

DISTRICT TRIP REPORT

Project: Kiana Mooring Points Evaluation for Denali Commission

Description: Kiana Trip Report

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Jason Norris, Merlin Peterson, and Kelly Eldridge traveled to the community of Kiana, Alaska on July 14th. The purpose of the trip was to conduct a site visit and scoping meeting related to potential installation of barge mooring points in the community. Following is a summary of the information learned during the site visit.

Two barge landing sites were investigated during the site visit for the mooring points investigation. An overview of the community, barge landing sites, and possible mooring point locations is included below.

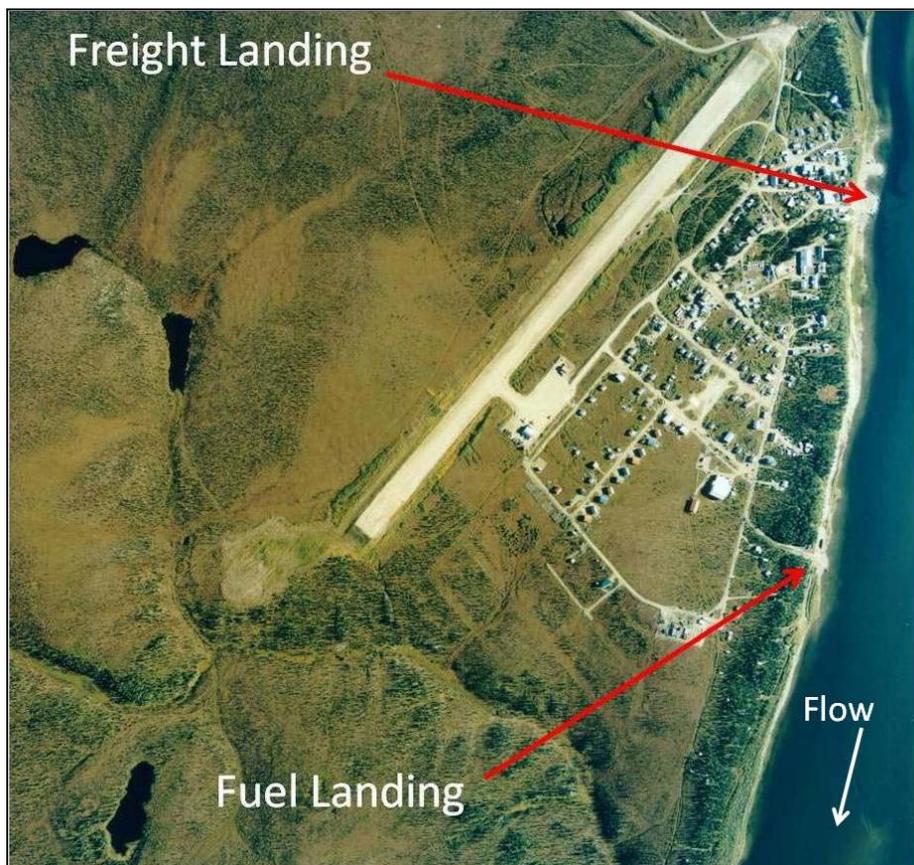


Figure 1. Overview of Kiana.

