EVALUATION OF COST-EFFECTIVE PROVISION OF SERVICES FOR THE

SPECIAL COMMITMENT CENTER
McNEIL ISLAND

FINAL REPORT
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Criminal Justice Planning Services
Olympia, Washington

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Summary of Findings

This report was written at a time when the executive and legislature are faced with very difficult choices. Unfortunately, a thorough review of alternative approaches to the provision of services related to the island location of the Special Commitment Center (SCC) yielded few cost-effective options. The total cost of services due to SCC's island location is estimated at $6.6 million for FY2012. About a third of this is in marine services. Food Service has the greatest potential for saving about $500,000 annually (one-third of the current food service budget) through the use of a private vendor or Correctional Industries. In most other cases, costs could only be reduced by reducing effectiveness and increasing risk to the safe and orderly operation of the Special Commitment Center. Additionally, some options may invoke a bargaining obligation with labor and/or require the state to engage in the competitive contracting out process under the Civil Service law.

Background Information

As part of the 2011-2012 operating appropriations outlined in HB 1087, the Washington Legislature charged the Office of Financial Management to contract with an independent consultant to evaluate and recommend the most cost-effective provision of services required to support the Department of Social and Health Services-Special Commitment Center (SCC) on McNeil Island. Criminal Justice Planning Services (CJPS) of Olympia was selected for this study.

Study Process

An on-going Study Group was formed by OFM which included staff from the Office of Financial Management, Senate Ways & Means Committee, House Ways & Means Committee, House Human Services Committee, Department of Social and Health Services, Special Commitment Center, Department of Corrections and Pierce County.

CJPS conferred with the Study Group and external governmental stakeholders from the legislature, Pierce County, the Cities of Tacoma and Steilacoom, and state labor representatives.

Throughout this process, CJPS explored options to current service delivery, gathered data on current costs and, whenever possible, estimated costs for each option.

Services Studied

The closure of McNeil Island Corrections Center on April 1, 2011 shifted the responsibility of managing the infrastructure of McNeil Island from the Department of Corrections (DOC) to SCC. The infrastructure of the island is similar to that of a small island town which also has a marine department and is responsible for all utilities. There are also environmental and historical preservation requirements within the federal deed under which the state operates, and numerous regulatory requirements from local, state, and federal agencies.

The specific services studied include: marine services, food, water supply, wastewater treatment, electrical supply, fire protection and suppression, road maintenance, initial hazardous materials response, escort of SCC residents to and from off-island destinations, armed response to incidents, vehicle and equipment maintenance, road and land maintenance, monitoring and maintenance of fuel supply.

Study Results: Over-Arching Issues

There are numerous issues with respect to achieving cost-effective services that apply to all services. The three most significant over-arching issues are as follows:

Study Limitations: The fact that revisions to the federal deed are incomplete and without a scheduled date of completion makes it difficult to ascertain the level of some required services and their associated costs. This, in turn, made it difficult to study how they could become more cost-effective.

Since SCC assumed control of the island on April 1, 2011, there has not been enough spending history to serve as the historical basis of costs. DOC's historical numbers do not work because they include inexpensive inmate labor. Lastly, not all maintenance required under the deed is currently being accomplished. Therefore, current costs reflect what *is* being done, not necessarily what *should* be done.

The Island Factor: The total cost of services related to the facility being on McNeil Island is referred to as "the island factor". The island factor has two cost components: operating and capital. Although the majority of these costs would be eliminated if SCC was not on an island, depending on location, some maintenance positions would still be required.

When the prison was open, there were about 1500 inmates. This put the island factor cost per resident at $4,282. At that time, SCC's residents represented about 19 percent of the total population. Now that the prison is closed, SCC's residents represent 100 percent of the island factor.

SCC's total operating budget for FY2012 is $46 million. With 291 SCC residents as of August 2011, the budgeted cost per resident is $158,299. The portion of costs due to SCC's island location is estimated to be $6.6 million which is $22,680 per resident.

The capital cost portion of the island factor affects construction and repairs by outside vendors. Construction and repairs cost considerably more on McNeil Island than on the mainland. There can also be additional environmental factors for some projects that affect costs. DOC added an additional 20 percent to the cost of construction for capital projects on McNeil Island.

DOC identified $14.1 million in long-term capital preservation projects in their 2011-2013 agency capital request budget. These projects are all related to services on the island, not the DOC prison or the SCC facility. From this list of projects, DSHS subsequently requested $3.4 million for near-term preservation projects. These projects have not been funded.

Risks in Contracting:
Contracting for services at a state institution runs a number of risks including loss of local control; price instability; under-estimating the cost of contract negotiations, bidding and monitoring; the need to instantly be able to resume services should the contractor fail to perform; labor strikes; and, legal responsibility.

Study Results of Specific Services
After extensive evaluation of each service, it is our general conclusion that SCC administrators have been quite thorough in trying to make services cost-effective without jeopardizing the secure and orderly operation of the institution. We also worked extensively with Pierce County and, despite impressive efforts by the Public Works Department, had similar results. The discussion below shows only a few areas with savings potential - some of which are out-weighed by the potential for increased risk to public safety, labor disputes, and adverse effects on staff recruitment and retention.

Food service: Food service is the most feasible area for significant savings by changing to either a private vendor or DOC's Correctional Industries. There are personnel and union issues associated with both alternatives. Savings are estimated to be about $500,000 annually (one-third of current food service costs) plus some future savings on equipment. It should be noted these savings can be achieved regardless of whether or not SCC is on an island. Furthermore, while beyond the scope of this study, it is clear that similar savings can be achieved in other state institutions which operate full service kitchens.

Marine: Operating costs of marine services represent about one-third of the island factor which is by far the most expensive component. Our analysis concludes that minimal savings could be obtained with some alternatives but only with a reduction in service effectiveness and/or introduction of risk as described below.

The two alternatives for marine services which have the potential for relatively small savings are:

1. Use Pierce County crews to operate the McNeil Island passenger boats (approximately $77,000 per year) and
2. Use the Pierce County ferry to carry passengers and vehicles during part of the day, three days per week; use Pierce County crews to operate the passenger boats at all other times; eliminate the tugs and barges and their associated costs (approximately $126,000 per year).

There are significant personnel and union issues associated with both of these alternatives. If an on-coming shift of employees cannot get to the island, it will prevent the current shift from being able to go home (and visa versa). This has implications for staff retention, recruitment, overtime costs and labor disputes. The second alternative, while saving the most money, carries additional serious risks and compromises to service effectiveness. Among the latter are the inability to provide ferry service to the island

under certain tidal conditions and an increased risk of introducing contraband to the Special Commitment Center.

Water Supply and Wastewater Treatment: Both of these systems are over-sized for SCC and in need of up-grades. In fact, Pierce County was reluctant to offer service to these facilities in their current condition. Replacing these systems will allow them to be serviced by a single dual-licensed operator as opposed to the current four positions. The break-even period for a well system in staff savings is 9.8 years. We also estimated the cost of a new wastewater treatment system with a break-even period of 13.5 years.

There are no changes recommended to the following services because they were already as efficient as possible: armed response to incidents, electrical supply, escort of residents, the fire department, fuel supply, hazardous materials response and vehicle and heavy equipment maintenance.

Unfortunately, in addition to limited opportunities for cost savings, there are potential unfunded future costs, as follows:

- Noxious weed control: $44,000 per year
- Road maintenance: Unknown
- Unskilled labor needed for marine maintenance: $80,000 per year
- DOC McNeil Island capital projects list: $14.1 million through 2019.

Operating an institution on an island will always be more expensive than if it were on the mainland. This is due to transportation costs and basic infrastructure needs similar to those of a small town. Most of these costs are fixed and independent of the number of residents served. Consequently, the smaller the institution the greater the cost per resident. Furthermore, closing the McNeil Island Correctional Center resulted in the loss of inexpensive inmate labor thereby increasing the cost of many island related services.

CHAPTER 1- INTRODUCTION

1.1 Overview of McNeil Island

McNeil Island is located in Puget Sound about 13 miles SW of Tacoma, Washington and is 2.8 miles due west of the town of Steilacoom. The federal government deeded the island to Washington State in 1980 to be used as a state prison. However, the almost 1,300 bed state McNeil Island Correction Center closed on April 1, 2011. Presently, the only inhabitants on the island are the SCC residents. The 54 homes on the island formerly inhabited by DOC staff are now vacant.

1.2 Overview of SCC

The Special Commitment Center (SCC) was established in 1990 under Chapter 71.09 RCW (The Community Protection Act). The facility houses civilly committed sexually violent predators and individuals awaiting a commitment hearing. The SCC's Total Confinement Facility (TCF) is located on McNeil Island in a facility independent of, and geographically separated from, the now closed Department of Corrections McNeil Island Corrections Center. SCC is part of the Department of Social and Health Services (DSHS).

SCC has grown from a first-year population of six residents to about 300. The growth rate has slowed in recent years and the Washington State Institute for Public Policy is in the process of developing a revised population forecast.[1] Additionally, SCC operates two small Secure Community Transition Facilities (SCTFs), one on McNeil Island and one in an industrial district south of downtown Seattle. SCC also monitors and supervises residents in other "Less Restrictive Alternatives" who are placed in private homes and supervised group homes.

1.3 Budgeted Cost per Resident

The total FY12 operating budget for SCC is as follows:

SCC BUDGET-FY2012	
McNeil Island	
Main Secure Facility	$ 41,975,000
Pierce SCTF	$ 2,760,000
Subtotal	$ 44,735,000
Off Island	
Administration	$ 806,000
King SCTF	$ 1,530,000
Community	$ 708,000
Subtotal	$ 3,044,000
GRAND TOTAL	**$ 47,779,000**

Source is DSHS Budget Office

[1] 2ESHB 1087 Section 610(2)

However, as discussed below, the operating *budget* is one thing, the total operating *cost* is another. The following information shows the estimated total operating cost and cost per resident on McNeil Island for FY2012.

ESTIMATED FY2012 COST PER SCC RESIDENT ON MCNEIL ISLAND					
	FY12 Budgeted*	Additional Unfunded**	TOTAL	Number in Residence on McNeil Island***	COST PER RESIDENT
Main Facility	$ 41,975,000		$ 41,975,000	282	$ 148,848
SCTF-Pierce	$ 2,760,000		$ 2,760,000	9	$ 306,667
TOTAL	**$ 44,735,000**	**$ 1,330,000**	**$ 46,065,000**	**291**	**$ 158,299**

*Source is SCC. 9/9/11 email

**Source is DSHS Budget Office. 9/22/11 email

***Source is SCC. 9/22/11 email

NOTE: The Additional Unfunded $1.33 million is the full year cost of marine and maintenance staff. This is different than the budget request for the positions for FY2012 because of the phase-in.

1.4 Costs Outside SCC's Budget

Most individuals are civilly committed through a process that begins once an offender completes his/her prison sentence. At that time the Indeterminate Sentence Review Board (ISRB) may elect to conduct a formal review process to determine if the offender should be referred to the State Attorney General (or King County Prosecutor) for possible civil commitment. If the ISRB determines that a referral should be made, the Attorney General or County Prosecutor reviews the case and decides whether or not to proceed with the civil commitment process. If the Attorney General or Prosecutor decides to proceed, the case is referred to the superior court in the county where the individual was last convicted. Numerous superior court proceedings ultimately result in release or civil commitment. The court process requires pre-filing investigations, pre-trial motions, trial, post-commitment proceedings and appeals. Civilly committed residents must also be reviewed by the courts annually. These actions are handled by the Sexually Violent Predator Unit of the Office of the Attorney General or, for individuals originally convicted in King County, the Office of the King County Prosecuting Attorney. These legal costs are in addition to the costs in the table above and impact the state budget and those of many counties.

1.5 Why is This Study Needed?

In the past, DOC managed the infrastructure of the entire island. With the closure of the prison, the 300-bed SCC now has the burden of managing major operations such as a marine department, fire department and all utilities. Additionally, the deed from the federal government, federal and state regulatory agencies and county ordinances have land management requirements such as noxious weed control, environmental protection, and

compliance with Homeland Security policies. SCC is now responsible for compliance with all of these requirements.

Although one would think it would cost less to operate the island with one-fifth the population, the loss of inmate labor that accompanied closure of the prison has actually increased costs of island-related services by about $2.2 million annually[2]. The purpose of this study is to evaluate feasible options for the cost-effective provision of services required to support SCC.

1.6 Study Requirements

During the 2011 legislative session, the legislature included a proviso for OFM to contract with an independent consultant to evaluate and recommend the most cost-effective provision of services required to support the SCC on McNeil Island.[3] The evaluation was to include, but not be limited to:

1. Marine transport of passengers and goods,
2. Wastewater treatment,
3. Fire protection and suppression,
4. Electrical supply,
5. Water supply, and
6. Road maintenance.

The proviso also required the solicitation of input of Pierce County, the Department of Corrections, and DSHS in directing the evaluation. Other stakeholders, such as organized labor, were to be consulted during the study process.

1.7 Expansion of topics

During the contract development period, and in the early days of the study, the list of topics for evaluation was expanded to the following:

1. Marine transport of passengers and goods,
2. Wastewater treatment,
3. Fire protection and suppression,
4. Electrical supply,
5. Water supply,
6. Road maintenance,
7. On-island transport of passengers and goods,
8. Maintenance of piers, floats, and docks,
9. Monitoring and maintenance of fuel supply and fuel delivery,
10. Initial hazardous materials response,
11. Vehicle and equipment maintenance,
12. Escort of residents to and from court and other off-island destinations,
13. Armed response to incidents,

[2] See page 6, DOC Estimate of Cost Shift to SCC.
[3] 2011-2012 operating appropriations outlined in HB 1087.

14. Food Service.

1.8 Study Process

An on-going Study Group was formed by OFM which included staff from the following organizations:

- Office of Financial Management
- Senate Ways & Means Committee
- House Ways & Means Committee
- House Human Services Committee
- Department of Social and Health Services
- Special Commitment Center
- Department of Corrections
- Pierce County

The contractor conferred with the Study Group several times prior to completing this report to discuss the study approach and progress. The contractor also conferred with external governmental stakeholders from the legislature, Pierce County, and the Cities of Tacoma and Steilacoom. OFM's Labor Relations Office also facilitated meetings between the contractor and state labor representatives.

Finally, there were numerous meetings with agency stakeholders including the SCC Administrators and staff, Department of Corrections budget and capital programs office, and DSHS Capital Programs.

Throughout this process, the contractor explored options to current service delivery, gathered data on current costs and estimated costs (when possible) for each option.

CHAPTER 2- OVER-ARCHING ISSUES

A number of issues spanned all topics in the study, impacting the study approach as well as the ability to fully evaluate every option.

2.1 Unresolved Deed Issues

In 1996, the U.S. government modified the underlying deed that transferred McNeil Island to the State of Washington to convey approximately 1,200 acres (approximately 30 percent of the island) to the state for use as a state correctional or civil commitment facility in perpetuity. This deed states that ownership shall revert to the U.S. in the event the state ceases to use those parcels on the island for correctional purposes.[4]

As a result of the prison closure, the Washington State Department of General Administration (GA) and the federal General Services Administration (GSA) are working together to alter the deed. The date of completion is unknown at this time. The deed contains numerous conditions and restrictions protecting archaeological and wildlife resources. It also includes a provision to return the underlying land to its natural condition when it is no longer economically feasible to maintain the structures in the restricted area parcels.

No funding exists in any state agency budget to preserve the historic or other structures on the island that are not associated with operation of the Special Commitment Center. Until issues are resolved with GSA, the state's current plan is for DSHS to maintain the utility infrastructure of the island. This essentially ties the hands of SCC administrators from taking advantage of cost-effective opportunities to down-size the infrastructure of the island. Examples include reducing maintenance of miles of water supply lines, sewer lines, roads and electrical supply lines.

2.2 Estimating Base Costs of Individual Services

Base costs must be known in order to determine whether more cost-effective practices exist. Determining base costs for this study was challenging for several reasons:

1. A number of these services were previously performed by a crew of DOC inmates under the supervision of a state employee. The number of replacement workers needed is not equal to the number of inmate workers for several reasons. Inmates must stop work and be counted periodically; they are sometimes delayed from starting work when security incidents occur; they cannot go to work if their supervisor is absent; and (to reduce idleness) more inmates are usually assigned to jobs than are required to accomplish the work. Thus, the inmate workweek is quite a bit shorter than 40 hours and some positions exist just to keep inmates busy. The exact number of required positions to replace the loss of inmate labor has been difficult to determine and is an on-going issue.

[4] MI Deeds Meeting Summary Final, June 9, 2011, Department of General Administration

2. Since SCC assumed control of the island on April 1, 2011, they do not have enough spending history to serve as a base and historical cost information from DOC that is based on inmate labor understates today's costs.
3. The topics listed in the study are not necessarily budgeted separately. For example, a single budget category of marine services includes vessel and dock maintenance, transportation of passengers, goods and equipment, and operation of security and rescue boats. Consequently, the study required estimating and assigning costs to each of these sub-categories.
4. Not all maintenance required under the deed agreement is currently being accomplished. Examples include noxious weed control, road maintenance, maintaining historical cemeteries, and maintenance of fire breaks. Therefore, current costs only reflect what *is* being done, not necessarily what *should* be done.

2.3 Estimating the Island Factor

The total cost of services related to the facility being on McNeil Island is referred to as "the island factor". The island factor has both operating and capital cost components:

Island Factor Operating Costs

In order to estimate the island factor of operating costs, we compared an initial DOC estimate of anticipated cost shifts to SCC when the prison was closing to a recent estimate made by the DSHS budget office.

DOC ESTIMATE OF ANNUAL OPERATING COST SHIFT TO SCC		
Total DOC cost with inmate labor	$	4,690,070
Cost of DOC inmate labor*	$	100,944
DOC cost without inmate labor	$	4,589,127
Replace DOC inmate labor with FTEs	$	2,180,000
TOTAL	**$**	**6,769,127**

*Estimated during the *Feasibility Study for the Closure of State Institutions*, 2009, Christopher Murray & Associates.

The DSHS estimate below is based on the known cost of adding positions required to support island services as of August 2011. Some of these positions are funded and some are not. This table shows an estimate of approximately $6.4 million per year for the "island factor" under SCC operation. It should be noted this table may vary from the agency's budget request due to a difference in when the information was developed.

