

NEWTOK RELOCATION QUARTERLY UPDATE

INFORMATION FOR NEWTOK RESIDENTS AND COMMUNITY PARTNERS PROVIDED BY PROJECT MANAGER ANTHC TO KEEP STAKEHOLDERS INFORMED OF PROGRESS, KEY MILESTONES AND NEXT STEPS OF THE RELOCATION.

Erosion advances in Newtok



Photo: Romy Cadiente

Recent erosion in the community, imminently threatening four homes.

In October 2018, 40 feet of land were lost in 10 days to aggressive fall storms. A home now sits a mere 10 feet from the eroding riverbank. The home was abandoned and the family living there moved to a safer location in teacher housing. With funds from a Department of Military and Veterans Affairs (DMVA) Hazard Mitigation Grant Program grant, the home and its associated infrastructure will be disassembled and disposed of before it falls into the river. This effort is being managed by the Newtok Village Council and their consultants.

Mertarvik accomplishments



INNOVATIVE READINESS TRAINING SITE VISIT

In November, key personnel from the U.S. Department of Defense's Innovative Readiness Training (IRT) program visited Anchorage, Newtok and Mertarvik to coordinate their construction activities for summer 2019 with ANTHC and Newtok Village Council (NVC). The IRT is a military readiness program that provides hands-on training for active, guard, and reserve units and individual service members from the Army, Navy, Air Force and Marines. IRT personnel are skilled tradesmen and will be working on projects in Newtok to fulfill their continuing education and military training requirements.

IRT training activities in Mertarvik will include constructing the landfill, heavy equipment shop, four homes, and up to 1.5 miles of road this summer. Four crews of 30-45 people will work in two-week rotations from June 18 to Aug. 6. Their expected contribution is valued at over \$1.5 million. Planning and coordination meetings are underway between the Newtok Village Council, ANTHC and the IRT to prepare for summer construction efforts.



LANDING STRIP CONSTRUCTION

At the end of September, the relocation's master builder, Ukpeaġvik Iñupiat Corporation Construction (UICC), began construction on the

quarry road's temporary landing strip. It will support the delivery of freight for upcoming construction in Mertarvik and allow the transportation of passengers by chartered plane. UICC finished constructing the 1,800-foot by 35-foot landing strip in November and currently, Yute Charter is landing planes in Mertarvik. By next spring, the temporary airstrip will be lengthened to 2,000 feet. This is a critical effort that must be completed before the first residents move to the new site, as it will also allow for medevac service to Mertarvik in emergencies. In addition, the runway extension will reduce the costs of transporting materials and personnel to Mertarvik, as travel to the community has previously been solely by boat and barge. The temporary extension will support travel into and out of Mertarvik until fall 2021, when the permanent Alaska Department of Transportation airport is anticipated to be completed.

Mertarvik accomplishments continued on page 2

HOUSING

The Newtok Village Council was planning to renovate donated Joint Base Elmendorf-Richardson barracks for housing in Mertarvik. However, the estimated cost of renovating and installing the barracks in Mertarvik was more than building a completely new home. Because of the prohibitive cost of reconfiguring the barracks, the community has decided to construct new homes at the relocation site.

In September 2018, ANTHC proposed three different housing design alternatives for the NVC. In October, Newtok Village Council selected a design by Cold Climate Housing Research Center (CCHRC) and requested it be modified to accommodate four bedrooms. The design utilizes an integrated truss system that combines the floors, walls, and roof into a single structural element for a super-insulated home. The homes will be better ventilated to reduce mold growth. The ventilation system is integrated within the heating system and provides fresh heated air throughout the structure. Construction of the homes is expected to begin in Mertarvik in summer 2019.

