Presented By:
Port Director

Action Taken:
Yes 5
No 0
Abstain 0

CITY OF NOME, ALASKA

RESOLUTION NO. R-18-08-08

A RESOLUTION SUPPORTING THE CITY OF NOME'S APPLICATION FOR FUNDING FROM NSEDC FOR THE REPAIR OF THE INNER HARBOR CONCRETE LAUNCH RAMP

WHEREAS, the Port of Nome is a hub in Western Alaska supporting member communities of the Norton Sound Economic Development Corporation (NSEDC) and additional Bering Strait Region communities; and,

WHEREAS, the majority of Nome's homeported fleet operates in near-shore and Norton Sound waters, using Nome as a base by which to support their seasonal operations and protecting their vessels by overwintering in dry-dock at Nome; thereby relying on the harbor infrastructure to serve that need and be available for their use; and,

WHEREAS the region's cargo and gravel is transshipped through the Port of Nome, which also serves as a strategic resupply facility and laydown area for commercial marine operations that service the Western Alaska coastline from the Yukon River to the Chukchi & Beaufort Seas, and whom also rely on harbor infrastructure to effectively load/unload commodities; and,

WHEREAS, the limited ice-free season afforded to the Arctic region dictates that activity occur as efficiently and effectively as possible, with little flexibility for essential infrastructure components to be unreliable or at risk of failure, as this delays operations and increases risks of maritime operations and schedules, driving up transportation costs for goods and services; and,

WHEREAS, the City has identified potential matching funds through eligibility of up to 80% in funding from the U.S. Economic Development Administration Public Works Program based on economic distress criteria, and when combined with port operating funds, exceeds the cost-share requirement for this program; and,

WHEREAS, the Nome Port Commission has demonstrated support for the Concrete Launch Ramp Repair Project, to include the expense of nearly $68,000 in study and design costs, and seeks to request funding in the amount of $300,000 through the NSEDC 2018 Large Infrastructure Outside Entity Funding Program to assist in the repair.

NOW, THEREFORE BE IT RESOLVED that the Nome Common Council supports the application to NSEDC to assist in funding the repair of the Inner Harbor Concrete Launch Ramp.

APPROVED and **SIGNED** this 27th day of August, 2018.

RICHARD BENEVILLE, Mayor

ATTEST:

BRYANT HAMMOND, City Clerk

PORT OF NOME
Phone/443-6619 Fax/443-5473

Memo

TO: Mayor Richard Beneville & Nome Common Council

FROM: Scot Henderson, Acting Chairman – Nome Port Commission SH

THRU: Tom Moran - City Manager

DATE: 08/19/2018

RE: Motion Supporting 2018 NSEDC LIF Grant Application for Launch Ramp Repair Project

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The following motion was passed by the Nome Port Commission at their Regular Meeting on Thursday, August 16, 2018.

1. Moved by Rowe and seconded by Smithhisler, that the following motion be approved:

   - **MOTION:** To support making application to NSEDC for a 2018 Large Infrastructure Outside Entity Funding (OEF) Grant for the Inner Harbor Launch Ramp Repair Project.

     AT THE ROLL CALL:

     Ayes: Henderson, Rowe, Sheffield, McLarty, Smithhisler

     The motion **CARRIED** unanimously.

Discussion on this motion is reflected in the minutes of the August 16, 2018 Regular Meeting.

PND ENGINEERS, INC.

MEMORANDUM

To: Joy Baker – Port Director, City of Nome Date: 8/22/2018

From: Bryan Hudson, P.E., S.E. – PND Engineers, Inc.

Subject: Nome Launch Ramp Replacement Memo

Current Status of Ramp

The Nome Launch Ramp has been in service since 2005. Over the past few years it has been experiencing settlement in the middle sections of the ramp and has been observed to have several sections of broken panels with some areas where sections of panels are completely missing. The damage and settlement are believed to be from overloading as well as from the use of spud piles from local dredgers to assist in removing vessels from the water. The following memo outlines the work completed to determine repair and/or replacement options for the ramp and provides a brief outline of the recommended path forward to bring the ramp back into full operation.

