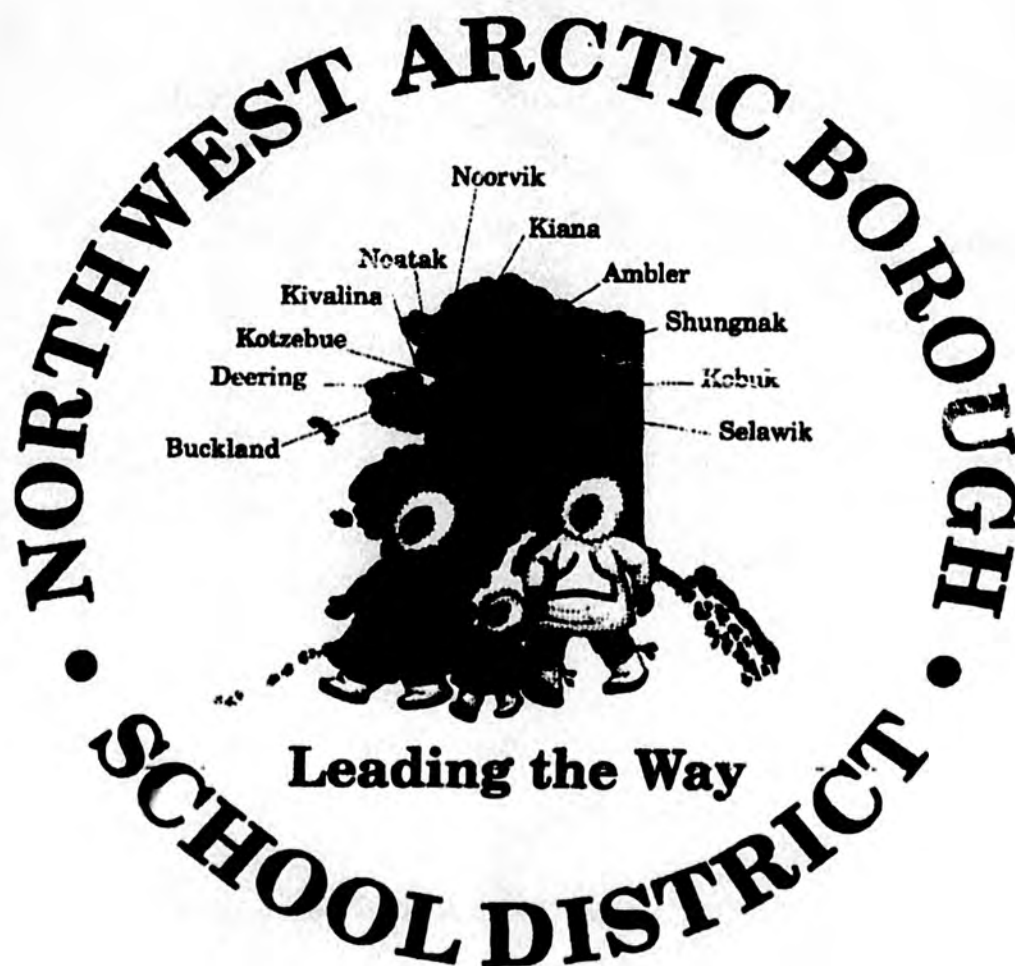


SCOMM

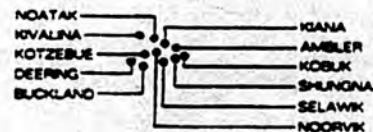
111:7

Northwest Arctic Borough
School District

*Current Capital
Improvement Project Needs*



Northwest Arctic Borough School District
BOX 51
KOTZEBUE, ALASKA 99752
(907) 442-3472



September 2, 1997

Dear Legislative Representatives:

Thank you for taking the time to visit our Borough School District, and our community schools in Buckland, Kiana, Noorvik, and Shungnak.

We have prepared this booklet of data and information to provide details of our needs. We hope that you find this information helpful as you visit these sites.

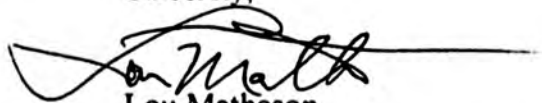
Priorities for us as submitted in the FY99 C.I.P. are as follows:

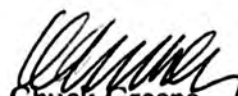
- Priority 1 Buckland School Remediation Project Phase II (Initial funding was received for the schematic design with work now completed):
\$14,898,991.00
- Priority 2 Kiana K-12 Expansion/High School Renovation Project: \$12,960,340.00
- Priority 3 Noorvik K-12 Expansion/High School Renovation Project (The District intends to utilize \$803,000.00 of reallocated C.I.P. funding to this combined project if funding to this combined project if funded timely.): \$16,271,890.00

Please feel free to call us; Lou Matheson (907) 44203472 or Chuck Greene (907) 442-2500, if you need further information on these Borough/District needs.

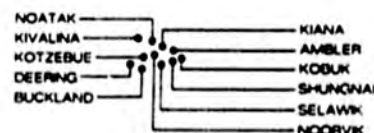
Thank you for your consideration of these requests.

Sincerely,


Lou Matheson
NWABSD Superintendent


Chuck Greene
NWAB Mayor

42 million



BUCKLAND

ENGINEER'S CERTIFICATE OF INSPECTION

This document will certify that I personally visited and inspected the school facility at BICKELAND, Alaska on the 30th day of APRIL, 1992.

I am an experienced professional engineer, registered to practice in the State of Alaska.

Based on this inspection and my review of other pertinent data relating to the facility, it is my professional opinion that the situation outlined and described in this report does, in fact constitute health, fire and building code violations.

I have personally reviewed the report and initialed the priority one items in the report.



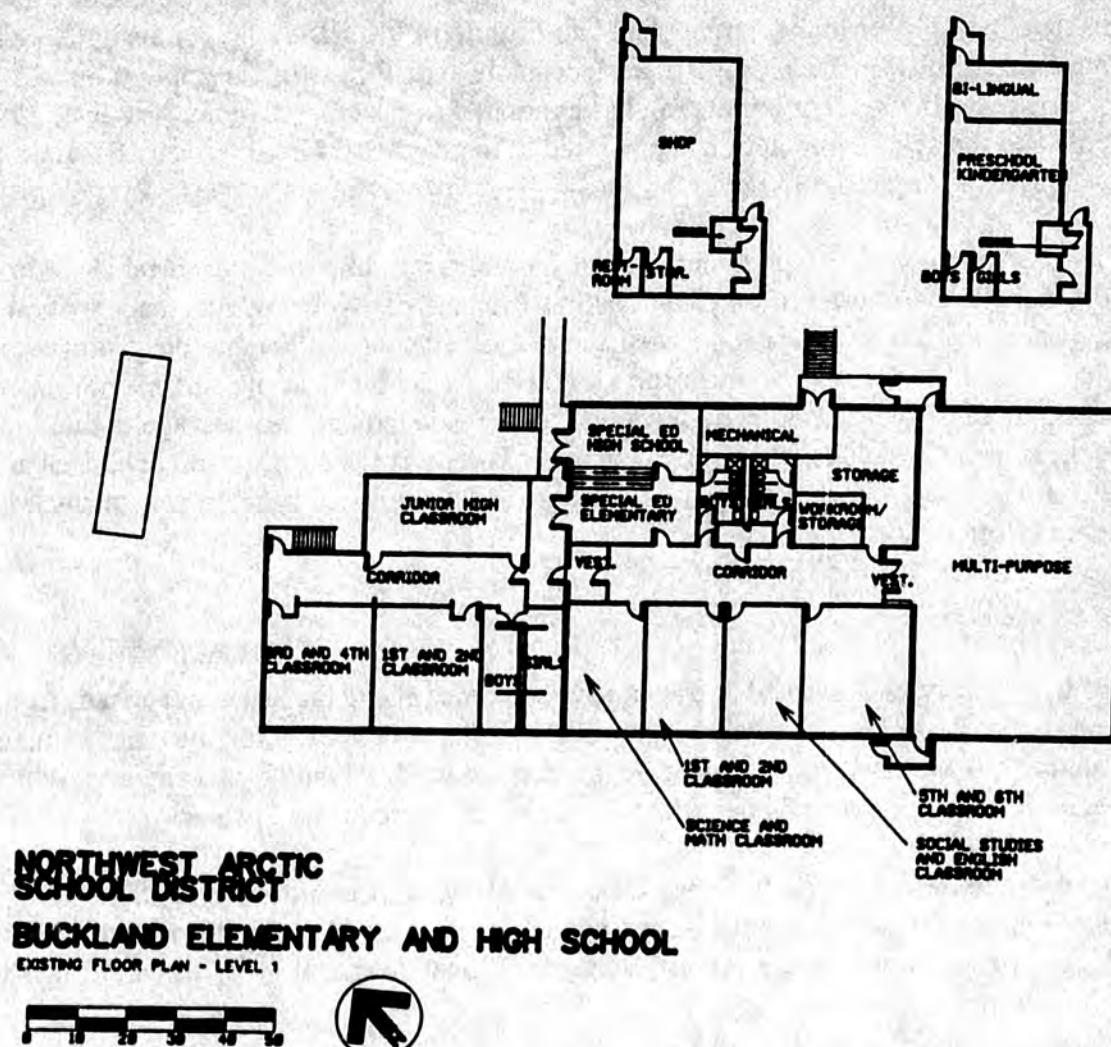
By:

Registration No. ME6698

Discipline MECHANICAL

INTRODUCTION

To meet the increasing educational needs of the Buckland community, an expanded and updated K-12 School is proposed to be constructed at the existing Buckland High School site. The existing elementary and high school facilities are undersized, physically deteriorated, poorly designed for needed programs, and do not meet current code requirements. The new combined school is intended to correct current facility shortfalls and to provide a sound basis for future growth of educational programs. The new facility should reflect the school's unique educational mission as well as its important role in the dynamics of the community.



EXISTING SCHOOL FACILITIES

The existing educational facilities at Buckland consist of a main building and two portable modular units. The modular buildings were constructed in the early 1970s solely to provide a temporary elementary school. Both of these units have exceeded their life expectancy and should be abandoned. Neither has proper handicapped access. Ventilation, circulation, and lighting are poor in both buildings and serious life/safety code violations exist at each building.

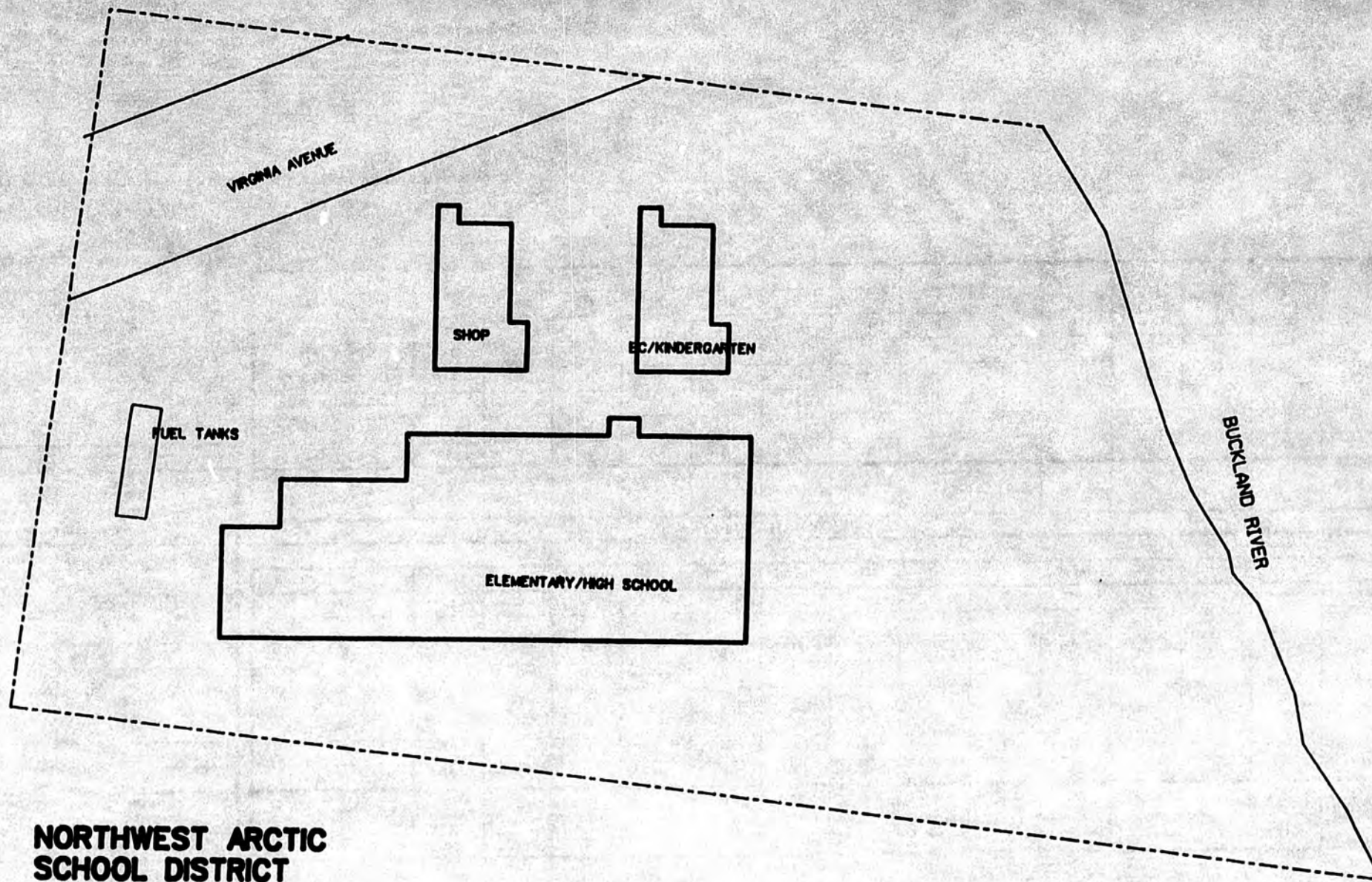
The main building, the Buckland High School, was built in the mid 1970s and was designed to provide minimum educational program space for a student population of 21 to 32 students. It served this purpose adequately until the school population outgrew the space. In the mid 1970s, a 3,200 square foot addition was added to this building. This addition provided more classroom space and a media center as well as shower/locker rooms that had been left out of the original design. This increased the total educational square footage to an acceptable level for a student population of 33 to 46 students. However, the student population has continued to grow. There are presently 122 Buckland students and the school population is projected to increase to 177 students by fiscal year 2001.

The main building is in much better shape than the older portables but, like the two portables, it has experienced considerable deterioration and degradation because of overcrowding and program changes over the years. Facility maintenance is well above bush standards. The building, however, is very noticeably crowded for the student population it houses. Fuel tanks at the site are not diked and are located too close to the school. The sewage lagoon has failed and raw sewage is flooding a low portion of the school sites. The fence surrounding the lagoon is falling down and children are free to enter this area. Playground equipment is minimal, and there is no suitable play surface to protect the students from injury.

SUMMARY

As the result of the conditions described above, a new combined K-12 facility is proposed, to be located under one roof at the present high school site. Remodeling is proposed for the existing main building, in conjunction with additional space to accommodate Buckland's present and future educational needs. Site deficiencies will be corrected as part of the requested project.

When the project is funded and constructed, the Northwest Arctic Borough School District and the State of Alaska will be relieved from the liability of continuing to operate these inferior and unsafe facilities. The long-term result will be a more effective educational program, greatly benefitting the students, staff, and community of Buckland.



**NORTHWEST ARCTIC
SCHOOL DISTRICT**

**BUCKLAND ELEMENTARY
AND HIGH SCHOOL**

EXISTING SITE PLAN



0 10 20 30 40 50

ENROLLMENT PROJECTIONS FOR BUCKLAND, ALASKA

BIRTH RATES		
YEAR	LIVE BIRTHS	YEAR TO START SCHOOL
1984	11	1989
1985	11	1990
1986	12	1991
1987	7	1992
1988	12	1993
1989	9	1994
1990	14	1995
1991	16	1996
1992	14	1997
1993	11	1998
5 YR TOTAL	53	KINDERG. ENROLL. 5 YRS LATER 47
AVERAGE SURVIVAL RATIO =		88.68%

ENROLLMENTS														
FISCAL YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL STUDENTS ENROLLED
FY 89	10	12	8	10	8	5	3	6	3	12	4	8	3	92
FY 90	11	10	13	9	12	9	5	4	8	4	10	4	7	106
FY 91	7	10	10	12	9	12	9	5	4	7	3	12	4	104
FY 92	12	9	11	10	11	9	12	9	5	3	8	6	10	115
FY 93	9	10	8	11	10	11	11	11	10	5	6	7	7	116
FY 94	8	12	12	8	11	10	12	10	10	10	6	4	9	122
TOTAL	57	63	62	60	61	56	52	45	40	41	37	41	40	655
SURVIVAL RATIO	88.68%	107.23%	105.44%	100.96%	102.33%	102.50%	106.26%	103.18%	107.07%	99.17%	118.52%	114.83%	103.21%	

PROJECTED ENROLLMENTS														
	K	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL STUDENTS ENROLLED
PRESENT	8	12	12	8	11	10	12	10	10	10	6	4	9	122
FY 95 PROJECTION	8	9	13	12	8	11	11	12	11	10	12	7	4	127
FY 96 PROJECTION	12	9	9	13	12	8	12	11	13	11	12	14	7	143
FY 97 PROJECTION	14	13	9	9	13	13	9	12	12	13	13	13	14	158
FY 98 PROJECTION	12	15	14	9	9	13	14	9	13	12	16	14	14	165
FY 99 PROJECTION	10	13	16	14	9	10	14	14	10	13	14	18	15	170
FY 00 PROJECTION	11	10	14	16	15	10	10	15	15	10	16	16	18	176
FY 01 PROJECTION	11	12	11	14	17	15	10	11	16	15	12	18	16	177

Birth statistics were obtained from the Alaska Bureau of Vital Statistics.

Enrollment data was obtained from the Northwest Arctic Borough School District records.

BUCKLAND INTRODUCTION

In the spring of 1992 a team of building code and design professionals conducted a detailed review of the educational facility at Buckland, Alaska. Team members included a mechanical engineer from USKH, an architect, and facility planners from Heery, International. This facility review included on-site inspections, village population data and trends, school population trends, and interviews with Northwest Arctic Borough School District administrative staff, teachers and maintenance personnel. Past maintenance efforts were also reviewed, along with existing and potential problems and possible solutions.

The team, in conjunction with Northwest Arctic Borough School District personnel, agreed that there were problems in all of the facilities reviewed. However, most critical were the preschool and the shop building. These two buildings were constructed in the early 1970's solely to provide a temporary elementary school. They are portable, modular units and were never intended to provide permanent educational space. Both units have exceeded their life expectancy and should be abandoned. Neither out-building has proper handicapped access. Ventilation, circulation, and lighting are poor in both buildings. Serious life/safety code violations exist in both buildings and are detailed in Section 4 of this report.

