



DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE

Environmental Health and Engineering Branch
701 C Street, Box 65
Anchorage, Alaska 99513
July 24, 1987

ALASKA AREA NATIVE HEALTH SERVICE
BOX 7-741
ANCHORAGE, ALASKA 99510

Refer to: A-EH&EB

Michael P. Lewis
Department of Environmental
Conservation
Anchorage/West District Office
437 "E" Street, Suite 303
Anchorage, Alaska 99501

RECEIVED

AUG 12 1987

ANCHORAGE/WESTERN
DISTRICT OFFICE

Dear Mr. Lewis:

Re: Sanitation Facilities Construction Plan Review and Waiver Request for Individual Septic Tank/Class "C" Water Well Separation Requirements, Indian Health Service (IHS) Project AN-87-368, Ekwok, Alaska, 8721-WA-049 and 8721-DA-107

Enclosed for your review are copies of the Project Summary, Coastal Project Questionnaire, and Construction plans which describe work to be completed for the referenced project.

Village Safe Water sponsored a water and sewer project in Ekwok in which 32 individual water systems and 18 individual septic tank/drainfield systems were installed, and a community waste disposal system was partially completed. The major wastewater system components completed included 1,800 feet of 8-inch PE sewer main and a lift station. The community septic tank/drainfield system was only partially completed before the contractor went bankrupt.

IHS has reviewed the original community wastewater design by Corwin and Associates of Anchorage and has determined that overall community sewer system reliability could be improved and maintenance requirements reduced by installing individual septic tanks for each service connection, and constructing a lagoon instead of completing the drainfield system.

Small lot sizes and existing individual well locations within Ekwok Townsite required a waiver request that was submitted to and approved by the Department of Environmental Conservation (DEC) for individual septic tank/individual well separation requirements. Three (3) existing homes, numbered 29, 34, and 38, as listed on Attachment No. 3 to the Project Summary, do not have wells and it is proposed that these three homes obtain water from homes numbered 30, 35, and 11, respectively. Because of this, wells associated with homes numbered 30, 35, and 11 will be considered Class "C" wells according to State of Alaska DEC Regulation 18AAC 72.021, and IHS is requesting a waiver of 18AAC 72.021 separation requirements to allow distance separation reduction between septic tanks and Class "C" wells for the three homes indicated above from 150 feet to 50 feet.

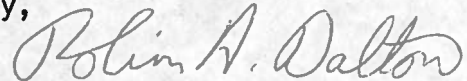
In order to mitigate any potential contamination of local groundwater from the wastewater system from corrosion or poor construction practices, the IHS proposes to do the following:

1. Use polyethylene 1,000 gallon septic tanks to eliminate leakage from vessel corrosion.
2. Utilize 4-inch diameter PE pressure rated pipe between the home and the septic tank and the septic tank and the sewer main. Individual lengths of PE pipe will be fused together resulting in no joints to break or slip in the service line.
3. Septic tanks will be tested for watertightness after installation.
4. Joints at the septic tank inlets and outlets and the service line will be stainless steel 4" x 8" pressure rated repair clamps.
5. To insure quality construction, each completed septic tank installation will be inspected by a licensed engineer.

A description of the soil classification, groundwater conditions, surface topography, and locations of existing water wells is provided on the enclosed set of Corwin and Associates prepared, IHS modified construction plans for the Ekwok project.

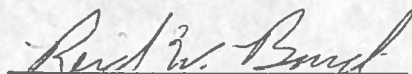
If you have any questions on this project, please contact me at 271-4700.

Sincerely,



Robin A. Dalton
Asst. Engineer Officer
Design Engineer

CONCURRENCE:



Reid W. Bond, P.E.
Sr. Engineer Officer
Chief, Design Unit

Enclosure

cc: Thomas Coolidge, EH&EB, Anchorage
Michael Peterson, EH&EB, Anchorage

PROJECT SUMMARY
SANITATION FACILITIES CONSTRUCTION
CITY OF EKWOK, ALASKA

E
ID: 1825J/99H
LR: 031987

PROJECT NO. AN-87-368
PUBLIC LAW 86-121

3/87

PROJECT SUMMARY
SANITATION FACILITIES CONSTRUCTION
CITY OF EKWOK, ALASKA

PROJECT NO. AN-87-368
PUBLIC LAW 86-121

DATE OF SUMMARY:
March 1987

INTRODUCTION:

In a letter dated October 8, 1986, the Mayor of Ekwok requested the Indian Health Service (IHS), of the U.S. Public Health Service, to assist in the completion of a water and sewer project, which was to serve 30 improved Native homes in Ekwok, Alaska. This project was initiated by the State of Alaska Village Safe Water (VSW) program. Because unsafe water supplies and wastewater disposal practices have been implicated as causative factors in significantly high rates of infectious diseases among Native Americans, the IHS has been authorized, under Public Law 86-121, to plan and construct sanitation facilities in Native Alaska communities.

The proposed sanitation facilities will complete the scope of work of the original VSW project, thereby providing improved sanitation facilities for 28 Native homes in Ekwok which have been provided or will have been renovated with plumbing facilities. This Project Summary contains preliminary engineering evaluations, a summary of alternatives considered, recommendations, cost estimates for construction, and operation and maintenance (O&M) costs for the proposed sanitation facilities.

PROJECT HISTORY:

There has been one previous IHS project in Ekwok. Project AN-73-621G was completed in July 1975 and provided for the installation of six individual water wells. The wells varied in depth from 15 to 37 feet and had a typical production rate of 5 to 8 gallons per minute (gpm). With funding provided by the State, a water well was also drilled for Ekwok's public school. This well was drilled to a depth of 81 feet and cased, and included a 5 foot well screen set from 75 to 80 feet. The well was then pumped at 20 gpm for 8 hours with a drawdown of 17 feet. Resultant well logs from this project indicate that water bearing gravels are found at depths of 15 to 30 feet and 60 to 80 feet with typical production rates of 5 to 8 gpm and 10 to 20 gpm, respectively.

The 1983-84 Alaska State Legislature passed House Bills 105 and 691 which authorized funds to develop a water and sewer project at Ekwok. The work was administered by the Alaska Department of Environmental Conservation VSW program. Construction on this project started in the fall of 1983 and was halted in the winter of 1986, when the general contractor filed for bankruptcy and abandoned the project. Facilities installed under this project include 32 individual water systems, 18 individual septic tank/drainfield systems, and a partially complete community sewer system designed for 14 homes.

The City of Ekwok and VSW have allocated funds to renovate 24 homes by installing plumbing and fixtures in space provided by the homeowner. Four (4) other homes have been renovated with plumbing installed by the homeowner.

GENERAL INFORMATION:

A. Description:

1. Location: The City of Ekwok is located on the west bank of the Nushagak River at its junction with Klutuk Creek, 42 miles northeast of Dillingham, and 12 miles south of New Stuyahok, in the Ahklun Mountains. Its coordinates are 59°21' Latitude and 157°28' Longitude.
2. Climate: Ekwok is located in a transitional climatic zone. The primary influence is maritime, however, because of the inland location of the city, the interior Arctic or continental climate significantly modifies the local weather. The area is characterized by cloudy skies, mild temperatures, and moderately heavy precipitation. In addition, the area is affected by strong surface winds coming off the coast. The mean annual temperature is 30°F. The mean July maximum temperature is 64°F and the mean January minimum temperature is 4°F. The mean annual precipitation in the area is 20 inches with 60 inches of mean annual snowfall.
3. Geology and Topography: The entire Bristol Bay area was formerly covered by glaciers and the topography is representative of a post glacial area. In the immediate vicinity of Ekwok, the topography is generally hills with low relief, dotted with irregularly shaped moraine knolls and ridges. The developed portion of Ekwok lies at about 100 feet elevation.
4. Soil Conditions: The soils around Ekwok are primarily shallow organics overlying dense silty sands and gravels. The soils range from dry to saturated and are moderately frost-susceptible. The granular soils are relatively well drained and slope gently to the west and south. Ekwok lies within the discontinuous permafrost zone of Alaska, but specific information for the Ekwok area is not available. Residents report not having encountered permafrost in the immediate area, and also consider the city to be well drained. The well driller for the VSW project drilled some 30 wells with an average depth of 54 feet and encountered no permafrost.

Gravel resources are relatively abundant in the Ekwok area. Several borrow pits have been opened west of the community in the past, but have since been used as dump sites. Extensive sand and gravel deposits are located along the riverbanks and gravel bars of the Nushagak River.
5. Flood and Seismic Hazard Evaluation: The U.S Army Corps of Engineers 1986 Flood Hazard evaluation of Alaskan communities notes that the flood hazard for Ekwok is high for low areas. However, after the 1940 flood, the community began moving to high ground and now only one home is occupied in the area which flooded during the major floods of 1940 and in 1960. Ice jams and stream overflow are the major causes of flooding.

Ekwok is within seismic zone 4, an area of major seismic damage potential.
6. Flora and Fauna: The vegetation types surrounding the City of Ekwok are a mixture of moist tundra and bottomland spruce-popular forests. Wild flowers are found in abundance in the spring and summer months along with berry bushes and numerous herbs.

The Ekwok area supports a large and diverse population of small mammals and several species of large mammals. The small mammal population includes beaver, muskrat, red fox, mink, land otter, ground squirrel, weasel, and porcupine. Brown bear, moose, caribou, wolves, and black bear make up the large mammal population.

Coastal, passerine, and raptor type birds are abundant in the area. The Nushagak River, associated mud flats, and wetlands areas provide essential habitat for waterfowl and shorebirds during their spring and fall migrations.

In the summer, the Bristol Bay area supports prolific runs of all five species of Pacific salmon which use the vast river systems in the area including the Nushagak to reach their spawning grounds. Other anadromous fish found in the area include arctic char and steelhead trout. Freshwater fish include the northern pike, whitefish, grayling, lake trout, rainbow trout, and Dolly Varden.

7. Archaeological & Historical Significance: The entire community is listed as an historic site in the Alaska Heritage Resource Survey.

Ekwok is a Yupik Eskimo word meaning "end of bluff". Ekwok is the oldest continuously occupied village on the Nushagak River. Approximately 100 years ago, the settlement was first used in the spring and summer as a fish camp, and then in the fall as a base for berry-picking.

The village was reputed to be the largest settlement along the river by 1923. In 1930, the Bureau of Indian Affairs (BIA) established a school there. Mail service began in 1930 with the opening of a post office in Dillingham which served the entire river for a time. In 1941, Ekwok officially opened its own post office.

Many of the earliest homes in Ekwok were located in a low, flat area near the riverbank. When Ekwok suffered from the effects of severe flooding in the early 1960s, the villagers relocated the village to its current location on higher ground.

8. Water Resources: At present, the primary water sources used for potable water are shallow wells. These sources are generally found unsatisfactory due to contamination from surface runoff. It was hoped that most shallow wells would be abandoned following the completion of the VSW well drilling contract in 1983. However, city officials have indicated that the original hand dug village well is still a major source of drinking water, as many residents are unsatisfied with the taste of water from their VSW wells.

Interviews with homeowners revealed that most households use less than one gallon per day from their individual wells. When water with aggressive characteristics is left sitting in the lines for extended periods, it usually creates a taste, color, and/or odor problem. It is anticipated that usage rates and water quality will increase significantly upon the completion of the plumbing portion of the project. With improving water quality and installation of inside taps, it is expected that residents will soon utilize the VSW wells as the primary source for drinking water.

B. Access: Air transportation is the most frequently used method of reaching Ekwok. There is one flight a day between Dillingham and Ekwok, Monday through Saturday, and another scheduled daily flight between the two cities, Monday through Friday. The community has a state-owned, gravel surface airstrip, 2,700 feet in length and 80 feet in width. The runway is oriented northeast/southwest, and strong southeast winds often make landing extremely dangerous.

Skiffs are occasionally used to visit other villages up and down the river. Snowmachine trails lead from Ekwok to virtually every other village in the upper Bristol Bay area.

Smith Lighterage or Sorenson Lighterage barge companies are available to barge freight to the city when they make their spring and fall fuel deliveries. Whichever company is awarded a contract with the school district serves the city that year. There are no docking facilities at Ekwok.