DSHS-SCC ISLAND FACTOR ESTIMATE - FY2012						
	Funded		Not Funded		TOTAL	
	FTE	Funding	FTE	Funding	FTE	Cost
Marine Operations						
Salary	19.4	$ 949,684	9.1	$ 340,386	28.5	$ 1,290,070
Benefits		$ 379,874		$ 136,154		$ 516,028
Fuel		$ 524,570				$ 524,570
Misc		$ 7,500				$ 7,500
	19.4	$ 1,861,627	9.1	$ 476,540	28.5	$ 2,338,167
Fire Department						
Salary	6.0	$ 326,400			6.0	$ 326,400
Benefits		$ 133,824				$ 133,824
Fire Prevention		$ 36,988				$ 36,988
	6.0	$ 497,212			6.0	$ 497,212
Water/Wastewater Treatment						
Salary	4.0	$ 199,512			4.0	$ 199,512
Benefits		$ 81,800				$ 81,800
Potable Water & WW Treatment		$ 212,382				$ 212,382
Wastewater		$ 2,208				$ 2,208
	4.0	$ 495,902			4.0	$ 495,902
General Island Operations						
Salary	3.0	$ 155,040	13.7	$ 569,879	16.7	$ 724,919
Benefits		$ 63,566		$ 221,341		$ 284,907
	3.0	$ 218,606	13.7	$ 791,220	16.7	$ 1,009,826
Subtotal	**32.4**	**$ 3,073,347**	**22.8**	**$ 1,267,760**	**55.2**	**$ 4,341,107**
SCC had in budget		$ 2,100,936				$ 2,100,936
Total Estimated		**$ 5,174,000**		**$ 1,268,000**		**$ 6,442,000**

The DSHS estimate is close to the estimate made by DOC prior to the prison closure. Averaging the two estimates, the cost of services that support functions unique to operating an institution on McNeil Island is about $6.6 million.

Island Factor Operating Cost per Resident

If one divides the total cost of $6.6 million by 291 SCC residents on McNeil Island, the island factor cost per resident is $22,680 annually.

Island Factor Operating Cost Percentage of SCC Budget

The island factor of $6.6 million represents 14.8 percent of SCC's budget for McNeil Island.

Capital Projects

Cost premium for working on an island

Construction and repairs by outside vendors cost more on McNeil Island than on the mainland. This is due to the added time of transporting materials, equipment and personnel to the job site. There can also be additional environmental factors for some projects that affect the cost of construction. The island factor DOC used for capital projects on McNeil Island is 20 percent. Where applicable, this additional cost of capital projects has been included and noted throughout this report.

Island Preservation Projects

DOC identified $14.1 million in capital preservation projects in their 2011-2013 agency request capital budget. Roughly half of the total is related to marine services.

DOC 2011-13 Capital Budget Request - McNeil Island	
Title	**2017-2019**
Main Dock Float & Dolphin Replacement	$ 2,646,000
Replace Island Loop Water Mains	$ 6,800,000
Renovate Marine Boat Repair & Ship Shed	$ 1,488,000
Demolish & Clean Water Storage Tanks	$ 200,000
Remove Lead Paint at Auto Shop	$ 67,000
Replace Wastewater Evaporator	$ 33,000
Still Harbor Dock Repair	$ 148,000
Replace Barge Slip Wing Walls	$ 2,721,000
Total of Island-Wide Preservation Projects	**$ 14,103,000**

These projects are all related to services on the island, not the DOC prison or the SCC facility. Although the auto shop is not used by SCC, the lead paint removal is an abatement issue which will eventually need to be addressed. With an average daily population of 288 SCC-McNeil Island residents (CY2010), this puts the one-time island factor capital cost per resident at $ 48,969.

In 2011, after it became known that DOC was leaving the island, DSHS requested $3.4 million in capital preservation projects which were not funded. These near-term projects pertain to the marine haul-out cable (which DSHS subsequently accomplished), water and wastewater systems. They are within the larger DOC request.

2.4 Addressing Costs for the Long-term

The annual cost of performing a service for only a few years can be quite different from performing the same service if it is intended to continue for many years. For example, an inefficient wastewater treatment system might be able to limp along for a few years, but it might make financial sense to replace it if the function will continue for the long term. Unless otherwise noted, our analysis assumes SCC will remain on McNeil Island for 25 years or longer.

2.5 Economy of Scale

Although the resident population on McNeil Island was reduced from about 1,600 to 300, in many cases it is not possible to simply reduce services proportionate to the reduction in resident population.[5] Just to name a few examples: the number of miles of road remains the same, staff must still be transported around the clock, the number of acres to maintain per the deed requirements is the same, and regulatory agencies require the same staffing for the water treatment facility regardless of the number of people served. In fact, reducing the number of residents on the island actually made most services less cost-efficient due to the loss of inmate labor. Additionally, the infrastructure on the island was sized for the larger population. This includes the water and wastewater systems, the size of marine vessels, etc.

2.6 A Need for Policy Adjustment

DOC allowed some prison inmates with minimum security to work on staff supervised crews of up to 10 inmates at $1.10 per inmate per hour. SCC is moving towards allowing some residents to perform some on-island jobs previously performed by inmates. Current policy requires one-to-one staff supervision for residents working outside the perimeter of the institution – a level of staffing which makes it cost prohibitive to use SCC resident labor. The new policy is still being developed, but at the time of this writing the supervision plan is as follows:

Main Facility:
- One staff member per six residents inside the fence
- One staff member per three residents outside the fence

SCTF:
- One staff member per four residents.

Existing staff members would move with the residents. Therefore, the cost impact would be limited to the stipends received by residents as described below.

2.7 Options to Using State Employees

We explored many options to using state employees as a way to make services cost-effective. The following list shows the options in order of least cost to most cost:

1. Use SCC McNeil Island resident workers
    a. Full confinement facility (up to $3 per resident per hour)
    b. SCTF-Pierce (up to $7.16 per resident per hour)
2. Use DOC or DNR prison day work crews. Estimated at $500/day for 10 workers with each worker producing 6 hours of actual work because the charge for inmate crews is portal to portal = $8.33 per inmate per hour of work which includes transportation, staff supervision, food and some equipment.
3. Use DOC work release offenders. Estimated to require minimum wage at $8.67/hour + L&I + employer FICA = roughly $10 per hour total cost. Work release offenders are similar other employees in terms of independently getting to the job site, working flexible hours and not requiring security supervision.

[5] The DOC prison had about 1,300 inmates and about 53 staff families living on McNeil Island.

4. Use Inter-governmental agreements (unknown cost)
5. Contract with non-governmental entities (potential for costing less than inter-governmental agreements if salaries are lower.)

Where feasible, the least costly and easiest to implement option is the use of SCC residents. More specific information about the feasibility of using any one of these options appears within each applicable topic.

2.8 Price Quotes

Price quotes were not obtained from private vendors due to the potential of tainting a future bidding process and violating state contracting rules pertaining to state employees who might be displaced by a contract.[6] State contracting rules require at least ninety days notice to classified employees whose positions or work would be displaced by the contract. The employees then have sixty days to offer alternatives to purchasing services by contract and the agency shall consider state employee proposed alternatives before requesting bids. If the employees decide to compete for the contract (via the formation of a business unit), they must notify the contracting agency of their decision.

Where possible, costs of existing comparable services were obtained from governmental entities such as Pierce County, Correctional Industries, DOC and DSHS Capital Programs.

2.9 Risks of Contracting for Services

The scope of work for this contract required identifying potentially feasible alternatives to current operations, including a change of service provider. This would include contracting with other state agencies, cities, counties, and private entities. There are many unique and important considerations in evaluating the feasibility of contracting for services.

<u>Evaluating the full costs</u>

There are many costs of contracting beyond those specified in the contract. For example, establishing the contract is likely to require many hours of staff meetings to determine exactly what services will be purchased. This is followed by legal review, competitive bidding and contract award. Following the award of the contract is a transition period from the state-provided service to the contractor-provided service. This may require selling or disposing of surplus state equipment, down-sizing the workforce, and changing the chart of accounts from tracking state spending by individual objects of expenditure to contract expenditures. Finally, the cost of contract monitoring, including administrative overhead, must also be included. All of these items have real costs. By not taking these factors into account, it is common for public agencies to under-represent the cost of contracting when comparing it to the cost of state-provided services.

[6] RCW 41.06.142 – Purchasing services by contract-Effect on employees in the classified service.

Price instability
Contracting runs the risk of price escalation that may become more expensive than providing the service in-house. For example, a company could offer a low introductory price and then raise the price in future years to make up for the initial low cost years.

Ability to re-start state operations if necessary
What would happen if the state contracted for a service, sold its equipment and then the contractor defaulted? Would the state be able to re-start its service on short notice? This might not be a problem in some cases, but if it required re-purchasing marine vessels and re-hiring staff, it would take considerable time and money.

Failure to perform generally
If performance is poor and the contract is being terminated, it could end up costing the state more than if the service remained state operated. This is particularly true if the contractor is banned from the premises and the contract requires the state to continue paying for the service until the time of contract termination. Under this circumstance, the state would need to provide the service *and* pay the contractor. There may also be legal costs.

Possibility of labor strikes
State employees are restricted from striking. Using non-state employees runs the risk of a strike and effectively shutting down needed services.

Public safety
The SCC resident population is one that presents high risk to public safety. Contractor errors in service provision could prompt a resident to escape or harm another individual or state property. Although this risk resides within state provided services, contractors are unlikely to be experienced in providing services to a civilly committed population of sexually violent predators.

Legal responsibility
Any contract would need to clearly specify who is responsible for damages in the event of injury/property loss. This may be particularly risky in the case of marine services where a contractor may operate the state's vessels and use the state's docks.

Much more could be written about the details of each of the above items. Although the issues of contracting are complex and carry risk, there are some services at McNeil Island that still make sense to consider contracting. This is particularly true when a service is only required on a part-time basis and a contractor is available.

CHAPTER 3-STUDY RESULTS

Food service is the only topic with clearly feasible cost-effective options. Options for remaining topics are either not more cost-effective or present risk to operations that probably outweigh the financial benefit. Finally, some required services are not currently being performed and represent additional cost.

3.1. FOOD SERVICE

Food service was not initially included in the study, but was added due to an obvious area to gain efficiency. Through subsequent analysis, it was discovered that using an outside vendor has the potential for significant savings in operating and capital costs.

Options considered

The following options were evaluated:

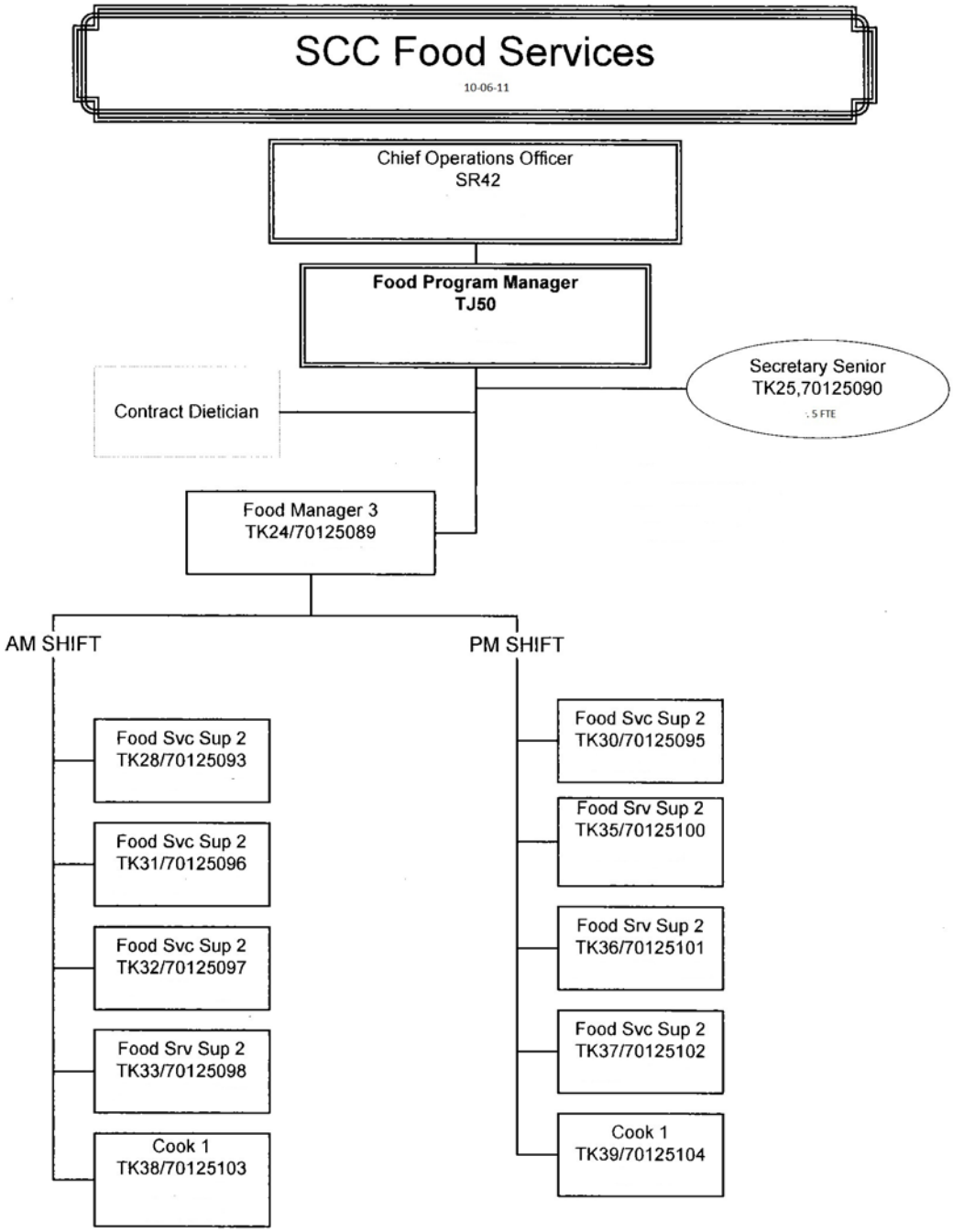
1. No change
2. Contract with private vendor
3. Contract with Correctional Industries

Current food service model

The current food service model is a full service kitchen that prepares meals from start to finish that meets medical and religious legal mandates. Three hot meals are served per day in a dining room adjacent to the kitchen. The mission of the SCC Food Service Program is to provide daily nutritional and dietary requirements to meet the needs of the SCC residents. The program strives to be consistent with established dietary intakes of the Food and Nutrition Board of the National Research Council.

Staffing

There are currently 13 Food Service positions established under the state personnel system one of which is half-time for a total of 12.5 FTEs. There is also a dietician on contract. The following organization chart shows current Food Service staffing.


SCC Food Services
10-06-11
Chief Operations Officer
SR42
Food Program Manager
TJ50
Secretary Senior
TK25,70125090
.5 FTE
Contract Dietician
Food Manager 3
TK24/70125089
AM SHIFT
PM SHIFT
Food Svc Sup 2
TK28/70125093
Food Svc Sup 2
TK31/70125096
Food Svc Sup 2
TK32/70125097
Food Srv Sup 2
TK33/70125098
Cook 1
TK38/70125103
Food Svc Sup 2
TK30/70125095
Food Srv Sup 2
TK35/70125100
Food Srv Sup 2
TK36/70125101
Food Svc Sup 2
TK37/70125102
Cook 1
TK39/70125104

Food Service Costs
The following tables show SCC's food service costs for calendar year 2010.

Staff Labor (not including resident labor)	
Staff workers	$561,527
Food service Management	$153,283
Contract Dietician	$50,392
Total Staff Labor	**$765,203**

In addition to state employees, there are 55 part-time resident workers whose stipend depends on their level of treatment programming. The highest stipend is $3 per hour. Total resident food service wages for 2010 were $154,882. The following table shows total operating costs including staff and resident labor; food costs; and supplies, equipment and repairs

Total Operating Cost	
Staff Labor	$765,203
Resident Labor	$154,882
Food Cost	$514,107
Supplies/equipment/repairs	$51,885
Total Annual Cost	**$1,486,077**

Using the total annual cost, we can calculate the cost per meal which becomes important when comparing SCC's costs to those of the alternatives.

Cost per Meal Calculation	
2010 ADP	283
Total Annual Cost	$1,486,077
Annual Cost per Resident	$5,251
Daily Cost per Resident	$14.39
Cost per Meal	**$4.80**

Hours of operation
When the DOC prison closed, the 4:00 AM boat run – which was the one the morning food service staff used – was cancelled. Now the staff arrives an hour later, the kitchen opens at 6am, and the day starts later than in the past for SCC residents.

Meal hours are as follows:

Breakfast	7:00-8:00 am
Lunch	12:30-1:30 pm
Dinner	5:30-6:30 pm

It takes about 1.5 hours to clean-up after each meal. The kitchen closes at 8:00 pm.

Menus
SCC utilizes a four week rotational menu system. Male residents are provided with 2,800 calories per day and female residents are provided with 2,200 calories per day. The main menu is reported to be heart healthy.

There are also 23 different diets to address religious, vegetarian and medical requirements. This number has been as high as 28 when gravely ill residents are placed on in-patient medical status. The number of residents on special diets is 158 out of 283 residents or 56% of the total population. Some residents are on as many as five special diets at the same time. For example, one resident may be on a religious diet and have doctor's orders for multiple medical diets.

Kosher food is purchased from an Albertson's store on Mercer Island.

Trucking and barging
Food is delivered by vendors to Western State Hospital (WSH). The only exception is Food Services of America which makes one monthly food delivery directly to McNeil Island. Otherwise, the WSH warehouse staff receives the goods and holds them in two warehouses. One is the Western State Hospital kitchen warehouse for food products; the other is the Western State Hospital central commissary warehouse for SCC paper, cleaning and equipment supplies. Two SCC staff members go to WSH to pick up food and SCC supplies in separate trucks (one is refrigerated) each week. The trucks board the SCC barge to deliver the goods to the facility.

Physical plant
The SCC kitchen is the former Department of Corrections work camp kitchen and is at least twenty years old. Funded capital kitchen up-grades for this biennium include $200,000 to replace the dishwasher. The need for this project does not change if one of the alternative methods of food service is implemented.