Steps Taken

In early 2018 the City of Nome (Nome) requested that PND Engineers, Inc. (PND) evaluate the damages on the launch ramp and develop plans for repair or replacement of damaged sections. The City also hired a local remote operated vehicle (ROV) operator to take underwater photos of the ramp to determine below water damage. The ROV information was useful in uncovering the types of damage and general location of damages that could be seen. However, it was not possible to identify exact damage locations or extents due to the accuracy of ROV positioning and the amount of sediment coverage present on the ramp, particularly in the lower sections.

PND utilized site photos, descriptions from users and the ROV data to prepare potential repair options for replacement of individual panels. Several panel and support failure types were identified with respective details developed to address each situation. However, due to the known settlement issues and the arrangement of the support structure beneath the existing panels it became apparent that there were many risks associated with a repair project. PND discussed these items with the City and developed ROM cost estimates for repair options with dewatering, full replacement without dewatering and full replacement with dewatering. ROM estimates for each of these options are shown in Table 1 below. Following the development of these costs a meeting with the Nome Port Commission was set up to discuss risks, costs and to develop a path forward.

Option	ROM Cost
30% Replacement with Dewatering	$1.52 MM
Full Replacement, NO Dewatering	$1.70 MM
Full Replacement with Dewatering	$1.98 MM

Table 1: ROM Repair\Replacement Costs

Key Port Commission Meeting Considerations

A meeting with the Nome Port Commission was held on August 2nd, 2018. Much of the discussion was based around the risks associated with repair of the ramp as well as other options that have been considered thus far.

Some key considerations discussed at the meeting are summarized below;

Repair Risks

As it is difficult to determine the exact location and extents of the damages to the panels there is significant risk to the City to bid out a repair project. In addition, the condition of the timber sleepers below the panels is unknown and could not be determined until panel removal. With these unknowns, procurement of appropriate quantities of panels (in both sizes) and sleepers could be over or under estimated.

Other items such as infilling and supporting the panels via foam injection or pressure grouting were discussed however, due to the below water work and the unknown subsurface conditions these options were not considered feasible alternatives. Verification that this method of repair filling all of the voids is problematic at best. Quality control for injection to raise the settled sections back up to their original elevation would also be difficult and a significant risk to the City if the method was unsuccessful. Building on top of the ramp was also briefly discussed. In order to build on top of the ramp however, support of the existing ramp would be needed to ensure the foundation was capable of supporting the required loadings. Providing this support has the same risks associated with the infilling outlined above.

Repair vs. Replacement Costs

As can be seen in Table 1 above, the ROM repair costs for an approximately 30% repair are close to that of a full replacement yet has significantly more risk to the City. Larger repair areas quickly surpass costs for full replacement. Replacement of the ramp also allows for an entirely new structure that will require less maintenance than a repair in the near future.

