Port of Alaska
2000 Anchorage Port Road
Anchorage, Alaska 99501

Prepared by:

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TERMINAL MANUAL

Port of Alaska, Anchorage

March
2023

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TERMINAL MANUAL

for

Port of Alaska

2000 Anchorage Port Road
Anchorage, Alaska 99501
1-907-343-6200

Original Date of Plan: March 2023
Date of Scheduled Plan Review: January 2024

Designated Person Accountable for This Manual:
Operations Manager and Maintenance Superintendent

PORT STAFF DIRECTORY *

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* As of January 2023

TERMINAL MANUAL PLAN REVIEW

PLAN REVIEW STRATEGY

A review and evaluation of this Terminal Manual will be conducted annually by the POA Commission and POA Management Staff. As a result of this review and evaluation, the Port of Alaska (POA) will amend the Terminal Manual within six months of the review.

Scheduled reviews and Terminal Manual amendments are recorded in the review log below. This log should be completed even if no amendment is made to the Terminal Manual because of the review. Unless a technical or administrative change prompts an earlier review, the next scheduled review of this Terminal Manual must occur by December 2023.

Review Date	Comments	Signature of Port Director

TABLE OF CONTENTS

GENERAL INFORMATION

CARGO TERMINALS

PETROLEUM TERMINALS

ACRONYMS AND ABBREVIATIONS

Acronyms	Definition
bbl	Barrel. US measurement of 42 gallons.
COA	Certificate of Adequacy
COTP	Captain of The Port
FTZ	Foreign Trade Zone
Hazmat	Hazardous Materials
hr	Hour
Lb	Pound
MAWP	Maximum Allowable Working Pressure.
MHW	Mean High Water
MHHW	Mean Higher High Water
MLW	Mean Low Water
MLLW	Mean Lower Low Water
MSL	Mean Sea Level
MTL	Mean Tide Level
MTSA	Marine Transportation Safety Recovery
NOAA	National Oceanic and Atmospheric Administration
PCT	Petroleum Cement Terminal
POA	Port of Alaska
POL	Petroleum Oil Lubricants
PSIG	Pounds per Square Inch Gauge
UKC	Under Keel Clearance
USCG	United States Coast Guard

1. GENERAL INFORMATION

1.1 PURPOSE OF THIS MANUAL

The purpose of this manual is to outline the basic marine terminal related infrastructure, environmental, and operational parameters for the Port of Alaska. It is meant as a guideline and does not necessarily encompass all facets. There are ongoing infrastructure improvement and replacement projects. There is also ongoing routine dredging of the navigation channel and berths at the facility. Therefore, certain portions of this manual will need to be periodically updated.

1.2 GENERAL REQUIREMENTS

1. Vessels departing or berthing at piers or wharves, must use sufficient tugs so that the vessel can be berthed or removed in a safe manner.

2. Due to the extreme tide range and strong currents in the Cook Inlet, 24-hour mooring line tending is mandatory for all vessels moored at the Port.

3. Vessel master, ship pilots, and terminal operators shall determine if conditions at time of and during mooring require additional lines above the minimum requirements.

4. Regardless of anything written in this manual, the vessel captain is ultimately responsible for the safe and efficient operation of the ship, including its seaworthiness, safety and security, cargo operations, navigation, crew management, and legal compliance, and for the persons and cargo on board.

1.3 NAME OF TERMINAL

Port of Alaska, Anchorage (POA)

1.4 FACILITY OWNER AND ADDRESS

Owner-Municipality of
Anchorage

Port of Alaska
2000 Anchorage Port Rd
Anchorage, Alaska 99501

1.5 FACILITY CONTACTS

All can be reached during business hours at 907-343-6200. Names and contact information for each title are located on page iii of this manual.

1.6 ABOUT THE PORT OF ALASKA

Port of Alaska is a Municipality of Anchorage-owned and -operated facility that handles half of all Alaska inbound freight – some 4.9 million tons of fuel and cargo in 2021 – half of which is delivered to final destinations outside of Anchorage. It is an intermodal transport hub that efficiently connects Alaska's primary marine, road, rail, pipeline, and air cargo systems; a Department of Defense commercial strategic seaport that projects U.S. power across Alaska, the Pacific Rim and the Arctic; and Anchorage's only foreign trade zone (FTZ no. 160) that extends U.S. Customs benefits to businesses and sites throughout the surrounding community. It handles five times more inbound cargo annually than all other Southcentral Alaska ports combined.

Port of Alaska serves deep-water vessels operating year-round. Matson Inc. and TOTE Maritime Inc. each provide twice-weekly scheduled container ship service from Port of Tacoma. Domestic and foreign carriers provide routine bulk deliveries of petroleum products, cement, building materials and other commodities.

Facilities include: 4,000 feet dock frontage, three general cargo terminals, with two 30-ton gantry cranes, one 40-ton gantry crane and proprietary roll-on-off capability, three petroleum terminals with 15, eight-inch, tide-compensating hose lines, dry- and break-bulk handling, two floating, small-vessel docks, and a seasonally-available dry-barge landing. All berths are dredged to 35-foot depth at mean lower low water, two miles of rail-spur connected to Alaska Railroad, 125 acres of cargo handling and storage yard, 60,000 tons of bulk cement storage and 3.1 million barrels of liquid fuel storage.

