

SUBJECT: REPORTING ON THE TALKEETNA REVETMENT EMERGENCY REPAIR.

AGENDA OF: November 21, 2023

ASSEMBLY ACTION: Presented to the Assembly 11/21/23 - BJH

AGENDA ACTION REQUESTED: For information only.

Route To	Signatures
Purchasing Officer	<div>11/6/2023</div> <div>X Rustin Krafft</div> <div>Signed by: Rustin Krafft</div>
Public Works Director	<div>11/6/2023</div> <div>X Tom Adams, P.E.</div> <div>Signed by: Tom Adams</div>
Finance Director	<div>11/7/2023</div> <div>X Liesel Weiland for C.H.</div> <div>Signed by: Liesel Weiland</div>
Borough Attorney	<div>11/7/2023</div> <div>X Nicholas Spiropoulos</div> <div>Signed by: Nicholas Spiropoulos</div>
Borough Manager	<div>11/7/2023</div> <div>X Michael Brown</div> <div>Signed by: Michael Brown</div>
Borough Clerk	<div>11/7/2023</div> <div>X Brenda J. Henry for</div> <div>Signed by: Brenda Henry</div>

ATTACHMENT (S): Summary Report, Talkeetna Revetment Emergency Repair (5 pp)

SUMMARY STATEMENT: On September 12, 2023, the Borough declared a local disaster emergency for flooding, riverbank, and property destruction at the confluence of the Susitna, Chulitna and Talkeetna Rivers.

Much of the data below was previously reported in IM 23-216 (October 3, 2023).

The Borough procured an initial 900 tons of RIP RAP from Western Construction and Equipment to be stockpiled in Talkeetna on September 9-10, 2023.

D&S Road Services provided offloading and stockpile support at a cost of \$10,917.50.

Through the use of competitive quotes, the Borough procured additional materials approximately 3,000 tons of RIP RAP. The amount of materials needed was revised as the project progressed resulting in a new material cost of \$457,184.30.

Additional competitive quotes were requested to conduct the repairs utilizing the owner-supplied RIP RAP. The lowest quote was \$93,750 (Western Construction). The final cost for placement of materials, which included the additional riprap as well as 625 CY of Borough supplied bone rock as well as 500 CY of borrow materials along with topsoil and seeding totaled \$169,317.60

Survey work, including resetting property corners and easement documentation for recording, was supplied by Lavender Survey and Mapping for a total cost of \$7,440.

A project summary report is attached with more specific project details.

SUMMARY REPORT
2023 Talkeetna Revetment Emergency Repair
October 13, 2023

- Project Title and MSB Project No.: Talkeetna Revetment Repairs, 55020-0700-0701
- Project Team:
 - Tom Adams, P.E., Public Works Director
 - Russ Krafft, Purchasing Director
 - Don Thomas, O&M Division Manager
 - Brad Sworts, PD&E Division Manager
 - Stefan Hinman, Public Affairs Director
 - Mike Campfield, P.E., Environmental Engineer
 - Taunnie Boothby, Floodplain Management
 - Eric Chappel, Emergency Services
 - Gary Klink, Dive Team
 - Dwight Johnson, Superintendent, Western Construction
 - Dayna Rumfelt, PLS, Lavender Surveying
 - D&S Road Services, Road Service Area Contractor
- Project Manager: Mike Campfield, P.E.
- Stakeholders: MSB Recreation Services, MSB Talkeetna Water & Sewer Utility, MSB Operations & Maintenance, MSB Emergency Services, Alaska Railroad, National Park Services, Talkeetna Historical Society, Talkeetna commercial businesses, local private landowners
- Objectives: Stabilize the embankment from further erosion following a flooding event on the Susitna River which occurred between August 26 and September 5, 2023.
- Description of Project: Install temporary erosion protection on Susitna River east bank along the A Street right-of-way. Armor in this project was riprap, consisting of a combination of class II, III and IV, per DOT&PF specifications.
- Permitting: USACoE Section 404 Nationwide Permit 13, ADF&G Fish Habitat, MSB Floodplain Impact. Notifications sent to DNR and Alaska Railroad for easement and ROW use.
-
-

- Timeline (Key Milestones):

- August 26, 2023 - Flooding in Talkeetna begins. Talkeetna River reaches minor flood stage (13.0 feet) at the railroad bridge. Road closed at the end of Main Street by Emergency Services.
- August 28, 2023 – Susitna River reaches minor flood stage (24.5' feet) at Parks Highway bridge.
- September 5, 2023 - Water level recedes, and revetment damage notification comes to MSB from a local citizen and Emergency Services. Emergency Services installs, barricades, yellow caution tape and restricts access to the area near the revetment. MSB notifies the U.S. Army Corps of Engineers (USACoE) and staff drives to Talkeetna to assess the site. Approximately 100 feet of the revetment obliterated due to erosion from flood flows scouring and undermining the toe of the revetment. Part of the Denali View Trail constructed by MSB has been washed away by the river. Sediment deposition and plunge scour is evident behind the top of the revetment from overtopping. See photos below.