The high school was built in the mid-1970's. It was designed to provide minimum educational program space for a student population of 21 to 32 students. It served this purpose adequately until the school population outgrew the space. In the mid-1980's, a 3,200-square-foot addition was added to this building. This addition provided more classroom space and a media center as well as shower/locker rooms that had been left out of the original design. This increased the total educational square footage to an acceptable level for a student population of 33 to 46 students. However, the student population did not stabilize at that level; it has continued to grow. There are presently 106 students enrolled at Buckland and the population is projected to increase to 120 by the year 1996.

The main building, like the two portables, has experienced considerable deterioration and degradation because of overcrowding and program reassignment, though it is in much better shape than the older portables and facility maintenance is well above bush standards. However, the building is far too small for the student population it houses. Additional room is needed and all building space needs to be incorporated under one roof.

Additional classroom space must be provided to bring the facility up to Alaska DOE minimum approved standards. The addition should include program space for high school and elementary classrooms, a media center, a science room, a shop, a business room, a home economics room, a bilingual/bicultural room, and adequate gym space with

adjacent shower/locker rooms. All of these areas must have proper storage, circulation, and mechanical space.

Fuel tanks at the site are not diked and are located too close to the school. The sewage lagoon has failed and raw sewage is flooding a low portion of the school sites. The fence surrounding the lagoon is falling down and children are free to enter this area. Play-ground equipment is minimal, and there is no suitable play surface to protect the students from injury. Site deficiencies will be corrected as part of the requested project.

The total projected cost to upgrade this school is \$13,232,113. When the project is funded the Northwest Arctic Borough School District and the State of Alaska will be relieved from the liability of continuing to operate these inferior and unsafe facilities. The secondary result will be a more effective educational program, greatly benefitting the students, staff, and community of Buckland.

BUCKLAND SCHOOL EDUCATIONAL PROGRAM

The educational facility at Buckland is not acceptable for continued use in its present condition. The buildings have been built in stages to accommodate the growing student population and expanding program needs. Additions have not kept pace with the growth. Students continue to be housed in unsafe temporary portable classrooms.

The facility originally consisted of two modular classroom units provided as an elementary classroom and a food service facility. These are portable buildings that were constructed in 1971 and were never designed to be permanent classrooms. They were designed for sole purpose of providing temporary elementary classroom space until such time as permanent classroom space could be provided.

The original high school building was designed and constructed in 1979. It housed three classrooms: two small specialized shops, a gymnasium/multipurpose room combination, a food service area. A small administrative area, toilet facilities with showers and mechanical areas were also included.

As the population grew more space was required. In 1984 a 3,200-square-foot addition was designed and constructed to provide an elementary program area, a media center, and additional toilets. It is located at the end of the existing high school building to allow students access to the multipurpose room and food service area.

The population is continuing to grow at a rapid rate. Since the last addition eight years ago, no additional space has been provided at Buckland. As the student population increases, existing spaces get more and more crowded. This has had a negative, disruptive effect on the program and students at Buckland.

When a building is designed and constructed, each square foot is defined and allocated for a specific purpose. Specific areas are designed as classroom space, administrative area, restrooms, circulation or hallways. As the building gets more crowded these defined space allocations must be modified to meet additional student and program needs. The original needs still exist and must either shift into non-program areas or be added to an already allocated program space. This "shoe horning" of programs means that the original logic of program proximity and compatibility is abandoned. Programs are simply placed in any available space. Storage closets and hallways become classrooms. Media centers and staff work rooms disappear. Storage moves into hallways, entry vestibules, and under the building. Building code and life safety violations are unavoidable.

This is what has happened at Buckland. As evidenced by the photos attached, a very creative and flexible staff have worked together to provide the best possible program. They are experiencing overcrowding conditions that will reach 261 to 364% of building design capacity by the fall of 1996.

Programs and educational areas have been affected in many ways. In each instance the program has been forced to be modified to conform to the constraints of the undersized facility. A review of these areas will illustrate this problem.

Shop in a Portable Building

A portable building was constructed to be elementary classrooms and food service facilities for a small group of resident students in the early 1970's. This building now houses the shop. The new shop area that was constructed as part of the high school has been taken over by special education programs. The present shop building was not designed to be a shop. The floors, walls, ceilings, and mechanical and electrical systems were never designed to meet vocational requirements.

The wood floor, low ceiling, lack of a sawdust collection system, undersized electrical service, and lack of secure tool and project storage illustrate problems associated with converting temporary portable classrooms into shop space. Serious life/safety code violations are also detailed in Section 4 of this report.

Preschool Portable Building

The preschool is also located in an unsafe old portable building. This building is poorly adapted for this purpose. The only advantage that it has is its relatively large size. The preschool program is very large, and classrooms in the main school are too small to accommodate it. Lighting and the heating systems are marginal at the preschool and the general condition of the building envelope is poor.

A small area at one end of the portable is dedicated to storage of outdoor physical education equipment and general storage. This area is also the only space available for the bilingual/bicultural program. It is too small to accommodate desks or tables, so students are taught on the floor. The local population and the school district are working with the Elders to try to retain some elements of the native culture. An adequate space for this program should be included in plans for the new facility.

Primary grade students require specialized toilet fixtures at a lower height. Handicap fixtures are at a height above average. The existing fixtures at the preschool are handicapped fixtures and access is difficult for the young students. This problem is compounded by the lack of a washer and dryer facility to clean up students who have "accidents." During extended periods in the winter, no toilets are available to students lo-

cated in the portables. Both buildings have water and sewer provided through a utilidor that experiences periodic freezing. During these periods students cannot use the rest-rooms so a honey bucket is provided.

Special Education Rooms

The original high school plan designated two areas as shop facilities. The rooms have been reassigned as special education areas, but they were never modified to accommodate this program. Electrical plug molding located four feet above the floor, exposed electrical panels, double doors designed to provide easy outside access for large projects, no windows, noisy unit heaters, and plywood wall finishes all indicate this area's prior life. The only indications that this space is now dedicated to special education are the carpeted floor and the large number of student desks.

These shops were converted to special education classrooms not only because of the increasing student population overall, but also because a large portion of Buckland's students (around 25%) are Special Needs students; this school has one of the highest levels of Special Needs students in Alaska. These students require much larger areas than other students for educational program delivery. They also require specialized equipment and facilities.

Storage is important in the special education areas. A large range of age and ability groups are serviced here. They include students with physical and emotional disabilities as well as gifted and talented students. Storage must be available for all specialized materials and supplies that these students require. Personal storage areas are also important for students who only visit the room on a periodic basis or who spend a large portion of their day here. Cubbies, lockers, open shelves and secure storage are all required. Computers are being utilized more in special education and the new facility should be designed to accommodate them in this area.

Teacher Work Room

This room provided teachers a place to prepare lessons, grade assignments and, in general, get organized. This room is presently being used as a classroom for migrant education and special testing. Staff access is extremely limited. This is another example where a space has been reallocated because of student overpopulation.

High School Classrooms

Along one side of the high school hallway there are three classrooms and the administrative area. This area was originally designed as two fair sized classrooms with the ability to create four small rooms by subdividing the rooms with a folding curtain. This curtain did not provide adequate sound control and space demands required that portions of this

area be permanently subdivided. Three classrooms and an administrative office are now located in this area. The subdivision of space was not completed in compliance with building codes and area fire separations are not intact. Section 4 of this report describes specific code violations.

The high school science and math classroom are currently combined. The science room is not equipped with lab facilities or adequate science storage. Science materials are stored in nonrated metal cabinets in the elementary school corridor. This is unsafe and inconvenient. A new science room should be developed as part of the new plan.

The high school social studies and English room do not have adequate storage. All storage for these rooms is housed at the far end of the new addition corridor.

The high school rooms are half the size that they need to be in order to be effective. Also, because there is no media center, any media materials associated with these subjects must be stored in the classroom, a situation further exacerbating the crowding and congestion. A media center is required for the entire facility, but it is critical for social studies and English.

The fifth and sixth grade classrooms are also located in the high school area. This is a large group of students who are housed in this area primarily because of the size of the classroom. This room and the entire high school area should be investigated as part of the reprogramming effort. Uses may be reassigned based on the desirability to segregate students according to age groups.

Additional Classrooms

In 1984 an additional elementary classroom and media center were constructed at the end of the high school hallway. This construction also included new toilets and showers. The elementary classroom was of adequate size and a divider was provided so the space could be subdivided.

Junior High/Disappearing Media Center

Due to growth in student populations the educational program has again shifted away from the original design. The media center has been divided up and crowded into the classrooms and corridors. The junior high students have taken over the small media center room as a classroom.

This room originally had a folding partition so part of the media center could be used for special education. Special education outgrew the space and moved to the shop. The long narrow room is now a junior high classroom and due to the size of the class the partition is never utilized.

Shower/Locker Rooms

This last addition provided showers. They are located at the far end of the hallway from the gym; the corridor is 54 feet long. Anyone using the gym and needing a shower must walk the length of the hallway. It is not programmatically sound to have the showers that far from the gym.

Storage/Corridors/Mechanical

There is inadequate storage for most classrooms. All storage is kept on shelves at the back of the classrooms, along the walls, or in the hall. The wrestling mats are kept under the building and are exposed to weather.

The photos included indicate where the storage areas are located. Cabinets are set up along each side of the hallway and material is stored on top of them. In many cases classroom materials must be stored at the end of the long hallway, which is 50 feet from the room where it is needed.

The food service line is stored in the high school hallway. A maintenance lift is stored in the multipurpose room. Educational materials are stored in the restrooms. Mechanical rooms are filled to capacity. There is no room available for egress. Electrical panels are obstructed, fire extinguishers are located behind cabinets, and flammables and combustibles are stored in close proximity to students. Adequate storage must be addressed in the new facility

This building is deteriorating because it is too small to meet the needs of the people who use it. The building was designed to accommodate 33 to 46 students. There are presently 106 students enrolled at Buckland. Enrollment projections show that in 1996, there will be approximately 120 students. This means that in the fall of 1996 the facility will be operating at 261 to 364% of design capacity. This facility cannot accommodate that level of student population.

Recommendations for Buckland Facility

- ♦ Renovate the existing high school building addressing health/life safety issues and convert to a elementary program.
- ♦ Construct a high school addition.
- ♦ Provide additional administrative spaces.
- ♦ Provide up-to-date technology in educational facility design.
- ♦ Provide a media center that is accessible to all students.
- ♦ Provide a properly sized gymnasium with adequate shower facilities and provisions for spectator seating.
- ♦ Provide industrial education program space that complies with all codes and educational requirements..
- ♦ Provide proper storage of maintenance and custodial supplies away from student areas.
- ♦ Provide additional and properly configured restroom facilities.
- ♦ Abandon preschool and shop facilities and remove from the site.
- ♦ Connect the school to city sewer system.
- ♦ Provide a new mechanical space, eliminate hazards in the existing mechanical room and renovate mechanical systems so as to provide adequate ventilation.
- ♦ Upgrade the playground.

BUCKLAND SCHOOL PROJECT DESCRIPTION

The Northwest Arctic Borough School District is requesting funding to remedy health/life safety problems and unhoused student problems at the present school site in Buckland. These problems have been documented by certified engineers after conducting an on-site inspection and by recognized expert in the area of education program development and implementation.

Because of existing critical health/life safety situations in the old portable preschool and shop buildings, they are not safe for use by students in their present condition, and they will not be salvageable as educational space. A remodel effort of these structures would neither be a program-effective or cost-effective solution.

The existing high school building can be remodeled and can continue as an educational facility if the life/safety hazards are corrected as part the renovation and addition. This remodel effort will also be used to redefine and programmatically reallocate some of the existing educational space to provide a better facility for Buckland.

Replacement program space for the old portables as well as additional program space will be provided as part of the project. The existing high school and requested additional space will effectively alleviate the unhoused student problems at Buckland.

Based on currently approved DOE guidelines, the existing high school facility has a design capacity of 33-46 students. Current enrollment is 106. Based on the latest birth rate information and using the "Average Survival Ratio" method for predicting enrollment, Buckland enrollment is expected to increase to 120 by the fall of 1996. If the existing facility remains static, it will be operating at 261 to 364% of design capacity by that time, unless additional classrooms are provided.

Because of the need to provide additional space as well as to remodel space which is presently in use, the proposed area and programmatic totals fall very close to the average gross square footage guidelines approved by DOE for a student body in excess of 100 students.

Cost Estimate

The cost estimates are based on an abbreviated version of the program demand model currently in use by the Alaska DOE. An escalation factor of 30% was used to update costs from the 1986 model to projected 1994 construction costs. This figure is based on

the consumer price index, provided by Susan R. Rison, Department of Community Development and Planning, Municipality of Anchorage.

Program/Enrollment Information

The proposed facility will house all students in Buckland enrolled in grades kindergarten through grade 12. The program will be consolidated under a single roof, and the administration will be centralized.

The five-year enrollment was calculated using the Average Survival Ratio method. It is the DOE approved method of making this type of prediction. Current enrollment is 106 students. It is predicted to rise to 120 by the fall of 1996. After that date it is predicted to continue a moderate increase for the life expectancy of the proposed facility.

Alternatives

The program could continue as it is, but this alternative does not relieve the district from the burden of housing students in crowded, unsafe conditions. The students would remain segregated and the educational program would continue to suffer.

The health/life safety issues could be addressed by a renovation effort. However, this does not create any more space for the unhoused student population. The old portable classrooms have exceeded their useful life and further renovation is not considered a cost-effective solution.

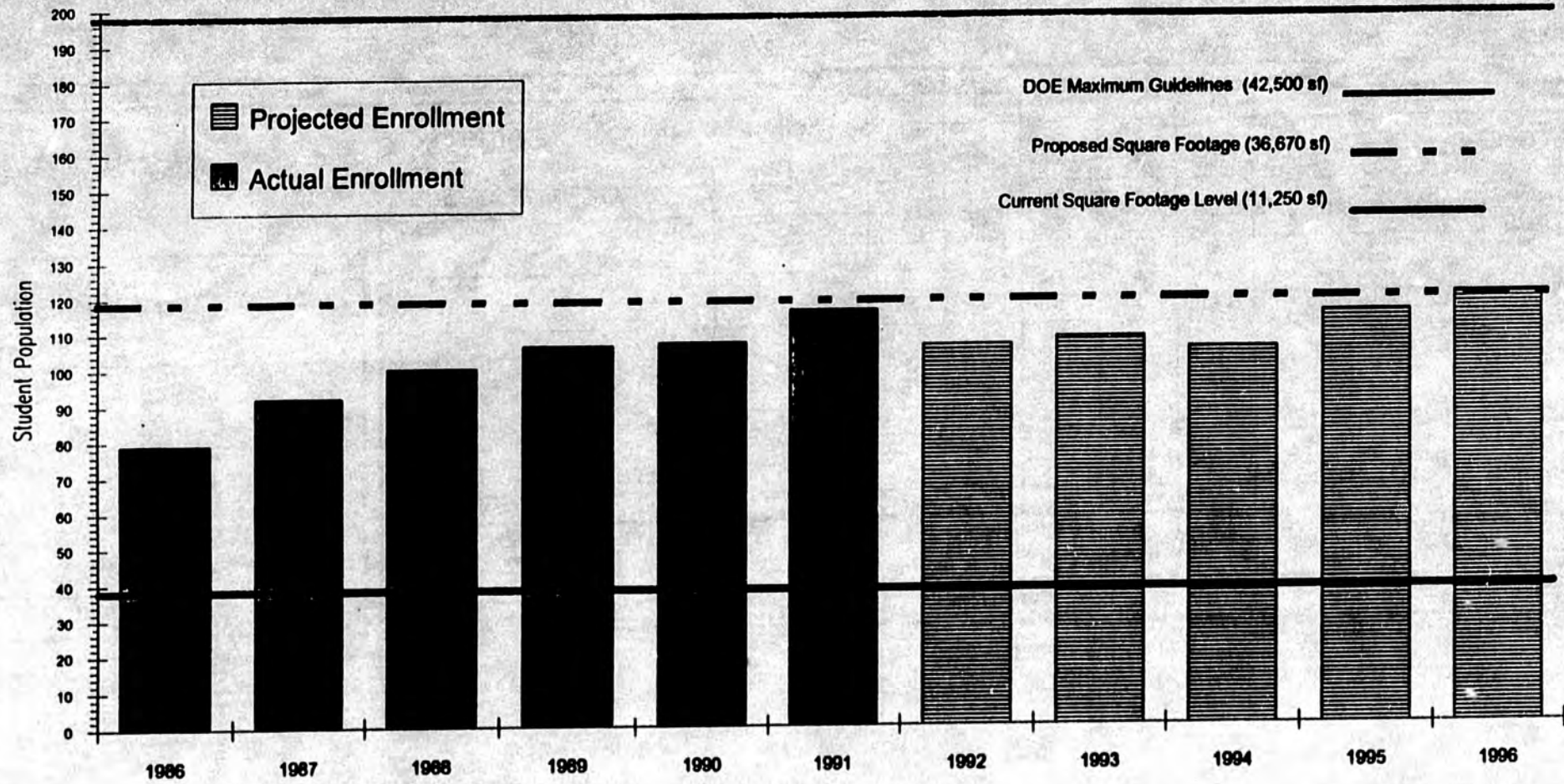
No other facilities are available in the area that could be used to house students, and because Buckland is so remote, adjustment of service area boundaries or busing are not viable alternatives to this project.

Gross Square Footage of Floor Space

Existing square footage figures are taken from the attached floor plans. The existing square footage figures *exclude* existing portable classroom space because it will be abandoned at the conclusion of this project. It does, however, include all existing space that will be renovated as part of this project. Requested square footage figures are based on programmatic requirements and the Alaska DOE-approved educational facility guidelines. This category will include square footages for all newly constructed program space.

Proposed total square footage figures reflect a remodel of the existing area plus new additions. All DOE guideline references relate to DOE space guidelines for average gross square footage for a combined elementary and secondary program.