Design and construction update

ONGOING ACTIVITIES

The modular power plant for Mertarvik will be installed on site in summer 2019. The power plant module is currently under construction by UICC's subcontractors, Northwest Electric and Kaktovik Enterprises, at Kaktovik's shop in Anchorage. The modular power plant was designed by HDL Engineering Consultants, LLC and Gray Stassel Engineering Inc. and is a standard Alaska Energy Authority hybrid diesel-wind power plant. It can integrate wind power, heat recovery and other energy efficiency measures. It will be built on Mertarvik's main townsite road adjacent to the NVC construction camp. The module will be completed by April and shipped from Anchorage in May 2019 on UICC's barge.

CRW Engineering Group, LLC is currently designing pioneering water and sewer services for Mertarvik in preparation for the construction crews who are scheduled to be on site next summer. Design activities include a modular water treatment plant, temporary water and sewer service to the construction camps, and permanent water treatment and distribution service for the Mertarvik Evacuation Center (MEC) and NVC construction camp. In addition, they are designing the gravity sewer collection main system that will carry sewage to the new lagoon east of town. To aid in identification of the optimal location of the sewage lagoon, CRW is using geophysical data collected by Golder Associates on the existence and depth of bedrock and ice rich soil materials. In fall 2018, Golder conducted percolation tests on the proposed location to inform sewage lagoon design and 2019 construction efforts. Design of phased distribution of water and sewer is critical to supply early health infrastructure and allow for the long term efficient development of running water and sewer in Mertarvik.

Lastly, CRW is designing a prefabricated heavy equipment shop to support construction efforts in Mertarvik. It is a pre-engineered, pre-insulated two-bay building, complete with overhead doors and electrical service. It will be used for heavy equipment maintenance and storage, a crucial need to support the construction effort and provide for critical maintenance of the emergency landing strip. It will be installed in Mertarvik by the IRT in summer 2019.



Proposed community layout and road design.

Current design projects include townsite roads, housing, and water and sewer services. DOWL is designing the three townsite roads, which will run through Mertarvik: the lower road (Ungusraq Street), main road (Quiraun Street), and upper road (Arnapagaq Street). Newtok residents chose the road names during a community-wide voting and selection process held last year. The roads are designed to support two-way ATV traffic, the main method of travel in the community. The road can only accommodate one-way vehicle traffic. However, the narrower width will reduce construction and operation cost while meeting the communities' preferred method of transportation.

UPCOMING ACTIVITIES

UICC and its mechanical subcontractor, Inlet Mechanical, will begin construction on the modular water treatment plant this spring. The water treatment plant will be located by the MEC and have the capacity to serve 200 people. In the future, a full-service water treatment plant and storage tank will be built south of the community. In addition, the materials for a prefabricated heavy equipment shop will be assembled in Anchorage this spring. Both buildings will be completed by the summer and along with the modular water plant, shipped to Mertarvik for installation during 2019's construction activities.

Design and construction update continued on page 3

Design and construction update, upcoming activities continued from page 2

This spring, CCHRC will begin designing housing alternatives for the 2020 construction season. In summer 2019, 13 identical four-bedroom homes will be built for the initial residents moving from Newtok to the new site. The plan for future housing efforts is to design a number of different housing layouts and structures to accommodate the lifestyles and desires of community members and visitors, to include small homes, single family homes, and multifamily housing.

Funding successes

ANTHC was awarded a \$2.73 million grant in November from the National Fish and Wildlife Foundation's Coastal Resilience Fund to decommission infrastructure in Newtok through 2021. After more progress has been made on the relocation to Mertarvik, this funding will be used in Newtok to disassemble and remove unoccupied buildings, such as homes, old Bureau of Indian Affairs (BIA) school facilities, and bulk fuel tanks. In addition, \$2.63 million in matching funds will be used to build 12 new houses in Mertarvik in 2020. Newtok was awarded this grant because decommissioning efforts will promote the restoration and protection of natural resources in the area.

