THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Environmental Conservation
DIVISION OF WATER
Wastewater Discharge Authorization Program

555 Cordova Street
Anchorage, Alaska 99501-2617
Main: 907.269.6285
Fax: 907.334.2415
www.dec.alaska.gov/water/wwdp

April 1, 2022

Mike Rouse
U.S. Army Corps of Engineers (USACE)
Division of Civil Works
P.O. Box 6898
JBER, AK, 99506

Re: USACE, Barrow Reach Revetment
ER-22-01, Chukchi Sea

Mr. Rouse:

In accordance with Section 401 of the Federal Clean Water Act of 1977 and provisions of the Alaska Water Quality Standards, the Department of Environmental Conservation (DEC) is issuing the enclosed water quality certification that the discharge from the proposed project will comply with water quality requirements for the placement of dredged and/or fill material in waters of the U.S., including wetlands and streams, associated with the development of the Barrow Reach Revetment to address costal erosion in in Utqiagvik (Barrow).

DEC regulations provide that any person who disagrees with this decision may request an informal review by the Division Director in accordance with 18 AAC 15.185 or an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340. An informal review request must be delivered to the Director, Division of Water, 555 Cordova Street, Anchorage, AK 99501, within 20 days of the permit decision. Visit http://dec.alaska.gov/commish/review-guidance/ for information on Administrative Appeals of Department decisions.

An adjudicatory hearing request must be delivered to the Commissioner of the Department of Environmental Conservation, PO Box 111800, Juneau, AK 99811-1800; Location: 410 Willoughby Avenue, Suite 303, Juneau within 30 days of the permit decision. If a hearing is not requested within 30 days, the right to appeal is waived.

By copy of this letter, we are advising the U.S. Army Corps of Engineers of our actions and enclosing a copy of the certification for their use.

Sincerely,

James Ryplema
Program Manager, Storm Water and Wetlands

Enclosure: 401 Water Quality Certificate

cc: (with encl.)
Mike Rouse, USACE, Anchorage
Audra Brase, ADF&G/Habitat, Anchorage
Fairbanks USFWS Field Office
Mathew LaCroix, EPA, AK Operations

STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Water Quality Certification

In accordance with Section 401 of the Federal Clean Water Act (CWA) and the Alaska Water Quality Standards (18 AAC 70), a water quality certification is issued to the U.S. Army Corps of Engineers (USACE), Attention: Mike Rouse, P.O. Box 6898 JBER, AK, 99506. This Certification ensures that the discharge from the Chukchi Sea Barrow Reach Revetment will comply with water quality requirements for the placement of dredged and/or fill material in waters of the U.S. including wetlands and streams.

A state issued water quality certification is required under Section 401 because the proposed activity will be authorized by a U.S. Army Corps of Engineers and a discharge of pollutants to waters of the U.S. located in the State of Alaska may result from the proposed activity. Public notice of the application for this certification was given as required by 18 AAC 15.180 in the DEC Public Notice ER-22-01 posted from 2/18/2022 to 3/10/2022.

Project Description and Location

The applicant's stated purpose is to address the risk of coastal erosion and to protect public health and safety, protect critical infrastructure, maintain access to subsistence areas, and to protect cultural and historical resources.

Project Description: To address the risk of coastal erosion, the Corps will construct a rock revetment structure at the Bluff and Barrow reaches, a protective berm at the Lagoon reach, and would subsequently raise the elevation of Stevenson Street at the South and Middle Salt and NARL reaches. The Corps identified the resources under threat of coastal erosion or flooding along a contiguous five-mile section of the Barrow coastal shoreline and developed various methodologies of shoreline protection for these areas. Within this five-mile section, the Corps has designated six individual reaches for specific shoreline protection measures, from southwest to northeast they are designated the Bluff, Barrow, Lagoon, Browerville, South and Middle Salt, and Naval Arctic Research Lab (NARL) reaches. Approximately 23,200 CY of fill will be placed in the intertidal and subtidal zones of the northern Barrow reach. The material is comprised of 11,900 CY armor rock, 6,600 CY B rock, 2,300 CY Core Rock, and 2,400 CY Gravel into 1.5 acres of the Chukchi Sea.

The proposed activity is located within Section 06, T. 22 N., R. 18 W.; Latitude 71.293378 N., Longitude -156.789341 W., Umiat Meridian; Utqiagvik (formerly Barrow), Alaska.

Antidegradation Analysis Finding

Pursuant to the Department's Antidegradation Policy and Implementation Methods at 18 AAC 70.015 and 18 AAC 70.016, DEC finds that the project would comply with the requirements for Tiers 1 and 2 regarding water quality impacts to receiving water immediately surrounding the dredge or fill material pursuant to the Corps evaluation and findings of no significant degradation under 33 U.S.C. 1344 and under 40 CFR 230. The use of appropriate best management practices and erosion and sediment control measures would adequately protect the existing water uses and the level of water quality necessary to protect existing uses. Any potential water quality degradation is expected to be temporary and limited and necessary to accommodate important social and/or economic development in the area.

Conditions Necessary to Ensure Compliance with Water Quality Standards or Other Appropriate Water Quality Requirements of State Law

The Department of Environmental Conservation (DEC) reviewed the application and certifies that there is reasonable assurance that the proposed activity, as well as any discharge which may result, will comply

with applicable provisions of Section 401 of the CWA and the Alaska Water Quality Standards, 18 AAC 70, provided that the following additional measures are adhered to.

Pursuant to 18 AAC 70.020(a) and the Toxics and Other Deleterious Organic and Inorganic Substances in 18 AAC 70.020(b), the following conditions are designed to reduce pollutants from construction activity to ensure compliance with the applicable water quality standards.

Pollutants/Toxics

1. Fuel storage and handling activities for equipment must be sited and conducted so there is no petroleum contamination of the ground, subsurface, or surface waterbodies.
2. During construction, spill response equipment and supplies such as sorbent pads shall be available and used immediately to contain and cleanup oil, fuel, hydraulic fluid, antifreeze, or other pollutant spills. Any spill amount must be reported in accordance with Discharge Notification and Reporting Requirements (AS 46.03.755 and 18 AAC 75 Article 3). The applicant must contact by telephone the DEC Area Response Team for Northern Alaska at 907-451-2121 during work hours or 1-800-478-9300 after hours. Also, the applicant must contact by telephone the National Response Center at 1-800-424-8802.
3. Construction equipment shall not be operated below the ordinary high-water mark if equipment is leaking fuel, oil, hydraulic fluid, or any other hazardous material. Equipment shall be inspected and recorded in a log daily for leaks. If leaks are found, the equipment shall not be used and pulled from service until the leak is repaired.
4. Fill material (including dredge material) must be clean soil, sand, gravel or rock, free from petroleum products and toxic contaminants in toxic amounts.

Turbidity, Erosion and Sediment Control

5. Runoff discharged to surface water (including wetlands) from a construction site disturbing one or more acres must be covered under Alaska's General Permit for Storm Water Discharges from Large and Small Construction Activities in Alaska (CGP, AKR100000, 18 AAC 83). The CGP requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For projects that disturb more than five acres, this SWPPP must also be submitted to DEC prior to construction along with the Notice of Intent (NOI). For more information see DEC's website for the CGP at http://dec.alaska.gov/water/wastewater/stormwater/construction, or call 907-269-6285.
6. Include the following BMPs to handle storm water and total storm water volume discharges as they apply to the site:
   a. Divert storm water from off-site around the site so that it does not flow onto the project site and cause erosion of exposed soils;
   b. Slow down or contain storm water that may collect and concentrate within a site and cause erosion of exposed soils;
   c. Place velocity dissipation devices (e.g., check dams, sediment traps, or riprap) along the length of any conveyance channel to provide a non-erosive flow velocity. Also place velocity dissipation devices where discharges from the conveyance channel or structure join a water course to prevent erosion and to protect the channel embankment, outlet, adjacent stream bank slopes, and downstream waters.