Photos of revetment damage taken on the evening of 9/5/23

- September 8, 2023 - Additional damage occurs to the revetement due to high water, washing out more of the revetment and trail and the river begins encroaching into the A Street right-of-way, closer to public infrastructure and private property. Total length of revetment that has failed is now approximately 325 feet. MSB orders 900 tons of large riprap delivered to the site by Western Construction to stage for anticipated emergency repair.
- September 11, 2023 - MSB Staff meets on site with USACoE staff led by Merlin Peterson, P.E., Hydrology and Hydraulics Section to assess damage and discuss appropriate methods to repair.

- September 12, 2023 - MSB declares a local emergency during special Assembly Meeting. The Public Works Department develops a plan for an emergency repair and begins submitting permit applications. MSB submits emergency assistance request to the USACoE. MSB issues a press release.
- September 15, 2023 – MSB Purchasing Department issues request for quotes to carry out the revetment repair.
- September 17, 2023 - Aerial drone and river depth surveys conducted to determine extent of damage and approximate river depth near the repair zone.
- September 19, 2023 – Western Construction submits low bid to supply and deliver riprap.
- September 20, 2023 – Western Construction submits low bid to complete Talkeetna revetment repairs.
- September 21, 2023 - Contractor begins hauling riprap to Talkeetna and prepares to commence revetment repairs.
- October 2, 2023 – Governor Dunleavy declares a State disaster emergency for the community of Talkeetna following “an atmospheric river event that caused flooding and riverbank destruction.”



Riprap installation in revetment repair zone.

- October 4, 2023 - Construction substantially completed with all riprap rock placed and revetment repaired.



Completed revetment as seen from south end of repair on 10/4/23.

- October 5, 2023 – Final completion following application of topsoil and seeding.



Revetment site after application of topsoil and seeding.

- Cost summary: The table below itemizes the expenses for this project listed by purchase order.

Budget Item	DATE	Talkeetna Revetment Repairs	Budget	Expenses
			55020-0700-0701	
STARTING BUDGET	9/15/2023	Available Budget Per Logos on this date	\$0.00	
PO 2024-1757	9/15/2023	D&S - Support for Talkeetna River Revetment emergency		(10,917.50)
PO 2024-1760	9/15/2023	LAVENDER - Location Survey for Talkeetna Revetment; includes change request 10/10/2023		(5,040.00)
PO 2024-1670	9/18/2023	WESTERN - Supply and Deliver Riprap for Talkeetna Revetment		(99,913.72)
PO 2024-1810	9/20/2023	WESTERN - 24-049Q - Additional riprap; includes change req 10/13		(457,184.30)
PO 2024-1813	9/27/2023	WESTERN - 24-050Q; includes change req 10/13		(169,317.60)
Totals			\$0.00	(\$742,373.12)

- Next Steps (long term solution): The MSB has applied to the USACoE requesting emergency assistance to permanently repair and upgrade the revetment, as needed. The MSB has submitted a formal request to initiate a USACoE project under Section 14 of the Continuing Authorities Program, which includes Emergency Streambank and Shoreline Protection. The request is currently under consideration at the federal level and no determination has been made. See below for further information provided by the USACoE:
 - **Overview.** Section 14 of the 1946 Flood Control Act provides the Corps of Engineers authority to construct emergency shoreline and stream bank protection work to protect public facilities, such as bridges, roads, public buildings, sewage treatment plants, water wells, and non-profit public facilities, such as churches, hospitals, and schools. The maximum Federal expenditure at any one site is \$5 million and each project must be economically justified and environmentally sound.
 - **Cost Sharing Requirements.** Projects are undertaken on a cost shared basis. The Feasibility Study is 100 percent federally funded up to \$100,000. The local sponsor is required to cost-share the cost of the Feasibility Study that exceeds \$100,000. The local sponsor is also required to provide 35 percent of the implementation costs of developing plans and specifications and construction. The non-federal share of project implementation costs may include credit for lands, easements, rights-of-way, relocations, and disposal areas (LERRD) necessary for the project, plus a cash contribution of 5 percent of the total project implementation costs. In the event that the value of LERRD, plus 5 percent, does not equal at least 35 percent of the total project implementation cost, the non-federal sponsor must contribute additional cash to equal 35 percent.
 - **Project Process.** The Corps conducts an initial appraisal early in the Feasibility Study to determine whether the project meets program criteria and provides a basis for determining scope and cost of an entire feasibility study. The solution must be economically feasible and environmentally acceptable. If an acceptable alternative is identified in the feasibility study, the Corps prepares plans and specifications, then manages construction of the project.
 - **Study Cost.** The Feasibility Study is 100% federally funded up to \$100,000. Costs over that are shared 50/50.
 - **Project Cost.** Design and construction costs are 65% Federal/35% non-Federal.