Alternatives to Current Food Service Operations
Institutional food service has evolved over the past twenty years as advances in food preparation and storage have become more efficient. This has made full service on-site institutional kitchens operated by the state the least efficient of the methods described below. Many universities and residential institutions have switched to using a contractor either on-site or off-site.

In very general terms, there are three alternative models:

- On-site full kitchen operated by contractor
- Off-site preparation by state operated kitchen
- Off-site preparation by contractor.

The off-site options have many service models within them. Some examples include:

- Frozen meals on individual trays residents can re-heat themselves
- Frozen box lunches that are simply defrosted

- Individual breakfast boxes that do not require refrigeration
- Food that is cooked in bulk, chilled, transported, and reheated.

The primary cost advantage of off-site preparation is labor. This alone is estimated to produce a minimum of thirty-percent savings. The SCC food manager has considered the option of purchasing two cold meals per day from a vendor which would save about four FTEs (approximately $300,000 annually.) One hot meal would still be required.

There is a potential for additional savings through reduced repair and replacement of equipment depending on the preparation method of one hot meal per day. This is due to the fact that an off-site vendor uses their own equipment to cook the food. On-site preparation can be minimized. For example, reheating food only requires two jacketed steam kettles and four convection ovens for a population of 300. SCC currently has this equipment plus an additional small steam kettle, two additional ovens and a variety of other equipment that may no longer be needed.

Available Private Vendors

There are numerous options to off-site food preparation. A few large companies who operate in the area are Aramark, Consolidated Food Services and Harvest Foods. In addition to private vendors the Department of Corrections (DOC) Correctional Industries (CI) program also provides a full range of quick chill food products. CI is listed as a convenience option under General Administration contract #06006. This allows any government agency or political subdivision to do business with them. They are also able to contract with non-profit organizations.

CI provides food to all DOC prisons and was able to provide cost information for a 300-bed facility. CI's primary food service model is called a "food factory" whereby food is prepared at a central prison, frozen, and then trucked to its location. Local institution staff reheat the food just prior to serving. Since CI has been competing with vendors (sometimes unsuccessfully) we can assume this offers an example of what SCC's costs could be. However, as mentioned above, there are many other methods and options. Further study may be warranted for the best fit for SCC.

Correctional Industries Food Service

CI has been producing food for institutions for many years. Last year's food sales grossed $17.3 million. Approximately $12.7 million was at the Department of Corrections. The remaining $4.6 million in sales was to DSHS and other social service agencies including over 450,000 Meals on Wheels to senior citizens in King County. SCC currently buys a small number of products from CI: primarily frozen vegetables, meats, and some bakery products. Many other DSHS facilities also purchase some of their food from CI including:

DSHS Group Home Park Creek-Ellensburg
DSHS Eastern State Hospital
DSHS Western State Hospital Commissary
DSHS Fircrest School Commissary

DSHS Rainier School-Buckley
DSHS Lakeland Village-Medical Lake
DSHS Echo Glen Child Center-Snoqualamie
DSHS Maple Lane School-Centralia
DSHS Green Hill School-Chehalis
DSHS Naselle Youth Camp-Naselle

Menus
Like SCC, the CI food factory uses a four-week rotational menu whereby male residents are provided with 2800 calories per day. (Female residents are provided 2200 calories per day.) The CI menu provides 115 grams of protein whereas the federal standard only requires 100 grams. The CI menus are prepared by a certified nutritionist who works under the DOC Health Services Director. DOC has needed to meet court-tested requirements for a variety of religious, vegetarian and medical diets. It should be noted that DOC has consolidated religious diets down to three: Halal, Kosher, and Mainline Alternative (Vegan). For medical diets, DOC uses a market basket approach whereby health services providers select from a CI list to specify food for diabetics, renal patients, etc. With CI's market basket approach DOC has found it possible to select medical diets that also meet religious dietary requirements for its population. Before committing to any change, detailed analysis by DSHS and CI dieticians is needed to determine if this would also be true for SCC residents.

Delivery
Under the cook-chill method, CI can deliver up to a month's supply of frozen food and baked goods directly to McNeil Island. CI could also make more frequent deliveries if there is insufficient freezer space on the island for monthly deliveries. Since CI does not provide dairy or produce, SCC would still need one or two additional vendors to make weekly deliveries of perishable foods.

Food Service Method
This method can best be described as a hybrid of the alternatives described above. The menus are provided to the Food Service Managers at each facility. They select available products from CI's market basket and also purchase baked goods and fresh produce from other vendors. The CI food is reheated using a minimum amount of equipment and less labor. (See below) Since DOC no longer approves the replacement of kitchen grills, items such as pancakes and French toast have been replaced with other breakfast menu items for DOC inmates.

Cost Comparison
When comparing SCC's cost to those estimated for the CI service model, the savings are significant. It is likely that CI presents the potential for the most savings not only due to reduced labor costs, but also due to the fact that CI operates with subsidized production space at the state's prisons. They are provided with kitchens, warehouse space and some utilities.

DOC facilities of similar size to SCC utilize between 6.5 and 8.5 FTEs as opposed to SCC's 12.5 FTEs. The closest in size is Mission Creek Corrections Center for Women which houses 294 inmates and operates with 6.7 FTE's and 45 offender workers.

The following numbers estimate potential savings under the CI model (35%) which are very close to those estimated by SCC's Food Manager under a private vendor model (33%). The CI costs include delivery. As mentioned previously, the CI numbers were used because they were available, not because they are presumed to be the only fit for SCC.

ESTIMATED SAVINGS USING CORRECTIONAL INDUSTRIES			
DESCRIPTION	**SCC (CY2010)**	**CI (FY2011)**	**SAVINGS**
Food*	$ 514,107	$ 473,613	$ 40,494
Staff workers	$ 765,203	$ 352,953	$ 412,250
Resident workers**	$ 154,882	$ 126,722	$ 28,160
Food Service supplies and equipment repair	$ 51,885	$ 9,401	$ 42,484
Total	**$ 1,486,077**	**$ 962,689**	**$ 523,389**
			35%
Residents	283	283	
Annual food service cost per resident	$ 5,251	$ 3,402	
Daily cost per resident	$ 14.39	$ 9.32	
Average cost per meal	**$ 4.80**	**$ 3.11**	

*Food adjusted for ADP.

**All resident wages based on $3 per hour.

The resident workers listed above are those at the receiving facility, not the prison with the food factory. Therefore, the cost of resident workers for CI was adjusted from DOC's $1.10 per hour to $3 per hour.

It should be noted the CI costs include all special diets with the exception of offenders who require intensive nutritional supplements such as Ensure products. The cost of food for these patients is charged to Health Services. Otherwise, food for diabetics, renal patients, etc is included in the costs above. CI's food manager reported the medical diets are not the high cost-drivers. Rather, it is food for religious diets. For example, Halal diets are about $ .18 more per meal and Kosher diets are an additional $1.29 per meal.

The CI manager also reported they are in the process of revising their menus and food costs may increase due to the increase in the Consumer Price Index.

Issues in Changing Food Service Methods

Legal

The legal challenges and litigation brought forward by residents under civil commitment are substantial. SCC's food manager reports numerous active court cases related to SCC food service pertaining to religious and medical dietary standards. Without knowledge of specific prior litigation at DOC, it is difficult to say whether changing to CI would help or hinder legal challenges at SCC. Changing food service at SCC will need to take place with these legal challenges in mind.

Labor impacts

As mentioned, the primary savings are in labor. This is achieved through lower wages and benefits by private vendors and an economy of scale in bulk food preparation. As a result, fewer SCC staff are needed. Changing the method of SCC's food service will require working with labor representatives.

Resident workers

Under the CI model, about 10 fewer resident workers would be needed. This would save an additional $77,000 per year, but it would also create additional idleness. Resident idleness has been expressed as a serious concern by SCC administrators.

Summary of potential savings at SCC

It is estimated that eliminating the current full-service kitchen and using either a private vendor or Correctional Industries will provide an immediate cash savings of about one-third or roughly $500,000 annually. There could also be a small financial gain through the surplusing of excess equipment. Additionally, there are potential savings in reduced equipment repair and replacement.

Need to proceed with caution

Adequate food service is a critical to SCC functioning smoothly. As mentioned, food service litigation has been substantial. Furthermore, inadequate food service is apt to become a security issue. It does not need to be better than today's meal, but it does need to meet standards. If a wholesale change is to occur, careful planning is recommended to ensure continued compliance with dietary and legal standards. Switching to CI may or may not be viewed as a positive change by the resident population. After all, almost all SCC residents ate food prepared by CI for years prior to arriving at SCC.

Savings potential beyond SCC

Although all DOC prisons have converted to CI as the primary vendor, other state agencies with institutions have not. Like SCC, other state institutions continue to operate full service kitchens which duplicate labor and equipment. Implications for savings are far-reaching if other DSHS institutions (juvenile, mental health, developmental disabilities and nursing homes) and state operated veteran's homes are included.

Estimating potential savings for institutions other than SCC is beyond the scope of this study but, it is safe to say, it would be many millions of dollars annually.

3.2 MARINE SERVICES

Description of Current Operations

There are two main components to Marine Services: marine transportation and marine maintenance. Marine transportation can be further broken down into transport of passengers and transport of vehicles. The former uses one set of vessels, the latter another. At a cost of more than $2 million per year, Marine Services represents the single largest SCC expenditure solely related to its island location. Current staffing and the estimated cost of Marine Services is estimated in the following table using actual hours worked and total employee cost for July 2011. As explained in the Appendix, this results in a conservative estimate of FTEs and costs. Details of these calculations can be found in Appendix D.

MARINE SERVICES
Full Time Equivalent (FTE) Staff & Estimated Cost
(Annualized from Actual Hours Worked & Total Employee Cost for July 2011)

Marine Services Component	FTE's	Estimated Cost			
		Personnel	Fuel	Materials	Total
Marine Transport – passengers	14.6	941,969	100,335		1,042,303
Marine Transport - vehicles	4.6	281,417	41,583		323,000
Subtotal	19.2	1,223,385	141,918		1,365,303
Marine Maintenance	4.0	289,634		256,666	546,300
Marine Services administration	2.5	213,940			213,940
Total - SCC	25.7	1,726,959	141,918	256,666	2,125,543
Insurance					123,600
Total	25.7	$1,726,959	$ 141,918	$ 256,666	$2,249,143

In addition to the above costs, it is estimated that the Marine Maintenance Department has an average annual need for approximately four person-years of unskilled labor that is not currently in SCC's budget. Unskilled labor in the Marine Services was formerly provided by low cost DOC inmate labor when the prison was in operation.

Description of Current Marine Transportation Services – Passengers

Passengers are transported to and from McNeil Island using one of the three Coast Guard certified passenger vessels owned and operated by DSHS. The vessels are larger than needed for SCC requirements because they formerly carried far more passengers when the McNeil Island Corrections Center was in operation. Since the departure of DOC, the vessels have been downgraded in their occupancy classification so that they can be operated with a smaller (and therefore less expensive) crew.

By Coast Guard regulation these vessels must have a licensed pilot plus two deckhands whenever passengers are being transported. Homeland Security requires that one deckhand be qualified to operate and dock the boat in the event the captain is incapacitated. SCC uses a Senior Deckhand for this purpose. The function of the other deckhand was previously performed by an inmate when DOC was responsible for marine transportation.

In addition to scheduled transports, Marine Transportation also provides emergency transportation by speed boat, primarily for medical evacuation of SCC residents or staff. The department also operates several small boats used by security staff who patrol the waters around the island.

The full complement of boats used for these purposes is as follows:

- Three passenger boats varying in size from 54 to 70 feet and certified to carry up to 149 passengers each
- 1 speedboat used for emergency evacuation
- 3 patrol boats (two of which can be used as backups to the evacuation speedboat)

The passenger vessels make 22 crossings (11 round trips) per day; one crossing per hour except at night when one round trip is skipped. When the corrections center was in operation there were 36 crossings (18 round trips) per day.

Ridership per run varies considerably. Corresponding to overlapping shift start and end times, there are four peak periods involving 13 of the 22 crossings per day. In July 2011 these peak runs averaged from 16 to 67 passengers per crossing. The single largest number of passengers on a July crossing was 114. Some of the remaining crossings are needed to move the vessel and crew to the appropriate side of the water to pick up the next load of passengers.

SCC, and DOC before it, maintains that it is necessary to have three passenger vessels in the event one of them breaks down while another is in dry dock. Each vessel must be hauled out once every two years for maintenance and Coast Guard inspection. At the McNeil Island boatyard, haul-outs generally last about 12 weeks. On average, therefore, there are 18 weeks out of each year (about 1/3 of the time) when SCC has only two boats in the water. The duration of haul outs – and therefore the amount of time a vessel is out of service – is determined by the labor resources available at the McNeil Island boatyard. This, in turn, increases the probability that a passenger boat could be out of service when one was in drydock, thereby increasing the rationale for having a third boat.

The need for a third boat can also occur if two passenger boats are out of service and declared unsafe to operate at the same time. SCC reports that this in fact happened over Thanksgiving weekend in 2010.

Because the tug/barges operated by DSHS are licensed to carry up to 70 passengers each, there are actually additional options for movement of staff in the event of an emergency.

With this license, each barge can transport up to two busloads of staff at a time. Transport by tug and barge would be somewhat slower than crossings by the passenger vessels and could affect overtime costs. Movement of staff by barge is therefore not a preferred alternative.

Description of Current Marine Transportation Services – Vehicles
Vehicles, such as fuel, garbage and all delivery trucks, are transported to and from McNeil Island by tug and barge. Currently there are three round trips by barge four days per week. When DOC was on the island there were five round trips per day, seven days per week. All crossings take place within an eight hour period; however additional time is needed to move the tug and barge to and from overnight moorage in a protected harbor on the other side of the island. Staff therefore work 10 hour days and are consequently full-time employees working four days a week.

The vehicle transport fleet consists of three tug boats and two barges. The barges have the capability to transport all staff on *most* runs if the passenger boats are all out of commission. There are, however, two runs each day that frequently have more than the maximum number of passengers that can be transported by a single barge. Consequently, if the barges are needed to transport staff, there would be approximately two hours of overtime for the 20 to 30 staff on these two runs who would have to wait for the next barge. In addition, the barges dock at the same slip as the Steilacoom/Anderson Island Ferry and, if the ferry is in the slip, the barge must wait, thereby creating the potential for additional delay and additional overtime.

Similar to the passenger vessels, the barges must be hauled out at least once every other year in order to maintain Coast Guard certification to carry passengers.

At the time this report was written, the required crew for a tug/barge run was one licensed pilot, one senior deckhand and two assistant deckhands. All applicable cost calculations in this report assume this level of staffing. Just prior to completion of the final report, the Coast Guard informed SCC that the tug and barge crews may be reduced by one FTE by eliminating one of the assistant deckhands. SCC is reviewing the effect of this change to determine if the tugs and barges can operate in a safe and effective manner with a smaller crew. If the crew is reduced by one FTE, the annual cost of the tug/barge operation would be reduced by approximately $58,000.

Description of Current Marine Transportation Services – Docks
All vessels, both passenger and vehicle, depart from the Steilacoom ferry dock. The passenger vessels tie up at a float dedicated to McNeil Island runs. A small building at the dock operates as a security checkpoint for all passengers going to, or leaving, McNeil Island. The tug and barges use the same loading ramps as the Pierce County ferries. Their operation must therefore be coordinated with the County's ferry schedule.

At McNeil Island, passenger vessels tie up at the "main dock" located on the south side of the island near the former correctional facility. In particularly heavy seas passenger

vessels use a dock in Still Harbor on the northeast side of the island. Still Harbor is a marine sanctuary and off-limits to private boats.

The tugs and barges use the "barge dock" which is located on Balch Passage about a mile west of the main dock. Tugs and barges moor in Still Harbor when not in use.

Description of Current Marine Maintenance Services

Marine maintenance is responsible for maintaining all vessels and docks. Vessel maintenance includes in-water repairs, scheduled haul-outs for major maintenance, and unscheduled haul-out for repairs that can't be done while the boat is in the water.

The McNeil Island Boatyard is licensed and regulated by the Department of Ecology. The boatyard consists of well equipped shops and two marine rail systems which can haul out vessels up to 100 tons. Only one of these systems is currently operational and there are environmental reasons which, without significant capital expenditure, preclude the use of the second set of rails. The single pair of operational rails can only be used during normal working hours when tides are significantly higher than average. This can delay when the boats can be hauled out and re-launched.

The boatyard and associated shops provide the physical capability to do minor and major repairs on all vessels in the McNeil Island fleet, including full overhaul of diesel engines and repair or manufacture of critical components. The boatyard staff consists of two marine mechanics and two shipwrights. In prior years, these staff trained and supervised crews of inmate workers as well as provided skilled labor consistent with their own trades. At the time of this report, one shipwright position was vacant.

Prior to the departure of DOC, efforts were made to take advantage of inmate workers to accelerate major maintenance of some of the vessels. In the future, the absence of a pool of inmate or other cheap unskilled labor will cause vessel maintenance to take longer and, eventually, without additional unskilled labor, the boatyard will fall behind schedule and possibly compromise the ability of DSHS to maintain Coast Guard certification on all of its vessels.

At least two prior studies demonstrated that, with the low cost of inmate labor, the McNeil Island boatyard was able to maintain vessels at far lower cost than a commercial boatyard. Currently there are no inmate workers or other low cost unskilled laborers to assist with marine maintenance.

Options – Marine Transport of Passengers
Two alternatives to current operations were evaluated for the transport of passengers from the mainland to McNeil Island:

1) Use a Pierce County ferry to deliver passengers to the barge dock on the island,
2) Contract with Pierce County or some other third party to operate the passenger boats currently manned by state employees.

The **first alternative** proved not to be viable. It was determined during a test run that a tide at least 5 feet above mean sea level is required for the ferry to use the barge dock. Since passenger boats must reliably operate more than 20 hours per day, 365 days per year, there would be many days when the ferry could not serve all required crossings. This situation could be remedied by relocating or extending the barge dock. Based on Pierce County's experience with docks at Steilacoom and on Anderson Island, it is estimated this would cost approximately $12 million.

If the island requires ferry service over the long run (20 years or more), this kind of capital expenditure might be a good investment. However, at $735 per hour, the cost of operating one of the county's ferries for this service would be more than double the current cost of the entire Marine Department. Therefore, for both operating and capital cost reasons, using the Pierce County ferry to transport passengers is not a viable alternative.

