

Regulatory Division (1145) CEPOA-RD 44669 Sterling Highway, Suite B Soldotna, Alaska 99669-7915

Public Notice of Application for Permit

PUBLIC NOTICE DATE: Novemb

November 20, 2019

EXPIRATION DATE:

December 20, 2019

REFERENCE NUMBER:

POA-1983-00464-M6

WATERWAY:

Iliuliuk Bay

Interested parties are hereby notified that a Department of the Army permit application has been received for work in waters of the United States (U.S.) as described below and shown on the enclosed project drawings.

All comments regarding this Public Notice (PN) should be sent to the address noted above. If you desire to submit your comments by email, you should send it to the Project Manager's email as listed below. All comments should include the PN reference number listed above.

All comments should reach this office no later than the expiration date of this PN to become part of the record and be considered in the decision. Please contact Jen Martin at (907) 753-2730, by fax at (907) 420-0813, or by email at Jen.L.Martin@usace.army.mil if further information is desired concerning this notice.

<u>APPLICANT</u>: Mr. Gene Makarin, APL (America) LLC, P.O. Box 920425, Dutch Harbor, AK 99692

<u>AGENT</u>: Ms. Brenna Hughes, PND Engineers, Inc., 1506 West 36th Avenue, Anchorage, AK 99503

<u>LOCATION</u>: The project site is located within Section 2, T. 73 S., R. 118 W., Seward Meridian; USGS Quad Map Unalaska C-2; Latitude 53.8825° N., Longitude 166.5308° W.; American President Lines (APL) Terminal, 1125 East Point Road, in Unalaska, Alaska.

<u>PURPOSE</u>: The applicant's stated purpose is to accommodate larger 7,500 TEU (Twenty-Foot Equivalent Unit) vessels, and provide additional storage capacity within the facility.

PROPOSED WORK:

Dredging: The applicant proposes to dredge up to 42,900 cubic yards (CY) of bottom sediment (in the form of silt, sand, and gravel) and rock from 3.37 acres below the mean high water mark (MHWM, 3.4 feet above the mean lower low water mark (MLLW) of 0 feet elevation) of Iliuliuk Bay, a navigable water of the U.S., using either a clamshell dredge or a hydraulic excavator, working from an anchored barge. The applicant proposes to dispose of 22,575 CY of the dredged material into a 130-acre disposal area below the high tide line (HTL, 4.7 feet above the MLLW) and MHWM of Iliuliuk Bay, approximately 3,300 feet northeast of the APL dock. Up to 600 CY of material (from the dock face) would be directly disposed of in a 0.25-acre area immediately waterward of the dock. The remaining 19,725 CY of dredged rock would be utilized for construction of a fill pad (described below).

The dredging activity would remove material adjacent to the dock face down to 42 feet below the MLLW with the north and south dredge areas excavated down to 43 feet below MLLW. The south dredge area would have slopes of 2:1, while the north dredge area would have 3:1 slopes. The dock face waterward of the solid fill wall would have a level slope at 42 feet below MLLW, while the pile supported dock area would have 3:1 slopes.

The minimum water depth at the disposal area is 100 feet below MLLW. The dredged material would be transported and discharged using a bottom dump barge. Filter material would be placed over the barge scuppers to clear return water. Disposal of the dredged material is estimated to occur a maximum of 1 time per day, but likely every other day. Up to 19 disposal events are planned, and dredging work is estimated to take 40 days to complete.

Fill Pad: 19,725 CY of dredged rock (described above) would be discharged into 1.2 acres below the HTL of Iliuliuk Bay for the construction of a fill pad to increase the available laydown area adjacent to the existing dock. Up to 1,300 CY of clean gravel fill from a local pit would be utilized to cap the fill pad.

Dolphin/Catwalk: Additionally, the applicant proposes to install one mooring dolphin near the north end of the dock to accommodate larger vessels extending past the dock. The dolphin would consist of five 48-inch diameter steel piles (three loaded in tension and two in compression) with two 4-foot wide, 70-foot long catwalks to shore supported by two 48-inch diameter steel piles at an intermediate pier. Dolphin piles loaded in tension would be installed as a drilled shaft in the bedrock. For drilled-shaft installation, the steel pile would initially be driven with a vibratory hammer to refusal on bedrock. An impact hammer would then be used to seat the pile into the bedrock. Sediment inside the pile would be removed with an auger, and a down-the-hole drill would be used inside the pile to drill out a shaft deeper into the bedrock. Following drilling of the shaft, a steel reinforcement cage would be lowered into the shaft and approximately 15 CY of concrete per pile would be poured underwater inside the pile to form a foundation shaft. Dolphin piles loaded in compression and catwalk piles wouldbe installed using rock-socketing, which entails drilling a shaft in the bedrock before installing the pile. Vibratory pile driving would be utilized to install the piles inside the shaft to refusal before an impact hammer is used to seat the piles in the bottom of the rock-socket shaft. All work would be performed in accordance with the enclosed plan (sheets 1-11), dated October 8, 2019.

<u>ADDITIONAL INFORMATION</u>: DA permit number POA-1983-464, Iliuliuk Bay, was issued to APL on January 30, 1984, for the construction of a 40-foot by 5-foot steel ramp and steel pile supported mooring dolphin, dredging 1,500 CY of material from a 40-foot by 135-foot area and backfill of a 20-foot by 25-foot area with dredged material to improve existing barge mooring facility. A permit modification (POA-1983-464-M1) was issued September 4, 1984, for construction of a mooring bollard, dredging of 2,500 CY of material from a 100-foot by 100-foot area with material discharged into a 80-foot by 190-foot area adjacent to the dredge site, placement of 400 CY of riprap for bank stabilization and the removal/replacement of six timber fender piles along the side of the existing wharf.

