

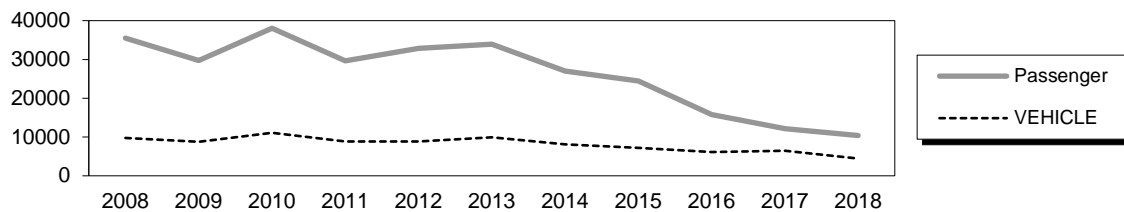
Sitka Ferry Terminal

5307 Halibut Point Road

Owner: State of Alaska

Terminal Manager: Andy LaPean – 907-747-5760

Terminal Description: The Sitka Terminal is located on Starrigavan Bay, approximately seven miles from the city center on Halibut Point Road. The inside waters of Southeast Alaska are reached via Olga/Neva Straits and Sergius Narrows. The mainline ferries must traverse the narrows at slack water. The Sitka Ferry Terminal is a side-berth facility consisting of staging and parking areas, terminal building, emergency generator facilities, transfer bridge, covered walkways, and five steel mooring structures connected by catwalks. The past 10 years of total passenger and vehicle traffic at Sitka is shown below.



The most recent above water survey was completed on August 3, 2017. The underwater inspection occurred on August 13, 2016 and the fracture critical inspection was on August 11, 2018.

Vessels	
Name	Berthing, Alignment
Taku / LeConte / Mat / Mal / Columbia	Port / Starboard
Kennicott	Port
FVF	Starboard

Tidal Data (MLLW 0.0 feet)	
EHW	14.7
MHHW	9.9
MHW	9.1
ELW	-3.8

Terminal Building	
Year Built:	1983
Square Footage:	2361 s.f.
Heating System:	furnace
Fuel Storage:	UST
Fire Protection:	Alarm
Condition:	Good

Bridge Support Float	
Type:	24' x 60' Steel Pontoon
Year Built:	1989
Ballasted:	Yes
Ramp lift:	Hydraulic/Block & Cable
Apron lift:	Hydraulic/Block & Cable
Anodes:	Yes
Condition:	Good

Uplands	
Short-Term Parking:	33 cars; 2 HCP
Long-Term Parking:	6 cars
Staging Area:	1875 lineal feet; 360 lineal feet-buses/trucks
Driving Surface:	Asphalt

Generator & Building	
Building / Generator:	1989
Square Footage:	224 s.f.
Heating System:	Electric
Fuel Storage:	–
Fire Protection:	N/A
Condition:	Good

Vehicle Transfer Bridge - #0806	
Type:	16' x 140' twin box beam
Year Built:	1989
Shoreward support:	Concrete abutment
Seaward support:	Steel Support Float
Coating:	Wasser Paint
Pedestrian Access:	Concrete 4' wide on bridge
Lighting:	Jelly Jars on bent posts, both girders
Condition:	Fair
Load Posting Sign:	N/A
Original Design Load:	HS 20-44

Docks (2)	
Type:	20' x 100' Concrete Dy-Core Panel Dock
Year Built:	1981
Support:	(4) Piers, consisting of cap & two steel piles, with batters at seaward corners.
Steel Coating:	Galvanizing
Fender System:	Timber Piles with W 12x65 wales (3), donut fenders to dock with restraint chains
Anodes:	115# bar lower wale; bonding strap to upper 2 wales
Lighting:	(2) light poles
Condition:	Fair
Notes:	Raised fender panels added in 2004 for FVF.