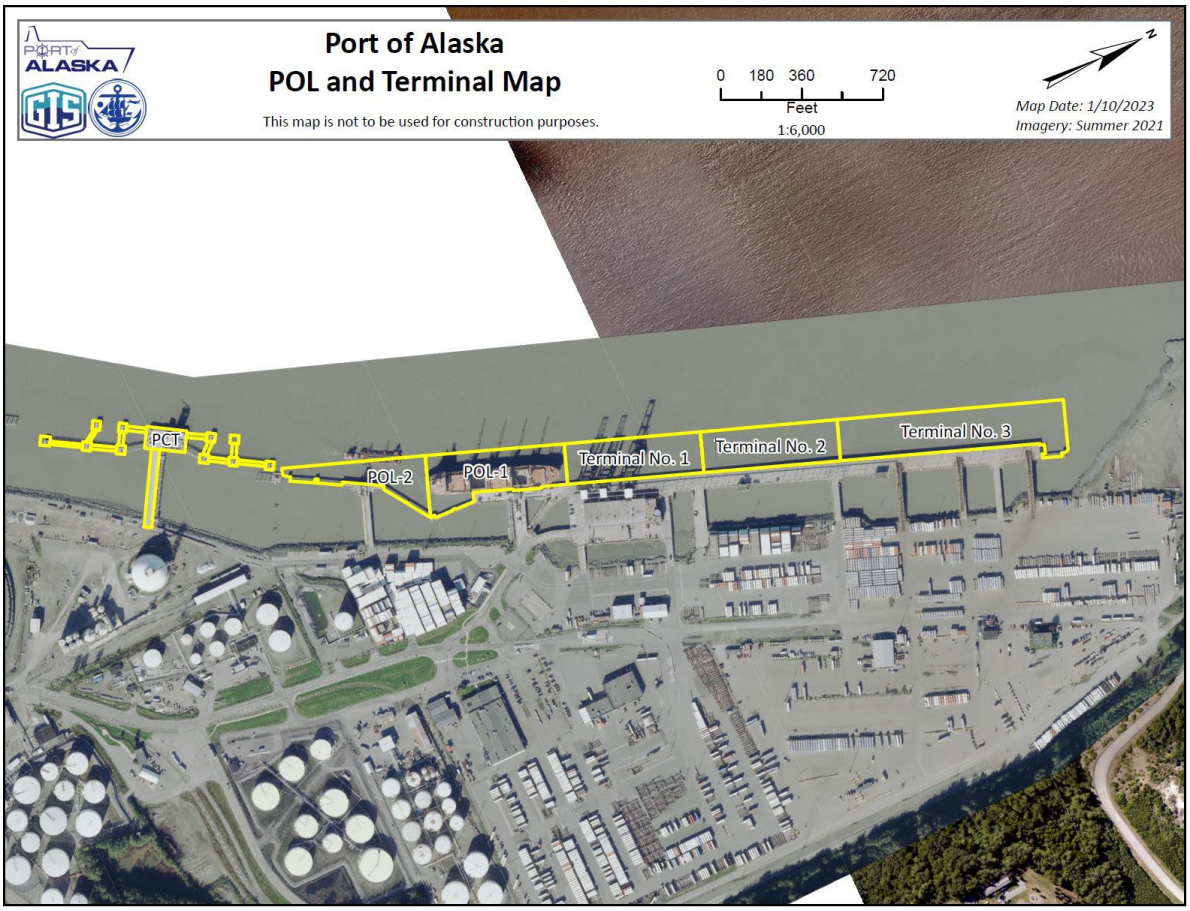


Figure 1: TERMINAL MAP

1.7 TIDES

The Cook Inlet has one of the highest tidal ranges in North America. There is an active National Oceanic and Atmospheric Administration (NOAA) tidal station located at the Port. Tide information is published and available from NOAA.

NOAA publishes the following tidal statistics for the Port:

Highest Observed Water (10/24/1980)	34.55 feet
Mean Higher High Water (MHHW)	29.00 feet
Mean High Water (MHW)	29.00 feet
Mean Sea Level (MSL)	16.45 feet
Mean Tide Level (MTL)	15.29 feet
Mean Low Water (MLW)	2.29 feet
Mean Lower Low Water (MLLW)	0.00 feet
Lowest Observed Water (03/25/1967)	-6.21 feet

TIDAL CURRENTS

Tidal current information is published and available from NOAA and can be found at:

https://tidesandcurrents.noaa.gov/stationhome.html?id=9455920

1.8 WEATHER AND ICE CONDITIONS

ICE Ice can be present in the Cook Inlet from November through April. The ice can form in pans of several acres in size and several feet thick. Ice conditions in the Cook Inlet are monitored and reported by NOAA. *The USCG annually publishes OPERATING GUIDELINES FOR ICE CONDITIONS IN COOK INLET.* Copies are available through the POA Operations Manager, upon request.

Ice forecasts can be found at https://www.weather.gov/afc/ice.

WIND High winds that may affect vessel and dock operations are to be expected. Wind speeds of 29 knots from the west and **44 knots from the north have been recorded at the Port. Three second gust wind speeds of over 100 knots have been reported in the Anchorage area.**

WAVES Significant wave heights of 4.0 feet from the west and 4.5 feet from the north have been estimated. Extreme wave heights of 6.5 feet are possible.

TEMPERATURE Temperatures at the Port can range from 85 degrees Fahrenheit in the summer, to -20 degrees Fahrenheit in the winter.

1.9 DEPTH OF WATER

1. The waters of the Cook Inlet are heavily loaded with silts and sediments that originate from the numerous glacially fed rivers and streams that empty into the Inlet. Two glacial rivers, the Knik and Matanuska, feed the Knik Arm of the Cook Inlet near the Port.

2. The US Army Corps of Engineers maintains the navigation channels to the Port thorough an annual dredging program with the following goals:

a. Federally authorized depth at the dock face: -35 feet MLLW (not guaranteed)
b. Federally authorized depth at the Knik Arm Navigation Channel: -38 feet MLLW

The nominal depth of water at the berth as outlined above are the permitted depths. Actual depths may vary.

3. Seasonal shoaling and sedimentation are likely. Dredging operations are conducted in the ice-free months and depth information is regularly updated. Vessels are advised to contact the US Army Corps of Engineers, Alaska District Civil Works Division for the latest soundings on Knik Arm Navigation Channel and alongside the dock, and closely coordinate operations with the tide cycles paying special attention to low or minus tides. Sedimentation rates of 4 feet per year have been recorded.

4. The POA recommends all vessels maintain a minimum Under Keel Clearance of 3 feet alongside its facilities. As applicable by federal regulations, all vessels must remain afloat, except barges in the dry barge berth.

1.10 WINTER USE OF THE PORT

1. The POA is open year-round. However, extreme temperatures, winter siltation, and ice provide several challenges during the winter months. Ice in the navigation channel and at the berths can cause difficulty in maneuvering and can exert unusually high mooring line forces. Winter siltation may cause decreases in available draft. Machinery, including fuel systems, cooling systems, winches, anchors, ballast water systems, and other auxiliary systems must be winterized and maintained in a state for use in the extreme environment. Tug assistance aids in mitigating these conditions.

2. The US Coast Guard (USCG) Captain of the Port (COTP) has published operating guidelines for ice conditions in Cook Inlet. Copies of this document are available from the USCG.

1.11 SECURITY

1. The Port maintains compliance with the Maritime Transportation Security Act (MTSA) 33CFR Chapter 1-USCG, United States Department of Homeland Security.

2. Entry upon Port property or docking at the terminal by a person or vessel shall be regarded as constituting an agreement to comply with all rules, regulations, and security requirements. All people entering the Port must have government issued photo ID and be prepared to pass through a security screening facility.

POA employees or stakeholder employees working on POA grounds must undergo a security training session, receive a Port of Alaska Proximity Access Card, and secure a Transportation Worker Identity Credential.

3. Prohibited items on the POA include but are not limited to: Firearms, Ammunition, Black Powder, Explosives, Fireworks, Aerial Flares, Smokeless gun powder, Firearms, Primers, Uncontrolled Hazmat, and any other substance that could cause a Transportation Security Incident (TSI). Note: Regular Road flares are allowed.

1.12 SAFETY, SANITATION AND HOUSEKEEPING

1. SAFETY AND SANITATION: Users/Operators of Port facilities will be required to comply with all safety and sanitation rules applicable on structures and facilities of the Port as required by Federal, State, local law, and the Port.

2. Rubbish and refuse of other materials must, upon demand, be removed from the terminal by the persons placing it there. The POA is a USCG approved reception facility for MARPOL I-Oil and MARPOL V-Garbage, and maintains a Certificate of Adequacy. *The Vessel Agent and/owner are responsible to ensure compliance of 33CFR 158.*

3. If the user/operator does not properly clean property used, the Port Director shall order the work performed and the user/operator will be billed at cost, including 15 percent overhead.