The **second alternative** involves contracting with Pierce County or some other party to operate SCC's passenger boats. Because the same boats would continue to be used, fuel and maintenance costs would not change. Furthermore, since Coast Guard requirements dictate the number and type of crew needed to operate the vessels, there would also be no change in the how the boats are manned. The only cost difference would therefore be in the cost of personnel.

<u>Cost Considerations</u>
Pierce County contracts with a private company, Hornblower Marine Services, for operation of its ferries. The county is prohibited by law from making a profit, but if the county were to operate SCC's boats it would charge direct costs plus a 10 percent markup to cover the cost of general county overhead. It also would charge approximately $55,000 for one half the cost a ferry manager.

The following table compares the cost per hour of SCC marine transport staff to the direct and fully burdened cost of Hornblower marine transport staff used by Pierce County.

2011 PERSONNEL COSTS PER HOUR: SCC vs. PIERCE COUNTY

Job Class	Average Cost per Hour (salary + benefits)		
	SCC	Pierce County (Hornblower)	
		Direct	With OH
Captain/Master	$38.58	$45.17	$49.69
Senior Deckhand	$30.45	$26.17	$28.79
Assistant Deckhand	$24.03		

Interestingly, while the hourly cost of Pierce County/Hornblower marine transport staff is greater than the cost of SCC staff, the cost to operate the system would be less if the county's staff was used. The reason for this seemingly contradictory finding is the manner in which Pierce County is charged for Hornblower crews. The state workers are paid for 2080 hours per year even though, with vacations, holidays, training, and sick leave, actual hours on the job are generally several hundred hours less. Under Pierce County's contract with Hornblower, the county only pays for actual hours of operation. The lower number of hours under the Pierce County alternative more than offsets the slightly higher cost per hour for crews. The following table summarizes annual costs under the two scenarios. Calculations for this table are shown in Appendix D.

TOTAL COST FOR 22 HOUR PER DAY PASSENGER SERVICE
SCC vs. Pierce County

	SCC	Pierce
Crew	$941,969	$861,306
Management	$51,149	$54,869
Total	$993,117	$916,175

The difference in cost between these two scenarios is just under $77,000 per year. While it would constitute a reduction in service and introduce the potential for staff grievances (see below), savings could be approximately doubled if service were reduced to 20 hours per day. Given the issues discussed immediately below, it is questionable whether savings of this magnitude would be worth assuming the risks associated with such a change.

Marine Transport of Passengers – Risks and Other Considerations

In addition to some cost savings, the major advantage of contracting with Pierce County or some other third party to operate the passenger vessels is relieving senior administrators of the distraction of overseeing the operation of a function that has nothing to do with the core mission of the SCC.

On the negative side, there are significant personnel and union issues associated with contracting for a service historically provided by state employees. Contracting out would also reduce the institution's flexibility and control over this function and increase the likelihood of employee grievances over reasonable access to work and the ability to quickly respond to a family emergency or other need to return to the mainland on short

notice. In addition, if the state contracts with Pierce County or some other party for this service, there is no guarantee that future costs would not increase faster than under the current method of operation. Finally, if for some reason the contractor became unable or unwilling to provide this service, finding a replacement (or resuming SCC operation of the boats) could introduce delay and other risks during the transition.

Options – Marine Transport of Vehicles

The only alternative to the current system of transporting vehicles to and from McNeil Island to be evaluated was substituting the Pierce County ferry for SCC's tugs and barges. As noted above for the transport of passengers, the Pierce County ferry can only dock at the McNeil Island barge dock when there is a +5 foot or higher tide. While this limitation might not be a fatal flaw as it would be for the transport of passengers, it is a significant issue for vehicles as well. See the section below titled *Combined Ferry and Passenger Vessel Service – Risks and Other Considerations*, for further discussion of this issue.

Cost Considerations

If the issue of docking restrictions at McNeil Island due to tides can be worked around, using the Pierce County ferry in lieu of tugs and barges has a number of ramifications. Specifically, since the billing rate for use of the county's ferry ($735 per hour) includes crew, fuel, maintenance, and management, eliminating the tugs and barges has implications for all of these areas. These cost savings are summarized below. Calculation details may be found in the Appendix.

Pierce County Ferry Costs

The cost of using the Pierce County ferry in lieu of tugs and barges depends on the frequency of service. Operating the Pierce County ferry for 7.5 hours per day, three days per week throughout the year would cost $859,950 (7.5 hours x $735 per hour x 3 days per week x 52 weeks per year = $859,950). Since the current mode of operation provides this service four days a week, this constitutes a reduction in service. Under this alternative, each additional day of service added or subtracted per week costs or saves $286,650.

It should also be noted that the fact that the ferry can only dock at McNeil Island on +5 foot tides or higher is also a reduction in service.

If the state elects to use the Pierce County ferry, the contract should include a provision (at no additional cost) for an appropriate alternative vessel when the Pierce County ferry is out of service. This would occur at least once a year while one of the ferries was in dry dock for biannual service. It could also occur whenever either of the ferries was temporarily out of service for any other reason. Pierce County has indicated that it would pursue renting a vessel from the state ferry system or another entity if it enters into a contract to provide this service for SCC.

Possible SCC Cost Reductions

Using the Pierce County ferry in lieu of tugs and barges would eliminate all SCC personnel costs for captains and deckhands who currently provide this service. As noted above, total personnel costs for the crews operating the tugs and barges are estimated at a little over $281,000 per year.

While eliminating these positions would result in fewer Marine Department staff to supervise, using the Pierce County ferry adds a new administrative responsibility to monitor the contract and the quality of service provided by the county. Furthermore, since the crew for the tugs and barges constitutes less than 20 percent of the FTEs in the Marine Department, a reduction this small is unlikely to allow reduction in the 2.5 administrative staff that currently manages this function.

Substituting the Pierce County ferry for the tugs and barges would also reduce the amount of fuel used by marine services. Using current rates for bulk diesel, the total cost of fuel for the tugs is estimated to be approximately $41,583 per year.

Finally, if the Pierce County ferry were used to transport vehicles to and from the island, the existing fleet of tugs and barges could be surplused, thereby eliminating the cost of maintaining them. As noted above, there are three components to marine maintenance: scheduled haul outs, unscheduled haul outs, and in-water maintenance. The following table summarizes the estimated savings per year if the tugs and barges do not need to be maintained. The calculations for these estimates may be found in the Appendix D.

ESTIMATED SAVINGS IN MAINTENANCE COSTS
IF TUGS AND BARGES ARE ELIMINATED

Type of Maintenance	Tug/Barge Cost
Materials for Scheduled Haul Outs	$45,315
Materials for Unscheduled Haul Outs	$22,127
Materials for In-water Maintenance	$66,456
Total materials cost	$133,898
¼ of the 4 person maintenance staff	$72,408
Total maintenance savings	$206,306

As shown in the following table, the combined annual savings from crews, fuel, and maintenance totals $529,306. In addition, some portion of the $123,600 spent on insurance would also be saved. Based on the age, condition, and type of vessels, the savings on insurance from eliminating the tugs and barges would undoubtedly be less than half of this amount. Assuming the cost of insurance for the tugs and barges is 40 percent of the total premium, the additional savings would be just under $50,000, bringing the total potential savings of this option to approximately $579,000 per year.

ESTIMATED TOTAL SAVINGS FROM ELIMINATING TUGS AND BARGES

	Dollars
Captains and deckhands	$281,417
Fuel	$41,583
Maintenance of vessels	$206,306
Subtotal	$529,306
Assumed insurance savings	$50,000
Total	$579,306

A onetime source of revenue would also be generated by sale of the tugs and barges.

Marine Transport of Vehicles – Cost Summary

The cost of using the Pierce County ferry in lieu of SCC's tugs and barges is estimated to cost $280,644 more than it would save ($859,950 - $579,306 = $280,644) and reduces service from four days per week to three. Consequently, this option is not cost effective.

Marine Transport of Vehicles – Risks and Other Considerations

See *Combined Ferry and Passenger Vessel Service – Risks and Other Considerations* below for discussion of non-cost issues associated with using the Pierce County ferry in lieu of tugs and barges.

Options – Marine Maintenance

The only alternative to using the McNeil Island boatyard for marine maintenance is to use a commercial boatyard. Even though the loss of inmate workers increases the cost of unskilled labor for the McNeil Island boatyard, using a commercial boatyard becomes a viable alternative only if the size of the fleet is significantly reduced.

Cost Considerations

The current cost of marine maintenance is estimated to be approximately $546,000 per year – approximately 55 percent labor and 45 percent parts and materials. This figure does not include administrative costs or the cost of unskilled labor historically used to minimize the cost of this operation. Assuming that low cost unskilled labor – such as inmates from Tacoma Work Release – could be hired at a cost of $10 per hour, four full time workers would cost approximately $80,000 per year. Using this assumption for unskilled labor, the cost of the McNeil Island boatyard is approximately $626,000 per year.

As noted in the description of current operations, marine maintenance consists of three primary components: scheduled haul outs of vessels for maintenance, repairs, and Coast Guard certification; unscheduled haul outs for repairs that cannot be made while the boat is in the water; and in-water maintenance and repairs. Boatyard workers also maintain and repair the three docks on the island.

The cost of using a commercial boatyard for scheduled and unscheduled haul outs was estimated by escalating costs identified in a 1996 study (Woodward & Clyde, *1996*

McNeil Island Boatyard Consultation) by the increase in commercial boatyard shop rates (for labor) and the increase in the Seattle/Tacoma/Bremerton consumer price index (for materials). The cost of in-water maintenance uses the same methodology but doubles the cost of labor to account for the premium charged for on-call services for boats not in the contractor's boatyard. The details of these estimates are shown in the Appendix.

ESTIMATED COST PER SERVICE
USING COMMERCIAL BOATYARD & CONTRACT SERVICE

Type of Maintenance	Estimated Cost per Service – 2011 Dollars			
	Labor	Materials	Other*	Total
Scheduled haul outs (each)	$86,609	$17,150	$8,733	$112,492
Unscheduled haul outs (each)	$3,162	$8,851	$3,246	$15,259
In-water maintenance per vessel per year (each motorized vessel)	$27,944	$22,152	NA	$50,096

* "Other" includes dry dock charges and the cost of moving a boat and crew to and from the commercial boatyard

Essentially all of McNeil Island's vessels – including the barges – have a scheduled haul out every two years.[7] With eight vessels, the McNeil boatyard averages two haul outs per year.

In the 1996 study there were five unscheduled haul outs for a fleet of eight boats and barges. For purposes of this analysis it is assumed that there is one unscheduled haul out for each boat every two years.

If the McNeil Island boatyard were closed, there would still be a need to maintain the floats and docks on the island. This work has historically been done by the boatyard shipwrights. Without the shipwrights, it would be necessary to add approximately ½ FTE of skilled labor to the maintenance department in order to continue this work. Half the cost of a shipwright is used to estimate the cost of this half FTE.

Finally, if a commercial boatyard and contract maintenance services were used, there would be an ongoing administrative need for someone to monitor the contracts, schedule routine maintenance, arrange for unscheduled repairs and maintenance, and monitor the quality of the work received.

The costs of using a commercial boatyard and contract services varies based on the number of vessels being maintained. The following table summarizes those costs based on a fleet of eight, three, or two vessels. The details of these calculations are shown in the Appendix.

[7] Tug haul outs are not mandated by Coast Guard regulation, but tug maintenance may not prudently be delayed beyond 30 months. To simplify the analysis, an average of 24 months is used for tugs.

ESTIMATED COST OF COMMERCIAL BOATYARD & CONTRACT SERVICES
Based on number of vessels in fleet

Type of Maintenance	Size of Fleet		
	6 boats + 2 barges	3 boats + 0 barges	2 boats + 0 barges
Scheduled haul outs	$449,964	$168,737	$112,491
Unscheduled haul outs	$61,032	$22,887	$15,258
In-water maintenance	$300,576	$150,288	$100,192
Dock maintenance	$36,500	$36,500	$36,500
Contract monitoring	$83,817	$41,909	$41,909
Total of commercial boatyard	$931,889	$420,321	$306,350
Cost of McNeil boatyard	$626,000	$626,000	$626,000
Cost/(Savings)	$305,889	($205,679)	($319,650)

Clearly, if the current fleet of three passenger boats, three tugs, and two barges is retained, it continues to be cheaper to use the McNeil Island boatyard instead of commercially available services. However, this advantage disappears if the size of the fleet is reduced to three or fewer boats. This, of course, is not possible without eliminating the tugs and barges – thereby requiring the use of the Pierce County ferry to transport vehicles to and from the island.

Marine Maintenance – Risks and Other Considerations

In addition to potential cost savings, using a commercial boatyard and contract services for vessel maintenance and repairs would reduce some administrative burden and thereby provide senior administrators more time to focus on the core mission of the SCC. A commercial boatyard would also perform maintenance and repairs during haul outs in far less time than the 12 weeks it currently takes for a major haul out at the McNeil Island boatyard. An average of three weeks is assumed for this analysis. At a minimum, this would allow boats to be in service for an additional two months during the year of a scheduled haul out.

One disadvantage of contracting for maintenance services is the likelihood of a significantly slower response to emergencies. The current mode of operation allows immediate attention to emergency maintenance and repair issues. The timeliness of emergency response would undoubtedly deteriorate if a contract service were used. In addition, while this applies to the McNeil Island boatyard as well, no boatyard has unlimited dry dock capacity. Consequently, if an unscheduled haul out were necessary when the commercial boatyard's dry docks were in use, the McNeil boat would have to wait in line, thereby extending the time the vessel was out of service.

Another negative would be the loss of the detailed knowledge current marine maintenance staff have of the McNeil Island vessels. No commercial boatyard could duplicate this knowledge. This, in turn, could result in failure to recognize issues that the current staff would see or in the inefficient or inappropriate repair of critical components.

It seems likely that switching to a commercial boatyard would have at least some negative impact on the quality of maintenance services.

In addition, contracting for marine maintenance would have some of the same negative impacts of contracting for other parts of marine services. This includes the personnel and union issues associated with contracting out; a reduction in the institution's flexibility and control over this function; and greater uncertainty over the cost of future services.

Finally, reducing the number of passenger vessels from three to two requires reliance on the Pierce County ferry to transport passengers if both passenger boats are out of service at the same time. Since the Pierce County ferry schedule must be adjusted based on the tide, and the ferry itself is subject to service interruptions like any other vessel, a back-up to the back-up would also be required. This could likely be obtained through contract with DOT or a private operator.

Option- Marine Transport: Combined Ferry and Passenger Vessel Service and Schedules provided by Pierce County

After reviewing the first draft of this report, Pierce County suggested an additional option where the ferry would carry passengers as well as vehicles whenever it was in operation. During the day shift, the same captain and two of the deckhands needed to operate the ferry would operate the passenger boats on crossings when the ferry was not being used. By coordinating the ferry and passenger boat schedules, and using the same crew for both vessels, fewer staff would be needed to provide the same level of service.

The initial proposal by Pierce County would have provided passenger service 19½ hours per day from 5:30 AM to 1:00 AM seven days per week. The Pierce County Ferry would operate for four hours during the middle of the day, three days per week, carrying both vehicles and passengers. The existing passenger boats would provide service for the remaining 15½ hours. On the days the ferry was not used, all transports would be by passenger boat.

The original schedule proposed by Pierce County is too short for anyone needing a vehicle on the island for more than three hours. Contractors and repair personnel could not operate on such a schedule.

To make a combined ferry and passenger boat schedule feasible it is necessary to extend total hours of operation and to provide ferry service both in the morning and late afternoon. Pierce County Department of Public Works indicated that splitting the ferry schedule into two segments would be possible.

Making these adjustments, the proposed schedule for combined operation of the ferry and passenger boats would be as follows:

PROPOSED SCHEDULE - COMBINED FERRY/PASSENGER BOAT OPERATION
(From and To times represent first departure and last docking)

Day of Week		Passenger Boat	Ferry	Passenger Boat	Ferry	Passenger Boat
Mon/Wed/Fri	From:	525 AM	8:20 AM	11:50 AM	4:20 PM	5:50 PM
	To:	8:20 AM	11:50 AM	4:20 PM	5:50 PM	1:00 AM
All other	From:	5:25 AM	(NOTE: the passenger boats would be used when tides preclude use of the ferry)			
	To:	1:00 AM				

This schedule eliminates two current crossings: the 1:25 AM run from Steilacoom to McNeil Island and the 2:20 AM run in the opposite direction. While this constitutes a reduction in service, these two nighttime runs averaged no more than one passenger per crossing in July 2011.

The precise hours for each type of service may require some adjustment from those indicated in the table above but the intent is that the ferry would make two round trips in the morning to accommodate deliveries and short turn-around services (such as garbage pickups and fuel delivery). The ferry would also make one round trip in the late afternoon to return vehicles to the mainland that need to be on the island for longer periods of time.

Combined Ferry and Passenger Vessel Service – Cost Considerations

The option of using a combined ferry and passenger vessel schedule has implications for the cost of crews, fuel, maintenance, administration, and insurance.

Under this option, crew shifts would start and end one-half hour before the first sailing and one-half hour after the last docking. Therefore the cost of operation exceeds the hours of operation by one hour per day. Because there is down time between each scheduled sailing, this would only apply to the passenger boats. Start-up and shut-down of the ferry could occur while the crew was waiting for the next scheduled departure.

As shown in the Appendix, the estimated cost of using the Pierce County ferry on some runs, and Pierce County crews to operate the McNeil Island passenger boats on the other runs, is $1,462,891 per year. All costs associated with the tugs and barges would be eliminated. Fuel costs would go down because there would be one less round trip by passenger boat every day plus three fewer every day the ferry was in operation. The cost to maintain the passenger boats and the floats and docks would not change. Administrative and insurance costs would be reduced due to having fewer staff to supervise and fewer vessels to insure. The following table summarizes the estimated costs of this option.

