



February 9, 2011

111015

Mr. Phillip Oates  
City Manager  
City of Seward  
PO Box 167  
Anchorage, Alaska 99664

Subject: SMIC Basin Concept Design and Economics Study

Dear Mr. Oates:

As requested by the City of Seward, PND Engineers, Inc. (PND) has performed a scoping analysis for a proposed boat harbor located at the Seward Marine Industrial Center (SMIC). The proposed boat harbor would be developed as a commercial craft facility with the primary tenant being the CDQ fleet. Vessels would be in the range of 40 feet through 350 feet.

The CDQ fleet is seeking to home port in Alaska, and Seward is ideally situated to support this fleet. Seward's infrastructure can provide the necessary support and the SMIC area provides the necessary real estate for development. By utilizing and improving the existing infrastructure in Seward, the benefits of the project will include:

- Growth of the overall Alaskan economy
- Provision of more Alaskan jobs
- Protecting Alaskan resources
- Providing a means to further enable the development of the private sector in Alaska
- Keep Alaskan owned vessels in Alaska

Attached Figure 1 depicts conceptual layouts of the proposed facility and represents the initial configuration for data collection and design. It is likely that the configuration shown will be modified as the design is developed and the fleet characteristics become better understood. The facility has also been shown in phases to allow development as demand grows. Phase 1 would develop the existing SMIC basin into a calm water harbor and maintenance facility. It is believed that this concept would accommodate 30 vessels or more, depending upon length, with moorage on the unprotected (north) side of the proposed dock for vessels over 300 feet. Phase 2 is shown north of the current SMIC basin and could be built as a protected harbor accommodating approximately 60 vessels, depending upon size. Phase 3 would represent a final phase that could be developed if and when the Phase 2 area became fully utilized. Other potential locations may also serve the needs of Phase 3 and could also be examined, but the location shown is presented for concept level consideration.

In order to progress development of this proposed facility, the first step in the process would involve economic analysis, field data collection and preliminary design. The economic analysis would be performed to identify economic benefits of the proposed project and to identify the optimum project scope based upon the economics. Through the economic analysis, the concept in Figure 1 will be

modified and tailored to best fit the demand and provide optimum benefits. The estimated cost of this economic analysis is \$85,000.

Parallel with the economic analysis, a field data collection program will be conducted to advance the engineering design effort. Geotechnical information will be gathered to support cost estimates of project components and to be used throughout project development. Survey information will also be gathered to support the project, consisting of bathymetric and uplands data. For the initial project development, the bathymetric survey is proposed to be performed manually, while uplands data will be gathered using LIDAR. The LIDAR data is believed to be sufficient for initial design and can be supplemented with ground survey where more precision is found to be required as the project advances. LIDAR will provide a more cost effective method of obtaining uplands topographic data over the large area proposed for the project.

PND has researched available data as a portion of this work scope. A good amount of geotechnical data has been developed in the vicinity of SMIC and will greatly reduce the required amount of additional data that would need to be gathered. Survey data, particularly bathymetric data, is limited however and would need to be gathered in whole to support the proposed project. Geotechnical work will be performed primarily to support development of Phase 1 only, while survey data will be gathered over the entire project site to be used throughout development. The estimated cost of the geotechnical program is \$135,000, while the survey data gathering is estimated to require \$60,000.

Preliminary engineering design will be performed in conjunction with the economic study and in support of project permitting. In order to develop the data necessary for permitting, the design will need to be advanced to a preliminary level. Permitting of the project represents possibly the critical path as related to overall project construction schedule and would need to commence as soon as possible to allow the development. It is recommended that engineering and associated permitting focus only on Phase 1 in order to expedite the initial development. Phase 1 generally lies within the existing SMIC boundary and, as such, should be a much easier and quicker scope to permit. However, it may also be desirable to start the permitting process for Phase 2 soon after receiving the Phase 1 permit in order allow sufficient time for development and receipt of these permits. The estimated cost for preliminary engineering and development of permitting documents is \$120,000 for Phase 1 only. The estimated cost for permitting does not include the actual permitting effort and it is anticipated that the permitting documents would be submitted upon full approval of the project.