4. No rubbish or materials of any kind shall be dumped overboard from vessels or wharves.

5. Vessels may not discharge fluids overboard.

6. Vessel may not discharge ballast water anywhere within Cook Inlet.

7. Potable water is available in all terminals at the POA. We can provide potable water hose up to the dock face.

1.13 BERTHING POLICY/BERTHING RESERVATIONS

Recognized Terminal Operator Permittees may secure reserved berth space under the following conditions:

1. All berthing reservations will be processed and managed through the Port's "PortCall" on-line system.

2. An approved Berthing Reservation and, only if required by the Port Director, prepaid dockage must be received by the Port a minimum of 48 hours prior to scheduled vessel arrival.

3. If required by the Port Director, full dockage fees will be paid to the Port at the time of reservation. Prepaid dockage fees will be non-refundable unless a written cancellation is received by the Port a minimum of 48 hours prior to scheduled vessel arrival.

4. Vessels that dock at berths without prior-approved reservations do not have berthing privileges or priority and must vacate the berth to accommodate a vessel with a valid reservation if directed to do so. The operator or agent shall complete a berthing reservation immediately after docking.

5. *VESSELS REQUIRED TO VACATE BERTHS:* With the Port Director's approval, vessels may occupy a berth, subject to charges named in Section 2, provided such vessel shall vacate the berth upon direction of the Port Director. Vessels refusing to vacate a berth on demand may be moved by tug or otherwise, and any expenses or damages to the vessel, other vessels, or wharf structures during such removal shall be charged to the owner of the vessel so moved.

6. *CHARGES ON VESSEL SHIFTING*: When a vessel is shifted directly from one wharf to another wharf owned by the Port, the total time at such berths will be considered together in computing the dockage charge.

7. *CHARGES TO ASSISTING VESSELS*: A single vessel, when actively engaged as a tugboat, assisting, and made fast outboard of a vessel loading or discharging cargo, will be accorded free dockage. A tugboat leaving its tended vessel for any purpose shall waive its right to free dockage for the period of berthing it left its tended vessel until it secures back to its tended vessel. when docked in Terminals 1, 2, 3, POL 1, POL 2 or the PCT. In those instances, dockage rates apply.

NOTE: *The Port will make every attempt possible to avoid berthing conflicts during the scheduling process. The published berthing schedule will be developed such that all berthing vessels have a discrete time window assigned in accordance with the information provided in their application. Should conflicts emerge during operations, it is the responsibility of the vessel operators and/or their agents to reach a reasonable accommodation for both parties. The final decision shall be subject to the Port Director's discretion.*

1.14 SMOKING

1. No smoking shall be allowed on any wharf, pier or in any warehouse or transit shed except in approved areas specifically designated for that purpose. Designated Smoking Areas are posted at the petroleum docks.

2. Persons violating this rule may be barred, at the discretion of the Port Director, from the further use of any wharf and, in addition, shall be subject to prosecution under applicable Federal, State, and local Laws.

1.15 RESPONSIBILITY FOR PROPERTY DAMAGE

Damaged Port property and facilities must be reported immediately to the Port Director. The initial reporting of damages should be communicated by the most expeditious means, followed in writing. Owners/operators damaging Port property will be responsible for repairs. Should the repairs be undertaken by the Port, the owners/operators will be billed for repairs to damaged property at cost, including 15 percent over head.

2. CARGO TERMINALS

2.1 WHARVES

Terminal No. 1

Terminal operator: Port of Alaska
Location: Upper Cook Inlet, Anchorage, AK
Use: Cruise ships, container and breakbulk
Cargo-handling equipment: Two Paceco container cranes, rail-mounted electric at 30 tons; one Mitsubishi container crane, rail-mounted electric at 40 tons; portable cranes available up to 150 tons; forklifts available up to 30 tons

Terminal No. 2

Terminal operator: Port of Alaska
Location: Upper Cook Inlet, Anchorage, AK
Use: Container and breakbulk
Primary use: Lo/Lo container operations
Cargo-handling equipment: Two Paceco container cranes,
rail-mounted electric at 30 tons; one Mitsubishi container crane, rail-mounted electric at 40 tons; portable cranes available up to 150 tons; forklifts available up to 30 tons

Terminal No. 3

Terminal operator: Port of Alaska
Location: Upper Cook Inlet, Anchorage, AK
Use: Container and breakbulk
Primary use: Proprietary Ro/Ro operations
Cargo-handling equipment: Portable cranes available up to 150 tons; forklifts available up to 30 tons

Dry Barge Berth

Location: Upper Cook Inlet, Anchorage, AK
Use: Barge, breakbulk, storage
Primary use: Barge, 400 ft

2.2 ALLOWABLE VESSEL APPROACH ANGLE AND VELOCITY

Cargo docks / Terminals 1 through 3

Approach angle maximum 10 degrees.

The fendering system for the cargo terminals has the following operational limits:

Vessel Displacement	Allowable Approach Velocity Perpendicular to Dock Face		
Long Ton*	Knots	Feet/Minute	Feet/Second
30,000 or less	0.21	21	0.36
30,000 to 50,000	0.16	16	0.28
50,000 to 70,000	0.14	14	0.23
Greater than 70,000	0.1	10	0.18

*One long ton equals 2,240 pounds.

2.3 MOORING LINE LOAD GUIDELINES

1. There are three general types of mooring points at the Port: double bollards, single bollards, and 36-inch cleats. The allowable line loads for these are listed below:

- 36-inch cleat – allowable line load 30,000 pounds
- Single bollard – allowable line load 50,000 pounds
- Double bollard – allowable line load 50,000 pounds per post

2. 24-Hour Line Tending: Due to the extreme tide range and strong currents in the Cook Inlet, 24-hour mooring line tending is mandatory for all vessels moored at the Port.

3. See POA Berthing, Mooring, and Deck Load Limits drawing in the appendix of this document.

2.4 WIND

The table below summarizes the various conditional recommended maximum wind speed for the cargo terminals. Sustained wind is taken to be 30 second average. The berthing wind speed is that for which vessels initially arrive at the dock and tie up. The operational wind speed is that for which cargo operations are allowed. This wind speed may be controlled by the operational parameters of the cranes or other handling equipment. The departure wind speed is that at which it is recommend that the vessel return to sea to ride out the storm event.

Maximum Recommended Sustained Wind Speed		
Condition	Knots	MPH
Berthing	25	28.8
Operational	To be determined by cargo operations	
Departure	50	57.5

2.5 PIERS AND TRESTLES DECK LOAD GUIDELINES

1. Cargo shall be stacked on the piers to produce a uniform load no greater than the limits as prescribed in the table on the next page.

2. Sharp or angular loads shall be cushioned with timber or rubber tire dunnage to protect the deck from damage or marring. Any damage to the deck from loading shall be repaired at no cost to the Port.

3. Cargo shall not be stacked or stored on the approach trestles. Cargo shall not be stacked or stored at the petroleum terminals. Cranes and heavy loads will be evaluated and permitted on a case-by-case basis.

