JEFFERSON COUNTY SOLID WASTE MANAGEMENT PLAN

FEBRUARY 2016

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JEFFERSON COUNTY SOLID WASTE MANAGEMENT PLAN

February 2016

Jefferson County Department of Public Works
623 Sheridan Street
Port Townsend, Washington 98368

ACKNOWLEDGMENTS

This Jefferson County Solid Waste Management Plan (SWMP) incorporates the program planning and changes put into practice since the previous solid waste plan was published in 2008. The Jefferson County Department of Public Works recognizes the following organizations, and those individuals who participated, for their significant contributions to program planning since 2008 and for their assistance in the development of this SWMP:

- Jefferson County's Solid Waste Advisory Committee members, past and present, and the agencies and businesses they have represented.
- Jefferson County's Public Works Department, Solid Waste Division staff.
- Jefferson County's Environmental Health Division staff.
- The City of Port Townsend.
- Washington Department of Ecology, Solid Waste Services staff.

Jefferson County residents also contributed to this document, through participation in open forum SWAC meetings, providing information on disposal methods, through comments received during countywide public meetings on solid waste services, as well as through various inquiries or comments. The Board of County Commissioners and the Public Works Department gratefully acknowledge this input by the citizens.

TABLE OF CONTENTS

4 Recycling

5 Organics

6 Waste Collection

7 Waste Transfer and Disposal

8 Special Wastes

8 Special Wastes, continued

9 Administration and Public Education

10 Implementation Plan

Glossary

Appendices

LIST OF TABLES

List of Tables, continued

8 Special Wastes

9 Administration

10 Implementation Plan

LIST OF FIGURES

2 Background of the Planning Area

4 Recycling

5 Organics

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EXECUTIVE SUMMARY for the JEFFERSON COUNTY SOLID WASTE MANAGEMENT PLAN

INTRODUCTION

This Jefferson County Solid Waste Management Plan (SWMP) is intended to provide guidance for the solid waste system in Jefferson County. The solid waste system includes garbage collection and disposal, and programs for waste reduction, recycling, organics, special wastes and the administration of those programs. This SWMP is intended to provide guidance on program development and implementation for these activities for the next five to six years, while also attempting to anticipate many needs of the solid waste system up to 20 years from now.

This document 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 minimum contents of this SWMP are specified by State law (RCW 70.95.090) and further described in Guidelines for Development of Local Comprehensive Solid Waste Management Plans and Plan Revisions issued by the Washington Department of Ecology (Ecology 2010). The Solid Waste Management Act specifies that this SWMP must "be maintained in a current and applicable condition" through periodic review and revisions (RCW 70.95.110).

OVERVIEW OF RECOMMENDATIONS

The specific recommendations proposed by this SWMP are shown below and are identified using a number and an abbreviation for the topic (for example, WR3 is the third recommendation for Waste Reduction). Additional details about the recommendations can be found in the appropriate chapter of the plan.

WASTE REDUCTION RECOMMENDATIONS

The following actions are recommended for waste reduction programs (see Chapter 3 of the SWMP for more details). Waste reduction is the highest priority waste management method because it preserves energy and resources, but can also be the

most difficult to implement. Nonetheless, several of the recommendations for waste reduction have the potential to provide significant economic benefit to the residents of Jefferson County.

High-Priority Recommendations for Waste Reduction:

WR1) Evaluate product stewardship programs as these are proposed on a statewide or national level, and support those programs when appropriate to the interests of their citizens and the business community;

WR2) Implement a program educating residents and businesses on how to reduce the wasting of edible food;

WR3) Promotion of clothing reuse and recycling.

Medium-Priority Recommendations for Waste Reduction:

WR4) Consider a ban on yard waste disposal as a part of Municipal Solid Waste (MSW) if public education and outreach efforts are not effective in diverting most of this material from the MSW waste stream;

WR5) Promote smart shopping;

WR6) Promote Fix-it workshops;

WR7) Publicize the availability of volume-based rates to Jefferson County residents and businesses by County, City and waste collectors;

WR8) Expand the recognition program for the business community;

WR9) Encourage Jefferson County and the City of Port Townsend to adopt policies and practices to reduce waste.

Low-Priority Recommendations for Waste Reduction:

WR10) Consider appropriate bans or tipping price structures to discourage disposal of recycling products as garbage;

WR11) Monitor and report to the SWAC waste reduction programs using performance based measures where possible.

RECYCLING RECOMMENDATIONS

The following actions are recommended for recycling programs (see Chapter 4 for more details). Recycling is working well in Jefferson County, but there is always more that can be done and more recycling has economic and environmental benefits.

High-Priority Recommendation for Recycling:

R1) Increase promotion and public education for curbside recycling in the unincorporated area, including at a minimum a notice provided to all garbage

subscribers that they can save money through recycling by subscribing to a lower level of garbage service.

Medium-Priority Recommendations for Recycling:

R2) Port Townsend to consider increasing curbside recycling frequency to weekly;

R3) Jefferson County to consider adoption of a service level ordinance, specifying that all waste collection subscribers in unincorporated areas also receive curbside recycling service;

R4) Consider switching to a dual stream (or single-stream without glass) recycling service county-wide;

R5) Jefferson County should consider additional steps to increase access to curbside recycling, including contracting for recycling services in the unincorporated areas, appropriate disposal bans and other mandatory measures;

R6) Conduct a recycling potential assessment, contingent on the availability of grant funding;

R7) Recycling programs that include fees to recycle difficult materials should be considered.

Low-Priority Recommendation for Recycling:

R8) Local applications should continue to be sought for glass recycling and reuse.

ORGANICS RECOMMENDATIONS

The following actions are recommended for organics collection programs (see Chapter 5 for more details). As with recycling, there is always more that can be done with organics, and doing more with organics would be beneficial in many ways.

High-Priority Recommendation for Organics:

O1) Promotion of on-site composting of food waste though education programs.

Medium-Priority Recommendations for Organics:

O2) Support of appropriate programs for commercial food waste diversion by the County and City;

O3) Support of appropriate programs for residential food waste diversion by the County and City.

Low-Priority Recommendation for Organics:

O4) Support alternative methods to divert pet waste as appropriate.

SOLID WASTE COLLECTION RECOMMENDATIONS

The following actions are recommended for waste collection programs (see Chapter 6 and Chapter 9 for more details). The current waste collection system in Jefferson County is working well, and only one recommendation is being made at this time.

Medium-Priority Recommendation for Solid Waste Collection:

WC1) Examine benefits of a collection district for implementing universal waste collection in Jefferson County.

WASTE TRANSFER AND DISPOSAL RECOMMENDATIONS

The following actions are recommended for transfer and disposal programs (see Chapter 7 for more details). Although only a few recommendations are being made for the transfer and disposal system in Jefferson County, these activities being addressed potentially have program impacts and costs associated with them.

High-Priority Recommendation for Transfer and Disposal:

T&D1) Conduct improvements to the Quilcene Drop-Box facility as funding is available.

Medium-Priority Recommendations for Transfer and Disposal:

T&D2) Conduct improvements to the Jefferson County Solid Waste Disposal Facility based on facility assessment options and the Solid Waste Master Plan update;

T&D3) Prepare an analysis of waste export alternatives.

SPECIAL WASTE RECOMMENDATIONS

The following actions are recommended for special waste programs (see Chapter 8 for more details). Seven types of special wastes are examined in the plan, and four of those were determined to warrant further work.

High-Priority Recommendations for Special Wastes:

SW1) Conduct more education for proper disposal of sharps;

SW2) Disaster debris designated staging areas to include the Jefferson County Solid Waste Disposal facility and the Quilcene Drop-Box site;

SW3) Develop a disaster debris strategy;

SW4) Conduct more education for public use of the MRW Facility and safer alternatives for disposal of toxic products.

Medium-Priority Recommendations for Special Wastes:

SW5) Identify additional staging areas for disaster debris in Jefferson County as part of the disaster debris strategy;

SW6) Consider development of a disaster debris management plan if funding becomes available;

SW7) Expand collection of additional types of moderate wastes at the Jefferson County Transfer Station and the Quilcene Drop-Box facilities;

SW8) Encourage Jefferson County retail locations selling pharmaceuticals to use point-of-sale signs and brochures to promote proper disposal of unused pharmaceuticals;

SW9) Support product stewardship programs for pharmaceuticals, as appropriate;

SW10) Investigate options for an expanded pharmaceutical drop-off program in Port Townsend;

SW11) Support derelict vessel de-construction facility at the Port of Port Townsend, as appropriate.

ADMINISTRATION AND PUBLIC EDUCATION RECOMMENDATIONS

The following actions are recommended for administration programs (see Chapter 9 for more details). Administration and public education are critically important elements of the solid waste system, especially in regards to the future stability of the system.

High-Priority Recommendation for Administration and Public Education:

A&PE1) Public information and education programs will be continued through joint Health/Public Works collaboration, and in cooperation with the City of Port Townsend, haulers and recycling companies. These efforts will be expanded if possible.

Medium-Priority Recommendations for Administration and Public Education:

A&PE2) Funding alternatives for recycling and other solid waste programs will continue to be explored with the goal of these programs being financially self-supporting;

A&PE3) Programs to encourage waste reduction and recycling by the commercial sector will be continued, and expanded if possible;

A&PE4) Conduct disposal rate reviews periodically to ensure adequate funds are being collected to support solid waste programs and mandates;

A&PE5) Potential benefits of a collection district should be examined in the future.

IMPLEMENTATION DETAILS

The following Table ES-1 details information contained within the SWMP about the implementation of recommendations.

Table ES-1
Implementation Summary for Recommendations

Recommended Activity	Lead Agency	Priority	Annual Cost	Funding Source
Waste Reduction				
WR1) Evaluate and support product stewardship programs	PW	H	Staff time	Tipping fee
WR2) Educate residents and businesses about wasted food	PW/Health	H	Up to $15,000	Tipping fee/grants
WR3) More promotion for clothing reuse and recycling	PW/Health	H	Staff time	Tipping fee/grants
WR4) Consider yard waste disposal ban	PW and City	M	Staff time	Tipping fee
WR5) Promote smart shopping	PW	M	Up to $15,000	Tipping fee
WR6) Promote fix-it workshops	PW	M	Staff time	Tipping fee
WR7) Publicize available volume-based rates	PW	M	Staff time	Tipping fee
WR8) Continue and expand recognition program for businesses	Health	M	Up to $25,000	Tipping fee
WR9) Encourage adoption of policies, practices to reduce waste	County, City	M	Staff time	Tipping fee
WR10) Consider other bans as appropriate	PW	L	Staff time	Tipping fee
WR11) Monitor waste reduction with performance-based measures	PW/Health	L	Staff time	Tipping fee
Recycling				
R1) Increase promotion and education for curbside recycling in unincorporated areas	Hauler	H	Up to $25,000	User fees
R2) Consider weekly curbside recycling in City	City/Hauler	M	Significant *	User fees
R3) Consider bundling recycling with garbage collection	PW	M	Significant *	User fees
R4) Consider switching to a dual stream (or single-stream without glass) recycling service county-wide	PW/Hauler	M	NA	User fees
R5) Consider additional steps to increase curbside recycling	PW	M	Significant *	User fees
R6) Conduct a recycling potential assessment	PW	M	$25 – 75,000	Grants **
R7) Consider fees to recycle difficult materials	PW	M	0	User fees
R8) Local applications should continue to be sought for glass	PW/Skookum	L	NA	NA
Organics				
O1) Promote on-site food waste composting	PW/Health	H	Up to $25,000	Tipping fee/grants
O2) Support proposals for commercial food waste diversion	PW	M	Staff time	Tipping fee
O3) Support programs for food waste diversion as appropriate	PW	M	Staff time	Tipping fee

Notes: NA = Not Applicable, PW = Jefferson County Public Works, Health = Jefferson County Public Health, City = City of Port Townsend.
Recommendations have been abbreviated due to space constraints, see listing earlier in this section for complete wording.
* "Significant" = costs could be significant but are unknown at this time.
** Implementation of Recommendation R8 is contingent upon grants or other funds to cover costs.

Table E-1, Implementation Summary for Recommendations, continued				
Recommended Activity	Lead Agency	Priority	Annual Cost	Funding Source
O4) Support methods to divert pet waste as appropriate	PW	L	Staff time	Tipping fee
Solid Waste Collection				
WC1) Examine benefits of a collection district	PW	M	Staff time	Tipping fee
Transfer and Disposal				
T&D1) Conduct improvements to Quilcene Drop-Box	PW	H	Significant *	Tipping fee
T&D2) Conduct improvements to JCSWDF	PW	M	Significant *	Tipping fee
T&D3) Prepare analysis of waste export options	PW	M	Staff time	Tipping fee
Special Wastes				
SW1) More education for disposal of sharps	Health/PW	H	$5 – 10,000	Grants
SW2) Designate JCSWDF and Quilcene sites as staging areas for disaster debris	PW	H	0	NA
SW3) Develop a disaster debris strategy	PW	H	Staff time	Tipping fee
SW4) More education for MW Facility and safer disposal options	PW/Health	H	$5 – 10,000	Tipping fee/grants
SW5) Identify additional staging areas for disaster debris	PW	M	Staff time	Tipping fee
SW6) Develop a disaster debris management plan	PW	M	$50 – 100,000	Grants or other **
SW7) Collect additional MRW at JCSWDF and Quilcene site	PW	M	$5 – 7,000	Tipping fee
SW8) Encourage retailers to promote proper disposal of pharmaceuticals	PW/Health	M	$5 – 10,000	Tipping fee/grants
SW9) Support product stewardship for pharmaceuticals	PW	M	Staff time	Tipping fee
SW10) Investigate options for drop-off of pharmaceuticals in City	PW/Health	M	Staff time	Tipping fee
SW11) Support vessel de-construction facility at the Port	PW	M	Staff time	Tipping fee
Administration and Public Education				
A&PE1) Continue public education	PW/Health	H	Existing cost	Tipping fee/grants
A&PE2) Explore funding options	PW	M	Staff time	Tipping fee
A&PE3) Continue education for commercial recycling	PW/Health	M	Up to $75,000	Grants **
A&PE4) Conduct periodic rate reviews	PW	M	$25,000	Tipping fee
A&PE5) Explore benefits of establishing a collection district	PW	M	Staff time	Tipping fee

Notes: NA = Not Applicable, PW = Jefferson County Public Works, Health = Jefferson County Public Health, City = City of Port Townsend.
Recommendations have been abbreviated due to space constraints, see listing earlier in this section for complete wording.
* "Significant" = costs could be significant but are unknown at this time.
** Implementation of Recommendations SW6 and PE3 are contingent upon grants or other funds to cover costs.

CHAPTER 1
INTRODUCTION

1.1. ROLE AND PURPOSE

This Solid Waste Management Plan (SWMP) was prepared to provide a guide for solid waste activities in Jefferson County. This document 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 these plans must "be maintained in a current and applicable condition" through periodic review and revisions (RCW 70.95.110), hence the need for this update to the previous plan.

As indicated above, RCW 70.95 delegates the authority and responsibility for the development of solid waste management plans to the counties. Several other governing bodies may wish to participate in the planning process or conduct their own plans, including cities, Tribes, or Federal agencies. By State law, cities may fulfill their solid waste management planning responsibilities in one of three ways:

- by preparing their own plan for integration into the county's plan,
- by participating with the county in preparing a joint plan, or
- by authorizing the county to prepare a plan that includes the city.

The City of Port Townsend, which is the only incorporated municipality in Jefferson County, has authorized the County to include the City in their planning process. This action was in accordance with City Resolution No. 92-79 (see Appendix A).

The various Tribes in Jefferson County generally use local facilities for recycling and waste disposal. Because this SWMP may impact their current and future solid waste management options, the Hoh, Quinault and Jamestown S'Klallam Tribes were notified of this plan update. Federal agencies with significant facilities and activities in Jefferson County should also review this plan because of the potential impacts to their operations.

The minimum contents of this SWMP are specified by State law (RCW 70.95.090) and further described in Guidelines for Development of Local Comprehensive Solid

Waste Management Plans and Plan Revisions issued by the Washington Department of Ecology (Ecology). To summarize, solid waste management plans must contain:

- an inventory of existing solid waste handling facilities, including an assessment of any deficiencies in meeting current disposal needs (see Section 2.5).
- the estimated needs for solid waste handling facilities for a period of twenty years (see Section 2.4).
- a program for the development of solid waste handling facilities that is consistent with this SWMP and that meets the Minimum Functional Standards. The development program must also take into account land use plans, provide a six-year construction and capital acquisition program, and provide a financing plan for capital and operational costs (see Chapters 7, 9 and 10).
- a program for surveillance and control (see Chapter 9).
- an inventory of solid waste collection needs and operations, including information on collection franchises, municipal operations, population densities of the areas covered by either franchised or municipal operations, and projected solid waste collection needs for a period of six years (see Chapter 6).
- a comprehensive waste reduction and recycling element that provides for reduction of waste quantities, provides incentives and mechanisms for source separation, and provides opportunities for recycling source-separated materials (see Chapters 3, 4 and 5).
- waste reduction and recycling strategies, including residential collection programs in urban areas, drop-off or buy-back centers at every solid waste handling facility that serves rural areas, monitoring methods for programs that collect source-separated materials from nonresidential sources, yard debris collection programs and education programs (see Chapters 3, 4 and 5).
- an assessment of the impact that implementation of the SWMP's recommendations will have on solid waste collection costs (see UTC Cost Assessment Questionnaire in Appendix C).
- a review of potential sites for solid waste disposal facilities (see Appendix B).

1.2. RELATIONSHIP TO OTHER PLANS

This SWMP must function within a framework created by other plans and programs, including policy documents and studies that deal with related matters. Two of the more important documents are the Jefferson County Comprehensive Land Use Plan

(adopted in 1998 and most recently revised in 2014) and the City of Port Townsend Comprehensive Land Use Plan (adopted July 1996 and currently undergoing a significant update). Other important documents include the Jefferson County Hazardous Waste Management Plan and the State Solid and Hazardous Waste Plan (the "Beyond Waste plan").

1.3. PREVIOUS SOLID WASTE PLANS

Washington State enacted RCW 70.95.080 (requiring counties to develop solid waste plans) in 1969, and subsequently Jefferson County wrote their first plan in the 1970s. The most recent plan was adopted in 2008, and this document is intended to serve as a revision to that plan. Table 1-1 shows the recommendations from the 2008 plan and the current status of those recommendations.

Table 1-1
Status of the Recommendations from the Previous Plan

Recommendations from the 2008 Plan.	
Waste Reduction, Public Education	**Status**
WR1) County and City staff, with the SWAC's assistance, will periodically re-evaluate the County's overall goal for waste diversion and its components, including waste reduction.	Accomplished and ongoing
WR2) The County and SWAC will continue to investigate procedures for estimating the effectiveness of the waste reduction programs.	Accomplished and ongoing
WR3) County solid waste staff, with the assistance of the SWAC and other members of the community, will continue to research and promote options for reuse, including but not limited to, brochures advertising local opportunities (including thrift and secondhand stores), reuse at the County's Moderate Risk Waste Facility, expanded presence in the local media, and expanded use of County and City web sites.	Accomplished and ongoing
WR4) The County and City need to expand in-house waste reduction, recycling and procurement programs. Providing education, leadership and other assistance to businesses to implement similar programs will also be pursued. *	Ongoing-
PE1) Public education will be given a very high priority. Public education must include activities such as;	Accomplished
• classroom presentations and other outreach through the schools (PE2).	Ongoing
• presentations and booths at special events and other locations (PE3).	Ongoing
• education for the County's Moderate Risk Waste Facility will be expanded (PE4).	Accomplished
• education and promotion for the City's Biosolids Compost Facility, on-site composting and worm bins will be expanded (PE5). *	Ongoing
• a public education component must be included in all waste reduction, recycling or composting programs, and public education must continue to be a primary element of program maintenance in the City and County (PE6).	Ongoing
• the County will conduct outreach to inform citizens and businesses of the true costs of all components of the solid waste system, and any alternative funding options that may be considered by the County and City (PE7).	see RA1
• the County, through a cooperative effort by Public Health and the Department of Public Works, will expand education and enforcement addressing illegal dumping (PE8, see also Recommendations RA4 and S1).	see RA3

* These recommendations were retained in the current SWMP.

Table 1-1. Status of Recommendations from the 2008 Plan, continued.	
Waste Reduction, Public Education, continued	
• the County, with assistance from the SWAC, will conduct a recognition program for businesses that reduce and/or recycle a significant portion of their wastes (PE9). * • sustainability concepts will be included in public education materials (PE10). • the initiatives addressed by the Beyond Waste plan will be a high priority (PE11).	Accomplished Accomplished Ongoing
PE12) Public information and education programs will be implemented and expanded through a joint Health/Public Works agreement, and in cooperation with the City, haulers and recycling companies. *	Accomplished
PE13) A review will be conducted periodically of the public education program and other components of the solid waste system to evaluate the need to update or revise terms used so as to provide more meaningful communication.	On-going
Recycling	
R1) The County will continue to strive to meet a 50% goal for waste reduction, recycling, composting and waste diversion. *	Accomplished/On-going
R2) In order to meet the goal of improved recycling economics, existing recycling programs will be examined to increase their cost-effectiveness. Expanded recycling programs may require additional financial support. The SWAC will continue with its proactive role in addressing these issues. The County and City will continue to explore all funding and contract options for the recycling program.	Accomplished/ Periodic
R3) Public recycling containers should be available throughout the County. Options for locating these on County/City or other public property will be pursued, and incentives for encouraging private businesses to host recycling containers will be examined.	Accomplished
R4) The County and City will encourage market development for designated and potentially recyclable materials. Participation by the business community and economic development agencies will be encouraged, and priority should be put on finding feasible local alternatives for problem materials (such as the potential use of glass as aggregate).	Inactive
R5) The County and City will continue to support and encourage private efforts to divert recyclable materials from non-residential sources.	On-going
R6) A Recycling Potential Assessment (RPA) will be conducted in Jefferson County, contingent on grant funds being available for this. *	Inactive
R7) The County will continue to evaluate the possibility of pulling recyclable and/or reusable materials from solid waste after it is dumped on the floor of the Transfer Station.	Accomplished
R8) Any proposal for a mixed waste processing or composting system must include conducting an RPA and a demonstration or pilot project.	Terminated
Composting	
C1) The County will continue to partner with the City of Port Townsend to maintain and expand their biosolids composting operations. If the supply of compost increases above demand, the County and City will utilize the finished product on County and City properties and projects, when applicable.	Accomplished
C2) The County will promote organics reduction methods through the education program.	On-going
C3) Small-scale vermicomposting projects will be encouraged at schools and other locations. Home composting of food waste will be encouraged with public education on the proper methods for vermicomposting or incorporation into compost bins. *	Accomplished, Ongoing
C4) The feasibility of collecting food waste from commercial sources will be examined.	On-going
C5) Encourage composting and other alternatives for food waste generated by businesses and institutions. *	On-going
Waste Collection and Transfer	
WC1) Certificate haulers and municipal contracts will continue to use variable rate structures such as volume-based rates, and recycling discounts will be implemented by the certificated haulers to encourage recycling by their residential customers. The implementation of recycling discounts will require that the County first adopt a service ordinance addressing this rate structure.	Abandoned

* These recommendations were retained in the current SWMP.

Table 1-1. Status of Recommendations from the 2008 Plan, continued.	
Waste Collection and Transfer, continued	
T1) The County will continue to evaluate options for maintaining drop box service in the unincorporated areas of the County.	Accomplished
Disposal	
L1) Old dump sites that are known to exist in the County must be documented and inspected, with the goal of developing an assessment of their long-term liability.	On-going
WE1) The implementation of a "north-south corridor" to serve the western ends of both Jefferson and Clallam Counties is recommended, although further discussions will be needed to determine implementation details.	Accomplished by G-Cert haulers
Regulation and Administration	
RA1) Solid waste operations in Jefferson County shall be financially self-supporting, and the County and City should continue to pursue options for different fee structures that achieve this goal.	Accomplished
RA2) The County should continue to pursue and investigate all opportunities for regionalization of solid waste management programs.	On-going
RA3) Enforcement of City and County litter and solid waste ordinances should be given top priority.	On-going
Special Wastes	
S1) Increased education efforts will be conducted by Jefferson County Public Health to target residential medical waste and encourage proper disposal of it (see also PE8). *	Ongoing
S2) Public Works will continue to pursue and cooperatively manage a collection program for residential sharps.	Ongoing
S3) Public Works and Public Health will participate in statewide or other programs for pharmaceutical wastes.	On-going
S4) The City of Port Townsend and Jefferson County, with assistance from the SWAC, will continue to contribute to the discussion of septage disposal issues and problems.	On-going
S5) Existing opportunities for reuse (through reuse stores) and recycling of construction and demolition wastes will be promoted to homeowners and building professionals by the County as part of the public education efforts conducted for waste reduction and recycling.	On-going
S6) County staff and SWAC will participate in future discussions to evaluate the feasibility of a regional C&D landfill.	On-going
S7) Jefferson County staff will explore the feasibility of including a waste exchange in the design for the new transfer station.	On-going
S8) The County may participate in the state-mandated program anticipated to go into effect January 1, 2009.	Accomplished
S9) Restaurant inspectors from Jefferson County Public Health will educate restaurant owners and employees about proper handling and disposal practices for grease, and encourage recycling of this material where appropriate.	On-going
S10) The County will consider methods to encourage conversion of grease (and other waste materials) to biofuel.	Inactive
S11) A tipping fee will be instituted at the Jefferson County Waste Management Facility/Biosolids Compost Facility for land-clearing debris.	Accomplished
S12) On-site management of land-clearing debris will be strongly encouraged.	On-going
S13) Existing collection efforts for MRW, including regional cooperation, will be continued and possibly expanded where feasible. *	Accomplished
S14) More education is needed for MRW, especially for non-toxic alternatives and waste reduction. *	Accomplished

* These recommendations were retained in the current SWMP.

1.4. PROCESS FOR UPDATING THE SWMP

The County has regularly monitored the progress made in implementing the recommendations of the 2008 plan, and has frequently reviewed this progress with the Solid Waste Advisory Committee (SWAC) and others. The 2008 plan continued to provide valuable guidance and direction for solid waste programs in Jefferson County well into 2015, but several changes led to the need for a new plan including combination of the requirement to evaluate the current plan each five years and significant changes in the fee structure.

The first step in producing an updated SWMP was to work with the SWAC, County and City staff, State Ecology staff, Jefferson County residents and other interested parties to produce a draft of the revised plan. The formation, membership makeup, and role of the SWAC are specified by RCW 70.95.165. As required by State law, the Jefferson County SWAC includes individuals representing various interests in solid waste issues and functioned in a review and advisory capacity throughout the plan development process. The membership and affiliations of the people who were SWAC members during the development of the amended plan are shown in Table 1-2.

Table 1-2
Membership of the Jefferson County Solid Waste Advisory Committee (SWAC)

Members	Area of Representation	Appointment Date	Expiration Date
Al Cairns, Chair	Port of Port Townsend	6/17/2013	6/17/2017
Kent Kovalenko, Vice-Chair	D.M. Disposal, Murrey's Disposal	7/1/2013	7/1/2017
Lisa Crosby	District #1 Citizen Representative	11/4/2013	11/4/2017
Henry Fly	District #1 Citizen Representative	7/21/2014	7/21/2016
Alysa Russell	Skookum Contract Services	11/9/2015	11/9/2017
Kathleen Kler	Board of County Commissioners	Ongoing	
John Merchant	City of Port Townsend	4/4/2011	4/26/2015
David Zellar	City of Port Townsend	10/12/2015	10/12/2017
Jenifer Taylor	District #2 Citizen Representative	12/24/2014	10/12/2017
Bart Kale	Citizen at Large	10/12/2015	10/12/2017
Jean Ball	District #3 Citizen Representative	11/9/2015	11/9/2017
Alternate Members			
Terry Khile	Port of Port Townsend	6/17/2013	11/4/2017
Chad Young	D.M. Disposal, Murrey's Disposal	2/13/2012	2/13/2016

Current as of December, 2015.

The SWAC members not only represent the interests of their respective agencies and businesses, but as residents and members of the community they also represent the public's interest. The Jefferson County SWAC has been proactive throughout its existence by assisting with the County's solid waste budget, outreach efforts, and communication with the Board of County Commissioners.

The process of updating and adopting this SWMP consists of the following steps:

- preparation and review of revised chapters for comment by the SWAC members and County staff.
- compiling the revised chapters into a complete draft for review and comment by the SWAC members and County staff.
- development of a SEPA checklist for the draft SWMP.
- determination of cost and rate impacts using the Cost Assessment Questionnaire provided by the Washington Utilities and Transportation Commission (UTC).
- review of the Preliminary Draft SWMP by the public, Ecology and UTC.
- incorporation of public, UTC and Ecology comments to produce the Final Draft SWMP.
- adoption of the Final Draft by Port Townsend and Jefferson County.
- submittal of the Final SWMP with resolutions of adoption to Ecology for final approval.
- after final approval by Ecology, the process of updating the SWMP is completed and the implementation period for the new SWMP begins.

1.5. MISSION STATEMENT FOR THE SWMP

The Jefferson County Solid Waste Management Plan uses the following mission statement for guidance in program operations and development:

> **Jefferson County and its partners should conduct and promote activities that contribute to a reduction in waste. To the extent possible, solid waste should be viewed as a misplaced resource. At the same time, it should be recognized that actions need to be taken "upstream" from the point of waste generation to prevent the wasteful use of resources.**

The solid waste system in Jefferson County, as in other areas, continues to adjust to many external conditions that affect needs and operations. Likewise, this SWMP must be able to adjust to changes in order to continue to provide useful guidance. As

these changes unfold, it is intended that the above vision statement will continue to provide guidance for the solid waste system.

1.6. GOALS OF THE SWMP

In addition to meeting the requirements of State law and other mandates, the goals established by Jefferson County for this update of the Solid Waste Management Plan (not in order of priority) are to:

- maintain a solid waste system that provides a high level of public health and safety, and that protects the natural and human environment of Jefferson County.
- maintain an economically responsible program for solid waste management that recognizes the needs for environmental protection and service to the citizens of the County.
- continue to implement, to the extent possible and in descending order of priority, a solid waste management system that;
  - reduces the waste stream,
  - promote reuse,
  - promotes recycling, and
  - minimizes the amount of land required for future waste disposal.
- promote the use of private industry to carry out the components of the solid waste system, if feasible.
- encourage cooperative and coordinated efforts among government agencies, private companies and the public to support the goals of this SWMP.
- be consistent with other existing resource management and local plans.
- incorporate flexibility to accommodate future needs.

These goals are intended to be an expression of the vision for the planning process and the plan itself, as well as providing additional guidance for the long-term (20 years or more) implementation of the plan's recommendations.

1.7. ORGANIZATION OF THE SWMP

This plan is organized into the following additional chapters, each addressing particular elements of the County's solid waste management system:

Chapter 2: Background Information
Chapter 3: Waste Reduction

Chapter 4: Recycling
Chapter 5: Organics
Chapter 6: Waste Collection
Chapter 7: Transfer and Disposal
Chapter 8: Special Wastes
Chapter 9: Administration
Chapter 10: Implementation Plan

Chapter 2 provides important information about demographics, waste quantities and other factors common to the remaining chapters. For the specific elements of the solid waste system, Chapters 3 through 9:

- review existing programs, activities and policies in Jefferson County and the City of Port Townsend for each element of the solid waste system.
- identify needs, problems, or opportunities not addressed by existing activities and programs.
- examine alternatives to meet the identified needs, problems and opportunities.
- evaluate the alternatives.
- recommend future programs or actions as appropriate to the needs and abilities of the County's and City's residents, businesses and service-providers.
- present implementation schedules and costs for the recommended programs and facilities.

Following Chapter 10, the appendices provide information required for a SWMP, including a list of siting factors, the UTC Cost Assessment Questionnaire, the SEPA Checklist, and resolutions of adoption for this plan.

1.8. STANDARD NOMENCLATURE USED IN THE SWMP

This SWMP attempts to provide a standardized approach for the use of capitalized letters when referring to government agencies, including:

- **City**: When capitalized, this refers to the City of Port Townsend. When not capitalized, it refers to cities in general.
- **County**: When not capitalized, this refers to counties or county authority in general. When capitalized, this refers specifically to Jefferson County. In the latter case, the term may apply to the County government, to the unincorporated area outside of the City, or to the entire County (including the

City). Examination of the context will help clarify the exact meaning of the term. In cases where the term is referring to the County government, it could mean either the Public Works Department or Public Health (unless otherwise specified).

- **State, Federal and Tribes**: These words are almost always capitalized, on the grounds that these almost always refer to a specific state government (Washington State), as well as only referring to specific tribes affected by this SWMP and to a specific national government.

In a similar fashion, "Compost Facility," "Transfer Station," "Recycle Center," "Moderate Risk Waste (or MRW) Facility," Jefferson County Solid Waste Disposal Facility (or JCSWDF) and "Drop-Box" are capitalized when these are used to refer to specific facilities in Jefferson County.

This SWMP also uses standard nomenclature to distinguish between different types of solid waste and recycling containers. The term "drop box" may be used for solid waste or recycling collection boxes, "dumpsters" refers to the solid waste collection boxes generally used by individual businesses, "containers" generally refers to the large metal boxes used to collect recyclable materials, and "recycling bin" or "totes" refers to the smaller boxes used by households for curbside recycling. Recycling containers used by businesses are generally wheeled and so are called "carts."

This SWMP also attempts to pay careful attention to the use of "should," "shall," and "will." The word "should" is used to denote a guideline or a suggestion, or to recommend a specific course of action. The terms "shall" and "will" are used to denote a stronger obligation, with "will" being the strongest term in this plan for those activities that require action.

More information about the definitions used in this SWMP can be found in the Glossary which follows Chapter 10.

CHAPTER 2
BACKGROUND OF THE PLANNING AREA

2.1. INTRODUCTION

This chapter provides basic information that is used in later chapters of this SWMP, including information on the geography, demographics, current and projected waste generation patterns, and existing facilities in Jefferson County.

2.2. DESCRIPTION OF THE PLANNING AREA

An understanding of the physical and environmental conditions in Jefferson County is important because it provides a frame of reference for discussions of existing solid waste practices and future solid waste handling needs. Additional information on the physical characteristics of the County can be found in Appendix B.

Overview

Jefferson County is located on the Olympic Peninsula in northwestern Washington State. The County is bordered by the Pacific Ocean to the west, Clallam County to the north, Puget Sound and Hood Canal to the east, and Mason and Grays Harbor Counties to the south. The Olympic Mountains cut through the middle of Jefferson County, forming a significant geographic barrier for east-west travel. The County has a total area of approximately 1,800 square miles.