BUCKLAND PROPOSED SQUARE FOOTAGE



ENROLLMENT PROJECTIONS FOR BUCKLAND

BIRTH RATES			ENROLLMENTS														
YEAR	LIVE BIRTHS	YEAR TO START SCHOOL	SCHOOL YEAR COMMENCING	K	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL STUDENTS ENROLLED
1982	11	1987	1982														0
1983	11	1988	1983														0
1984	11	1989	1984														0
1985	11	1990	1985														0
1986	12	1991	1986	6	12	9	2	5	7	4	11	6	6	3	4	4	79
1987	7	1992	1987	11	9	12	9	5	3	7	3	11	4	8	6	4	92
1988	12	1993	1988	11	12	9	13	8	5	3	7	3	13	4	9	3	100
1989	9	1994	1989	11	10	13	9	12	9	5	4	8	4	10	4	7	106
1990	14	1995	1990	10	10	10	12	9	12	9	5	4	7	3	12	4	107
1991	16	1996	1991	13	9	11	10	11	9	12	9	5	3	8	6	10	116
			1992 PROJECTION	7	12	10	11	8	9	9	9	10	5	3	9	5	106
			1993 PROJECTION	12	6	13	10	9	7	9	7	10	10	5	4	7	108
			1994 PROJECTION	9	11	7	12	8	8	7	7	7	10	11	6	3	105
			1995 PROJECTION	16	8	12	7	10	7	7	5	8	7	11	12	5	115
			1996 PROJECTION	16	14	9	11	6	9	6	6	6	8	8	12	9	120
AVERAGE SURVIVAL RATIO =			100.00%	100.00%	89.29%	110.00%	96.36%	84.91%	84.44%	84.74%	77.78%	110.71%	100.00%	106.45%	112.12%	75.68%	
SURVIVAL RATIO				100.00%	89.29%	110.00%	96.36%	84.91%	84.44%	84.74%	77.78%	110.71%	100.00%	106.45%	112.12%	75.68%	

Live birth data was obtained by contacting the Buckland village health aide and the Bureau of Vital Statistics in Juneau, Alaska.

Enrollment data was provided by the Bering Strait School District and Kathy Ermatinger of the Alaska Department of Education in Juneau, Alaska.

BUCKLAND SQ. FT. ESTIMATES

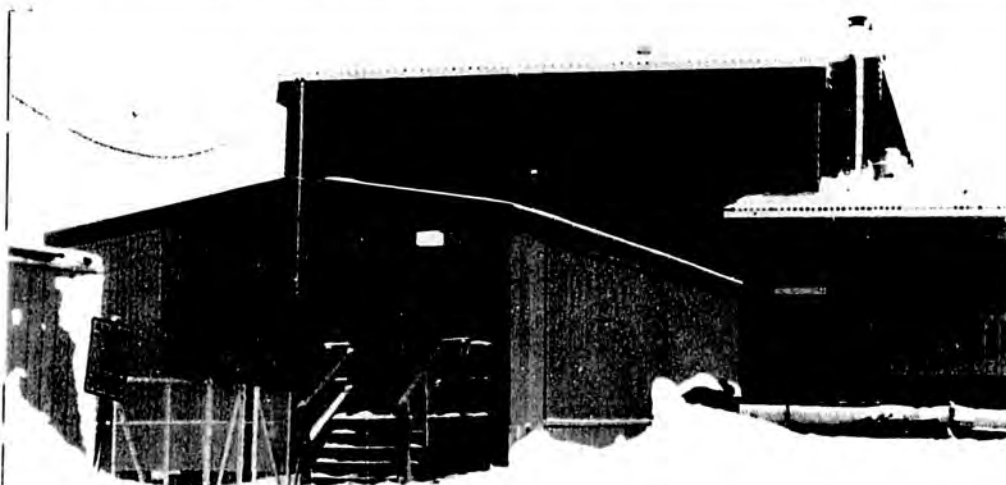
ASSIGNABLE EDUCATIONAL AREAS	AREA		\$/SQ FT	COST	
STANDARD CLASSROOM	8658		\$77.10	\$667,532	
SCIENCE LABORATORY	875		\$115.50	\$101,063	
LIBRARY/MEDIA	1850		\$99.39	\$183,872	
HOME ECONOMICS	1200		\$180.00	\$216,000	
VOCATIONAL SHOP	1500		\$114.95	\$172,425	
GYMNASIUM/MULTIPURPOSE	3171		\$99.00	\$313,929	
SUBTOTAL ASSIGNABLE AREA	17254			\$1,654,820	
OPTIONAL AUXILIARY AREAS					
OFFICES	1420	2.5%	\$74.10	\$105,222	
FOOD SERVICE	800	3.5%	\$210.75	\$168,600	
TOILETS	2000	3.6%	\$179.10	\$358,200	
CIRCULATION	6000	5.0%	\$79.27	\$475,620	
MECHANICAL/ELECTRICAL	950	3.6%	\$71.00	\$67,450	
STORAGE	1450	3.6%	\$68.50	\$99,325	
STRUCTURE	0	4.2%	\$74.10	\$0	
SUBTOTAL UNASSIGNABLE AREA	12620			\$1,274,417	
BUILDING AREAS COST SUBTOTAL					\$2,929,237
TOTAL PROPOSED SQUARE	36670				
OPTIONAL SPECIAL REQ.					
EMERGENCY GEN. \$45,000					
SPRINKLER SYSTEM	36670		\$2.87	\$105,243	
REMODELING-LIGHT	6796		\$10.00	\$67,960	
REMODELING-MEDIUM			\$25.00	\$0	
REMODELING-HEAVY			\$50.00	\$0	
SUBTOTAL SPECIAL REQ.				\$173,203	
SITEWORK					
SITE PREP		4.4%		\$136,507	
SITE IMPROVEMENTS		5.6%		\$173,737	
UTILITIES		1.0%		\$31,024	
SPECIAL CIRCUMSTANCES					
BUILDING COSTS					\$3,443,708
MOBILIZATION, G.O.C. AND		20.0%			\$688,742
CONTRACTORS PROFIT					
GEOGRAPHIC INDEX APPLIED		170.0%			\$7,025,164
CONTINGENCY					
GENERAL		10.0%			\$702,516
ESCALATION		30.0%			\$2,107,549
EST. TOTAL CONST. VALUE					\$9,835,230
PROJECT OVERHEAD					
ADMINISTRATION COSTS		7.3%		\$713,054	
DESIGN COSTS		8.3%		\$816,324	
FURNISHING AND EQUIPMENT		8.0%		\$786,818	
OTHER (ART & INSPECTIONS)		4.5%		\$442,585	
SITE INVESTIGATION				\$8,000	
					\$12,602,012
PROJECT CONTINGENCY		5.0%		\$630,101	
LAND PURCHASE					
TOTAL PROJECT COST					\$13,232,113

8/17/92

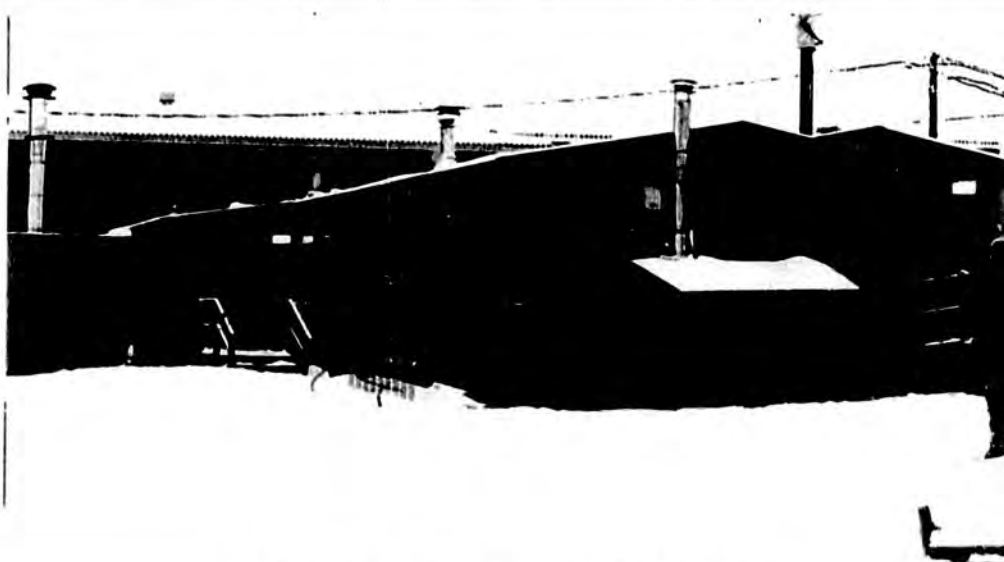
**INSPECTION
PHOTOGRAPHS**



BUCKLAND SCHOOL



BUCKLAND PRESCHOOL FACILITY



BUCKLAND INDUSTRIAL ARTS FACILITY



PHOTO 1

Bilingual classroom at the rear of the preschool building: This room is used to store cross-country ski equipment. Note: coats, hats, and gloves are stored on the floor.



PHOTO 2

Another view of the same area as in photo 1. Students cannot use seating because the room is too small.



PHOTO 3

Because the preschool and the shop are separate structures from the main building, utilities must be run to these structures. This causes the water supply and sewage disposal function to be somewhat tenuous. Lines routinely freeze, requiring the use of honey buckets for extended periods.

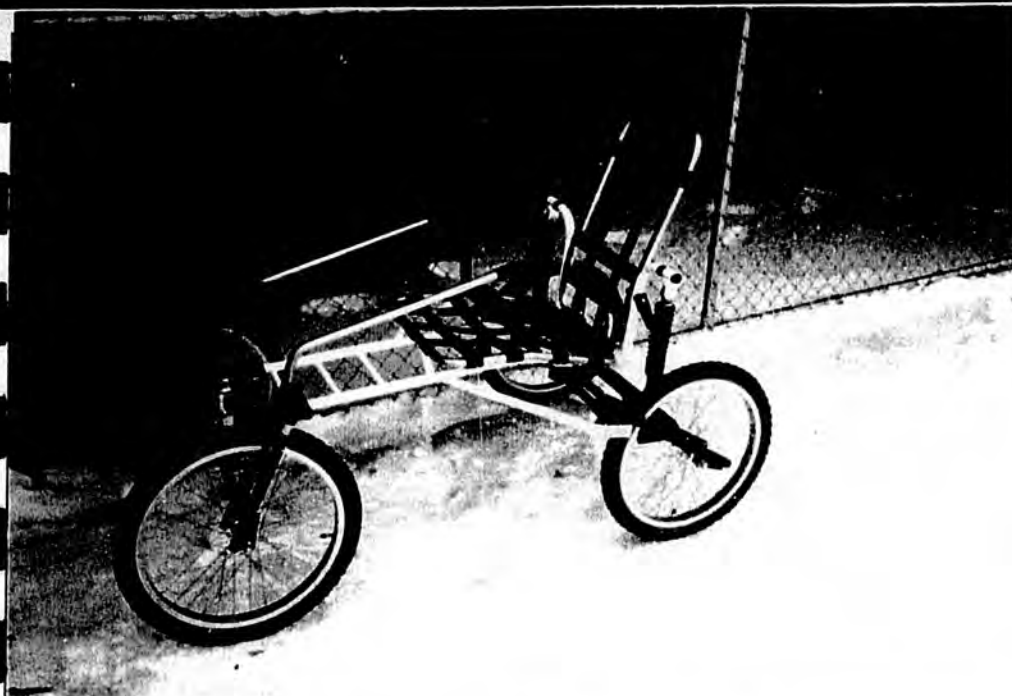


PHOTO 4

This cart is used by a handicapped student to access the school building.

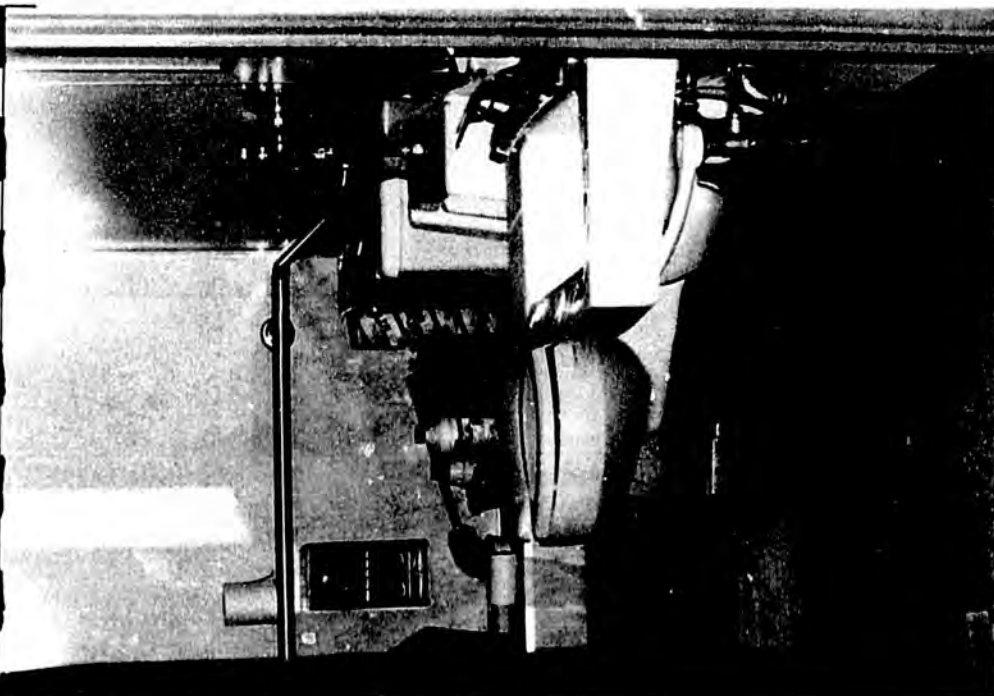


PHOTO 5

This shows an attempt to provide handicapped access to a pre-school restroom facility. The preschool restroom has handicapped railing. However, notice the step that is required to reach the toilet. Also notice the janitorial storage in the room. Toilet brush is kept next to the toilet tissue and hazardous chemicals.



PHOTO 6

Girls' lavatory is filled to capacity with classroom storage as a result of overcrowding.

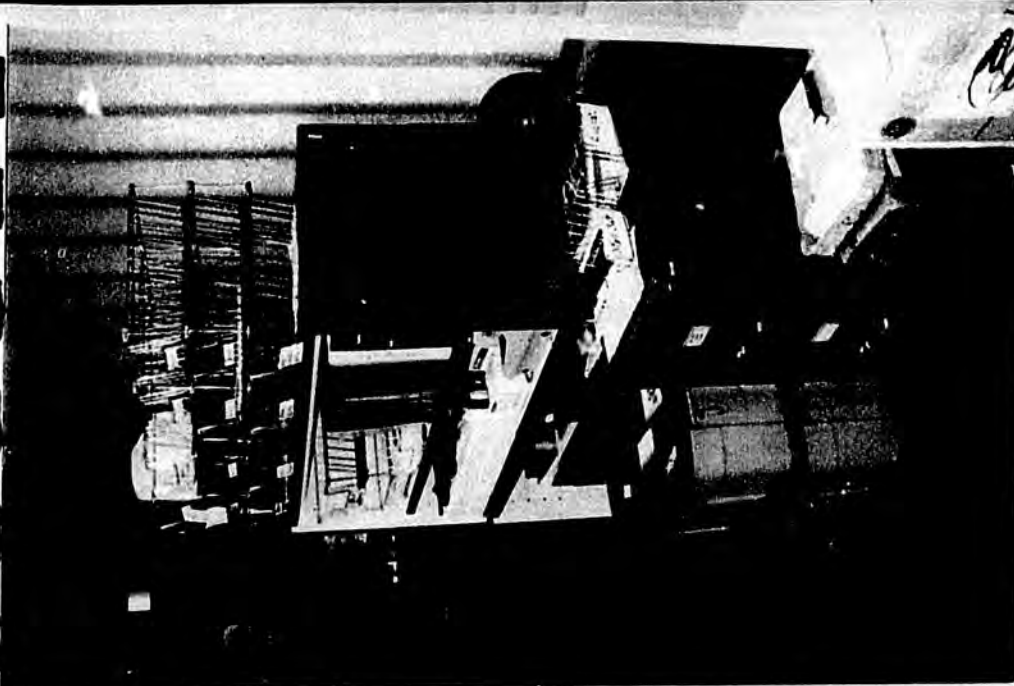


PHOTO 16

Administrative space has been crowded into a classroom. This displaces educational program space.



PHOTO 17

Preschool book storage: This area should actually be incorporated into a media center. This would provide more space for preschool activity in the preschool room and would also provide instructional opportunities for preschoolers in the media center.



PHOTO 18

Storage area in a classroom adjacent to a removable classroom partition. The original design concept was to allow flexibility by removing wall when extra space was needed. Because these storage shelves and racks must be placed against this wall, the wall can no longer be moved.

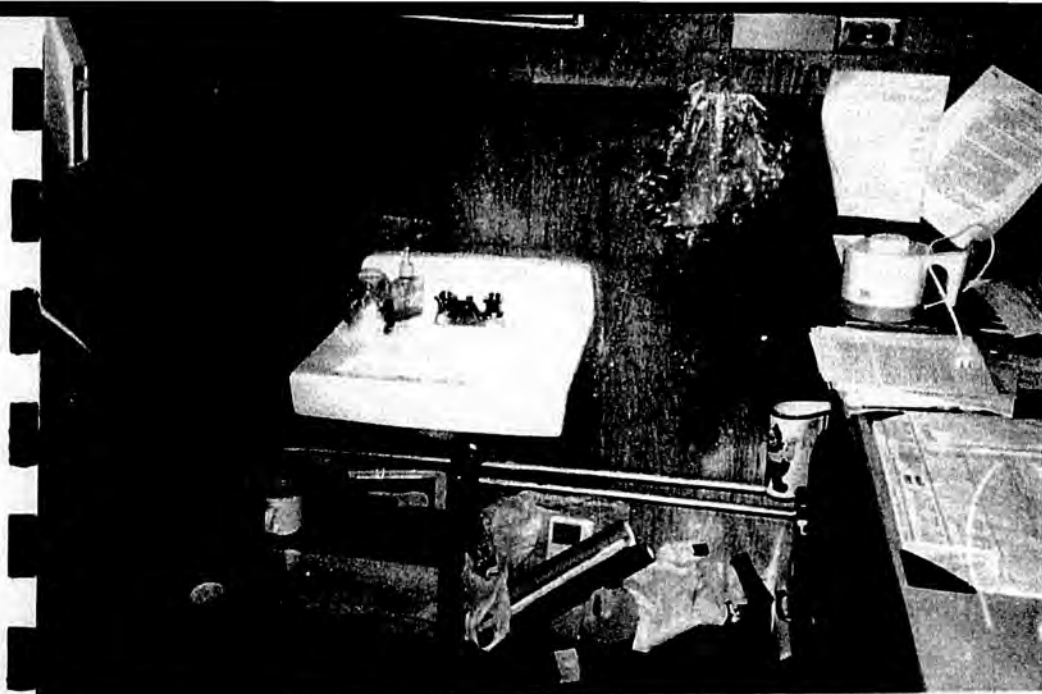


PHOTO 13

Lavatory in the special education room that has been reprogrammed from a shop. Notice the conduit and the electrical panel. Storage, panel, and conduit are hazardous to students. Also notice the steps to accommodate sink height. This area also houses the instructor's desk.



PHOTO 14

The shop area has been moved to the exterior portable unit because of overcrowding in the main building. Note the plywood floor, low ceiling height, blocked windows, and blocked exit. This area is not adequate for a shop program. Notice the Kayak project suspended from the ceiling and a sled blocking the exit.



PHOTO 15

Migrant education class moved into the teachers' work area. Again, this is a situation where space designed for a specific purpose has been reprogrammed to meet another need. This is again due to overcrowding.



