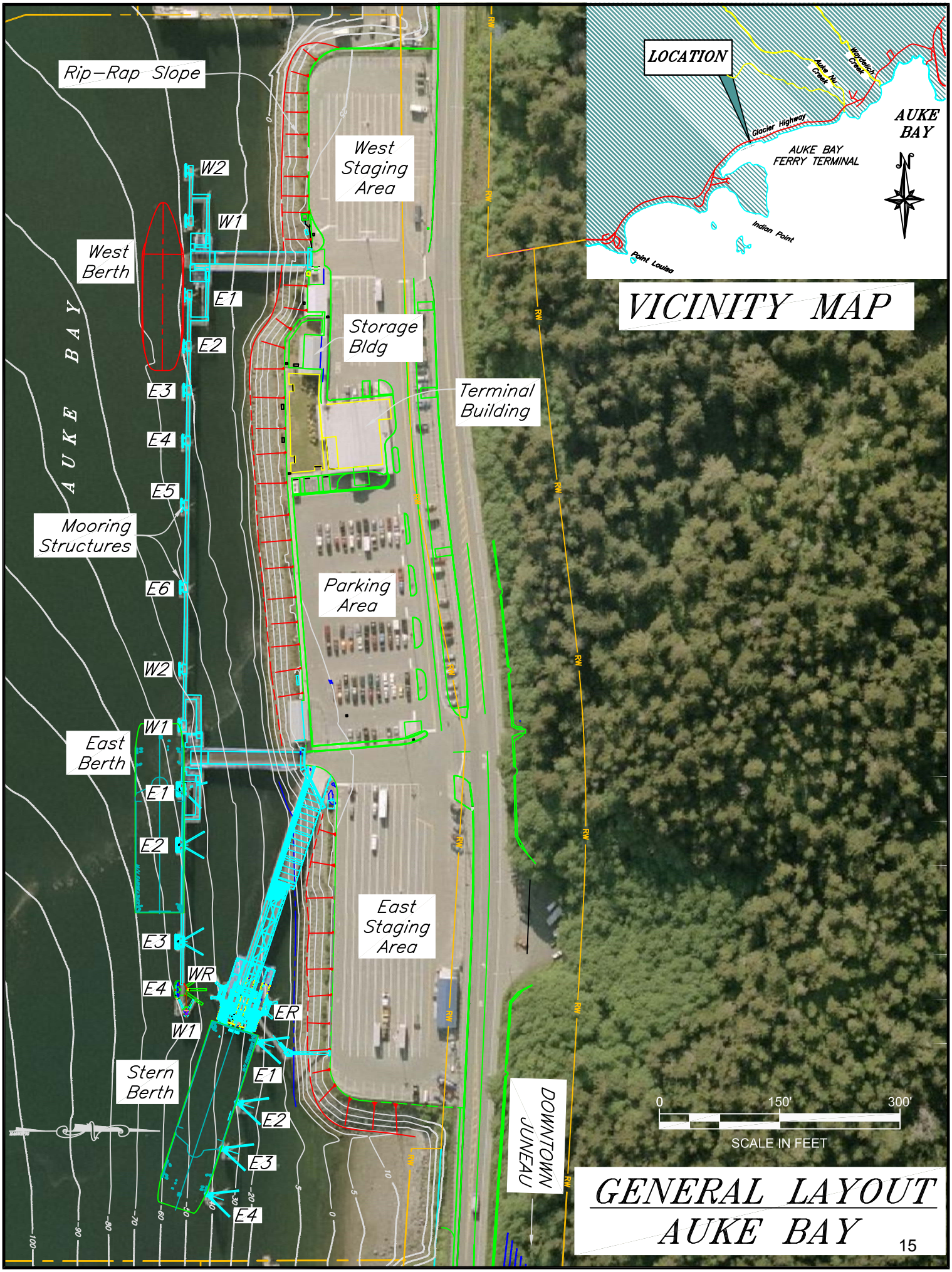

Rip-Rap Slope
West Staging Area
W2
W1
West Berth
E1
E2
E3
E4
E5
Storage Bldg
Terminal Building
AUKE BAY
Mooring Structures
E6
Parking Area
W2
W1
East Berth
E1
E2
East Staging Area
E3
WR
E4
ER
W1
Stern Berth
E1
E2
E3
E4
DOWNTOWN JUNEAU
LOCATION
Auke Nu Creek
Montadick Creek
Glacier Highway
AUKE BAY
AUKE BAY FERRY TERMINAL
Indian Point
Point Louisa
VICINITY MAP
0
150'
300'
SCALE IN FEET
GENERAL LAYOUT
AUKE BAY