Vegetation Protection and Restoration

7. Any disturbed ground and exposed soil not covered with fill must be stabilized and re-vegetated with endemic species, grasses, or other suitable vegetation in an appropriate manner to minimize erosion and sedimentation, so that a durable vegetative cover is established in a timely manner.
8. All work areas, material access routes, and surrounding wetlands involved in the construction project shall be clearly delineated and marked in such a way that equipment operators do not operate outside of the marked areas.
9. Natural drainage patterns shall be maintained, to the extent practicable, without introducing ponding or drying.

General

10. DEC coordinates with several regulatory programs to review the impacts of proposed projects. A Section 401 Certification does not release the applicant from obtaining all necessary federal, state, and local permits, nor does it limit more restrictive requirements set through any such program. It does not eliminate, waive, or vary the applicant's obligation to comply with all state water statutes and rules through construction, installation, and operation of the project or mitigation, including, but not limited to the APDES permitting program 18 AAC 83 and 18 AAC 72.
11. USACE has stated that projects shall be reviewed under the federal rules in place at the time the application is received. This project and its mitigation were reviewed under the federal and state statutes and laws in place at the time the application was received. If the USACE determines any part or condition of this Certification is not lawful or is waived and unenforceable, the determination shall apply only to the part or condition so determined. The determination shall not apply to nor invalidate any remaining parts or conditions of this Certification. If the USACE makes such a determination, the applicant remains responsible for meeting state water quality statutes and rules, and if a violation occurs, may be subject to state enforcement (18 AAC 70.010).
12. This Certification does not release the applicant from any liability, penalty, or duty imposed by Alaska or federal statutes, regulations, rules, or local ordinances, and it does not convey a property right or an exclusive privilege.
13. If your project is not completed by the time limit specified under USACE Permit and will continue, or for a modification of the USACE permit, you must submit an application for renewal of this certification at least 60 days before the expiration date or any deadline established by USACE for certification action on the modification, or 60 days before the proposed effective date of the modification, whichever is sooner. (18 AAC 15.120(b), 18 AAC 15.130, 18 AAC 15.180).

Date: April 1, 2022

James Rypkema, Program Manager
Storm Water and Wetlands

PUBLIC NOTICE

Alaska Department of Environmental Conservation (DEC)
Wastewater Discharge Authorization Program/401 Certification
555 Cordova Street, Anchorage AK 99501-2617
Phone: 907-269-6285|Email: DEC-401Cert@alaska.gov

Notice of Application for State Water Quality Certification

Public Notice (PN) Date: February 17, 2022
PN Expiration Date: March 10, 2022

PN Reference Number: ER-22-01
Waterway: Chukchi Sea

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 (CWA) 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 CWA, the Alaska Water Quality Standards, and other applicable State laws.

Notice is hereby given that a request for a CWA §401 Water Quality Certification of a Department of the Army Permit application, Corps of Engineers' Reference Number ER-22-01, Chukchi Sea, has been received for the discharge of dredged and/or fill materials into waters of the United States (WOUS), including wetlands, as described below and shown on the enclosed project figures/drawings. The public notice and related project figures/drawings are also accessible from the DEC website at http://dec.alaska.gov/water/wastewater/.

Any person desiring to comment on the project with respect to water quality, may submit comments electronically via the DEC public notice site (**preferred method**) at https://water.alaskadec.commentinput.com/?id=HR4GT

Alternatively you may direct written comments or requests for public hearing via email or mail to the address listed above by the Public Notice (PN) expiration date. All comments submitted via mail or email should include the PN reference number listed above in the subject heading. Mailed comments must be postmarked on or before the expiration date of the public notice.

Applicant: U.S. Army Corps of Engineers, P.O. Box 6898 JBER, AK, 99506, Mike Rouse, Biologist, 907-753-2743, Michael.B.Rouse@usace.army.mil

Project Name: ER-22-01 USACE Civil Works Chukchi Sea Barrow Reach Revetment

Location: The proposed activity is located within Section 06, T. 22 N., R. 18 W.; Latitude 71.293378° N., Longitude -156.789341° W., Meridian; in Utqiagvik (formerly Barrow), Alaska.

Purpose: The applicant's stated purpose is to address the risk of coastal erosion and to protect public health and safety, protect critical infrastructure, maintain access to subsistence areas, and to protect cultural and historical resources.

Project Description: To address the risk of coastal erosion, the Corps will construct a rock revetment structure at the Bluff and Barrow reaches, a protective berm at the Lagoon reach, and would subsequently raise the elevation of Stevenson Street at the South and Middle Salt and NARL reaches. The Corps identified the resources under threat of coastal erosion or flooding along a contiguous five-mile section of the Barrow coastal shoreline and developed various methodologies of shoreline protection for these areas. Within this five-mile section, the Corps has designated six individual reaches for specific shoreline protection measures,

from southwest to northeast they are designated the Bluff, Barrow, Lagoon, Browerville, South and Middle Salt, and Naval Arctic Research Lab (NARL) reaches. Approximately 23,200 CY of fill will be placed in the intertidal and subtidal zones of the northern Barrow reach. The material is comprised of 11,900 CY armor rock, 6,600 CY B rock, 2,300 CY Core Rock, and 2,400 CY Gravel into 1.5 acres of the Chukchi Sea.

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

The permit application and associated documents are available for review. For inquires or to request copies of the documents, contact dec-401cert@alaska.gov, or call 907-269-6285.

Disability Reasonable Accommodation Notice

The State of Alaska, Department of Environmental Conservation complies with Title II of the Americans with Disabilities Act (ADA) 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 ADA Coordinator Brian Blessington at 907-269-6272 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.

Request for CWA §401 Water Quality Certification

Alaska Department of Environmental Conservation
Division of Water – Wastewater Discharge Authorization Program
555 Cordova Street, Anchorage AK 99501
email: dec-401Cert@alaska.gov Phone: 907-269-6285

I. Identify the applicable federal license or permit*

Permit License Number: _____ Federal Agency: ☑ USACE, ☐ FERC, or ☐ Other: _____

*A copy of the federal permit or license application is required to be submitted with the request for the water quality certification. (18 AAC 15.130, 18 AAC 15.180)

II. Project Proponent and Point of Contact

Applicant Information

Mike (First) | (Middle) | Rouse (Last)
U.S. Army Corps of Engineers (Company) | Biologist (Title)
P.O. Box 6898 (Mailing Address Street or PO Box) | JBER (City) | AK (State) | 99506 (Zip)
Michael.B.Rouse@usace.army.mil (Email) | 907-753-2743 (Phone) | (Fax (optional))

Point of Contact or Agent Information

Mike (First) | (Middle) | Rouse (Last)
U.S. Army Corps of Engineers (Company) | Biologist (Title)
P.O. Box 6898 (Mailing Address or PO Box) | JBER (City) | AK (State) | 99506 (Zip)
Michael.B.Roues@usace.army.mil (Email) | 907-753-2743 (Phone) | (Fax (optional))

Statement of Authorization

I hereby authorize _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit/certification application.