POA-1983-464-M2 was issued August 5, 1987, authorizing the dredging of 62,000 CY of material to a depth of -43', the deposit and retention of 11,500 CY of dredged material in adjacent uplands and the deposit of 50,500 CY of dredged material into Captains Bay.

POA-1983-464-M3 was issued November 17, 1987, authorizing the construction and placement of two mooring dolphins and two marker buoys in addition to the dredging of 2,000 CY of material with upland disposal.

POA-1983-464-M4 was issued November 4, 1992, which authorized the discharge of 250,000 CY of fill into 6.3 acres below the HTL of Iliuliuk Bay for construction of an open-celled sheetpile bulkhead with a 1,450 linear foot face. The southern portion of the bulkhead was never constructed.

POA-1983-464-M5 was issued August 29, 1994, which authorized the dredging of 15,000 CY of material from 1 acre of Iliuliuk Bay to allow adequate draft for C-10 container ships.

<u>APPLICANT PROPOSED MITIGATION</u>: The applicant proposes the following mitigation measures to avoid, minimize, and compensate for impacts to waters of the U. S. from activities involving discharges of dredged or fill material.

a. Avoidance: The applicant has stated: "Impacts to waters of the U.S. cannot be entirely avoided as this project is by nature dependent upon marine access/navigation. Dredging areas have been minimized to the extent possible while still meeting the purpose of the project, which is to accommodate berthing of larger classes of vessels.

Best management practices will be followed to avoid unnecessary environmental impacts, including standard spill prevention practices. Sediments to be disposed of offshore have been sampled and determined to be suitable for offshore disposal."

b. Minimization: The applicant has stated: "Observers will be stationed during dredging, disposal, fill placement, and pile-driving operations to prevent negative effects to protected species. Iliuliuk Bay is within the range of Northern sea otters (& critical habitat), Steller's eiders, Steller sea lions (& critical habitat), short-tailed albatross, blue whale, fin whale, humpback whale, North Pacific right whale, sperm whale, and Western North Pacific gray whale. Dredging operations will cease when protected species enter hazard radii as

established by typical practice and agency guidelines. Dredged sediments will be deposited so that tides and currents will disperse the materials only within the approved disposal areas."

c. Compensatory Mitigation: The applicant has stated: "Compensatory mitigation is not warranted for dredging, as no long-term impacts to waters of the U.S. or important habitat are anticipated. Temporary impacts to water quality are expected to be of short duration and are unlikely to cause any ill effects to any protected species. The laydown pad is expected to permanently impact 1.2 acres of tidelands. Compensatory mitigation will be made for this impact, likely consisting of permittee-responsible mitigation, as is typical in this region."

<u>WATER QUALITY CERTIFICATION</u>: A permit for the described work will not be issued until a certification or waiver of certification, as required under Section 401 of the Clean Water Act (Public Law 95-217), has been received from the Alaska Department of Environmental Conservation.

CULTURAL RESOURCES: We have defined our scope of analysis under Appendix C of 33 CFR 325 (permit area) to be the footprint of the activities described in the section entitled "Proposed Work" above. The latest published version of the Alaska Heritage Resources Survey (AHRS) has been consulted for the presence or absence of historic properties, including those listed in or eligible for inclusion in the National Register of Historic Places. There are multiple cultural resources within the vicinity of, but outside, the permit area. Additionally, the project lies within UNL-00120, Dutch Harbor Naval Operating Base and Ft. Mears, National Historic Landmark (NHL). Consultation of the AHRS constitutes the extent of cultural resource investigations by the U.S. Army Corps of Engineers (Corps) at this time. The Corps has made a No Adverse Effect determination for the proposed project. There are no longer any World War II-aged resources on the APL property in the immediate vicinity of the existing dock or below the HTL of the permit area. The dredging/dredge disposal, construction of a five-pile dolphin with a pile supported catwalk and construction of a 1.2-acre fill pad along the existing container terminal would not cause a visual intrusion to the NHL. This application is being coordinated with the National Park Service (NPS) and the State Historic Preservation Officer (SHPO), and consultation is being conducted under separate letter. Any comments NPS or SHPO may have concerning this site and/or presently unknown archeological or historic data that may be lost or destroyed by work under the requested permit will be considered in our final assessment of the described work.

ENDANGERED SPECIES: The project area is within the known or historic range of the northern sea otter (*Enhydra lutris kenyoni*) and their designated critical habitat, Steller's eider (*Polysticta stelleri*), Short-Tailed albatross (*Phoebastria* (=*diomedea*) *albatrus*), Steller sea lion (*Eumetopias jubatus*) and their designated critical habitat, blue whale (*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), Western North Pacific gray whale (*Eschrichtius robustus*), western North Pacific and Mexican DPS's of humpback whale (*Megaptera novaeangliae*), North Pacific right whale (*Eubalaena japonica*) and sperm whale (*Physeter macrocephalus*).

