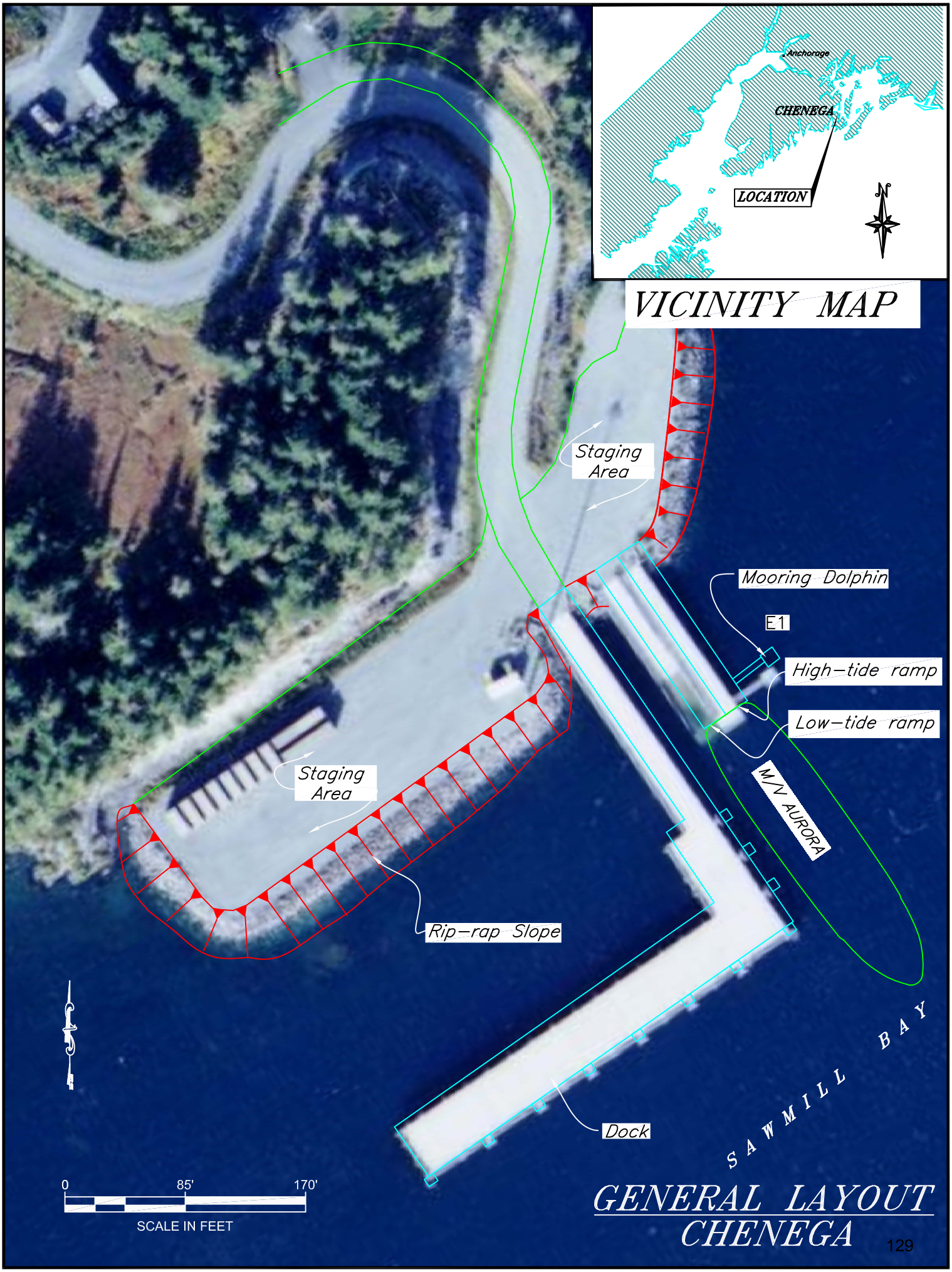

Anchorage
CHENEGA
LOCATION
N
VICINITY MAP
Staging Area
Mooring Dolphin
E1
High–tide ramp
Low–tide ramp
M/V AURORA
Staging Area
Rip–rap Slope
Dock
SAWMILL BAY
0
85'
170'
SCALE IN FEET
GENERAL LAYOUT
CHENEGA

