

BOULDER BAY

Low-tide ramp

High-tide ramp

M/V AURORA

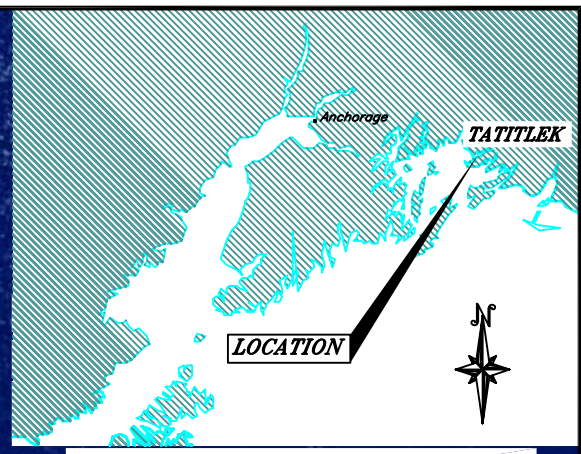
W1

Mooring Dolphin

Dock

Approach Trestle

Staging Area



VICINITY MAP

TATITLEK NARROWS



SCALE IN FEET

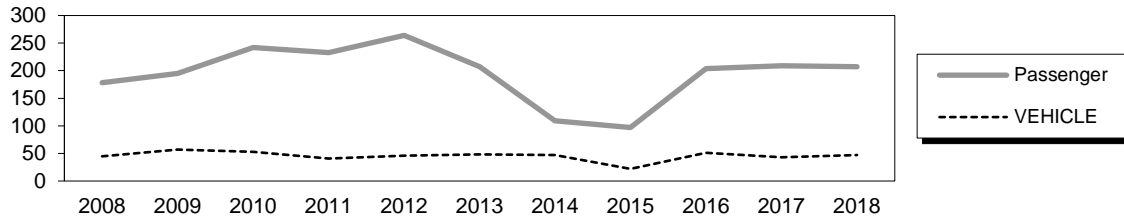
GENERAL LAYOUT
TATITLEK 155

Tatitlek Dock

Owner: North Pacific Rim Housing Authority
Terminal Manager: Floyd Robart – 907-325-2352

Terminal Description: The Tatitlek facility is a multipurpose dock structure that was originally constructed in 1995 to accommodate the M/V BARTLETT. The Tatitlek facility consists of a staging area, an approach, a dock and two tidal ramps constructed of concrete panels welded supported by steel beams and piles. AMHS has an MOA for use of the dock for ferry operations. Ownership of the facility was transferred to the North Pacific Rim Housing Authority (NPRHA) in 1999.

The past 10 years of total passenger and vehicle traffic at Tatitlek is shown below.



The most recent above water & fracture critical inspections occurred on August 22, 2018. The most recent underwater inspection occurred on August 20, 2016.

Vessels	
Name	Berthing, Alignment
Aurora	Stern

Tidal Data (MLLW 0.0 feet)	
EHW	15.3
MHHW	12.6
MHW	11.8
ELW	-3.9

Utilities @ Dock
This facility does not have utilities at the dock.

Generator & Building
This facility does not have a generator on-site.

Approach Trestle	
Dimensions:	21' wide x 600' long
Year Built:	1995
Shoreward support:	Concrete abutment
Seaward support:	Steel pipe piling
Pile Coating:	Galvanizing
Anodes:	No
Lighting:	N/A
Condition:	Good
Load Posting Sign:	30 Ton Axle/45 Ton Max
Original Design Load:	AASHTO HS-25

Uplands	
Short-Term Parking:	N/A
Long-Term Parking:	N/A
Staging Area:	N/A
Paint Striping:	No
Driving Surface:	Gravel

Terminal Building
This facility does not have a terminal building.

Dock & Tidal Ramps - #0183	
Type:	40' x 515' Concrete Panel Dock; (2) - 18' x 130' tidal ramps
Year Built:	1995
Support:	Vertical & Battered Steel Pipe Piles
Steel Coating:	Galvanizing
Fender Support:	Steel Pin Piles
Fender Face:	12" x 12" Douglas Fir
Anodes:	No
Lighting:	Tall Mast Light in parking lot
Condition:	Good
Notes:	Red navlight, southeast corner
Load Posting Sign:	30 Ton Axle/45 Ton Max
Original Design Load:	AASHTO HS-25/30 Ton Forklift/250 psf Uniform Load/ 40 Ton Mobile Crane w/ Crane Mats Centered on Girders

Dolphins							
Dolphin	Dolphin Piles	Fender Support	Fender Face	Anodes	Built	Cond.	Notes
W1	2B, 1V	-	-	No	1995	Fair	Red navlight

LEGEND

V = Vertical Steel Pipe Piling

B = Battered Steel Pipe Piling

TR = Tidal Ramps

Catwalks / Gangways								
#	From Struct.	To Struct.	Length / Style / Main Members	Built	Safety Chains?	Cond.	Lighting	Notes
C1	TR	W1	25' / Catwalk / Pony Truss	1995	No	Good	None	

Terminal Projects			
Year	Project #	Project Name	Description
1995	N/A	Tatitlek Dock & Tidal Ramps	Original construction of the dock and tidal ramps, uplands, lighting, and electrical installations.