Auke Bay East Berth

13.8 Mile Glacier Highway

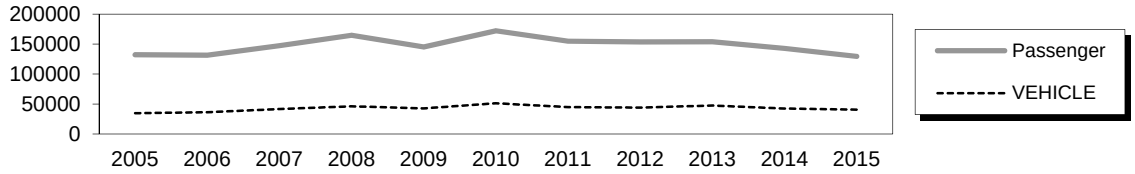
Owner: State of Alaska

Terminal Manager: Lisa Moore – 907-465-8853

Terminal Description: The Juneau Auke Bay terminal has three active berths and has the highest traffic volumes of all AMHS facilities. This terminal often accommodates three vessels simultaneously.

Auke Bay East Berth is a side-loading facility consisting of a transfer bridge, steel support float, six steel pile dolphins and catwalks/gangways for line-handling access. This facility was constructed in 1982 to handle mainline vessels.

Auke Bay's past 10 years of total passenger and vehicle traffic for all berths is shown below.



The most recent above water survey was completed on August 21, 2015. The underwater inspection occurred on August 3, 2011. The most recent fracture critical inspection occurred on September 20, 2014.

Vessels	
Name	Berthing, Alignment
All Vessels	Port/Starboard

Tidal Data (MLLW 0.0 feet)	
EHW	22.0
MHHW	15.9
MHW	15.0
ELW	-6.0

Terminal Building	
Year Built:	1982
Square Footage:	4879 s.f.
Heating System:	Boiler
Fuel Storage:	UST
Fire Protection:	Remote Alarm
Condition:	Good

Generator & Building	
Building / Generator:	1988
Square Footage:	1118 s.f.
Heating System:	Electric
Fuel Storage:	N/A
Fire Protection:	Remote Alarm
Condition:	Good

Uplands	
Short-Term Parking:	151 cars, 6 HCP
Long-Term Parking:	30
Staging Area	3770 lineal feet
Paint Striping:	Yes
Driving Surface:	Asphalt

Utilities		
	@ terminal	@ ramp
Electrical:	Yes, city & backup power	
Water:	Yes	Yes
Sewer:	Yes (City)	No
Telephone:	Yes	Yes
Cable TV:	No	No
Fuel:	UST	Yes
Wireless Bridge:	Yes	Yes

Bridge Support Float	
Type:	24'x60' Steel Pontoon
Year Built:	1995
Ballasted:	Yes
Ramp lift:	Hydraulic/Block & Cable
Apron lift:	Hydraulic/Block & Cable
Anodes:	Yes
Condition:	Fair

Vehicle Transfer Bridge - #1474	
Type:	16' x 140' twin box beam
Year Built:	1982
Shoreward support:	Steel Beam/ Driven Piling
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

Dolphins							
Dolphins	Dolphin Piles	Fender Support	Fender Face	Anodes	Built	Cond.	Notes
W2	2B, 1V	4V	Sitka Spruce	Yes	1982	Fair	Added anodes all dolphins '15
W1	2B, 1V	4V	Sitka Spruce	Yes	1982	Fair	
E1	2B, 1V	4V	Sitka Spruce	Yes	1982	Fair	
E2	2B, 1V	4V	Sitka Spruce	Yes	1982	Fair	
E3	2B, 1V	4V	Sitka Spruce	Yes	1982	Fair	
E4	3B, 3V	Chains	UHMW	Yes	2015	New	Light Pole & Nav Light
EG	1B, 1V	-	-	Yes	1995	Good	
WG	1B, 1V	-	-	Yes	1995	Good	
WR	2B, 2V	-	-	Yes	1982	Fair	
ER	2B, 2V	-	-	Yes	1982	Fair	

LEGEND
ER = East Bridge Support Float Restraint Dolphin
V = Vertical Steel Pipe Piling
G1 = Gangway
WG = West Gangway Support Dolphin
B = Battered Steel Pipe Piling
EFP = East Float Platform