ESTIMATED COST OF A COMBINED FERRY & PASSENGER VESSEL SCHEDULE USING PIERCE COUNTY CREWS & McNEIL ISLAND BOATYARD
(Assumes three passenger vessels)

		Passenger Vessels	Ferry	Piers, Docks, Floats	Total
	Crews	833,147	574,875		1,408,022
	Fuel	78,244			78,244
Maint	Materials	122,333			122,333
	Skilled labor	126,524		36,856	163,380
	Unskilled labor	40,000			40,000
	SCC Admin	162,495	NA		162,495
	Pierce Admin				54,869
	Insurance	74,160	included		74,160
	Total	$ 1,436,903	$ 574,875	$ 36,856	$ 2,103,503

The cost of this alternative is approximately $126,000 per year less than the cost of current operations (2,229,143 – 2,103,503 = 126,400). If a commercial boatyard were used to maintain the passenger boats, savings would increase to approximately $213,000. Finally, if the number of passenger vessels was reduced from three to two, and maintenance was provided by a commercial boatyard, annual savings would be approximately $327,000. With only two passenger boats, the emergency backup (in case both boats were out of service) would be provided by the ferry. It should be noted that, because the ferry cannot dock on all tides, using the ferry as an emergency backup for moving passengers is not a desirable option.

It must be emphasized that these savings only come through a reduction in service frequency and reliability and in increased risks to the operation of SCC. These issues are discussed in the following paragraphs.

Combined Ferry and Passenger Vessel Service – Risks and Other Considerations

There are two important considerations that may outweigh the cost advantage of this alternative. The first is whether or not SCC can be adequately served if the ferry operates only three days per week and has runs that are periodically rescheduled or cancelled because of tides. The second is control of contraband if the ferry is used for passengers.

The effect of tides on ferry service would presumably not be a serious problem for SCC trucks moving between the commitment center and the Western State Hospital warehouse where it receives most of its deliveries. Schedule changes based on tides can be predicted months in advance and delivery runs could be rescheduled as needed.

Inconsistent schedules due to tides could, however, be a problem for regularly scheduled services by outside providers and especially for occasional services such as construction contractors or emergency services like repair of downed power lines. Having fewer days of service and limitations on when the ferry can dock due to tides would also compromise the ability of SCC or mainland mutual aid responders to provide timely assistance to one another. For example, if there were a wildfire that required outside assistant or a

significant incident at the commitment center that required the presence of the State Patrol, emergency responders would want to bring their own vehicles and equipment to the island. This presumably would call for as rapid a response as possible and, if the tide was too low, the Pierce County ferry would have to wait until conditions were safe to land the ferry at McNeil Island.

The effect of this possible delay must be weighed in comparison to the response time possible with the current system of tugs and barges and the probability of such an event occurring. Since there has never been an occasion when outside response teams have had to enter the secure compound at the commitment center, the probability of this happening is presumably very low. Furthermore, if the need for emergency transport of vehicles occurred outside the days or hours when tugs and barges were in service, it would be necessary to transport a crew from wherever they were (perhaps on the mainland) to Still Harbor and move a tug and barge to Steilacoom. This could easily take several hours – during which time there can be a significant change in the level of the tide.

The extent of the problem – i.e. days when tides are too low for the ferry – is analyzed in the Appendix. The conclusion of this analysis is that during the months of the year when tidal variation is the greatest (March through September), there are many days when ferry service would be reduced to two, or even one, roundtrip per day.[8] As noted above, contractors, repair personnel and perhaps others, need transports early and late in the day. These functions could be seriously affected – especially when ferry service was limited to single roundtrip per day.

The second major issue associated with use of the Pierce County ferry to transport passengers is the increased risk of introducing contraband to SCC. Under the existing system of passenger boats, everyone must go through a locked security checkpoint before boarding the boat to McNeil Island. In contrast, the Pierce County ferries are moored outside the secure area used by the passenger boats. These ferries are large vessels with literally thousands of places in which to hide contraband. While passengers could be screened at the existing security checkpoint, they would have to go outside the secure area in order to board the ferry. It would also be possible for someone to smuggle contraband aboard the ferry while it was docked and not being closely observed – for example, at night.

The procedure used by correctional facilities – and by the SCC as well – to reduce the flow of contraband hidden where someone might later smuggle it into the facility is called a “shake down.” A shake down of one of the Pierce County ferries would literally take several people many hours – a thorough shake down could take all day.

The importance of this issue is easy to minimize for those not familiar with prisons and other secure institutions. In the opinion of the authors of this report, using the Pierce County ferry to transport passengers to McNeil Island would significantly increase the risk of introducing contraband to SCC.

[8] It should be noted that the months with the most frequent low tides are also the months when the risk of wildfire is the greatest.

Finally, there are several other factors to consider with this option. On the positive side, using the Pierce County ferry in lieu of tugs and barges, and Pierce County crews to operate the passenger boats, would reduce some administrative burden and thereby provide senior administrators more time for focus on the core mission of the SCC.

On the negative side, using the Pierce County ferry and crews would also reduce the institution's flexibility and control over marine transports. In addition, by contracting for the service, there is no guarantee that future costs would not increase faster than under the current method of operation.

Marine Services – Summary of Findings

The primary charge of this study was to identify cost-effective alternatives that could reduce the cost of operating the Special Commitment Center due to its island location. As the most expensive component of island specific costs, great attention has been paid to marine services. While the analysis contained in this section concludes that minimal savings could be obtained with some alternatives, in every case, the savings come with a reduction in service effectiveness. Whether a reduced cost accompanied by a reduced level of service and/or introduction of other risks is actually cost-effective is a matter of judgment.

The two alternatives which show positive savings are:

1. Use Pierce County crews to operate the McNeil Island passenger boats (approximately $77,000 per year) and
2. Use the Pierce County ferry to carry passengers and vehicles during part of the day, three days per week; use Pierce County crews to operate the passenger boats at all other times; eliminate the tugs and barges and their associated costs (approximately $126,000 per year).

While it would constitute a reduction in service and introduce the potential for staff grievances, savings associated with the first alternative could be increased by approximately $78,000 per year if service was reduced from 22 hours per day to 20. Savings associated with the second alternative could be increased to approximately $327,000 if a commercial boatyard was used and the number of passenger boats was reduced from three to two.

There are significant personnel and union issues associated with both alternatives. If an on-coming shift of employees cannot get to the island, it will prevent the current shift from being able to go home (and visa versa). This has implications for staff retention, recruitment, overtime costs and labor disputes. If there are fewer boat runs there is an increased likelihood of employee grievances over reasonable access to work and over the ability of employees to quickly respond to a family emergency or other reason to return to the mainland on short notice. The second alternative, while saving the most money, carries additional serious risks and compromises to service effectiveness. Among the

latter are the inability to provide ferry service to the island under certain tidal conditions, and the increased risk of introducing contraband to the Special Commitment Center.

3.3 WATER SUPPLY AND WASTEWATER TREATMENT

There is some overlap in staffing for water supply and wastewater treatment. Although employees share common skill sets, licensure requirements and roles are different. Four employees are assigned to this area, one of which is licensed for both water and wastewater treatment. In terms of workload, about 1.5 FTE works on water supply and 2.5 are assigned to wastewater.

Water Supply

McNeil Island currently has a surface water supply system. The water supply plant is located about 500 meters southwest of Butterworth Reservoir and sits on a slope overlooking Puget Sound. The making of potable water only occurs when a water supply operator is in and around the water treatment plant. This production does not occur automatically and one of the operators must be physically present to oversee the production. Furthermore, the water lines are reported to be losing about fifty-percent of the production, so approximately 100,000 gallons must be produced in order to meet the SCC need of 50,000 gallons per day. This creates more work than is necessary.

Historically all of the island's water needs were being met through operating seven hours per day, seven days a week. With the significant reduction in demand caused by the prison closure, production can occur in 2 or 3 hours a day, seven days a week. Despite the reduced hours needed to produce water, Department of Ecology regulations do not allow a reduction in staff.

SCC staff would like to permanently block the water lines in unused areas of McNeil Island in order to reduce water wastage and line maintenance. This includes the prison and all residential homes. Additionally, SCC would like to decommission three of the four remote pumping stations that return water to Butterworth Reservoir for future treatment. However, SCC reports being instructed to postpone work on the water lines and pumping stations until the deed requirements have been resolved. Absent the blocking of lines, a crew working under the supervision of the water distribution manager must flush the unused lines frequently. There are also several double-back check valves that need regular maintenance until the section of the water system is capped-off and abandoned.

The water treatment facility is antiquated to the point that Pierce County is not willing to offer contract service to operate the system without upgrades. The logical solution to the current problem is a well system. This requires a primary and secondary well for back-up in the event of malfunction.

Capital Investment

DOC recently installed a well system for the 300-bed Mission Creek Corrections Center for Women. Using those costs as a base, we can estimate the cost to SCC for a two-well system on McNeil Island.

ESTIMATED COST OF A WELL SYSTEM	
Well Drilling 200 feet in 2009	$53,209
Well Pump & Hook up in 2010	$137,163
Total MACC	$190,372
Soft Cost Factor	50%
Soft Cost	$95,186
Sub-total	$285,558
Island Factor Rate	20%
Island Factor Cost	$57,112
Total Cost per Well	$342,670
Wells needed	2
TOTAL PROJECT COST	**$685,339**

It should be noted there is no guarantee that water in sufficient quantity and quality will be found on McNeil Island within this same cost scenario. A test well should be drilled to determine if this is a viable alternative.

Operating Costs

DOC has a number of facilities the size of SCC on well systems. The maintenance costs are significantly reduced to the point that a single FTE maintains the water and wastewater systems. (It should be noted DOC's facilities do not have miles of water lines to maintain.) The Wastewater Treatment Plant Operator at Cedar Creek Corrections Center reports the water system only occupies five to ten percent of his time. The wells require daily chlorine residual testing which takes about 15 minutes per day. The only other maintenance is a once per month water sample submitted to the county for fecal coliform testing. Otherwise, the wells are automated with a float system that starts and stops the pumps at pre-set levels. If a reservoir drops below a certain level, an audible and flashing alarm trips, alerting the staff on duty that the automated system is not functioning properly.

Annual Staff Savings

Although a well system would normally require only one-tenth of one FTE to maintain, additional staff time is required to monitor and maintain the miles of water line around McNeil Island. Therefore, one-half FTE has been allotted to this scenario. The estimated annual staff savings for a well system on McNeil Island are as follows:

ANNUAL STAFF SAVINGS (in 2011 dollars)		
	FTEs	Dollars
Current Staffing	1.5	$ 104,680
Proposed Staffing	0.5	$ 34,893
Annual Staff Savings	**1**	**$ 69,787**

As shown in the table below, it would take 9.8 years to break even on the capital investment. This is largely due to the need to enhance staffing for maintaining the miles of water lines.

SAVINGS OVER 25 YEAR INVESTMENT		
Capital investment	$	685,339
Annual staff savings	$	69,787
Years of investment		25
Year savings begin(break even)		9.8
Years remaining		15.2
TOTAL STAFF SAVINGS	**$**	**1,059,330**

If a well system were installed, it is likely additional savings would accrue due to avoided capital costs associated with repairing and maintaining the existing surface water system.

Island Factor

The following table estimates savings if there were not miles of water line to maintain. Annual savings would be almost double and begin earlier. Once again, the fact that an entire island must be maintained rather than a water loop around a facility, makes the option of a well system less cost-efficient than under normal circumstances.

STAFF SAVINGS WITHOUT MILES OF WATER LINES		
Capital investment	$	685,339
Annual staff savings	$	94,212
Years of investment		25
Year savings begin(break even)		7.3
Years remaining		17.7
TOTAL STAFF SAVINGS	**$**	**1,669,964**

Wastewater Treatment

The waste water treatment plant is located near the former prison and close to the shoreline. It does not require a constant presence on site, but it does require daily testing and equipment monitoring. The wastewater treatment facility has a certified lab and many of the required tests are performed in-house. Currently there are 2.5 certified

wastewater treatment operators who perform this duty at a cost of about $174,000 per year in salaries and benefits.

A specific hazard associated with wastewater treatment is the risk of electrical equipment failure causing spillage into Puget Sound due to failure of a lift station. When this happens, an electrician needs to respond within 30 minutes. Since no electricians live on island, if such an incident occurs outside normal working hours, this response time is not likely to be met.

Wastewater systems rely on ratios of aerobic bacteria for some of the breakdown of materials. The current wastewater treatment system is sized for 1,500 residents plus staff. As a result of only serving 300 residents plus staff at SCC, the system runs the risk of requiring added material in order to sustain required bacteria levels. Once again, Pierce County was reluctant to provide a maintenance cost without upgrades to the McNeil Island system. This caused the study team to look into the option of a less staff-intensive septic system.

DOC recently purchased a septic system for Mission Creek Correctional Center for Women (MCCCW) and provided the study team with cost data. While such a system for SCC would have to pass environmental review, it is the only option that is potentially more cost effective than the current system. Since the MCCCW system expansion was for 220 offenders, we escalated costs to 300 residents and added the island factor.

ESTIMATED COST OF A SEPTIC SYSTEM		
Septic fields	$	1,043,900
Soft cost factor		50%
Soft cost	$	521,950
Subtotal	$	1,565,850
Island cost factor		20%
Island cost	$	313,170
TOTAL	**$**	**1,879,020**

A new septic system would be an automated and alarmed system so that if something were to go wrong, an operator would be notified immediately. It is estimated that no more than .5 of one FTE would be required to operate a septic system. Therefore, the potential staff savings are significant.

ANNUAL STAFF SAVINGS (in 2011 dollars)		
Currently 2.5-WTPOs	$	174,467
New level at .5 FTE	$	34,893
ANNUAL SAVINGS	**$**	**139,574**

Despite significant staff savings, replacing the existing wastewater treatment facility with a septic system would take about 13.5 years to recover the capital investment through staff savings.

YEARS TO BREAK EVEN		
Septic system cost	$	1,879,020
Staff savings per year	$	139,574
YEARS TO BREAK EVEN		**13.5**

Similar to the water supply system, it is likely additional savings would accrue due to avoided capital costs associated with repairing and maintaining the existing system.

Pierce County sent representatives to study the water and wastewater systems. The County subsequently decided the McNeil Island systems required upgrades to the tune of $250,000 before they would be willing to consider assuming a contract to provide these services.

Combined Annual Savings

Since the maintenance duties of a well system are minimal and one dual licensed operator can service both water and wastewater treatment systems, it is logical to look at the savings of both systems as a whole.

COMBINED ANNUAL SAVINGS (2011 dollars)		
Water	$	69,787
Wastewater	$	139,574
TOTAL	**$**	**209,360**

CHAPTER 4 - SERVICES FOR WHICH NO CHANGES ARE RECOMMENDED

A number of services are either already as efficient as possible or are in a state of flux to the point that it was not possible to know how much SCC will spend on the service in the future.

The services addressed in this chapter include armed response to incidents, electrical supply, off-island escorts, fire protection and suppression, fuel supply and monitoring, hazardous materials response, vehicle and heavy equipment maintenance.

4.1 Armed response to incidents

When the prison was open, DOC provided emergency armed response to incidents at SCC. However, while DOC occasionally placed armed correctional officers at the perimeter of SCC, they never actually entered the facility. Since the prison closure, SCC has trained Security Guard 2's who can provide tactical response using such things as pepper spray, tasers and non-lethal trajectories. SCC also has an agreement with the Washington State Patrol if an incident requires outside assistance.

4.2 Electrical supply

SCC purchases power from Tacoma Power and maintains the system through in-house staff and contracts with the Potelco Electrical Contracting Company for large repairs. The distribution system consists of primary and backup electrical power lines (some of which are highline and some of which are underground) which can be used for routing or rerouting of electrical power.

To mitigate the frequent challenges created by line failures from bird strikes and storm damage, SCC reduced dependence on highline electrical service by moving as much power cabling as possible underground. As of June 2011 all electrical power between the point of connection to the island and the SCC total confinement facility and the SCTF program is now underground. However, many overhead lines are still needed, including supply lines to the main dock, the barge dock, Still Harbor, the water treatment facility, and the fire department. SCC recently obtained a part time high voltage electrician position to address highline electrical maintenance needs. This position is shared with Western State Hospital.

There are three co-located diesel powered generators capable of operating everything needed except for the SCTF which has its own stand-alone generator.

Existing Equipment

In addition to electrician tools, the highline service has two vehicles consisting of a bucket truck for reaching the power lines and an auger truck for installing poles.

Other Alternatives Considered:

SCC reports DSHS met with Tacoma Power in February 2011 to discuss the possibility of Tacoma Public Utilities assuming full responsibility for the McNeil Island power grid from shore line to shore line and throughout the island. Tacoma Power stated that they had no interest in assuming responsibility for the McNeil Island power grid citing their experiences with Ketron Island. They were certain their maintenance costs would exceed

anything they could possibly recover from the sale of electricity to McNeil Island. They recommended DSHS consider using a private vendor such as Potelco Electrical Contracting to operate the McNeil Island power grid. Tacoma Power also said that even if they were amenable to operating the power grid, a company like Potelco would provide the service for a lower cost.

4.3 Escort of residents to and from court and other off-island destinations

When the prison was open, SCC paid DOC for four full-time armed officers for escorting residents to and from court and medical appointments. Since the prison closure, SCC has established and trained security guards to perform this function.

4.4 Fire Protection and Suppression

Prior to the prison closing, DOC operated the McNeil Island Fire Department with a chief, five assistant chiefs and 12 inmate firefighters. The inmates lived at the fire station and were available for work at all times. The SCC fire department also employs six FTEs: one chief and five assistant chiefs.

Each work shift consists of one assistant chief, who is also EMT-qualified, and four security guards who perform security work unless called out to respond to an emergency. The security guards have 160 hours of fire fighter and hazmat response training and an additional 64 hours of emergency medical responder training. The cross-trained staff essentially fills a role similar to a volunteer fire department. If there is a service call, on-duty staff members assist the on-duty assistant chief. Current staffing of only one person at the fire station at any given time is obviously the least number possible.

SCC also has intergovernmental agreements with the Anderson Island and Steilacoom Fire Departments to assist each other as needed. If a large brush fire were to occur that the McNeil Department could not extinguish with its own resources, the Department of Natural Resources would be called for assistance.

Fire Department Responsibilities

The fire department on McNeil Island has a broad range of responsibilities including:

<u>Ambulance Service</u>

There are two ambulances at the McNeil Island Fire Department. Both are in good condition and fully equipped. The ambulances are normally crewed with 4 individuals when they respond. Only two staff are required by RCW & WAC, but it takes 4 people to load the patient from the ambulance to the speedboat on the McNeil Island side and from the speedboat to the ambulance on the Steilacoom side. These two ambulances are augmented by two command vehicles / aid cars, which are both equipped to provide emergency medical care. Ambulance response makes up 55 percent of the response work performed by the McNeil Fire Department.