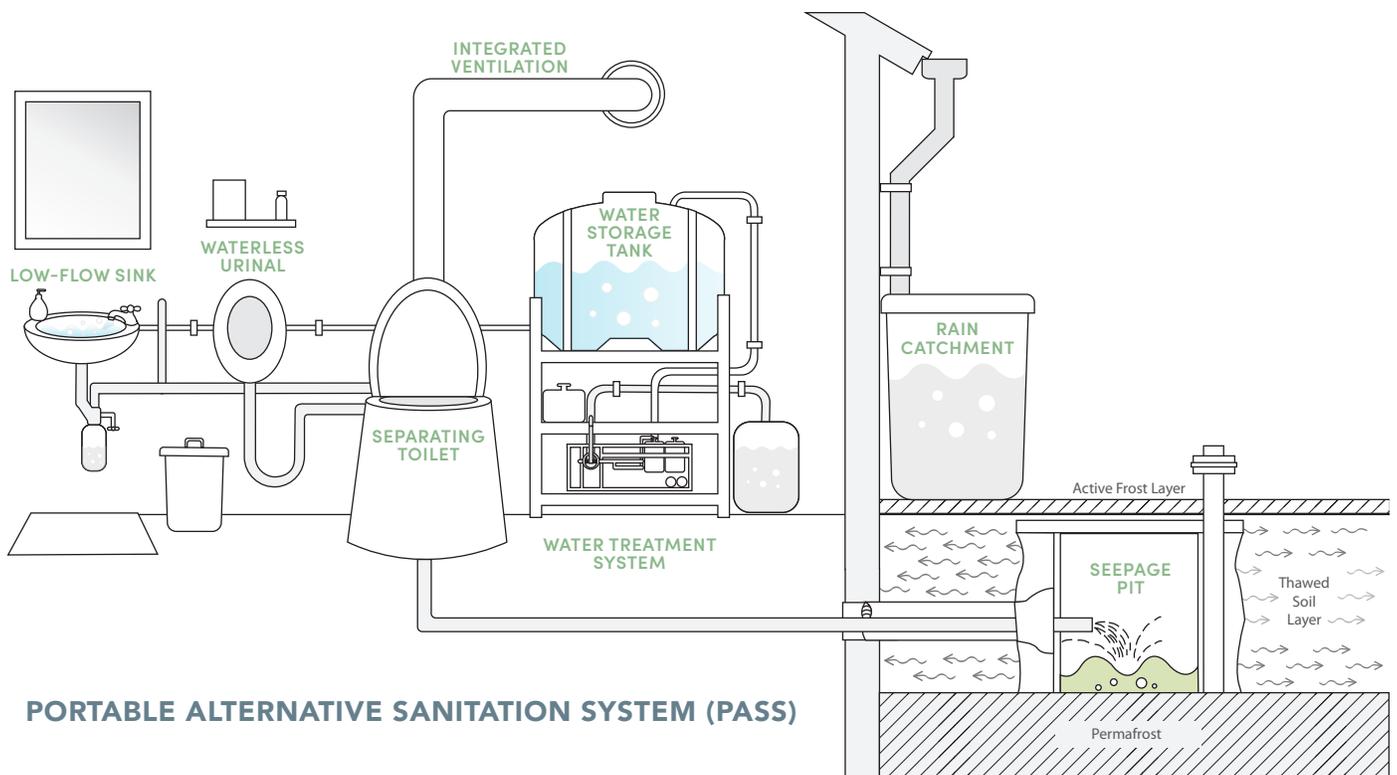
ANTHC also recently received a \$950,000 grant from the United Methodist Core of Relief (UMCOR)

for installing Portable Alternative Sanitation Systems (PASS) in 2018 and 2019 infrastructure. PASS provides in-home water storage and treatment, running water for hand washing, and waste-separating toilets. They will be used in Mertarvik's homes before piped water and sewer is supplied to the community. In addition, UMCOR funds will be used to support a National Tribal Water Center (NTWC) Water is Life Project in Newtok. The NTWC will collaborate with Newtok's school on a youth theater project that engages students on issues surrounding water, the Mertarvik relocation, and the environment.