Catwalks / Gangways								
#	From Struc.	To Struc.	Lenth / Style / Main Members	Built	Safety Chains?	Cond.	Lighting	Notes
C1	E4	E3	49' / Catwalk / 10"x10" Tube Girders	1982	Yes	Good	Jelly Jars	Shortened '15
C2	E3	E2	108' / Catwalk / 10"x10" Tube Girders	1982	Yes	Good	Jelly Jars	
C3	E2	E1	58' / Catwalk / 10"x10" Tube Girders	1982	Yes	Good	Jelly Jars	
C4	C3	EG	15' / Catwalk / Single 16x8 Tuber Girder	1982	No	Good	Jelly Jars	
G1	EG	EFP	50' / Gangway / C 6x10.5 Bottom Chord	1982	Yes	Good	No	Safety chain is poorly welded.
G2	WFP	WG	50' / Gangway / C 6x10.5 Bottom Chord	1982	Yes	Good	No	Safety chain is poorly welded.
C5	WG	C6	15' / Catwalk / Single 16x8 Tuber Girder	1982	No	Good	Jelly Jars	
C6	W1	W2	64' / Catwalk / 10"x10" Tuber Girders	1982	Yes	Good	Jelly Jars	

Terminal Projects			
Year	**Project #**	**Project Name**	**Description**
1982	F-093-2(2)	Auke Bay Ft Modifications	Construction of new terminal structures. Uplands consisted of existed fill between East and West berths.
1982	H-78002	Auke Bay Marine Terminal Building	Construction of new terminal building.
1995	75265	Auke Bay FT Pontoon Upgrade	Replaced bridge support float and restraint dolphins, recoated the transfer bridge, intermediate ramp and catwalks, relocated gangways and 15' catwalks.
1998	75227	Auke Bay Staging Area	Uplands extension consisting of staging area for East berth, extended between berths, and West berth staging area. Also constructed: employee parking area across the street; storage building; mods to electrical building; waiting shelter; upgrades to all electrical utilities; waterline & sewer extension; East ramp waterline improvements; improvements to Glacier Highway in front of facility.
2004	68021	Auke Bay East Stern Berth	Construction of new transfer bridge, bridge support float, floating fenders, gangway, catwalk, and approach with a covered walkway.
2005	68318	Auke Bay East Stern Berth Fender Modifications	Modified existing floating rubber fenders at Auke Bay East stern berth.
2008	73651	Auke Bay East & West Terminal Repairs	This project rehabilited the fender support piles at all mooring dolphins on East Berth. Work also included repairs to the seaward bridge bearing plates on East and West Berths, installation of anodes on all East Berth pipe pile groups, and installation of UHMW line guards on dolphin E1 at both East and West berths.
2015	67463	Auke Bay Ferry Terminal Improvements	Removed dolphin E4, disconnected from dolphin W1 on Stern Berth. Built new 6-pile dolphin E4, installed new piles on dolphin W1

Observations

1. The terminal building is adequately sized for current terminal operations. ADA compliance modifications were completed in 1997. Water and sewer modifications were completed in the 1998 upgrade project. A new sewer septic system was installed, the public address system was replaced and the building was re-keyed. The terminal building roof needs to be replaced as roof penetrations have leaked, and the roof condition needs to be inspected annually. The fire alarm system was replaced in 2004 by Alcan Electric. The terminal building heating system controls were replaced in 2007 with Direct Digital Controls (DDC). The existing boiler needs replacement. The interior of the building is in fair condition. The carpet was replaced in 2008. The restrooms & ticket counters are in need of being renovated.
2. The terminal facility uplands were modified in 1998 to improve traffic flow, signage, and site illumination. The eastern waiting shelter was reconstructed and the size of onsite warehousing was increased. The parking areas were modified to create distinctly separate eastern and western staging areas, short term, long term, commercial and employee parking areas.

   Traffic flow out of the terminal staging area remains a concern for AMHS operations even after the 1998 upgrade. Exit visibility is limited looking west due to road alignment and tractor-trailers must cross into westbound lanes of Glacier Highway when exiting the eastern staging area.

Observations (continued)

