Preliminary Boat Access and 7-Mile Road Alternatives for Point Hope, Alaska

November 30, 2021

Outline

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  - Identified Community Priorities
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- **Boat Access Alternatives**
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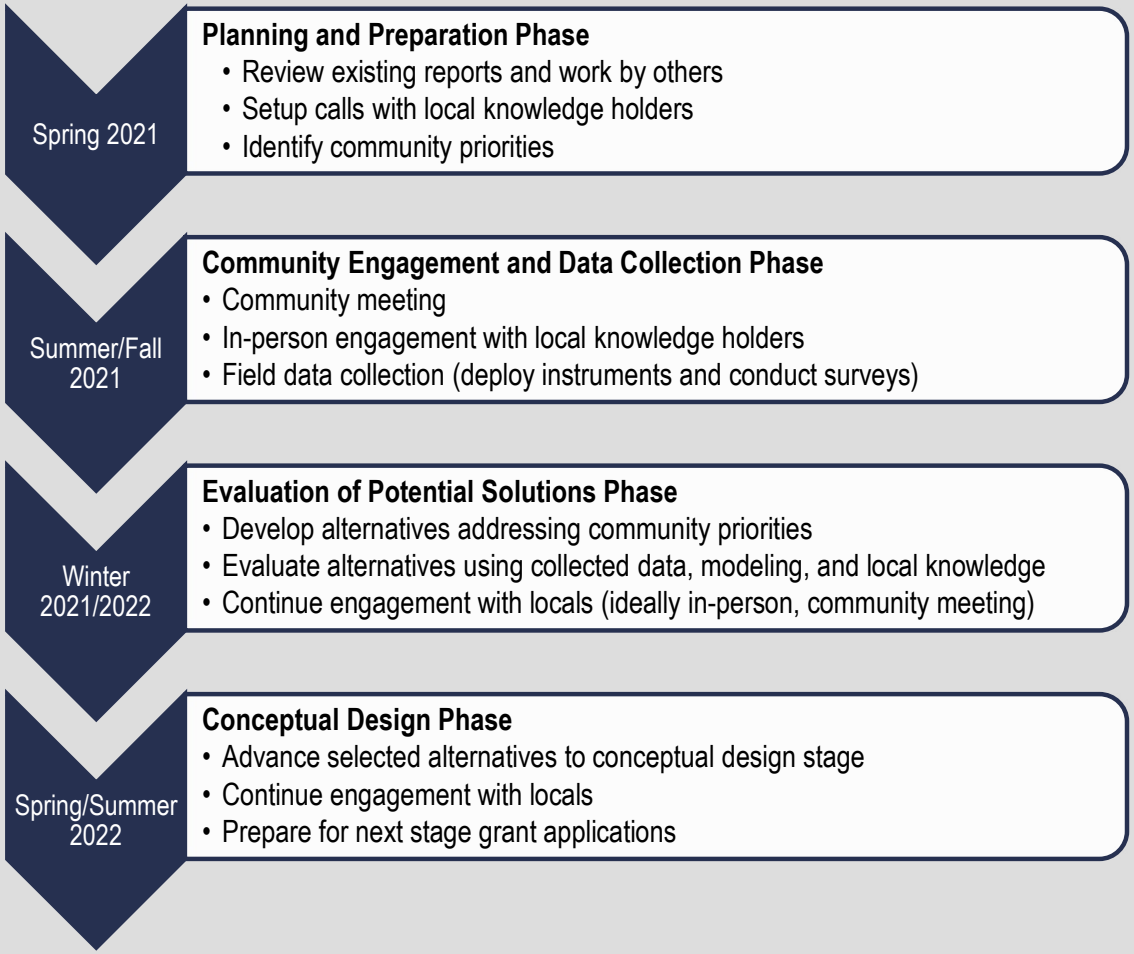
  - Existing Conditions
  - Alternatives
- **7-Mile Road Alternatives**
  - Overview
  - Alternatives
  - Design Features
  - Extension Routes