The roads within the city were surveyed in 1967, and constructed by the state in the early 1970s. The roads are in fairly good condition although they are not maintained.

C. Population: The 1985 State of Alaska Revenue Sharing figures collected for the Department of Community and Regional Affairs listed 80 people living in Ekwok. The majority of the residents are Eskimo. The population is very stable and does not vary between the summer and winter months.

D. Public Administration: Ekwok is a second class city incorporated in 1974. It has a seven member city council from which the mayor is selected.

For non-city programs and services, Ekwok's Native population is represented by a seven member traditional council which is recognized by the BIA as the official traditional governing body of the community. The traditional council elections take place at the same time and under the same system as the city council elections.

Under the Alaska Native Claims Settlement Act (ANCSA), Ekwok Natives formed a local corporation called Ekwok Natives, Ltd. The community is also part of the Bristol Bay Regional Corporation formed under ANCSA.

Ekwok Natives, Ltd., formed a management agreement with Choggiung, Ltd., the village corporation of Dillingham. Choggiung functions as consultant to Ekwok Natives, Ltd., and provides business and land management services as needed.

E. Economy: The predominant employer of Ekwok's populace is the fishing industry. However, only about 12 residents are commercial fishermen. The remaining people fish for subsistence purposes.

A few residents trap beaver, mink, wolverine, otter, red fox and marten. Furs are sold at the annual Beaver Roundup festival held in Dillingham in early March.

Ekwok's entire population depends heavily on subsistence activities for various food sources. Species commonly harvested include salmon, pike, Dolly Varden, char, duck, moose, caribou, blackberries, blueberries, salmonberries, and high bush cranberries. Some of the families grow vegetable gardens to supplement the family's diet.

The village corporation owns a fishing lodge located two miles downstream on the Nushagak River. The lodge is operated through the management agreement with Choggiung, Ltd.

F. Housing and Public Facilities: There are 34 houses in Ekwok, most of which are of wood frame construction and in fairly good condition. Many houses are built on thick gravel pads due to the ready availability of gravel in the area. The old school building is used for teacher housing.

Structures other than housing include the school (constructed by the state in 1979 and administered through the Southwest Region Schools and provides grades k-12), city office, community hall, health clinic, Russian Orthodox church, Baptist church, workshop, and generator building. A small store with limited merchandise is located in a private home. Scattered along the riverbank are numerous smokehouses and sheds. Many steam baths (saunas) are located in the community.

Residents of Ekwok buy surplus power from the school's generator facilities most of the year. However, during the summer months, the city council operates the community's own 30 kw generator when the school's system is not in operation.

Fuel oil is the primary method of heating the home, however, there are a few homes heated with wood.

Alascom, Inc. provides telephone service to Ekwok via satellite and there are several phones in the community. Two single side-band radios are located in the village: one in the clinic and one in the school.

Health and social services are provided to Ekwok residents at a health clinic which is owned by the village, leased by the Public Health Service (PHS), and staffed by the Bristol Bay Area Health Corporation (BBAHC). Additional health services are provided by PHS nurses who visit four times a year and by a BBAHC doctor who visits once a year. Hospital care is available at the Dillingham/Kanakanak hospital.

The radio station regularly received in Ekwok is KDLG from Dillingham which also broadcasts messages to individuals in the Bristol Bay area several times a day. There is no television in the community and the Bristol Baytimes, which is published bi-weekly in Dillingham, is the only newspaper most residents receive.

G. Social and Political Profile: Ekwok is a traditional Eskimo community. The people prefer to live a subsistence lifestyle. Sharing is a way of life in Ekwok and no one is overlooked if in need. There is also an exchange relationship, based partly on kinship ties, which exists between the people of Ekwok and various coastal communities.

Being a traditional community, the elders are usually chosen to run the city council and traditional council.

EXISTING SANITATION FACILITIES:

A. Water: Each home in the city has an individual well. These wells were drilled by Fortune Enterprises of Dillingham, Alaska under two separate contracts. The contracts were administered by the VSW. Twenty-two (22) wells were drilled in the fall of 1983. Eight (8) additional wells were drilled and pneumatic tanks, submersible pumps and controls, pitless adaptors, and water service lines were

installed for 32 wells during the fall of 1984. Thirty-seven (37) homes and public buildings were involved in the VSW project. Some of the existing wells were utilized as part of the project. A VSW project summary sheet is enclosed with this Project Summary as Attachment #2.

Many of the city's residents have complained that the water from the wells is milky and tastes bad. According to the VSW, the milky color appears to be caused by fine grain sand. It is anticipated that the sandy problem can be eliminated with additional well development. Water quality testing done by the VSW on the wells generally indicates that wells meet primary drinking water standards. Some secondary standard contaminant levels are exceeded. Wells drilled to depths of 80 feet typically have waters with iron concentrations of 2 to 4.5 mg/l (MCL=0.3 mg/l); manganese of .18 to 2.1 mg/l (MCL = .05); zinc of 6.2-14 mg/l (MCL = .05); and a hardness of 24-45 mg/l. Several of the wells were found frozen during the annual sanitary survey conducted in Ekwok in March 1986.

B. Wastewater Disposal: The wastewater disposal facilities in Ekwok consist of individual septic tank/drainfield systems and individual pit privies. A community septic tank/drainfield has been partially constructed but never put into service. Most households currently utilize a pit privy for waste disposal.

Eighteen (18) households in Ekwok have available individual septic tank/drainfield systems for waste disposal. The systems were installed by the VSW contractor in 1985 and typically consist of 1,000 gallon steel septic tanks with an absorption bed style drainfield. The majority of these systems are not in use due to the lack of plumbing.

In the southern portion of the townsite, lot sizes were too small for both individual wells and individual septic tank/drainfield systems. A community septic tank/drainfield system consisting of 1,800 feet of 8-inch PE pipe sewer main, five manholes, a lift station, two 5,000 gallon steel septic tanks, three dosing siphons, and a drainfield comprised of three alternating absorption beds (see Attachment #1) was designed to provide wastewater disposal for the 14 homes in this area of the city. Due to the flat terrain, the sewer main was installed at minimum slope (0.4%). Severe groundwater problems were encountered between manholes #4 and the sewerage lift station during construction.

Personal financial problems resulted in the general contractor abandoning the job in October 1986. A field inspection of the project and meetings with the VSW consulting engineer indicated that the community system is presently approximately 50 percent complete. This estimate was based on an assessment of work remaining and repair or replacement work. Three (3) homeowners have stated that they do not wish to have their homes connected to the proposed sewer system because they plan to move or replace their homes and one home is now vacant. Therefore, the community disposal system will serve 10 homes.

It should be noted that while a lift station is planned for the community systems, a reliable power source for the facility appears to be available only during the school year. Ekwok residents currently purchase power from the school at 25¢/kwhr during the school year. The city operates a 30 kw generator to provide power during the summer. During a preliminary planning meeting with the city in January 1987, several residents complained of brownouts, burnt out appliance motors, and frequent power outages during the summer months.

C. Solid Waste Disposal: The city has a designated dump site located northwest of the airstrip. Trash is hauled individually. Some use has been made of gravel pits near the airstrip for dumping, and there has been some indiscriminate dumping as well.

D. Unmet Needs: Ten (10) homes lack wastewater disposal facilities because the VSW project was not completed. Two (2) of these homes have no water source; VSW had planned to connect them to an immediate family member's water system at an adjacent home with a service line. One (1) home constructed after the VSW project was concluded requires sanitation facilities. In addition, the individual wells constructed by VSW require further development and upgrading to assure reliable operation and consistent water quality. A septic tank pumper and sludge disposal site needs to be provided to help ensure the proper operation of the septic tank/drainfield systems.

RECOMMENDED SANITATION FACILITIES:

A. Alternatives Considered:

1. Complete the community drainfield system in accordance with the originally proposed plans and specifications. This would include completing the lift station, septic tanks, and dosing siphon and sewer main; repairing the infiltration leaks on the existing sewer main and the lift station wet well; and installing the individual sewer service lines. Possible additions to the original scope of work for this alternative include:
 - a. Replace the existing wet well rather than attempt an infiltration seal via pressure grouting.
 - b. Install individual septic tanks on the service lines of homes connected to the community drainfield system. As the sewer main is set at minimum slope (0.4%), there is concern that flows from 10 homes will be unable to keep flow lines clear of settled solids. Individual septic tanks would eliminate solids deposition in the sewer main, reduce O&M problems with and extend the life of the lift station, and make the main O&M task for the village, septic tank pumping, the same.
 - c. Provide a standby power source for the lift station.
 - d. Replace the existing PE sewer main with a more rigid pipe which does not have a tendency to float (cast iron). Severe groundwater intrusion problems during construction may have resulted in an irregular flowline due to pipe flotation and/or poor working conditions. The existing pipeline appears to have infiltration rates in excess of 10 gpm.
2. Abandon the partially completed community septic tank/drainfield and replace it with a lagoon. The lagoon would provide a more reliable system requiring less O&M and could also serve as a septic tank sludge dump site.
3. Connect three homes without wells to individual water system at adjacent immediate family member's home. Two (2) homes are in the area of proposed community sewer system. One (1) would require an individual septic tank/drainfield waste disposal system.

4. Upgrade 25 of the individual well water supply systems installed under the VSW project to prevent freezing and heaving problems and improve water quality.
 5. Abandon all the individual wells installed for homes to be served by the community sewer system. Leave the VSW sewer main and community drainfield as is, so that the system can be used at some future date when housing density has increased. Install a community water system to serve the 14 homes. Install individual septic tank drainfields for wastewater disposal. A central pump house will allow the installation of a central water treatment facility rather than 14 individual ones. The health problems of an overflowing sewage lift station will be avoided as all the septic will be gravity flow. Soils in the area are typically silty sands and gravels, ideal for septic tank/drainfield systems; however, several mound systems will be required because of high groundwater. Providing a community water system rather than a community sewer system will decrease O&M requirements for the city.
 6. Install individual water and sewer systems for all homes. This alternative is not feasible because lot sizes do not allow separations between the facilities which meet State requirements.
- B. Recommended Sanitation Facilities: A list of homeowners and recommended facilities is attached (Attachment #3). The house numbers correspond to those shown in Attachments 1 and 2.
1. Water: Under the VSW project, water supply and waste disposals facilities were installed for 32 Native-owned homes, of which only four were fully plumbed. It is recommended that agreements be executed between the IHS and City whereby the City contributes \$60,000 to the IHS for the installation of house plumbing. Utilizing a prefab plumbing wall concept, the IHS will then use the \$60,000 contribution to install individual plumbing in 23 existing and one new Native-owned homes. Plumbing will include a kitchen sink, lavatory, and toilet, as well as piping designed for future expansion to allow the installation of hot water heaters and showers by homeowners at a later date as desired. Homeowners will contribute wall finishes, doors, and windows in the plumbing space. With the completion of the plumbing upgrade, 28 improved Native-owned homes would be served in Ekwok and IHS sanitation facilities construction funds utilized to complete the VSW project.
- Under this project, the 25 existing individual wells will be inspected and developed as necessary to help eliminate sanding problems. In addition, individual water systems will be upgraded as necessary to prevent freezing in the well and service line; and improve water quality where possible.
- Three (3) homes will be connected to the water system in an adjacent home owned by an immediate family member.
2. Wastewater Disposal: It is recommended that the existing sewerage collection system be utilized with individual septic tanks provided to all homes connected to the system. This will eliminate the clogging and flow problems associated with low use, minimum slope sewer mains. In addition, it will eliminate any clogging problems caused by solids buildup in the low spots of the pipe. Because of the high groundwater conditions during installation of

the PE sewer main, it is highly likely that crowns and bellies developed in the pipe slope during backfill due to the tendency of plastic pipe to float.

Because of the damage which occurred during the installation of the existing wet well, the sewerage lift station wet well will be replaced and existing pumps, which were stored on site but never installed, will be utilized to complete the facility. In addition, electric power needs to be extended approximately 200 feet to the lift station. To mitigate electrical demands, the lift station wet well will be sized for 24 hours of storage and the lead pump wired to a time clock such that normal pumping will be accomplished during off-peak periods.