3. The pipe hinges at the shoreward bridge transition plate have up to 50% section loss from corrosion & wear. The transfer bridge box girders were recoated with Wasser Moisture Cure Paints in 1994. The paint top coat is peeling on 75% of the underside of the transfer bridge; spot corrosion appears along the edges of beams and stringers near the abutment. There is a clanging sound with the apron in the upward, stowed position. Steel grating on the in-filled pedestrian walkway is exposed and is freely corroding. There is minor damage to the expanded metal grating on the apron.
4. The bridge pontoon was replaced in 1995. This pontoon is an internally reinforced steel pontoon structure that can be supported by chains from the restraint dolphins for maintenance and cleaning. The float was recoated with Wasser 'Marine Blue' Paint by AMHS Maintenance in 2009.
5. Grating was damaged on the east float platform when the gangway skids came off their tracks and pulled the grating backwards. Skids have been replaced with UHMW within channel sections, an excellent repair. The conduit above the east bridge platform is hanging loose and the weight of the lower cable is pulling the j-box downward.
6. February 17, 2011 the west gangway 'jumped' out of its' track on the west platform & damaged the open grate decking. It appears that the Hillman Roller froze in-place during peak tide, then suddenly broke free & jumped the track. Repairs involved replacing the damaged grating panel.
7. The upper pin-hanger bearings on the west dolphin access gangway were damaged, likely as a result of the Feb. 2011 lower bearing collision. Damage consists of a broken bolt between the bottom chord & the floor beam (RT side facing bridge centerline) as well as cracked welds and bent support plates at the bottom chord (both sides). The bolts for the gangway hangers could not be inspected during our inspection.
8. Two fender piles on dolphin E4 were cracked just below the lowest fender wale, where a single gusset plate distributes the loads to the pile in a point load. Of the four fender piles, only the two inner piles have this feature. All other dolphins at East Berth had similar fatigue damage and were repaired on the 2008 fender pile repair project.

   The steel fender piles have, on average, 70% coating remaining, 1/16" scale and 1/8" deep pitting and less than 10% loss of section from high-water to mudline. The dolphin piles exhibit no loss of section and have the same amount of coating left. Anodes were missing on all but dolphin W1, E4 and the float. All CP readings indicate under-protection of the steel, with active corrosion taking place.
9. The steel cap on the fender panel of dolphin E1 was pried off by a vessel's sponson leaving several fastening nails on the face protruding. The steel caps were replaced with UHMW sheets. Restraint chain connections on the fender cap of dolphin E1 have been bent upwards and are corroding.
10. On March 29, 2010 terminal personnel noticed that the catwalk between dolphins E3 & E4 had moved off its' bearing and was wedged between the two dolphin caps. AMHS maintenance hired Western Marine Construction to dislodge the catwalk and weld a bearing extension off the end of the dolphin cap on E3for the catwalk to rest on. It was not determined which dolphin moved differentially from the other, but it's assumed that movement came from E4.

    There is damage to the handrail from the hawse rail extension near E3. There are broken conduit connections on Dolphin W1. The video camera has failed at the top of the light pole at Dolphin E4.
11. The light poles (2005) are undergoing rapid coating failure and surface corrosion.
12. There is a 15'x15' void at the toe of the riprap slope near the shoreward end of the Stern berth Flexifloat pontoon.
13. Stringers 1 and 5 have surface and laminating corrosion on the top flanges with up to 1/16-inch section loss. Generally, stringer 1 is worse than 5, due to location beneath the pedestrian walkway and application of deicing salts.
14. The most recent Fracture Critical inspection found cracks in utility bracket stitch welds in the interior of girder 1, outboard web. Cracks do not propagate into the base metal at this time.
15. There are weld crack indications at corners of the Stringer 1 to Floorbeam 16 connection.

Inspection Summary		
Structure	Priority	Recommendations
Category I - Safety Repairs		
None noted.		
Category II - Rehabiliation Work		
Bridge	1	Program project for bridge paint recoat. Remove & replace the shoreward transition plate pipe hinge. Replace the failed hinge assembly at bridge transition plate between the apron and intermediate ramp. Replace the minor damage to the bridge apron metal grating. Repair the field coating on bridge stringers 1 and 6. Repair the failed welds between Stringer 1 and Floorbeam 16.
Dolphins	2	Monitor condition of dolphin structures for structural integrity. Program future project(s) for eventual replacement of aged structures.
Catwalks	3	The catwalk retaining bolts, mounted on the dolphins at each end, should be checked and replaced as needed. Several are in need of replacement.
Catwalk Access Platform/Gangways	4	Replace damaged grating on east platform.
Gangways	5	Replace the worn UHMW pads beneath the dolphin access gangway skids.
Uplands	6	Fill in voids in armor rock at toe of riprap slope near the stern berth.
Category III - Upgrades Needed		
None noted.		

Auke Bay Stern Berth

13.8 Mile Glacier Highway

Owner: State of Alaska

Terminal Manager: Lisa Moore – 907-465-8853

Terminal Description: Auke Bay Stern Berth is an all-tide stern-loading facility consisting of an approach, transfer bridge, steel support float, employee access gangways, four floating rubber fender dolphins and one fixed fender panel dolphin.

The facility is the homeport for the Fast Vehicle Ferry (FVF) M/V Fairweather. See West Berth report for passenger and vehicle traffic counts. The most recent above water survey was completed on August 21, 2015. The most recent underwater inspection occurred on August 3, 2011. The most recent fracture critical inspection occurred on September 20, 2014.

