

## ALASKA DISTRICT TRIP REPORT

**Project:** Denali Commission Moorings Points Phase 4

**Description:** Brevig Mission, Alaska Trip Report

**Prepared by:** George Kalli and Nathan Epps

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George Kalli and Nathan Epps traveled to the Norton Sound community of Brevig Mission, Alaska on 31 August 2011 via commercial air. The purpose of the visit was to conduct a site visit and scoping meeting related to potential installation of barge mooring points in the community. Upon arriving we met with Warren Rock, city clerk and Reggie Barr, city mayor. Two barge landing sites were investigated during the site visit (Figure 1). A public scoping meeting was conducted at 1300 hours. Twelve city and tribal officials participated in the meeting. Prior to the site visit, George Kalli also met with Steffan Verdin of Kawerak.



Figure 1: Overview of Brevig Mission barge landings. Tank farm has been constructed adjacent to tank farm landing since time of photo.

## **GENERAL**

Brevig Mission is located at the mouth of Shelman Creek, which discharges into Port Clarence, 5 miles northwest of Teller and 65 miles northwest of Nome. Brevig Mission is predominantly Inupiat Eskimo with a subsistence lifestyle. The people of Brevig Mission subsist on fish, moose, reindeer, seal, walrus, and beluga whales. In 2010, Brevig Mission had a population of 388.

There are two fuel headers in the community: one near the city office and school and another for the recently constructed Denali Commission funded tank farm. Brevig Mission typically receives two fuel shipments and one cargo shipment per year. With the increased storage capacity from the recently completed tank farm, fuel deliveries may decrease to once per year. In addition to deliveries of fuel to the two fuel headers, the National Guard armory has received irregular deliveries. Several years have passed since the last delivery.

Steffan Verdin of Kawerak described the beaches in Brevig Mission as being well suited for cargo and equipment offloading. They have not experienced problems offloading heavy equipment for past construction projects.

Those attending the public meeting believed the proposed mooring point locations were within public property. They were not aware of any upcoming construction projects involving a pile driver. The last project believed to have used a pile driver was construction of the school. There is no local contractor in Brevig Mission. The City of Brevig Mission owns a D6 bulldozer, a 450 bulldozer, a loader, and a dump truck.

## **CITY/SCHOOL LANDING**

The fuel header servicing the school and city offices is at the top of a gravel beach. A hydrant located immediately seaward of this fuel header has been partially buried in beach gravel (Photo 1). During the public meeting, the community explained that storm events pushed the gravel up the beach, which buried the hydrant.

Structures are adjacent to the fuel header on each side (Photo 2). One was visibly occupied during our visit, while the other appeared to also be occupied. Residents store many items on the beach including skiffs, nets, fish drying racks, dog teams, etc (Photo 3).

The proposed location of the western mooring point (MP-1) is 150 feet west of the fuel header. This location is adjacent to a gravel access path and 62 feet from the southwest corner of the nearest house (gray with black trim) and 54 feet from a former fuel header warning sign (Photos 4, 5, and Figure 2). Coordinates for this location are 65.33164° N, 166.48837°W. An above grade installation is needed at this site to prevent the mooring point from being buried. A minimum clearance of 4 feet above ground level is suggested.

The proposed location of the eastern mooring point (MP-2) is 100 feet east of the fuel header (Figure 2). This site has been selected to avoid conflicts with a fish drying rack and dog team

(Photo 6). It is 33 feet from the closest corner of a tank farm containment wall (Photo 6) and 113 feet from the nearest utility pole numbered 1L-3L-C (Photo 7). Coordinates for this location are 65.33140° N, 166.48691° W. An above grade installation is needed at this site to prevent the mooring point from being buried. A minimum clearance of 4 feet above ground level is suggested.