It is recommended that the existing community drainfield be replaced with a .9 acre community lagoon to avoid the fluctuating water table which is characteristic of the area, to reduce O&M requirements of the city, and to provide a septic tank sludge dump site. The lagoon will be located directly southwest of the partially completed community drainfield.

One (1) home will be provided with an individual septic tank/drainfield system.

3. Solid Waste Disposal: No improvements to the existing solid waste disposal facilities are planned under this project.

4. Permits: The following permit applications are needed to meet State of Alaska requirements: 1) Plan Review and Approval, DEC; and 2) a waiver to reduce the separation requirement between individual wells and septic tanks from 100 feet to 50 feet, DEC.

C. Remaining Unmet Needs: Construction of a community water system with a central water treatment plant to provide quality drinking water should be considered if the water quality of the individual wells cannot be improved. Installation of a fenced solid waste disposal site is also required.

ESTIMATED COST OF RECOMMENDED FACILITIES:

<u>Item</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Total Cost</u>
<u>Water:</u>			
1. Upgrade individual wells, service lines	25 ea.	\$2,000	\$ 50,000
2. Seal abandoned wells	2 ea.	\$500	1,000
3. Install service line from individual water system to adjacent home	3 ea.	\$5,000	15,000
4. Individual house plumbing, materials, and installation of rough piping	24 ea.	\$2,500	60,000
Subtotal - Water			<u>\$126,000</u>
<u>Wastewater Disposal:</u>			
1. Individual septic tank/drainfield	1 ea.	L.S.	\$ 11,000
2. Sewerage lift station completion	1 job	L.S.	70,000
3. Individual septic tanks & sewer service lines	10 ea.	\$8,000	80,000
4. Sewer main repairs/improvements	1 job	L.S.	50,000
5. Sewerage lagoon	1 job	L.S.	75,000
6. Septic tank pumper unit	1 ea.	L.S.	10,000
Subtotal - Wastewater Disposal			<u>\$296,000</u>
Subtotal - All Facilities			\$422,000
+15% Contingencies			63,300
Total			<u>\$485,300</u>
Rounded to Nearest Thousand			\$485,000
VSW Contribution		\$ 30,000	
City Contribution		30,000	
IHS Contribution		425,000	
Total Funds		<u>\$485,000</u>	

$$\text{IHS Cost Per House Served} = \frac{\$425,000}{28} = \$15,178.57$$

SYSTEM O&M:

Since all the homes in Ekwok have been provided with individual wells with pneumatic pressure systems under the VSW project, water supply O&M will be the responsibility of the individual homeowners.

For the 19 homes served with individual septic tank/drainfield systems, the responsibility for the O&M of these facilities will be the individual homeowner. For the 10 homes served by the community sewer system, the O&M of that portion of the system consisting of the individual septic tanks and service line will also be the responsibility of the individual homeowner.

All the homes in Ekwok will have individual septic tanks. The city will own the sludge pumper unit, the community sewer main and lift station, and the community lagoon which will serve as the sludge disposal site. Therefore, it is recommended

that the city form a utility authority and charge all residences with septic tanks a monthly fee to cover the cost of pumping tanks every second year and lift station operation.

Estimated O&M Costs:

A. Water Supply:

Power Costs: Assume average depth to water = 40 feet, 1/2 hp submersible pump capable of 10 gpm and average family of four with 100 gpcd water use.

1. $(1/2 \text{ hp} \times .67 \text{ hours/day} \times .746) / (50\% \text{ motor efficiency}) = .6 \text{ kwhr./day}; .6 \text{ kwhr.} \times 365 \text{ days} \times .25/\text{kwhr} = \$50/\text{yr.}$
2. Pump replacement - annual cost over 5 year life = \$600 @ \$120/yr.
3. 20 gallon drawdown pneumatic tank replacement - annual cost over 5 year life = \$300 @ \$60/yr.

Total Annual Cost = \$230; Monthly O&M cost for water supply = \$19.20 per household.

B. Wastewater Disposal:

Cost of lift station operation:

1. Pump replacement: 2.3 hp Flyt pumps with a 5 year life @ a total cost of \$2,000 per pump and an annual cost of \$400

Power consumption: Assume 4 people per home and 10 homes @ 100 gpcd wastewater flows pump rated @ 75 gpm = average daily running time of 0.9 hrs

2. $(2.7 \text{ hp})(0.9 \text{ hrs./day})(.746) / (.75\% \text{ efficiency}) = 2.5 \text{ kw/day}$
 $2.5 \text{ kw} \times 365 \text{ days} \times .25/\text{kwhr.} = \$230/\text{year}$

Annual Cost: power = \$230/yr., pump replacement = \$400/yr. - Total cost per year for lift station operation = \$630.

3. Assume labor on the community system is 4 hr./month @ \$10/mo. or \$480 per year.
4. Septic tank pumping required every two years - two compartment tank at \$100/2 yrs. = \$50/yr.
5. Single compartment tank @ \$50/2 yrs. = \$25/yr.

Total O&M Cost for Sewer:

Community system:

Lift Station	\$630
Labor	400
Pumping, 25X14	250
Total	<u>\$1,280</u>

$$\text{Monthly user cost} = \frac{\$1,280}{12 \times 10} = \$10.67$$

Individual systems:

$$\text{Pumping, } \$50 \times 19 = \$950$$

$$\text{Monthly user cost} = \frac{\$950}{12 \times 19} = \$4.17$$

The recommended monthly user fee for community facilities is \$11/month; for individual facilities \$4.50/mo. With a collection cycle of payments every two months to ease city administrative requirements, bills would be \$22 and \$9, respectively. The total estimated household monthly cost for O&M of the proposed sanitation facilities is \$30.20 for individual well and community septic and \$23.70 for individual well and septic.

PARTICIPATION:

The principal participants in this project will be the IHS, the City, and the VSW.

State grants to the City and administered by the VSW for the original project totaled \$530,000. The City will provide and the VSW will provide an additional \$30,000 each (\$60,000 total) to plumb 24 existing homes and a new Native house. Individual homeowners will be responsible for the construction of any bathroom additions required and will contribute wall finishes, doors, and windows in the plumbing space. The IHS will provide the City with the minimum dimensions for bathroom facilities and other general criteria. The City and VSW will transfer to the IHS \$30,000 each (\$2,500/unit) with which to provide and install a kitchen sink, lavatory, and toilet in each of the 24 homes.

The IHS will provide \$425,000 to the project with which to complete the original VSW project in accordance with this Project Summary. The IHS will provide the engineering and technical services necessary to construct the proposed facilities. Construction utilizing local labor will be supervised by IHS. The IHS will also provide O&M information and training upon completion of construction.

The City will accept ownership of the community facilities after construction and pass and enforce the necessary ordinances to regulate the proposed community facilities, operate and maintain the facilities provided, collect sufficient user fees to keep the facilities self-supporting, and provide trained individuals to operate and maintain the system. In addition, during the planning and construction phases of the project, the City will assume the primary role in acquiring all easements and rights-of-way necessary to complete the scope of work.

The head of the household will accept the transfer and ownership of all individual facilities installed at each residence.

PREPARED BY:

3/20/87
Date

Curt Huskins
Curt Huskins
Writer/Editor

3/20/87
Date

Steve M. Weaver
Steve M. Weaver, P.E.
Engineer Officer
Sr. Design Engineer

REVIEWED BY:

3/23/87
Date

Kevin S. Chadwick
Kevin Chadwick, P.E.
Engineer Officer
Sr. Field Engineer

CONCURRED BY:

3/30/87
Date

James A. Crum
James A. Crum, P.E.
Engineer Director
Chief, Sanitation Facilities
Section

RECOMMENDED BY:

4-20-87
Date

Daniel R. Rogness
Daniel R. Rogness, P.E.
Director
Environmental Health and
Engineering Branch

APPROVED BY:

4/21/87
Date

Robert Singyke
Robert Singyke
Director
Alaska Area Native Health Service

INDIAN HEALTH SERVICE
ALASKA AREA OFFICE
SANITATION FACILITIES PROJECT

PROJECT APPROVAL

DATE March 1987

Assigned
Project Number

Project Title
and Date

Estimated
cost

AN-87-368

Sanitation Facilities Construction,
City of Ekwok, Alaska

IHS \$ 425,000

City \$ 30,000

VSW \$ 30,000

Total \$ 485,000

Under and pursuant to Public Law 86-121 and the authority delegated to me, I hereby approve for initiation the sanitation facilities project outlined in the attached project summary described above. Negotiation of agreements related to project execution, contribution, and responsibilities for operation and maintenance of the planned facilities may now be initiated. Negotiations shall be based upon the project summary as approved. Indian Health Service commitments shall not exceed the estimate set forth above except as increases in such estimate may be subsequently authorized by the Area Director or others designated by him for such purposes.

The assigned project number shall be utilized on all correspondence and documents related to this project.

Kevin Chadwick is hereby designated as project engineer and shall be responsible for the coordination of all activities related to the execution of the project.

Refer to fund transfer document No. 87-11

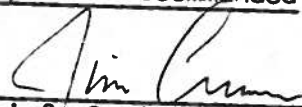
Fund Certification

DATE

Funds in the amount of the IHS estimated cost are available in the Area, but have not been specifically reserved for this project.

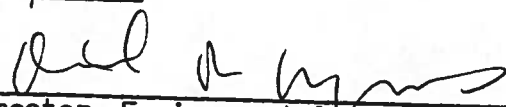
Area FMO

Approval Recommended



Chief, Sanitation Facilities Section

Concurrence



Director, Environmental Health and
Engineering Branch

Approved



Area Director

cc: Admin. Off., EHB, AANHS
Project File, EHB
Chief, SFCB, OEH
Service Unit Director
Director, IHS for Director, OEH
Area Financial Management Officer AANHS

Indian Health Service
Sanitation Facilities Construction
Under P.L. 86-121

PROJECT SCHEDULE

DATE: March 1987

Alaska Area

PROJECT TITLE Sanitation Facilities
AND Construction
LOCATION Ekwok, Alaska
ESTIMATED COST \$ 485,000
IHS \$ 425,000
CITY \$ 30,000
VSW \$ 30,000
TOTAL \$ 485,000

PROJECT NUMBER AN-87-368

PROJECT DESCRIPTION Upgrade 25
wells and service lines, plumb 24
homes, construct 11 individual
septic systems, and construct a
sewerage lagoon.

