2020-2022 Solid Waste and Septage Rate Study for the Island County Solid Waste Program: 2019 Analysis

Final Report:
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Prepared for:

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Organization of the Report

Acknowledgements

Thank you to Joantha Guthrie and Lyn Little for their invaluable assistance in responding to data requests, explaining budget entries, and discussing plans, policies, and options. Thanks to Dana D'Souza of SERA for the data on rates and programs in surrounding areas.

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Abstract & Key Results

The County has held solid waste and septage rates constant since 2010. This study computes the fees needed to support the solid waste, recycling, landfill closure, moderate risk, and septage operations for Island County's Solid Waste Department for the three-year rate period January 2020-December 31, 2022. Using County 2020 budget figures, and projecting service and cost needs through 2022, we find the following:

- The analysis finds that the County has had increases in service costs, particularly for septage, and recycling. Septage costs increased due to substantial capital investment and changes in contracted costs, and recycling costs increased with contracted cost increases.

- Rate increases had historically been computed as percentage increases, based on the rate structures in place. In this period, a revision of rate structures was initiated, to put fees in line with current unit costs, and to improve equity in contributions toward MRW and recycling costs.

- **Our conclusion** is that the County will need to increase rates in both solid waste and septage areas to reflect cost increases. In addition, revised rates are computed for the haulers to bring their contributions to recycling and MRW costs[1] into line with the share paid by self-haul customers. This may be achieved through one of two recommended options; the County should embed all non-septic related charges into a combined MSW fee, or the County institutes revised rates and revised base fees for the haulers that charge fees that improve the equity of the burden for recycling and MSW fees between compacted haulers and the self-haul customers. Compacted haulers still receive a 5% discount, and Oak Harbor is not assessed for contributions to the recycling program, as they maintain a separate recycling program.

Key results of the Rate Study are presented in Figures A-1 through A-5.

[1] Or in Oak Harbor's case, just MRW costs

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Figure A.1: Summary of Allocated Costs: 2020-2022

Comparison of Allocated Costs	Total 2020-22 Allocated Cost (thous)	Percent of Total Allocated Costs	Pct Incr. in Allocated Costs from 2018-20 Rate Study	Pct Incr. in Allocated Costs from 2016-18 Rate Study
MSW operations	$ 24,000.4	77%	17%	57%
Landfill Post Closure Ops	$ 764.9	2%	-2%	29%
Recycling Ops	$ 1,947.6	6%	47%	83%
Moderate Risk Waste Ops	$ 909.6	3%	15%	25%
Septage Ops	$ 3,658.0	12%	-5%	98%
Other	$ -			
TOTAL Allocated cost	$ 31,280.6		60%	38%
Non-Septage total	$ 27,622.6		22%	32%

Figure A.2: Allocated Costs for Major County Solid Waste and Septage Elements 2020-2022

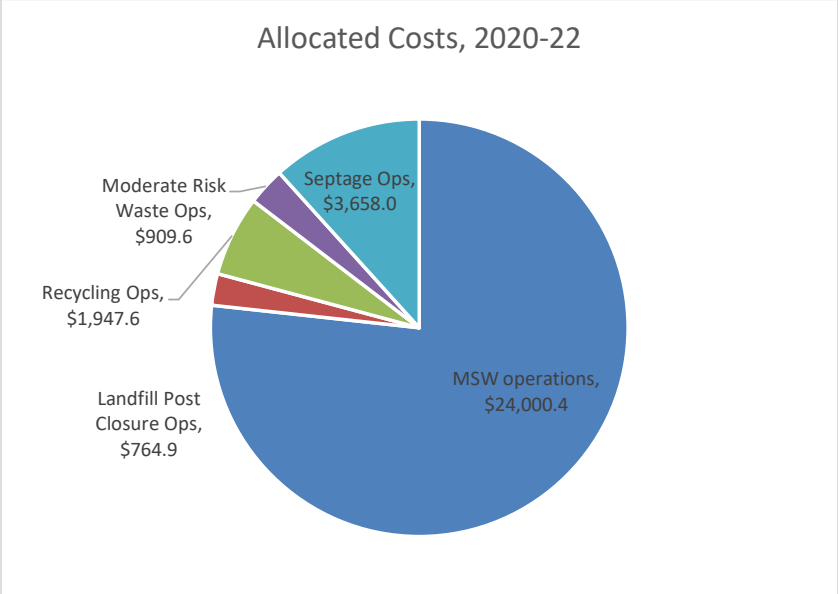

Figure A.3: Summary of Unit Cost Calculations: 2020-2022

Calculations of Unit Costs	Current 2019 Fees	Total 2020-22 Allocated Cost (thous)	"Units" for calculating Unit Cost (Traditional Treatment)	Number of Units 3-yr(thous)	2020-22 Calculated Unit cost ($), Traditional units	Units	2020-22 Unit Cost Option Embedding recycling and MRW in MSW
MSW operations	$ 115	$ 24,000.4	MSW Tons	180.6	$ 137.12	Avg.MSW $/Ton	$ 152.94
Landfill Post Closure Ops	$ -	$ 764.9	Embedded in MSW Unit Cost	0.0		embedded abov	in MSW
Recycling Ops	$ -	$ 1,947.6	Customers (for base fee)	471.2	$ 4.13	Recy $/ Cust	in MSW
Moderate Risk Waste Ops	$ -	$ 909.6	Per Ton (incl. in base fee)	180.6	$ 5.04	MRW $/ Ton	in MSW
Septage Ops	$ 0.155	$ 3,658.0	Gallons (ALL gallons)	13,131.8	$ 0.28	Sept $/ Gallon	$ 0.279
Base Fee (combined Recy+MR	*$ 7.24*	*$ 2,857.26*					
			Calc MSW Unit Costs for Hauler (5% off)		*$ 131.56*		*$ 146.74*
			Calc MSW Unit Costs for Self Haul (60% Tons)		*$ 138.49*		*$ 154.47*

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Figure A.4: Summary of Key Rate Results and Options: 2020-2022

Options 1 or 4 are recommended.

	MSW Operations	MSW Operations	MSW Operations	MSW Operations	MSW Operations	MSW Operations	% increase in Trash fee from $115/$109	% increase Septage from $0.155
Option 1: All-Inclusive MSW Fees - covers MSW, LFC, Recy, and MRW								
Self-hauler Fee, per ton	$155					$0.279	35%	80%
Compacted Hauler fee, per ton	$147					$0.279	35%	
Oak Harbor hauler fee, per ton	$137							
Option 2: COS, Existing Base Fee structure								
Self-hauler Fee, per ton	$138	8.5	<= base fee per customer			$0.28	20%	80%
Fees for compacted haulers, Incl. Oak Harbor	$132						21%	
Option 3: Oak Harbor doesn't contribute to MRW								
Self-hauler Fee, per ton	$138	$5.50	<= base fee per customer			$0.28	20%	80%
Fees for compacted haulers, Incl. Oak Harbor	$132						21%	
Plus hauler BASE Fee adder over 6.7 tons load (non-O.H.)	plus =>	$154/load up to 7 tons and add $22 / ton above 7 tons						
Option 4: Oak Harbor contributes to MRW costs								
Self-hauler Fee, per ton	$138	$5	<= base fee per customer			$0.28	20%	80%
Fees for compacted haulers, Incl. Oak Harbor	$132						21%	
PLUS Revised base fee for non-Oak Harbor haulers	plus =>	$105/load up to 7 tons, and add $15 per ton above 7 tons.						
or PLUS Revised base fee for Oak Harbor hauler (covers MRW)	plus =>	$45/load up to 9 tons, and add $5.00 per ton above 9 tons.						

A more detailed explanation of the results is provided in Chapter 1.

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Figure A.5 Key Recommended Rates for 2020-2022 Period

Facility and Waste Type	2010-2019 Rates	2020-22 Recommended Rates - Option 1 (MSW rates fully embed MRW and Recycling Costs)	2020-22 Recommended Rates - Option 4 (Haulers pay revised base fees covering MRW and Recycling Costs)
Recycle Parks / Drop-Box Stations			
First Can or bundle, $	$11.00	$13.25	$13.25
Add'l cans or bundles, each $	$3.50	$4.25	$4.25
Minimum total	$11.00	$13.25	$13.25
Segregated recyclable material	$0.00	$0.00	$0.00
Household hazardous waste	$0.00	$0.00	$0.00
Used motor oil	$0.00	$0.00	$0.00
Transfer Station, Recycle			
First Can or bundle, $	$11.00	$13.25	$13.25
Add'l cans or bundles, each $	$3.50	$4.25	$4.25
Minimum total	$11.00	$13.25	$13.25
MSW, $/ton (self-haul, etc.)	$115.00	$155.00	$138.00
Compacted Franchised Rates (preferred)	$109.00	$147.00	$132.00
Compacted Franchised Rate - Oak Harbor		$137.00	$132.00
Segregated yard debris, $/ton	$80.00	$95.00	$95.00
Segregated recyclable material	$0.00	$0.00	$0.00
Household hazardous waste	$0.00	$0.00	$0.00
Used motor oil	$0.00	$0.00	$0.00
CDL	$136.00	$164.00	$164.00
Base fee per customer, Self Haul	$7.50	$0.00	$5.00
Base fee per truckload, Compacted Franchised Rate, Pref.	$7.50	$0.00	$105/load up to 7 tons, and add $15 per ton above 7 tons.
Base fee per truckload, Oak Harbor Compacted Preferred	$7.50	$0.00	$45/load up to 9 tons, and add $5.00 per ton above 9 tons.
Special Wastes			
Hard to handle waste, $/ton	$170.00	$170.60	$170.60
Appliances, $/each	$22.50	$22.58	$22.58
Tires, $/each	$7.50	$7.53	$7.53
Asbestos waste, $/ton ($20 min)	$0.00	$0.00	$0.00
Shredding+MRW if not recyclable (per bag)	$1.50	$1.51	$1.51
Septage			
Residential (Pumper trucks)	$0.155	$0.279	$0.279
Town of Coupeville	$0.09	$0.16	$0.16
Class B (with lab tests)	$0.08	$0.13	$0.13
Large Institutions / Non-Class B	$0.12	$0.22	$0.22

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1. Summary, Findings, and Recommendations

This document presents a study of solid waste program rates conducted for the Island County Public Works Department. The objective of the study is to develop recommended solid waste and septage disposal rates for the period January 1, 2020 through December 31, 2022. The study provides information supporting decision-making about new rates.

1.1 Situation

The consultants conducted a cost of service study to identify the expected cost of providing the County's array of solid waste and septage-related services. In addition, a number of scenarios were also run to address issues and questions associated with the 2020-2022 Island County Solid Waste and Septage Rates. Island County is experiencing substantial revenue pressure, owing to a number of changes in the last few years:

- Tonnage growth is slowing, so costs are spread over fewer tons, with consequent upward pressure on rates.
- The County funded a substantial septage plant upgrade / replacement, which is just being paid off during this rate period.
- The availability of land application for septage has diminished, and the contracted costs per gallon have risen.
- The contracted costs for managing solid waste, and particularly recycling, have increased dramatically.
- There is structural under-recovery of costs for recycling. Not all households are paying for recycling, as the current rate structure has become a system that collects one household recycling fee per "hauler load" rather than per household.
- Equipment replacement costs must be embedded, including near-term needs, but also saving up for a larger investment (solid waste-related compactor) needed in the 6-8 year horizon.

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1.2 Methodology

The analysis incorporates four key components. Each component is closely tied to the next, with key results "carrying over" and used in the next set of computations to derive the resulting rate recommendations. The computations (and model) are broken into four components:

- service demand module;
- revenue requirements study;
- cost allocation study and
- rate design module.

The service demand module projects the tons of municipal solid waste (MSW), recycling, yard waste, customers of moderate risk waste (MRW), and gallons of septage that the County will need to provide in each year. The revenue requirements study compares projected revenues and expenses to determine the overall adequacy of existing rates. The cost allocation study classifies the revenue requirements into program services and calculates unit costs for each service. The rate design component balances projected program costs with other rate design considerations to develop a rate structure and recommended rate levels for the 3-year period 2020-2022.

The major source of information for this study was the County's 2020 budget, detailing expected revenues and expenditures for calendar year 2020, and the expected CIP elements for the period 2020, 2021, and 2022. Other key inputs were the 2007-09, 2010-2012, 2013-15, 2016-18 and 2018-20 rate studies,[2] the 2010-2019 budgets (and "actuals"), and detailed interviews with Island County Staff. The work updated the last detailed rate study from 2017 with new inputs and assumptions.

The major tool used for the computations was the rate model developed by SERA originally in 2007 (with later updates), but revamped and simplified as part of the 2015 rate process. The key features of the model include:

- The demand module allows users to select from among a number of growth factors, based on the waste stream.