Replacement Flexibility

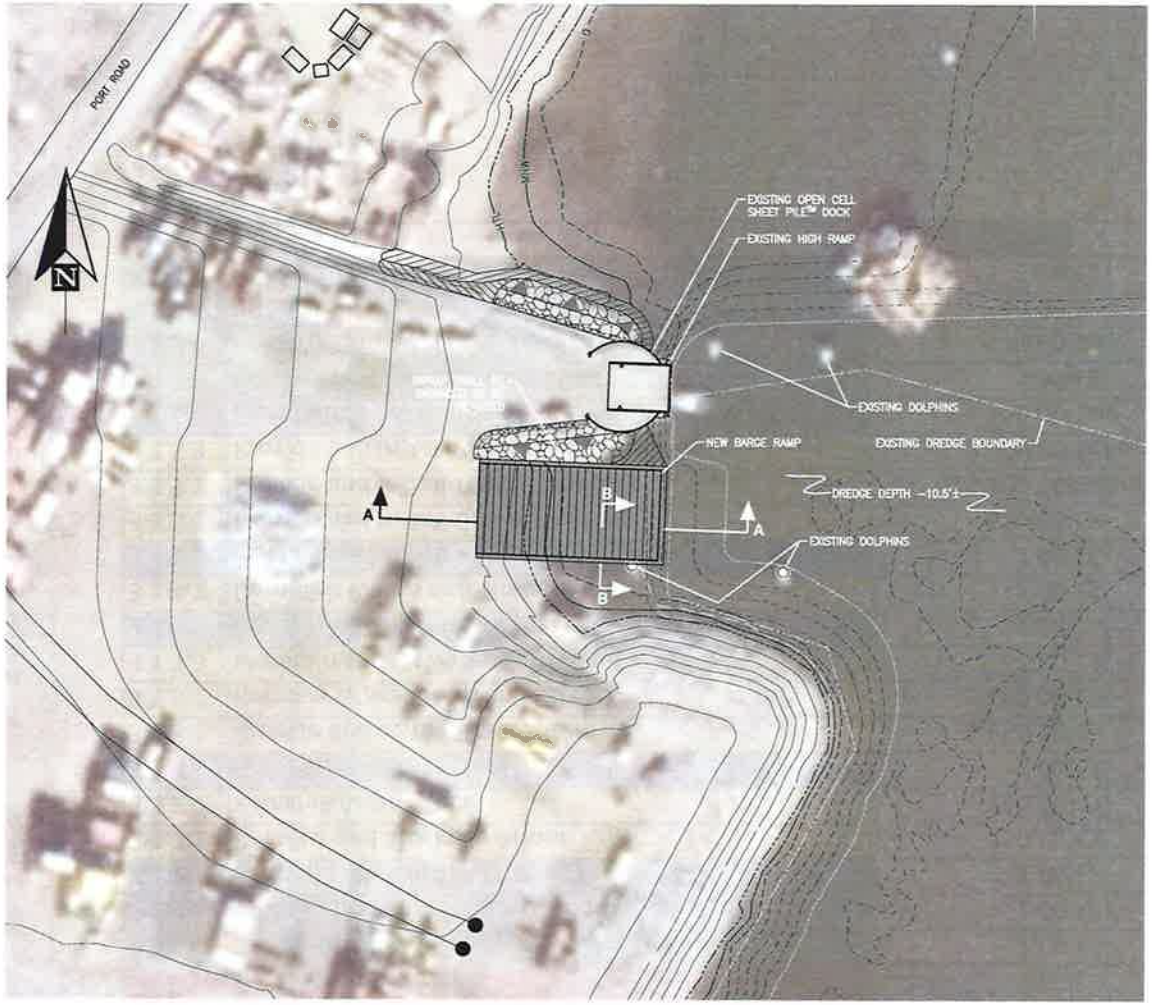
Replacement allows for potential usability changes to the structure. Design criteria for loading could be adjusted to accommodate a wider range of loading conditions. Additional support could be added throughout the structure to reduce settlement risks and the slope and length of the ramp can be adjusted to better accommodate the current and expected future usage of the facility based on its current history.

Recommendations

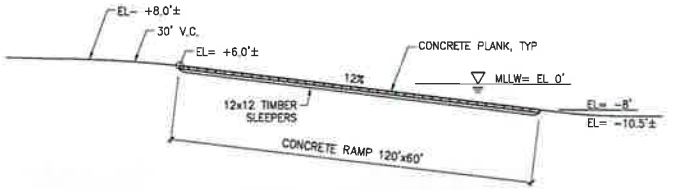
PND and the Nome Port Commission both believe, based on the available information and costs outlined above, that a full replacement of the ramp is the preferred alternative moving forward. Justification for this recommendation include; 1.) Replacement costs are similar to the expected repair costs, 2.) Replacement provides a new structure, 3.) Replacement reduces construction risks to the City and 4.) Replacement allows opportunities for changes to the structure to suit the current and historical usage of the facility.