Vessels	
Name	Berthing, Alignment
FVF / LeConte	Stern

Terminal Building
Main terminal building data in East Berth report

Generator & Building
Main generator data in East Berth report

Approach Trestle	
Type:	29' x 142' Pile-Supported Steel Frame
Shoreward support:	Steel Beam/Driven Piling
Seaward support:	Steel beam/Driven Piling
Pedestrian Walkway:	Covered and separated from vehicles by guardrail.
Anodes on piles:	Yes
Condition:	New

Bridge Support Float	
Type:	50' x 80' Flexifloat Pontoon
Year Built:	2004
Ballasted:	Yes
Ramp lift:	Hydraulic tower
Apron lift:	Hydraulic
Anodes:	Yes
Condition:	New

Uplands
Uplands is shared between West, East and Stern berths. See East berth report for data.

Vehicle Transfer Bridge - #0191	
Type:	18' x 142' twin box beam
Year Built:	2004
Shoreward support:	Steel Beam/ Driven Piling
Seaward support:	Steel Support Float
Coating:	Wasser Paint
Pedestrian Access:	Covered and separated from vehicles by guardrail.
Lighting:	Light posts, left girder
Condition:	New
Load Posting Sign:	N/A
Original Design Load:	HS 20-44

Utilities at Ramp	
Electrical:	Yes, city & backup power
Water:	Yes
Sewer:	No
Telephone:	Yes
Cable TV:	No
Fuel:	No
Wireless Bridge:	Yes

Catwalks / Gangways

#	From Struc.	To Struc.	Lenth / Style / Main Members	Built	Safety Chains?	Cond.	Notes
G1	SFP	A1	62'8" / Gangway / 2.5"x2.5" Bottom Chord	2004	No	New	
G2	A1	Shore	49' / Gangway / W18x40 Girders	2004	No	New	

Dolphins								
Dolphins	**Dolphin Piles**	**Fender Support**	**Fender Face**	**Anodes**	**Built**	**Cond.**	**Mooring Crown?**	**Notes**
W1*	1B, 2V	Floating	Rubber Fender	Yes	2004	New	No	
E1	2B, 3V	Floating	Rubber Fender	Yes	2004	New	Yes	
E2	2B, 3V	Floating	Rubber Fender	Yes	2004	New	No	
E3	2B, 2V	1V	UHMW	Yes	2004	New	No	
E4	2B, 3V	Floating	Rubber Fender	Yes	2004	New	Yes	Windsock mounted
WR	2B, 2V	-	-	Yes	2004	New	-	
ER	2B, 2V	-	-	Yes	2004	New	-	
A1	4V	-	-	Yes	2004	New	-	

*Dolphin W1 is attached to dolphin E4 of East Berth.

LEGEND
V = Vertical Steel Pipe Piling B = Battered Steel Pipe Piling A1 = Gangway Access Dolphins
SFP = Shoreward Float Platform ER = East Bridge Support Float Restraint Dolphin

Terminal Projects			
Year	**Project #**	**Project Name**	**Description**
2004	68021	JNU Auke Bay East Stern Berth	Original construction of facility.
2005	68318	JNU Auke Bay East Stern Berth Modifications	Modifications to floating fender dolphins.
2009	67763	JNU AMHS - Auke Bay FVF Support Facility	New 50'x125' building concstruction, uplands fill and site work, sanitary sewer line from vessel to new on site holding tank.

Observations

1. The girder bearing bolts are bent at the shared pier with the bridge abutment.
2. The right side shoreward hinge bearings for the transfer bridge are inaccessible due to the enclosed pedestrian walkway overhang.
3. A bolt is missing on the base plate of the right seaward roller bearing.
4. There is a minor paint failure in the seaward-side weld between the LT most hinge plate & bearing beam on the shoreward LT hinge bearing.
5. In summer of 2011, an inspection of the ends of the seaward bridge roller bearings found that the bronze bushings had failed. AMHS Maintenance pulled the failed cast bronze bushings and replaced these with new higher-strength sintered bronze bushings. The new bushing renewed the proper clearance between the roller and the stiffener of ~1”.
6. The blue urethane paint topcoat on the Flexifloat pontoons has only 30% remaining. Rust staining is apparent on 10% of the seaward faces of the floats.

   The field weld coating has failed at most pontoon-to-frame connection tabs, and the steel in these areas is freely corroding.
7. The hydraulic rams are exposed while the apron is stowed in the ‘up’ position, exhibiting minor surface corrosion.
8. Rubber fenders between the restraint dolphin & Flexifloat have been crushed & replaced at least once since the project was completed. Thinner UHMW pads have been used to better bend under load; thicker pads were cracking under load.
9. There is a waterline leak around the gate valve at the bridge-vessel connection. Precipitation/humidity has filled the ballast compartment in the bridge lights with water.