PHOTO 10

Crowding conditions have caused the media space to be taken over and used as a classroom, precluding access by other student groups.



PHOTO 11

A crowded classroom filled above capacity with students. This condition is further complicated by excess storage required to be in the room because no other space is available.



PHOTO 12

Elementary special education room that was originally designed and used as a shop. Notice the outlet strip is at industrial height.

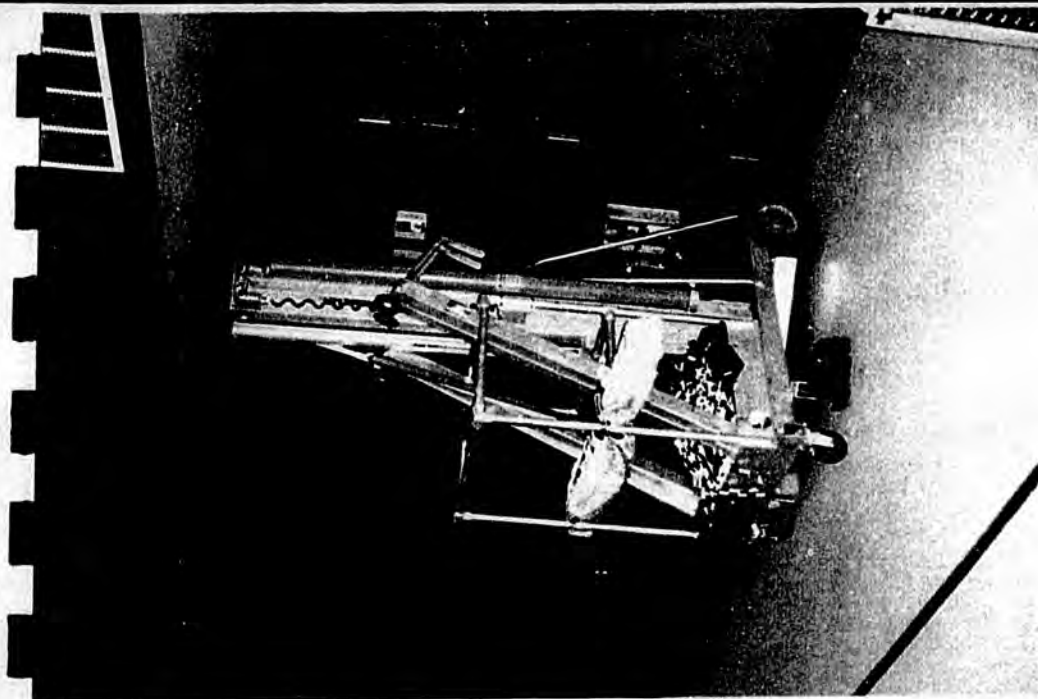


PHOTO 7

Hoist is used to reach the ceiling light fixtures in the gymnasium. Because there is no storage area available for this device, it is being kept in the gym. Notice it is being used as a rack for custodial tools and PE equipment. Storage of this device in the gym constitutes an egress hazard and an impact hazard to students.



PHOTO 8

This shows an administrative area being overcome by storage. The area is completely dysfunctional; there is no room for a teacher's desk.



PHOTO 9

Food service steam table and serving line are in the corridor. TV and cabinet are stored in the same area. This situation creates an impact and egress hazard. It also complicates logistics of serving lunch and breakfast.



PHOTO 19

A corridor view showing the main corridor with approved and properly installed student lockers on the left. On the right and at the end is a series of cabinets that house high school program classroom materials. Materials are stored a considerable distance from the classroom. Science materials are stored at the end of the corridor, again a considerable distance from the Science classroom.



PHOTO 20

Media storage consuming space that should be used for student-accessible media materials, not equipment storage.

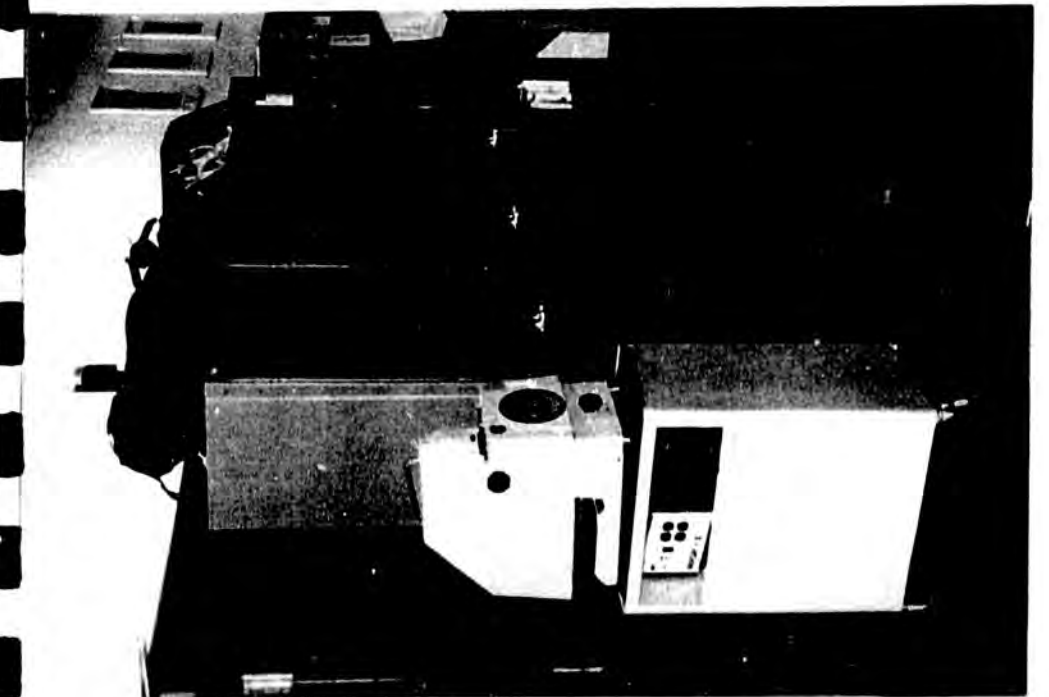


PHOTO 21

Video equipment that should be properly housed in a media center storage area is being stored in the classroom. As the student population increases, crowded conditions cause items to be moved from the classroom to the hallway.



PHOTO 1

Sewage lagoon and sewage out-flow from school complex. Note failed system. Fencing and flow-line are also in poor condition.



PHOTO 2

Top open lift station allowing sewer gases to enter the room and building due to negative pressure in the area. Lift station needs constant adjustment and monitoring.



PHOTO 3

Effluent from broken sewer line under the building.

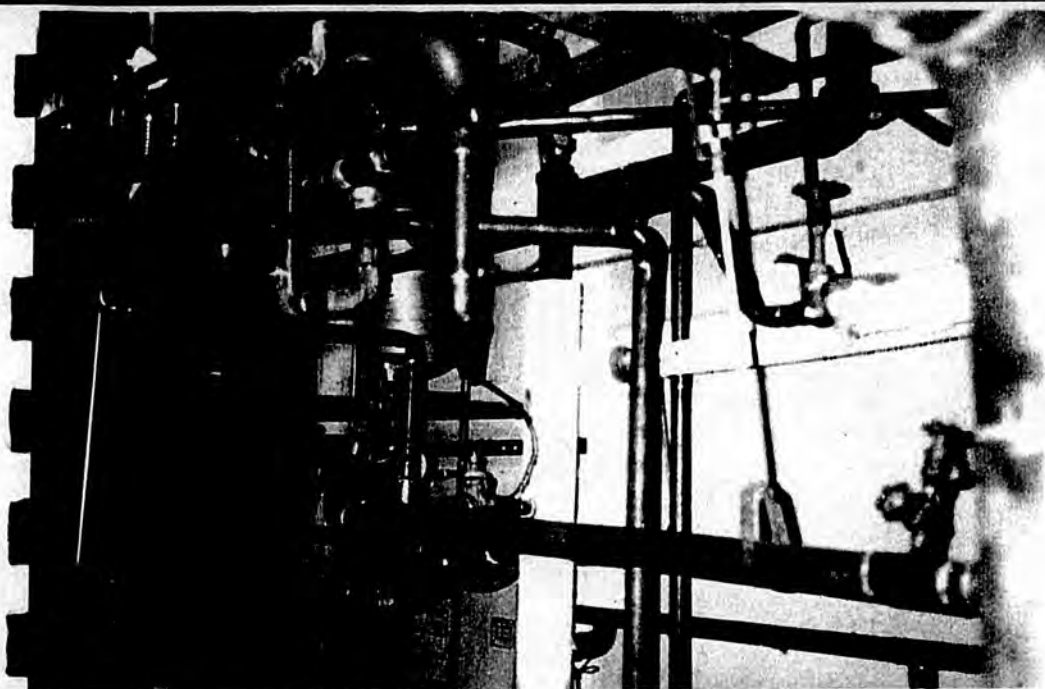


PHOTO 4

This photo illustrates the complexity of the mechanical systems installation at Buckland. Mechanical systems have experienced numerous renovations. These renovations have created situations similar to this throughout the facility.

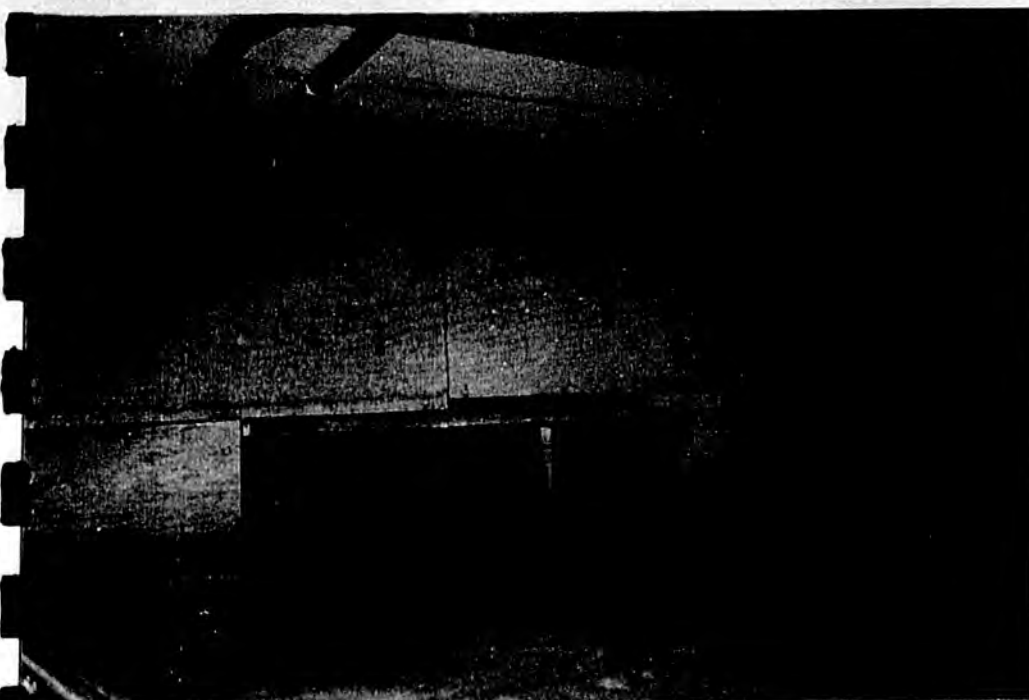


PHOTO 5

A duct running out of the fan room adjacent to the gymnasium is unprotected. There is no fire separation or damper. Plywood floors in a fan room are not per code.

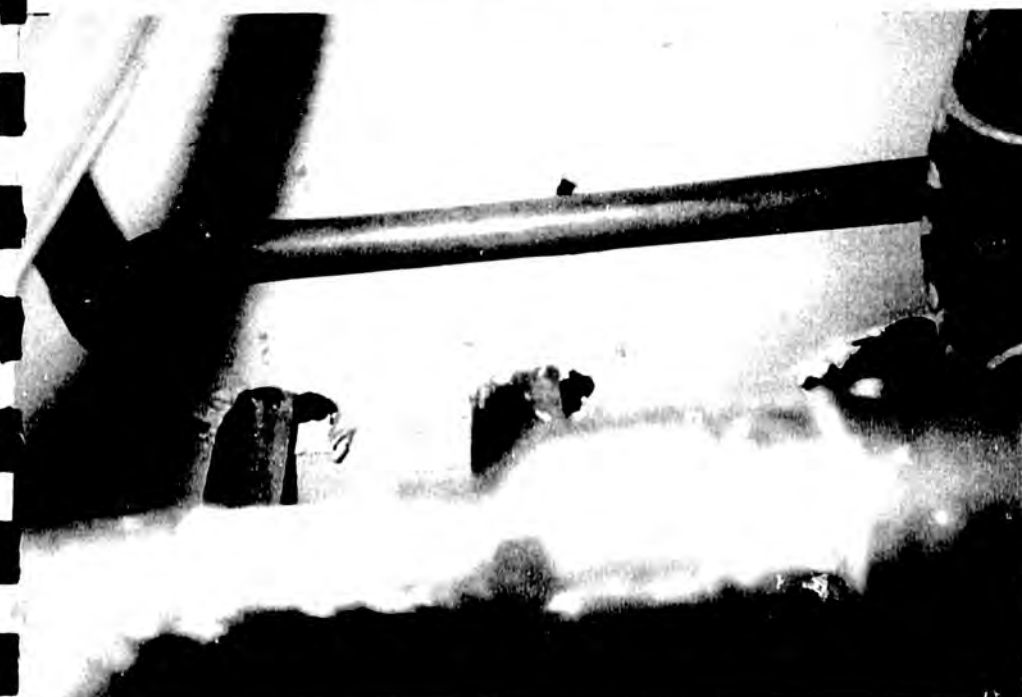


PHOTO 6

These are conduit and plumbing lines that are not sealed, leading through a fire rated wall. This condition is prevalent throughout the building.

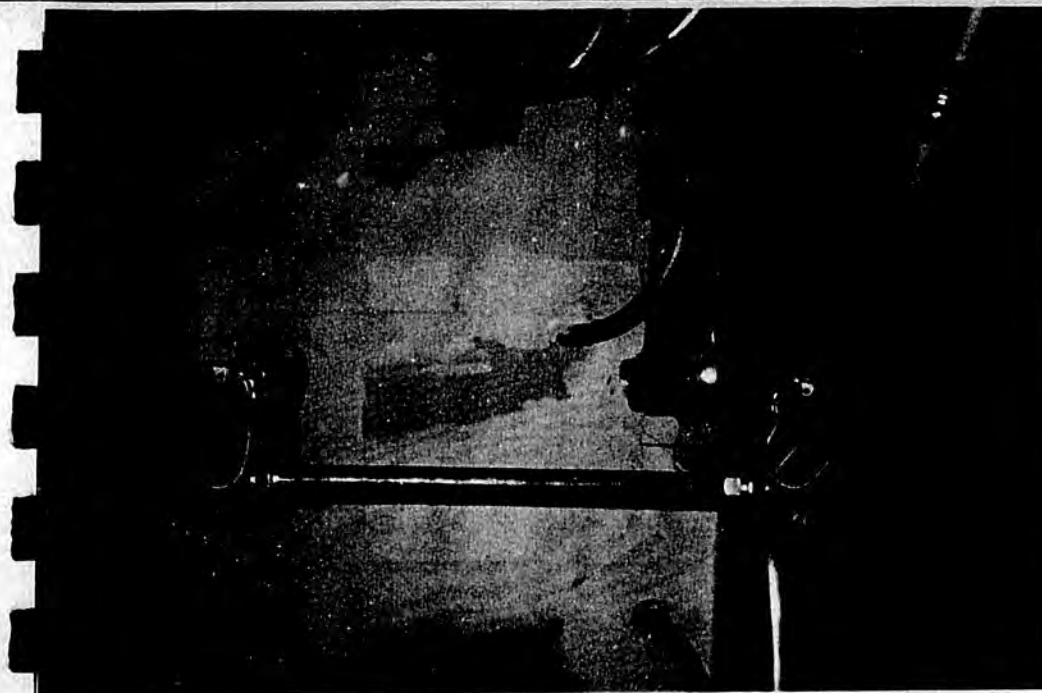


PHOTO 7

Open electrical boxes and conduit. Notice the improperly sealed wall penetrations through a rated assembly.

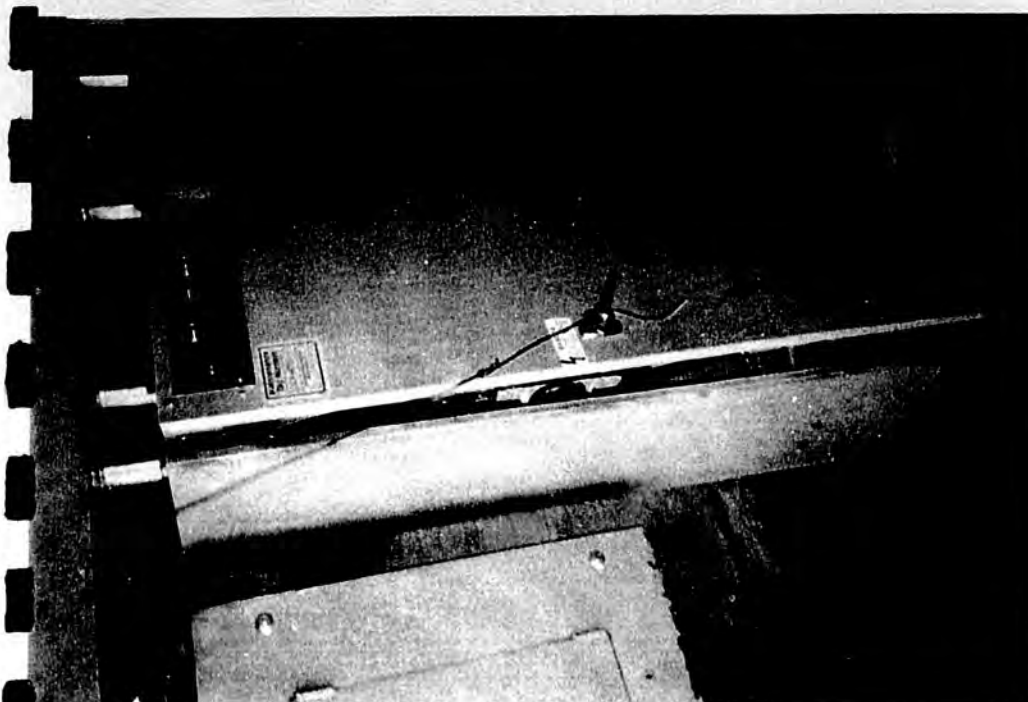


PHOTO 8

Electrical box with cable running into it from below, causing the door to be left open and expose live parts.