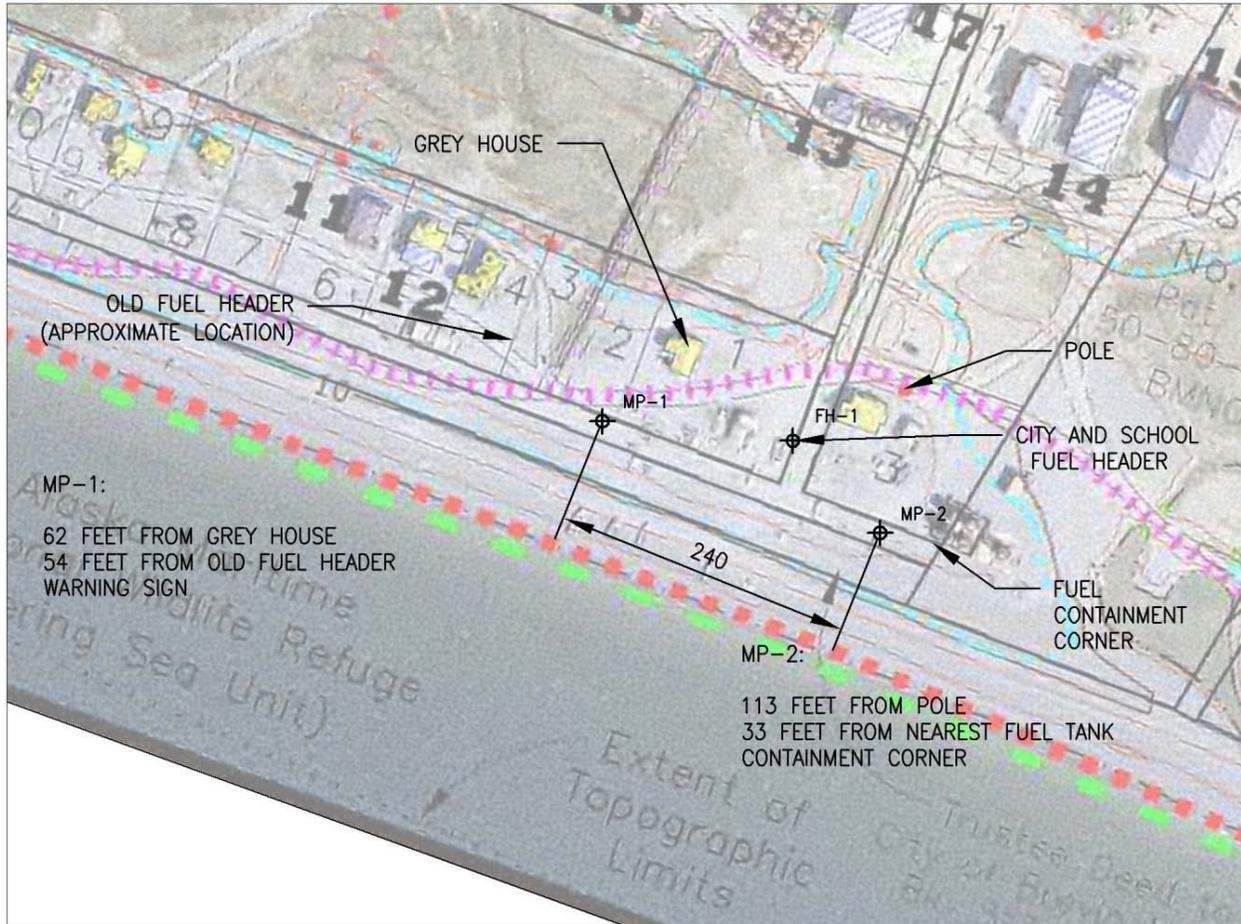


Figure 2: Mooring points for the city/school landing.



Photo 1: City and school fuel header, looking north. Note hydrant partially buried by beach gravel.



Photo 2: Fuel header (located in middle of yellow pipes) and adjacent structures, looking south.



Photo 3: Brevig Mission beach with skiffs, drying racks, and related equipment, looking west.



Photo 4: Corps employee standing at proposed western mooring point (MP-1) location, looking north. Site is 62 feet from closest corner of the grey house with brown trim. Note gravel access path between proposed location and structure.



Photo 5: Proposed western mooring point (MP-1) location is 54 feet from former fuel header warning sign.



Photo 6: Corps employee standing at location of proposed eastern mooring point (MP-2), looking east. Location is 33 feet from visible corner of tank farm containment wall. Site selected to avoid conflicts with fish drying rack and dog team.



Photo 7: Proposed eastern mooring point (MP-2) location is 113 feet from nearest utility pole.

## **TANK FARM LANDING**

A new tank farm was recently constructed between the beach and the access road to the airport with Denali Commission funds (Photo 8). The fuel headers are within the fenced areas of the tank farm. An access path goes from the middle of the tank farm to the beach (Photos 8 and 9). This access road serves as a suitable centerline for placement of mooring points.

A gravel road runs along the top of the beach in front of the tank farms. The road appears to be above the elevation of normal tidal action, and no debris lines were noticed on the landward side of the road. Based on this evidence, it seems unlikely that mooring points installed on the landward side of the road would be buried by cross-shore sediment transport.

The proposed location for the western mooring point (MP-3) is 150 feet west of the access path at a site just east of the last row of septic vents in an adjacent septic field (Photo 10). This site is adjacent to a gravel road that runs along the top of the beach (Photo 11). It is 27 feet from the nearest septic vent (Photo 10, Figure 3) and 27.5 feet from a vertical sewer main pipe (Photo 11). Coordinates for this location are 65.33070° N, 166.48264° W. A below grade installation is appropriate at this location with a minimum 3-foot offset from the edge of the road.

The proposed location for the eastern mooring point (MP-4) is 300 feet east of the western mooring point at a location adjacent to the gravel road atop the beach (Photos 12, 13, and Figure 3). Coordinates for this location are 65.33038° N, 166.48077° W. A below grade installation is appropriate at this location with a minimum 3-foot offset from the edge of the road.