Project Timeline



Identified Community Priorities

- **Preserve cultural and historic sites including siġḷauqs** — Nov 16
  - Major threat: erosion
- **Maintain and improve functionality of siġḷauqs** — Nov 16
  - Major threat: flooding and temperature
- **Improve reliability of 7-Mile Road** — Today
  - Major threat: flooding, erosion, and settlement
- **Provide safe boat access to water** — Today
  - Major threat: Dynamic beach, steep beach profiles, unconsolidated gravel, and energetic wave environment limits the size of vessels that can be deployed

Today's Goals

- **Present potential alternatives to address two of the community priorities**
  - Preserve cultural and historic sites including siġḷauqs
  - Maintain and improve functionality of siġḷauqs
- **Receive feedback to better inform the project as we progress**
  - What are we missing?
  - What else could work?
  - Share personal experiences that may improve alternatives
  - What priority do you think is most important? Or least important?
- **Begin to consider evaluation criteria**
  - Does the alternative…
    - address community priority?
    - benefit the community?
    - supports fish and wildlife habitat?
  - Is the alternative…
    - functional?
    - maintainable?
    - constructable?
    - a permittable?
    - fundable?

Provide Safe Boat Access for Point Hope, Alaska

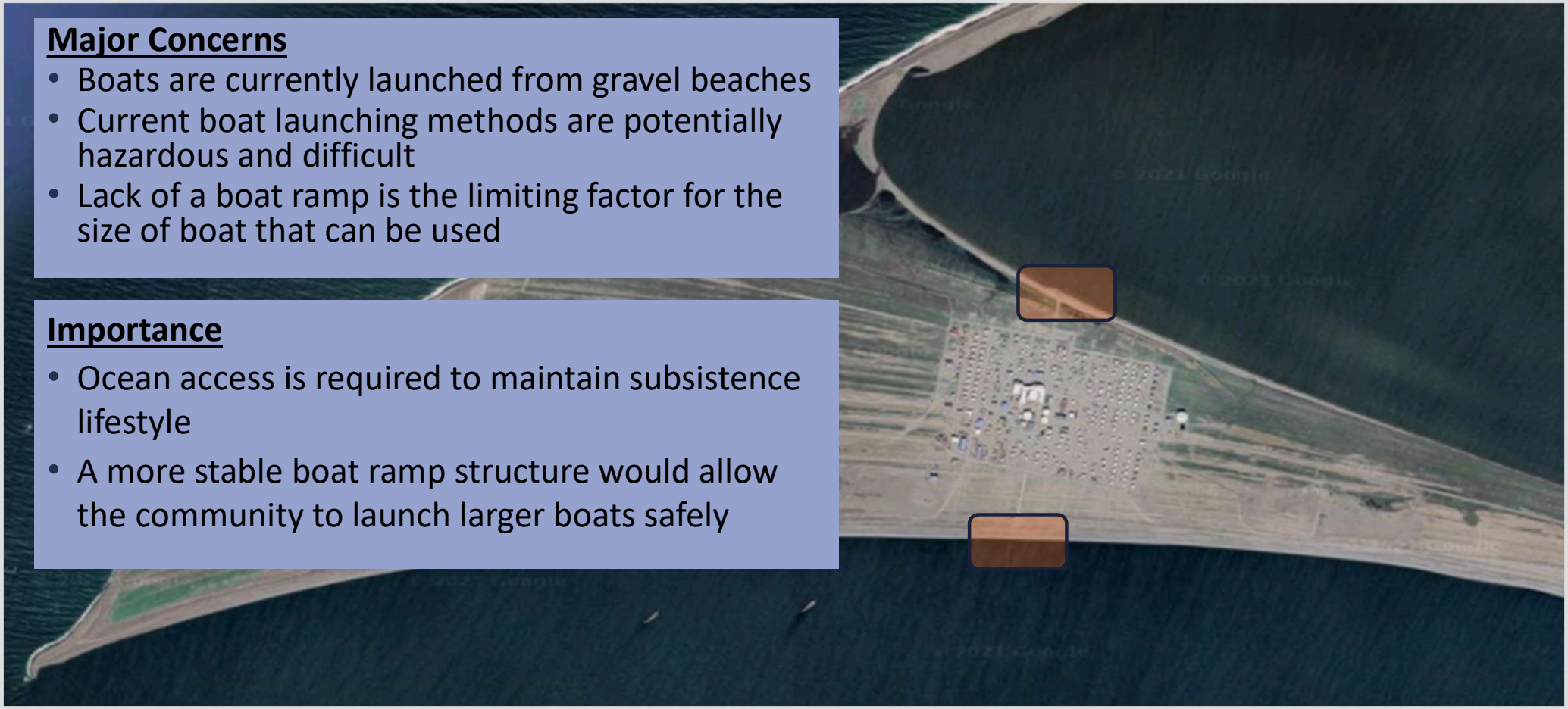
Safe Boat Access

Major Concerns

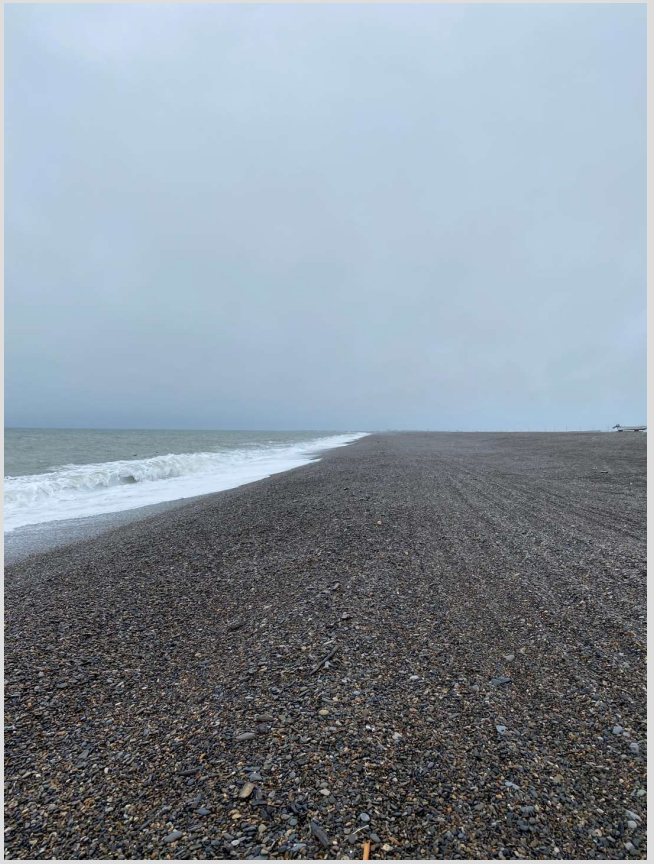
- Boats are currently launched from gravel beaches
- Current boat launching methods are potentially hazardous and difficult
- Lack of a boat ramp is the limiting factor for the size of boat that can be used

Importance

- Ocean access is required to maintain subsistence lifestyle
- A more stable boat ramp structure would allow the community to launch larger boats safely



Existing South Shore Boat Launch



Existing Marryat Inlet Boat Launch

Preliminary Boat Ramp Alternatives

- **Alternative 1 – Permanent Concrete Boat Ramp**
- **Alternative 2 – Temporary Roll Out Ramp**
- **Alternative 3 – Portable Swamp Mats**
- **Alternative 4 – Portable Metal Ramp**
- **Alternative 5 – Retractable Ramp**

