



Title 9 Major Use Permit No.: 109-03-19
Date of Issue: May 31, 2019
Permit Expires: December 31, 2021

Permit Issued By:

Northwest Arctic Borough
Planning Department
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Permittee:

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Permittee Contact Information:

Alaska Native Tribal Health Consortium
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Project Description:

The City of Kivalina (CITY), in conjunction with the Alaska Native Tribal Health Consortium (ANTHC), plans to install in-house water and separating toilet units for **all** homes in Kivalina ("Sewer or water utility" is a Major Use in a Village Zone). A pilot project in 2015 installed Portable Alternative Sanitation Systems (PASS) units to nine (9) homes which proved to be successful. This project will install the PASS units to forty-five (45) homes in Kivalina.

The project is expected to start June 2019 and be completed by December 2020. Phase 1 will equip 22 homes and is scheduled to start in June 2019 and be completed by August 2019. Phase 2 will serve 23 homes in 2020/2021 as funding becomes available.

Specific details of the project are contained in the permit application (19-02-109) submitted by CITY to the Borough Planning Department. The application and supporting documents are incorporated into the Borough's administrative record. Project Activities are summarized below.



In-Home Sanitation System Installations:

The Alaska Native Tribal Health Consortium (ANTHC) worked with the community and partners to design and construct PASS. The system is designed to complement the communities' centralized water and sewer infrastructure and provide basic water and sanitation needs in the individual homes. PASS replaces the typical handwashing basin with treated flowing water from a bathroom sink and also eliminates the need for the honeybucket. A pilot project and study began in 2015 and a resolution of support to eliminate honeybucket use was adopted by the Native Village of Kivalina in 2017.

The installation of the new in-home sanitation systems will include work both inside and outside the home. Initially work will be completed inside the homes with the installation of the separating toilet, a waterless urinal, a gray water tank, water filters, and at least a bathroom sink. Two homes will be provided with a kitchen sink. The water system is gravity-fed. It is estimated to take four (4) to five (5) days per home with the assistance of two laborers.

Outside work includes the installation of rain gutters and a rain barrel for the water portion of the project. A first flush diverter will be installed with each rain gutter system. Arctic pipe will connect the discharge line of the gray water tank to a seepage pit adjacent to the house. The seepage pit depth will be between four (4) to six (6) feet, depending on the location of the home. The seepage pit consists of one infiltrator placed upon existing gravel or sand. Outside work will likely take two days with two laborers.

You can read more about the PASS at: <https://anthc.org/wp-content/uploads/2016/01/Kivalina-Report-E-Version.pdf>

Water and Grey Water Tank and Dry Toilet:

The PASS water holding tank is 100 gallons and should be filled either from the rain catchment cistern or the community washeteria. The frequency of refilling the water tank is dependent on water use. The Kivalina demonstration project monitored water use and calculated average use at 3.0 gallons/person/day. For example, a household of five people using the average of 3 gallons/person/day would need to refill the tank about once per week.

Liquids, urine, and water from the sink will go into the grey water tank below the toilet. The tank needs to be drained whenever it is full or every two weeks, whichever comes first. A gauge on the tank indicates the liquid level in the tank. Draining is accomplished by opening a valve. The frequency of draining is dependent on the volume of use.

Solid waste goes into the bag below the toilet. The system dries the solid waste and ventilates odors using two energy efficient fans, one in the toilet and one in the duct. The bag should be removed and disposed of at the landfill as frequently as needed to control odors. The dry solids bag is much easier and safer to handle than the typical honeybucket bag.

Pilot Project Summary:



Over the year-long 9-participant pilot project, ANTHC identified some key areas for improvements and addressed those with the help of participants in the community. Issues identified and refined during the pilot phase included freezing of the grey water drain line and dry toilet ventilation odor. A year after PASS was installed, 100% households reported having experienced no mechanical problems in the past month.

Permit Authorization and Documentation:

The City of Kivalina submitted a Title 9 Zoning Permit Application (19-02-109) to install in-house water units and separating toilets in a Village Zone on April 23, 2019. On April 30, the Borough Planning Department deemed the application was complete.

Permit fees totaled to \$150.00, which was waived because this is a community project that will benefit the residents of Kivalina.

The Planning Director has the authority to permit "Sewer and water utility" in a Village Zone by Major Use Permit, pursuant to NABC 9.12.020. A Major Use Permit requires a 20-day public comment period started on May 7. There were no public comments for this project.

Permit Terms and Conditions:

1. The City of Kivalina (CITY) shall comply with the terms of the permission, permits and/or agreements granted by the federal government, State of Alaska, NANA Regional Corporation, Northwest Arctic Borough and other applicable agencies.
2. CITY shall comply with any and all applicable local, Borough, state and federal laws. Failure to abide by any part of this permit, or violations of any pertinent Borough ordinances or state or federal law or regulation, will be considered grounds for revocation of the permit or denial of future permit requests and may result in issuance of fines or other penalties. This provision applies to all persons working under the authority of this permit.
3. The Permittee is responsible for ensuring that all employees, contractors, sub-contractors, and any other persons working for the permittee and conducting activities allowed by this permit are familiar with and adhere to the conditions of this permit.
4. CITY is subject to all penalties and civil actions pursuant to NABC 9.08.240 for violation of the permit conditions and stipulations prescribed herein.
5. Uses permitted shall cease upon the discovery of archaeological, prehistoric, historic or cultural resources during the construction activities, and CITY shall immediately contact both the Planning Director at the NAB Planning Department and Alaska State Historic Preservation Office to determine the conditions to continue.