Observations (continued)

10. Several of the mounting studs for fender panel UHMW facing have sheared off.
11. The ocean floor is within 10’ of the bottom of the northwest corner of the Flexifloat pontoon at extreme low tide.
12. Looking forward at the steel grating deck adjacent to the pontoon at the forward end of the structure, there are a few broken and distorted deck bars.
13. There is a 1 3/4-inch crack indication in a weld between the girder web and tee stiffener on the interior of Girder 1, at Floorbeam 0.
14. There are weld indications at the lower corners of Floorbeam 9 to both LT & RT Girders.
15. The anchor bolts for the approach girders on Bent 5 are bent seaward.
16. There is a broken conduit connection at the junction box under the right side of the shared pier of the approach trestle and bridge.

Inspection Summary		
Structure	Priority	Recommendations
Category I - Safety Repairs		
None required.		
Category II - Rehabiliation Work		
Approach Trestle	1	Monitor the condition of the bent girder bearing bolts at the shared bridge pier.
Fenders	2	Remove UHMW facing, re-mount studs, increase size of bore hole and counter-boring and remount.
Gangway Dolphin	3	Install anodes.
All welds	4	Remove surface corrosion, perform touch-up repairs to field weld coating.
Pontoon Float	5	Repaint the polyurethane topcoat.
Gangways	6	Install safety cables.
Apron & Ramp	7	Repair the chrome treatment on the ramp's hydraulic lift rams and cover with a rubber boot. Replace rubber fender units on the apron lift arms. Weld repair the broken grating. Re-coat the apron with non-skid.
Category III - Upgrades Needed		
Nothing Needed		

Auke Bay West Berth

13.8 Mile Glacier Highway

Owner: State of Alaska

Terminal Manager: Lisa Moore – 907-465-8853

Terminal Description: Auke Bay West Berth is side-loading facility consisting of a transfer bridge, steel support float, eight steel pile dolphins and catwalks/gangways for linehandling access. The facility was built in 1989 to serve both mainline & feeder vessels, and is the homeport for the M/V LeConte. See East Berth report for passenger and vehicle traffic counts. The most recent above water survey was completed on August 25, 2015. The underwater inspection occurred on August 4, 2011. The most recent fracture critical inspection occurred on September 20, 2014.

Vessels	
Name	Berthing, Alignment
Kennicott/Tustumena	Port
All other Vessels	Port/Starboard

Terminal Building
Main terminal building data in East Berth report

Generator & Building
Main generator data in East Berth report

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, but inadequate reading.
Condition:	Fair

Uplands
Uplands is shared between West, East and Stern berths. See East berth report for data.

Utilities at Ramp	
Electrical:	Yes, city & backup power
Water:	Yes
Sewer:	No
Telephone:	Yes
Cable TV:	No
Fuel:	Yes
Wireless Bridge:	N/A

Vehicle Transfer Bridge - #0803	
Type:	16' x 140' twin box beam
Year Built:	1988
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:	Good
Load Posting Sign:	N/A
Original Design Load:	HS 20-44

Dolphins								
Dolphins	**Dolphin Piles**	**Fender Support**	**Fender Face**	**Anodes**	**Built**	**Cond.**	**Hawse Extension**	**Notes**
W2	2B, 1V	4V	Ekki Timber	No	1989	Good	No	
W1	2B, 1V	4V	Ekki Timber	No	1989	Good	No	
E1	2B, 1V	4V	Ekki Timber	No	1989	Good	No	
E2	2B, 1V	4V	Ekki Timber	No	1989	Good	Yes	
E3	2B, 1V	4V	Ekki Timber	No	1989	Good	No	Light Pole
E4	1B, 1V	4V	Ekki Timber	No	1989	Good	Yes	
E5	1B, 1V	4V	Ekki Timber	No	1989	Good	Yes	
E6	1B, 1V	4V	Ekki Timber	No	1989	Good	Yes	Light Pole
EG	1B, 1V	-	-	No	1989	Good	-	
WG	1B,1V	-	-	No	1989	Good	-	
WR	2B, 2V	-	-	No	1989	Good	-	Light Pole
ER	2B, 2V	-	-	No	1989	Good	-	Light Pole

LEGEND

ER = East Bridge Support Float Restraint Dolphin
V = Vertical Steel Pipe Piling
G1 = Gangway
EBW2 = East Berth, Dolphin W2
WG = West Gangway Support Dolphin
B = Battered Steel Pipe Piling
EFP = East Float Platform