We have determined the described activity would have no effect on the Short-tailed albatross under the Endangered Species Act of 1973 (87 Stat. 844). Therefore, no consultation with the

U.S. Fish and Wildlife Service (USFWS) is required for those species. However, any comments they may have concerning endangered or threatened wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

We have determined the described activity may affect the northern sea otter, Steller's eider, Steller sea lion, the western North Pacific and Mexican DPS's of humpback whales, blue whale, fin whale, Western North Pacific gray whale, North Pacific right whale and sperm whale. Additionally, we have determined that northern sea otter and Steller sea lion designated critical habitat would not be adversely affected. We will initiate the appropriate consultation procedures under section 7 of the Endangered Species Act with the USFWS and National Marine Fisheries Service (NMFS). Any comments they may have concerning endangered or threatened wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

<u>ESSENTIAL FISH HABITAT</u>: The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH).

The project area is within the known range of the weathervane scallop (*Patinopecten caurinus*), chum salmon (*Oncorhynchus keta*), pink salmon (*O. gorbuscha*), coho salmon (*O. kisutch*), sockeye salmon (*O. nerka*), and Chinook salmon (*O. tshawytscha*).

We have determined the described activity would not adversely affect EFH in the project area.

TRIBAL CONSULTATION: The Alaska District fully supports tribal self-governance and government-to-government relations between Federally recognized Tribes and the Federal government. Tribes with protected rights or resources that could be significantly affected by a proposed Federal action (e.g., a permit decision) have the right to consult with the Alaska District on a government-to-government basis. Views of each Tribe regarding protected rights and resources will be accorded due consideration in this process. This Pc serves as notification to the Tribes within the area potentially affected by the proposed work and invites their participation in the Federal decision-making process regarding the protected Tribal right or resource. Consultation may be initiated by the affected Tribe upon written request to the District Commander during the public comment period.

<u>PUBLIC HEARING</u>: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, reasons for holding a public hearing.

<u>EVALUATION</u>: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts, which the proposed activity may have on the public interest, requires a careful weighing of all the factors that become relevant in each particular case. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. The outcome of

the general balancing process would determine whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur. The decision should reflect the national concern for both protection and utilization of important resources. All factors, which may be

relevant to the proposal, must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency's 404(b)(I) guidelines. Subject to the preceding sentence and any other applicable guidelines or criteria (see Sections 320.2 and 320.3), a permit will be granted unless the District Commander determines that it would be contrary to the public interest.

The Corps is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

<u>AUTHORITY</u>: This permit will be issued or denied under the following authorities: (X) Perform work in or affecting navigable waters of the U.S. – Section 10 Rivers and Harbors Act 1899 (33 U.S.C. 403).

(X) Discharge dredged or fill material into waters of the U.S. – Section 404 Clean Water Act (33 U.S.C. 1344). Therefore, our public interest review will consider the guidelines set forth under Section 404(b) of the Clean Water Act (40 CFR 230).

Project drawings and a Notice of Application for State Water Quality Certification are enclosed with this Public Notice.

District Commander U.S. Army, Corps of Engineers

Enclosures

STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER
Westerman Division Australian Program (WDAR)

Wastewater Discharge Authorization Program (WDAP) / 401 Certification

DEPARTMENT OF ENVIRONMENTAL CONSERVATION WDAP/401 CERTIFICATION 555 CORDOVA STREET ANCHORAGE, ALASKA 99501-2617

PHONE: (907) 269-6285 | EMAIL: dec-401cert@alaska.gov

NOTICE OF APPLICATION FOR STATE WATER QUALITY CERTIFICATION

Any applicant for a federal license or permit to conduct an activity that might result in a discharge into navigable waters, in accordance with Section 401 of the Clean Water Act of 1977 (PL95-217), also must apply for and obtain certification from the Alaska Department of Environmental Conservation that the discharge will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. By agreement between the U.S. Army Corps of Engineers and the Department of Environmental Conservation, application for a Department of the Army permit to discharge dredged or fill material into navigable waters under Section 404 of the Clean Water Act also may serve as application for State Water Quality Certification.

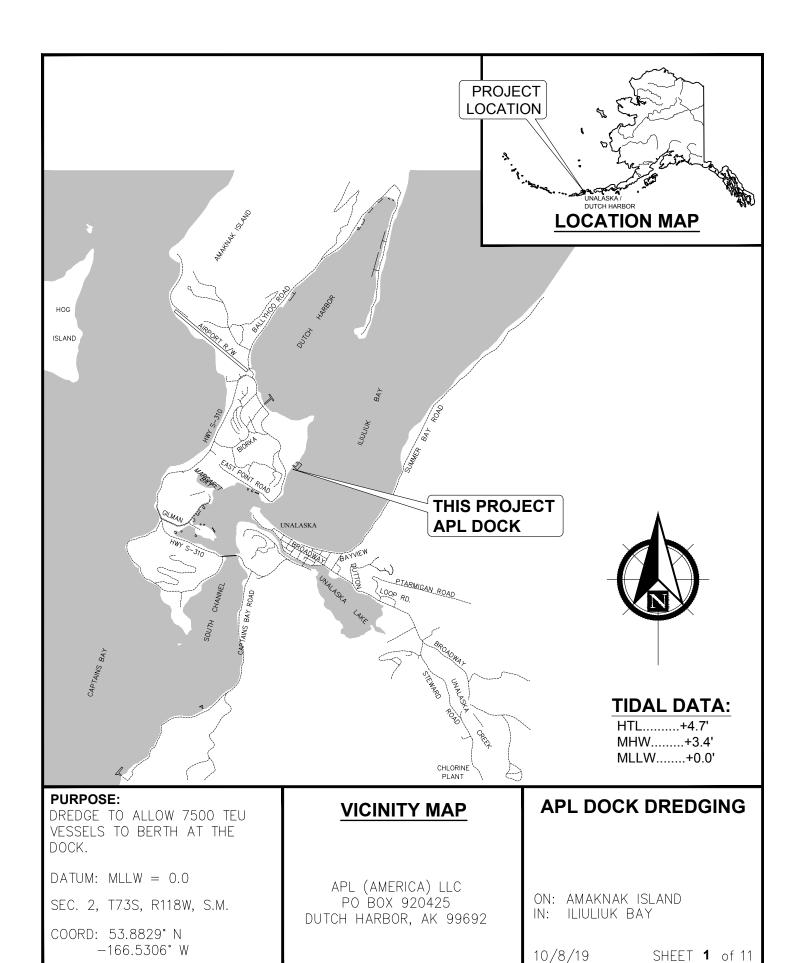
Notice is hereby given that the application for a Department of the Army Permit described in the Corps of Engineers' Public Notice (PN) Reference Number **POA-1983-00464-M6**, **Iliuliuk Bay**, serves as application for State Water Quality Certification from the Department of Environmental Conservation.