_____ SIGNATURE OF APPLICANT _____ DATE

III. Name, Location, and Description of Project or Activity

Coastal Erosion Protection - Barrow Reach Revetment
Project Name or Title

Barrow Reach (Project Street Address (if applicable)) | Utqiagvik (City) | AK (State) | 99723 (Zip) | 71.293378 **Latitude** (Decimal Degrees, 6 places) | -156.789341 **Longitude** (Decimal Degrees, 6 places)

Other Location Descriptions if known:

State Tax Parcel ID | Municipality | Section | Township | Range | **Estimated Start Date** | **Estimated End Date**

Primary Industrial Activity (if applicable): _____ NAICS Code

Directions to the site:

Utqiagvik coastal shoreline

Nature of Activity (Description of project, include all features)

Construction of a rock revetment in an area subject to coastal erosion. Fill would only be placed below the +0.55ft MLLW line in the low bluff area of the Barrow reach (reference accompanying 404(b)(1) evaluation).

Project Purpose (Describe the reason(s) for discharge)

The purpose of the coastal revetment at the Barrow reach is to protect public health and safety, protect critical infrastructure, maintain access to subsistence areas, and to protect cultural and historical resources.

For fill material, identify the material source: Quarry and rock type not yet identified. Fill rock consists of gravels, cobbles, boulders, and armor rock.

Types of material being discharged and the amount of each type in cubic yards: Armor Rock / B Rock (Type) 11,900 / 6,600 (yd^3) | Core Rock / Gravel (Type) 2,300 / 2,400 (yd^3)

Surface area in acres of wetlands or other waters filled: Acres: 1.5 (approximately) Or, linear feet: _____

Is dredging involved? ☑ Yes, ☐ No; If yes, how much? unknown acres and volume _____ yd^3.

a. Is the dredging considered a ☑new project, or is it ☐maintenance? If maintenance, how frequent? _____

b. Proposed Placement of dredged material: (provide center coordinates of placement area)

☑ Upland,		☐ In water,		☐ Other: _____	
71.293378	-156.789341				
Latitude	Longitude	Latitude	Longitude	Latitude	Longitude

c. Has a Tier analysis been conducted of the dredged prism? ☐ Yes, ☑ No; If yes, attach tier analysis and sample results. Note, If marked no, this may later be required upon review of request.
(for example of Tier analysis, see EPA Inland Testing Manual or USACE Seattle District Civil Works DMMP User Manual)

Is any portion of the work already complete? ☐ Yes, ☑ No If yes, describe the completed work:

IV. Identify the location and nature of any potential discharge that may result from the proposed project and the location of receiving waters;

Name and location of receiving waters, and geographical extent potentially affected by the proposed discharge:

Nearshore coastal Chukchi Sea, in the immediate vicinity of the Barrow reach (intertidal and adjacent subtidal waters).
Discharge would consist of freshly quarried rock.

Location of potential discharge (Decimal Degrees, 6 places), describe if necessary:

	Activity		Description	Receiving Waterbody Name	Latitude	Longitude
	Dredge	Fill				
a.	☑	☐	Native beach and intertidal sediments	Placed in the low bluff area	72.293378	-156.789341
b.	☐	☑	Gravel, cobbles, boulders, armor rock	Nearshore Chukchi Sea	72.293378	-156.789341
c.	☐	☐				
d.	☐	☐				
e.	☐	☐				

Is the project within 1,500 feet of a known contaminated site: ☑ Yes, ☐ No (see DEC Contaminated Sites Program website).
If yes, describe the identified contaminated site(s) or groundwater plume within 1,500 feet.

Sites #26365 (approximately 150-ft), #1392 (approximately 500-ft), and #26956 (approximately 1,000-ft).

Parameter(s) of Concern: (check all that apply): ☑ Turbidity, ☐ Sediment, ☐ Petroleum Hydrocarbons, ☐ Metals, ☐ Other,
Identify the parameters of concern that may be present in your discharge. Consider if other parameters may be present from past activities in the area. Describe if known respective concentrations, persistence, and potential impacts to the receiving water and data on parameters that may alter the effects of the discharge to the receiving water.:

Elements of in-water excavation and material placement would likely increase turbidity levels. However, elevated turbidity levels would be highly localized and temporary in duration.

Impaired Waters: Does a discharge of any parameter identified above occur to an impaired waterbody listed as a Category 4 [304(b)] or Category 5 [303(d)] in the current EPA approved Alaska's Integrated Water Quality Monitoring and Assessment Report? (See http://dec.alaska.gov/water/water-quality/impaired-waters.aspx for the most recently approved report and category listings.) ☐ Yes, ☑ No

If determined necessary and requested by the Department, submit sufficient and credible baseline water quality information for the receiving water which meets the requirements of 18 AAC 70.016(a)(6)(A-C).

Social or Economic Importance (18 AAC 70.016(c)(5): Provide information that demonstrates the accommodation of important social or economic development. The applicant shall complete either a social OR economic importance analysis (or both) for each affected community in the area where the receiving water for the proposed discharge is located. (if additional space is needed, attach separate sheet)

(A) **Social Importance Analysis**:
(select one or more areas, and describe below)

- ☑ community services provided;
- ☑ public health or safety improvements;
- ☑ infrastructure improvements;
- ☐ education and training;
- ☑ cultural amenities;
- ☑ recreational opportunities

(B) **Economic Importance Analysis**:
(select one or more areas, and describe below)

- ☑ employment, job availability, and salary impacts;
- ☑ tax base impacts;
- ☐ expanded leases and royalties;
- ☑ commercial activities;
- ☑ access to resources;
- ☐ access to a transportation network

Describe (checked items above or attach as separate document)

Overall, social and economic interests would be protected by the proposed revetment structure. Coastal erosion in Utqiagvik currently threatens community resources such as infrastructure, drinking water, housing, and cultural resources.

V. Include a description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge

(Example: Provide a brief explanation describing how impacts to waters of the United States are being avoided and minimized on the project site. Include best management practices (BMPs) for sediment and erosion controls that will be implemented to minimize the environmental impacts.)

As currently envisioned, there would be no requirement for the monitoring, control, or treatment of the discharge; excavated sediments are native to the beach and quarried materials would be free of natural or anthropogenic contaminants. Construction of the revetment structure would likely not exceed 30 linear feet per day.

The Corps would require the contractor conducting the construction to have an approved spill avoidance and response plan.

VI. Include a list of all other federal, interstate, tribal, state, territorial, or local agency authorizations required for the proposed project, including all approvals or denials already received.

List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in this Application.

Agency	Type of Approval*	Identification Number	Date Applied	Date Approved	Date Denied
USFWS	FWCA, ESA, MBTA, ANILCA, NISA	N/A		10/19/2018	
NMFS	MSFCA	N/A		11/05/2018	

* Would include but is not restricted to zoning, building, and flood plain permits.

Addresses of Adjoining Property Owners, Lessees, Etc. Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list)

	Name	Address	City	State	Zip
a.					
b.					
c.					
d.					
e.					

VII. Attachments: Include documentation that a prefiling meeting request was submitted to the certifying authority at least 30 days prior to submitting the certification request; and include a copy of the federal license or permit application.

