export system will require long-distance shipment of solid waste to a large regional landfill in Oregon. This is not expected to cause a significant increase in demand on the existing transportation systems, as the waste export system will employ a dedicated trucking system. The trucks will increase road usage by a small amount, requiring an estimated four trucks per day with 25-ton payloads, with a possible route traveling east from Port Angeles (the location and route is unknown at this time).

   Proposed measures to reduce or respond to such demand(s) are:

   Not applicable.

7. **Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.**

   The CSWMP is in response to a state requirement for the proper management of solid waste, and it complies with all applicable local, state and federal laws and requirements regarding protection of the environment.

10. COST ASSESSMENT QUESTIONNAIRE

Please provide the information requested below:

PLAN PREPARED FOR THE COUNTY OF: Clallam

PLAN PREPARED FOR THE CITY OF: N/A

PREPARED BY: Susan Lampe, Parametrix, Inc.,
411 108th Avenue NE, Suite 1800,
Bellevue, WA 98004-5571, slampe@parametrix.com

CONTACT TELEPHONE: (425) 458-6200 DATE: June 30, 2006

DEFINITIONS

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

Throughout this document:

YR.1 shall refer to **2007**

YR.3 shall refer to **2009**

YR.6 shall refer to **2012**

Year refers to (circle one) **calendar** (Jan 01 - Dec 31)
fiscal (Jul 01 - Jun 30)

1. DEMOGRAPHICS

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

1.1 POPULATION

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

YR.1 **66,991** YR.3 **67,563** YR.6 **68,136**

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

No city in the county is completing its own plan.

1.2 REFERENCES AND ASSUMPTIONS

See Tables 2-1 and 2-2 of the 2006 Clallam County CSWMP. *Population estimates based on the State of Washington Office of Financial Management Clallam County Intermediate Population Forecast for 2005 and 2010. The population increase in Clallam County is estimated to be 1.4% between 2005 and 2010. This translates to a 0.287% annual increase.*

This annual increase was used to estimate the population of the County for each of the above years.

2. WASTE STREAM GENERATION

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

2.1 TONNAGE RECYCLED

2.1.1 Please provide the total tonnage recycled in the base year, and projections for years three and six.

YR.1 **16,550** YR.3 **18,783** YR.6 **22,133**

2.2 TONNAGE DISPOSED

2.2.1 Please provide the total tonnage disposed in the base year, and projections for years three and six.

YR.1 **56,616** YR.3 **56,433** YR.6 **56,159**

2.3 REFERENCES AND ASSUMPTIONS

According to Table 3.2 in the 2006 Clallam County CSWMP, the total waste disposed in 2005 was 56,798 tons (recycled 14,317 tons). Using Scenario 2 in Table 3.2, a straight line projection of waste volumes was calculated for the above numbers.

3. SYSTEM COMPONENT COSTS

This section asks questions specifically related to the types of programs currently in use and those recommended to be started. For each component (i.e., waste reduction, landfill, composting, etc.) please describe the anticipated costs of the program(s), the assumptions used in estimating the costs and the funding mechanisms to be used to pay for it. The heart of deriving a rate impact is to know what programs will be passed through to the collection rates, as opposed to being paid for through grants, bonds, taxes and the like.

3.1 WASTE REDUCTION PROGRAMS

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

See the Clallam County CSWMP, Section 6.2 for implemented programs and Table E.1 "Summary of Recommendations" in the Executive Summary for proposed programs.

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

IMPLEMENTED

YR.1	YR.3	YR.6
$48,000	**$51,900**	**$58,400**

The costs shown above are staff salaries, which are increased by approximately 4% annually.

PROPOSED

YR.1	YR.3	YR.6
$60,000	**$63,900**	**$70,400**

Although the emphasis on waste reduction is increasing, many of the additional costs will be covered by the Waste Reduction Committee, comprised of volunteers. The exception is the food waste reduction pilot program for which a $12,000 grant is currently pending. In projecting through Year 6, it is assumed that similar types of project-specific grants will be pursued and awarded each year.

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

IMPLEMENTED

YR.1	YR.3	YR.6
Tipping fees, permit fees, and grants	**Same**	**Same**

PROPOSED

YR.1	YR.3	YR.6
The additional $12,000 will be from a pending grant for a food waste reduction program.	**Assumes that each year a project-specific grant for approximately $12,000 will be pursued and awarded.**	**Same**

3.2 RECYCLING PROGRAMS

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

IMPLEMENTED

PROGRAM	ANNUAL COST	FUNDING
Port Angeles Residential Curbside Recycling	$285,000	Collection fees
Port Angeles Commercial Collection	$45,000	Collection fees
Port Angeles Yard Waste Collection	$225,000	Collection fees
Public Education & Information	$35,000	Tipping fees and grants
Sequim Curbside Recycling	$75,000	Collection fees

PROPOSED

See Table E.1 "Summary of Recommendations" in the Executive Summary of the Clallam County CSWMP. Most recommendations will be accommodated within existing staff salaries. A $20,000 grant is pending for an electronics collection event.

3.3 SOLID WASTE COLLECTION PROGRAMS

3.3.1 Regulated Solid Waste Collection Programs

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

Murrey's Olympic Disposal (Waste Connections) (G-Permit #9)

	YR. 1 (2007)	YR. 3 (2009)	YR. 6 (2012)
RESIDENTIAL			
# of Customers	Not Available	Not Available	Not Available
Tonnage Collected	7,331.27	7,551.20	7,777.73
COMMERCIAL			
# of Customers	Not Available	Not Available	Not Available
Tonnage Collected	8,066.26	8,308.24	8,557.48

West Waste & Recycling (G-Permit #251)

	YR. 1 (2007)	YR. 3 (2009)	YR. 6 (2012)
TOTAL RESIDENTIAL & COMMERCIAL			
# of Customers	898	898	898
Tonnage Collected	2,694	2,694	2,694

Gary's Disposal. (G-Permit #226)*

	YR. 1 (2007)	YR. 3 (2009)	YR. 6 (2012)
TOTAL RESIDENTIAL& COMMERICAL			
# of Customers	Not Available	Not Available	Not Available
Tonnage Collected	1,100	1,100	1,100

*Gary's Disposal collects waste only from customers on tribal lands (Makah Tribe). All waste is disposed at the Neah Bay Landfill.

3.3.2 (Non-Regulated) Solid Waste Collection Programs

City of Port Angeles

	YR. 1 (2007)	YR. 3 (2009)	YR. 6 (2012)
TOTAL RESIDENTIAL & COMMERICAL			
# of Customers	7,520	7,599	7,720
Tonnage Collected	11,218	11,338	11,503

City of Sequim (Contracted to Waste Management)

	YR. 1 (2007)	YR. 3 (2009)	YR. 6 (2012)
RESIDENTIAL			
# of Customers	1,733	1,733	1,910
Tonnage Collected	1,363	1,499	1,979
COMMERCIAL			
# of Customers	200	210	232
Tonnage Collected	4,525	4,978	6,570

City of Forks (Contracted to West Waste & Recycling)

	YR. 1 (2007)	YR. 3 (2009)	YR. 6 (2012)
RESIDENTIAL			
# of Customers	650	650	650
Tonnage Collected	2,499	2,499	2,499
COMMERCIAL			
# of Customers	183	183	183
Tonnage Collected	549	549	549

3.4 ENERGY RECOVERY & INCINERATION (ER&I) PROGRAMS

(If you have more than one facility of this type, please copy this section to report them.)

There are no incinerators in the County permitted to receive offsite solid waste.

3.5 LAND DISPOSAL PROGRAM

(If you have more than one facility of this type, please copy this section to report them.)

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

Landfill Name: **Port Angeles Landfill**

Owner: **City of Port Angeles**

Operator: **City of Port Angeles**

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

YR.1 **0** YR.3 **0** YR.6 **0**

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

YR.1 **0** YR.3 **0** YR.6 **0**

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

YR.1 **0** YR.3 **0** YR.6 **0**

The Port Angeles Landfill will not be accepting waste after December 2006. All waste previously accepted at the landfill will be exported out of the County. No operating costs will be associated with the landfill after December 2006.

3.5.5(a) Please describe the funding mechanism(s) that will defray the cost of this component.

None. There will be no operating costs associated with the landfill.

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

Landfill Name: **Neah Bay Landfill**

Owner: **Makah Tribal Council**

Operator: **Makah Tribal Council**

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

YR.1 **1,100** YR.3 **1,100** YR.6 **0**

It is anticipated that the Neah Bay Landfill will close sometime before year 6. A transfer station may be constructed at the site of the current landfill, and all waste would be exported out-of-County.

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

YR.1 **0** YR.3 **0** YR.6 **0**

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

Not available; landfill is privately owned.

3.5.5(b) Please describe the funding mechanism(s) that will defray the cost of this component. Please describe the funding mechanism(s) that will defray the cost of this component.

Not applicable; landfill is privately owned.

3.6 ADMINISTRATION PROGRAM

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

Budgeted Cost

YR.1 **$79,800** YR.3 **$86,300** YR.6 **$97,100**

The costs shown above are staff salaries, which are increased by approximately 4% annually.

Funding Source

YR.1 **Tipping fees and permit fees** YR.3 **Same** YR.6 **Same**

3.6.2 Which cost components are included in these estimates?

Salaries

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

Tipping fees and permitting fees

3.7 OTHER PROGRAMS

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

3.7.1(a) Describe the program, or provide a page number reference to the plan.

Blue Mountain Drop Box and Recycling Facility

3.7.2(a) Owner/Operator:

Owner: Clallam County Public Works; Operator: Waste Connections

3.7.3(a) Is WUTC Regulation Involved? If so, please explain the extent of involvement in Section 3.8.

No.

3.7.4(a) Please estimate the anticipated costs for this program, including capital and operating expenses.

YR.1	**$208,000 (capital, plus operating including export/ disposal)**	YR.3	**$221,000 (3% per year increase by the Consumer Price Index).**	YR.6	**$241,000 (same percent annual increase)**

Please note that these costs include the drop off recycling operation.

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

Tipping fees.

3.7.1(b) Describe the program, or provide a page number reference to the plan.

Port Angeles Transfer Station

3.7.2(b) Owner/Operator:

Owner: City of Port Angeles; Operator: Waste Connections

3.7.3(b) Is WUTC Regulation Involved? If so, please explain the extent of involvement in Section 3.8.

No

3.7.4(b) Please estimate the anticipated costs for this program, including capital and operating expenses.

YR.1	**$3,760,000 (capital, plus operating including export/ disposal)**	YR.3	**$3,990,000 (3% per year increase by the Consumer Price Index)**	YR.6	**$4,360,000 (same percent annual increase)**

Please note that these costs include the drop off recycling operation.

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

Tipping fees

3.8 REFERENCES AND ASSUMPTIONS

(ATTACH ADDITIONAL SHEETS AS NECESSARY)

See the back of this chapter for documentation on sources of costs and other information.

4. FUNDING MECHANISMS

4.1 FUNDING MECHANISMS

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

Table 4-1 Facility Inventory

Facility	Type of Facility	Tip Fee per Ton	Transfer Cost	Transfer Station Location	Final Disposal Location	Total Tons Disposed (estimated for 2007)	Total Revenue Generated (Tip Fee x Tons)
Port Angeles Transfer Station	Transfer	$80.00 (collection entities) $97.00 (self-haulers)	$46.96 per ton	Port Angeles, WA	Finley Butte	50,000	$4,425,000 million
Blue Mountain Facility	Drop Box	$184	$80 per ton	Port Angeles, WA	Finley Butte	1,200	$220,800

Beginning in 2007, waste will no longer be disposed at the Port Angeles Landfill. All waste will be exported. Thus, only the new transfer station and existing drop box and recycling facility are listed above. These facilities are funded entirely through tipping fees, so they are not included in Table 4-3 below. Private landfills and transfer stations were not included in the inventory.

Table 4-2. Tip Fee Components

Facility	Surcharge	State & City Tax	Transportation and Disposal Cost	Operational Cost	Administration Cost	Closure Costs
Port Angeles Transfer Station	0	13.1%	44%	36.5%	6.4%	0
Blue Mountain Facility	0	13.1%	44%	36.5%	6.4%	0

Table 4-3. Funding Mechanism

Name of Program Funding Mechanism will defray costs	Approximate Cost (2007)	Estimated Funding Mechanisms					
		Grant Name	Grant Amount	Tip Fee	Taxes	Collection fees	Surcharge
Waste Prevention	$60,000	Ecology G0600218	$16,968[a]	$31,032	-	-	-
	-	Ecology (pending)	$12,000[b]	-	-	-	-
Recycling	$665,000	Ecology G0600218	$7,953[c]	$27,047	-	$630,000	-
Composting[e]	$277,000	-	-	$277,000	-	-	-
MRW	$98,000	Ecology G0600218	$73,500[d]	25%	-	-	-

[a] This portion of the grant covers public education and information, backyard composting, commercial composting, and waste audits.

[b] The pending Ecology grant will cover a pilot food waste reduction program.

[c] This portion of the grant covers public education and information.

[d] This portion of the grant covers operations and disposal from residential customers.

[e] This is the operating cost of the co-compost facility; the curbside collection of yard waste is included in the recycling program fees.

Table 4-4. Tip Fee Forecast

Tip Fee per Ton by Facility	Year One (2007)	Year Two (2008)	Year Three (2009)	Year Four (2010)	Year Five (2011)	Year Six (2012)
Port Angeles Transfer Station*	$80/$97	$86/$104 (+7.5%)	$92/$111 (+6.5%)	$97/$117 (+5.7%)	TBD	TBD
Blue Mountain Drop Box	$184	$198 (+7.5%)	$211 (+6.5%)	$223 (+5.7%)	TBD	TBD

* $80/ton will be charged to collection entitles; $97/ton will be charged to self haulers.

The rates through 2008, 2009, and 2010 are based on estimates, actual increases may vary.

4.2 FUNDING MECHANISM SUMMARY BY PERCENTAGE

In the following tables, please summarize the way programs will be funded in the key years. For each component, provide the expected percentage of the total cost met by each funding mechanism. (Waste reduction may rely on tip fees, grants, and collection rates for funding. You would provide the estimated responsibility in the table as follows: Tip Fees = 10%, Grants = 50%, and Collection Rates = 40%. The mechanisms must total to 100%.) If components can be classified as "other", please note the programs and their appropriate mechanisms. Provide attachments as necessary.

4.2.1 Year One

Funding Mechanism by Percentage

COMPONENT	Tip Fee %	Grant %	Bond %	Tax %	Collection Rates %	Other %	Totals
Waste Reduction	50%	50%					100%
Recycling		5%			95%		100%
Collection					100%		100%
ER&I (N/A)	---	---	---	---	---	---	100%
Transfer	100%						100%
Land Disposal (N/A)	---	---	---	---	---	---	100%
Administration	80%					20%	100%

4.2.2 Year Three

No changes to the funding mechanism percentages are proposed.

4.2.3 Year Six

No changes to the funding mechanism percentages are proposed.

4.3 REFERENCES AND ASSUMPTIONS

Please provide any support for the information you have provided. An annual budget or similar document would be helpful.

Only publicly owned or operated facilities were listed above. Private facilities were not included.

4.4 SURPLUS FUNDS

Please provide information about any surplus or saved funds that may support your operations.

11. REFERENCES

Beck 1988. R.W. Beck & Associates. Waste-to-Energy Feasibility Study for City of Port Angeles, December 1998.

Biocycle. 1998. Biocycle magazine, The State of Garbage in America, April 1998.

City of Port Angeles. 2004. Permit Renewal Application Port Angeles Landfill, City of Port Angeles, Appendix C. Prepared by Parametrix, Kirkland, Washington. Port Angeles, Washington.

City of Port Angeles, Public Works and Utilities Department. 2004. 2004–2010 Solid Waste Load Forecast, Working Draft. Port Angeles, Washington.

Ecology (Washington State Department of Ecology). 1999. Guidelines for the Development of Local Solid Waste Management Plans and Plan Revisions. Washington State Department of Ecology, December 1999. Publication no. 99-502.

Ecology (Washington State Department of Ecology). 2003. Solid Waste in Washington State Thirteenth Annual Status Report. Publication no.04-07-018. Available from: <http://www.ecy.wa.gov/biblio/0407018.html>.

Ecology (Washington State Department of Ecology). 2004. 2004 Washington State Recycling Survey. Washington State Department of Ecology.

Ecology (Washington State Department of Ecology). 2004. State of Washington Hazardous Waste Management Plan/Solid Waste Management Plan (update).

Ecology (Washington State Department of Ecology). 2006a. 2005 Washington State Recycling Survey.

Ecology (Washington State Department of Ecology). 2006b. Website http://www.ecy.wa.gov/programs/swfa/solidwastedata/recycle/CountyTotals04.xls. Accessed June 2006.

Ecology (Washington State Department of Ecology) & WSU (Washington State University) 2005. Biomass Inventory and Bioenergy Assessment: An Evaluation of Organic Material Resources in Washington State. December 2005. Pub. 05-07-047.

Green Solutions 2003. Clallam County Waste Composition Study. South Prairie, Washington.

OFM (Office of Financial Management) 2005. Office of Financial Management, Forecasting Division, June 28, 2005.

OFM (Office of Financial Management) 2002. Historical and Projected Population for Growth Management and Other Purposes. State of Washington, Office of Financial Management, February 2002 (intermediate series).

ORCAA (Olympic Region Clean Air Agency). 2006. website: http://www.orcaa.Org/aop.html. Accessed June 2006.

Parametrix 1993. Solid Waste Disposal Feasibility Study conducted for the City of Port Angeles.

Parametrix 2004. Clallam County Construction, Demolition, and Land-Clearing Debris Waste Assessment.

PSR 1983. Pual S. Running & Associates. Makah Comprehensive Solid Waste Management Plan. June 30, 1983.

RTI (Rural Technology Iniative). 2005 Working Paper 3. Option for Cedar Mill Waste Utilization and Disposal in Western Clallam and Jefferson Counties. June 2005.

Rural Technologies Initiative (RTI) 2005. Options for Cedar Mill Waste Utilization and Disposal in Western Clallam and Jefferson Counties. June 2005.

SCS 1988. SCS Engineers. City of Forks Waste-to-Energy Feasibility Study. November 1988.

SCS Engineers. 2006a. Co-Composting Facility Operations Plan. May 2006.

SCS Engineers. 2006b. Draft Port Angeles Transfer Station/MRW Operation Plan.

Siemens. 2006. Feasibility Study – Biomass Energy Solution. May 2006.

Tetra Tech 1988. Tetra Tech, Inc. Clallam County Watershed Ranking Project for the Management of Nonpoint Source Pollution. December 1988.

USDA. 2002.

USDC. 1991. Native American heritage from 1990 census data.

USDC. 2001. Residents of Native American heritage from 2000 census data. Washington State University and Washington State Department of Ecology. 2005. Biomass Inventory and Bioenergy Assessment: An Evaluation of Organic Material Resources in Washington State. December 2005. Pub. 05-07-047.

APPENDIX A

Recommendations

APPENDIX A
Recommendations

COLLECTION

No additional recommendations are made for changing the collection system in Clallam County.