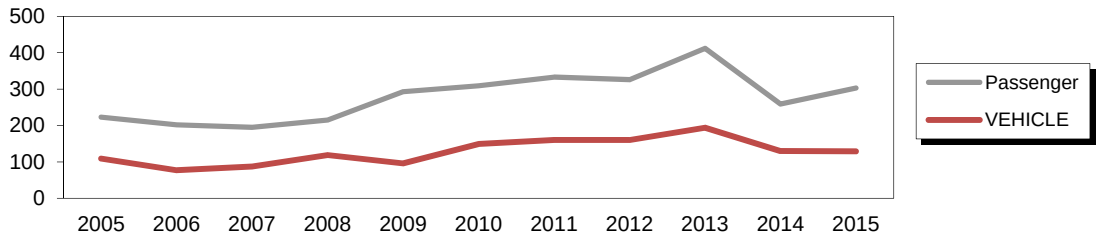
Chenega Dock

Owner: North Pacific Rim Housing Authority

Contact Person: Pete Kompkoff, 907-573-5132

Terminal Description: The Chenega dock and tidal ramps were originally constructed in 1995 to provide a terminal for the BARTLETT. The State of Alaska transferred ownership to the North Pacific Rim Housing Authority (NPRHA) in October, 1998. The Chenega facility consists of an approach, dock and two tidal ramps constructed of prestressed concrete panels welded to bridge beams supported by steel pipe piles socketed to the underlying bedrock. The M/V Tustumena has used the east face of this dock for moorage, while the M/V AURORA uses the tidal ramps located along the north face of the dock for stern loading.

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



The most recent above water survey occurred on August 26, 2014 while the most recent fracture critical inspection occurred on September 10, 2014. The underwater inspection occurred on September 7, 2013.

Vessels	
Name	Berthing, Alignment
Kennicott	Port/Starboard
Aurora	Stern

Tidal Data (MLLW 0.0 feet)	
EHW	15.1
MHHW	12.6
MHW	11.8
ELW	-4.0

Generator & Building
This facility does not have a generator.

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

Tidal Ramp	
Dimensions:	22' wide x ' 230' 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:	20 Ton Axle/45 Ton Max
Original Design Load:	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 - #'s 184 & 185	
Type:	40' x 300' 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 Axle load/250 psf Uniform Load/40 Ton Mobile Crane w/ Crane Mats Centered on Girders

Dolphins							
Dolphins	Dolphin Piles	Fender Support	Fender Face	Anodes	Built	Cond.	Notes
E1	2B, 1V	-	-	No	1995	Fair	

Catwalks / Gangways								
#	From Struct.	To Struct.	Length / Style / Main Members	Built	Safety Chains?	Cond.	Lighting	Notes
C1	TR	E1	25' / Catwalk / Pony Truss	1995	No	Good	None	

LEGEND
V = Vertical Steel Pipe Piling B = Battered Steel Pipe Piling TR = Tidal Ramps

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

Observations

1. The dock is currently in fair condition. The dock driving surface is prestressed concrete panels, with a rough traffic surface, welded to the bridge superstructure. The ends of the pre-stressed strands in the deck are exposed and beginning to corrode. The deck closure pour at the end of the high tide ramp is cracked and spalled with heavy scaling at the west edge.

   The red navigation light on the Southeast corner of the dock is broken and should be replaced or repaired. There is damage to the bullrails and some are missing bolts on the post base plate on the dock.
2. The bridge girders are continuous span, welded box beams. The bents are composed of pipe piles driven and socketed to the underlying bedrock, with welded box pier caps.

   White rust coats 100% of the spray metallized coating on the steel pile caps and girders. The coating on roughly 50% of the field welds have failed and are corroding. The December 2003 underwater inspection reported minor corrosion of the galvanized piles at the field splices, field connections, and at isolated locations of mechanical damage. The 2006 fracture critical 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.

   According to the most recent fracture critical inspection report, the girders exhibit several isolated areas of surface corrosion which vary in size from an inch to three square feet in diameter. The corrosion was identified mostly on the undersides of the box girders and bent caps, and at the bottom flange to cap welds.
3. The ends of the lower tidal ramp are very slippery due to marine growth. The marine growth needs to be removed periodically for safe loading off the AURORA's stern ramp. The fender is substandard for vessel loading as well.
4. The swinging bullrail on the dock, opening for the TUSTUMENA vehicle ramp, is operational and user-friendly.
5. The concrete panel joints on the high tide ramp and on the dock are delaminating and deteriorating.

Inspection Summary		
Structure	Priority	Recommendations
Category I - Safety Repairs		
Nothing required		
Category II - Rahabilitation Work		
Concrete dock panels	1	Clean and seal exposed steel on ends of precast concrete panels. Repair damaged closure pour on high tide ramp.
Steel superstructure	2	Install anodes on all piling and repair the coating on field welds using Galvcon or similar products to extend the pile life. Drill and tap the inspection port holes in the box beam end caps.
Miscellaneous	3	The marine growth needs to be removed periodically on the tidal ramps.
Conrete Panels	4	Monitor the concrete panel joints or delaminating and deterioration.
Support Piles	5	Monitor the rate of corrosion in the support piles, PT strand end terminals (tidal ramp concrete decks) and fender mounting bolts.
Electrical Conduits	6	Repair the broken electrical conduit beneath the LT side of the high tide ramp.
Mooring Bollard	7	Repair the base plate on the mooring bollard.
Navigation Light	8	Repair the red navigation light on the dock.
Ramp & Dock Abutment	9	Monitor the ramp and dock abutment backwalls for erosion.
Bullrails	10	Make repairs to the bullrails throughout the facility.
Category III - Upgrades Needed		
AMHS Coordination	11	AMHS has a 5-year MOA for prioritized use of the dock for normal ferry operations. Continue to maintain an agreement with the NPRHA.
Fender Panel	12	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.