Alternative 1 – Permanent Concrete Boat Ramp

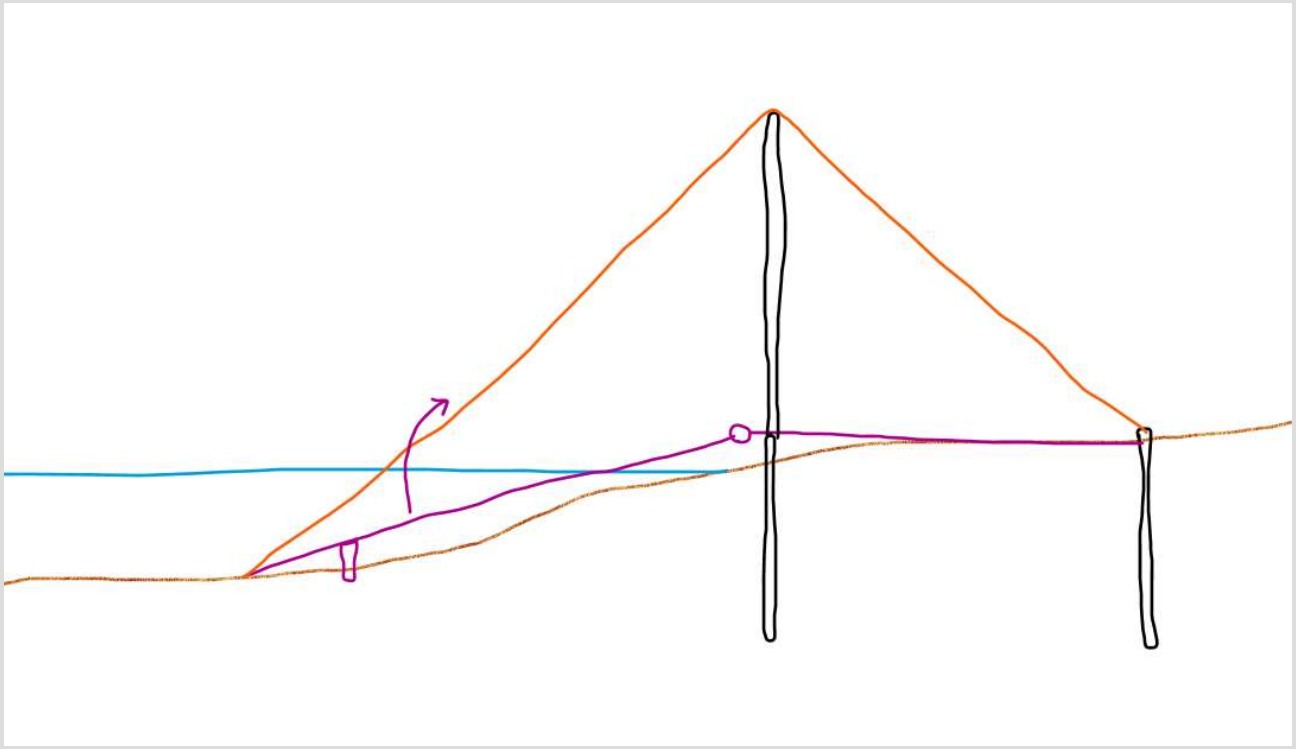
Alternative 2 – Temporary Roll Out Ramp

Alternative 3 – Portable Swamp Mats

Alternative 4 – Portable Metal Ramp

Alternative 5 – Retractable Metal Ramp

- A metal ramp that pivots or slides off a platform secured to the beach by concrete or metal piles.
- Ramp is lowered or extended into the water during ice-free months to allow trailer access into the water.