TRANSFER

The following recommendations are made for changes in the transfer system in Clallam County:

- The Clallam County SWAC, JSWAB, and other governmental agencies should continue to work together to develop plans and programs, while also continuing to explore viable alternatives, for waste export and transfer and related options. For example:
  - Should access or capacity become an issue at the Blue Mountain Drop Box and Recycling Center, consider extending the hours of operation and/or adding additional drop boxes.
  - Should unlawful disposal or access to the transfer/drop box facilities from remote areas of eastern Clallam County become an issue, consider siting an additional drop box facility to serve this area. (T1)
- Study the possibility of placing additional containers at all transfer and drop box sites to collect source-separated yard wastes (see discussion in Section 6.4.4) and to collect additional recyclable materials (see discussion in Section 6.3.4). One of the better methods for determining the need for additional containers is careful observations on the types and amounts of materials currently being disposed at the transfer and drop box facilities. (T2)
- Through the JSWAB, develop a plan for periodically monitoring municipal solid waste received at transfer and drop box facilities, with an emphasis on noting significant quantities of potentially-recyclable materials (yard waste, scrap metals, textiles, etc.). This could involve asking transfer and drop box facility operators to keep notes of the materials that are disposed for a one-week period. These results should be reported to the County and the City of Port Angeles for consideration in implementing new recycling activities at these facilities (i.e., additional containers) and/or conducting additional promotional efforts to encourage waste prevention and recycling. (T3)
- Consider user fees at the transfer and drop box facilities for recyclable materials if the average market price for recyclables drops so low that collection of recyclables becomes a significant net loss for the transfer stations. Do not implement user fees without the concurrence of the Clallam County SWAC, JSWAB, Port Angeles City Council and County Commissioners. Furthermore, announce any user fees at least 90 days in advance, and prepare and distribute a flyer or brochure explaining the new system beginning at least one month in advance. (T4)

INCINERATION

The following recommendations are made for incineration facilities:

- Evaluate new proposed incineration projects for select waste streams and/or locations based on an objective review of the potential impacts to human health and environmental quality, as well as a comparison to alternative disposal methods. (I1)
- Consider energy recovery from landfill gas in the future if and when this becomes economically feasible. (I2)

IN-COUNTY LANDFILLING

The following recommendations are made for the disposal system in Clallam County:

- Encourage and support the closure of the Neah Bay Landfill. If the Neah Bay Transfer Station does not proceed, consider directing the waste generated on the Makah Reservation to one of the other two transfer stations in Clallam County. (LF1)
- Proposals and options to develop special-purpose landfills, such as wood waste or construction and demolition waste landfills, should be considered as they are proposed. (LF2)

WASTE IMPORT

No recommendations are being made for waste import.

WASTE EXPORT

The following recommendations are made for waste export:

- As planned, export solid waste from the new Port Angeles Landfill Transfer Station to the Waste Connections Finley Butte Landfill in Boardman, Oregon following closure of the Port Angeles Landfill at the end of 2006. (WE1)
- Encourage West Waste to continue their waste export activities and to possibly expand these activities as needed to serve additional west end customers who are currently self hauling waste to the Port Angeles Landfill. (WE2)
- Require any contracts with private businesses for waste export services to identify alternative disposal plans, including alternative routes and modes of transportation, should natural disaster or other conditions require re-routing. Any regional solid waste landfill used for Clallam County waste must meet or exceed all MFS requirements. (WE3)

ALTERNATIVE DISPOSAL METHODS

The following recommendations are made for alternative technologies:

- Pursue the development of a biomass-to-energy facility in Clallam County. (ADM1)
- Consider proposals for alternative disposal methods, such as biogas to energy, on a case by case basis. (ADM2)

WASTE PREVENTION

The following recommendations are made for waste prevention activities in Clallam County:

- Continue public information and education with themes of reducing the weight and volume of waste collected; increasing material and product life through repair and reuse; reducing or eliminating packaging; and decreasing product consumption.

  Share the responsibility for this with cities, Tribal Councils, and schools, with private sector involvement as appropriate. A shared approach will improve results through increased exposure to information on waste prevention, and because individuals may be more receptive to information from one source over another. In all cases, public information materials should be distributed with other mailings, such as utility bills and property tax statements, as much as possible to reduce mailing costs. (WP1)

- Establish a Waste Reduction Committee dedicated to waste reduction in Clallam County. This committee will provide general waste reduction policy research, advice to government entities, educational outreach, and volunteer support for waste reduction opportunities. The committee will be comprised of citizens, and the City of Port Angeles Waste Reduction Specialist will serve the committee in the capacity of recording secretary and general committee staff. This committee will augment and support the SWAC. Among other things, this group could monitor programs and initiatives developed by the state as a result of the Beyond Waste Project for applicability in Clallam County. (WP2)

- Use existing County and city websites to promote business waste reduction. Sources of information could be state web sites, the EPA publication Business Guide for Reducing Solid Waste, and other solid waste disposal entities (such as the City of Portland METRO, King County Solid Waste, etc.). At a minimum, provide a link from the County and City of Port Angeles web sites to existing waste reduction program web pages. (WP3)

- Conduct waste audits, targeting small to medium-sized businesses first, on the assumption that the larger businesses have the staff and other resources to best meet their needs. Assistance in conducting the waste audits could be provided by volunteers (e.g., the citizen advisory/action group). Consider the idea of waste exchanges and similar activities directed specifically at businesses for future implementation. (WP4)

- Depending on the results of business waste audits, consider developing a pilot program for reducing commercial food waste. (WP5)

- Provide an example for the above businesses by adopting WasteWi$e or developing waste reduction programs within the County and its municipalities. (WP6)

- Recognize businesses that do a good job of implementing waste reduction programs and practices. (WP7)

- Support reuse events organized and implemented by others. (WP8)

- Better publicize the availability of less-frequent collections in the rural areas, and consider a similar approach throughout Clallam County. (WP9)

- Evaluate the waste prevention program based on whether or not the activities recommended above have been conducted. Back up this performance-based

evaluation by conducting surveys every few years to test changes in public attitudes and practices. These surveys could also be used to test the effectiveness of various public education methods, by asking respondents where or how they had received information on waste prevention techniques. (WP10)

- Supplement the performance-based evaluation with an assessment of trends in per capital disposal rates. (WP11)

RECYCLING

The following recommendations are made for recycling programs in Clallam County:

- The SWAC recommends a goal of 30 percent diversion (waste prevention, recycling and composting) for the next 5 years, with an eventual goal of 40 percent waste diversion for the County in the long term. A relatively greater amount of this waste diversion is expected to occur in the more urban areas of the County, where opportunities for recycling are generally more accessible. The current recycling rate is about 20 percent, which is greater than the interim goal set for 2005 in the previous CSWMP. (R1)

- Continue to recycle the following designated recyclables: newspaper, cardboard, high grade paper, mixed waste paper, glass, aluminum and tin cans, all other metals, plastic bottles (PET and HDPE), concrete, asphalt, clean wood waste, and special wastes such as motor oil, car batteries and antifreeze. (The diversion of yard debris is discussed in the next section on composting.)

  Not all of these materials can be collected by all of the programs in the county. Furthermore, this list of materials may need to be changed in the future due to new markets, market problems, or other conditions that may affect one or more materials. If it becomes necessary to change this list of designated recyclables, the County will recommend and the cities, JSWAB, and SWAC will concur with the changes. At a minimum the list of designated recyclables will be evaluated bi-annually to ensure that the proper materials are being targeted by the program. (R2)

- Concentrate additional and expanded recycling efforts on three areas: amounts and grades of currently-recycled materials, materials from the commercial/industrial waste stream, and construction and demolition materials. Identify specific opportunities to increase recycling through the following actions:

  - Audit business waste, as described in the Section 6.2 above—an important first step to increasing the recycling of materials from the commercial/industrial waste stream.

  - Use the notes and observations of the transfer station operators, as described in Chapter 4 Collection and Transfer, to identify the need for additional recycling containers at the transfer stations, to recycle additional grades of currently-recycled materials, and/or to conduct additional promotional efforts to encourage recycling. (R3)

- Continue public education efforts. The alternatives for public education that were identified in the previous plan have been implemented and appear to be promoting recycling programs satisfactorily. In addition, combine public education efforts for any new programs with the existing efforts, or model new efforts after the existing efforts. Share the responsibility for this with the cities, Tribal Councils, and schools, with private sector involvement as appropriate. (R4)

- Consider the possibility of establishing additional curbside collections in the rural areas, and support opportunities to establish drop-off or curbside collections on Tribal Reservations. (R5)
- Maintain existing drop-off sites and consider additional sites in the county. Also consider additional sites for temporary operation during the tourist season, if these can be operated cost-effectively by private recycling firms. This could be achieved though a collaborative effort between the recycling firms and tourist facilities (such as visitor centers, restaurants, parks, hotels, and other facilities). Staff or others would closely monitor these additional sites. (R6)
- Continue and expand school recycle programs to increase recycling tonnages and to reinforce other education efforts. A number of schools have established recycling programs with the help of private recycling companies and cities, and an elementary level educational program has been developed and presented. The school districts would take the lead on expanding recycling programs in the public schools, as well as ensuring that solid waste and recycling educational information is presented at all grade levels. The Waste Reduction Committee will arrange meetings for interested persons from the different schools to share information, as needed. (R7)
- Promote recycling at special events such as sport activities and public festivals. Cooperate with private haulers, festival organizers, and volunteers to provide recycling bins and collection. (R8)
- Monitor and consider any proposals for the processing of recyclables within the County that may reduce the cost of exporting materials while creating jobs within the county. (R9)
- Lead by example. Consider expanded recycling programs, purchase recycled materials, and adopt policies that require this for all of departments in and vendors for the County and its municipalities. (R10)
- In addition and together with private collectors, closely examine the potential for local markets for glass and other materials. (R11)
- All companies and agencies engaged in collecting or processing recyclables in Clallam County must report their data on an annual basis to Ecology. Proper documentation of existing recycling activities will be critical for monitoring future progress and related efforts. If necessary, the County will assist Ecology staff in collecting this information by encouraging companies to file reports on their activities. (R12)

COMPOSTING

Most of the yard debris will need to be removed from the waste stream through backyard composting and centralized facilities to meet Clallam County's overall goal for waste diversion. Yard debris represents a relatively easy material to handle through alternative methods, is present in substantial quantities (and so presents a significant opportunity to reduce the waste stream), and is a resource that should not be taking up valuable landfill space. Other compostable organics also represent a significant portion of the County's waste stream.

To achieve the County's diversion goals, the following programs should be continued or implemented:

- In Port Angeles, continue curbside collection, processing, and co-composting yard waste at the Port Angeles Co-composting Facility. Increase the amount of materials processed to the extent of the facility's capacity. Investigate methods for increasing capacity through accelerated composting techniques. (C1)
- Closely monitor the amount of yard debris coming in to the co-composting facility to determine if new fees are affecting diversion. To determine whether or not increasing quantities of yard waste are being disposed of, use data collected by both the garbage haulers (i.e., number of containers tagged for containing yard debris) and the transfer station operators, as described in Chapter 4.
  - If yard debris is being diverted through other (i.e., private) operations, consider accepting additional waste streams (e.g., ash, wood) as a co-compost feedstock or yard debris from other areas of the county.
  - If yard debris is being disposed of unlawfully, revisit rate structure. (C2)
- Continue collecting and chipping brush collected at the Sequim drop box. Increase the amount of brush and woody materials processed to the extent the end-uses for chips can accommodate. If capacity becomes an issue for this operation, consider expanding the operation at its current site or a new site or replacing with a composting operation that can also handle other waste streams. (C3)
- Continue to develop end uses such as mulch, hog fuel, and compost, and other uses that may also be identified. Lead by example. The County (and its municipalities) should maximize use of these products in its own projects. (C4)
- In addition to Port Angeles and Sequim, separate collection of yard debris could be considered by Olympic Disposal and West Waste in their respective solid waste collection service areas if quantities set out for collection increase significantly. (C5)
- Encourage neighborhood chipping services. (C6)
- Continue public education to encourage residents to handle their yard debris separately through backyard composting and use of mulching mowers. Work with Washington State University Extension to establish a Master Composter Program in Clallam County to present educational programs. Expand educational efforts beyond the City of Port Angeles to other areas of the county. Emphasize the composting of food waste and as well as yard debris. (C7)

SPECIAL WASTES

Agricultural Wastes

The following recommendation is made for the management of agricultural wastes in Clallam County:

- The Clallam Conservation District and NRCS should continue to work with producers around the County to implement BMPs to minimize the potential contamination of surface waters with agricultural waste. (AG1)

Animal Carcasses

During the next planning period, identify ideas and alternatives for disposing of animal carcasses. (AN1)

Ash

The following recommendations are made for changes in the management of ash in Clallam County:

- Encourage the ash-producing companies to explore recycling or other disposal alternatives first. For example, encourage them to investigate land application or industrial use applications. (ASH1)
- The first priority for the Port Angeles Co-Composting Facility is the diversion of yard debris. However, if additional, private-sector alternatives develop to compete with the City's operation, consider accepting additional materials such as clean ash at the facility. (ASH2)

Auto Hulks

During the next planning period, identify ideas and alternatives for managing the disposal or accumulation auto hulks. One option may be to strengthen the County ordinance with respect to auto hulks. (AUTO1)

Construction, Demolition and Land-Clearing (CDL) Wastes

The following recommendations are made for changes in the management of CDL in Clallam County:

- Promote existing opportunities for recycling of CDL wastes as part of the public education efforts conducted for waste reduction and recycling. In particular, the County should help promote the Built Green concept. (CDL1)
- Enhance the recycling of CDL wastes by establishing expanded markets for the materials. These markets include using processed concrete and asphalt concrete for county and municipal public works projects, especially roads and utilities, and processing clean wood material as hog fuel for area hog-fuel boilers. (CDL2)
- Consider the development of a limited purpose disposal site for non-recyclable CDL wastes if existing methods for disposing or diverting the waste are inadequate, especially for big projects such as the Elwha Dam demolition. If a separate site is developed and if sufficient quantities of recoverable materials are observed being disposed at this site, additional recycling operations should be considered for those materials. (CDL3)

Contaminated Soils

Explore new technologies for managing contaminated soil. (CS1)

Electronic Wastes

Clallam County should continue to work with and educate the public on how to handle electronic waste. Until implementation of manufacturer programs in 2009, the County should provide information to the public about electronic recycling and provide some periodic collection events. (EW1)

Moderate Risk Wastes

The following recommendations are made for changes in the management of MRW in Clallam County:

- Resume countywide educational efforts for proper disposal or reuse of MRW. Provide information on the new MRWF at the Port Angeles Transfer Station. (MRW1)
- Consider continuing collection events in the outlying portions of the County because Port Angeles may not be convenient for all County residents. (MRW2)

Wood Wastes

The following recommendations are made for changes in the management of wood waste in Clallam County:

- Explore the possibility of recovering additional amounts of wood waste through use as composting or hog fuel.
- If necessary, increase the market for landscaping mulch produced from log yard waste through public procurement programs. As appropriate, encourage private sector companies to follow the public sector's lead in procurement of landscaping mulch produced from log yard waste.
- Consider proposals for alternative methods for managing wood waste, such as biogas to energy, on a case by case basis.

APPENDIX B

Adoption of CSWMP

APPENDIX C

Rates and Regulations

ORDINANCE NO. 3243

AN ORDINANCE of the City of Port Angeles, Washington, amending the City's solid waste utility, garbage collection, and sanitary landfill regulations and rates, Chapters 13.52, 13.54, and 13.56 of the Port Angeles Municipal Code, adopting a new chapter, 13.57 - Solid Waste Processing Facility, and amending utility fees, Chapter 3.70 of the Port Angeles Municipal Code.

WHEREAS, the City of Port Angeles desires to promote recycling within the City and decrease the volume of waste;

THE CITY COUNCIL OF THE CITY OF PORT ANGELES DOES HEREBY ORDAIN as follows:

Section 1. Chapter 13.52 of the Port Angeles Municipal Code is hereby amended to read as follows:

SOLID WASTE UTILITY

Sections:

13.52.010 Creation. For the purpose of carrying into effect the Solid Waste regulations of this Title, there is created and established a Solid Waste Utility within the Department of Public Works and Utilities.

13.52.020 Director of Public Works and Utilities - Responsibilities. The Director of Public Works and Utilities, hereinafter also referred to as "Director," shall have authority and responsibility to direct and~~full charge and~~ control ~~of~~ all work provided for and contemplated by the Solid Waste regulations of this Title. The Director, with such assistance of personnel and equipment and contractual services as are furnished him by the City for the operation of the Solid Waste Utility, shall collect, remove and dispose of all garbage, rubbish, trash and offal within the City of Port Angeles as provided for in Chapter 13.54 PAMC.

~~13.52.030 Acquisition of Necessary Equipment. The City Council is authorized to, from time to time, acquire such equipment and authorize the employment of such personnel to assist the Director as in its judgment seems necessary or advisable. All expenditures therefor shall be from the Solid Waste Utility Fund created under PAMC 3.32.010.~~

Section 2. Chapter 13.54 of the Port Angeles Municipal Code, in its entirety, is amended to read as follows:

~~GARBAGE COLLECTION~~

~~Sections:~~

~~13.54.010 Compliance with Chapter Required.~~
~~13.54.020 Definitions.~~
~~13.54.030 Compulsory Service.~~
~~13.54.035 Cleanup Obligation.~~
~~13.54.040 Rates Schedule.~~
~~13.54.045 Lien for Unpaid Garbage Collection Services.~~
~~13.54.050 Containers Used by City Residents Only.~~
~~13.54.060 Container Requirements.~~
~~13.54.065 Recycling Requirements.~~
~~13.54.070 Unacceptable Wastes Designated.~~
~~13.54.080 Garbage - Draining, Wrapping and Sanitary Conditions Required.~~
~~13.54.090 Private Collectors - Equipment Regulations.~~
~~13.54.100 Assistance to Elderly and/or Handicapped.~~

~~13.54.010 Compliance with Chapter Required. It is unlawful for any person to burn, dump, collect, remove or in any other manner dispose of garbage, rubbish, trash, offal, and any other waste upon or over any of the streets, alleys, public places or private property within the City otherwise than as provided in this Chapter.~~

~~13.54.020 Definitions. For the purposes of this Chapter, the following words and phrases have the meanings respectively ascribed to them by this Section:~~
~~A. "Ashes" means solid waste products produced after the combustion of coal, wood, other fuels, and other combustible material.~~
~~B. "City business" means any business whose principal place of business is within the City limits of Port Angeles.~~
~~C. "City resident" means any person residing within the legal City limits of Port Angeles.~~
~~D. "Collector of refuse" means the Solid Waste Utility within the Department of Public Works and any person having a contract with or license from the City for the removal of refuse, or any State-licensed refuse collector operating outside the City.~~
~~E. "Commercial dwelling" means a building or group of buildings designed, intended for, or used for any purpose other than single or multiple dwellings, and shall include office buildings. Any building or group of buildings where combined residence and business is practiced, where such business is advertised by a sign of any type on the premises and/or is listed in the telephone directory as a business, shall be classified as commercial, unless specifically exempted by the City Manager or his designee, based on the services rendered.~~

F. "Container" means a receptacle which is of the type approved by the City and furnished by the City for use with its mechanical refuse collection system. The container shall not be less than 60 gallons nor more than 300 gallons in capacity. The two types of containers are roll-out containers and stationary containers. Roll-out containers are 60 or 90 gallons in capacity and have wheels for ease in moving the containers. Stationary containers are 300 gallons in capacity and are used in alleys and for commercial applications.