- All revenue and expense entries in the model were linked directly to the budget. The revenue requirement sheet is directly linked to the importation of the budget revenues and expenses on a distinct sheet, imported in the form prepared by the County. This simplifies update of the model going forward.

- The revenue requirement and cost allocation sheets were merged to make more transparent the assignment of budget line items to individual rate allocation elements. The user may select from a number of clearly specified and pre-defined allocation options, or may define others through the use of look-up tables.

- The model documents assumptions used throughout the analyses.

[2] Skumatz Economic Research Associates, "Rate Solid Waste and Septage Rate Study for the Island County Solid Waste Program: 2007-2009", and similar documents covering 2010-2012, 2013-15, 2016-18 and 2018-20 rate periods. The previous rate consultant's approach was used as a reference for the 2007 analysis, and its reference is: "Rate Study for the Island County Solid Waste Program", Prepared by Paul S. Running and Associates, Seattle Washington, August 2003.

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We reviewed operations, plans, and the elements of the 2020 budget, and worked with staff to develop projections of the demand, revenues, and expenses for the 2020-2022 period based on the 2020 budgets, previous performance, planning documents, and expectations into the future. In addition to the direct analysis of the 2020-2022 rate period, we also conducted a detailed analysis of the patterns in demand, expenses, and revenue recovery over the previous three-year period to understand the influence the previous period's performance would have on the next rate period. The results of the work are described in the remainder of the report.

1.3 Findings for 2020-22

Analysis and Results for Solid Waste Operations:

The most substantial findings and conclusions related to Island County's solid waste system for the 2020-22 period are detailed in Chapter 4. An abbreviated version follows in this summary.

- **Tonnages have increased, and growth rates have varied from 2-11% over the last few years.** Going forward in the 2020-22 rate study, we opt for a growth rate on the lower range of these figures, choosing a 3%. This growth rate is similar to the growth rate for forecasting equations and is a conservative value. The same growth rate is used for septage tonnage and gallons for parallel reasons.

- **Unit cost computations have been modified to address policy issues:** We have updated allocations and unit cost computations to use true "unit costs" as the basis for ratesetting. Previously, rates were updated by a percentage increase based on historic rate structures. The revised computations update the rate structure to reflect current costs. In addition, the new rates adjust the "base fee" system to allow more equitable recovery of costs from all customers within the County. Compacted haulers were paying per load, rather than per customer, leading to a disproportionate share of the costs for recycling and moderate risk waste to be paid by self-haul customers. This rate study offers two options to correct this imbalance: 1) all-inclusive per-ton fees that cover MSW, landfill closure, moderate risk waste (MRW) and recycling, or 2) restructured base fee options.

- **Updates to reflect 2020-22 CIP elements**: The CIP includes the two final payments for the septage facility, a series of other capital and vehicle upgrades, allocated to the various cost centers – MSW, recycling, septage, etc., and accumulation of funds toward purchase of a large new baler needed in 6-8 years. Cash recovery elements are also appropriately included.

Rate Computation Results and Options:

The total revenue requirements for 2020-2022 for solid waste are listed below (See Figure 1.1), including MSW operations, landfill closure operations (LFC), recycling operations, moderate risk waste operations (MRW) and septage operations. Total allocated costs are projected to be $31.28 million over the 3-year period. The figures show that septage operations represent about 12% of allocated costs, an increase over the allocations from the 2018-2020 period.

Figure 1.1: Summary of Allocated Costs: 2020-2022

Comparison of Allocated Costs	Total 2020-22 Allocated Cost (thous)	Percent of Total Allocated Costs	Pct Incr. in Allocated Costs from 2018-20 Rate Study	Pct Incr. in Allocated Costs from 2016-18 Rate Study
MSW operations	$ 24,000.4	77%	17%	57%
Landfill Post Closure Ops	$ 764.9	2%	-2%	29%
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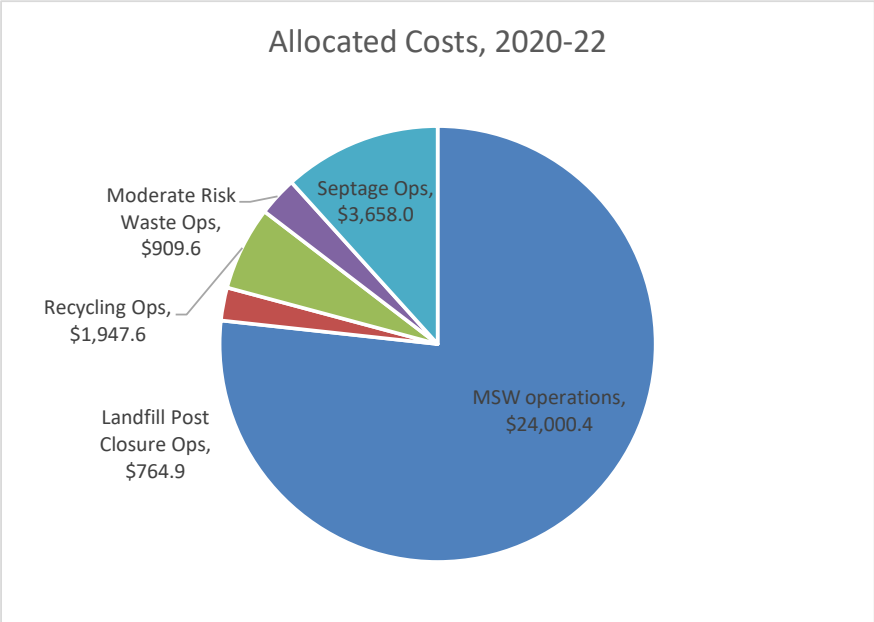
Other	$ -			
TOTAL Allocated cost	$ 31,280.6		60%	38%
Non-Septage total	$ 27,622.6		22%	32%

Figure 1.2: Allocated Costs for Major County Solid Waste and Septage Elements 2020-2022



Unit costs are calculated by dividing allocated costs by the appropriate units of service or revenue collection (usually tons, customers, gallons, etc.). Allocated costs are shown above. The total number of solid waste tons expected over the three-year rate period are 180,600 tons (Figure 1.4). The expected number of customers, tons, and gallons for other services are also shown. Two main scenarios are computed:

- Assuming solid waste and landfill closure costs are recovered through the tipping fee, and MRW and recycling costs are recovered through a base fee mechanism (traditional unit cost structure), or
- Assuming all solid waste-related costs are recovered through the tipping fee. These results have the following implications.

In all cases, septic unit costs are computed identically, with total allocated costs divided by projected three-year gallons of service.

- Figure 1.1 shows that costs for recycling and septage have experienced the highest increases.
- Figure 1.2 shows MSW operations dominate the County's budget.
- Figure 1.3 shows how total allocated costs are divided among various operational components.
- Figure 1.4 shows calculations of unit costs. The most important finding is that embedding recycling and MRW into the tipping fee increases average per-ton MSW unit costs from $137/ton to $153/ton.

Figure 1.3: Computed 3-year Cost Allocation by Major Function Area

Computed Cost Allocations for 2020-22 rate period (in thousands)	MSW Op	Landfill Post Closu	Recycling Ops	Moderate Risk	Septage Ops	Total 2020-22
O&M - Operations & Maintenance Costs (g	$21,396	$742	$1,514	$809	$2,317	$26,778
TAXES - Taxes & Operating Assessments	$0	$0	$0	$0	$0	$0
DEBT Service (i)	$0	$0	$0	$0	$0	$0
DEPRECIATION - Repair & Replacement (	$0	$0	$0	$0	$0	$0
INTERGOVERNMENTAL (k)	$2,067	$23	$126	$0	$611	$2,827
CIP (f)	$537	$0	$308	$100	$730	$1,675
TOTAL ALLOCATED COSTS, ALL ITEMS	$24,000	$765	$1,948	$910	$3,658	$31,281
Percentage	77%	2%	6%	3%	12%	

Figure 1.4: Summary of Unit Cost Calculations: 2020-2022

Calculations of Unit Costs	Current 2019 Fees	Total 2020-22 Allocated Cost (thous)	"Units" for calculating Unit Cost (Traditional Treatment)	Number of Units 3-yr(thous)	2020-22 Calculated Unit cost ($), Traditional units	Units	2020-22 Unit Cost Option Embedding recycling and MRW in MSW
MSW operations	$ 115	$ 24,000.4	MSW Tons	180.6	$ 137.12	Avg.MSW $/Ton	$ 152.94
Landfill Post Closure Ops	$ -	$ 764.9	Embedded in MSW Unit Cost	0.0		embedded abov	in MSW
Recycling Ops	$ -	$ 1,947.6	Customers (for base fee)	471.2	$ 4.13	Recy $/ Cust	in MSW
Moderate Risk Waste Ops	$ -	$ 909.6	Per Ton (incl. in base fee)	180.6	$ 5.04	MRW $/ Ton	in MSW
Septage Ops	$ 0.155	$ 3,658.0	Gallons (ALL gallons)	13,131.8	$ 0.28	Sept $/ Gallon	$ 0.279
Base Fee (combined Recy+MR	*$ 7.24*	*$ 2,857.26*					
			Calc MSW Unit Costs for Hauler (5% off)		*$ 131.56*		*$ 146.74*
			Calc MSW Unit Costs for Self Haul (60% Tons)		*$ 138.49*		*$ 154.47*

1.4 Recommended Solid Waste Program Rates

The recommended solid waste program rates reflect the cost of service as well as other rate design considerations including administrative simplicity, consistency with local policies and plans and ability to pay. The recommended rates remain the same as the current rates, displayed in Figure 1.5 below.

Figure 1.5: Recommended Rates

Facility and Waste Type	2010-2019 Rates	2020-22 Recommended Rates - Option 1 (MSW rates fully embed MRW and Recycling Costs)	2020-22 Recommended Rates - Option 4 (Haulers pay revised base fees covering MRW and Recycling Costs)
Recycle Parks / Drop-Box Stations			
First Can or bundle, $	$11.00	$13.25	$13.25
Add'l cans or bundles, each $	$3.50	$4.25	$4.25
Minimum total	$11.00	$13.25	$13.25
Segregated recyclable material	$0.00	$0.00	$0.00
Household hazardous waste	$0.00	$0.00	$0.00
Used motor oil	$0.00	$0.00	$0.00
Transfer Station, Recycle			
First Can or bundle, $	$11.00	$13.25	$13.25
Add'l cans or bundles, each $	$3.50	$4.25	$4.25
Minimum total	$11.00	$13.25	$13.25
MSW, $/ton (self-haul, etc.)	$115.00	$155.00	$138.00
Compacted Franchised Rates (preferred)	$109.00	$147.00	$132.00
Compacted Franchised Rate - Oak Harbor		$137.00	$132.00
Segregated yard debris, $/ton	$80.00	$95.00	$95.00
Segregated recyclable material	$0.00	$0.00	$0.00
Household hazardous waste	$0.00	$0.00	$0.00
Used motor oil	$0.00	$0.00	$0.00
CDL	$136.00	$164.00	$164.00
Base fee per customer, Self Haul	$7.50	$0.00	$5.00
Base fee per truckload, Compacted Franchised Rate, Pref.	$7.50	$0.00	$105/load up to 7 tons, and add $15 per ton above 7 tons.
Base fee per truckload, Oak Harbor Compacted Preferred	$7.50	$0.00	$45/load up to 9 tons, and add $5.00 per ton above 9 tons.
Special Wastes			
Hard to handle waste, $/ton	$170.00	$170.60	$170.60
Appliances, $/each	$22.50	$22.58	$22.58
Tires, $/each	$7.50	$7.53	$7.53
Asbestos waste, $/ton ($20 min)	$0.00	$0.00	$0.00
Shredding+MRW if not recyclable (per bag)	$1.50	$1.51	$1.51
Septage			
Residential (Pumper trucks)	$0.155	$0.279	$0.279
Town of Coupeville	$0.09	$0.16	$0.16
Class B (with lab tests)	$0.08	$0.13	$0.13
Large Institutions / Non-Class B	$0.12	$0.22	$0.22

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2. Demand and Revenue Requirements

This section develops projections of revenues and expenses for a 3-year rate period beginning in 2020.[3] Projected revenues at current rates are compared with projected expenses to assess the adequacy of existing rate revenues.

2.1 Basis for Projections

The projections used in the Rate Study were based on historical data, actual 2019 (part year) data, and budgeted 2020 solid waste program revenues and expenses.

Tonnage Projections: Tonnages increased between 2-11% over the last few years. The tonnage forecasts were computed using regressions based on underlying tonnage and septage drivers (population and economic projections). The regression forecasts increased 3-5%, and we used a conservative value of 3% increases for both MSW and septage. The forecast tonnages leveraged off the average of the tonnage values for 2018 and year-to-date 2019. The resulting total "Units" of service (tons and gallons), for each year of the rate period, as well as the total for the 3-year rate period, are shown in Figure 2.1. Overall MSW for 2020-2022 was projected to increase about 3% throughout the period 2020-22.