The total estimated costs for these initial project expenditures are as follows:

Economic Analysis	\$85,000
Survey	\$60,000
Geotechnical Investigation	\$135,000
Phase 1 Preliminary Engineering	\$110,000
Phase 1 Permitting	<u>\$10,000</u>
<b>TOTAL</b>	<b>\$400,000</b>

PND has also developed overall Phase 1 project costs in an effort to assist in future planning. The total construction, engineering, permitting and management costs are estimated to be \$34 million with detail as provided in the attached estimate. This estimate should be considered relative order of magnitude (ROM) at this time and will be further developed during the initial efforts.

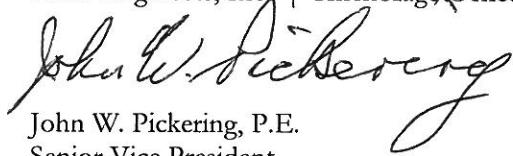
An anticipated schedule for construction of the Phase 1 scope of work would be similar to the following:

Initial Funding Appropriation and Project Kick-Off	July 15, 2011
Survey Layout	September 15, 2011
Geotechnical Report	October 31, 2011
Draft Economic Report	December 1, 2011
Final Economic Report	February 1, 2012
Permit Documents Prepared and Ready for Submission	September 15, 2011
Obtain Project Funding and Begin Final Design	January 1, 2013
Submit Phase 1 Permit Application	April 1, 2013
Complete Engineering Design	September 15, 2013
Receive Project Bids	October 30, 2013
Award Construction Contract	November 30, 2013
Begin Field Construction	February 15, 2014
Complete Phase 1 Construction	December 15, 2014

PND appreciates the opportunity to assist the City of Seward with this exciting project. If you have any questions regarding the attached information, please contact us.

Sincerely,

PND Engineers, Inc. | Anchorage Office



John W. Pickering, P.E.  
Senior Vice President

Attachments: Figure 1 – Existing Conditions  
Figure 2 – Conceptual Layout  
ROM Cost Estimate  
Northern Economics Proposal



PND Engineers, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.

REV	DATE	DESCRIPTION
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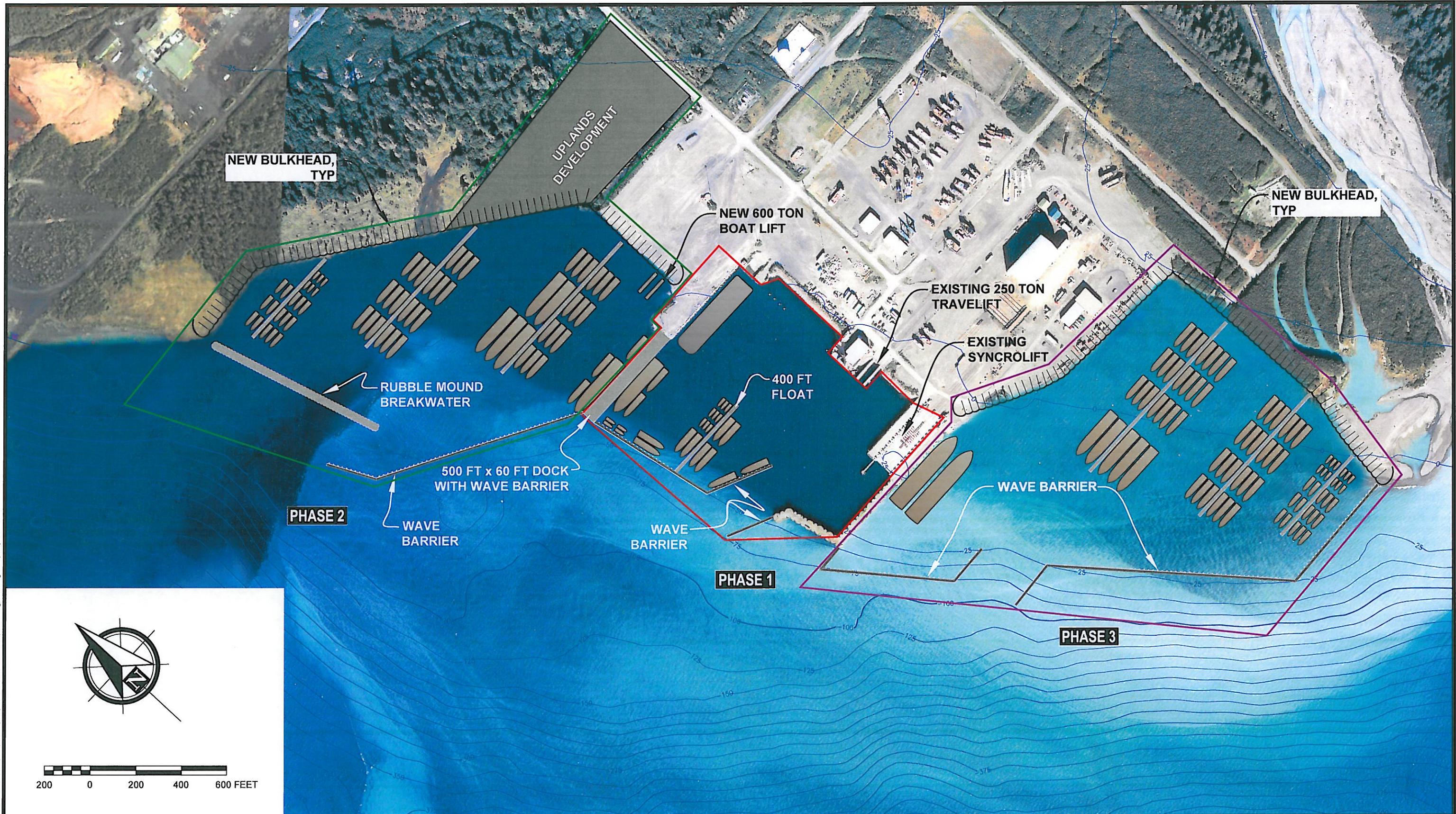
DATE: \_\_\_\_\_