Catwalks / Gangways							
#	**From Struc.**	**To Struc.**	**Lenth / Style / Main Members**	**Built**	**Safety Cables?**	**Cond.**	**Lighting**
C1	EBW2	E6	91' / Catwalk / 12" x 12" Tube Girders	1989	Yes	Good	Jelly Jars
C2	E6	E5	91' / Catwalk / 12" x 12" Tube Girders	1989	Yes	Good	Jelly Jars
C3	E5	E4	69' / Catwalk / 12" x 12" Tube Girders	1989	Yes	Good	Jelly Jars
C4	E4	E3	53' / Catwalk / 12" x 12' Tube Girders	1989	Yes	Good	Jelly Jars
C5	E3	E2	44' / Catwalk / 12" x 12' Tube Girders	1989	Yes	Good	Jelly Jars
C6	E2	E1	53' / Catwalk / 12" x 12' Tube Girders	1989	Yes	Good	Jelly Jars
C7	C6	EG	22' / Catwalk / 5" x 7" Tube Girders	1989	No	Good	Jelly Jars
G1	EG	EFP	57' / Gangway / Tube & Pipe Thru Truss	1989	Yes	Good	Jelly Jars
G2	WFP	WG	57' / Gangway / Tube & Pipe Thru Truss	1989	Yes	Good	Jelly Jars
C8	WG	C9	22' / Catwalk / 5" x 7" Tube Girders	1989	No	Good	Jelly Jars
C9	W1	W2	53' / Catwalk / 12" x 12' Tube Girders	1989	Yes	Good	Jelly Jars

Terminal Projects			
Year	**Project #**	**Project Name**	**Description**
1963	F-095-8(1)	Southeast Alaska Ferry System Terminal Facility at Juneau, Alaska	Original construction of timber Side Berth in Auke Bay (present site of West Berth)
1968	N/A	N/A	Original construction of timber Stern Berth
1970	N/A	Auke Bay FT Dredging	Dredging at original timber Stern Berth.
1982	F-093-2(2)	Auke Bay FT Modifications	Original East Berth construction. Work included demolition of existing timber Stern Berth.
1982	F-093-3(2) H-78002 74268 A38282	Auke Bay FT Modifications	Construction of terminal building.
1989	F-095-4(16) / 74626	Auke Bay Western Terminal Modification	Demolition of existing structures, construction of new steel terminal structures. Also includes construction of generator/storage building, purser station, atrium/covered pedestrian walkway, and miscellaneous electrical and lighting enhancements.
1989	F-095-4(16) A70041 74618	Auke Bay FT Rehabilitation / Relocation	Associated with 74626.
1989	3711-SE(2)	Auke Bay FT Passenger Shelter	Associated with 74626.
1989	74914	Auke Bay FT Water Service	Associated with 74626.
1991	75134 MT 763	Auke Bay FT Floor Covering Replacement	Modified flooring of terminal building.
1995	75265	Auke Bay FT Pontoon Upgrade	Recoated the bridge support float.
1998	75227	Auke Bay Staging Area	Uplands extension of West berth staging area.
2006	HHE-093-3(29) 68975	JNU- Ferry Terminal Sight Distance Improvements	Modified main roadway vehicle entrance.
2008	N/A	Auke Bay Delta - Wye Conversion	This work replaces existing transformer at the Auke Bay Ferry Terminal with a new WYE-Configured Secondary, 480Y/277, 3-phase, 500KVA transformer.
2008	73003(4)	Auke Bay FT Carpet Replacement	Replaced carpet in the terminal building modular carpet panels.
2008	259S030	Auke Bay FT Heat Trace	This project replaced all existing heat trace and controls on West Berth, East Berth, and East Stern Berth.
2008	73003(1)	Auke Bay FT Heating Control System Upgrade	This project replaced existing pneumatic HVAC constrols with a new HVAC control system consisting of a Direct Digital Control (DDC) Building Automation System (BAS). The new system allows network capability for interface through the internet for monitoring & manipulation of the Heating System.

Terminal Projects (continued)			
Year	**Project #**	**Project Name**	**Description**
2008	73651	Auke Bay East & West Terminal Repairs	This project rehabilitated the fender support piles at all mooring dolphins on East Berth. Work also included repairs to the seaward bridge bearing plates on East and West Berths, installation of naoes on all East Berth pipe pile groups, and installation of UHMW line guards on dolphin E1 at both East and West berths.
2008	67763	Auke Bay FVF Support Facility	This project constructed tidelands fill adjacent to East berth parking lot, paved, installed underground utilities, constructed the FVF Support Building and installed an underground septic holding tank for pumping out vessel wastewater.