Figure 2.1: Tonnage Forecasts for the Revenue Requirements Projections

Total Tons by Stream	2019	2020	2021	2022	Total 2020-22
MSW	56,733	58,435	60,188	61,993	180,616
Yard Waste	937	918	899	881	2,698
Recycling	2,383	2,500	2,575	2,652	7,727
Constr&Demo	2,797	2,740	2,685	2,631	8,056
HHW	2,802	2,737	2,674	2,612	8,022
Septage (gal)	4,124,777	4,248,521	4,375,976	4,507,255	13,131,752

Expense Projections: All expenses pivot from the County's adopted 2020 budget figures, with subsequent years escalated using projections regarding inflation. The tonnage / gallons projections from Figure 2.1 were linked to their relevant contractual and expense items (tip fees, etc.) and incorporated into the expense figures for each year. The figure used for the growth rates for labor and benefits was 2%. For ease

[3] The study corresponds to the budget period from January 1, 2020 to December 31, 2022.

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of comparison (this year and into future years), each element was specifically linked back to the budget and fund code used in Island County's budgeting system.

Revenue Projections: Base rate revenues were projected to increase with the number of relevant "units" – either tons, gallons, or customers. Non-rate revenue values were gathered from the 2020 budget. Discussion with staff were used to tailor these projections for later years (for example, we discussed grant years and phase outs). Needed percentage rate increases (by rate category) were based on the differences between the base revenues and expense projections for the three-year period.

2.2 Method of Expressing Costs

The projected revenues and expenses are expressed on a cash basis rather than an accrual basis. A cash basis is used because the solid waste program is publicly owned and operated on a non-profit basis under the control of the Board of Island County Commissioners. The Board's financial controls are administered through an annual operating budget. The revenue required to operate the program is equal to the amount of money required to make cash outlays in a timely manner as they become due.

The revenue requirements for the rate study are summarized as the sum of:

+	Excess Working Capital
+	Operating Revenues at Current Rates
-	Operation and Maintenance Expense
-	Taxes and Operating Assessments
-	Debt Service
-	Repair and Replacement of Existing Facilities and Equipment
Σ	Revenue Requirements

2.3 Excess Working Capital

The solid waste fund aggregates revenues and expenses for both the solid waste and septage programs. The rate model replenishes $300K of working capital for this rate period.

2.4 Sources of Funds

Sources of funds for the solid waste program include rate revenues from the municipal solid waste, moderate-risk waste, and septage operating programs together with investment income, miscellaneous income and grants. The projected sources of funds for the 3-year rate period are provided in Figure 2.2.

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Figure 2.2: Sources of Funds at Current Rates (Dollars)[4]

	2019	2020	2021	2022	Total 2020-22
Use Of Beginning Fund Balance (GEN FISCAL)	$0	$0	$0	$0	$0
REVENUES - Solid Waste and non-septage services					
Sg Wa Dept Ecology (CPG Grant-MRW)	$0	-$70,000	-$71,400	-$72,828	-$214,228
Intgvt Svc Environ Consrv (NASWI)	$0	-$13,000	-$13,000	-$13,000	-$39,000
Fee Water Sales (Fireflow)	-$1,600	-$800	-$800	-$800	-$2,400
Fee Garbage / Solid Waste	-$7,346,552	-$8,649,734	-$8,649,734	-$8,649,734	-$25,949,202
RECYCLE - Fee Garbage / Solid Waste	-$33,312	-$35,000	-$35,000	-$35,000	-$105,000
HHW / SQG - Fee Garbage / Solid Waste	-$4,946	-$6,000	-$6,000	-$6,000	-$18,000
REVENUES - Septage					
Fee Sewer Service	-$572,844	-$950,000	-$950,000	-$950,000	-$2,850,000
REVENUES - Other					
Misc Investment Interest (FIN STMT-GASB)	-$71,042	-$90,000	-$90,000	-$90,000	-$270,000
Misc Cash Over / Short	$0	-$300	-$300	-$300	-$900
Misc Other / Bad Debt + NSF	$1,012	$37,500	$37,500	$37,500	$112,500
Misc Other + Shredding + WWF	-$3,278	-$1,500	-$1,500	-$1,500	-$4,500
Total Revenue	-$8,041,872	-$9,780,834	-$9,782,234	-$9,783,662	-$29,346,730

2.5 Operation and Maintenance Expense

Operation and maintenance expense includes labor, payroll taxes and personnel benefits, maintenance of facilities and equipment, transportation and disposal of waste materials, and other associated expenses such as supplies, insurance and County overhead costs. A summary of the projected operation and maintenance expense for the 3-year rate period is presented in Figure 2.3; they include tipping fee and hauling costs for the projected tons.

[4] Asterisk denotes that the revenues are based on existing rate levels with figures computed from the budget.

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Figure 2.3: Summary of Projected Operation and Maintenance Expense (Dollars)

0		Total 2020-22	2019	2020	2021	2022
0	**SEPTAGE**					
sept	Salaries	$188,392	$51,120	$61,558	$62,789	$64,045
sept	Overtime	$6,121	$778	$2,000	$2,040	$2,081
sept	Payroll Taxes	$14,990	$3,748	$4,898	$4,996	$5,096
sept	Retirement	$24,924	$6,658	$8,144	$8,307	$8,473
sept	Medical / Dental / Life / Fbp	$32,927	$10,978	$10,759	$10,974	$11,194
sept	Li / Unemp / Other Benefits	$7,275	$2,066	$2,377	$2,425	$2,473
sept	Supplies Operating	$30,604	$11,688	$10,000	$10,200	$10,404
sept	Fuel Vehicles	$1,071	$332	$350	$357	$364
sept	Fuel Equip	$6,121	$2,368	$2,000	$2,040	$2,081
sept	Small Equip Tools	$3,060	$0	$1,000	$1,020	$1,040
sept	Services Professional	$1,790,880	$5,746	$580,000	$596,792	$614,088
sept	Services Operating	$15,302	$0	$5,000	$5,100	$5,202
sept	Communication Telephone	$3,060	$594	$1,000	$1,020	$1,040
sept	Travel Transportation	$1,530	$0	$500	$510	$520
sept	Advertising Legal Notices	$1,530	$868	$500	$510	$520
sept	Rent Operating	$15,302	$3,970	$5,000	$5,100	$5,202
sept	Utilities Electricity	$131,597	$28,004	$43,000	$43,860	$44,737
sept	Dues & Memberships	$1,071	$0	$350	$357	$364
sept	Filing Fees And Permits	$7,651	$3,116	$2,500	$2,550	$2,601
sept	Training Registrations	$3,060	$0	$1,000	$1,020	$1,040
sept	Other	$918	$0	$300	$306	$312
sept	TOTAL O&M	$2,287,387	$132,034	$742,236	$762,273	$782,878
LFC	**LANDFILL CLOSURE & POSTCLOSURE**					
LFC	Supplies Operating	$3,060	$1,220	$1,000	$1,020	$1,040
LFC	Fuel Equip	$0	$594	$0	$0	$0
LFC	Services Professional	$306,040	$0	$100,000	$102,000	$104,040
LFC	Services Operating	$428,456	$114,576	$140,000	$142,800	$145,656
LFC	Utilities Electricity	$765	$736	$250	$255	$260
LFC	Filing Fees And Permits	$3,672	$2,154	$1,200	$1,224	$1,248
LFC	TOTAL O&M	$741,994	$119,280	$242,450	$247,299	$252,245
Trng	**TRAINING**					
Trng	TOTAL O&M	$0	$0	$0	$0	$0
Recy	**RECYCLING**					
Recy	Salaries	$758,701	$134,164	$247,909	$252,867	$257,925
Recy	Overtime	$18,362	$3,300	$6,000	$6,120	$6,242
Recy	Payroll Taxes	$57,012	$10,378	$18,629	$19,002	$19,382
Recy	Retirement	$96,804	$17,636	$31,631	$32,264	$32,909
Recy	Medical / Dental / Life / Fbp	$280,271	$40,892	$91,580	$93,412	$95,280
Recy	Li / Unemp / Other Benefits	$47,782	$5,222	$15,613	$15,925	$16,244
Recy	Supplies Operating	$18,362	$3,192	$6,000	$6,120	$6,242
Recy	Fuel Vehicles	$1,530	$716	$500	$510	$520
Recy	Small Equip Tools	$15,302	$13,324	$5,000	$5,100	$5,202
Recy	Services Professional	$9,181	$1,206	$3,000	$3,060	$3,121
Recy	Services Operating	$1,693,919	$419,194	$550,000	$564,495	$579,424
Recy	Advertising Legal Notices	$3,060	$1,164	$1,000	$1,020	$1,040
Recy	Advertising Other	$4,591	$490	$1,500	$1,530	$1,561
Recy	Rent Operating	$3,060	$500	$1,000	$1,020	$1,040
Recy	Utilities Electricity	$3,672	$848	$1,200	$1,224	$1,248
Recy	Repair Equipment	$9,181	$6,836	$3,000	$3,060	$3,121
Recy	Dues & Memberships	$1,530	$254	$500	$510	$520
Recy	Filing Fees And Permits	$4,591	$0	$1,500	$1,530	$1,561
Recy	Other	$1,530	$0	$500	$510	$520
Recy	TOTAL O&M	$3,028,443	$659,316	$986,062	$1,009,278	$1,033,103

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Figure 2.3: Summary of Projected Operation and Maintenance Expense (Dollars), continued

		Total 2020-22	2019	2020	2021	2022
GSW	**SOLID WASTE OPERATIONS**					
GSW	Salaries	$2,639,197	$830,480	$862,370	$879,617	$897,210
GSW	Overtime	$116,295	$16,774	$38,000	$38,760	$39,535
GSW	Other Salary	$0	$420	$0	$0	$0
GSW	Payroll Taxes	$213,080	$63,982	$69,625	$71,018	$72,438
GSW	Retirement	$351,117	$106,122	$114,729	$117,024	$119,364
GSW	Medical / Dental / Life / Fbp	$888,792	$280,470	$290,417	$296,225	$302,150
GSW	Li / Unemp / Other Benefits	$143,358	$32,660	$46,843	$47,780	$48,735
GSW	Supplies Office	$12,242	$5,910	$4,000	$4,080	$4,162
GSW	Supplies Operating	$183,624	$31,124	$60,000	$61,200	$62,424
GSW	Fuel Vehicles	$15,302	$3,078	$5,000	$5,100	$5,202
GSW	Fuel Bldgs	$1,530	$600	$500	$510	$520
GSW	Fuel Equip	$76,510	$24,510	$25,000	$25,500	$26,010
GSW	Small Equip Office	$15,302	$792	$5,000	$5,100	$5,202
GSW	Small Equip Tools	$9,181	$1,742	$3,000	$3,060	$3,121
GSW	Small Equip Furniture	$3,060	$2,894	$1,000	$1,020	$1,040
GSW	Services Professional	$13,033,635	$3,469,858	$4,250,000	$4,343,609	$4,440,026
GSW	Services Operating	$76,510	$18,354	$25,000	$25,500	$26,010
GSW	Communication Postage	$2,295	$0	$750	$765	$780
GSW	Communication Telephone	$30,604	$6,084	$10,000	$10,200	$10,404
GSW	Communication Internet	$15,302	$5,014	$5,000	$5,100	$5,202
GSW	Travel Transportation - Fuel	$9,181	$1,502	$3,000	$3,060	$3,121
GSW	Travel Meals	$612	$98	$200	$204	$208
GSW	Travel Lodging	$4,591	$880	$1,500	$1,530	$1,561
GSW	Advertising Legal Notices	$3,060	$508	$1,000	$1,020	$1,040
GSW	Rent Operating	$12,242	$9,206	$4,000	$4,080	$4,162
GSW	Utilities Electricity	$61,208	$13,530	$20,000	$20,400	$20,808
GSW	Utilities Water & Sewer	$0	$706	$0	$0	$0
GSW	Repair Equipment	$244,832	$100,480	$80,000	$81,600	$83,232
GSW	Maintenance Annual Equip	$30,604	$1,884	$10,000	$10,200	$10,404
GSW	Repair / Maint Facilties	$61,208	$294	$20,000	$20,400	$20,808
GSW	Dues & Memberships	$3,060	$3,608	$1,000	$1,020	$1,040
GSW	Filing Fees And Permits	$114,765	$1,948	$37,500	$38,250	$39,015
GSW	Training Registrations	$9,181	$894	$3,000	$3,060	$3,121
GSW	Other	$4,591	$0	$1,500	$1,530	$1,561
GSW	TOTAL O&M	$18,386,073	$5,036,406	$5,998,934	$6,127,522	$6,259,617
MRW	**HAZARDOUS WASTE - CPG GRANT**					
MRW	Salaries	$287,234	$73,582	$93,855	$95,732	$97,647
MRW	Payroll Taxes	$21,548	$5,372	$7,041	$7,182	$7,325
MRW	Retirement	$36,584	$9,440	$11,954	$12,193	$12,437
MRW	Medical / Dental / Life / Fbp	$82,205	$21,334	$26,861	$27,398	$27,946
MRW	Li / Unemp / Other Benefits	$12,275	$2,572	$4,011	$4,091	$4,173
MRW	Supplies Office	$612	$0	$200	$204	$208
MRW	Supplies Operating	$45,906	$9,446	$15,000	$15,300	$15,606
MRW	Fuel Vehicles	$3,060	$458	$1,000	$1,020	$1,040
MRW	Fuel Equip	$2,142	$620	$700	$714	$728
MRW	Small Equip Tools	$9,181	$608	$3,000	$3,060	$3,121
MRW	Services Professional	$18,362	$7,530	$6,000	$6,120	$6,242
MRW	Services Operating	$275,436	$88,188	$90,000	$91,800	$93,636
MRW	Travel Transportation	$918	$36	$300	$306	$312
MRW	Travel Lodging	$0	$196	$0	$0	$0
MRW	Utilities Electricity	$3,672	$514	$1,200	$1,224	$1,248
MRW	Repair Equipment	$4,591	$110	$1,500	$1,530	$1,561
MRW	Printing	$0	$490	$0	$0	$0
MRW	Training Registrations	$1,530	$0	$500	$510	$520
MRW	Other	$3,979	$0	$1,300	$1,326	$1,353
MRW	TOTAL O&M	$809,237	$220,496	$264,422	$269,710	$275,105
SWC	**SW CAPITAL EXPENDITURES**					
SWC	Services Professional	$0	$11,040	$0	$0	$0
GSW	Vehicle replacement	$855,000	$0	$285,000	$285,000	$285,000
GSW	TOTAL O&M	$855,000	$11,040	$285,000	$285,000	$285,000
G&A	**GENERAL FISCAL**					
G&A	Accum of Ending Fund Balance	$300,000	$0	$100,000	$100,000	$100,000
GSW	Transfers Out Operating	$370,308	$250,000	$121,000	$123,420	$125,888
GSW	TOTAL O&M	$670,308	$250,000	$221,000	$223,420	$225,888
GSW	**GENERAL FISCAL//FIN STMT-GASB**					
GSW	TOTAL O&M	$0	$0	$0	$0	$0

