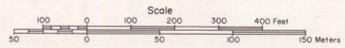


COMMUNITY MAP WAINWRIGHT

70° 38' N - 160° 01' W



Prepared by the Arctic Environmental Information and Data Center, University of Alaska, under contract to the United States Geological Survey, in cooperation with the Bureau of Land Management for National Petroleum Reserve-Alaska Task Force studies, July, 1978.

- 1 Vocational education building
- 2 High school
- 3 Mobile equipment storage
- 4 Water storage tank
- 5 ADVP facility
- 6 Community center
- 7 Public safety building
- 8 Post office
- 9 ASHA warehouse
- 10 Armory
- 11 City hall
- 12 Village cooperative store
- 13 Village cooperative store storage
- 14 School
- 15 School fuel storage
- 16 Theater
- 17 Itinerant housing for NARL personnel
- 18 Church
- 19 Health clinic
- 20 Oloponik Corporation office
- 21 Fuel storage
- 22 Teachers housing
- 23 Store



The snowdrifts shown on the photo are formed by storm winds and do not necessarily indicate prevailing winds.

Land Use*

- Residential
- Public
- Public (under construction)
- Commercial

Electrical Distribution**

- Service line
- Pole
- Transformer
- Generator
- Community phone
- Survey line (U.S.S. 4418)

Soils (Boundaries are approximate; on-site tests should be done prior to construction of facilities.)

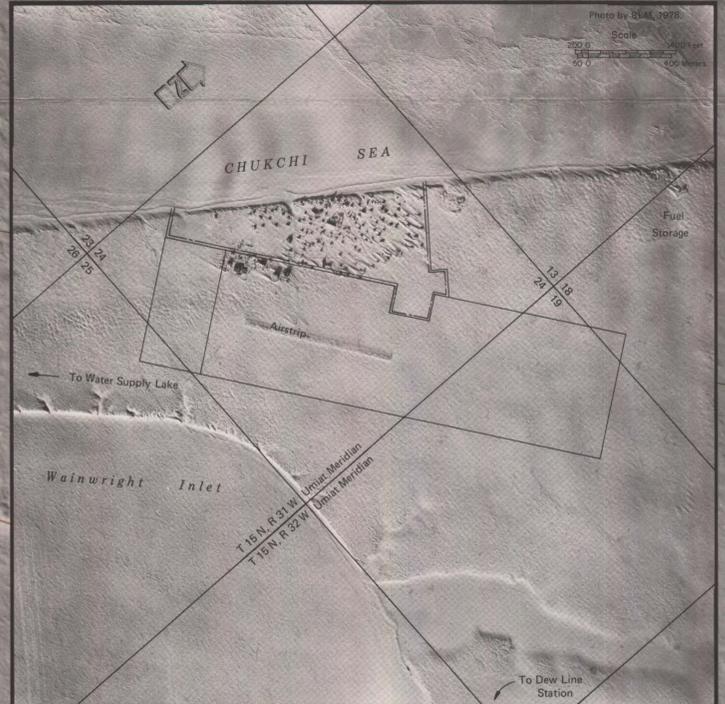
- Escarpment (cliff) other than bedrock

* These data were collected from interviews with people who had recently visited the village and have not been field checked.

** These data were adapted from Thomas W. Lundford, AIA Architect and Associates, June 4, 1976, Outside Distribution Plan. They have not been field checked.

Mapping Unit	Soil Description	Suitable as Source of:		Potential Frost Action	Soil Features Affecting:	
		Roadfill	Sand and Gravel		Foundations	Roads
KuA	Kustina very fine sand loam, 0 to 1 percent slopes. Very poorly drained, very fine sandy loam soils underlain by stratified sand and gravel at a depth of 3 to 5 feet (1 to 1.5 m). Occur on nearly level to slight depression areas on alluvial plains. Low-centered polygons, subject to frequent vertical and lateral movement. Ice lenses below about 14 inches (36 cm).	Poor; underlying sand and gravel difficult to excavate due to permafrost	Poor; underlying sand and gravel difficult to excavate due to permafrost	High	Poorly drained; high permafrost table	High permafrost table
ShA	Shivugak very fine sandy loam, 1 to 2 percent slopes. Poorly drained fine sandy loam soils underlain by stratified sands and gravels at a depth of 3 to 5 feet (1 to 1.5 m). Occur on gently sloping alluvial plains. Perennially frozen at shallow depth. High-centered polygons.	Poor; underlying sand and gravel difficult to excavate due to permafrost	Poor; underlying sand and gravel difficult to excavate due to permafrost	High	Poorly drained; high permafrost table	High permafrost table
ShB	Shivugak very fine sandy loam, 2 to 5 percent slopes. (same description as ShA)	Poor; underlying sand and gravel difficult to excavate due to permafrost	Poor; underlying sand and gravel difficult to excavate due to permafrost	High	Poorly drained; high permafrost table	High permafrost table
Gb	Gravelly beach. Permafrost only below 4 to 5 feet (1.2 to 1.5 m). Well drained.	Good	Good	Low	Stable; occasional flooding	Occasional flooding