DOCK AND TRESTLE LOAD RATING TABLE

Terminal	Area	Uniform / Lbs. Per Sq. Ft.	Vehicle Load	Crane Load
Terminal 1	Dock	600	HS-20 S16 44	30 Tons
	West Trestle	OUT OF SERVICE	Pedestrian only	
	East Trestle	200	HS-20 S16 44	
	Trestles 1 and 1B	200	HS-20 S16 44	
	Crane Turnout (Longshore Parking Area)	350	HS-20 44	38 kip per wheel, 3 wheels at 2' 11" OC 72 kip per wheel, 3 wheels at 2'-11" OC, bents A and D only
Terminal 2	Dock Phase	600	HS-20 S16 44	71 kip per wheel, 6 wheels at 5’ OC 72 kip per wheel, 3 wheels at 2.5’ OC
	Dock Extension1	650	HS-20 44	71 kip per wheel, 6 wheels at 5’ OC 72 kip per wheel, 3 wheels at 2.5’ OC
	Trestle 2	200	HS-20 44	
Terminal 3	Dock	650	HS-20 44	71 kip per wheel, 6 wheels at 5’ OC 72 kip per wheel, 3 wheels at 2.5. OC
	Trestle 3, 3A & 3B	200	HS-20 44	
	Trestle 3C	600		140-ton truck crane

TARGET FENDER LOCATIONS AND DISTANCES

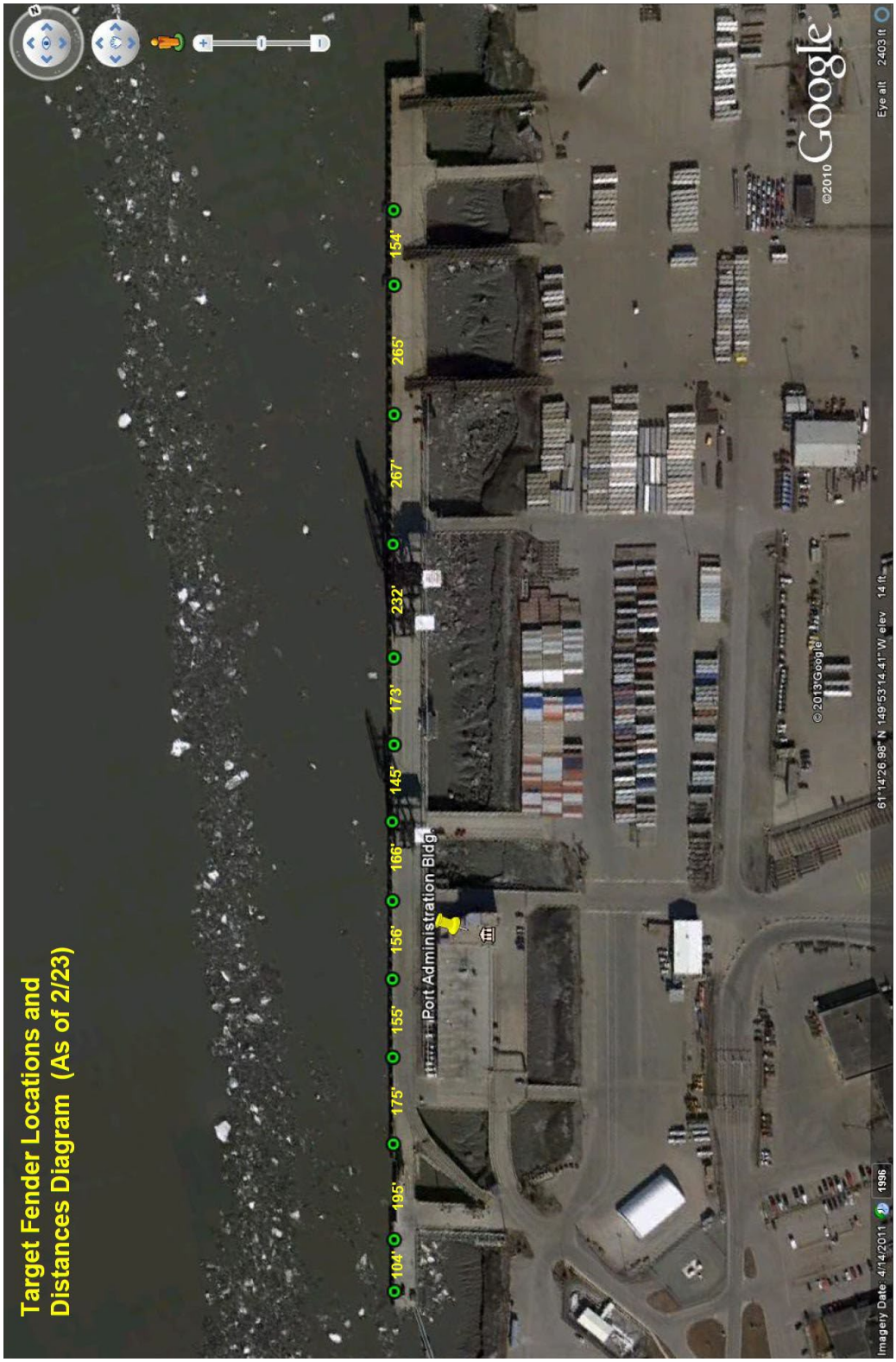


Figure 2: TARGET FENDER LOCATIONS

2.6 EMERGENCY LIFESAVING EQUIPMENT

1. On the dock, there are yellow cabinets that contain a USCG 30" life ring with 90' of floating rope, which is attached. Prior to doing work on the dock, familiarize you and your employees with the life ring cabinet locations and their contents.

2. Attached to each overhead container crane, is a life ring cabinet with a "Rescue Stick" inside. The rescue stick is a type of self-inflating PFD that is thrown to a person that has fallen into the water.

3. Stokes baskets are in the following locations:
- In front of Matson Marine building.
- PCT Safety Room

4. Rescue Disks are in the following locations:
- All POA vehicles
- Denali Security "Rover" truck

Figure 3: TYPICAL LIFE RING

3. PETROLEUM TERMINALS

3.1 TERMINAL INFORMATION *(All petroleum transfer facilities are 33 CFR 154 compliant, and the POA retains a current COA IAW 33 CFR 158.)*

POL 1 Terminal: The dock supports a steel framed, 35' tall hose tower structure, containing four 12" rubber fuel hoses used for fuel transfers. The MAWP of the fuel transfer hoses is 150 PSIG and are tested annually. POL 1 has two aromatic lines and two distillate lines. The facility has a small, 10' x 6' operations building, used to conduct the fuel transfer and control the pedestal crane by two hose watch personnel. The facility has an OSHA compliant, 3000lb lifting capacity pedestal type crane, used to lift personnel on/off the vessels, via an OSHA compliant man basket. *All crane operators must be trained and qualified.* The facility has a small spill response kit, which contains appropriate PPE, boom, and absorbent pads. Communication between vessel and operations building is provided by the hose watch company and is intrinsically safe. The operations building has an intrinsically safe telephone for local calls only. *No gangway is provided.*

