

Preliminary Screening-Level Feasibility Assessment and Planning for a Marine Center at Sawmill Cove Industrial Park

Prepared for

City and Borough of Sitka

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Prepared by



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Abbreviations

ALP	Alaska Lumber and Pulp
AMHS	Alaska Marine Highway System
CBS	City and Borough of Sitka
MPD	Multi-Purpose Dock
MLLW	Mean Lower Low Water
MLA	Marine Loading Arms
NPDES	National Pollution Discharge Elimination System
SCIP	Sawmill Cove Industrial Park
SITC	Standard International Trade Classification
USACE	US Army Corps of Engineers

Units Used

Unless otherwise noted, use of “ton” refers to a metric ton.

Executive Summary

Role of This Study in the Overall Sawmill Cove Industrial Park Feasibility and Planning Process

This report represents an intermediate step in evaluating the feasibility of development at the Sawmill Cove Industrial Park (SCIP). The Northern Economics team proposed four phases to the SCIP feasibility and planning process, as outlined below. The purpose of the phased approach was to allow for decision points throughout the process to determine which proposed development opportunities would be selected for further, more detailed study.

The phases of analysis were defined as follows.

Phase 1: Scoping. A public meeting and business interviews were conducted August 26–28, 2013.

Phase 2A: Initial Screening-Level Feasibility. This report reflects the Phase 2A effort and includes a competitive evaluation of haul-out and moorage facilities in the region, a survey of vessel owners reflecting current and potential users of facilities in Sitka, preparation of base maps for the facility, preliminary site recommendations, preliminary infrastructure and equipment recommendations, preliminary conceptual designs, and screening-level assessments of large vessel moorage, a vessel haul-out, and cargo handling at a deepwater dock facility.

Phase 2B: Continued Screening-Level Feasibility Assessment. Phase 2B would include additional analysis of market opportunities for the deepwater dock, including seafood exports, bulk water exports, and cruise ships.

Phase 3: Detailed Feasibility. Phase 3 would include full-fledged feasibility studies of large vessel moorage, vessel haul-out, and the deepwater dock. Each feasibility study would include the types, frequency, and quantity of use for each facility; development of rates; revenue generation potential; capital, operating, and maintenance costs; evaluation of funding and financing options; evaluation of and discussion about various ownership and management options; evaluation of facilities' competitive positions; and evaluation of broader economic impacts, including the effects on local businesses and industries.

Phase 4: Implementation and Business Planning. Phase 4 would include the development of a Business Plan and a Marketing Plan.

Opportunities Considered

Sitka Economic Development Association and the City and Borough of Sitka (CBS) issued a request for proposals for an evaluation of feasibility and preliminary planning for the development of a marine industry center at the SCIP in Sitka, Alaska. Three specific components were identified:

- A marine haul out facility
- A moorage facility for large commercial vessels
- A deepwater dock

Study Scope

The purpose of the screening analysis is to evaluate the potential total market size for each of these facilities, assess how much of that total market SCIP could capture, compare that market share with the cost of implementing each facility, and then assign a qualitative score about each facility.

The analytical approach used for the vessel haul-out and large vessel moorage facility consisted of analyzing survey data to determine total potential market demand for each facility, estimating the annualized cost of operating each facility (assumed to be 10 percent of the capital cost annually, to cover operations, maintenance, and replacement costs), and comparing the annual cost of each facility with the total potential market demand to determine what market share would be required to cover costs. Those findings are then adjusted based on qualitative data, primarily from interviews and open-ended feedback from the survey, to arrive at a qualitative score (discussed below).

The analytical approach used for the potential deepwater dock facility consisted of interviews with current dock owners, along with analysis of published waterborne commerce data (tonnages by commodity) for the years 2006 to 2012. The approach included a review of SCIP's plans, a site visit with project managers and project engineers, and a literature search that included prior work by Northern Economics. PND Engineers developed budget-level capital cost estimates for two dock options, as well as a multi-purpose dock (MPD).

Data sources for the screening analysis of moorage and a haul-out facility were limited to an online survey and a limited number of interviews with vessel owners or managers. Analysis of other data sources was to be considered in Phase 3 of the overall study. Data sources for the screening analysis were limited to interviews with selected businesses in Sitka, published cargo data, and related information. The deepwater dock screening analysis was limited to cargo handling activities and did not include other uses such as seafood export, cruise ships, and bulk-water export; these additional uses were to be considered in Phase 2B of the overall study, though the Northern Economics team was directed by CBS to include a bulk-water export facility in the layouts to ensure adequate space would be available if one were to be built in the future. Recommended data sources and approaches for the next phase of study are discussed below.

This report documents the findings for each of the facilities so that CBS can evaluate whether it makes sense to move forward with each facility. This report does not provide go/no-go or yes/no recommendations, since those recommendations require a more in-depth analysis.

Qualitative Scale for Rating Each Opportunity

The qualitative scores used in this report and their interpretations are:

Strong Opportunity: The screening analysis shows strong support for the facility and it appears to have sufficient demand to justify going forward. Additional analysis is recommended to confirm the finding and to determine specific characteristics of the facility.

Moderate Opportunity: The screening analysis indicates some demand for the facility, but it is not clear that sufficient demand exists to justify the investment. The facility is worthy of additional study to determine its feasibility.

Weak Opportunity: The screening analysis does not find sufficient demand for the facility to justify the investment. Additional study may identify ways to make the facility work.

It is important to note that these scores reflect the potential market size of each opportunity and are intended to be used for purposes of deciding which opportunities warrant further study. The scores do not reflect a go/no-go or yes/no decision.

Scores and Recommendations for Each Opportunity

The following discussion presents qualitative scores and recommendations for each of the opportunities considered by the screening analysis.

Vessel Haul-out Facility

The analysis indicates a weak to moderate opportunity for a haul-out facility for vessels up to 150 tons and a weak opportunity for a haul-out facility for vessels over 150 tons. Under a scenario in which the existing Halibut Point Marine were to cease haul-out operations, the analysis would indicate a moderate to strong opportunity for a haul-out facility for vessels up to 50 tons.

Survey results indicated a significant amount of haul-out activity for smaller vessels of up to 100 tons, but little activity for larger vessels. While open-ended comments in the survey were in support of a larger lift, the respondents for the most part did not represent that user group. Interviews with owners and managers of larger fleets of vessels provided anecdotal support of a larger lift, but provided insufficient quantitative data to support an analysis. As a result, a larger lift is considered to be a weak opportunity by the screening analysis, pending data collected in Phase 3 to support fleet interest.

The greatest uncertainty is whether Halibut Point Marine will continue to operate its haul-out. For vessels over 150 tons, additional information is required from large vessel owners to determine demand. The herring fleet was identified as being interested in moorage at SCIP, so this group is a logical starting place for determining the haul-out requirements and frequency for this group, and for determining what infrastructure and services are required.

Large Vessel Moorage Facility

The analysis indicates a moderate opportunity for large vessel moorage, which this study defines as being in excess of 100-foot length overall.

Survey results did not indicate demand for a large vessel moorage facility, but anecdotal information collected from interviews as well as information conveyed to the study team by the CBS Harbormaster suggests there is demand from the herring fleet to homeport in Sitka. Vessels in this fleet are anticipated to be in the 100–120-foot range.

Though not evaluated as part of this study, there is a significant waiting list for smaller vessels to use existing CBS harbor facilities. Some of that demand could be accommodated by a new harbor at SCIP, though it would need to be handled in such a way as to avoid conflicts with larger vessels.

This study finds a large vessel moorage facility to be a moderate opportunity. Additional analysis is required to determine if it is a feasible concept. Since large vessels were notably absent from the survey results, and transient use of the harbor by large vessels would be a major contributor to the harbor's financial performance, CBS should engage that user group to get a better sense of their moorage requirements. This is work that could take place in Phase 3 of the overall study.

Deepwater Dock

Overall, the analysis indicates a weak development opportunity for a public deepwater dock or MPD at SCIP; cargo vessels (including tug and barge combinations) and cruise ships currently utilize existing private facilities at SCIP as well as other private docks that extend west toward Starragavan Point.

Sitka's inbound and outbound cargo needs are being met at this time through a combination of private docks (including the existing Silver Bay deepwater dock at SCIP) and the public ferry terminal at Starragavan Point. Given a flat population projection through 2035, no major changes in cargo shipments are expected except for special projects, which provide insufficient demand to invest in a deepwater dock facility or MPD.

Use of a Suezmax category vessel would require cargo shipments at a level consistent with pulp shipments exported from 1959 to 1993; there are no identified manufacturing or processing operations that achieve that level of use. As noted, the CBS has an existing bulkwater export contract with a wide variety of potential markets but no known deliveries since signing.

Based on the current and expected cargo shipments, construction of an additional deepwater dock or MPD is considered somewhat speculative.

1 Introduction

This report presents a screening-level feasibility assessment for facilities to be developed at Sawmill Cove Industrial Park (SCIP). The purpose of this screening-level assessment is to determine if sufficient potential demand exists to warrant further investigation.

1.1 Proposed Marine Center Development

Sitka Economic Development Association and the City and Borough of Sitka (CBS) issued a request for proposals for an evaluation of feasibility and preliminary planning for the development of a marine industry center at the SCIP in Sitka, Alaska. Three specific components were identified:

- A marine haul out facility
- A moorage facility for large commercial vessels
- A deepwater dock

1.2 Feasibility Assessment and Planning Phases

This report represents an intermediate step in a phased approach to evaluating the feasibility of development at SCIP. The feasibility study has been divided into four phases, as outlined below. The phase descriptions discuss when various elements of the overall feasibility assessment would take place.

The phases of this study include:

Phase 1: Scoping. A public meeting and business interviews were conducted August 26–28, 2013.

Phase 2A: Initial Screening-Level Feasibility. This report reflects the Phase 2A effort and includes a competitive evaluation of haul-out and moorage facilities in the region, a survey of vessel owners reflecting current and potential users of facilities in Sitka, preparation of base maps for the facility, preliminary site recommendations, preliminary infrastructure and equipment recommendations, preliminary conceptual designs, and screening-level assessments of large vessel moorage, a vessel haul-out, and cargo handling at a deepwater dock facility.

Phase 2B: Continued Screening-Level Feasibility Assessment. Phase 2B would include additional analysis of market opportunities for the deepwater dock, including seafood exports, bulk water exports, and cruise ships.

Phase 3: Detailed Feasibility. Phase 3 would include full-fledged feasibility studies of large vessel moorage, vessel haul-out, and the deepwater dock. Each feasibility study would include the types, frequency, and quantity of use for each facility; development of rates; revenue generation potential; capital, operating, and maintenance costs; evaluation of funding and financing options; evaluation of and discussion about various ownership and management options; evaluation of facilities' competitive positions; and evaluation of broader economic impacts, including the effects on local businesses and industries.

Phase 4: Implementation and Business Planning. Phase 4 would include the development of a Business Plan and a Marketing Plan.

1.3 Analytical Approach and Definition of Assessment Terms

This report describes the findings of screening-level feasibility studies for a vessel haul-out, large vessel moorage facility, and deepwater dock.

The purpose of the screening analysis is to evaluate the potential total market size for each of these facilities, assess how much of that total market SCIP could capture, compare that market share with the cost of implementing each facility, and then assign a qualitative score about each facility.

The analytical approach used for the vessel haul-out and large vessel moorage facility consisted of analyzing survey data to determine total potential market demand for each facility, estimating the annualized cost of operating each facility (assumed to be 10 percent of the capital cost annually, to cover operations, maintenance, and replacement costs), and comparing the annual cost of each facility with the total potential market demand to determine what market share would be required to cover costs. Those findings are then adjusted based on qualitative data, primarily from interviews and open-ended feedback from the survey, to arrive at a qualitative score (described below).

The analytical approach used for the potential deepwater dock facility consisted of interviews with current dock owners, along with analysis of published waterborne commerce data (tonnages by commodity) for the years 2006 to 2012. The approach included a review of SCIP's plans, a site visit with project managers and project engineers, and a literature search that included prior work by Northern Economics. PND Engineers developed budget-level capital cost estimates for two dock options, as well as a multi-purpose dock (MPD).

The qualitative scores used in this report and their interpretations are:

Strong Opportunity: The screening analysis shows strong support for the facility and it appears to have sufficient demand to justify going forward. Additional analysis is recommended to confirm the finding and to determine specific characteristics of the facility.

Moderate Opportunity: The screening analysis indicates some demand for the facility, but it is not clear that sufficient demand exists to justify the investment. The facility is worthy of additional study to determine its feasibility.

Weak Opportunity: The screening analysis does not find sufficient demand for the facility to justify the investment. Additional study may identify ways to make the facility work.

This report documents the findings for each of the facilities so that CBS can evaluate whether it makes sense to move forward with each facility. This report does not provide go/no-go or yes/no recommendations, since those recommendations require a more in-depth analysis.

1.4 Organization of Report

This report is organized into the following sections:

Section 2 provides rate and facility information for competing haul-out and moorage facilities, as well as a discussion of the vessel owner survey that was used to solicit interest in a facility at SCIP.

Section 3 presents the findings and approach from the screening-level assessment of a vessel haul-out facility.

Section 4 presents the findings and approach from the screening-level assessment of a large vessel moorage facility.

Section 5 presents the findings and approach from the screening-level assessment of a deepwater dock. These findings can also be applied to other cargo handling facilities, such as the MPD.

Section 6 presents conceptual designs for facilities at SCIP, based on the results of the screening assessments and some allowance for demand in excess of what was indicated by those assessments.

Section 7 presents preliminary cost estimates for each of the facilities included in the conceptual designs shown in Section 6.

The report concludes with references and appendices containing the survey instrument and information about competing facilities.

2 Competitive Market Analysis for SCIP Vessel Haul-out and Moorage Facilities

This section discusses competitive market conditions for vessel haul-out and moorage facilities at SCIP. This information is incorporated in the screening analysis primarily through the “going” rate for these services.

Though addressed separately, haul-out and moorage availability is interrelated, and development of one will likely increase demand for the other.

2.1 Competitive Market Analysis of Haul-out Facilities

The study team surveyed haul-out facilities that could be considered competitors of a new facility at SCIP. While this survey was not comprehensive, it included virtually every facility in Southeast Alaska, many facilities in other Alaska communities, and a few representative facilities in Washington. Detailed information collected about these haul-out facilities and their rates may be found in Table 23 in Appendix B.

2.1.1 Competition

Virtually every harbor in Southeast Alaska, and many harbors in other parts of the state, have some kind of haul-out facility. Smaller Southeast harbors seem to favor hydraulic trailers. Recent development of yards and large lifts at Hoonah (200-ton Travelift) and Wrangell (150-ton Travelift) has drawn vessels to those locations for haul-out that had previously used facilities out of state. The Wrangell shipyard intends to install a 300-ton Travelift in the winter of 2014. The Wrangell facility has attracted one of the best shipwrights on the West Coast to work at that facility. Anecdotal reports indicate this shipwright is booked with work through 2015. The table in the following section presents information about the type and size of haul-out facilities in Southeast Alaska, selected facilities in other parts of Alaska, and selected facilities in Washington. Additional detail about all the facilities surveyed is available in Table 23 in Appendix B.

2.1.2 Haul-out Rates

In general, travel lifts are the most prevalent haul-out equipment in the survey area. Of the 18 separate yards surveyed, 11 had at least one travel lift, ranging from 15 tons (Juneau Dehart’s Marina) to 600 tons (Kodiak Shipyard). Hydraulic trailers were used in eight yards, ranging from 20 tons (Haines and Skagway) to 60 tons (Craig Harbor). Three facilities use marine railways ranging from 60 tons (Wrangell Boat Shop) to 260 tons (Petersburg). In addition, the facilities surveyed also offered one 70-ton hoist (Port Townsend), and one 750-ton floating dry dock (Allen Marine in Sitka).

For floating dry docks, marine railways, and sometimes hoists, the vessel remains on the haul-out, rather than being set on shore and moved again for launch into the water. With these types of haul-out facilities, a fee is often charged for time the equipment is in use. For hydraulic trailers and travel lifts, generally a charge includes a haul-out onto land, blocking, and another haul back into the water. Some of these facilities are located in private boat yards, and are not generally available to rent. Often private yards that do commercial work just wrap the cost of the haul-out into the overall cost of the vessel repair.

Hydraulic trailers generally haul small vessels. The ones in this study handled at most 60 tons. Although price schemes vary by yard and location, many of the yards charged between \$10 and \$12 per foot for round trip trailer transport and blocking. In some cases, hydraulic trailer transport service is charged as a flat rate regardless of vessel size, and sometimes an hourly rate is charged.

Marine railway costs range from \$6 to \$12 per foot of length round trip, and often there is an additional charge for length of time the vessel is on the railway.

Travel lifts in the study area have a variety of different price schemes. Some charge by length, some by tonnage, some charge by length per day, and some charge a flat rate. Each lift has a different capacity and likely a different operations cost, so larger lifts even at the same yard would tend to charge more to haul out the same size vessel. In general, the longer the vessel, the higher the per-foot cost to be hauled out. High tonnage and wider vessels are sometimes charged at higher rates. Often the rate for use includes round trip and blocking of the vessel while on land. Some yards (two small lifts in Juneau, for example) charge a higher rate, but throw in free wash down of the vessel. Some rates also include an environmental fee for disposal of hazardous materials.

While this study compares haul-out rates among yards, it is not an exact comparison, and should only be used as a generalization.¹ For a cost comparison between haul-out facilities, this study uses four fictitious vessels, described as follows:

- Fiberglass-hulled pleasure or small commercial fishing vessel, 30 feet long, 10.5 feet wide, weighing 10 tons
- Steel hulled seiner, 58 feet long, 22 feet wide, weighing 72 tons
- Wood hulled tender/packer that also fishes longline, 75 feet long, 28 feet wide, weighing 106 tons
- Steel hulled tender/packer that also fishes crab pots, 100 feet long, 30 feet wide, weighing 178 tons

A general cost comparison for these vessels at selected haul-out facilities is shown in Table 1.

¹ Due to the wide variety of ways in which charges are assessed, it is difficult to do a complete comparison. For example, Wrangell Boat Shop does not charge on shore fees because that is wrapped into the cost of the repair—and they do all the repairs. Also, Kodiak shipyard is very expensive, but mainly used for huge vessels, so not feasible for smaller ones.

Table 1. General Cost Comparison for Selected Vessel Haul-outs at Alaska and Washington Facilities, 2013

Location/Facility	Maximum Capacity (Tons)	Vessel Length			
		30 Feet	58 Feet	75 Feet	100 Feet
Craig	Trailer - 60 Tons	300.00	NA	NA	NA
Hoonah	Trailer - 35 Tons	360.00	NA	NA	NA
Hoonah	Lift - 200 Tons	330.00	754.00	975.00	1,300.00
Juneau - Auke Bay Loading	Trailer - 45 Tons	270.00	NA	NA	NA
Juneau - Deharts Marina**	Lift - 15 Tons	540.00	NA	NA	NA
Juneau - Near Aurora Basin**	Lift - 35 Tons	540.00	NA	NA	NA
Ketchikan - Air Marine Harbor	Rail - 160 Tons	360.00	696.00	900.00	NA
Ketchikan - Air Marine Harbor	Lift - 50 Tons	300.00	NA	NA	NA
Kodiak Fullers Boat Yard	Lifts - 150, 100, 50, and 25 Tons	332.00	786.00	1,800.00	4,000.00
Kodiak Shipyard	Lift - 600 Tons	1,590.00	3,074.00	3,975.00	6,000.00
Petersburg	Trailer - 25 Tons	300.00	NA	NA	NA
Petersburg	Trailer - 50 Tons	360.00	NA	NA	NA
Petersburg	Rail - 260 Tons	300.00	440.00	637.50	NA
Port Townsend	Hoist - 70 Tons	252.38	NA	NA	NA
Port Townsend	Lift - 300 Tons	330.00	638.00	900.00	1,400.00
Seattle - Seaview Boatyard	Lift - 165 Tons	240.00	696.00	1,200.00	NA
Seward*	Lift - 50 Tons	236.25	NA	NA	NA
Seward*	Lift - 250 Tons	346.50	1,218.00	1,575.00	2,100.00
Sitka - Halibut Point Marine***	Lift - 80 Tons	540.00	1,044.00	NA	NA
Skagway	Trailers - 30 and 20 Tons	200.00	NA	NA	NA
Wrangell*	Trailer - 40 Tons	225.00	NA	NA	NA
Wrangell	Lift - 150 Tons	330.00	696.00	975.00	NA
Wrangell - Wrangell Boat Shop	80 and 60 Tons	180.00	348.00	NA	NA

Notes: NA = this facility does not have the capacity to haul out a vessel of this size.