NO. HOMES TO BE SERVED 28

DATE PROJECT APPROVED _____

ACTION ITEM

MEMORANDUM OF AGREEMENT SIGNED
ENGINEERING DESIGN INITIATED
ENGINEERING DESIGN COMPLETED
STATE HEALTH DEPARTMENT REVIEW
RIGHTS-OF-WAY REQUESTED
PROCUREMENT INITIATED
CONSTRUCTION INITIATED
RECRUITMENT
TRAINING
CONSTRUCTION COMPLETED
FACILITIES TRANSFERRED

TARGET DATES

REMARKS

3/87

4/87

5/87

6/87

5/87

4/87

7/87

7/87

9/87

7/88

7/88

Kevin Chadwick
Project Engineer

Chief, Sanitation Facilities Section

DATE 3/30/87

A-434-2 (ANC)
8/75

ALASKA REVIEW
GENERAL PROJECT SUMMARY OUTLINE AND REVIEW FORMAT

Service Unit Dillingham City or Village Ekwok
Title Sanitation Facilities Construction
Prepared By Steve Weaver and Curt Huskins Date March 1987
Reviewed By Kevin Chadwick Date March 1987

1. INTRODUCTION

Purpose, type of project, number and type of housing units and authority.

x

2. PROJECT HISTORY

Events, approvals and dates. Project proposal date, assigned project numbers.

x

3. GENERAL INFORMATION

Location: Geography, Service Unit, U.S. Survey Nos. Proximity to major cities, description of town layout.

x

Climate: Temp., precip., wind, seismicity, permafrost.

x

Population: Census date, forecasts, seasonal and long term trends, % Native and tribe.

x

Government: Municipal class & form, Native political, legal assistance retained by community.

x

Facilities: Industrial, commercial, educational, government transport, recreational.

x

Non-Sanitation Utilities: Power, fuel, communications, (phone, radio, TV, paper, teletype), organization of them.

x

Local Resources: Village and area income base, revenue sharing, taxes, natural materials, equipment.

x

Construction geology and groundwater (brief).

x

Construction considerations.

x

Condition of Homes: 2500 card info., observations and IHS or BIA surveys.

x

Community Planning: Comprehensive, OEDP, 701, etc.

x

Transportation: Land, air, water modes for mail, people and freight, schedules, local vehicles.

x

Previous IHS Projects: Project No. & brief description.

x

Future Projects Affecting IHS: EDA, RDA, AVEC, Corps, BIA.

x

4. DISEASES OF ENVIRONMENTAL SANITATION SIGNIFICANCE

x

5. EXISTING SANITATION FACILITIES

Water:

Sewerage:

Solid Waste:

Sanitation Organization: Operators, equipment, ordinances, service charges, effectiveness

6. NEW AND/OR EXISTING HOUSING LOCATIONS

x

7.	<u>STUDIES</u>	<u>x</u>
	Other which have been done.	
8.	<u>RECOMMENDED SANITATION FACILITIES</u>	
	<u>Water:</u> Source, transmission, treatment, storage, distribution, water use, quality, quantity, water supply law.	<u>x</u>
	<u>Sewer:</u> Collection, treatment, water pollution law, flow rate and strength.	<u>x</u>
	<u>Solid Waste:</u> Collection, disposal, law requirements.	<u>x</u>
9.	<u>FLOOD HAZARD EVALUATION</u>	
	Corps, NWS, NOAA, local info	<u>x</u>
10.	<u>EHB Environmental Assessment (Include copy)</u>	<u>x</u>
11.	<u>CONTRIBUTIONS</u>	
	<u>City:</u> Cash, material, labor, storage, equip., etc.	
	<u>Housing authority, BIA, HUD, State W&S Grants</u>	
	<u>AFN, Regional Native Corp., etc.</u>	<u>x</u>
12.	<u>COST ESTIMATE OF RECOMMENDED FACILITIES</u>	
	Water*	
	Sewer*	
	Solid Waste*	
	Cost per design unit	
	*Cost breakdown by agency responsibility	<u>x</u>
13.	<u>OPERATION & MAINTENANCE</u>	
	Organization and estimated cost	<u>x</u>
14.	<u>MAPS</u>	<u>x</u>
15.	<u>PRELIMINARY DESIGN ANALYSIS SHEETS</u>	<u>x</u>
16.	<u>SIGNATURE SHEET</u>	<u>x</u>

PRELIMINARY DESIGN ANALYSIS
SEWAGE COLLECTION AND TREATMENT SYSTEMS

COMMUNITY Ekwok RESERVATION _____

POPULATION SERVED:

PRESENT: No. Homes 14 No. Persons 56 (Note: Only 10 homes to
DESIGN: No. Homes 30 No. Persons 120 connected under this
project)
Growth Factor 100%

SEWAGE FLOW EXPECTED:

Present Population: 100 GPCD Average Daily Total 4,000 GPD
Design Population: 100 GPCD Average Daily Total 12,000 GPD

SEWAGE COLLECTION SYSTEM: (Existing)

MIN. VELOCITY: Lateral 2 FPS Interceptor 2 FPS Outfall 2 FPS (force main)
Ft. 6" Material 1,800 Ft. 8" Material PE Ft. 10" Material
Ft. Material

Maximum Distance Between Manholes 421 Ft. No. of Lift Stations 1

SEWAGE TREATMENT FACILITY:

Sewage Stabilization Lagoon
Min. Flow in Receiving Stream CFS No Streamflow Days/Yr.
Downstream Use of Receiving Stream Water
Evaporation Rate In./Yr. Precipitation 25 In./Yr.
Cap.: Des. 0.9 AC/#Cells 1/Init. 0.9 AC/#Cells 1 (will have 0.2 acre startup burn)
Retention Time: Design 90 Days Initial 240 Days
BOD Loading: Design 15 Pounds/Acres Initial 5 Pounds/Acre
Operating Depth: Max. 5 Ft. Minimum 3 Ft. Fencing reqd. 800 Lin. Ft.
Prevailing Wind Direction southeast Nearest Dwelling 600 Ft.

SEPTIC TANK SYSTEMS:

Septic Tank Volume (total) 1,000 Gallon Number of Tanks 10
Disposal Method for Septic Tank Effluent community collection system & perc lagoon
Soil Percolation Rate 1-5 Min./In. (assumed for type soil)
Reqd. Area: Soil Absorp. Field Sq. Ft.
Subsurface Sand Filter Sq. Ft.

OTHER TREATMENT FACILITY (SPECIFY):

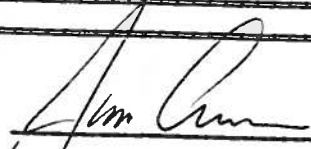
Community perc lagoon set in GW/SW soils.

Maximum state allowed application rate = 3.5 gal./ft.2/day.

Design application rate = 0.4 gal./ft.2/day

PREPARED BY: Steve Weaver

DATE: March 1987

APPROVED BY: 

DATE: 3/30/87

PRELIMINARY DESIGN ANALYSIS
INDIVIDUAL WATER SUPPLY AND WASTE DISPOSAL FACILITIES

COMMUNITY Ekwok

RESERVATION _____

POPULATION SERVED:

Number of Homes 28

Number of Persons 112

WATER SUPPLY: (will use existing individual wells drilled by VSW - see Attachments 2 and 3 for well information).

Source:	No. New Drilled Wells _____	Diameter _____ In.	No. Homes Served _____
	No. New Bored Wells _____	Diameter _____ In.	No. Homes Served _____
	No. Renovated Wells _____	Diameter _____ In.	No. Homes Served _____
	No. Spring Protections _____		No. Homes Served _____
	Other: _____		

Reqd. Source Yield _____ GPM/Home

Average Depth to Water Table _____ Ft.

Pumping Equipment and Pumphouse: (individual - utilize existing)

Pumps:	No. _____	Type _____	Capacity _____	GPH
	No. _____	Type _____	Capacity _____	GPH
	No. _____	Type _____	Capacity _____	GPH

Pumphouse Materials: _____ Pumphouse Size: L _____ W _____ H _____

WATER STORAGE: (individual pneumatic - existing)

No. Tanks _____	Type _____	Vol. _____ Gal.	Loc. _____
No. Tanks _____	Type _____	Vol. _____ Gal.	Loc. _____
No. Tanks _____	Type _____	Vol. _____ Gal.	Loc. _____
Typical Spring Box Volume _____		Gal/Home	

WASTE DISPOSAL:

No. Privies _____			Material _____
<u>1,000</u>	Gal. Septic Tanks:	No. <u>11</u>	Material <u>PE</u>
<u>300</u>	Gal. Septic Tanks:	No. <u>1</u>	Material <u>PE</u>
	Gal. Septic Tanks:	No. _____	Material _____

No. Preliminary Percolation Tests will utilize Corwin soils data

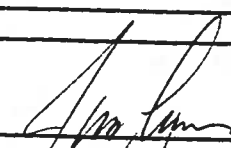
Average Tile Field Length _____ Ft.

Refuse Disposal: Type of Facility: _____

Other Waste Disposal Facilities: _____

Only one individual drainfield will be installed, the other 10 septic tanks will be connected to a community lagoon.

PREPARED BY: Steve Weaver

APPROVED BY: 

DATE: March 1987

DATE: 3/5/87

PROJECT DATA SYSTEM INFORMATION SHEET

Project Name: Ekwok

Project No.: AN-87-368

- 1) Type of project - Housing, Regular, or Special (circle one)
- 2) Indian, Aleut, or Eskimo (circle one)
- 3) Election District _____
4. Type of Homes served, Number of Each, and Services Provided (HUD, BIA, ASHA, Tribal, Other, Existing, Non-residential, Non-Native)

[illegible]

5) Total IHS Funds \$425,000

6) Total Cash Contributions \$30,000 (City), \$30,000 (VSW)

7) Estimated Cash Value of In-Kind Contributions

8) Project Engineer Kevin Chadwick Date Assigned March 1987

UNITED STATES GOVERNMENT
memorandum

DATE: March 19, 1987
REPLY TO: NEPA Coordinator
ATTN OF: Alaska Area Native Health Service

Refer to: A-EH&EB

SUBJECT: Environmental Assessment Narrative - Ekwok, Project AN-87-368

TO: FOR THE RECORD

The attached Initial Criteria and Environmental Assessment Summary have been completed with respect to proposed sanitation facilities construction at Ekwok, Alaska under Project AN-87-368. The recommendation of inapplicability has been approved.

The proposed work includes upgrading 25 individual water wells and service lines, plumbing 24 homes, constructing 11 individual septic systems, and constructing a sewerage lagoon.

Pursuant to office policy, final design plans for community water and wastewater sanitation facilities will be submitted to the appropriate State of Alaska Department of Environmental Conservation Regional Office for review and approval.

The IHS will contribute \$425,000 for the project and provide the engineering and technical services necessary to construct the facilities. Other contributors to the project include the City and VSW (\$60,000). The project will be constructed by force account using local labor. Construction should begin by July 1987 and be completed by July 1988.

Although Initial Criteria IV A2b "creates or expands water treatment and distribution systems", and IV A2c "creates or expands wastewater treatment and collection systems" are met, these factors can be excluded from further consideration since the project site is smaller than 160 acres. The population served will be approximately 80.

As noted in the Project Summary, the entire community is listed in the Alaska Heritage Resource Study. Therefore, IHS will be very sensitive to archaeological and historic concerns. We will coordinate our efforts closely with knowledgeable, local inhabitants to avoid any known archaeological or historic sites if at all possible. If avoidance is not possible, then construction in the impacted area will be halted. We will then pursue appropriate steps with the State Historic Preservation Officer to develop an acceptable course of action prior to resuming construction activities.

I further certify that to the best of my knowledge and belief, the proposed activity described in the Project Summary, Sanitation Facilities Construction, City of Ekwok, Alaska, Project AN-87-368, complies with the approved Alaska Coastal Management Program and will be conducted in a manner consistent with such programs.


Stephen S. Aoyama, P.E.

Attachments

ENVIRONMENTAL ASSESSMENT SUMMARY SHEET

I. For Program Officer

Project or Application No.: AN-87-368

Name and Address of Applicant:

Environmental Health and Engineering Branch

701 C Street, Box 65

Anchorage, Alaska 99513

Type of Application: Construction (X) Service () Entitlement ()

Loan () Permit () Leasing () Other ()

(Specify) _____

Date of Application March 1987

Date Environmental Analysis received _____

Date Environmental Assessment completed _____

Analysis is complete

Yes (X) No ()

is accurate

Yes (X) No ()

include safeguards

Yes (X) No ()

meets initial criteria

Yes () No (X)

Recommendation Determination of inapplicability

Assessment - A 2-3 page narrative giving your rationale for reaching the decision above should be attached. This narrative should be based upon the Initial Criteria listed in Appendix F for the Region X Environmental Handbook.

Signature Kevin S. Chidwell

Title Field Engineer

Date 3/23/87

II. For Regional Agency Environmental Officer:

() Agree () Disagree; remanded to program officer for revisions.

III. For NEPA Coordinator:

(✓) Agree () Disagree; remanded to program officer for revisions.

Stephen S. Aoyan
NEPA Coordinator

3/27/87
Date

REGION X HHS

INITIAL CRITERIA CHECKLIST

APPLICANT (name & address) Environmental Health and Engineering Branch
701 C Street, Box 65
Anchorage, Alaska 99513

DATE March 1987

BRIEF PROJECT DESCRIPTION Upgrade 25 individual wells and water service lines;
plumb 24 homes; construct 11 individual septic systems; and construct a
sewerage lagoon.