After reviewing the application, the Department may certify there is reasonable assurance the activity, and any discharge that might result, will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. The Department also may deny or waive certification.

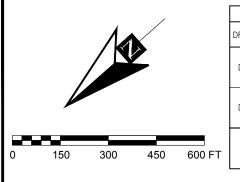
Any person desiring to comment on the project with respect to Water Quality Certification, may submit written comments to the address above or via email to dec-401cert@alaska.gov by the expiration date of the Corps of Engineer's Public Notice. All comments should include the PN reference number listed above. Mailed comments must be postmarked on or before the expiration date of the public notice.

Disability Reasonable Accommodation Notice

The State of Alaska, Department of Environmental Conservation complies with Title II of the Americans with Disabilities Act of 1990. If you are a person with a disability who may need special accommodation in order to participate in this public process, please contact Theresa Zimmerman at 907-465-6171 or TDD Relay Service 1-800-770-8973/TTY or dial 711 within 5 days of the expiration date of this public notice to ensure that any necessary accommodations can be provided.

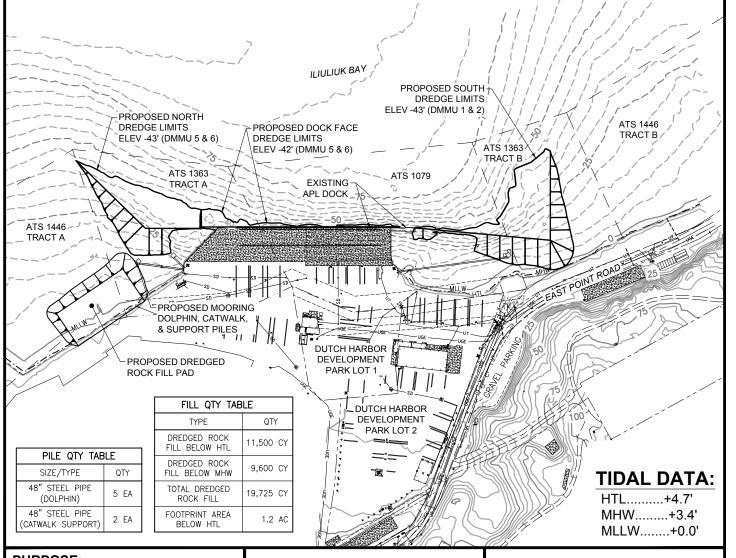


PND CAD File: J:\2017\171062 APL Dutch Harbor Dock Expansion\Drawings\Permit\Dredging\01 Vicinity Map.dwg, Oct 8 2019, REV0



DREDGE SUMMARY TABLE					
DREDGE AREA	APPROX. DREDGE VOLUME (CY)	SURFACE AREA (SF)			
DMMU 1&2	31,100 TOTAL 11,900 SEDIMENT 19,200 ROCK	82,000			
DMMU 5&6	11,800 TOTAL 11,275 SEDIMENT 525 ROCK	65,000			
TOTALS	42,900 TOTAL 23,175 SEDIMENT 19,725 ROCK	147,000			

DMMU SUMMARY TABLE					
DMMU NO.	SEDIMENT VOLUME (CY)	NO. SAMPLES	DESCRIPTION	BOREHOLE NO.	
1	9,900	3	TOP 4 FEET	1-4	
2	2,000	6	BELOW 4 FEET	1-4	
5	6,400	2	TOP 4 FEET	8-10	
6	4,875	2	BELOW 4 FEET	9&10	
TOTAL	23,175				



PURPOSE:

DREDGE TO ALLOW 7500 TEU VESSELS TO BERTH AT THE DOCK.

DATUM: MLLW = 0.0

SEC. 2, T73S, R118W, S.M.