Observations

1. The 2014 Fracture Critical inspection found a 3-1/2” long weld crack at the top flange-shoreward corner of FB 1 to LT Girder (no propagation since last inspection) and a 7 5/8” long weld crack between the top flange-shoreward corner of FB 1 to RT Girder (crack has propagated from the previous measurement of 5-1/4” in 2012).
2. The most recent FC inspection found cracks in the welded connection between the top of FB 16 and the bottoms of Stringers 1 & 5. There are two (2) cracks on Stringer 1; 2-inches long and 3-inches long, respectively. The crack on Stringer 5 is 2.75-inches long.
3. There is 100% section loss to the steel soffit form pans underneath concrete in-filled pedestrian walkway, over Stringer 1. Additionally, there is laminar corrosion along the top flange of Stringer 1. The corrosion is most likely due to corrosive ice-melt solutions applied to the concrete in-filled walkway.
4. On the underside of the transfer bridge, the paint coating shows brown bleed-through corrosion or algae on the vertical surfaces of the framing.
5. There is an approximate 1/4” gap between the bottom of the seaward end of the steel base plate of the RT girder bearing & the top of the concrete abutment.
6. The pontoon float was listing roughly 10” to the north and the anodes had less than half their life remaining. The float was recoated by AMHS Maintenance in 2009.
7. A 2’x7’ area of expanded metal is missing on the apron.
8. Several utility lines beneath the bridge are loosely hanging or laying near the ground. There is a broken conduit connection, with exposed wiring, near exterior of LT girder @ FB 13.
9. The pipe truss hand rails on the gangways have split in several locations due to accumulated condensation that froze, and expanded. The handrail frames are primary structural members of the gangway through truss, so any failure in the rails could lead to failure of the structure.
10. Many of the hanger/retainer bolts at the gangway & platform catwalk end connections are wearing down. In addition, cotter pins retaining the bolts are loose and inadequately sized for the pin holes. The ‘wander limit’ plate welded to the Hillman rollers on the western gangway is cutting into the support tube below. The LT little gangway RT UHMW skid was worn & replaced by Hillman Rollers.

    The lower Hillman Roller bearing for the LT gangway was replaced with a UHMW skid, to reduce the possibility of the bearing jumping the track. The upper gangway pin-hanger bearings were replaced with new pins & hangers in 2011 by AMHS Maintenance.
11. There is a cracked truss tube in the LT gangway, 6’ from the upper bearing.
12. There are failing pipe hinges at the LT access ramp.

Observations (continued)

13. Cathodic potential (CP) readings for all mooring dolphins indicate that the immersed steel components are not protected and freely corroding.

Inspection Summary		
Structure	Priority	Recommendations
Category I - Safety Repairs		
Nothing recommended.		
Category II - Rehabilitation Work		
Transfer Bridge	1	Program a project to repair weld crack in the first floor beam-to-girder connections & the cracks at Stringers 1 & 5 near FB 16.
Dolphins / Pile Restraint Structures	2	Install/replace anodes on all in-water pile structures (currently scheduled under Project 67463). Monitor condition of dolphin structures for structural integrity. Program future project(s) for eventual replacement of aged structures.
Gangways	3	Weld repair the splits in pipe handrails. Drill drain holes near the bottom of each pipe.
Gangways / Catwalks	4	Check all hanger/retainer bolts - replace as needed. Install washers that match the O.D. of the bolts on the outside of connections before installing new cotter pins. Replace the retaining plate on the western access platform gangway with UHMW pad and backing plate.
Bridge Support Float	5	Investigate cause for seaward list in bridge float, re-ballast float if required. Maintain anode replacement as needed. Program the float for paint re-coating. Replace the anode cables and mounting studs as needed.
Bridge Apron	6	Replace expanded metal grating.
Bridge	7	Reinstall supports for hanging conduit and repair the conduit breaks.
Gangways	8	Repair the weld splits in the pipe on the dolphin access gangways and the other handrails. Give all pipe handrails 3/8" drain holes, on one side only, at least 1" up from the bottom. Replace the failing pipe hinges at the LT access ramp.
UHMW Skids	9	Replace the worn UHMW skids on LT little gangway.
Bridge	10	Monitor the gap between the bottom of the RT hinge baseplate and the top of the concrete abutment.
Bridge	11	Inspect entire bridge for potential paint recoat. Floor stringer 1 is in noticable need for abrasive blast cleaning and recoat.
Category III - Upgrades Needed		
Nothing recommended.		