<u>Speedboat Evacuation</u>

There is one primary speedboat used for medical evacuations from McNeil Island that is specially equipped for that purpose. This speedboat is backed up by two patrol boats that

can also perform this duty, but the patrol boats place the patient to more weather exposure. If weather or patient condition prevents the use of the speedboat, the patient is evacuated by helicopter.

Response to Building Fires
There are two fully equipped fire trucks at the McNeil Island Fire Department. One is a ladder truck and the other is a water or "pumper" truck. Both trucks require a minimum crew of four fire responders.

Response to Wildfires
Response to wild fires is considered both a safety and a deed compliance issue. The McNeil Island Fire Department has a specialized fire truck built to respond to off-road fire locations. This truck has a 350 gallon water tank and can tow a containerized trailer that has adequate equipment for 12 individuals to fight a wild fire.

The Fire Department's wildfire response capability is augmented by a Fish & Wildlife truck that holds 150 gallons of water. When the prison was in operation the prison-based McNeil Island Road Crew could bring in heavy equipment and pre-position bulldozers and graders to be quickly put into operation if a wild fire was to break out. SCC only has one heavy equipment operator, so it is no longer feasible to pre-position equipment. If the fire cannot be contained, the Department of Natural Resources is contacted. (To date, this has not happened.)

Diving Operations
The Fire Department has two employees who perform underwater diving activities in support of the Marine Department. They keep their essential equipment at the fire station. Typical work includes freeing line from propellers and recovering materials that have fallen from the dock in the course of maintenance or passenger transit.

Fish & Wildlife Matters
Support of Fish & Wildlife matters is considered both a regulatory and deed compliance issue and is a primary responsibility of the fire department. The lead worker on duty is considered the compliance officer responsible for implementing Fish & Wildlife directives pertaining to injured animals, etc.

Maintenance of Fire Fighter Equipment
In addition to the equipment mentioned above, there are over twenty sets of turn-out equipment in various sizes available to support individual fire fighters when they respond to emergency calls. This includes helmets, pants, coats, boots, axes, etc. There are also 12 SCBA's (self-contained breathing apparatus) available. The fire department staff maintains all equipment with the exception of vehicle repairs.

The Fire Station
The fire station is located adjacent to McNeil Island Correction Center. It has four sections:

1. Indoor Vehicle Parking**:** The fire department currently has interior bays to park the two fire trucks, one wildfire truck, and both ambulances. The two Hazmat response vehicles, containerized wildfire trailer and the two command vehicles/ aid cars are parked outside.

2. Hose Drying: There is an interior hanging tower for hose drying adjacent to the vehicle parking bay.

3. Operations Command: There is office space for the chief, assistant chief and the on duty fire captain. Additionally, a classroom doubles as an incident command center. This area has telephones pre-installed as well as locked shelf space for incident command materials for each section of the center.

4. Living Quarters: The fire station has bathroom and bunkhouse facilities for seven firefighters. There is also a full kitchen.

Ambulance Evacuations
In 2010 the McNeil Island Fire Department transported 31 SCC residents and staff off-island for medical emergencies. Additionally, there were seven medical transports of SCC residents who were medically infirmed and unable to make the return journey to SCC from the Steilacoom dock without ambulance assistance. There were also 12 DOC staff and inmates evacuated by ambulance from the work areas/activities for which SCC has now assumed control, i.e. marine boatyard, docks, automotive/diesel shops and island maintenance work crews.

Air Ambulance Evacuations
In 2010 there was one SCC resident evacuated from McNeil Island by air ambulance. There were no DOC staff members or inmates evacuated by air ambulance from the activities for which SCC/DSHS has assumed control. The current cost of an air ambulance flight is based on a DOC-negotiated rate that includes all prisons. This rate, using Airlift Northwest as the flight provider, has a liftoff fee of $10,000, plus a patient carry charge of $100 per "loaded" air mile. The "Life Flight" company only charges one way from point of pickup to destination. It is roughly 12 air miles from McNeil to Tacoma General and St. Joseph Hospitals, and 26 air miles to Harborview Medical Center in Seattle.

Using the $10,000 lift off fee with $100 per air mile, it would cost about $11,200 to Tacoma and $12,600 to Seattle, not including medical procedures involved en-route. Where the patient goes is determined based on several things, but generally patients go to Harborview with Step 1 Trauma (major trauma), and they go to Tacoma General or St. Joseph's for medical issues (heart etc.). Tacoma will also take Step 2 and Step 3 Trauma patients.

In conclusion, SCC needs to maintain an on-island fire department for immediate response to fire and medical emergencies. Since staffing is already at a minimum level, there are no current opportunities for further cost-efficiency.

4.5 Fuel Supply-Monitoring and Maintenance

McNeil Island has four above-ground diesel storage tanks. Diesel fuel is delivered to these tanks by a vendor transported to the island on one of the barges. Boats are fueled on the McNeil Island side by gravity feed to the main dock. Vessel fueling requires two certified marine staff.

Diesel fuel is delivered to boilers and generators by transferring the fuel from the tanks to a truck and then trucking the fuel to where it is needed.

Gasoline and propane are delivered via dedicated barge runs approximately two times per week.

4.6 Initial Hazardous Materials Response

The McNeil Island Fire Department has a primary role in HAZMAT and cleanup on land and the water. To support this role, the fire department has two support trucks and access to patrol boats for deploying floating containment booms. There is a flatbed truck loaded with extra floating boom, which is primarily intended for use at Still Harbor. There is also a panel truck with oil absorbing materials and some mass casualty response equipment. SCC reports these vehicles are old, but serviceable and the equipment contained on the vehicles is also serviceable.

The Fire Department uses existing patrol boats to place containment booms on the water and to apply absorbent materials. The current fire department staffing model allows the department to rapidly deploy this equipment with minimal delay. Additionally the fire department is augmented by the maintenance department as all of the SCC maintenance employees undergo a 40 hour HAZMAT response training and an eight hour annual recertification training on HAZMAT response.

SCC also supports hazmat incidents at Anderson Island and Chambers Bay via the GRP (geographical response plan).

4.7 Vehicle and Heavy Equipment Maintenance

SCC had 41 motor vehicles prior to taking control of McNeil Island on April 1, 2011. This included buses for transporting staff between the dock and the facility, as well as two additional buses to transport staff to and from the Steilacoom Dock and staff parking area at Western State Hospital.

When the prison closed, DOC left 69 vehicles and 53 pieces of heavy equipment. SCC's total motor vehicle count is now 163. The staff is in the process of assessing which vehicles to keep and which to surplus. Additionally, in the future, at least some of the motor vehicle maintenance will be performed by DSHS's Consolidated Maintenance pool. It is assumed the consolidated maintenance function will provide a more cost-efficient process. Therefore, it was not necessary or practical to develop options at this time.

CHAPTER 5- SERVICES NOT FULLY PERFORMED

As mentioned earlier, without the replacement of inmate laborers, some services are not being fully performed. This is particularly true for road maintenance and land management. Road maintenance is necessary in order to keep the many miles of road on McNeil Island passable and land management is required by the federal deed and state agencies.

5.1 Road Maintenance

Under DOC, the road maintenance section operated with one FTE. It also had a seasonal crew with an additional employee and four unskilled inmate laborers. SCC has one heavy equipment operator, but no seasonal or unskilled crew. Therefore, a number of the tasks are not being accomplished.

The duties of road maintenance under DOC included:

- Road repair using heavy equipment,
- Salt and clear roads during the winter months,
- Removal of trees that have fallen and affect essential functions,
- Noxious weed control,
- Wildfire risk mitigation (grass cutting work all summer),
- Removal of waste sludge from the waste water treatment plant and spreading it on the fields daily, and;
- Keeping the sludge spreading fields cut to DOE standards

Fortunately, the main road from SCC to the passenger dock was recently re-paved and should not need much maintenance (other than snow removal) for the near future. The remaining roads are in varying condition including some that are tree lined and unpaved. The map below identifies various roadways along with their required level of maintenance (A being the highest level of maintenance and C the lowest).

SCC reports DOC leaving the roads in good condition. However, due to SCC having just taken control of road maintenance over the past spring and summer months, the impact of northwest winters on road conditions is not fully known. Staff are predicting that snow removal, fallen tree removal and road grading will exceed available labor resources.

Pierce County representatives reviewed the roads and submitted a price list of unit costs for road maintenance costs. (See appendix.) However, without knowing exactly what needs purchasing, they were not able to estimate costs. Pierce County also cited the example of Anderson Island where, while they perform the service because the island is part of the county's tax base, maintaining the relatively few miles of road on the island costs substantially more per mile than other county roads.

Another, perhaps more viable option for the immediate future, is the use of SCC resident laborers for at least some of the work.

5.2 Land Management

Noxious weed control is a regulatory compliance issue. The two main noxious weeds on the island are Tansy Ragwort and Scotch Broom. Years ago, under the federal system, the fields were mowed and hayed. This helped control noxious weeds. Today, the fields are

overgrown and can no longer simply be mowed. When DOC was responsible for weed control, a crew of four DOC inmates working full-time during the late spring and summer months performed this task. Pierce County, whose ordinance requires noxious weed control, performed annual inspections.

SCC staff estimate it would take a crew of ten inmates four months of weed control each year. Inmates from Cedar Creek Corrections Center may be available to do this work. The cost is estimated at $500 per work day for a ten man crew for four months, for a total cost of $44,000 annually.

Another function of land management is the maintenance of the two cemeteries. This is a deed requirement and is not currently being done. SCC residents or the Cedar Creek inmates could mow the lawn for minimal cost.

APPENDIX A- OPTIONS MATRIX
The following matrix summarizes the advantages and disadvantages of each of the options considered.

SCC ON-ISLAND SERVICES – OPTIONS CONSIDERED

ISSUE/ALTERNATIVE	ADVANTAGES	DISADVANTAGES
MARINE TRANSPORT - PASSENGERS		
1. No change	Eliminates uncertainty for staff & administrators.	Continued need to maintain vessels. Continued distraction from core functions of SCC.
2. Use Pierce County Ferry	Eliminates need for ferry captains & crew. Eliminates maintenance of 3 passenger boats. All passenger boats can be surplused. Reduces administrative burden on superintendent & others.	ISSUE: Pierce ferry requires minimum +5 ft tide to dock. Tides often lower. Would require dock extension at approximately $12 million and require upgrade of barge dock wing walls at up to $2.8 million. Construction & staffing of security checkpoint at barge dock may also be necessary. Reduces flexibility & control over schedules & operation. Uncertain future costs on contract renewal. Additional burden of contract monitoring. Potential labor disputes.
3. Contract operation with Pierce County using existing boats	Reduces administrative burden on superintendent & others. Solves the low tide issue.	Reduces flexibility & control over schedules & operation. Uncertain future costs on contract renewal. Additional cost of Pierce County general overhead. Additional burden of contract monitoring. 41.06.142 – Purchasing services by contract-Effect on employees in the classified service.

OPTION MATRIX Continued

ISSUE/ALTERNATIVE	ADVANTAGES	DISADVANTAGES
4. Contract operation with private vendor using existing boats	Reduces administrative burden on superintendent & others.	Reduces flexibility & control over schedules & operation. Uncertain future costs on contract renewal. Potential reliability issues by using low bidder. Additional burden of contract monitoring. Requires compliance with RCW 41.06.142 – Purchasing services by contract-Effect on employees in the classified service.
MARINE TRANSPORT - VEHICLES		
1. No change	Eliminates uncertainty for staff & administrators.	Continued need to maintain vessels. Continued distraction from core functions of SCC.
2. Use Pierce County Ferry	Eliminates need for tug captains & crew. Provides alternative emergency passenger service. Tugs, barges & 1 passenger boat can be surplused. Eliminates maintenance of 3 tugs, 2 barges, & 1 passenger boat. Reduces administrative burden on superintendent & others.	ISSUE: Pierce ferry requires minimum +5 ft tide to dock. Tides often lower. Would require dock extension at approximately $12 million and require upgrade of barge dock wing walls at up to $2.8 million. Construction & staffing of security checkpoint at barge dock may also be necessary. Reduces flexibility & control over schedules & operation. Uncertain future costs on contract renewal. Additional burden of contract monitoring. Potential labor disputes.

OPTION MATRIX Continued

ISSUE/ALTERNATIVE	ADVANTAGES	DISADVANTAGES
MARINE MAINTENANCE – SCHEDULED AND UNSCHEDULED HAUL-OUT OF VESSELS		
1. No change	Retains flexibility & control. Takes advantage of staff familiarity with vessels. Hiring unskilled labor (e.g. Tacoma Work Release inmates or SCC residents) increases training opportunities.	Continued need to maintain vessels. Requires hiring of unskilled labor to offset loss of inmate workers. Continued distraction from core functions of SCC.
2. Reduce fleet to 2 ferries & contract with private boatyard.	Eliminates all boatyard functions except in-water repairs & dock maintenance.	Reduces flexibility & control. Potential for longer downtime if private boatyard is busy. Need to transport vessels & crew to off-island boatyard. Additional burden of contract monitoring.
3. Use Pierce ferry for all passenger & vehicle transports. Surplus all tugs, barges & passenger boats.	Eliminates all boatyard functions except dock maintenance.	ISSUE: Pierce ferry requires minimum +5 ft tide to dock. Tides often lower. Would require dock extension at approximately $12 million and require upgrade of barge dock wing walls at up to $2.8 million. Construction & staffing of security checkpoint at barge dock may also be necessary. Reduces flexibility & control over schedules & operation. Uncertain future costs on contract renewal. Additional burden of contract monitoring. Potential labor disputes.
4. Expand operation to service boats from other state agencies.	Maximizes use of boatyard resource. Increased training opportunities for added labor. Possible net savings to state.	Small demand for larger vessel maintenance. Uncertain demand for small boat maintenance.

OPTION MATRIX Continued

MARINE MAINTENANCE – IN-WATER REPAIRS		
1. No change	Retains flexibility & control. Ensures rapid response. Takes advantage of efficiencies due to staff familiarity with vessels.	Continued need to maintain vessels. Continued distraction from core functions of SCC.
2. Contract for services	Eliminates need for SCC staff to perform function. Possible cost savings.	High per service cost. Potential for slow service & longer downtime for disabled vessels.
3. In combination with other options, include in-water repairs as contract requirement of vessel operator.	Eliminates need for SCC staff to perform function. Possible cost savings.	Additional burden of contract monitoring.
MARINE MAINTENANCE - DOCKS		
1. No change	Retains flexibility & control.	Inefficient use of full-time staff if other boatyard functions are eliminated.
2. In combination with other options, turn dock maintenance over to general maintenance.	Retains flexibility & control. More efficient use of resources if other boatyard functions are eliminated.	Increases workload for maintenance staff.
3. In combination with other options, include dock maintenance/repair as contract requirement of vessel operator.	Eliminates need for SCC staff to perform function.	Additional burden of contract monitoring.
FIRE SUPPRESSION / AMBULANCE SERVICE		
1. No change	Rapid response to emergencies.	Not enough tested experience to know if response is adequate without inmate firefighters always on duty.
2. Evacuate & wait for off-island fire response. Maintain ambulance service.	Eliminates need for professional fire fighters. Fire trucks & equipment could be surplused.	Very long response time. No alternative site for civilly committed residents if a structure is uninhabitable. Fire fighters are also EMTs and ambulance drivers. 24 hour EMTs/drivers still needed.

OPTION MATRIX Continued

WATER SUPPLY		
1. No change	Plenty of excess water supply.	Not automated. Daily water testing. Requires line flushing. Staff intensive.
2. Contract with Pierce County or other provider	Unknown	Pierce County unable to estimate costs due to concerns about system reliability.
3. Change to well system	Automated system eliminates need for dedicated full-time water treatment staff.	Requires capital investment.
WASTE WATER TREATMENT		
1. No change	Reliable system. No staffing shortage.	System over-sized with prison closure. Requires additional attention for maintaining aerobic bacteria. Requires frequent staff monitoring by licensed operator, but not full-time.
2. Contract with Pierce County or other provider	Unknown	Pierce County unable to estimate costs due to concerns about system reliability.
3. Replace system with smaller treatment facility and drain field by SCC	Reduced staffing cost	Requires capital investment.
ROAD MAINTENANCE / LAND MANAGEMENT		
1. No change		Current staffing insufficient to perform all functions historically provided using inmate labor.
2. Contract with Pierce County for road maintenance	Expanded capability. Reduced workload for maintenance staff. Island road work equipment can be surplused	Uncertain cost
3. Trade field clearing & mowing for use of farmland (system used when island under federal mgmt)	Firebreaks maintained at no cost. Noxious weed control in fields maintained at no cost	Unresolved legal questions. Current condition of fields requires restoration due to neglect.
4. Hire day laborers for noxious weed control	Low cost solution to currently unaddressed problem. Possible workers: Tacoma Work Release inmates or SCC residents if one-on-one supervision requirement is	Disbursed/isolated nature of work may be unsuitable for SCC residents.

OPTION MATRIX Continued

	modified for on-island work.	
FOOD SERVICE		
1. No change	Greater local control. Maximum number of SCC staff (12.5) and resident workers. (55)	$4.80 per meal. Operating costs exceed those of alternatives by about one-third. Current delivery system utilizes more equipment than alternatives.
2. Contract with private vendor.	Saves about 33% primarily on labor. ($3.22 per meal cost) Number of required resident workers is unknown under private vendor.	Less local control. Potential for price instability. Could be difficult to re-start if contractor defaults. Potential for labor disputes.
3. Contract with Correctional Industries.	Saves about 35% in food service costs. ($3.11 per meal cost) Menus likely to meet health and religious requirements. No need for contract nutritionist. Uses less equipment. Savings to the state can be extended through application to additional facilities with SCC being the pilot.	Less local control. Loss of about 5 state employees and 10 resident workers. Requires cultural shift in food service philosophy.
MOTOR VEHICLE MAINTENANCE		
1. No change	Greater local control.	Too many vehicles to maintain (164). Some in poor condition.
2. Reduce fleet to reasonable minimum – maintain vehicles on island	Greater local control.	More cost efficient than maintaining current inventory.
3. DSHS consolidated maintenance pool at Western State Hospital.	Presumed cost-savings although cannot estimate at this time.	Increased barging to service off-island. Possible increased down-time due to delivery scheduling.
4. Contract with Pierce County	Presumed cost-savings although cannot estimate at this time.	Increased barging to service off-island. Possible increased down-time due to delivery scheduling.