COORD: 53.8829° N -166.5306° W

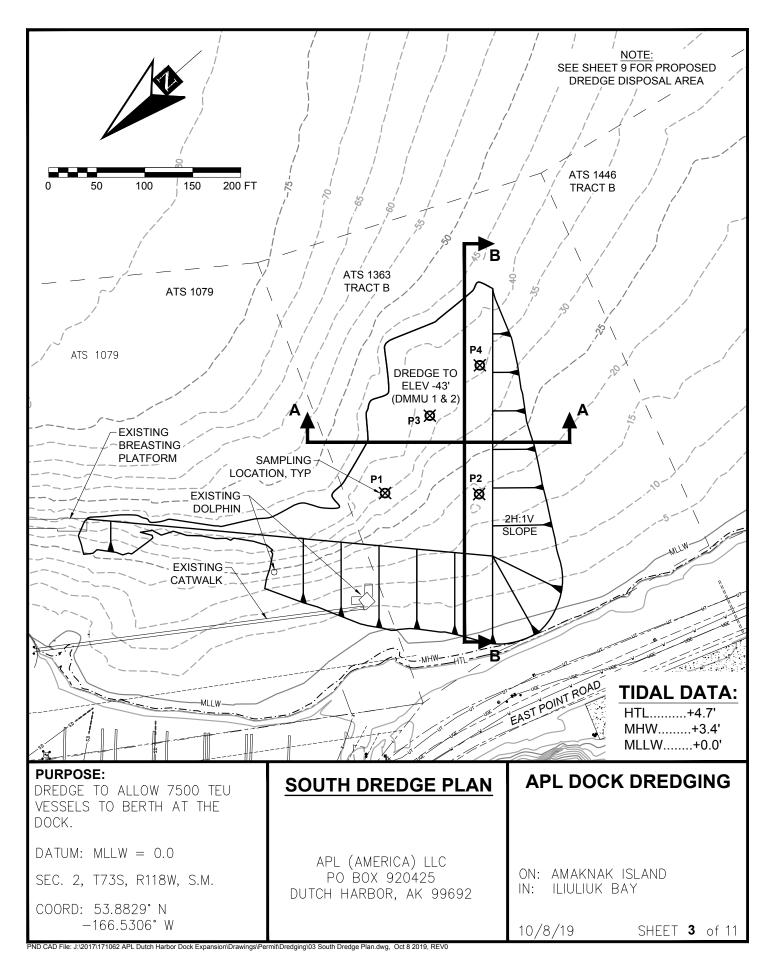
SITE PLAN

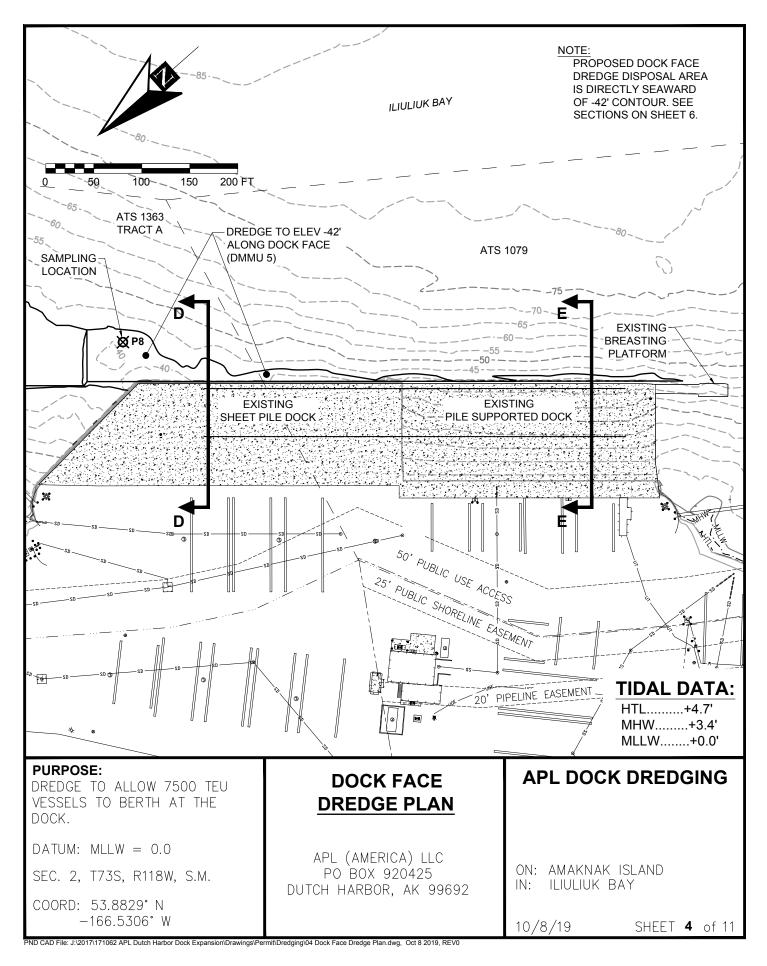
APL (AMERICA) LLC PO BOX 920425 DUTCH HARBOR, AK 99692