Utilities		
	at terminal	at ramp
Electrical:	Yes, city & backup power	
Water:	Yes	Yes
Sewer:	Yes (Septic)	No
Telephone:	Yes	Yes
Cable TV:	No	No
Fuel:	No	No
Wireless Bridge:	Yes	-

Dolphins							
Dolphins	Dolphin Piles	Fender Support	Fender Face	Anodes	Built	Cond.	Notes
W3	2B, 2V	Hanging	UHMW	Yes	2008	Good	Red navlight
W2	2B, 2V	Hanging	UHMW	Yes	2008	Good	Light pole
W1	2B, 1V	-	Floating Fender	Yes	2004	Good	
E1	2B, 1V	-	Floating Fender	Yes	2004	Good	
E2	2B, 2V	Hanging	UHMW	Yes	2008	Good	Red navlight & light pole
WG	1V	-	-	No	1989	Good	
ERS	2B, 2V	-	-	No	1989	Good	
WRS	2B, 2V	-	-	No	1989	Good	
EG	1V	-	-	No	1989	Good	

LEGEND

V = Vertical Pipe Piling

ERS = East Bridge Float Support Restraint Structure

WG = West Gangway Support Dolphin

B = Battered Pipe Piling

EFP = East Float Platform

WIRP = West Intermediate Ramp Platform

Catwalks / Gangways								
#	From Struct.	To Struct.	Length / Style / Main Members	Built	Safety Chains?	Cond.	Lighting	Notes
C1	W3	W2	80' / Catwalk / Aluminum pony-truss	2001	No	Fair	Jelly Jars	
C2	W2	Dock	93' / Catwalk / 10"x10" Tube Girders	1982	No	Good	Jelly Jars	
C3	Dock	WG	10' / Catwalk / 4"x10" Bottom Chord	1989	No	Good	None	
G1	WG	WFP	37' / Gangway 2.5"x2.5" Bottom Chord	1989	Yes	Good	None	
G2	WFP	WIRP	12' / Gangway 2.5"x2.5" Bottom Chord	1989	No	Good	None	
G3	EIRP	EFP	12' / Gangway 2.5"x2.5" Bottom Chord	1989	No	Good	None	
G4	EFP	EG	37' / Gangway 2.5"x2.5" Bottom Chord	1989	Yes	Good	None	
C4	EG	Dock	10' / Catwalk / 4"x10" Bottom Chord	1989	No	Good	None	
C5	Dock	E2	93' / Catwalk / 10"x10" Tube Girders	1983	No	Good	Jelly Jars	

Terminal Projects			
Year	Project #	Project Name	Description
1963	F-099-3(1)	Sitka Ferry Terminal	Original ferry terminal construction, consisting of uplands fill for small staging area, waiting shelter, approach road, timber transfer and mooring structures.
1969	MT 105	Safety Ferry Terminal Dolphin Addition	Constructed new concrete-capped duncan mooring dolphin off fender line.
1982	B59992	Sitka Ferry Terminal Modifications	Replaced existing timber docks with new concrete dock structures each side of the transfer bridge; replaced two existing timber dolphin and timber catwalks with steel dolphin E2 and steel catwalk.
1983	R-91013	Sitka Dolphin	Replaced timber dolphin W2 and catwalk with steel structures.
1983	N/A	Sitka Ferry Terminal Building	Constructed new terminal building.
1989	RS-BR-M-0935 (9)	Sitka Ferry Terminal Improvements	Replaced the original timber bridge and lift system with new steel bridge and steel support float with hydraulic/cable lift system. Also installed new steel dock access catwalks, new generator building, replaced bridge and catwalk lights/wiring, replaced telephone wiring to bridge.
1996	75050 / FM-0935	Sitka Ferry Terminal Staging Area	Widened existing staging and parking areas involving earthwork, paving and retaining wall (on south side); constructed a new covered pedestrian walkway north of terminal building; installed a sewer treatment system.
2004	68792 / ACSTP-099-3(15)	Sitka All-Tide Mooring Improvements	Constructed two floating fender dolphins and installed raised fender panels on the dock for all-tide mooring of the FVF.
2008	67931 / NHS-MGE-099-1(1)	Sitka Ferry Terminal Mooring Improvements	Replaced steel mooring/breasting dolphins W2-3 & E2, as well as catwalk C1; re-painted catwalk C5; installed steel deck extensions to assist line-handlers at outside corners of the dock, and replaced the catwalk lights, cable and conduit.
2008	73003(3)	Sitka FT Carpet Replacement	Replaced carpet in the terminal building.