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2.6 CIP Expense

The CIP budget includes new and replacement equipment, facility upgrades, and other expenses related to providing MSW, recycling, and other services. In the 2020-2022 period, the most significant elements of the projected CIP expenses for the 3-year rate period are presented in Figures 2.4 and Figure 2.5 and represent improvements to land and sites, and to vehicles and equipment.. The details of each element of the CIP expenses are included in the budget and the rate model.

With the exception of the septage treatment facility, the solid waste program has financed all capital improvements from rate revenue and grant income. Details on CIP and vehicle / equipment expenses planned for solid waste and septage over the period are shown in Appendix A. The annual cost summary is shown in Figure 2.5, and includes the final two payments for the septage facility. One additional items from beyond this direct three-year horizon is being recovered through this rate study – annual costs of $285K to accrue funds for replacement of a $2 million baler in 6-8 years.

As mentioned, costs for all CIP and vehicle and equipment upgrades and replacements for 2020-2022 are incorporated in the revenue requirements. In addition, one-seventh of the cost of a $2 million baler that needs to be replaced in 6-8 years is also included. The County currently projects its cost of capital and vehicle replacements and CIP needs out for a six-year period, covering the current and next rate study period. However, a long-term horizon (9-plus years), would allow the rate study to accrue funds even more smoothly across multiple rate periods and assure funds are available with minimal rate shock. In this rate period, the study included an especially large longer-term equipment need to help achieve that goal. The consultants did review the CIP and vehicle replacement schedule for the next three-year rate period (2023-2025) provided by the County. The decision was made to not accrue a share of these costs (half would be the approximate accrual) because the costs for 2023-2025 were substantially lower than the costs for the current rate period ($1.1 million vs. $1.6 million not including annual costs of $285K for the baler), and pressure on rates during the current period is already quite high. The consultants assumed that, with the final $600K in payments on the septage facility completing in the 2020-2022 rate period, future replacement needs would be reduced by a figure similar to the $500K listed above. If so, the consultants are comfortable that multi-period accruals could begin with the next rate period and maintain a consistent rate trajectory and cover costs. However, the County should consider undertaking a review of longer-term large capital and equipment replacement and investment needs. When this study is completed, if large investments are needed, this should be taken into account in or before the next regular rate period.

Figure 2.4: Summary of Projected Capital Expense (Dollars)

CIP TOTALS	2019	2020	2021	2022	Total 2020-22
Capital Land Site Improvements	$360,000	$512,500	$470,000	$185,000	$1,167,500
Capital Machinery And Equipment	$260,000	$79,300	$173,500	$255,000	$507,800
Accum of Ending Fund Balance	$0	$100,000	$100,000	$100,000	$300,000
Total	$620,000	$691,800	$743,500	$540,000	$1,975,300

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Figure 2.5: Detail on Solid Waste and Septage CIP and Equipment Replacement Costs[5]

CIP	2020	2021	2022	3 Yr Total	Percent	Grand Tot(CIP&V	Percent
SW	$152,500	$135,000	$50,000	$337,500	28.9%	$537,500	32%
Recy	$0	$0	$0	$0	0.0%	$307,800	18%
Sept	$360,000	$335,000	$35,000	$730,000	62.5%	$730,000	44%
LFC	$0	$0	$0	$0	0.0%	$0	0%
MRW	$0	$0	$100,000	$100,000	8.6%	$100,000	6%
Total	$512,500	$470,000	$185,000	$1,167,500	100.0%	$1,675,300	100%
VER							
SW	$40,000	$0	$160,000	$200,000	39.4%		
Recy	$39,300	$173,500	$95,000	$307,800	60.6%		
Sept	$0	$0	$0	$0	0.0%		
LFC	$0	$0	$0	$0	0.0%		
MRW	$0	$0	$0	$0	0.0%		
Total	$79,300	$173,500	$255,000	$507,800	100.0%		

2.7 Taxes and Operating Assessments, Debt Service Expenditure, and Intergovernmental Transfers

Solid waste revenues are subject to a Washington State excise tax. The tax rate is 2.13 percent of gross taxable revenues. The Washington State Auditor also assesses fees for financial oversight of the solid waste program. Some solid waste fees are also subject to municipal business and occupation taxes. The projected taxes and operating assessments at current rates through the study period are embedded in the entries in Figure 2.6. These taxes were embedded in the budget calculations, so no separate values are included under "taxes".

Debt Service: Historically, the solid waste program services held debt in the form of general obligation bonds issued by Island County for construction of the septage treatment facility. All old debt has been paid off. A significant investment in new plant for septage operations was undertaken in the previous period. The payments are $300K per year in interfund loan over a 5-year period, for a total of $1.5 million, with interest paid with the last $300K payment. The last two payments are due during this rate period, along with other costs for repair and replacement of buildings, equipment, and vehicles. In addition, funds are being accumulated for replacement of a baler with a cost of about $2 million in 6-8 years, accumulated at about $285K per year within this rate period. The next rate period will also need to accumulate funds toward this equipment.

Intergovernmental Expenses: A number of expenses are incurred through intergovernmental agreements within the County – related to contracts, taxes, and overhead-type items (insurance, etc.). These figures are summarized in Figure 2.6 below.

[5] Note that the equipment and vehicles embedded in the CIP are presented in Appendix A.

Figure 2.6: Summary of Projected Intergovernmental Expenses (Dollars)

	Intergovernmental	2019 Budget	2020 Budget	2021 Projection	2022 Projection	Sum for 3 year period
Septage	Interfund Professional	$29,992	$21,400	$21,828	$22,265	$65,493
Septage	Interfund Insurance	$85,068	$13,705	$13,979	$14,259	$41,943
Landfill PostClosure	Interfund Professional	$4,042	$7,490	$7,640	$7,793	$22,922
Recycling	Interfund Professional	$950	$82,129	$83,772	$85,447	$251,348
Solid Waste Ops	Intergovt Pymt Taxes & Asmt	$112,936	$120,000	$122,400	$124,848	$367,248
Solid Waste Ops	Interfund Professional (Health & ER&R)	$54,054	$78,110	$79,672	$81,266	$239,048
Solid Waste Ops	Interfund Insurance	$9,452	$33,554	$34,225	$34,910	$102,689
MRW	Interfund Professional	$1,858	$0	$0	$0	$0
Solid Waste Capital	Interfund Professional	$0	$0	$0	$0	$0
	Total	$298,352	$356,388	$363,516	$370,786	$1,090,690

2.8 Depreciation / Repair and Replacement of Existing Facilities and Equipment

With the exception of the septage treatment facility, the solid waste program has financed all capital improvements from rate revenue and grant income. Scheduled capital improvements are funded by working capital. Unscheduled improvements such as repair and replacement of facilities and equipment must also be anticipated.

A reasonable estimate of repair and replacement expenses is the annual depreciation expense. Depreciation expenses for buildings, septage facilities, other improvements and machinery and equipment are presented in Table 2.7; general solid waste (GSW) represents the bulk of the depreciation expenses.

Table 2.7: Summary of Depreciation / Projected Repair and Replacement of Existing Facilities and Equipment (Thousands of Dollars)

Depreciation	2019	2020	2021	2022	Total 2020-22
Septage-Repair Equipment	$0	$0	$0	$0	$0
Septage-Repair / Maint Facilties	$0	$0	$0	$0	$0
Septage-Repair / Maint Other	$0	$0	$0	$0	$0
Landfill Closure-Repair Equipment	$0	$0	$0	$0	$0
Landfill Closure-Repair / Maint Facilties	$0	$0	$0	$0	$0
Landfill Closure-Repair / Maint Other	$0	$0	$0	$0	$0
Recycling-Repair Equipment	$6,836	$3,000	$3,060	$3,121	$16,017
Recycling-Maintenance Annual Equip	$0	$0	$0	$0	$0
Recycling-Repair / Maint Facilties	$0	$0	$0	$0	$0
Recycling-Repair / Maint Other	$0	$0	$0	$0	$0
Solid Waste-Repair Equipment	$100,480	$80,000	$81,600	$83,232	$345,312
Solid Waste-Maintenance Annual Equip	$1,884	$10,000	$10,200	$10,404	$32,488
Solid Waste-Repair / Maint Facilties	$294	$20,000	$20,400	$20,808	$61,502
Solid Waste-Repair / Maint Other	$0	$0	$0	$0	$0
Moderate Risk Waste-Repair Equipment	$110	$1,500	$1,530	$1,561	$4,701
Moderate Risk Waste-Repair / Maint Other	$0	$0	$0	$0	$0
Total Depreciation	$109,604	$114,500	$116,790	$119,126	$460,020

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2.9 Summary of Revenue Requirements

The summary of the revenue requirements is provided in Figure 2.8. This table aggregates the projected annual sources of funds at existing rate levels against the projected annual application of funds for the 3-year rate period. If retained for the next three-year period, current rates in total are projected to fall short in addressing budgeted expenditures.

Figure 2.8: Summary of Projected Revenue Requirements (Thousands of Dollars)[6]

	2019	2020	2021	2022	Total 2020-22
CAPITAL - Projected solid waste program working capital	$0	$0	$0	$0	$0
REVENUES - SW Operating Revenues at Current Rates	-$7,469	-$8,831	-$8,832	-$8,834	-$33,966
CIP - Scheduled CIP improvements in rate period	$653	$592	$644	$440	$2,329
O&M - Operations and Maintenance costs	$6,429	$8,740	$8,925	$9,114	$33,207
TAXES - Taxes and operating assessments	$0	$0	$0	$0	$0
DEBT SERVICE - debt service, (in CIP)	$0	$0	$0	$0	$0
DEPRECIATION - Repair & replacement of existing faciliites, (in CIP)	$0	$0	$0	$0	$0
INTERGOVERNMENTAL	$298	$924	$942	$961	$3,125
REVENUES - Septage	-$573	-$950	-$950	-$950	-$3,423
TOTAL CALCULATED REVENUE REQ'MENTS excl Capital (thous)	$661	-$475	-$728	-$731	-$1,272

[6] Working capital differential is incorporated as a negative revenue in the 'revenues" line, following on to the treatment accorded in the 2007 budget.

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3.Cost Allocation

This section allocates the projected costs identified in the revenue requirements study to individual program serviced and calculates unit costs for the 2020-2022 rate period.

3.1 Classification and Allocation of Program Costs

For the purposes of this rate study, the solid waste program is divided into 6 components: municipal solid waste operations, landfill post-closure maintenance operations, waste recycling operations, moderate-risk waste operations, septage treatment operations, and general and administrative operations. The services related to the allocation computations are described briefly below, and the standard allocations used are illustrated in Figure 3.1.