PROJECT OFFICER (& Title) Kevin Chadwick, P.E.
Engineer Officer
Field Engineer

SIGNATURE Kevin S. Chadwick

9/22/76

	<u>Yes</u>	<u>No</u>	<u>Info Needed</u>
I. Human Values			
A. Historic Properties:			
1. destroys property	—	<u>x</u>	—
2. alters property	—	<u>x</u>	—
3. relocates objects	—	<u>x</u>	—
4. changes access to site	—	<u>x</u>	—
5. changes use of property	—	<u>x</u>	—
6. changes general use of district	—	<u>x</u>	—
7. visual change - - view from site (w/i 500 yd)	—	<u>x</u>	—
8. visual change - - view of site (w/i 500 yd)	—	<u>x</u>	—
9. destroys structures more than 50 years old	—	<u>x</u>	—
B. Archaeological Preservation:			
alters or destroys archaeological sites	—	<u>x</u>	—
C. Natural Preserves:			
1. use of Natural Landmarks sites	—	<u>x</u>	—
2. use of sites under National Wilderness Preservation Act or Wild or Scenic Rivers Act	—	<u>x</u>	—
3. use of natural preserve	—	<u>x</u>	—
4. affects endangered or threatened species	—	<u>x</u>	—
5. utilizes product from endangered species	—	<u>x</u>	—
D. Environmental Laws:			
1. existing air and water quality laws	—	<u>x</u>	—
2. existing land use laws	—	<u>x</u>	—
3. existing odors and noise laws	—	<u>x</u>	—
4. existing visual environment law	—	<u>x</u>	—
II. Natural Systems:			
A. Land-Related Environments:			
1. Land Use (affecting less than 16 acres excluded)	—	<u>x</u>	—
a) introduces technological use	—	<u>x</u>	—
b) introduces more intensive technical use	—	<u>x</u>	—
c) charted underground space	—	<u>x</u>	—
2. Land Form:	—	<u>x</u>	—
a) affects stability (less than 16 acres excluded)	—	<u>x</u>	—
b) affects earthquake fault	—	<u>x</u>	—
c) underground disposal of wastes (existing waste systems excluded)	—	<u>x</u>	—
d) interferes with underground water system	—	<u>x</u>	—
e) future changes may be necessary to protect action	—	<u>x</u>	—
f) uses or destroys barriers protecting coastal lands	—	<u>x</u>	—
g) increases water erosion (less than 16 acres excluded)	—	<u>x</u>	—
h) increases wind erosion (less than 16 acres excluded)	—	<u>x</u>	—

	<u>Yes</u>	<u>No</u>	<u>Info Needed</u>
3. Land Composition (Topsoil):			
a) destroys or denies access of more than 100 acre-ft.	—	<u>x</u>	—
b) removes and affects vegetation (less than 16 acres excluded)	—	<u>x</u>	—
c) changes ambient substance concentration (less than 16 acres excluded)	—	<u>x</u>	—
d) introduces foreign or artificial substance (less than 16 acres and approved waste disposal sites excluded)	—	<u>x</u>	—
e) increases trash and/or waste materials (less than 16 acres & approved waste disposal sites excluded)	—	<u>x</u>	—
B. Water-Related Environments (water bodies of less than 1 acre and running water less than 100 yds. excluded):			
1. Aquatic Environment:			
a) introduces technological use	—	<u>x</u>	—
b) reduces surface area	—	<u>x</u>	—
2. Aquatic Form:			
a) affects rate of natural change	—	<u>x</u>	—
b) increases wave action or turbulence	—	<u>x</u>	—
c) causes erosion into (siltation) water body	—	<u>x</u>	—
d) increases floods	—	<u>x</u>	—
3. Aquatic Composition:			
a) changes volume	—	<u>x</u>	—
b) causes erosion into (particulate concentration) water body	—	<u>x</u>	—
c) increases human or domesticated animal wastes	—	<u>x</u>	—
d) changes concentration of naturally occurring substances	—	<u>x</u>	—
e) introduces artificial or foreign substance	—	<u>x</u>	—
C. Air-Related Environments (100,000 vehicle miles or less per annum in 16 acres or less excluded):			
1. Air Space Use:			
a) interferes with bird migration routes	—	<u>x</u>	—
b) introduces pollutant (less than 1,000 parked vehicles or traffic increase of 2,000 per hour)	—	<u>x</u>	—
2. Air Form:			
a) changes weather	—	<u>x</u>	—
3. Air Composition:			
a) violates stack emission standards	—	<u>x</u>	—
b) introduces gaseous substances other than ambient substance	—	<u>x</u>	—
c) increases ambient substances by more than one percent	—	<u>x</u>	—
d) increases pollutant concentration by more than 5% in (1 hr.)	—	<u>x</u>	—

	<u>Yes</u>	<u>No</u>	<u>Info Needed</u>
e) increases pollutant concentration by more than 30% for (1 sec.)	—	<u>x</u>	—
f) increases pollutant concentration by more than one % in any 1 hr., (mi. ³)	—	<u>x</u>	—
g) increases substances in stratosphere	—	<u>x</u>	—
h) introduces artificial substances into ionosphere or exosphere	—	<u>x</u>	—
D. Special Environments (fresh water wetlands less than 1/4 acre and desert, tundra, and alpine areas less than 1 acre excluded):			
1. changes water level in wetland or hot spring	—	<u>x</u>	—
2. changes temperature in wetland, hot spring or coral area	—	<u>x</u>	—
3. introduces artificial or foreign substance into wetland, hot spring, desert, tundra, alpine, or coral area	—	<u>x</u>	—
4. changes concentration of naturally occurring substance in wetland, hot spring	—	<u>x</u>	—
5. uses, creates, or destroys wetland, hot spring desert, tundra, alpine, or coral area	—	<u>x</u>	—
E. Contaminants:			
1. temporary storage of	—	<u>x</u>	—
F. Energy (aquatic areas less than 1 acre and human population less than 50 excluded):			
1. Energy Transmission:			
a) introduces or increases electromagnetic activity which may alter physiology, genetic make-up or behavior pattern	—	<u>x</u>	—
b) changes resistance of atmosphere to extraterrestrial wave spectrum	—	<u>x</u>	—
c) creates sound levels affecting human communication	—	<u>x</u>	—
d) generates shock waves	—	<u>x</u>	—
2. Energy Concentration:			
a) changes albedo (less than 16 acres excluded)	—	<u>x</u>	—
b) changes air-land heat exchange (less than 16 acres excluded)	—	<u>x</u>	—
c) changes air or ground temp. affecting animal behavior (less than 160 acres excluded)	—	<u>x</u>	—
d) changes temperature of aquatic environment (less than 1 acre excluded)	—	<u>x</u>	—

III. Populations:

A. Plant Populations:

1. Natural Functioning (land area less than 160 acres and water bodies less than one acre or 100 yards running water are excluded):

	Yes	No	Info Needed
a) introduces species	___	<u>x</u>	___
b) increases non-indigenous species	___	<u>x</u>	___
c) decreases indigenous species	___	<u>x</u>	___
d) changes genetic makeup	___	<u>x</u>	___
2. Domestic Use:			
a) destroys plant population requiring t60 years return	___	<u>x</u>	___
b) utilizes commercial material from plant species	___	<u>x</u>	___
c) decreases species of commercial value	___	<u>x</u>	___
B. Animal Populations:			
1. Animal Functioning (same exclusion as plant functioning):			
a) introduces species	___	<u>x</u>	___
b) introduces or increases pathogenic micro-organism	___	<u>x</u>	___
c) increases non-indigenous species	___	<u>x</u>	___
d) decreases indigenous species	___	<u>x</u>	___
e) increases or decreases species population	___	<u>x</u>	___
f) changes behavior patterns	___	<u>x</u>	___
g) changes physiology	___	<u>x</u>	___
h) creates genetic change	___	<u>x</u>	___
2. Domestic Use:			
a) utilizes commercial material from animal specie	___	<u>x</u>	___
b) decreases species of commercial value	___	<u>x</u>	___
C. Human Populations:			
1. Human Population characteristics (less than 160 acres excluded):			
a) introduces permanent or continual increase	___	<u>x</u>	___
b) changes population density	___	<u>x</u>	___
c) changes number of annual transients (commuters)	___	<u>x</u>	___
d) increases population such that new service unit needed	___	<u>x</u>	___
e) changes physiology	___	<u>x</u>	___
f) develops capability for genetic change	___	<u>x</u>	___
2. Technological Resource:			
a) decreases number employed	___	<u>x</u>	___
b) decreases enrollment in schools	___	<u>x</u>	___
c) alters number entering a profession	___	<u>x</u>	___
IV. Technological Systems (less than 100 population and less than 160 acres with less than 10,000 population excluded):			
A. Extension Systems:			
1. Disruption/Reduction:			
a) disrupts water supply for more than 24 hours	___	<u>x</u>	___

	<u>Yes</u>	<u>No</u>	<u>Info Needed</u>
b) disrupts heat for more than 14 hours	—	<u>x</u>	—
c) disrupts sewage system for more than 24 hours	—	<u>x</u>	—
d) disrupts solid waste service for more than 4 service days or 2 weeks	—	<u>x</u>	—
e) reduces amount of food, water, energy, or shelter for more than 2 weeks	—	<u>x</u>	—
f) disrupts food supply for more than 72 hours	—	<u>x</u>	—
2. Creation (excluded if action uses at least 80% of system capacity or is designed for less than 100 population):			
a) creates or expands electrical power plant	—	<u>x</u>	—
b) creates or expands water treatment and distribution system	—	<u>x</u>	—
c) creates or expands wastewater treatment and collection system	—	<u>x</u>	—
3. As a Resource:			
a) uses more than 5% of remaining electric power or natural gas in system (less than 1,000 kwh and 3,500 CFH gas excluded)	—	<u>x</u>	—
b) uses more than 5% of water kept in reserve (less than 5,000 GPD excluded)	—	<u>x</u>	—
c) uses more than 5% of remaining capacity of sewage system (less than 500 GPD excluded)	—	<u>x</u>	—
d) uses more than 5% of remaining capacity of solid waste disposal system (less than one ton per day excluded)	—	<u>x</u>	—
B. Maintenance Systems:			
1. Protective Services:			
a) increases utilization of fire and police services	—	<u>x</u>	—
b) decreases personnel or equipment of fire or police services	—	<u>x</u>	—
c) delays utilization of police services by more than 15 min.	—	<u>x</u>	—
d) renders emergency health unavailable for more than one hour	—	<u>x</u>	—
e) reduces stock of biologicals to prevent or inhibit human epidemics	—	<u>x</u>	—
2. Recovery Services:			
a) decreases ratio of medical personnel or hospital beds to population	—	<u>x</u>	—
b) decreases hospital use	—	<u>x</u>	—
3. Care Systems:			
a) decreases care service use	—	<u>x</u>	—
C. Intermediary Systems:			
1. Transportation:			
a) establishes transportation service or extends existing service by more than one mile	—	<u>x</u>	—

	<u>Yes</u>	<u>No</u>	<u>Info Needed</u>
b) changes entry or exit point	—	x	—
c) increases cost	—	x	—
d) increases transportation time	—	x	—
e) closes transportation service for more than one week	—	x	—
f) reduces remaining roadway system capacity	—	x	—
2. Communication:			
a) denies access to service for more than two weeks	—	x	—
b) extends telephone or telegraph service more than one mile	—	x	—
c) interferes with two way communication	—	x	—
d) increases messages transmitted by a system	—	x	—
3. Economic Exchange:			
a) causes decrease of income of human population	—	x	—
b) decreases revenues or increases costs of human settlement	—	x	—
D. Resource Allocation:			
1. Land:			
a) addition of technological use (less than 10 acres excluded)	—	x	—
b) addition of technological use to open underground space (less than 1,000 cu. yd. excluded)	—	x	—
c) adjacent land use pre-empted	—	x	—
2. Mineral and Fossil Fuel Use:			
a) affects accessibility of mineral deposits	—	x	—
b) inhibits use of recycled materials	—	x	—
c) increases amount of mineral or fossil fuel being mined	—	x	—
d) increases consumption of mineral or fossil fuel	—	x	—
e) requires use of protected natural resource	—	x	—
3. Waste Production:			
a) increases use of non-recyclable materials	—	x	—
b) recyclable materials not recycled	—	x	—
4. Water Use (water body less than 1 acre and running water less than 100 yd. excluded):			
a) requires reallocation of use	—	x	—
b) requires reallocation of water rights	—	x	—
c) decreases existing technological water use	—	x	—
d) precludes technological use	—	x	—
5. Air Space Use:			
a) interference with other uses	—	x	—



DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE

Environmental Health and Engineering Branch
701 C Street, Box 65
Anchorage, Alaska 99513
January 29, 1987

ALASKA AREA NATIVE HEALTH SERVICE
BOX 7-741
ANCHORAGE, ALASKA 99510

Refer to: A-EH&EB

Mr. Michael P. Lewis
Department of Environmental
Conservation
Anchorage/Western District Office
437 "E" Street, Suite 303
Anchorage, Alaska 99501

RECEIVED

JAN 27 1987

ANCHORAGE/WESTERN
DISTRICT OFFICE

Dear Mr. Lewis:

Re: Waiver Request For Individual Septic Tank/Individual Well Separation
Requirements, Indian Health Service (IHS) Project AN 87-368, Ekwok, Alaska

Under a recently completed Village Safe Water (VSW) water and sewer project in Ekwok, a community waste disposal system was partially constructed. The major system components were 1,800 feet of 8-inch PE sewer main, a lift station, and a community septic tank/drainfield system.