Source: U.S. Soil Conservation Service, 1977. Soils of the Wainwright Area, Alaska.



Land Use and Community Facilities

Housing—Wainwright houses are typically either very old or very new. Older homes tend to be overcrowded and poorly insulated and lack some major utilities. Newer homes, built in the last five years, generally have more rooms and floor space, are better insulated, and have all utilities currently available in the community. The Alaska State Housing Authority assisted in the construction of many of the newer houses, beginning in 1967. A recent survey indicated a total of 103 housing units in the village. Ninety-seven were owned by individuals. Three borough-owned units, one of which is in the school, are provided for teachers. Three additional units are owned by the U.S. Navy and are used as itinerant housing for NARL personnel.

School—Wainwright is in the North Slope Borough School District. The school complex consists of a main school building with four elementary classrooms, an administrative office, a kitchen, two relocatable classroom units, five smaller permanent buildings, and a small playground. During the 1977-78 school year, 89 students attended grades K through eight, and 32 attended grades nine through 12. Present facilities do not provide sufficient space and were not designed for high school students. Classes must be held in private homes and in an old church near the school. A new high school and vocational education building, which should be completed during 1979, are being built south of town.

Other Structures—The Oloponik Corporation operates the village cooperative store and also has a building for its office. The store consists of two main buildings and three storage buildings. There is also another store in the village, a theater, a mobile storage equipment building, a community center, a post office, an Alaska State Housing Authority warehouse, a National Guard armory, a city hall, and two churches.

Power—The electrical power system in Wainwright is owned and operated by the North Slope Borough and consists of a 75-kw diesel generator, two inoperative generators, and a distribution system. Both the school and the U.S. Environmental Protection Agency Alaska Village Demonstration Project have their own power sources. Fuel oil for individual cooking and heating is stored by and purchased from the Oloponik Corporation, which also sells fuel to the Borough for its electrical generators. In 1978 electricity cost \$0.30 per kilowatt hour, and fuel oil cost \$1.12 per gallon. Since the present electrical system is unreliable and does not meet community needs, the Borough plans to replace it during the summer of 1978. The new system will consist of two 160-kw diesel generators, an insulated generator building with sufficient space for a third generator, a village-wide distribution system, and streetlights.

Water—In 1972 the first Alaska Village Demonstration Project (AVDP) was built by the U.S. Environmental Protection Agency. This facility subsequently burned but has been rebuilt. It includes water storage and treatment, laundry, toilets, showers, saunas, and wastewater treatment. Water is pumped from a lake about 1.5 miles (2.4 km) southwest of the village into a 1 million-gallon (3.8 million-l) storage tank (a nine-month supply) at the end of each summer. Villagers draw household supplies from the tank. Prior to construction of the AVDP, water was hauled or ice cut from the lake. Some individuals who do not like the taste of the treated and stored water continue this practice. Chemical and bacteriological data are available.

Water consumption from the storage tank at the first AVDP facility averaged about 21,000 gallons (80,000 l) per month, or about 2 gallons (7.6 l) per person per day. About half of this went to the school and half to households. This figure did not include water for laundry, showers, or toilets at the facility. Since the water at the facility is recycled and low-flow showers are timed, total per capita use is still a low 4 gallons (15 l) per day. Use at the DEW Line station is 33 gallons (125 l) per capita per day for 15 people. At the present time, the U.S. Environmental Protection Agency has run out of operation and maintenance funds and is considering options with the Alaska Department of Environmental Conservation for state support of the facility.

Waste Disposal—"Money bucket" wastes and trash are collected and hauled by tracked vehicles to a dump about 4 miles (6 km) northeast of the village. The AVDP facility has a graywater system in which water from showers and laundry is used to flush the toilets. The resulting blackwater wastes from the six recirculating chemical toilets were originally incinerated, but in the rebuilt facility they are treated biologically via extended aeration and lime disinfection. The treated effluent and excess graywater is dumped onto the sand near the ocean. Sludge from both the blackwater and graywater treatment systems is hauled to the dump site.