Newtok was recently awarded a \$149,736 BIA Tribal Resilience Grant. These funds will be used to hire an environmental modeling firm to develop downscaled environmental assessments of

Mertarvik. The assessments will be used to evaluate whether Mertarvik can support renewable energy projects, such as solar and wind. An environmental atlas will also be created. This will allow engineers to identify and design renewable energy projects and resilient and energy efficient infrastructure for the new community.

In January, both Newtok and the Lower Kuskokwim School District were awarded Alaska Housing Finance Corporation grant funding to construct teacher housing duplexes in Mertarvik in 2020. Between the two organizations, the total funding amount is \$885,970.



PORTABLE ALTERNATIVE SANITATION SYSTEM (PASS)

Anticipated support needs

Funding has been secured for construction through 2019. However, funding is still needed for construction and design efforts in 2020 and beyond. ANTHC and the Newtok Village Council developed a phased approach to relocation as funding and other support are acquired for construction efforts in Mertarvik. Future funding is needed to completely relocate Newtok and provide residents with services they have been living without for decades, such as running water and sewer.

2020 CONSTRUCTION DESIGN AND CONSTRUCTION EFFORTS

TOTAL AMOUNT NEEDED: \$5,825,000

For the 2020 construction season, ANTHC and the NVC are seeking funds for the construction of homes (\$4,000,000), funds to install a well field near the future water treatment plant and storage tank (\$500,000), and funds to construct power poles to supply all 2020 infrastructure with electric distribution (\$250,000). Design efforts would also continue in 2020. Design of water distribution and sewer services for the community's lower road, water treatment plant and storage tank for construction in 2022 (\$500,000).

As the relocation progresses, community members will need access to crucial services, such as those provided by a clinic, store, post office and small motor shop. By the end of 2020, it is anticipated

that half of Newtok's residents will have relocated to Mertarvik. At this point, construction of community infrastructure will be critical and funding for both design and construction is needed. In 2019, design of the clinic (\$250,000) would begin and in 2020, the store (\$150,000), small motor shop (\$100,000), and post office (\$75,000). In 2021, these critical community buildings would be constructed and the invaluable services they provide available to Mertarvik residents. In the 2021 construction season, an estimated \$5 million will be needed to construct these buildings alone.

COMMUNITY HOUSING

AMOUNT NEEDED PER HOME: \$400,000

The greatest need in Mertarvik is funding for community housing. There is a critical housing shortage in Newtok with multiple families living in single family homes. Because of this, the NVC requested that CCHRC produce designs for four-bedroom homes. Before sufficient housing is provided in the community, relocated households may still be living in an overcrowded environment.

In addition, the pace of the relocation is partially based on the amount of funding that can be secured for home construction. Occupied housing in Mertarvik will expedite the relocation. When a critical mass of people live in Mertarvik, the community will become eligible for many traditional state and federal funding programs.

Additional support needs

RESIDENT RELOCATION SUPPORT: FOOD, FUEL, SUPPLIES

Residents moving to Mertarvik in fall 2019 will need packing materials, fuel and food. Residents will be transporting their belongings by boat on the Ninglick River. Fuel and labor costs for a round trip from Newtok to Mertarvik are approximately \$110. To support the multiple trips needed to move a family household on a fishing boat, the community is accepting donations of fuel, boxes and other packing materials. Additional support could be provided through the loan of ATVs, trailers and boats to supplement equipment owned by individual families. Most community members do not own an ATV or trailer.

The Newtok Village Council and the Newtok Native Corporation have plans for a short-term store service in Mertarvik to supplement subsistence food supplies and general goods during 2019. Provision of additional donated critical goods and services to support the pioneering residents in case of emergency is appreciated. Food and other supplies will be organized and distributed by the Newtok Village Council.