POL 2 Terminal: The dock supports a steel framed, 35' tall hose tower structure, containing five, 12" rubber fuel hoses used for fuel transfers. The MAWP of the fuel transfer hoses is 150 PSIG and are tested annually. POL 2 has three distillate lines; one is dedicated to ULSD, and two aromatic lines, one of which is dedicated to methanol. The facility has a small, 10' x 6' operation building used to control the fuel transfer by two hose watch personnel. The facility has an OSHA compliant, 3000lb lifting capacity pedestal type crane, used to lift personnel on/off the vessels, via an OSHA compliant man basket. *All crane operators must be trained and qualified.* The facility has a small spill response kit, which contains appropriate PPE, boom, and absorbent pads. Communication between vessel and operations building is provided by the hose watch company and is intrinsically safe. The operations building has an intrinsically safe telephone for local calls only. *No gangway is provided.*

PCT (Petroleum Cement Terminal): The dock supports a steel framed, 45' tall hose tower structure, containing six, 12" rubber fuel hoses with loading arms, used for fuel transfers. The PCT has one distillate line, two aromatic lines, two ULSD line, and one methanol line. The PCT facility has a two-story operation building used to control the fuel transfer by two hose watch personnel. On top of the tower is a pedestal type crane used to lift personnel on/off the vessels via an OSHA compliant man basket. *All crane operators must be trained and qualified.* The operations building has a fixed combustible gas detection system within, to alert works of a hazardous atmosphere. The facility has a small spill response kit, which contains appropriate PPE, boom, and absorbent pads to be used by hose watch personnel in the event of a small leak or spill. Communication between vessel and operations building is provided by the hose watch company and is intrinsically safe. The operations building has an intrinsically safe telephone for local calls only. The PCT is also used as a work platform for off-loading cement, when not being used as a fuel transfer facility. *As of 2-3-23, a gangway is in the procurement stage.*

3.2 POL Facility Address and Coordinates

Facility	Physical Address	Latitude	Longitude
POL 1	1959 Anchorage Port Road	61°14'17.98"N	149°53'23.29"W
POL 2	1964 Anchorage Port Road	61°14'11.22"N	149°53'30.46"W
PCT	1390 Ocean Dock Road	61°14'4.45"N	149°53'39.31"W

3.3 Design Vessels

Facility	Maximum Size of Vessels	Type	Number of vessels
POL 1	600' tanker / 400' barge	Barge, tanker	1
POL 2	600' tanker / 400' barge	Barge, tanker	1
PCT	750' tanker / 580' barge / 600' Cement Bulk Carrier	Barge, tanker	1

3.4 PRODUCT HANDLED AT FACILITIES

Facility	Products Handled
POL 1	Gasoline, ultra-low sulphur diesel, aviation fuel, diesel fuel
POL 2	Gasoline, ultra-low sulphur diesel, diesel fuel, aviation fuel, jet fuel, JP-8, methanol
PCT	Gasoline, ultra-low sulphur diesel, diesel fuel, aviation fuel, jet fuel, JP-8, methanol

3.5 ALLOWABLE VESSEL APPROACH ANGLE AND VELOCITY

Approach angle maximum 10 degrees

POL 1 and 2 Terminals

The fendering system for the POL1 and POL2 terminals has the following operational limits:

Vessel Displacement	Allowable Approach Velocity Perpendicular to Dock Face		
Long Ton*	Knots	Feet/Minute	Feet/Second
30,000 or less	0.21	21	0.36
30,000 to 50,000	0.16	16	0.28
50,000 to 70,000	0.14	14	0.23
Greater than 70,000	0.1	10	0.18

Petroleum and Cement Terminal (PCT)

The fendering system at the PCT is designed for the following conditions:

Vessel Displacement	Allowable Approach Velocity Perpendicular to Dock Face		
Long Ton*	Knots	Feet/Minute	Feet/Second
74,000	0.27	27.6	0.46
40,000	0.35	35.4	0.59

3.6 WIND

The table below summarizes the various conditional recommended maximum wind speed for the petroleum terminals. Sustained wind is taken to be 30 second average. The berthing wind speed is that for which vessels initially arrive at the dock and tie up. The operational wind speed is that for which fuel or cement operations are allowed. This wind speed may be controlled by the operational parameters of the loading arms or other handling equipment. The departure wind speed is that at which it is recommend that the vessel return to sea to ride out the storm event.

Maximum Recommended Sustained Wind Speed POL1 &2		
Condition	Knots	MPH
Berthing	25	28.8
Operational	To be determined by cargo operations	
Departure	50	57.5

Maximum Recommended Sustained Wind Speed PCT - Petroleum Tanker		
Condition	Knots	MPH
Berthing	25	28.8
Operational	39	45
Departure	52	60

Maximum Recommended Sustained Wind Speed PCT- Cement Bulk Carrier		
Condition	Knots	MPH
Berthing	25	28.8
Operational	39	45
Departure	43.5	50

3.7 MOORING LINE LOAD GUIDELINES

1. There are three general types of mooring points at POL1 and 2: double bollards, single bollards, and 36-inch cleats. The allowable line loads for these are listed below:

- 36-inch cleat – allowable line load 30,000 pounds
- Single bollard – allowable line load 50,000 pounds
- Double bollard – allowable line load 50,000 pounds per post

2. The PCT is equipped with quick release hooks and an instrumented line tension monitoring station in the Operations Building.

- Breasting Dolphin – double back-to-back QRH - 100 metric tons per hook.
- Mooring Dolphin Quad QRH - 100 metric ton each hook.
- Fixed Bollard – 100 metric ton each.

3.8 PETROLEUM DOCKS LOAD RATING TABLE

Terminal	Area	Uniform / Lbs. Per Sq. Ft.	Vehicle Load	Crane Load
PCT	Deck	400	HS-25 Truck	N/A
	Trestle	400	HS-25 Truck	N/A
	Walkways	60	N/A	N/A
POL 1	South Pier Extension	600	HS-20 S16 44	30 Tons
	Loading Platform	400	HS-20 S16 44	
	Roadway Bridge		HS-20 S16 44	N/A
	Walkway Bridge	100	None	N/A
	Trestle 1A	200	None	N/A
POL 2	Dock	400	HS20-44	N/A
	Walkway	100	None	N/A