- **Municipal Solid Waste Operations**: Municipal solid waste operations include collection of waste materials at 4 drop-off facilities (Oak Harbor, Coupeville, Bayview and Camano), local transportation to the central transfer station, processing the collected waste into shipping containers and transporting and disposing the materials at a landfill. Municipal solid waste operations also include educational and promotional activities associated with waste reduction and recycling.
- **Landfill Post-Closure Maintenance Operations**: Landfill post-closure maintenance activities include surveillance, monitoring, and maintenance of the closed Coupeville landfill.
- **Waste Recycling Operations**: The solid waste program operates secondary materials drop-off collection stations at the 4 waste receiving facilities. One additional drop-off collection site is operated in Freeland. Waste recycling operations include the collection, transportation, and processing of secondary materials.
- **Moderate Risk Waste Operations**: The solid waste program provides drop-off collection services for household hazardous waste and used motor oil at the 4 solid waste receiving stations. Collected household hazardous waste is transported to the moderate-risk waste processing facility for reuse, recycling or disposal. Small quantities of some commercially generated moderate-risk waste are also accepted at the moderate-risk waste management facility for recycling or disposal. Promotional and educational activities relating to recommended management practices for small quantities of hazardous waste are also provided to businesses and institutions.

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- **Septage Treatment Operations**: Septage treatment operations include receiving, treating, and disposing septic tank pumpings from all on-site wastewater treatment systems maintained on Whidbey Island. Septage treatment operations also include land applications of treatment by-products.
- **General and Administrative Operations**: General and administrative operations are management-related services provided by County departments including Public Works, the Treasurer's Office, Auditor, Central Services, Maintenance, Human Resources, Prosecuting Attorney, General Service and the Board of County Commissioners. The costs of insuring facilities and equipment are also considered a general and administrative expense.

Allocating Expenses

Allocation of Operations and maintenance Expenses: Each of the following expense categories was allocated to the 6 components on the basis of the relevant row and column of the matrix in Figure 3.1, on the basis of budgeted expense shares. Each is annotated in detail in the model.

- Operations and maintenance expenses – to the relevant service
- Taxes and operating expenses – to MSW and septage
- Debt service – to septage, the source of the upcoming debt
- Repair and replacement of existing facilities and equipment – allocated per Figure 2.7.

Figure 3.1: Summary of Allocation Percentages and Rationales

Allocation Code	MSW Op	LF Post Clos	Recy Ops	MRW Ops	Sept Ops	Rationale
Septage					100%	Fully allocated to group
Landfill Closure		100%				Fully allocated to group
Training	63%	11%	15%	8%	3%	Salary dollars
Recycling	50%		50%			Split solid waste & recycling
General Solid Waste	100%					Fully allocated to group
Moderate Risk Waste				100%		Fully allocated to group
G&A						Not assigned
Capital-Land based	29%	0%	0%	9%	63%	Assigned based on review of specific items in list
Capital – Vehicle-based	39%	0%	61%	0%	0%	Same as above

3.2 Summary of Allocated Costs

The results of the allocation study are summarized in Figure 3.2.

Figure 3.2: Summary of Rolled Up Expenses and Allocations

Computed Cost Allocations for 2020-22 rate period (in thousands)	MSW Op	Landfill Post Closu	Recycling Ops	Moderate Risk	Septage Ops	Total 2020-22
O&M - Operations & Maintenance Costs (g	$21,396	$742	$1,514	$809	$2,317	$26,778
TAXES - Taxes & Operating Assessments	$0	$0	$0	$0	$0	$0
DEBT Service (i)	$0	$0	$0	$0	$0	$0
DEPRECIATION - Repair & Replacement (	$0	$0	$0	$0	$0	$0
INTERGOVERNMENTAL (k)	$2,067	$23	$126	$0	$611	$2,827
CIP (f)	$537	$0	$308	$100	$730	$1,675
TOTAL ALLOCATED COSTS, ALL ITEMS	$24,000	$765	$1,948	$910	$3,658	$31,281
Percentage	77%	2%	6%	3%	12%	

Figure 3.3 shows the 2020-2022 allocation of costs among various operations. This is not yet cost per "unit of service", but only the first step in rates – the overall total 3-year costs for each type of service. Septage operations represent about 12% of total costs, and municipal solid waste represents about 77% of total costs. Later columns in Figure 3.3 show that overall costs have increased about 30-40% from 2016, but costs for recycling and for septage have increased most over the period from 2016.[7]

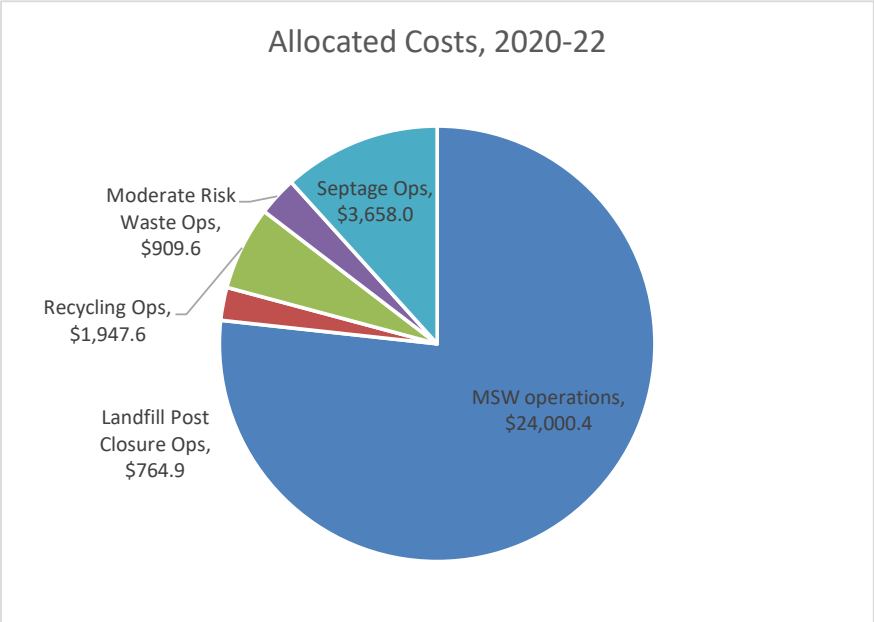
Figure 3.3: Summary of Changes in Allocated Costs

Comparison of Allocated Costs	Total 2020-22 Allocated Cost (thous)	Percent of Total Allocated Costs	Pct Incr. in Allocated Costs from 2018-20 Rate Study	Pct Incr. in Allocated Costs from 2016-18 Rate Study
MSW operations	$ 24,000.4	77%	17%	57%
Landfill Post Closure Ops	$ 764.9	2%	-2%	29%
Recycling Ops	$ 1,947.6	6%	47%	83%
Moderate Risk Waste Ops	$ 909.6	3%	15%	25%
Septage Ops	$ 3,658.0	12%	-5%	98%
Other	$ -			
TOTAL Allocated cost	$ 31,280.6		60%	38%
Non-Septage total	$ 27,622.6		22%	32%

A key issue in this rate study is to assign rates and fees that reflect true cost of service, and therefore, should be very directly related to the unit cost calculations. We examined revenues received from sources other than direct rates for service; revenues from grants, investments, and other sources total only about $200K per year.[8] This is less than 2% of the total revenue requirements for the County's solid waste and septage services. Therefore, the revenue requirements from rates and fees, and the cost allocation from the provision of services is nearly identical.

[7] The 2018 rate study made specialized assumptions about septage, so the 2016 changes are most straightforward to review.
[8] These non-fee revenues include $70K in MRW grant, $13K, investment incomes of $90K, and other sources of about $35K. Given current and projected markets, we are assuming income from recyclables will be zero, as a conservative assumption. This is less than 2% of the allocated costs for the rate period.

Figure 3.3: Revenue Requirements for Major County Solid Waste and Septage Elements. Total 3-year revenue requirements for 2020-20=$31.28 million



3.3 Getting to Rates – Calculating Unit Costs

The results of the cost allocation study were used to calculate unit costs for each program component. A summary of the calculated unit costs is presented in Figure 3.4. Again, unit costs are the total costs for the service (allocated costs) divided by the number of units of service or revenue units. Therefore, the percent by which unit costs increase or decrease is not necessarily the same as the percent by which allocated costs increases or decreases; the total percentage change is also influenced by the percentage increase or decrease in the projected tonnage, customer, or gallons increase, or the revenue units over which the costs are spread.

The computation of unit costs is more complicated than in previous rate studies, to examine the desired alternatives for the treatment of MRW and recycling, and review the costs associated with services and users. Figure 3.4 includes calculations for:

- Traditional treatment of MRW and recycling cost, as a separate base fee separate from the MSW per-ton fee.
- Option of embedding all non-septage fees into the MSW per-ton fee.

Both options are illustrated below, with the embedded option on the right-hand-side of the table.

Figure 3.4: Unit Cost Calculations for Major County Solid Waste and Septage Elements. Total 3-year revenue requirements for 2020-20

Calculations of Unit Costs	Current 2019 Fees	Total 2020-22 Allocated Cost (thous)	"Units" for calculating Unit Cost (Traditional Treatment)	Number of Units 3-yr(thous)	2020-22 Calculated Unit cost ($), Traditional units	Units	2020-22 Unit Cost Option Embedding recycling and MRW in MSW
MSW operations	$ 115	$ 24,000.4	MSW Tons	180.6	$ 137.12	Avg.MSW $/Ton	$ 152.94
Landfill Post Closure Ops	$ -	$ 764.9	Embedded in MSW Unit Cost	0.0		embedded abov	in MSW
Recycling Ops	$ -	$ 1,947.6	Customers (for base fee)	471.2	$ 4.13	Recy $/ Cust	in MSW
Moderate Risk Waste Ops	$ -	$ 909.6	Per Ton (incl. in base fee)	180.6	$ 5.04	MRW $/ Ton	in MSW
Septage Ops	$ 0.155	$ 3,658.0	Gallons (ALL gallons)	13,131.8	$ 0.28	Sept $/ Gallon	$ 0.279
Base Fee (combined Recy+MR	*$ 7.24*	*$ 2,857.26*					
			Calc MSW Unit Costs for Hauler (5% off)		*$ 131.56*		*$ 146.74*
			Calc MSW Unit Costs for Self Haul (60% Tons)		*$ 138.49*		*$ 154.47*

The Figure shows that the unit costs for MSW tons is about $137/ton on average if recycling and MRW costs are collected through a separate fee, and about $153/ton when these costs are embedded into the MSW fee. Unit costs for septage are $0.28 per gallon, a substantial increase over currently-charged rates.

Additional results related to rate design are also included at the bottom of the Figure. Historically, the larger compacted haulers have received a discount of 5% off the self-hauler rate. The unit costs computed at the top of the table are the average MSW unit costs; at the bottom, these are translated into unit costs per ton for self-haul and for compacted trucks.

A historical picture of the increases in calculated unit costs over the last several rate studies is shown below. Unit fees for septage are 80% higher than current rates, and double the costs from previous rate studies.

Figure 3.5: Unit Cost Calculations for Major County Solid Waste and Septage Elements for 2020-2022 and increases compared to previous rate studies.

Unit cost category	Change in 2020-22 unit cost (traditional) compared to current rates charged	Change in unit cost (traditional) vs. 2018-2020 Study	Change in Unit cost (traditional) vs. 2016-18 Study	Change in Unit cost (all-included MSW) vs. current rates charged
MSW operations	19%	19%	25%	33%
Landfill Post Closure Ops	0%			0%
Recycling Ops	0%	8%	48%	0%
Moderate Risk Waste Ops	0%	-4%	0%	0%
Septage Ops	80%	106%	66%	80%
Base Fee (combined Recy+MRW)		*59%*	*19%*	

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3.4 Summary of Costs, Scenarios, and Resiliency of the Calculations

The consultant used information from the 2020 budget, projections on inflation, forecasts of growth in solid waste tonnages and septage gallons, and the latest contract prices for services related to trash, recycling, and septage to estimate total solid waste and septage costs over the three-year rate period. These costs were allocated to individual core services using allocation sharing factors that attributed costs among services based on share of responsibility for the costs. These allocated costs for the three-year period are shown in Figure 3.2, 3.3, 3.4, and 3.5 above. The figures cover MSW, landfill closure, recycling operations, moderate risk waste operations, and septage operations. Total allocated costs for the 3-year period are $31.28 million dollars. The figures also show that MSW operations are responsible for 77% of total allocated costs, landfill closure is 2%, recycling is 6%, MRW operations 3%, and the remaining 12% of the total costs over the 3-year rate period are attributed to septage operations.