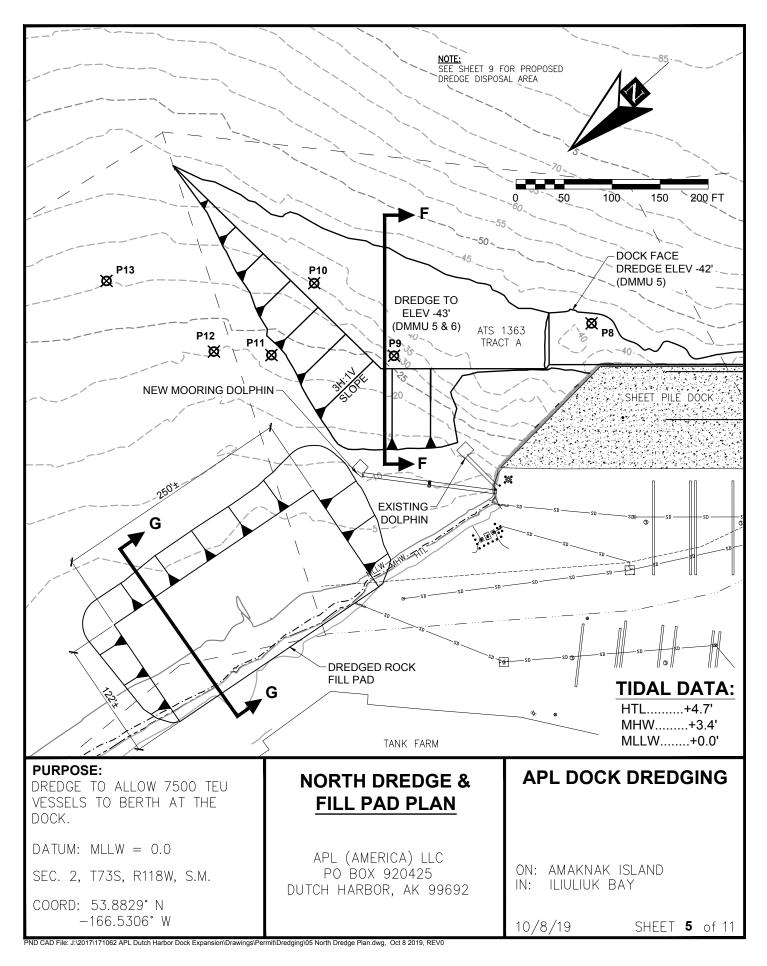
APL DOCK DREDGING

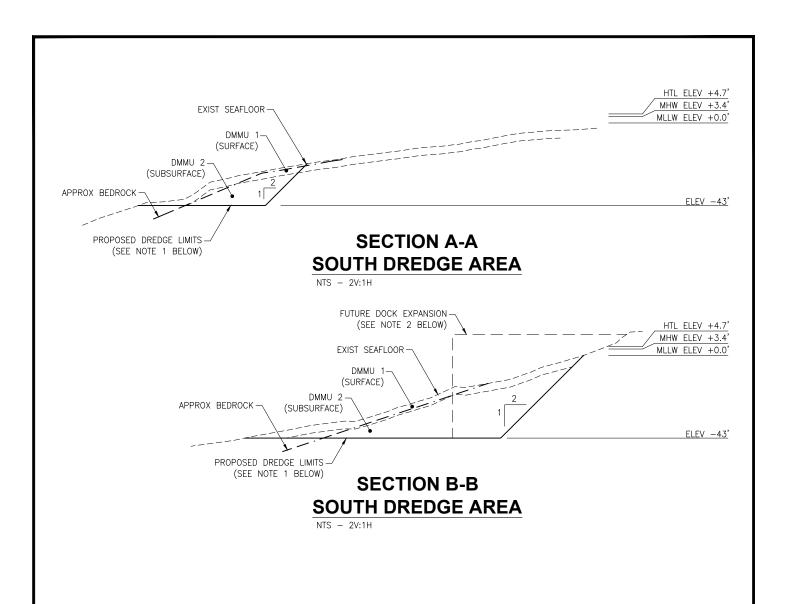
ON: AMAKNAK ISLAND IN: ILIULIUK BAY

10/8/19 SHEET **2** of 11









NOTES:

- OVERDREDGE TOLERANCE = 1 FT.
 FUTURE DOCK EXPANSION IS NOT PART OF
- FOTURE DUCK EXPANSION IS NOT PART OF THIS PERMIT APPLICATION FOR DREDGING.
 SURFACE DREDGE MATERIAL IS THE TOP 4 FT OF MATERIAL. SUBSURFACE DREDGE MATERIAL IS BELOW 4—FT DEPTH.

PURPOSE:

DREDGE TO ALLOW 7500 TEU VESSELS TO BERTH AT THE DOCK.

DATUM: MLLW = 0.0

SEC. 2, T73S, R118W, S.M.

COORD: 53.8829° N -166.5306° W

DREDGE SECTIONS

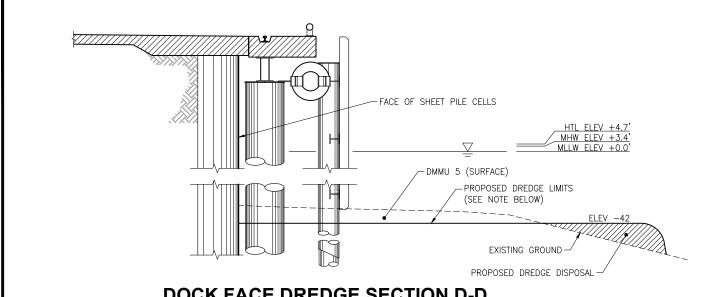
APL (AMERICA) LLC PO BOX 920425 DUTCH HARBOR, AK 99692

APL DOCK DREDGING

ON: AMAKNAK ISLAND IN: ILIULIUK BAY

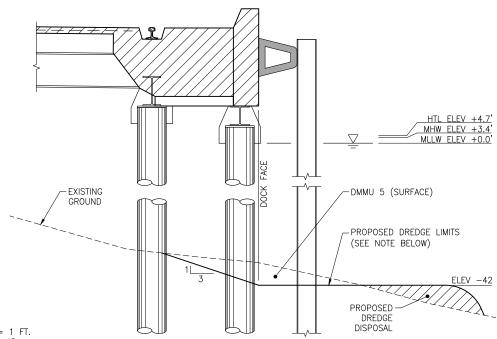
10/8/19 SHEET **6** of 11

PND CAD File: J:\2017\171062 APL Dutch Harbor Dock Expansion\Drawings\Permit\Dredging\06 Dredge Sections.dwg, Oct 8 2019, REV0



DOCK FACE DREDGE SECTION D-D

NTS - 1V:1H



NOTES:

OVERDREDGE TOLERANCE = 1 FT. OVERDREDGE TOLERANCE = 1 F1.
SURFACE DREDGE MATERIAL IS
THE TOP 4 FT OF MATERIAL.
SUBSURFACE DREDGE MATERIAL IS
BELOW 4-FT DEPTH.