6. During and after project activities, the permittee must conduct activities in a manner to maintain natural drainage patterns, watershed protection, and permafrost stability, to prevent runoff and erosion into water supplies and to minimize alteration of vegetation.
7. The permittee shall ensure fire safety and emergency access necessary for fire and emergency apparatus and police protection.
8. All project activities shall utilize measures to minimize noise and nuisance affecting surrounding residential properties including excessive noise, fumes, odors, glare, smoke, vibration, dust, litter, interference in any telephone, radio or television receivers, and/or significant line voltage fluctuation.
9. Any development by the project in floodplains and shoreline areas are to be constructed to minimize loss of life or property due to riverine flooding, icing, and stream bank erosion.
10. The Borough recognizes that this area within Kivalina is a low flood hazard area, but may be subject to flooding which may result in the loss of life and property, health and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief, all of which adversely affect the health, safety and general welfare of Kivalina residents. The Borough has adopted the necessary regulations of the Federal Emergency Management Agency (FEMA) to enable its communities and residents to participate in the National Flood Insurance Program (NFIP). See NABC 9.25.020.O.

To promote the public health, safety and general welfare by minimizing flood damage and loss and promoting access to disaster relief, the following conditions must be met:

- a. Encourage protection of land uses vulnerable to floods, including public facilities and utilities that serve such uses, against flood damage at the time of initial construction or substantial improvement.
Ensure that those persons who occupy areas of special flood hazards assume responsibility for occupying such flood hazard areas.
- b. All new construction and substantial improvements shall meet the following general standards, as applicable:
 1. Anchoring. All new construction and substantial improvements shall be designed, modified, constructed and adequately anchored to prevent flotation, collapse or lateral movement of the structure; all manufactured homes must likewise be anchored to prevent flotation, collapse or lateral movement.
 2. Construction Materials and Methods. All new construction and substantial improvements shall be constructed with materials and utilize equipment resistant to flood damage and use methods and practices that minimize



- flood damage, including waterproofing, watertight construction, use of substantially impermeable materials and other construction techniques.
3. Mechanical and Electrical Utilities. Electrical, heating, ventilation, plumbing, and other service facilities shall be designed, constructed and/or otherwise elevated or located to prevent water from entering or accumulating within the components during flooding.
 4. **Water and Sewer Utilities.** All new and replacement water supply and sewage systems shall be designed and constructed to minimize or eliminate infiltration of floodwaters into the system and discharge from the systems into floodwaters. Sewage lift station electrical panels shall be elevated above flood areas.
 5. Public Utilities. All new or replacement public utilities such as gas, electric and telephone systems shall be designed or constructed to eliminate disruptions due to flooding and associated hazards.
11. Project equipment/vehicle servicing and fueling operations are prohibited within 100 feet of any surface water body, including any rivers, drainage channels, sloughs and lakes.
Equipment and vehicles are to be maintained to eliminate or minimize any fuel spills and fluid leaks. Equipment and vehicles must be monitored prior to use for hydraulic leaks. If equipment is in continuous use, it shall be inspected daily for hydraulic leaks.
Project equipment shall not be abandoned.
 12. CITY shall immediately notify the Borough (at least within 24 hours) of any change in the project plans and seek modification of the permit. CITY shall suspend uses until approval is given by the Planning Director/Title 9 Administrator. If the proposed action(s) constitutes an emergency, CITY shall comply with NABC 9.16.040 for emergency actions and shall make reasonable efforts to conduct modified uses in a manner that avoids or minimizes significant harm to the environment, consistent with the need to protect property and human life.
 13. Access by Borough personnel and their agents. Authorized personnel and/or their agents of the Northwest Arctic Borough when on official business and displaying proper identification shall be allowed access to the sites without interference. Borough personnel and/or agents may conduct scheduled or unscheduled inspections or tests to determine compliance with this permit or respond to emergency situations. The Borough may inspect the properties up to 5-years after the permit expires for compliance checking and inspections.
 14. At the completion of the project, the permittee shall file a written report with the Borough Planning Department describing the following:
 - a. A complete report of any fuel or other hazardous substances discharges and clean-up activities completed,
 - b. Other matters as reasonably required by the Administrator/NAB Planning Director.



15. This permit will expire December 31, 2021.

Permit Approval

NORTHWEST ARCTIC BOROUGH

Martha Siikauraq Whiting,
Planning Director/Title 9 Administrator

May 31, 2019

Date

CC: Kivalina IRA Council, NANA Regional Corporation, Maniilaq Association,
NIHA, Alaska Native Tribal Health Consortium

Posted at: www.nwabor.org