Health Care—The Borough's Health and Social Service Agency (HSSA) operates a health clinic in the village, staffed by a primary and an alternate health aide. The clinic consists of a waiting room, two examination rooms, and an unused fourth room. Health aides are trained by the U.S. Public Health Service (PHS) to provide preventive and primary health care to both Native and non-Native patients. They also screen patients and make referrals to the medical staff at the Indian Health Service (IHS) Barrow Service Unit Hospital for further treatment. PHS provides dental care through the IHS dental clinic at Barrow and itinerant medical and dental care personnel to the clinic in the village. A state public health nurse visits Wainwright to hold well-baby clinics and to screen for and treat communicable diseases. HSSA is attempting to upgrade mental health, dental, optometric, and alcoholic detoxification and rehabilitation care through more itinerant clinics in the village and expanded facilities for these services at Barrow.

Public Safety—The North Slope Borough provides police protection, while the City is responsible for fire protection. One borough police officer is stationed at Wainwright. A public safety building, with space for the borough officer and an assistant, an office for a magistrate when one is hired, and two temporary holding cells for prisoners, is presently under construction. The City provides no fire-protection services except for the fire siren at city hall, and none is planned for the near future. Fire is a continuous hazard in Wainwright due to the prevalence of old wooden structures built closely together and the frequency of high winds.

Communication—Since there is no satellite earth station in the village, the community phone (852-9633) is linked by VHF radio to the Wainwright DEW Line station, which transmits the call by microwave to Barrow where it becomes part of the Barrow exchange.

A small television studio at the school transmits locally produced videotapes and live programs as well as videotapes made in Barrow. As part of the State's expanded Bush Satellite Television

Demonstration Project, Wainwright should be getting a small satellite earth station during 1978. However, this station will only have a television transmitter for commercial and educational television. The village receives broadcasts from the public radio station in Barrow. The school has an HF radio for communicating with school district headquarters in Barrow, and the health aide communicates by radio with the IHS hospital in Barrow.

Transportation—Air travel provides Wainwright's only year-round access, while marine and, to a lesser extent, land transportation provide seasonal access. The 2,200-foot (671-m) gravel airstrip south of the village can handle only small aircraft. The field is owned by the Alaska Division of Aviation but maintained by the Borough. The runway's low-intensity lights were installed by the City. There is also a communications tie-in with the FAA Flight Service Station in Barrow. Large civilian planes can land at the DEW Line airstrip, but five-days prior landing clearance must be obtained from the Air Force. Scheduled air service from Barrow is provided by Arctic Guide under contract to Wien Air Alaska, Inc. Arctic Guide, Fel-Air, Inc., and Jen-Air, Inc. operate air taxis into Wainwright from Barrow. (See the climate section for further information on flying weather.)

During the short ice-free season, marine transport is used for heavy and bulky items. The navigable period lasts from about mid-July to early November. Barges are moored and offloaded from Wainwright Inlet. The entrance to the inlet is narrow, winding, and shallow and requires a local pilot. Since there are no docking or storage facilities, cargo is lightered to shore by large or small craft. The Bureau of Indian Affairs' *North Star III* brings cargo from Seattle one year. Fuel for the village is barged from Seattle by Crowley Maritime to Kotzebue and lightered to Wainwright. Privately owned small boats are used for traveling to subsistence areas. When the sea is frozen, cargo can be transported over the ice by "cat-trains," but this is seldom done.

Land transport is limited since no roads link Wainwright to other communities in the region. There are a few cars and trucks in the village, but land travel in summer is mainly by three-wheel motorcycles since they do the least damage to tundra. Snow machines and all-terrain vehicles are favored for overland travel in winter, mainly to hunting and fishing areas but also to Barrow, Point Lay, and Atkasook.

Community Base Map—Maps are needed to show land use, ownership, location of utilities, and to plan for future village improvements. These maps can be prepared by either surveying the land on the ground or through enlargement of aerial photos or by a combination of both. Air photos can be taken at various heights. The height determines the extent of the area covered by the photograph.

The community base map was prepared from a BLM photograph taken in 1978 at a height of 8,400 feet and enlarged to a scale of 1:2,400 (1 in. = 200 ft.). This map was used to locate the present utilities, residential development, and various community services and can be used in the future to evaluate the area for village expansion and to locate new construction.