☐ Required: Prefiling meeting request documentation. (40 CFR 121.4)
☑ Required: Copy of the federal license or permit requiring certification under 33 U.S.C. 1341 (Clean Water Act, Section 401) to include all accompanying information, contemporaneous with the submission of the application to the federal licensing or permitting agency. (18 AAC 15.130, 18 AAC 15.180)
☑ Required: Figures and/or Drawings/Plan Sets
☐ Tier Analysis of dredged material
☐ Sampling Results
☐ Baseline Water Quality Information
☐ Other

Accompanying documents:

-404(b)(1) Evaluation: Coastal Erosion Protection - Barrow Reach Revetment. Barrow, Alaska.

VIII. Certification Statement:

As per 18 AAC 15.030 signing of applications, all permit or approval applications must be signed as follows:

1) in the case of corporations, by a principal executive officer of at least the level of vice president or his duly authorized representative, if the representative is responsible for the overall management of the project or operation;
2) in the case of a partnership, by a general partner;
3) in the case of a sole proprietorship, by the proprietor; and
4) in the case of a municipal, state, federal or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief. The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.

Company or Organization:	Name:	Title:
U.S. Army Corps of Engineers	Mike Rouse	Biologist

Phone:	Fax (optional):	Email:
907-753-2743		Michael.B.Rouse@usace.army.mil

Mailing Address:	Street (PO Box):		
☑ Check if same as Applicants Info	P.O. Box 6898		
	City: JBER	State: AK	Zip: 99506

Digitally signed by ROUSE.MICHAEL.BARRY.11551 34743
Date: 2022.01.07 10:19:23 -09'00'

Signature

January 7, 2022

Date

Submit the CWA §401 Certification Request to DEC-401Cert@alaska.gov.

Include in the subject line the following:

"CWA §401 Certification Request - *<Insert Federal Agency and permit number or license number> - <insert project title>*".

Instructions for Preparing a Request for CWA §401 Certification for an Individual Permit or License

I. Identify the applicable federal license or permit

Include the Federal Agency's permit license number and identify the corresponding agency for which you are applying for the Alaska DEC CWA §401 certification.

II. Project Proponent and Point of Contact

Enter the name, contact information to include the E-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the application, please attach a sheet with the necessary information. Point of Contact or Agent Information to be completed if you choose to have an agent.

III. Name, Location, and Description of Project or Activity

Project Name: Please provide name identifying the proposed project, e.g., Landmark Plaza, Burned Hills Subdivision, or Edsall Commercial Center. Include location and description of the project or activity.

Estimate Start/End Dates: What are the anticipated start and end dates for project construction?

Location: Provide Latitude and Longitude in decimal degrees with six decimal places, example: 61.216883 N Latitude / -149.878756 W Longitude. Use www.latlong.net if needed for online tool for finding lat/long. Provide street address if applicable, and other location descriptions if known. If the facility or project lacks a street address, indicate the general location of the facility (e.g., intersection of x and y).

Primary Industrial Activity: Identify the Activity Code that best represents the products produced or services rendered for which your facility is primarily engaged. For the North American Industry Classification System (NAICS) see census.gov/eos/www/naics/.

Directions to the site: Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide description of the proposed project location, such as lot numbers, tract numbers, or you may choose to locate the proposed project site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed project site if known.

Nature of the Activity: Describe the overall activity or project. Give appropriate dimensions of structures such as wing walls, dikes (identify the materials to be used in construction, as well as the methods by which the work is to be done), or excavations (length, width, and height). Indicate whether discharge of dredged or fill material is involved. Also, identify any structure to be constructed on a fill, piles, or float-supported platforms. The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper.

Project Purpose: Describe the purpose and need for the proposed project. What will it be used for and why? Also include a brief description of any related activities to be developed as the result of the proposed project. Give the approximate dates you plan to both begin and complete all work.

Types of Material Being Discharged and the Amount of Each Type in Cubic Yards. Describe the material to be discharged and amount of each material to be discharged within Corps jurisdiction. Please be sure this description will agree with your illustrations. Discharge material includes rock, sand, clay, concrete, etc.

Surface Areas of Wetlands or Other Waters Filled. Describe the area to be filled at each location. Specifically identify the surface areas, or part thereof, to be filled. Also include the means by which the discharge is to be done (backhoe, dragline, etc.). If dredged material is to be discharged on an upland site, identify the site and the steps to be taken (if necessary) to prevent runoff from the dredged material back into a waterbody. If more space is needed, attach an extra sheet of paper.

Dredging: Identify if any dredging is involved. If so, quantify the acres and volume to be dredged. Provide an assessment of the dredge prism and sample results to support a Tier analysis. Consult the EPA Inland Testing Manual or the USACE Seattle District Civil Works DMMP User Manual for an example of a Tier analysis of the dredge prism. It is recommended to consult with DEC and Corps prior to conducting sampling during pre-application meetings to avoid delays.

Is any portion of the work already complete: Provide any background on any part of the proposed project already completed. Describe the area already developed, structures completed, any dredged or fill material already discharged, the type of material, volume in cubic yards, acres filled, if a wetland or other waterbody (in acres or square feet). If the work was done under an existing Corps or other federal/state permit, identity the authorization, if possible.

IV. Identify the location and nature of any potential discharge that may result from the proposed project and the location of receiving waters;

Name and Location of potential discharge. Provide latitude and longitude coordinates (Decimal Degrees, 5-digit places) of potential discharge. Describe the location if necessary. Include the geographic extent potentially affected by the proposed discharge.

Contaminated Sites: Identify any known contaminated sites within 1,500 feet of the proposed project discharge, to include those known by the applicant or known DEC identified contaminated site either in "Active" or "Cleanup Complete – Institutional Controls" status. For more information, see DEC Contaminated Sites website (dec.alaska.gov/spar/csp.aspx) for ability to search via map, database, and background summaries.

Parameters of Concern: Identify the parameters of concern that may be present in your discharge. Consider if other parameters may be present from past activities in the area. Describe if known respective concentrations, persistence, and potential impacts to the receiving water and data on parameters that may alter the effects of the discharge to the receiving water.

Impaired Waters: Does a discharge of any parameter identified may occur to an impaired waterbody listed as a Category 4 [304(b)] or Category 5 [303(d)] in the current EPA approved Alaska's Integrated Water Quality Monitoring and Assessment Report?

See http://dec.alaska.gov/water/water-quality/impaired-waters.aspx for the most recently approved report and category listings.

Social or Economic Importance Analysis: select as appropriate and provide a description per 18 AAC 70.016(c)(5).

V. Include a description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge

Nature of potential discharge and potential environmental impacts on the receiving water: Provide a brief explanation describing how impacts to waters of the United States are being avoided and minimized on the project site. Include best management practices (BMPs) for sediment and erosion controls that will be implemented to minimize the environmental impacts.

VI. List of all other federal, interstate, tribal, state, territorial, or local agency authorizations required for the proposed project, including all approvals or denials already received;

You may need the approval of other federal, state, or local agencies for your project. Identify any applications you have submitted and the status, if any (approved or denied) of each application. You need not have obtained all other permits before applying for the CWA §401 certification.

VII. Attachments: Include documentation that a prefiling meeting request was submitted to the certifying authority at least 30 days prior to submitting the certification request;

Required: Prefiling meeting request: Include documentation (copy of email) that a prefiling meeting request was submitted to DEC. Acceptable format is an email sent to the DEC 401 Certification email address, dec-401cert@alaska.gov requesting a prefiling meeting request. Include as much information as relevant to describe the nature of your proposed activity. The certifying authority (DEC) may or may not respond depending on the information you provide in the prefiling meeting request.