MOVE-IN PLAN

ANTHC and Sally Cox of the State of Alaska Division of Community and Regional Affairs (DCRA), are creating a relocation guidebook. This guidebook will serve as a resource for community members, containing the information they need for a successful transition to Mertarvik. It will include information on packing and shipping, a move-in manual for their new home, and everything in the community including but not limited to: airport access, dock/barge, fuel, health clinic and landfill/dump site. Developing the material will require the support and guidance of government agencies in their fields of expertise. ANTHC is currently working with the local school district, the Lower Kuskokwim School District (LKSD), to identify and plan initial school services for the new community and the local health corporation, the Yukon Kuskokwim Heath Corporation (YKHC), to plan initial health care services for Mertarvik.

Newtok community update

BOSCO CARL ELECTION

In October, the Newtok Village Council's youngest member ever was elected to office. In his early 20s, Bosco Carl will serve as the NVC's secretary. Formerly, Bosco worked as a Yup'ik culture and language teacher at the school. His work as a teacher motivated him to run for the village council. Growing up, Bosco said, he would attend the community meetings, and one of his goals is to encourage people his age and young parents to attend the meetings and engage with issues in the community. One issue Bosco hopes to address is the growing concern of the health and safety of his people and their environment. He would like to reduce the amount of trash in Newtok and acquire solid-waste infrastructure. After Newtok's landfill eroded into the Ninglick River, only a temporary landfill was established and it cannot support Newtok's solid waste disposal needs. Bosco said he would also like to address the high rate of influenza among children due to poorly ventilated homes. Bosco is passionate about helping kids in the community and as a council member, he will continue to work on their behalf.

NEWTOK STUDENT STORY

The following is an excerpt from a story a Newtok high school student wrote about the changing landscape in her community. She interviewed multiple residents of Newtok, who compared their experiences living on the land in their youth to today. The full story can be viewed on the State of Alaska website <https://www.commerce.alaska.gov/web/dcra/planninglandmanagement/newtokplanninggroup.aspx>.



How I see Newtok in my eyes is a village inside a small island. This is my home, and every single year the land slowly fades away, feet by feet. When I was young, the land was further away from my house than it is today. When the land was still there, we used to play around, and we would also pick raspberries and some blueberries before it all fell to the Ningliq River. This generation that is growing up, would never know how it used to look, but they would know by stories that are being told now...

The memories are going to be there but not with the land we shared it with. Moving to a new place would be strange for us because we will leave our memorable place. The few next generations would never know, what it is like living here then and now...

I ask them a question: How was it like before it eroded, and how is it now?

Margaret Patrick: "It was a beautiful place, a wonderful place. We used to berry pick and there were blackberries, blueberries, raspberries, and salmonberries. When I was young we would go hunt rabbits and birds, and we would go find mouse food. We will always get wild chili, wild spinach, tea leaves. We would also go look for eggs. We would get grass to braid the fishes to hang. We would also get sour docks. There are many things that we would get before the land eroded. Nowadays is poor because we hardly hunt or get anything now. We would always play around the land before it eroded. We would go needlefish hunt for the fun of it. In winter time, we would always go skiing around that part of land before it fell. My brother and I would sit around to set a trap for catching a fox. We would also get smelt around the Ningliq River. We would also go ice picking in winter. When the two ponds were there, there would always be people skating. It is still going but barely. I am done for now."

These stories the people of Newtok told me are similar, but with different experiences they had. They have made memories they simply cannot forget. The land won't last forever, but the stories won't disappear. They built memories, they had experience, they walked on that land. Then the land eroded away, making the next generation not know what the land was like long ago.

FREQUENTLY USED ACRONYMS

NVC = Newtok Village Council

MEC = Mertarvik Evacuation Center

UICC = Ukpeaġvik Iñupiat Corporation Construction

CCHRC = Cold Climate Housing Research Center

PASS = Portable Alternative Sanitation System



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