DOCK FACE DREDGE SECTION E-E

PURPOSE:

DREDGE TO ALLOW 7500 TEU VESSELS TO BERTH AT THE DOCK.

DATUM: MLLW = 0.0

SEC. 2, T73S, R118W, S.M.

COORD: 53.8829° N -166.5306° W

DREDGE SECTIONS

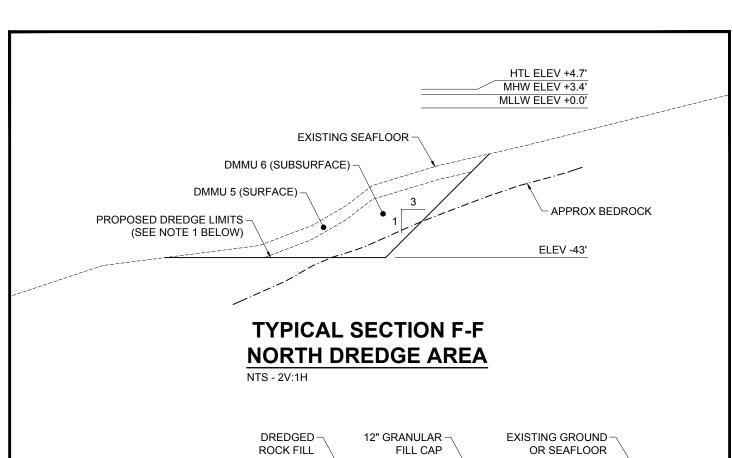
APL (AMERICA) LLC PO BOX 920425 DUTCH HARBOR, AK 99692

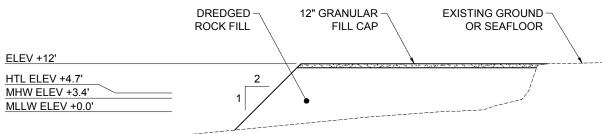
APL DOCK DREDGING

ON: AMAKNAK ISLAND IN: ILIULIUK BAY

10/8/19 SHEET **7** of 11

PND CAD File: J:\2017\171062 APL Dutch Harbor Dock Expansion\Drawings\Permit\Dredging\07 Dock Face Dredge Sections.dwg, Oct 8 2019, REV0





TYPICAL SECTION G-G ROCK FILL PAD

NTS - 2V:1H

NOTES:

- OVERDREDGE TOLERANCE = 1 FT.
- FUTURE DOCK IS NOT PART OF THIS
 PERMIT APPLICATION FOR DREDGING.
 SURFACE DREDGE MATERIAL IS THE TOP
 4 FT OF MATERIAL. SUBSURFACE DREDGE
 MATERIAL IS BELOW 4-FT DEPTH.

PURPOSE:

DREDGE TO ALLOW 7500 TEU VESSELS TO BERTH AT THE DOCK.

DATUM: MLLW = 0.0

SEC. 2, T73S, R118W, S.M.

COORD: 53.8829° N

-166.5306° W

DREDGE & FILL SECTIONS

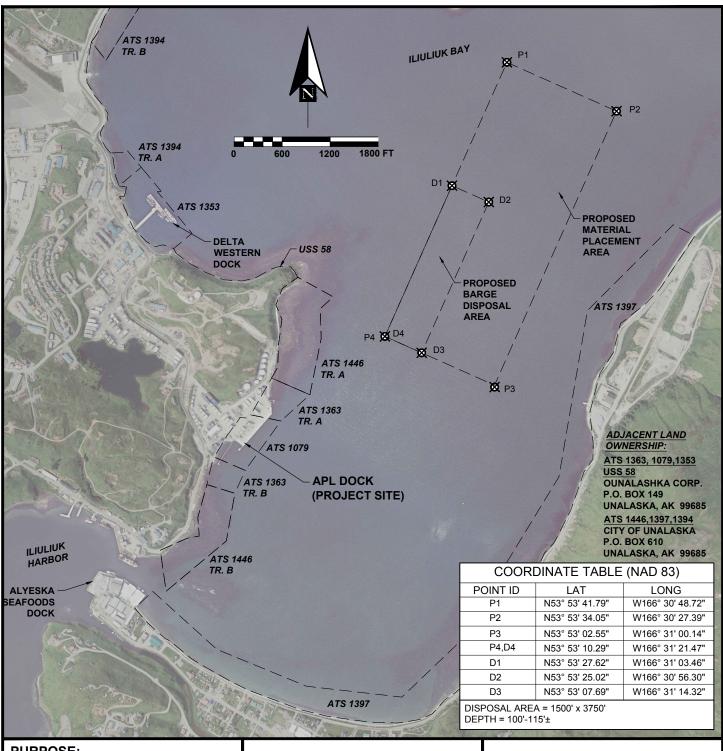
APL (AMERICA) LLC PO BOX 920425 DUTCH HARBOR, AK 99692

APL DOCK DREDGING

ON: AMAKNAK ISLAND IN: ILIULIUK BAY

10/8/19 SHEET 8 of 11

ND CAD File: J:\2017\171062 APL Dutch Harbor Dock Expansion\Drawings\Permit\Dredging\08 North Dredge Section.dwg, Oct 8 2019, REV0



PURPOSE:

DREDGE TO ALLOW 7500 TEU VESSELS TO BERTH AT THE DOCK.