Observations

- Overall, the terminal building is in good condition. The ferry terminal building, generator building, storage shed, purser shelters, and walkway corner structures exterior were repainted by AMHS maintenance staff in 2007. The building interior is in good condition. The carpet was replaced in 2008. The onsite sewer treatment system consistently fails ADEC inspections. The acrylic glazing on the covered pedestrian walkways is secured to the galvanized steel frame with steel self-drilling screws and aluminum flat bar. The steel screws are corroding where the dissimilar metals contact. Existing screws should be replaced with stainless fasteners. The bases of the metal doors to the generator building are corroding.

The uplands staging & parking area are paved with asphalt & in good condition. Staging lane & parking striping is in good condition. A shoal continues to increase in size west of the edge of the riprap embankment.
- There is earthen rock & debris scattered around the shoreward bridge bearings. A conduit connection is broken at a flex-to-rigid coupling where rigid conduit exits the front (seaward) face of the bridge abutment backwall. No discernable cracks were seen at the joint of the shoreward floor beam and box girders.

The bridge is in good condition. The topsides of the bridge were repainted in the summer of 2010 by AMHS maintenance. The underside of the girders and floor beams have numerous, small areas of

Observations (continued)

corrosion; the coating has failed over approximately 10 to 20 percent of the underside of the bridge members. The entire top flange of Stringer 5 exhibits 100% coating failure, with laminar corrosion & minor section loss, due to deicing salts leaking from the concrete walkway above.

Two galvanized steel struts support the bridge at the pontoon. The welds between the top of the struts and the underside of the box girders are freely corroding. Stringer 5 has moderate/severe corrosion on all surfaces due to dripping deicing chemicals from concrete walkway above.

A potable water line is suspended under the transfer bridge. The backflow preventer should be replaced with a double check valve type. The water line is wrapped with heat trace and insulation, with approx.. 2-feet of insulation missing near the shoreward abutment (2017).

3. There are no safety access ladders on the bridge pontoon. Freeboard measurements indicate the pontoon is almost level. The pontoon is coated with a green-brown finish. The coating has performed well but there is the beginning of light, uniform corrosion on the upper pontoon steel surfaces. The pontoon coating received a touch-up paint coating on the topsides in the summer of 2009. (8) 8-pound anodes were installed on the float in August, 2009. They were already rapidly corroding. Seawater/structure potentials for the pontoon average -0.95V (above -0.8V), so the steel is adequately protected.
4. The pontoon bears on the northwest restraining pile only. There is no UHMW sacrificial wear pad on the rubber restraint fender and the face of the fender is crescent shaped, worn approximately 1½" deep. The average CP reading for the restraint piles were -0.66, which indicates that the anodes are insufficient to protect against corrosion and the steel is freely corroding.
5. The docks are reached from the transfer bridge by a series of catwalks. The catwalks are hinged at one end and slide on steel skids at the opposite end as the pontoon elevation changes. The slides are either steel-on-steel or Hilman rollers-on-steel skids. These slides and rollers are satisfactory at present but should eventually be replaced with UHMW-PE slides.

The short, transition catwalks are supported at one end by hinges and the hinge segments are welded to the grating and not the catwalk frame. A single bearing bar transfers the hinge reactions to the catwalk stringers. The hinge reaction should be transferred directly to the stringers by welding the hinge segments to a steel angle that is fastened to the ends of the stringers. The access ladder to the pontoon that is mounted on the East Float Platform (EFP) is difficult to access. In order to access, one needs to climb over the gangway/platform railing.

6. The docks are constructed of prestressed concrete panels that are in fair condition. There is a safety ladder at the end of both docks. The ladders reach below a -2.2 tide but the lower rungs are fouled with barnacles and mussels. Concrete is spalling beneath the West dock, near the light pole base bolts. Also, when the mooring lines are thrown from the vessels, they sometimes drop in the gap between the fender piles and the dock face and get snagged on bolts.