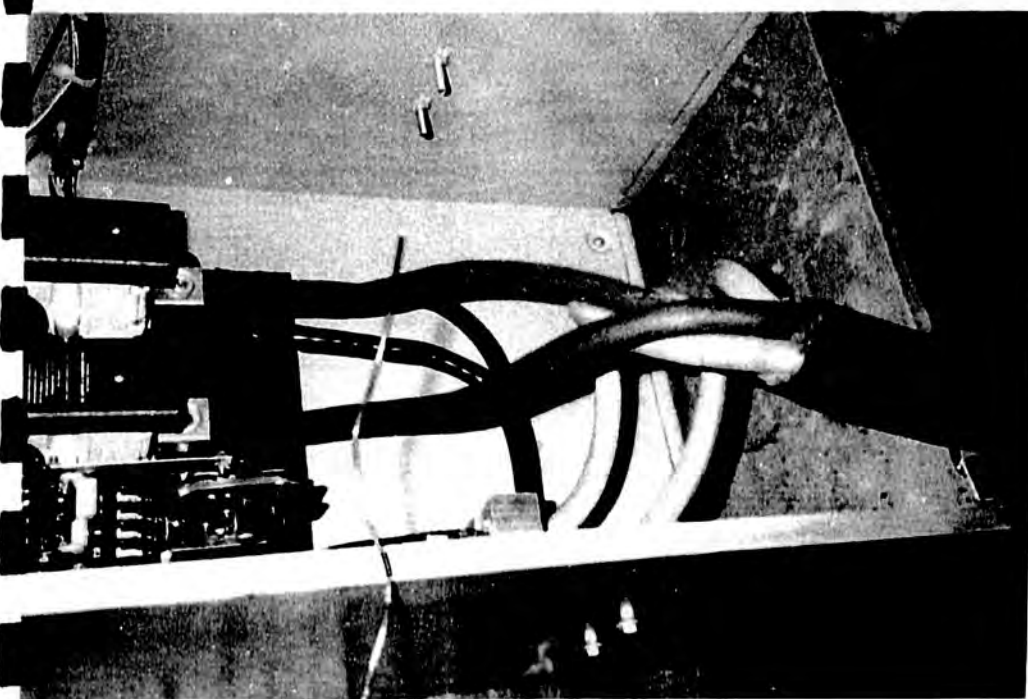


PHOTO 9

Electrical leads exposed due to problem in previous photo.

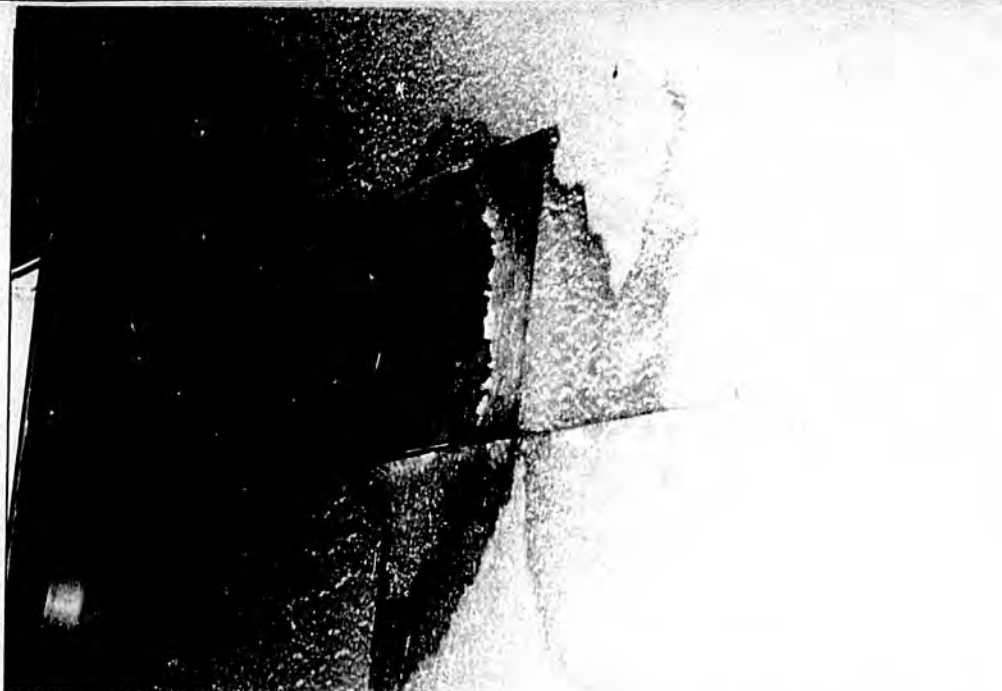


PHOTO 10

Evidence of roof failure. Leaks and associated spotting are found throughout the building.

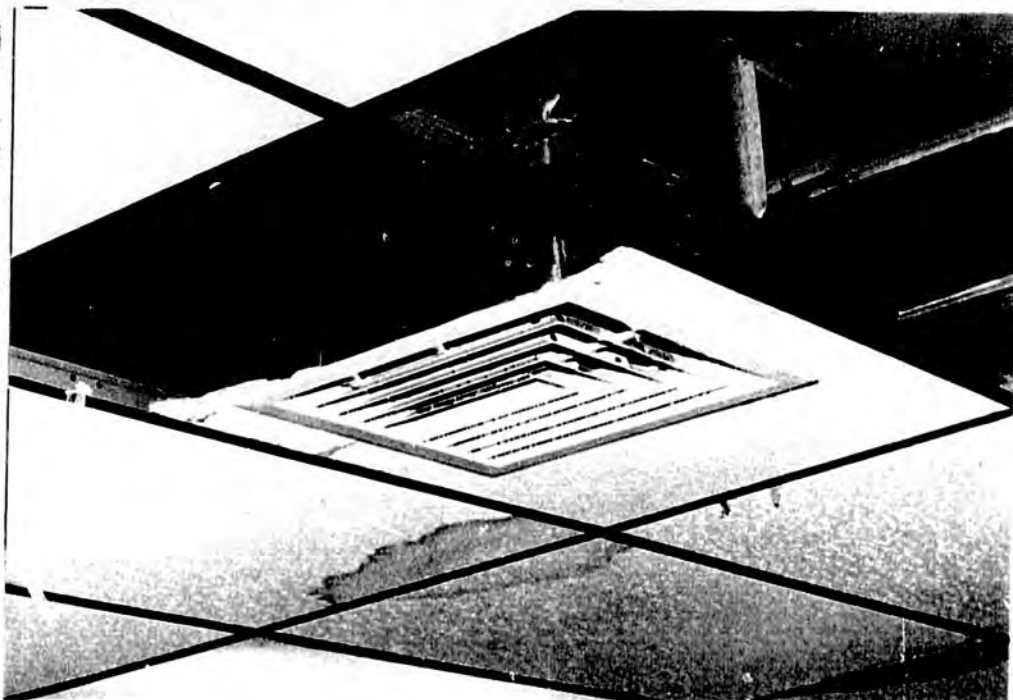


PHOTO 11

Roof leak causing deterioration in the ceiling structure.

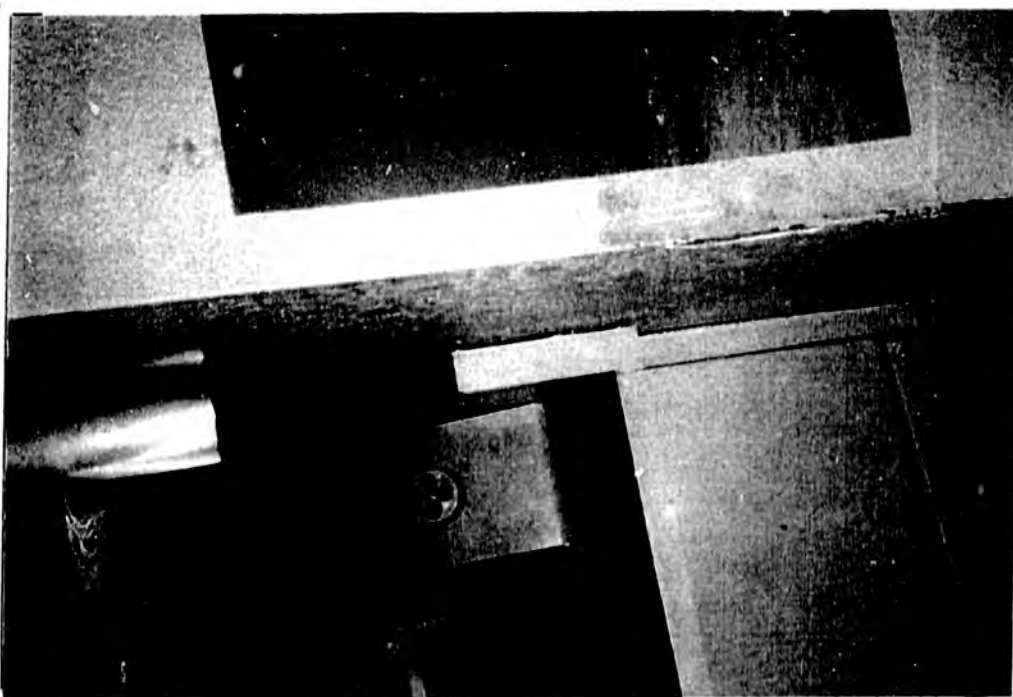


PHOTO 12

Cabinet moving from wall due to building movement.



PHOTO 13

Structural damage to the gypsum wall board leading away from the corner of the cased opening.



PHOTO 14

The fifth and sixth grade room, where there has been a considerable amount of leakage through the roof. We believe that it is caused by ice damming against the wall at the gymnasium.



PHOTO 15

Combustibles stored on upper side of suspended ceiling.

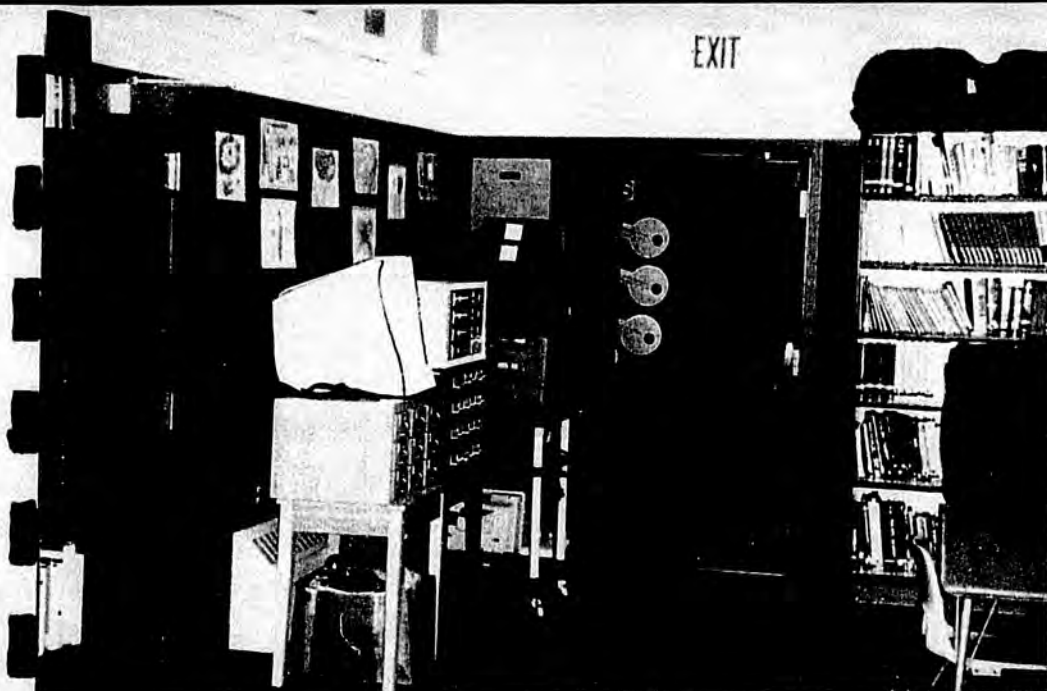


PHOTO 16

Carts and video equipment stored in the corridor. This blocks the electrical panel, wall switch, and encroaches on egress.



PHOTO 17

Food service table is stored in the hallway. It interferes with egress and in this case blocks access to an alarm panel. The multipurpose area should have a storage area specifically for these items.

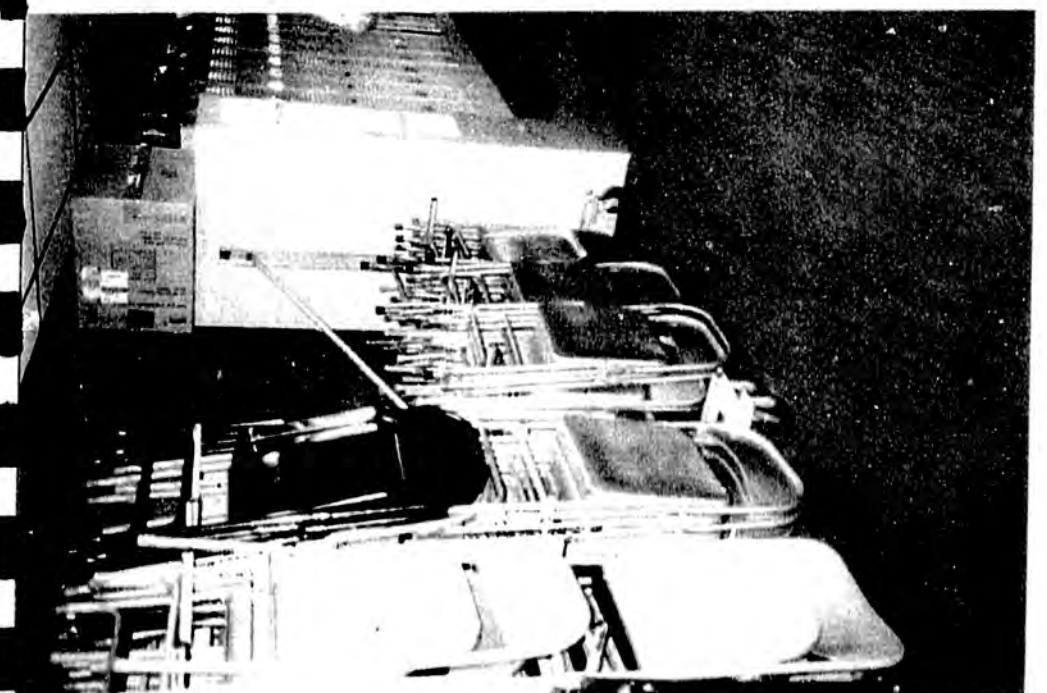


PHOTO 18

Chair storage for multipurpose room is in corridor. This creates a similar problem outlined in previous photo.



PHOTO 19

The corridor shows orderly storage. However, this is not the proper place for these materials. Egress codes are violated and housing combustibles in an exit.



PHOTO 20

Emergency exit partially blocked by storage shelf unit.

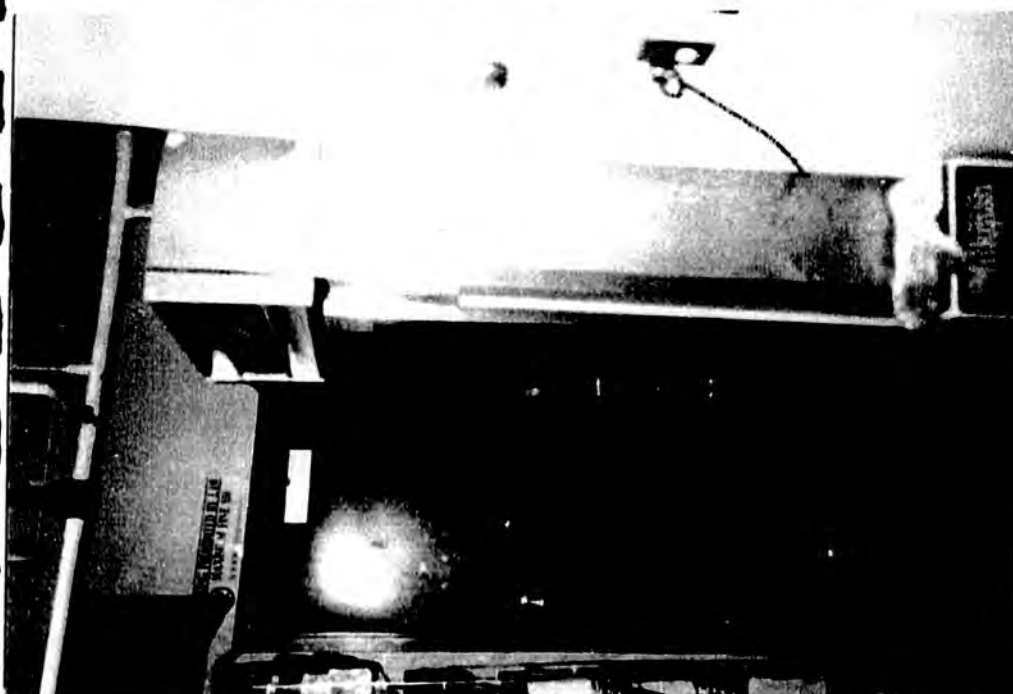


PHOTO 21

This is an exit way and is obstructed by the storage racks as well as the freezer unit. There is inadequate clearance for exit.



PHOTO 22

This change in elevation does not meet UBC exit requirements. Notice a fuel container is being stored in the exit vestibule. Also notice the overall dilapidated condition of the building.



PHOTO 23

This is the exit passageway out of the shop building. There is approximately a 4-inch change in elevation in the exit passageway. This passageway does not meet code requirements.

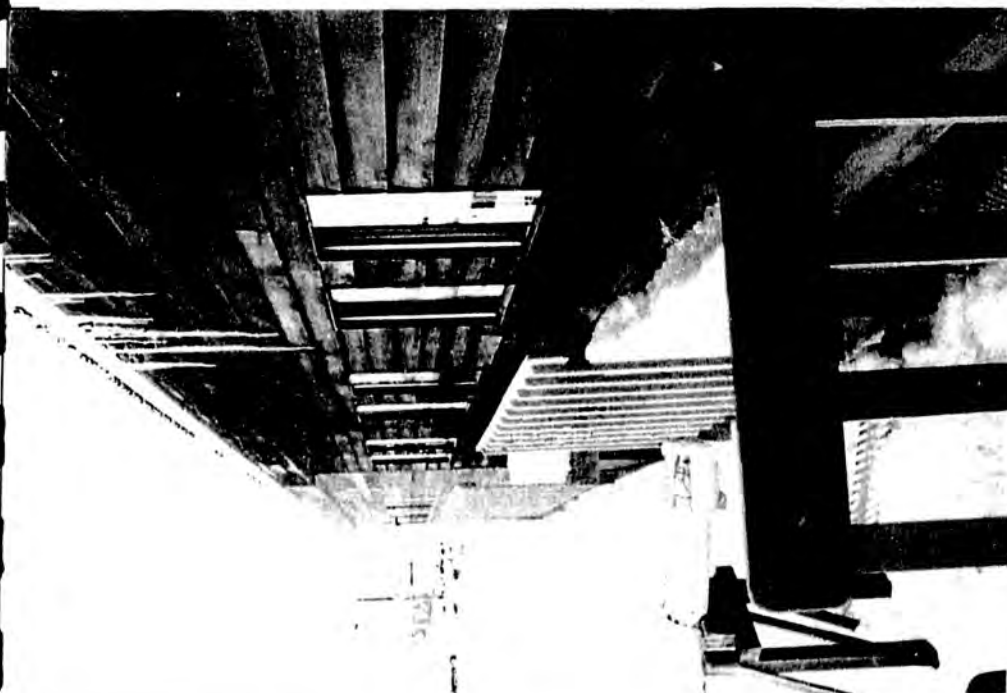


PHOTO 24

Egress is blocked by snow and rain runoff under the eave. There is no safe access to ground level from this platform; there are no handrails.