To model the effects of topics of interest, the consultants developed a "base" case, with some core settings. The analysis examined the revenues currently being recovered from various fees and sources, and the allocated costs associated with each of the core services: MSW, Landfill Closure, Recycling Operations, Moderate Risk Waste, and Septage Operations.

The base case was designed to estimate rates associated with a move to each main service "paying its share" of costs – a move to purer cost-of-service (COS). This was of particular interest related to recycling, as were new structural alternatives for how better to recover the (increasing) costs of recycling.

Comparison to 2016-18 and 2018-2020 Rate Studies: The total allocated costs ($31.3 million) have increased substantially compared to previous rate studies. Total allocated costs for 2016-18 were $19.46 million and for 2018-2020 they were $22.64 million. The total costs for the 2020-2022 rate period have increased 58% over 2016-18 and 36% over the 2018-2020 rate periods. Cost of service for septage has nearly doubled over previous rate studies. Note, Island County elected not to raise rates for these periods and have held rates steady since January 2010.

The percentage increases in unit costs are a bit lower, because cost-per-unit is calculated using both allocated costs and associated units of tonnage or gallons. Increases in demand for "units" of tonnage or gallon services lead to a lower increase in unit costs than in allocated cost of service. However, unit costs for the 2020-2022 rate period have also increased substantially. Figure 3.5 shows these costs increased 18% for solid waste, and 80% for septage over stated (charged) rates due to changes in contract prices, growth, loan repayments, and other factors. Rates have been kept constant since 2010. Comparisons in the calculations in Figure 3.5 shows the change in unit costs from the 2016-2018 rate period and the 2018-2020 rate period. Deferring a rate increase from the last rate period to this period pushed the rate increase needed from about 26% to 34% for all-inclusive MSW rates, and 66% to 80% for septage.

Stress-testing: The base case model was then used to identify the changes in results from change in underlying drivers, including the following core drivers. The conclusions regarding sensitivity of rates to variations in these factors are also mentioned:

- Variations in growth rates for tonnages and gallons: substantial effect – lower tonnage (or gallon) growth rates spread the mostly-fixed costs over fewer tons (gallons), increasing rates per unit.
- Changes in costs for contracted services (trash, recycling, and septage): Relatively small impacts; costs are largely fixed, now that the new contracted fees are part of the system. The increases in fees changed the overall rates to a new level, driving a share of the rate increase, but once at those new levels, variations in those fees by 25% plus-or-minus have small effects on cost per unit.
- Changes in revenue requirements: Increases in expenses translate directly and proportionally into cost and therefore, rate increases, with the same dollar increase having a much larger effect on septage rates than trash rates because the splits are 88% and 12%.

The data on the unit costs are an important component of computation of rates and rate structure described in Chapter 4.

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4. Rate Design and Recommendations

This section identifies the considerations used for rate design and proposes new solid waste rates for the 2020-2022 rate period.

4.1 Rate Design Considerations

Rates should be fair and equitable and not discriminate against any class of customers. The rate structure should be easy to understand and simple to administer. Rates should be consistent with established policies and plans. In addition, because waste flows can cross jurisdictional lines, there should be some continuity with rates charged in neighboring jurisdictions. Finally, we address issues of incentives.

Ease of Administration

A simple rate structure with fewer rate categories is easier to administer than a more complex structure with numerous fee categories. Minimizing the number of fee categories and surcharges promotes understanding.

Customers must wait at the scale house to record vehicle weights and pay the disposal fees. Minimizing the number of coins needed for payment also minimizes exit delays.

Consistency with Local Policies and Plans

The *Island County Solid Waste and Moderate-Risk Waste Management Plan (Sep 2014, Green Solutions)* identifies a number of facility, program, and equipment plans, which have been generally incorporated into the budget.

Ability to Pay

County policy provides low-income individuals, non-profit charitable organizations and organizations conducting community cleanup programs with discounted disposal fees. Low-income individuals, as designated by a

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recognized social service agency such as the Opportunity Council and Senior Services Center, are eligible to receive a 50 percent discount for normal household trash such as trash that could be picked up curbside. Disposal fees for organizations conducting community cleanup activities may be waived.

Continuity with Adjacent Jurisdictions

Local governments in Washington State are assigned primary responsibility for solid waste management. While state regulations are applicable to all jurisdictions, such factors as land use regulations, policies for environmental protection and financing and economies of scale create differences in local rates. If the rate differential is substantial, waste tends to flow across jurisdictional boundaries to the lower-cost service provider. A discussion of comparisons to rates in surrounding jurisdictions is provided later in this chapter.

Additional Rate Design Considerations

There are several other considerations in designing the rate structure – criteria that in some ways compete, and require balancing in order to provide a well-designed set of rates.

Matching cost structures to cover revenue requirements: Forecasting tonnages and service use is just that – a projection, based on assumptions. The rates that are calculated are based on a variety of assumptions, and if those assumptions do not quite come true, then the per-unit costs that form the basis of many of the rates in this rate study, may not cover costs. The least risky strategy is to assure that all costs associated with particular services are embedded (or allocated) fully to those revenue elements. In that way, if quantities vary, they are assigned their full costs and are not subsidizing – and thus jeopardizing -- other parts of the system. However, the unit costs used as the basis for the rates are, in fact, average costs. Recognizing that there are always significant fixed costs to cover in solid waste systems, tonnage or unit shortfalls can mean revenue shortfalls that risk not covering fixed costs for the system. Designing rates that most closely match the structure of costs for specific services helps reduce this risk. If this was the only criteria, per-household annual fees would be the least risky; however, this criterion is balanced against equity and the other criteria that determine well-designed rates.

Providing incentives for preferred customers and behaviors: The system is set up to provide incentives for certain types of solid waste behaviors. Source separation of yard waste and wood waste is desirable, as it can be processed and addressed without bringing the material to landfills – and it provides a product with value. The material is also generally generated separately from solid waste, and is fairly easy for the generator to keep distinct from other disposal materials. For these reasons, rates for these materials are discounted from the MSW disposal rate to provide an incentive for generators to bring this resource material in separated loads. Construction, Demolition, and Land-clearing debris (CDL), as well as hard-to-handle wastes pay somewhat more than standard MSW. The County realizes somewhat lower costs from some large customers and for communities or actors that either provide their own recycling or do not use the County's recycling. For these reasons, various incentives and discounts are provided to franchise haulers, and septage discounts are provided to Coupeville, Class B, and large institutions. Recognizing that the remaining users must pay for any discounts, the rates for some of

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these subclasses will be lower than the unit fees, and others will be higher than the calculated unit fees used as the base for the rates.

4.2 Analysis of Proposed Rate Structures

A number of issues were considered in designing the rates and rate recommendations for Island County as part of this rate study.

The proposed cost-of-service rates for septage service is $0.28/gallon. This is an 81% increase over the current rates. Cost increases come from a combination of paying off the cost of a new facility, higher contract fees, and less opportunity for land application of products.

On the MSW side, several alternatives were calculated. Base charges, which include recycling and MRW, have become a point of interest in this rate period. As the costs of recycling have changed with recycling markets and contracts, equity in base fee costs have also become increasingly important. Recycling costs have increased to well more than trash costs[9]; however, recycling is a core and desired service. When fully embedded in the cost of trash, recycling services increase trash fees by about $11/ton. These results are shown in Figure 4.1, repeated from Chapter 3.

Figure 4.1: Unit Cost Calculations for Major County Solid Waste and Septage Elements. Total 3-year revenue requirements for 2020-20

Calculations of Unit Costs	Current 2019 Fees	Total 2020-22 Allocated Cost (thous)	"Units" for calculating Unit Cost (Traditional Treatment)	Number of Units 3-yr(thous)	2020-22 Calculated Unit cost ($), Traditional units	Units	2020-22 Unit Cost Option Embedding recycling and MRW in MSW
MSW operations	$ 115	$ 24,000.4	MSW Tons	180.6	$ 137.12	Avg.MSW $/Ton	$ 152.94
Landfill Post Closure Ops	$ -	$ 764.9	Embedded in MSW Unit Cost	0.0		embedded abov	in MSW
Recycling Ops	$ -	$ 1,947.6	Customers (for base fee)	471.2	$ 4.13	Recy $/ Cust	in MSW
Moderate Risk Waste Ops	$ -	$ 909.6	Per Ton (incl. in base fee)	180.6	$ 5.04	MRW $/ Ton	in MSW
Septage Ops	$ 0.155	$ 3,658.0	Gallons (ALL gallons)	13,131.8	$ 0.28	Sept $/ Gallon	$ 0.279
Base Fee (combined Recy+MR	*$ 7.24*	*$ 2,857.26*					
			Calc MSW Unit Costs for Hauler (5% off)		*$ 131.56*		*$ 146.74*
			Calc MSW Unit Costs for Self Haul (60% Tons)		*$ 138.49*		*$ 154.47*

The current structure for recovering recycling and MRW costs is a base fee, set at $7.24. As a part of considering alternative structures for recovering the cost of recycling, the consultants examined the equity of the current cost system. The percent of MSW fees paid by various users toward this base fee follows.

- Overall: Overall, about 11-12% of the revenues from solid waste fees are covering non-MSW costs.
- Self-haul: Self-haul pays about 21% of their gate fee in recycling / MRW fees.
- Contracted haulers: Island Disposal-Whidbey and Waste Management-Camano compacted residential collection trucks pay about 1% of their fees toward these services (as the haulers pay

[9] and now cost 50% more per ton than trash

one base fee per load, not per customer). City of Oak Harbor compacted residential collection trucks currently pay 0%.

Assuming all customers in the County have access to and benefit from the holistic system and safe management systems provided by Island County, these results represent an inequity. The consultants constructed four alternative structures.

- Option 1 is the simplest: all costs of MSW, landfill closure, recycling, and MRW are paid jointly in a combined MSW tonnage fee.
- Option 2 retains the current structure, with a fixed base fee per visit (covering recycling and MRW) paid by each customer. Haulers' trucks are treated as a "single" customer. A per-ton MSW rate is charged to all, including costs of MSW and landfill closure. Haulers are provided a 5% discount.
- Option 3 assesses a larger base fee to haulers to more fairly recognize that their loads include material from many customers, not just one. In this scenario, Oak Harbor trucks are not assessed a base fee because they have a separate recycling program, although they properly should be assessed a fee related to MRW. A per-ton MSW rate is charged to all, including costs of MSW and landfill closure. Haulers are provided a 5% discount.
- Option 4 again assesses a larger base fee to haulers to more fairly recognize that their loads include material from many customers, not just one. In this scenario, Oak Harbor trucks are assessed a base fee that covers an allocated portion of MRW costs. A per-ton MSW rate is charged to all, including costs of MSW and landfill closure. Haulers are provided a 5% discount.

The results are summarized in Figure 4.2. The options retain the 5% discount for compacted residential collection trucks (with some rounding).

Figure 4.2: Calculations of MSW Rates under Four Structural Fee Alternatives

	Self-Haul	Non-Oak Harbor Haulers	Oak Harbor Hauler	% Increase over current Per-Ton MSW Rates
Existing Rates: 2010-2019 Base fee + MSW/Ton fee	*$7.24 fixed base fee + $115 / ton; $10 minimum fee*	*$7.24 fixed base fee per truckload + $109 / ton*	*No fixed base fee per truckload + $109 / ton*	*0%*
Option 1: All-inclusive MSW Fee (covers MSW, LFC, Recy and MRW); Oak Harbor excluded from recycling portion	$155 /ton, no additional fixed base fee; $13.25 minimum	$147/ton, no additional fixed base fee	$137/ton, no additional fixed base fee	Self-Haul: 34% Hauler: 34% Oak H: 27%
Option 2: Current structure, updated to 2020-22 costs	$8.50 fixed base fee + $138 / ton; $13.25 minimum fee	$8.50 fixed base fee per truckload + $132 / ton	No fixed base fee per truckload + $132 / ton	Self-Haul: 19% Hauler: 19% Oak H: 19%
Option 3: Higher base fee is assessed to compacted collection trucks to recover more appropriate share of recycling and MRW costs; Oak Harbor remains excluded from fixed fees.	$5.50 fixed base fee + $138 / ton; $13.25 minimum fee	$132/ton plus base fixed fee of $154/truck for up to 7 tons, and $22/ton extra for tonnage beyond 7 tons.	$132/ton	Self-Haul: 19% Hauler: 19% Oak H: 19%
Option 4: Higher base fee is assessed to compacted collection trucks to recover more appropriate share of recycling and MRW costs; Oak Harbor contributes proportionally to fixed base fees for MRW	$5.00 fixed base fee + $138 / ton; $13.25 minimum fee	$132/ton plus base fixed fee of $105/truck for up to 7 tons, and $15/ton extra for tonnage beyond 7 tons.	$132/ton plus base fixed fee of $45/truck for up to 9 tons, and $5/ton extra for tonnage beyond 9 tons.	Self-Haul: 19% Hauler: 19% Oak H: 19%

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Consideration of Refined Rate Scenarios for Consideration: As a consequence of the analysis of these options and discussions with County staff, a number of preferred directions were identified for the rate settings. They are listed below.