*Rates are per hour.

**Price for haul-out includes a free wash down of the vessel.

***Price for haul-out includes a \$6 per foot environmental fee.

Source: Compiled by Southeast Strategies, 2013.

The Wrangell shipyard plans to install a 300-ton travel lift in the winter of 2014 near where the existing 150-ton lift is located. The City and Borough of Wrangell is undertaking a comparative haul-out rate study to determine what they will charge for the use of this larger lift. They assume the rates will be higher than the current 150-ton lift rates at Wrangell.

Detailed information collection on haul-out rates may be found in Table 23 in Appendix B.

2.2 Competitive Market Analysis of Large Vessel Moorage Facilities

The study team surveyed large vessel moorage facilities that could be considered competitors of a new facility at SCIP. While this survey was not comprehensive, it included virtually every facility in Southeast Alaska, many facilities in other Alaska communities, and a few representative facilities in

Washington. Detailed information collected about these haul-out facilities and their rates may be found in Table 23 in Appendix B.

2.2.1 Competition

While most harbors tend to have some moorage for large vessels, smaller harbors have limited space and rarely permanent space for vessels over 60 feet long. Table 24 in Appendix B presents information on availability of large vessel moorage in Alaska and selected Washington harbors.

Table 2. Availability of Large Vessel Moorage at Selected Facilities in Alaska and Washington, 2013

Location/Facility	Slips over 60'	Side Moorage (ft)
Craig	0	320 ft.
Haines	10	
Hoonah	10	1,000 ft year around plus 300 ft additional in summer
Juneau - Intermediate Vessel Float	0	800 ft
Juneau - main harbors	35	
Juneau - Statter Harbor	0	6,000 ft
Ketchikan - Doyon's Landing		400 ft
Ketchikan - Public Harbors	40	2,900 ft.
Kodiak	156	2,376 ft
Petersburg	48	620 ft.
Port Townsend - Both Boat Haven and Port Hudson	12 and 6 end ties	900 ft.
Seattle - Shilshole Bay	160 + 18 end ties	694 ft.
Seward	25	2,960 ft.
Sitka - Halibut Point Marine Cruise Dock		1,100 ft.
Sitka - Public Harbors	48 + 3 end ties over 60' and 8 end ties over 100'.	2,850 ft including new A&B Harbor update
Skagway	0	1,350 ft.
Wrangell	12	4,500 ft

Source: Compiled by Southeast Strategies, 2013.

Slip space tends to be permanent moorage, while side moorage tends to be used for transient vessels only in port for a short time. Kodiak, which hosts a large fishing fleet, has a large number of slips. Side moorage footage can be misleading because during busy fishing seasons, vessels may side tie onto each other, rafting 3–4 vessels deep on one dock. Anecdotal reports were positive about adding large vessel slips in Sitka. Some interviewees commented that being able to permanently moor a large vessel in Sitka would be convenient because of the location closer to the fishing grounds than current out of state locations, and Sitka had milder winter weather than some other Alaska ports with large vessel moorage available.

2.2.2 Large Vessel Moorage Rates

For the moorage cost comparison between facilities, we have created three fictitious vessels. The vessels are described as follows:

- Steel hulled seiner, 58 ft. long, 22 ft. wide, weighing 72 tons
- Wood hulled tender/packer that also fishes longline, 75 ft. long, 28 ft. wide, weighing 106 tons
- Steel hulled tender/packer that also fishes crab pots, 100 ft. long, 30 ft. wide, weighing 178 tons

Permanent moorage is usually charged by an amount per foot, per month or year, while transient moorage is typically charged on a daily basis. Most of the harbors surveyed have electricity and water service available, sometimes for a fee, but usually free at transient docks. The larger harbors also sometimes have additional amenities available, such as a drive down dock, showers, and sewer pump out. Four harbors—Intermediate Vessel Float and Statter Harbor in Juneau, and Boat Haven and Port Hudson in Port Townsend—give special rates for active fishing vessels. Details about each harbor are available in Appendix B.

Table 3 presents a general cost comparison for these three fictitious vessels at each of the competitive harbors surveyed as part of this screening analysis.

Table 3. General Cost Comparison for Large Vessel Moorage at Selected Alaska and Washington Facilities, 2013

Location/Facility	Permanent Moorage - \$ per year			Temporary Moorage - \$ per day (summer rates)		
	58 ft	75 ft	100 ft	58 ft	75 ft	100 ft
Craig	913.50	1,181.25	1,575.00	29.00	37.50	50.00
Haines	1,450.00	1,875.00	2,500.00	29.00	37.50	50.00
Hoonah	1,102.00	1,425.00	1,900.00	29.00	37.50	50.00
Juneau - Intermediate Vessel Float	NA	NA	NA	43.50	56.25	75.00
Juneau - main harbors	2,888.40	3,735.00	4,980.00	NA	NA	NA
Juneau - Statter Harbor	4,837.20	6,255.00	8,340.00	43.50	56.25	75.00
Ketchikan - Public Harbors	1,425.64	1,843.50	2,458.00	36.54	47.25	63.00
Kodiak	2,378.00	4,575.00	7,150.00	39.63	76.25	119.17
Petersburg	2,552.00	3,750.00	5,000.00	29.00	37.50	50.00
Port Townsend - Boat Haven and Port Hudson	4,002.00	5,175.00	6,900.00	72.50	93.75	125.00
Seattle - Shilshole Bay	9,764.88	13,266.00	17,688.00	87.00	112.50	200.00
Seward	2,684.24	3,471.00	4,628.00	39.44	51.00	68.00
Sitka - Halibut Point Marine Cruise Dock	NA	NA	NA	58.00	75.00	100.00
Sitka - Public Harbors	1,948.80	2,520.00	3,360.00	50.46	65.25	149.00
Skagway	NA	NA	NA	21.46	NA	NA
Wrangell	1,450.00	1,875.00	2,500.00	23.20	30.00	40.00

NA = space not available for these categories of moorage.

Source: Compiled by Southeast Strategies, 2013.

The higher moorage rates in Washington facilities reflect two phenomena. First, these harbors tend to charge financially sustainable rates rather than market-based rates. Second, additional amenities at these harbors are often not available at Southeast Alaska harbors and place them at a premium. Sitka's large vessel moorage rates (both permanent and transient moorage) are higher than in both Wrangell and Ketchikan, two nearby and competing facilities.

Detailed information collection on moorage rates may be found in Table 24 in Appendix B.

2.3 Travel Distance

Sitka is located in a strategic position close to the outside waters of the Gulf of Alaska. Many commercial vessels work in Southeast Alaska, and many more transit the Gulf of Alaska to reach other Alaska fishing grounds. Anecdotal reports from managers of vessels that homeport outside of Alaska because suitable moorage in Alaska is not available indicate that Sitka would be a desirable location to moor vessels because of its proximity to the commercial fishing grounds. As fuel prices rise, longer transits become more and more expensive, so mooring closer to the fishing grounds will lower vessel operating costs. These vessel managers also report that large vessel moorage becomes more attractive when there are haul-out and repair facilities, and other amenities near the moorage.

2.4 Vessel Owner Survey

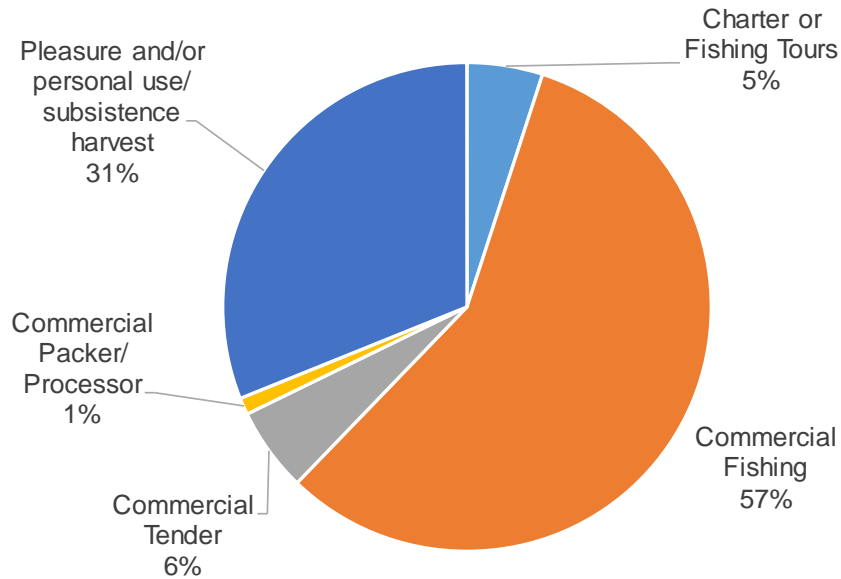
The primary method for data collection for this screening analysis was a vessel owner survey. The study team developed an internet-based survey, relying on team experience as well as other recent vessel surveys to develop a set of questions. The study used an internet-based survey offered through SurveyMonkey.com, shown in Appendix A.

Survey data were originally collected from late September 2013 through November 15, 2013. Ultimately, respondents were given until December 13, 2013, to allow for additional responses resulting from the Pacific Marine Expo in late November and a progress report given at the City and Borough of Sitka Assembly meeting on December 10, 2013.

As of December 13, 2013, 205 people had begun the survey, of which there were 142 sets of responses with at least one response to one question. Survey respondents reported information for 186 vessels.

Most vessels included in the survey results are commercial fishing vessels, followed by pleasure and/or personal use and subsistence vessels. Figure 1 shows the breakdown of vessels by primary use.

Figure 1. Primary Use of Vessel, Percentage by Type



Source: Northern Economics, Inc. analysis

Vessel owners were asked if their vessels transit the Gulf of Alaska for commercial purposes. Most (86 percent) of vessels do not make the transit. Of those that do, most (71 percent) are homeported in Sitka, with another 17 percent homeported in Alaska (Kodiak, Seward, and Pelican).

2.4.1 Summary of Open-ended Questions

Respondents were given the opportunity to provide open-ended feedback about the proposed facilities and promised that their responses would be treated as confidential and would only be reported in aggregate. The following responses shown below are indicative of responses received by two or more people. As seen in the responses, many issues have proponents on either side of the issue.

- A facility of this type should have been constructed many years earlier. It will keep business in Sitka.
- Build it and they will come.
- If the facilities are specialized, then those who want it should foot the bill. Private or cooperative funding is needed.
- A public facility is needed. A private facility is needed. A publicly-owned, privately-run facility is needed.
- Sitka needs to focus on the commercial fishing industry, and not the cruise ship industry.
- The private facility can no longer meet the needs of the fleet. Rumor is that it is closing down. Other haul-out options in Sitka are limited.
- Keeping the cost down is important, both the invested cost for Sitka and the cost for services for users.
- Prepare for wind and rain in that area.
- Environmental safeguards are a must.
- It will take a long time to catch up to Wrangell.

- This isn't about bringing new business to Sitka, but about creating jobs, keeping money in the economy, and keeping the fleet from leaving.
- A deepwater dock.
- Don't do it. Stay out of the shipyard business. Few boats in the local fleet can't be hauled out locally.
- Build something for smaller vessels. We need more moorage. Not convinced Sitka is the place for larger vessels.

2.5 Vessel Owner Interviews

More than 10,000 commercial vessels were registered on the Alaska Department of Fish and Game's Commercial Vessel database in 2013. These vessels all have a permit to access or service commercial fisheries in Alaska. Only about 8,600 of these vessels are listed as having an Alaska homeport, but they all transit Alaska waters to access the commercial fisheries. As Sitka is close to the outside waters of the Gulf of Alaska, it is accessible by vessels working in Southeast Alaska, and by vessels that spend the off season outside of Alaska, but must transit near Sitka to reach commercial fishing grounds in the Gulf of Alaska and further west.

In addition to the online survey, the study team also contacted a few individuals by phone, primarily to get input from organizations that own, manage, or represent multiple vessels or individual vessel owners whose vessels homeport outside of Alaska, but transit near Sitka to access Alaska fishing grounds. Of the fishers and companies interviewed, most were selected at random from vessels listed in the 2013 commercial vessel database that were homeported outside of Alaska. Two government agencies and one Community Development Quota group were also interviewed. Fifteen vessel owners or managers were interviewed, representing 51 vessels, most of them 58 feet or longer.

These vessel owners or managers were asked about the number, size, use, and homeport of their vessels, where they go to get hauled out for work on the vessels, and why they go there. They were asked what they look for in haul-out and moorage facilities. They were told briefly about the facilities Sitka may develop, and asked if they would consider using haul-out or large vessel moorage facilities at Sitka in the future. What follows is a summary of the comments received from vessel owners or managers during those interviews.

For a haul out facility at Sitka:

- They currently haul out somewhere close to home port so managers can monitor work.
- They look for a yard where they can do some of their own work, but that has skilled trades, workers, and ability to quickly get parts.
- They look for good and reputable skilled workers. (One of best shipwrights on the West Coast recently relocated to Wrangell, and he is booked with work through 2015.)
- Because of Sitka weather, a yard would need covered areas to do the work. As wet and cool weather is not conducive to fast drying of paint, an actual building for cover would be preferable to just a tent.
- They must weigh the cost savings in fuel by not bringing the vessels to where their headquarters or homeport is against the cost to bring monitoring staff to Sitka and putting them up in a hotel while the work is done.
- They would like to see a haul out that accommodates at least 150 tons, but 300 tons was most recommended for Sitka.
- Some suggested this facility should have been built years ago, and Sitka may have missed the window, as there are so many facilities being built in Southeast Alaska now.

For a large vessel moorage facility at Sitka:

- Most felt that additional large vessel moorage near Sitka was a good idea.
- Sitka has a good location, close to the outside waters and fishing grounds, and if they could find large vessel moorage at Sitka, they would not have to move their vessels down to Washington (which incurs high fuel costs).
- Sitka has better weather to moor vessels for winter than some locations.
- They would need shore power and water at the moorage facility.
- Moorage rates would need to be reasonable; they seem to be high in Alaska.

Results of the individual interviews can be found in Appendix C.

3 Screening-Level Assessment of a Vessel Haul-out Facility at SCIP

Overall, the analysis indicates a weak to moderate opportunity for a haul-out facility for vessels up to 150 tons and a weak opportunity for a haul-out facility for vessels over 150 tons. Under a scenario in which the existing Halibut Point Marine were to cease haul-out operations, the analysis would indicate a moderate to strong opportunity for a haul-out facility for vessels up to 50 tons.

Survey results indicated a significant amount of haul-out activity for smaller vessels of up to 100 tons, but little activity for larger vessels. While open-ended comments in the survey were in support of a larger lift, the respondents for the most part did not represent that user group. Interviews with owners and managers of larger fleets of vessels provided anecdotal support of a larger lift, but without quantitative data to support an analysis. As a result, a larger lift is considered to be a weak opportunity, pending data to support fleet interest.

3.1 Estimated Market Demand

The vessel owner survey contained responses representing 186 vessels. Tonnages were missing for many of the vessels and had to be estimated, resulting in 185 vessels with which to estimate demand. Table 4 and Table 5 show a summary of the survey results related to haul-outs, for vessels homeported in Sitka and outside Sitka, respectively. On average, Sitka vessels reported 0.91 haul-outs each year, while non-Sitka vessels reported 0.82 haul-outs per year. The number of haul-outs generally declines as vessels get larger, though there is limited data available from the survey for vessels over 50 or 100 tons. Vessels up to 50 tons reported spending an average of 8.3 days and 41.1 days out of the water, for Sitka-homeported and non-Sitka-homeported vessels, respectively. Two of the non-Sitka vessels reported being on land for storage for six and seven months a year; with these outliers removed, the average time on land for non-Sitka vessels is 13.1 days. Likewise, when responses indicating storage are removed, the time spent on land by Sitka vessels drops to an average of 6.1 days.

Table 4. Summary of Haul-out Information for Vessels Homeported in Sitka

Tonnage Class	Count of Vessels	Average Number of Hauls per Year	Total Hauls per Year	Average Annual Maintenance (\$)	Average of Haul Time (Days)
<=50	134	0.94	125.4	7,914	8.3
51-100	12	0.83	9.9	17,955	28.5
101-150	2	0.50	1	75,000	7.0
151-200	2	1.00	2	22,500	14.0
201-250	1	1.00	1	25,000	7.0
251-300	1	0.50	0.5	100,000	30.0
>300	2	0.50	1	15,000	14.0
Total	154	0.91	140.8	10,492	10.4

Source: Northern Economics, Inc. analysis

Table 5. Summary of Haul-out Information for Vessels Homeported Outside of Sitka

Tonnage Class	Count of Vessels	Average Number of Hauls per Year	Total Hauls per Year	Average Annual Maintenance (\$)	Average of Haul Time (Days)
<=50	18	0.92	16.50	10,708	41.1
51-100	4	0.58	2.33	62,750	271.0
101-150	3	1.00	3.00	75,000	12.7
151-200	3	0.67	2.00		24.8
251-300	2	0.75	1.50	75,000	6.0
>300	1	0.00			
Total	31	0.82	25.33	33,975	74.4

Source: Northern Economics, Inc. analysis

Table 6 shows detail about the number of haul-outs by size and location. Of those vessels represented by the survey, 76 percent are hauled out in Sitka, and all of the Sitka haul-outs were of vessels of 100 tons or less. Respondents indicated 8 haul-outs in the 101–200-ton range, 3 haul-outs in the 201–300-ton range, and 1 haul-out in the >300 ton class, all of which took place outside Sitka.

Table 6. Haul-out Patterns by Vessel Size and Location

Tonnage Class	Haul-outs by Location		Total Haul-outs
	Outside Sitka	Sitka	
<=50	21.5	120.4	141.9
51-100	6.83	5.4	12.23
101-150	4	–	4
151-200	4	–	4
201-250	1	–	1
251-300	2	–	2
>300	1	–	1
Grand Total	40.33	125.8	166.13

Source: Northern Economics, Inc. analysis

The study team was directed to also consider the demand for haul-outs in the event that the local, private haul-out facility were to cease operations. This screening analysis considers non-Sitka haul-outs to represent the base level of demand, with 28.33 haul-outs reported by 57 vessels, giving an average of 0.497 haul-outs each year. This analysis considers the total number of haul-outs to represent the high level of demand, with 168 vessels reporting 154 haul-outs (0.916 haul-outs each year).

The going rate in the region is approximately \$10–12 per foot for round-trip haul-outs. The rate can vary considerably depending on the location, type of lift, and size of lift. However, many of the haul-out facilities and equipment in Southeast Alaska charge this amount.