Observations

1. The dock is currently in good condition. The dock driving surface is prestressed concrete panels, with a rough traffic surface, welded to the bridge superstructure. The bridge beams are continuous span, welded box beams, and the substructure is composed of pipe piles driven and socketed to the underlying bedrock. The dock does not have a cathodic protection system. The bridge abutment is concrete. Portable construction barriers are placed at the end of the dock, behind the two dock light fixtures. The permanent light fixtures do not function, which helps explain why the reflective barriers were placed. The swinging bullrail on the dock, for the TUSTUMENA, does not close properly. The galvanized coating is failing and various areas on the girders are blistering.
2. There is surface rust on the bullrails and some of the bullrails are missing bolts from their attachment plates in several places on the dock.
3. Rust is bleeding through the spray metallized coating on the steel pile caps and girders. The coating on most of the field welds has failed and the splices are corroding. The most recent underwater (UW) inspection reported minor corrosion of the galvanized piles at the field splices, field connections, and at isolated locations of mechanical damage. The most recent fracture critical (FC) bridge inspection noted that the box beam girders are sealed and cannot be inspected. There is no cathodic protection system for the piling, however the galvanized coating appears to be adequate. The rubber ramp fenders are generally in good condition with minor mechanical abrasion damage in places.
According to the most recent FC inspection report it is noted that the box girders, especially those at the tidal ramps, have algae and white rust on the exterior surfaces. The white rust is an indication that the protective zinc coating has failed. There is also a great amount of corrosion occurring due to the high electrical conductivity of the seawater facilities.
4. The most recent UW inspection indicated that the support piles have light to moderate corrosion in various locations, but most are within the tidal zone. The piles exhibiting the most corrosion were located towards the seaward side of the dock.
There has never been either an active or passive cathodic protection system on the dock.
5. The ends of the lower tidal ramp are very slippery due to marine growth. The marine growth needs to be removed periodically. The ends of the pre-stressed strands in the deck are exposed and beginning to corrode. The Aurora has a narrow tidal window to safely bear on the 24"Ø rubber fender mounted to the leading edge of the tidal ramps.
6. The transition plates from the trestle to the tidal ramp are warped and the transition plate between the trestle and the dock is loose and makes noise when vehicles are passing over.

Observations (cont'd.)

7. The concrete backwall, which retains the approach embankment, is undermined for full length x 12-inches high x 27-inches deep of penetration. The backwall is supported by the girders cantilevering across Bent A1 and the undermining does not affect the stability of the backwall. According to the design plans, the lower 18 inches of the backwall should be buried in the embankment. This condition could allow the approach fill to spill out from under the backwall and cause settlement of the approach roadway at the backwall.
8. Potholes up to 3 ½” deep are present at the approach roadway adjacent to the Approach Dock.

Inspection Summary		
Structure	Priority	Recommendations
<i>Category I - Safety Repairs</i>		
Nothing required.		
<i>Category II - Rehabilitation Work</i>		
Concrete Dock Panels	1	Clean and seal exposed steel on ends of precast concrete panels.
Concrete Backwall	2	Place riprap in front of the backwall, and in-fill shot-rock behind the backwall.
Steel superstructure	3	Install anodes on all piling and repair the coating on field welds using Galvcon or simliar products to extend pile life. Drill and tap inspection port holes in the box beam end caps.
Miscellaneous	4	The marine growth needs to be removed periodically on the tidal ramps. Repair the bull rail gate by shimming the roller.
Support Piles	5	Monitor the rate of corrosion in the support piles and PT strand end terminals (tidal ramp decks).
Miscellaneous	6	Replace the missing bolts on the bullrails and monitor the wood for deterioration and monitor the transition plates.
<i>Category III - Upgrades Needed</i>		
Fender Panel	7	Program a future project to install a fender panel in front of the tidal ramps. The Aurora has a narrow tidal window to safely bear on the substandard rubber D-fender mounted to the leading edge of the tidal ramps.