G. "Contractor" means any authorized person contracting with or having a license or permit to collect and dispose of refuse in the City, or his authorized agent.

H. "Dangerous waste" means any discarded, useless, unwanted, or abandoned nonradioactive substances, including but not limited to certain pesticides or any residues or containers of such substances which are disposed of in such quantity or concentration as to pose a substantial present or potential hazard to human health, wildlife, or the environment because such wastes or constituents or combinations of such wastes:

1. have short-lived, toxic properties that may cause death, injury or illness or have mutagenic, teratogenic or carcinogenic properties; or

2. are corrosive, explosive, flammable, or may generate pressure through decomposition or other means.

I. "Dead animals" means all animals, large or small, which may die or be killed for other than food purposes.

J. "Director" means the Director of Public Works for the City of Port Angeles, and his authorized supervisors.

K. "Garbage" means all putrescible animal or vegetable wastes resulting from handling, preparation, cooking and consumption of food in any private dwelling house, multiple dwelling, hotel, restaurant, building or institution.

L. "Health officer" means the City or County health officer as defined by the laws of the State.

M. "Landfill" means the Sanitary Landfill disposal area as administered and regulated by the City under Chapter 13.56 PAMC.

N. "Multiple dwelling" means a building or group of buildings designed as, or intended for, or used as two or more dwellings, such as apartments, rooming houses, multiple houses or courts and tenant houses; provided such building or group of buildings are under common ownership and have a common refuse disposal site; and provided further, that such group of buildings by nature of construction or reference infer multiplex dwelling, except tourist courts, motels, hotels and trailer courts, or any other establishment catering to transient residents; and provided that, for the purpose of this Chapter, three rooms shall be equal to one apartment and any number of rooms shall be billed to the nearest multiple of three.

O. "Offal" means waste animal matter from butcher, slaughterer or packing houses.

P. "Person" means every person, firm, partnership, association, institution and corporation. The terms also mean the occupant or owner of the premises for which service is rendered pursuant to this Chapter.

Q. "Recycling Container" means a receptacle which is of the type approved by the City and furnished by the recycling contractor for the collection of recyclable materials.

R. "Recyclable materials" includes all metals, all glass, some plastics (at a minimum, two-liter soda bottles and gallon milk jugs), and some paper (at a minimum newsprint, cardboard, ledger paper, and computer paper).

S. "Refuse" means garbage, rubbish, trash, and offal, as defined herein, placed and stored together in a standard refuse container.

T. "Rubbish" means all cardboard, plastic, metal, glass, food containers, wastepaper, rags, sweepings, small pieces of wood, excelsior, rubber, leather and similar waste materials that ordinarily accumulate around a home, business or industry including lawn cuttings. It does not include bulk waste, tree and hedge trimmings, dead animals, dangerous wastes, hazardous materials, industrial waste or building waste resulting from construction or alterations.

U. "Sanitation service charge" means a charge imposed by the City Council for the services performed by the Solid Waste Utility.

V. "Single dwelling" means a building designed as, or intended for, or used as, a residence for a single family or a group of persons other than a single family, using such building as a single housekeeping unit.

W. "Trash" means all waste matter not subject to decay or putrefaction which, for the purpose of this Chapter, includes ashes.

X. "Waste" and "wastes" means all discarded materials and/or substances.

Y. "Yard Wastes" includes leaves, grass, flowers, etc., as well as branches and pruning, less than four inches (4") in diameter and four feet (4') in length. "Yard Wastes" excludes food waste, metals, plastics, and synthetic fibers, construction and demolition debris, any wood or tree limbs over four inches (4") in diameter and/or exceeding four feet (4') in length, rocks, sod, and dirt.

13.54.030 Compulsory Service. It is compulsory to take a collection service for refuse provided by the City within the City, except as provided in this Chapter. Every residence within the City receiving water from the City Water Utility shall be billed for the collection of refuse at the same time such residence is billed for water, and shall pay for such collection service in the same manner and within the same limits of time as are furnished for the payment of charges for water furnished to such residence, and at the minimum rate provided in Section 13.54.040.

13.54.035 Cleanup Obligation. It is unlawful for any person in possession, charge or control of any premises in the City, knowing that such refuse has been deposited by the elements, animals, or other causes, upon public property, or private property not owned or occupied by such person, to fail to clean up such refuse so deposited in a period of 24 hours. If the refuse is not cleaned up within twenty-four (24) hours, the City may clean up the refuse and bill the person for the costs of cleanup and administration. Such bill shall be a minimum of $100.

13.54.040 Rates Schedule.

A. The rate for the weekly collection of refuse shall be $20.80 per 90 gallon container per month per single family dwelling. Beginning January 1, 2006, the rate for weekly collection of refuse shall be $21.85 per month per 90 gallon container per single family dwelling for 1 pickup per week.

B. Through December 31, 2005, the rate for the collection of refuse other than for a single family dwelling in City-owned containers, shall be as follows:

NUMBER OF PICKUPS PER WEEK	CONTAINER CAPACITY 60/90 gal.	300 gal.
1	$20.80	$ 72.05
2	41.60	144.10
3	62.40	216.15
4	83.20	288.20
5	104.00	360.25
6	124.80	432.30

Beginning January 1, 2006, the rate for the collection of refuse other than for a single family dwelling in City-owned containers, shall be as follows:

NUMBER OF PICKUPS PER WEEK	CONTAINER CAPACITY 90 gal.	300 gal.
1	$21.85	$ 75.65
2	43.70	151.30
3	65.55	226.95
4	87.40	302.60
5	109.25	378.25
6	131.10	453.90

C. Through December 31, 2005, the rate for the collection of refuse for a federal agency using City-owned containers shall be as follows:

NUMBER OF PICKUPS PER WEEK	CONTAINER CAPACITY 90 gal.	300 gal.
1	$19.85	$ 68.65
2	39.70	137.30
3	59.55	205.95
4	79.40	274.60
5	99.25	343.25
6	119.10	411.90

Beginning January 1, 2006, the rate for the collection of refuse for a federal agency using City-owned containers, shall be a follows:

NUMBER OF PICKUPS PER WEEK	CONTAINER CAPACITY 90 gal.	300 gal.

1	$20.85	$ 72.10
2	41.70	144.20
3	62.55	216.30
4	83.40	288.40
5	104.25	360.50
6	125.10	432.60

D. The rate for collection of loose refuse yardage placed outside the container shall be $5 per estimated additional yard of refuse, with a $5 minimum additional charge for each collection.

E. The rate for returning to collect a container where the customer has not placed the container in the appropriate place of collection, or where the container was blocked by a parked vehicle and where the customer has been advised of the problem at least once, shall be $5 for each return occurrence.

F. The rate for special requests to collect bulky items or provide a service not otherwise described in this rate section shall be the hourly rate for equipment, materials, landfilling costs, and labor used in the service, with a $5 minimum charge for each occurrence.

13.54.045 Lien for Unpaid Garbage Collection Services. Upon failure to pay the charges for garbage collection services as set forth in this Chapter, the amount thereof shall become a lien against the property for which the garbage collection service is rendered. Said lien shall be subject to foreclosure as provided for in RCW 35.21.140 and .150, by filing with the County Auditor a notice of the City's lien, specifying the charges, the period covered by the charges, and giving the legal description of the premises sought to be charged.

13.54.050 Containers Used by City Residents Only. No person other than City residents or City businesses shall dispose of garbage, trash, rubbish, offal, or any other waste, in the City-owned containers.

13.54.060 Container Requirements.

A. Required. It shall be the duty of every person in possession, charge or control of any single dwelling, multiple dwelling, or commercial dwelling where waste is created or accumulated, at all times to use City-owned containers, or other containers as approved by the Director, in accordance with this Chapter and to deposit or cause to be deposited refuse therein. If such a person is furnished a roll-out container, then such person shall be responsible for maintaining the container in a clean condition.

B. Sunken cans and containers shall be prohibited.

C. Location. No containers shall be kept or stored within the confines of any street or public alley in the City, except as otherwise provided in this Chapter. In blocks in which there are alleys, stationary containers shall be kept on private property in a convenient and accessible location adjacent to such alley, provided that stationary containers may be located in City alley rights-of-way if the Director determines that such placement is safe and practical. In blocks where there are no alleys, roll-out containers shall be kept on private property until the day of collection, provided that such roll-out containers shall be placed so that the lid opens toward the

collection vehicle when it is dumped and in a readily accessible location to the traveled roadway of the street near the curb so that the automated collection vehicle can reach them on the appropriate day and time; and provided further that such roll-out containers shall be removed from the curb within 24 hours after their collection.

For multiple dwellings and commercial dwellings, the stationary containers shall be placed in a readily accessible location on private property, as approved by the Director for collection using the mechanized vehicle.

Mobile home parks shall be required to provide central storage areas throughout the mobile home parks for the location of refuse containers, provided that no individual mobile home owner shall be required to walk more than 150 feet in any direction from his mobile home to deposit or pick up his waste in the containers.

D. Special Containers. Suitable containers, such as compactor units and drop boxes, may, with permission from the Director, be used by establishments which dispose of refuse in such quantity that containers, as defined in this Chapter, would be impractical or inefficient. These containers shall be kept in good condition with close-fitting lids and watertight construction. Should the condition deteriorate, the Director may, upon notification in writing to the owner, require the container to be replaced or repaired within 48 hours.

E. Prohibited Materials.

1. No rocks or dirt are to be placed in containers.

2. No manure, animal droppings, or human excrement are to be placed in containers, but such are to be placed in separate containers and hauled by the owner to the Landfill at the owner's expense.

3. No yard waste is to be placed in refuse containers.

F. Container Damage and Replacement. If any container shall be damaged through abuse by a residential or commercial user, the user shall replace the same or pay for its repair.

13.54.065 Recycling Requirements.

A. Participation in the recycling program shall be voluntary.

B. Recyclable materials shall be deposited into City-provided recycling containers, or other containers as approved by the Director.

C. Recycling containers shall be placed at the location and time designated by the City for collection and shall be removed from that location within 24 hours after their collection.

D. All materials deposited into the City-provided recycling containers are the property of the City. No unauthorized person shall scavenge, separate, collect, carry off, or dispose of, such materials unless authorized to do so by written permit of the Director.

E. Yard waste to be collected shall be placed at the location and time designated by the City for collection. Yard waste shall be placed in approved yard waste containers for collection except that prunings and branches meeting the definition of "yard waste" may be tied in bundles and not placed in containers. Yard waste containers shall be removed from the collection location within 24 hours after collection. An approved yard waste container shall be either a standard plastic or metal garbage can, not exceeding 32 gallons in volume with two sturdy handles, one on each side, and with a secure fitting lid with a handle. Plastic bags shall not be used as containers for yard waste.

F. No materials other than recyclable materials as defined herein and as designated by the Director shall be placed in recycling containers. The presence of nonrecyclable materials will cause the container to be treated as refuse and a special pick-up charge assessed to the account.

G. If any City-provided recycling container shall be damaged through the abuse of the user, the user shall replace the same or pay for its replacement or repair.

H. Each loaded container shall weigh a maximum of fifty pounds.

13.54.070 Unacceptable Wastes Designated. The following wastes shall be considered unacceptable for collection, or disposal at the Landfill, without the special permission of the Director and a payment of a negotiated fee and/or special disposal conditions:

A. Dangerous Wastes.

B. Unusual quantities of materials resulting from the repair, excavation, or construction of buildings or structures, such as earth, plaster, mortar and roofing materials.

C. Materials which have not been prepared for collection in accordance with these regulations.

D. Dead animals.

E. Waste originating outside Clallam County.

13.54.080 Garbage - Draining, Wrapping and Sanitary Conditions Required.

A. All garbage shall be drained of liquids and wrapped in paper or other material before being deposited in the container. The City may refuse to collect undrained garbage which is in a liquid or semi-liquid state, unwrapped and improperly placed.

B. The owner or person in charge of the place where refuse containers are located shall maintain the place in a clean and sanitary condition, except where such condition is caused by someone or something for which the owner or person in charge is not legally responsible.

13.54.090 Private Collectors - Equipment Regulations.

A. Enclosed Bodies of Refuse Collection Vehicles. All private vehicles used for the collection or disposal of waste, for hire in the City, shall have enclosed bodies, or suitable provisions for covering the bodies. The use of a tarpaulin or canvas cover to enclose open bodies of collection vehicles may be permitted upon approval of the Director.

B. Watertight Garbage Collection Vehicles. Vehicles used for the collection or disposal of garbage or any other wastes shall have watertight metal bodies of easily cleanable construction.

13.54.100 Assistance to Elderly and/or Handicapped. If elderly, handicapped, and/or disabled residents have difficulty disposing of their refuse and have no other available alternative for complying with the requirements of this Chapter, they may notify the Solid Waste Utility, which may arrange to assist in providing special collection service to such individuals at no extra cost.

GARBAGE COLLECTION

Sections:

13.54.010 - Compliance with Chapter Required. It is unlawful for any person to burn, dump, collect, remove or in any other manner dispose of garbage, rubbish, trash, offal, and any other waste upon, over, or within the City otherwise than as provided in this Chapter.

13.54.020 - Definitions. The definitions set forth in PAMC 13.57.020, excluding recyclable materials and yard waste, are hereby adopted by this reference for the purpose of this Chapter. In addition, as used in this Chapter, the following terms have the following meanings:

A. "Cardboard recycling container" means a receptacle furnished by the recycling contractor for the collection of old corrugated cardboard at commercial buildings.

B. "City business" means any business whose principal place of business is within the City limits of Port Angeles.

C. "City resident" means any person residing within the City limits of Port Angeles.

D. "Collect" and "Collection" mean the curbside pickup of a refuse container, a recycling container, yard waste container, or cardboard recycling container by a contractor or by the City.

E. "Commercial Building" means a building or group of buildings designed, intended for, or used for any purpose other than dwellings, and shall include office buildings. Any building or group of buildings where combined residence and business is practiced, where such business is advertised by a sign of any type on the premises or is listed in the telephone directory as a business, shall be classified as commercial, unless specifically exempted by the Director or his designee, based on the services rendered.

F. "Contractor" means any person contracting with the City or having a license, franchise, or permit issued by the City to collect and dispose of wastes in the City, or his authorized agent.

G. "Dangerous waste" means any discarded, useless, unwanted, or abandoned nonradioactive substances, including but not limited to pesticides or any residues or containers of such substances, that are disposed of in such quantity or concentration as to pose a substantial present or potential hazard to human health, wildlife, or the environment because such wastes or constituents or combinations of such wastes:

1. have toxic properties that may cause death, injury or illness or have mutagenic, teratogenic or carcinogenic properties; or

2. are corrosive, explosive, flammable, or may generate pressure through decomposition or other means.

H. "Director" means the Director of Public Works and Utilities for the City of Port Angeles.

I. "Garbage" means all animal or vegetable wastes resulting from handling, preparation, cooking and consumption of food.

J. "Landfill" means the Sanitary Landfill disposal area administered and regulated by the City under Chapter 13.56 PAMC.

K. "Multiple dwelling" means a building or group of buildings designed as, or intended for, or used as two or more dwellings, such as apartments, rooming houses, multiple houses or courts and tenant houses; provided such building or group of buildings are under common ownership and have a common refuse disposal site; and provided further, that such group of buildings by nature of construction or reference infer multiplex dwelling, except tourist courts, motels, hotels and trailer courts, or any other establishment catering to transient residents; and provided that, for the purpose of this Chapter, three rooms shall be equal to one apartment and any number of rooms shall be billed to the nearest multiple of three.

L. "Offal" means waste animal matter from butcher, slaughterer or packing houses.

M. "Old corrugated cardboard" or "O.C.C." shall have the same meaning as corrugated cardboard within the service agreement as modified or amended and shall be further defined as two strips of flat cardboard on the top and bottom, and a corrugated or fluted strip running through the center, commonly found in boxes used for packaging and shipping. Waxed boxes and gray cardboard (such as cereal boxes, shoeboxes and paper tubes) are not old corrugated cardboard.

N. "Overloaded container" means a refuse container that weighs more than the lifting capacity of the City's mechanized refuse collection system or a refuse container with a lid that does not completely close due to the amount of refuse placed within the container.

O. "Person" means every person, firm, partnership, association, institution and corporation. The terms also mean the occupant or owner of the premises for which service is rendered pursuant to this Chapter.

P. "Recycling container" means a receptacle, which is of the type approved by the City and furnished by the recycling contractor for the collection of recyclable materials.

Q. "Recyclable materials" shall have the same meaning as recyclable materials for curbside collection in accordance within the service agreement as modified or amended.

R. "Refuse" means garbage, rubbish, trash, and offal, as defined herein, placed and stored together in a refuse container.

S. "Refuse container" means a receptacle furnished by the City for use with its mechanical refuse collection system.

T. "Residence" means a single dwelling unit that has been issued a certificate of occupancy.

U. "Restricted refuse container" means a 300-gallon refuse container that the Director: requires to be shared due to lack of adequate space to store multiple 90-gallon refuse containers; requires due to operational limitations of the area to which service is provided; or does not allow to be completely filled due to the volume and/or weight of the waste.

V. "Rubbish" means all cardboard, plastic, metal, glass, food containers, wastepaper, rags, sweepings, small pieces of wood, rubber, leather and similar waste materials that ordinarily accumulate around a home, business or industry. Rubbish does not include bulk waste, lawn cuttings, tree and hedge trimmings, dangerous wastes, hazardous materials, industrial waste or building waste resulting from construction or alterations.

W. "Single dwelling" means a building designed as, or intended for, or used as, a residence for a single family or a group of persons other than a single family, using such building as a single housekeeping unit.

X. "Trash" means all waste matter not subject to decay or putrefaction, which, for the purpose of this Chapter, includes ashes.

Y. "Waste" and "wastes" means all discarded materials and/or substances.

Z. "Yard waste" shall have the same meaning as yard waste or yard debris for curbside collection in accordance within the service agreement as modified or amended.

AA. "Yard waste container" means a receptacle furnished by the contractor for the collection of yard waste.

13.54.030 - Compulsory Service. Each dwelling and commercial building within the City shall be provided with refuse collection service by the City. Each dwelling and commercial building within the City shall pay for the collection of refuse at the rates provided in Section 13.54.040. If City residential water service is provided, collection service shall also be provided. If City residential water service is terminated, collection service may also be terminated. The recycling service, yard waste service, and cardboard recycling service are not compulsory services. When approved by the Director, commercial buildings may obtain private collection services or self-haul their wastes if their waste volume and/or weight exceeds the capacity of the City's mechanized refuse collection system.

13.54.035 - General Provisions Applicable to All Services.

A. Collection service shall not be provided by the City for refuse placed outside of a refuse container or for overloaded containers.