Based solely on haul-outs reporting in the survey results, potential base-level haul-out revenues of \$29,300 would be possible for all vessels, consisting of \$20,200 from vessels up to 150 tons. Providing haul-outs for all vessels reported in the survey could increase potential revenues to \$90,700,

consisting of \$81,600 from vessels up to 150 tons. In each case, vessels over 150 tons could provide revenues of \$9,100 for vessels over 150 tons. Potential revenues by size of lift are shown in Table 7.

Table 7. Potential Haul-out Revenues

Tonnage Class	Total Haul-out Feet		Tonnage Class Revenue (\$)		Cumulative Revenue (\$)	
	Base Case	High Case	Base Case	High Case	Base Case	High Case
<=50	898	5,728	10,776	68,730	10,776	68,730
51-100	435	721	5,216	8,648	15,992	77,378
101-150	354	354	4,248	4,248	20,240	81,626
151-200	330	330	3,960	3,960	24,200	85,586
201-250	86	86	1,032	1,032	25,232	86,618
251-300	217	217	2,598	2,598	27,830	89,216
>300	123	123	1,470	1,470	29,300	90,686

Source: Northern Economics, Inc. analysis

In addition to lift revenues, haul-outs generate revenues from maintenance work and storage, as well as from sales tax revenues and additional economic impacts. Depending on the ownership and operation arrangements, these revenues would be shared between CBS and private industry. This spending can vary considerably based on the size and type of vessel, reason for haul-out, and other factors. Table 8 gives survey results for on-land time and annual maintenance expenses by vessel size. For vessels up to 100 tons, the average time on land is about 14 days and average annual maintenance spending is \$10,600. Information for vessels over 100 tons is based on a limited number of surveys and is less reliable.

Table 8. Vessel Time and Spending on Land

Tonnage Class	Average Length of Time on Land (Days)	Average Annual Maintenance (\$)
0-100	13.9	10,566
101-150	11.3	75,000
151-300	17.2	53,333
>300	14.0	15,000
Total	14.0	13,666

Source: Northern Economics, Inc. analysis

Based on these usage patterns, spending in the community could be significant. The survey results alone point to annual spending of \$1.45 million for vessels up to 100 tons and \$0.6 million for larger vessels. Extrapolating these patterns to the entire fleet would likely account for sufficient economic activity to justify some degree of subsidy for costs in excess of lift fees.

Facility costs for a haul-out, presented in Section 7, are estimated at \$4.4 million for a facility with a 50-ton hydraulic trailer and \$7.2–12.5 million for a facility with a 150-ton travel lift. Assuming that annual costs for operations, maintenance, and eventual replacement amount to 10 percent of the original capital cost, a 50-ton haul-out facility would need to cover \$440,000 annually and a 150-ton facility would need to cover \$720,000–\$1.25 million annually, as seen in Table 9.

Table 9. Rough Order of Magnitude Estimate of Annual Costs for Operations, Maintenance, and Replacement of a Vessel Haul-out Facility at SCIP

	Haul-out Concept		
	150 Ton Marine Travelift Concept 1	150 Ton Marine Travelift Concept 2	Boat Haul-out Ramp and Hydraulic Trailer (50 Ton)
Total Recommended Project Budget (\$)	12,479,214	7,228,683	4,387,537
Multiplier to Annualize Costs (%)	10	10	10
Rough Order of Magnitude Annual Cost of Facility (\$)	1,247,921	722,868	438,754

Source: PND Engineers and Northern Economics, Inc. analysis

Using the potential revenues shown in Table 7 and the rough order of magnitude cost estimates shown in Table 9, Table 10 shows estimated operating profits for a vessel haul-out facility at SCIP.

Table 10. Estimated Operating Profits of a Vessel Haul-out Facility at SCIP

	150 Ton Marine Travelift Concept 1		150 Ton Marine Travelift Concept 2		Boat Haul-out Ramp and Hydraulic Trailer (50 Ton)	
	Base Case	High Case	Base Case	High Case	Base Case	High Case
Potential Haul-out Revenues (\$)	20,240	81,626	20,240	81,626	10,776	68,730
Rough Order of Magnitude Annual Cost of Facility (\$)	-1,247,921	-1,247,921	-722,868	-722,868	-438,754	-438,754
Potential Haul-out Profits (\$)	-1,227,681	-1,166,295	-702,628	-641,242	-427,978	-370,024
Percentage of Costs Covered by Haul-out Revenues (\$)	1.6	6.5	2.8	11.3	2.5	15.7

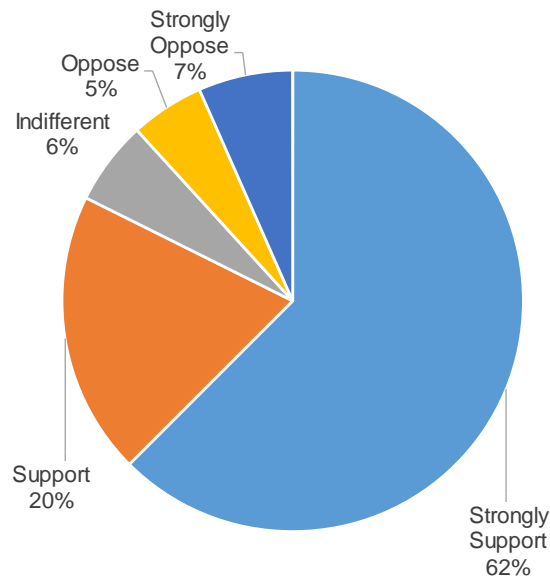
Source: Northern Economics, Inc. analysis

As seen in Table 10, even under a high case, potential haul-out revenues would only cover a small portion of the annual cost of a haul-out facility. Extrapolating potential revenues to the entire fleet with this level of detail is not possible without detailed information about the lengths and weights. However, given the survey results, interview findings, number of vessels homeported in Sitka, and number of vessels participating in nearby fisheries, there is some support for a lift at SCIP. It appears that a base level of haul-outs might cover only 5–10 percent of the annual cost of a 150-ton lift, requiring CBS to provide a substantial subsidy to cover the cost of constructing the facility and the operating costs over the initial years. If the local, private haul-out were to close, then the high case might allow for coverage of 15 percent or more of the costs for a 50-ton hydraulic trailer. Omitting the cost of the improvements and focusing only on the lift equipment, in the high case it appears that revenues could cover the cost of a 50-ton hydraulic trailer, though it would require growth in demand to cover the cost of a 150-ton travel lift. Insufficient information is available to suggest if a larger lift is feasible.

3.1.1 Other Findings of the Vessel Owner Survey

In addition to the quantitative information discussed above, survey respondents were asked if they supported using public funds to build a haul-out facility and work yard at SCIP. The response was strongly positive, as shown in Figure 2. The majority (82 percent) support or strongly support use of public funds, while 12 percent oppose and 6 percent are indifferent.

Figure 2. Support of Using Public Funds to Build a Haul-out Facility and Work Yard



Source: Northern Economics, Inc. analysis

3.2 Required Infrastructure and Equipment

Survey respondents were asked an open-ended question about amenities of interest, beyond the services discussed in Section 3.3. Responses given by multiple people included the following:

- Communication (cell service, wi-fi)
- Equipment for rental (scaffolding, pressure washers, workbenches, vices, drill presses, miscellaneous tools)
- Food (coffee shop, deli mart, restaurant, bar, liquor store, groceries, food truck) and open eating areas
- Garbage and recycling
- Launch ramp (including suggestions for KMI SeaLift and railway to covered area)
- Paved work area (asphalt, concrete)with drainage
- Power (one requested 50A)
- Repair services (hydraulic, welding, engine repair, divers, prop shop, fiberglass, electrical)
- Restrooms and showers
- Sand blasting equipment or services
- Sheltered or enclosed area for work (to avoid weather, control humidity, do painting, etc.), for both vessel owners and independent hired workers, including short- and long-term use
- Storage areas (large fishing boats, secured area, reasonably priced)

- Stores on site to avoid having to drive to and from town for small items (small parts/general hardware, marine hardware, paint, major engine and gear supply, boat sales)
- Transportation into town (public transportation, shuttle service, car/truck rentals)

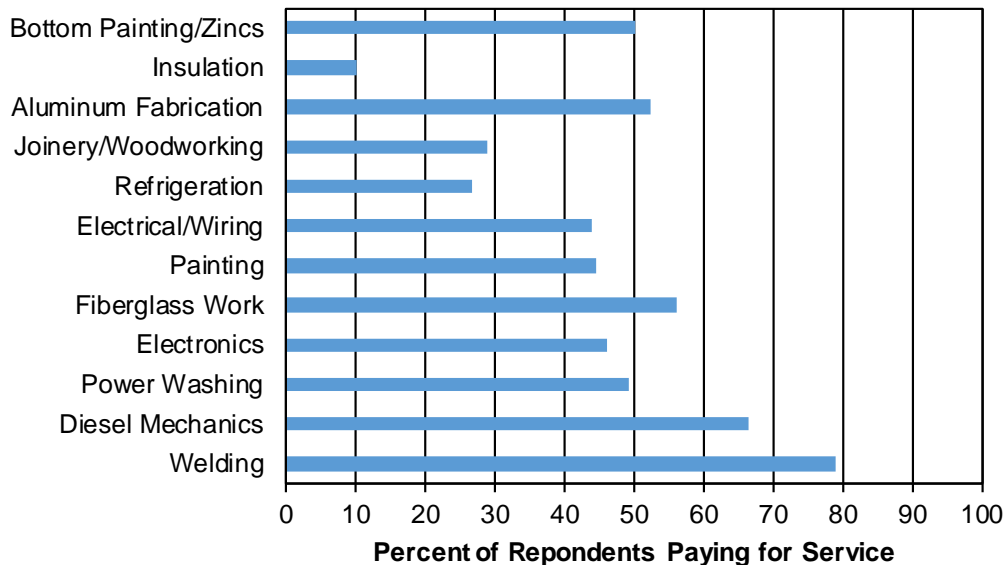
Many survey respondents commented on the need for sheltered, covered, and/or enclosed work areas for boats. The vacant bottling plant might be able to serve this purpose, or a new facility could be constructed to serve this need.

3.3 Services Required to Support the Facility

Survey respondents were asked about services and work done on their vessel. Vessel repair and maintenance services that vessel owners paid to have done are shown in Figure 3. Work that vessel owners reported doing themselves is shown in Figure 4.

As seen in Figure 3, top services that vessel owners paid to have done included welding, diesel mechanics, fiberglass work, and aluminum fabrication.

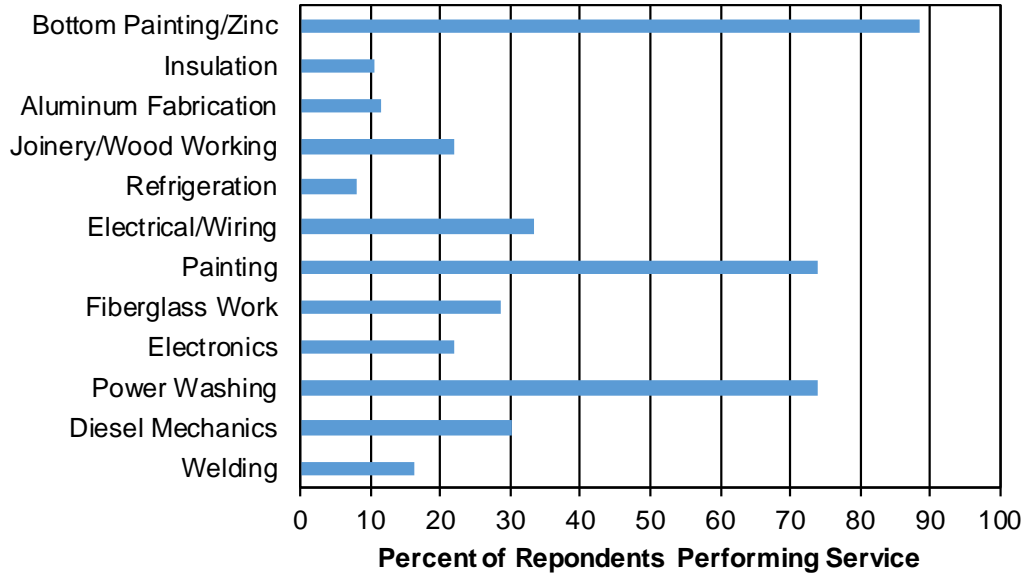
Figure 3. Vessel Repair and Maintenance Services Paid for by Vessel Owners



Source: Northern Economics, Inc. analysis

Vessel owners also perform regular work on their vessels. As shown by Figure 4, at least half of all vessel owners take care of their own bottom painting and zinc, general painting, and power washing.

Figure 4. Vessel Repair and Maintenance Services Performed by Vessel Owners



Source: Northern Economics, Inc. analysis

Survey respondents were asked about the importance of certain amenities in their decision to haul out their vessel at SCIP. Having a work area available, along with painting and welding services, were the top amenities identified. Hull and deck repair, vehicle parking, and fishing and vessel parts and supplies round out the top amenities desired. Results are shown in Table 11.

Table 11. Importance of Amenities at SCIP in Decision to Haul Out Vessel at SCIP

Amenity	Response					Mean Score
	1	2	3	4	5	
	Not Important Extremely Important					
	Percent of Responses					
Vessel Work Area	7	2	1	7	83	4.57
Vessel Storage	20	14	20	9	36	3.25
Equipment Storage	22	21	30	12	15	2.76
Vehicle Parking	9	6	20	24	41	3.82
Engine Repair	9	19	20	17	35	3.50
Hull/Deck Repair	10	7	14	21	48	3.89
Electronics Work	16	19	20	19	25	3.17
Refrigeration Work	27	21	18	16	18	2.78
Net/Gear Repair	41	18	20	7	14	2.37
Painting/Welding Services	8	6	12	20	54	4.06
Fishing/Vessel Parts & Supplies	12	12	24	17	36	3.53
Fuel Dock	33	23	16	13	16	2.56
Groceries/ Dry Goods	43	19	15	9	14	2.30
Restaurant and Lodging	51	18	13	8	11	2.10

Source: Northern Economics, Inc. analysis

Respondents who had hauled their vessel out in Sitka were asked an open-ended question about what they like about the facilities, services, and conditions present in Sitka with regard to ship maintenance and repair work. Respondents also indicated a number of items they did not like. Answers to this question, grouped into similar responses, included the following positive responses:

- Good access to repair supplies close by
- Accessible and have airport (for persons and parts)
- Live and/or homeport in Sitka and don't want to commute
- Good and full services (welding, fabrication, machine shop, electronics, supplies, groceries, power)
- Proximity to fisheries
- Grid is free and nice for small projects
- Very accommodating and efficient workers at haul-out

Answers to this question, grouped into similar responses, included the following negative responses:

- Nothing other than location
- No place to do work
- Lack of services
- Poor services
- Too expensive
- Poor availability
- Haul-out facility is being phased out

3.4 Recommendations for Further Analysis

This study finds a vessel haul-out to be a weak to moderate opportunity for vessels up to 150 tons, and a moderate to strong opportunity for vessels up to 50 tons if Halibut Point Marine were to cease its haul-out operations. The greatest uncertainty is whether Halibut Point Marine will continue to operate its haul-out. For vessels over 150 tons, additional information is required from large vessel owners to determine demand. The herring fleet was identified as being interested in moorage at SCIP, so this group is a logical starting place for determining the haul-out requirements and frequency for this group, and for determining what infrastructure and services are required.

4 Screening-Level Assessment of a Large Vessel Moorage Facility at SCIP

Overall, the analysis indicates a moderate opportunity for large vessel moorage, which this study defines as being in excess of 100-foot length overall.

Survey results did not indicate demand for a large vessel moorage facility, but anecdotal information collected from interviews as well as information conveyed to the study team by the CBS Harbormaster suggests there is demand from the herring fleet to homeport in Sitka. Vessels in this fleet are anticipated to be in the 100–120-foot range.

Though not evaluated as part of this study, there is a significant waiting list for smaller vessels to use existing CBS harbor facilities. Some of that demand could be accommodated by a new harbor at SCIP, though it would need to be handled in such a way as to avoid conflicts with larger vessels.

4.1 Estimated Market Demand

The survey contained responses from 142 individual vessel owners representing 186 vessels. Of those responses, there were 52 vessels for which the respondent answered the question of whether they would be interested in homeporting in Sitka if moorage were available. Table 12 presents the results of that question. Of the 52 responses, 30 were for vessels already homeported in Sitka. The remaining 22 responses primarily represented vessels homeported elsewhere in Southeast Alaska, as well as a few from other locations in Alaska, Washington, and California. Of those vessels not homeported in Sitka, about one-half of them would consider homeporting in Sitka if moorage were available.

Table 12. Vessel Owner Interest in Homeporting in Sitka

Home Port	Would Vessel Owner Consider Homeporting in Sitka?		Total Responses
	No	Yes	
Sitka	1	29	30
Outside of Sitka	12	10	22
Total	13	39	52

Source: Northern Economics, Inc. analysis

In evaluating the ten vessels that would consider homeporting in Sitka, it appears that most of them would be capable of using Sitka’s existing harbor facilities and that the reason they are not is due to a lack of capacity. As seen in Table 13, eight of the ten vessels were under 60 feet. Only two vessels, with lengths of 96 feet and 120 feet, might be considered large vessels. While this is a small sample, these findings suggest the need for additional moorage to address the current waiting list, rather than present a strong case for large vessel moorage.

Table 13. Length of Vessels Interested in Homeporting in Sitka

Vessel Length (feet)	Number of Vessels
30–39	4
40–49	2
54	2
96	1
120	1
Total	10

Source: Northern Economics, Inc. analysis

However, the purpose of this study is to evaluate the demand for large vessel moorage. Anecdotal information from the herring fleet suggests that many of its members, with lengths in the 100–120-foot range, are interested in moorage in Sitka. The study team was not able to gather sufficient quantitative information to do a complete analysis of this demand, yet this anecdotal evidence suggests that there is a moderate opportunity for large vessel moorage at SCIP and that further investigation of the herring fleet is warranted.

Estimated costs for a large vessel moorage facility are presented in Section 7, based on the preliminary conceptual design shown in 6. That design would contain slips for 124 vessels, as shown in Table 14.

Table 14. Preliminary Configuration of Slips for Herring Cove Harbor

Main Float	Slip Size (Feet)	Slip Count	Total Linear Footage
1	45	48	2,160
2	60	32	1,920
3	90	24	2,160
4	120	20	2,400
Total		124	8,640

Source: PND Engineers (2014)

If operating at capacity with all permanent moorage holders, the harbor would generate \$290,000 of revenue annually. Given the size of the waiting list for slips in the existing CBS harbors, as well as interest expressed in interviews for larger vessels, reaching capacity appears to be reasonable. These revenue estimates are presented in Table 15, which assumes the harbor is fully utilized with permanent moorage users, and in Table 16, which assumes the harbor is fully utilized with transient users.

Table 15. Potential Revenues of Large Vessel Moorage at SCIP, Permanent Moorage Use

Main Float	Total Linear Footage	Annual Moorage Rate (\$)	Potential Moorage Revenue, Based on Permanent Moorage Use (\$)
1	2,160	33.60	72,576
2	1,920	33.60	64,512
3	2,160	33.60	72,576
4	2,400	33.60	80,640
Total	8,640		290,304

Source: PND Engineers (2014) and Northern Economics, Inc. analysis

Note: The current permanent moorage rate is \$2.80 per month, which amounts to \$33.60 per year.