Required: Provide a copy of the federal license or permit application requiring certification under 33 U.S.C. 1341 (Clean Water Act, Section 401) to include all accompanying information, contemporaneous with the submission of the application to the federal licensing or permitting agency. This would include all site drawings and maps and illustrations.

VIII. Certification Statement

As per 18 AAC 15.030 Signing of applications, all permit or approval applications must be signed as follows:

5) in the case of corporations, by a principal executive officer of at least the level of vice president or his duly authorized representative, if the representative is responsible for the overall management of the project or operation;
6) in the case of a partnership, by a general partner;
7) in the case of a sole proprietorship, by the proprietor; and
8) in the case of a municipal, state, federal or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

For more information regarding CWA §401 Certifications, see the DEC website at http://dec.alaska.gov/water/wastewater/wetlands, or contact:

Alaska Department of Environmental Conservation
Division of Water – Wastewater Discharge Authorization Program
555 Cordova Street, Anchorage AK 99501
email: dec-401Cert@alaska.gov Phone: 907-269-6285

Submit the CWA §401 Certification Request to DEC-401Cert@alaska.gov. **Include in the subject line the following**:

"CWA §401 Certification Request - *<Insert Federal Agency and permit number or license number> - <insert project title>*".

US Army Corps of Engineers®

404(b)(1) Evaluation

Coastal Erosion Protection – Barrow Reach Revetment Barrow, Alaska

January 2022

404(b)(1) Evaluation

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Barrow, Alaska

Prepared By:

U.S. Army Corps of Engineers
Alaska District

January 2022

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1.0 PROJECT DESCRIPTION

1.1 Location

The coastal community of Barrow, currently recognized as the City of Utqiaġvik, is located approximately 750 miles north of Anchorage along Alaska's Chukchi Arctic coast. The State of Alaska officially renamed the community Utqiaġvik on December 1st, 2016. However, for the purpose of this assessment, the former name of Barrow will be used as a practical matter to keep the name consistent with Corps' feasibility study addressing measures that would reduce or eliminate coastal erosion at Barrow. Barrow is the northernmost community in the United States and is the administrative, economic, social, and cultural center for the North Slope Burrough (NSB).

Barrow experiences frequent and severe coastal storms, resulting in flooding and erosion that threaten public health and safety, the economy of the community, over $1 billion of critical infrastructure, access to subsistence areas, and cultural and historical resources. The NSB has been facing storm damage and erosion problems for decades. Traditionally, foundation materials for local infrastructure would be obtained from the beach or a gravel pit area, updrift (southwest) a mile from Barrow. The overall reduction of natural beach nourishment material coupled with frequent storms is compounded by decreased seasonal ice cover that has left the coastline vulnerable to flooding and erosion. The NSB currently engages in construction of temporary and sacrificial beach berms by bulldozing beach sand into berms that are then supplemented with borrow materials from upland areas. The Corps' feasibility study identified permanent shoreline protection features that would eliminate the requirement for extensive annual beach and coastal bluff shoring activities.

The Corps identified the resources under threat of coastal erosion or flooding along a contiguous five-mile section of the Barrow coastal shoreline and developed various methodologies of shoreline protection for these areas. Within this five-mile section, the Corps has designated six individual reaches for specific shoreline protection measures, from southwest to northeast they are designated the Bluff, Barrow, Lagoon, Browerville, South and Middle Salt, and Naval Arctic Research Lab (NARL) reaches (Figure 1).

Figure 1. Designated Reaches from the Corps' Feasibility Study

To address the risk of coastal erosion, the Corps will construct a rock revetment structure at the Bluff and Barrow reaches, a protective berm at the Lagoon reach, and would subsequently raise the elevation of Stevenson Street at the South and Middle Salt and NARL reaches (Figure 2). Only portions of the proposed revetment structure at the Barrow reach would require in-water construction in the form of native material excavation and the placement of protective rock revetment; no other coastal erosion protection measures detailed in the description of the Corps' project would require in-water work or material placement.

Figure 2. Coastal Erosion Protection Measures

1.2 Authority and Purpose

The purpose of the coastal revetment at the Barrow reach is to protect public health and safety, protect critical infrastructure, maintain access to subsistence areas, and to protect cultural and historical resources.

1.3 General Description of Dredged or Fill Material

Fill will only be placed oceanward of the +0.55 ft MLLW line in the low bluff area of the Barrow reach (Figure 4). All other Corps coastal protection measures would occur landward of the beach and intertidal interface.

1.3.1 General Characteristics of Material

Generally, the material designated for placement will be freshly quarried material suitable for the purposes of the intent of the project. Quarried stone shall range in size from coarse gravels and cobbles to 5-ton armor rock. A small quantity of native material, the sands and gravels excavated from the beach and/or intertidal and subtidal zones to facilitate the placement of the revetment toe, would be utilized to contour the

upper bluff area to achieve the appropriate cross section for the upper revetment structure (Figure 7).

1.3.2 Quantity of Material

In total, approximately 23,200 CY of fill will be placed in the intertidal and subtidal zones of the northern Barrow reach. The material is comprised of 11,900 CY armor rock, 6,600 CY B rock, 2,300 CY Core Rock, and 2,400 CY Gravel.

1.3.3 Source of Material

The Corps has not yet identified a source quarry for the materials.

1.4 Description of Proposed Discharge Site

The proposed placement site is the low bluff, beach, intertidal, and subtidal area corresponding with the Barrow reach identified in the Corps' feasibility study.

Figure 3. Barrow Reach and Approximate Extent of In-water Revetment Construction

The Barrow reach is located at approximately Lat 71.293378° Long -156.789341°.

1.4.2 Size

The total project footprint size is approximately 1.5 acres.

Figure 4. Approximate In-Water Extent of Revetment Construction

The site is unconfined open water, although bounded by the shoreline.

1.4.4 Types of Habitat

Because the nearshore intertidal zone has been encroaching upon the low bluff area along the length of the Barrow reach, the NSB has fortified the bluff toe with sand filled super sacks to reduce erosion and protect critical infrastructure to the greatest degree possible (Figure 5). The beach is generally only a few meters wide along the Barrow reach and is comprised of unconsolidated coarse gravel, sand, and sandy silts. The intertidal swash zone is devoid of established aquatic vegetation and exhibits substrate characteristics similar to those of the beach. Intertidal reaches are subject to disturbance by ice scour, longshore sediment deposition and redistribution, but more so by wave action propagated by coastal storm activity.

The habitat areas that would be most affected by excavation and subsequent material placement during the construction of the revetment include the immediate intertidal zone and supratidal beach area most immediately adjacent to the project footprint. Temporary increases in turbidity to the waters surrounding the proposed project area would result from the mechanical agitation of sediments by an excavator but would likely be highly localized.

Figure 5. Existing Conditions

Because of the seasonal presence of sea ice at Barrow, excavation and material placement activities would occur during the summer and fall. Furthermore, the Corps expects that construction of the Barrow reach revetment would be accomplished in a single season.

1.5 Description of Disposal Methodology

Material placement would be land-based and occur via excavator, front-end loader, or possibly by dump truck, until the revetment design criteria were achieved. Excavation and reutilization of the native materials would occur in a similar fashion.

2.0 FACTUAL DETERMINATION

2.1 Physical Substrate Determinations

The materials comprising the revetment along the Barrow reach meet the criteria set forth in 40 CFR Subchapter H, Part 227.13(b)(1). The material proposed for placement is composed predominantly of sand, gravel, or rock. According to the Alaska

Department of Environmental Conservation's Division of Spill Prevention and Response (ADEC 2022), there are three active contaminated sites in relatively close proximity to Barrow reach, sites 26365 (approximately 150-ft), 1392 (approximately 500-ft), and 26956 (approximately 1,000-ft) (Figure 6).