BUCKLAND SCHOOL MECHANICAL

4/92

Priority
No.

CODE VIOLATION

DESCRIPTION OF PROBLEM(S)

PRIORITY I: Project necessary to avert eminent danger or correct life-threatening situations for users of that facility.

EXTERIOR:

Remote boiler room is close to makeup air intake for kitchen. The location of the boiler stack could cause flue gas fumes to be drawn into this intake.

Sewage lagoon behind school. Fence broken down.

STORAGE:

Kitchen makeup air unit inoperable, missing damper linkage.

KITCHEN:

Handsink and exposed plumbing in kitchen. Piping and sinks must be cleanable and not have areas which can trap bacteria. Other kitchen items: Hood not functional; no food preparation sink with indirect waste. Kitchen hood fan on roof not to code.

OLD BOILER ROOM:

Electric water heater fuse panel and area. Note combustibles in area and lack of pipe insulation.

Top open on lift station allowing sewer gases to enter room and building due to negative pressure in area.

GENERATOR BUILDING:

Electric box with cable running into from below causing door to be left open exposing live parts.

UMC Chap 20, Sec
2002.i

UPC Sec 409

1
1
1
1
1
1

BUCKLAND SCHOOL MECHANICAL
4/92

<u>CODE VIOLATION</u>	<u>DESCRIPTION OF PROBLEM(S)</u>	<u>Priority No.</u>
PRIORITY IV: Projects necessary to correct deficiencies under applicable legal standards relating to life, safety, or health matters to allow continued use of the facilities in support of the School District's respective education programs.		
EXTERIOR:		
UFC 79.507	Above-ground oil storage tank. Single wall tank with no diking or protection.	4
FAN ROOM:		
UMC 1002.b	Plenum return air area for main air handler. Code violation - combustible floor.	4
UMC 505	Access to mechanical room and return air.	4
MAIN CORRIDOR:		
UBC Chap 33	Return air from classrooms and offices via corridor ceiling cavity. Corridor cannot be used for return air.	4
WEST ADDITION ATTIC:		
UMC Chap 10, Table 10D	Air handler above new addition in cold attic: Duct insulation is 1/2 inch fiberglass.	4
UMC Sec 509	Light and receptacle not provided.	4
UMC Sec 505	Insulation piled on top of air handler. 30-inch service clearance not provided.	4
SHOP BUILDING:		
UBC Sec 808, State amendment	Wood floor in furnace room of shop building. State amendment states that floor must be rated. Note evidence of oil spillage.	4

BUCKLAND SCHOOL MECHANICAL

4/92

CODE VIOLATION

DESCRIPTION OF PROBLEM(S)

Priority

No.

PRIORITY V: Projects which will achieve operation costs savings.

OLD BOILER ROOM:

Electric water heater fuse panel and area. Note combustibles in area and lack of pipe insulation.

5

BUCKLAND SCHOOL MECHANICAL
4/92

CODE VIOLATION

DESCRIPTION OF PROBLEM(S)

Priority
No.

OTHER:

Electrical and main water line connection to building (Old Boiler Room)
Return air to furnace in wood shop building (Shop Building)

BUCKLAND SCHOOL

4/15/92

<u>CODE VIOLATION</u>	<u>DESCRIPTION OF PROBLEM(S)</u>	<u>CODE No.</u>	<u>PHOTO No.</u>
PRIORITY I: Project necessary to avert eminent danger or correct life-threatening situations for users of that facility.			
	THIRD/FOURTH GRADE CLASSROOM:	1	
UBC Sec. 3305 (h)	No smoke seal	1	
	ELEMENTARY CORRIDOR:	1	
UBC Sec. 4204 (a)	Wood wainscot corridor treatment	1	
	FIRST/SECOND GRADE CLASSROOM:	1	
UBC Sec. 3305 (h)	No smoke seal	1	
	JUNIOR HIGH CLASSROOM:	1	
UBC Sec. 3305 (h)	West door no smoke seal	1	
UBC Sec. 3305 (h)	East door no smoke seal	1	
	ELEMENTARY BOY'S TOILET:	1	
UBC Sec. 3305 (h)	No smoke seal	1	
UBC Sec. 3305 (h)	Door doesn't close - strikes frame	1	
	Minor separation - sheet floor vinyl	1	
	Broken corner - rubber base	1	
	Calcium deposit - ceramic shower floor	1	
	ELEMENTARY GIRL'S TOILET:	1	
UBC Sec. 3305 (h)	No smoke seal	1	
	Missing light diffuser - ceiling	1	
	MAIN ENTRY CORRIDOR:	1	
UBC Sec. 3305 (h)	Door to elementary corridor - no smoke seal, no labels, mechanical hold open - hook	1	
	COAT ROOM:	1	
UBC Sec. 4204(a)	Plywood walls need refinish - in existing passageway	1	
	Minor separation - Tirez floor tile	1	
	MAIN CORRIDOR:	1	
UBC Sec. 4204 (a)	Wood walls need refinish with fire treatment	1	
	SCIENCE & MATH CLASSROOM:	1	
UBC Sec. 3305 (h)	No smoke seal	1	

BUCKLAND SCHOOL
4/15/92

<u>CODE VIOLATION</u>	<u>DESCRIPTION OF PROBLEM(S)</u>	<u>CODE No.</u>	<u>PHOTO No.</u>
	SOCIAL STUDIES/ENGLISH CLASSROOM:	1	
UBC Sec. 3305 (h)	No smoke seal	1	
UBC Sec. 3305 (h)	Closer disabled (missing arm)	1	
	FIFTH/SIXTH GRADE CLASSROOM:	1	
UBC Sec. 3305 (h)	No smoke seal	1	
	KITCHEN:	1	
UBC Sec. 3305 (h)	No smoke seal	1	
UBC Sec. 3314 (c)	Battery pack emergency light non-operational	1	
	Exposed cast iron plumbing - difficult to maintain sanitary	1	
	Heavy soil - light fixture diffusers	1	
	4, 2x4 ceiling tiles not in compliance (not washable finish)	1	
	Heavy soil - return air grill & filter	1	
	Cooking range incorrectly positioned beneath hood	1	
	Floor penetration near range needs seal	1	
	TEACHER WORKROOM:	1	
UBC Sec. 3305 (h)	No smoke seal	1	
UBC Sec. 3305 (h)	Closer arm missing	1	
	Used as a classroom	1	
	HIGH SCHOOL GIRL'S TOILET:	1	
UBC Sec. 3305 (h)	No smoke seal	1	
	Holes in Marlite walls need patch/repair	1	
	Broken porcelain toilet tank tops (2)	1	
	JANITOR'S CLOSET:	1	
UBC Sec. 3305 (h)	No smoke seal	1	
UBC Sec. 1706 (a) & Table 17-A	Pipe chase is not protected & has holes exposing chase to old furnace room & sewer gas in old furnace room can access school via pipe chase..	1	
	Pipe penetrations in overhead need seal	1	
	HIGH SCHOOL BOYS TOILET:	1	
UBC Sec. 3305 (h)	No smoke seal	1	
	Damage to Marlite needs repair	1	
	Shower needs re-caulk	1	
	SPECIAL EDUCATION - ELEMENTARY:	1	
UBC Sec. 3305 (h)	No smoke seal	1	
UBC Sec. 3305 (h)	Closer disabled - missing arm	1	
UBC Sec. 605	No windows - no outside walls	1	

BUCKLAND SCHOOL

4/15/92

<u>CODE VIOLATION</u>	<u>DESCRIPTION OF PROBLEM(S)</u>	<u>CODE No.</u>	<u>PHOTO No.</u>
UBC Sec. 3305 (h)	West double leaf door: No labels, no smoke seal, active leaf missing closer arm	1	
	Electrical cabinet 16" from lavatory	1	
	SPECIAL EDUCATION - HIGH SCHOOL:	1	
UBC Sec. 3305 (h)	No smoke seal	1	
UBC Sec. 605	No windows	1	
	J-Box cover missing in ceiling cavity	1	
	GYMNASIUM:	1	
UBC Sec. 3303 (e)	Emergency egress through gym	1	
UBC Sec. 3314 (c)	Battery pack emergency light inoperable	1	
UBC Sec. 3304 (i)	South exit grade change at door does not comply	1	
UBC Sec. 3313 (a)	North exit vestibule 2-tube strip light destroyed	1	
	South exit vestibule 2-tube strip light destroyed	1	
UBC Sec. 808	Pipe penetrations in walls not adequately sealed	1	
UBC Sec. 802 (c)	GWB tape failure & water damaged ceiling	1	
UBC Sec. 802 (c)	Not in compliance with 1 hour rating requirement	1	
	No smoke seal	1	
	No closure	1	
	Fan unit above - missing pipe insulation, missing electrical J-Box cover	1	
	Wall penetrations not adequately sealed	1	
	MAIN SCHOOL EXTERIOR:	1	
UBC Sec. 3306 (i)	Back stair sagging handrail	1	
	South elevation - two fire exit balconies beneath windows - no stairs & 8' to ground.	1	
	OLD BOILER ROOM (Boilers have been relocated to a separate building):	1	
UPC Sec. 409	Sewage lift station has access panel open to allow entry of garden hose. Sewer gas has free access from holding tank into boiler room & subsequently into school via unsealed pipe chase.	1	
	Penetrations into pipe chase between toilet rooms are not sealed - fire, smoke & sewer gas from the BioPure System have direct access to the school via this chase.	1	
	Oil soaked & delaminated plywood floor at ex-boiler location	1	
	Battery pack emergency light inoperable	1	
	GENERAL:	1	
UBC Sec. 605	Inadequate control - heat & ventilation systems	1	
	Inadequate water pressure at drinking fountains	1	

BUCKLAND SCHOOL

4/15/92

<u>CODE VIOLATION</u>	<u>DESCRIPTION OF PROBLEM(S)</u>	<u>CODE No.</u>	<u>PHOTO No.</u>
PRIORITY III: Project necessary to protect the structures of the existing facilities.			
	ELEMENTARY CORRIDOR:	3	
	North exit - loose panic bar, needs weather strip & sweep	3	
	THIRD/FOURTH GRADE CLASSROOM:	3	
	Slider window jammed - non-operational	3	
	Structural crack - north wall near door	3	
	Damaged corner	3	
	Damaged rubber base	3	
	Poorly fit end backsplash at countertop	3	
	P-Lam edge missing at countertop	3	
	Walls need patch & paint	3	
	FIRST/SECOND GRADE CLASSROOM:	3	
	Dislodged ceiling tile	3	
	Failed ceiling suspension system - needs adjustment	3	
	P-Lam backsplash needs caulk	3	
	JUNIOR HIGH CLASSROOM:	3	
	West door missing screw in hinge	3	
	Cracked outside wall corner full height (NE corner)	3	
	Stained east wall	3	
	Radiation covers need paint	3	
	Wall needs paint	3	
	Temperature control problem - no thermostat in room	3	
	ELEMENTARY BOY'S TOILET:	3	
	Soiled walls & ceiling - needs paint	3	
	Broken outside corners	3	
	Uneven floor underlayment causing wrinkle in sheet vinyl	3	
	Rusted exhaust fan diffuser - shower	3	
	ELEMENTARY GIRL'S TOILET:	3	
UBC Sec. 3305 (h)	Door doesn't close - needs adjustment	3	
	Walls need paint	3	
	Screw pops - ceiling	3	
	Rusted exhaust fan diffuser - shower	3	
	MAIN ENTRY CORRIDOR:	3	
	Exterior door - needs weatherstrip & screw in hinge & paint	3	
	Stained ceiling tile	3	

BUCKLAND SCHOOL
4/15/92

<u>CODE VIOLATION</u>	<u>DESCRIPTION OF PROBLEM(S)</u>	<u>CODE No.</u>	<u>PHOTO No.</u>
	Structural crack SE corner	3	
	COAT ROOM:	3	
	Dislodged ceiling tile	3	
	MAIN CORRIDOR:	3	
	Water stained ceiling tile - minor	3	
	Dislodged ceiling tile - minor	3	
	Damaged tee bar west end (attic scuttle above)	3	
	SCIENCE & MATH CLASSROOM:	3	
	Damaged ceiling tile (1)	3	
	Missing ceiling tile (1)	3	
	Missing face panel - sink base cabinet	3	
	Loose radiation cover	3	
	Radiation cover needs paint	3	
	Window sills need refinish (GWB patch/paint)	3	
	PRINCIPAL'S OFFICE:	3	
	Minor ceiling tile damage	3	
	Window sill needs refinish (GWB patch & paint)	3	
	SOCIAL STUDIES/ENGLISH CLASSROOM:	3	
	Minor tee bar dislocation - ceiling	3	
	Window sill needs refinish (GWB patch/paint)	3	
	Screw pops	3	
	Radiation cover needs repaint	3	
	Wood wall needs refinish	3	
	FIFTH/SIXTH GRADE CLASSROOM:	3	
	Water stained ceiling tile (7) {Roof glaciation: leak problem}	3	
	Broken ceiling tile (3) {Roof glaciation: leak problem}	3	
	Missing ceiling tile (10) {Roof glaciation: leak problem}	3	
	Window sill needs refinish (GWB patch/paint) - 2	3	
	Radiation cover needs paint	3	
	Wood paneling needs refinish - east wall	3	
	KITCHEN:	3	
	Wood door needs refinish	3	
	Wood door not appropriate in kitchen	3	
	Walls need refinish & repair	3	
	Water stained ceiling tile	3	
	Walls need paint	3	

BUCKLAND SCHOOL

4/15/92

<u>CODE VIOLATION</u>	<u>DESCRIPTION OF PROBLEM(S)</u>	<u>CODE No.</u>	<u>PHOTO No.</u>
	KITCHEN STORAGE:	3	
	Exterior door difficult to close - drags frame - door needs replacement & weatherstrip	3	
	Cracked wall at door opening	3	
	TEACHER WORKROOM:	3	
	Dislodged ceiling tile	3	
	Broken GWB at corner bead	3	
	Screw pops, scuffs - needs repaint	3	
	Door needs paint	3	
	HIGH SCHOOL GIRL'S TOILET:	3	
UBC Sec. 3305 (h)	Outer door doesn't close completely	3	
	Screw pops	3	
	Chipped paint	3	
	Gypsum walls need repair/refinish	3	
	Loose toilet partitions	3	
	HIGH SCHOOL BOYS TOILET:	3	
	Screw pops - soiled paint - GWB repair/paint required	3	
	Loose toilet partitions	3	
	Ceiling needs paint	3	
	Toilet partition door missing	3	
	Ceiling diffuser needs paint	3	
	Door bumper punched through gypsum board	3	
	SPECIAL EDUCATION - ELEMENTARY:	3	
	Door drags	3	
	Dislodged ceiling tile	3	
	Broken/scuffed ceiling tile	3	
	Wood walls need refinish	3	
	SPECIAL EDUCATION - HIGH SCHOOL:	3	
	Missing ceiling tile (2)	3	
	Ceiling tile dislodged	3	
	Walls need refinish	3	
	Exterior doors drag & need paint	3	
	GYMNASIUM:	3	
UBC Sec. 3305 (h)	South exit vestibule door doesn't close	3	
UBC Sec. 3313 (a)	South exit vestibule door Relite frame badly rusted	3	
	Screws missing - door closer bracket	3	
	Double leaf door needs paint	3	
	Minor frazzle - carpet seams	3	

BUCKLAND SCHOOL

4/15/92

<u>CODE VIOLATION</u>	<u>DESCRIPTION OF PROBLEM(S)</u>	<u>CODE No.</u>	<u>PHOTO No.</u>
	Rubber base needs replacement both ends	3	
	South exit vestibule door needs replacement	3	
	South exit vestibule ceiling destroyed - water from roof leaks	3	
	South exit vestibule very poor condition exterior door & frame - needs replacement	3	
	Broken fire extinguisher cabinet	3	
	Minor ceiling damage	3	
	Seam fill in gym floor is starting to fail (2 longitudinal seams - intermittent missing seam fill).	3	
	North exterior door & frame in poor condition - needs paint	3	
	North exit vestibule severe rusting - exterior door & frame	3	
	North exit vestibule door Relite frame badly rusted	3	
	North exit vestibule - no weatherstrip	3	
	North exit vestibule door needs replacement	3	
	North exit vestibule ceiling destroyed - water from roof leaks	3	
	North exit vestibule very poor condition exterior door & frame - needs replacement	3	
	North exit vestibule very poor condition exterior door & frame - needs replacement	3	
	GYM STORAGE:	3	
UBC Sec. 802 (c)	Very poor condition - all walls & ceiling	3	
	Delaminating & cracked plywood floor	3	
	MAIN SCHOOL EXTERIOR:	3	
UBC Sec. 4305 & Table 43-C	No fire protection - under-building soffit (exposed plywood)	3	
	Water/ice accumulation beneath lift station - possible leak	3	
	North elevation needs stain or paint badly	3	
	East elevation needs stain or paint badly	3	
	South elevation needs stain or paint badly	3	
	ROOF:	3	
	Snow drift/glaciation both sides of roof at intersection with high gym wall. Apparent serious leaking has destroyed finishes and ceilings in gym storage, 5th/6th grade classroom, and both exit vestibules from gym. Roof is corrugated aluminum sheets.	3	
	Flattened ridge cap may contribute to leaking	3	
	1" roof puncture near ridge	3	
	OLD BOILER ROOM (Boilers have been relocated to a separate building):	3	
	Exterior door - disconnected closer	3	
	Exterior door drags threshold - hard	3	
	Exposed fiberglass at badly damaged pipe insulation	3	
	Loose duct insulation - exhaust duct	3	

BUCKLAND SCHOOL

4/15/92

<u>CODE VIOLATION</u>	<u>DESCRIPTION OF PROBLEM(S)</u>	<u>CODE No.</u>	<u>PHOTO No.</u>
PRIORITY IV: Projects necessary to correct deficiencies under applicable legal standards relating to life, safety, or health matters to allow continued use of the facilities in support of the School District's respective education programs.			
	ELEMENTARY BOY'S TOILET:	4	
UBC Chapter 31 & ADA 4.17, 4.18, 4.19, 4.21, 4.22, 4.23, 4.24	Doesn't comply with handicapped heights/dimensions	4	
	Shower access doesn't comply - handicapped. Slope too steep.	4	
	ELEMENTARY GIRL'S TOILET:	4	
UBC Chapter 35 & ADA 4.17, 4.18, 4.19, 4.21, 4.22, 4.23, 4.24	Doesn't comply with handicapped dimensions	4	
	Shower doesn't comply - too steep access	4	
	HIGH SCHOOL GIRL'S TOILET:	4	
UBC Chapter 31 & ADA 4.17, 4.19, 4.21, 4.22, 4.23, 4.24	Doesn't comply - handicapped	4	
	Shower doesn't comply - handicapped curb	4	
	HIGH SCHOOL BOY'S TOILET:	4	
UBC Chapter 31 & ADA Sec. 4.17, 4.19, 4.21, 4.22, 4.23, 4.24	Doesn't comply - handicapped	4	
	Shower doesn't comply - handicapped curb	4	

BUCKLAND SCHOOL

4/15/92

CODE VIOLATION

DESCRIPTION OF PROBLEM(S)

CODE PHOTO
No. No.