Table 16. Potential Revenues of Large Vessel Moorage at SCIP, Transient Daily Moorage Use

Main Float	Total Linear Footage	Annualized Transient Daily Moorage Rate (\$)	Potential Moorage Revenue, Based on Transient Daily Moorage Use (\$)
1	2,160	317.55	685,908
2	1,920	317.55	609,696
3	2,160	543.85	1,174,716
4	2,400	543.85	1,305,240
Total	8,640		3,775,560

Source: PND Engineers (2014) and Northern Economics, Inc. analysis

Note: The current transient moorage rate is \$0.87 per foot per day (\$317.55 per foot for 365 days) for vessels up to 80 feet in length, \$1.49 per foot per day (\$543.85 per foot for 365 days) for vessels 81 to 150 feet in length, and \$2.24 per foot per day (\$817.60 per foot for 365 days) for vessels 151 feet in length or longer.

Based on the estimated cost of \$28.7 million, Table 17 shows rough order of magnitude costs associated with annual operations of a large vessel moorage facility.

Table 17. Rough Order of Magnitude Estimate of Annual Costs for Operations, Maintenance, and Replacement of Large Vessel Moorage at SCIP

	Herring Cove Harbor—Large Vessel Moorage Option
Total Recommended Project Budget (\$)	28,707,450
Multiplier to Annualize Costs (%)	10
Rough Order of Magnitude Annual Cost of Facility (\$)	2,870,745

Source: PND Engineers and Northern Economics, Inc. analysis

Using the potential revenues shown in Table 15 and Table 16 and the rough order of magnitude cost estimates shown in Table 17, Table 18 shows estimated operating profits for large vessel moorage at SCIP.

Table 18. Estimated Operating Profits of Large Vessel Moorage at SCIP

	Permanent Use Only	Transient Daily Use Only	50/50 Mix of Permanent and Daily Transient Use
Potential Moorage Revenues (\$)	290,304	3,775,560	2,032,932
Rough Order of Magnitude Annual Cost of Facility (\$)	-2,870,745	-2,870,745	-2,870,745
Potential Moorage Profits (\$)	-2,580,441	904,815	-837,813
Percentage of Costs Covered by Moorage Revenues (\$)	10.1	131.5	70.8

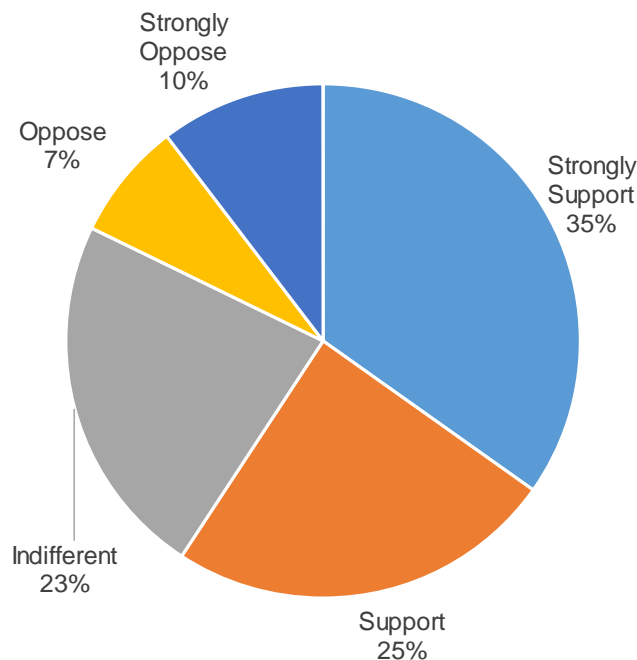
Source: Northern Economics, Inc. analysis

As seen in Table 18, filling the harbor with permanent moorage users would cover approximately 10 percent of the cost of operating and maintaining the harbor. Filling the harbor with higher-revenue transient daily users could generate up to \$3.8 million and fully cover costs, based on 100 percent utilization. Given that use of the harbor would be a mix of permanent and transient users, a mix of smaller vessels (up to 60 feet), mostly with permanent moorage, and larger vessels (over 60 feet), mostly with transient moorage, could bring the harbor close to breaking even. The highest amount of revenue would come from the larger vessels, so the financial performance of the harbor would depend heavily on transient use from larger vessels.

4.1.1 Other Findings of the Vessel Owner Survey

Survey respondents were asked if they supported using public funds to build moorage for large vessels at SCIP. The response was strongly positive, as shown in Figure 5. The majority (60 percent) support or strongly support use of public funds, while 17 percent oppose and 23 percent are indifferent.

Figure 5. Support of Using Public Funds to Build Moorage for Large Vessels



Source: Northern Economics, Inc. analysis

4.2 Required Infrastructure and Equipment

Survey respondents were asked what services or configuration they would like to see with permanent large vessel moorage in Sitka. Responses included the following common elements:

- Water and power, including power for transients
- Drive down ramp to work/loading dock
- Crane or hoist for loading/unloading on a work float
- Uplands amenities (food, coffee, hardware store, laundry, showers)
- Vessel haul-out, storage yard, and work yard, with access to services (consistent with facilities and services discussed in Section 3.3)
- Dry storage and covered areas in uplands
- Slips
- Communications (internet, phone)
- Covered moorage
- Multiple access points (short distance from parking to vessel) and handicap access

4.3 Recommendations for Further Analysis

This study finds a large vessel moorage facility to be a moderate opportunity. Additional analysis is required to determine if it is a feasible concept. Since large vessels were notably absent from the survey results, and transient use of the harbor by large vessels would be a major contributor to the harbor's financial performance, CBS should engage that user group to get a better sense of their moorage requirements.

5 Screening-Level Assessment of a Deepwater Dock at SCIP

Overall, the analysis indicates a weak development opportunity for a public deepwater dock or MPD at SCIP; cargo vessels (including tug and barge combinations) and cruise ships currently utilize existing private facilities at SCIP as well as other private docks that extend west toward Starragavan Point.

Outbound pulp shipments were frequent during Alaska Lumber and Pulp's (ALP) operations, from 1959 to 1993; the existing dock at SCIP was owned by ALP and provided loading and receiving services for ocean-going vessels. That deepwater dock is now in private hands, following its sale by the CBS to Silver Bay Seafood in June of 2008. The sale included five acres of industrial waterfront, a warehouse, and a bunkhouse (KCAW, 2014).

The majority of outbound cargo shipments are containerized seafood, shipped by tug and barge to the Puget Sound area. Similarly, incoming cargo shipments are barged directly to one of several private docks. Additional cargo is hauled by the Alaska Marine Highway System (AMHS), using the ferry system's dock and terminal at Starragavan Point. Air cargo service is provided by Alaska Airlines.

Since the majority of cargo shipped to and from Sitka is waterborne in nature, the team used U.S. Army Corps of Engineers (USACE) waterborne statistics for the years 2006 to 2012. These data provide an estimate of annual cargo tonnage along with cargo types.

This section focuses on cargo operations from both historical and current commodity perspectives.

Vessel Types, Dimensions

Vessel definitions are not universally specified, according to the International Maritime Organization (2014). The following vessels are those likely to use dock facilities in Sitka (or have in the past):

- Passenger ship. A ship that carries more than twelve passengers
- Fishing vessel. A vessel participating in commercial fisheries
- Bulk carrier. A ship constructed generally with a single deck, top-side tanks, and intended to carry dry cargo in bulk, including ore carriers and combination carriers
- General cargo ship. May have single or multiple decks, designed for the carriage of general cargo
- Oil tanker. A ship constructed to carry oil in bulk either as a full or partial cargo
- Tug and barge. Figure 6 illustrates a tug and barge at Sitka, which are typical for most cargo shipments in Southeast Alaska.

Figure 6. Tug and Barge Hauling Rock and Gravel near Sitka, 2013



Source: Northern Economics, Inc.

PND Engineers developed a conceptual layout for possible deepwater dock locations at SCIP, as well as a MPD, as shown in Section 6. The deepwater dock layouts were designed to accommodate potential use by a vessel capable of traversing the Suez Canal, termed a Suezmax vessel size.

The Suez Canal Authority (2014) indicates there is no length restriction on vessel passage but the maximum beam (width) is approximately 254 feet. The maximum water draft is 40 feet for wide-beam vessels and 62 feet for vessels with a narrower, 164-foot beam.

SCIP development plans suggest one potential use of a deepwater dock is for water export. The conceptual layouts display two possible locations: one next to the existing Silver Bay deepwater dock and the second due east of that site, along the Green Lake Road. Water export is outside the scope of this phase of the screening-level assessment but these facilities were included in the engineering work under direction from CBS.

5.1 Estimated Market Demand

Northern Economics analyzed cargo demand based on data published by the USACE Waterborne Commerce Statistics Center (USACE, 2013).

These waterborne commerce data are collected each year on all commodities shipped into and from Sitka, for all docks extending from the (former) ALP mill in Silver Bay (Sawmill Cove) to Starrigavan Bay on the north, including the Sitka Central Waterfront and Japonski Island.

Domestic shippers report traffic movements to USACE for cargo at the point of loading and unloading of each individual commodity (USACE, 2013). Cargo carried on ferries, such as those operated by AMHS, is not recorded or counted.

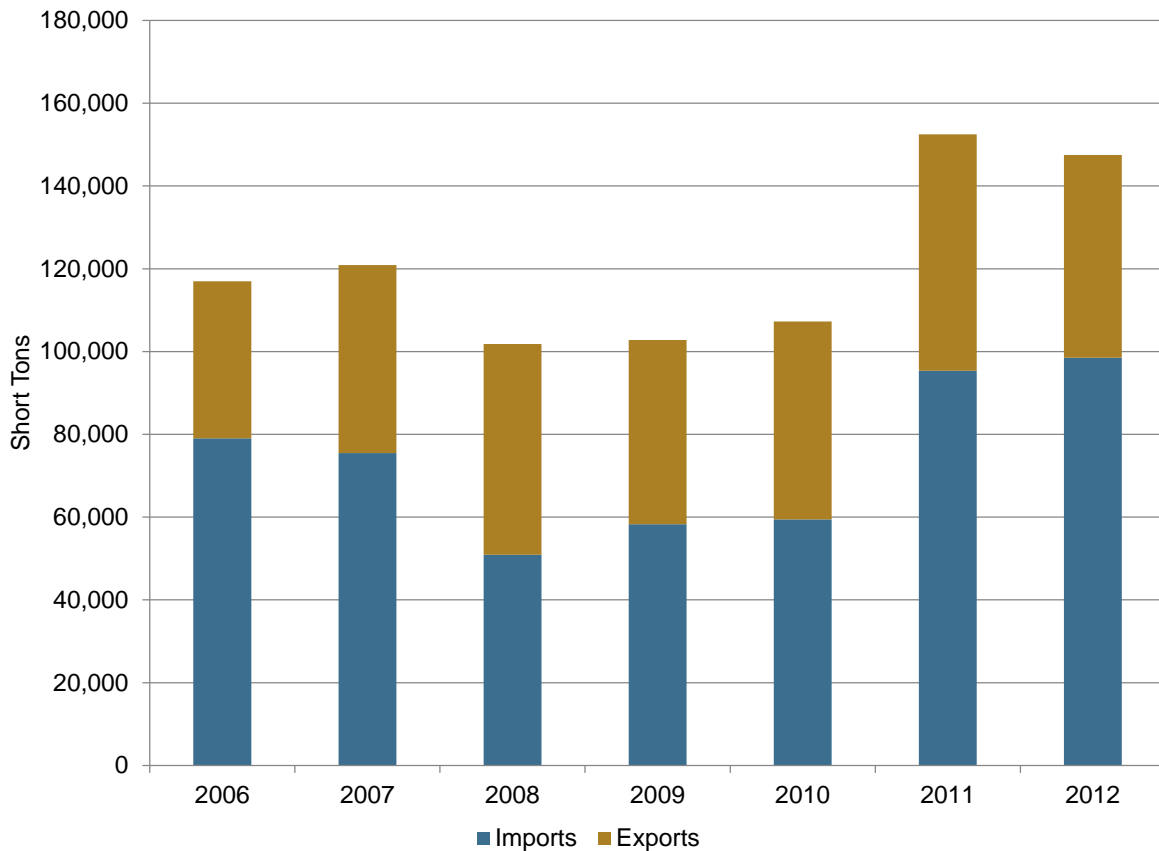
The USACE purchases foreign waterborne data from the Port Import Export Reporting Service, a division of the Commonwealth Business Media, Inc. The U.S. Bureau of the Census, Border Protection, and U.S. Customs furnish supplemental data to the USACE. For Sitka, these data are primarily shipments that originate in coastal British Columbia.

USACE commodity codes correspond to the Standard International Trade Classification (SITC) Revision 3. SITC codes permit direct comparisons with other U.S. ports, as well as commodity movements of other countries.

Reported volumes are compiled in short tons (2,000 pounds); almost all reported cargo is transported by tugs hauling barges with containers, deck cargo, or rolling stock. Seattle and Tacoma are common ports of embarkation and debarkation, though certain shipments may originate in Vancouver, BC, or more northern Canadian ports such as Prince Rupert.

Total import and export volumes reported for Sitka for the years from 2006 to 2012 are shown in Figure 7.

Figure 7. Total Cargo Traffic, by Destination, 2006–2012



Source: USACE (2013)

Cargo tonnage increased during two recent periods, 2006–2007 and 2011–2012. These increases represent major civil projects such as the recent breakwater expansion, airport runway extension, and dam work at Blue Lake.

Table 19 displays cargo tonnages for inbound and outbound shipments from 2006–2012. As shown, approximately 60 percent of all cargo is inbound, on the average, and 40 percent is outbound.

Table 19. Cargo Inbound and Outbound from Sitka, Alaska, 2006–2012

Cargo Movement	Calendar Year						
	2006	2007	2008	2009	2010	2011	2012
	(Short Tons)						
Inbound	79,017	75,462	55,478	58,283	59,443	95,336	98,528
Outbound	37,952	45,454	50,898	44,589	47,828	57,156	48,960
Inbound %	67.6%	62.4%	52.2%	56.7%	55.4%	62.5%	66.8%

Source: USACE (2013)

Total inbound freight volumes by commodity category are shown in Table 20.

Table 20. Sitka Inbound Cargo, by Commodity Type, 2006–2012

Commodity Type	Calendar Year						
	2006	2007	2008	2009	2010	2011	2012
Petroleum and Petroleum Products	31,109	27,614	12,322	26,459	25,954	46,794	29,694
Crude Materials	9,379	10,021	10,275	1,617	1,811	16,796	28,182
All Manufactured Equipment, Machinery	17,019	17,714	16,053	14,223	15,253	15,249	18,792
Food and Farm Products	12,158	11,587	10,659	9,991	10,862	11,511	14,939
Primary Manufactured Goods	8,260	7,740	5,427	5,405	4,937	4,437	6,348
Chemicals and Related Products	1,088	786	739	588	571	549	573
Coal, Lignite and Coal Coke	0	0	0	0	0	0	0
Waste Material	4	0	3	0	0	0	0
Unknown or Not Elsewhere Classified	0	0	0	0	55	0	0
All Commodities	79,017	75,462	55,478	58,283	59,443	95,336	98,528

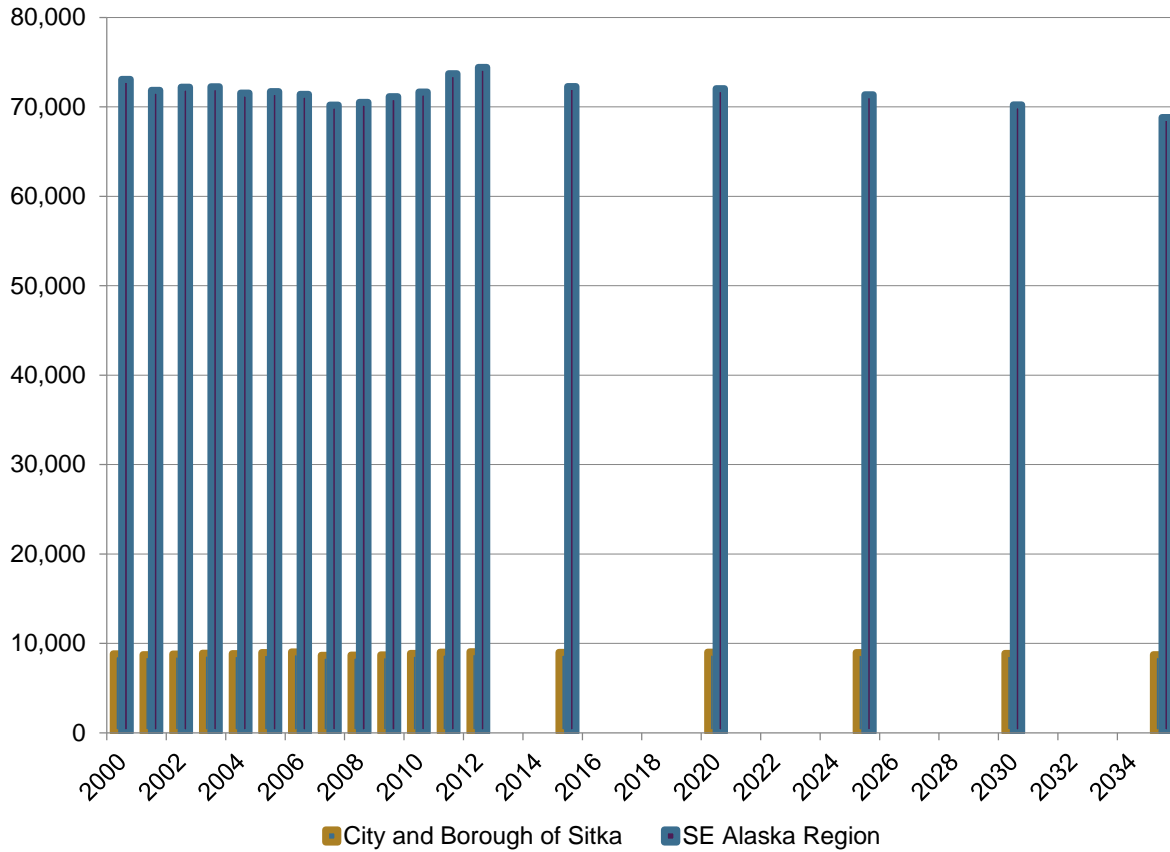
Source: USACE (2013)

The top four inbound cargo types are:

- Petroleum
- Crude materials (such as rock, stone, and gravel)
- Manufactured equipment
- Food products, such as groceries

After allowances for two projects (breakwater expansion and airport runway extension), imports are relatively constant for the seven years shown. During these same seven years, Sitka’s population has also remained relatively constant at 9,000 residents. See Figure 8.

Figure 8. Sitka and Southeast Population, Historical and Projected, 2000–2035



Source: Alaska Department of Labor and Workforce Development (2012).

Note that Southeast Alaska’s long term population forecast predicts a slight population loss to just under 70,000 residents by the year 2034 while Sitka’s population of approximately 9,000 remains steady, suggesting relatively stable demand for most commodities.

Reported outbound cargo shipments from Sitka are shown in Table 21, by year and type.

Table 21. Sitka Outbound Cargo, by Commodity Type, 2006–2012

Commodity Type	Calendar Year						
	2006	2007	2008	2009	2010	2011	2012
Petroleum and Petroleum Products	168	319	102	188	91	812	205
Crude Materials, Inedible Except Fuels	1,241	1,754	1,039	648	449	536	836
All Manufactured Equipment, Machinery	5,104	5,678	5,520	6,153	6,255	6,145	6,329
Food and Farm Products	21,503	27,324	33,836	27,960	31,778	42,154	32,458
Primary Manufactured Goods	1,224	956	704	859	850	730	1,597
Chemicals and Related Products	115	43	17	14	119	73	37
Coal, Lignite and Coal Coke	0	0	0	0	0	0	0
Waste Material	8,597	9,380	9,680	8,693	8,286	6,706	7,498
Unknown or Not Elsewhere Classified	0	0	0	0	0	0	0
All Commodities	37,952	45,454	50,898	44,515	47,828	57,156	48,960

Source: USACE (2013)

Outbound cargo shipments from Sitka are primarily composed of food and farm products, averaging 65 percent over the time series. These products are fresh and frozen fish products, packed in refrigeration or freezer containers and barged to Puget Sound for sales, inventory, or further transport to more distant markets. Fresh and frozen fish exports account for between 10 and 20 percent of total cargo shipments in Sitka, and approximately 65 percent of all outbound cargo shipments.