B. A utility service fee, in accordance with PAMC 3.70.010.B.3 for each occurrence, shall be charged when a vehicle must return to collect a refuse container where: the person has not placed the container in the appropriate place of collection; the person has not set out the container in accordance with the scheduled date and time; the person set out an overloaded container; or where the container was blocked by a parked vehicle; provided, no fee shall be assessed until the responsible person is notified that a fee will be charged in such instances.

C. It is unlawful for any person in possession, charge or control of any premises in the City, knowing that refuse has been deposited on the premises by the elements, animals, or other causes, to fail to clean up such refuse so deposited in a period of 24 hours. If the refuse is

not cleaned up within twenty-four (24) hours, the City may clean up the refuse and assess the person for the costs of cleanup and administration. Such bill shall be a minimum of $100.

D. It is unlawful for any person to deposit garbage, trash, rubbish, offal, recyclable materials, yard waste, or any other waste, in any refuse container other than the refuse container assigned to that person by the City. No containers are allowed to be shared except as approved by the Director.

13.54.040 - Solid Waste Rates. The rates for solid waste services shall be in accordance with Sections 13.54.050 through 13.54.120. The rates for solid waste services in Schedules R-01 through R-04 and C-01 through C-04 shall apply to each person that receives solid waste services.

13.54.050 - Schedule R-01 – Residential Weekly Service.

A. Through June 30, 2006, the rate shall be $21.85 per month for 1 collection of a 90-gallon refuse container per week. The rate per month for each additional refuse container shall be $21.85.

B. Beginning July 1, 2006, the rate shall be $27.30 per month for 1 collection of a 90-gallon refuse container per week. The rate per month for each additional refuse container shall be $27.30. Upon request, a refuse container collection in addition to the weekly collection may be made and a utility service fee shall be charged per occurrence in accordance with PAMC 3.70.010.B.3. If a person does not request every-other-week service on or before June 16, 2006 in accordance with PAMC 13.54.060.A, the rate specified within this Section shall automatically apply beginning July 1, 2006.

C. Upon request a 96-gallon recycling container may be provided after July 1, 2006. The recycling container shall be collected every other week. The recycling container and collection of the recycling container shall be provided at no additional charge.

D. Beginning October 1, 2006, a utility service fee in accordance with PAMC 3.70.010.B.4 shall be charged per container each time the same person at the same service location (1) changes from Schedule R-01– Residential Weekly Service to Schedule R-02 - Residential Every-Other-Week Service, or (2) requests a recycling container where the recycling service has been voluntarily discontinued or terminated in accordance with 13.54.150.H.

E. A utility service fee shall not be charged to resume recycling service if the same person at the same service location voluntarily terminates water, wastewater, garbage collection, and recycling services providing that electric service is maintained.

13.54.060 - Schedule R-02 - Residential Every Other Week Service.

A. Beginning July 1, 2006, upon request the rate shall be $21.85 per month for 1 collection of a 90-gallon refuse container. The rate per month for each additional refuse container shall be $21.85.

B. Beginning July 1, 2006, a refuse container set out in accordance with the scheduled date and time for weekly service shall not be collected. Upon request, a refuse container collection in addition to the every other week collection may be made and a utility service fee shall be charged per occurrence in accordance with PAMC 3.70.010.B.3.

C. Upon request a 96-gallon recycling container may be provided after July 1, 2006. The recycling container shall be collected every other week. The recycling container and collection of the recycling container shall be provided at no additional charge.

D. Beginning October 1, 2006, a utility service fee in accordance with PAMC 3.70.010.B.4 shall be charged per container each time the same person at the same service location (1) changes from Schedule R-02 - Residential Every Other Week Service to Schedule R-01– Residential Weekly Service, or (2) requests a recycling container where the recycling service has been voluntarily discontinued or terminated in accordance with 13.54.150.H.

E. A utility service fee shall not be charged to resume recycling service if the same person at the same service location voluntarily terminates water, wastewater, garbage collection, and recycling services providing that electric service is maintained.

13.54.070 - Schedule R-03 – Residential Yard Waste Service.

A. Beginning July 1, 2006, upon request the rate shall be $7.05 per month per 96-gallon yard waste container for 1 collection of yard waste every other week during the months of March through November and once per month during the months of December through February. The rate per month for each additional yard waste container shall be $7.05.

B. Beginning October 1, 2006, a utility service fee in accordance with PAMC 3.70.010.B.4 shall be charged per container each time the same person at the same service location requests a yard waste container where the yard waste service has been terminated.

C. A utility service fee shall not be charged to resume yard waste service if the same person at the same service location voluntarily terminates water, wastewater, garbage collection, and yard waste services providing that electric service is maintained.

13.54.080 - Schedule R-04 – Residential Temporary Service.

Beginning July 1, 2006, upon request a 90-gallon or 300-gallon temporary refuse container will be provided and the utility service fee to deliver each container shall be in accordance with PAMC 3.70.010.B.4. The utility service fee for each collection of a 90-gallon refuse container shall be one-fourth of the rate specified in 13.54.090 PAMC. The utility service fee for each collection of a 300-gallon refuse container shall be one-fourth of the rate specified in 13.54.100 PAMC. Requests to deliver, remove and collect a temporary refuse container shall be made at least 24 hours in advance.

13.54.090 - Schedule C-01 – Commercial 90-gallon Service.

A. Through December 31, 2006, the rate shall be $21.85 per month for 1 collection of a 90-gallon refuse container per week and semi-weekly collection of a cardboard recycling container. The rate per month for each additional refuse container and for each additional weekly collection of a refuse container shall be $21.85. The rate shall be reduced by 4.6% for the federal government, its agencies and instrumentalities.

B. Beginning January 1, 2007, the rate shall be $22.95 per month for 1 collection of a 90-gallon refuse container per week and semi-weekly collection of a cardboard recycling container. The rate per month for each additional refuse container and for each additional weekly collection of a refuse container shall be $22.95. The rate shall be reduced by 4.6% for the federal government, its agencies and instrumentalities.

13.54.100 - Schedule C-02 – Commercial 300-Gallon Service.

A. Through December 31, 2006, the rate shall be $75.65 per month for 1 collection of a 300-gallon refuse container per week and semi-weekly collection of a cardboard recycling

container. The rate per month for each additional refuse container and for each additional weekly collection of a refuse container shall be $75.65. The rate shall be reduced by 4.6% for the federal government, its agencies and instrumentalities.

B. Beginning January 1, 2007, the rate per person shall be $79.45 per month for 1 collection of a 300-gallon refuse container per week and semi-weekly collection of a cardboard recycling container. The rate per month for each additional refuse container and for each additional weekly collection of a refuse container shall be $79.45. The rate shall be reduced by 4.6% for the federal government, its agencies and instrumentalities.

C. Where approved by the Director, a 300-gallon refuse container may be shared by up to 5 persons. The Director shall determine the rate charged to each person that shares the use of a 300-gallon refuse container based on each person's waste volume and/or weight and Schedule C-02–Commercial 300-Gallon Service. Under no circumstances shall the rate for any person that shares a 300-gallon refuse container be less than Schedule C-01 –Commercial 90 - Gallon Service. The rate shall be reduced by 4.6% for the federal government, its agencies and instrumentalities.

D. Where a restricted use container is required by the Director, the Director shall determine the rate charged to each person that is assigned a restricted refuse container based on each commercial dwelling's waste volume and/or weight and Schedule C-02–Commercial 300-Gallon Service. Under no circumstances shall the rate for any person that is assigned a restricted refuse container be less than Schedule C-01 –Commercial 90-Gallon Service. The rate shall be reduced by 4.6% for the federal government, its agencies and instrumentalities.

13.54.110 - Schedule C-03 – Commercial Recycling Service.

Beginning July 1, 2006, when commercial recycling service is requested in addition to semi-weekly collection of cardboard, the rate shall be $10.50 per month for 1 collection of a recycling container per week for each location within the City limits of Port Angeles. The rate per month for each additional recycling container and each additional weekly collection of a recycling container shall be $10.50.

13.54.120 - Schedule C-04 – Commercial Temporary Service.

Beginning July 1, 2006, when a 90-gallon or 300-gallon temporary refuse container is requested, the utility service fee to deliver each container shall be in accordance with PAMC 3.70.010.B.4. The utility service fee for each collection of a 90-gallon refuse container shall be one-fourth of the rate specified in 13.54.090 PAMC. The utility service fee for each collection of a 300-gallon refuse container shall be one-fourth of the rate specified in 13.54.100 PAMC. Requests to deliver, remove and collect a temporary refuse container shall be made at least 24 hours in advance.

13.54.130 - Lien for Unpaid Garbage Collection Services. Upon failure to pay the charges for garbage, recycling and yard waste collection services as set forth in this Chapter, the amount thereof shall become a lien against the property for which the garbage collection service is rendered. Said lien shall be subject to foreclosure as provided for in RCW 35.21.140 and .150, by filing with the County Auditor a notice of the City's lien, specifying the charges, the period covered by the charges, and giving the legal description of the premises sought to be charged.

13.54.140 - Container Requirements.

A. It shall be the duty of every person in possession, charge or control of any single dwelling, multiple dwelling, or commercial building where waste is created or accumulated, at all times to use City-owned refuse containers, or other containers as approved by the Director, in accordance with this Chapter and to deposit or cause to be deposited refuse therein. Single dwellings and multiple dwellings furnished roll-out refuse containers shall be responsible for maintaining their assigned refuse container in a clean condition.

B. In the event a person has been advised of an overloaded container at least twice, the Director may require additional refuse containers and/or more frequent collections.

C. No refuse, yard waste, recycling, or cardboard recycling containers shall be kept or stored within the confines of any street or public alley in the City, except as otherwise provided in this Chapter. In blocks in which there are alleys and stationary containers are provided, the containers shall be kept on private property in a convenient and accessible location adjacent to such alley; provided that stationary refuse containers may be located in City alley rights-of-way if the Director determines that such placement is safe and practical. In blocks where there are no alleys, roll-out containers shall be kept on private property until the day of collection; provided that such roll-out containers shall be placed so that the lid opens toward the collection vehicle when it is dumped and in a readily accessible location to the traveled roadway of the street near the curb so that the automated collection vehicle can reach them on the appropriate day and time; and provided further that such roll-out containers shall be removed from the curb or alley within 24 hours after their collection.

For multiple dwellings and commercial buildings, the stationary refuse and cardboard recycling container shall be placed in a readily accessible location on private property, as approved by the Director for collection using the mechanized vehicle.

Mobile home parks shall provide central storage areas throughout the mobile home parks for the location of refuse containers; provided that no individual mobile home owner shall be required to walk more than 150 feet in any direction from his mobile home to deposit or pick up his waste in the refuse containers.

D. Suitable containers, such as compactor units and drop boxes, may, with permission from the Director, be used by private collectors to serve commercial buildings which dispose of refuse in such quantity that containers, as defined in this Chapter, would be impractical or inefficient.

E. Prohibited Materials.

1. No rocks, concrete, or dirt may be placed in a refuse, yard waste, recycling or cardboard recycling container.

2. No manure or human excrement may be placed in a refuse, yard waste, recycling or cardboard recycling container.

3. No yard waste, dangerous waste, or unacceptable waste may be placed in a refuse container. Refuse containers with yard waste, dangerous waste, or unacceptable waste shall not be collected.

F. Container Damage and Replacement. If any refuse container is damaged through abuse by a person, or is stolen due to negligence by a person, the person shall replace the same or pay for its repair.

G. All garbage shall be drained of liquids and placed in a paper or plastic bag and tied closed before being deposited in a refuse container. All animal waste, ashes, and cat box filler shall be placed in a paper or plastic bag and tied closed before being deposited in a refuse container. The City may refuse to collect a refuse container with animal waste, ashes, cat box filler, and undrained garbage, which is not in a bag and tied closed.

H. The owner or person in charge of the place where refuse containers are located shall maintain the place in a clean and sanitary condition, except where such condition is caused by someone or something for which the owner or person in charge is not legally responsible.

13.54.150 - Recycling, Yard Waste, and Cardboard Recycling Requirements.

A. Single dwellings and multiple dwellings up to 4 units may receive the residential recycling service and residential yard waste service. Commercial buildings may receive the commercial cardboard recycling service. The Port Angeles School District, and other commercial buildings when approved by the Director, may participate in the commercial recycling service for their facilities located within the City limits of Port Angeles.

B. Persons participating in the residential recycling service shall deposit all recyclable materials into contractor-provided recycling containers in lieu of depositing recyclable materials into City-provided refuse containers. Green, brown and clear recyclable glass bottles and jars shall not be deposited into a recycling container and may be deposited into a recycling drop-off facility as provided for in Chapter 13.57 PAMC. Persons participating in the commercial cardboard recycling service shall deposit all old corrugated cardboard into contractor-provided cardboard recycling containers in lieu of depositing old corrugated cardboard into City-provided refuse containers.

C. Recycling containers shall be placed at the location and time designated by the City for collection and shall be removed from that location within 24 hours after their collection.

D. All recyclable materials deposited into a contractor-provided recycling container or cardboard recycling container are the property of the contractor. No unauthorized person shall scavenge, separate, collect, carry off, or dispose of, such materials unless authorized to do so by written permit of the Director. Beginning July 1, 2006, recyclable materials placed outside the recycling container shall not be collected.

E. Yard waste containers shall be placed at the location and time designated by the City for collection and shall be removed from that location within 24 hours after their collection. The yard waste service excludes the collection of food waste, metals, plastics, and synthetic fibers, construction and demolition debris, stumps, rocks, concrete, sod, dirt, and any wood, trees or tree limbs over four inches (4") in diameter and/or exceeding four feet (4') in length. Plastic bags shall not be used or deposited into yard waste containers. Beginning July 1, 2006, excluding trees from the December holidays placed outside the yard waste container during the month of January, yard waste placed outside the yard waste container shall not be collected.

F. A person that has been advised by the City on two or more occasions of the presence of wastes within a recycling container that are not recyclable materials will have the curbside recycling service terminated and the contractor may retrieve the recycling container.

G. A person that has been advised by the City on two or more occasions of the presence of wastes within a yard waste container that are not yard waste will have the yard waste service terminated and the contractor may retrieve the yard waste container.

H. A person will have the curbside recycling service terminated and the contractor may retrieve the recycling container after the Director has notified a person by regular mail that

they have not set out a recycling container for two or more consecutive months during a six month period, and a recycling container is not set out by a person for pick up for two or more consecutive months during the subsequent six month period.

I. A person that has been advised by the City on two or more occasions of the presence of wastes within a cardboard recycling container that are not old corrugated cardboard will have the curbside cardboard recycling service terminated and the contractor may retrieve the cardboard recycling container.

13.54.160 - Waste Acceptance Policy. Any dangerous waste or unacceptable waste described in the waste acceptance policy for the solid waste processing facility shall be unacceptable for refuse collection.

13.54.170 - Private Collectors - Regulations.

A. Private collectors offering service to commercial buildings within the City must possess a G-permit from the Washington Utilities and Transportation Commission and be authorized to collect and transport acceptable waste in Clallam County or within the City of Port Angeles

B. All private vehicles used for the collection or disposal of waste, for hire in the City, shall have enclosed bodies, or suitable provisions for covering the bodies. The use of a tarpaulin or canvas cover to enclose open bodies of collection vehicles may be permitted upon approval of the Director.

C. Vehicles used for the collection or disposal of garbage or any other wastes shall have watertight metal bodies of easily cleanable construction.

13.54.180 - Assistance to Elderly and/or Handicapped. If elderly, handicapped, and/or disabled residents have difficulty disposing of their refuse, recyclable materials, or yard waste, or access to containers by collection vehicle is not possible, and there are no other available alternative for complying with the requirements of this Chapter, they may notify the Solid Waste Utility, which may arrange to assist in providing special collection service to such individuals at no extra cost. Such assistance may include the use of special containers as approved by the Director.

13.54.190 - Penalties.

A. Any person subject to this Chapter who deposits dangerous waste or unacceptable waste into a refuse container, recycling container, yard waste container, or cardboard recycling container shall be guilty of a misdemeanor. Each day that a violation continues constitutes a separate offense.

B. Any person subject to this Chapter who fails or refuses to comply with the waste acceptance policy, knowingly deposits waste that is not a recyclable material into a recycling container, or knowingly deposits waste that is not a yard waste into a yard waste container, shall be guilty of a misdemeanor.

C. Any person who unlawfully deposits garbage, trash, rubbish, offal, recyclable materials, yard waste, or any other waste, in any refuse container other than the refuse container assigned to that person by the City shall be guilty of a misdemeanor.

Section 3. Chapter 13.56 of the Port Angeles Municipal Code is hereby amended to read as follows:

SANITARY LANDFILL

Sections:

13.56.010 Definitions. The definitions set forth in PAMC 13.54.020 are hereby adopted by this reference for the purpose of this Chapter. In addition, as used in this Chapter, the following terms have the following meanings:

A. "Commercial user" means any person hauling refuse from, or as a result of, any business, commercial or industrial enterprise, regardless of where said enterprise is located.

B. "Non-City user" means any user of the Sanitary Landfill site who resides outside of the City limits and/or who hauls refuse that is generated outside the City limits.

C. "Covered load" means that material to be deposited in the Sanitary Landfill that is contained or restrained, such that the material cannot fall, slip or otherwise escape from the vehicle in which it is transported to the Sanitary Landfill, and thereby be deposited onto a roadway or property adjacent to the roadway.

13.56.020 Rates. The following landfill rates shall be in effect until the Director provides written notice to the public in accordance with 13.57.020 PAMC that the solid waste processing facility rates will be in effect:

A. All Landfill users shall be charged and shall pay the following rates for dumping refuse at the Sanitary Landfill site (except as set forth herein):

Rate

Through December 31, 2005, $80.65 per ton with a $7.50 minimum charge. Beginning January 1, 2006, $84.70 per ton with a $8.00 minimum charge.

B. In addition to the fees established by subsection A of this Section, through December 31, 2005, uncovered loads shall be charged an additional $5.25 fee. Beginning January 1, 2006, uncovered loads shall be charged an additional $5.50 fee.

C. Refuse requiring special handling, including but not limited to asbestos and low level radioactive materials, shall be charged $199.50 per ton; provided that the minimum charge for refuse requiring special handling shall be $199.50 through December 31, 2005. Beginning January 1, 2006, refuse requiring special handling, including but not limited to asbestos and low level radioactive materials, shall be charged $209.50 per ton; provided that the minimum charge for refuse requiring special handling shall be $209.50. Special handling includes manifesting, immediate burial, hand unloading and/or placement in the disposal pit by Landfill crews.

D. ~~Landfill users' clean yard waste, as determined by the Landfill attendant, that may be converted to compost will not be charged a fee except that commercial users, including but not limited to landscape services, lawn maintenance services, and tree pruning/removal services, shall be charged $21.00 per ton through December 31, 2005. Beginning January 1, 2006~~ commercial

~~users shall be charged $22.05 per ton.~~ Beginning July 1, 2006, persons who deliver to the landfill clean yard waste, as determined by the Landfill attendant, that may be converted to compost will be charged $40.00 per ton with a $ 5.00 minimum charge. Prior to July 1, 2006, commercial users, including but not limited to landscape services, lawn maintenance services, and tree pruning/removal services, shall be charged $22.05 per ton.