Topography

The topography of Jefferson County is extremely varied, with a range of elevation from sea level up to almost 8,000 feet. The dominant topographical feature is the Olympic Mountains, which comprises a major portion of the County. These mountains are a densely wooded wilderness with numerous streams and steep slopes. The remaining area of Jefferson County is comprised primarily of rugged foothills and coastal terraces.

Geology and Soils

The Olympic Peninsula is a region of complex geologic history, with several layers of sedimentary, igneous, and metamorphic rocks occurring in a variety of stages of deformation as a result of major tectonic activity. Repeated glaciation of the area has modified rock formations to create 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. The core rocks are also Miocene to Eocene in age but are more deformed than the peripheral rocks. Metamorphic lithology and textural characteristics are common in the core rocks.

Climate

The climate of Jefferson County is generally maritime in character with cool dry summers and wet mild winters, but the Olympic Mountains have the widest range of rainfall in the United States. The average annual rainfall in Jefferson County varies from 19 inches in Port Townsend (in the northeastern corner of the County) to over 130 inches on the western side of the Olympic National Park. Snowfall is heavy in the mountains and it remains at higher elevations until late in the summer. Little or no snow is experienced at lower elevations during most winters.

2.3. DEMOGRAPHICS

Current Population and Demographics

According to the Washington State Office of Financial Management, the 2014 population of Jefferson County was an estimated 30,700 people. The one city in Jefferson County, Port Townsend, had 9,355 residents in 2014, or 30.5 percent of the population. Table 2-1 shows the County's population distribution for 2010 and 2014.

Future Population/Demographics

Evaluating growth trends in an area's population is useful in determining future trends in solid waste generation. Table 2-2 shows historical and projected population figures for Jefferson County. As shown in Table 2-2, the population of Jefferson County is expected to increase significantly by 2040. The projected 2040 population of Jefferson County (40,093 people) represents a 32% increase over the current (2015) estimated population.

A significant portion of the current and future population in Jefferson County is expected to be people who are 65 years old and older. Figure 2-1 shows the current (2010) population distribution by age group for Jefferson County compared to the age distribution for Washington State. This factor is important for the solid waste system for several reasons, not the least of which is the impact to the types of services desired by this segment of the population. The lower mobility for some of the people in this age group means that more curbside and on-site services will be needed in the future. The presence of a large number of retirees has a mixed impact on the finances of the system because on one hand these people are on a fixed income but on the other hand many are doing well financially. The presence of a large number of retirees has actually raised the average income level for Jefferson County.

Table 2-1
Jefferson County Population by Area

Area	2010 Population	2010, Percentage	2014 Estimated Population	2014, Percentage
Incorporated Area:				
Port Townsend	9,113	30.5%	9,355	30.5%
Unincorporated Areas:				
Discovery Bay CCD	6,720	22.5%	NA	
Oak Bay CCD	10,092	33.8%	NA	
Quilcene Bay CCD	3,066	10.3%	NA	
West End CCD	881	2.9%	NA	
Subtotal, Unincorporated	20,759	69.5%	21,345	69.5%
Total Population	29,872		30,700	

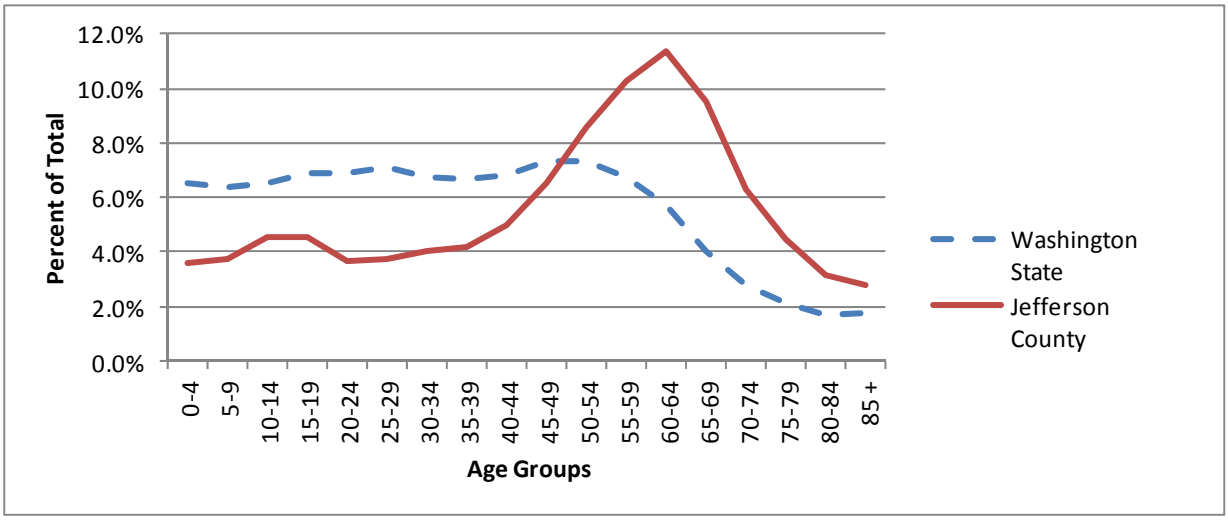
Notes: Data for Port Townsend is from the Washington State Office of Financial Management. Data by Census County Division (CCD) is from the Census Bureau's web page for American Factfinder.
NA = Not available, estimated population figures by CCD for 2014 are not available.

Table 2-2
Jefferson County Population Trends

Year	Total Population	Annual Increase
Historical:		
1960	9,639	---
1970	10,661	1.1%
1980	15,965	5.0%
1990	20,406	2.8%
2000	26,299	2.9%
2010	29,872	1.4%
Projected:		
2015	30,469	0.4%
2020	32,017	1.0%
2025	33,678	1.0%
2030	35,657	1.2%
2035	37,914	1.3%
2040	40,093	1.1%

Notes:
1. Population figures are from the Office of Financial Management.
2. Percent change calculated by dividing the increase from the previous year by the amount in the previous year, and then expressed as a percentage. For the historical data, the percent change represents a ten-year period, but for the projected figures it is only for a five-year period.

Figure 2-1
Population Distribution for Jefferson County



Seasonal Population Changes

Jefferson County experiences significant seasonal fluctuations in population for a variety of reasons, but the summer tourist population has especially increased in recent years. There are also a significant amount of seasonal (summertime) residents that are not included in the County's population statistics that must be considered since they create additional demand for certain types of programs and facilities during the summer months. According to the 2010 census, 13.7% of the housing units in Jefferson County are seasonal units. This is an increase from the 11.9% measured in the 2000 census. The seasonal visitors cause an increase in the amount of waste generated in the county during the summer months (see discussion of waste quantities later in this chapter), and can also pose a challenge for activities such as education and participation in recycling programs.

Urban-Rural Designation

State planning guidelines require that counties develop clear criteria for designating areas as urban or rural for the purpose of providing solid waste and recycling services. The urban-rural designations are important because these are the basis for determining the level of service that should be provided for recycling and other solid waste programs. For example, State law (RCW 70.95.090(7)(b)(i)) requires that recyclables be collected from homes and apartments in urban areas (although exceptions to this requirement can be granted if based on viable alternatives and other criteria), whereas drop-off centers can be used in rural areas.

The Jefferson County Comprehensive Land Use Plan will be used as the official determination of the areas designated as urban in Jefferson County. That document addresses other factors relevant to urban service levels and is periodically updated, and it is the official document for Jefferson County for designating urban areas. The Jefferson County Comprehensive Land Use Plan currently designates three areas as non-rural: the City of Port Townsend, the Irondale/Hadlock Urban Growth Area (UGA), and the Port Ludlow Mater Planned Resort (MPR). Ecology's planning guidelines recommend that these areas should receive curbside recycling services (which they currently do), while other areas of the County can be adequately served with drop-off centers. Other urban service areas may be created at a later date if the County approves additional urban growth areas, and for consistency any new UGAs should also be designated as urban areas for solid waste services.

2.4. QUANTITY AND COMPOSITION OF SOLID WASTE

An estimate of the composition and future quantities of solid waste in Jefferson County is necessary to provide the basis for determining solid waste handling needs for the next twenty years.

The total waste stream for Jefferson County consists of many types of wastes. Most of the County's wastes are handled through the Jefferson County Solid Waste Disposal Facility and transported to a regional landfill in Klickitat County, Washington. A portion of the waste stream is handled through other means. Waste from commercial sources may end up in other disposal systems, including waste from the Port Townsend Paper Company (which has its own waste hauler) and construction debris (where recycling opportunities may be available in other areas). Individuals may bring their waste to facilities in other counties, especially residents in western Jefferson County where a local disposal facility is not available.

This SWMP focuses primarily on "municipal solid waste" (MSW), which are those wastes generated by residential and commercial sources and that are meant to be handled through the County's solid waste disposal system. Wastes generated by industrial and agricultural sources are generally included to the extent that these are similar to what is disposed through the County's system and they don't require special handling, but special wastes handled separately by these sources may only be addressed briefly in this SWMP.

Current Solid Waste Quantities

Information on the current (2014) municipal solid waste quantities was provided by County staff from the records of the Jefferson County Solid Waste Disposal Facility (JCSWDF) and Ecology staff (for the amounts recycled and diverted from disposal). This information is summarized in Table 2-3.

Table 2-3
Solid Waste Quantities (2014)

Source	Annual Tons	Percent of Total
City of Port Townsend	4,312	24.2%
Murrey's Olympic Disposal	4,901	27.5%
Self-Haul to JCSWDF	8,450	47.4%
Quilcene Drop Box	176	1.0%
Total	**17,839**	**100%**

Notes: Annual tonnage figures for all sources are from data provided by County staff.

The tonnage figures in Table 2-3 do not include the special wastes that are handled separately from the municipal solid waste stream or the waste amounts that are exported to out-of-county facilities. For instance, these figures do not include the ash generated by Port Townsend Paper Company (which goes to a separate landfill) or agricultural wastes such as crop residues that are returned to the land.

The amount of waste generated in Jefferson County varies seasonally. As in many other areas, the lowest amounts of waste are disposed in the month of February. Unlike other areas, however, the highest amount of waste is disposed in July (other areas often see a peak in waste disposal quantities in the spring and, to a lesser extent, in the fall). In 2014, the amount of waste brought to the JCSWDF in July was 56% higher than in February. This pattern is evidence of the impact of tourism and seasonal residents on the County's solid waste system. Yard waste also shows seasonal fluctuations, which in this correlates to the cycle of vegetative growth. Table 2-4 and Figure 2-2 show the monthly amounts of solid waste and yard waste brought to JCSWDF (including deliveries from the Quilcene Drop-Box) in 2014.

Total solid waste tonnages in Jefferson County are also influenced by a large industry (Port Townsend Paper) and the Navy's operations on Indian Island.

Current Recycling Levels

The most recent recycling survey conducted by Ecology shows that 15,944 tons of materials were recycled in 2013, which was less than in the previous two years. Table 2-5 shows the tonnages of materials recycled in 2011, 2012 and 2013, and the average of these three years. A significant amount of the tonnage included in the recycling rate is being handled through Jefferson County's Recycle Center and Port Townsend's Biosolids Compost Facility. There are also other recycling operations in the County that are, in many cases, capturing other materials not normally handled by public facilities.

Table 2-4
Monthly Quantities of Solid Waste and Yard Waste (2014)

Month	Solid Waste	Yard Waste
January	1,372	132
February	1,132	115
March	1,472	189
April	1,479	275
May	1,508	309
June	1,533	304
July	1,760	252
August	1,679	216
September	1,677	212
October	1,453	220
November	1,371	158
December	1,402	159
Totals	**17,839**	**2,541**

Notes: Annual tonnage figures for all sources are from data provided by County.

Figure 2-2
Monthly Quantities of Solid Waste and Yard Waste (2014)

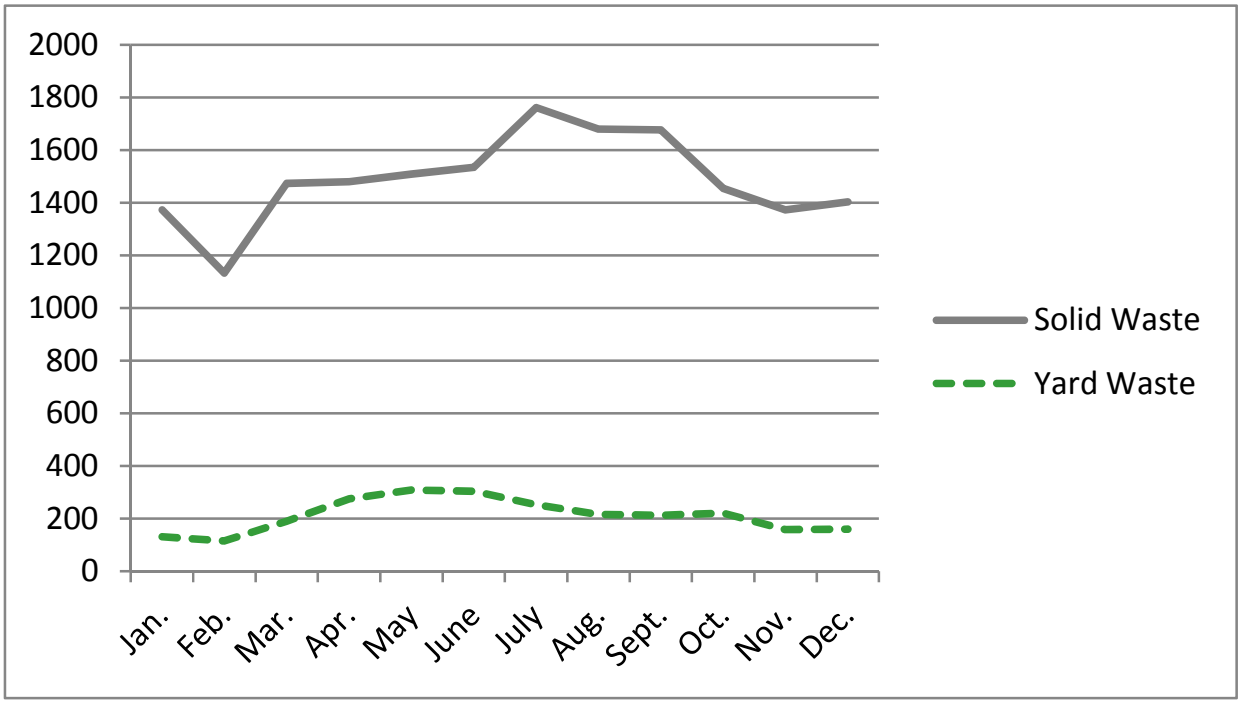


Table 2-5
Recycled and Composted Quantities by Material

Material	Annual Tons			Three-Year Average
	2011	2012	2013	
Recycled Materials				
Cardboard	3,057	1,202	1,245	1,835
Newspaper	409	250	160	273
Other Recyclable Paper	2,491	2,220	1,825	2,179
PET Bottles	142	113	8	88
HDPE Bottles	72	112		61
Other Plastics	126	107	14	83
Glass	349	65	1,001	472
Aluminum Cans	102	132	17	84
Tin Cans	138	112	11	87
Appliances/White Goods	111	451	132	231
Ferrous Metals	6,090	6,177	4,388	5,552
Non-Ferrous Metals	1,779	340	651	923
Food Waste	37	117	48	67
Yard Waste	8,685	5,860	6,019	6,855
Fats, Oils and Rendering	80	168	46	98
Textiles	23			8
Tires	212	55		89
Wood	301	360	75	245
Batteries, Auto Lead Acid	40	82	66	62
Electronics	44	113	169	109
Fluorescents	3	2	4	3
Used Oil	164	183	64	137
Total Recycled	**24,454**	**18,220**	**15,944**	**19,539**
MSW Disposed	16,857	16,971	17,153	16,994
Recycling Rate	**59.2%**	**51.8%**	**48.2%**	**53.1%**
Diverted Materials				
Agricultural Organics	400	250	300	317
Antifreeze	24	22	17	21
Asphalt, Concrete and C&D	3,347	6,566	10,624	6,846
Batteries (all other)	0.5	16	23	13
Food Waste	72	103	3	59
Glass (for aggregate)	655	965		540
Landclearing Debris	38	6,687	1,160	2,628
Oil Filters	6	7	0.5	5
Reuse (clothing, household)	15	15		10
Tires (baled, burned, reused)	52	16		23
Used Oil (burned)			45	15
Wood (burned for energy)	24	9	28	21
Miscellaneous	7	5	1	4
Total Diverted	**4,641**	**14,660**	**12,202**	**10,501**

Notes: Data is from Ecology's annual recycling survey.

The bottom section of Table 2-5 shows several materials that are not included in the definition of "recycling" and so cannot be included in the calculation of a recycling rate. These "diverted" materials, including materials burned for energy recovery, and also asphalt, concrete and other building materials that were recycled, are still being put to a beneficial use but simply don't "count" as recycling.

The data in Table 2-5 can be combined with disposal data to calculate the recycling rate for Jefferson County (see Table 2-6). The most recent recycling survey conducted by Ecology shows that 48.2% of Jefferson County's waste stream was recycled and composted in 2013. This figure is generally called a "recycling rate," although it also includes composting. The figure is based on 15,944 tons reported as being recycled and composted in 2013, versus a total of 33,097 tons of MSW generated (i.e., MSW disposed plus the amount recycled).

The data shown in Table 2-6 can also be used to calculate a "diversion rate," which includes the diverted materials that are not counted as recycling. In this case, other types of waste, which are not defined as MSW, must also be included in the calculation. As can be seen in Table 2-6, the diversion rate can be either higher or lower than the recycling rate depending on the amounts of these other wastes.

Table 2-6
Recycling and Diversion Rates

Material	Annual Tons			Three-Year Average
	2011	2012	2013	
MSW:				
Recycled Materials	24,454	18,220	15,944	19,539
MSW Disposed	16,857	16,971	17,153	16,994
Waste Generation (Recycled Amount + MSW Disposed)	41,310	35,191	33,097	36,533
Recycling Rate	**59.2%**	**51.8%**	**48.2%**	**53.1%**
All Wastes:				
Recycled Materials	24,454	18,220	15,944	19,539
Diverted Materials	4,641	14,660	12,202	10,501
All Recovered Materials	29,095	32,880	28,145	30,040
MSW Disposed	16,857	16,971	17,153	16,994
Other Wastes Disposed	5,682	6,514	5,803	5,999
Total Wastes Disposed	22,538	23,484	22,956	22,993
Diversion Rate	**56.4%**	**58.3%**	**55.1%**	**56.6%**
Pounds per Capita:				
Population	30,050	30,175	30,275	
Recycled, pounds/person/yr	1,628	1,208	1,053	1,296
Disposed, pounds/person/yr	1,122	1,125	1,133	1,127
Generated, pounds/person/yr	2,749	2,332	2,186	2,423

There is little data available on the current levels of waste diverted by most forms of waste reduction, although a few categories of reuse are at least partially tracked. If all waste reduction activities and the missing recycling tonnages could be accounted for, the County's current diversion rate could be significantly greater.

Solid Waste Composition

Composition data is useful for designing solid waste handling and disposal programs. No waste composition study has been performed in Jefferson County to date, and waste composition studies have not been performed recently in neighboring counties. The best available data for Jefferson County appears to be either a waste composition study that was conducted for Clallam County in 2003 or a more recent study (2014) for Thurston County. The results for these two studies are shown in Table 2-7. These studies used slightly different categories for dividing up the waste streams of the two counties, and so some adjustments had to be made to create comparable categories. The data shown for specific sources are from the results of the Clallam County study.

The solid waste composition figures shown in Table 2-7 are typical of the waste streams in many areas, but the figures are only an approximation of Jefferson County's waste stream. For instance, this data does not reflect local differences caused by specific recycling programs or by regulations such as Port Townsend's polystyrene and plastic bag bans. Prior to any major investments that depend on the composition of the waste stream, such as a solid waste composting or other processing facility, an actual waste composition study should be conducted in Jefferson County.

Waste composition can be expected to change in the future due to changes in consumption patterns, packaging methods, disposal habits, tourism and other factors. These changes are very difficult to predict in the long term. Furthermore, implementation of this SWMP is expected to affect waste composition in Jefferson County by changing purchasing and disposal habits.

Future Solid Waste Quantities

In Table 2-8, waste quantities have been projected using the current (2013) per capita generation rate multiplied by population forecasts for the County. The amounts of diverted materials and non-MSW types of solid waste are not included in these figures because these materials are typically handled outside of the County solid waste system. By using the current per capita rate without adjustments, the projected figures assume no change in the percentage of material recycled and reduced. While it could be assumed that the percentage of recycling will increase and that waste reduction will further decrease the amount of waste that is disposed, the projections shown in Table 2-8 provide a conservative baseline estimate for planning purposes. This approach also assumes no change in the amount of waste

Table 2-7
Estimated Waste Composition in Jefferson County

Material	Clallam County, 2003	Thurston County, 2014	Select Waste Streams, % by Wt. *			
			Single-Family Homes	Residen-tial Self-Haul	Commer-cial	C&D
Paper	**19.9%**	**15.6%**	**21.4%**	**20.6%**	**24.9%**	**6.7%**
Cardboard	3.9	3.3	3.1	3.7	5.1	3.2
Newspaper	1.9	0.5	3.3	1.1	2.1	0
Other Recy. Paper	8.4	5.6	10.2	8.5	10.0	0.4
Compostable Paper	4.3	3.8	4.2	5.3	6.7	0.1
Non-Recyclable Paper	1.4	2.4	0.7	2.0	1.1	3.0
Plastic	**12.9**	**11.6**	**11.8**	**11.8**	**14.7**	**4.9**
PET Bottles	1.2	0.8	1.1	0.4	1.3	0.1
HDPE Bottles	1.1	0.5	1.3	1.2	0.9	0
Film and Bags	4.8	5.0	4.8	2.7	6.8	1.8
Other Plastics	5.9	5.3	4.7	7.5	5.6	3.0
Glass	**3.6**	**4.2**	**4.6**	**5.0**	**3.9**	**0.1**
Clear Bottles	1.8	1.3	2.3	2.7	2.0	0.1
Green Bottles	0.5	0.3	0.6	0.9	0.7	0
Brown Bottles	0.9	1.1	1.3	0.9	1.0	0
Other Glass	0.3	1.4	0.4	0.5	0.2	0
Metals	**7.2**	**4.9**	**6.4**	**7.7**	**7.4**	**5.8**
Aluminum Cans	0.9	0.4	0.9	0.8	0.8	0
Tin Cans	1.6	0.2	2.1	1.6	1.1	0.1
Other Metals	4.6	4.3	3.5	5.2	5.5	5.6
Organics	**18.5**	**20.1**	**25.4**	**22.7**	**21.4**	**0.8**
Food Waste	15.4	16.9	18.5	20.0	19.2	0.8
Yard Debris	3.1	3.2	6.9	2.7	2.2	0
Other	**23.9**	**27.2**	**27.4**	**17.5**	**20.5**	**4.8**
Disposable Diapers	2.2	2.8	3.9	1.4	2.2	0
Textiles, Shoes	3.2	3.7	5.2	3.7	2.1	0.1
Tires, Rubber Products	0.6	0.2	1.0	0	0.6	0
Haz./Special Wastes	1.0	3.3	0.6	1.7	1.0	0
Other Materials	17.0	17.3	16.8	10.7	14.6	4.8
Wood, Const. Debris	**14.0**	**16.6**	**3.0**	**14.8**	**7.3**	**76.8**
Wood Waste	7.5	9.3	1.4	10.3	5.8	28.1
Construction Debris	6.5	7.3	1.6	4.5	1.5	48.8

Notes: * Data for the select waste streams is from the Clallam County Solid Waste Composition Study, June 2003.
All figures are percent by weight.

Table 2-8
Projected Solid Waste and Recycling Quantities for Jefferson County

	Per Capita Rates (2013)	2015	2025	2035
Population		30,469	33,678	37,914
Recycled Amounts, tons/year	0.53	16,046	17,736	19,966
Disposed Amounts, tons/year	0.57	17,263	19,081	21,481
Total Waste Generated, tons/year	1.10	33,309	36,817	41,447

Source: Based on the per capita figures shown in Table 2-6 and population figures shown in Table 2-2.

migrating to out-of-county facilities and other factors such as tourism remaining proportionate to increases in the general population.

2.5. EXISTING SOLID WASTE FACILITIES

The primary solid waste and recycling facilities are co-located at 325 County Landfill Road, which is near Port Townsend about 0.75 miles west of Highway 20. The facilities at this location include the main transfer station, the recycling facility operated by Skookum Contract Services, and the City of Port Townsend's Biosolids Compost Facility. There is one other facility open to the public in Jefferson County for solid waste disposal, which is the Quilcene Drop-Box at 295312 Highway 101. That site accepts solid waste, recyclables and a limited range of moderate-risk waste (MRW). There is an MRW Facility at the Port of Port Townsend that accepts a wider range of potentially-hazardous materials.

Ecology records list a number of additional solid waste facilities that are not open to the public:

- Inert waste landfills operated by Port Townsend Paper and the Navy (on Indian Island).
- Three other recycling facilities: Leavitt Trucking and Excavating, Peninsula Auto Wrecking, and Miles Sand and Gravel.
- Two other composting facilities (the Short's Family Farm; Olympic Corrections Center).
- Three other biosolids facilities (Fort Flagler State Park, Olympic Water and Sewer, and Port Townsend Paper).

The primary solid waste facilities in Jefferson County (the Jefferson County Solid Waste Disposal Facility, the Quilcene Drop-Box and the MRW Facility) are transfer operations that consolidate and ship wastes to other sites outside of the county. As such, the capacities of these facilities are not limited to a fixed amount, but can be affected by open hours and other operational factors (although maintenance and facility upgrades are still important concerns, see Chapter 7 for more details). In reviewing the projected solid waste tonnages anticipated to be generated in Jefferson County over the next 20 years (see Table 2-8), these facilities appear to be adequate to handle these amounts.

2.6. NATIONAL AND GLOBAL TRENDS

This document primarily focuses on local and regional programs and services, but the impacts of national and global trends cannot be ignored. For instance:

- The global economy affects local programs by affecting the market value of materials collected for recycling.
- Climate change could have a significant impact on local systems, but the largest impacts may come from the policies and actions that may be implemented to address (reduce) the causes for climate change.
- The availability and pricing for fossil fuels may have significant impacts on transportation, costs and other activities in the future.

A complete analysis of these factors is beyond the scope of this document and the exact impact of these factors would be difficult to predict in any case, but key parts of the solid waste system should be designed to be flexible in order to accommodate impacts from these and other factors in the future.

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CHAPTER 3

WASTE REDUCTION

3.1. PREFACE TO THE WASTE REDUCTION, RECYCLING AND ORGANICS CHAPTERS

Introduction

This chapter and the following two chapters on recycling and composting describe existing programs and future plans for activities that reduce the amount of solid waste being generated or disposed in Jefferson County. This chapter discusses waste reduction methods that reduce the amount of waste being generated, while the next two chapters discuss methods that reduce the amounts being disposed. In other words, waste reduction methods prevent materials from becoming wastes, while recycling and composting handle materials that have been created as a waste. Collectively, these approaches (waste reduction, recycling and composting) are known as "waste diversion" in this plan.

Purpose

Chapters 3, 4 and 5 provide an update of the County's waste diversion methods and comply with State requirements regarding waste reduction and recycling opportunities and programs. The State requirements are shown in various sections of the Revised Code of Washington (RCW) and the Washington Administrative Code (WAC). Additional guidance is also provided by Ecology's solid waste planning guidelines and the Beyond Waste Plan.

In 2010, RCW 70.95.080 was amended to include:

(1) When updating a solid waste management plan developed under this chapter, after June 10, 2010, local comprehensive plans must consider and plan for the following handling methods or services:

(a) Source separation of recyclable materials and products, organic materials, and wastes by generators;

(b) Collection of source separated materials;

(c) Handling and proper preparation of materials for reuse or recycling;

(d) Handling and proper preparation of organic materials for composting or anaerobic digestion; and

(e) Handling and proper disposal of non-recyclable wastes.

(2) When updating a solid waste management plan developed under this chapter, after June 10, 2010, each local comprehensive plan must, at a minimum, consider methods that will be used to address the following:

(a) Construction and demolition waste for recycling or reuse;

(b) Organic material including yard debris, food waste, and food contaminated paper products for composting or anaerobic digestion;

(c) Recoverable paper products for recycling;

(d) Metals, glass, and plastics for recycling; and

(e) Waste reduction strategies.

The Legislature's stated intent for making this amendment was "increasing available residential curbside service for solid waste, recyclable, and compostable materials provides enumerable public benefits for all of Washington. Not only will increased service provide better system-wide efficiency, but it will also result in job creation, pollution reduction, and energy conservation, all of which serve to improve the quality of life in Washington communities. It is therefore the intent of the legislature that Washington strives to significantly increase current residential recycling rates by 2020."

The Beyond Waste Plan

Another relevant source of guidance on policies and goals is the State Solid and Hazardous Waste Plan. Commonly referred to as the "Beyond Waste plan," this plan has adopted a vision that states:

> *We can 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.*

This transition is expected to take 20-30 years or more.

The Beyond Waste plan has been recently updated (the "2015 Update"). The plan previously focused on actions that could be taken in five areas (industrial waste, small volume hazardous waste, organic materials, green building, and measuring progress). The updated Beyond Waste plan is divided into five sections:

Managing Hazardous Waste and Materials
Managing Solid Waste and Materials
Reducing Impacts of Materials and Products
Measuring Progress
Providing Outreach and Information

Each of these sections presents goals and actions that can be taken over the next five years. The updated plan also incorporates the concept of sustainable materials management, which has been adapted from recent work by the U.S. Environmental Protection Agency (EPA). Sustainable materials management looks at the full life cycle of materials, from the design and manufacturing phase, to the use phase, and then to the end-of-life phase when the material is either disposed or recycled. Materials management still focuses on recycling and disposal issues, but in looking at production methods and the use of materials, this approach can help identify more sustainable ways to design products that use less energy, water and toxics. This is important because the adverse environmental impacts of extraction, production and use can be far greater than those associated with disposal when the product becomes a waste. According to the EPA, a materials management approach is essential to conserving natural resources to meet both today's needs and those of future generations.

The Beyond Waste plan is referenced in later chapters of this SWMP as appropriate to the topics in each chapter. Copies of the Beyond Waste plan and additional information can also be downloaded from the Ecology's web site (www.ecy.wa.gov/beyondwaste/index.html).

3.2. EXISTING CONDITIONS FOR WASTE REDUCTION

Waste reduction is the highest priority for solid waste management according to RCW 70.95, and is preferred over recycling and composting because the social, environmental and economic costs are typically lower for waste reduction. All three methods avoid the cost of disposing of the diverted materials as garbage, but recycling and composting frequently require significant additional expenses for collecting and processing the materials. Those additional expenses are avoided in the case of waste reduction, where the waste is not produced. Examples of waste reduction methods include:

- Reuse a product.
- Reduce consumption of materials and products.
- Reduce materials used in product manufacturing.
- Increase the useful life of a product through durability and reparability.

By definition, waste reduction also includes activities and practices that reduce the toxicity of wastes that are created, but these methods are discussed in other parts of this plan (see Section 8.6). Other waste reduction activities in Jefferson County include public education, volume-based garbage fees, and backyard composting. These programs are discussed below.

Volume-Based Waste Collection Rates

A successful and effective tool for encouraging waste reduction (and recycling) is the use of "variable rates" or "volume-based rates," where households are charged significantly more for disposing of more garbage. Businesses are generally already charged according to the amount of garbage disposed and this approach is essentially impossible to implement for individual apartments, so this strategy typically refers only to single-family homes. Volume-based rates are currently provided throughout the County for single-family homes, however, this information is not easily accessible on the haulers' or City's websites.

Backyard Composting

An effective method of waste reduction is the composting of yard waste and vegetative food scraps on the property where it was generated (typically called "backyard" or "on-site" composting). The County's Waste Prevention Education Coordinator has provided educational materials for on-site composting in the past and conducted composting workshops through grants obtained from Ecology, and is currently available to answer composting questions. Compost bins are used at approximately 20 community gardens in Jefferson County. Port Townsend also collects yard waste for processing at the Biosolids Compost Facility (see Chapter 5).

Plastic Bag Ban

The City of Port Townsend has adopted a ban on single-use plastic bags, effective November 1, 2012. This ban applies to plastic bags offered at the checkout stands of grocery stores. Some types of plastic bags are still allowed, such as produce bags and bags used for newspapers and dry cleaning. The ban encourages the use of durable (reusable) shopping bags, thus reducing the number of bags used and also reducing litter.

Reuse

Waste reduction through reuse activity also occurs at second-hand and thrift shops, garage sales, used bookstores, and through similar activities. Several organizations in 2016 accept reusable clothing and other items, including Goodwill, ARC, the Children's Hospital Thrift Store, OlyCAP Thrift Store, Working Image, Waste Not, Want Not, US Again, and possibly others too. The Jefferson County Trading Post is a Yahoo group that allows people to buy, sell or trade goods and services locally. There is also a FreeCycle group for Jefferson County and a Craigslist group for the Olympic Peninsula, both of which help facilitate reuse of various products and materials. Other opportunities for reuse and waste reduction that are available in the County include the Habitat for Humanity stores in Port Townsend and Quilcene, reuse of polystyrene packing "peanuts," and a reuse shelf for paints and other household products at the Moderate Risk Waste Facility (see also Section 8.6). Cell phones and rechargeable batteries are collected at the MRW facility and at several

businesses. Computer refurbishment and reuse is available in the Port Townsend area.

Other Programs

Waste reduction by businesses is one of the activities encouraged through a Green Works program being conducted currently by the Health Department. Likewise, the Best Management Practices for the Clean Marina program address proper handling of solid and hazardous wastes, including waste reduction practices and use of the Jefferson County MW disposal facility for certain materials. Four of the marinas in Jefferson County are currently certified members of the Clean Marina program.

3.3. PLANNING ISSUES FOR WASTE REDUCTION

Waste reduction is the highest priority waste management strategy because it conserves resources, reduces waste management costs, and minimizes pollution. Waste reduction programs can be the most difficult to implement, however, because these programs may require changes in production methods and consumption patterns, and are influenced by national/global economies and other factors that are typically beyond the control of local government. Specific waste reduction issues are discussed below.

