

Village Water Supplies—

Plans in Advanced Stage on Rural Water, Waste Disposal

Planning is in an advanced stage on a water supply and waste disposal demonstration made possible through legislation co-sponsored by Senators Ted Stevens and Ted Kennedy.

In the Bethel region the concept was presented to the Associated Village Council Presidents, Inc., in January at their general

meeting. The group recommended five communities from which Emmonak was selected.

Wainwright was chosen from Arctic Slope villages at the suggestion of Joe Upicksoun.

Both villages have extreme problems securing water. Wainwright people try to cut enough winter ice for a summer water

supply, storing the cakes in underground cellars. Families that run out must resort to taking water from puddles or an old snow bank on the beach.

In Emmonak, ice is used in the winter but in summer there is nothing to draw from except rain water and a shallow, badly

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contaminated lagoon behind the village.

Bert Puchtler, project administrator for the Environmental Protection Agency implementing the federal project, reports two different solutions to these village problems.

Since attempts at well construction in the Yukon Delta have met with poor results, water will be taken from the Yukon Delta at Emmonak and given a high degree of treatment.

"This will result in drinking water of a high quality and good taste," he said.

Treatment consists of a succession of steps. First, chemicals are added which will encourage sedimentation of finely suspended particles and some dissolved impurities.

Then the water passes through filters which remove all the micro-organisms that are too large to be affected by chlorination.

Finally, chlorination will provide protection against sickness in case of accidental introduction of germs into the water during delivery and storage.

In Wainwright finding a satisfactory water source is more difficult. Puchtler thinks pumping water from lakes several miles from the village using a large storage tank may be a solution.

"The complete plant will probably be the result of an inter-agency cooperative effort with Bureau of Indian Affairs, Public Health Service and Environmental Protection Agency each contributing components," he said.

Since low-lying land around Emmonak does not permit constructions of sewage lagoons waste water from laundry and showers will receive physical-chemical treatment to meet requirements of environmental protection.

Human waste from honey buckets and chemical toilets will be kept entirely separate from wastewater. Together with other garbage, it will be burned in an incinerator of high efficiency.

Heat produced by this combustor will be recovered for heating a structure about 3500 feet square which is to house laundering equipment, toilets, showers and saunas.

Puchtler notes that design criteria for the building came from meetings with the city council and residents of Emmonak.

In response to strongly voiced local needs, for example, sauna baths will be incorporated in the building and a laundromat will contain a large capacity washer and dryer to accommodate sleeping bags and bulky clothing.

Provision for the community sauna is based on the principle historically applied in the native Kashgee (Men's community hall) that in cold climate situations, hot air can be a more economical beneficial cleaning agent than water.

While sauna bath is not traditional in Wainwright, villagers like the idea and plan to utilize a facility similar to Emmonak. Building should start before freeze-up and be completed some time early next year. \$400,000 in 1972.

Heading the program is Merritt A. Mitchell, sanitary engineer with long experience in Alaska. His involvement in improving village health conditions goes back to the 1950s when he participated in training the first Native sanitation aids.

Puchtler has less time in Alaska but has worked with AID in Laos and with the Peace Corps in Nepal.

Two men from each village will be trained to manage the facilities. They are Donald Redfox and Ambrose Shorty of Emmonak and Larry Bodfish and Charles Nayakik from Wainwright.