Objectives / settings:

- Tonnage and septage gallon growth rates of 3%, which is low-medium for the levels of growth seen over the last five years.
- Make sure to replenish cash on hand amounts and accumulate needed funds for short and long-term capital and equipment replacement.
- Address the equity issue in covering costs of recycling and MRW-type costs.

These settings are somewhat conservative; that is, they lead to somewhat higher rates, and lower risk of revenue shortfalls than less conservative assumptions. However, if assumptions are too conservative, and the resulting rates are too high, other risks arise:

- Customers may look for other destinations for their trash and recycling (a more important risk for hauler tonnage than households, potentially). Households may opt for collection service, which may result in lower revenues associated with the same tons.
- Even more likely, households and others may elect to delay or defer using the septage services. There is some discretion associated with this service, especially if the State reduces its recent outreach and enforcement efforts.

For comparison, rates for nearby communities are provided in Figures 4.4-4.7 later in this chapter. The proposed rates for solid waste are in line with or lower than other communities but higher for septage.

4.3 Recommendations for Rates and Rate Structures

The consultants commend the County for addressing the rate pressures with a rate increase, after holding rates constant for many years. The pressure of increases in contracting costs for trash, recycling, and septage, the cost of the new septage facility, and the market uncertainties in recycling, underline the need to incorporate these increases in this three-year rate period. In addition, the consultants recommend the County adopt the three-year rates associated with[10]:

- Scenario 1 above (if simplicity is the goal), with rates of $155/$147/$137 per ton for MSW for self-haul, non-Oak Harbor haulers, and Oak harbor, respectively, (all-inclusive) and $0.28 per gallon for septage OR
- Scenario 4 above, modifying the fees for hauler compacted loads to be $132/ton plus a base fee of $105/truck for up to 7 tons from non-Oak Harbor trucks (paying recycling and MRW costs)[11], $45/load for Oak Harbor trucks up to 9 tons (for MRW costs), and, and self-haul rates of $138/ton, and base fee of $5.00. Septage rates are increased to $0.28 per gallon.

[10] In the future, the County may also wish to seriously explore the opportunities for a county-wide per-household environmental fee to cover some of the Department's services, and explore options for whether these fees can be assessed to businesses as well.

[11] With extra costs of $15/ton assessed for each ton above 7 tons for non-Oak Harbor trucks, and an additional $5/ton for Oak Harbor trucks above 9 tons.

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The recommended solid waste program rates reflect the cost of service as well as other rate design considerations including administrative simplicity, consistency with local policies and plans and ability to pay. The computed solid waste and septage rates are presented in Figure 4.3.

Recommendations for Next Steps

For nearly a decade, the County has been able to maintain rates and cover costs. However, in the last two years, the County has been experiencing a time of considerable change, including costs for completion of a new septage facility, reductions in access to low-cost land-application for septage materials, increases in contract costs for septage and MSW, and, similar to trends in other communities nationwide, very substantial increases in contracted costs in recycling. We also moved toward an improved system of accruing for

This 2020-2022 rate study incorporates a number of changes from the past. Historic rate structures have been revised to better reflect updated cost of service structures. Additional attention was paid to developing more equitable fees to cover the County's moderate risk waste and recycling services. It is essential that the County cover the costs of providing safe and reliable MSW and septage management. New changes in rate structure and the potential for continuing volatility in some key contract costs introduce some risk, and led to the incorporation of several conservative assumptions into the rate model. However, the consutlants recommend two follow-up steps:

- Monitoring: The County should monitor revenues and customer counts very carefully on a monthly or quarterly basis over the first year or two of the rate period, and be ready to modify fees if the new rate structures lead to unexpected customer waste management behaviors. Costs should also be monitored closely.
- Accruals: In this rate period, costs for all CIP and vehicle and equipment replacements for 2020-2022 are incorporated in the revenue requirements. In addition, annualized contributions for one longer-term equipment replacement is included: annual costs of one-seventh of the cost of a baler that needs replacement in 7-8 years is included. In the next rate period, the consultants recommend that the County continue to conduct studies of equipment repair and replacement out at least 3 years beyond the rate period, and also project especially large capital needs on a longer horizon so future rate studies can build in the accrual of funds over time to maintain smooth rate and fee projections and mitigate rate spikes.

The consultants recommend the County implement the rates presented in Figure 4.3.

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Figure 4.3: Key Recommended Rates for 2020-2022 Period

Facility and Waste Type	2010-2019 Rates	2020-22 Recommended Rates - Option 1 (MSW rates fully embed MRW and Recycling Costs)	2020-22 Recommended Rates - Option 4 (Haulers pay revised base fees covering MRW and Recycling Costs)
Recycle Parks / Drop-Box Stations			
First Can or bundle, $	$11.00	$13.25	$13.25
Add'l cans or bundles, each $	$3.50	$4.25	$4.25
Minimum total	$11.00	$13.25	$13.25
Segregated recyclable material	$0.00	$0.00	$0.00
Household hazardous waste	$0.00	$0.00	$0.00
Used motor oil	$0.00	$0.00	$0.00
Transfer Station, Recycle			
First Can or bundle, $	$11.00	$13.25	$13.25
Add'l cans or bundles, each $	$3.50	$4.25	$4.25
Minimum total	$11.00	$13.25	$13.25
MSW, $/ton (self-haul, etc.)	$115.00	$155.00	$138.00
Compacted Franchised Rates (preferred)	$109.00	$147.00	$132.00
Compacted Franchised Rate - Oak Harbor		$137.00	$132.00
Segregated yard debris, $/ton	$80.00	$95.00	$95.00
Segregated recyclable material	$0.00	$0.00	$0.00
Household hazardous waste	$0.00	$0.00	$0.00
Used motor oil	$0.00	$0.00	$0.00
CDL	$136.00	$164.00	$164.00
Base fee per customer, Self Haul	$7.50	$0.00	$5.00
Base fee per truckload, Compacted Franchised Rate, Pref.	$7.50	$0.00	$105/load up to 7 tons, and add $15 per ton above 7 tons.
Base fee per truckload, Oak Harbor Compacted Preferred	$7.50	$0.00	$45/load up to 9 tons, and add $5.00 per ton above 9 tons.
Special Wastes			
Hard to handle waste, $/ton	$170.00	$170.60	$170.60
Appliances, $/each	$22.50	$22.58	$22.58
Tires, $/each	$7.50	$7.53	$7.53
Asbestos waste, $/ton ($20 min)	$0.00	$0.00	$0.00
Shredding+MRW if not recyclable (per bag)	$1.50	$1.51	$1.51
Septage			
Residential (Pumper trucks)	$0.155	$0.279	$0.279
Town of Coupeville	$0.09	$0.16	$0.16
Class B (with lab tests)	$0.08	$0.13	$0.13
Large Institutions / Non-Class B	$0.12	$0.22	$0.22

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4.4 Discussion and Comparisons of Proposed Rates

Figures 4.4-4.7 provide a comparison of Island County rate recommendations compared to rates in a variety of surrounding communities.

MSW Comparisons are presented in Figures 4.4-4.7: Comparisons for a key rate – the fully-embedded per-ton MSW rate – are presented in Figure 4.5. The recommended rate for Island County is $155/ton ($147/ton for compacted preferred, franchised haulers including Waste Connections, and Island Disposal, and $137 for Oak Harbor).

- The graph shows San Juan County has very high rates associated with MSW, as might be expected given they must ferry wastes to the mainland.
- However, even off-island, the newly proposed rates fall near the middle of the sample of area MSW tonnage rates. The lowest near-area rates presented include Skagit County and Snohomish County, whose facilities are near railheads, or more inland facilities.
- Figure 4.8 shows the septage rates, with a new facility, are higher than those charged in surrounding areas.

Figure 4.4: MSW Gate Fees

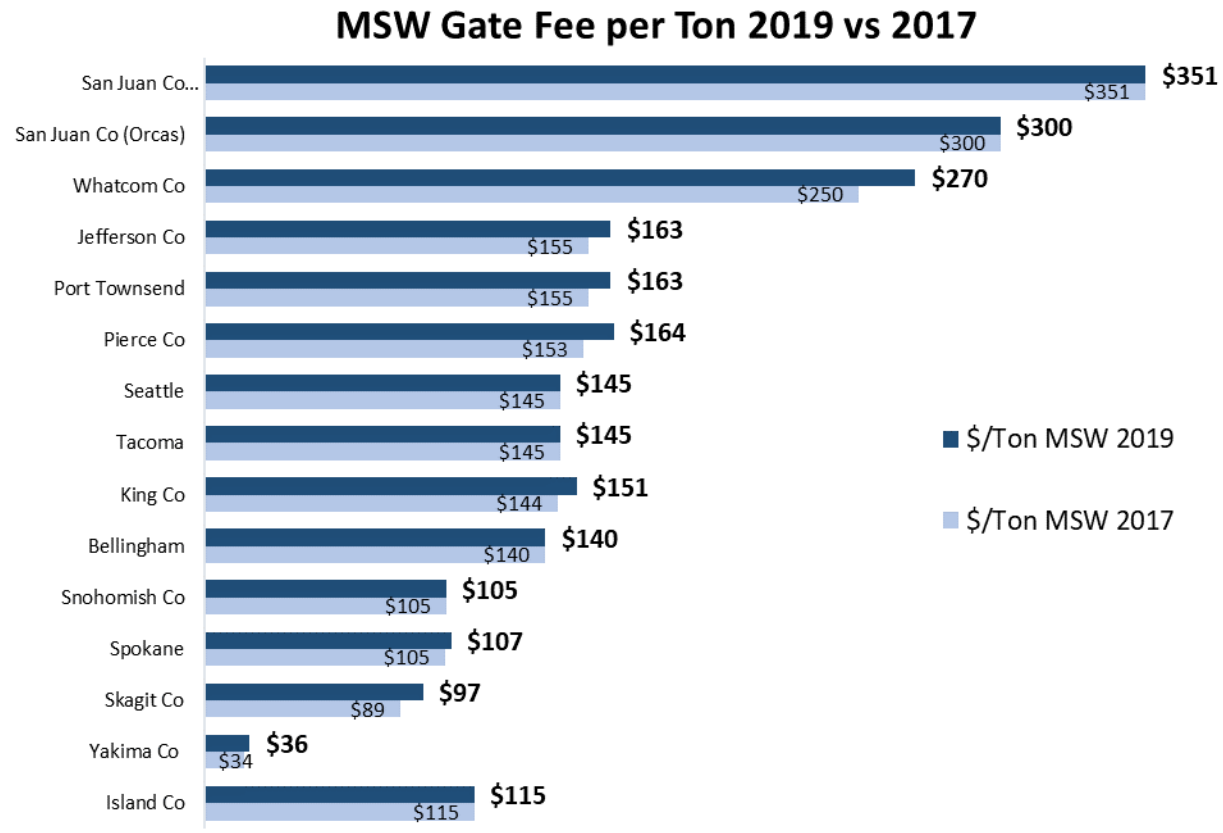

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Figure 4.5: Transfer Station MSW Rates