Food Waste

Food waste is one of the largest components of the waste stream (see Table 2-7) and so deserves attention as to the waste reduction potential for it. At the same time, there is increasing national awareness as to the amount of edible food that is going to waste. According to a recent report by the Natural Resources Defense Council,[1] 40% of edible food is wasted as it travels from farms to kitchen tables. According to the USDA, a family of four could save $2,275 per year by avoiding food waste through simple changes in the way they handle food purchases and storage. A recent study for Thurston County (the *2014 Thurston County Waste Composition Study*) showed that 7.2% of that county's waste stream was edible food.

Reuse as a Benefit to the Local Economy

Many of the reuse activities currently occurring in Jefferson County may seem minor or even trivial in scope, but these activities are actually providing a substantial amount of benefit for the local economy. The amounts of materials handled through activities such as backyard composting and individual reuse efforts (garage sales, Craigslist, eBay, etc.) are impossible to measure accurately, but some types of the economic activity in waste reduction can be measured. In a recent study for Clark County, Washington, it was concluded that there were 357 companies involved in

[1] From "Wasted: How America is Losing up to 40 Percent of its Food from Farm to Fork to Landfill," by Dana Gunders, staff scientist with the Natural Resources Defense Council, August 2012.

waste reduction activities (reuse, rentals and repairs) in that county. These companies employed 1,193 workers and were creating almost $86 million in sales for Clark County annually. So while perhaps some of the waste reduction activities may seem minor in nature, it should be kept in mind that these activities benefit the economy by creating local jobs and by helping residents and businesses "stretch" their budgets (by allowing them to purchase used or repaired goods or to rent items needed only for a short time). In addition, several of the organizations involved in reuse activities in Jefferson County are charities that are assisting disadvantaged people and families. Despite the large number of organizations addressing clothing in Jefferson County and other areas, however, the results of waste composition studies for other areas (see Table 2-7) show that 3-4% of the waste stream consists of clothing and shoes (not all of which would be reusable, but virtually all of this could be either reused or recycled).

Implementation Difficulty

Despite its high priority, waste reduction is a difficult topic for municipalities to address because it often requires either additional public education efforts or mandatory requirements (which are generally unpopular) and may require additional funding. The County must remain sensitive to the needs of local businesses, so product bans and other mandatory measures must be evaluated carefully.

Promotion of Volume-Based Garbage Rates

Existing volume-based garbage rates may currently not be publicized as well as these could be.

Measuring and Evaluating Waste Reduction Activities

Measuring waste reduction is difficult because the amount of waste generated in a specific area fluctuates with many variables, including economic conditions, seasonal changes and local weather. Hence, it can be difficult to demonstrate the cost-effectiveness or productivity of specific waste reduction techniques.

3.4. ALTERNATIVE WASTE REDUCTION STRATEGIES

The following alternatives were considered for new or expanded waste reduction activities. The listing of an alternative in this section does not mean that it is considered feasible or desirable, nor that it is recommended (see Section 3.6 for waste reduction recommendations).

Alternative A – Support New Product Stewardship Programs

Product stewardship is a concept designed to alleviate the burden of end-of-life product management on local governments. Product stewardship programs, or

"extended producer responsibility" (EPR), typically address a specific type of product and provide an alternative collection or disposal system. One of the principles that this approach is based on is that the manufacturers of a product should bear the cost of collecting and recycling (or disposing of) that product, and that this will create an incentive for them to reduce the weight and/or toxicity of their products. Retailers, if they are involved in a program, would have an incentive to carry products that are easier (and so less expensive) to collect and recycle.

Developing new product stewardship programs is beyond the scope of a county, but Jefferson County could participate in such programs developed by others. Any new product stewardship proposals at the state or federal level could be evaluated and supported as appropriate to the County's interests. The cost for implementing this alternative would primarily be a small amount of staff time, unless the County would be actively involved in a new collection program (which may require more time and expense, although in theory any expenses for an EPR program would be covered by manufacturers).

Alternative B – Ban Yard Waste from Garbage Disposal

Of all of the materials in the waste stream, yard waste is possibly the easiest material to handle through other means. Yard waste can be left on the lawn (mulching of grass clippings), applied as a mulch in landscaping and gardens, handled through backyard composting (for leaves, grass clippings and some types of food wastes), chipped on-site (for branches and other woody materials), or recycled through residential and commercial yard waste collection programs.

There is not much yard waste currently being disposed as garbage, but this approach could eliminate up to 3% of the current waste stream (see Table 2-7). If a ban or tipping fee differential price structuring is implemented, it should be accompanied by additional public education to promote alternatives such as mulching of grass clippings, backyard composting, and even vermicomposting (using worm bins to convert food wastes into a desirable soil amendment).

Alternative C – Ban Other Products or Materials

The City of Port Townsend or Jefferson County could consider banning additional products that are difficult to recycle and/or causing problems such as litter. Implementing this approach could potentially require a substantial amount of staff time to research and defend, plus additional staff time and outreach costs for informing the affected parties and possibly enforcing a ban.

Alternative D – Promote Smart Shopping

The City and County could conduct more promotion on the subject of smart shopping, such as buying in bulk (at least for non-perishable items). The City and

County could conduct a campaign that encourages:

- Buying in bulk.
- Buying concentrates.
- Purchasing reusable products.
- Buying secondhand items.
- Avoiding over-packaged items.
- Avoiding products containing hazardous ingredients.
- Borrowing or renting when possible.
- Purchasing durable and repairable products.
- Using reusable shopping bags.
- Shared ownership of large items with a neighbor or friend

These activities could provide benefits to personal finances as well providing benefits to the local economy (to the extent that local businesses can provide repair and rental services).

Alternative E – Fix-It Workshops

An idea that is gaining in popularity is the use of fix-it workshops, where people can bring items in need of repairs and knowledgeable volunteers show them how to fix the item. Organizing this type of workshop is probably better accomplished by a non-profit group, but the County could help promote the workshops, provide space for the events, and possibly assist in other ways.

Alternative F – Focus on Wasted Food

A substantial amount of edible food waste is unnecessarily discarded. A public education campaign could be used to inform residents of the meaning of expiration dates, opportunities to donate food, and other steps that could be taken to reduce food waste.

Alternative G – Promote Volume-Based Collection Fees

Information on volume-based rates could be more easily accessible and this approach could be promoted as a way to save money by recycling and reducing wastes. The success of this approach could be monitored by the number of people who sign up for the lower service levels.

Alternative H – Expand Business Waste Reduction Activities

General waste reduction information and ideas are currently being provided to the business community in Jefferson County through the Green Works program. Taking these efforts to the "next level" may require more detailed attention and guidance that is custom designed for each specific type of business. County involvement in this type of program would require additional staffing and so would be relatively

expensive. A serious effort in this approach may require a full-time staff person and related expenses for printed materials and travel, at a cost of $50,000 to $65,000. A more cost-effective approach might be to continue the existing activities, including continuing to build partnerships within the business communities.

Alternative I – Government Sector Leading by Example

The City and County could set an example for local businesses and organizations, and become a greater force in the marketplace by broadening and upgrading procurement policies. The City and County could target products that:

- Allow for greater waste reduction, such as purchasing copy machines that make double-sided copies more easily and setting duplex copying as default.
- Require replacement or repair less often, such as durable furniture.
- Are easily repaired, such as machinery with standardized, replaceable parts.
- Can be reused, such as washable plates and rechargeable batteries.
- Are nontoxic or less toxic, such as cleaning agents and solvents now available.

The City and County could also develop a more comprehensive in-house waste prevention program. By monitoring and reporting on effectiveness, costs, avoided costs, and program revenues for various waste reduction activities, the City and County could provide a model for local businesses and schools. In-house waste prevention programs could include:

- Double-sided copying.
- Routing slips instead of circulating multiple copies.
- Electronic mail for intra-office messages.
- Scrap pads from used paper.
- Reusing large envelopes.
- Use of very small cans for trash in individual offices, with larger containers provided for recycling.

To ensure the program's continued success, employees need to receive regular updates about waste reduction techniques. This information could be provided by informational notices or newsletters that are routed electronically on a regular basis.

Alternative J – Monitoring Waste Prevention Results

It would be useful to have a mechanism for monitoring the results of waste prevention programs in order to provide feedback to participants and to provide a basis for future adjustments in the approaches being used. For many communities, this is typically done by periodically calculating the waste generation rate on a per capita basis. Unfortunately, changes in the generation rate due to waste prevention

programs are typically very small in a given time period and so are easily masked or overwhelmed by other factors that can affect the amount of waste generated, such as economic problems or natural disasters. In the latter case, floods and storms can create large amounts of waste and it can be difficult to fully identify and separately account for these amounts.

One alternative is to periodically conduct surveys of residents or businesses about their activities to reduce waste, or to conduct waste stream surveys for specific materials, products or packaging. Both of these activities can be expensive and may still lead to ambiguous results, and so should be considered carefully and must be designed properly to achieve the desired measurement goals.

Another approach is to gauge success using a "performance-based standard." This is where waste prevention activities are presumed to be successful based on achieving a specific level of effort or other criteria. An example of this approach is to use the number of backyard composting bins that are distributed as a measure of the amount of yard waste that may be kept out of the waste stream. Other criteria can be used and these need to be tailored to each specific waste prevention activity. This method also has its drawbacks but can still provide viable data in some cases.

Alternative K – Promote More Clothing Reuse and Recycling

Educational materials could encourage people to bring reusable or recyclable clothing to charities and other collection programs for those. Specific educational materials could be designed for clothing, but it would probably be more cost-effective to include clothing in existing materials and websites. Clothing reuse and recycling could also be a special focus of a newspaper ad, fair booth and other educational opportunities. Additional recycling options could be explored or promoted, although this idea should be approached carefully so as not to undermine existing efforts that are collecting reusable clothing for charitable purposes.

3.5. EVALUATION OF WASTE REDUCTION ALTERNATIVES

Review of Rating Criteria

The above alternatives can be evaluated according to several criteria, including:

Consistency with Solid Waste Planning Goals: Does the alternative support the goal of emphasizing waste reduction as a fundamental management strategy and support other planning goals as well?

Feasibility: Can the alternative be adopted without controversy or legal issues. Also, is the alternative technically feasible?

Cost Effectiveness: Can the alternative be implemented in a cost-effective manner and can it be implemented without creating an excessive impact on the financial stability of the solid waste system?

Diversion Potential: How much can the alternative potentially divert from the waste stream?

Rating of Alternatives

Alternatives were rated as High for diversion potential if the alternative could potentially reduce the waste stream by more than 1%, Medium for 0 to 1%, and Low for alternatives that would have an impact of 0% or near zero. The ratings for the other three criteria were based on scores submitted by the SWAC members. The averages of those scores are shown in the following table.

Table 3-1
Ratings for the Waste Reduction Alternatives

Alternative	Consistency with Goals	Feasibility	Cost-Effective-ness	Diversion Potential	Overall Rating
A, Support product stewardship programs	H	H	H	L-M	H
B, Ban yard waste	H	L	M	H	M
C, Ban specific products	M	L	L	L-M	L
D, Promote smart shopping	H	H	M	M	M
E, Fix-it workshops	M	M	L-M	M	M
F, Focus on wasted food	H	H	H	H	H
G, Promote volume-based fees	H	M	M	H	M
H, Expand business waste reduction	H	M	M	M	M
I, Government sector leading by example	H	M	M	M	M
J, Monitoring waste prevention	M	L	L	L	L
K, More clothing reuse and recycling	H	H	M	H	H

Rating Scores: H – High, M – Medium, L – Low

3.6. WASTE REDUCTION RECOMMENDATIONS

The following actions are recommended for waste reduction programs Waste reduction is the highest priority waste management method because it preserves energy and resources, but can also be the most difficult to implement. Nonetheless, several of the recommendations for waste reduction have the potential to provide significant economic benefit to the residents of Jefferson County.

High-Priority Recommendations for Waste Reduction:

WR1) Evaluate product stewardship programs as these are proposed on a statewide or national level, and support those programs when appropriate to the interests of their citizens and the business community;

WR2) Implement a program educating residents and businesses on how to reduce the wasting of edible food;

WR3) Promotion of clothing reuse and recycling.

Medium-Priority Recommendations for Waste Reduction:

WR4) Consider a ban on yard waste disposal as a part of Municipal Solid Waste (MSW) if public education and outreach efforts are not effective in diverting most of this material from the MSW waste stream;

WR5) Promote smart shopping;

WR6) Promote Fix-it workshops;

WR7) Publicize the availability of volume-based rates to Jefferson County residents and businesses by County, City and waste collectors;

WR8) Expand the recognition program for the business community;

WR9) Encourage Jefferson County and the City of Port Townsend to adopt policies and practices to reduce waste.

Low-Priority Recommendations for Waste Reduction:

WR10) Consider appropriate bans or tipping price structures to discourage disposal of recycling products as garbage;

WR11) Monitor and report to the SWAC waste reduction programs using performance based measures where possible.

The lead agency responsible for implementing Recommendation #WR8 would be the Health department, and the other recommendations would be implemented by Jefferson County Department of Public Works and the City of Port Townsend. Funds could come from a surcharge on tipping fees at the transfer station, other available County and City funds, and possibly the CPG grant program administered by Ecology. The CPG funds are critical to the Health Department's activities, and

should these funds be reduced then it may not be possible for the Health Department to continue their activities at the same level.

The costs for five of these recommendations (WR1, WR3, WR4, WR7 and WR9) consist primarily of staff time. Recommendations WR2 and WR5 could cost up to $15,000 each, depending on the level of effort expended on promoting smart shopping and food waste issues. Recommendation WR8 could cost up to $25,000 (or more if the program is expanded), depending on how it is actually implemented. The cost for Recommendation WR4 could lead to additional future expenses for informing the public of a yard waste ban and possibly also costs for enforcement activities.

Recommendations WR1 and WR10 should be implemented on an as-needed basis. The implementation of Recommendations WR2, WR3, WR5, WR6, WR9 and WR11 should begin next year (2016). Promotion for WR4 should begin next year (2016) and the need for a disposal ban for yard waste should be evaluated in 2018. Additional publicity for volume-based rates (Recommendation WR7) should be addressed immediately. Recommendation WR8 should be ongoing if continued at the same level, and any expansion of this program may be contingent on availability of CPG funds (meaning that any program expansions for WR8 may need to wait until 2017 if CPG funds are reduced in the 2015-2017 biennium).

More details on the implementation of these and other recommendations are shown in Chapter 10.

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CHAPTER 4

RECYCLING

4.1. BACKGROUND FOR RECYCLING PROGRAMS

Definition of Recycling

"Recycling" refers to the act of collecting and processing materials to return them to a similar use. Recycling does not include materials burned for energy recovery or destroyed through pyrolysis and other high-temperature processes. The State's definition of recycling is "recycling means transforming or remanufacturing waste materials into usable or marketable materials for use other than landfill disposal or incineration. Recycling does not include collection, compacting, repackaging, and sorting for the purpose of transport" (Chapter 173-350 WAC). As indicated in the definition, the common use of the term "recycling" to refer to the act of placing materials in a special cart or other container to be collected separately from garbage is a misnomer, and recycling does not actually occur unless the materials are processed and then used to create new products. On the other hand, keeping recyclable materials separate from garbage at the point of generation is typically a critically-important first step in ensuring that the materials are actually recycled.

Recycling Goal

The State's goal is to reach 50% recycling and composting, and this goal was achieved in 2011 when the recycling rate rose to 50.7%. The most recent data shows the rate slipping a bit, dropping to 48.9% in 2013. RCW 70.95 does not mandate that each county or city adopt a 50% goal, since it is recognized that less-populated areas have greater barriers to cost-effective collection and marketing of recyclable materials. Each community is expected to set a goal that suits its situation, provided that the goal is based on justified and sound reasoning. RCW 70.95.090 explicitly recognizes that different levels of collection service are appropriate for urban and rural areas.

In Jefferson County, the current (2013) recycling rate is 48.2% (see Table 2.6) according to the State's definition of recycling and composting. After discussions with the Jefferson County Solid Waste Advisory Committee (SWAC), it was decided to that the County's goal should be to consistently achieve a recycling rate of 50% or better. This goal is intended to include recycling as well as composting of organics, but not waste reduction or "diverted" materials (materials diverted to beneficial uses but that are not counted as "recycling" by Ecology). The County's progress towards meeting this goal should be monitored primarily through the annual recycling survey conducted by Ecology, supplemented with local data as available and appropriate.

Recycling Materials Policy Statement

In 2010, Jefferson County, DM Disposal, and Skookum Environmental Services adopted the Recyclable Materials Policy Statement to provide guidance for the materials targeted for recycling. These standards were adopted in response to concerns about the need to maintain a high quality of materials collected for recycling because many of the materials are exported to markets outside of the U.S. These parties agreed that materials accepted as part of Jefferson County's recycling program should meet the following standards:

- Materials must be sold to buyers engaged in business practices that are verified to be environmentally and socially responsible.
- Materials must allow for the collection, processing and market delivery to be cost-effective for all parties involved.
- Materials must have a foreseeable long-term market.
- Materials may fill a short-term market "niche" or take advantage of an emergent opportunity when the collection of these materials advances the goals of the Solid Waste Master Plan.

This SWMP recognizes that strict adherence to this policy would be difficult and expensive. Hence, the above standards are intended to be used as guidelines to the extent practical.

4.2. EXISTING RECYCLING PROGRAMS

Drop-Off and Buy-Back Programs

Currently, there is only one buy-back center in Jefferson County and only one recycling processing center, both located at the Jefferson County Solid Waste Disposal Facility (JCSWDF) near the City of Port Townsend. Recyclable materials are accepted at the Jefferson County Recycling Center (at JCSWDF) and at the Quilcene Drop-Box Site, both of which are staffed during open hours. There is also a network of unstaffed recycling drop-off containers around the County that are maintained by contract with Skookum Contract Services, and currently (as of March 2015) there are seven such sites operating in Port Ludlow, Port Hadlock, Brinnon, Chimacum and other areas. The materials collected at these sites are shown in Table 4-1.

Recycling containers are also maintained by DM Disposal at two locations, both of which are in Port Townsend.

The exact locations of the recycling drop-off containers may be changed on short notice. In addition, not all of the locations accept all of the materials shown in Table 4-1.

Table 4-1
Materials Collected for Recycling in Jefferson County

Material	Jefferson County Recycling Center and Drop-Off Sites maintained by Skookum Contract Services	Curbside Routes in Port Townsend and Unincorporated Jefferson County (operated by DM Disposal)
Paper	Cardboard Newspaper Mixed paper Office paper	Cardboard Newspaper Mixed paper Office paper
Plastic	Plastic containers, #1 and #2 Tubs Buckets Rigid plant pots	Plastic containers, #1 and #2 Tubs Buckets Rigid plant pots
Glass	Glass bottles and jars, clear, green and brown (glass is not accepted at all locations)	Glass bottles and jars, clear, green and brown
Metal	Aluminum cans Aluminum pans and foil, clean Steel cans	Aluminum cans Aluminum pans and foil, clean Steel cans

Note: Information current as of January 2016.

Examples of other drop-off activities include:

- E-waste (electronics) can be dropped off at JCSWDF and some items at Goodwill (please call and verify acceptance).
- Fluorescent bulbs are accepted for recycling at the Jefferson County Recycling Center, at the Quilcene site, and at the MRW Facility.
- Used oil, car batteries and antifreeze are accepted at several locations in the City and County, including the JCSWDF, Quilcene site, and MRW Facility.
- Plastic bags are accepted by QFC and Safeway.

Curbside and Commercial Collection Programs

Curbside Recycling Programs: Curbside recycling service in the City of Port Townsend is provided through the contract for garbage collection services. The City of Port Townsend has had curbside recycling since 1993. The curbside program uses three bins for collection. Recyclables are collected every other week, on an alternating schedule with yard waste collection. The curbside program in the City is "mandatory" in that all customers pay for it through their garbage collection rates, whether or not they use the service. In the City of Port Townsend, there was an

average of 46.5 tons per month collected for the curbside recycling program in 2014. Table 4-1 shows the list of materials currently collected through the curbside programs.

In the unincorporated part of the County, residents and businesses have the option of subscribing to recycling services provided by Murrey's Olympic Disposal. The curbside program uses three bins for collection and recyclables are collected every other week.

Multi-Family Recycling: Recycling services for multi-family units (apartments) are generally provided only in Port Townsend, where the contract hauler is required to provide such services upon request. Several apartment buildings currently participate in the recycling program.

Commercial Recycling Programs: Commercial recycling services in Jefferson County are provided by DM Disposal and other recycling service companies, often for a fee. Other materials recycled in Jefferson County by private companies, either as a special service or through drop-off centers in and near the County, for example metals and grease. In 2014, DM Disposal collected an average of 66.0 tons per month from commercial sources in Port Townsend.

School Programs: The schools in the County have varying levels of recycling from non-existent programs to fairly comprehensive collection systems. Generally, there are bins for collecting materials in the classrooms and offices. Students, teachers and maintenance staff empty these into central containers. There is no consistency between all of the districts in the County (Brinnon, Quilcene, Chimacum, and Port Townsend Schools), and often there is inconsistency within a school district. The Students for Sustainability, a club at Port Townsend High School, has worked diligently to reinstitute the inconsistent recycling program and will continue to create a fully functional program at the school.

Processing: Materials collected from the recycling containers and the curbside and commercial collections are brought to the Jefferson County Recycle Center for some processing and shipment to markets. The City's contractor (DM Disposal) is required by contract to transport all recyclable materials collected in the City to the Recycle Center.

4.3. MARKET CONDITIONS AND DESIGNATION OF RECYCLABLE MATERIALS

Recycling Markets

State regulations (RCW 70.95.090(7)(c)) require "a description of markets for recyclables," hence a description of the markets for recyclable materials collected in

Jefferson County is provided below. This is intended to be only a brief report of current conditions, and it should be noted that market conditions for recyclables can undergo substantial changes in a short amount of time.

Market demand and prices for recyclables have fluctuated significantly over the past several years, just as prices for all commodities fluctuate with demand and other factors. Some recyclable materials have seasonal cycles in supply and demand, but all materials exhibit long-term trends with the possibility of sudden price spikes or dips. In some cases, long-term contracts with price floors can help moderate the swings in market revenues, but this isn't possible for all materials. Figures 4-1 and 4-2 show how the prices for aluminum cans and a few other materials collected from residential sources in the Pacific Northwest have fluctuated over the past 20 years. As can be seen in Figures 4-1 and 4-2, market prices dipped for most materials in 2008 and 2009 due to the slump in demand caused by the recession.

Another important factor for marketing of recyclable materials collected in Jefferson County is the cost of transporting the materials from the Olympic Peninsula. Recycling markets are often in Seattle or Portland, and so the cost of transporting materials to those areas is a barrier. The low market value of many recyclable materials limits the number of materials that can be cost-effectively moved to markets.

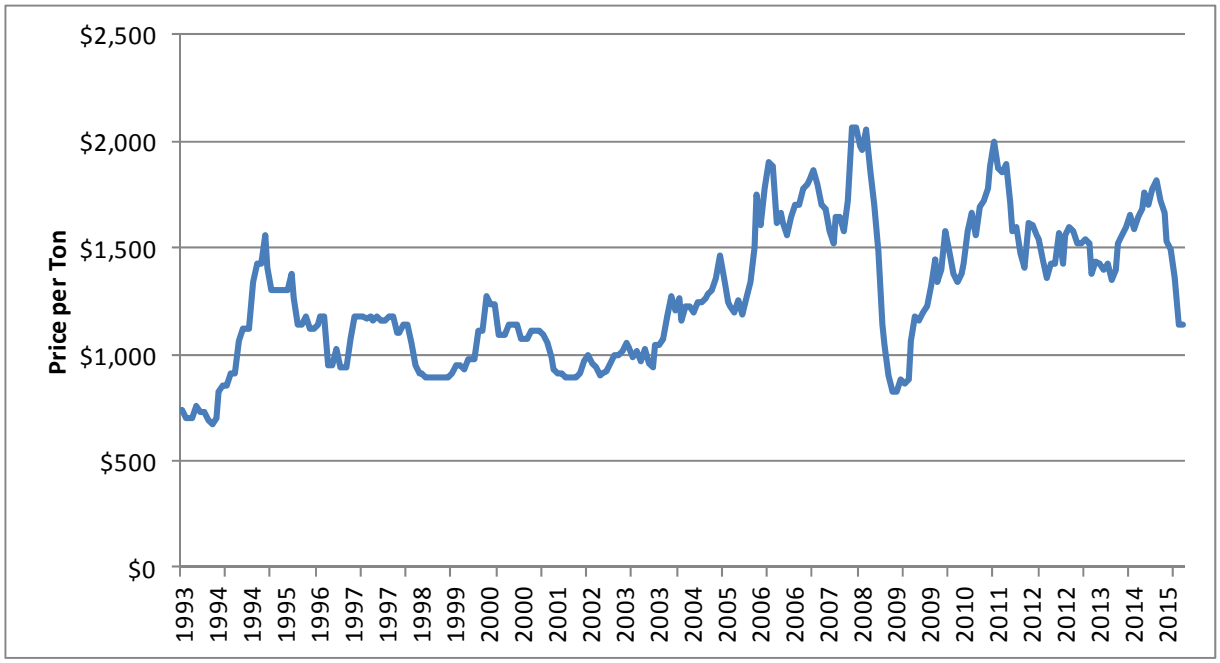
Designated Recyclable Materials

Designation of recyclable materials is an important step in solid waste plans since the adoption of Chapter 173-350 WAC, which defines recyclable materials as being those materials "that are identified as recyclable materials pursuant to a local comprehensive solid waste plan." Not listing a specific material as recyclable does not mean that it cannot or should not be recycled, but listing a specific material as a designated recyclable material typically makes it easier to implement programs or install facilities for those materials.

Table 4-2 shows the list of designated recyclable materials. This list is not intended to create a requirement that every recycling program in the County collect every designated material. Instead, the intent is that through a combination of programs, residents and businesses should have an opportunity to recycle all of the designated materials through at least one program. In other words, if plastics are on the designated materials list, then at least one program in the County must collect plastics. The list has been prioritized to indicate the degree of access that residents and businesses should have for these materials (in other words, greater access should be available for the higher-priority materials).

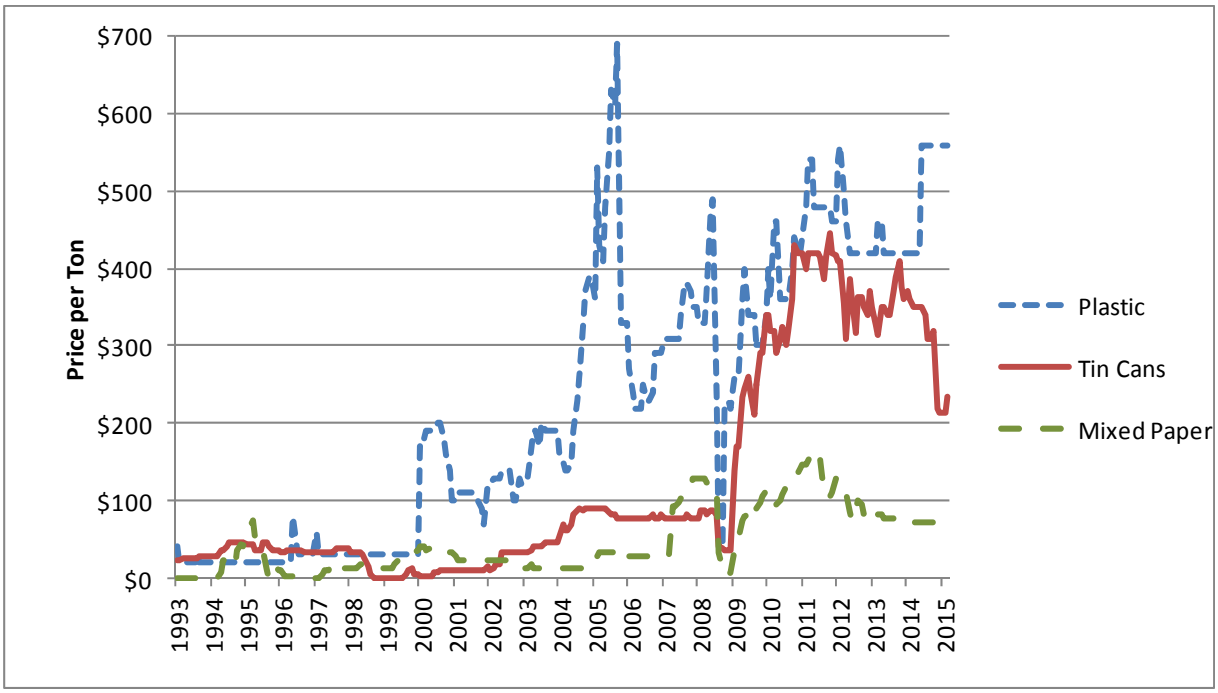
The list of "designated recyclable materials" shown in Table 4-2 should be used for guidance as to the materials to be recycled in the future. This list is based on existing conditions (collection programs and markets), and future markets and technologies

Figure 4-1
Price Paid for Baled Aluminum Cans



Source: Seattle Public Utilities website (original data source: American Metal Markets).

Figure 4-2
Prices Paid for Select Recyclable Materials



Source: Seattle Public Utilities website (original data sources are Mill Trade Journal's Recycling Markets, Pulp and Paper Week, Recycling Times, and Waste News).

Table 4-2
List of Designated Recyclable Materials

Priority Level	Material
Group 1: Materials that should be collected by the curbside, multi-family and commercial recycling programs.	Clean paper (newspaper, cardboard, office paper, and mixed paper) Glass bottles and jars Aluminum and steel cans, clean aluminum foil and pans Plastic bottles, jars and tubs
Group 2: Materials that should be collected at drop-off and buy-back locations or through other collection services.	E-waste (covered units) Cell phones Clothing, textiles, shoes Oil and oil filters Antifreeze Scrap metals and appliances Plastic buckets and plant pots Plastic bags Reusable building materials Yard waste Edible food (donated)
Group 3: Hard to recycle materials that should be recycled if markets are available.	Food waste Batteries (all types) Other electronics Wood Carpet Drywall Roofing materials Mixed construction and demolition Tires

may warrant changes in this list. The following conditions are grounds for additions or deletions to the list of designated materials:

- The market price for an existing material becomes so low that it is no longer feasible to collect, process and/or ship it to markets.
- Local markets and/or brokers expand their list of acceptable items based on new uses for materials or technologies that increase demand.
- New local or regional processing or demand for a particular material develops.

- No market can be found for an existing recyclable material, causing the material to be stockpiled with no apparent solution in the near future.
- The potential for increased or decreased amounts of diversion.
- Legislative or local mandate, or other new requirements.
- New or additional capital or processing costs.
- Other conditions not anticipated at this time.

Any proposed changes in the list of designated materials should be reviewed and approved by the Public Works Director, and minor changes in this list may be adopted without formally amending this SWMP.

4.4. PLANNING ISSUES FOR RECYCLING

Jefferson County is currently well-served by a variety of recycling and composting programs. The existing service level is, in fact, equal to or better than neighboring counties, thanks in part to the 24-hour availability of recycling drop-off sites. Some improvements and issues are addressed by this SWMP, however, and the most significant of these are noted below.

Collection Frequency for Recycling

The collection frequency for the residential curbside recycling program is currently every-other-week. Other studies have shown that more frequent collections will lead to more diversion. Some communities have gone so far as to make garbage collection every-other-week and recycling weekly to encourage more recycling.

Curbside Recycling Bundled with Garbage Collection

Another step taken by several other communities is to require that all garbage subscribers in the unincorporated areas also receive curbside recycling as part of that service. This approach is used in Spokane and Thurston Counties, for instance.

Problems with Glass

Glass is currently included in the curbside recycling program but is kept separate. When mixed with other materials, glass both contaminates the other materials and the glass itself is difficult to recycle.

Economics of Recycling

In general, recycling in Jefferson County depends on the efforts of private companies or on a non-profit organization under contract to the County. Market revenues from the sale of materials generally do not cover the costs of recycling processing. While recycling provides other benefits, including avoided disposal costs, reduced greenhouse gas emissions and reduced consumption of resources, the ability to

capture and apply these benefits and their costs to local recycling programs is lacking. Thus, recycling sales revenues must be supplemented using funds from other sources, such as revenues acquired through the solid waste disposal fees. In the long run, relying on disposal fees for funding recycling programs could be a problem if recycling and waste reduction continue to reduce the amount of waste being disposed. On the other hand, this approach increases the cost of waste disposal, which provides additional incentives for people to use less-expensive recycling and waste reduction options.

Low Population Density in County

One distinct barrier to increased recycling activities is the rural nature of most of the County. The County's population is widely distributed, and the west end of the County is separated from the majority of the population by the Olympic Mountains.

Market Stability

Long-term market stability may be a problem for some materials. Prices for most materials can be expected to fluctuate due to competition with raw materials and other economic factors. The quantity and quality of recycled material also influences the markets available and the price received. Local markets for recyclable materials may provide better and potentially more stable outlets for collected materials, while improving the local economy as well. Local markets are not, however, easily created.

Aging Population

The long-term plans for recycling and other services should take into account the idea that a substantial portion of the County's population is 65 and older. As of 2010, slightly more than 26 percent of the County's population was 65 or older (see Section 2.3 for more details). Current and long-term plans for recycling and other services should also address the fact that almost 14 percent of the residents are seasonal.

Lack of Local Data on Waste Composition

Current information on the composition of the waste stream (a measure of the potential for additional recycling) is available only through data borrowed from other areas. More accurate assessments of the performance of current recycling and waste reduction programs would be possible if local composition data were collected on the amount of disposed materials.

4.5. ALTERNATIVE RECYCLING STRATEGIES

The following alternatives were considered for new or expanded recycling activities. The listing of an alternative in this section does not mean that it is considered feasible or desirable, nor does it mean that it is recommended (see Section 4.7 for recycling recommendations).

Alternative A – Increase Curbside Recycling to Weekly Collection

Studies have repeatedly shown that more frequent collection of recyclables leads to increased tonnages collected. Several cities have recently gone so far as to make recycling collections weekly and changed garbage collection to every-other-week. In general, weekly recycling collections are not double the cost of every-other-week collections, but the additional cost is in the range of 30 to 50% more than every-other-week collections. Weekly collection programs can be expected to collect about 30 to 40% additional tonnages over every-other-week collections. It should be noted that the additional tonnages more than make up for the greenhouse gas emissions related to the additional fuel consumed to run the route twice as much, since every ton of recyclables carries with it a huge benefit in greenhouse gas reductions.