The second largest outbound commodity is waste material. Sitka ships its solid waste to the Seattle area for further processing and landfilling. Together with frozen fish cargo, these two commodities account for over 80 percent of all outbound tonnage.

5.2 Required Infrastructure and Equipment

Conceptual layout and site plans indicate possible locations for two deepwater docks, one near the current Silver Bay deepwater dock and the other east of that location, along Green Lake Road. The first mooring site would require mooring bollards, breasting mooring dolphins, and a floating pontoon, in addition to a catwalk.

The second site, alongside Green Lake Road, addresses CBS’s interest in bulk water export. This site would require a small dock, with bulkwater loading arms, along with mooring dolphins. The only upland infrastructure would be a bulkwater pipeline extension, limiting this proposed location to a single use (water export).

Budget level costs for the first option are \$20.5 million and the second option is slightly more at \$21 million.

Site plans also include an MPD located in the corner of SCIP and adjacent to the first deepwater dock location. The MPD’s budget level cost is \$8.7 million.

5.3 Recommendations for Further Analysis

Sitka’s inbound and outbound cargo needs are being met at this time through a combination of private docks (including the existing Silver Bay deepwater dock at SCIP) and the public ferry terminal at Starragavan Point. Given a flat population projection through 2035, no major changes in cargo

shipments are expected except for special projects, which provide insufficient demand to invest in a deepwater dock facility or MPD.

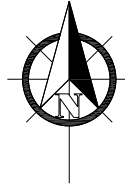
Use of a Suezmax category vessel would require cargo shipments at a level consistent with pulp shipments exported from 1959 to 1993; there are no identified manufacturing or processing operations that achieve that level of use. As noted, the CBS has an existing bulkwater export contract with a wide variety of potential markets but no known deliveries since signing.

Based on the current and expected cargo shipments, construction of an additional deepwater dock or MPD is considered somewhat speculative.

6 Preliminary Conceptual Designs

The next four pages contain preliminary conceptual designs for facilities at SCIP. The sheets show:

1. Overall Site Plan
2. Sawmill Cove Industrial Park Site Plan
3. Deep Water Dock Option No. 2
4. Herring Cove Harbor Moorage Site Plan



NOTES:

1. BATHYMETRY SHOWN APPROXIMATE, FROM (NOAA) NATIONAL GEOPHYSICAL DATA CENTER, HYDROGRAPHIC SURVEY H11123 (2004).
2. AERIAL PHOTOGRAPHY FROM CITY AND BOROUGH OF SITKA.
3. PROPERTY BOUNDARIES APPROXIMATE.

PRELIMINARY



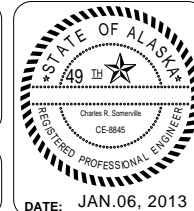
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 DRAWN: PJD APPROVED: CRS

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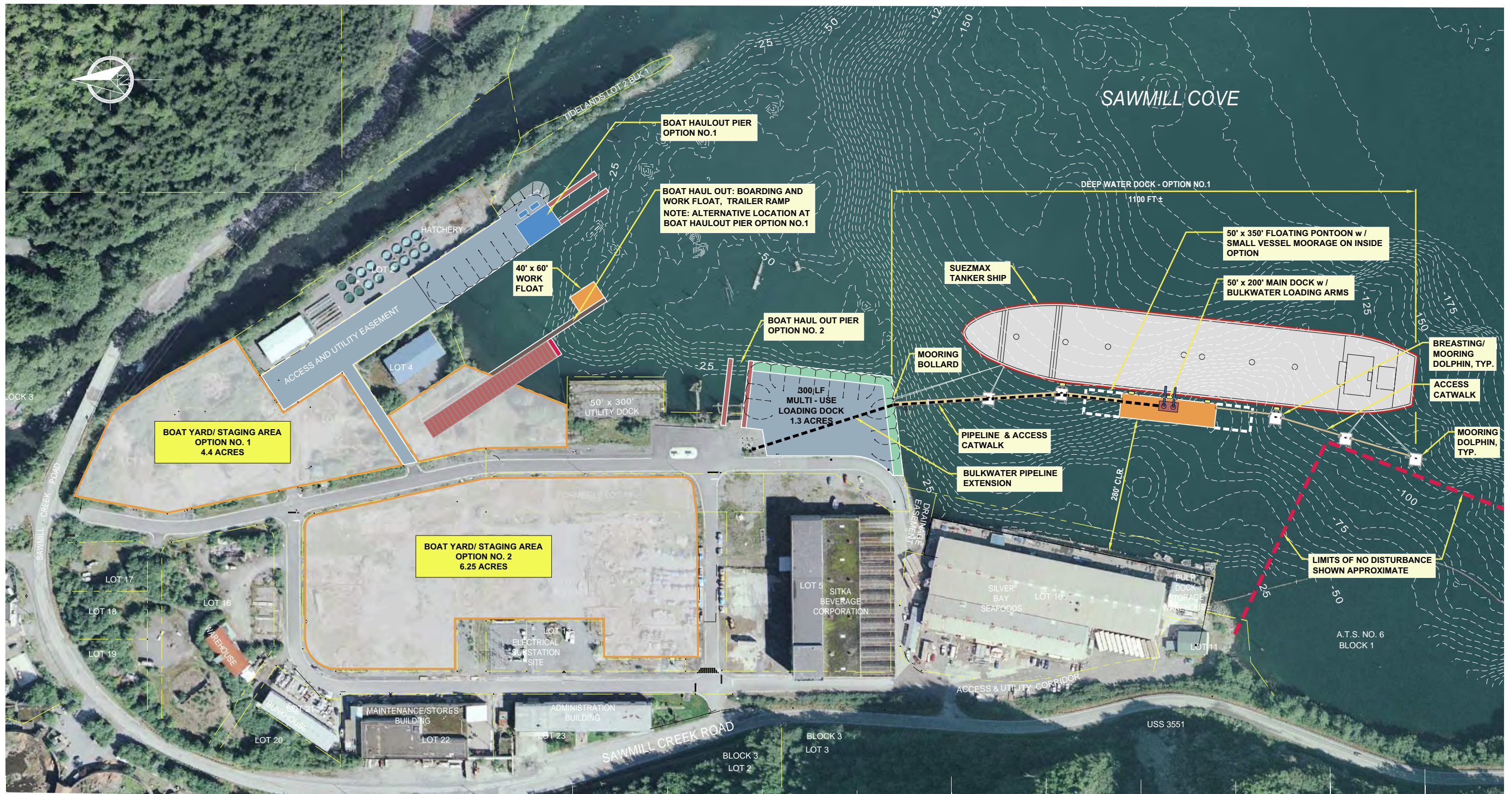
**CITY AND BOROUGH OF SITKA
 SCIP FEASIBILITY STUDY**

SHEET TITLE: **OVERALL SITE PLAN**

PN&D PROJECT NO.: 132068

DWG. FILE:

1
 SHEET
 1 OF 4



- NOTES:**
- BATHYMETRY SHOWN APPROXIMATE, FROM (NOAA) NATIONAL GEOPHYSICAL DATA CENTER, HYDROGRAPHIC SURVEY H11123 (2004).
 - AERIAL PHOTOGRAPHY FROM CITY AND BOROUGH OF SITKA.
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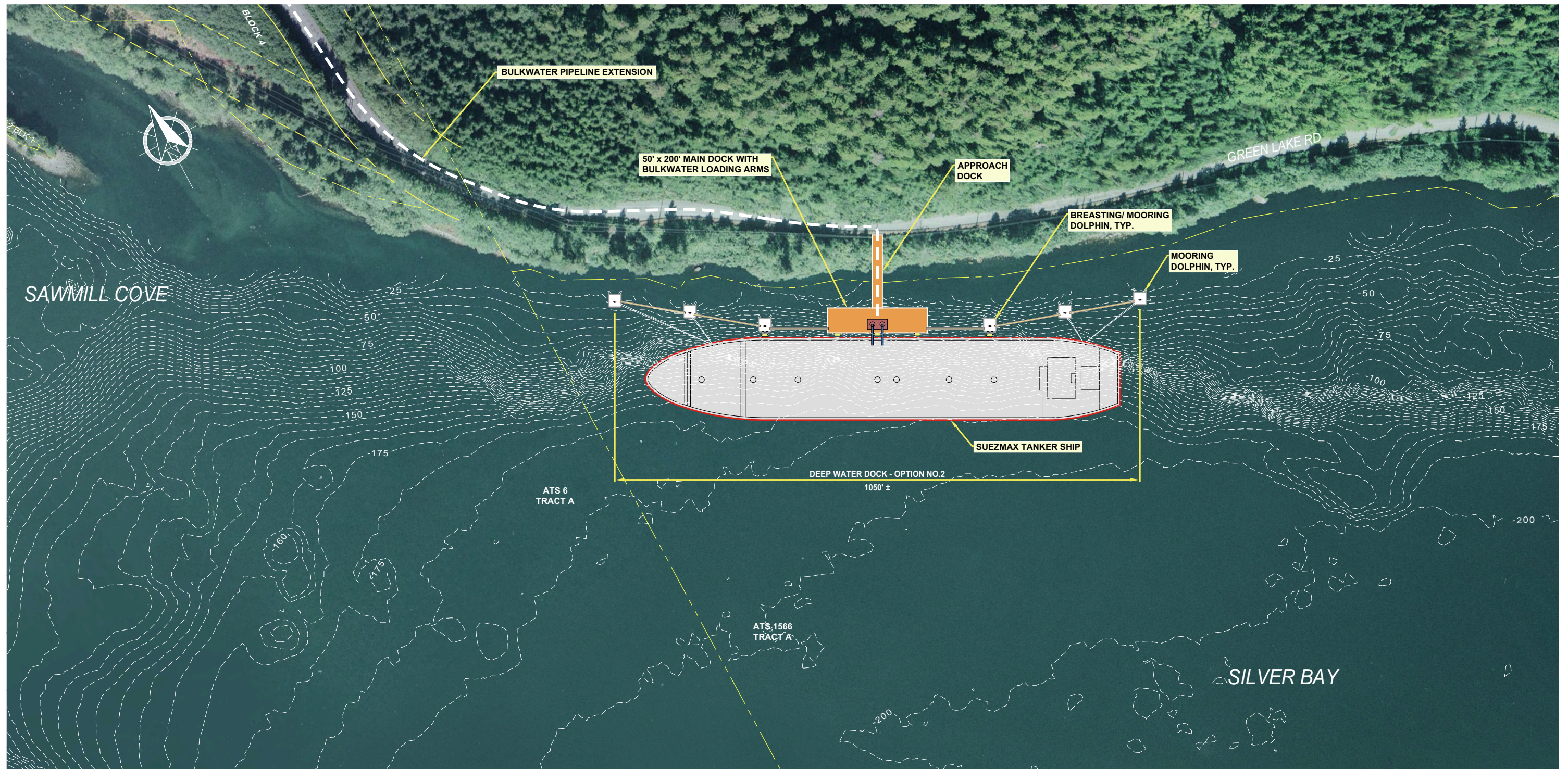


**CITY AND BOROUGH OF SITKA
SCIP FEASIBILITY STUDY**

SHEET TITLE:
**SAWMILL COVE INDUSTRIAL PARK
SITE PLAN**

PN&D PROJECT NO.: 132068 DWG. FILE:

2
SHEET
2 OF 4



NOTES:

1. BATHYMETRY SHOWN APPROXIMATE, FROM (NOAA) NATIONAL GEOPHYSICAL DATA CENTER, HYDROGRAPHIC SURVEY H11123 (2004).
2. AERIAL PHOTOGRAPHY FROM CITY AND BOROUGH OF SITKA.
3. PROPERTY BOUNDARIES APPROXIMATE.

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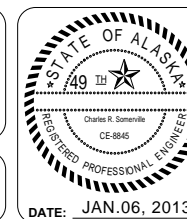
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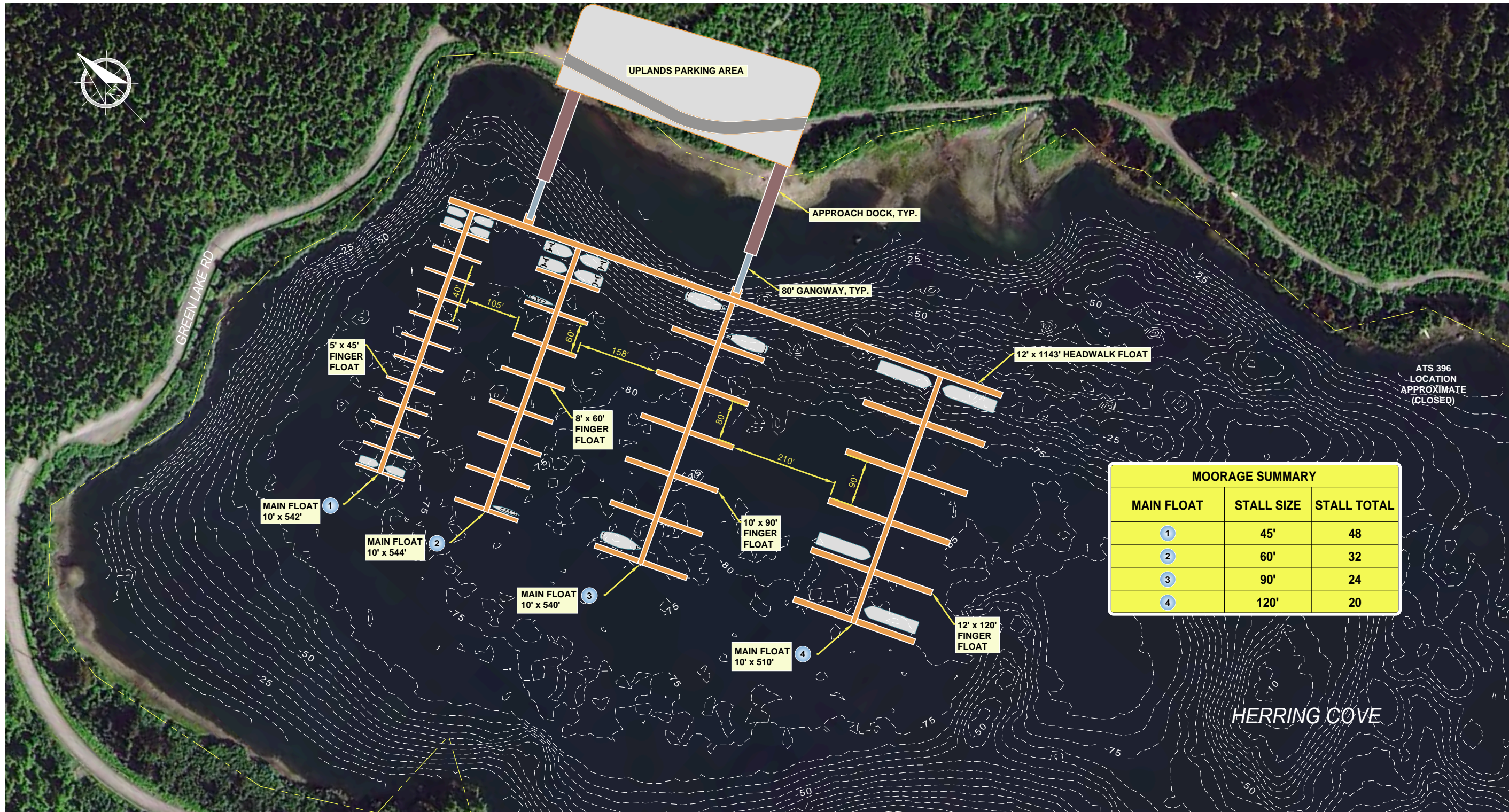
**CITY AND BOROUGH OF SITKA
SCIP FEASIBILITY STUDY**

SHEET TITLE: **DEEP WATER DOCK
OPTION NO.2**

PN&D PROJECT NO.:132068

DWG. FILE:

3
SHEET
3 OF 4



MOORAGE SUMMARY		
MAIN FLOAT	STALL SIZE	STALL TOTAL
1	45'	48
2	60'	32
3	90'	24
4	120'	20

NOTES:

- BATHYMETRY SHOWN APPROXIMATE, FROM (NOAA) NATIONAL GEOPHYSICAL DATA CENTER, HYDROGRAPHIC SURVEY H11123 (2004).
- AERIAL PHOTOGRAPHY FROM CITY AND BOROUGH OF SITKA.
- PROPERTY BOUNDARIES APPROXIMATE.

PRELIMINARY



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DATE: JAN.06.2013

**CITY AND BOROUGH OF SITKA
SCIP FEASIBILITY STUDY**

SHEET TITLE:
**HERRING COVE HARBOR MOORAGE
SITE PLAN**

PN&D PROJECT NO.:132068



DWG. FILE:

4
SHEET
4 OF 4

7 Preliminary Facility Cost Estimates



PND Engineers prepared cost estimates for each component of the preliminary conceptual designs shown in Section 6. These estimates are presented in the following seven figures.