1506 West 36th Avenue  
Anchorage, Alaska 99503  
Phone: 907.561.1011  
Fax: 907.563.4220  
[www.pndengineers.com](http://www.pndengineers.com)

P | N | D  
ENGINEERS, INC.

PROJECT: **SEWARD SMIC BASIN**  
TITLE: **EXISTING CONDITIONS**  
DESIGNED BY: KWB DATE: 2/9/11  
CHECKED BY: JWP PROJECT NO: 111015

Figure 1



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**P** | **N** | **D**  
ENGINEERS, INC.

PROJECT		TITLE:	
<b>SEWARD SMIC BASIN</b>		CONCEPTUAL LAYOUT	
DESIGNED BY:	KWB	DATE:	2/9/11
CHECKED BY:	JWP	PROJECT NO:	111015

Figure 2

Item	Description	Cost	Assumptions
1	Mobilization	\$ 2,800,000	13% of items 2 thru 7
2	Permeable Wave Barrier	\$ 9,400,000	
3	Float System	\$ 600,000	
4	Repair North Dock & Barge Ramp	\$ 600,000	
5	500' x 60' Dock	\$ 8,000,000	
6	Electrical Upgrades	\$ 2,000,000	
7	Site Improvements	\$ 1,000,000	
8	Engineering and Construction Oversight	\$ 2,000,000	8% of items 1 thru 7
9	City Project Management	\$ 2,400,000	10% of items 1 thru 7
10	Contingency	\$ 4,900,000	20% of items 1 thru 7
<b><i>Phase I Total</i></b>		<b><i>\$ 33,700,000</i></b>	

**Notes:**

1. Vessel sizes range from 340 ft to 30 ft.
2. Costs presented represent Phase I only. Future phases are not estimated at this time.
3. Costs are ROM and have not been validated with field data.

Thank you for contacting us about conducting an economics study to look at the feasibility of developing a facility to homeport the CDQ fleet in Alaska. We have developed an approach to quantify the benefits of this movement of vessels from Puget Sound to the state.

Major components of our proposed study include: an evaluation of ports for homeporting the CDQ fleet, economic benefits accruing to the State of Alaska and appropriate local and regional governments, fiscal impacts on the state and local governments, benefits and costs to the CDQ groups, and industries and other infrastructure needed to support a large number of CDQ vessels.