Alternative B – Increased Education and Promotion for Curbside Recycling in Unincorporated Areas

Increased publicity and promotion of the existing curbside recycling service in rural areas could be conducted to ensure that people are aware that it is available and to promote the idea that residents can save money by reducing their garbage service level. Promotional materials should also be distributed to non-subscribers for garbage service, to make they are aware of the services available,

Alternative C – Minimum Service Level to Include Curbside Recycling

Jefferson County could adopt a service level ordinance to require curbside recycling services for residential garbage customers in the unincorporated areas.

Alternative D – Other Options for Increased Access to Curbside Recycling

If the County desires to increase the availability of rural recycling services, there would be several options for achieving this. Jefferson County could:

- contract with a private company to provide residential recycling services.
- mandate specific services by an ordinance.
- enact a disposal ban on recyclables.

Counties have the authority to contract for residential recycling services under current State law (RCW 36.58.040). This authority does not extend to commercial recycling services or to garbage collection services for either residential or commercial customers (in the absence of a collection district). Other companies cannot be prevented from also offering recycling services. The advantage of exercising County authority is that the County would be in control of the system. The County could choose contractors and adjust the program as it develops to best meet the County's goals. If the County contracts for recycling services, however, the County will bear administrative costs. It may be necessary to assess additional surcharges on the tipping fee or on solid waste collection services to fund parts of the recycling program.

Alternative E – Options for Glass Recycling

The financial losses from recycling glass could potentially be resolved in several ways including partnership with a gravel, concrete or asphalt company to have glass bottles crushed and mixed with one or more of their products. However, this may require a significant capital outlay to provide a glass crusher specifically for this operation. Savings over time could then be realized from not having to then ship glass to markets in the Seattle/Tacoma area.

Alternative F – Conduct a Recycling Potential Assessment

A Recycling Potential Assessment (RPA) could be conducted to more accurately assess the potential for additional recycling in Jefferson County. This could be approached several ways:

- a waste composition study could be conducted. This approach generally provides detailed information on the four to five major sources of waste (residential, commercial/institutional, residential self-haul, and non-residential self-haul) and is conducted over two or four seasons. The cost for this type of study can be in excess of $60,000.
- an RPA could focus on specific types of waste, such as commercial or self-haul, and could use weighing studies or visual observations to identify key recyclable materials and the primary sources. The cost for this approach would depend on the scope of the effort and whether visual or weighing methods were used, but generally the cost for this approach is half or less of the cost for a waste composition study.
- a "paper study" could be conducted, using data borrowed from other areas but applying this data in more specific and precise ways than what was done in Chapter 2 of this plan (see Table 2.7). This would be the least expensive approach but it would probably not be beneficial in the case of Jefferson County, since it is unlikely that better data than what has already been used would be available (in other words, the data already shown in Chapter 2 is probably already the best possible matches for borrowed data).

Alternative G – Implement Commingled (Single-Stream) Recycling

Many communities in Washington State and across the U.S. have converted their curbside recycling programs from three-bin programs to single-stream programs where all recyclable materials are placed in a single cart. The cart is typically larger in volume (usually 96 gallons) than the set of three bins (which are typically 11-14 gallons each, or 33-42 gallons for all three bins). Smaller cart sizes are typically offered for households that may not have space for a 96-gallon cart. Regional trending in the last decade is toward single stream recycling with the largest claim being upwards of 10% more recovered recyclables.

The advantages of a single-stream approach are numerous, as are the disadvantages. This approach could lead to more recycling occurring in an area due to the convenience of a wheeled cart and the larger volume available in the cart. A disadvantage for this approach is that it could cause changes in the way recyclable materials are currently handled by Skookum Contract Services. The cost for the wheeled carts (about $70 per household) are also a disadvantage of this approach. Another significant issue with single-stream recycling is whether glass is included in the mix of recyclables. Including glass in the mix creates significant problems for the recycling of the glass and for the other materials (the glass is often not actually recycled, broken glass contaminates the paper and other materials, etc.). Not including glass in the mix will reduce recycling performance (glass is heavy and helps contribute to recycling goals) and will require an alternative collection system (which is also not without issues). If single-stream collection is implemented in Jefferson County, the best approach might be to implement a modified approach where glass is collected separately using a separate container placed next to the recycling cart (in other words, what is typically referred to as a "dual stream" approach). In other communities where this has been done (Clark County and the City of Portland, for instance), participants have been asked to use one of the existing recycling bins as the glass container.

Alternative H – Pay to Recycle Specific Materials

Allowing the option for participants to pay to recycle specific types of materials could allow additional types of materials to be recycled, including materials that are hard to recycle and materials with market values that do not pay for collection and transportation costs. For example, alkaline batteries (types AAA, AA, C, D, 9-volt and 6-volt lantern-style batteries) can be recycled if properly containerized. This activity would not "pay for itself" but could be self-financing if a small fee was charged for accepting the batteries for recycling. If a five-gallon bucket full of batteries weighs about 40 pounds, it would contain about 1,500 AAA batteries or 135 D batteries. At a fee of $0.25 per battery, for instance, the revenue for a five-gallon would be $34 to $375 for a "pure" bucket of only D batteries or only AAA batteries, respectively.

4.6. EVALUATION OF RECYCLING ALTERNATIVES

Review of Rating Criteria

The above alternatives can be evaluated according to several key criteria, including:

Consistency with Solid Waste Planning Goals: Does the alternative support the goal of emphasizing waste reduction as a fundamental management strategy and support other planning goals as well?

Feasibility: Can the alternative be adopted without controversy or legal issues. Also, is the alternative technically feasible?

Cost Effectiveness: Can the alternative be implemented in a cost-effective manner and can it be implemented without creating an excessive impact on the financial stability of the solid waste system?

Diversion Potential: How much can the alternative potentially divert from the waste stream?

Rating of Alternatives

Alternatives were rated as High for diversion potential if the alternative could potentially reduce the waste stream by more than 1%, Medium for 0 to 1%, and Low for alternatives that would have an impact of 0% or near zero. The ratings for the other three criteria were based on scores submitted by the SWAC members, and the averages of those scores are shown in the following table. The overall rating is an average of the ratings for the four criteria, and the overall rating is used as a guide for whether an alternative should be pursued and the level of priority given to it.

Table 4-3
Ratings for the Recycling Alternatives

Alternative	Consistency with Goals	Feasibility	Cost-Effective-ness	Diversion Potential	Overall Rating
A, Increase curbside recycling to weekly	M-H	M	L-M	H	M
B, Increased education and promotion in uninc. area	H	H	M	M	H
C, Minimum service level	M	L	M	H	M
D, Other options to increase curbside recycling	M	M	M	L-M	M
E, Options for glass recycling	M	L-M	L	L	L
F, Conduct a recycling potential assessment	H	H	L	L	M
G, Implement dual stream	M-H	L-M	L-M	H	M
H, Pay to recycle special materials	M-H	M	L	L	M

Rating Scores: H – High, M – Medium, L – Low

4.7. RECYCLING RECOMMENDATIONS

The following actions are recommended for recycling programs:

High-Priority Recommendation for Recycling:

R1) Increase promotion and public education for curbside recycling in the unincorporated area, including at a minimum a notice provided to all garbage subscribers that they can save money through recycling by subscribing to a lower level of garbage service.

Medium-Priority Recommendations for Recycling:

R2) Port Townsend to consider increasing curbside recycling frequency to weekly;

R3) Jefferson County to consider adoption of a service level ordinance, specifying that all waste collection subscribers in unincorporated areas also receive curbside recycling service;

R4) Consider switching to a dual stream (or single-stream without glass) recycling service county-wide;

R5) Jefferson County should consider additional steps to increase access to curbside recycling, including contracting for recycling services in the unincorporated areas, appropriate disposal bans and other mandatory measures;

R6) Conduct a recycling potential assessment, contingent on the availability of grant funding;

R7) Recycling programs that include fees to recycle difficult materials should be considered.

Low-Priority Recommendation for Recycling:

R8) Local applications should continue to be sought for glass recycling and reuse.

The certificated hauler (Waste Connections) will implement Recommendation R1, with assistance from the Jefferson County Solid Waste Department and the Health Department. The lead agency responsible for implementing Recommendation #R2 would be the City of Port Townsend. Jefferson County will be the lead agency for the other recommendations, with assistance from the City of Port Townsend as appropriate for the activity or program.

The implementation of Recommendation R6 is contingent upon the availability of grant funds to pay for most or all of the expenses for this activity. The amount and source for funds for Recommendation R8 will depend on the alternative markets being used for glass. The funding for all of the other recycling recommendations are expected to come from service fees paid by participants and subscribers, although the costs for some of these recommendations will impact staff and will have other

expenses. A cost-benefit analysis should be performed for all recommended program changes.

Recommendation R1 is planned to be implemented annually beginning in 2016. Recommendation R2 should be considered for implementation when the City's contract with Waste Connections is due for renewal (2017), with a process began before that time (in 2016) to address the need for this and other changes. Recommendation R3 could be implemented in 2016 or 2017, with Recommendation R4 implemented as part of that process. Recommendations R5, R6, R7 and R8 could be implemented on an as-needed basis.

More details on the implementation of these and other recommendations are shown in Chapter 10.

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CHAPTER 5

ORGANICS

5.1. DEFINITIONS AND GOALS FOR ORGANICS

Definitions for Organic Materials

In this Solid Waste Management Plan (SWMP), the term "organics" is intended to include compostable materials such as yard waste, food waste, and compostable paper. Other compostable materials, such as animal manures and pet waste, may also be included depending on the program being discussed. Some programs in other areas of Washington State collect a mixture of yard waste, food waste, and food-soiled paper, and this is referred to as "mixed organics" in this SWMP.

Yard waste is defined to include materials such as lawn clippings, leaves, weeds, vegetable garden debris, branches and brush. Backyard composting means a small-scale activity performed by homeowners or others on their own property, using yard waste that they have generated on that property. Some types of food waste, primarily fruit and vegetable scraps, can also be managed through backyard composting or through the use of worm bins ("vermicomposting"). By definition, backyard composting and vermicomposting are considered to be a form of waste reduction and so are addressed in Chapter 3 of this SWMP.

Composting can be defined as the controlled biological decomposition of organic materials to produce a beneficial product (compost). Compost has a number of applications, but as a soil amendment it provides organic matter and nutrients, loosens soils, and helps retain moisture.

Goals for Organics

Organic materials collected for composting are intended to count towards Jefferson County's recycling goal of 50% (see Section 4.1). Composting also helps meet sustainability goals, such as shown in the State solid waste plan (see Section 5.3).

5.2. EXISTING ORGANICS PROGRAMS

Several activities are currently being conducted in Jefferson County for collecting and processing organics. These are discussed below according to the type of program.

Collection Programs

The certificated (franchise) haulers report that rural residents are currently disposing of only small amounts of yard waste. Many rural residents of the County use on-site

composting ("backyard composting") or use the drop-off site at the Jefferson County Solid Waste Disposal Facility for yard waste. Backyard composting is considered to be a waste reduction technique and is discussed in Chapter 3.

Collection services for yard waste include the City of Port Townsend's curbside collection program and the drop-off site at the Jefferson County Solid Waste Disposal Facility (JCSWDF). In both cases, the yard waste is used as a "bulking agent" at the City of Port Townsend Biosolids Compost Facility. Drop-off of yard waste at JCSWDF is available to commercial and residential customers for a fee of $48 per ton (and a minimum fee of $5, rates current as of January 1, 2015). This rate is about one-third of the rate for garbage ($147.61 per ton). The drop-off program began in 1992 and yard waste was accepted free until a charge was instituted in October 2008. Prior to 2008, the drop-off site was collecting more yard waste than was needed for the biosolids facility, and the volumes dropped by about 50% after the fee was begun.

Port Townsend's yard waste collection program was begun in 1998, and the cost for this service is included in the garbage rates for City residents. The contract hauler for the City, Waste Connections, currently provides curbside collection of yard waste every other week year-round, on a schedule that alternates with the curbside recycling collections. Materials collected include leaves, grass clippings, and branches.

The tonnages collected in recent years through the drop-off and curbside programs are shown in Table 5.1. A three-year average of the monthly amounts is shown in Figure 5.1, showing the seasonal variation in yard waste generation. The amount of material that has been collected through the curbside program is shown in the bottom row of Table 5.1.

Processing and Market Capacity

Port Townsend Biosolids Compost Facility: The City of Port Townsend Biosolids Compost Facility is the primary processing facility for organics in Jefferson County. This facility is located on County property at the JCSWDF, and is operated and maintained by the City. Yard waste is ground up and mixed with the biosolids to serve as a "bulking agent." The biosolids would not compost well without a carbon bulking agent. The yard waste adds structure and absorbs some of the moisture present in the biosolids, thus allowing the mix to be formed into piles for composting, and also adds porosity that improves aeration (the microorganisms that cause composting to occur require oxygen to operate most efficiently).

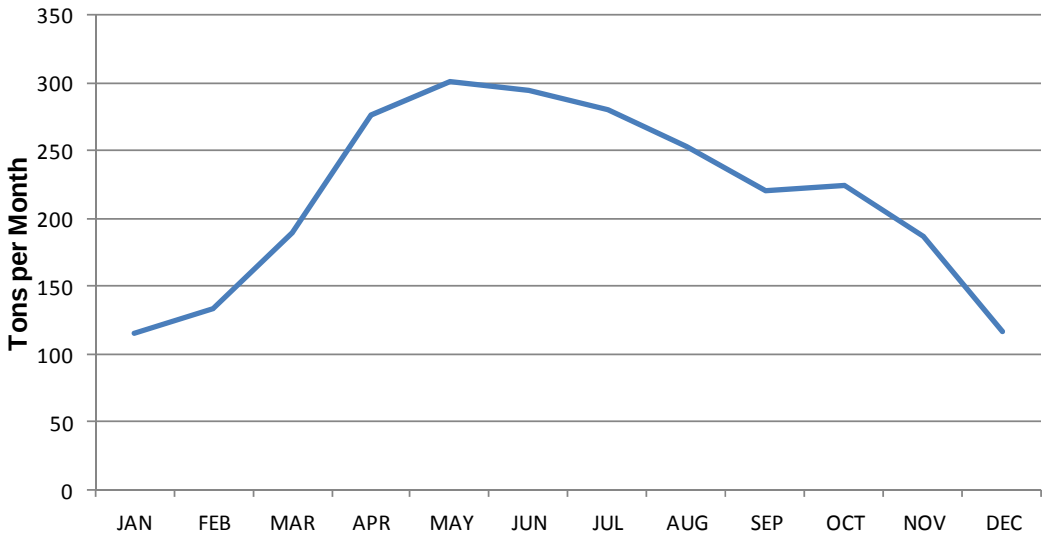
The end result of the composting process is a soil-like product that is tested and then sold to the general public and private contractors. Sales are conducted in bulk (i.e., by the truckload) at the Biosolids Compost Facility for gardening and landscaping purposes. Smaller amounts are used for City projects or are donated for community

Table 5-1
Yard Waste Collection Amounts

Monthly Amounts	2012	2013	2014	Average
Received at Drop-Off:				
January	100.2	114.0	131.5	115.3
February	147.1	139.0	114.6	133.6
March	170.6	207.2	189.5	189.1
April	284.2	269.3	275.3	276.3
May	306.5	288.8	308.5	301.3
June	271.1	308.1	303.8	294.3
July	310.5	277.6	251.9	280.0
August	296.5	246.9	216.4	253.3
September	216.1	232.7	212.4	220.4
October	224.6	227.8	219.7	224.0
November	200.2	200.9	158.1	186.4
December	102.5	88.2	159.0	116.6
Annual Tonnage	2,630.0	2,600.4	2,540.8	2,590.4
From City Curbside Collection	544.7	555.2	540.0	546.6

Note: The above figures include materials dropped off by City and County residential and commercial sources, plus tonnages from the City's curbside collection program. The annual amount from the City's curbside program is shown in the bottom row of the table and these tons are included in the monthly figures shown above. All figures are tons.

Figure 5-1
Yard Waste Quantities Delivered to Biosolids Compost Facility



Note: The above chart shows monthly averages for the period 2012 through 2014.

Table 5-2
Amounts of Compost Marketed by Biosolids Compost Facility

Market	2012	2013	2014	Average
Amount Sold or Donated:				
Sold in Bulk	2,910	2,839	2,661	2,803
City Projects	398	114	89	200
Donated for Community Projects	18	86	8	37
Total	3,326	3,039	2,758	3,041
Stockpiled On-Site	248	400	1,400	683
Stockpiled, Pending Testing	1,100	1,000	400	833

Note: The above figures are in cubic yards.

projects. Several batches of compost (typically two or three) are produced annually and the compost is sold fairly quickly during most of the year. The amount of compost sold in the past three years is shown in Table 5-2.

The location and operation of the Compost Facility is based on a lease between the County and City. The County has leased to the City a parcel of land at the JCSWDF for the Compost Facility. By locating the biosolids facility at the County's central disposal facility, an integrated resource is created that allows for greater efficiencies. Increased efficiencies are created due to shared use of infrastructure and reduced transportation costs.

Other processing facilities: Processing of organics is also done by others in the County. For example, the Shorts Family Farm accepts specified yard wastes on a pre-approval basis. In addition, the Clearwater Correction Center operates a vocational program composting food waste and biosolids as well as food waste from the Clallam Correctional Center.

5.3. PLANNING ISSUES FOR ORGANICS

Potential improvements and issues for organics management in Jefferson County are noted below.

Opportunities for Increased Organics Diversion

Curbside Collection of Yard Waste: The solid waste collection companies do not offer curbside collection of yard waste outside of Port Townsend.

Food Waste: At an estimated 15-17% of the waste stream (see Table 2-7), food waste is the largest single material remaining in the waste stream. Some of this food waste can be reduced through education programs targeting reduction of wasting edible food and part of this food waste can be handled through backyard composting (see Chapter 3 for more information on backyard composting), but all types of food waste could be composted by larger facilities. Many communities in the Pacific Northwest have added food waste to yard waste collection programs to facilitate the diversion of this material. These programs typically include paper grades that are compostable but not recyclable (such as pizza boxes and paper napkins). In Jefferson County, however, the yard waste is being used by the Biosolids Compost Facility, which is not designed to handle food waste as part of that mix.

Pet Waste: An estimated 2.7% of the waste stream (based on the 2014 Thurston County Waste Composition Study) is pet waste (kitty litter and other animal excrement). Separately collecting this material could divert up to 460 tons per year (although only if 100% of this material could be collected separately). It should be noted, however, that a significant portion of this material is litter, not animal waste, and some types of the litter would not be amenable to composting or other methods that might otherwise be useful for the pet waste.

Washington State Solid and Hazardous Waste Plan

The Washington State Solid and Hazardous Waste Plan (the "Beyond Waste" plan) adopted a vision that society can transition to a point where waste is viewed as inefficient and most wastes have been eliminated. This transition is expected to take 20 to 30 years or more. In the short term, the Beyond Waste Plan recommends actions that can be undertaken to achieve specific goals for increased diversion of organic materials:

- Ecology and stakeholders will create a beneficial use hierarchy for residual organic material processing and uses (SWM Goal 16).
- Less food will enter the disposal system; more discarded food will be managed according to EPA's food waste hierarchy (SWM Goal 17).
- The use of soil amendments derived from recycled organics will increase, reducing the need for synthetic fertilizers, pesticides and herbicides (SWM Goal 18).
- Agriculture, landscapes, and home gardens will need less water due to increased use of compost and other soil amendments derived from recycled organics (SWM Goal 19).
- The value of recycled organics as storm and surface water filtration media will be better understood, resulting in increased use (SWM Goal 20).
- Soil organic carbon sequestration using recycled organics will increase based on research recommendations (SWM Goal 21).

- More diversified organics processing infrastructure will exist in the state (SWM Goal 22).
- Composting facilities will produce clean end products (SWM Goal 23).
- Diversified end-use markets will be in place for recycled organic products (SWM Goal 24).
- The Biosolids Regulatory Program will have sufficient resources to ensure that biosolids are beneficially used (SWM Goal 25).

Food Waste and Food Security

Several local initiatives are examining the topic of food security in Jefferson County. For instance, the 2012 Jefferson County Farmer Survey examined the state of farming in the county, including what steps could be taken to make farming more sustainable and to increase local sales. Other efforts include a report by the Port Townsend Food Co-op on the local food system and a recently formed group, the Jefferson County Local Food System Council. It could be possible to work collaboratively with community groups to set up a system for diverting food waste to local farms and gardens. Composting food waste in this way would help enrich the soil for local food production.

5.4. ALTERNATIVE ORGANICS STRATEGIES

The following strategic alternatives were considered for new or expanded organics activities. The listing of an alternative in this section does not mean that it is considered feasible or desirable, nor that it is recommended (see Section 5.6 for the recommendations).

Alternative A – Add Food Waste to the Yard Waste Collection Program in Port Townsend

Adding food waste to the existing yard waste collection programs is an approach used by many other communities, but in Port Townsend this approach would create serious complications for the existing programs. The yard waste currently being collected in Port Townsend is being brought to the Biosolids Compost Facility, and the receiving area there is not set up to properly contain and store a mixture that includes food waste. A substantial increase in the amount of material delivered to that facility also raises questions about exceeding the facility's capacity, in part because having food waste in the composting mixture could increase the need for bulking agents. If food waste were added to the yard waste collection program in Port Townsend, that mixture would likely need to be taken elsewhere for composting and then the Biosolids Compost Facility would need to find an alternate source of material for their needs.

Alternative B – Implement Organics Collection in Areas Outside of Port Townsend

Public yard waste organics curbside collection programs are generally not available to residences or businesses outside of Port Townsend. Residents and businesses can privately contract to collect and then dispose of yard waste at the JCSWDF. Many residents in rural areas now dispose of yard waste along with trees and brush on their own. In other counties similar to Jefferson County where yard waste collection is available in rural areas, only a small percentage of the residents subscribe to this service. Therefore, implementation of organic curbside collection programs involving yard waste would not significantly impact recycling or diversion goals.

Alternative C – Separate Collection of Commercial Organics

Without a yard waste collection program to "piggy-back" on, collection of food waste from residential sources would be difficult and expensive, but a separate collection program could potentially be implemented for commercial sources. Commercial and institutional sources, including schools, would have larger amounts of food waste that could potentially be source-separated and brought to a composting facility in or near Jefferson County. The cost and potential for this service would need to be examined closely to ensure that there is a sufficient financial benefit to the participants.

Alternative D – Explore Methods to Divert Pet Waste

Separate collection of pet waste could be explored for diverting this material to a composting or other facility. Any such program would need to be approached carefully to avoid unintentionally encouraging people to handle pet waste in ways that would increase stormwater contamination or other problems. A cost-benefit analysis may be needed to determine how this program would fit into current city-county programs.

Alternative E – Food Waste Diversion

Separate collection of food waste from the residential or commercial sector could take a variety of approaches. It's possible that private companies or individuals may wish to pursue food waste collection and diversion in the future, possibly working with local farms or other applications. The County and City could consider supporting such proposals in the future if appropriate. All alternatives should be proceeded with a cost-benefit analysis to determine the impact and the cost estimate of new or expanded diversion programs.

Alternative F – Education Program to Promote On-Site Composting of Food Waste

Diversion of food waste could be also encouraged through backyard composting, worm bins and other decentralized approaches. This approach would be best used only for vegetative food scraps (not including meat and dairy products). Educational materials could be distributed and other outreach efforts could be conducted to

inform residents how to properly handle food waste in their backyard composting piles. Some types of small businesses might also be able to divert food waste in this manner. Once an initial campaign has been conducted, this approach can be reinforced by including reminders in other educational materials. The cost for an initial campaign could be $25,000 to $50,000. The potential for this approach is significant overall waste reduction, which could be as high as 5% or better if a substantial number of residents participate by diverting their compostable food waste.

5.5. EVALUATION OF ORGANICS ALTERNATIVES

Review of Rating Criteria

The above alternatives can be evaluated according to several criteria, including:

Consistency with Solid Waste Planning Goals: Does the alternative support the goal of emphasizing waste reduction as a fundamental management strategy and support other planning goals as well?

Feasibility: Can the alternative be adopted without controversy or legal issues, and is the alternative technically feasible?

Cost Effectiveness: Can the alternative be implemented in a cost-effective manner and can it be implemented without creating an excessive impact on the financial stability of the solid waste system?

Diversion Potential: How much can the alternative potentially divert from the waste stream?

Rating of Alternatives

Alternatives were rated as High for diversion potential if the alternative could potentially reduce the waste stream by more than 1%, Medium for 0 to 1%, and Low for alternatives that would have an impact of 0% or near zero. The ratings for the other three criteria were based on scores submitted by the SWAC members, and the averages of those scores are shown in the following table. The overall rating for each alternative is based on the scores for the four criteria.

Table 5-3
Ratings for the Organics Alternatives

Alternative	Consistency with Goals	Feasibility	Cost-Effective-ness	Diversion Potential	Overall Rating
A, Add food waste to City's collection program	M-H	L	L	M	M
B, Implement yard waste collection in rest of county	M	L	L	L	L
C, Separate collection of commercial organics	H	M	M	M	M
D, Explore methods to divert pet waste	M	L	L	L	L
E, Food waste diversion	H	M	M	M-H	M
F, Education for on-site food waste composting	H	H	H	M-H	H

Rating Scores: H – High, M – Medium, L – Low

Despite receiving an overall rating of medium in the above table, the first alternative (adding food waste to the City's collection program), is not being pursued at this time due to the significant technical issues and lack of cost-effectiveness associated with it.

5.6. ORGANICS RECOMMENDATIONS

The following recommendations are being made for organics programs in Jefferson County (see also Chapter 3).

High-Priority Recommendation for Organics:

O1) Promotion of on-site composting of food waste though education programs.

Medium-Priority Recommendations for Organics:

O2) Support of appropriate programs for commercial food waste diversion by the County and City;

O3) Support of appropriate programs for residential food waste diversion by the County and City.

Low-Priority Recommendation for Organics:

O4) Support alternative methods to divert pet waste as appropriate.

The lead agency for these recommendations would be Jefferson County and possibly the City of Port Townsend, although private companies or others will likely be the ones actually implementing Recommendations O2, O3 and O4. Recommendation O1 is being implemented by the Health Department.

Recommendation O1 could cost up to $25,000 and is contingent upon the availability of grant funds to pay for most or all of the expenses for this activity. The cost for the other recommendations cannot be estimated until a specific activity or program is actually proposed. The source of the funds for Recommendations O2, O3 and O4 would likely be service charges paid by participating companies and/or individuals. Where appropriate, a cost-benefit analysis should be performed for all proposed program changes.

Recommendation O1 will be implemented annually beginning in 2015 (contingent upon the availability of funding). Recommendations O2, O3 and O4 should be implemented on an as-needed basis (i.e., as proposed activities become available for review and consideration).

More details on the implementation of these and other recommendations are shown in Chapter 10.

CHAPTER 6

WASTE COLLECTION

6.1. BACKGROUND FOR SOLID WASTE COLLECTION

Introduction

This chapter addresses the solid waste collection system in Jefferson County. This chapter is primarily focused on the non-recycled solid wastes. The solid waste collection system in Jefferson County includes West Waste & Recycling's operations in western Jefferson County and services provided by Waste Connections in Port Townsend (through a contract with the City) and in the rest of the County (through a certificate issued by the State).

State Regulations Concerning Waste Collection

The Washington State authorities that govern collection activities are Ecology and the Washington Utilities and Transportation Commission ("UTC"). RCW 70.95.020 also assigns responsibilities to local government for the management of solid waste handling while encouraging the use of private industry.

The UTC supervises and regulates solid waste collection companies. Their authority (Ch. 81.77 RCW and Ch. 480-70 WAC) is limited to private collection companies and does not extend to municipal collection systems (of which there are none in Jefferson County) or to private companies operating under contract to a city (such as in Port Townsend). For private haulers under their jurisdiction, the UTC may require reports, set rates, regulate service areas, and establish safety practices. Solid waste management plans may set standards for specific levels of services that the haulers must then adhere to (although this generally also requires adoption of a service ordinance).

Cities and towns have four options for managing solid waste collection under State laws. None of these options prevent a resident or business from hauling their own waste. These options include a city operating its own municipal collection system, contracting with a waste collection company for collection services (as is done in Port Townsend), requiring a certificated collector to obtain a license from the city, or doing nothing (in which case collection services can be provided by certificated collectors that are overseen by the UTC).

Local Regulations Concerning Waste Collection

Waste collection service fees are mandatory in Port Townsend, but not in other parts of the County. Additional provisions for waste collection are contained in Chapter 6 of the City's municipal code.

6.2. EXISTING WASTE COLLECTION PROGRAMS

Solid waste is collected in the City of Port Townsend through a contract, and in other parts of the County through state-issued certificates (franchises). The County can be further divided into east and west areas due to the different conditions that exist in each part. These three areas are discussed in greater detail below.

Waste Connections, Inc. (2153 4th Street, Port Townsend, WA 98368), provides most of the solid waste collection services in Jefferson County under a contract or a state-issued certificate. A second solid waste hauler, West Waste & Recycling, Inc. (1154 Big Burn Place, Forks, WA 98331), operates in the west end of the County and provides service to a small number of customers. For the purpose of distinguishing between the contract and certificated operations for Waste Connections, this SWMP uses "DM Disposal" when referring to the City's collection system, and "Murrey's Olympic Disposal," or just "Olympic Disposal," for the certificated area.

City of Port Townsend

The City of Port Townsend has a contract with DM Disposal to provide collection services to homes and businesses within the city. DM Disposal conducts the billing for these services, and rates are based on the volume of solid waste disposed (see Table 6-1). Residential customers in the City can subscribe to either weekly or every-other-week service for waste collection. The number of residents subscribing to every-other-week service has increased steadily, growing from 38% in 2004 to over 51% in 2014. Curbside recycling and curbside yard waste services are provided every-other-week on an alternating schedule.

East County Area

In the eastern part of Jefferson County, collection services are provided under a certificate granted by the State, through the Washington Utilities and Transportation Commission (UTC). Any changes in rates or services in certificated areas must be approved by the UTC.

The UTC certificate (Certificate G-9) grants Murrey's Olympic Disposal the exclusive right to provide waste collection services to residents and businesses in the eastern unincorporated areas of the County. Olympic Disposal has several trucks and other pieces of equipment, including rear packer trucks, trucks that can empty containers (dumpsters) 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, 35, 40 and 50 cubic yards in size. Olympic Disposal also collects solid waste in Clallam County.

Residential collection services offered by Olympic Disposal in the eastern and western parts of the County include options for waste collection on a weekly, every-other-week or once-monthly basis. The rates currently charged in eastern Jefferson County (as of 2015) are shown in Table 6-1.

Table 6-1
Collection Rates in Jefferson County (2015)

Area	Residential Collection Rates [1]					Commercial Collection Rates [2]		
	Mini-can (20 gallons)	1 can (32 gallons)	1 can EOW	2 cans	Recycling (EOW)	1 yard per week	2 yards per week	6 yards per week
Port Townsend (DM Disposal)	$12.18	$19.37	$9.79	$38.73	Included	$111.35	$221.77	$665.29
Murrey's Olympic Disposal, eastern part of county	$17.65	$22.62	$13.32	$33.47	$9.51	$100.02	$195.60	$518.77
Murrey's Olympic Disposal, western part of county	$16.84	$22.01	$12.70	$33.69	$10.84	$99.41	$195.22	$486.03
West Waste & Recycling	$13.47	$16.39	$9.07	$24.42	na	$64.30	$127.22	$385.76

Notes: EOW = every-other-week service. Rates are current as of mid-2015.

1) Residential collection rates refer to monthly charges for weekly or every-other-week pickup of the number of cans shown.
2) Commercial collection rates vary significantly depending on the size of the container and frequency of service. A few rates are shown in the above table to illustrate the range of rates associated with different waste volumes (all of these rates are based on one pickup per week at the volume shown). Additional charges may apply for container rental, recycling services, access problems, overflow conditions and other factors. Note that the 6-yard rate shown for Port Townsend is actually for 3 2-yard containers (which is the closest match for their available service levels).

Population densities (people per acre) shown here are based on the 2010 Census results (see Table 2-1) and land area as of the year 2014:

	2010 Population	Land Area, acres	Density
Port Townsend	9,113	3,860	2.4
Unincorporated County	20,759	1,150,510	0.02
Unincorporated, East End only	19,878	910,510	0.02
Unincorporated, West End only	881	240,000	0.004
Totals	29,872	1,154,370	0.03

West County Area

Waste collection services in the western part of Jefferson County are provided under certificates granted by the UTC. Two companies have certificates to collect solid waste in this area: Murrey's Olympic Disposal (Certificate G-9) and West Waste & Recycling (Certificate G-251). Waste collection rates charged by Olympic Disposal on the west end are slightly lower than the rates for the eastern part of the County due to the lower fee charged by the disposal site (the Port Angeles Landfill) used for the waste from this area.

West Waste & Recycling (or West Waste) is headquartered in Forks and also collects solid waste in western Clallam County. For residential service in Jefferson County, West Waste provides every-other-week service (one can, two cans and three cans) and monthly service (two and three cans). West Waste does not provide curbside recycling services to residential customers, but does provide commercial paper and cardboard recycling collection services (although there are no commercial customers in western Jefferson County). West Waste operates a transfer station in Forks, and the waste they collect is brought there.

6.3. PLANNING ISSUES FOR WASTE COLLECTION

The current collection system provides adequate capacity for the County's and City's residents and businesses. Future waste quantities have been estimated (see Table 2.8), and the existing collection system, with appropriate improvements, is anticipated to be able to handle the projected increase. The increasing average age of the population in Jefferson County (see Section 2.3) may create shifts in services, such as increasing the numbers of people in the unincorporated areas that subscribe to waste collection services rather than self-haul their wastes.

Only about 23% of the households in the unincorporated areas of Jefferson County currently subscribe to garbage collection services. The remaining 77% are assumed to be self-hauling their garbage to an appropriate disposal facility.

6.4. ALTERNATIVE WASTE COLLECTION STRATEGIES

The following alternatives were considered for new or revised waste collection activities. The current waste collection system in Jefferson County is working well, and these alternatives would be expansions or enhancements that would be in addition to the current activities. The listing of an alternative in this section does not mean that it is considered feasible or desirable, nor that it is recommended (see Section 6.6 for the recommendations).

Alternative A – Mandatory Waste Collection in Unincorporated Areas

One alternative to meet collection needs for Jefferson County is mandatory solid waste collection services. Currently almost one-third (30.5%) of the County's population is in areas where payment for collection service is mandatory (Port Townsend), and the other 70.5% of the population is in largely rural areas where subscription to collection services is voluntary. Mandatory collection in unincorporated areas could be provided through a solid waste collection district. State law (Ch. 36.58A RCW) enables a county to establish such a district.