IHS is presently developing a Project Summary with which to fund the completion of the Ekwok community waste disposal system. After reviewing the original design by Corwin and Associates, Anchorage, it appears that system reliability can be improved and maintenance requirements reduced by installing an individual septic tank for each service connection, and replacing the drainfield with a lagoon.

However, due to lot sizes in the Ekwok Townsite, separation requirements between septic tanks and individual wells need to be reduced from 100 feet to 50 feet to allow both a well and a septic tank on the same lot. Therefore, the IHS is requesting a waiver of 18 AAC 72.021 separation requirements, as indicated above, for homes located within Blocks 1 through 5 of the Ekwok Townsite and connected to the proposed community wastewater disposal system.

Under the existing design 15 sewer services are to be connected to 1,800 feet of minimum slope 8-inch sewer main. It is unlikely that these 15 residences will develop the peak flows necessary to keep the flowline of the sewer clear of settled solids. This potential problem is compounded by probable bellies and crowns in the flow line, given that pipe between manhole #4 and the lift station was set below the water table and that plastic pipe has a tendency to float.

The addition of individual septic tanks to the design will eliminate solids from the sewer main and lift station, substantially reducing maintenance requirements on community system components. In smaller communities, communal systems are typically short-lived due to irregular maintenance. Under this concept the major operation and maintenance item, pumping septic tank, will be a clearly defined individual responsibility which can be scheduled during the summer season. As 18 individual drainfields were already installed in Ekwok under the VSW project the

need for a pumper unit and sludge disposal site is already required for the city and does not represent additional components required by a design change.

The reduction of the separation distance between a septic tank and a well represents no health hazard under normal operation. The 50 foot separation requested herein is consistent with the requirements of many regulatory guides, such as the Uniform Plumbing Code, Ten States Standards, and U.S. Public Health Service (see enclosures). However, concern for potential contamination becomes real should a break in system integrity occur due to corrosion or poor construction practices, especially in areas with sandy soils such as Ekwok.

In order to mitigate any potential impact by the waiver on the quality of the local groundwater the IHS proposes to do the following:

1. Specify polyethylene 1,000 gallon septic tanks to eliminate leakage due to vessel corrosion. *ok*
2. Utilize 4-inch diameter PE pressure rated pipe between the home and the septic tank and the septic tank and the sewer main. By using PE pipe, individual lengths of pipe will be fused together resulting in no joints to break or slip in the service line. *ok*
3. Septic tanks will be tested for watertightness after installation. *ok*
4. Joining between the septic tank inlet and outlet and the service line will be accomplished with stainless steel 4" X 8" pressure rated repair clamps (see enclosure). *ok*
5. The quality of construction will ultimately ensure the watertight integrity of the system. Each septic tank installation, to include the couplings, will be inspected by a licensed engineer prior to backfill. *ok*

A description of the soil classification, groundwater conditions, surface topography, and locations of water wells is provided on the enclosed set of construction plans for the Ekwok project as proposed by Corwin and Associates. Overlaid, in red, on Sheet #1 of 6 of the Corwin plans are 50 foot facilities separation circles and proposed septic tank locations. Please note that the sewer main between manhole #1 and the lift station is already installed and that no individual service lines have been installed. Also enclosed is a water well summary sheet and well logs for 30 wells drilled in 1983 provided by Mr. Bernard Gajewski of VSW.

Sincerely,



Steven M. Weaver, P.E.
Engineer Officer
Sr. Design Engineer

Enclosures

cc: Kevin Chadwick, EH&EB, Anchorage
Thomas Coolidge, EH&EB, Anchorage

PROJECT AN 87-368 EKWOK ALASKA

#	NAME	PROPOSED IHS SCOPE			COMMENT
		water	sewer	plumbing	
1	Robert Brown	RWS		A	water line froze
2	Jua Kazimirovicz	RWS		P	not visited
3	Pat Chiklak	RWS		S	has ks, needs t,l,rp
4	Peter Walcott	RWS		P	has ks, wants no other
5	Basil Atkinson	RWS		P	
6	Paul Romie	RWS		S	requests ks,rp only
7	Jeff Romie	RWS		S	requests ks,rp only
8	Mary Larson				home not in use
9	Tom Hurley	RWS		S	has ks,needs t,l,rp.has frozen previously
10	Tom Nelson	RWS		S	home not visited
11	Fred Hurley	RWS		A	has ks,l,needs t,rp
12	Peter Yukluk	RWS		W	
13	Alex Nelson	RWS		S	has t,ks,l, needs rp.addition complete
14	Clinic				
15	Council Building				
16	Phillip Akelkok	RWS		A	has ks, needs t,l,rp
17	Masa Acey	RWS		A	addition complete
18	Julia Brandon	RWS		P	
19	Mike Acovak	RWS		W	has ks, needs t,l,rp.waterline froze
20	Wassilie Nickolai	RWS		W	has ks,l,needs t,rp
21	John King	RWS	community	A	pressure sytem not hooked up
22	Mary Kawaglia	RWS	community	W	
23	Pat Chiklak				house not used
24	Esther Dunning				says state will finish work
25	Luki Akelkok	RWS	community	W	has ks, needs t,l,rp
26	VPSD Building				city plans to move blkdg
27	Evan Acovak	RWS	community	W	has ks, needs t,l,rp
28	Mickia Walcott Sr				planning new house
29	George Nicolai	WS	community	W	water from daughter
30	Nicolai daughter	RWS	community	W	pump broken
31	Mike Walcott				planning new house
32	Steve Lease	RWS	community	W	
33	Andy Larson	RWS	community	W	
34	Hurley kids	WS	community	W	
35	Billy Hurley	RWS	community	S	water from B Hurley
36	William Nelson				has ks,needs t,rp
37	AA Building				homeowner out for extended period
38	Julia Hoseth	WS	individual	W	has well, ind.sewer,plumbing new home

Summary and Abbreviation Key

Water: RWS = work on water system 25
WS = install water service 3

Sewer: Community 10
Individual 1

Plumbing: S = space in house for std plumb 7

A = Homeowner plans an addition 5

P = Working plumbing exists 4

W = Prefab plumbing wall req'd 12

ks = kitchen sink, t = toilet, l = lavatory, rp = rough plumbing

Attachment #3
Ekwok Project Summary
January 1987

OF WELLS & WSL FOOTAGE AS BUILT & PROPOSED SEPTIC TANKS @ EKWOK(4/85)

#	NAME	DP	DEP	S	DIR.	WSL'	SWL'	#	STDF	COMMENTS
1	ROBERT BROWN	69	78	0	E @15GPM	31	50	1	Y	FE=3.9
2	JUA KAZIMIROWICZ	71	80	0	N @10GPM	42	47	2	Y	
3 S	PAT CHIKLAK	69	78	0	W @10GPM	23	46	3	Y	
4 S	PETER WALCOTT	41	49	Y?	S @10GPM	18	38	4	Y	
✓ 5 P	BASIL ATKINSON	33	42	Y	W @??GPM	90	?	EXIST		
6 S	PAUL ROMIE	19	28	0	W @8GPM	23	20	5	Y	
7	JEFF ROMIE	26	35	0	N @10GPM	40	25	6	Y	
8	MARY LARSON	21	28	0	N @??GPM	41	22	7	Y	
9	TOM HURLEY	21	30	Y	N @8GPM	71	??	8	Y	FE<0.1
10 S	TOM NELSON	68	77	Y	E @15GPM	30	??	9	Y	FE=4.0
11*S	FRED HURLEY	68	77	Y	S @15GPM	18	31	10	Y	FE=2.2
12	MARY YUKLUK	66	75	Y	E @15GPM	22	32	11	Y	
13*S	ALEX NELSON	69	78	Y	W @15GPM	16	30	12	Y	FE=3.2
14 P	CLINIC	24	33	Y	W @10GPM	15	22	EXISTING		
15*	COUNCIL BUILDING	20	29	Y	N @8GPM	24	20	13	Y	DF W #16
16	PHILIP AKELKOK	16	25	Y	N @10GPM	38	13	14	Y	DF W #15
17*	MASA ACEY	30	30+	0	E EX WELL	28	??	15	Y	DF W #18
✓ 18 P	JULIA BRANDON	15	24	0	E @??GPM	14	??	16	Y	DF W #17
19	MIKA ACOVAK (PON)	65	74	Y	E @??GPM	62	17	17	Y	
20*	WASSILIE NICKOLAI	21	30	Y	E @??GPM	84	17	18	Y	FE<0.1
21	JOHN KING	52	61	Y	E @10GPM	40	51	C		
22	MARY KAWAGLIA	61	70	Y	N @10GPM	23	10	C		
23	PAT CHIKLAK	EXISTING WATER SYSTEM						C		
24	ESTER DUNNING (NOGO)	86	Y	S	@10GPM	??	3	C	(FROZE IN 84)	
25 S	LUKI AKELKOK	56	65	Y	S @ 5GPM	45	11	C	FE=2.5	
26	VPSO BUILDING	24RHB	EX	WELL	@10GPM	29		C		
27*	EVAN ACOVAK	60	69	Y	W @??GPM	25	14	C		
28	MICKIA WALCOTT	SR51	60	Y	W @??GPM	51	11	C		
29	GEORGE NIKOLAI	JRWSL	FROM	G	NIKOLAI HOUSE			C		
30	GEORGE NIKOLAI	51	60	Y	E @??GPM	22	14	C		
31*	MICKIA WALCOTT	50	59	Y	E @??GPM	28	13	C		
32	STEVE LEASE (P)	51	60	0	N @20GPM	44	13	C	FE=1.9	
33	ANDY LARSEN	49	58	Y	E @??GPM	45	10	C	FE=4.5	
34	JIM HURLEY	NO WSL, ELIMINATE SEWER						C	INFORM CORWIN	
35*	BILLY HURLEY	48	57	Y	W @??GPM	125	10	C	FE=3.8	
36	WILLIAM NELSON	51	60	Y	S @??GPM	93	14	C		
37 P	AA BUILDING									

TOTALS: DP (FT OF DROP PIPE)=1436
 DEP (TOTAL WELL DEPTH IN FT)=1735
 S (# OF SCREENS INSTALLED)=24
 DIR = WELL DIRECTION FROM HOUSE
 WSL = WATER SERVICE LINE = 32+1
 SWL = STATIC WATER LEVEL (DEP - STANDING WATER)
 DIS. = WSL DISTANCE FROM WELL TO HOUSE
 ST = SEPTIC TANKS = 18 INDIVIDUAL & 3 COMMUNITY
 FOR 16 HOMES
 WELLS = 31 + 1 REHAB(VPSO)
 PUMPS = 32
 PRESSURE TANKS = 32
 * = 8 HOMES TO BE PLUMBED BY THE CITY
 \$30,000 FROM VSW FOR PLUMBING (6 HOMES)

10/8/86
 10/22/86

COASTAL PROJECT QUESTIONNAIRE

The State of Alaska has a system for reviewing and processing all the resource-related permits, leases, and approvals which are required for proposed projects in coastal areas of Alaska. As a project applicant you are required to complete this questionnaire. The questionnaire will help you identify if approvals are required for your project (or a specific phase of your project) from the Departments of Fish and Game, Natural Resources, and Environmental Conservation.