PRIORITY V: Projects which will achieve operation costs savings.

	JUNIOR HIGH CLASSROOM:	5
	Temperature control problem - no thermostat in room	5
	KITCHEN STORAGE:	5
	Exterior door difficult to close - drags frame - door needs replacement & weatherstrip	5
	GYMNASIUM:	5
UBC Sec. 3305 (h)	South exit vestibule door doesn't close	5
	South exit vestibule - no weatherstrip	5
	South exit vestibule very poor condition exterior door & frame - needs replacement	5
	North exterior door & frame in poor condition - needs paint	5
	FAN ROOM (Above main corridor):	5
UMC Sec. 505	Very difficult access through lift-out ceiling results in poor maintenance - very dirty filters	5
	Missing heat pipe insulation	5
	Deteriorating duct insulation	5
	OLD BOILER ROOM (Boilers have been relocated to a separate building):	5
	Exposed fiberglass at badly damaged pipe insulation	5
	Loose duct insulation - exhaust duct	5

BUCKLAND SCHOOL

4/15/92

<u>CODE VIOLATION</u>	<u>DESCRIPTION OF PROBLEM(S)</u>	<u>CODE No.</u>	<u>PHOTO No.</u>
PRIORITY VI:	Projects which will provide facilities to meet instructional and program needs which are not met by categories 1-5 or this sub-section.		
	SCIENCE & MATH CLASSROOM:	6	
	Exposed copper supply - vent pipes to lavatory	6	
	PRINCIPAL'S OFFICE:	6	
	Thin wall & door - sound transmission	6	

BUCKLAND SCHOOL

4/15/92

CODE VIOLATION

DESCRIPTION OF PROBLEM(S)

CODE PHOTO
No. No.

GENERAL:

MAIN ENTRY CORRIDOR:

Lift station closet - no positive ventilation, not a rated
compartment - plywood access panel 25" x 58"

SCIENCE & MATH CLASSROOM:

Folding partition is used as a permanent wall

**ARCHITECTURAL ENGINEER
INSPECTION**

State of Alaska
Department of Public Safety
DIVISION OF FIRE PREVENTION

FIRE AND LIFE SAFETY AT BUCKLAND SCHOOL

Architect's Summary of Code Deficiencies

As technical team leader Heery visited the Buckland school and supervised preparation of the punch list for this project. The individual engineering disciplines have prepared specific punch lists where appropriate and have identified specific items that they deem Priority 1 issues. Heery has also completed an item-specific punch list for Architectural components.

I, Erik Klepp, hereby certify that I have reviewed all lists and determined that the composite of the hazards identified is greater than the individual parts. It is my professional opinion that these hazardous code violations, when considered in their entirety, are of such a magnitude as to cause or create an imminently dangerous situation to the occupants of the building.

The following code and fire issues are in addition to the findings described in the program and engineering reports included herein:

The lack of storage space and overcrowding has forced the use of corridors as storage areas. Storage of tables, warming tables, and lockers in the corridors has reduced the exit way and potential exit hazard for students is quite high. The exit corridor is not of rated construction, and there is no separation between the classrooms and the corridor. The spread of fire across the corridor is very possible. Exiting from the classrooms is into a corridor then into the gymnasium. This will be a serious hazard if a fire should start at this end of the school. It is considered unsafe to exit through a gymnasium.

At the main corridor there is extensive use of wood in the exposed surfaces of the corridor. This is a potential fire hazard and would trap students in a fire.

At the kitchen there is no separation between the school and the kitchen. The spread of fire through nonrated construction is a potential hazard with potential fire spread into the gymnasium.

SIGNED: _____

Erik Klepp

Erik Klepp

Certification No. 4165

DATE: _____

8/20/92

Reply to: ☐ P.O. Box N
450 Whittier St.
Juneau, Ak 99811
(907) 465-4331
FAX: (907) 463-5860

☒ 5700 E. Tudor Rd.
Anchorage, Ak 99507
(907) 269-5604
FAX: (907) 338-4375

☐ 1979 Peger Rd.
Fairbanks, Ak 99709
(907) 456-4002
FAX: (907) 456-2065

TO: H. Parry Occupancy Name: Buckland School
NWASD Location: Buckland
Box 51 UBC Classification: E-1
Kotzebue 993472 Inspection Date: 12-5-91

The following deficiencies were noted and are required to be corrected as indicated:

[illegible]

WRITTEN RESPONSE IS REQUIRED

YOU ARE HEREBY ORDERED TO IMMEDIATELY CORRECT THE LISTED DEFICIENCIES AND TO NOTIFY THIS OFFICE OF THE CORRECTION BY THE DATE SPECIFIED IN COLUMN THREE. SEE OTHER SIDE FOR YOUR APPEAL RIGHTS.

Relation to property: Dis. Prop. Svcs. Date: 12-5-91

Authority: AS 18.70.070 - 18.70.080 - 18.70.300 - 18.70.310 Page ____ of ____

White - Owner Yellow - File Pink - Fire Department Goldenrod - Director

002 Buckland School's

State of Alaska
Department of Public Safety

DIVISION OF FIRE PREVENTION

Reply
to:

☐ P.O. Box N
Juneau, AK 99811-1200
(907) 465-4331

☒ 5700 E. Tudor Rd.
Anchorage, AK 99507-1225
(907) 269-5604

☐ 1979 Peger Road
Fairbanks, AK 99709
(907) 456-4002

NOTIFICATION OF FIRE HAZARDS AND AN ORDER TO CORRECT

TO: DEBBY CAVEY: Supt.
NWABSD
Box 51
Kotzebue, Ak. 99752

Occupancy Name: Buckland School
Location: _____
UBC Classification: E-1
Inspection Date: 4-16-91

The following deficiencies were noted and are required to be corrected as indicated:

	INSTALLED	OPERATIVE	LAST SERVICED	SERVICED BY
SPRINKLER SYSTEM	YES/NO	YES/NO	4/19/91	Guardian
HOOD & DUCT SYSTEM	YES/NO	YES/NO	4/19/91	Guardian
STANDPIPE SYSTEM	YES/NO	YES/NO	4/19/91	Guardian
FIRE ALARM SYSTEM	YES/NO	YES/NO	4/19/91	Guardian
TYPE: MANUAL _____, POC _____, HEAT _____, COMBINATION <u>X</u>				
PORTABLE FIRE EXT.	YES/NO	YES/NO	4/19/91	Guardian
PROPER TYPE/DESCRIPTION: YES/NO				
EVACUATION DRILLS: REQUIRED: YES/NO LAST CONDUCTED <u>4/19/91</u>				

DEFICIENCIES / CORRECTIVE ACTION	DATE
Deficiencies from Previous Inspection corrected except:	
1. Violation of UFC 12.103. Remove all combustibles and other items stored in corridors. Note: Continuing write up / problem.	① 8/15/91
Gen bldg - No def noted.	
ECE Bldg - No def noted.	
Shop Bldg - No def noted.	

WRITTEN REPLY
REQUIRED

YOU ARE HEREBY ORDERED TO IMMEDIATELY CORRECT THE LISTED DEFICIENCIES AND TO NOTIFY THIS OFFICE OF THE CORRECTION BY THE DATE SPECIFIED IN COLUMN TWO. SEE OTHER SIDE FOR YOUR APPEAL RIGHTS.

Received by: Paul C. Christ
Relation to property: Director P. Christ

Inspector: Jacky O. O'Neil
Date: 4/16/91

Authority: AS 18.70.070 - 18.70.080

Page 1 of 1

White - Owner

Yellow - File

Pink - Fire Department

Goldenrod - Director

State of Alaska
Department of Public Safety

DIVISION OF FIRE PREVENTION

Box N
Anchorage, AK 99511-1200
(907) 456-4331

☒ 5700 E. Tudor Rd.
Anchorage, AK 99507-1225
(907) 299-5604

☐ 1979 Peger Road
Fairbanks, AK 99709
(907) 456-4002

NOTIFICATION OF FIRE HAZARDS AND AN ORDER TO CORRECT

Occupancy Name: Buckland School
Location: Buckland
UBC Classification: E-1
Inspection Date: 3/12/90

Deficiencies noted and are required to be corrected as indicated:

DEFICIENCY	INSTALLED	OPERATIVE	LAST SERVICED	SERVICED BY
SMOKE DETECTORS	YES ☒ NO ☐	YES ☒ NO ☐	<u>1</u>	
SMOKE ALARMS	YES ☒ NO ☐	YES ☒ NO ☐	<u>9/89</u>	<u>Arctic Welding</u>
SMOKE EXTRACTORS	YES ☒ NO ☐	YES ☒ NO ☐	<u>1</u>	
SMOKE EXTRACTOR HOSES	YES ☒ NO ☐	YES ☒ NO ☐	<u>2 RC</u>	<u>2nd - Hous</u>
HEAT	YES ☒ NO ☐	YES ☒ NO ☐	<u>9/89</u>	<u>Arctic Welding</u>
COMBINATION	YES ☒ NO ☐	YES ☒ NO ☐	<u>2/90</u>	
DEFICIENCIES REQUIRED	YES ☒ NO ☐	YES ☒ NO ☐	<u>2/90</u>	

DEFICIENCIES / CORRECTIVE ACTION	DATE
U.F.C. 12.103, YOU	<u>5/15/90</u>
the corridors for storage	
and combustibles	
ie. paper products,	
maps, open storage	
The corridors must	
have passage to the	
alarm pull stations	
not be blocked by storage etc.	
NOTE: This is a repeat	
of this school.	

YOU ARE REQUIRED TO IMMEDIATELY CORRECT THE LISTED DEFICIENCIES AND TO NOTIFY THIS DIVISION BY THE DATE SPECIFIED IN COLUMN TWO. SEE OTHER SIDE FOR YOUR

Inspector: Chris E. Williams
Date: 3/13/90
Page 1 of 4

Yellow - File Pink - Fire Department Gold - Director

NOTIFICATION OF FIRE HAZARDS AND AN ORDER TO CORRECT (Continuation Sheet)

DEFICIENCIES/CORRECTIVE ACTION REQUIRED

DATE

Violation of U.F.C. 12.114, The	
Emergency Lights must be replaced.	
Emergency Exit	
Violation of U.F.C. 12.113, The exit	
must be kept clear. Many doors	
are blocked.	
Violation of U.F.C. 11.203, The	
clearance of combustibles is too close	
to ceiling. There must be 24"	
clearance from the top of combustibles	
to ceiling. E.g. Soc. St. Room	
Violation of U.F.C. Chapter 12, The	
exit in the Spec. Lab Room	
is blocked as open the door.	
It is A EXIT	
Violation of U.F.C. Chapter 12, A.1	
Building Code Chapter 33, The	
exit in the old Section of the	
building is blocked. IT must be	
removed. Fire Resistor	
exit must be kept clear.	
Edges of 3/8" x 1/2" thick	
Violation of U.F.C. 11.206, Remove	
combustible storage from under	
the building, and it will have it	
stored under the building	

Inspector (Initial)

Div. of Fire Prevention (Initial)

Date

School

Page 2 of 1

Yellow - File

Pink - Fire Department

Goldenrod - Director

NOTIFICATION OF FIRE HAZARDS AND AN ORDER TO CORRECT (Continuation Sheet)

DEFICIENCIES/CORRECTIVE ACTION REQUIRED

DATE

Kindergarten Building	
U.F.C. 12.103. The	
signs must be cleaned	
directions and combustible	
U.F.C. 79.203. Remove	
combustible liquids from the	
U.F.C. 12.113. Repair	
signs. They did not work	
U.F.C. 10.301. The	
signs must be provided on the	
U.F.C. 85.106.1/03. The	
extension cord run through	
must be removed. Provide	
OUTLET	
U.F.C. 10.401 And	
mechanical code. The	
at the Oak Hill Fire	
structure and the	
the fire is controlled	
the in wall terminals. The wall	
replace the one that	
has a hole cut in it	
proper combustion air	

Inspector (Initial)

Div. of Fire Prevention (Initial)

Date

School

Page 3 of 4

Owner

Yellow - File

Pink - Fire Department

Goldenrod - Director

NOTIFICATION OF FIRE HAZARDS AND AN ORDER TO CORRECT (Continuation Sheet)

DEFICIENCIES/CORRECTIVE ACTION REQUIRED

DATE

VCC 6d Bldg.	
of U.F.C. 12.113. The	5/15/90
must be repaired	
of U.F.C. 12.111. The	5/15/90
lights must be repaired	
of U.F.C. 12.108. The	5/15/90
must be cleared of all	
oil and substances	
of U.F.C. 10.301. Remove	5/15/90
from view of Fire Extinguishers	
of U.F.C. 10.401. And	5/15/90
the fire escape	
the fire escape as stated	
Number 6 of K. diagram	
General Bldg.	
of U.F.C. 10.401. The fire	5/15/90
must be repaired.	
of U.F.C. 12.114. The emergency	5/15/90
must be repaired.	
of U.F.C. 10.301. You must	5/15/90
have missing fire extinguisher	

CPW

Div. of Fire Prevention (Initial)

3/12/90

Date

Page 4 of 4

Yellow - City Pink - Fire Department Goldenrod - Director

NOORVIK

PROJECT DESCRIPTION

INTRODUCTION:

The Northwest Arctic Borough School District is requesting funding to remedy health/life safety problems and unhoused student problems at both school sites in Noorvik. These problems have been documented by licensed engineers and an architect in the 1993 Condition Survey. Professional educational facility planners have worked with the district to identify the impacts that the poor conditions and crowding have had on the educational program.

It is proposed that the elementary school structure be abandoned and that replacement space be constructed adjacent to the high school. It is also proposed that the high school be extensively and substantially expanded and remodeled (see Major Maintenance request) to address compelling life safety, fire separation, exiting, and other code violations as well as program deficiencies. Greater program efficiency and cost efficiency can occur by linking this grant with the Major Maintenance request.

PROJECT JUSTIFICATION:

The elementary school building is an old, BIA wood frame structure on piles, designed in 1958, and last upgraded in 1979. The current student enrollment significantly exceeds the facility design capacity resulting in severe crowding. The lack of facility space is limiting the educational program, and elementary students must leave the building and travel across town to gain access to the high school which provides a computer lab, library/media center, gym and food service. The elementary classrooms are small and lack counter work areas with sinks, adequate storage for teaching materials, student cubbies, and other amenities found in standard elementary schools. The flat roof on the building is in failure and the structural capacity of the building is in question. Erosion and foundation failure due to deterioration of the permafrost are other serious structural concerns. This erosion coupled with the lack of water and sewer systems in this area of town have caused partial abandonment of housing in this area of the community. (See Emergency Grant Application for temporary repairs at Noorvik.)

Because of the health/life safety situations in the existing elementary building it should be abandoned as an educational facility. The building is old, obsolete and not safe for use by students. The cost to renovate this building would be so great that replacement is the more cost-effective alternative. Relocation adjacent to the high school which is located near the center of town in the rear center of a relatively large, flat site is a logical and cost-effective solution.

**NOORVIK K-12 EXPANSION PROJECT
FY97 CIP REQUEST**

For greatest educational efficiency and cost effectiveness, the existing elementary school should be demolished and replaced in a contiguous addition to the high school, forming a single K-12 facility sized to meet current program needs. Appropriate outdoor activity areas should be provided.

DETAILED PROJECT DESCRIPTION:

The proposed project will result in a new elementary K-6 facility and an expanded 7-12 facility located on the existing high school site. The high school site is adequate to accommodate the expansion within the existing site boundaries. The total proposed area will include 52,500 gross square feet for school program space. Of this total, 36,390 square feet will be new construction. (16,110 square feet of renovation and upgrade of existing facilities is being requested in an accompanying Major Maintenance CIP.)

The elementary structure is not safe for continued use. Demolition of the building is expected to take place after the new K-12 facility is ready for occupancy. The school district will assume responsibility for security of the old structure after the move and for protection and safety during the demolition.

EVIDENCE THAT PROJECT IS NOT PREVENTIVE MAINTENANCE:

The Northwest Arctic Borough School District has a comprehensive preventive maintenance program and has expended extensive funds in recent years on maintenance of the Noorvik school facilities. In FY93 and FY94, the School District spent over \$780,000 on maintenance at Noorvik school facilities.

The Condition Survey prepared in 1993 demonstrates that the Noorvik deficiencies are due to age, outdated design practices, structural damage due to environmental factors, current code requirements, and other factors beyond the scope of preventive maintenance, routine maintenance, or custodial care.

ENROLLMENT PROJECTIONS FOR NOORVIK, ALASKA

BIRTH RATES		
YEAR	LIVE BIRTHS	YEAR TO START SCHOOL
1985	13	1990
1986	22	1991
1987	17	1992
1988	21	1993
1989	21	1994
1990	24	1995
1991	22	1996
1992	15	1997
1993	18	1998
1994	16	1999
6 YR TOTAL	94	KINDERG. ENROLL. 6 YRS LATER 89.2
AVERAGE SURVIVAL RATIO = 94.84%		

ENROLLMENTS														
FISCAL YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL STUDENTS ENROLLED
FY 90	19	19	14	19	16	14	11	10	6	15	8	10	8	169
FY 91	13	19	17	14	16	15	13	10	7	11	5	15	6	161
FY 92	11	12	15	16	12	19	14	13	13	11	6	9	8	159
FY 93	18	12	15	14	16	10	18	17	14	14	11	6	11	176
FY 94	23	20	9	15	11	18	11	19	18	9	12	7	8	180
FY 95	24	29	20	14	16	12	19	13	19	14	11	12	7	210
TOTAL	108.2	110.8	89.95	92	86.8	87.95	86	81.95	77.25	74	52.95	59	47.95	1054.75
SURVIVAL RATIO	94.84%	107.65%	93.63%	108.80%	90.77%	103.39%	89.30%	107.12%	102.98%	118.05%	78.05%	128.23%	93.63%	

PROJECTED ENROLLMENTS														
	K	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL STUDENTS ENROLLED
PRESENT	24	29	20	14	16	12	19	13	19	14	11	12	7	210
FY 96 PROJECTION	23	26	27	22	13	16	12	20	13	23	11	14	11	231
FY 97 PROJECTION	21	24	24	29	20	13	16	13	21	16	18	14	13	242
FY 98 PROJECTION	14	22	23	26	27	20	13	17	13	25	12	23	13	249
FY 99 PROJECTION	17	15	21	25	24	27	20	14	18	15	20	16	21	254
FY 00 PROJECTION	15	18	14	23	23	25	27	22	14	21	12	25	15	254
FY 01 PROJECTION	22	16	17	16	21	23	25	29	22	17	17	15	23	263
FY 02 PROJECTION	22	23	15	19	14	21	23	26	30	26	13	21	14	269

Birth statistics were obtained from the Alaska Bureau of Vital Statistics.