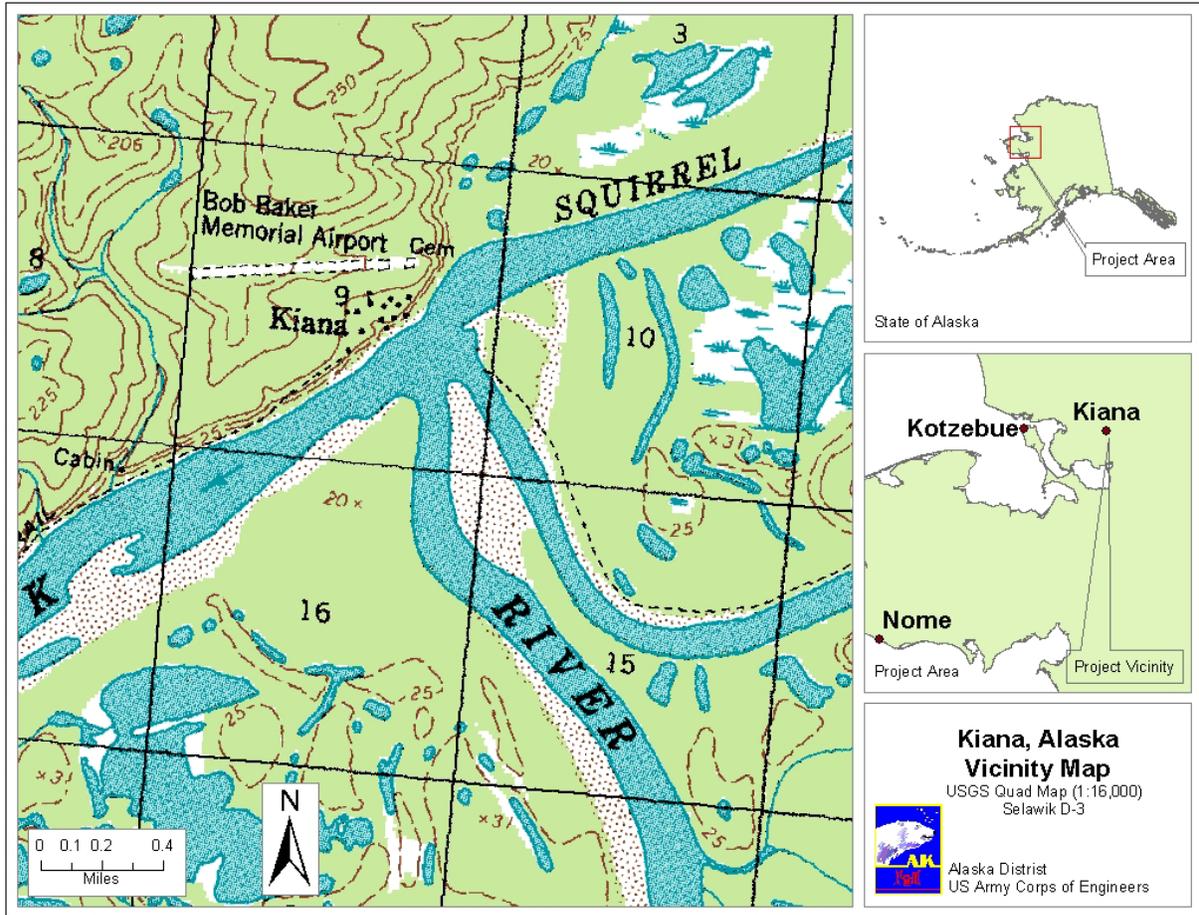


Figure 2. Location of Kiana.

PRE-VISIT INVESTIGATION

Prior to visiting the community, we spoke with Northland Services and Drake Construction, (who operates a barge into Kiana). Northland stated that they were more interested in staging area and landing improvements than mooring points. Drake Construction approved of the proposed mooring point locations but recommended improved access to the freight landing. After our visit we were able to speak with Tyler Peterson, Tug Captain, Crowley Marine-Kotzebue. He stated that mooring point 1200 feet downriver of the fuel landing would be preferable to the previously identified mooring locations and that the below grade option should be used.

PUBLIC MEETING

While there we were able to participate in a joint meeting with representatives of the City, Village, and Corporation. There was support for the project from all entities.

SITE DESCRIPTION

Kiana is located at the confluence of the Squirrel and Kobuk Rivers, 60 air miles east of Kotzebue, and 500 miles northwest of Anchorage (Figure 2). There are two landings located approximately 2,300 feet apart. At the upstream end of the community is the freight landing characterized by three manmade gravel pads jutting out from the beach. At the downstream end of the community is a fuel header located at the head of a sloped, rocky beach.

UPSTREAM (FREIGHT) LANDING SITE

The upstream landing site (Figure 3) is located at the confluence of the Squirrel and Kobuk Rivers. The area consists of three man-made gravel pads protruding from the bank. The material in the area consists of silt, sand, gravel, and cobbles. Barge companies used the largest, and most downstream, pad as the primary freight landing with the adjacent beach and other pads being used as staging areas. The largest pad is also used as a secondary fueling point as the store's fuel tanks are located near the top of the beach access road. The river becomes increasingly shallow upstream of the largest pad making the upstream pads less useful. The most upstream pad is nearly unusable. The downstream pad is roughly square with side dimensions being 155 feet in length. Pad surface slope is roughly 2% with the terminal pad slope into the water being 1V:5H slope. Annual high water completely inundates all the pads with water depths of 3-5 feet. The offset from the bank to the annual high water line is roughly 200 feet.

When barges land they push the bank at the largest gravel pad and drop their ramp to offload. Freight is offloaded onto the adjacent pads first. Residents complained that this practice denies them safe access to the beach and their skiffs, which are generally parked in the area.