2.1.1 Substrate Elevation and Slope

The revetment design elevations are integrated with the natural slope of the low bluff and the upper beach profile (Figure 7).

2.1.2 Sediment Type

Native sediments are an unconsolidated mix of coarse gravels, sand, and silty sand. Revetment materials are comprised of graduated sizing of quarried granite from gravels and fist-sized cobbles to 5-ton armor stone.

2.1.3 Dredged/Fill Material Movement

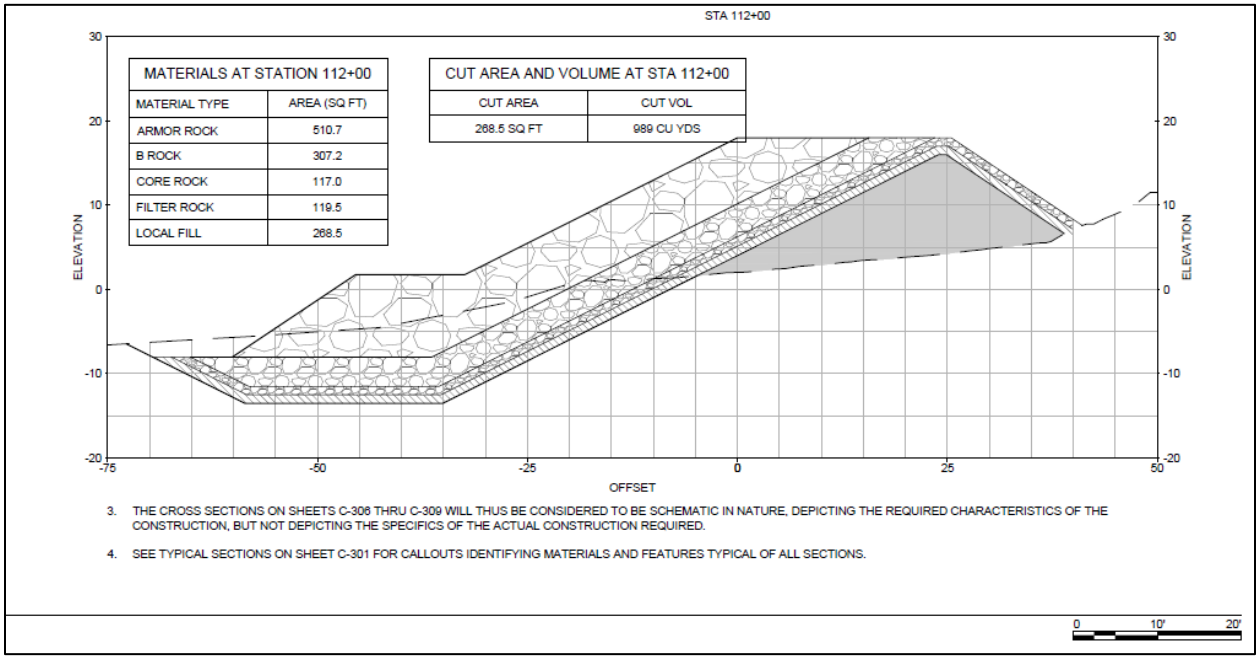
Material placed in support of the Barrow reach revetment is not expected to move or migrate outside of the envisioned project footprint. Specifically, the revetment has been designed in such a manner that it will dissipate wave energy that was eroding the low bluffs.

2.1.4 Physical Effects on Benthos

Physical effects upon the existing benthos would be limited to localized temporary increases in turbidity during material excavation and placement activities. A small area of the soft bottomed intertidal swash zone would be permanently converted to hard bottomed habitat where the revetment stone was placed below MLLW. Figure 7 illustrates the most severe requirement for material placement below MLLW, or 0-ft elevation.

2.1.5 Other Effects

Over time, no further effects to in-water or benthic habitat outside of this evaluation would be expected to occur as a result of USACE's material placement and excavation actions.



2.1.6 Actions Taken to Minimize Impacts

Industry standard best management practices would be employed to preserve the benthos' physical and chemical properties to the greatest extent practicable. Vehicle refueling and/or vehicle maintenance actions would be completed in designated nearby industrial areas. Furthermore, the Corps would require that the contractor conducting the construction actions have a pre-approved spill prevention and response plan.

2.2 Water Circulation. Fluctuation and Salinity Determinations

The Corps' project, as proposed, would not affect nearshore local or regional water circulation, nor would it affect salinity levels or salinity gradients that are observed in the nearshore Chukchi Sea waters adjacent to the Barrow reach.

2.2.1 Water

2.2.1.1 Salinity

Excavation of native materials and the placement of revetment stone would not be expected to affect local or regional salinity values.

2.2.1.2 Water Chemistry

Excavation of native materials and the placement of revetment stone would not be expected to affect local or regional water chemistry characteristics.

2.2.1.3 Clarity

Water clarity may be affected through the mechanical agitation of sediments during excavation and material placement activities. Finer sediments would be liberated into the water column and could migrate into adjacent waters through wave and nearshore current action. However, this effect would be expected to be highly localized and brief in duration because the water column is particularly shallow in the intertidal zone and construction of the revetment is not expected to exceed 30 linear feet per day.

2.2.1.4 Color

Excavation of native materials and the placement of revetment stone would not be expected to affect local or regional water coloration.

2.2.1.5 Odor

Excavation of native materials and the placement of revetment stone would not be expected to affect local or regional water odor.

2.2.1.6 Taste

Although the Chukchi Sea's waters are not used by the local populous as drinking water, the excavation of native materials and the placement of revetment stone would not be expected to affect the local or regional waters' taste characteristics.

2.2.1.7 Dissolved Gas Levels

Ambient dissolved gas levels would not be expected to change as a result of the excavation of native materials and the placement of revetment stone. Typically, dissolved gas values are elevated in the nearshore swash zone through natural wave action and subsequent agitation.

2.2.1.8 Eutrophication

No impact to the existing aqueous nutrient profile or hydrologic exchange that would promote a eutrophic state would be expected as a result of the excavation of native materials and the placement of revetment stone. The Chukchi Sea's physical water characteristics, semi-diurnal tidal regime, and regional atmospheric conditions are sufficient to preclude eutrophication on such a small scale.

2.2.1.9 Others as Appropriate

No other effects to the waters of the nearshore Chukchi Sea, both locally or regionally, outside of this evaluation would be expected to occur as a result of the excavation of native materials and the placement of quarried revetment stone.

2.2.2 Current Patterns and Circulation

2.2.2.1 Current Patterns and Flow

Generally, and as inferred by the observed deposition of longshore sediments to the northeast of the Barrow reach, the prevailing direction of the longshore current is from west to east. The natural migration and deposition of sediments along the coastal Barrow reach would not be expected to be affected by the Corps' project, as proposed.

2.2.2.2 Velocity

The velocity of the longshore current would not be affected by the excavation and placement of revetment materials along the Barrow reach.

2.2.2.3 Stratification

The natural stratification of currents in the Chukchi Sea is not likely to be affected by the excavation of native material and subsequent placement of revetment stone along the Barrow reach.

2.2.2.4 Hydrologic Regime

To what degree the excavation of native material and placement of revetment stone would affect the hydrologic regime of the Chukchi Sea is unknown at this time.