Based on the requirements for a homeport location, we believe Seward is the best candidate for the proposed facility. Seward is an ice free port and has highway and rail system connections. It is relatively close to Anchorage and the Ted Stevens International Airport which has direct connections with major communities in the CDQ region of western Alaska and to Seattle. Three operators provide scheduled barge freight service to Seward. Seward also has sufficient uplands space, skilled maritime maintenance workers, and vocational training (through AVTEC) in the community. AVTEC provides training for all of the licenses that are needed for maritime maintenance and operations.

We anticipate CDQ groups would require a drive-on dock, work areas, warehousing and office space, and living areas. If located in Seward, the CDQ facility could be located adjacent to the existing infrastructure in the Seward Marine Industrial Center (SMIC), resulting in higher utilization of the SMIC facilities and benefiting from existing infrastructure and services located at SMIC. Additional upland space would be needed for companies providing support service to the vessels. The number of vessels is uncertain at present, but is expected to grow over time due to the requirement that CDQ groups invest at least 80 percent of their income into the fishing industry. The potential Alaska ports should have sufficient land and water areas to accommodate more than one hundred vessels in the future.

The economic benefits of homeporting the CDQ fleet in Alaska would primarily be driven by spending on vessel maintenance work and other goods and services in Alaska, rather than in the Puget Sound region, and the large number of jobs available on the vessels and the support industries. It would allow Alaska businesses to compete with providers in Seattle and elsewhere in the Puget Sound region. Annual operations and maintenance expenditures of the larger CDQ vessels can reach hundreds of thousands of dollars and involve a variety of specialty services. We will use 2010 expenditure data from several CDQ groups to evaluate the amount of money spent by these fleets on each type of service. This information will be used to extrapolate the needs of the entire CDQ fleet if it were to homeport in Alaska. Using annual expenditure data, we will evaluate the economic impact on the state and local governments for the port that best fits the homeport criteria identified by the CDQ groups using IMPLAN input-output modeling software.

In addition to the economic benefits to the state and region, the state and local governments could also see increased corporate income taxes, sales taxes, real and personal property taxes, and moorage revenues as a result of the additional economic activity. Some CDQ groups may prefer to lease uplands and dock space for longer periods of time and recommendations for a preferential use agreement will be included as well as potential lease revenues. The cost of providing some public services could also increase, with the biggest cost perhaps being due to an increased presence of port and harbor staff at a facility. Our study will look at the tax systems in place in the local government(s) where the port is located and estimate the fiscal effects of additional revenues and expenses associated with activity at a new facility.

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From the perspective of CDQ groups, homeporting vessels in Alaska could provide substantial cost and time savings from not having to move the vessels to and from their fishing grounds and the Puget Sound region. In addition, CDQ groups could save millions in airfare costs by dramatically reducing travel between Seattle and Alaska for vessel crews and management. Puget Sound's support industry benefits from efficiencies of scale, however, so the cost of goods and services at a new facility in Alaska would likely be higher. The cost premium would shrink as more vessels homeport in Alaska, though some goods and services will likely only be available in Puget Sound. We will conduct a benefit-cost analysis from the perspective of the CDQ groups to evaluate their interest in the facility.

At present, many of the services used by CDQ groups in the Puget Sound region are not available in Alaska or are of insufficient size to serve the number of vessels that could homeport in-state. A fourth major component of our study will be an industry cluster study that looks at the types of services used by the fishing industry. Ballard's waterfront is a good example of the range of services offered in close proximity to haul out and work facilities. An initial challenge in attracting businesses to serve vessels will be the seasonality and operational capacity of a facility, since the work done on the CDQ vessels would occur at limited times during the year, during the off-season. Use of these services by other fishing vessels may help to alleviate the seasonality, since the shipyard does operate year-round. Other types of vessels, such as research, nonprofit, or private vessels, may also have an interest in using or relocating to the facility.

Northern Economics has done a number of studies in Seward that will help to inform its work on this study. Recently, Northern Economics completed a planning study for future investment in SMIC for the City of Seward, and was part of the PND Engineers team in developing a TIGER grant application for SMIC improvements. Northern Economics also conducted some of the original studies for the SMIC and the synchrolift in the 1980s and early 1990s.

The economic analysis for the CDQ Homeporting study will cost \$85,000 to complete. Assuming a start date in early July 2011, we can submit a draft report on December 1, 2011.