Mandatory collection programs throughout the rest of Jefferson 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 and waste collection services). Mandatory collection, however, can act as a disincentive for those who are actively trying to reduce wastes if the rate structure is too rigid and can be potentially very difficult to implement.

Alternative B – Institute Program of Discounts for Low-Income Senior Citizen Families

Implementing this approach in the certificated area is allowed by State law (RCW 81.77.195) and would require that Jefferson County adopt a service level ordinance for this. Procedures would need to be worked out for determining the households that would qualify for this, but a program already conducted by the Health Department could be used for this. Murrey's Olympic Disposal would need to file a new tariff to adopt rates that are based on an estimate of the number of qualifying households that would use the discount. Other rates would need to be raised by an equivalent amount (in other words, the regular rates would need to be increased to make up the amount of the discount).

Alternative C – Disposal District to Reduce Collection Costs

Jefferson County could form a disposal district that would have the authority to levy taxes or issue bonds. The revenues collected by a disposal district could be used to pay for the cost of disposing of waste, thus reducing the cost of garbage collection services by 25 to 35% of the current expense for residential customers. The amount of reduction for commercial customers would vary depending on their service level and other factors. Although the cost of garbage collection services could be reduced by the revenues raised through a disposal district, the costs for all residents and businesses would increase by a similar amount. The disposal district would not include the City of Port Townsend unless the City chose to participate. The funds collected by a disposal district could also be used for litter cleanup, public education, the MRW Facility, solid waste planning and other activities. Disposal districts (and collection districts) are described in more detail in Chapter 9.

6.5. EVALUATION OF WASTE COLLECTION ALTERNATIVES

Review of Rating Criteria

The above alternatives can be evaluated according to several criteria, including:

Consistency with Solid Waste Planning Goals: Does the alternative support the goal of emphasizing waste reduction as a fundamental management strategy and support other planning goals as well?

Feasibility: Can the alternative be adopted without controversy or legal issues, and is the alternative technically feasible?

Cost Effectiveness: Can the alternative be implemented in a cost-effective manner and can it be implemented without creating an excessive impact on the financial stability of the solid waste system?

Rating of Alternatives

The ratings for the three criteria were based on scores submitted by the SWAC members, and the averages of those scores are shown in the following table. The overall rating for each alternative is based on the scores for the other three criteria.

Table 6-2
Ratings for the Waste Collection Alternatives

Alternative	Consistency with Goals	Feasibility	Cost-Effective-ness	Overall Rating
A, Mandatory waste collection	M	L-M	M	M
B, Discounts for low-income seniors	L	M	L	L
C, Disposal district	M	L	L	L

Rating Scores: H – High, M – Medium, L – Low

6.6. WASTE COLLECTION RECOMMENDATIONS

The following actions are recommended for waste collection programs (see Chapter 9 for more information on this option). The current waste collection system in Jefferson County is working well, and only one recommendation is being made at this time.

Medium-Priority Recommendation for Solid Waste Collection:

WC1) Examine benefits of a collection district for implementing universal waste collection in Jefferson County.

The lead agency for this program change would be Jefferson County as it could be limited to involve only the County jurisdiction (or could also include Port Townsend at the City's option). The County's cost for implementing this recommendation would be minimal, consisting largely of staff time to explore the advantages and disadvantages of various approaches. If a universal collection system is actually implemented, the tonnages of collected waste and recyclables would increase and disposal costs would increase in aggregate but should decrease on a per-ton basis. Residents who are currently subscribing to waste collection could incur a slight decrease in costs whereas other residents could incur an increase in costs. The funding mechanism for a waste collection district is uncertain at this point. To implement this recommendation during this planning cycle, this recommendation should be considered before 2017 for sufficient public outreach and implementation before 2020.

More details on the implementation of these and other recommendations are shown in Chapter 10.

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CHAPTER 7
WASTE TRANSFER AND DISPOSAL

7.1. BACKGROUND

Introduction

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

7.2 In-County Transfer
7.3 Waste Import and Export
7.4 In-County Landfilling

The following sections review each of these activities and propose potential alternatives. All of the alternatives are described and evaluated at the end of this chapter (see Sections 7.5 and 7.6).

Regulations Concerning Waste Transfer and Disposal

State laws and regulations concerning waste transfer and disposal can be found in the Revised Code of Washington (RCW) and the Washington Administrative Code (WAC). The RCW contains the laws adopted by the State Legislature, while the WAC consists of the regulations adopted by State agencies to implement the laws contained in the RCW.

- Chapter 173-350-100 WAC defines transfer stations, drop box facilities, and intermediate solid waste handling facilities. These must meet specific design and operating standards, although closure and financial assurance standards are minimal for these types of facilities.
- Chapter 36.58.050 RCW states that transfer stations included in a solid waste plan are exempt from regulation by the UTC and requirements to use certificated haulers. Furthermore, it states that the county "may enter into contracts for the hauling of trailers of solid wastes from these transfer stations to disposal sites and return either by (1) the normal bidding process, or (2) negotiation with the qualified collection company servicing the area" under UTC's authority.
- Chapter 36.58 RCW, Solid Waste Disposal, authorizes counties to execute contracts for disposal services, designate disposal sites, and to form disposal districts.
- Chapter 173-350 WAC, Solid Waste Handling Standards, provides rules for implementing RCW 70.95 and sets minimum functional performance standards for the proper handling of solid wastes. Ch. 173-350 contains rules for a range of

facilities (recycling, composting, land application, anaerobic digesters, intermediate solid waste handling, piles, MRW, inert and limited purpose landfills), as well as providing rules for beneficial use permits, groundwater monitoring, financial assurance and other important activities.

- Chapter 173-351 WAC, Criteria for Municipal Solid Waste Landfills, provides minimum state-wide standards for solid waste landfills (not including inert or limited purpose landfills). Local jurisdictional health departments can enact ordinances equally as or more stringent than this regulation.
- The primary local regulations addressing transfer stations and other solid waste facilities are included in the Jefferson County Code, Chapter 8.10, Solid Waste Regulations.
- A landfill typically operates under the rules of the county in which it is located, as enforced by the local health district, as well as State and Federal rules. The Roosevelt Regional Landfill, where Jefferson County's waste is currently disposed, is governed by the rules of Klickitat County and its health district. Activities at the Roosevelt Regional Landfill are also guided by an agreement between Klickitat County and Republic Services and by a conditional use permit for the landfill.

Goals for the Transfer and Disposal Systems

While all of the goals recommended by the SWAC (see Section 1.6) apply to the transfer and disposal system, the following are most relevant:

- maintain a solid waste system that provides a high level of public health and safety, and that protects the natural and human environment of Jefferson County.
- maintain an economically responsible program for solid waste management that recognizes the needs for environmental protection and service to the citizens of the County.
- promote the use of private industry to carry out components of the solid waste system.
- be consistent with other existing resource management and local plans.
- incorporate flexibility to accommodate future needs.

7.2. IN-COUNTY TRANSFER

Background for In-County Transfer

This section of the Solid Waste Management Plan (SWMP) discusses the two transfer facilities in Jefferson County; the Jefferson County Solid Waste Disposal Facility (JCSWDF) and the Quilcene Drop-Box.

Existing Programs for In-County Transfer

The Quilcene Drop-Box site is the one remote waste collection station remaining in operation in Jefferson County. Four other drop box stations were closed in 1998 and 1999, including the Port Hadlock, Brinnon, Clearwater and Coyle facilities.

The Quilcene Drop Box facility is located on Highway 101 (295312 U.S Highway 101, Quilcene) about 23 miles south of the JCSWDF and is strategically located to serve the southeastern county population. The Quilcene facility handled 176 tons of waste from 3,916 vehicles in 2014, and took in $44,538 in revenues from tipping fees for this waste. The tonnages collected at this site have increased steadily for the past few years, going from 159 tons in 2012 to 172 tons in 2013. Jefferson County owns and operates the Quilcene Drop Box site, and has a contract with Olympic Disposal to haul full containers of compacted waste to the JCSWDF. This site is staffed and the current hours of operation are from 1 to 5 p.m. Monday, Wednesday and Friday, and 9 a.m. to 5 p.m. on Saturday, except holidays. Fees charged in 2015 at this facility range from $6.15 for one 32-gallon garbage can up to $32.80 per cubic yard for larger loads. A few items have separate or additional charges, such as car tires ($6.15), truck tires ($7.17) and refrigerators ($30.75). All of these fees include the 3.6% solid waste tax.

The facilities at the Quilcene Drop Box include a small payment office, a portable toilet, two 25 cubic yard stationary waste compactors, full service recycling containers that collected about 97 tons of recyclables in 2014, a collection unit for used oil and antifreeze, and roll-off containers for metals and large household items. The site is fenced to prevent use when it is closed. According to the site attendant, there are about four times as many recycling customers as garbage customers, although most garbage customers also use the recycling drop off containers in the same visit.

The transfer station at the Jefferson County Solid Waste Disposal Facility (JCSWDF) is the primary disposal facility in the County and it serves the County waste export system. The JCSWDF is built on the site of a closed County landfill south of Port Townsend, at 325 County Landfill Road. Other facilities at that site include the recycling center, which collects and prepares collected recyclables for shipment, a residential recycling drop-box collection site and the City of Port Townsend's biosolids composting facility. The JCSWDF handled 17,662 tons of waste from 76,895 vehicles in 2014, and took in $2,558,253 in revenues from tipping fees for this waste (these figures do not include the waste tonnages and revenues for the Quilcene Drop Box). This site is staffed and the current hours of operation are from 9 a.m. to 4:30 p.m. Monday through Saturday (except holidays). Fees charged at this facility in 2015 range from a minimum charge of $10.00 (for up to 140 pounds of waste) up to $147.61 per ton for larger loads. These fees include the solid waste tax (3.6%).

Planning Issues for In-County Transfer

Education is needed on an ongoing basis to inform customers of the transfer station services, drop box collection centers and recycling facilities as to the materials that can and cannot be brought there, and the alternatives that exist for the proper disposal or handling of certain materials.

Planned long and short term functional improvements at the Quilcene Drop Box and JCSWDF include:
Conduct improvements to the Jefferson County Solid Waste Disposal Facility based on facility assessment options and the Solid Waste Master Plan update;

1. Quilcene Drop-Box office replacement project;
2. JCSWDF Master Plan Update - Assessment of existing JCSWDF facility scheduled in 2016 to include improvement and funding options including:
    a. Transfer station employee facilities;
    b. Scale facility upgrade/replacement;
    c. Transfer station improvements; and
    d. Recycling center improvements.

Alternative Strategies for In-County Transfer

Transfer alternatives are shown in Section 7.5.

7.3. WASTE IMPORT AND EXPORT

Background for Waste Import and Export

Waste export and import refer to the practice of moving solid waste across county lines. Waste import means moving waste into Jefferson County, and waste export refers to transporting waste out of the county.

Existing Programs for Waste Import and Export

Existing Waste Import Activities: There are currently no shipments of solid waste into Jefferson County (excluding recyclable materials destined for industrial processing and small amounts of SQG moderate risk waste from adjacent counties, although the City's Biosolids Compost Facility is permitted to receive septage from sources outside of the County.

Existing Waste Export Activities: Many counties have adopted the waste export option because of its lower cost and greater reliability. Private companies have responded to this interest by developing large landfills capable of handling wastes from several areas. For many counties, these regional landfills provide a less expensive and more convenient means of waste disposal than an in-county landfill.

Jefferson County began exporting solid waste in 1993 when the County entered into a five-year contract with Regional Disposal Company (RDC) to dispose of waste at RDC's landfill in Klickitat County, Washington. The initial term of this contract was five years, with up to three five-year renewals allowed. In 1998, the waste export contract was re-bid and Jefferson County received two bids for waste export services. The County accepted the bid from RDC (now Republic Services) and a contract was approved in April 1999. The contract is for a 20-year period with buy-out options every five years, and it provides for an annual escalation of 90% of the CPI. Another provision allows flexibility if a regional approach with a neighboring county is proposed. At this time, this contract is due to expire on April 11, 2019.

Waste export is also occurring from the west end of the County through separate, private efforts of the two haulers active in that area. Waste collected from that area by West Waste is brought to their transfer station in Forks and handled through their waste export system. Waste collected in the west end by the other certificated hauler, Murrey's Olympic Disposal, is brought to the Regional Transfer Station in Port Angeles and is handled through their waste export system.

The only other waste export systems in use in the County are for small quantities of special wastes (such as biomedical waste or moderate risk wastes, see Chapter 8) that are sent to special facilities outside of the County. There are likely small amounts of waste that are brought by self-haul customers to facilities in other counties, especially for those residents and businesses located close to Kitsap and Clallam Counties.

Planning Issues for Waste Import and Export

Waste Import Planning Issues: Importing waste into Jefferson County would provide additional economies of scale but would also require a significant investment in capital improvements for the transfer station facilities and other costs. A substantial amount of solid waste importation is not considered feasible at this time, although this may change if a neighboring county suffered an emergency situation.

Waste Export Planning Issues: The current contract for waste disposal expires on April 11, 2019 and the process to re-bid or re-negotiate that contract will need to begin in early 2017.

The Jefferson County Solid Waste Disposal Facility (JCSWDF) is the designated disposal facility for all municipal solid waste generated in Jefferson County, except for waste from the west end.

Alternative Strategies for Waste Import and Export

Waste import and export alternatives are shown in Section 7.5.

7.4. IN-COUNTY LANDFILLING

Background for In-County Landfilling

Some counties in Washington continue to operate local landfills for some types of solid waste, but instead many counties have arranged for solid waste to be transported to one of the large regional landfills that serve Washington and Oregon. There are, however, inert and limited purpose landfills that continue to operate in Jefferson County and in other counties.

Existing Programs for In-County Landfilling

Closed County Landfill: Jefferson County operated a municipal landfill from before 1973 until April 1993, when it was closed and replaced with a transfer station completed in 1994 (the JCSWDF). Upon closure, the landfill was capped with an impermeable geomembrane layer, then covered with soil and a post-closure monitoring period began. A landfill gas system has been installed and the gas is drawn to a flare station to be burned off. Although closed, there is an area at the landfill that could be used for inert wastes in the future or possibly for emergency purposes (such as temporary staging for disaster debris). Ongoing monitoring costs are paid by a portion of the tipping fee (see Table 9.1 for recent expenses).

As decomposition of the waste has occurred in the closed landfill, gas volumes have declined and, over time groundwater monitoring wells located around the landfill have detected very low concentrations of chemicals leaching from the closed landfill and an adjacent septage lagoon. Monitoring wells are located upgradient, to test the groundwater before it travels under the landfill, and downgradient, to test for impacts to the groundwater in the direction of flow. Based on the diminished low concentrations of contaminants in recent years, the frequency of groundwater testing was reduced in 2014 and it is anticipated that monitoring activities could continue to be reduced in the next five years.

Other In-County Landfills: Port Townsend Paper Company operates an inert waste landfill for disposal of industrial wastes, including ash from a hog fuel boiler and grit from a limekiln. There were 5,205 tons of ash and 571 tons of industrial waste deposited in this landfill in 2013. At this rate, the landfill is expected to be able to operate for more than an additional 20 years. There are monitoring wells located around this landfill to test for groundwater contamination, and the waste material being landfilled is tested daily. Daily testing is conducted for pH, and annual testing is conducted to ensure metal concentrations remain low.

The Navy operates an inert waste landfill on Indian Island, which is used for a few tons per year of concrete and asphalt from demolition and construction activities, and no waste is permitted to be brought to it from outside sources. At the current rates of disposal, the remaining capacity of this landfill appears to exceed 20 years.

There are no other known landfills currently operating or undergoing monitoring in Jefferson County at this time.

Planning Issues for In-County Landfilling

Jefferson County's closed landfill will need to be monitored at possibly a reduced rate for the immediate future, and long term planning is to continue reduction in monitoring as testing and State compliance allow. Most of the landfill groundwater contaminants present have been annually decreasing in concentration at the landfill boundary, and none of the contaminants are at levels that require remedial actions at this time.

There may be a need in the future for a local inert waste landfill that is open to the public. Current needs for special industrial and inert wastes are being met with the existing Navy and Port Townsend Paper Company landfills and both landfills are currently within compliance of State landfill regulations

Alternative Strategies for In-County Landfilling

There are no alternatives for in-county landfilling being considered at this time.

7.5. ALTERNATIVE TRANSFER AND DISPOSAL STRATEGIES

The following alternatives were considered for new or revised waste transfer and disposal activities. The listing of an alternative in this section does not mean that it is considered feasible or desirable, nor that it is recommended (see Section 7.6 for an evaluation of these alternatives and Section 7.7 for the recommendations).

Alternative A – Improvements to the Quilcene Drop-Box: This SWMP poses an opportunity to review the current and future status of the Quilcene Drop-Box facility. This site has seen a steady increase in annual tons of residential waste and collected recyclables since 2012 and it is well located to service the rural residents in southeastern Jefferson County. Two new replacement 25 cubic yard stationary residential waste compactors were purchased and installed in 2015. Potential additional improvements at this site include:

- For the office, replacement of the existing approximately 40 year old converted shipping container to a small trailer unit including hook up to nearby County septic sewer system.
- Installation of a scale to allow charges to be based on weight rather than volume, for waste amounts over 70 pounds. A new scale at this site would not be economically feasible at this time but installation of the old scale now in use at the JCSWDF could be suitable, if the scale is serviceable, when scale replacement is implemented at the JCSWDF.

- Improvement of existing Environmental Center special waste collection facility to include florescent light bulbs.

These and other improvements could be considered in the future, contingent on completion of an updated existing facility assessment, cost-effectiveness of phased improvement options and the availability of funds for preferred options.

Alternative B – Improvements at JCSWDF: Annual waste tonnages dropped by 17% from 2006 to 2011, then stabilized between 2011 and 2012 and have been increasing by an average of nearly 3% annually from 2012 to the present. Improvements at the JCSWDF could include:

1. Replace existing non-compliant and outdated scale (purchased in 1992);
2. Construction of improved employee facilities;
3. Construction of improvements to the Transfer Station (built in 1994); and
4. Construction of improvements to the Recycle Center (built in 1983).

Improvements would follow assessment of existing conditions and improvement options which would be incorporated into an update to the JCSWDF facility Master Plan. Significant upgrades should be included in the Jefferson County Comprehensive Land Use Plan.

Alternative C – Examine Waste Export Alternatives: There are several potential alternatives for exporting solid waste for disposal purposes from Jefferson County, including:

- Request for proposals in 2018 for waste export by truck and railroad, then disposal at regional facilities before current contract expires April 11th, 2019;
- Option of shipping waste by barge;
- Options of sending containers of waste to intermodal facilities in Tacoma (as is done currently), Centralia, Bremerton or other intermodal or disposal locations; and
- Cooperative arrangements with neighboring counties.

Prior to re-bidding or renegotiating the existing waste export contract, these alternatives could be explored and the findings could be used to guide the future waste export system.

7.6. EVALUATION OF TRANSFER AND DISPOSAL ALTERNATIVES

Review of Rating Criteria

The above alternatives can be evaluated according to several criteria, including:

Consistency with Solid Waste Planning Goals: Does the alternative support solid waste goals including:

1. Provide and maintain solid waste facilities that meet regulatory requirements and protect health and safety for County residents;
2. Identify where there are services that are cost effective;
3. Emphasizing waste reduction as a fundamental management strategy and support other planning goals as well?

Feasibility: Can the alternative be adopted without controversy or legal issues, and is the alternative technically feasible?

Cost Effectiveness: Can the alternative be implemented in a cost-effective manner and can it be implemented without creating an excessive impact on the financial stability of the solid waste system?

Rating of Alternatives

The ratings for the three criteria are based on scores submitted by the SWAC members, and the averages of those scores are shown in the following table. The overall rating for each alternative is based on the scores for the three criteria.

Table 7-1
Ratings for the Transfer and Disposal Alternatives

Alternative	Consistency with Goals	Feasibility	Cost-Effective-ness	Overall Rating
A, Improvements to the Quilcene Drop Box	H	H	M	H
B, Improvements at JCSWDF	H	M	M	M
C, Study waste export alternatives	M	M	M	M

Rating Scores: H – High, M – Medium, L – Low

7.7. TRANSFER AND DISPOSAL RECOMMENDATIONS

The following recommendations are being made for the transfer and disposal system in Jefferson County.

High-Priority Recommendation for Transfer and Disposal:

T&D1) Conduct improvements to the Quilcene Drop-Box facility as funding is available.

Medium-Priority Recommendations for Transfer and Disposal:

T&D2) Conduct improvements to the Jefferson County Solid Waste Disposal Facility based on facility assessment options and the Solid Waste Master Plan update;

T&D3) Prepare an analysis of waste export alternatives.

Jefferson County will be the lead agency for all three of these recommendations. The County's cost for conducting the first two recommendations has not been completed but should consist of a combination of staff time and professional services. The cost for the third recommendation, analyzing waste export alternatives, will likely consist primarily of staff time.

The first recommendation should be conducted throughout the planning cycle (in other words, over the next 5-6 years). The facilities assessment (Recommendation T&D2) must be completed by 2017 so that this information can be integrated into the update of the Jefferson County Comprehensive Land Use Plan. The analysis of waste export alternatives (Recommendation T&D3) should be completed in 2017.

More details on the implementation of these and other recommendations are shown in Chapter 10.

CHAPTER 8
SPECIAL WASTES

8.1. BACKGROUND

Introduction

The purpose of this chapter is to review the generation, handling and disposal methods for several special wastes in Jefferson County. These wastes generally require special handling and disposal either due to regulatory requirements or for one or more other reasons, such as toxicity, quantity or other special handling problems.

The following special wastes are discussed in this chapter:

- 8.2 Biomedical Wastes
- 8.3 Contaminated Soils
- 8.4 Disaster Debris
- 8.5 Electronics
- 8.6 Moderate Risk Wastes
- 8.7 Pharmaceuticals
- 8.8 Other Special Wastes

The nature and source(s) for each of these wastes is described in this chapter, as well as the existing programs and facilities in Jefferson County for handling these wastes. All of the wastes are also examined for needs and opportunities, but only those that pose disposal problems are further examined for alternatives and recommendations. Four of the wastes have been determined to present potential problems that warrant an examination of alternatives at this time, including biomedical wastes, disaster debris, moderate risk wastes, and pharmaceuticals.

Goals for Special Wastes

All of the goals recommended by the SWAC (see Section 1.6) apply to one or more of the special wastes.

8.2. BIOMEDICAL WASTES

Existing Management Practices for Biomedical Wastes

The UTC regulates transporters of biomedical wastes and has issued statewide franchises to Waste Management and Stericycle. Their regulations also allow regular

solid waste haulers to refuse to haul wastes that they observe to contain infectious wastes as defined by the UTC. Non-residential generators of biomedical wastes (hospitals, clinics, etc.) can contract with the certified haulers to safely collect and dispose of these materials.

State law (Chapter 70.95K RCW) defines biomedical wastes to include:

Animal waste: animal carcasses, body parts and bedding of animals that are known to be infected with, or have been inoculated with, pathogenic microorganisms infectious to humans.

Biosafety level 4 disease waste: biosafety level 4 disease waste is waste contaminated with blood, excretions, exudates, or secretions from humans or animals who are isolated to protect others from highly communicable infectious diseases that are identified as pathogenic organisms assigned to biosafety level 4 by the centers for disease control, National Institute of Health, biosafety in microbiological and biomedical laboratories, current edition.

Cultures and stocks: wastes infectious to humans and includes specimen cultures, cultures and stocks of etiologic agents, wastes from production of biologicals and serums, discarded live and attenuated vaccines, and laboratory waste that has come into contact with cultures and stocks of etiologic agents or blood specimens. Such waste includes but is not limited to culture dishes, blood specimen tubes, and devices used to transfer, inoculate, and mix cultures.

Human blood and blood products: discarded waste human blood and blood components, and materials containing free flowing blood and blood products.

Pathological waste: human source biopsy materials, tissues, and anatomical parts that emanate from surgery, obstetrical procedures and autopsy. Does not include teeth, human corpses, remains and anatomical parts that are intended for interment or cremation.

Sharps: all hypodermic needles, syringes and IV tubing with needles attached, scalpel blades, and lancets that have been removed from the original sterile package.

Biomedical waste is generated in Jefferson County by Jefferson Health Care, Jefferson County Public Health and several clinics. These facilities use the services of a licensed biomedical waste hauler to transport and dispose of this waste or use mail-in services. Other biomedical waste generators in the County include doctor's offices, dental clinics, veterinary offices and fire departments, which are generally also using a licensed biomedical waste hauler or, in the case of veterinarians, a collection service offered by Petland Cemetery. Petland Cemetery collects animal carcasses from veterinarians in the area and brings those to Aberdeen for cremation.

Other sources of biomedical wastes are home health care and senior care facilities. In the more serious cases for home health care, biomedical wastes from these sources are typically generated under a nurse's supervision and are brought back to the primary hospital or other facility that employs the nurse. In other cases, however, the medical wastes from home use may not be disposed of properly. Sharps, likely from residential sources, have been found illegally dumped in the woods, improperly disposed of with solid waste, and mixed with recyclable materials.

Disposal of sharps from clinics, hospitals and agencies is regulated, but not sharps from individual residents. Residents may collect used hypodermic needles in either labeled sharps containers made for that purpose or in empty clear plastic bottles (such as soda or cooking oil bottles) that are properly labeled. Full containers can be disposed of in a household's regular trash or taken to the Jefferson County Solid Waste Disposal Facility. A brochure jointly distributed by Jefferson County Public Works and Jefferson County Public Health as well as the solid waste website describes how containers should be properly labeled and disposed.

Planning Issues for Biomedical Wastes

Most biomedical wastes generated in Jefferson County are currently being handled properly, including sharps from residential locations that are generated from home health care for diabetes and other health problems. The primary issues and concerns are associated with the improper disposal of sharps in public places such as parks and alleys. In addition, containers for used sharps may also occasionally be improperly placed in the recycling system where there is a potential safety risk to the staff at the facilities that sort and process recyclables.

Biomedical Waste Management Alternatives

Improved disposal practices for residential sharps could be accomplished through:

- Special Waste Alternative A - More education could be conducted to promote safe handling and disposal of sharps.
- Special Waste Alternative B - Increased enforcement activities and larger penalties could be implemented (although in most cases, the source for the sharps cannot easily be determined).

These alternatives are evaluated later in this chapter (see Section 8.9), and the resulting recommendations are shown at the end of this chapter (see Section 8.10).

8.3. CONTAMINATED SOILS

Existing Management Practices for Contaminated Soils

Contaminated soils are generated from a variety of sites and for a variety of reasons. These wastes are sometimes difficult and expensive to handle through the normal

solid waste system, and so generators may contract directly with a disposal service to transport and dispose of the contaminated soils at a landfill (if on-site treatment or other local options are not possible). These amounts are reported to Ecology annually, as either petroleum-contaminated soil or "other contaminated soils." Table 8-1 shows the amounts reported to Ecology for the past eight years for contaminated soils disposed from Jefferson County.

Table 8-1
Quantities of Contaminated Soils Handled Outside of County System (tons)

Year	Petroleum-Contaminated Soil	Other Contaminated Soils	Annual Total Tons
2006; Columbia Ridge Landfill	27		27
2007; Columbia Ridge Landfill	289		289
2008; Columbia Ridge Landfill	553		553
2009; Columbia Ridge Landfill Roosevelt Regional Landfill	528 319		847
2010; Columbia Ridge Landfill	6		6
2011; Columbia Ridge Landfill Cowlitz County Landfill *	2,500	119	2,619
2012; Columbia Ridge Landfill Cowlitz County Landfill *	889 10,579	2,175	13,643
2013; Columbia Ridge Landfill		52	52

* Prior to 2012, the Cowlitz County Landfill was the Weyerhaeuser Regional Landfill.

Small amounts of contaminated soils are handled through Jefferson County's solid waste system, with pre-approval from the disposal facility if necessary. Some generators in Jefferson County are using the services of a thermal destruction company in Everett and others could be using on-site remediation methods. The amounts handled through these methods are not included in the figures in Table 8-1.

Planning Issues for Contaminated Soils

Diversion of contaminated soils represents a loss of revenue for the Jefferson County solid waste system, although the contaminated soils may be difficult to handle through the county's waste export system.

Management Alternatives for Contaminated Soils

No alternatives are being considered because the system is limited by the transfer station and the current disposal system appears to be working well. Public Works and Environmental Health staff should continue to refer people to appropriate management methods if contacted about contaminated soils.

8.4. DISASTER DEBRIS

Existing Management Practices for Disaster Debris

Potential disasters in Jefferson County could include floods, earthquakes, tsunamis, droughts, forest fires, wind storms and other types of severe weather, landslides, hazardous material incidents, military ordnance incidents, oil spills, pandemics and terrorism incidents. Impacts of these disasters could include serious disruptions to the solid waste system and the creation of very large quantities of wastes.

The County's 2013 Comprehensive Emergency Management Plan (CEMP) identifies specific types of disasters and potential responses to those, while also providing a framework to address disasters that cannot easily be anticipated. The CEMP mentions debris removal and solid waste disposal as essential actions to be taken and identifies the Public Works Department as the lead agency for these, but otherwise provides no details as to what actions will be taken. The CEMP is, however, only designed to serve as a "basic plan" or broad framework, with more specific department plans serving as supplements to the basic plan.

The website for the Jefferson County Department of Emergency Management also stresses the need for proper documentation of damages due to disaster incidents. Proper documentation is one of the more important elements that could be addressed in a FEMA-approved disaster debris management plan.

The Federal Emergency Management Agency (FEMA) encourages state and local governments, Tribal authorities and private non-profit organizations to develop disaster debris management plans. Communities with disaster debris management plans are in a better position to receive the full amount of financial assistance from FEMA and other agencies. Disaster debris management plans can identify those activities and wastes that are eligible for FEMA assistance and ensure that proper documentation occurs to allow the maximum amount of reimbursement. Preparing a FEMA-approved plan can, however, be an onerous and expensive process by the County if no alternative funding is available.

Planning Issues for Disaster Debris

Jefferson County is currently not fully prepared to manage disaster debris effectively and in a manner that would maximize reimbursement by FEMA.

Management Alternatives for Disaster Debris

The following alternatives were considered for disaster debris:

- Special Waste Alternative C – Designate the closed landfill area at the Jefferson County Solid Waste Disposal Facility and also County property adjacent to the Quilcene Drop Box as staging areas for disaster debris.
- Special Waste Alternative D – Identify additional staging areas for disaster debris.
- Special Waste Alternative E – Develop a debris management strategy that provides more details on responsible personnel and management activities.
- Special Waste Alternative F - Develop a FEMA-approved disaster debris plan, the cost of which could be in the range of $50,000 to $100,000.

These alternatives are evaluated later in this chapter (see Section 8.9), and the resulting recommendations are shown at the end of this chapter (see Section 8.10).

8.5. ELECTRONICS

Existing Management Practices for Electronics

Electronic equipment contains a variety of heavy metals. The old style of computer monitors, for instance, contain four to eight pounds of lead in the glass. The newer style of monitors avoid this problem but still have circuit boards that may contain toxic metals such as cadmium, lead and mercury. Other parts of electronics may contain chromium, barium and brominated flame retardants.

Beginning in 2009, a special collection system (the E-Cycle Washington program) was set up for the main types of electronics: televisions, computer monitors, laptops, and desktop computers. Later, "e-readers" and portable DVD players were also added to this program. Using a product stewardship approach where manufacturers of these products are required to fund the collection system, this system allows people to drop off the covered types of units ("e-waste") at no charge at specific locations set up throughout the state. In Jefferson County, there are two locations that currently operate as part of this system, including the Goodwill store in Port Townsend and the Recycle Center at JCSWDF.

Skookum Contract Services previously accepted other types of electronics (which were not part of the E-Cycle Washington program) at the Recycle Center at JCSWDF for a fee of $0.35 per pound, but ceased this practice on November 1, 2015. Currently, a variety of electronics are accepted by private recyclers, located in Clallam County but near Jefferson County.

The amount of e-waste collected in Jefferson County in the past four years is shown in Table 8-2. The amounts shown for e-waste are based on reports from the E-Cycle

Washington program. Functioning electronics can also be donated to a local charity or sold. The amounts of electronics donated or re-sold are not included in the figures shown in Table 8-2. The amounts of non-covered units (types of electronics not included in the E-Cycle Washington program) collected for recycling by Skookum Contract Services and others are also not shown in Table 8-2.

Table 8-2
Quantities of E-Waste Collected in Jefferson County (tons)

Year	E-Waste
2011	77
2012	95
2013	112
2014	105

No studies have been conducted in Jefferson County on the amount of electronics disposed with solid wastes, but a recent study in Thurston County concluded that "other electronics" (other than the types of electronics covered by the E-Cycle Washington program) comprised 0.12% of Thurston County's waste stream. If the amount is similar in Jefferson County, then about 21 tons of other electronics were disposed in Jefferson County in 2014.

Planning Issues for Electronics

Ecology has recently been examining the possibility of adding other types of electronics to the e-waste program, including game consoles and peripherals (mice and keyboards). At the beginning of 2015, the State of Oregon, which operates an e-waste program very similar to Washington State's program, began collecting keyboards, mice and printers in addition to computers, monitors, laptops, televisions, and tablets.

Management Alternatives for Electronics

No alternatives because the current system is working well.

8.6. MODERATE RISK WASTES

Existing Management Practices for Moderate Risk Wastes

Many homes, businesses and farms throughout Jefferson County produce small amounts of hazardous wastes. For most of these sources, the amount of any waste produced falls below regulated quantities and so is classified as a "moderate risk

waste" (MRW). Moderate risk waste includes:

- household hazardous wastes, which are wastes produced by residential activities that would be classified as hazardous waste except by definition they are exempt from regulation, and
- wastes from small-quantity generators, which are wastes from businesses that produce less than 220 pounds of dangerous waste per month or less than 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.

The latter is also defined by the U.S. Environmental Protection Agency as a "conditionally-exempt small quantity generator" (CESQG) on the premise that improper handling, storage or disposal of such wastes would cause the CESQG to fall under the full body of hazardous waste regulations (in other words, the same regulations as large-quantity generators).

Moderate risk wastes that are generated in Jefferson County can be brought to the Household Hazardous Waste (HHW) Facility in Port Townsend. Hazardous wastes are not accepted at the Jefferson County Solid Waste Disposal Facility or the Quilcene Drop-Box site, although separate drop-off containers are provided at those facilities for car batteries, motor oil, antifreeze and mercury-containing lights (fluorescent bulbs).