3.9 PCT BERTHING LAYOUTS

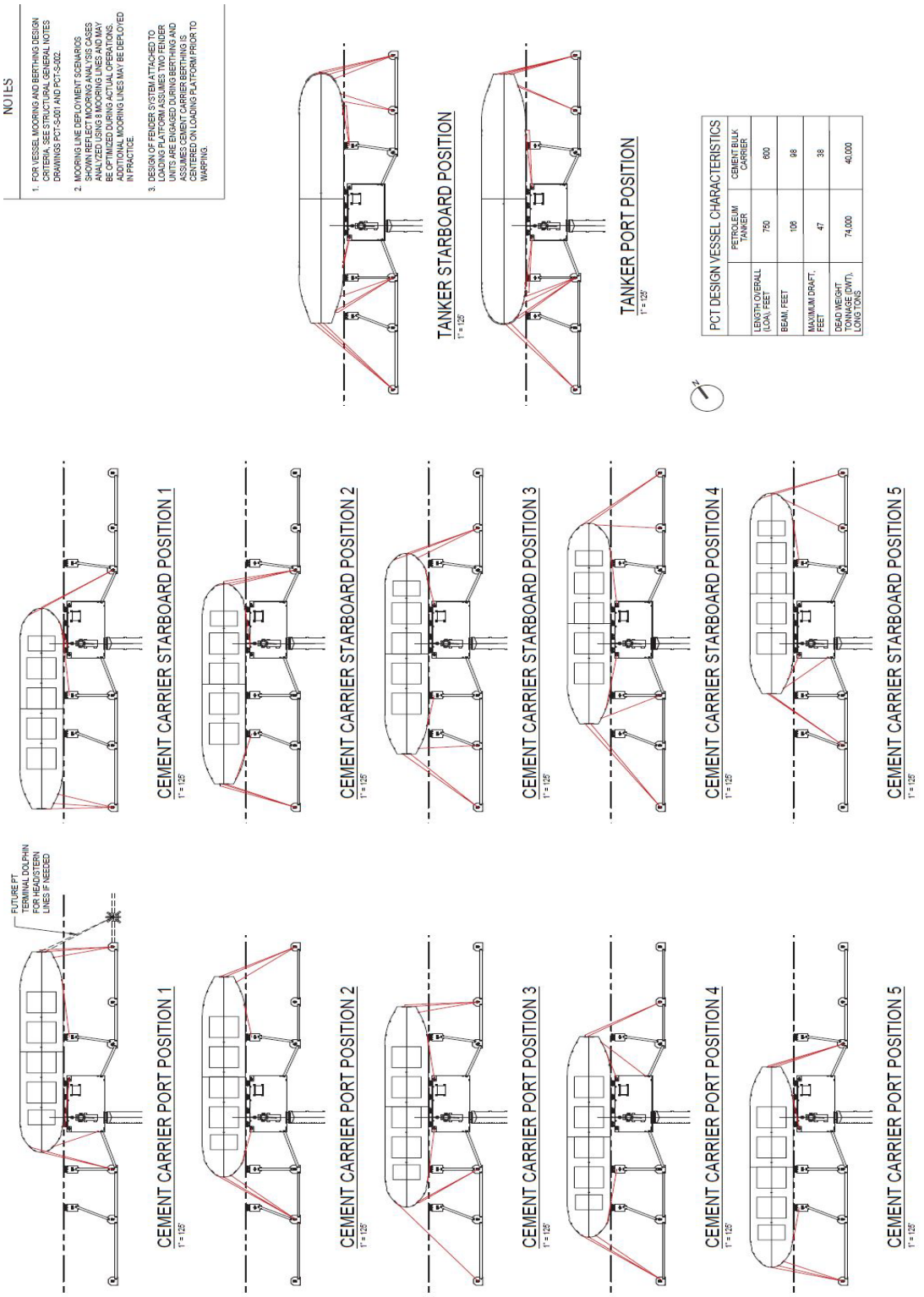


Figure 4: PCT BERTHING LAYOUTS

3.10 DESIGNATED PARKING and SMOKING AREAS

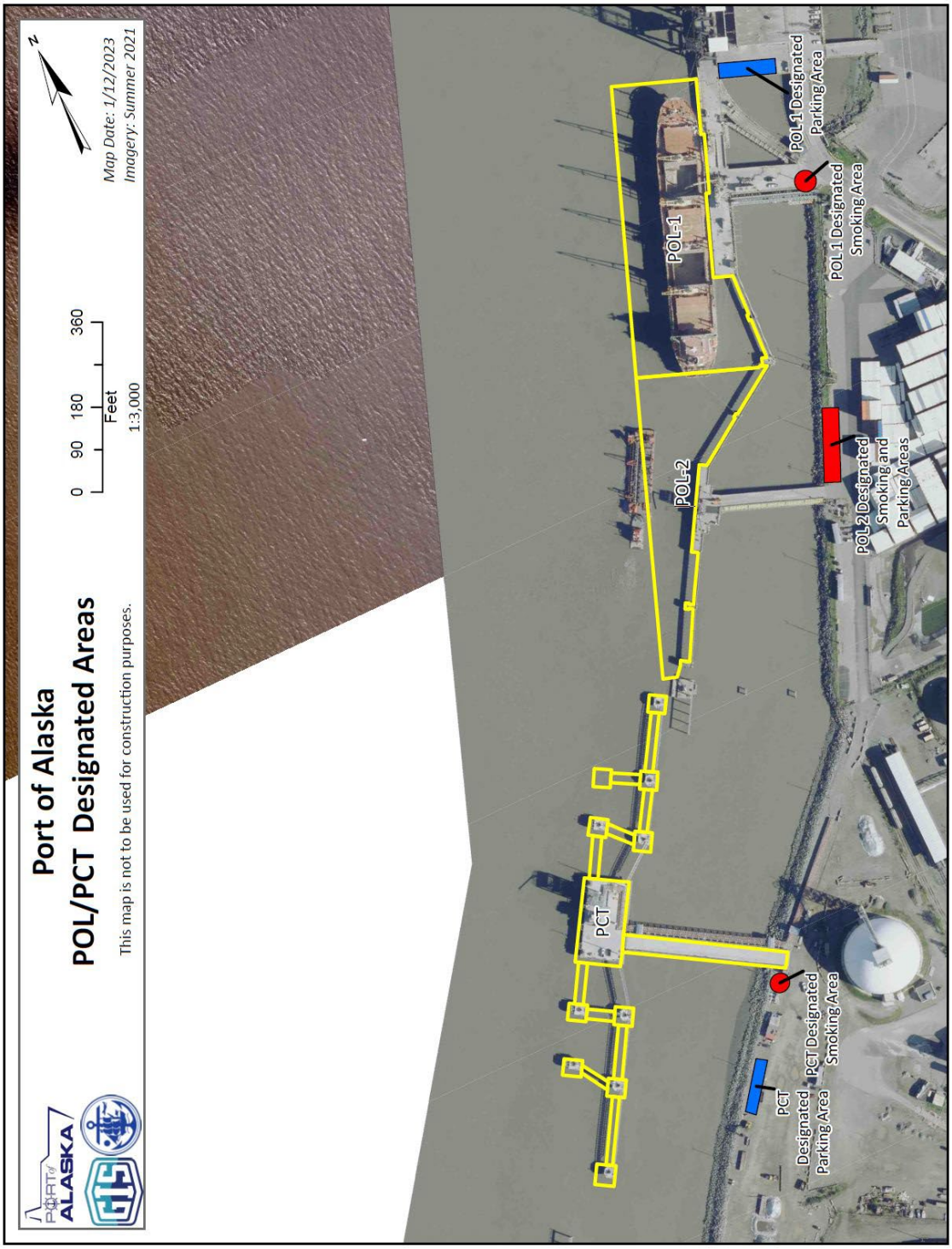


Figure 5: PARKING AND SMOKING AREAS

3.11 HAZARDOUS CLASSIFIED AREAS

1. The areas within 100’ of the marine header at the three petroleum docks is a Class 1 Division 2 area.

2. The use of non-rated/intrinsically safe equipment is *strictly prohibited* in this rated area during a fuel transfer. *This includes the use of cellphones.*