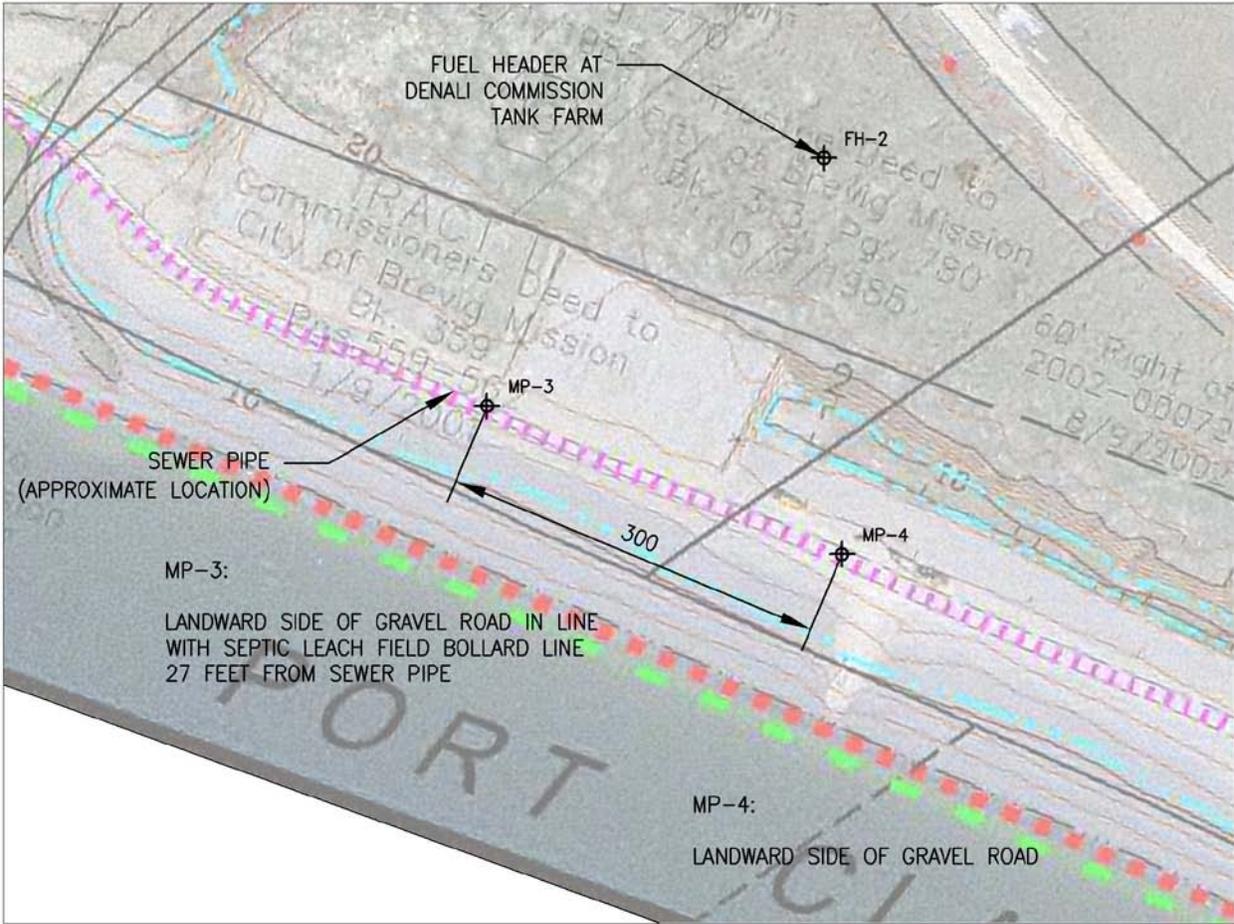


Figure 3: Mooring points for the tank farm fuel landing.



Photo 8: Aerial view of tank farm. Note access path between tank farm and beach.



Photo 9: Access path between tank farm and beach, looking north.



Photo 10: Corps employee standing at proposed location of western mooring point (MP-3), looking north. Note septic field vent pipes.



Photo 11: Corps employee standing at location of proposed western mooring point (MP-3), looking west. Note gravel path to left and vertical sewer pipe to right and beyond. Also note lack of beach gravel to the landward side of the path.



Photo 12: Corps employee standing at proposed location of eastern mooring point (MP-4), looking east.



Photo 13: Corps employee standing at proposed location of eastern mooring point (MP-4), looking north.

## **RECOMMENDATIONS**

Although mooring points are feasible in Brevig Mission and would provide useful, mobilization to the site would be fairly expensive for the scope of work involved. Without any nearby communities to bundle into a construction contract, mobilization and demobilization costs may prove to be excessive compared to projects completed as part of a multiple community contract. Brevig Mission typically receives one freight and one fuel delivery per year and the beach serves well for the offloading of heavy equipment and other cargo.

The team recommends that the potential high cost and low projected usage of these points be considered when deciding whether to construct these mooring points in the Phase IV effort.