The HHW Facility has operated since 1995. The County and the Port of Port Townsend jointly developed this facility with partial funding from the Washington State Department of Ecology (Ecology). In September 1997, the County assumed sole ownership of the facility by reimbursing the Port for its portion of the construction costs. The HHW Facility is open one day per week for six hours and is staffed by a trained Jefferson County Solid Waste employee. Hazardous waste from residential sources is accepted free, while business waste (CESQGs) and non-county residential waste is accepted for a fee. A variety of wastes are handled by this facility, including automotive products, oil-based paint and paint-related materials, lawn and garden chemicals, cleaners and many miscellaneous wastes. In 2014, 1,298 participants brought in 53.0 tons of household hazardous wastes and 48 CESQG participants brought in 2.9 tons. The cost for collecting and disposing of this waste was $81,311, or $1,455 per ton.

Ongoing funding for the HHW Facility is provided through a portion of the tipping fee from the Jefferson County solid waste disposal system. Fees charged to some users (CESQGs and out-of-county customers) pay for the disposal costs for those wastes. CESQGs disposed of 5% of the annual amount of MRW in 2014 and paid $11,201 for the disposal costs of those wastes. Fees for CESQGs range from $1.03 per aerosol can containing flammable liquids to $15.77 per pound for organic peroxides, with a minimum fee of $27.68 per transaction.

Separate collections are conducted in a yearly continuing program in various parts of the County to increase the convenience and opportunities for residents to properly dispose of their HHW. The most recent collection events were held in Quilcene on October 18, 2014 and in Port Ludlow on April 18, 2015. These two events collected 8,701 pounds of hazardous wastes from 166 participants. Much of the material collected was oil-based paint (40% of the total) and used oil (22%), as well as pesticides (9.5%), flammable liquids (7.8%), aerosol cans containing paint and other toxic materials (5.1%), and a variety of other toxic and dangerous materials. Most of the 166 participants (78%) were first-time participants in the HHW collection program.

Public education and information about the HHW Facility and hazardous wastes in general is accomplished through brochures and other activities conducted by the Jefferson County Solid Waste Department, including information posted on the County's website, staffing of informational booths, and newspaper inserts. Others in the County, including the garbage haulers, recycling companies and County Public Health staff, also provide information on proper handling and disposal of moderate risk wastes. This information often includes suggestions for safer substitutes and other waste reduction methods.

Planning Issues for Moderate Risk Wastes

There is a continuing need for education about proper handling and disposal of MRW, as evidenced by the occasional customer that brings inappropriate materials to the Jefferson County Solid Waste Disposal Facility. There is also a need for ongoing education on waste reduction methods for MRW, including non-toxic alternatives.

Disposal costs for CESQGS were set using a neutral cost of service analysis prior to the 2014 solid waste fee Ordinance and are scheduled for reassessment before expiration in 2019.

The JCSWDF and Quilcene Drop-Box facilities could potentially collect more types of wastes, especially common types of special wastes, including old fuel and rechargeable batteries.

The reuse cabinet at the HHW Facility is an excellent opportunity for waste reduction, but must be monitored to discourage people that may be accumulating materials without effectively using those products.

Management Alternatives for Moderate Risk Wastes

Alternatives for moderate risk wastes include increased educational efforts and alternative disposal methods. For the latter, there are few options that could be used that would pose an improvement over current methods, although manufacturer responsibility mechanisms might be able to address specific types of waste.

Improved collection capabilities and, if cost-effective, increased numbers of collection events might also help extend opportunities for proper disposal to a larger number of County residents. The following alternatives were considered for MRW:

- Special Waste Alternative G – Increase types of hazardous wastes collected at JCSWDF and Quilcene Drop Box.
- Special Waste Alternative H – Increase publicity for the HHW Facility and for safer alternatives to toxic products.

These alternatives are evaluated later in this chapter (see Section 8.9), and the resulting recommendations are shown at the end of this chapter (see Section 8.10).

8.7. PHARMACEUTICALS

Existing Management Practices for Pharmaceuticals

Evidence has been accumulating for several years that some current disposal methods for pharmaceuticals are creating problems. Leftover amounts of medicines and drugs are often flushed into wastewater systems, and have consequently been found in groundwater and streams. The alternative, placing these drugs into the garbage, raises concerns about improper disposal of these drugs. Many of the drugs of concern are regulated substances with legal ramifications for ownership and handling, which complicates efforts to find a better disposal method. Some pharmaceuticals are also classified as hazardous waste under state and federal regulations, which leads to a potential financial burden for those companies that might otherwise be willing to collect surplus and outdated drugs.

Secure disposal of pharmaceuticals is offered free of charge by the Jefferson County Sheriff's Office in Port Hadlock. The current guidelines for dropping off unwanted medicines calls for pills to be emptied into a plastic bag and taken to the Sheriff's Office during normal business hours (8:00 a.m. to 4:00 p.m., Monday through Friday). Liquids are not accepted in this program.

A new program for pharmaceuticals is being implemented by King County. The King County Board of Health adopted the Secure Medicine Return Regulations on June 20, 2013 (making it only the second such rule in the United States, with Alameda County, California being the first). This rule requires drug producers to provide a program to take back old medicines. Two groups of manufacturers submitted draft plans in February 2015 and then provided revised plans in July 2015, of which one was approved in October 2015 and the other plan was given additional time to address comments. Both plans proposed using drop-off kiosks at law enforcement agencies, supplemented with collection events and mailers. The anticipated start date for the new program is January 8, 2016.

Planning Issues for Pharmaceuticals

More collection sites for pharmaceuticals would help divert more of this waste to proper disposal options. A collection site in Port Townsend would provide a more convenient site for many of the County's residents and thus lead to greater participation and proper disposal. More publicity for the existing collection option could also help.

Work being conducted by others on this issue may lead to an improved system for pharmaceuticals in the future. Improved disposal practices for pharmaceuticals will likely require new handling systems and other solutions that are best addressed on a statewide or national basis. The organization Zero Waste Washington has been addressing this issue and was instrumental in the adoption of King County's regulations. Zero Waste Washington and others have promoted state laws to address this issue, but none have been adopted as of yet.

Management Alternatives for Pharmaceuticals

The following alternatives were considered for pharmaceuticals:

- Special Waste Alternative I – Point-of-sale signs and brochures could be used at all retail locations for pharmaceuticals to notify customers about disposal options for unused medicines.
- Special Waste Alternative J – Efforts by others to create a statewide or national product stewardship system for pharmaceuticals could be supported as appropriate.
- Special Waste Alternative K – Investigate options to establish a take-back program for pharmaceuticals in Port Townsend.

These alternatives are evaluated later in this chapter (see Section 8.9), and the resulting recommendations are shown at the end of this chapter (see Section 8.10).

8.8. OTHER SPECIAL WASTES

Existing Management Practices for Other Special Wastes

A variety of other items require special handling, including abandoned or junk vehicles and derelict marine vehicles. Procedures are in place to address these items, as described below.

Abandoned and junk vehicles: the Jefferson County Sheriff's Office and Port Townsend Police Department typically handle responses to problems with abandoned or junk vehicles. Abandoned vehicles with value must be handled differently than junk vehicles, typically requiring attempts to track down the owner. Vehicles without value may be classified as a junk vehicle. Junk vehicles potentially

include campers, boats (if on land), trailers, and any other vehicle potentially used for human transportation (but not including mobile homes). These may be classified as junk vehicles if there is built-up debris that prevents their use, damage to the frame, more than one missing window, more than one flat tire, evidence that the vehicle has not been moved for more than 60 days, and other factors. Jefferson County Code prohibits any property from containing three or more junk vehicles.

State law (RCW 46.55.230) allows a vehicle to be certified as a junk vehicle if it meets three out of the following four conditions:

- It is three years or older,
- It is extensively damaged,
- It is apparently inoperable, or
- Its fair market value is only equal to the scrap value.

Derelict vessels: in 2002, the Washington State Legislature passed the Derelict Vessel Act, which provides certain local and state agencies with authority and finding for removal and disposal of derelict and abandoned vessels from the water. The lead agency for the removal program is the Department of Natural Resources (DNR), which maintains an inventory of these vessels and uses specific criteria to prioritize their removal. Criteria include the need for environmental protection, threats to human health and safety, and threats to navigation.

Beginning in 2013, a grant to San Juan County from the Puget Sound Partnership allowed an expansion of that county's prevention program to other counties, including Jefferson County. The prevention program addressed vessels that were at risk of becoming a greater problem, thus allowing these to be removed at a much lower cost. This grant expired in mid-2015, although a Marine Deputy at the Jefferson County Sherriff's Department continues to conduct prevention efforts.

Vessels are occasionally de-constructed at the Port of Port Townsend and the components are either recycled or disposed through the Jefferson County solid waste system. De-construction activities must compete with boat repair activities for the available space.

Other special wastes: various other wastes may pose special handling or disposal issues. If necessary, these wastes may require pre-approval from Republic Services before they can be handled through the waste export system. There is a process set up for this situation, generally consisting of filling out a "special waste profile" form and requesting approval for the waste to be disposed.

Planning Issues for Other Special Wastes

The Derelict Vessel Prevention Program was providing an effective approach and funding should be restored for this program.

The idea of a de-construction facility for derelict vessels at the Port of Port Townsend has been discussed recently. The cost for such a facility would be significant (about $1.5 million) but this facility would provide much improved capabilities for dismantling and either recycling or properly disposing of vessel components.

Management Alternatives for Other Special Wastes

The following alternative is being considered for special wastes:

- Special Waste Alternative L – Proposals for a derelict vessel de-construction facility at the Port of Port Townsend could be supported as appropriate.

8.9. EVALUATION OF SPECIAL WASTE ALTERNATIVES

Review of Rating Criteria

The above alternatives can be evaluated according to several criteria, including:

Consistency with Solid Waste Planning Goals: Does the alternative support the goal of emphasizing waste reduction as a fundamental management strategy and support other planning goals as well?

Feasibility: Can the alternative be adopted without controversy or legal issues, and is the alternative technically feasible?

Cost Effectiveness: Can the alternative be implemented in a cost-effective manner and can it be implemented without creating an excessive impact on the financial stability of the solid waste system?

Rating of Alternatives

The ratings for the three criteria are based on scores submitted by the SWAC members, and the averages of those scores are shown in the following table. The overall rating for each alternative is based on the scores for the three criteria.

8.10. SPECIAL WASTE RECOMMENDATIONS

The following recommendations are being made for special wastes.

High-Priority Recommendations for Special Wastes:

SW1) Conduct more education for proper disposal of sharps;

SW2) Disaster debris designated staging areas to include the Jefferson County Solid Waste Disposal facility and the Quilcene Drop-Box site;

SW3) Develop a disaster debris strategy;

Table 8-3
Ratings for the Special Waste Alternatives

Alternative	Consistency with Goals	Feasibility	Cost-Effective-ness	Overall Rating
A, More education for proper sharps disposal	H	H	M	H
B, More enforcement for proper sharps disposal	M	L	L	L
C, Designate JCSWDF and the Quilcene Drop Box as staging areas for disaster debris	H	H	M	H
D, Identify additional staging areas for disaster debris	H	M	M	M
E, Develop disaster debris strategy	H	H	M	H
F, Develop a FEMA-approved disaster debris plan	H	M	L	M
G, Increase types of hazardous wastes collected at JCSWDF and the Quilcene Drop Box	H	M	M	M
H, Increase publicity for HHW Facility and safer alternatives	H	H	H	H
I, Point-of-sale signs and brochures for pharmaceuticals	H	M	M	M
J, Support product stewardship programs for pharmaceuticals	H	M	M	M
K, Investigate options for collection site for pharmaceuticals in Port Townsend	H	M	M	M
L, Support for derelict vessel de-construction facility at Port	H	M	M	M

Rating Scores: H – High, M – Medium, L – Low

SW4) Conduct more education for public use of the MRW Facility and safer alternatives for disposal of toxic products.

Medium-Priority Recommendations for Special Wastes:

SW5) Identify additional staging areas for disaster debris in Jefferson County as part of the disaster debris strategy;

SW6) Consider development of a disaster debris management plan if funding becomes available;

SW7) Expand collection of additional types of moderate wastes at the Jefferson County Transfer Station and the Quilcene Drop-Box facilities;

SW8) Encourage Jefferson County retail locations selling pharmaceuticals to use point-of-sale signs and brochures to promote proper disposal of unused pharmaceuticals;

SW9) Support product stewardship programs for pharmaceuticals, as appropriate;

SW10) Investigate options for an expanded pharmaceutical drop-off program in Port Townsend;

SW11) Support derelict vessel de-construction facility at the Port of Port Townsend, as appropriate.

Jefferson County Public Works or Public Health would be the lead agency for all of these recommendations, although Recommendations SW1 and SW8 would require the participation of private businesses (i.e., retail locations for sharps or pharmaceuticals) and SW11 will be implemented primarily by the Port if a project is successfully implemented. The County's cost for conducting the first recommendation is anticipated to be $5,000 to $10,000. There is no direct cost associated with Recommendation SW2, and the costs for several of the recommendations (SW3, SW5, SW9, SW10 and SW11) will consist of staff time. The cost for Recommendation SW4 is anticipated to be $5,000 to $10,000. The cost for Recommendation SW6 is anticipated to be $50,000 to $100,000, and this recommendation should be pursued only if grants or similar funds become available for most or all of this expense. The cost for Recommendation SW7 has yet to be determined, but should be kept at a low level for a few additional materials (in the range of $5,000 to $7,000 for collection and storage containers). The cost for Recommendation SW8 is anticipated to be $5,000 to $10,000, plus staff time, for the production of signage and brochures that could be used by retail locations.

Recommendation SW2 is considered to be effective immediately upon approval of this plan. Recommendations SW1, SW3, SW4, SW5, SW7, SW8 and SW10 should be conducted in the next three to five years as funds and staff time permit. Recommendations SW6, SW9 and SW11 should be implemented when necessary or possible.

More details on the implementation of these and other recommendations are shown in Chapter 10.

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CHAPTER 9
ADMINISTRATION AND PUBLIC EDUCATION

9.1. BACKGROUND

Introduction

This chapter reviews the regulatory and administrative activities, including public education, in Jefferson County for solid waste.

Goals for Administration and Public Education

All of the goals recommended by the SWAC (see Section 1.6) apply to administration and public education programs.

9.2. EXISTING CONDITIONS FOR ADMINISTRATION AND PUBLIC EDUCATION

At the federal and state levels, the primary regulatory authorities for solid waste management are the Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology), respectively. At the local level, the responsibility for solid waste administration and enforcement is shared among several departments of Jefferson County and the City of Port Townsend.

Federal Level

At the federal level, the Resource Conservation and Recovery Act of 1976 (RCRA), as amended by the Solid Waste Disposal Act Amendments of 1980 (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 must provide that all solid waste is disposed in an environmentally-sound manner.

Locally, the naval installation on Indian Island is the only federal facility in the County directly involved in solid waste management. As mentioned in Chapter 7, this facility operates an inert landfill for the disposal of concrete from on-site demolition activities. Other aspects of their solid waste management system are handled through local services and programs. A provision of RCRA requires that federal facilities comply with substantive and procedural regulations of state and local governments, and so military installations and federal agencies must operate in a manner consistent with local solid waste management plans and policies.

State Level

The State Solid Waste Management Act, Chapter 70.95 the Revised Code of Washington (RCW), provides for a comprehensive, statewide solid waste management program. Ch. 70.95 RCW assigns primary responsibility for solid waste handling to local governments, giving each county, in cooperation with its cities, the task of adopting a solid waste management plan that places an emphasis on waste reduction and recycling programs. Enforcement and regulatory responsibilities are assigned to cities, counties, or jurisdictional health departments, depending on the specific activity and local preferences.

Chapter 173-350 WAC, Solid Waste Handling Standards, provides rules for implementing RCW 70.95 and sets minimum functional performance standards for the proper handling of solid wastes. Ch. 173-350 contains rules for a range of facilities as well as providing rules for beneficial use permits, groundwater monitoring, financial assurance and other important activities. Chapter 173-351 WAC, Criteria for Municipal Solid Waste Landfills, provides minimum state-wide standards for solid waste landfills (not including inert or limited purpose landfills).

Chapter 36.58 RCW, Solid Waste Disposal, establishes the counties' rights and responsibilities regarding solid waste management, including the authority to execute contracts for disposal services, designate disposal sites, and to establish solid waste disposal districts. The authority to establish solid waste collection districts is provided in Chapter 36.58A.

Federal, State and local air quality regulations may apply to specific activities in Jefferson County, especially ORCAA (Olympic Region Clean Air Agency) Regulation 1 and Ch. 173-400 and 173-460 WAC. These regulations include requirements for odor, fallout and other potential air quality impacts. As part of these requirements, pre-approval by ORCAA may be necessary for modifications in existing sources and construction of new sources that may affect air quality, including landfills, transfer stations, composting facilities and incinerators.

Other relevant State legislation includes Washington's Model Litter Control and Recycling Act. This Act (Ch. 70.93 RCW) and the associated State regulations (Ch. 173-310 WAC) generally prohibit the deposit of garbage 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, and contracts to eligible county entities for illegal dump clean-up activities.

Local Level

In Jefferson County, the local governmental organizations involved in solid waste management include the Jefferson County Department of Public Works, Jefferson County Public Health, and the City of Port Townsend. Each of these entities has a

particular area of operation, providing specific services to the residents within that area and enforcing specific rules and regulations. The Jefferson County Solid Waste Advisory Committee (SWAC) also plays an important advisory role for the solid waste system in Jefferson County. The formation, membership makeup, and role of the SWAC are specified by RCW 70.95.165 (see Section 1.4 for more details on the SWAC).

Local rules that affect solid waste management include ordinances, land use plans and zoning codes.

Jefferson County Department of Public Works: The Department of Public Works is the agency primarily responsible for solid waste management activities for Jefferson County. The Jefferson County Comprehensive Land Use Plan designates solid waste facilities as Essential Public Facilities. The Jefferson County Department of Public Works operates the Transfer Station and the Quilcene Drop Box facilities, manages the Recycle Center Operations Contract and the waste export contract, and operates the MRW Facility. Staffing consists of dedicated personnel, including a solid waste manager, solid waste MRW coordinator, solid waste operations coordinator, scale attendants, transfer station and drop box site attendants, and assistance as needed from the Public Works Director. Altogether, 9.6 full-time equivalents (FTE's) were funded from the 2015 solid waste budget.

Jefferson County utilizes an enterprise fund for the solid waste management system. The fee for service premise of this approach is that expenditures must be matched by revenues from disposal fees, grants and other appropriate mechanisms authorized by the County Commissioners. Total expenditures by Jefferson County for solid waste activities in 2015 were projected to amount to $2,789,000. The revenues to pay for these expenses are primarily from tipping fees plus some public grant funds. Table 9.1 shows more detail on budget and expenditures for 2014, 2015 and 2016. The reserve fund balance in 2015 is projected at $279,000. The target amount of reserve funds is an amount equal to approximately 25% of the operating expenses, and these funds need to be reserved for potential facility improvements, closure costs for the HHW Facility (as required by Ch. 173-350-600 WAC), and to cover unforeseen expenses (such as the need to replace equipment).

New disposal rates became effective on February 1, 2014 and the rates are scheduled to be adjusted (increased) 2.5% annually through 2019. This was the first increase since rates were previously adopted in 1993, although fees were adopted after 1993 to charge for yard waste deliveries, business waste accepted at the MRW Facility and the state solid waste tax. A portion of the tipping fee (5%) is set aside for yard waste education and $1.00 per ton is provided to Public Health to fund enforcement and cleanup activities. The majority of CPG grant funds from Ecology are also passed through to Public Health for education and the matching funds required by this grant (25%) are provided by Solid Waste.

Table 9-1
Jefferson County Solid Waste Budget (in thousands)

	2014	2015	2016
Revenues			
Tipping Fees	2,527	2,777	2,658
MRW Fees	13	12	11
Yard Waste Fees	104	109	109
Refuse Taxes	47	50	45
Grants	83	90	28
Other	42	30	29
Total Revenues	2,816	3,068	2,880
Expenses			
Closure of Old Landfill	55	49	56
Transfer Station	408	421	481
Long Haul	1,071	1,169	1,154
Drop Box Operations	44	37	43
Moderate Risk Waste Operations	85	94	87
Recycling and Education Program	198	242	266
Administration and Planning	420	437	461
Transfers Out	79	84	83
Capital Outlay	229	256	380
Equipment Replacement Fund	0	0	300
Total Expenses	2,361	2,789	3,312
Balance	226	279	(432)

Notes: All figures are in dollars. The 2014 figures are the actual amounts, 2015 figures are projected, and the 2016 figures are the budgeted amounts.

Jefferson County Public Health: The Public Health Department is the local enforcement agency for County and State regulations regarding solid waste activities. Whenever the situation is not covered by County ordinances, Public Health enforces State regulations. Public Health is the responsible local authority (per RCW 70.95.160) for issuing permits for solid waste facilities, and inspects and monitors the closed landfill and all other solid waste facilities that may impact human health. Public Health is the lead agency for public education activities in Jefferson County.

The permit process for disposal facilities requires an application and approval for new sites, and an annual review and renewal for existing permits (although permits can be renewed for up to five years in some cases). The initial application form, developed by Ecology, requires information about the types of waste to be disposed, environmental conditions of the area and operating plans. Permit fees are based on

the relative risk of environmental and public health threats as a measure of the degree of regulatory monitoring needed.

Unpermitted and illegal sites are a problem in the County. Private residential dumps have created nuisance problems in some areas. The process for addressing this can be slow. Illegal dumping enforcement may be addressed through enforcement of State laws regarding solid waste disposal (Ch. 173-350 WAC) or Jefferson County ordinances concerning solid waste disposal and or littering. Generally, enforcement of solid waste laws and regulations is the responsibility of Public Health.

Public education activities are presently being conducted by Public Health staff. The Waste Prevention Education Coordinator position and the education program are currently funded partially by the Department of Ecology (through grants) and funds provided by the Jefferson County Solid Waste program.

Recent activities conducted by the Waste Prevention Education Coordinator include multiple workshops on backyard composting, developing and distributing new flyers and collection site signs for recycling as well as preparing articles on special topics (such as plastic disposal). Public Health staff also conduct activities such the Recycle Relay (an activity that informs students about recyclable and non-recyclable materials). An important program being implemented starting in 2015 is to educate people about food waste and how to reduce this, with a goal of achieving a 5% reduction in the amount of food disposed.

The certificated haulers also provide information on rates and recycling programs in the unincorporated County collection areas. A law passed in 2001 (WAC 480-70-361(7)) requires solid waste collection companies to inform customers at least once per year about solid waste and recycling services that are available.

City of Port Townsend: The Public Works Department for the City of Port Townsend is involved in solid waste management in several ways, including operating the Biosolids Compost Facility and managing the contract for garbage collection (with assistance from other city staff as needed). The City of Port Townsend's solid waste programs are funded through residential and commercial garbage collection fees. Fees for accepting yard waste and septage at the Biosolids Facility also help to fund the City's solid waste and recycling program activities.

Illegal dumping and litter control within the City is enforced through the Municipal Code (Chapters 6.04 and 6.12), plus the Uniform Housing Code as it applies to nuisance abatement. Another City Code that merits attention here is the City's ban on using polystyrene foam packaging for food. This ban on the "unlawful use of harmful packaging materials" was adopted in 1989 as Chapter 6.20 of the City code, and is effective only within City limits. Beginning November 1, 2012, the City also banned retail single-use plastic carry-out bags.

Through the solid waste contractor, the City of Port Townsend contracts for residential education services and provides occasional messages on utility mailings regarding garbage and recycling issues in the city. Information about recycling and garbage collection is also provided on the City's website.

Tribal Councils: As mentioned in Chapter 1, there are three Tribes that are located or active in Jefferson County (the Hoh, Quinault and Jamestown S'Klallam Tribes). The Tribes are governed by a Tribal Council or Committee made up of elected members. The Tribes are not currently active in administration and enforcement issues for solid waste management, but they have the option of exercising solid waste management authority over tribal lands. In doing so, the Tribes must abide by the federal regulations and policies outlined in the Resource Conservation and Recovery Act (RCRA).

Land Use Plans: The Jefferson County Comprehensive Land Use Plan, adopted August 28, 1998 and most recently amended in 2013, provides guidance pertaining to land use issues and so can affect decisions such as siting solid waste facilities. Port Townsend has also adopted a Comprehensive Land Use Plan that addresses similar issues within City boundaries. Subsequent to the adoption of the County's land use plan, several ordinances were developed to provide a regulatory basis for the plan. These ordinances include the zoning code, subdivision ordinance, shoreline master plan, and others.

Solid waste is specifically addressed in the Jefferson County Comprehensive Land Use Plan in the chapters dealing with essential public facilities (Chapter 9), utilities (Chapter 11) and capital facilities (Chapter 12). Relevant goals and policies from the County's land use plan are shown in Table 9.2. The current Capital Facilities chapter of the Comprehensive Plan does not address expenditures beyond 2010, but this plan is expected to be updated starting in 2017.

The City also addresses solid waste management in its land use plan, and the City's goal and policies are shown in Table 9.3.

9.3. PLANNING ISSUES FOR ADMINISTRATION AND PUBLIC EDUCATION

Funding Issues

The County faces the potential for financial constraints due to the reliance on tipping fees to fund recycling programs. Ultimately, should recycling become "too successful," funding for these programs would diminish due to shrinking waste quantities. Relying on the tipping fee for recycling funds is not the best long-term strategy. Other possible funding methods are shown in the attached list, but not all of these options are available to a county.

Table 9-2
Goals and Policies from the County's Comprehensive Plan

Solid Waste Utilities Element of County's Comprehensive Plan	
Goal UTG 7.0	Provide solid waste facilities and programs that are efficient, and which utilize recycling to the maximum extent practicable.
Policies UTP 7.1	Implement, to the fullest extent possible, and in descending order of priority, solid waste management processes that reduce the waste stream, reuse waste materials, promote recycling, provide for the separation of waste prior to incineration or landfill disposal, and provide guidelines and strategies for disposal of all special waste types.
UTP 7.2	Initiate and support public educational outreach on solid waste management, including recycling opportunities, methods to reduce solid and chemical waste, and related environmental issues.
UTP 7.3	Identify and implement appropriate measures to ensure mitigation of adverse environmental impacts associated with solid waste collection activities.
UTP 7.4	Maintain the Solid Waste Advisory Committee involving citizens, waste management providers, regulatory agency representatives, the County, and other affected interests to identify methods for efficient and practical solid waste management, including small and moderate-risk waste handling strategies.
UTP 7.5	Provide appropriate levels of collection and recycling opportunities which will maximize public participation, and which offer the fullest practical and economical potential for waste materials.
UTP 7.6	If incentive programs fail to reach the waste reduction goals identified in the Capital Facilities Element, consider mandatory programs to the extent allowable by State law.
UTP 7.7	Identify and preserve for future use solid waste facility sites, including potential landfill sites, consistent with the Comprehensive Plan and the Solid Waste Management Plan.
UTP 7.8	Ensure reclamation of areas currently serving as solid waste disposal facilities to promote the recovery of such areas for future functional land uses.
Action Items	1. Educate the public on solid waste management, including recycling opportunities, ways to reduce solid and chemical waste, and related environmental issues. 2. Utilize applicable grant funding for financial assistance for solid waste programs, such as public education on solid waste issues. 3. Develop strategies for achieving a reduction in Jefferson County's solid waste stream, and where feasible, ensure the strategies include: • Improve the processing of recyclable materials, as acceptable under appropriate regulations; in order to help alleviate the need to stockpile materials. • Providing opportunities for recycling to the public and commercial carriers at transfer locations. • Reducing the solid waste stream by encouraging manufacturers and retailers to reduce packaging waste at the retail level. • Encouraging procurement of recycled-content products. 4. Consider all practicable alternatives for the efficient management of the solid waste system.

Source: From the Utilities Element Chapter of the 2013 Jefferson County Land Use Comprehensive Plan.

Table 9-3
Goals and Policies from the City's Comprehensive Plan

Solid Waste Management Element of City's Comprehensive Plan	
Goal 32	To manage solid waste in a responsible, environmentally sensitive and cost-effective manner.
Policies 32.1	Follow the solid waste management hierarchy established in federal and state law, which sets waste reduction as the highest priority management option, followed by reuse, recycling, and responsible disposal.
32.2	Promote the reduction and recycling of solid waste materials through differential collection rates, providing opportunities for convenient recycling, and by developing educational materials on recycling, composting and other waste reduction methods.
32.3	Seek to create a market for recycled products by maximizing the use of such products in the City's daily operations.
32.4	Contract with private haulers to maintain a cost-effective and responsive solid waste collection system.
32.5	Examine the feasibility of establishing a solid waste transfer station within Port Townsend in order to reduce costs to City residents.
32.6	Manage solid waste collection to minimize litter and neighborhood disruption.
32.7	Protect air, water, and land resources from pollution caused by the use, handling, storage and disposal of hazardous materials and substances. 32.7.1. Reduce City use of hazardous materials and safely manage, recycle, and dispose of toxic products used in City operations. 32.7.2. Continue to participate with Jefferson County in the implementation of Jefferson County's Solid Waste Management Plan.

Source: From the Capital Facilities and Utilities Element Chapter of the 2015 City of Port Townsend Comprehensive Land Use Plan.

The County's primary funding sources for education programs are grants and a portion of the tipping fee. The use of tipping fees is not considered to be reliable in the long term due to increasing pressure to pay higher costs while maintaining the tip fee at a reasonable level.

A significant reduction in the anticipated amount of CPG grant funds for the two-year grant cycle of 2015-2017 has caused Public Health's education and enforcement activities to be reduced.

Public Education Issues

Education programs are critical to the success of any solid waste program. To be effective, public education methods need to be tailored to specific groups and programs. Comprehensive education about waste diversion options for residents

and businesses, including the availability and requirements for curbside recycling, is an ongoing need.

Another public education need is to inform residents and businesses as to the proper handling of specific materials, especially for the toxic wastes that should be brought to the County's Moderate Risk Waste (MRW) Facility instead of being brought to the Transfer Station or the Quilcene Drop-Box. Customers occasionally bring inappropriate materials to these disposal facilities and then need to be re-directed to the MRW Facility, whereas better communication about disposal requirements for these types of wastes might result in more efficient and satisfactory services.

Several opportunities exist for public education activities, including:

- promotion of waste prevention strategies.
- targeting particular groups, such as businesses or legislators.
- educational materials on costs/benefits of various waste reduction activities or methods.
- information on the fate of recycled materials and the benefits of purchasing recycled products.
- educational materials on how waste diversion activities fit into broader issues, such as sustainability, global warming and preservation of salmon habitat.
- promotion of the E-Cycle Washington program and other electronics recycling services.

Administrative Issues

There could be opportunities for regional efforts involving the neighboring counties of Clallam, Mason, Island and Kitsap. These opportunities are in disposal systems and other activities.

There is the possibility that additional areas of the County will be designated as an "urban growth area," or UGA (see also Section 2.3.1). These possibilities include an expansion of the City of Port Townsend UGA or the creation of new UGAs in other areas. The creation of additional UGAs could have financial and service-related impacts, including possible changes in solid waste services.

Enforcement Issues

There is an ongoing need for addressing illegal dumping and "junk properties" through Public Health programs.

Collection and Disposal Districts

Collection and disposal districts offer potential mechanisms for addressing solid waste funding and administrative issues, but are politically challenging to

implement. Chapters 36.58 and 36.58A of the Revised Code of Washington allow the establishment of waste disposal districts and waste collection districts, respectively, within a county. Either district can include the incorporated areas of a city or town only with the city's consent. A solid waste district (for collection or disposal) could centralize functions that are now handled by a variety of county and city agencies, but it may be difficult to develop a collective consensus on the formation and jurisdiction of either type of district. Either type of district may be able to reduce illegal dumping and other problems through the institution of mandatory garbage collection (for a collection district only) and/or different financing structures.

RCW 36.58.040 prohibits counties from operating a solid waste collection system, but the establishment of a solid waste collection district that can act in a similar capacity is allowed by Ch. 36.58A RCW. A collection district can be created following the adoption of a solid waste management plan, however a collection district does not appear to possess taxing authority. According to RCW 36.58A.040, the revenue-generating authority of a collection district is limited.

RCW 36.58.130 allows the creation of a disposal district to provide for all aspects of solid waste disposal. 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 (i.e., the Board of County Commissioners) would be the governing body of the solid waste district.

Activities that can be undertaken by a disposal district includes programs to process and convert waste into useful products, but specifically does not include collection of residential or commercial garbage. A disposal district may enter into contracts with private or public agencies for the operation of disposal facilities, and then levy taxes or issue bonds to cover the disposal costs. Thus, a disposal district established in Jefferson County could assess each resident or business (in incorporated areas only with the city's approval) a pro rata share of the cost of disposal at the Jefferson County Waste Management Facility. This could help to discourage illegal dumping by covering at least part of the disposal cost through mandatory payments, so that the additional expense for proper disposal would be lower than it is currently. In other words, 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, and the latter two options would be less expensive by the amount of disposal costs already paid.

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:

- 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.
- defraying a portion of the present cost of disposal.
- subsidizing waste reduction/recycling activities.
- subsidizing the Moderate Risk Waste Facility and collection events.
- closure and post-closure costs for the old landfill and for other solid waste facilities.

Four jurisdictions have implemented disposal districts:

1. Lewis County uses a disposal district to provide a cohesive financial and control structure between the County and its principal cities to respond to the demands of a Superfund landfill site. The District charges a tipping fee, but not an excise tax.
2. Whatcom County has implemented an excise tax on waste collection services. This effectively charges haulers $8.50 per ton, which haulers pass on to their customers and pay to the County regardless of where they take their waste.
3. San Juan County operates its own transfer station system and faced significant tonnage and revenue loss recently due to price competition. Hence, that county developed a disposal district to move some of its expenses to an excise tax, thus lowering its tipping fee and increasing revenues through increased waste tonnages.
4. Lopez Island recently created their own disposal district to allow residents of this island to manage their waste separately from the San Juan County system. A levy on the property taxes provides about one-third of the annual revenue needed ($115,000) to conduct solid waste and recycling activities on the island. This levy needs to be re-adopted annually.

9.4. ALTERNATIVE ADMINISTRATION AND PUBLIC EDUCATION STRATEGIES

The following alternatives were considered for new or revised administration and public education activities. The listing of an alternative in this section does not mean that it is considered feasible or desirable, nor that it is recommended (see Section 9.6 for the recommendations).