Figure 9. Budget Level Estimate, SCIP Multi Purpose Dock

 SAWMILL COVE INDUSTRIAL PARK FEASIBILITY STUDY MULTI PURPOSE DOCK					
					
BUDGET LEVEL ESTIMATE January 9, 2014					
Item	Item Description	Units	Quantity	Unit Cost	Amount
1505.1	Mobilization	LS	All Req'd	10%	\$584,200
2060.1	Demolition & Disposal	LS	All Req'd	\$200,000	\$200,000
2202.1	Subbase Grading A	CY	2,000	\$25	\$50,000
2202.2	Shot Rock Borrow	CY	50,000	\$20	\$1,000,000
2204.1	Base Course Grading C-1	CY	1000	\$50	\$50,000
2205.1	Armor Rock	CY	1,000	\$50	\$50,000
2246.1	Vibracompaction	LS	All Req'd	\$100,000	\$100,000
2501.1	Storm Drain System	LS	All Req'd	\$60,000	\$60,000
2702.1	Construction Surveying	LS	All Req'd	\$40,000	\$40,000
2891.1	Sheet Pile Bulkhead Dock (-30' MLLW Depth)	TON	900	\$3,750	\$3,375,000
2896.1	Fender System	LF	300	\$1,500	\$450,000
5120.1	Dock Face Steel Cap Beam	LF	500	\$400	\$200,000
5120.2	Mooring Cleats & Bollards	EA	10	\$6,000	\$60,000
5120.3	Steel Safety Rails	LF	500	\$150	\$75,000
5120.4	Dock Ladder	EA	8	\$4,000	\$32,000
5120.5	Cathodic Protection	LS	All Req'd	\$100,000	\$100,000
ESTIMATED CONSTRUCTION BID PRICE					\$6,426,200
CONTINGENCY (15%)					\$963,930
PLANNING, PERMITTING, SURVEYING & GEOTECH INVESTIGATIONS (5%)					\$321,310
DESIGN ENGINEERING, CONTRACT ADMIN & INSPECTION (15%)					\$963,930
TOTAL RECOMMENDED PROJECT BUDGET					\$8,675,370



Source: PND Engineers (2014)

Figure 10. Budget Level Estimate, Deepwater Dock Concept 1

 SAWMILL COVE INDUSTRIAL PARK FEASIBILITY STUDY DEEP WATER DOCK - CONCEPT NO. 1						
BUDGET LEVEL ESTIMATE January 9, 2014						
Item	Item Description	Units	Quantity	Unit Cost	Amount	
1505.1	Mobilization	LS	All Req'd	10%	\$1,407,500	
2601.1	Bulk Water Pipeline Extension to Dock	LF	750	\$250	\$187,500	
2702.1	Construction Surveying	LS	All Req'd	\$50,000	\$50,000	
2726.1	Pile Supported Main Dock, 50' x 200'	SF	10,000	\$400	\$4,000,000	
2883.1	Fender System	LS	All Req'd	\$1,000,000	\$1,000,000	
2894.1	Pipeline & Access Catwalk	LF	475	\$1,500	\$712,500	
2894.2	Access Catwalk	LF	425	\$1,000	\$425,000	
2894.3	Catwalk Support Bent	EA	1	\$100,000	\$100,000	
2905.1	Mooring Dolphin	EA	3	\$900,000	\$2,700,000	
2905.2	Breasting Dolphin and Fender Panel	EA	2	\$1,200,000	\$2,400,000	
5120.1	Cathodic Protection	LS	All Req'd	\$250,000	\$250,000	
11000.1	Marine Loading Arms	LS	All Req'd	\$1,500,000	\$1,500,000	
16000.1	Electrical Power & Lighting	LS	All Req'd	\$750,000	\$750,000	
ESTIMATED CONSTRUCTION BID PRICE					\$15,482,500	
CONTINGENCY (15%)					\$2,322,375	
PLANNING, PERMITTING, SURVEYING & GEOTECH INVESTIGATIONS (3%)					\$464,475	
DESIGN ENGINEERING, CONTRACT ADMIN & INSPECTION (15%)					\$2,322,375	
TOTAL RECOMMENDED PROJECT BUDGET					\$20,591,725	



Source: PND Engineers (2014)

Figure 11. Budget Level Estimate, Deepwater Dock Concept 2

 SAWMILL COVE INDUSTRIAL PARK FEASIBILITY STUDY DEEP WATER DOCK - CONCEPT NO. 2					
					
BUDGET LEVEL ESTIMATE January 9, 2014					
Item	Item Description	Units	Quantity	Unit Cost	Amount
1505.1	Mobilization	LS	All Req'd	10%	\$1,438,750
2601.1	Bulk Water Pipeline Extension to Dock	LF	3,300	\$250	\$825,000
2702.1	Construction Surveying	LS	All Req'd	\$75,000	\$75,000
2726.1	Pile Supported Main Dock, 50' x 200'	SF	10,000	\$350	\$3,500,000
2726.2	Pile Supported Approach Dock, 25' x 150'	SF	3,750	\$250	\$937,500
2883.1	Fender System	LS	All Req'd	\$1,000,000	\$1,000,000
2894.1	Access Catwalk	LF	850	\$1,000	\$850,000
2905.1	Mooring Dolphin	EA	3	\$750,000	\$2,250,000
2905.2	Breasting Dolphin and Fender Panel	EA	2	\$1,100,000	\$2,200,000
5120.1	Cathodic Protection	LS	All Req'd	\$250,000	\$250,000
11000.1	Marine Loading Arms	LS	All Req'd	\$1,500,000	\$1,500,000
16000.1	Electrical Power & Lighting	LS	All Req'd	\$1,000,000	\$1,000,000
ESTIMATED CONSTRUCTION BID PRICE					\$15,826,250
CONTINGENCY (15%)					\$2,373,938
PLANNING, PERMITTING, SURVEYING & GEOTECH INVESTIGATIONS (3%)					\$474,788
DESIGN ENGINEERING, CONTRACT ADMIN & INSPECTION (15%)					\$2,373,938
TOTAL RECOMMENDED PROJECT BUDGET					\$21,048,913



Source: PND Engineers (2014)

Figure 12. Budget Level Estimate, Boat Haul-out Facility Concept 1

 SAWMILL COVE INDUSTRIAL PARK FEASIBILITY STUDY BOAT HAULOUT FACILITY - CONCEPT NO. 1						
						
BUDGET LEVEL ESTIMATE January 9, 2014						
Item	Item Description	Units	Quantity	Unit Cost	Amount	Subtotals
GENERAL ITEMS						
1505.1	Mobilization/Demobilization	LS	All Req'd	10%	\$859,450	
2702.1	Construction Surveying	LS	All Req'd	\$35,000	\$35,000	\$894,450
UPLANDS PAD & UTILITIES						
2060.1	Demolition & Disposal	LS	All Req'd	\$200,000	\$200,000	
2203.1	Class A Shot Rock Borrow	CY	3,000	\$28	\$84,000	
2203.2	Class B Shot Rock Borrow	CY	15,000	\$20	\$300,000	
2204.1	Base Course Grading C-1	CY	4,000	\$60	\$240,000	
2205.1	Armor Rock	CY	1,000	\$50	\$50,000	
2401.1	Water Service Extension, Field Hydrants & Fire Hydrant	LS	All Req'd	\$90,000	\$90,000	
2502.1	Storm Drain System & Water Quality Unit	LS	All Req'd	\$100,000	\$100,000	
2601.1	Sewer Service Extension	LS	All Req'd	\$125,000	\$125,000	
2707.1	Security Fencing	LS	All Req'd	\$100,000	\$100,000	
2708.1	Guardrail	LF	300	\$60	\$18,000	\$1,307,000
SHEET PILE BULKHEAD						
2727.1	Sheet Pile Bulkhead	TON	650	\$3,750	\$2,437,500	
2727.2	Vibracompaction	LS	All Req'd	\$70,000	\$70,000	
2727.3	Bulkhead Facing with Fenders	LF	300	\$1,500	\$450,000	
2881.1	Dredge Bulkhead Face to -15' MLLW	CY	10,000	\$40	\$400,000	\$3,357,500
WASH DOWN & TREATMENT FACILITIES						
3304.10	Concrete Wash Down Pad (heated)	LS	All Req'd	\$200,000	\$200,000	
11170.10	Washwater Pretreatment Facilities & Utility Enclosure	LS	All Req'd	\$500,000	\$500,000	\$700,000
BOAT HAULOUT PIER						
2882.1	UHMW Pile Rubstrips	LS	All Req'd	\$100,000	\$100,000	
2886.1	End and Side Curbs	LS	All Req'd	\$150,000	\$150,000	
2896.1	12-3/4" Steel Pipe Fender Piles with HDPE Sleeves	EA	12	\$15,000	\$180,000	
2896.2	16" Steel Pipe Corner Fender Piles with HDPE Sleeves	EA	2	\$20,000	\$40,000	
2896.3	16" Vertical Steel Pipe Piles	EA	28	\$15,000	\$420,000	
2896.4	16" Battered Steel Pipe Piles	EA	6	\$20,000	\$120,000	
3305.1	Concrete Backwall	CY	50	\$1,600	\$80,000	
3420.1	Precast Concrete Deck Panels	CY	150	\$2,500	\$375,000	
3601.1	Deck CIP Concrete and Grout	LS	All Req'd	\$100,000	\$100,000	
5120.1	Steel Pile Caps	LS	All Req'd	\$200,000	\$200,000	
5120.2	Steel Pipe Bullrail	LS	All Req'd	\$30,000	\$30,000	\$1,795,000
TRAVELIFT						
11200.1	150 Ton Marine Travelift	LS	All Req'd	\$1,100,000	\$1,100,000	\$1,100,000
ELECTRICAL POWER & LIGHTING						
16000.1	Power & Lighting Systems	LS	All Req'd	\$300,000	\$300,000	\$300,000
ESTIMATED CONSTRUCTION BID PRICE					\$9,453,950	\$9,453,950
CONTINGENCY (15%)					\$1,418,093	
PLANNING, PERMITTING, SURVEYING & GEOTECH INVESTIGATIONS (2%)					\$189,079	
DESIGN ENGINEERING, CONTRACT ADMIN & INSPECTION (15%)					\$1,418,093	
TOTAL RECOMMENDED PROJECT BUDGET					\$12,479,214	


Source: PND Engineers (2014)

Figure 13. Budget Level Estimate, Boat Haul-out Facility Concept 2

 SAWMILL COVE INDUSTRIAL PARK FEASIBILITY STUDY BOAT HAULOUT FACILITY - CONCEPT NO. 2							
BUDGET LEVEL ESTIMATE January 9, 2014							
Item	Item Description	Units	Quantity	Unit Cost	Amount	Subtotals	
GENERAL ITEMS							
1505.1	Mobilization/Demobilization	LS	All Req'd	10%	\$494,100		
2702.1	Construction Surveying	LS	All Req'd	\$35,000	\$35,000	\$529,100	
UPLANDS PAD & UTILITIES							
2060.1	Demolition & Disposal	LS	All Req'd	\$100,000	\$100,000		
2203.1	Class A Shot Rock Borrow	CY	10,000	\$28	\$280,000		
2204.1	Base Course Grading C-1	CY	5,000	\$60	\$300,000		
2401.1	Field Hydrants & Fire Hydrant	LS	All Req'd	\$75,000	\$75,000		
2502.1	Storm Drain System & Water Quality Unit	LS	All Req'd	\$100,000	\$100,000		
2601.1	Sewer Service Extension	LS	All Req'd	\$50,000	\$50,000		
2707.1	Security Fencing	LS	All Req'd	\$100,000	\$100,000		
2708.1	Guardrail	LF	100	\$60	\$6,000	\$1,011,000	
WASH DOWN & TREATMENT FACILITIES							
3304.10	Concrete Wash Down Pad (heated)	LS	All Req'd	\$200,000	\$200,000		
11170.10	Washwater Pretreatment Facilities & Utility Enclosure	LS	All Req'd	\$500,000	\$500,000	\$700,000	
BOAT HAULOUT PIER							
2882.1	UHMW Pile Rubstrips	LS	All Req'd	\$100,000	\$100,000		
2886.1	End and Side Curbs	LS	All Req'd	\$150,000	\$150,000		
2896.1	12-3/4" Steel Pipe Fender Piles with HDPE Sleeves	EA	12	\$15,000	\$180,000		
2896.2	16" Steel Pipe Corner Fender Piles with HDPE Sleeves	EA	2	\$20,000	\$40,000		
2896.3	16" Vertical Steel Pipe Piles	EA	28	\$15,000	\$420,000		
2896.4	16" Battered Steel Pipe Piles	EA	6	\$20,000	\$120,000		
3305.1	Concrete Backwall	CY	50	\$1,600	\$80,000		
3420.1	Precast Concrete Deck Panels	CY	150	\$2,500	\$375,000		
3601.1	Deck CIP Concrete and Grout	LS	All Req'd	\$100,000	\$100,000		
5120.1	Steel Pile Caps	LS	All Req'd	\$200,000	\$200,000		
5120.2	Steel Pipe Bullrail	LS	All Req'd	\$30,000	\$30,000	\$1,795,000	
TRAVELIFT							
11200.1	150 Ton Marine Travelift	LS	All Req'd	\$1,100,000	\$1,100,000	\$1,100,000	
ELECTRICAL POWER & LIGHTING							
16000.1	Power & Lighting Systems	LS	All Req'd	\$300,000	\$300,000	\$300,000	
ESTIMATED CONSTRUCTION BID PRICE					\$5,435,100	\$5,435,100	
CONTINGENCY (15%)					\$815,265		
PLANNING, PERMITTING, SURVEYING & GEOTECH INVESTIGATIONS (3%)					\$163,053		
DESIGN ENGINEERING, CONTRACT ADMIN & INSPECTION (15%)					\$815,265		
TOTAL RECOMMENDED PROJECT BUDGET					\$7,228,683		


Source: PND Engineers (2014)

Figure 14. Budget Level Estimate, Boat Haul-out Ramp and Hydraulic Trailer

 SAWMILL COVE INDUSTRIAL PARK FEASIBILITY STUDY BOAT HAULOUT RAMP & HYDRAULIC TRAILER						
BUDGET LEVEL ESTIMATE January 9, 2014						
Item	Item Description	Units	Quantity	Unit Cost	Amount	Subtotals
GENERAL ITEMS						
1505.1	Mobilization/Demobilization	LS	All Reqd	10%	\$299,900	
2702.1	Construction Surveying	LS	All Reqd	\$20,000	\$20,000	\$319,900
BOAT HAULOUT RAMP						
2060.1	Demolition & Disposal	LS	All Reqd	\$25,000	\$25,000	
2202.1	Excavation	CY	10,000	\$15	\$150,000	
2203.1	Class A Shot Rock Borrow	CY	2,000	\$28	\$56,000	
2204.1	Base Course Grading A	CY	750	\$60	\$45,000	
2205.3	Armor Rock	CY	2,500	\$50	\$125,000	
2714.1	Geotextile Fabric	SY	5,000	\$4	\$20,000	
2896.1	Furnish and Install Steel Pipe Pile	EA	9	\$8,000	\$72,000	
3305.1	Boat Launch Apron and Abutment	LS	All Reqd	\$60,000	\$60,000	
3305.2	Precast Concrete Ramp Planks	LS	All Reqd	\$600,000	\$600,000	
2707.1	Security Fencing	LS	All Reqd	\$100,000	\$100,000	
2708.1	Guardrail	LF	100	\$60	\$6,000	\$1,259,000
BOARDING FLOAT AND WORK FLOAT						
2893.1	Timber Boarding Float, 10' X 400'	LS	All Reqd	\$500,000	\$500,000	
2893.2	Work Float, 40' x 60'	LS	All Reqd	\$300,000	\$300,000	
2896.1	Furnish and Install Steel Pipe Pile	EA	15	\$8,000	\$120,000	\$920,000
HYDRAULIC TRAILER						
11200.1	50 Ton Hydraulic Trailer (4 WD Sealift)	LS	All Reqd	\$750,000	\$750,000	\$750,000
ELECTRICAL POWER & LIGHTING						
16000.1	Power & Lighting Systems	LS	All Reqd	\$50,000	\$50,000	\$50,000
ESTIMATED CONSTRUCTION BID PRICE					\$3,298,900	\$3,298,900
CONTINGENCY (15%)					\$494,835	
PLANNING, PERMITTING, SURVEYING & GEOTECH INVESTIGATIONS (3%)					\$98,967	
DESIGN ENGINEERING, CONTRACT ADMIN & INSPECTION (15%)					\$494,835	
TOTAL RECOMMENDED PROJECT BUDGET					\$4,387,537	

Source: PND Engineers (2014)

Figure 15. Budget Level Estimate, Harbor Cove Harbor Large Vessel Moorage

 SAWMILL COVE INDUSTRIAL PARK FEASIBILITY STUDY HERRING COVE HARBOR - LARGE VESSEL MOORAGE BUDGET LEVEL ESTIMATE January 9, 2014					
Item	Item Description	Units	Quantity	Unit Cost	Amount
1505.1	Mobilization	LS	All Req'd	8%	\$1,610,968
2200.1	Uplands Parking Area - Gravel Surface	AC	2	\$400,000	\$800,000
2601.1	Water Main Extension	LF	8,000	\$75	\$600,000
2601.2	Domestic Water System on Floats	LS	All Req'd	\$700,000	\$700,000
2611.1	Fire Suppression Standpipe System	LS	All Req'd	\$450,000	\$450,000
2702.1	Construction Surveying	LS	All Req'd	\$100,000	\$100,000
2726.1	Approach Dock, 20' x 175'	EA	2	\$700,000	\$1,400,000
2881.1	Seafloor Debris Cleanup at Pile Locations	LS	All Req'd	\$250,000	\$250,000
2894.1	7' x 80' Covered Aluminum Gangway	EA	2	\$120,000	\$240,000
2895.1	Headwalk Float, 12' x 1143'	SF	13,716	\$100	\$1,371,600
2895.2	Main Float 1, 10' x 542'	SF	5,420	\$100	\$542,000
2895.3	Main Float 2, 10' x 544'	SF	5,440	\$100	\$544,000
2895.4	Main Float 3, 10' x 540'	SF	5,400	\$100	\$540,000
2895.5	Main Float 4, 10' x 510'	SF	5,100	\$100	\$510,000
2895.6	Finger Float 5' x 45'	EA	24	\$25,000	\$600,000
2895.7	Finger Float 8' x 60'	EA	16	\$55,000	\$880,000
2895.8	Finger Float 10' x 90'	EA	12	\$100,000	\$1,200,000
2895.9	Finger Float 12' x 120'	EA	10	\$160,000	\$1,600,000
2895.13	8' x 12' Electrical Substation Float	EA	4	\$20,000	\$80,000
2895.14	20' x 20' Gangway Landing Floats	EA	2	\$48,000	\$96,000
2896.1	Steel Pipe Pile, 24" dia. x 0.500" thick	EA	200	\$25,000	\$5,000,000
2897.1	Supply & Install Flotation Billet	EA	60	\$600	\$36,000
2899.1	Life Ring Cabinet and Base	EA	15	\$1,000	\$15,000
2899.2	Fire Extinguisher Cabinet and Base	EA	15	\$1,000	\$15,000
2899.3	Hose Mount and Base	EA	15	\$500	\$7,500
3305.1	Approach Dock Abutment	EA	2	\$30,000	\$60,000
5120.1	Electrical Support Assemblies	LS	All Req'd	\$50,000	\$50,000
16000.1	Power Service Utility Transformer & Substation	LS	All Req'd	\$400,000	\$400,000
16000.2	Power & Lighting on Floats	LS	All Req'd	\$2,000,000	\$2,000,000
16000.3	Spare Electrical Equipment	LS	All Req'd	\$50,000	\$50,000
ESTIMATED CONSTRUCTION BID PRICE					\$21,748,068
CONTINGENCY (15%)					\$3,262,210
PLANNING, PERMITTING, SURVEYING & GEOTECH INVESTIGATIONS (2%)					\$434,961
DESIGN ENGINEERING, CONTRACT ADMIN & INSPECTION (15%)					\$3,262,210
TOTAL RECOMMENDED PROJECT BUDGET					\$28,707,450

Source: PND Engineers (2014)

8 Technical Analysis

This section presents a discussion of the technical features shown in Section 6. The layouts shown in Section 6 reflect an effort to arrange desired facilities so as to avoid future development conflicts. The economic analysis presented in this report shows potential support for large vessel moorage and a haul-out facility but does not support the need for an additional cargo dock, either a deepwater dock or a MPD. However, the layouts in Section 6 include a multi-use loading dock and deepwater dock should there be demand for these facilities in the future.

8.1 Base Map Preparation

Site-specific field surveys were not included in this screening study. Instead, PND collected available aerial photography as well as topographic, bathymetric, and boundary survey information from the CBS and other sources to prepare an overall base map of the study area. The bathymetric survey utilized for this study was conducted in 2004 by the National Oceanic and Atmospheric Administration (H11123). Although the bathymetry was completed with a high resolution multibeam system, the survey was conducted for the purpose of navigation and nautical chart updates, not design and construction. The horizontal and vertical positioning accuracy is much lower than would be suitable for design and construction; however, the data were considered sufficient for planning purposes. No geotechnical investigation was performed as part of this study and little known data exist for the offshore areas. Geotechnical investigations, topographic and bathymetric surveys are recommended for any projects that move forward from the planning stages.

8.2 Multi-Purpose Dock

An earth-filled sheet pile bulkhead structure is proposed for the multi-purpose dock located along the shore between Silver Bay Seafoods and the existing Utility Dock. As currently envisioned, the MPD is approximately 300 feet in length and is sited at a water depth of -30' (mean lower low water [MLLW] datum) to accommodate freight barges and other commercial vessel operations at all tidal stages. Shot rock is utilized as an economical fill material within the bulkhead to form a high load capacity docking facility. An energy absorbing fender system is included at the face of the dock to accommodate vessel berthing loads. Mooring bollards, safety rails, ladders and cathodic protection are also planned along the dock face. The MPD pier head may also be sited at -40' MLLW should other ship operations warrant a deeper berth. Approximately 1.3 acres of high load capacity waterfront wharfage is created under this project.