APPENDIX B- PIERCE COUNTY SCHEDULE OF SERVICES

Function	Road Operations Function Description	Work Unit	Unit Cost
20X	Other Grounds / Facilities	Hour	$105.99
	Traveled Way		
31A	Temporary Pavement Patching	Hour	$88.84
31 B	Permanent Pavement Patching	Ton	$365.66
31 BD	Base Dig Out	Hour	$100.99
31 C	Crack Sealing	Gallon	$95.04
31 D	Grader Pre-level Patching	Ton	$111.64
31 E	Spreader Box Patching	Ton	$144.41
31 FR	Rubberized Chip Seal	Lane Mile	$21,434.67
31 FS	Fog Seal	Mile	$2,262.60
31 G	Skin Patching	SQ Yards	$4.68
31 H	Gravel Road Maintenance	Mile	$1,316.78
31S	Pavement Grinding, Big Grinder	Ton	$159.50
31S1	Pavement Grinding, Skid Steer	Ton	$556.44
31T	Traffic Control / Traveled Way	Hour	$124.64
31X	Other - Traveled Way	Hour	$112.41
	Shoulder Maintenance		
32A	Gravel Shoulder Maintenance	SH. Mile	$2,361.74
32CS	Gravel Shoulders Fill / Spill Gate	Ton	$119.29
32D	Mowing Shoulders	SH. Mile	$154.97
32G	Roadside Fence Maintenance	Lin. Ft	$100.60
32S	Sidewalk Maintenance	Hour	$46.29
32T	Traffic Control / Shoulders	Hour	$145.31
32X	Other - Shoulders	Hour	$78.33
	Equipment Mobilization		
33V	Moving Equipment	Hour	$75.40
	Drainage Maintenance		
40A	Mechanical Ditch Cleaning	Lin. Ft	$12.44
40B	Bioswale Maintenance	Hour	$7.29
40BL	Boat Launch Maintenance / Site Specific	Hour	$98.04
40D	Manually Clean Drainage Inlet	Each	$9.24
40H	Vacuum Clean Drain Structure	Each	$115.31
40I	Localized Flooding Response / Inspection	Hour	$93.03
40J	Jet Rodding Pipe / Culvert	Lin. Ft	$2.60
40K	Repair / Replace Pipe	Lin. Ft	$165.53
40L	Repair / Replace Drainage Structure	Each	$1,539.55
40M	Repair / Replace Dry Well	Each	$4,417.41
40N	Install / Maintain Erosion Control	Hour	$74.43
40P	Repair / Replace Grate	Each	$770.55
40Q	Maintenance of Holding Ponds	Site	$10.76
40R	Mark Drain Inlet	Each	$7.07
40S	Armor Ditch / Channel	Lin. Ft	$13.53
40SF	Storm Filter Maintenance	Hour	$125.04
40T	Traffic Control / Drainage	Hour	$63.23
40U	Ditch Maintenance w/ Auger Truck	Ditch Mile	$5,048.56
40V	Storm Line Video	Hour	$104.45
40WL	Roadside Wetlands Maintenance	Hour	$62.11
40X	Other - Storm Drainage	Hour	$83.82

Bridge Maintenance			
51A	Bridge Maintenance	Hour	$143.99
51T	Traffic Control / Bridges	Hour	$126.25
51X	Other – Bridges	Hour	$95.00

Guardrail Repair			
64Z	Guardrail Maintenance	Hour	$77.82
Snow and Ice Removal			
66A	Plowing and Solid Chemical Application	Lane Mile	$465.49
66B	Solid Chemical Application - Site Specific	Ton	$156.13
66D	Applying Liquid Anti-Icer	Gallon	$1.36
66I	Snow & Ice Inspection	Hour	$85.22
66P	Snow & Ice Preparation	Hour	$53.24
66X	Other - Snow & Ice	Hour	$79.05
Street Cleaning			
67A	Manual Sweeping	Hour	$68.72
67B	Front End Broom	Lane Mile	$59.73
67C	Self Load / Vacuum Sweeper	Lane Mile	$177.38
67T	Traffic Control / Street Cleaning	Hour	$126.25
67X	Other - Street Cleaning	Hour	$98.72
Roadside Vegetation Maintenance			
71 B	Roadside Vegetation Maintenance / Mechanical	SH. Mile	$1,960.24
71C	Overhead Vegetation Maintenance	SH. Mile	$4,228.35
71 D	Brushing & Chipping / Tree Removal	Hour	$82.78
71 H	Hydro-Seeding / Straw Chopper	SQ Yards	$2.68
71 P	Roadside Landscape Maintenance	Hour	$59.07
71 SD	Site Specific Vegetation Control	Hour	$79.45
71T	Traffic Control / Roadside	Hour	$126.47
71X	Other - Roadside	Hour	$73.32
Retaining Walls			
73A	Retaining / Seawall Maintenance	Hour	$81.58
Roadside Litter			
75C	Petroleum or Chemical Spill	Hour	$102.60
75D	Deceased Animal Removal	Each	$129.00
75G	Illegal Roadside Dumping	Hour	$65.68
75X	Other - Illegal Dumping	Hour	$81.58
Slope Repair			
76A	Slope / Slide Repair	Hour	$62.86

Function Code	Pierce County Maintenance Function Description	Work Unit
	New Construction	
131	TIP Construction Projects	Each
140	New Drywell Construction	Each
	Shops (Shop 10 Only)	
20A	Building Maintenance Other	Hour
20A1	Building Maintenance / Modification	Hour
20A2	HVAC Maintenance	Hour
20A3	Interior Lighting Maintenance	Hour
20A4	Plumbing Maintenance	Hour
20A5	Electrical Systems Maintenance	Hour
20A6	Fire Suppression Maintenance	Hour
20A7	Door / Door Hardware Maintenance	Hour
20B	Grounds Maintenance Other	Hour
20B1	Landscape Maintenance PWU Facilities	Hour
20B2	Security Maintenance	Hour
20B3	Exterior Lighting Maintenance	Hour
20B4	Water Conveyance System Maintenance	Hour
20B5	Asphalt Tank Inspection / Maintenance	Hour
20B6	Salt Brine Equipment Maintenance	Hour
20B7	Water Quality Feature Maintenance	Hour
20D	Decant Station Maintenance	Hour
20IC	Inventory Control	Hour
20TD	Tool Distribution	Hour
20TR	Tool Repair / Maintenance	Hour
20X	Other Grounds / Facilities	Hour
	Traveled Way	
31A	Temporary Pavement Patching	Hour
31B	Permanent Pavement Patching	Ton
31BD	Base Dig Out	Hour
31C	Crack Sealing	Gallon
31CM	Roadway Curb and Median Maintenance	Hour
31D	Grader Patching	Ton
31E	Spreader Box Patching	Ton
31F	Emulsion Chip Seal	Lane Mile
31F1	Resurfacing Program, Planning, Inspection, Review / Shop 10	Hour
31FR	Rubberized Chip Seal	Lane Mile
31FS	Fog Seal	Mile
31G	Skin Patching	SQ Yards
31H	Gravel Road Maintenance	Mile
31R	Base Stabilization	Mile
31S	Pavement Grinding, Big Grinder	Ton
31S1	Pavement Grinding, Skid Steer	Ton
31T	Traffic Control / Traveled Way	Hour
31W	Asphalt / Concrete Waste Processing Shop 10	Ton
31X	Other - Traveled Way	Hour

	Shoulders	
32A	Gravel Shoulder Maintenance	SH. Mile
32CM	Roadside Curb and Median Maintenance	Hour
32CS	Gravel Shoulders Fill / Spill Gate	Ton
32D	Mowing Shoulders	SH. Mile
32G	Roadside Fence Maintenance	Lin. Ft
32S	Sidewalk Maintenance	Hour
32T	Traffic Control / Shoulders	Hour
32X	Other - Shoulders	Hour
	Equipment Moves	
33V	Moving Equipment / Shop 10, unless job specific	Hour
	Excavated Soils (Shop 10 only)	
33W	Excavated Soils Processing	Cubic Yds
	Storm Drainage	
40A	Mechanical Ditch Cleaning	Lin. Ft
40B	Bioswale Maintenance	Hour
40BL	Boat Launch Maintenance / Site Specific	Hour
40D	Manually Clean Drainage Inlet	Each
40H	Vacuum Clean Drain Structure	Each
40I	Localized Flooding Response / Inspection	Hour
40J	Jet Rodding Pipe / Culvert	Lin. Ft
40K	Repair / Replace Pipe	Lin. Ft
40L	Repair / Replace Drainage Structure	Each
40M	Repair / Replace Dry Well	Each
40N	Install / Maintain Erosion Control	Hour
40P	Repair / Replace Grate	Each
40Q	Maintenance of Holding Ponds	Site
40R	Mark Drain Inlet	Each
40S	Armor Ditch / Channel	Lin. Ft
40SF	Storm Filter Maintenance	Hour
40T	Traffic Control / Drainage	Hour
40U	Ditch Maintenance w/ Auger Truck	Ditch Mile
40V	Storm Line Video	Hour
40W	Decant Soilds Processing Shop 10	Ton
40WL	Roadside Wetlands Maintenance	Hour
40X	Other - Storm Drainage	Hour
	Bridges	
51A	Bridge Maintenance	Hour
51T	Traffic Control / Bridges	Hour
51X	Other - Bridges	Hour
	Traffic	
64Z	Guardrail Maintenance	Hour
	Snow & Ice (Shop 10, unless City Shops T, P, or A)	
66A	Plowing and Solid Chemical Application	Lane Mile
66B	Solid Chemical Application - Site Specific	Ton
66D	Applying Liquid Anti-Icer	Gallon
66I	Snow & Ice Inspection	Hour
66P	Snow & Ice Preparation	Hour
66S	Sweeping Icing Sand	Lane Mile
66W	Ice Sand Sweepings Processing Shop 10	Ton
66X	Other - Snow & Ice	Hour

	Street Cleaning	
67A	Manual Sweeping	Hour
67B	Front End Broom	Lane Mile
67C	Self Load / Vacuum Sweeper	Lane Mile
67T	Traffic Control / Street Cleaning	Hour
67W	Processing Sweeping Waste Shop 10	Ton
67X	Other - Street Cleaning	Hour
	Roadside	
71B	Roadside Vegetation Maint / Mechanical	SH. Mile
71C	Overhead Vegetation Maintenance	SH. Mile
71D	Brushing & Chipping / Tree Removal	Hour
71H	Hydro-Seeding / Straw Chopper	SQ Yards
71P	Roadside Landscape Maintenance	Hour
71SD	Site Specific Vegetation Control	Hour
71T	Traffic Control / Roadside	Hour
71W	Wood Chips / Debris Processing Shop 10	Cubic Yds
71X	Other - Roadside	Hour
	Retaining Walls	
73A	Retaining / Seawall Maintenance	Hour
	Litter	
75C	Petroleum or Chemical Spill	Hour
75D	Deceased Animal Removal	Each
75G	Illegal Roadside Dumping	Hour
75SR	Sign Removal / Shop 10	Each
75W	Roadside Litter / Debris Processing Shop 10	Pounds
75X	Other - Illegal Dumping	Hour
	Slope Repair	
76A	Slope / Slide Repair	Hour
	Administration	
90A	Maint. Admin. - Field Supervison	Hour
90D	Training	Hour
90G	Shop Steward Activities	Hour
90S	Safety Meeting	Hour
90T	Crew Meeting	Hour
90W	Drug & Alcohol Testing	Hour
90X	Other - Administration	Hour

APPENDIX C- CAPITAL BUDGET REQUESTS

(EXCLUDING THE PRISON AND SCC FACILITIES)

DOC 2011-13 Capital Budget Request - McNeil Island	
Title	**2017-2019**
MICC: Main Dock Float & Dolphin Replacement	$ 2,646,000
MICC: Replace Island Loop Water Mains	$ 6,800,000
MICC: Renovate Marine Boat Repair & Ship Shed	$ 1,488,000
MICC: Demolish & Clean Water Storage Tanks	$ 200,000
MICC: Remove Lead Paint at Auto Shop	$ 67,000
MICC: Replace Wastewater Evaporator	$ 33,000
MICC: Still Harbor Dock Repair	$ 148,000
MICC: Replace Barge Slip Wing Walls	$ 2,721,000
Total of Island-Wide Preservation Projects	**$ 14,103,000**

DSHS 2011-13 Capital Budget Request - McNeil Island	
Title	**2011-2013**
MICC: Replace marine haul-out cable	$ 50,000
MICC: Install new water main to SCC facilities	$ 2,000,000
MICC: Upgrade water treatment system or explore wells	$ 500,000
MICC: Upgrade water storage system	$ 500,000
MICC: Upgrade sewer system to bypass prison, etc.	$ 350,000
Total of Island-Wide Preservation Projects	**$ 3,400,000**

APPENDIX D – MARINE SERVICES
ESTIMATED ANNUAL COST OF MARINE SERVICES

NOTE 1: For purposes of this analysis, unless otherwise noted, all Marine Services FTEs and personnel costs are calculated from actual hours worked and total employee compensation in July 2011. The total FTEs calculated in this manner is 25.7. This is somewhat less than the actual funded FTEs for FY 2012 (19.4) plus the additional unfunded FTEs authorized by DSHS (`9.4 + 9.1 = 28.5). The same is true for estimated personnel costs in Marine Services.

NOTE 2: required FTEs and personnel cost per year are shown as rounded values in the following tables while costs per year are calculated from un-rounded values. Costs per year may therefore vary slightly from totals implied by the rounded values.

TABLE D1: ANNUAL COST OF SCC CREWS TO OPERATE PASSENGER VESSELS
(Cost per hour calculated from actual hours worked and total compensation in July 2011)

Crew		Hours/Year On the Job	Staffed Hours/year	Required FTEs	Cost per Hour	Paid Hours/Year	Cost per Year
1	Captain	1800	8760	4.87	38.58	2080	$390,492
1	Sr Deckhand	1800	8760	4.87	30.45	2080	$308,248
1	Asst Deckhand	1800	8760	4.87	24.03	2080	$243,229
	TOTAL			14.61			$941,969

TABLE D2: ANNUAL COST OF SCC CREWS TO OPERATE TUGS & BARGES
(Cost per hour calculated from actual hours worked and total compensation in July 2011)

Crew		Hours/Year On the Job	Staffed Hours/year	Required FTEs	Cost per Hour	Paid Hours/Year	Cost per Year
1	Captain	1800	2080	1.16	38.58	2080	$92,719
1	Sr Deckhand	1800	2080	1.16	30.45	2080	$73,191
2	Asst Deckhand	1800	2080	2.31	24.03	2080	$115,506
	TOTAL			4.63			$281,417

TABLE D3: ANNUAL COST OF MARINE MAINTENANCE STAFF
(Cost per hour calculated from actual hours worked and total compensation April, May, June, July 2011)

Job Classification	Cost per FTE	FTEs	Cost per Year
Marine Mechanics	$71,645	2.0	$143,290
Shipwright	$73,172	2.0	$146,344
TOTAL		4.0	$289,634

Note 1 – one shipwright position was vacant at the time these data were collected.
Note 2 – the cost of unskilled labor – formerly provided by DOC inmates – is currently not in SCC's budget and is not included in this table.

TABLE D4: ANNUAL COST OF MARINE DEPARTMENT ADMINISTRATION
(Cost per hour calculated from actual hours worked and total compensation in July 2011)

Job Classification	Cost per FTE	FTEs	Cost per Year
Marine Manager	$102,298	1.0	$102,298
Marine Supervisor	$83,817	1.0	$83,817
Admin Assistant 3	$55,650	0.5	$27,825
TOTAL		2.5	$213,940

Note – a full time Administrative Assistant 3 is physically located in Marine Services but also supports other SCC functions. For purposes of this analysis, ½ Admin. Asst. 3 FTE is assigned to Marine Services and the remaining half to other functions.

ANNUAL COST OF FUEL – PASSENGER VESSELS

The passenger boats each consume about 7 gallons of diesel fuel per round trip between McNeil Island and Steilacoom. With 11 round trips per day, 365 days per year, the passenger boats use about 28,105 gallons per year. Using an average of $3.57 cents per gallon of diesel (the current monthly average paid by SCC), the passenger boats consume about $100,335 of fuel per year.

ANNUAL COST OF FUEL – TUGS

Each tug/barge run consumes about 12 gallons of diesel fuel per round trip between McNeil Island and the mainland. In addition, an estimated 20 gallons of fuel are used each day to transport the tug and barge from Still Harbor to the barge dock and back. With three runs per day, four days per week, the McNeil/Steilacoom runs require 7,488 gallons per year. An additional 4,160 gallons are needed to move the tugs and barges to and from Still Harbor (4 x 52 x 20 = 4,160). Using an average of $3.57 cents per gallon of diesel (the current monthly average paid by SCC), the tugs and barges consume about $41,583 of fuel per year.

MARINE MAINTENANCE – ANNUAL COST OF PARTS AND MATERIALS

Marine Maintenance consists of scheduled haul out for maintenance and repairs, unscheduled haul outs for repairs that cannot be done while the boat is in the water, and in-water maintenance.

Materials for *Scheduled* Haul Outs

At the beginning of the study the consultant was given a copy of a *Briefing Document* describing current operations and issues pertaining to SCC's island location. Among other things, this document provided an estimate of the cost of materials for the next scheduled haul out of all of its vessels and barges. Since the scheduled haul out of a vessel occurs every two years (up to 2 ½ years for tugs) the total cost of materials was divided in half to provide an estimate of the annual cost of parts and materials for scheduled haul outs. The list from the *Briefing Document* is duplicated below as TABLE D5. As calculated from these values, the average annual cost of materials for scheduled haul outs is $79,500. With a fleet of six boats and two barges, each requiring a scheduled haul out every other year, the average cost of materials per haul out is therefore $19,875 (79,500 / 4 = 19,875).