Alternative A – Explore Funding Alternatives for Recycling

Additional financing for recycling could come from an increase in the tipping fee paid at the Transfer Station. Another alternative for funding could be taxes levied by a special district, such as a disposal district as provided by RCW 36.58. If a disposal district is created in the County, charges for solid waste handling and disposal could be collected separately through the tipping fee or as part of any district taxes. Other program costs (landfill closure and monitoring, recycling, MRW Facility, etc.) could also be collected as dedicated funds through district taxes. These options could be explored as the need is created by increased recycling and decreased waste volumes.

Alternative B – Continue Education for Commercial Recycling

The County, through its agreements with haulers and with the education program, could make education of the commercial sector a higher priority. The Waste Prevention Education Coordinator is available to businesses outside the City for audits and consultation, although only as time permits.

Alternative C – Increased Enforcement

Illegal dumping could be addressed through increased enforcement activities. Increased enforcement would require additional funding for enforcement personnel and activities. If needed, additional funding for enforcement activities could be derived from grants, general funds, surcharges on tipping fees, special assessments, and/or increased permit fees.

Alternative D – Conduct Periodic Rate Reviews

Almost all revenue needed to conduct solid waste operations in Jefferson County are currently generated through tipping fees. Periodic rate reviews would help ensure that adequate funds are being collected to effectively conduct needed activities. The rate reviews could be conducted every three to four years, beginning before 2019 (the current fee structure is effective through 2019).

Alternative E – Consider Implementing a Collection District

Stable funding, reduced illegal dumping, increased recycling and other services could be addressed through systems that implement universal garbage collection services. Implementation of universal garbage collection services can be achieved in

several ways, but usually this is accomplished through some form of mandatory collection requirement. One of the more effective means of implementing mandatory garbage collection is the formation of a collection district.

Alternative F – Consider Implementing a Disposal District

Stable funding could also be addressed through a disposal district. A disposal district could be used to collect funds from all residents and those funds used to reduce the cost of proper disposal and/or the funds could be used for other solid waste activities.

Alternative G – Continue Public Education and Expand if Possible

Ongoing public education activities are very important for helping people manage their solid wastes in a proper and cost-effective manner, although it can be difficult to show to clearly show measurable results for education activities. Options for public education are many and varied, as are the costs and effectiveness of the options. The challenges involved with public and school education programs include the diversity of the public targeted for the information, the multiple programs that compete for public attention, and the potential high costs of an extensive program.

Activities that could be continued or developed could include promoting waste reduction, staffing informational booths at community events, developing newspaper inserts, developing K-12 curricula, and coordinating with other agencies. To be effective, school education programs require some ongoing coordination between the schools and district offices, other public agencies, the general public, and the Solid Waste Education Coordinator.

The cost effectiveness of education programs is difficult to measure and evaluate. Indirect evaluation can be achieved through observations of waste volumes and the amount of waste that is diverted. Performance-based evaluations can be conducted based on the numbers of students, businesses, and service groups that receive information. Another measure of success could be to track the numbers of requests for information received by the Recycle Center, the Solid Waste Education Coordinator, City Hall/Utility Department, and others.

Illegal dumping is another problem that could be addressed through public education. In this case, public education could be used to discourage this behavior, by publicizing the bad aspects of this activity and also informing potential violators of the applicable fines and civil penalties.

9.5. EVALUATION OF ADMINISTRATION AND PUBLIC EDUCATION ALTERNATIVES

Review of Rating Criteria

The above alternatives can be evaluated according to several criteria, including:

Consistency with Solid Waste Planning Goals: Does the alternative support the goal of emphasizing waste reduction as a fundamental management strategy and support other planning goals as well?

Feasibility: Can the alternative be adopted without controversy or legal issues, and is the alternative technically feasible?

Cost Effectiveness: Can the alternative be implemented in a cost-effective manner and can it be implemented without creating an excessive impact on the financial stability of the solid waste system?

Rating of Alternatives

The ratings for the three criteria were based on scores submitted by the SWAC members, and the averages of those scores are shown in the following table. The overall rating for each alternative is based on the scores for the other three criteria.

Table 9-4
Ratings for the Administration and Public Education Alternatives

Alternative	Consistency with Goals	Feasibility	Cost-Effective-ness	Overall Rating
A, Explore funding alternatives for recycling	H	L-M	L-M	M
B, Continue education for commercial recycling	H	M	M	M
C, Increased enforcement	M	L-M	L	L
D, Conduct periodic rate reviews	M	M	M	M
E, Consider a collection district	M	L	M	M
F, Consider a disposal district	M	L	L-M	L
G, Continue public education and expand if possible	H	M-H	M	H

Rating Scores: H – High, M – Medium, L – Low

9.6. ADMINISTRATION AND PUBLIC EDUCATION RECOMMENDATIONS

The following actions are recommended for administration programs (see Chapter 9 for more details.

High-Priority Recommendation for Administration and Public Education:

A&PE1) Public information and education programs will be continued through joint Health/Public Works collaboration, and in cooperation with the City of Port Townsend, haulers and recycling companies. These efforts will be expanded if possible.

Medium-Priority Recommendations for Administration and Public Education:

A&PE2) Funding alternatives for recycling and other solid waste programs will continue to be explored with the goal of these programs being financially self-supporting;

A&PE3) Programs to encourage waste reduction and recycling by the commercial sector will be continued, and expanded if possible;

A&PE4) Conduct disposal rate reviews periodically to ensure adequate funds are being collected to support solid waste programs and mandates;

A&PE5) Potential benefits of a collection district should be examined in the future.

The responsibility for implementing Recommendations A&PE1 and A&PE3 is jointly shared by the Public Health and Public Works Departments, with assistance from others as appropriate. The lead agency for the other recommendations is the Public Works Department.

The cost for several of these recommendations consist only of staff time and existing expenditures. If funds are available to expand public education efforts for the commercial sector (Recommendation A&PE3) and in general (Recommendation A&PE1), the additional costs could be as high as $50,000 to $75,000 if this amount of additional funds is available (expenditures in this amount would provide an effective impact). The estimated cost of the rate review (Recommendation A&PE4) will be about $25,000 for each year it is conducted.

Many of these recommendations are for ongoing activities. Recommendation A&PE4 should be conducted every three to four years beginning in 2018. The benefits of a collection district could be reviewed in 2017 for possible implementation of this approach in the next planning cycle.

More details on the implementation of these and other recommendations are shown in Chapter 10.

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CHAPTER 10

IMPLEMENTATION PLAN

10.1. INTRODUCTION

This chapter lists all of the recommendations from previous chapters and presents a plan to implement the recommendations. These recommendations are intended to guide decision-making activities for Jefferson County for the next six years, while also providing direction for the next 20 years. Implementation of individual program elements will be accomplished through annual budgets and contracts.

10.2. WASTE REDUCTION RECOMMENDATIONS

The following actions are recommended for waste reduction programs (see Chapter 3 of the SWMP for more details).

High-Priority Recommendations for Waste Reduction:

WR1) Evaluate product stewardship programs as these are proposed on a statewide or national level, and support those programs when appropriate to the interests of their citizens and the business community;

WR2) Implement a program educating residents and businesses on how to reduce the wasting of edible food;

WR3) Promotion of clothing reuse and recycling.

Medium-Priority Recommendations for Waste Reduction:

WR4) Consider a ban on yard waste disposal as a part of Municipal Solid Waste (MSW) if public education and outreach efforts are not effective in diverting most of this material from the MSW waste stream;

WR5) Promote smart shopping;

WR6) Promote Fix-it workshops;

WR7) Publicize the availability of volume-based rates to Jefferson County residents and businesses by County, City and waste collectors;

WR8) Expand the recognition program for the business community;

WR9) Encourage Jefferson County and the City of Port Townsend to adopt policies and practices to reduce waste.

Low-Priority Recommendations for Waste Reduction:

WR10) Consider appropriate bans or tipping price structures to discourage disposal of recycling products as garbage;

WR11) Monitor and report to the SWAC waste reduction programs using performance based measures where possible.

10.3. RECYCLING RECOMMENDATIONS

The following actions are recommended for recycling programs (see Chapter 4 for more details).

High-Priority Recommendation for Recycling:

R1) Increase promotion and public education for curbside recycling in the unincorporated area, including at a minimum a notice provided to all garbage subscribers that they can save money through recycling by subscribing to a lower level of garbage service.

Medium-Priority Recommendations for Recycling:

R2) Port Townsend to consider increasing curbside recycling frequency to weekly;

R3) Jefferson County to consider adoption of a service level ordinance, specifying that all waste collection subscribers in unincorporated areas also receive curbside recycling service;

R4) Consider switching to a dual stream (or single-stream without glass) recycling service county-wide;

R5) Jefferson County should consider additional steps to increase access to curbside recycling, including contracting for recycling services in the unincorporated areas, appropriate disposal bans and other mandatory measures;

R6) Conduct a recycling potential assessment, contingent on the availability of grant funding;

R7) Recycling programs that include fees to recycle difficult materials should be considered.

Low-Priority Recommendation for Recycling:

R8) Local applications should continue to be sought for glass recycling and reuse.

10.4. ORGANICS RECOMMENDATIONS

The following actions are recommended for organics collection programs (see Chapter 5 for more details):

High-Priority Recommendation for Organics:

O1) Promotion of on-site composting of food waste though education programs.

Medium-Priority Recommendations for Organics:

O2) Support of appropriate programs for commercial food waste diversion by the County and City;

O3) Support of appropriate programs for residential food waste diversion by the County and City.

Low-Priority Recommendation for Organics:

O4) Support alternative methods to divert pet waste as appropriate.

10.5. SOLID WASTE COLLECTION RECOMMENDATIONS

The following actions are recommended for waste collection programs (see Chapter 6 and Chapter 9 for more details).

Medium-Priority Recommendation for Solid Waste Collection:

WC1) Examine benefits of a collection district for implementing universal waste collection in Jefferson County.

10.6. WASTE TRANSFER AND DISPOSAL RECOMMENDATIONS

The following actions are recommended for transfer and disposal programs (see Chapter 7 for more details):

High-Priority Recommendation for Transfer and Disposal:

T&D1) Conduct improvements to the Quilcene Drop-Box facility as funding is available.

Medium-Priority Recommendations for Transfer and Disposal:

T&D2) Conduct improvements to the Jefferson County Solid Waste Disposal Facility based on facility assessment options and the Solid Waste Master Plan update;

T&D3) Prepare an analysis of waste export alternatives.

10.7. SPECIAL WASTE RECOMMENDATIONS

The following actions are recommended for special waste programs (see Chapter 8 for more details). Seven types of special wastes are examined in the plan, and four of those were determined to warrant further work.

High-Priority Recommendations for Special Wastes:

SW1) Conduct more education for proper disposal of sharps;

SW2) Disaster debris designated staging areas to include the Jefferson County Solid Waste Disposal facility and the Quilcene Drop-Box site;

SW3) Develop a disaster debris strategy;

SW4) Conduct more education for public use of the MRW Facility and safer alternatives for disposal of toxic products.

Medium-Priority Recommendations for Special Wastes:

SW5) Identify additional staging areas for disaster debris in Jefferson County as part of the disaster debris strategy;

SW6) Consider development of a disaster debris management plan if funding becomes available;

SW7) Expand collection of additional types of moderate wastes at the Jefferson County Transfer Station and the Quilcene Drop-Box facilities;

SW8) Encourage Jefferson County retail locations selling pharmaceuticals to use point-of-sale signs and brochures to promote proper disposal of unused pharmaceuticals;

SW9) Support product stewardship programs for pharmaceuticals, as appropriate;

SW10) Investigate options for an expanded pharmaceutical drop-off program in Port Townsend;

SW11) Support derelict vessel de-construction facility at the Port of Port Townsend, as appropriate.

10.8. ADMINISTRATION AND PUBLIC EDUCATION RECOMMENDATIONS

The following actions are recommended for administration programs (see Chapter 9 for more details).

High-Priority Recommendation for Administration and Public Education:

A&PE1) Public information and education programs will be continued through joint Health/Public Works collaboration, and in cooperation with the City of Port Townsend, haulers and recycling companies. These efforts will be expanded if possible.

Medium-Priority Recommendations for Administration and Public Education:

A&PE2) Funding alternatives for recycling and other solid waste programs will continue to be explored with the goal of these programs being financially self-supporting;

A&PE3) Programs to encourage waste reduction and recycling by the commercial sector will be continued, and expanded if possible;

A&PE4) Conduct disposal rate reviews periodically to ensure adequate funds are being collected to support solid waste programs and mandates;

A&PE5) Potential benefits of a collection district should be examined in the future.

10.9. SIX-YEAR IMPLEMENTATION SCHEDULE

The proposed implementation schedule is shown in Table 10-1. It should be noted that the recommendations have been abbreviated to fit better into this table.

10.10. IMPLEMENTATION RESPONSIBILITIES

Jefferson County and the City of Port Townsend are primarily responsible for most of the recommendations made in this Plan, but that responsibility is shared with others as appropriate to the nature of the recommended activity. Implementation responsibilities for the recommended activities are summarized in Table 10-2.

10.11. FUNDING STRATEGY

The recommended programs will be funded through garbage rates, tipping fees, other user fees and State grants (CPG funds). A summary of the funding sources for the recommended programs is shown in Table 10-3.

Garbage rates will be used to fund the solid waste collection, curbside recycling and commercial recycling programs. Tipping fees will be used for the recommended waste reduction, transfer, transport and disposal, household hazardous waste, administration and regulation. Special user fees will fund small quantity generator and other special waste programs. The State coordinated prevention grant funding program (CPG grants) will be used for education programs, with additional funds contributed from tipping fees.

Table 10-1
Implementation Schedule for Recommendations

Recommendation	2016	2017	2018	2019	2020	2021
Waste Reduction						
WR1) Evaluate and support product stewardship programs as appropriate						
WR2) Educate residents and businesses about wasted food						
WR3) More promotion for clothing reuse and recycling						
WR4) Consider yard waste disposal ban			X			
WR5) Promote smart shopping						
WR6) Promote fix-it workshops						
WR7) Publicize volume-based rates						
WR8) Continue recognition program for businesses and expand if possible						
WR9) County and City will consider adopting waste reduction policies and practices	X					
WR10) Consider other bans as appropriate						
WR11) Monitor waste reduction programs with performance-based measures						
Recycling						
R1) Increase promotion and education for curbside recycling						
R2) Consider weekly curbside recycling in City		X				
R3) Consider service level ordinance to bundle recycling with garbage collection						
R4) Consider switching to a dual stream (or single-stream without glass) recycling service county-wide						
R5) Consider additional steps to increase access to curbside recycling						
R6) Conduct a recycling potential assessment						
R7) Consider recycling programs that include fees to recycle difficult materials						
R8) Local applications should continue to be sought for glass recycling and reuse						
Organics						
O1) Promote on-site food waste composting						
O2) Support proposals for commercial food waste diversion as appropriate						
O3) Support programs for food waste diversion as appropriate						

X – Indicates a deadline or a singular event. Shading indicates ongoing activities.
Recommendations have been abbreviated to fit into table.

Table 10-1, Implementation Schedule for Recommendations, continued						
Recommendation	2016	2017	2018	2019	2020	2021
O4) Support methods to divert pet waste as appropriate						
Solid Waste Collection						
WC1) Examine benefits of a collection district for implementing universal waste collection in Jefferson County						
Transfer and Disposal						
T&D1) Conduct improvements to Quilcene Drop-Box as funding is available						
T&D2) Conduct improvements to JCSWDF based on updated facility assessment and Solid Waste Master Plan						
T&D3) Start analysis of waste export options	X					
Special Wastes						
SW1) More education for disposal of sharps						
SW2) The JCSWDF and Quilcene Drop-Box are designated staging areas for disaster debris	X					
SW3) Develop a disaster debris strategy						
SW4) More education for HHW Facility and safer alternatives						
SW5) Identify additional staging areas for disaster debris						
SW6) Develop a disaster debris management plan if funds are available						
SW7) Collect additional types of MRW at the JCSWDF and Quilcene Drop-Box						
SW8) Encourage retailers to promote proper disposal of pharmaceuticals						
SW9) Support product stewardship for pharmaceuticals as appropriate						
SW10) Investigate options for drop-off program for pharmaceuticals in City						
SW11) Support vessel de-construction facility at the Port as appropriate						
Administration and Public Education						
A&PE1) Continue public education						
A&PE2) Explore funding options						
A&PE3) Continue education for commercial recycling						
A&PE4) Conduct periodic rate reviews			X			
A&PE5) Explore benefits of collection district		X				

X – Indicates a deadline or a singular event. Shading indicates ongoing activities.
Recommendations have been abbreviated to fit into table.

Table 10-2
Implementation Responsibilities for Recommendations

Recommendation	Jefferson County	City	Health Dept.	Waste Haulers	Others
Waste Reduction					
WR1) Evaluate and support product stewardship programs as appropriate	X				
WR2) Educate residents and businesses about wasted food	X		O		
WR3) More promotion for clothing reuse and recycling	X		O		
WR4) Consider yard waste disposal ban	X	O			
WR5) Promote smart shopping	X		O		
WR6) Promote fix-it workshops	X		O		
WR7) Publicize volume-based rates	X		O	X	
WR8) Continue recognition program for businesses and expand if possible			X		
WR9) County and City to consider adoption of waste reduction policies and practices	X	X			
WR10) Consider other bans as appropriate	X				
WR11) Monitor waste reduction programs with performance-based measures	X		O		
Recycling					
R1) Increase promotion and education for curbside recycling in unincorporated. areas				X	
R2) Consider weekly curbside recycling in City of Port Townsend		X		O	
R3) Consider service level ordinance to bundle recycling with garbage collection	X				
R4) Consider switching to a dual stream (or single-stream without glass) recycling service county-wide	X			O	
R5) Consider additional steps to increase access to curbside recycling	X				
R6) Conduct a recycling potential assessment	X				
R7) Consider recycling programs that include fees to recycle difficult materials	X				
R8) Local applications should continue to be sought for glass recycling and reuse	X				Skookum
Organics					
O1) Promote on-site food waste composting	O		X		
O2) Support proposals for commercial food waste diversion as appropriate	X				
O3) Support programs for food waste diversion as appropriate	X				

X – Indicates primary responsibility. O – Indicates secondary responsibility.

Table 10-2, Implementation Responsibilities for Recommendations, continued					
Recommendation	Jefferson County	City	Health Dept.	Waste Haulers	Others
O4) Support methods to divert pet waste as appropriate	X				
Solid Waste Collection					
WC1) Examine benefits of a collection district	X				
Transfer and Disposal					
T&D1) Conduct improvements to Quilcene Drop Box as funding is available	X				
T&D2) Conduct improvements to JCSWDF based on facility assessment and updated Solid Waste Master Plan	X				
T&D3) Prepare analysis of waste export options	X				
Special Wastes					
SW1) More education for disposal of sharps	O		X		Drug stores
SW2) The JCSWDF and Quilcene Drop-Box are designated staging areas for disaster debris	X				
SW3) Develop a disaster debris strategy	X				
SW4) More education for HHW Facility and safer alternatives	X		O		
SW5) Identify additional staging areas for disaster debris	X				
SW6) Develop a disaster debris management plan if funds are available	X				
SW7) Collect additional types of MRW at the JCSWDF and Quilcene Drop-Box	X				
SW8) Encourage retailers to promote proper disposal of pharmaceuticals	X		O		Drug stores
SW9) Support product stewardship for pharmaceuticals as appropriate	X				
SW10) Investigate options for drop-off program for pharmaceuticals in City	X		O		
SW11) Support vessel de-construction facility at the Port as appropriate	X				
Administration and Public Education					
A&PE1) Continue public education	X		X		
A&PE2) Explore funding options	X				
A&PE3) Continue education for commercial recycling	X		X		
A&PE4) Conduct periodic rate reviews	X				
A&PE5) Explore benefits of collection district	X				

X – Indicates primary responsibility. O – Indicates secondary responsibility.

Table 10-3
Funding Strategies for Recommendations

Project or Activity	Garbage Rates	Tipping Fees	Special User Fees	Grants	Other Funding as Available
Waste Reduction		X		X	X
Recycling and Organics	X	X	X		
Solid Waste Collection	X				
Transfer and Disposal		X			
Special Wastes			X	X	X
Administration and Education		X		X	X

10.12. TWENTY-YEAR IMPLEMENTATION SCHEDULE

It is anticipated that programs and facilities in Jefferson County will generally be able to stay on the course established by this Plan for the next twenty years. The waste stream for the County is not expected to increase so much (see Table 2-8) as to create unexpected capacity issues for the collection and disposal system. Hence, the projected twenty-year implementation strategy is much the same as the implementation details shown in the previous tables in this chapter. Changes will likely continue to occur, however, in the local, statewide and national solid waste arena, and should any of these changes require an amendment or revision to this Plan, then the steps described in the next section can be taken to address those.

10.13. PROCEDURES FOR AMENDING THE PLAN

The Solid Waste Management-Reduction and Recycling Act (RCW 70.95) requires local governments to maintain their solid waste plans in current condition. Plans must be reviewed every five years and revised if necessary. Assuming a timely adoption process for this plan, with the process completed in late 2016, this plan should be reviewed and revised if necessary starting in 2021.

Individuals or organizations wishing to propose plan amendments before the scheduled review must petition the Jefferson County Solid Waste Manager in writing. The petition should describe the proposed amendment, its specific objectives and explain why immediate action is needed prior to the next scheduled

review. The Solid Waste Manager will investigate the basis for the petition and prepare a recommendation for the Director of the Public Works Department.

If the Director of the Public Works Department decides that the petition warrants further consideration, the petition will be referred to the Solid Waste Advisory Committee for review and recommendation. The Solid Waste Manager will draft the proposed amendment together with the Solid Waste Advisory Committee. This process will also be used if County staff decide to amend the plan. The proposed amendment must be submitted to the legislative bodies of all participating jurisdictions and the Department of Ecology for review and comment. As an amendment, an updated UTC Cost Assessment Questionnaire or SEPA Checklist will likely not be required, but the appropriate agencies (the UTC and the Department of Community Development) should be allowed to confirm that at the time. The comments received will be reviewed with the SWAC to solicit their input before submitting the plan for local adoption. Adoption of the proposed amendment will require the concurrence of all affected jurisdictions, with a final review and approval by Ecology after that.

The Director of the Public Works Department may develop reasonable rules for submitting and processing proposed plan amendments, and may establish reasonable fees to investigate and process petitions. All administrative rulings of the Director may be appealed to the Board of Jefferson County Commissioners.

Minor changes that may occur in the solid waste management system, whether due to internal decisions or external factors, can be adopted without the need to go through a formal amendment process. If a question should exist as to whether or not a change is "minor," then it should be discussed by the SWAC and a decision made based on the consensus of that committee.

Implicit in the development and adoption of this plan is the understanding that emergency actions may need to be taken by the County in the future for various reasons, and that these actions can be undertaken without needing to amend this plan beforehand. In this case, Jefferson County staff will endeavor to inform the SWAC and other key stakeholders as soon as feasibly possible, but not necessarily before new actions are implemented. If the emergency results in permanent and significant changes to the Jefferson County solid waste system, an amendment to this plan will be prepared. If, however, the emergency actions are only undertaken on a temporary or short-term basis, an amendment will not be considered necessary. Any questions about what actions may be considered "temporary" or "significant" should be brought to the SWAC for their advice.

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GLOSSARY

The following definitions are provided for various terms used in the Jefferson County Solid Waste Management Plan:

Biomedical waste: infectious and injurious waste originating from a medical, veterinary, or intermediate care facility, or from home use.

Biosolids: includes sludge from the treatment of sewage at a wastewater treatment plant and semisolid waste pumped from a septic system that has been treated to meet standards for beneficial use.

Buy-back recycling center: a facility that pays people for recyclable materials.

Commercial solid waste: solid waste generated by non-industrial businesses. This includes waste from businesses that fall into the following categories; construction; transportation, communications and utilities; wholesale trades; retail trades; finance, insurance and real estate; other services; government; and non-profit, charitable and religious organizations.

Commingled: recyclable materials that have been collected separately from garbage by the generator, but the recyclable materials have been mixed together in the same container.

Composting: the controlled biological decomposition of organic materials to produce a humus-like final product that can be used as a soil amendment. In this plan, backyard composting means a small-scale activity performed by homeowners on their own property, using organic materials that they generate.

Conditionally-exempt small-quantity generator (CESQG): a non-residential generator of small quantities of hazardous wastes that is exempt from the full regulations for hazardous wastes as long as such wastes are handled properly.

Covered units: see e-waste.

CPG: Coordinated Prevention Grants, a grant program administered by the Washington State Department of Ecology.

Curbside recycling: the act of collecting recyclable materials directly from residential generators, usually after the recyclable materials have been placed at the curb (or at the side of the street if no curb exists in the area) by the residents.

E-waste: electronic waste. As defined under WAC 173-900, e-waste includes computers, monitors, laptops, tablet computers, televisions, portable DVD players and e-readers (these are sometimes collectively referred to as "covered units").

EPA: the United States Environmental Protection Agency; the federal agency responsible for promulgation and enforcement of federal environmental regulations.

Groundwater: water present in subsurface geological deposits (aquifers).

HDPE: high-density polyethylene, a type of plastic, commonly used in milk, detergent, bleach bottles and other containers.

Household hazardous waste: wastes that would be classified as hazardous due to characteristics, but are exempted from state and federal regulations. Examples include solvents, oil-based paints, pesticides, herbicides, motor oil, automotive and many dry-cell batteries, mercury-containing lights and other materials.

Industrial waste: solid waste generated by various manufacturing companies. Includes waste generated by businesses that manufacture the following products; food, textile mill products, apparel, lumber, paper, printing, chemicals, stone, clay, glass, fabricated metals, equipment, and miscellaneous other products. Does not include hazardous wastes generated by these industries.

Inert wastes: includes wastes that are inert in nature, such as glass, concrete, rocks, gravel, and bricks.

Mixed paper: other types of paper not included in newspaper or cardboard. Includes materials such as "junk mail", magazines, books, office paper, paperboard (non-corrugated cardboard), and colored printing and writing papers.

Moderate risk wastes (MRW): household hazardous waste (see definition, above), and wastes produced by businesses that potentially meet the definition of a hazardous wastes except the amount of waste produced falls below regulatory limits.

MSW: municipal solid waste, see solid waste.

Mulching: 1) leaving grass clippings on the lawn when mowing; 2) placing yard wastes, compost, wood chips or other materials on the ground in gardens or around trees and shrubs to discourage weeds and retain moisture.

ORCAA: the Olympic Region Clean Air Agency, an agency with regulatory and enforcement authority for air pollution issues in Clallam, Grays Harbor, Jefferson, Mason, Pacific, and Thurston Counties.

PET: polyethylene terephthalate, a type of plastic. Commonly used to refer to 2-liter beverage bottles, although other containers are also increasingly being made from this material, including liquid and solid materials such cooking oil, liquor, peanut butter, and many other food or household products.

Public education: a broad effort to present and distribute public information materials.

Public information: the development of educational materials for the public, including brochures, videos, and public service announcements.

RCW: Revised Code of Washington.

Recycling: the act of collecting and/or processing source-separated materials in order to return them to a usage similar in nature to their previous use.

Reusable items: items that may be reused (or easily repaired), including things such as small electronic goods, household items such as dishes, and furniture.

Self-haul waste: waste that is brought to a landfill or transfer station by the person (residential self-haul) or company (non-residential or commercial self-haul) that created the waste.

Septage: a semisolid waste consisting of settled sewage solids combined with varying amounts of water and dissolved materials. This waste is pumped from a septic tank system.

Sewage sludge: the concentrated solids derived from the treatment of sewage at a municipal wastewater treatment plant. See also biosolids.

Single stream: refers to the practice of placing all recyclable materials together in one container for curbside collection. This is similar to "commingled" except that glass bottles may or may not be included in a commingled mixture whereas glass bottles are typically mixed with the other materials in single stream collection programs.

Solid waste: all putrescible and nonputrescible solid and semisolid wastes, including, but not limited to, garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles and parts thereof, discarded commodities, biosolids (sewage sludge and septage), wood waste, and special wastes.

Solid Waste Advisory Committee (SWAC): a group assisting Jefferson County with the development of this comprehensive solid waste management plan, composed of

representatives from the general public, private industry, the City of Port Townsend and Jefferson County.

Special wastes: wastes that have particular characteristics such that they present special handling and/or disposal problems.

Source-separated: recyclable materials that have been removed from garbage or other forms of solid waste by the waste generator. This may or may not include keeping different types of recyclable materials separate from each other (see source-segregated and commingling).

SQG: see conditionally exempt small quantity generator.

SWAC: see Solid Waste Advisory Committee.

Tipping fee: The rate charged by transfer and disposal facilities, generally on a per-ton basis.

Transfer station: an intermediate solid waste disposal facility at which solid waste collected from any source is temporarily deposited to await transportation to a final disposal site.

UTC: Washington Utilities and Transportation Commission.

WAC: Washington Administrative Code.

Waste reduction or waste prevention: reducing the amount or type of solid waste that is generated. Also defined by state rules to include reducing the toxicity of wastes.

WDOE: Washington State Department of Ecology.

Yard waste: includes leaves, grass clippings, brush, and branches up to six inches in diameter.

APPENDIX A

PARTICIPATING JURISDICTIONS

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Office of the Mayor
CITY HALL
Julie McCulloch
MAYOR

PORT TOWNSEND, WA 98368
(360) 385-3000

October 30, 1998

Klara Fabry, P.E.
Public Works Director/County Engineer
Jefferson County Department of Public Works
P. O. Box 2070
Port Townsend, WA 98368

Dear Klara,

Attached is a resolution previously adopted by the City Council authorizing Jefferson County to include the City of Port Townsend in its Comprehensive Solid Waste Management Plan. This resolution continues in effect, authorizing the County to include the City in the update of the Solid Waste Management Plan.

Sincerely,

Julie McCulloch, Mayor
City of Port Townsend

c:\cree\mayor\fabry.ltr]

RESOLUTION NO. 92-79

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PORT TOWNSEND AUTHORIZING JEFFERSON COUNTY TO INCLUDE THE CITY OF PORT TOWNSEND IN AN AMENDMENT OF THE JEFFERSON COUNTY COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN.

WHEREAS, under the provisions of RCW Chapter 70.95, Jefferson County is responsible for preparation, adoption and implementation of a Comprehensive Solid Waste management Plan, and

WHEREAS, the City of Port Townsend did, by Resolution 88-64, authorize Jefferson County to prepare a plan for the management of solid waste within the City of Port Townsend for inclusion as an element of the County Comprehensive Solid Waste Management Plan, and

WHEREAS, the Jefferson County Solid Waste Management Plan was adopted by the Board of County Commissioners on July 22, 1991 and by the City Council of the City of Port Townsend on August 6, 1991, and

WHEREAS, Jefferson County is required, under the amended RCW Chapter 70.95 and the associated Department of Ecology planning guidelines, to amend the Jefferson County Comprehensive Solid Waste Management Plan with respect to stated priorities for Waste Reduction and Recycling, Now, Therefore

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF PORT TOWNSEND, that Jefferson County is hereby authorized to include the City of Port Townsend in an amendment process for the Jefferson County Comprehensive Solid Waste Management Plan and further authorizes assistance to the County in the determination of Waste Reduction and Recycling goals and in the implementation of strategies to achieve and document those goals. Any amendment to the Plan regarding the City of Port Townsend shall be reviewed and specifically adopted by the City Council of the City of Port Townsend before it shall become effective, and any financial implications to the City of either this Resolution or of the Plan Amendment shall be considered and approved by the City Council before implementation.

Passed by the City Council of the City of Port Townsend and approved by the Mayor this sixth day of July, 1992.

John M. Clise, Mayor

Attest:

David A. Grove, City Clerk

Approved as to form:

Dennis McLerran, City Attorney

APPENDIX B

SITING FACTORS

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APPENDIX B
SITING FACTORS

INTRODUCTION

This SWMP is required to contain the following information to provide guidance for siting new solid waste disposal facilities (RCW 70.95.165). Although State law specifically refers to disposal facilities (landfills and incinerators), these criteria could also be considered in the siting of other solid waste facilities such as transfer stations and compost facilities.

SOLID WASTE FACILITY SITING FACTORS

Soils and Geology

Soils and underlying geology are important considerations for solid waste management facilities. The appropriate type of soil varies somewhat depending on the type of solid waste facility, but any building or other structure must be built upon a stable foundation. The soils in Jefferson County are generally acceptable for foundations.

There are three separate geographic regions in Jefferson County. The eastern portion, known as the Puget Lowland, has been repeatedly invaded by glaciers. This has caused a complicated pattern of sediments, primarily made up of glacial outwash and till (up to 2,000 feet deep in some areas). The western region also has extensive glacial outwash and till deposits, with alluvial deposits in the three major river valleys (for the Hoh, Queets, and Clearwater Rivers). The third region is the Olympic National Park, which contains sedimentary deposits as well as volcanic formations (basalt) or glacial and alluvial deposits in some areas.

Glacial outwash and alluvial deposits are typically loose and highly permeable, whereas glacial till generally has low permeability. All of these deposits could be used for the construction and operation of a landfill, although low-permeability soils are needed in much greater quantities. Low-permeability soils can be used for liners and final cover because these will retard the movement of precipitation, gas and leachate (contaminated water). Porous soils, such as the sands and gravels that typically make up glacial outwash and alluvial deposits, are undesirable because these 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 are not suitable for landfill cover or liners, although gravel can be used for intermediate cover because it provides better traction for landfill machinery in wet weather. Sand and gravel can also be used for gas venting and leachate collection systems.

Given the complicated nature of the soils and geology in Jefferson County, detailed studies will be necessary to evaluate the site(s) for any proposed solid waste disposal facility.

Groundwater

Distance to groundwater, measured in feet or in terms of the time that it takes for water to travel from the surface to the groundwater, is an important consideration for the siting of solid waste facilities. Shallow bodies of groundwater and/or short travel times to the groundwater are a problem due to the risks associated with spills and contaminated runoff from waste facilities. Other factors such as the 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 Jefferson County depends on private wells for drinking water.

Groundwater must also be considered when siting or designing solid waste facilities because shallow groundwater can result in higher construction and maintenance costs, interfere with excavation, and require special foundations.

Flooding

Areas known to have experienced flooding are not acceptable 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 such as floods in order to handle the large amount of debris that may be created.

Solid waste facilities should not be built in an area designated as a "100-year floodplain," which areas are known to be flooded at least once every 100 years. In Jefferson County, these areas are generally adjacent to the major rivers and creeks, or are along the shoreline (of the Pacific Ocean or Puget Sound). Potential sites in these areas may also be a problem based on other standards, such as maintaining separation distances from surface waters and the potential value of the land for agriculture and sustainable resource production (timber, groundwater recharge, etc.).