2.2.3 Normal Water Level Fluctuations

It is unlikely, given the potential volume of native sediments to be excavated and revetment stone placed, that perceptible changes in the daily, seasonal, or annual water level fluctuations of the Chukchi Sea would be observed.

2.2.4 Salinity Gradients

It is unlikely, given the physical and chemical constituents of the materials required for the Corps' project that perceptible changes to the salinity of the waters immediately adjacent to the Barrow reach or those of the greater Chukchi Sea would be observed.

2.2.5 Actions That Will Be Taken to Minimize Impacts

Impacts to the current patterns and circulation in the nearshore waters adjacent to the Corps' proposed project area and to the waters of the greater Chukchi Sea are unlikely. Therefore, the Corps would not take actions that might minimize impacts to the local current patterns and circulation.

2.3 Suspended Particulate/Turbidity Determinations

It is expected that highly localized turbidity values would temporarily increase during native material excavation and revetment stone placement activities. Turbidity values would be expected to return to ambient conditions upon the cessation of construction activities.

2.3.1 Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Disposal Site

Turbidity values in the waters adjacent to the Barrow reach may be affected through the mechanical agitation of sediments during native material excavation and revetment stone placement activities. Finer sediments would be liberated into the water column and would migrate into nearby waters. However, this effect is expected to be highly localized because construction of the revetment would not exceed more than 30-ft per day. Similarly, the majority of the in-water component of the Corps' project occurs in shallow water that already displays elevated turbidity levels as a result of wave action in the swash zone.

2.3.2 Effects (degree and duration) on Chemical and Physical Properties of the Water Column

Because the revetment stone is comprised quarried stone, and the native sediments are homogeneous in the area, it would be unlikely that the chemical or physical properties of the water column would be affected by the Corps' project, as proposed.

2.3.2.1 Light Penetration

Light penetration through the water column may be temporarily affected by the excavation of native sediments and the placement of revetment stone. However, any impacts would be highly localized and temporary in nature.

2.3.2.2 Dissolved Oxygen

Because aquatic areas included in the Corps' project footprint and those waters immediately adjacent to the proposed project occur primarily within the intertidal and swash zones where the water is constantly agitated and mixed with the ambient

atmosphere, dissolved oxygen levels would likely not be affected by the excavation of native sediments and the placement of revetment stone in these same areas. Similarly, it is unlikely that dissolved oxygen levels of the greater Chukchi Sea would be affected by the Corps' project, as proposed.

2.3.2.3 Toxic Metals and Organics

The Corps' project, as proposed, would not liberate or introduce toxic metals or organics into the water column.

2.3.2.4 Pathogens

The Corps' project, as proposed, would not liberate or introduce pathogens into the water column.

2.3.2.5 Aesthetics

Currently, the Barrow reach is beset by the presence of gravel- and sand-filled super sacks (Figure 5), with some in various states of decomposition. This landscape view would be replaced by a uniform rock revetment face that would reach from the blufftop to the swash zone. Whether or not this would be considered an improvement to the overall aesthetics of the Barrow reach is subjective. However, the aesthetics of the existing water column at the foot of the revetment would remain largely intact except for those areas that the revetment plunges below the intertidal zone.

2.3.2.6 Others as Appropriate

None

2.3.3 Effects on Biota

Disturbance to the biota as a result of the implementation of the Corps' project, as proposed, would be temporary in duration. However, a small portion of the unconsolidated sandy gravel substrate in the intertidal zone would be permanently converted to interstitial, hard-bottomed-type habitat which may serve as an attractant for invertebrates and smaller fishes during ice-free periods.

2.3.3.1 Primary Production, Photosynthesis

There would likely be no measurable change to the net primary production of the waters adjacent to the Barrow reach or the greater Chukchi Sea as a result of the implementation the Corps' project, as proposed.

2.3.3.2 Suspension/Filter Feeders

There would likely be no measurable effect upon suspension/filter feeding organisms in the waters adjacent to the Barrow reach or the greater Chukchi Sea as a result of the implementation the Corps' project, as proposed.

2.3.3.3 Sight Feeders

Sight feeders in the intertidal and the immediate subtidal zones would likely be deterred by the disturbance of the in-water construction activity associated with the Corps' project. However, because the intertidal and subtidal habitat immediately adjacent to the project footprint is relatively homogeneous, sight feeders would likely move to these areas to avoid disturbance.

2.3.4 Actions Taken to Minimize Impacts

Industry standard best management practices would be employed to preserve the physical and chemical properties of the waters of the nearshore Barrow reach and greater Chukchi Sea that may affect the local biota to the greatest extent practicable. Vehicle refueling and/or vehicle maintenance actions would be completed in designated nearby industrial areas. Furthermore, the Corps would require that the contractor conducting the construction actions have a pre-approved spill prevention and response plan.

2.4 Contaminant Determinations

Although the Corps has not yet identified the quarry source for the revetment stone, it is assumed that freshly quarried material would be free from anthropologic contaminants. Similarly, the sites listed in the ADEC contaminated sites database, sites 1392, 26365, and 26956, respectively, do not pose a threat of cross-contamination to the aquatic environment because they either exist too far away from the Corps' proposed project or there is no potential risk of disturbance by Corps activities.

2.5 Aquatic Ecosystem and Organism Determinations

2.5.1 Effects to Plankton

No measurable effect.

2.5.2 Effects on Benthos

A portion of the Barrow reach intertidal and subtidal benthic habitat will be converted from relatively soft-bottomed to hard bottomed, rock substrate.

2.5.3 Effects on Nekton

No measurable effect.

2.5.4 Effects on Aquatic Food Web

No measurable effect.

2.5.5 Effects on Special Aquatic Sites

There are no Special Aquatic Sites designated in the immediate vicinity of the Barrow reach.

2.5.5.1 Sanctuaries and Refuges

Barrow and its associated coastal lands and waters occur entirely within the overarching boundary of the Alaska Maritime National Wildlife Refuge, Chukchi Sea Unit.

2.5.5.2 Wetlands

In-water portions of the Corps' project, as proposed, occur entirely within intertidal and shallow subtidal zones of the nearshore territorial sea.

2.5.5.3 Mud Flats

Mud flats do not occur within Corps' project footprint, as proposed.

2.5.5.4 Vegetated Shallows

There are no vegetated shallows in the vicinity of the Barrow reach. Shore-fast sea ice scours the intertidal and nearshore subtidal benthos and combines with seasonal and storm-driven shoaling to preclude the establishment of vegetation in the area of the reach.

2.5.5.5 Coral Reefs

There are no coral reefs in the vicinity of the Barrow reach.

2.5.5.6 Riffle and Pool Complexes

There are no riffle pool complexes in the vicinity of the Barrow reach.

2.5.6 Threatened and Endangered Species

The Corps has determined that its project, as proposed, would not affect threatened or endangered species or their respective designated critical habitat areas.

2.5.7 Other Wildlife

The Corps has determined that its project, as proposed, would not affect other wildlife in the vicinity of the Barrow reach.

2.5.8 Actions to Minimize Impacts

Industry standard best management practices would be employed to minimize temporary impacts from its proposed project upon wildlife to the greatest extent practicable. Vehicle refueling and/or vehicle maintenance actions would be completed in designated nearby industrial areas. Furthermore, the Corps would require that the

contractor conducting the construction actions have a pre-approved spill prevention and response plan.