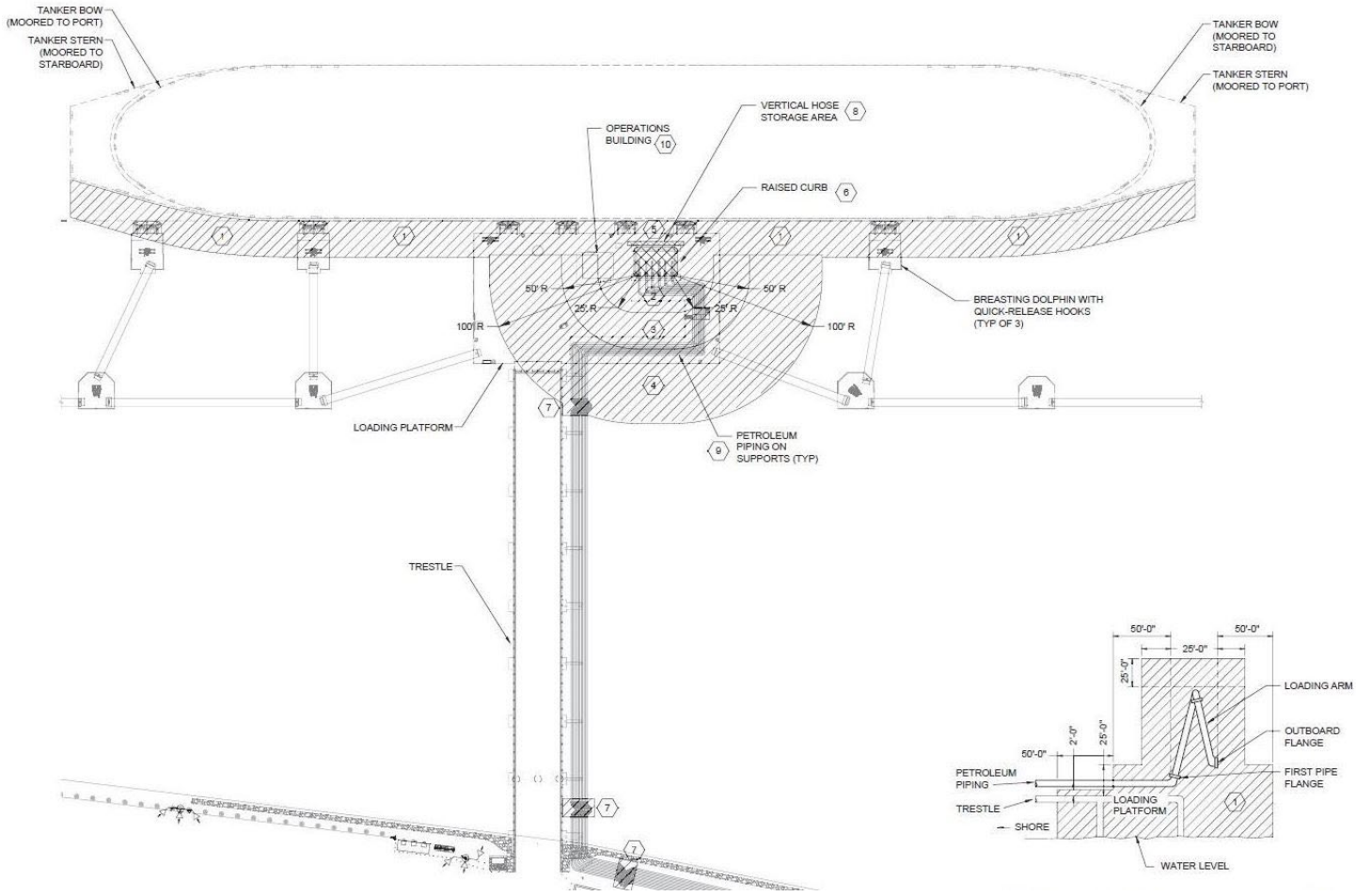
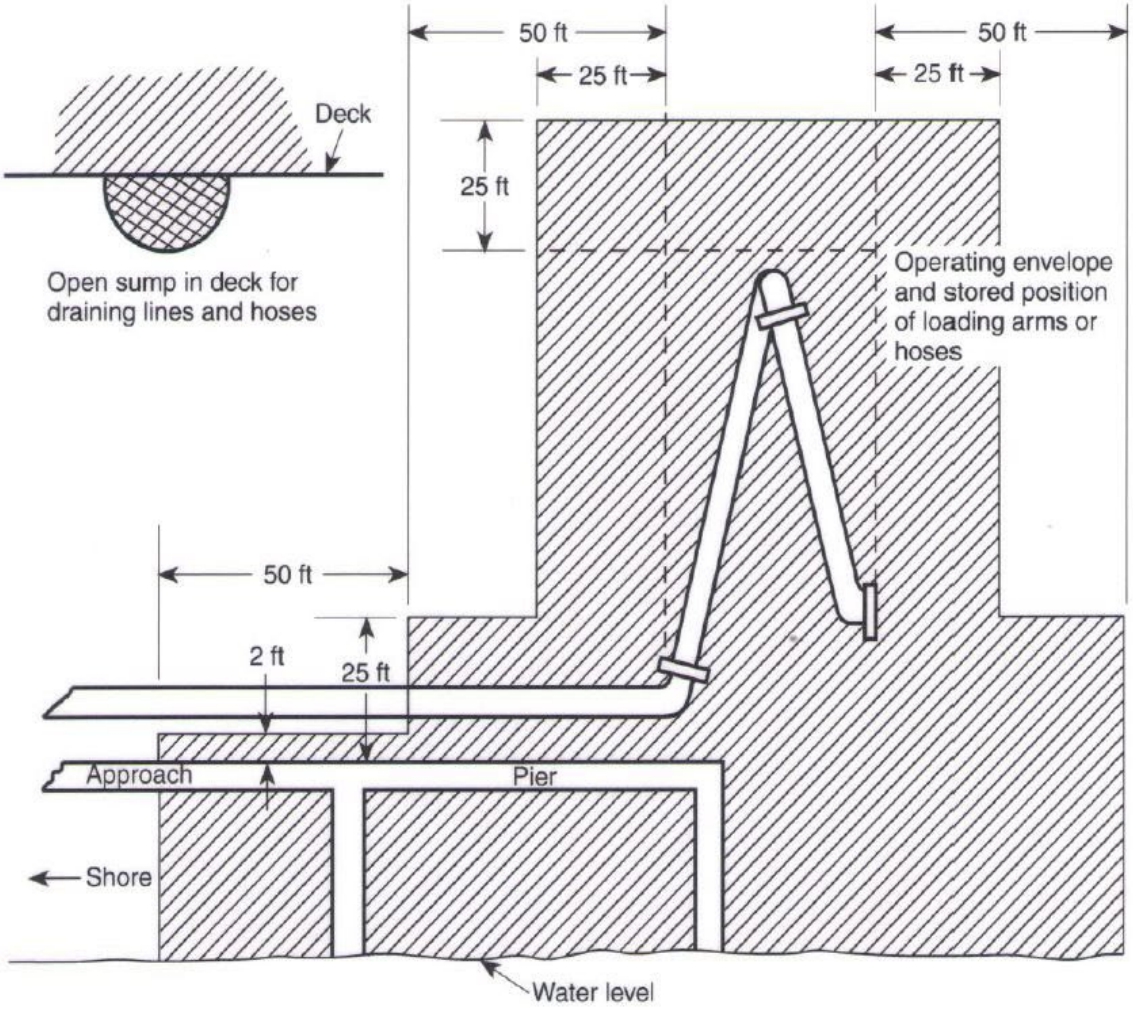


Figure 6: PCT HAZARDOUS AREAS CLASSIFICATION



For SI units, 1 in. = 25 mm; 1 ft = 0.3 m.