E. The Director may waive the Landfill fee for disposal of refuse and litter which is collected and disposed of as a part of a City-sponsored beautification or cleanup program.

F. Recyclable materials being recycled at the Landfill will not be charged a fee.

G. The landfill tonnage rate shall be reduced by 4.6% for the federal government, its agencies and instrumentalities shall be $76.95. All refuse service contracts for such shall be exempt under WAC 458-20-250 from payment of the 4.6% solid waste collection tax. Beginning January 1, 2006, the landfill tonnage rate for the federal government shall be $80.80.

H. Prior to landfill closure, the Director shall have authority to enter into contracts with rates other than specified in this Chapter, provided that such rates recover the cost of providing the service, and provided that the City Manager, Mayor and Council members of the Utility Advisory Committee are notified, and provided that such contracts have a term of no more than ninety (90) days before formal adoption by the City Council.

13.56.030 Rate - Special Items. Through December 31, 2005, all users of the Sanitary Landfill site shall be charged and shall pay the following rates for dumping the following certain types of refuse:

Item	Rate
Tires (automobile and truck)	$80.65/ton
Appliances	80.65/ton.

Beginning January 1, 2006, all users of the Sanitary Landfill site shall be charged and shall pay the following rates for dumping the following certain types of refuse:

Item	Rate
Tires (automobile and truck)	$84.70/ton
Appliances	84.70/ton.

13.56.040 Rate - Certain Charitable or City-Sponsored Organizations. A fifty percent reduction in the landfill rates as set forth in this Chapter will be made available to certain charitable, nonprofit organizations and to certain City-sponsored projects by non-profit organizations, provided that the following requirements are met:

A. The reduction will only be given upon completion by the organization of a written application and acceptance of said application by the City.

B. The reduction may be applied to those charitable, nonprofit organizations, such as the Salvation Army, St. Vincent DePaul, and Serenity House, the primary purpose of which is provide necessary support for the poor or infirm and which must dispose of unusable donated items.

C. Pursuant to Chapter 35.83 RCW, the reduction may be applied to the Housing Authority of Clallam County for self-haul of materials left by tenants who vacate Housing Authority premises ~~and for disposal of demolition debris from the Housing Authority's Lee Hotel Project.~~

D. The reduction may be applied to City-sponsored projects by non-profit organizations, provided that such sponsorship has been authorized by the City Council and furthers the public health, safety, or welfare, enhances the environment, or is otherwise in the public interest.

13.56.043 Governmental Solid Waste Utility Rate. Landfill disposal of solid waste by other governmentally owned solid waste utilities shall be at the rate established by interlocal agreement between the City and such other governmentally owned solid waste utility. Beginning July 1, 2006, the charge for disposal by a governmentally owned solid waste utility at the landfill of clean yard waste, as determined by the landfill attendant, that may be converted to compost shall be charged $24.80 per ton.

13.56.045 Commercial Compacted Rate. All commercial haulers of over two thousand tons per year of compacted refuse to the sanitary landfill shall be charged the rates as set forth in PAMC 13.56.020, except that a special rate may be charged pursuant to a separate agreement between the City and the commercial hauler based on such factors as reduced landfill services being utilized by the commercial hauler.

13.56.047 Large Volume Demolition Debris Rate Landfill disposal of demolition debris in the amount of at least 5,000 tons, as guaranteed pursuant to separate agreement with the City, shall be at the rate of $40 per ton.

13.56.050 Junked or Wrecked Automotive Vehicles Prohibited. The dumping or placement of junked or wrecked automotive vehicles at the Sanitary Landfill site is prohibited.

13.56.060 Landfill Disposal Area Regulations.

A. Use Generally. The City Sanitary Landfill disposal area shall be open at such times designated by the Director. Those persons hauling their own refuse to the disposal site shall place such refuse where directed by the operator of the disposal area and shall pay those fees as set forth by the City Council.

B. Origin of Refuse. Acceptable refuse originating within the City limits and transported to the Sanitary Landfill by any person shall be accepted for disposal during the designated hours of operation. All persons offering such acceptable refuse may be required to submit proof of origin of the material in the form of a certificate certifying ownership and that the material originated within the City. ~~Use of the Sanitary Landfill site by persons living outside the City limits shall be upon the basis of a special service charge set by the City Council.~~ Waste originating outside Clallam County shall be unacceptable for disposal at the Sanitary Landfill except ~~as otherwise provided in PAMC 13.54.070~~with the prior written consent of the Director.

C. Burning. It is unlawful for any unauthorized person to set fire to, or burn, any waste in the Landfill grounds used by the City unless granted permission by the Director to do so.

D. Scavenging. All materials delivered to and disposed of at the Landfill are the property of the City. No unauthorized person shall scavenge, separate, collect, carry off, or dispose of, such material unless authorized to do so by written permit of the Director.

E. Unlawful Entry. It is unlawful for any person to enter the Landfill area except when an attendant is present during the designated hours of operation.

F. Yard waste. Yard waste may be accepted at the landfill co-composting facility, but it shall be free of contaminants, including but not limited to, plastic bags, refuse, rocks, sod, dirt, and construction and demolition debris.

Section 4. A new chapter, 13.57 - Solid Waste Processing Facility, of the Port Angeles Municipal Code is hereby created to read as follows:

SOLID WASTE PROCESSING FACILITY

Sections:

13.57.010 Definitions. The definitions set forth in PAMC 13.54.020, excluding recyclable materials and yard waste, are hereby adopted by this reference for the purpose of this Chapter. In addition, as used in this Chapter, the following terms have the following meanings:

A. "Acceptable household hazardous waste" shall have the same meaning as acceptable household hazardous waste within the service agreement as modified or amended.

B. "Acceptable moderate-risk waste" shall have the same meaning as acceptable moderate-risk waste within the service agreement as modified or amended.

C. "Acceptable special waste" shall have the same meaning as acceptable special waste within the service agreement as modified or amended.

D. "Acceptable waste" shall have the same meaning as acceptable waste within the service agreement as modified or amended.

E. "Co-composting facility" shall have the same meaning as co-composting facility within the service agreement as modified or amended.

F. "Collection entity" means any person or governmentally owned solid waste utility that is authorized to collect and transport acceptable waste in Clallam County or within the City of Port Angeles, providing such person or governmentally owned solid waste utility is operating in an area that is covered under section 6.H. of the interlocal agreement.

G. "Environmental fee" means a charge for a special inspection and recovery of fluids and gases from acceptable special wastes in accordance with the waste acceptance policy.

H. "Interlocal agreement" means the agreement between the City of Port Angeles, Clallam County and other parties for a Regional Solid Waste Export and Transfer System dated July 27, 2004 and as amended.

I. "Municipal solid waste" shall have the same meaning as municipal solid waste within the service agreement as modified or amended.

J. "Recycling drop-off facility" means a container located at the transfer station and Blue Mountain drop-box facility for depositing recyclable materials and green, brown and clear recyclable glass bottles and jars. Up to 3 additional recycling drop-off facilities are provided at various locations within the City for depositing only green, brown and clear recyclable glass.

K. "Recyclable materials" shall have the same meaning as recyclable materials for the transfer station and Blue Mountain recycling drop-off facilities in accordance within the service

agreement, excluding acceptable household hazardous waste, acceptable moderate-risk waste, and white goods, as modified or amended.

L. "Self-hauler" means any person hauling refuse from, or as a result of, any residence, business, commercial or industrial enterprise, regardless of where said enterprise is located in Clallam County. Any governmentally owned solid waste utility that does not enter into the interlocal agreement shall be considered a self-hauler.

M. "Service agreement" means the solid waste processing facility development and management services agreement between the City of Port Angeles and Waste Connections of Washington, Inc. dated April 15, 2005 and as modified or amended.

N. "Solid waste processing facility" means the Port Angeles transfer station, Blue Mountain drop-box facility, recycling drop-off facilities, Port Angeles co-composting facility, Port Angeles moderate-risk waste facility, and the Port Angeles landfill, all of which form the City's solid waste processing facility.

O. "Transfer station" means the solid waste processing facility described in the service agreement.

P. "Unacceptable waste" shall have the same meaning as unacceptable waste within the service agreement as modified or amended.

Q. "Unsecured load" means waste that is not contained or restrained, such that the material can fall, slip or otherwise escape from the vehicle in which it is transported, and thereby be deposited onto a roadway or property adjacent to the roadway.

R. "Waste acceptance policy" means the waste acceptance policy for the applicable solid waste processing facility as amended.

S. "Yard waste" received at the transfer station shall have the same meaning as yard waste or yard debris in accordance within the service agreement, as modified or amended.

13.57.020 Rates. At least 30 days prior to the date, the Director shall publish notice to the public of the date the solid waste processing facility will be open for business. Beginning on the date specified in a written notice from the Director to the public that the solid waste processing facility will be open for business, the following rates shall be in effect and supercede the rates specified in 13.56.020 PAMC:

A. All collection entities shall be charged and pay the following rates at the transfer station:

1. $80.00 per ton for municipal solid waste and wastewater treatment plant grit.

2. $24.80 per ton for clean yard waste, as determined by the transfer station attendant, that may be converted to compost.

3. $19.85 per ton for wastewater treatment plant biosolids.

4. The City shall pay the collection entity charges for municipal solid waste received at the transfer station from the contractor for the Blue Mountain drop box operation under the service agreement. The City shall pay the collection entity charges for yard waste received at the transfer station from the contractor for curbside collection of yard waste under the service agreement.

B. All self-haulers shall be charged and shall pay the following rates at the transfer station (except as set forth herein):

1. $97.00 per ton for municipal solid waste with a $10.00 minimum fee.

2. $40 per ton for clean yard waste, as determined by the transfer station attendant, that may be converted to compost, with a $5.00 minimum fee.

3. In addition to the fees established by subsections 1 and 2 of this section, a self-hauler that delivers an unsecured load to the transfer station shall be charged a $10.00 fee.

4. There will be no fee charged for recyclable materials deposited into the recycling drop-off facility. There will be no fee charged for acceptable household hazardous waste received at the transfer station.

5. There will be no fee charged for acceptable moderate-risk waste received at the moderate-risk waste facility from residents covered under the interlocal agreement. Commercially exempt small quantity generators shall not deposit moderate-risk waste at the moderate-risk waste facility.

6. Self-hauler rates shall be reduced by 4.6% for the federal government, its agencies and instrumentalities.

7. Rates for acceptable special waste shall be charged as follows:

Item	Rate
Asbestos	$235.70 per ton
Tires (automobile and truck)	$97.00 per ton
Metals and white goods	$47.65 per ton
Environmental fee	$20.00 per unit
Contaminated or dredge soils	$97.00 per ton.

8. In lieu of requiring multiple scale house transactions for loads with mixed municipal solid waste, the Director may establish weight reductions for recyclable materials, metals, acceptable household hazardous waste, and acceptable moderate-risk waste. Under no circumstances shall a weight reduction result in a reduction of the minimum fee. The weight reductions approved by the Director shall be issued at the scale house.

C. The self-hauler rate 13.57.020.B.1. may be waived for disposal of refuse which is collected as a part of a beautification or cleanup program. The transfer station self-hauler rate 13.57.020.B.1. may be reduced by 50% for certain projects by non-profit organizations. Any waiver or reduction to the self-hauler rate shall comply with the following requirements:

1. The person requesting a waiver or reduction submits a written application to the Director at least 30 days before disposal of refuse at the transfer station. The Director shall accept or deny the application before refuse is disposed at the transfer station.

2. A waiver may be available for disposal of refuse which is collected as part of a beatification or cleanup program, such as the benefit dump day, Clallam County chain gang, and Washington State Department of Transportation, which must dispose of litter.

3. A reduction may be available to charitable, nonprofit organizations, such as the Salvation Army, St. Vincent DePaul, and Serenity House, the primary purpose of which is provide necessary support for the poor or infirm and which must dispose of unusable donated items.

4. Pursuant to Chapter 35.83 RCW, a reduction may be applied to the Housing Authority of Clallam County for self-haul of materials left by tenants who vacate Housing Authority premises and for disposal of demolition debris.

5. All waivers or reductions approved by the Director shall be valid for 30 days and shall be limited to projects that further the public health, safety, or welfare, enhances the environment, or is otherwise in the public interest for parties of the interlocal agreement.

6. In order for the waiver or reduction to be valid, applications approved by the Director shall be presented to the scale house attendant at the time of disposal.

D. All self-haulers shall be charged and shall pay the following rates per ton at the Blue Mountain drop-box:

1. $184.00 per ton for municipal solid waste with a $5.00 minimum charge.

2. Recyclable materials deposited into the recycling drop-off facility will not be charged a fee. Acceptable household hazardous waste will not be charged a fee.

3. The self-hauler rate shall be reduced by 4.6% for the federal government, its agencies and instrumentalities.

13.57.030 Disposal Regulations.

A. All collection entities and self-haulers shall comply with the waste acceptance policy. Only acceptable waste shall be deposited at a solid waste processing facility. Collection entities and self-haulers shall not deposit dangerous waste or unacceptable waste at any solid waste processing facility. Waste originating outside Clallam County shall be unacceptable for disposal, except with the prior written consent of the Director.

B. Recycling drop-off facilities shall clearly identify and instruct self-haulers about the types of recyclable material that may be deposited. Self-haulers shall only deposit recyclable materials that are allowed to be deposited into a recycling drop-off facility.

C. The Director may issue transfer station scale house reader cards, and collection entities and self-haulers shall use reader cards in accordance with the waste acceptance policy. Collection entities shall have vehicle tare weight determined by the City, shall only use the reader card for the vehicle it was issued for, and shall always use the outer-inbound scale unless otherwise specified by the Director. Self-haulers shall always use the reader card at the inner-inbound and inner-outbound scales, unless otherwise specified by the Director. In the event a reader card is lost or misplaced by a collection entity or self-hauler, the person responsible for reader card shall be required to pay for all transactions at the transfer station scale house until the Director is notified in writing that the reader card has been lost or misplaced. Self-haulers shall pay a utility service fee in accordance with PAMC 3.70.010.B.4. for an initial reader card and each replacement reader card issued.

D. It is unlawful for any person to enter the disposal area of any solid waste processing facility except when an attendant is present during the designated hours of operation. Those persons hauling their own refuse shall place such refuse where directed by the attendant and shall pay those fees as set forth by the City Council.

E. It is unlawful for any unauthorized person to set fire to, or burn, any waste at any solid waste processing facility unless granted permission by the Director to do so.

F. No unauthorized person shall scavenge, separate, collect, carry off, or dispose of, any waste material unless authorized to do so by written permit of the Director.

G. Any person failing to abide by the disposal regulations, or creating a public disturbance in accordance with Chapter 9.24 PAMC, shall be subject to removal from the solid waste processing facility.

13.57.040 Penalties.

A. Any person subject to this Chapter who delivers dangerous waste or unacceptable waste in violation of the waste acceptance policy to a solid waste processing facility shall be guilty of a misdemeanor, and, upon conviction thereof, shall be punished by a fine not less than $500 per violation. Each day that a violation continues constitutes a separate offense.

B. Any person that delivers dangerous waste or unacceptable waste to a solid waste processing facility shall be liable to the City for any additional cost for removal, cleaning, and disposal of unacceptable waste by the contractor.

C. Any person subject to this Chapter who fails or refuses to comply with the waste acceptance policy, knowingly deposits recyclable materials into the wrong recycling drop-off

facility, knowingly deposits waste that is not a recyclable material into a recycling drop-off facility, or knowingly deposits waste that is not yard waste at the co-composting facility, shall be guilty of a misdemeanor, and, upon conviction thereof, shall be punished by a fine not less than $250 per violation.

D. Any person who knowingly evades a scale house transaction, or makes any false statement or representation in any scale house transaction, waste manifest or other matter pursuant to this Chapter, shall (in addition to civil and/or criminal penalties provided by law) be guilty of a misdemeanor and shall be prosecuted and punished accordingly.

Section 5. Chapter 3.70 of the Port Angeles Municipal Code is hereby amended by amending 3.70.010(B) to read as follows:

3.70.010 Finance Department Fees.

A. ....

B. Utility Connections/Reconnections & Automatic Turn-ons.

1. Utility connections/reconnections during regular working hours (8:00 a.m. to 4:30 p.m.) - $25.00
2. Automatic turn-ons pursuant to property owner agreements - $15.00
3. Utility service provided pursuant to PAMC 13.54.035(B), 13.54.050(B), and 13.54.060(B) - $15
4. Utility service provided pursuant to PAMC 13.54.080, 13.54.120, 13.54.050(D), 13.54.060(D), 13.54.070(B) and 13.57.030(C) - $25.

C. ....

Section 6 - Severability. If any provisions of this Ordinance or its application to any person or circumstances, is held invalid, the remainder of the Ordinance, or application of the provisions of the Ordinance to other persons or circumstances, is not affected.

Section 7 - Effective Date. This Ordinance shall take effect five days following the date of its publication by summary.

PASSED by the City Council of the City of Port Angeles at a regular meeting of said Council held on the 18th day of April, 2006.

Karen A. Rogers, Mayor

ATTEST:

Becky J. Upton, City Clerk

APPROVED AS TO FORM:

William E. Bloor, City Attorney

PUBLISHED: April 23 . 2006
By Summary

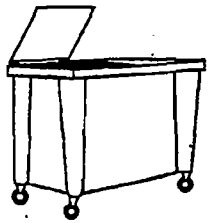
G:\Legal_Backup\ORDINANCES&RESOLUTIONS\2006-09.SolidWasteUtility&Landfill.040606.wpd:
April 12, 2006 (4:00 pm)

On December 1, 1997, Murrey's Disposal Co., Inc., purchased Olympic Disposal. We at Murrey's look forward to providing high quality service to Clallam and Jefferson County communities for years to come.

RECYCLE

COMMERCIAL

REFUSE COLLECTION



1 yard weekly
1 1/2 weekly
2 yard weekly

1 yard every other week
1½ yard every other week

2 yard every other week
20, 30 and 40 yard drop boxes
Permanent and temporary services

RECYCLE COLLECTION

60 gallon rollcarts for
Tin, Aluminum, and Plastics
Glass
Paper
Cardboard Dumpsters

Offering These Convenient Services to Clallam and Jefferson County Residents

Portable Storage Unit Leasing

Residential and Commercial Curbside Refuse and Recycle Collection

For information on price rates, pick-up and delivery schedules or to set up service please contact:

Murrey's Disposal
D.B.A. Olympic Disposal
(360) 452-7278
1-800-422-0854
Fax (360) 417-0122

RESIDENTIAL

REFUSE COLLECTION

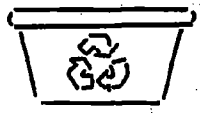
1 can weekly
2 can weekly
3 can weekly
4 can weekly
5 can weekly

1 can every other week

1 can monthly

RECYCLE COLLECTION

Curbside Recycle Collection
Available on Bi-weekly Basis



COMPANY NAME: MURREY'S DISPOSAL CO., INC. dba Olympic Disposal
SERVICE AREA: CLALLAM COUNTY

Tariff No. 20 Original Page 13A

Item No.	CAN-UNIT SERVICE - RESIDENTIAL - MONTHLY RATE
	Rates in this item apply to:
100	1. Solid waste collection, curbside recycling (where noted) and yardwaste collection service (where noted) for residential property. This includes single family dwellings, duplexes, apartments, mobile homes, condominiums, ect., where service is billed directly to the occupant of each residential unit and/or (2) where required by a local government service level ordinances the above services for single family dwellings, duplexes, mobile homes, condominiums and apartment building of less than ____ units, where service is billed to the property owner or manager.

