WHITE PAPER
REQUEST FOR FEDERAL FUNDING
PORT OF BETHEL
SEAWALL, DOCK & DREDGING

BETHEL, ALASKA

PREPARED BY:

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Dear US Secretaries,

Bethel is located at the mouth of the Kuskokwim River, 40 miles inland from the Bering Sea. It lies in the Yukon Delta National Wildlife Refuge, 400 air miles west of Anchorage. It lies at approximately 60° 47' N Latitude, 161° 45' W Longitude (Sec. 09, T008N, R071W, Seward Meridian). The community is located in the Bethel Recording District. The area encompasses 44 sq. miles of land and 6 sq. miles of water.

Port of Bethel

Project #1: East Addition Seawall (Shovel-Ready)
The Bethel seawall section that comprises this project is that section that runs along the Kuskokwim River from the entrance to Brown Slough east to the Small Boat Harbor entrance, approximately 1,200 linear feet. This section is referred to as Eastern Addition seawall in the Letter Report attached. Adjoining pipe piles standing upright form the seawall. Steel tiebacks connect the pipe piles to anchors set back about 54 feet and frozen in the ground.

The U. S. Army Corps of Engineers revealed in their Letter Report that the pipe piles have received severe scour from the Kuskokwim River to the point of threatening to cause the seawall to collapse, if not repaired. The Corps of Engineers orchestrated the purchase, delivery, and deposit of rocks to the base of the seawall during the summer of 2007. The deposit of rocks represented the completion of Phase 1 of the River Bank Stabilization Project.

Phase 2 of the River Bank Stabilization Project Extension is the replacement of the tiebacks. The tiebacks are corroded and in need of replacement. The Corps of Engineers plans to use 3-inch diameter ASTM A36 steel rods, hot dip galvanized after fabrication, as the tiebacks. The steel rods are ¼ inch larger in diameter than the rods used previously because they will hold a group of ten pipe piles to anchors rather than the existing rods that hold groups of eight piles at a set.

U.S. Army Corps of Engineers Project Manager, Andrea Elconin, estimates that the service life of the seawall is 50 years upon completion of the project. The Corps of Engineers estimates that about half of the seawall (1000 ft.) could be lost in one year without corrective action.

Completion of the River Bank Stabilization Project Extension will improve the safety of the seawall, the safety of Port operations on and near this section of seawall, and the safety of tug and barge operators who use the seawall for moorage.

The City of Bethel was sued by the estates of two victims who drowned on October 5, 2006 while crossing from a section of seawall maintained by the City to their company's barge moored at the seawall. The lawsuit claims that the "outrageously poor shape" of the seawall "made it an unsafe place to stand, much less to board a vessel."

Attachment U is the Summons describing the nature of the lawsuit. The project proposed would alleviate some of the concerns brought to the City's attention in the lawsuit. The project would stabilize the seawall by replacing the tiebacks; it would fill the pipe piles with material; and it would cap the piles with the rectangle metal covers originally installed. See Photo 2 to see what the pipe piles look like uncovered and Photo 4 to see what the piles look like covered.

Project #2: City Cargo Dock Structure and Dock Face

PND Engineering completed the Bethel City Dock Structure Condition Survey document in 2006. In that report, the engineers are very concerned about the structural integrity of the east wing of the cargo dock. Page 2-21 of the survey report says,

> …it is clear that many of the tie-backs have failed and will certainly continue to do so at an accelerating rate. It is not prudent to wait until a significant failure does occur to take action. Because PND considers this a hazardous condition and because the dock is so vital to the region, PND recommends that the entire east wing wall be replaced. Outright replacement with a structure such as an open cell wall would alleviate the problem with future broken tie-backs, loss of fill via undermining the sheet piles, and prevent water flow through the wall and the associated loss of fill which resulted in sink holes in recent years.

The Port of Bethel was built four (4) feet below flood stage by the State of Alaska in 1975. A catastrophic failure has the potential for: 1) Significant damage to, or total loss of the dock, and 2) potential injury or loss of life. Any damage to the dock that hinders its use or renders it useless will negatively impact thousands of Native Alaskans along the Kuskokwim River who rely on the Bethel Dock for cargo transfers, petroleum product transfers, and loading from Bethel.

Detailed Project Justification:

It is clear that the east wing wall tie-backs have failed and will continue to do so at an accelerating rate. Water intrusion, corrosion, and fill displacement are taking their toll on the City Dock. For the benefit of the Alaska Native villagers living along the Kuskokwim River, the City of Bethel must replace the east wing wall of the Cargo Dock.

Project #3

Dredging of the Port Bethel Small Boat Harbor is required because of the constant easterly movement of sand along our coast and thus, across our harbor entrance. Such movement is generated by the ongoing forces of waves and currents. The amount of material moved and deposited is directly proportional to the severity of current and wave conditions. This constant movement of masses of sand is termed **littoral drift.**

Because of sand incursion at the mouth of the Port Bethel Small Boat Harbor, it is essential that an annual dredging effort be maintained to assure sufficient depth at the harbor entrance to permit the safe passage of craft transiting the entrance. With less State & Federal funding, Port Bethel is facing many issues like Shoaling, which is a condition caused by littoral sand drift produce dangerous and unpredictable breaking wave formations at the harbor's entrance. These breaking waves are extremely hazardous to incoming, and outgoing vessels and pose a particular danger to individuals of small crafts.

Although the entire Port of Bethel harbor bottom requires periodic dredging to maintain suitable depths, the most critical dredging area is the entrance channel, which is constantly assaulted by a “Kuskokwim River" of littoral drifting sand.

Project #1: Bethel Bank Stabilization (Shovel Ready)

Project # 1 cost: $4,000,000

Project #2: City Cargo Dock Structure and Dock Face

Project # 2 cost: $13,000,000

Project #3: Small Boat Harbor Dredging (Final Review)

Project #3 cost: $2,800,000

Total federal request: $19,800,000

The City of Bethel sought Port funding through the Economic Recovery and Reinvestment Act of 2009 before the final law was passed, but no funding was allocated. The City has also made a concerted effort over the last two years to seek help from the three Alaska Congressional delegates. We hope you might be in a position to assist the City of Bethel with our funding needs.

"**The Port of Bethel is a major life line to the Native villages in Western Alaska.**"

Thank you for reviewing this white paper.