Division 1 Division 2 Nonclassified

Notes:
1. The "source of vapor" is the operating envelope and stored position of the outboard flange connection of the loading arm (or hose).
2. The berth area adjacent to tanker and barge cargo tanks is to be Division 2 to the following extent:
   (a) 25 ft (7.6 m) horizontally in all directions on the pier side from t portion of the hull containing cargo tanks.
   (b) From the water level to 25 ft (7.6 m) above the cargo tanks at their highest position.
3. Additional locations can be classified as required by the presence of other sources of flammable liquids on the berth, or by Coast Guard or other regulations.

Figure7: POL 1 and 2 HAZARDOUS AREAS CLASSIFICATION

ALLOWABLE VESSEL APPROACH VELOCITY

VESSEL DISPLACEMENT	ALLOWABLE APPROACH VELOCITY PERPENDICULAR TO DOCK FACE		
(LONG TON)*	KNOTS	FEET/MINUTE	FEET/SECOND
30,000 OR LESS	0.21	21	0.36
30,000 TO 50,000	0.15	15	0.28
50,000 TO 70,000	0.14	14	0.23
GREATER THAN 70,000	0.1	10	0.18

* ONE LONG TON EQUALS 2240 POUNDS

ALLOWABLE MOORING LINE LOAD LIMITS

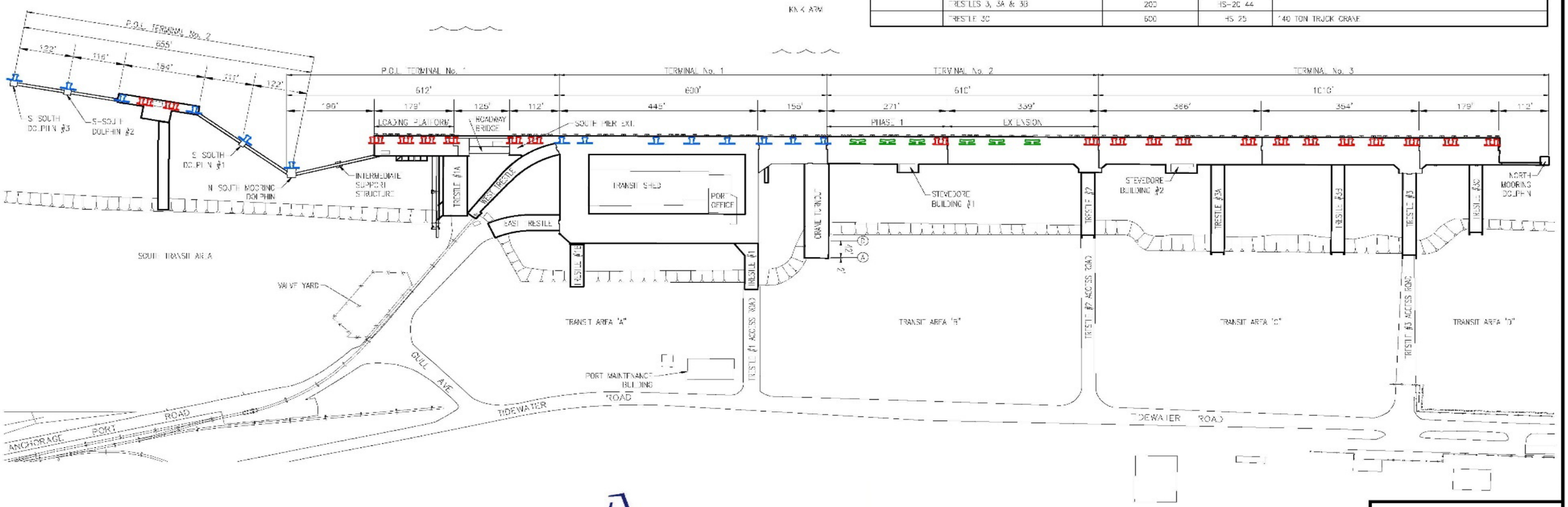
OBJECT	LOAD LIMIT
36" DIA FAT	30,000 LBS
SINGLE BOLLARD	60,000 LBS
DOUBLE BOLLARD (EACH POST)	60,000 LBS

TIDES

ITEM	HEIGHT (FEET)
HIGHEST OBSERVED WATER (10/24/1960)	34.55'
MEAN HIGHER HIGH WATER (MHHW)	29.03'
MEAN HIGH WATER (MHW)	28.33'
MEAN SEA LEVEL (MSL)	16.46'
MEAN TIDE LEVEL (MTL)	15.29'
MEAN LOW WATER (MLW)	2.29'
MEAN LOWER LOW WATER (MLLW)	0.00'
LOWEST OBSERVED WATER (03/25/1967)	-6.21'

DECK LOAD LIMITS

DOCK	ITEM	DESIGN LOAD PSF	DESIGN VEHICLE	CRANES
POL No. 1	SOUTH PIER EXTENSION	600	HS-20 STR 44	30 TONS
	LOADING PLATFORM	400	HS 20 STR 44	
	ROADWAY BRIDGE		HS-20 STR 44	
	WALKWAY BRIDGE	100		
	TRESTLE 1A	200	HS 20 44	
POL No. 2	DOCK	400	HS-20 44	
	WALKWAY	100	HS 20 44	
TERMINAL 1	DOCK	600	HS-20 STR 44	30 TONS
	WEST TRESTLE	0	PEDESTRIAN ONLY	
	EAST TRESTLE, TRESTLES 1 & 1B	200	HS-20 STR 44	
	CRANE TURNOUT	350	HS-20 44	38-KIP PER WHEEL 3 WHEELS AT 2'-11" OC 72-KIP PER WHEEL 3 WHEELS AT 2'-11" OC BENTS A AND B ONLY
TERMINAL 2	DOCK PHASE 1	600	HS-20 STR 44	7'-KIP PER WHEEL 6 WHEELS AT 5' OC 72-KIP PER WHEEL 3 WHEELS AT 2.5' OC
	DOCK EXTENSION	650	HS-20 44	7'-KIP PER WHEEL 6 WHEELS AT 5' OC 72-KIP PER WHEEL 3 WHEELS AT 2.5' OC
	TRESTLE 2	200	HS-20 44	
TERMINAL 3	DOCK	650	HS-20 44	7'-KIP PER WHEEL 6 WHEELS AT 5' OC 72-KIP PER WHEEL 3 WHEELS AT 2.5' OC
	TRESTLES 3, 3A & 3B	200	HS-20 44	
	TRESTLE 3C	600	HS 25	140 TON TRUCK CRANE



LEGEND
- FENDER
- 35" CLEAT
- SINGLE BOLLARD
- DOUBLE BOLLARD

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PORT of ALASKA

PORT OF ANCHORAGE	
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