Number of Units or Type of Container	Frequency of Service	Garbage Service Only	Recycle Service Only	Garbage and Recycle Service	Yardwaste Service Only	Yardwaste and Garbage Service	Yardwaste Garbage and Recycle Service
Mini can	W	$ 12.32	$ 4.70	$ 16.22	$	$	$
1 Can	W	$ 15.42	$ 4.70	$ 19.32	$	$	$
2 Cans	W	$ 22.80	$ 4.70	$ 26.70	$	$	$
3 Cans	W	$ 30.17	$ 4.70	$ 34.07	$	$	$
4 Cans	W	$ 37.93	$ 4.70	$ 41.83	$	$	$
5 Cans	W	$ 45.30	$ 4.70	$ 49.20	$	$	$
Cart - 35 gal	W	$ 17.10	$ 4.70	$ 21.00	$	$	$
Cart - 60 gal	W	$ 21.10	$ 4.70	$ 25.00	$	$	$

Frequency of Service Codes: W=weekly; EOW=Every Other Week; M=Monthly; Other:__

Note 1: Customers will be charged for service requested even if fewer units are picked up on a particular trip.
Note 2: The charge for an occasional extra can/unit on a regular pickup is: $5.29 per can or unit.
Note 3: One pickup per month at $ 5.77 per 32 gal can will be charged on a regular schedule for garbage pickup only.
One pickup per month at $ 6.50 per 35 gal cart will be charged on a regular schedule for garbage pickup only.
One pickup per month at $ 9.40 per 60 gal cart will be charged on a regular schedule for garbage pickup only.

* The charge included in this rate for recycling and/or yardwaste is:
Recycling $3.90 Yardwaste $0.00

ISSUED: January 14, 1998 EFFECTIVE: February 28, 1998

Issued by: Irmgard R Wilcox

COMPANY NAME: MURREY'S DISPOSAL CO., INC. dba Olympic Disposal
SERVICE AREA: CLALLAM COUNTY

Tariff No. 20 Original Page 14A

Item No.	CAN-UNIT SERVICE - RESIDENTIAL - MONTHLY RATE
100	Rates in this item apply to: (1) Solid waste collection, curbside recycling (where noted) and yardwaste collection service (where noted) for residential property. This includes single family dwellings, duplexes, apartments, mobile homes, condominiums, ect., where service is billed directly to to occupant of each residential unit, and/or (2) where required by a local government service level ordinances the above services for single family dwellings, duplexes, mobile homes, condominiums,and apatment building of less than ____ units, where service is billed to the property owner or manager.

Number of Units or Type of Container	Frequency of Service	Garbage Service Only	Recycle Service Only	Garbage and Recycle Service	Yardwaste Service Only	Yardwaste and Garbage Service	Yardwaste Garbage and Recycle Service
1 Can	EOW	$ 9.22	$ 4.70	$13.12	$	$	$
Cart - 35 gal	EOW	$ 10.26	$ 4.70	$14.16	$	$	$
Cart - 60 gal	EOW	$ 12.66	$ 4.70	$16.56	$	$	$

Frequency of Service Codes: W=weekly; EOW=Every Other Week; M=Monthly; Other:_____

Note 1: Customers will be charged for service requested even if fewer units are picked up on a particular trip.
Note 2: The charge for an occasional extra can/unit on a regular pickup is: $5.29 per can or unit.
Note 3: One pickup per month at $5.77 per 32 gal can will be charged on a regular scheduled for garbage pickup only.
One pickup per month at $6.50 per 35 gal cart will be charged on a regular schedule for garbage pickup only.
One pickup per month at $9.40 per 60 gal cart will be charged on a regular schedule for garbage pickup only.

* The charge included in this rate for recycling and/or yardwaste is:
Recycling $3.90 Yardwaste $0.00

ISSUED: January 14, 1998 EFFECTIVE: February 28, 1998

Issued by: Irmgard R Wilcox

COMPANY NAME: MURREY'S DISPOSAL CO., INC. dba Olympic Disposal
SERVICE AREA: CLALLAM COUNTY

Tariff No. 20 — Original Page 22A

Item No. 240

CONTAINER SERVICE - DUMPED IN COLLECTOR'S VEHICLE
NON-COMPACTED MATERIAL (Carrier Owned Container)
Rates per Container

SERVICE TYPE	SIZE OR TYPE OF CONTAINER 1 yd	1.5 yd	2 yd	yd	yd	6 Yd
Permanent Account						
Monthly Rent (See Note 5)	$ 4.50	$ 6.00	$ 8.00	$	$	$ 12.00
First Pickup	$ 14.40	$ 20.14	$ 28.52			$ 77.60
Each Additional Pickup	$ 14.40	$ 20.14	$ 28.52			$ 77.60
Special Pickup	$ 16.68	$ 23.28	$ 33.17			$ 81.48
Temporary Account						
Initial Delivery	$ 17.70	$ 23.28	$ 31.53			
Pickup Rate	$ 16.68	$ 23.28	$ 33.17			
Rent per Calender Day	$ .50	$ .60	$ .70			
Rent per Month	$ 2.60	$ 2.90	$ 3.15			

NOTE 1: Permanent accounts: service is defined as no less than scheduled, every other week pickup, unless local ordinances require more frequent service or unless putrescibles are involved. Customers will be charged for services requested, even if fewer containers are serviced on a particular trip. No credit will be given for partially filled containers.
NOTE 2: If rent is shown, the rate for the first pickup and each additional pickup must be the same. If rent is not shown, it is to be included in the rate for the first pickup.
NOTE 3: For permanent, regularly scheduled pickups, a flat monthly charge may be assessed if computed as follows: For each container provided.
(a) If monthly rent is shown: monthly rent plus (4.33 times pickup rate times number of pickup per week).
(b) If monthly rate is not shown: 1st pickup rate plus (3.33 times additional pickup rate) plus (4.33 times additional pickup rate times additional weekly pickup(s).
NOTE 4: In addition to all other applicable charges, a charge of $20.00 per yard (assessed on a pro rata basis)will be assessed if containers are filled past their visible full limit, container lids will not close due to overfilling or of additional materials are placed on or near the containers.
NOTE 5: Monthly rent is charged "ONLY" if permanent regularly scheduled pickup is less frequent than every other week.

Accessorial charges assessed: (lids,tarping,unlocking,unlatching, ect) $1.00 per pick up time for Unlocking gates.

ISSUED: January 14, 1998 — EFFECTIVE: February 28, 1998

Issued by: Irmgard R Wilcox

COMPANY NAME: MURREY'S DISPOSAL CO., INC. dba Olympic Disposal
SERVICE AREA: JEFFERSON AND CLALLAM COUNTY

Tariff No. 20 — Original Page 24

Item No. 260	DROP BOX SERVICE - TO DISPOSAL SITE AND RETURN NON-COMPACTED MATERIAL (Carrier Owned Drop Box) Rates per Container					
SERVICE TYPE	10 yd	20 yd	25 yd	30 yd	40 yd	yd
Permanent Account						
Monthly Rent (See Note 3)	$ 40.00	$ 48.00	$ 50.00	$ 50.00	$ 50.00	$
First Pickup	$ 63.00	$ 65.00	$ 67.00	$ 69.00	$ 80.00	$
Each Additional Pickup	$ 63.00	$ 65.00	$ 67.00	$ 69.00	$ 80.00	$
Special Pickup	$	$	$	$	$	$
Temporary Account						
Initial Delivery	$100.00	$100.00	$100.00	$100.00	$100.00	$
Pickup Rate	$ 90.00	$ 95.00	$140.00	$150.00	$150.00	$
Rent per Calender Day	$ 5.00	$ 6.00	$ 7.50	$ 10.00	$ 10.00	$
Rent per Month	$ 40.00	$ 48.00	$ 50.00	$ 50.00	$ 50.00	$

NOTE 1: Rates in this item are subject to disposal fees named in Item 230.

NOTE 2: Rates named in this item apply for all hauls not exceeding 10 miles measured from the point of pickup to the disposal site. Excess miles will be charged for at $2.10 per mile or fraction thereof. Such charge to be in addition to all regular charges.

NOTE 3: Permanent accounts: If a drop box is held by a customer for a full month and no pickups are ordered, the monthly rent shall be charged, but no charges will be assessed for pickups.

Accessorial charges assessed: (lids,tarping,unlocking,unlatching, ect)
Tarping box to prevent littering - $25.00 per time.
Locking or unlocking gate or door - $1.00 per time.

ISSUED: January 14, 1998 — EFFECTIVE: February 28, 1998

Issued by: Irmgard R Wilcox

WEST WASTE & RECYCLING, INC.
1154 BIG BURN PLACE PO BOX 2172
FORKS, WA 98331 (360)374-5020

CONTAINER INFORMATION

MONTHLY CHARGES

1 yard weekly	62.80	3 yard weekly	176.07
1 yard twice weekly	125.60	3 yard twice weekly	352.15
1 yard every other week	31.40	3 yard every other week	88.04
MINIMUM CHARGE	16.58	MINIMUM CHARGE	44.02
1 1/2 yard weekly	87.93	4 yard weekly	248.52
1 1/2 yard twice weekly	175.85	4 yard twice weekly	497.03
1 1/2 yard every other week	43.96	4 yard every other week	124.26
MINIMUM CHARGE	21.98	MINIMUM CHARGE	62.13
2 yard weekly	124.26	6 yard weekly	376.81
2 yard twice weekly	248.52	6 yard twice weekly	753.63
2 yard every other week	62.13	6 yard every other week	188.41
MINIMUM CHARGE	31.07	MINIMUM CHARGE	94.20

These charges are based on normal household refuse. Containers used for construction or demolition debris will be charge $120.00 per ton with a minimum charge based on size of container.

For temporary accounts, there is a delivery fee: $10.00 for 1 yard, 1 1/2 yard, and 2 yard containers; and $20.00 for 3 yard, 4 yard, and 6 yard containers.

Containers must be placed on a flat, level, hard surface where it is easily accessible for the compactor truck to back up to. Containers must be left in the position our drivers place them.

There is a minimum of every other week pickup. The customer may call and make arrangements for more frequent pickup. Please give us at least one day notice for special pickups.

Customers requesting a container for permanent service will be required to pay a two month service deposit, which will be held in a special account for up to one year. If there is no problem with the account for twelve months, the deposit will be credited to the customer's account at the end of the year. If the account is not paid in a timely manner, service will be discontinued, we will pull the container and apply the deposit to the account. Customer will then have the option of paying a new deposit for can service.

Customers requesting a container for a temporary project are required to pre-pay. The amount of pre-payment depends on the type of material for disposal and the frequency of pickups.

PLEASE CALL OUR OFFICE FOR INFORMATION REGARDING AVAILABILITY

WEST WASTE & RECYCLING, INC.
1154 BIG BURN PLACE
P.O. BOX 2172
FORKS, WA 98331
(360)374-5020 FAX (360)374-9831

RESIDENTIAL PICK UP RATES

1 can weekly	$16.01 per month
2 cans weekly	24.35 per month
3 cans weekly	32.22 per month
1 can every other week	8.86 per month
2 cans every other week	12.48 per month
3 cans every other week	17.15 per month
1 can monthly	5.65 per month
2 cans monthly	11.29 per month
3 cans monthly	16.94 per month
Extra can	4.00 per can*
Small bags	2.00 each*
Medium bags	3.00 each*
Large bags	4.00 each*
Burn barrel	10.00 each *

*Plus 3.6% Refuse Collection Tax.

RESRATES.DOC

Tariff No. 1 Original Revised Page No. 13

Company Name: West Waste & Recycling, Inc.

Item No. 100

CAN-UNIT SERVICE, RESIDENTIAL
(MONTHLY RATES)

Rates in this item apply to:
(1) solid waste collection service, curbside recycling service (where noted), and/or yardwaste collection service (where noted) for residential property. This includes single family dwellings, duplexes, apartments, mobile homes and courts, condominiums, etc., where service is billed directly to the occupant of each residential unit; and/or
(2) where required by local government service level ordinance, solid waste collection service, curbside recycling service (where noted), and/or yardwaste collection service for single family dwellings, duplexes, mobile homes and courts, condominiums, and apartment buildings less than 2 units, where service is billed to the property owner or manager.

Rates apply in the following service area: Western Clallam and Jefferson Counties.

Number of Units or Type of Container	Frequency of Service	Garbage Service Only	Recycle Service Only	Garbage and Recycle Service	Yardwaste Service Only	Yardwaste and Garbage Service	Yardwaste, Garbage and Recycle Service
Minican	W	$ 12.70	$	$	$	$	$
1 can	W	$ 15.45	$	$	$	$	$
2 cans	W	$ 23.50	$	$	$	$	$
3 cans	W	$ 31.10	$	$	$	$	$
4 cans	W	$ 39.10	$	$	$	$	$
5 cans	W	$ 46.70	$	$	$	$	$

Frequency Codes: W = Weekly Service; EOW = Every other week; M = Monthly service; W/2r = Weekly garbage and every other week recycle;
Other:

Note 1: Customers will be charged for service requested even if fewer units are serviced on a particular trip.
Note 2: The charge of occasional extra cans or units on regular pickup shall be: $ 4.00 per can or unit.
Note 3: One pickup per month at $ 4.00 per can or unit will be charged on regular, schedule, for garbage pickup only, for residential customers on an "on call" basis. Use special pickup rates in Item 110 for residential can service not otherwise covered in this item.

NOTE: SEE NEXT PAGE FOR DESCRIPTION(S) OF RECYCLING AND/OR YARDWASTE PROGRAMS

Issued By: Brent Gagnon

Issue Date: August 31, 1994 Effective Date:

(FOR OFFICIAL USE ONLY)

Effective ID-4-94 Docket TG- Other M1621.19

LSN 1AA Hearing By

Tariff No. 1 Original Revised Page No. 14

Company Name: West Waste & Recycling,.Inc.

Item No. 100

CAN-UNIT SERVICE, RESIDENTIAL
(MONTHLY RATES)

Rates in this item apply to:
(1) solid waste collection service, curbside recycling service (where noted), and/or yardwaste collection service (where noted) for residential property. This includes single family dwellings, duplexes, apartments, mobile homes and courts, condominiums, etc., where service is billed directly to the occupant of each residential unit; and/or
(2) where required by local government service level ordinance, solid waste collection service, curbside recycling service (where noted), and/or yardwaste collection service for single family dwellings, duplexes, mobile homes and courts, condominiums, and apartment buildings less than 2 units, where service is billed to the property owner or manager.

Rates apply in the following service area: Western Clallam and Jefferson Counties.

Number of Units or Type of Container	Frequency of Service	Garbage Service Only	Recycle Service Only	Garbage and Recycle Service	Yardwaste Service Only	Yardwaste and Garbage Service	Yardwaste, Garbage and Recycle Service
1 can	EOW	$ 8.55	$	$	$	$	$
2 cans	EOW	$ 12.05	$	$	$	$	$
3 cans	EOW	$ 16.55	$	$	$	$	$
1 can	M	$ 5.45	$	$	$	$	$
2 cans	M	$ 10.90	$	$	$	$	$
3 cans	M	$ 16.35	$	$	$	$	$

Frequency Codes: W = Weekly Service; EOW = Every other week; M = Monthly service; W/2r = Weekly garbage and every other week recycle;
Other:

Note 1: Customers will be charged for service requested even if fewer units are serviced on a particular trip.
Note 2: The charge of occasional extra cans or units on regular pickup shall be: $ 4.00 per can or unit.
Note 3: One pickup per month at $ 4.00 per can or unit will be charged on regular, schedule, for garbage pickup only, for residential customers on an "on call" basis. Use special pickup rates in Item 110 for residential can service not otherwise covered in this item.

NOTE: SEE NEXT PAGE FOR DESCRIPTION(S) OF RECYCLING AND/OR YARDWASTE PROGRAMS

Issued By: Brent Gagnon

Issue Date: August 31, 1994 Effective Date:

(FOR OFFICIAL USE ONLY)

Effective 10-4-94 Docket TG- Other MV6179

LSN LAA Hearing By

Tariff No. 1 — 1st Revised Page No. 22

Company Name: West Waste & Recycling, Inc.

Item No.	CONTAINER SERVICE - DUMPED IN COLLECTOR'S VEHICLE NON - COMPACTED MATERIAL (Carrier Owned Container) Rates Per Container
240	SERVICE AREA: Western Clallam and Jefferson Counties.

SERVICE TYPE	SIZE OR TYPE OF CONTAINER					
	1 yd	1 1/2 yd	2 yd	3 yd	4 yd	5 yd
Permanent Account Monthly Rent (See Note 2) (C)	$	$	$	$	$	$
First Pickup	$ 14.00	$ 19.60	$ 27.70	$ 39.25	$ 55.40	$ 69.54
Each Additional Pickup	$ 14.00	$ 19.60	$ 27.70	$ 39.25	$ 55.40	$ 69.54
Special Pickups	$ 16.00	$ 21.60	$ 29.70	$ 41.25	$ 57.40	$ 71.54
Temporary Account Initial Delivery	$ 10.00	$ 10.00	$ 10.00	$ 20.00	$ 20.00	$ 20.00
Pickup Rate	$ 16.00	$ 21.60	$ 29.70	$ 41.25	$ 57.40	$ 71.54
Rent Per Calendar Day	$ .50	$ .60	$ .70	$ .80	$ .90	$ 1.00
Rent Per Month (C)	$	$	$	$	$	$

Note 1: Permanent accounts: service is defined as no less than scheduled, every other week pickup, unless local ordinances require more frequent service or unless putrescibles are involved. Customers will be charged for service requested, even if fewer containers are serviced on a particular trip. No credit will be given for partially filled containers.

Note 2: If rent is shown, the rate for the first pickup and each additional pickup must be the same. If rent is not shown, it is to be included in the rate for the first pickup.

Note 3: For permanent, regularly scheduled pickups, a flat monthly charge may be assessed if computed as follows: For each container provided:

a. If monthly rent is shown: monthly rent plus (4.33 times pickup rate times number of pickups per week)

b. If monthly rent is not shown: 1st pickup rate plus (3.33 times additional pickup rate) plus (4.33 times additional pickup rate times additional weekly pickups).

Note 4: In addition to all other applicable charges, a charge of $ 14.00 per yard (assessed on a pro rata basis) will be assessed if containers are filled past their visible full limit, container lids will not close due to overfilling, or if additional materials are placed on or near the containers.

Accessorial charges assessed: (lids, tarping, unlocking, unlatching, etc.)

Padlock - $10.00; Tarping - $20.00; Unlocking - $5.00.