The timber fender piles are in good condition. The northern most rubber cylinder on the west dock looks as if it was heavily loaded. The inboard flange of the wale was bent when the rubber cylinder was completely flattened; however, the function of the fender is unaffected. The fender extensions that were installed for berthing the fast vehicle ferries hinder the line handlers in pulling the vessel spring lines.

The galvanized coating on the dock batter piles has failed at the circumferential welds above the water and on the pile surface above the splash zone. The average CP reading for the dock piles were -0.92, so the anodes are adequately protecting against corrosion. Bolts that connect the lower steel wales to the timber fenders are corroded and the nuts are missing in most locations.

7. In 2004, two floating donut fenders with mooring points were installed in anticipation of using the Sitka terminal as the homeport for the first fast vehicle ferry. Floating donut W1 is located between W2 and the west dock and donut E1 is immediately adjacent to the east side of the transfer apron. No ferries currently homeport in Sitka. The fenders and mooring points appear to move freely; no problems are reported with the fender system. All the dolphins have cathodic protection readings below -0.8V, which means the anodes are depleted and the steel is freely corroding.
8. Cathodic potential (CP) readings for the mooring & restraint structures average -0.69V. The cutoff for adequate protection is -0.8V, so the steel piles are freely corroding. The bridge support float CP readings are -0.94, which indicates adequate protected steel. Depth to mudline elevations, taken with leadline readings at locations along the fender line in 2015, range from -21' to -28' MLLW.

Inspection Summary		
Structure	Priority	Recommendations
<i>Category I - Safety Repairs</i>		
Nothing required.		
<i>Category II - Rehabilitation Work</i>		
Dock Fenders	1	Replace the corroded bolts that connect the timbers to the steel wales.
Transfer Bridge	2	Program a project to repaint the bridge. Also, monitor the corrosion in the floorbeam-to-stringer welded connections. Cancel the use of corrosive de-icing chemicals at the facility. Implement the use of non-chloride based de-icing chemical such as NC-3000. Touch-up the weld coating failures with zinc solder or Galv-Con. Clean the debris around the shoreward bridge bearings. Repair the broken conduit connection at the RT bridge backwall.
Intermediate Ramp Platform & Gangways	3	Repair the transition plate hinges by welding an angle or flatbar to the hinge that spans between the outside angles. On the platform, a bar welded to the floor beam needs to be installed. Install UHMW pads on the bottom of the steel skids. Also, replace the Hillman Rollers at the bottom of the upper gangways. Replace gangway skid plates with inverted channels.
Uplands	4	Replace the terminal building heating oil UST with an above ground tank (AST) or a leak-proof UST. Perform Engineering Study on replacement options for sewage treatment system in order to meet ADEC regulations. Replace the corroding metal doors to the generator building.
Mooring Dock	5	Install a safety netting to catch the mooring lines when thrown between the mooring cleats in this gap. Cutback excess bolt threads on upper wale of the dock fender system. Wrap ends of nuts with packing tape to allow mooring lines to slip over rather than snag. Repair the various areas of spalling damage beneath the west dock. Also top-treat existing creosote piling to prevent rot. Re-seal grouted joints to prevent drainage from leaking thru.
Miscellaneous	6	The apron lift cables need greasing. It's doubtful that the water line heat trace works. Flex conduit and heat trace cable are stretched and have failed at the abutment end of the bridge. Refasten the pipe hawser rail at the west end of the East dock to prevent hawsers from snagging on the pipe.
Bridge Support Float	7	Recommend increasing anode size. Also recommend using anodes with integral steel strap or core. Install a wearing surface on both bridge float restraint fenders. Also, touch up the paint coating where it's failing.
Dolphins	8	Program a project to install new anodes on all dolphins.
Covered Walkway	9	Program a project to replace all the frame fasteners and re-fasten the straps to the frame.
Purser Shelter	10	Re-fasten FRP wainscot on the shelter at the corner of ped access walkway.
Intermediate Ramp Platform & Gangways	11	At the float access ladder, remove railing from the transition plate in front and replace with two chains with clasps at the ends that fasten to rings welded on middle platform railing. Reinforce the transition plate floor beam on the side that the railing was removed.
<i>Category III - Upgrades Needed</i>		
Nothing recommended.		