NOME LAUNCH RAMP REPAIR
COST ESTIMATE
PND ENGINEERS

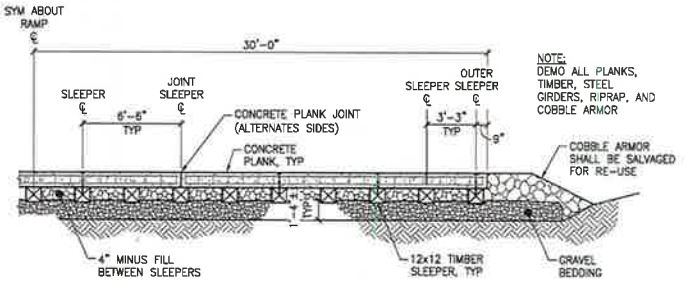
CBS Position Code	Description	Material Quantity	Unit of Measure	Days (Total)	Total Unit Cost	Total Cost
3	**Option 2b - Demolish and Install New Launch Ramp w/ Gravel Cofferdam**	1.00	LS	87.80	$1,984,169.99	$1,984,169.99
3.1	Construction, Engineering, and Inspection	1.00	LS	87.80	$1,890,169.99	$1,890,169.99
3.1.1	Mobilization and Demobilization	1.00	LS	0.00	$400,000.00	$400,000.00
3.1.2	Salvage and Reinstall Existing Armor Rock	1.00	LS	2.25	$30,420.08	$30,420.08
3.1.2.1	Remove and Stockpile Armor	250.00	CY	1.00	$42.35	$10,587.78
3.1.2.2	Reinstall Armor Rock	250.00	CY	1.25	$79.33	$19,832.31
3.1.3	Gravel Berm Cofferdam	1.00	LS	22.00	$383,693.04	$383,693.04
3.1.3.1	Provide and Install Gravel Berm	1,600.00	CY	4.00	$83.35	$133,354.93
3.1.3.2	Remove Gravel Berm and Screed	1,600.00	CY	8.00	$128.16	$205,052.90
3.1.3.3	Maintain and Dewater Cofferdam	1.00	LS	10.00	$45,285.20	$45,285.20
3.1.4	Demolish Planks and Timbers	1.00	LS	5.00	$44,836.05	$44,836.05
3.1.4.1	Demolish Planks and Timbers	1.00	LS	5.00	$44,836.05	$44,836.05
3.1.5	Install New Launch Ramp	1.00	LS	10.55	$686,120.82	$686,120.82
3.1.5.1	Provide and Install Gravel Bedding	520.00	CY	3.25	$78.02	$40,572.34
3.1.5.2	Provide and Install Timber Sleepers	25,200.00	Board Feet	2.80	$3.62	$91,172.02
3.1.5.3	Provide and Install Precast Concrete Planks	7,200.00	SqFeet	4.50	$77.00	$554,376.46
3.1.6	Field Personnel Housing, Per Diem, Transportation	40.00	Day	0.00	$2,722.50	$108,900.00
3.1.7	Design Engineering Services (4%)	1.00	LS	0.00	$66,200.00	$66,200.00
3.1.8	Construction Admin. and Bid Assistance	70.00	Day	0.00	$1,040.00	$72,800.00
3.1.9	Inspection and QA	40.00	Day	48.00	$2,430.00	$97,200.00
3.2	Contingency (5%)	1.00	LS	0.00	$94,000.00	$94,000.00
21				87.80		$1,984,169.99



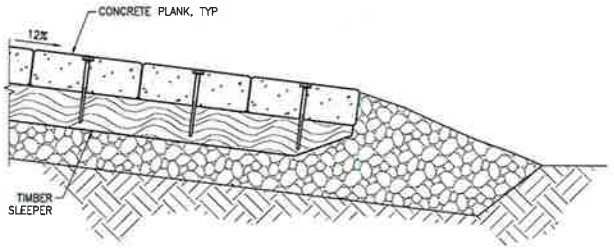
SITE PLAN



TYPICAL SECTION A-A
NTS



TYPICAL RAMP SECTION B-B
NTS



TYPICAL BOTTOM END SECTION
NTS

DRAFT
8/9/2018

PND Engineers, Inc. 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

DATE: _____

DATE: _____

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Fax: 907.563.4220
www.pndengineers.com

P N D ENGINEERS, INC.

PORT OF NOME
LAUNCH RAMP REPLACEMENT

NEW SITE PLAN & SECTIONS

DESIGNED BY:	BH	DATE:	AUGUST 2018
CHECKED BY:	DK	PROJECT NO:	181033

SHEET NO. 5 OF 7