8.3 Deep Water Dock – Bulk Water Loading Facility

A deep water dock is envisioned for the bulk loading of raw water onto Suezmax tanker ships and for berthing larger passenger vessels that cannot be accommodated at the Multi-Purpose Dock due to excessive size or draft. A Suezmax ship is characterized as the largest ship capable of transiting the Suez Canal in a laden condition. Physical limitations are summarized below.

Table 22. Suezmax Ship Properties

Maximum Draft	66 feet
Maximum Headroom (air draft)	223 feet
Maximum Length	Unlimited
Maximum Wetted Surface Area	10,823 square feet
Deadweight, Typical DWT	160,000 tons

Two concept design options are presented for this facility, each with similar features but at different site locations. Option No. 1 is located approximately 280 feet offshore from Silver Bay Seafoods. The facility consists of a 50' x 200' pile supported main dock with energy absorbing fenders and breasting and mooring dolphins extended off each end. The pier head is located at -75' MLLW to accommodate the loading of tanker ships at all tidal stages. Pedestrian access to the dock from shore is provided by a series of catwalks leading to the dolphins and then on to the north end of the main dock. Catwalks also extend from the south end of the main dock to the southerly dolphins. Power, lighting, and cathodic protection are provided on the dock and dolphins.

For Concept No. 1, the 36" diameter bulk water transmission pipeline must be extended approximately 750 linear feet from its current termination onshore to the main dock for loading onto tanker ships. The pipeline will need to be extended across the staging area of the proposed Multi-Purpose Dock, then onto the catwalk structures before reaching the main dock. Two each 16" diameter hydraulic Marine Loading Arms (MLA) are anticipated necessary to load water onto the ship via gravity flow at a rate of 13,000 GPM/each.

Concept No. 2 is provided as an alternative siting option in the event that other commercial marine operations within Sawmill Cove are negatively impacted at the site location under Concept No. 1. Concept No. 2 is located approximately one-half mile southeast of Sawmill Creek Bridge along Green Lake Road. The primary features of the dock are similar to Concept No. 1, with a 50' x 200' main dock and dolphins extended from each end. Concept No. 2 includes a 25' x 150' approach dock allowing vehicular access to the main dock. The 36" diameter bulk water transmission pipeline must be extended approximately 3,300 linear feet from a new connection near Sawmill Creek Bridge to the MLA's on the main dock. Power, lighting, and cathodic protection are similarly provided on the dock and dolphins.

8.4 Boat Haul-out Facility

A boat haul-out facility consists of the following equipment and infrastructure:

- Mobile Marine Boat Hoisting Machine – 150-ton Travelift or similar
- Pile supported haul-out pier to lift the boat out of the water
- Wash down pad with wash water treatment facilities and optional heated slab for winter use
- Outside work areas
- Sheltered work and lease areas for services to be performed in controlled workspace environments
- Boat storage areas
- Storm water runoff and discharge treatment facilities
- Security fencing and surveillance
- Water, sewer, power and lighting utilities
- Optional hydraulic trailer for yard operations and efficient on site storage of vessels

- Appropriate environmental and operating permits

Two concept design options are presented for a Boat Haul-out Facility at SCIP. Concept No. 1 is sited adjacent to the hatchery facilities along Sawmill Creek. Access to the haul-out pier and wash down pad is provided by a 300' long sheet pile bulkhead with retained shot rock fill. The bulkhead provides suitable width to maneuver the boat lift machine onto the pier and allows for other marine loading operations alongside. Available space for boatyard work and staging areas is approximately 4.4 acres at site No. 1.

Concept No. 2 is located along the north side of the Multi-Purpose Dock. Features of Concept No. 2 are similar to those of Concept No. 1; however, an access bulkhead is not necessary. Other marine loading operations can be performed from the MPD. Available space for boatyard work and staging areas is approximately 6.3 acres at site No. 2.

8.5 Boat Haul-out Ramp & Hydraulic Trailer

Smaller vessels may be hauled out of the water using a hydraulic boat lifting trailer on a concrete haul-out ramp. Concrete ramps for this purpose are typically sloped at 6–10 percent grades to maximize the efficiency of the hydraulic trailer. A variety of hydraulic trailers is available ranging in lift capacities up to 100 tons that can either be self-propelled or towed with tractor equipment. While not mandatory, a boarding float is often included alongside the ramp to moor vessels waiting to be hauled or for vessels returning to the water. The conceptual plan at SCIP includes a 50-ton self-propelled submersible hydraulic trailer, a 30' wide concrete haul-out ramp, a 10' x 400' boarding float, and a 40' x 60' work float to allow smaller commercial vessels a location to tend gear and work on equipment.

8.6 Large Vessel Moorage Facility

Considering the existing maritime operations and all other planning objectives, inadequate space remains available within Sawmill Cove for a large vessel moorage facility. Nearby Herring Cove is a naturally protected water body in Silver Bay. It is accessible from the existing public road system and has adequate water depth of over 10 fathoms for a significant boat moorage basin. Herring Cove is protected from prevailing southeasterly winds by Bear Mountain, and two small islands to the west provide protection from winds and waves produced in Eastern Channel. Herring Cove is known to have wood and bark accumulation on the bottom. Although some information about the seafloor is available from dive surveys, existing seafloor sub-bottom and pile driving conditions are not fully known. It is anticipated that some debris removal would be required to install mooring piles.

The concept design for a large vessel moorage facility located in Herring Cove includes the following features:

- Two acres of uplands development for parking and staging areas
- Water service extension from Sawmill Cove
- Power utility transformer and substation
- Two pile-supported approach docks
- Two access gangways and landing floats
- Seafloor debris cleanup in vicinity of new piles
- Headwalk float
- Four mainwalk floats

- Finger floats for stall lengths of 45 feet, 60 feet, 90 feet, and 120 feet
- Steel pipe mooring piles
- Domestic water, fire suppression, power, and lighting utilities on floats
- Miscellaneous safety and operational equipment on floats
- Future site development options may consider a boat launch facility, restrooms, a harbor office, etc.

8.7 Environmental Issues, Restrictions and Permits

The following major permits requiring federal and state authorizations are anticipated. Other state and local permits and/or plan reviews may also be required depending upon the final scope of improvements:

- U.S. Army Corps of Engineers – Section 10 of the Rivers and Harbors Act
- U.S. Army Corps of Engineers – Section 404 of the Clean Water Act
- Alaska Department of Environmental Conservation – Section 401 of the Clean Water Act and Alaska Water Quality Standards, Certificate of Reasonable Assurance
- Alaska Department of Environmental Conservation – Permanent Stormwater Control Plan Review
- National Pollution Discharge Elimination System (NPDES) Permit
- Storm Water Pollution Prevention Plan, Section R

9 References

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Appendix A: Survey Instrument

This appendix contains the online survey administered through SurveyMonkey.com.

Introduction

The City and Borough of Sitka and the Sitka Economic Development Association are considering waterfront-related development at their Sawmill Cove Industrial Park. Several projects are being investigated for feasibility at the 75-acre waterfront industrial center. Those projects include a deep water bulkhead dock, a boat haul out facility, and a moorage area for large vessels. Information that you provide us in this survey will help us understand the demand for the boat haul out and large vessel moorage developments, and how best to configure them.

The information you provide for this survey will be used only in combination with all other responses. Individual survey answers will be kept confidential.

*** 1. How many vessels do you own that are too large to be trailered?**

Vessel #1

Please answer the following questions the first vessel that you own that is too large to be trailered.

2. What is the size, hull type and home port for vessel #1?

Length (in feet)

Width (in feet)

Gross Tons

Hull Material (wood, steel, fiberglass, aluminum, etc.)

Home Port

3. What is Vessel #1 primarily used for?

- Pleasure and/or personal use/subsistence harvest
- Commercial Fishing
- Commercial Tender
- Commercial Packer/Processor
- Charter or Fishing Tours

Other Commercial Use (please specify)

Vessel #1 (continued)

4. If you indicated that Commercial Fishing, Tendering or Packing/Processing was the primary use for Vessel #1, what fishery do you commercial fish(or serve) in and what type of gear do you use?

Fishery

Gear Type

Other Information

5. Does Vessel #1 transit the Gulf of Alaska for commercial purposes?

No

Yes

If yes, how many transits on average per year?

6. How many months per year does Vessel #1 moor at its home port?

7. In what other locations does Vessel #1 spend significant time moored? Please indicate the number of months per year next to each location listed below.

Location 1

Location 2

Location 3

8. Where do you typically have Vessel #1 hauled out?

Location and yard

How Many Times per Year

Length of time on shore

Reason for Haul Out (routine

maintenance, major
overhaul, emergency,
storage?)

9. How much money do you typically spend on annual maintenance for Vessel #1

10. If you do not have permanent moorage in Sitka for Vessel #1, are you able to find transient moorage when you need it?

Yes

No

11. If you do not home port this vessel in Sitka, would you consider doing so if permanent moorage was available?

Yes

No

If No, why not?

***12. Do you have a second vessel that is too large to be trailered?**

Yes

No

Vessel #2

Please answer the following questions the second vessel that you own that is too large to be trailered.

13. What is the size, hull type and home port for vessel #2?

Length (in feet)

Width (in feet)

Gross Tons

Hull Material (wood, steel,
fiberglass, aluminum, etc.)

Home Port

14. What is Vessel #2 primarily used for?

- Pleasure and/or personal use/subsistence harvest
- Commercial Fishing
- Commercial Tender
- Commercial Packer/Processor
- Charter or Fishing Tours

Other Commercial Use (please specify)

Vessel #2 (continued)

15. If you indicated that Commerical Fishing, Tendering or Packing/Processing was the primary use for Vessel #2, what fishery do you commercial fish(or serve) in and what type of gear do you use?

Fishery

Gear Type

Other Information

16. Does Vessel #2 transit the Gulf of Alaska for commercial purposes?

No

Yes

If yes, how many transits on average per year?

17. How many months per year does Vessel #2 moor at its home port?

18. In what other locations does Vessel #2 spend significant time moored? Please indicate the number of months per year next to each location listed below.

Location 1

Location 2

Location 3

19. Where do you typically have Vessel #2 hauled out?

Location and yard

How Many Times per Year

Length of time on shore

Reason for Haul Out (routine maintenance, major overhaul, emergency, storage?)

20. How much money do you typically spend on annual maintenance for Vessel #2

21. If you do not have permanent moorage in Sitka for Vessel #2, are you able to find transient moorage when you need it?

Yes

No

22. If you do not home port this vessel in Sitka, would you consider doing so if permanent moorage was available?

Yes

No

If No, why not?

***23. Do you have a third vessel that is too large to be trailered?**

Yes

No

Vessel #3

Please answer the following questions the third vessel that you own that is too large to be trailered.

24. What is the size, hull type and home port for vessel #3?

Length (in feet)

Width (in feet)

Gross Tons

Hull Material (wood, steel, fiberglass, aluminum, etc.)

Home Port

25. What is Vessel #3 primarily used for?

- Pleasure and/or personal use/subsistence harvest
- Commercial Fishing
- Commercial Tender
- Commercial Packer/Processor
- Charter or Fishing Tours

Other Commercial Use (please specify)

Vessel #3 (continued)

26. If you indicated that Commerical Fishing, Tendering or Packing/Processing was the primary use for Vessel #3, what fishery do you commercial fish(or serve) in and what type of gear do you use?

Fishery

Gear Type

Other Information

27. Does Vessel #3 transit the Gulf of Alaska for commercial purposes?

No

Yes

If yes, how many transits on average per year?

28. How many months per year does Vessel #3 moor at its home port?

29. In what other locations does Vessel #3 spend significant time moored? Please indicate the number of months per year next to each location listed below.

Location 1

Location 2

Location 3

30. Where do you typically have Vessel #3 hauled out?

Location and yard

How Many Times per Year

Length of time on shore

Reason for Haul Out (routine maintenance, major overhaul, emergency, storage?)

31. How much money do you typically spend on annual maintenance for Vessel #3

32. If you do not have permanent moorage in Sitka for Vessel #3, are you able to find transient moorage when you need it?

Yes

No

33. If you do not home port this vessel in Sitka, would you consider doing so if permanent moorage was available?

Yes

No

If No, why not?

***34. Do you have a fourth vessel that is too large to be trailered?**

Yes

No

Vessel #4

Please answer the following questions the fourth vessel that you own that is too large to be trailered.

35. What is the size, hull type and home port for vessel #4?

Length (in feet)

Width (in feet)

Gross Tons

Hull Material (wood, steel, fiberglass, aluminum, etc.)

Home Port

36. What is Vessel #4 primarily used for?

- Pleasure and/or personal use/subsistence harvest
- Commercial Fishing
- Commercial Tender
- Commercial Packer/Processor
- Charter or Fishing Tours

Other Commercial Use (please specify)

Vessel #4 (continued)

37. If you indicated that Commerical Fishing, Tendering or Packing/Processing was the primary use for Vessel #4, what fishery do you commercial fish(or serve) in and what type of gear do you use?

Fishery

Gear Type

Other Information

38. Does Vessel #4 transit the Gulf of Alaska for commercial purposes?

No

Yes

If yes, how many transits on average per year?

39. How many months per year does Vessel #4 moor at its home port?

40. In what other locations does Vessel #4 spend significant time moored? Please indicate the number of months per year next to each location listed below.

Location 1

Location 2

Location 3

41. Where do you typically have Vessel #4 hauled out?

Location and yard

How Many Times per Year

Length of time on shore

Reason for Haul Out (routine

maintenance, major
overhaul, emergency,
storage?)

42. How much money do you typically spend on annual maintenance for Vessel #4

43. If you do not have permanent moorage in Sitka for Vessel #4, are you able to find transient moorage when you need it?

Yes

No

44. If you do not home port this vessel in Sitka, would you consider doing so if permanent moorage was available?

Yes

No

If No, why not?

***45. Do you have a fifth vessel that is too large to be trailered?**

Yes

No

Vessel #5

Please answer the following questions the fifth vessel that you own that is too large to be trailered.

46. What is the size, hull type and home port for vessel #5?

Length (in feet)

Width (in feet)

Gross Tons

Hull Material (wood, steel, fiberglass, aluminum, etc.)

Home Port

47. What is Vessel #5 primarily used for?

- Pleasure and/or personal use/subsistence harvest
- Commercial Fishing
- Commercial Tender
- Commercial Packer/Processor
- Charter or Fishing Tours

Other Commercial Use (please specify)

Vessel #5 (continued)

48. If you indicated that Commerical Fishing, Tendering or Packing/Processing was the primary use for Vessel #5, what fishery do you commercial fish(or serve) in and what type of gear do you use?

Fishery

Gear Type

Other Information

49. Does Vessel #5 transit the Gulf of Alaska for commercial purposes?

No

Yes

If yes, how many transits on average per year?

50. How many months per year does Vessel #5 moor at its home port?

51. In what other locations does Vessel #5 spend significant time moored? Please indicate the number of months per year next to each location listed below.

Location 1

Location 2

Location 3

52. Where do you typically have Vessel #5 hauled out?

Location and yard

How Many Times per Year

Length of time on shore

Reason for Haul Out (routine

maintenance, major
overhaul, emergency,
storage?)

53. How much money do you typically spend on annual maintenance for Vessel #5?

54. If you do not have permanent moorage in Sitka for Vessel #5, are you able to find transient moorage when you need it?

Yes

No

55. If you do not home port this vessel in Sitka, would you consider doing so if permanent moorage was available?

Yes

No

If No, why not?

General Questions

56. What Services/configuration would you like to see with permanent large vessel moorage in Sitka (such as power and/or water available at the dock, slips vs. parallel berthing, loading/unloading aides, etc.)?

57. What kinds of work or services do you typically pay others to do when you haul out?

Please select all that apply.

- Welding
- Diesel Mechanics
- Power Washing
- Electronics
- Fiberglass Work
- Painting
- Electrical/Wiring
- Refrigeration
- Joinery/Woodworking
- Aluminum Fabrication
- Insulation
- Bottom Painting/Zincs

Other (please specify)

58. What kinds of work or services do you typically do yourself when you haul out?

- Welding
- Diesel Mechanics
- Power Washing
- Electronics
- Fiberglass Work
- Painting
- Electrical/Wiring
- Refrigeration
- Joinery/Wood Working
- Aluminum Fabrication
- Insulation
- Bottom Painting/Zinc

Other (please specify)

59. If you do use Sitka for your ship maintenance and repair work, what do you like about the facilities, services and/or conditions there?

60. If any of the haul outs took place outside of Sitka, from the list below, please select all of the reasons why you chose a different location than Sitka.

- Ship repair too expensive in Sitka
- Required services not available in Sitka
- Required parts not available in Sitka
- Lack of covered workspace in Sitka
- Sitka haul out capacity too small
- Qualified labor not available in Sitka
- Lack of boat storage areas in Sitka
- Environmental regulations too burdensome in Sitka
- Sitka too far from home port or transit area
- Wait time too long in Sitka
- Lack of moorage in Sitka
- Lack of supplies and/or services unrelated to ship maintenance in Sitka
- Supplies and/or services unrelated to ship maintenance/repair too expensive in Sitka
- Emergency situation outside of Sitka

Other (please specify)

61. As part of this study, we will evaluate how to use Sawmill Cove industrial Park uplands. In terms of your decision to haul your vessel at Sawmill Cove, how important is it for the following amenities to be located on-site versus in town?

On a scale of 1-5 where 1 represents not important at all and 5 represents extremely important please rank the following amenities.

	1	2	3	4	5
Vessel Work Area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vessel Storage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Equipment Storage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vehicle Parking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engine Repair	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hull/Deck Repair	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Electronics Work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Refrigeration Work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Net/Gear Repair	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Painting/Welding Services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fishing/Vessel Parts & Supplies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fuel Dock	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Groceries/ Dry Goods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Restaurant and Lodging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

62. What other goods and services would you like to have available on site at a haul out facility at Sawmill Cove?

63. Do you support using public funds to build a haul out and work yard in Sitka?

- Strongly Support
- Support
- Indifferent
- Oppose
- Strongly Oppose

64. Do you support using public funds to build additional moorage for large vessels in Sitka?

- Strongly Support
- Support
- Indifferent
- Oppose
- Strongly Oppose

65. Do you have any additional comments about this project?

Appendix B: Competing Haul-out and Moorage Facilities

This appendix contains information collected about competing haul-out and moorage facilities.