Five archaeological test pits were excavated at this site. No archaeological or cultural artifacts of concern were found.



Figure 3. Upstream Landing.



Figure 4. Upstream Landing from base of access road.

Access to the site is provided by a narrow, steep road at the downstream end of the landing area (Figure 5). The road is approximately 20 feet wide with an estimated slope of 10-20%. During the public meeting it was learned that this road is too narrow to adequately accept some freight and that the community desires a road around “old town” to the north to access the area for freight purposes. The community stated that a housing project failed because the pre-constructed

portions of the houses would not fit up the narrow road and had to be returned. The community's idea for a more useable access road has merit and is feasible but was outside of the scope of this investigation.



Figure 5. Upstream landing access road. (Store's fuel tanks visible)

GPS readings were taken 100 feet upstream and downstream of the center of the landing with two additional readings taken 100 feet upstream and downstream of the center of the adjacent (upstream) gravel pad.

GPS Points for the Proposed Moorings at Freight Landing

Upstream mooring N66° 58' 26.9" W160° 25' 17.3"

Downstream mooring N66° 58' 25.7" W160° 25' 21.2"



Figure 6. Looking toward adjacent (upstream) pad from main landing.

DOWNSTREAM (FUEL) LANDING SITE

The downstream fuel header (Figure 9) is located approximately 2,300 feet downriver of the upstream landing. The area is characterized by a narrow, rocky beach and a heavily vegetated steep bank. The header for the Bulk Fuel Storage Facility is located on the bank near the ordinary high water line. Because of channel conditions the barge lands approximately 1,200 feet downstream and drags hose upstream along the bank to the fuel header which is connected to the bulk fuel storage facility, located approximately 1,500 road feet inland.



Figure 7. Fuel Header.



Figure 8. Bulk Fuel Storage Facility.



Figure 9. Looking Upstream from beach near fuel header.



Figure 10. Bank conditions at fuel landing site.

The area is served by a steep and rocky access road referred to locally as “Lauren Way” (Figure 11). Residents are hesitant to use full sized vehicles on Lauren Way and use ATVs to access the beach.



Figure 11. Lauren Way from the water line.



Figure 12. Looking downstream toward landing site.

While visiting the fuel landing site approximately 1,200 feet downstream of the fuel header Mayor Reich stated that all of the land at this point was part of a native allotment. Should this project move forward, this will need to be confirmed. If the land is a native allotment then we will not be able to place mooring piles at this location. After our visit we spoke with Tyler Peterson of Crowley and he stated that installation of mooring points at the actual landing site

would be helpful and that the most practical way to accomplish this would be to install below-grade points on the trail that runs along the bank in order to keep them off of the native allotment located above the summer water level but below the ordinary high water level on state tidelands.

GPS Points for the Proposed Moorings at Fuel Landing

Upstream mooring N66° 58' 25.5" W160° 25' 22.0"

Downstream mooring N66° 58' 24.2" W160° 25' 25.8"

RECOMMENDATIONS

At the upstream (freight) landing it is recommended that two piles, spaced 200 feet apart and centered on the largest (most downstream) gravel pad be installed. They should be placed below-grade on the tidelands at the indicated GPS points. Installing this variety would avoid a situation where mooring lines would cross the beach access road. However, the points would be unusable during higher water and construction would require a special permit from the State due to the points being located under ordinary high water. An alternative would be to install points of the above grade variety, placed on the bank at the indicated GPS points. Early indications are that this land is Municipal Reserve. Benefits from installation at this area are that they would be useable during most normally occurring water levels as they would be placed above the ordinary high water mark. There are potential problems associated with these placements including distance from the water and mooring lines crossing the beach access road. There does not appear to be a need for points at either of the other gravel pads.

At the downstream site, placing points near the fuel header would be inefficient as barges do not land there due to channel conditions. It is recommended that below grade points be placed below ordinary high water at the actual landing site. Placing points above high water is not feasible because the land is part of a native allotment. Although below grade points would not be useable during higher water and would require a tidelands permit this is the best option for this site as above grade points would interfere with traffic along the trail running adjacent to the river.

The construction of a new barge landing access road appears to be a viable project and would benefit the community. However, this project is outside of the scope of this report. We recommend that the community investigate this project using other available programs.

SUPPORTING PHOTOGRAPHS:



Figure 13. Approximate routing of community-proposed access road.