Comments or Questions on Boat Ramp Alternatives

Improve Reliability of 7-Mile Road

7-Mile Road

Overview

- Only overland emergency evacuation route off the spit
- Provides access to fresh water source
- Provides access to hunting/fishing areas

Major Concerns

- "Evacuation Route" that dead ends with no facilities and no parking area
- Crosses a low-lying area that is subject to flooding from Marryat Inlet and the lagoons to the south
  - Flooding has inundated the road
  - Flooding results in erosion and damage to the road
- Suffers from settlement issues related to permafrost thawing
- Unintentionally serves as a dam blocking flow from upgradient areas

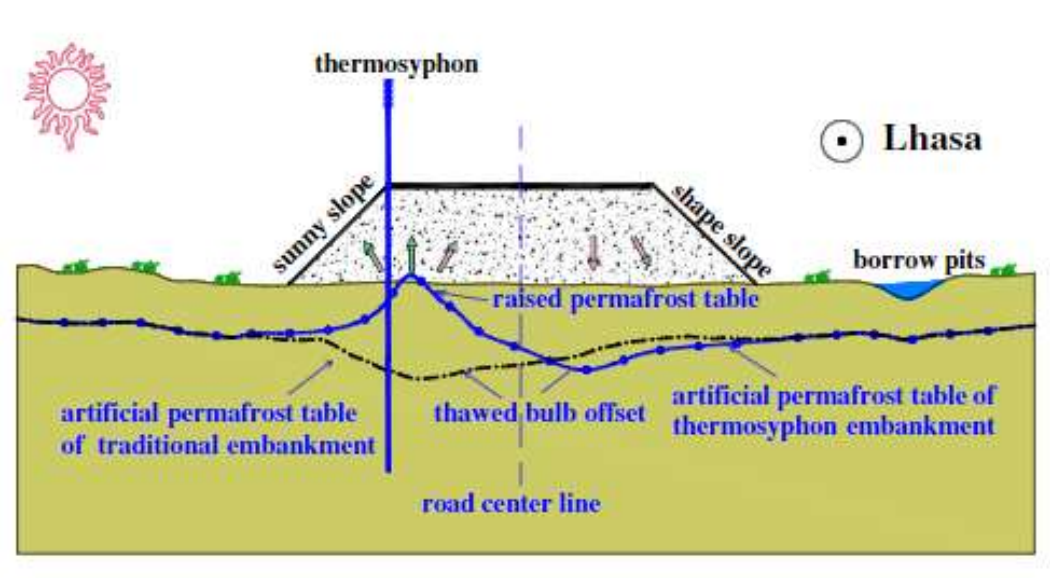
Area Subject to Flooding

Terminus of 7-Mile Road

Preliminary 7-Mile Road Alternatives

- **Increase Existing Road Reliability**
  - **Alternative 1 – Reconstruct Road in low-lying area with certain design features such as:**
    - **Increased elevation to prevent overtopping**
    - **Insulating materials such as geofoam**
    - **Innovative technologies such as thermosyphons and more heat-traced culverts**
    - **Erosion resistant materials on side slopes**
  - **Alternative 2 – Reroute Road around low-lying area**
- **Road Extension**
  - **Two routes have been investigated in the 2017 Reconnaissance Report**
    - **Alternative A – Route Option A**
    - **Alternative B – Route Option B**

Road Reconstruction Design Features



Road Extension

Reconnaissance Report
Point Hope Kuukpak Road Extension

Figure 2
Preliminary Route Options

Thank You!

Questions/Comments?

National Fish and Wildlife Foundation Grant Project

- **Project Goal**
  - Utilize existing relationships and data collection to develop conceptual designs to increase the coastal resilience of Point Hope by addressing one or more community priorities
- **Project Objective**
  - Produce three conceptual designs that address a community priority and improve the coastal resilience of Point Hope that are feasible, permittable, and constructable and have the potential to secure additional funding
- **Project Team**
  - City of Point Hope
  - Agviq Environmental Services (AES)
  - EA Engineering, Science, and Technology, Inc., PBC (EA)
- **Project Partners**
  - Tikigaq Corporation
  - North Slope Borough
  - US Army Corp of Engineers Engineer Research and Development Center
    - Engineering with Nature
    - Coastal and Hydraulics Laboratory
    - Cold Regions Research and Engineering Laboratory