DATUM: MLLW = 0.0

SEC. 2, T73S, R118W, S.M.

COORD: 53.8829° N -166.5306° W

DREDGE DISPOSAL AREA

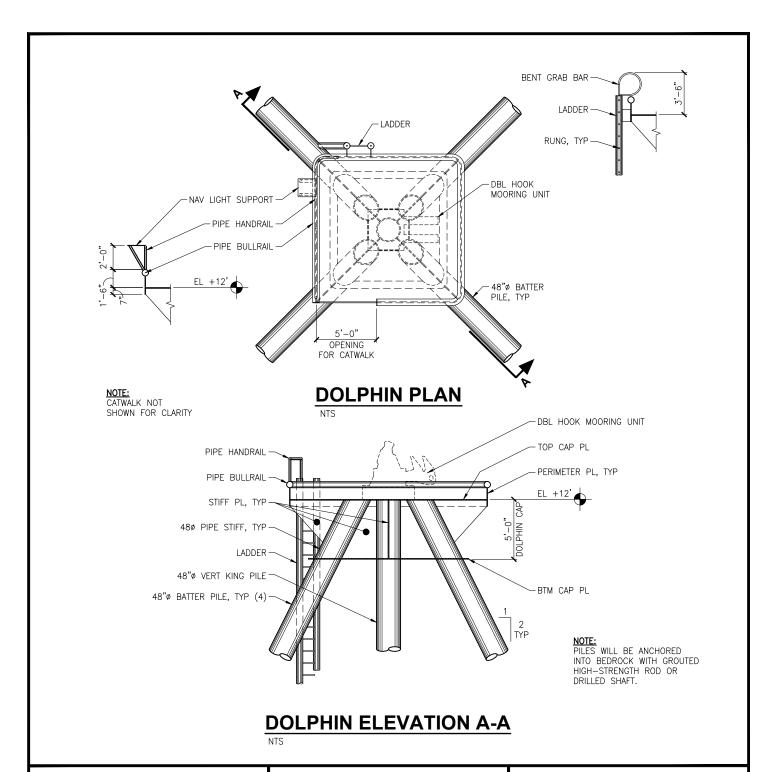
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APL DOCK DREDGING

ON: AMAKNAK ISLAND IN: ILIULIUK BAY

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ND CAD File: J:\2017\171062 APL Dutch Harbor Dock Expansion\Drawings\Permit\Dredging\09 Dredge Disposal Plan.dwg, Oct 8 2019, REV0



PURPOSE:

DREDGE TO ALLOW 7500 TEU VESSELS TO BERTH AT THE DOCK.

DATUM: MLLW = 0.0

SEC. 2, T73S, R118W, S.M.

COORD: 53.8829° N -166.5306° W

DOLPHIN DETAILS

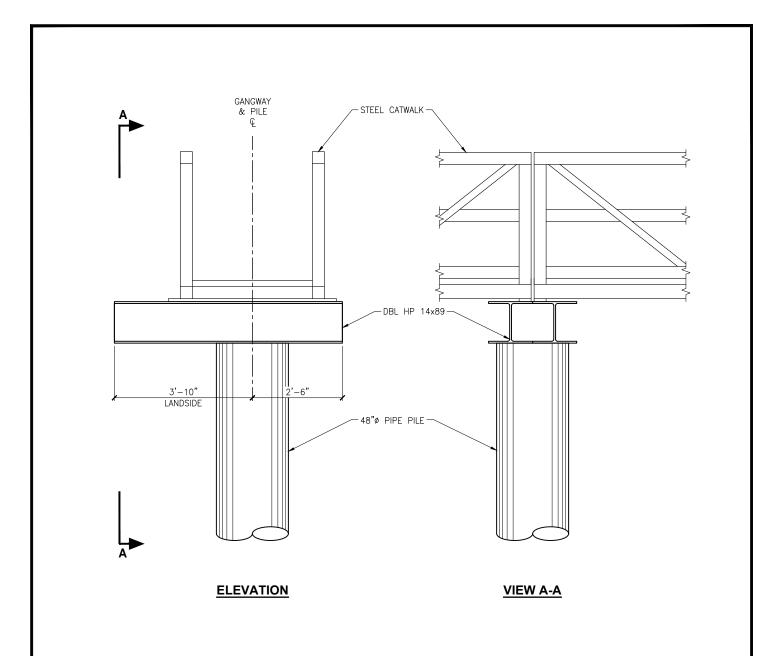
APL (AMERICA) LLC PO BOX 920425 DUTCH HARBOR, AK 99692

APL DOCK DREDGING

ON: AMAKNAK ISLAND IN: ILIULIUK BAY

10/8/19 SHEET **10** of 11

PND CAD File: J:\2017\171062 APL Dutch Harbor Dock Expansion\Drawings\Permit\Dredging\10 Dolphin Details.dwg, Oct 8 2019, REV0



CATWALK SUPPORT

NTS

PURPOSE:

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COORD: 53.8829° N -166.5306° W

CATWALK SUPPORT DETAILS

APL (AMERICA) LLC PO BOX 920425 DUTCH HARBOR, AK 99692

APL DOCK DREDGING

ON: AMAKNAK ISLAND IN: ILIULIUK BAY

10/8/19 SHEET **11** of 11

PND CAD File: J:\2017\171062 APL Dutch Harbor Dock Expansion\Drawings\Permit\Dredging\11 Catwalk Support Details.dwg, Oct 8 2019, REV0