Issued by: Brent Gagnon

Issue Date: May 20, 1998 — Effective Date: July 4, 1998

(THIS BOX FOR OFFICIAL USE ONLY)

Effective: 5-28-98 Docket TG- 971014 Other

Tariff No. 1 — 1st Revised Page No. 22A

Company Name: West Waste & Recycling, Inc.

Item No.	CONTAINER SERVICE - DUMPED IN COLLECTOR'S VEHICLE NON - COMPACTED MATERIAL (Carrier Owned Container) Rates Per Container
240	SERVICE AREA: Western Clallam and Jefferson Counties.

SERVICE TYPE	SIZE OR TYPE OF CONTAINER					
	6 yd	yd	yd	yd	yd	yd
Permanent Account Monthly Rent (See Note 2)	$	$	$	$	$	$
First Pickup	$ 84.00	$	$	$	$	$
Each Additional Pickup	$ 84.00	$	$	$	$	$
Special Pickups	$ 86.00	$	$	$	$	$
Temporary Account Initial Delivery	$ 20.00	$	$	$	$	$
Pickup Rate	$ 86.00	$	$	$	$	$
Rent Per Calendar Day	$ 1.00	$	$	$	$	$
Rent Per Month (C)	$	$	$	$	$	$

Note 1: Permanent accounts: service is defined as no less than scheduled, every other week pickup, unless local ordinances require more frequent service or unless putrescibles are involved. Customers will be charged for service requested, even if fewer containers are serviced on a particular trip. No credit will be given for partially filled containers.

Note 2: If rent is shown, the rate for the first pickup and each additional pickup must be the same. If rent is not shown, it is to be included in the rate for the first pickup.

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a. If monthly rent is shown: monthly rent plus (4.33 times pickup rate times number of pickups per week)

b. If monthly rent is not shown: 1st pickup rate plus (3.33 times additional pickup rate) plus (4.33 times additional pickup rate times additional weekly pickups).

Note 4: In addition to all other applicable charges, a charge of $ 14.00 per yard (assessed on a pro rata basis) will be assessed if containers are filled past their visible full limit, container lids will not close due to overfilling, or if additional materials are placed on or near the containers.

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Issued by: Brent Gagnon

Issue Date: May 20, 1998 — Effective Date: July 4, 1998

(THIS BOX FOR OFFICIAL USE ONLY)

Effective: 7-28-98 Docket TG-[illegible] Other [illegible]

WEST WASTE & RECYCLING, INC.
1154 BIG BURN PLACE
P.O. BOX 2172
FORKS, WA 98331
(360)374-5020 FAX (360)374-9831

RESIDENTIAL PICK UP RATES

1 can weekly	$16.01 per month
2 cans weekly	24.35 per month
3 cans weekly	32.22 per month
1 can every other week	8.86 per month
2 cans every other week	12.48 per month
3 cans every other week	17.15 per month
1 can monthly	5.65 per month
2 cans monthly	11.29 per month
3 cans monthly	16.94 per month
Extra can	4.00 per can*
Small bags	2.00 each*
Medium bags	3.00 each*
Large bags	4.00 each*
Burn barrel	10.00 each *

*Plus 3.6% Refuse Collection Tax.

RESRATES.DOC

WEST WASTE & RECYCLING, INC.
1154 BIG BURN PLACE PO BOX 2172
FORKS, WA 98331 (360)374-5020

CONTAINER INFORMATION

MONTHLY CHARGES

1 yard weekly	62.80	3 yard weekly	176.07
1 yard twice weekly	125.60	3 yard twice weekly	352.15
1 yard every other week	31.40	3 yard every other week	88.04
MINIMUM CHARGE	16.58	MINIMUM CHARGE	44.02
1 1/2 yard weekly	87.93	4 yard weekly	248.52
1 1/2 yard twice weekly	175.85	4 yard twice weekly	497.03
1 1/2 yard every other week	43.96	4 yard every other week	124.26
MINIMUM CHARGE	21.98	MINIMUM CHARGE	62.13
2 yard weekly	124.26	6 yard weekly	376.81
2 yard twice weekly	248.52	6 yard twice weekly	753.63
2 yard every other week	62.13	6 yard every other week	188.41
MINIMUM CHARGE	31.07	MINIMUM CHARGE	94.20

These charges are based on normal household refuse. Containers used for construction or demolition debris will be charge $120.00 per ton with a minimum charge based on size of container.

For temporary accounts, there is a delivery fee: $10.00 for 1 yard, 1 1/2 yard, and 2 yard containers; and $20.00 for 3 yard, 4 yard, and 6 yard containers.

Containers must be placed on a flat, level, hard surface where it is easily accessible for the compactor truck to back up to. Containers must be left in the position our drivers place them.

There is a minimum of every other week pickup. The customer may call and make arrangements for more frequent pickup. Please give us at least one day notice for special pickups.

Customers requesting a container for permanent service will be required to pay a two month service deposit, which will be held in a special account for up to one year. If there is no problem with the account for twelve months, the deposit will be credited to the customer's account at the end of the year. If the account is not paid in a timely manner, service will be discontinued, we will pull the container and apply the deposit to the account. Customer will then have the option of paying a new deposit for can service.

Customers requesting a container for a temporary project are required to pre-pay. The amount of pre-payment depends on the type of material for disposal and the frequency of pickups.

PLEASE CALL OUR OFFICE FOR INFORMATION REGARDING AVAILABILITY

Tariff No. 1 Original Revised Page No. 13

Company Name: West Waste & Recycling, Inc.

Item No. 100

CAN-UNIT SERVICE, RESIDENTIAL
(MONTHLY RATES)

Rates in this item apply to:
(1) solid waste collection service, curbside recycling service (where noted), and/or yardwaste collection service (where noted) for residential property. This includes single family dwellings, duplexes, apartments, mobile homes and courts, condominiums, etc., where service is billed directly to the occupant of each residential unit; and/or
(2) where required by local government service level ordinance, solid waste collection service, curbside recycling service (where noted), and/or yardwaste collection service for single family dwellings, duplexes, mobile homes and courts, condominiums, and apartment buildings less than 2 units, where service is billed to the property owner or manager.

Rates apply in the following service area: Western Clallam and Jefferson Counties.

Number of Units or Type of Container	Frequency of Service	Garbage Service Only	Recycle Service Only	Garbage and Recycle Service	Yardwaste Service Only	Yardwaste and Garbage Service	Yardwaste, Garbage and Recycle Service
Minican	W	$ 12.70	$	$	$	$	$
1 can	W	$ 15.45	$	$	$	$	$
2 cans	W	$ 23.50	$	$	$	$	$
3 cans	W	$ 31.10	$	$	$	$	$
4 cans	W	$ 39.10	$	$	$	$	$
5 cans	W	$ 46.70	$	$	$	$	$

Frequency Codes: W = Weekly Service; EOW = Every other week; M = Monthly service; W/2r = Weekly garbage and every other week recycle;
Other:

Note 1: Customers will be charged for service requested even if fewer units are serviced on a particular trip.
Note 2: The charge of occasional extra cans or units on regular pickup shall be: $ 4.00 per can or unit.
Note 3: One pickup per month at $ 4.00 per can or unit will be charged on regular, schedule, for garbage pickup only, for residential customers on an "on call" basis. Use special pickup rates in Item 110 for residential can service not otherwise covered in this item.

NOTE: SEE NEXT PAGE FOR DESCRIPTION(S) OF RECYCLING AND/OR YARDWASTE PROGRAMS

Issued By: Brent Gagnon

Issue Date: August 31, 1994 Effective Date:

(FOR OFFICIAL USE ONLY)

Effective 10-4-94 Docket TG- Other MV 6179

LSN IAA Hearing By

Tariff No. 1 Original Revised Page No. 14

Company Name: West Waste & Recycling, Inc.

Item No. 100

CAN-UNIT SERVICE, RESIDENTIAL
(MONTHLY RATES)

Rates in this item apply to:
(1) solid waste collection service, curbside recycling service (where noted), and/or yardwaste collection service (where noted) for residential property. This includes single family dwellings, duplexes, apartments, mobile homes and courts, condominiums, etc., where service is billed directly to the occupant of each residential unit; and/or
(2) where required by local government service level ordinance, solid waste collection service, curbside recycling service (where noted), and/or yardwaste collection service for single family dwellings, duplexes, mobile homes and courts, condominiums, and apartment buildings less than 2 units, where service is billed to the property owner or manager.

Rates apply in the following service area: Western Clallam and Jefferson Counties.

Number of Units or Type of Container	Frequency of Service	Garbage Service Only	Recycle Service Only	Garbage and Recycle Service	Yardwaste Service Only	Yardwaste and Garbage Service	Yardwaste, Garbage and Recycle Service
1 can	EOW	$ 8.55	$	$	$	$	$
2 cans	EOW	$ 12.05	$	$	$	$	$
3 cans	EOW	$ 16.55	$	$	$	$	$
1 can	M	$ 5.45	$	$	$	$	$
2 cans	M	$ 10.90	$	$	$	$	$
3 cans	M	$ 16.35	$	$	$	$	$

Frequency Codes: W = Weekly Service; EOW = Every other week; M = Monthly service; W/2r = Weekly garbage and every other week recycle;
Other:

Note 1: Customers will be charged for service requested even if fewer units are serviced on a particular trip.
Note 2: The charge of occasional extra cans or units on regular pickup shall be: $ 4.00 per can or unit.
Note 3: One pickup per month at $ 4.00 per can or unit will be charged on regular schedule, for garbage pickup only, for residential customers on an "on call" basis. Use special pickup rates in Item 110 for residential can service not otherwise covered in this item.

NOTE: SEE NEXT PAGE FOR DESCRIPTION(S) OF RECYCLING AND/OR YARDWASTE PROGRAMS

Issued By: Brent Gagnon

Issue Date: August 31, 1994 Effective Date:

(FOR OFFICIAL USE ONLY)
Effective: 10-4-94 Docket TG- Other MUC 1719
LSN TAA Hearing By

Tariff No. 1 — 1st Revised Page No. 22

Company Name: West Waste & Recycling, Inc.

Item No.	CONTAINER SERVICE - DUMPED IN COLLECTOR'S VEHICLE NON - COMPACTED MATERIAL (Carrier Owned Container) Rates Per Container
240	SERVICE AREA: Western Clallam and Jefferson Counties.

SERVICE TYPE	SIZE OR TYPE OF CONTAINER					
	1 yd	1 1/2 yd	2 yd	3 yd	4 yd	5 yd
Permanent Account Monthly Rent (See Note 2) (C)	$	$	$	$	$	$
First Pickup	$ 14.00	$ 19.60	$ 27.70	$ 39.25	$ 55.40	$ 69.54
Each Additional Pickup	$ 14.00	$ 19.60	$ 27.70	$ 39.25	$ 55.40	$ 69.54
Special Pickups	$ 16.00	$ 21.60	$ 29.70	$ 41.25	$ 57.40	$ 71.54
Temporary Account Initial Delivery	$ 10.00	$ 10.00	$ 10.00	$ 20.00	$ 20.00	$ 20.00
Pickup Rate	$ 16.00	$ 21.60	$ 29.70	$ 41.25	$ 57.40	$ 71.54
Rent Per Calendar Day	$ .50	$ .60	$ .70	$ .80	$ .90	$ 1.00
Rent Per Month (C)	$	$	$	$	$	$

Note 1: Permanent accounts: service is defined as no less than scheduled, every other week pickup, unless local ordinances require more frequent service or unless putrescibles are involved. Customers will be charged for service requested, even if fewer containers are serviced on a particular trip. No credit will be given for partially filled containers.

Note 2: If rent is shown, the rate for the first pickup and each additional pickup must be the same. If rent is not shown, it is to be included in the rate for the first pickup.

Note 3: For permanent, regularly scheduled pickups, a flat monthly charge may be assessed if computed as follows: For each container provided:

a. If monthly rent is shown: monthly rent plus (4.33 times pickup rate times number of pickups per week)

b. If monthly rent is not shown: 1st pickup rate plus (3.33 times additional pickup rate) plus (4.33 times additional pickup rate times additional weekly pickups).

Note 4: In addition to all other applicable charges, a charge of $ 14.00 per yard (assessed on a pro rata basis) will be assessed if containers are filled past their visible full limit, container lids will not close due to overfilling, or if additional materials are placed on or near the containers.

Accessorial charges assessed: (lids, tarping, unlocking, unlatching, etc.)

Padlock - $10.00; Tarping - $20.00; Unlocking - $5.00.

Issued by: Brent Gagnon

Issue Date: May 20, 1998 — Effective Date: July 4, 1998

(THIS BOX FOR OFFICIAL USE ONLY)

Effective: 7-28-98 Docket TG-971014 Other

Tariff No. 1 — 1st Revised Page No. 22A

Company Name: West Waste & Recycling, Inc.

Item No.	CONTAINER SERVICE - DUMPED IN COLLECTOR'S VEHICLE NON - COMPACTED MATERIAL (Carrier Owned Container) Rates Per Container
240	SERVICE AREA: Western Clallam and Jefferson Counties.

SERVICE TYPE	SIZE OR TYPE OF CONTAINER					
	6 yd	yd	yd	yd	yd	yd
Permanent Account Monthly Rent (See Note 2)	$	$	$	$	$	$
First Pickup	$ 84.00	$	$	$	$	$
Each Additional Pickup	$ 84.00	$	$	$	$	$
Special Pickups	$ 86.00	$	$	$	$	$
Temporary Account Initial Delivery	$ 20.00	$	$	$	$	$
Pickup Rate	$ 86.00	$	$	$	$	$
Rent Per Calendar Day	$ 1.00	$	$	$	$	$
Rent Per Month (C)	$	$	$	$	$	$

Note 1: Permanent accounts: service is defined as no less than scheduled, every other week pickup, unless local ordinances require more frequent service or unless putrescibles are involved. Customers will be charged for service requested, even if fewer containers are serviced on a particular trip. No credit will be given for partially filled containers.

Note 2: If rent is shown, the rate for the first pickup and each additional pickup must be the same. If rent is not shown, it is to be included in the rate for the first pickup.

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a. If monthly rent is shown: monthly rent plus (4.33 times pickup rate times number of pickups per week)

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Accessorial charges assessed: (lids, tarping, unlocking, unlatching, etc.)

Padlock - $10.00; Tarping - $20.00; Unlocking - $5.00.

Issued by: Brent Gagnon

Issue Date: May 20, 1998 — Effective Date: July 4, 1998

(THIS BOX FOR OFFICIAL USE ONLY)

Effective: 7-24-98 Docket TG-980693 Other

Chapter 8.08

SOLID WASTE COLLECTION*

Sections:

*Prior legislation: Ords. 575 and 639.

8.08.010 Purpose – Definitions.

A. Purpose. The maintenance of health and sanitation require and it is the intention of this chapter to make the collection, removal and disposal of garbage, refuse and waste matter within the city compulsory and universal.

B. Definitions. For the purpose of this chapter, the following definitions shall be applicable:

1. "Garbage" or "solid waste" means all solid and semi-solid kitchen refuse subject to decay or putrefaction and all animal or vegetable waste matter which was intended to be used as food.

2. "Trash" means all waste matter not subject to decay or putrefaction, except ashes and dead animals, large or small, which may die or be collected for other than food purposes and except hazardous waste as defined by state law.

3. "Person" means every person, firm, partnership, association, institution and corporation except the city, and shall also be deemed to mean the occupant and/or owner of the premises for which service is rendered.

4. "Refuse" means discarded waste material of any sort. (Ord. 2002-024; Ord. 144 § 1, 1948)

8.08.020 Appointment of solid waste collector.

The city council is authorized to appoint a suitable and qualified person or entity as collector of solid waste or to contract with a person or company who shall have full control of all work provided for and contemplated by this chapter, or who shall have such powers as provided by contract. (Ord. 2002-024; Ord. 144 § 2, 1948)

8.08.030 Solid waste fund established.

There is created and established a special fund to be designated and known as the solid waste fund, formerly known as the sanitation fund, into which any funds the city is entitled to collect under this chapter shall be deposited and kept and from which all expenses of maintenance and operation which are not the obligation of the contractor shall be paid. (Ord. 2002-024; Ord. 144 § 3, 1948)

8.08.040 Compulsory solid waste service.

A. It is the duty of every person in possession, charge or control of any dwelling, flat, rooming house, apartment house, hospital, hotel, club, restaurant, boarding house or eating house or in possession or control of any public or private place of business, trade or profession within the city at all times from and after the effective date of the ordinance codified in this chapter to keep or cause to be kept containers, approved by the solid waste collector or provided by the contracting solid waste collector approved by the city council, for the accumulations of solid waste.

B. It shall be compulsory to take solid waste collection service as provided in this chapter within the limits of the city.

C. The collection and disposal of trash and solid waste shall be exclusive to the city and no person shall offer or shall collect or dispose of solid waste or trash for hire from within the city limits of the city; provided, that upon special application to the city council, and upon a finding by the city council that a particular

matter is beyond the capabilities of the city garbage and trash collection services, a permit can be issued to allow persons to remove garbage and/or trash within the limits of the matter for which the permit is granted; provided further, that the city may contract with other public or private entities to perform some or all of the garbage collection services.

D. All containers for trash and rubbish deposited by places of business or residences must be of a type and in such location which meets with the approval of the solid waste collector and the city.

E. No stones, earth, ashes or other incombustible materials except wrappings and trash shall be deposited in either solid waste or trash containers. (Ord. 2002-024; Ord. 460 § 3, 1984; Ord. 144 § 4, 1948)

8.08.050 Solid waste to be removed.

The city solid waste collector shall be the exclusive entity to move and dispose of all solid waste, refuse and trash as may be necessary or as may be contracted for or independently undertaken by the city. (Ord. 2002-024; Ord. 144 § 5, 1948)

8.08.060 Trash to be deposited in containers provided by city or contractor.

Trash must be deposited in the containers provided by the city or in the containers provided by the contract solid waste collector and the city. (Ord. 2002-024; Ord. 446 § 1, 1983; Ord. 144 § 7, 1948)

8.08.070 Location of containers for collection.

All solid waste containers and trash containers shall be placed, at the time of scheduled collection, at locations designated by the solid waste collector and the city. (Ord. 2002-024; Ord. 144 § 8, 1948)

8.08.080 Unlawful disposal.

A. It shall be unlawful and a misdemeanor for any person, firm, corporation, partnership, association or institution to burn, dump or in any manner dispose of solid waste, trash or refuse upon any streets, alleys, public places or private property, without the permission of the owner, in the city.

B. It shall be further unlawful and a misdemeanor for any person, firm, corporation, partnership, association or institution not a resident of the city, nor the operator of a business establishment within the city limits of the city, to deposit refuse, trash or solid waste in collection containers owned or operated by the city or by its contractor.