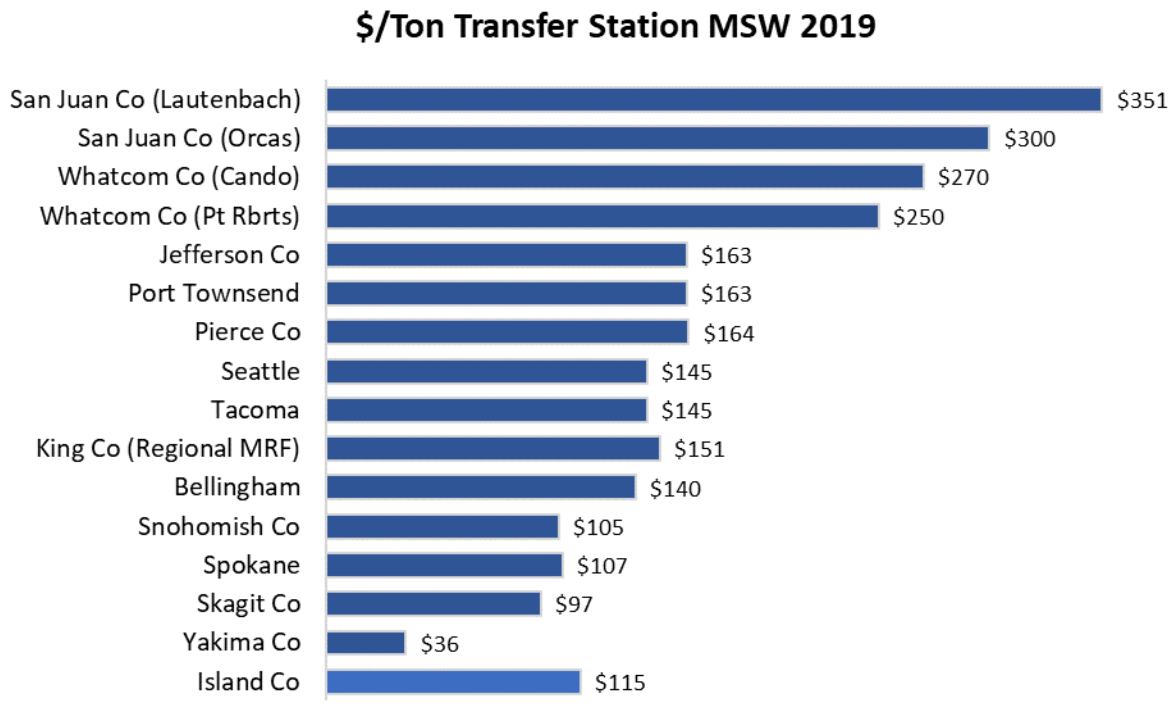
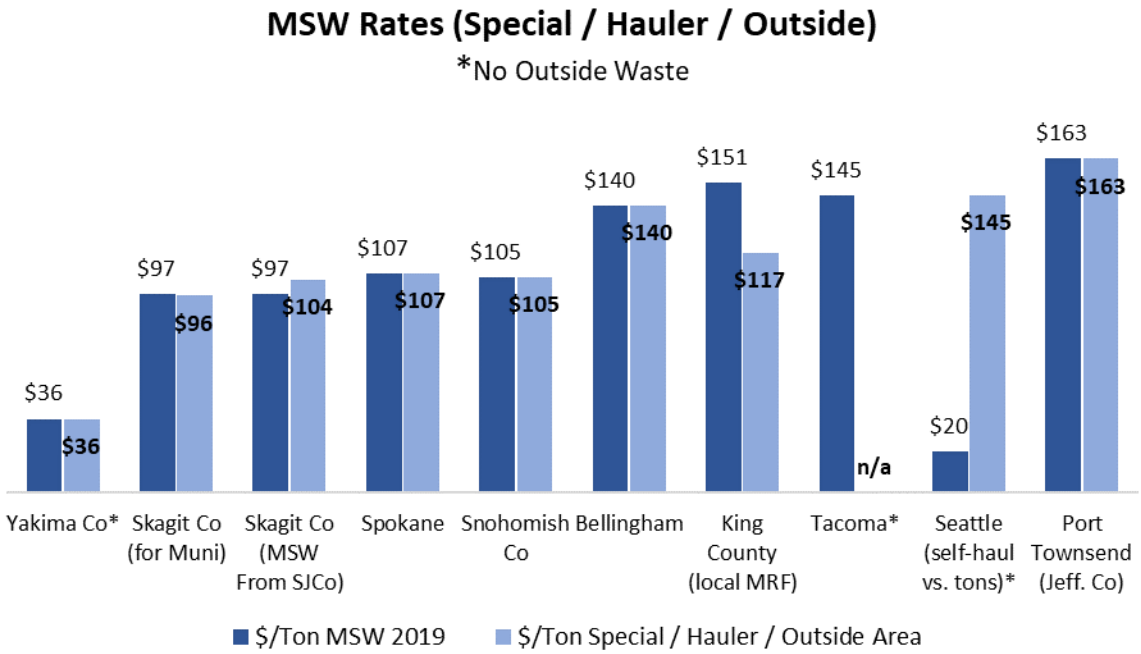


Figure 4.6: Hauler MSW Rates



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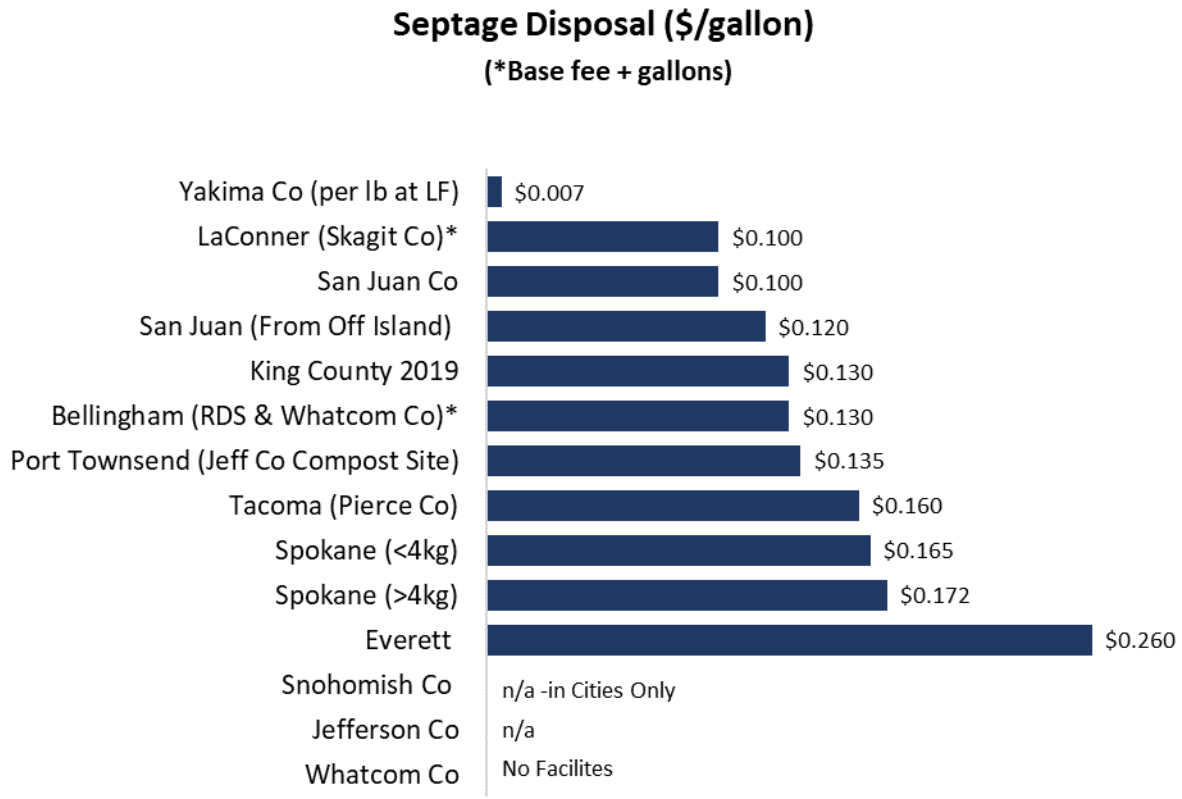
Septage disposal fees in surrounding jurisdictions are presented in Figure 4.9. The County's fees are generally in line with or on the higher end of other fees in the area.

Figure 4.7: Comparison of Proposed Island County Septage Rate with a Sample of Area Jurisdictions
$/gallon



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Appendix A – CIP Detail

Figure A.1 includes the CIP Breakdown for the Rate Period 2020-2022. Note, one additional item was included in this Rate study, specifically $285K per year for replacement of a $2 million baler in 6-8 years.

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Figure A.1: CIP Detail for the Rate Period

2020-2025 Solid Waste Division CIP and Equipment Replacement		
2020		
CIP:		
Septage Plant Loan Repayment		$ 300,000.00
Misc. Upgrades all sites (Access, Power, Lighting, Paving, Drainage)		$ 50,000.00
Blower Replacement (Septic Plant)		$ 35,000.00
Shop 9 Heater Replacement		$ 20,000.00
Reline Compactor Lid		$ 7,500.00
Grit Chamber Covers (Septic Plant)		$ 25,000.00
Paving Tipping Floor and Apron		$ 75,000.00
	Subtotal:	**$ 512,500.00**
VER: (Vehicle, Equipment Replacement)		
Nedland 30 cu yd stationary baler		$ 35,000.00
Misc. Electronic Equipment		$ 4,300.00
Small SUV	(Replace Ford Ranger & Focus)	$ 40,000.00
	Subtotal:	**$ 79,300.00**
2020 CIP / VER		**$ 591,800.00**
2021		
CIP:		
Misc. Upgrades all sites (Access, Power, Fencing, Lighting, Paving, Drainage)		$ 50,000.00
Septage Plant Loan Repayment		$ 300,000.00
Blower Replacement (Septic Plant)		$ 35,000.00
Main Compactor Cylinder Rebuild		$ 35,000.00
Tipping Wall Repairs (#3 and N. Wall)		$ 50,000.00
	Subtotal:	**$ 470,000.00**
VER: (Vehicle, Equipment Replacement)		
Backhoe - Camano		$ 130,000.00
Misc. Electronic Equipment		$ 8,500.00
Nedland 30 cu yd stationary baler		$ 35,000.00
	Subtotal:	**$ 173,500.00**
2021 CIP / VER		**$ 643,500.00**
2022		
CIP:		
Misc. Upgrades all sites (Access, Power, Fencing, Lighting, Paving, Drainage)		$ 50,000.00
Blower Replacement (Septic Plant)		$ 35,000.00
30' X 50' MRW Pole Building		$ 100,000.00
	Subtotal:	**$ 185,000.00**
VER: (Vehicle, Equipment Replacement)		
Nedland Stationary Baler		$ 40,000.00
Replacement for F650 Stake Body Truck		$ 55,000.00
Front End Loader		$ 160,000.00
	Subtotal:	**$ 255,000.00**
2022 CIP / VER		**$ 440,000.00**

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Appendix B – Calculation of Base Fee Options

Figures B.1 and B.2 outline the computation of the base fees under two key scenarios – Option 3, in which Oak Harbor provides no contributions to MRW or recycling costs, and Option 4 (one of the recommended options) in which Oak Harbor contributes to the costs of the MRW program. Option 1, the other recommended option, includes no base fees as all costs are embedded in the MSW rate. Option 2 simply inflates existing base fees by the increase in costs.

As shown in the figures, the calculations draw from the percent of tonnage delivered by the various entities (61% self-haul, 28% non-Oak Harbor haulers, 11% Oak Harbor) and customer counts for the self-haul. The results are incorporated into the recommended rates presented in the remainder of this report.

Figure B.1: Base Fees for Option 3

Option 3: Oak Harbor covers neither MRW nor recycling; scale up the other shares to cover the cost.			
Calculating Base Fee (MRW&Recy), 2020-22	Various Inputs	Tons	Dollars
A. Customers, tons, and allocated (MRW&Recy) costs	474,421	180,616	$2,857,264
B. Percent of total MSW for Self-haul (61%)	61%		
C. Percent of total MSW for Contracted haulers excluding Oak Harbor	28%	50,572	
D. Revised share for self-haul, normalizing to 100%, and share of allocated costs for MRW and recycling. Two of the three groups paying for all fees changes shares.	69%		$1,958,350
E. Revised share of funds to be raised from compacted haulers (excl. OH), normalizing to 100%, and share of allocated costs for MRW and recycling	31%		$898,915
F. Calculated fee for self-haul (D divided by customers(A))	$4.13		
G. Calculated fee for compacted haulers (D divided by normalized share of tons in A and C.)	$17.77		
Calculated fees rounded to next higher dollar.	SH=$5/visit	Hauler=$18/ton	O.H.=$0/ton

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Figure B.2: Base Fees for Option 4

Option 4: Self haul & contracted haulers cover share of MRW & Recycling costs; Oak Harbor covers a share of MRW fees.

Calculating the Base Fee (MRW&Recy), 2020-22	Various Inputs	Tons	Dollars
A.Allocated Expenses associated with base fee (Costs allocated to MRW+Recycling)			$2,857,264
B.Total MSW Tons for 3-year period (rate study)		180,616	
C.Total Customers for 3-year period (rate study)	474,421		
D.Average percent of MSW fee needed for Base Fee from Allocation (cost alloc MRW+Recy)/(cost alloc MSW+LFC)	11%		
E.Percent of total MSW tons for Non-Oak Harbor (from tonnage records)	28%		
F.MSW fee for contracted haulers (recommended rates)	$132		
G.Calculated adder /ton for contracted haulers and $ raised (D*F) x (E*B)	**$14.52**	50,572	$734,311
H.For Oak Harbor, subtract cost for recyc portion/ton (from unit cost calculations)	$10		
I.Remaining MRW-only adder / ton for Oak Harbor (G-H)	**$4.52**		
J.Percent of tons for Oak Harbor and $ raised (JxBxI)	11%	19,868	$89,802
K.Remaining funds to be raised to cover MRW & recy from Self-Haul (A-G-J), and number of Self-haul customers (rate study)	474,421		$2,033,151
L.Computed fee per customer visit needed to cover remaining costs (K/K)	**$4.29**		
Calculated fees rounded to next higher dollar.	SH=$5/visit	O.H.=$5/ton	Hauler=$15/ton

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