Surface Water

Numerous rivers, creeks and small lakes are present throughout the County. These bodies of water pose a serious constraint for locating solid waste facilities, since the facilities frequently present a possible risk of contamination for surface water. Regulatory standards (WAC 173-351-140) require that new disposal facilities be located more than 200 feet from surface waters, which eliminates a substantial amount of land for a water-rich area such as Jefferson County.

Slope

Much of Jefferson County is mountainous and has steep slopes that pose serious problems for solid waste disposal facilities. Steep slopes pose problems for site development and for future access. The lower valleys and coastal terrace areas have gentler slopes but these areas also have high value for other purposes, such as agriculture and housing.

Cover and Liner Materials

Cover and liner materials are important because their presence on-site at landfills and other disposal facilities will reduce the cost of construction, operation and maintenance. Cover materials are required to ensure that waste materials are securely buried and to prevent gas and odors from being released in an uncontrolled fashion, while liners are needed below the landfill to contain the leachate that is created by decomposing wastes. Desirable materials include silt and clay for liners and cover; sand and gravel for gas venting, leachate collection and road construction; and a variety of other materials that could be used for intermediate cover. Many of these materials are present throughout the County, but synthetic materials can be used in the absence of naturally-occurring materials.

Capacity

The capacity of a waste disposal facility will obviously affect the number of potential locations that can be used for it. It is generally easier to find an acceptable parcel of land for smaller facilities. Conversely, there are significant economies of scale for all waste disposal facilities, and the base cost per ton for waste brought to a small facility will be much higher than for a larger facility.

Climatic Factors

Much of Jefferson County receives high amounts of precipitation, which poses serious problems for landfills due to the potential for generating large quantities of leachate. Other types of solid waste handling facilities are less affected, but all facilities must be designed and operated to avoid contamination of surface waters by runoff. The eastern side of the County, especially in the area of Port Townsend, receives lower amounts of rainfall, but much of the land in this area has considerable value for other purposes (agricultural and residential usage).

Land Use

Existing land use in Jefferson County ranges from the relatively intense residential, commercial and industrial development in the Port Townsend area, to the undeveloped land and forests of the Olympic Mountains. Well over half of Jefferson County's land area is under Federal ownership.

The Jefferson County Board of County Commissioners adopted a Comprehensive Land Use Plan in the fall of 1998, and that plan was most recently amended in 2013. The Jefferson County Comprehensive Land Use Plan and subsequent development regulations are the tools for designation of land use. These regulations help ensure that development occurs in a way that protects private property rights and existing land uses while also protecting natural resources, promoting economic growth, and assuring the compatibility of proposed land uses with existing ones.

The City of Port Townsend has also adopted a land use plan. Although this plan has less bearing on siting solid waste disposal facilities (since it is less likely that a landfill or other disposal facility would be located within the City's boundaries), it could apply to transfer stations, compost facilities, or other solid waste processing and handling facilities.

In addition to potential impacts on facility siting, urban-rural designations also affect solid waste service levels. State planning guidelines require that service levels be adjusted for urban and rural conditions (see Section 2.3). As indicated in Chapter 2, the designation of urban areas for solid waste services is contingent upon the UGAs defined by the County's comprehensive land use planning efforts.

Air Emissions and Air Quality

Siting and operating a new landfill or other solid waste facility could impact air quality. Dust, gases, odors, particulates and vehicle emissions are all potentially increased by landfills and other disposal operations. In certain cases, however, the centralization of such emissions may be preferable to the impacts caused by other disposal options. Any proposal will need to be examined by the Olympic Region Clean Air Agency (ORCAA) for impacts to air quality.

Summary of Siting Factors

Based on the above discussion of siting factors, it can be concluded that only limited portions of Jefferson County would be available for siting a new solid waste facility. Much of the County is designated as national park and forest, and also has severe slope stability problems. In the western half of the County, disposal facilities would need to rely on extraordinary measures to manage the high amounts of rainfall received. The eastern half is more populated and is useful for other purposes.

SOLID WASTE LANDFILL SITING PROCESS

Any new facilities developed in the future will have to meet the State and local standards current at that time. State standards include the Solid Waste Handling Standards (Ch. 173-350 WAC) and the Criteria for Municipal Solid Waste Landfills (Ch. 173-351 WAC). Local standards include the Jefferson County Comprehensive

Land Use Plan and zoning codes. The siting process for disposal facilities could include the following steps:

Step 1: Site Identification

For a public disposal facility, the process of identifying sites may include soliciting nominations from citizens and interested parties, identification of 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 owned or 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, steep slopes, floodplain area, wetlands, surface water or shorelines. For a public site, the goal might 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, only one or two sites need to survive this evaluation.

Step 3: Detailed Site Ranking

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

Step 4: Detailed Site Evaluation

The final step in evaluating potential sites involves a detailed environmental investigation to assess environmental impacts, in accordance with the State Environmental Policy Act (SEPA). This step should result in the recommendation of a preferred site.

Step 5: Siting Decision

Finally, the decision to proceed with a recommended site should be based on environmental, engineering, financial and political factors, and then more detailed plans can be developed and the permitting process can begin.

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APPENDIX C

FUNDING OPTIONS

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APPENDIX C
POSSIBLE FUNDING METHODS FOR SOLID WASTE ACTIVITIES

INTRODUCTION

This attachment shows more details about potential funding methods that could be used to support solid waste activities. The following table indicates which agencies can employ these methods and more complete descriptions of each method is shown in the following section. This information is derived from *Financing Solid Waste for the Future* (Ecology 2004, Publication #04-07-032).

Table A-1
Potential Funding Methods for Solid Waste Management

Possible Funding Methods	Potential Implementation Agency			
	City	County	State	Private Sector
User Fees, Rates, Surcharges				
1. Cost-of-Service-Based Rates	X	X		X
2. Other Volume-Based Rates	X			
3. Fixed Per-Customer Service Rates	X			X
4. Collection Rate Surcharges	X			
5. Planning Fees		X		
6. Weight or Volume-Based Disposal Fees	X	X		X
7. Fixed Per-Customer Disposal Fees	X	X		X
8. Disposal Surcharges	X	X		
Taxes				
9. MTCA Funds, Hazardous Substance Tax		(x)	X	
10. State Litter Tax		(x)	X	
11. Disposal District Excise Tax		X		
12. Mandatory Collection		X		
13. Franchise Fees	X		X	
Specialized Fees				
14. Advance Recovery Fees			X	
15. Permitting Fees		X (HD)		
Other				
16. Enforcement Fines/Penalties		X		
17. Sales of Recyclable Materials	X	X		X
18. Recycling Fees/Charges	X	X		X
19. Sales of Recovered Energy		X		X
20. Utility Tax	X			
21. General Fund Revenues	X	X		
22. Bond Financing		X		(x)
23. Public Works Assistance Account	X			

X = Implementing authority, (x) = potentially benefits from funding method but cannot implement it, HD = Health Department.

POTENTIAL FUNDING METHODS

User Fees, Rates, Surcharges

1. **Cost-of-Service-Based Rates**: Cost-of-service-based rates, which allow for rates to cover the actual costs of providing the services, is a rate-setting methodology used by the Washington Utilities and Transportation Commission (WUTC) and some cities. Under Chapter 81.77 RCW, the WUTC has established cost-of-service-based rates for regulated solid waste collection from residents and commercial businesses in areas where certificates exist for solid waste collection companies. Under RCW 35.21.130 and 35.21.135, cities and towns may set rates through a solid waste or recyclable materials collection ordinance.

   Both cities and counties can provide for reduced rates as incentives. Cities and towns may provide reduced solid waste collection rates as incentives to residents participating in recycling programs. In WUTC-regulated areas, counties can, by ordinance, provide for reduced solid waste collection rates as incentives to residents participating in recycling programs, subject to WUTC approval.

2. **Other Volume-Based Rates**: This represents an alternative range of pricing options for solid waste collection and disposal services, such as using the rates to provide incentives for reducing wastes and incentives for separating recyclables. An example would be setting a rate where subscribers to two-can service would pay double the rate of one-can subscribers. Specific authority for counties to set such rates does not exist. These types of rates may be problematic under cost-of-service models, as they are currently used to set rates that cover costs.

3. **"Fixed" or "flat" Per-Customer Rates**: Fixed or flat per-customer rates charge each customer the same amount regardless of the volume of service. Very simply, the total costs divided by the number of households equals the rate per household. Some cities use a flat rate for all or some services (garbage, recycling, and yard waste). The WUTC uses flat rates for mandatory-pay recycling and yard waste services, but not garbage.

4. **Solid Waste/Recycling Collection Rate Surcharges**: As noted, Chapter 35.21 RCW provides authority to cities to set collection and disposal rates, which may include surcharges/fees to cover additional costs of managing the solid waste system beyond actual collection and disposal costs. Similarly, RCW 81.77.160 directs the WUTC to establish collection rates that include "all known and measurable costs related to implementation of the approved county or city comprehensive solid waste management plan."

5. **Planning Fees**: RCW 36.58.045 authorizes counties to impose a fee on collection services in the unincorporated areas to pay for "the administration and planning expenses that may be incurred by the county in complying with the requirements in RCW 70.95.090."

6. **Weight or Volume Based Disposal Fees**: Both cities (RCW 35.21.120 and 35.21.152) and counties (RCW 36.58.040) are authorized to develop solid waste disposal sites and set user fees. Weight/volume based fees involve per-ton or per-cubic yard fees charged for disposal of solid waste at a transfer facility, landfill, or incinerator; these fees may also apply to moderate-risk waste drop-off, vactor waste separation and treatment, and other similar services. The basic premise is that the user pays for the service according to the amount of material disposed.

7. **"Fixed" or "flat" Per-Customer Disposal Fees**: Both cities (RCW 35.21.120 and 35.21.152) and counties (RCW 36.58.040) are authorized to develop solid waste disposal sites and set user fees. These fees may be set on a per-customer or per-trip basis instead of the more common weight or disposal basis.

8. **Disposal Surcharges**: Chapter 35.21 RCW provides authority to cities to set collection and disposal rates, and those rates may include surcharges to cover additional costs of managing the solid waste system over and above the costs calculated to cover actual collection and disposal. RCW 36.58.040 allows counties to set rates and charges for solid waste disposal, which includes the ability to impose disposal fee surcharges.

Taxes

9. **Model Toxics Control Act Funds - Hazardous Substance Tax**: Also referred to as a "pollution tax," this tax is established by Chapter 82.21 RCW and is imposed on persons who first possess, in Washington State, hazardous substances. The substances subject to this tax include those defined under federal law (CERCLA), registered pesticides, petroleum products, and any other substance that Ecology determines by rule to present a threat to human health or the environment if released into the environment. Revenues collected from this tax go into the Toxic Control Accounts (RCW 70.105D.070). Both a state toxics control account and a local toxics control account were established, and monies deposited into those accounts are to be used for a broad array of hazardous waste and solid waste activities and programs at the state and local government levels.

   All counties are eligible to receive biennial Coordinated Prevention Grants (CPG), which come from the local toxics control account. The CPG funding is based in large part on population. Some portions of CPG monies go to local

health authorities for inspection and enforcement activities. The other main use of the toxics control account monies is for Remedial Action Grants (RAG), given to local jurisdictions for cleanup activities, such as landfill closures. CPG grants require local matching dollars, which are typically paid for with disposal revenues.

10. **State Litter Tax**: The Waste Reduction, Recycling and Model Litter Control Account (WRRMLCA), imposed through Chapter 82.19 RCW, is funded by a tax collected from manufacturers, wholesalers, and retailers of items or packaging deemed to contribute to roadside litter. Chapter 70.93 RCW directs that the WRRMLCA be used for litter cleanup and prevention, and also for waste reduction and recycling efforts at both the state government and local community levels.

11. **Disposal District Excise Tax**: RCW 36.58.100-150 authorizes counties with populations of less than one million to create one or more disposal districts in unincorporated areas, which become junior taxing districts. Excise taxes may be levied upon citizens and businesses within a district (again, unincorporated areas only, unless city approval allows districts to expand into incorporated areas). A disposal district is potentially in competition for taxing authority with other junior taxing districts, including ports, fire districts and utility districts.

12. **Mandatory Collection**: Collection districts in unincorporated areas may be formed by counties under the authority of RCW 36.58A. Collection districts do not directly raise revenues, however. They can impose mandatory collection service at minimum levels for all unincorporated areas, which provides the structure for a service-area wide fee to be included in collection rates.

13. **Franchise Fees/Gross Receipt Taxes**: Some cities charge franchise fees or taxes on gross receipts upon solid waste collection companies for the privilege of entering into a contract with or doing business within a city. These fees sometimes fund solid waste-related activities. The WUTC assesses a regulatory fee on gross solid waste collection revenues of regulated solid waste collection companies.

Specialized Fees

14. **Advance Recovery Fees (Voluntary or Mandatory)**: Advance recovery fees (ARFs) are a front-end financing method whereby some or all costs for end-of-life management of products are paid/collected when the product is sold. ARFs may be voluntary or mandated, visible or invisible. Invisible fees occur when manufacturers include the end-of-life collection, recycling, and disposal

costs in the price of the product. This is called cost internalization, and examples include programs operated by the Rechargeable Battery Recycling Corporation (RBRC), Thermostat Recycling Corporation, Office Depot and Hewlett Packard.

ARFs can be used to pay for manufacturer-funded programs or can be used to pay for the costs incurred by other parties such as governments, haulers, or recyclers. Some forms of ARFs provide incentives to manufacturers to increase recyclability and reduce toxicity of their products, thereby reducing program costs for other entities.

15. **Permitting Fees**: Permits are required for legal solid waste management facilities. Fees for permitting activities are imposed and collected by jurisdictional health departments. These monies are used for the health department's operating expenses (RCW 70.95.180; WAC 173-350-700 and 710).

Other Methods

16. **Enforcement Infractions/Fines/Penalties**: Fees collected through enforcement actions taken against solid waste facilities are nearly always paid into a jurisdiction's general fund. However, they are not necessarily directed to help pay for the jurisdiction's enforcement or other solid waste management activities.

17. **Sales of Recyclable Materials**: Revenues from selling collected recyclable materials can be used to help pay for solid waste programs. Prices for recyclables fluctuate widely.

18. **Fees/Charges for Recycling**: Public and private recycling entities may charge fees to cover the costs of recovering or recycling a variety of discarded products.

19. **Sales of Recovered Energy**: Some solid waste facilities, such as waste-to-energy facilities and landfills, are able to recover energy from the waste materials. Some landfills create energy by burning landfill gas. Sales of this energy can be used to help pay for solid waste programs.

20. **Government-Collected Funds from Private Sector Activities ("Utility Taxes")**: In some instances, pursuant to RCW 81.77.020, cities contract with private parties to provide various solid waste collection services but retain the billing function. Revenues received above the amount remitted to the contractor can be directed to other solid-waste-related programs and activities by the applicable municipality.

21. **General Fund Revenue Sources**: Governments may use general fund revenues to pay for solid waste activities, and some do rely to some extent on such funding.

22. **Bond Financing**: RCW 36.67.010 authorizes counties to sell bonds to pay for major solid waste projects. Bonding is used for capital projects (landfills, transfer stations, etc.) or large landfill remediation efforts. It is not used for regular operating expenses. Bonds can be general obligation (GO) or revenue bonds. Typically, the debt service for a bond is paid with disposal fees.

23. **Public Works Assistance Account**: A statewide solid waste collection tax has been in place since 1989. Chapter 82.18 RCW imposes a 3.6% "solid waste collection tax" on all persons using such service. Revenues collected via this tax go into the Public Works Assistance Account, which is used to provide loans and financial guarantees to local governments for public works projects, including solid waste and recycling infrastructure. This tax replaced an earlier "refuse collection tax," and that name continues to be applied to the new tax. These funds are to be used to make loans or give financial guarantees to local governments for public works projects.

APPENDIX D

UTC COST ASSESSMENT QUESTIONNAIRE

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APPENDIX D
UTC COST ASSESSMENT QUESTIONNAIRE

INTRODUCTION

The purpose of the information shown in this appendix is to allow an assessment of the impact of proposed activities on current and future garbage collection and disposal rates. By State law (RCW 70.95.090), solid waste management plans are required to include:

> "an assessment of the plan's impact on the costs of solid waste collection. The assessment shall be prepared in conformance with guidelines established by the Utilities and Transportation Commission. The Commission shall cooperate with the Washington state association of counties and the association of Washington cities in establishing such guidelines."

The following cost assessment questionnaire has been prepared in accordance with the guidelines provided by the Utilities and Transportation Commission (UTC 2001). The UTC needs this information to review the plan's impacts to the certificated waste haulers that it regulates, of which there are two in Jefferson County (Waste Connections and West Waste & Recycling). For these haulers, the UTC is responsible for setting collection rates and approving proposed rate changes. Hence, the UTC will review the following cost assessment, and then advise Jefferson County as to the probable collection rate impacts of proposed programs. Consistent with this purpose, the cost assessment focuses primarily on those programs (implemented or recommended) with potential rate impacts.

SUMMARY

As an update to the previous solid waste plan, this plan largely recommends continuing existing programs and hence does not create significant new or additional impacts to the solid waste system costs currently being incurred in Jefferson County. Some recommendations are made for expanded waste reduction and recycling programs (at additional costs), but these are largely contingent on the availability of funds (either additional grant funds or surplus tipping fee revenue). A tipping fee increase has been implemented since the previous solid waste plan, as well as a policy of regular rate reviews and possible tipping fee increases every three to four years, and this plan reflects that.

UTC COST ASSESSMENT QUESTIONNAIRE

PLAN PREPARED FOR THE COUNTY OF: Jefferson

PLAN PREPARED FOR THE CITY OF: NA

PREPARED BY: Rick Hlavka, Green Solutions

CONTACT TELEPHONE: (360) 897-9533

DATE: December 7, 2015

DEFINITIONS

Definitions used in the Solid Waste Management Plan and the Cost Assessment Questionnaire.

Throughout this document:
YR. l shall refer to 2016
YR. 3 shall refer to 2018
YR. 6 shall refer to 2021

Year refers to **Calendar Year** (Jan 01 - Dec 31)

1.0 DEMOGRAPHICS

1.1 Population

1.1.1 Total population of the County:

Year 1	Year 3	Year 6
30,779	31,398	32,349

1.1.2 Population of the area included in the solid waste management plan:

Year 1	Year 3	Year 6
30,779	31,398	32,349

1.2 References and Assumptions

See Table 2-2.

2.0 WASTE STREAM GENERATION

2.1 Tonnage Recycled

2.1.1 Total tonnage recycled in the base year, and projections for years three and six.

Year 1	Year 3	Year 6
19,313	16,641	17,145

2.2 Tonnage Disposed

2.2.1 Total tonnage disposed in the base year (2016), and projections for years three and six.

Year 1	Year 3	Year 6
17,544	17,897	18,439

Note: 2015 Actual tonnage disposed = 18,977

2.3 References and Assumptions

See Table 2-8.

3.0 SYSTEM COMPONENT COSTS

3.1 Waste Reduction Programs

3.1.1 Implemented and proposed waste reduction programs

IMPLEMENTED

Existing waste reduction activities are anticipated to be continued.

PROPOSED (see pages 3-11 to 3-13)

Consider product stewardship programs if proposed
Education on wasted food
More promotion for clothing reuse and recycling
Consider ban on yard waste disposal
Promote smart shopping
Promote fix-it workshops
Publicize volume-based rates more
Expand business recognition program
City and County to adopt waste reduction policies
Consider other bans
Monitor with performance-based measures

3.1.2 Costs for waste reduction programs implemented and proposed?

Implemented *		
Year 1	Year 3	Year 6
266,000	271,350	279,600
Proposed **		
Year 1	Year 3	Year 6
55,000	56,100	57,800

* includes current public education and recycling costs. Current costs assumed to increase at 1% per year.
** proposed activities and expenses are contingent on the availability of funding.

3.1.3 Funding mechanism(s) that will pay the cost of the programs in 3.1.2.

Implemented		
Year 1	Year 3	Year 6
Tipping Fees and CPG Funds	Tipping Fees and CPG Funds	Tipping Fees and CPG Funds
Proposed		
Year 1	Year 3	Year 6
Tipping Fees, CPG Funds, and Other Funds as Available	Tipping Fees, CPG Funds, and Other Funds as Available	Tipping Fees, CPG Funds, and Other Funds as Available

3.2 Recycling and Composting Programs

3.2.1 Proposed or implemented recycling and organics programs:

IMPLEMENTED

Existing recycling activities are anticipated to be continued.
Continue to promote on-site composting.

PROPOSED (see pages 4-14 to 4-15 and 5-10 to 5-11)

More promotion of curbside recycling in unincorporated areas.
Consider increasing curbside recycling to weekly in Port Townsend.
Consider switching to dual-stream or single-stream without glass.
Consider additional steps to encourage curbside recycling.
Conduct a recycling potential assessment.
Consider charging fees for hard-to-recycle materials.
Seek local applications for glass.
Support proposals for commercial food waste diversion as appropriate.
Support programs for residential food waste diversion as appropriate.
Support methods for diversion of pet waste as appropriate.

3.2.2 Costs for recycling programs implemented and proposed?

Implemented		
Year 1	Year 3	Year 6
Costs for current programs are included in above table		
Proposed		
Year 1	Year 3	Year 6
25,000	51,000	52,500

3.2.3 Funding mechanism(s) that will pay the cost of the programs in 3.2.2.

Implemented		
Year 1	Year 3	Year 6
Garbage Rates, Other User Fees, and Tipping Fees	Garbage Rates, Other User Fees, and Tipping Fees	Garbage Rates, Other User Fees, and Tipping Fees
Proposed		
Year 1	Year 3	Year 6
Garbage Rates, Other User Fees, and Tipping Fees	Garbage Rates, Other User Fees, and Tipping Fees	Garbage Rates, Other User Fees, and Tipping Fees

3.3 Solid Waste Collection Programs

3.3.1 Regulated Solid Waste Collection Programs

UTC Regulated Hauler Name	**Olympic Disposal**		
G-Permit #9			
Residential and Commercial	**Year 1**	**Year 3**	**Year 6**
# of Customers	3,452	3,522	3,628
Tonnage Collected	5,000	5,100	5,260

UTC Regulated Hauler Name	**West Waste & Recycling**		
G-Permit #251			
Residential and Commercial	**Year 1**	**Year 3**	**Year 6**
# of Customers	1,014	1,034	1,066
Tonnage Collected	1,200	1,224	1,261

* Data shown for West Waste is for entire regulated area, including Clallam County customers.

3.3.2 Other (non-regulated) Solid Waste Collection Programs.

Hauler Name	**DM Disposal** (contract with Port Townsend)		
Residential and Commercial	**Year 1**	**Year 3**	**Year 6**
# of Customers	3,626	3,700	3,811
Tonnage Collected	4,400	4,490	4,620

3.4 Energy Recovery & Incineration (ER&I Programs)

NA, no such facilities

3.5 Land Disposal Program

NA, no such facilities

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		
Year 1	Year 3	Year 6
461,000	470,300	484,500
Funding Source		
Year 1	Year 3	Year 6
Tipping Fee	Tipping Fee	Tipping Fee

3.6.2 Which cost components are included in these estimates?

Management and planning services provided by County departments.

3.6.3 Funding mechanism(s) that will recover the cost of each component.

Tipping Fees

3.7 Other Programs

3.7.1 Describe the program, or provide page numbers.

Moderate-Risk Waste Facility, see pages 8-7 through 8-10.

3.7.2 Owner/Operator: Jefferson County

3.7.3 Is UTC Regulation Involved?

No

3.7.4 Anticipated costs for this program.

Year 1	Year 3	Year 6
87,000	88,750	91,400

3.7.5 Funding mechanism(s) that will recover the cost of this component.

Tipping Fees
Coordinated Prevention Grant
Fees charged to Small Quantity Generators

3.8 References and Assumptions

Costs shown in Section 3.1.2 include public education costs and recycling program costs. Costs for current and proposed programs are escalated at 1.0%, based approximate current inflation rate.

For Sections 3.3.1 and 3.3.2, the tonnages collected by Waste Connections are based on county records for 2014 and are escalated at 1.0% per year (which is the anticipated population increase for this period). The customer count is based on mid-2015 figures for the regulated area and 2014 figures for the City of Port Townsend, and both are escalated at 1% (the population increase). For West Waste & Recycling, figures shown are based on 2014 data (escalated by 1% per year) and includes both Jefferson County and Clallam County customers.

For Section 3.6 and 3.7, costs for administration and MRW operations are assumed to increase 1% annually, beginning with 2016 budgeted figures (see Table 9-1, page 9-4).

4.0 FUNDING MECHANISMS

4.1 Funding Mechanisms (Summary by Facility)

The following tables provide information on funding sources for programs and activities.

Table 4.1.1 Facility Inventory

Facility Name	Type of Facility	Tip Fee	Transfer Cost	Transfer Station Location	Final Disposal Location	Total Tons Disposed (2014)	Total Revenue Generated (Tip Fee x Tons)
Jefferson County Solid Waste Disposal Facility (JCSWDF)	Transfer Station	$147.61 per ton	NA	Near Port Townsend	Roosevelt Regional Landfill	17,662	$2,558,253
Quilcene Drop-Box	Drop Box	$32.80 per c.y.	NA	Quilcene area	Roosevelt Regional Landfill (through JCWMF)	176	$44,538

See page 7-3 for further details.

Table 4.1.2 Tip Fee Components

Tip Fee by Facility	Surcharge	City Tax	State and County Tax	Trans. and Disposal Cost	Operational Cost	Admn. Cost	Closure Costs
Jefferson County Solid Waste Disposal Facility (JCSWDF)	NA	NA	NA	NA	NA	NA	NA
Quilcene Drop-Box	NA	NA	NA	NA	NA	NA	NA
All Facilities	0	0	1.8%	41.9%	19.8%	15.7%	1.8%

See Table 9-1, figures here are based on projected 2015 costs.

Table 4.1.3 Funding Mechanism

Name of Program	Bond Name	Total Bond Debt	Bond Rate	Bond Due Date	Grant Name	Grant Amount	Tip Fee	Taxes	Other	Surcharge
Recycling and Education					CPG	$28,000	$238,000			
Moderate-Risk Waste							$76,000		$11,000	

See Table 9-1, figures here are based on budgeted 2016 costs.

Table 4.1.4 Tip Fee Forecast

Tip Fee per Ton	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
Jefferson County Solid Waste Disposal Facility (JCSWDF)	$147.61	$147.61	$147.61	$147.61	$155.00	$155.00
Quilcene Drop-Box	$253.06	$253.06	$253.06	$253.06	$265.71	$265.71

Note: The tipping fee shown in the above table for JCSWDF is for larger loads of mixed solid waste (i.e., amounts above the minimum charge). The tipping fee shown for the Quilcene Drop-Box is for the actual costs that occurred in 2014, but the rates there are actually volume-based. Fees have been adopted for Years One through Four, but years Five through Six have not been determined yet and so are assumed to increase at 5%.

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4.2 Funding Mechanism Summary:

4.2.1 Year One

Funding Mechanism (in percent)							
Component	**Tip Fee**	**Grant**	**Bond**	**Collection Tax**	**Rates, Service Fees**	**Other**	**Total**
Waste Reduction	89	11					100
Recycling	89	11					100
Collection					100		100
ER&I	100						
Transfer	100						100
Land Disposal	100						100
Administration	100						100
Other							
Moderate-Risk Waste	87				13		100

4.2.2 Year Three

Funding Mechanism (in percent)							
Component	**Tip Fee**	**Grant**	**Bond**	**Collection Tax**	**Rates, Service Fees**	**Other**	**Total**
Waste Reduction	89	11					100
Recycling	89	11					100
Collection					100		100
ER&I	100						
Transfer	100						100
Land Disposal	100						100
Administration	100						100
Other							
Moderate-Risk Waste	87				13		100

4.2.3 Year Six

Funding Mechanism (in percent)							
Component	**Tip Fee**	**Grant**	**Bond**	**Collection Tax**	**Rates, Service Fees**	**Other**	**Total**
Waste Reduction	89	11					100
Recycling	89	11					100
Collection					100		100
ER&I	100						
Transfer	100						100
Land Disposal	100						100
Administration	100						100
Other							
Moderate-Risk Waste	87				13		100

4.3 References and Assumptions

See Section 14.

For Table 4.1.2, operational cost includes MRW operations.

4.4 Surplus Funds

NA

APPENDIX E

ENVIRONMENTAL CHECKLIST

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APPENDIX E
SEPA COMPLIANCE

INTRODUCTION

This appendix contains the environmental checklist required by the State Environmental Policy Act (SEPA). The purpose of the checklist is to provide information on the environmental impacts of the activities proposed by this Solid Waste Management Plan (SWMP). Much of this checklist addresses only the general concerns related to the County's solid waste system, but specific actions proposed by this SWMP are addressed as appropriate. One or more of the activities discussed in the SWMP may require separate SEPA processes when implementation plans are more fully developed.

ENVIRONMENTAL CHECKLIST

A. BACKGROUND

1. Name of proposed project, if applicable:

   Jefferson County Solid Waste Management Plan

2. Name of applicant:

   Jefferson County

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

   Project Manager:
   Tom Boatman
   Solid Waste Manager
   Jefferson County Dept. of Public Works
   (360) 385-9243

   Consultant:
   Rick Hlavka
   Green Solutions
   PO Box 680
   South Prairie, WA 98385
   (360) 897-9533

4. Date checklist prepared:

   December 15, 2015

5. Agency requesting checklist:

   Washington State Department of Ecology. State law regarding solid waste management plans require a SEPA checklist.

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

   The Jefferson County SWMP recommends various solid waste management programs to be continued or developed 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 reviewed every five years, and updated if necessary.

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?

   No.

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

In order to participate in the SWMP, each local jurisdiction will need to approve and adopt the SWMP. These jurisdictions include Jefferson County, the City of Port Townsend, and possibly the Hoh, Quinault, and Jamestown S'Klallam Tribal Councils.

Building and other permits may be necessary to implement a few of the recommendations being made by this SWMP, but these permits (and an environmental review process, if necessary) will be sought through separate processes at a later date.

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 Solid Waste Management Plan (SWMP) is a twenty-year plan for the unincorporated and incorporated areas of Jefferson County. Federal rules require that the Olympic National Park and the Olympic National Forest abide by the policies and programs in this SWMP.

This SWMP 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 SWMP will generally take place throughout Jefferson County, although a few of the recommendations are for specific areas or sites.

TO BE COMPLETED BY APPLICANT

EVALUATION FOR AGENCY USE ONLY

B. ENVIRONMENTAL ELEMENTS

1. EARTH

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

The specific sites impacted by the SWMP's recommendations are generally the occupied areas in the County, which are flat or rolling.

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

Does not apply, there is no specific site being addressed by this plan.

b. 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.

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

EVALUATION FOR
AGENCY USE ONLY

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

Does not apply, there is no specific site being addressed by this plan.

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 SWMP.

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

Does not apply, there is no specific site being addressed by this plan.

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

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

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.

Does not apply, there is no specific site being addressed by this plan.

EVALUATION FOR
AGENCY USE ONLY

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

Does not apply, there is no specific site being addressed by this plan.

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.

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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.

Does not apply, there is no specific site being addressed by this plan.

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.

Does not apply, there is no specific site being addressed by this plan.

EVALUATION FOR
AGENCY USE ONLY

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.

Does not apply, there is no specific site being addressed by this plan.

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.

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

EVALUATION FOR
AGENCY USE ONLY

__ 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 Jefferson County.

b. What kind and amount of vegetation will be removed or altered?
Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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 types of animals can be found in Jefferson County.

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

Does not apply, there is no specific site being addressed by this plan.

EVALUATION FOR
AGENCY USE ONLY

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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 SWMP will require small additional amounts of electrical power to support normal, everyday activities.

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

Does not apply, there is no specific site being addressed by this plan.

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.

Does not apply, there is no specific site being addressed by this plan.

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 SWMP encourages continuing and possibly expanding a related activity (moderate risk waste collections) that should help prevent this type of problem in the future.

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1) Describe special emergency services that might be required.

The Household Hazardous Waste Facility already has established procedures for incident response.

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

The Household Hazardous Waste Facility already has established procedures for incident response.

b. Noise

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

Does not apply, there is no specific site being addressed by this plan.

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.

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

8. LAND AND SHORELINE USE

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

EVALUATION FOR
AGENCY USE ONLY

c. Describe any structures on the site.

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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AGENCY USE ONLY

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

9. HOUSING

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

Does not apply.

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

Does not apply.

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

Does not apply.

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?

Does not apply.

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

Does not apply.

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

Does not apply.

EVALUATION FOR
AGENCY USE ONLY

11. LIGHT AND GLARE

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

12. RECREATION

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

EVALUATION FOR
AGENCY USE ONLY

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, generally describe.

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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.

Does not apply, there is no specific site being addressed by this plan.

b. Is site currently served by public transit? If no, what is the approximate distance to the nearest transit stop?

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

EVALUATION FOR
AGENCY USE ONLY

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).

Does not apply, there is no specific site being addressed by this plan.

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

Does not apply, there is no specific site being addressed by this plan.

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

Implementing the SWMP may cause slight increase in vehicular traffic, and future increases in waste tonnages will increase truck transportation requirements (for waste export containers and garbage collection vehicles).

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

Does not apply, there is no specific site being addressed by this plan.

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.

Does not apply.

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

Does not apply, there is no specific site being addressed by this plan.

16. UTILITIES

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

Does not apply, there is no specific site being addressed by this plan.

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

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 SWMP 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 SWMP's recommendations.

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:

   Does not apply.

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 SWMP, 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:

   Does not apply.

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, to environmentally sensitive or other protected areas are expected to result from the recommendations in the SWMP.

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

   Does not apply.

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, to land and shoreline use are expected to result from the recommendations in the SWMP.

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

   Does not apply.

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

   Minor changes are proposed for public services and to several aspects of the waste collection system.

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

   None.

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

   The SWMP was prepared in response to a State requirement for the proper management of solid waste, and it is intended to comply with all applicable local, state and federal laws and requirements regarding protection of the environment.

APPENDIX F

RESOLUTIONS OF ADOPTION

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APPENDIX F
RESOLUTIONS OF ADOPTION

NOTICE:

After the Final Draft of this SWMP has been adopted by the participating jurisdictions (Port Townsend and Jefferson County), this appendix will document the adoption process by showing the adoption resolutions from the municipalities.

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