TABLE D5: ESTIMATED COST OF MATERIALS FOR SCHEDULED HAUL OUTS
Source: SCC *Briefing Document*, 2011

Vessel	Materials	% of Materials	Unskilled Labor Hours	% of Labor
Tug Peggy N	$8,000		350	
Tug Millewa	$44,000		725	
Tug Kimberly	$9,500		350	
Barge 1	$15,000		250	
Barge 2	$15,000		250	
Subtotal	$91,500	57%	1,925	53.3%
Ferry Callahan	$33,000		755	
Ferry McNeil	$6,000		415	
Ferry Henley	$28,500		520	
Subtotal	$67,500	43%	1,690	46.7%
Total (2 yrs)	$159,000		3,615	
Avg Annual	$79,500		1,808	

Alternatively, based on these figures, it can be estimated that the tugs and barges use approximately 57 percent of the cost of materials, and 53 of the cost of labor, for scheduled haul outs.

Materials for *Unscheduled* Haul Outs

The estimated annual cost of materials for unscheduled haul outs was estimated by inflating the materials cost identified in a 1996 study of the McNeil Island boatyard (Woodward & Clyde, *1996 McNeil Island Boatyard Consultation*) by the change in the consumer price index for Seattle/Tacoma/Bremerton. The midyear CPI in 1996 for this area was 157.5. In July 2011 the index was 230.8. This represents a 46.5% increase in the cost of supplies and materials.

In 1996 the McNeil Island boatyard had five unscheduled haul outs which cumulatively required $30,200 dollars for parts and materials. Since the fleet is essentially the same size now as it was in 1996, it is assumed that a similar number of unscheduled hauls is still needed in an average year. Inflating $30,200 by the change in the consumer price index results in $44,250 in parts and materials for unscheduled haul outs. The average cost per unscheduled haul out would therefore be approximately $8,850 (44,250 / 5 = 8,850).

Materials for In-water Repairs

In 1996 the McNeil Island boatyard spent $90,700 on materials associated with in-water repair of six motorized vessels. McNeil Island still has six motorized vessels, most of which are the same as those employed in 1996. The estimated cost of materials for in-water repairs is therefore $90,700 times the increase in the consumer price index, or $132,911. The average cost per motorized vessel would therefore be approximately $22,152 per year (132,911 / 6 = 22,152).

Summary of Estimated Average Annual Cost of Materials for Marine Maintenance

TABLE D6: SUMMARY – MARINE MAINTENANCE MATERIALS COST

Type of Service	Average Cost Per Vessel	Average Number Services / Year	Total Cost per Year
Scheduled Haul Outs	$19,875	4	$79,500
Unscheduled Haul Outs	$8,851	5	$44,255
In-Water Repairs	$22,152	6	$132,911
Total	$50,878		$256,666

Based on the number of vessels, marine maintenance materials are estimated to be distributed between the tug/barge fleet and the passenger vessels as follows:

TABLE D7: ESTIMATED DISTRIBUTION OF MARINE MAINTENANCE MATERIALS (Scheduled Haul Out % from Table D5)

Type of Service	Services per Year		Cost per Year	
	Tugs/Barges	Passenger	Tugs/Barges	Passenger
Scheduled Haul Outs	57%	43%	$45,315	$34.185
Unscheduled Haul Outs	2.5	2.5	$22,127	$22,127
In-Water Repairs	3	3	$66,456	$66,456
Total			$133,898	$122,768

Maintenance Labor

As noted in Table D3, there are four skilled workers in the Marine Maintenance department. For purposes of this analysis, it is assumed that ½ of one FTE is used for maintenance of the piers, docks and floats. It is further assumed that the remaining time of maintenance workers is split 50/50 between the tugs/barges and the passenger boats. The following table shows how maintenance labor costs are assumed to be distributed.

TABLE D8: ASSUMED DISTRIBUTION OF MAINTENANCE LABOR

	FTEs				
	Docks, etc	Tugs/Barges	Passenger Vessels	Total	Dollars
Marine Mechanics		1.00	1.00	2.0	$143,290
Shipwrights	0.5	0.75	0.75	2.0	$146,344
Unskilled labor		2.00	2.00	4.0	$80,000
Total FTEs	0.5	3.75	3.75	8.0	$369,634
Dollars	$36,586	$166,524	$166,524	$369,634	

ALLOCATION OF MARINE SERVICES COSTS BY FUNCTIONAL AREA

Using the calculations and assumptions outlined above, the cost of Marine Services can be distributed between the Tug/Barge fleet and the passenger vessels as follows:

TABLE D9: ALLOCATION OF TOTAL MARINE SERVICES COSTS

		Passenger Vessels	Tugs/Barges	Piers, Docks, Floats	Total
	Crews	$941,969	$281,417		$1,223,385
	Fuel	$100,335	$41,583		$141,918
Maint	Materials	$122,333	$134,333		$256,666
	Skilled labor	$126,524	$126,524	$36,856	$289,634
	Unskilled labor	$40,000	$40,000		$80,000
	Administration	$162,495	$51,444		$213,940
	Insurance	$74,160	$49,440		$123,600
	Total	$1,567,816	$724,741	$36,856	$2,329,143

COMPARISON OF COSTS TO TRANSPORT PASSENGERS
SCC vs. Pierce County

Passenger boats currently operate 22 hours per day, skipping one round trip in the middle of the night. SCC covers these 22 hours with three full 8 hour shifts per day. Under the Pierce County alternative, crews are paid only for hours worked – or, for comparable service, 22 hours per day.

As noted above (Table D1) the annual cost of crews for McNeil Island's passenger vessels is estimated at $941,969. To make a fair comparison to the Pierce County operation (which includes a half-time ferry manager) half of the cost of the Marine Manager is added to crew costs. The comparable total is therefore $993,117 (941,969 + .5 x 102,298 = 993,117).

The annual cost that Pierce County would charge for crews and ferry management is shown in the following table.

TABLE D10: ANNUAL COST IF PIERCE COUNTY CREWS OPERATE McNEIL ISLAND PASSENGER VESSELS

Crew		Operating Hours/Year	Cost per Hour	Cost per Year
1	Captain	8030	49.69	$398,987
2	Deckhands	8030	28.79	$462,319
	TOTAL			$861,306
	½ Ferry System Manager			$54,869
				$916,175

COMPARISON OF COSTS TO TRANSPORT VEHICLES
SCC vs. Pierce County

If the issue of docking restrictions at McNeil Island due to tides is not a fatal flaw, using the Pierce County ferry in lieu of tugs and barges has a number of ramifications. Specifically, since the billing rate for use of the county's ferry ($735 per hour) includes, crew, fuel, maintenance, and management, elimination of the tugs and barges has implications for all of these areas as well.

The cost of using the Pierce County ferry to transport vehicles to and from McNeil Island depends on the frequency of service. Because (unlike the tugs and barges) there is no need to move the ferry to a different location at night, the Pierce County ferry could offer the same level of service in 7 ½ hours per day. At $735 per hours, this equates to $5,512.50 per day.

Because the Piece County ferry can carry far more vehicles than the McNeil barges, it is unlikely that there would be a need for as many runs per week as are currently provided. Consequently, the cost of substituting the Pierce County ferry for the tugs and barges varies considerably based on the assumed number of round trips provided each week. The following table summarizes three alternatives.

TABLE D11: COST OF USING THE PIERCE COUNTY FERRY TO TRANSPORT VEHICLES TO AND FROM McNEIL ISLAND (crews, fuel, maintenance)

Scheduled days per week for ferry service	4	3	2
x 52 = days per year	208	156	104
x $5,513 = dollars per day (rounded)	$1,146,600	$859,950	$573,300

Estimated Savings to SCC

SCC tug and barge crews work four days per week, 10 hours per day. The tugs and barges therefore require 2080 staffed hours for each crew member (4 x 10 x 52 = 2080). The estimated annual cost for the tug and barge crews is calculated at $281,417 in Table D2 above.

The estimated cost of maintaining tugs and barges ($133,898) is calculated above and summarized in Table D7. The estimate savings in fuel is $41,583 (calculated above).

If SCC no longer had to maintain three tugs and two barges, it is assumed that the maintenance staff could be reduced by 25 percent. This is equal to one skilled worker. Twenty-five percent of the salaries and benefits of the current marine mechanics and shipwrights at McNeil Island is $72,408 per year. Total potential maintenance savings from eliminating the tugs and barges is therefore $206,306 (133,898 + 72,408 = 206,306).

COSTS OF COMBINED FERRY & PASSENGER VESSEL SCHEDULES vs. COST OF TUGS/BARGES & PASSENGER VESSELS

The Pierce County Ferry costs $735 per hour, including crew, fuel and maintenance.

Pierce County crews operating the McNeil Island passenger boats could cost $107.20 per hour plus a 10 percent charge for Pierce County general overhead. In addition, Pierce County would charge half the cost of a Ferry System Manager (plus 10 percent), or $54,869 per year. The following table shows the calculated cost of Pierce County operation of a combined ferry/passenger boat schedule as described in the body of the report.

TABLE D12: ANNUAL COST OF CREWS AND FERRY SYSTEM MANAGER (Combined Ferry/Passenger Boat schedule)

Day of Week	Passenger Boat Hours		Ferry Hours		Cost of Operation		
	Sailing	Crew	Sailing	Crew	Boats	Ferry	Total
Mon	15.5	16.5	5	5	$1,946	$3,675	$5,621
Tue	20.5	21.5			$2,535	$0	$2,535
Wed	15.5	16.5	5	5	$1,946	$3,675	$5,621
Thu	20.5	21.5			$2,535	$0	$2,535
Fri	15.5	16.5	5	5	$1,946	$3,675	$5,621
Sat	20.5	21.5			$2,535	$0	$2,535
Sun	20.5	21.5			$2,535	$0	$2,535
Cost per week					$15,978	$11,025	$27,003
Cost per year (52.14 weeks per year)					$833,147	$574,875	$1,408,022
1/2 Ferry System Manager							$54,869
Total							$1,462,891

Under this option there would be a reduction in fuel usage by the passenger boats. There would be one less round trip everyday plus three fewer round trips on the three days the ferry is used to haul passengers. This results in 17 fewer round trips per week. As noted above, the passenger boats use 7 gallons of diesel per round trip. This results in an annual savings of 6,188 gallons (17 x 52 x 7 = 6,188). Using the same cost per gallon as noted earlier in this appendix the annual savings in fuel for the passenger boats would be $22,091 (6,188 x 3.57 = 22,091). Total fuel costs for the passenger boats would therefore be $78,244 (100,335 – 22,091 = 78,244).

The following table summarizes the cost of operating under a combined ferry and passenger vessel schedule. Crew, fuel, and ferry system manager costs are as calculated immediately above. Passenger vessel maintenance, SCC administration, and insurance are from Table D9.

TABLE D13: ALLOCATION OF TOTAL MARINE SERVICES COSTS USING COMBINED FERRY AND PASSENGER VESSEL SCHEDULE (Using the McNeil Island boatyard to maintain three passenger vessels)

		Passenger Vessels	Ferry	Piers, Docks, Floats	Total
	Crews	833,147	574,875		1,408,022
	Fuel	78,244	included		78,244
Maint	Materials	122,333	included		122,333
	Skilled labor	126,524	included	36,856	163,380
	Unskilled labor	40,000	included		40,000
	SCC Admin	162,495	NA		162,495
	Pierce Admin				54,869
	Insurance	74,160	included		74,160
	Total	1,436,903	574,875	36,856	2,103,503

If a commercial boatyard were used instead of the McNeil Island boatyard, on-site maintenance would be limited to maintaining piers, docks and floats. The only administrative function would be to monitor contracts and the quality of services received. The following two tables show costs

associated with this option assuming three or two passenger vessels are maintained by a commercial boatyard.

TABLE D14: ALLOCATION OF TOTAL MARINE SERVICES COSTS USING COMBINED FERRY AND PASSENGER VESSEL SCHEDULE AND A COMMERCIAL BOATYARD MAINTAINING **THREE** PASSENGER VESSELS

		Passenger Vessels	Ferry	Piers, Docks, Floats	Total
	Crews	833,147	574,875		1,408,022
	Fuel	78,244	included		78,244
Maint	Materials	0	included		122,333
Maint	Skilled labor	0	included	36,856	163,380
Maint	Unskilled labor	0	included		40,000
	Commercial boatyard	341,912	NA		341,912
	SCC Admin	41,909	NA		162,495
	Pierce Admin				54,869
	Insurance	74,160	included		74,160
	Total	1,369,372	574,875	36,856	2,035,972

TABLE D15: ALLOCATION OF TOTAL MARINE SERVICES COSTS USING COMBINED FERRY AND PASSENGER VESSEL SCHEDULE AND A COMMERCIAL BOATYARD MAINTAINING **TWO** PASSENGER VESSELS

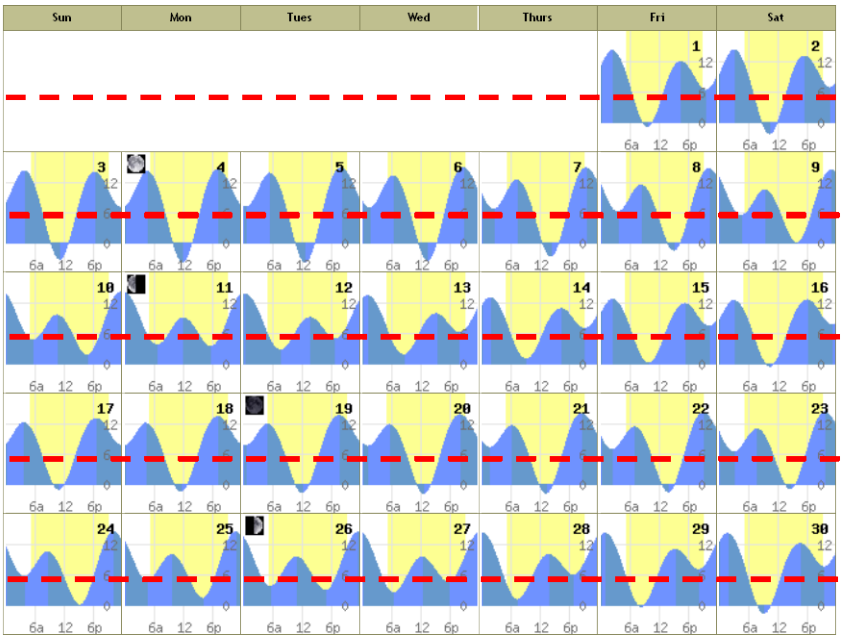
		Passenger Vessels	Ferry	Piers, Docks, Floats	Total
	Crews	833,147	574,875		1,408,022
	Fuel	78,244	included		78,244
Maint	Materials	0	included		122,333
Maint	Skilled labor	0	included	36,856	163,380
Maint	Unskilled labor	0	included		40,000
	Commercial boatyard	227,941	NA		227,941
	SCC Admin	41,909	NA		162,495
	Pierce Admin				54,869
	Insurance	74,160	included		74,160
	Total	1,255,401	574,875	36,856	1,922,001

EFFECT OF TIDES ON ABILITY TO DOCK FERRY AT McNEIL ISLAND

The frequency of low tide events varies considerably by season. In late fall and early winter there are few occasions when tides are less than five feet above mean sea level. In contrast, in the spring and into early summer there are many days when sea levels would be too low during part of the day for the ferry to dock at McNeil Island. However, with the possible exception of times when extreme low tides occur during the middle of the day, there are no days during the year when the Pierce County ferry could not make at least one round trip to McNeil Island during normal working hours. The following figure shows predicted tides for June 2012 at a point close to the McNeil Island barge dock.

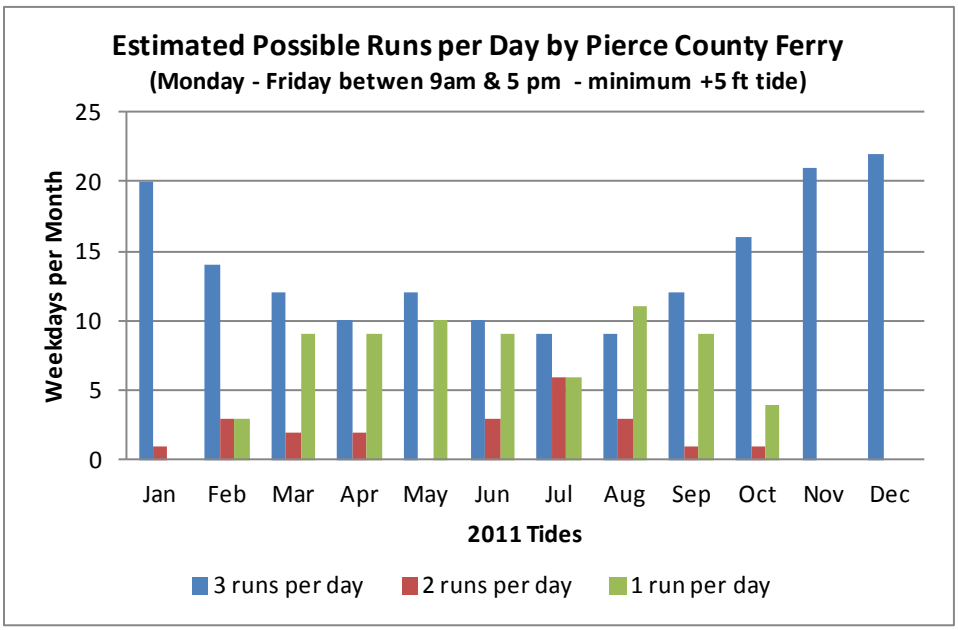
PREDICTED TIDES, JUNE 2012 – BALCH PASSAGE

Pierce County Ferry cannot dock when tides are below dashed line. Yellow shaded area is 6am to 6pm



As the tidal calendar above illustrates, there are many days during June when midday low tides create conditions when the Pierce County ferry could not dock at McNeil Island. At the same time, the calendar shows that the ferry could make at least one round trip to the island either before or after the midday low tide every day of the month.

The following chart conservatively summarizes the likely effect of tides during 2012 on service to the island if the Pierce County ferry were used instead of tugs and barges. The analysis assumes that the the ferry schedule can be flexibly set to run on any weekday between 9 AM and 5 PM. The height of each bar indicates the number of weekdays during the month when tidal conditions would permit the Pierce County ferry to make three, two, or one round trip to McNeil Island. For example, in January 2012, there are 21 weekdays and the ferry could make three round trips on 20 of those days and two round trips on one of them.


Estimated Possible Runs per Day by Pierce County Ferry
(Monday - Friday betwen 9am & 5 pm - minimum +5 ft tide)
Weekdays per Month
25
20
15
10
5
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
2011 Tides
3 runs per day
2 runs per day
1 run per day