2.6 Proposed Disposal Site Determinations

2.6.1 Mixing Zone Determination

The mixing zone associated with the Corps' projects, as proposed, would be limited to the smallest practical area to facilitate the safe implementation of the revetment installation. Generally, this area is confined to the intertidal and nearshore subtidal zones of the Barrow reach. The mixing zone would experience temporary levels of increased turbidity during periods of in-water work and a small portion of the sand and gravel substrate would be permanently replaced by revetment stone.

2.6.2 Determination of Compliance with Applicable Water Quality Standards

The Corps' project, as proposed, complies with all applicable water quality standards.

2.6.3 Potential Effects on Human Use Characteristic

Other than the stabilization of the low bluff face and the preclusion to access of a small area of the intertidal and subtidal zone where the revetment would necessarily need to be placed, there would be no effect upon the human use characteristics of the nearshore waters immediately adjacent to the Barrow reach.

2.6.3.1 Municipal and Private Water Supply

No effect

2.6.3.2 Recreational and Commercial Fisheries

No effect.

2.6.3.3 Water Related Recreation

No effect.

2.6.3.4 Aesthetics

Currently, the low bluff area of the Barrow reach is beset by the presence of gravel- and sand-filled super sacks (Figure 3), with some in various states of decomposition. This landscape view would be replaced by a uniform rock revetment face that would reach from the blufftop to the swash zone. Consequently, the aesthetics of the beach and intertidal area along the Barrow reach will be temporarily affected by the presence of vehicles, work crews, and their equipment.

2.6.3.5 Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves

The Corps' project, as proposed, would not affect Parks, National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites, or Similar Preserves.

2.7 Determination of Cumulative Effects on the Aquatic Ecosystem

If the low bluffs of the Barrow reach are allowed to continue to erode, the nearshore waters could inadvertently come into contact with anthropogenically derived, environmentally persistent compounds like fuels and lubricants, insulation material, industrial use materials, and other such substances. However, the implementation of the Corps' project would reduce this risk. Whether or not the implementation of the Corps' plan would facilitate increased potential for effects to the aquatic ecosystem through other natural or anthropogenic actions is unknown at this time.

2.8 Determination of Secondary Effects on the Aquatic Ecosystem

Secondary effects to the aquatic ecosystem would not be expected to occur as a result of the implementation of the Corps' project, as proposed.

3.0 FINDINGS OF COMPLIANCE OR NON-COMPLIANCE WITH THE RESTRICTIONS ON DISCHARGE

3.1 Adaptation of the Section 404(b)(l) Guidelines to this Evaluation

The Corps' project, as proposed, complies with the requirements set forth in the Environmental Protection Agency's Guidelines for the Specification of Disposal Sites for Dredged or Fill Material, there were no adaptations.

3.2 Evaluation of Availability of Practicable Alternatives to the Proposed Discharge Site Which Would Have Less Adverse Impact on the Aquatic Ecosystem

The construction of linear rock revetment in the surf zone, at various locations within the project footprint represents the least environmentally damaging practicable alternative. The current practice of placing sand/gravel filled "super sacks" along the bluff face along with mechanically pushing beach sediments into eroded areas of the beach is determined to not meet the project purpose.

3.3 Compliance with Applicable State Water Quality Standards

The Corps' project, as proposed, would not be expected to have an appreciable adverse effect on water supplies, recreation, growth and propagation of fish, shellfish and other aquatic life, or wildlife. The Corps' project would not be expected to introduce petroleum hydrocarbons, radioactive materials, residues, or other pollutants into the waters of the United States.

3.4 Compliance with Applicable Toxic Effluent Standard or Prohibition Under Section 307 Of the Clean Water Act

No toxic effluents that would affect water quality are associated with the Corps' project, as proposed. Therefore, the project complies with the toxic effluent standards of Section 307 of the Clean Water Act.

3.5 Compliance with Endangered Species Act of 1973

The Corps has determined that its project, as proposed, is compliant with the Endangered Species Act.

3.6 Compliance with Specified Protection Measures for Marine Sanctuaries Designated by the Marine Protection. Research, and Sanctuaries Act of 1972

The Corps has determined that its project, as proposed, is compliant with specified protection measures for Marine Sanctuaries designated by the Marine Protection, Research, and Sanctuaries Act of 1972.

3.7 Evaluation of Extent of Degradation of the Waters of the United States

The extent to which Waters of the United States would be degraded by the Corps' project, as proposed, would be temporary in duration. The Corps expects that locally, turbidity levels would be elevated in areas of the Barrow reach during periods of in-water construction. However, these values would return to their ambient state upon the cessation of construction activities. Permanent placement of revetment stone in portions of the subtidal and intertidal zones along the Barrow reach does not constitute an effect that would be expected to degrade water quality over the long term. Similarly, the potential risk of degradation to Waters of the United Stated through coastal erosion along the Barrow reach is expected to be reduced by the implementation of the Corps project, as proposed.

3.7.1 Significant Adverse Effects on Human Health and Welfare

The Corps has determined that there would be no significant adverse effects on human health or welfare as a result of the implementation of its project, as proposed. Conversely, failure to address coastal erosion issues at along the Barrow reach may lead to impacts upon human health and welfare.

3.7.1.1 Municipal and Private Water Supplies

The Corps has determined that its project, as proposed, would not affect municipal or private water supplies.

3.7.1.2 Recreation and Commercial Fisheries

The Corps has determined that its project, as proposed, would not affect recreational or commercial fisheries.

3.7.1.3 Plankton

The Corps has determined that its project, as proposed, would not affect local or regional plankton resources.

3.7.1.4 Fish

The Corps has determined that its project, as proposed, would not affect local or regional fisheries resources.

3.7.1.5 Shellfish

The Corps has determined that its project, as proposed, would not affect local or regional shellfish resources.

3.7.1.6 Wildlife

The Corps has determined that its project, as proposed, would not affect local or regional wildlife resources.

3.7.1.7 Special Aquatic Sites

The Corps has determined that its project, as proposed, would not affect special aquatic sites.

3.7.2 Significant Adverse Effects on Life Stages of Aquatic Life and Other Wildlife Dependent on Aquatic Ecosystems

The Corps has determined that its project, as proposed, does not present significant adverse effects to life stages of aquatic life and other wildlife dependent upon aquatic ecosystems.

3.7.3 Significant Adverse Effects on Aquatic Ecosystem Diversity, Productivity and Stability

The Corps has determined that its project, as proposed, does not present significant adverse effects to aquatic ecosystem diversity, productivity, or stability.

3.7.4 Significant Adverse Effects on Recreational, Aesthetic, and Economic Values

The Corps has determined that its project, as proposed, does not present significant adverse effects to recreational, aesthetic, or economic values.

3.8 Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem

Industry standard best management practices will be employed to reduce potential effects to the aquatic ecosystem of the Chukchi Sea. Vehicle refueling, or vehicle

maintenance actions would be completed in designated nearby industrial areas and the Corps would require that the contractor constructing the Barrow reach revetment have a pre-approved spill prevention and response plan.

4.0 FINDING OF COMPLIANCE FOR THE BARROW REACH COASTAL EROSION PROTECTION PROJECT

On the Basis of the Guidelines, the proposed material placement site for the Discharge of Fill Material is specified as complying with the requirements of these guidelines, with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects on the aquatic ecosystem.

5.0 REFERENCES

ADEC Division of Spill Prevention and Response, Contaminated Sites Mapping Tool. https://www.arcgis.com/apps/mapviewer/index.html?webmap=315240bfbaf84aa0b8272ad1cef3cad3 Accessed January 2022.