Table 23. Information about Competing Haul-out Facilities

Location/ Facility	Haul-out Type	Maximum Capacity (Tons)	Charges	Extras/Notes	Management
Craig	Hydraulic Trailer	60	Round Trip and blocking = \$10.00 per foot.	They have dry boat storage available.	Public
Haines	Hydraulic Trailer	20	NA	Owned by fish processor - not public use. Others use front end loader to haul out. Haul-out up to 40-foot length.	Private
Hoonah	Travelift	200	Round Trip and Blocking: Up to 40 feet: \$11 per foot 41 to 57 feet: \$12 per foot 58 feet and up: \$13 per foot	Divers, hydraulic repair available	Public
Hoonah	Hydraulic Trailer	35	Round Trip and Blocking = \$12 per foot.	Divers, hydraulic repair available	Public
Juneau - Auke Bay Loading	Hydraulic Trailer	45	\$5.00 per foot + \$120 round trip	Haul-out up to 56-foot length	Public
Juneau - Deharts Marina	Travelift	15	Round Trip, Blocking, and pressure Wash: \$18 per foot	Public/leased by Harri's Commercial Marine	Public/Private - self serve
Juneau - Near Aurora Basin	Travelift	35	Round Trip, Blocking, and pressure Wash: \$18 per foot	Public/leased by Harri's Commercial Marine	Public/Private - self serve
Ketchikan - Air Marine Harbor	Travelift	50	\$10 per foot round trip - no blocking	Blocking is \$90 - \$100. Prices vary by vessel.	Private
Ketchikan - Air Marine Harbor	Marine Railway	160	\$12 per foot round trip \$125 per day on shore		Private
Ketchikan - Air Marine Harbor	Hydraulic Trailer	35	N/A	For yard use only. Charges included with charges for boat work.	Private

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Location/ Facility	Haul-out Type	Maximum Capacity (Tons)	Charges	Extras/Notes	Management
Kodiak Fullers Boat Yard	Travelift	150, 100, 50, 25	Round Trip and Blocking: 32-35 feet: \$332 36-41 feet: \$380 42-47 feet: \$420 48-55 feet: \$580 56-58 feet: \$786 100-150 tons: \$24 per foot Over 150 tons: \$40 per foot	Per day fee in yard: 32-35 feet: \$20 35-41 feet: \$25 42-47 feet: \$30 48-55 feet: \$40 56-58 feet: \$45 100-150 tons: \$60 Over \$150 tons: \$70 Boat owner does the work. Dry boat storage available.	Private, but self-serve
Kodiak Shipyard	Travelift	600	Round Trip and Blocking: Up to 80 feet: \$53 per foot 81 to 100 feet: \$60 per foot 101 to 120 feet: \$72 per foot 121 to 150 feet: \$85 per foot Over 150 feet: \$92 per foot	Divers, Welders, refrigeration, electronics, sandblasting available	Public
Petersburg	Marine Railway	260	Round Trip: Up to 58 feet: \$5.00 per foot per day Over 58 feet: \$6.50 per foot per day Blocking: \$150	Are planning a cover of facility, and installation of a 300+ ton hydraulic elevator in the future if funding becomes available. Haul-out up to 100 x 28 feet.	Private
Petersburg	Hydraulic Trailer	25	Base for round trip: \$10 per foot	Circumstances could call for additional charges.	Public
Petersburg	Hydraulic Trailer	50	Base for round trip: \$12 per foot	To be installed late 2013. Charges estimated.	Public
Port Townsend	Travelift	300	Round Trip and blocking: Up to 70 feet: \$11 per foot 71 to 90 feet: \$12 per foot Over 90 feet: \$14 per foot		Public
Port Townsend	Hoist	70	Round Trip: Up to 24 feet: \$124.00 25 to 40 feet: \$124.00 + \$9.65 per foot over 24 feet Over 40 feet: \$278.40 + \$1100 per foot over 40 feet.	Overnight hang is 25 percent of round trip charges. Environmental fee of \$25.	Public

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Location/ Facility	Haul-out Type	Maximum Capacity (Tons)	Charges	Extras/Notes	Management
Seattle - Seaview Boatyard	Travelift	165	Round Trip Blocked: Up to 50 feet: \$8 per foot 51-55 feet: \$10 per foot 56-60 feet: \$12 per foot 61-70 feet: \$14 per foot 71-80 feet: \$16 per foot 81-90 feet: \$18 per foot Over 90 feet: quoted	Several lifts to 165 ton & 26 foot beam. Private yard with full complement of services. Environmental fee is \$80.00 minimum. Work must be performed by yard personnel, or specialty outside contractors.	Private
Seward	Travelift	50	Up to 50 feet: \$236.25 per hour Over 50 feet: \$21.00 per foot per hour		Public
Seward	Travelift	250	Up to 55 feet: \$346.50 per hour Over 55 feet: \$21.00 per foot per hour		Public
Sitka - Allen Marine	Travelift	165, 70		Private and emergency only	Private
Sitka - Allen Marine	Travelift	150		At old Sitka. Used to access dry storage.	Private
Sitka - Allen Marine	Floating Drydock	750		Private and emergency only	Private
Sitka - Halibut Point Marine	Travelift	80	Round Trip, Blocking, and Electric: \$12 per foot + \$6 per foot environmental fee	Environmental Fee is for disposal. Boat owner does the work or contacts local services.	Private, but self-serve
Skagway	Hydraulic Trailer	20	Round Trip: \$200	Dry boat storage. Haul-out up to 40 feet.	Public
Skagway	Hydraulic Trailer	30	Round Trip: \$200 + hourly charge for over 20 tons	To be installed in 2014	Public
Wrangell	Travelift	150	Round Trip and blocking: 1-40 feet: \$11 per foot 41-58 feet: \$12 per foot 59 feet and up: \$13 per foot	Divers, Welders, fiberglass, refrigeration, tool rental, deepwater dock	Public
Wrangell	Travelift	300	Not sure yet, but will be higher than 150 ton	Divers, Welders, fiberglass, refrigeration, tool rental, deepwater dock. To be installed in the winter of 2014.	Public
Wrangell	Hydraulic Trailer	40	\$225 per hour	60 percent of cost if inspection haul out without blocking - minimum of \$300. Divers, Welders, fiberglass, refrigeration, tool rental, deepwater dock	Public
Wrangell - Wrangell Boat Shop	Marine Railway	80	\$6 per foot round trip	No on-shore fee because their employees are doing the work.	Private

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Location/ Facility	Haul-out Type	Maximum Capacity (Tons)	Charges	Extras/Notes	Management
Wrangell - Wrangell Boat Shop	Marine Railway	60	\$6 per foot round trip	Divers, Welders, fiberglass, refrigeration, tool rental, deepwater dock. No on-shore fee because their employees are doing the work.	Private

Source: Compiled by Southeast Strategies, 2013.

Table 24. Information about Competing Moorage Facilities

Location/Facility	Slips over 60 Feet	Side Moorage (feet)	Charges for Permanent Moorage	Charges for Transient Moorage	Extras/Notes
Craig	0	320	\$15.75 per foot per year	\$0.50 per foot per day	
Haines	10		\$25 per foot per year over 40 ft.	\$0.50 per foot per day \$5.00 per foot per month	Plans to add 20 more in 2015.
Hoonah	10	1,000 (plus 300 additional in summer)	\$19 per foot per year	\$0.50 per foot per day	Drive down ramp, electric, water, deep draft moorage.
Juneau - Intermediate Vessel Float	0	800		To 64 feet: \$1.50 per foot per month 65-200 feet: \$2.50 per foot per day over 200 feet: \$3.00 per foot per day All fishing vessels: \$0.75 per foot per day	
Juneau - main harbors	35		\$4.15 per foot per month	N/A	Electric and water avail.
Juneau - Statter Harbor	0	6,000	\$6.95 per foot per month	To 64 feet: \$1.50 per foot per month 65-200 feet: \$2.50 per foot per day over 200 feet: \$3.00 per foot per day All fishing vessels: \$0.75 per foot per day	Electric, water, showers, restrooms, free sewer pump-out
Ketchikan - Doyon's Landing		400			Refused to give cost information for visiting yachts, etc.
Ketchikan - Public Harbors	40	2,900	\$24.58 per foot per year.	\$0.63 per foot per day \$6.49 per foot per month	
Kodiak	156	2,376	59-80 feet: \$61 per foot per year 81-100 feet: \$71.5 per foot per year 101-120 feet: \$82 per foot per year 121-150 feet: \$89 per foot per year over 151 feet: \$100 per foot per year	59-80 feet: \$1.02 per foot per day 81-100 feet: \$1.20 per foot per day 101-120 feet: \$1.37 per foot per day 121-150 feet: \$1.48 per foot per day over 151 feet: \$1.67 per foot per day	
Petersburg	48	620	\$50 per foot per year over 60 feet	\$0.50 per foot per day \$6.00 per foot per month	Electric, water, etc.

Preliminary Screening-Level Feasibility Assessment and Planning for a Marine Center at Sawmill Cove Industrial Park

Location/Facility	Slips over 60 Feet	Side Moorage (feet)	Charges for Permanent Moorage	Charges for Transient Moorage	Extras/Notes
Port Townsend - Both Boat Haven and Port Hudson	18	900	Under 60 feet: \$7.90 per foot per month 61- 70 feet: \$8.38 per foot per month 71 -90 feet: \$8.88 per foot per month 91 to 110 feet: \$9.42 per foot per month 111-130 feet: \$9.98 per foot per month	October–May: \$1.00 per foot per day June–September: \$1.25 per foot per day	Active commercial fishing vessel permanent moorage is \$5.75 per foot per month regardless of length. Slips over 60 feet include 12 and 6 end ties.
Seattle - Shilshole Bay	178	694	60-64 feet: \$14.03 per foot per month 65-69 feet: \$14.17 per foot per month 70-110 feet: \$14.74 per foot per month over 111 feet: \$17.19 per foot per month	May-October: 55-99 feet: \$1.50 per foot per day 100 feet and over: \$2.00 per foot per day November-April: 55-99 feet: \$1.00 per foot per day 100 feet and over: \$2.00 per foot per day	1,400 slips in the harbor. Water & Power, free parking, downtown shuttle, garbage & hazmat, and free self-serve sewer pump out. Showers, laundry available. Slips over 60 feet include 160 slips and 18 end ties.
Seward	25	2,960	\$46.28 per foot per year	\$0.68 per foot per day \$9.16 per foot per month	Plan to add more large slips.
Sitka - Halibut Point Marine Cruise Dock		1,100		\$1.00 per foot per day	Privately owned.
Sitka - Public Harbors	59	2,850	\$2.80 per foot per month	Daily to 80 feet = \$.87 per foot Daily 81 to 150 feet = \$1.49 per foot Daily over 150 feet = \$2.24 per foot Monthly to 150 feet = \$14.94 per foot Monthly over 150 feet = \$22.41 per foot	Slips over 60 feet includes 48 slips, 3 end ties over 60 feet, and 8 end ties over 100 feet. Side moorage includes new ANB Harbor update.
Skagway	0	1,350	\$13.20 per foot per year	\$0.37 per foot per day \$7.70 per foot per month	Electric, water, etc. 200 linear feet to be added in 2014.
Wrangell	12	4,500	\$25 per foot per year	\$0.40 per foot per day \$3.50 per foot per month	Daily transient rate is for prepaid. Is double if billed (\$0.80 per foot per day).

Source: Compiled by Southeast Strategies, 2013.

Appendix C: Vessel Owner Interview Notes

The following sections contain brief notes from interviews conducted with a selection of vessel owners or managers that might have an interest in Sitka. Names have been removed for anonymity.

C.1 Agency within State of Alaska

Agency has 3 vessels, all steel hulled, 100–110 feet in length, and one vessel 56 feet long. They all range from 94 to 350 tons.

A 100-foot vessel in Kodiak uses the Seward shipyard. The two in SE Alaska use Ketchikan or Victoria, BC. They go out to bid for the work. Need a full service shipyard with welders, painters, shipwrights, etc.

They also have some small bayliner-style fiberglass boats. They are handled locally where they homeport.

C.2 Alaska Community Development Quota Group

Group has 3 vessels – 58 ft and larger.

They now use the shipyard in Kodiak for maintenance. They used to go to Homer, but it got too expensive. They like to stay somewhere close to the managers (Anchorage), and where they can store gear. They do big repairs in Seattle area—every 3 years or so. They go there because it is cheapest, and they have more services. Most important criteria for choosing a yard is cost, closeness to business managers, and availability of parts and services.

C.3 Commercial Fisher (Homeported in Seattle Area)

Operates a 59 ft, 100 ton, steel hull vessel. Does long-lining and trolling.

Not many yards left in the Seattle area, so can't be too critical of them. They usually use yards for painting, changing zincs, etc. They go where they can find the best skills.

Would probably not use any yards in SE Alaska because the weather is not great for painting. If the yard had cover, that would help, but it is usually too cold. SE would work for emergencies.

Suggests Sitka get good skilled tradesmen like in Wrangell, and have cover for boat work.

C.4 Commercial Fisher (Homeported in Seattle Area)

Now retired and vessel is for sale. 70 ft (70 tons) tug with steel hull.

Has used Ketchikan and Petersburg rail system. If a good yard were available at Sitka, would have used that. Nearest location counts if an emergency happens. For routine work, Northern SE would work if the yard is near the outside. He recommends a 300 ton lift at Sitka.

C.5 Commercial Fisher (Homeported in Seattle Area)

Operates a tender/packer, 87 ft (99 tons), wood hull.

He works in SE Alaska. Goes to Port Townsend for routine work. Will consider Wrangell for future work.

He says it is a joke that Sitka does not have better boat repair services. They are crazy not to have done this before.

He needs a yard where he can manage his own work. He also needs skilled labor. Feels the infrastructure will bring skilled workers in.

One of the best shipwrights on the West Coast moved to Wrangell, and is booked with work through 2015. He has been intercepting work bound for Port Townsend. Wrangell started thinking they would only do boat storage, but that is not an economic driver like boat repair is.

He feels Sitka needs a 300-ton lift (6 straps) or larger for long-liners, tenders, scows, etc. Would need skilled welders, shipwrights, woodworkers, machine workers, etc. Would need more large vessel moorage.

In SE Alaska, ports charge higher rates for larger vessels—why? Much less expensive to homeport in Washington.

Mentioned the Martin economic impact study for the Port of Seattle, which looked at the operating expenses for various types of vessels (the amount that gets spent in port). Fishing and other working vessels contribute a lot more to an economy than pleasure craft (yachts).

C.6 Federal Government Agency (Juneau Field Office)

Agency has 8 to 10 vessels in SE. Most are small, around 35 ft. One large one in Ketchikan, and they use the yard there for work on that.

For jobs over a certain dollar amount, they get bids for the work. Sometimes they choose the locations before asking for a bid.

C.7 Commercial Fishing Company (Homeported in Seattle Area)

Company operates 3 trawlers (2 are 110 ft and 198 tons, and 1 is 143 ft and 291 tons) and 1 packer/crabber (124 ft and 198 tons), all steel hull.

They do their major work in Washington, where they have management access to the vessels as they are being worked on. Reputation of the workers is important—they have used the same guy for 20 years. Would use Sitka for an emergency if they were close by.

C.8 Fish Processor (Fleet Manager, Located in Seattle Area)

He manages 19 vessels—all catchers, 13 are also tenders, and 3 are also factory ships. Vessels range from 84 to 162 feet (75 to 286 tons). All have steel hulls. Fish for Bering Sea/Gulf of Alaska groundfish, SE Alaska salmon, herring, etc.

They routinely do work in Seattle area, but have used Ketchikan, Kodiak, Dutch Harbor, and Seward. They must weigh the cost of fuel to bring the vessel to the facility against the cost to transport and house the staff to monitor the work. It is not cheap (fuel prices high) to bring ships to the Seattle area,

but also not cheap to bring managers to other facilities. They tend to take the ships south every 2.5 years for work.

He was glad to see we are doing our due diligence before we build something.

C.9 Commercial Fishing Company (Homeported in Astoria, Oregon)

Company operates 2 ships—66ft, 107 ton steel hull, and 78 ft, 160 ton steel hull. They do packer/tender, longline, and crab pot fishing.

They tender out of Petersburg, and work all over the state. They will get work done in Wrangell or Petersburg if it is an emergency, but they do scheduled work closer to home in Seattle or Astoria. It saves them having to travel and stay in hotels, etc. when the work is being done.

They look for a location with a large enough lift, and that has time to get them in (yard not too busy to schedule them in). They do some of the work themselves (painting, zincs, etc.), but like to be able to hire skilled contractors.

Sitka is a good location. They often stop in when going across the Gulf of Alaska. They would not keep a ship there, as they like to keep them close to home. They could use more large vessel moorage there though.

C.10 Commercial Fisher (Homeported in Bellingham, Washington)

Operates one vessel—58 ft, 71 tons, steel hull. Purse Seine in SE Alaska, and long lining.

They generally haul out closer to home, but once they went to Wrangell. He likes Wrangell, because he can do his own work, but he also likes to have contractors available. They do work out of Petersburg for some of the year, because it is close to the fisheries. He wishes they had a lift.

Says money is not the decider for where to go—it's the facilities. Feels Sitka should consider a lift of at least 150 tons.

Mentioned that the ferry terminal should not have been built in Bellingham, they should have done a dock/facility for the Bering Sea crab fleet instead. It would have been a better economic driver.

C.11 Commercial Fishing Company (Homeported in Seattle, Washington)

Operates two tender/packers—72 ft, 140 ton, steel hull, and 82 ft, 164 ton wood hull.

The work in Bristol Bay and Prince William Sound. Keep the boats in Seward some of the time.

They did some work in Sitka last year, and have gone to Kodiak and Seward for some minor repairs. For major work they go to the Seattle area, Port Townsend. They like to be able to do some of the work themselves. Port Townsend has good prices and skilled workers. However, it costs a lot in fuel to get down there, and it would be better if they could do the work in Alaska. Sitka is a two day run to Seward.

Thinks they need a 300 ton lift, and lots of services. They would consider using a facility like that in Sitka. They like the idea of more large vessel moorage, and it would be a good place to winter the vessels—better weather and closer to the work. He recommends they keep rates low. They could save \$30,000 to \$40,000 in fuel costs by using Sitka instead of Seattle.

C.12 Commercial Fisher (Homeported in Kodiak, Alaska)

Operates one packer/tender and trawler—64 ft, 109 tons, steel hull.

They have routine work done in Kodiak—they have 2 big lifts there. Goes to Seattle for major work—better restaurants in Seattle.

Has used haul outs in Wrangell and Sand Point (150 ton lift) also.

C.13 Commercial Fisher (Keep Vessel in Ketchikan, Alaska, and Bellingham, Washington)

Operates one vessel, doing Southeast salmon seine fishing—58 ft, 81 tons, steel hull.

They tend to get the vessel hauled out near home. They are nearby, and have low rates.

He thinks Sitka should have as big a lift as they can afford, and would need a permanent enclosure for sandblasting (complex environmental regulations), not just a tent. They should have a machine shop close by, and welders. They do need more large vessel moorage in Sitka. He feels the haul out at Sitka would get lots of work because it is a busy area. They should have a place to get out of the weather to do the work. Reasonable rates would be good also.

C.14 Commercial Fisher (Homeported in Newport, Oregon)

Operates one vessel—124 ft., 199 tons, steel hull. Trawling and crab pots in the Bering Sea.

They keep the vessel in Alaska (usually at Dutch Harbor), and do routine work at Dutch Harbor. Every three years they bring the vessel down to Anacortes for major work. They are so wide (45 ft) it limits where they can haul out.

Haul out and boat work rates are important. They also want to be able to get parts fast if needed. Need good welders, and other manpower to do the work. Would need a place with cover to keep out the weather and cold temperatures.

Would use if a large vessel moorage nearby, one with shore power and water. They use 3 phase, and need a transformer.

C.15 Commercial Fisher (Homeported in Juneau, Alaska)

Operates 3 vessels—54 to 65 ft, 46 to 102 tons; 2 wood hull and 1 steel hull.

They go to Hoonah now. They do their own maintenance and have woodwork done. They seem to be getting it together in Hoonah.

The facility in Sitka should be big enough for tenders—300 to 350 tons. He comes over to Sitka for the herring fishery, and would like to be able to replace zincs while there.

If there was large vessel moorage in Sitka, would likely get big tenders in for a few months of the year, but they would need power at the docks. Could get crab boats in the spring. Boats do not go south as often as they used to because of the high cost of fuel.

Sitka would need good woodworkers, welders, and painters. It should be close to stores and services, and have a nice dock.