Attached is a list of regional agency contacts and a map of the coastal area with the regions delineated. We urge you to contact the appropriate agency staff when you are answering that agency's questions.

Once you have completed the questionnaire and attached the required applications you must submit this packet to the appropriate state agency in the region where the proposed project is to occur. YOUR PROJECT CANNOT BE REVIEWED UNTIL ALL APPLICATIONS ARE RECEIVED. Please use the following instructions for submittal.

All packets must be submitted to the Division of Governmental Coordination, with the following exceptions:

1. If a fee is required, submit the entire packet to the state resource agency with the fee requirement.
2. If confidential information is contained, submit the entire packet to the state resource agency with that requirement.
3. If it is a placer mining activity, submit the Annual Placer Mining Application, instead of the questionnaire, to the Department of Natural Resources.
4. If you only need permits from one state resource agency and no federal agencies, submit the entire packet to the state resource agency requiring the permits.

If one or more federal permits are required, submit the original federal permit application(s) to the federal agency and send a copy of those federal applications to the appropriate state agency along with your packet of other applications.

If you have any questions concerning the process, please contact the Office of Management and Budget, Division of Governmental Coordination. If you have general questions about local, State or federal permits, both in and outside the coastal area, you may wish to contact the Department of Environmental Conservation Permit Information Centers in Fairbanks (452-2340), Anchorage (279-0254) or Juneau (465-2615). Collect calls are accepted.

IF YOUR ANSWERS TO THE FOLLOWING QUESTIONS ARE NOT CORRECT OR COMPLETE AND AN AGENCY DETERMINES THAT YOU DO NEED ONE OF THEIR APPROVALS, THEY WILL NOTIFY YOU AND YOU WILL BE RESPONSIBLE FOR OBTAINING THAT APPROVAL. HOWEVER, THIS IS LIKELY TO CAUSE A DELAY IN THE REVIEW OF YOUR PROJECT. TO AVOID THIS DELAY, WE ENCOURAGE YOU TO SEEK ASSISTANCE FROM AGENCY STAFF IN COMPLETING THE QUESTIONNAIRE.

* * * * *

PLEASE ANSWER ALL QUESTIONS. PLEASE INCLUDE MAPS OR PLAN DRAWINGS WITH YOUR PACKET. AN INCOMPLETE QUESTIONNAIRE MAY BE RETURNED AND WILL DELAY THE REVIEW OF YOUR PROJECT.

PART A

Applicant: City of Ekwok Contact Person: Mr. Phillip Akelkok
Address: General Delivery Address: City of Ekwok
Ekwok, Alaska 99580 General Delivery, Ekwok, AK 99580
Phone (day): 464-3311 Phone (day): 464-3311

Brief description of project or activity, including associated facilities Provide individual sanitation facilities to scattered homes throughout the community and a community sewer system to homes in the southern end of the community which is piped to a lagoon.

Starting date for project June 1987 Ending date for project August 1987

Location of Project (include nearest community or identifiable land or water body) Ekwok is located on the west bank of the Nushagak River at its junction with Klutuk Creek, 42 miles northeast of Dillingham and 12 miles south of New Stuyahok.

Meridian Seward Township T10S Range R49W Section 35 Aliquot Parts SE cor USGS Map Bristol Bay

Is the project on: private land X state land _____ federal land _____
municipal land X ownership not known _____

Identify which region of the State the project is in (see attached map):

northern _____ southcentral X southeast _____

* * * * *

PART B

1. Do you currently have any State or federal approvals/permits for this project? If yes, please list below. Yes X No _____

Permit/Approval Type	Permit/Approval #	Expiration Date
Approval of Sewerage System	A.S. 46.03.720(a)	N/A

2. Will you be placing structures, or placing fills in any of the following: tidal waters, streams, lakes, wetlands*? _____ X

* If you are uncertain whether your proposed project area is in a wetland, contact the Corps of Engineers, Regulatory Branch at (907) 753-2720 for a wetlands determination. If you are outside the Anchorage area call toll free 1-800-478-2712.

If yes, have you applied for or do you intend to apply for a U.S. Army Corps of Engineers (COE) permit? (The COE has jurisdiction over activities described above.) Please indicate in Question No. 3 below, when you applied to the COE or when you intend to apply.

Yes	No
_____	_____
_____	<u>X</u>

3. Have you applied or do you intend to apply for other permits from any federal agency? If yes, list below.

<u>Agency</u>	<u>Permit/Approval Type</u>	<u>Date you submitted or plan to submit application</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

* * * * *

PART C DEPARTMENT OF NATURAL RESOURCES

1. Is the proposed project on State-owned land or will you need to cross State lands for access? (Note: In addition to State owned uplands, the State has jurisdiction over most lands below the ordinary high water line of streams, rivers, lakes, and line of mean high tide of the tidelands seaward for three miles.)

_____	<u>X</u>
-------	----------

2. Is any portion of your project placed below the ordinary high water line of a stream, river, lake or other water body?

_____	<u>X</u>
-------	----------

3. Will you be dredging?
If yes, location of dredging:

_____	<u>X</u>
-------	----------

Meridian (M)_____ Township (T)_____ Range (R)_____ Section (Sec)_____

Location of disposal site for dredged material:

M_____ T_____ R_____ Sec_____

4. Will you be filling with rock, sand or gravel?
If yes, amount?_____

_____	<u>X</u>
-------	----------

Location of source: M_____ T_____ R_____ Sec_____

Location of area to be filled: M_____ T_____ R_____ Sec_____

5. Do you plan to use any of the following state-owned resources?

_____	<u>X</u>
-------	----------

Timber

If yes, amount?_____

Location of source: M_____ T_____ R_____ Sec_____

Yes	No
_____	_____X_____

Other Materials

If yes, what material? _____
 (peat, building stone, silt, overburden, etc.)

Location of source: M _____ T _____ R _____ Sec _____

6. Are you planning to use <u>any water</u> ?	_____	_____X_____
---	-------	-------------

If yes, amount? _____

Source? _____

7. Will you be building or altering a dam?	_____	_____X_____
--	-------	-------------

8. Do you plan to drill a geothermal well?	_____	_____X_____
--	-------	-------------

9. Will you be exploring for or extracting coal?	_____	_____X_____
--	-------	-------------

10. Will you be exploring for or extracting minerals on state-owned land?	_____	_____X_____
---	-------	-------------

11. Will you be exploring for or extracting oil and gas on state-owned land?	_____	_____X_____
--	-------	-------------

12. Will you be harvesting timber from 10 or more acres?	_____	_____X_____
--	-------	-------------

13. Will you be investigating or removing historic or archeological resources on State-owned lands?	_____	_____X_____
---	-------	-------------

14. Will the project be located in a unit of the State Park System (including the Kenai River Special Management Area, State Recreation Areas, State Historic Sites, State Preserves, etc.)?	_____	_____X_____
--	-------	-------------

IF YOU CORRECTLY ANSWERED NO TO ALL THESE QUESTIONS, YOU DO NOT NEED APPROVAL FROM THE ALASKA DEPARTMENT OF NATURAL RESOURCES (DNR). GO TO PART D.

IF YOU ANSWERED YES TO ANY OF THESE QUESTIONS, CONTACT DNR TO IDENTIFY AND OBTAIN ANY NECESSARY APPLICATION FORMS.

If you have already contacted DNR, are you now submitting application(s) for permits or approvals? If yes, list DNR approvals for which you are now applying: _____	_____	_____
---	-------	-------

Have you paid the filing fees required for the DNR permits?	_____	_____
---	-------	-------

If you are not applying for permits, indicate the reason below:

____ a. _____ (DNR contact) told me on _____ (date) that no DNR approvals or permits were required for this project.

____ b. Other. _____

PART D DEPARTMENT OF FISH AND GAME

	Yes	No
1. Will you be working in a <u>stream, river, or lake</u> (this includes running water or on ice, within the active floodplain, on islands, the face of the banks, or the stream tideflats down to mean low tide)?	_____	<u>X</u>
Name of stream or river _____ Name of lake _____	_____	_____
If no, go to question number 3.		
2. If yes, will you be doing any of the following:		
a) Building of a dam, river training structure or instream impoundment?	_____	_____
b) Using the water?	_____	_____
c) Diverting or altering the natural channel stream?	_____	_____
d) Blocking or damming the stream (temporarily or permanently)?	_____	_____
e) Changing the flow of the water or changing the bed?	_____	_____
f) Pumping water out of the stream or lake?	_____	_____
g) Introducing silt, gravel, rock, petroleum products, debris, chemicals, or wastes of any type into the water?	_____	_____
h) Using the stream as a road (even when frozen), or crossing the stream with tracked or wheeled vehicles, log-dragging or excavation equipment (backhoes, bulldozers, etc.)?	_____	_____
i) Altering or stabilizing the banks?	_____	_____
j) Mining or digging in the beds or banks?	_____	_____
k) Using explosives?	_____	_____
l) Building a bridge (including an ice bridge)?	_____	_____
m) Installing a culvert or other drainage structure?	_____	_____
n) Constructing a weir?	_____	_____
3. Is your project located in a State Game Refuge, Critical Habitat Area, or State Game Sanctuary?	_____	<u>X</u>
4. Does your project include the construction and operation of a salmon hatchery?	_____	<u>X</u>
5. Does your project affect or is it related to a previously permitted salmon hatchery?	_____	<u>X</u>

IF YOU CORRECTLY ANSWERED NO TO ALL THESE QUESTIONS, YOU DO NOT NEED A PERMIT FROM THE ALASKA DEPARTMENT OF FISH AND GAME (DFG). GO TO PART E.

IF YOU ANSWERED YES TO QUESTIONS 1-3, CONTACT THE REGIONAL HABITAT DIVISION OFFICE TO IDENTIFY AND OBTAIN ANY NECESSARY APPLICATION FORMS.

IF YOU ANSWERED YES TO QUESTIONS 4-5, CONTACT THE PRIVATE NONPROFIT HATCHERY OFFICE AT F.R.E.D. DIVISION HEADQUARTERS TO OBTAIN INFORMATION AND ANY NECESSARY APPLICATION FORMS.

If you have already contacted DFG, are you now submitting an application for permit(s)? If yes, list DFG approvals for which you are now applying:

Yes	No
_____	_____

If you are not applying for permits, indicate the reason below:

_____ a. _____ (DFG contact) told me on _____ (date) that no DFG approvals or permits were required for this project.

_____ b. Other. _____

PART E DEPARTMENT OF ENVIRONMENTAL CONSERVATION

- | | | |
|---|----------|----------|
| 1. Will a discharge of wastewater from industrial or commercial operations occur? | _____ | <u>X</u> |
| 2. Will your project generate air emissions from the following: | | |
| a) Diesel generators totaling more than 10,000 hp? | _____ | <u>X</u> |
| b) Other fossil fuel-fired electric generator, furnace, or boiler totaling greater than 10,000 hp, or 9,000kw, or 100,000,000 btu/hr? | _____ | <u>X</u> |
| c) Asphalt plant? | _____ | <u>X</u> |
| d) Incinerator burning more than 1000 lbs. per hour? | _____ | <u>X</u> |
| e) Industrial process? | _____ | <u>X</u> |
| 3. Will a drinking water supply be developed that serves more than a single-family residence? | _____ | <u>X</u> |
| 4. Will you be processing seafood? | _____ | <u>X</u> |
| 5. Will food service be provided to the public or workers? | _____ | <u>X</u> |
| 6. Will the project result in dredging or disposal of fill in wetlands or placement of a structure in waterways? (Note: If you are applying to the Corps of Engineers for a permit for this activity, the Corps will automatically request certification from DEC.) | _____ | <u>X</u> |
| 7. Is on-lot sewage or greywater disposal involved or necessary? | <u>X</u> | _____ |
| 8. Will your project result in the development of a currently unpermitted facility for the disposal of domestic or industrial solid waste? | _____ | <u>X</u> |
| 9. Will your project require offshore drilling or vessel transport of oil, or other petroleum products as cargo, or include onshore facilities with an effective storage capacity of greater than 10,000 barrels of such products? | _____ | <u>X</u> |

10. Will your project require the application of oil or pesticides to the surface of the land?

Yes

No

X

IF YOU CORRECTLY ANSWERED NO TO ALL THESE QUESTIONS, YOU DO NOT NEED A PERMIT OR OTHER APPROVAL FROM THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (DEC). GO TO PART F.