C. It shall be further unlawful and a misdemeanor for any person, firm, corporation, partnership, association or institution to use solid waste or trash collection facilities of the city without providing for payment to the city or its contractor for such use as provided by law. (Ord. 2002-024; Ord. 349 § 1, 1977; Ord. 144 § 9, 1948)

8.08.090 Solid waste (garbage) collection rates and charges.

Charges shall be as provided for in the contract between the city and the private solid waste hauler, the terms of which shall be available in the office of the city clerk. (Ord. 2002-024; Ord. 2001-025; Ord. 2000-019; Ord. 99-022 § 2)

8.08.100 Acquisition of equipment.

The city council is authorized from time to time to acquire such equipment and employ such personnel to assist the solid waste collector or provide services in addition to those contracted for as is in their judgment necessary and advisable. All expenditures therefor shall be from the solid waste fund. (Ord. 2002-024; Ord. 144 § 12, 1948)

8.08.110 Violation – Penalty.

Any person violating any of the provisions of this chapter shall be punished by a fine not exceeding $1,000 or by imprisonment in the city jail for not more than 90 days, or by both fine and imprisonment. (Ord. 2002-024; Ord. 144 § 13, 1948)

INTERLOCAL AGREEMENT REGARDING

REGIONAL SOLID WASTE EXPORT AND TRANSFER SYSTEM

COOPERATION AND IMPLEMENTATION

THIS AGREEMENT is executed by and among Clallam County ("County") and the City of Port Angeles (the "City") (the County and the City are collectively referred to herein as "the Parties") for the purposes of providing for competitively-priced regional solid waste export and transfer system facilities and services; promoting the health, safety and welfare of the County's and City's residents; and protecting the natural environment throughout the County. The Parties enter into this Interlocal Agreement ("Agreement") effective as of the date set forth in Section 9(A) for the purposes and under the terms contained herein.

WHEREAS, the Parties have cooperated in developing and implementing the County's Comprehensive Solid Waste Management Plan ("the Plan") pursuant to Chapters 35.21, 36.58 and 70.95 RCW on behalf of the County and the City; and

WHEREAS, the Plan recommends exporting solid waste to meet future disposal needs of the residents, businesses, visitors and institutions within the City and the County; and

WHEREAS, the Plan recommends using interlocal agreements to create the institutional arrangements needed to implement the Plan; and

WHEREAS, the Plan recommends closing the Port Angeles Sanitary Landfill, the only operating municipal solid waste landfill in Clallam County serving the area from Lake Crescent eastward, as depicted in the map and legal description attached hereto as Exhibit A, when it reaches capacity (projected by the end of 2006), and citing a transfer station at the Port Angeles Sanitary Landfill, for the purposes of exporting solid waste for final disposal after the landfill is closed; and

WHEREAS, in anticipation of the closure of the Port Angeles landfill and in recognition of the absence of alternative local landfill sites, the Parties desire to cooperate to provide for a Regional Solid Waste Export and Transfer System consistent with the Plan; and

WHEREAS, by entering into an interlocal agreement providing for each Party's cooperation, the Parties can more effectively and efficiently implement the Plan and procure management of the Regional Solid Waste Export and Transfer System; and

WHEREAS, the Plan anticipates that the Regional Solid Waste Export and Transfer System facilities will be located at the current site of the Port Angeles Sanitary

Landfill, will be operated by the City of Port Angeles or a private company under contract with the City of Port Angeles, and will be utilized by the City, County and by the private solid waste collection companies that serve the City and unincorporated area of the County from Lake Crescent eastward; and

WHEREAS, the City of Port Angeles has been responsible for accumulating closure and post-closure funds as required by law for the Port Angeles Landfill; and whereas the Parties intend for the Regional Solid Waste Transfer and Export System funding arrangement to provide for any additional funds related to unmet or unanticipated Port Angeles Landfill requirements provided, however, that this shall not make Clallam County separately or individually obligated for liabilities arising from Port Angeles' landfill site; and

WHEREAS, the Parties intend that a portion of the tipping fees for the Blue Mountain Transfer Station be collected to continue to pay for the lease fee and upkeep costs for this site presently being covered by the Blue Mountain Drop Box fees collected by the County; and

WHEREAS, the Parties are authorized and empowered to enter into this Agreement pursuant to Chapters 39.34 and 70.95 RCW.

THEREFORE, in consideration of mutual promises and covenants herein, and in order to implement the terms of the County's Comprehensive Solid Waste Management Plan, the Parties agree:

Section 1.

Definitions: Except for the terms defined in this section, and unless the context indicates otherwise, for the purposes of this Agreement and any related agreements, the Parties shall use the definitions found in RCW 70.95.030 and WAC 173-350, as they may be amended.

"Agreement" means this interlocal agreement.

"City" means the City of Port Angeles, Washington.

"County" means Clallam County, Washington.

"Ecology" means the Washington State Department of Ecology or its successor agency.

"Plan" means the Clallam County Comprehensive Solid Waste Management Plan as amended in accordance with this Agreement.

"Solid Waste Advisory Committee" is an advisory committee whose members are appointed by the County Commissioners to advise them on solid waste matters.

"Regional Solid Waste Export and Transfer System" means the facilities owned by and/or contracted by, the City of Port Angeles, where deposit, processing, recycling, composting, moderate-risk waste handling, and transfer of solid waste for disposal through a long-haul contract occurs. This will include the Blue Mountain drop-box site, facilities, and operations, unless the Board of Clallam County Commissioners determines in its sole discretion at any time during the term of this agreement that the Blue Mountain drop-box facilities should no longer be operated.

"Vendor" means either the City of Port Angeles or any company or person with whom the City of Port Angeles contracts for any or all of the design, construction, ownership, or operation of the Regional Solid Waste Export and Transfer System.

Section 2. Responsibilities of the County. The County shall:

A. Process consideration of amendments to the Plan that are submitted by the Joint Solid Waste Advisory Board to the Solid Waste Advisory Committee to provide for disposal of all non-recyclable solid waste generated in the unincorporated areas of the County from Lake Crescent eastward at the Regional Solid Waste Export and Transfer System site(s) to the extent permitted by law. The Regional Solid Waste Export and Transfer System will be the only designated Export and Transfer System in the County East of Lake Crescent for the term of this Agreement.

B. Process consideration of amendments to the County's zoning code, solid waste facility permitting process ordinance, and other applicable ordinances to prohibit solid waste transfer and export facilities that are not consistent with the Plan and to designate the Regional Solid Waste Export and Transfer System as the County's solid waste system consistent with the Plan and RCW 36.58.040, to the extent permitted by law.

C. Make a good faith effort to negotiate and execute with Jefferson County an interlocal agreement requiring each county to amend its comprehensive solid waste management plan and other related ordinances and agreements, to the extent permitted by law, to prohibit accepting waste generated outside its boundaries at disposal sites within said county; unless approved as an emergency.

D. Consider forming a solid waste disposal district in the eastern part of the County, to the extent it may become necessary to provide a dedicated source of funds to help finance the capital and operations and maintenance costs associated with the Solid Waste Export and Transfer System.

E. Shall not construct or have constructed any municipal solid waste export and transfer system in the eastern part of Clallam County without the approval of the Joint Solid Waste Advisory Board.

F. Participate in developing the request for qualifications/proposals and selecting the contractor(s), for designing, building and if appropriate operating the Solid Waste Export and Transfer System facilities, disposal services, and long haul services.

G. Appoint representatives to the Joint Solid Waste Advisory Board.

H. Negotiate and administer the land lease between the County and the Washington Department of Natural Resources enabling the continuation of drop box services at Blue Mountain.

I. Encourage recycling efforts to the maximum extent possible for yard debris, special wastes, and CDL (construction, demolition, and land clearing waste) programs to minimize the amounts of material for waste export.

Section 3. Responsibilities of the City of Port Angeles. The City of Port Angeles shall:

A. Conduct a procurement process for selecting one or more Vendors to provide solid waste export and transfer system facilities, services to operate the facilities if appropriate, disposal services, and long-haul services consistent with the Plan;

B. In consultation and cooperation with the County, either provide itself, or enter into and administer a contract with one or more Vendors for, solid waste export and transfer system, and disposal services for the Parties consistent with the Plan; and

C. In consultation and cooperation with the County establish a Joint Solid Waste Advisory Board that will review policies, procedures, costs, rates and will operate as an advisory group to the City of Port Angeles.

D. Provide administrative service related to the operation of the Regional Solid Waste Export and Transfer System site(s) and long-haul service including but not limited to:

1. Act as custodian of the Regional Solid Waste Export and Transfer System/landfill enterprise fund created under this Agreement.

2. Incorporate in its annual budget the budget for Regional Solid Waste Export and Transfer System services under this Agreement including, but not limited to revenues, administrative costs of the Parties, direct costs, indirect costs according to approved cost allocation plans, personnel services, insurance and land leases.

3. For facilities that are operated by the City of Port Angeles as part of the solid waste export and transfer system, provide for administrative service including, but not limited to personnel services and insurance.

E. Provide a site at the existing site of the Port Angeles Sanitary Landfill for the regional Solid Waste Export System facilities at no cost to the Parties.

F. The Blue Mountain operations and facilities will be included in the enterprise fund of the Regional Solid Waste Export and Transfer System with consideration of increased service, if approved by the Joint Solid Waste Advisory Committee.

G. Direct solid waste collected within the City of Port Angeles (whether collected directly by the City of Port Angeles or by a solid waste collection company) to the Vendor selected through the procurement process; take reasonable action to enforce such direction, including but not limited to entering into a long term contract that requires disposal of solid waste generated in the City of Port Angeles at the Regional Solid Waste Export and Transfer System facilities; and if the City of Port Angeles ceases to operate its own solid waste collection system, then the City shall require that any contract with solid waste haulers provides that solid waste hauled is disposed of at the Regional Solid Waste Export and Transfer System facilities consistent with the Plan.

H. Process consideration of an ordinance designating the Regional Solid Waste Export and Transfer System as the City's solid waste system consistent with the Plan and RCW 35.21.120, and amendments to the City's zoning code and other applicable ordinances to prohibit solid waste facilities that are not consistent with the Plan.

I. Cooperate with the County in the formation of a disposal district to the extent the district includes incorporated areas of the City of Port Angeles.

J. Encourage recycling efforts to the maximum extent possible for yard debris, special wastes, and CDL (construction, demolition, and land clearing waste) programs to minimize the amounts of material for waste export.

Section 4. Responsibilities of additional parties. Additional parties to this Agreement shall:

A. Direct solid waste (except yard debris and composting operations and materials) collected within the jurisdictional area of the additional party (whether collected directly by the additional party or by a solid waste collection company) to the Vendor selected through the procurement process; take reasonable action to enforce such direction, including but not limited to entering into a long term contract with the City of Port Angeles for disposal of solid waste generated in the jurisdictional area of the additional party at the Regional Solid Waste Export and Transfer System facilities; and if the additional party ceases to operate its own solid waste collection system, then the additional party shall require that any contract with solid waste haulers provides that solid waste hauled is disposed of at the Regional Solid Waste Export and Transfer System facilities consistent with the Plan; and

B. Cooperate in implementing Plan elements.

C. Adopt a resolution by the additional party's governing body approving the designation of the Regional Solid Waste Export and Transfer System as the additional party's solid waste system consistent with the Plan and RCW 35.21.120, and amendments to the additional party's zoning code and other applicable ordinances to prohibit solid waste facilities that are not consistent with the Plan. The resolution and amendments to zoning code and other applicable ordinances shall be made concurrent with or prior to the additional party accepting an amendment to this Agreement to include the additional party.

D. Cooperate with the County in the formation of a disposal district including adoption of a resolution by the additional party's governing body approving the district to the extent the district includes incorporated areas of the additional party. The resolution shall be made concurrent with or prior to the additional party accepting an amendment to this Agreement to include the additional party.

E. Encourage recycling efforts to the maximum extent possible for yard debris, special wastes, and CDL (construction, demolition, and land clearing waste) programs to minimize the amounts of material for waste export.

Section 5. Duration of Agreement: This Agreement shall be in full force and effect from and after its effective date, as set forth in Section 9(A), and shall remain in force for 20 years from the date the Regional Solid Waste Export and Transfer System first commences commercial operations. Any changes to this Agreement must be agreed upon by all Parties. This Agreement shall

automatically be extended for a period of five (5) years unless notice is given by any Party to the other parities within eighteen (18) months prior to the expiration of the original twenty (20) year term, and in writing, that they do not desire to extend the agreement.

Section 6. Governance and Rates.

A. Joint Solid Waste Advisory Board: A Joint Solid Waste Advisory Board (JSWAB) shall be established. The Board will be composed of staff from the Parties to this Agreement. The Board will act as an advisory committee to the Port Angeles City Council, the Clallam County Solid Waste Advisory Committee and others as necessary. Although Clallam County and the City of Port Angeles may each be represented by multiple members on the JSWAB in accordance with 6(B), each Party shall only be entitled to a single vote on recommendations to the Port Angeles City Council, the Clallam County Solid Waste Advisory Committee and others as necessary.

B. Membership Body: The JSWAB shall consist of the following members: (1) Director of Public Works Clallam County, (2) Director of Public Works and Utilities City of Port Angeles, (3) Solid Waste Superintendent City of Port Angeles, (4) Utilities Division Manager or designee from Clallam County. The Board shall draw upon other staff members from the agencies as necessary and appropriate to assist is carrying out its duties.

C. Officers and Procedures: The JSWAB shall select a chair and such other officers as deemed necessary to conduct business. The Board shall adopt rules and procedures it deems necessary for the proper and efficient conduct of its business.

D. Meetings: The JSWAB shall be responsible to fix a time and place for its meetings.

E. Powers and Duties: The JSWAB shall have the following powers and duties:

1. Make recommendations for the management and operation of the Regional Solid Waste Export and Transfer System operated under this Agreement.

2. Submit budget recommendations to the participating jurisdictions for action.

3. Review and recommend fees and charges and for services related to disposal, operation of facilities, transfer and disposal of solid waste associated with the Regional Solid

Waste Export and Transfer System, and for disposal districts.

4. Review and recommend amendments to the Plan to the Solid Waste Advisory Committee. Review and recommend amendments to this Agreement to the Parties of this Agreement.

F. Enterprise Fund: There shall be maintained an enterprise fund separate from all other funds within the City of Port Angeles into which revenues received from the Parties to this Agreement, fees, charges, and any other revenues associated with the operation and management of the Regional Solid Waste Export and Transfer System shall be deposited. This fund shall be part of the City of Port Angeles annual budget and administered in accordance with the City budget regulation and guidelines. Expenditures from the fund shall be made only for the Solid Waste Export and Transfer System and landfill projects and closure and post closure costs not captured during the operation of the landfill activities, including actual administrative costs of the Parties pursuant to their obligations under this agreement, the comprehensive solid waste plan, state and federal laws.

G. Costs: The costs of solid waste disposal and management of all Parties to this Agreement not otherwise reimbursed shall be included in the operation of the enterprise fund. These costs shall include, but not be limited to, operation of transfer sites, long haul, recycling operations, composting, capitalization of facilities and equipment, administrative costs, planning, and other costs directly related to regional Solid Waste Export and Transfer System/Landfill operations. The JSWAB shall determine inclusive costs which shall be fair, reasonable and equitable to all Parties of this Agreement when making budget recommendations to the City of Port Angeles City Council.

H. Fees and Charges: Fees for disposal shall be fair, reasonable and equitable and shall be applied equally throughout the jurisdiction of all participating Parties at the Port Angeles regional site. Fees shall be determined based on the cost of service and may be set in various amounts based on differences in waste types, the type of facility receiving that waste, commercial and self-haulers, and for any other fair, reasonable and equitable reason permitted by law. A separate fee structure may be developed for the Blue Mountain site, which shall be sufficient to cover all costs associated with operation of the Blue Mountain site. A surcharge or higher rate may be charged for solid waste collected within jurisdictions that are not signatories to this Agreement.

Section 7. Access to Records: Duly authorized representative of the Parties to this Agreement shall have the right to inspect the records of the JSWAB and the

accounts and records of the City of Port Angeles relating to solid waste disposal and transfer operations at any reasonable time.

Section 8. Assets and Liabilities: On termination of this Agreement, any assets owned separately by a Party shall remain the property of that Party. In entering into this Agreement, no Party assumes liability for the actions or activities of the other, except as provided by law or as may be agreed by the Parties.

Section 9. Miscellaneous Provisions

A. Effective Date: This Agreement shall take effect the first date on which all Parties have taken all necessary action to authorize and execute this Agreement.

B. Amendment. This Agreement may be amended only in writing and only by agreement of all Parties except as set forth in this section. The Parties hereby agree that this Agreement may be amended to allow any other governmental entity within Clallam County, including the City of Sequim, tribes and the Town of Forks, to join as an additional party. Additional parties joining shall not be members of the JSWAB. Additional parties shall be bound by all provisions of this Agreement.

C. Withdrawal: A Party may withdraw from this Agreement only upon unanimous agreement of all Parties, which agreement shall provide the means by which a penalty may be charged for withdrawal from the agreement by the Parties.

D. Non-Waiver: No waiver by any Party of any term or condition of this Agreement shall be deemed or construed to constitute a waiver of any other term or condition or of any subsequent breach whether of the same or of a different provision of this Agreement.

E. No Third-Party Beneficiary: This Agreement is entered into to protect the public health, safety and welfare of the residents of the City and County and to promote the effective and efficient disposal or other handling of solid waste in the City and the County. This Agreement is not entered into with the intent that it shall benefit any party not signing this Agreement, and no other person or entity shall be entitled to be treated as a third-party beneficiary of this Agreement.

F. Assignment: Upon the creation of a solid waste disposal district pursuant to Ch. 36.58 RCW, the County and any City opting into such a disposal district may assign its rights and obligations under this Agreement to the solid waste disposal district. No other assignment of this Agreement is permitted without the prior written consent of all Parties.

G. Severability: If any provision of this Agreement is determined to be invalid, the remaining provisions shall continue in full force and effect.

H. Counterparts: This Agreement may be executed in two or more counterparts, and each such counterpart shall be deemed to be an original instrument. All such counterparts together will constitute one and the same Agreement.

I. Risk Allocation – Liability: As among the Parties, the City of Port Angeles shall assume the risk for all activities and liabilities arising from the ownership and operation of the Regional Solid Waste Export and Transfer System and the Port Angeles landfill and shall hold harmless from the defense costs and liability Clallam County, except that Clallam County shall assume the risk from all activities and liabilities arising from the ownership and operation of the Blue Mountain facility. It is agreed among the Parties that the cost of liability insurance for such risk shall be considered an operation cost of the Regional Solid Waste Export and Transfer System and that any uninsured risk which results in a cost to the City and or County may be recovered by an appropriate increase in rates to cover any uninsured loss.

IN WITNESS HEREOF, this Agreement is executed by Clallam County and by the City of Port Angeles, Washington.

Dated this __ day of _____, 2004.

CITY OF PORT ANGELES

_____
Richard Headrick, Mayor

Attest:

_____
Becky Upton, City Clerk

Approved As To Form:

_____
William E. Bloor, City Attorney

Dated this ___ day of _____, 2004.

CLALLAM COUNTY BOARD OF COMMISSIONERS

_____
Stephen P. Tharinger, Chair

_____
Michael C. Chapman, Commissioner

_____
Howard V. Doherty Jr., Commissioner

Attest:

_____
Trish Perrott, Clerk of Board

Approved As To Form:

_____
Chris Melly, County Attorney