IF YOU ANSWERED YES TO ANY OF THESE QUESTIONS (SEE CLARIFYING NOTE IN NO. 6, ABOVE) CONTACT THE DEC REGIONAL OFFICE TO IDENTIFY AND OBTAIN ANY NECESSARY APPLICATION FORMS.

If you have already contacted the Alaska Department of Environmental Conservation, are you now submitting an application for permit(s)?
If yes, list the permits for which you are now applying:

If you are not applying for permits, indicate the reason below:

- a. _____ (DEC contact) told me on _____ (date)
that no DEC approvals or permits were required for this project.
- b. Other. _____

* * * * *

PART F

To the best of my knowledge, this information is accurate and complete.

Robert A. Dalton
Signed

June 12, 1987
Date

TO COMPLETE YOUR PACKET, PLEASE ATTACH YOUR STATE PERMIT APPLICATIONS AND COPIES OF YOUR FEDERAL APPLICATIONS TO THIS QUESTIONNAIRE. PLEASE SUBMIT YOUR PACKET AS INDICATED ON PAGE ONE.

cp questionnaire/PERMIT

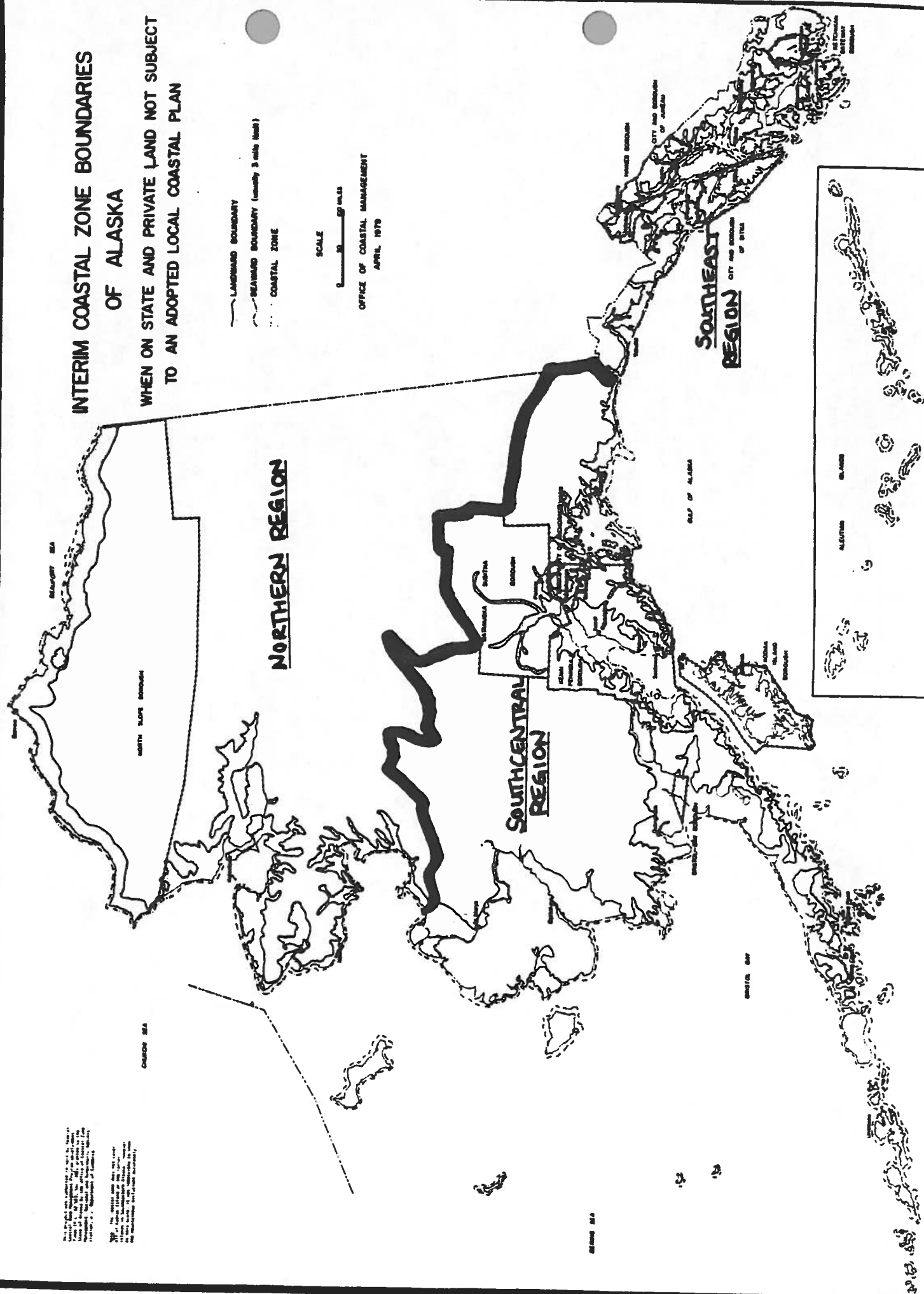
**INTERIM COASTAL ZONE BOUNDARIES
OF ALASKA**

**WHEN ON STATE AND PRIVATE LAND NOT SUBJECT
TO AN ADOPTED LOCAL COASTAL PLAN**

LANDWARD BOUNDARY
SEAWARD BOUNDARY (usually 3 mile limit)
... COASTAL ZONE

SCALE

OFFICE OF COASTAL MANAGEMENT
APRIL 1979



DEPARTMENT OF NATURAL RESOURCESOil & Gas Activities

DNR/Oil and Gas
400 Willoughby Ave.
Juneau, AK 99801
(907) 465-2400
CONTACT: Bob Butts

Mining Activities

DNR/Mining
Box 7016
Anchorage, AK 99510
(907) 762-4222
CONTACT: Jerry Gallagher

Forestry Activities

DNR/Forestry
400 Willoughby Avenue
Juneau, AK 99801
(907) 762-4500
CONTACT: Jim McAllister

Agriculture Activities

DNR/Agriculture
915 S. Bailey
P.O. Box 949
Palmer, AK 99645
(907) 745-7200
CONTACT: Dean Brown

Activities on State Park Lands

DNR/Parks
400 Willoughby Avenue, Suite 500
Juneau, AK 99801
(907) 465-4563
CONTACT: Linda Kruger

All Other Activities

Southeast District Office
DNR/Land and Water Management
400 Willoughby Avenue, Suite 400
Juneau, AK 99801
(907) 465-3400
CONTACT: Bob Merry

*Street Address:

3601 "C" Street
Frontier Building

DEPARTMENT OF FISH AND GAMEDFG/Habitat Division

P.O. Box 20
Douglas, AK 99824
(907) 465-4290, 465-4291
CONTACTS: Rick Reed or
Janet Hall

Area Offices

Department of Fish and Game
P.O. Box 667
Petersburg, AK 99833
(907) 772-3801
CONTACT: Don Cornelius

Department of Fish and Game
425 Main Street, Room 208
Ketchikan, AK 99901
(907) 225-2027
CONTACT: Jack Gustafson

Department of Fish and Game
State Office Building
P.O. Box 510
Sitka, AK 99835
(907) 747-5828
CONTACT: Dave Hardy

Hatchery Permits

DFG/FRED Division
1255 West Eighth Street
P.O. Box 3-2000
Juneau, AK 99802
(907) 465-4160
CONTACT: Jerry Madden or
Kevin Duffy

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DEC/Southeast Office
P.O. Box 2420
9000 Old Glacier Highway
Juneau, AK 99803
(907) 789-3151
CONTACT: Dick Stokes

OFFICE OF MANAGEMENT AND BUDGET

Division of Governmental Coordination
Pouch AW
431 N. Franklin Street
Juneau, AK 99811-0165
(907) 465-3562
CONTACT: Diane Mayer
Lorraine Marshall

SOUTHCENTRAL REGIONAL CONTACTSDEPARTMENT OF NATURAL RESOURCESOil & Gas Activities

DNR/Oil and Gas
Box 7034
Anchorage, AK 99510
(907) 561-2020
CONTACT: Bill Van Dyke

Mining Activities

DNR/Mining*
Box 7016
Anchorage, AK 99510
(907) 762-4222
CONTACT: Jerry Gallagher

Forestry Activities

DNR/Forestry*
Box 7005
Anchorage, AK 99510
(907) 762-2123
CONTACT: Dan Ketchum

Agriculture Activities

DNR/Agriculture
915 S. Bailey
P.O. Box 949
Palmer, AK 99645
(907) 745-7200
CONTACT: Dean Brown

Activities on State Park Lands

DNR/Parks*
Box 7001
Anchorage, AK 99510
(907) 762-4565
CONTACT: Michel D. Lee

All Other Activities

Public Information*
Southcentral District Office
DNR/Land and Water Management
Box 7005
Anchorage, AK 99510
(907) 762-2207
CONTACT: Elaine Nelson

*Street Address:

3601 "C" Street
Frontier Building

DEPARTMENT OF FISH AND GAME

DFG/Habitat Division
333 Raspberry Road
Anchorage, AK 99518-1599
CONTACT: (Southcentral):
Phil Brna
Gary Liepitz
Karen Oakley
(907) 267-2284
(Southwest and Western):
Denby Lloyd
Kim Sundberg
(907) 267-2346

Hatchery Permits

DFG/FRED Division
1255 West Eighth Street
P.O. Box 3-2000
Juneau, AK 99802
(907) 465-4160
CONTACT: Jerry Madden or
Kevin Duffy

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DEC/Southcentral Office
437 E Street, Second Floor
Anchorage, AK 99501
274-2533
CONTACT: Bob Flint
Tim Rumfelt

OFFICE OF MANAGEMENT AND BUDGET

Division of Governmental Coordination
2600 Denali Street, Suite 700
Anchorage, AK 99503-2798
(907) 274-1581
CONTACT: Patty Bielawski
Louisa Rand

DEPARTMENT OF NATURAL RESOURCES

Oil & Gas Activities

DNR/Oil and Gas
794 University Way
Fairbanks, AK 99701
(907) 474-6085
CONTACT: Ted Bond

Mining Activities

DNR/Mining*
Box 7016
Anchorage, AK 99510
(907) 762-4222
CONTACT: Jerry Gallagher

Forestry Activities

DNR/Forestry*
Box 7005
Anchorage, AK 99510
(907) 762-4500
CONTACT: Craig Olson

Agriculture Activities

DNR/Agriculture
915 S. Bailey
P.O. Box 949
Palmer, AK 99645
(907) 745-7200
CONTACT: Dean Brown

Activities on State Park Lands

DNR/Parks
4418 Airport Way
Fairbanks, AK 99701
(907) 479-4136
CONTACT: Al Meiners or Dave Snarski

All Other Activities

North Central District Office
DNR/Land and Water Management
4420 Airport Way
Fairbanks, AK 99709
(907) 479-2243
CONTACT: Gayle Berger

***Street Address:**

3601 "C" Street
Frontier Building

DEPARTMENT OF FISH AND GAME

DFG/Habitat Division
1300 College Road
Fairbanks, AK 99701
CONTACT:
(Arctic) Carl Hemming
(907) 479-0882
(Interior) Al Townsend
(907) 479-0883

Hatchery Permits

DFG/FRED Division
1255 West Eighth Street
P.O. Box 3-2000
Juneau, AK 99802
(907) 465-4160
CONTACT: Jerry Madden or
Kevin Duffy

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DEC/Northern Office
675 Seventh Avenue, Pouch 1601
Fairbanks, AK 99707
(907) 452-1714
CONTACT: Paul Bateman (Arctic)
Joyce Beelman (Interior)

OFFICE OF MANAGEMENT AND BUDGET

Division of Governmental Coordination
675 Seventh Avenue, Station H
Fairbanks, AK 99701-4596
(907) 456-3084
CONTACT: Jan Sorice
Patti Wightman