Enrollment data was obtained from the Dept. of Education and the Northwest Arctic Borough School District records.

DETAILED PROJECT RECOMMENDATIONS:

- ◆ Abandon the BIA elementary school site for academic purposes.
- ◆ Construct additional high school classroom space attached to the main school.
- ◆ Construct new elementary space adjacent to the high school building.
- ◆ Provide adequate storage space in close proximity to classrooms.
- ◆ Provide up-to-date communication technology in the new classrooms.
- ◆ Provide a media center accessible to all students.
- ◆ Provide proper storage for maintenance and custodial supplies.
- ◆ Provide an appropriate administrative suite and teachers' work area.
- ◆ Provide a student journalism/project workroom and new darkroom.
- ◆ Expand lockers rooms, showers, and restrooms to meet ADA, and ensure they are appropriately sized for PE activities and team sports.
- ◆ Provide public/student restrooms in close proximity to the gym for day student use and evening public use.
- ◆ Provide systems which segregate spaces used by the community from those areas school areas used by the school allowing school spaces to be secured during public programs.
- ◆ Provide a new kitchen and separate commons/eating area outside the gym.
- ◆ Provide a weight room and proper storage for equipment.
- ◆ Provide a washer and dryer for PE/sports program and school staff use.
- ◆ Provide appropriately designed specialized teaching spaces for science, business, home economics, music, and vocational education programs.
- ◆ Construct interior walls at exposed exterior wall structural elements to provide finished appearance and acoustical seals between rooms.
- ◆ Provide a fenced elementary play area adjacent to the new elementary wing.

NOORVIK K-12 SCHOOL

	AREA	FACTOR	1991 \$/SF	1991 COST	LINE TOTAL
Assignable Educational Areas					
Basic Elementary Classroom	7500		\$87.56	\$656,700	
Basic Secondary Classroom	1800		\$90.89	\$163,602	
Gifted/Special Ed. Classrooms	1800		\$112.31	\$202,158	
Bilingual/Bicultural	2400		\$105.88	\$254,112	
Library and Media Center	2000		\$106.84	\$213,680	
Computer Lab/Tech. Resource	2100		\$112.31	\$235,851	
Science Laboratory	1200		\$138.83	\$166,596	
Music/Drama Rooms	1800		\$102.90	\$185,220	
Auditorium	0		\$136.53	\$0	
Art / Journalism Classroom	500		\$105.47	\$52,735	
Photographic Lab	150		\$130.28	\$19,542	
Home Economics	1200		\$155.61	\$186,732	
Vocational Shop	738		\$130.84	\$96,560	
Gymnasium	3323		\$112.42	\$373,572	
Lockers/Shower	800		\$142.29	\$113,832	
Pool	0				
Subtotal Assignable Areas	27311				\$2,920,892
Optional Auxiliary Areas					
Administrative and Offices Areas	759		\$84.04	\$63,786	
Testing and Counseling	50		\$84.04	\$4,202	
Nurse	0		\$114.38	\$0	
Food Service	1200		\$208.13	\$249,756	
Toilets	800		\$161.04	\$128,832	
Circulation	4007		\$89.92	\$360,309	
Mechanical/Electrical	1087		\$77.43	\$84,166	
Storage	3276		\$74.50	\$244,062	
Structure	1617		\$84.04	\$135,857	
Subtotal Auxiliary Areas	12796				\$1,270,972
Total Proposed New Area	40107				
Optional Special Requirements					
Sprinkler System	36390		\$4.44	\$161,572	
Remodeling - Light	0		\$11.30	\$0	
Remodeling - Medium	0		\$28.20	\$0	
Remodeling - Heavy	0		\$56.40	\$0	
Subtotal Special Requirements					\$161,572
Unadjusted Cost					\$4,363,436
Mob, GOC, Contractors Profit		20%		\$870,687	
Geographic Index Applied		169.11%		\$8,834,512	
Contingency					
General		12%		\$1,060,141	
Escalation (From 1991 Figures)		21.67%		\$1,914,439	
Sitework					
Road Improvements				\$50,000	
Fuel Storage Improvements				\$135,000	
Heat Recovery System Expansion				\$85,000	
Demolition/Relocation/Asbestos Abatement				\$180,000	
Site Prep				\$62,000	
Site Improvements				\$80,000	
Utilities				\$85,000	
Subtotal Sitework					\$677,000
Est. Total Construction Value					\$12,486,093
Project Overhead					
Administration Costs		4.0%		\$499,444	
Design Costs		8.0%		\$998,887	
Furnishings & Equipment		7.0%		\$874,026	
Technology		2.0%		\$249,722	
Art		0.5%		\$62,430	
Construction Inspection		4.0%		\$499,444	
Site Investigation				\$48,000	
Lead				\$0	
Subtotal Overhead					\$3,231,984
Total Project Cost					\$15,718,046
Project Contingency		8%		\$1,257,444	
TOTAL PROJECT COST					\$16,975,490

**NOORVIK SCHOOL
INVENTORY & CONDITION
SURVEY**

FIRE, LIFE SAFETY AND BUILDING SUITABILITY AT NOORVIK SCHOOL

Architect's Summary Of Deficiencies

As the technical team leader, Heery International Inc. visited the Noorvik schools and supervised preparation of the inspection reports for this project. Individual engineers have prepared specific reports where appropriate and have identified specific items that they deem Priority 1 issues. Heery has also completed an item-specific list for the architectural components.

This document will certify that Harold J. Nesland, Jr. personally visited the school facilities on the 21st of June, 1993, and supervised the preparation of the architectural inspection report at Noorvik. In preparing this report, Mr. Nesland also reviewed the engineers' reports and discussed specific concerns they had with them. Mr. Nesland is an experienced professional architect, registered to practice in the State of Alaska. Based on the inspections and review of other pertinent data relating to the facility it is our professional opinion that the items identified as Priority 1 items, constitute health and life safety code violations. Priority 2-7 items describe other situations that have a bearing on the suitability of these facilities for use as K-12 education facilities. Below, we have summarized the concerns that led us to recommend partial replacement, expansion, and comprehensive remodeling of these facilities.

The Elementary

The facility is a wood frame structure on piles and does not have a sprinkler system. There are some potential fire separation problems where walls (from construction drawing review) do not appear to fully meet one-hour fire separation requirements. Corridor door frames also do not contain 20 minute labels and lack smoke seals. Additionally, the space above the ceiling does not contain the required fire draft stops. This condition would allow the rapid spread of any fire located in the attic. A similar situation exists under the building in the open space created by skirted pile construction.

The existing facilities predate current codes for snow loads, wind loads and seismic design. Given common engineering practices of that time period, it is highly unlikely that the structure is designed to withstand the forces required by current codes. (See structural engineer's report for more specific examples and code references.)

In addition to the above issues, the facility's age (estimated to be over 30 years) indicates a building at the end of its planned useful life. The buildings also contain a

significant amount of building material with asbestos. The factors discussed above, coupled with required program upgrades and additional space needs, dictates replacement in lieu of remodeling for this structure.

The High School

This building also has significant life safety code exiting violations which are more fully documented in our Priority 1 assessment. They include inoperable emergency exit lighting, an inadequate number of exits for the occupant load, inadequate fire separations between exit enclosures and adjacent spaces, inadequate door fire and smoke separation, and inadequate interior circulation exit pathways. Attic spaces do not contain the required fire draft stops which would allow the rapid spread of any fire located in the attic space. The building is also only partially sprinklered (six rooms). Of particular concern is the gymnasium which is constructed as a type-five non-rated structure due to lack of fireproofing of the structural steel members. A gymnasium or assembly occupancy cannot be housed in a building with this classification. The composite hazard due to the extent, type and number of fire code violations in this facility, when considered in their entirety, are of such a magnitude that they constitute an imminently dangerous situation for the occupants of the building. Extensive remodeling of this building will need to be undertaken given the extent of life safety code problems.

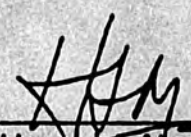
In addition to the problems associated with the initial design and construction, the school is significantly undersized. Specific problems include: lack of a properly programmed and designed media center, lack of administrative and teaching support spaces, lack of specific use classrooms such as a science classroom, undersized computer lab, and lack of adequate storage.

Concluding Recommendations

I, Harold J. Nesland Jr., hereby certify that I have reviewed all the facility evaluation items listed herein and have determined that the composite of the problems and hazards identified herein are greater than the individual parts. It is my professional opinion that because of:

- ♦ The limited availability of fire protection services in the community;
- ♦ Compelling and extensive life safety code fire separation and exiting violations;
- ♦ Lack of a fire sprinkler system;
- ♦ The age and type of construction;
- ♦ Other compelling factors,

that replacement of the elementary structure, extensive and substantial remodeling of the high school, and fire sprinkling of all structures housing students is dictated as the minimum level of work which should be undertaken. Completion of this work at the earliest possible date will enhance education programs and reduce life safety risks associated with continued use of the Noorvik schools.



Harold J. Nesland Jr.
Alaska Architectural License A-8453
Director of Design, Western Region
Heery International, Inc.

Attested this 25th day of August, 1993

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

ARCHITECTURAL INSPECTION

NOORVIK ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 1		HEALTH AND LIFE SAFETY: Project necessary to avert eminent danger or correct life-threatening situations for users of the facility.	
	Exterior, North	There are three wooden stairs (only one is active).	UBC 3303(a)
	Exterior, West	A fragile wood stair is used for access into the building 12 risers high.	UBC 104(d)
		The extra stairs placed around the building are apparently intended as emergency fire egress at windows (two on the west and east side). Stairs do not conform to code.	UBC 3306(k)
	General	All doors are 20 minute rated and have hollow metal frames without tags. They, also, lack smoke seals and magnetic holders.	UBC 4306(c)/ 3305(h)
107	Corridor	The separation between corridor-107 and classroom/toilets is required to be 1-hour fire-resistive construction.	UBC 3305(g)/ 3318
		A carpet wainscot is applied to the walls, which may not conform to flame-spread requirements.	UBC 4203
112	Girl's Restroom	The door does not provide the width necessary for egress.	UBC 3304(f)
114	Mechanical Room	The separations between mechanical room and building is required to be 1-hour fire-resistive.	UBC 3305(g)
		There is a double leaf door with a hollow metal frame and no smoke seals. The doors are tagged but the labels are illegible.	UBC 808/ 4306(c)
116	Kitchen	The Ansul system is tagged (the system does not shut off appliances) and does not comply with codes.	
117	Office	The door assembly is non-rated.	UBC 3305(h)

NOORVIK ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
118	Special Education	The door assembly is non-rated.	UBC 3305(h)
125	Classroom	The separation between classroom and mechanical-130, storage-128, storage-129 is required to be 1-hour fire-resistive construction.	UBC 805
127		The floor finish is vinyl asbestos tile.	AAC

NOORVIK ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION	
Architectural Priority 3 PROTECTION OF STRUCTURE: Project necessary to protect the structures of the existing facilities.			
Exterior, West	This area is in a general state of disrepair with large sections of CAB board missing, exposing fiberboard sheathing beneath.	UBC 1708/ 104(d) & 2516(c)9	
	Several broken, damaged areas which need repair and painting.	UBC 104(d)	
General	Building settlement is negatively affecting mechanical/plumbing systems.	UBC 2907(e)/ UPC	
	The crawl space rigid insulation board applied to floor structure does not have a protective layer.	UBC 1713(a)	
Gymnasium	The pipe insulation is damaged and the pipe is exposed.		
Interior	In the vestibule, the weather strip for the exterior doors needs to be replaced.		
Roof	Roof structure is not ventilated.	UBC 3205(c)	
	It appears that a hot mop application is underneath the 90 lb layer, and probably a three-ply builtup. Roof failure is imminent. The roof needs replacement if the school is to be further utilized.	UBC 104(d)	
	The roof leakage has deteriorated the ceiling.	UBC 3201(a)/ 3208(a)	
	Serious bubbling and cracks and a number of holes in the 90 lb mineral felt layer.	UBC 3204(a)	
115	Accessible Toilet	There is water damage on gypsum board wall.	UBC 4712
116	Kitchen	The gypsum board ceiling appears to be water soaked, requires serious repair.	
118	Special Education	Water stained ceiling tile indicates a probable roof leak.	

NOORVIK ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 4		
CODE UPGRADE: Projects necessary to correct deficiencies under applicable legal standards relating to life, safety, or health matters to allow continued use of the facilities in support of the school district's respective educational program.		
Exterior	The west-side is cement asbestos board in 2'x8' panels.	AAC
	Classroom-125 egress does not conform to ADA, a ramp is not provided.	ADA 4.1.1
	The ramp lower landing is non-compliant with ground surface requirement.	ADAAG 4.8.4/ 4.5.1
	The ramp and stair(s) handrail profile are non-compliant.	ADAAG 4.26.2
	The stair(s) have open risers.	ADAAG 4.9.2
Exterior, East	A ramp with 6" or 8" rise at the bottom does not conform to ADA and other codes.	UBC 3101(a)/ 3307(a)
	Staff indicates they have sewer problems.	
General	The windows are generally worn, have moderate frame damage, and are not thermally efficient.	UBC 104(d)
	Cement asbestos board is used on mechanical room walls and exterior of building.	AAC
Main Corridor	The exit signs generally have one lamp burned out.	UBC 3314(c)
112	Girl's Restroom	There are no handicap provisions.
		UBC 3105(b)/ ADAAG 4.23
		The toilet fixtures do not comply with code.
		UBC 3105(b)
113	Janitor	The wall needs major repair and the room needs paint.
		UBC 104(d)
114	Mechanical Room	The ceiling and walls are lined with cement asbestos board.
		AAC
115	Accessible Toilet	There is a crack in the floor covering and is missing a cove base.
		ADAAG 4.5.1

NOORVIK ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
116	Kitchen	The floor tile (12"x12") is damaged (cracked, broken, chipped corners) and requires replacement.	ADAAG 4.5.1/ Sanitation
		There is a Pace fan coil unit suspended in the overhead which is not appropriate for food storage.	Sanitation
		Two half-inch copper pipes penetrating the wall and stubbed off posing a sanitation problem. These pipes should be removed and the wall sealed.	Sanitation
		The whole floor should be replaced with sheet vinyl and cove base for adequate sanitation. There, also, is exposed pipe insulation above the three bowl sink.	Sanitation
		The kitchen has an antique counter top, formica with stainless steel trim on the edges representing a sanitation problem.	UFC 10.513.c
		In the food storage area of the kitchen, unfinished pipe insulation with raw ends poses a sanitation problem.	Sanitation
121	Storage Room	Stair handrail profile is non-compliant with code.	ADAAG 4.26.21
127	Classroom	Classroom-125 does not have restrooms.	UBC 806

NOORVIK ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 6	FUNCTIONAL UPGRADE: Projects that will modify or rehabilitate existing facilities for the purpose of improving a school district's instructional program.	

118 Special
Education

Gypsum board walls need repair and repainting.

UBC 104(d)

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

NOORVIK ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 7		OTHER: Projects that will provide facilities to meet instructional and program needs that are not met by the categories 1-6.	
	Exterior, East	Door frame and mullion require painting.	
	General	All walls, interior and exterior, are in need of new paint.	UBC 104(d)
		The backsplash on sink counter units need to be replaced in rooms 104, 105, 106, and 108.	
	Locker Vestibule	The ceiling tiles are broken and damaged.	
	Main Corridor	The ceiling tiles are damaged.	
103	4th Grade	The ceiling has minor damage.	
105	5th Grade	There is minor damage to the ceiling tile.	
115	Accessible Toilet	Plywood is used as a temporary patch in the wall.	
117	Office	The ceiling tiles are broken and stained.	

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

NOORVIK HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 1		
General	HEALTH AND LIFE SAFETY: Project necessary to avert eminent danger or correct life-threatening situations for users of the facility.	
	The building occupant load requires three exits, two fire exits are provided and one exit is through a room.	UBC 3303(a)
	The building construction is type 5 - non-rated, due to non-fire proof steel, and a gymnasium or assembly cannot be housed in this type of construction.	UBC 505(a)/ 501
	The mechanical equipment providing HVAC is located on a mezzanine and is not separated from rest of building by 1-hour fire-resistive construction.	UBC 808
	The gymnasium is unsprinkled or does not provide an egress door every 50' of wall.	UBC 808(h)l
	The building lacks rated doors, rated frames, and rated openings.	UBC 3305(h)
	In all corridors, the enclosing walls and ceiling are non-compliant with fire-resistive construction requirements.	UBC 3305(g)
	The roof attic space is not provided with draft stops.	UBC 3205(b)/ 2516(f)
102	Kitchen	The serving door into the gymnasium does not have automatic closures.
		UBC 503
		The Ansul panel has been tagged for non-compliance (it doesn't shut down electrical equipment on alarm).
		UFC 10.513.c
106	Girl's Locker	The exit light is taped off with duct tape.
		UBC 3314(a)

NOORVIK HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
106	Girls' Locker	There is a heavy chain and a padlock on the panic hardware and exit door; these are kept permanently locked. This is a serious code violation.	UBC 3304(b)/3301(a)
116	Boy's Shower	The panic hardware is locked off with heavy chain and padlock and the exit lights are tapped over with duct tape. This is serious code violation.	UBC 3304(d)/3301(a) & 3314
117	Shop	The room is not separated from other classroom and spaces with 1-hour fire-resistive construction and 1-hour door assemblies.	UBC 802(d)
119	Arts/Crafts	The room is not separated from other classroom and spaces with 1-hour fire-resistive construction and 1-hour door assemblies.	UBC 802(d)
129	Equipment Storage	The access to mechanical equipment is via retractable stair and is non-rated assembly.	UBC 4308
130	Computer Lab	The area of glazing in wall, common with corridor-135 exceeds allowable glazing wall ratio.	UBC 3305(h)2
138	Principal's Office	The area of glazing in wall, common with corridor-135 exceeds allowable glazing wall ratio.	UBC 3305(h)2
204	Corridor	There is large Relite glass in the corridor areas and there is no evidence of it being safety glass. The panes are 4'x8'.	UBC 3305(h)2
207	Shop	The doors and frames are non-rated and there are no door closers.	UBC 3305(h)

NOORVIK HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 3		PROTECTION OF STRUCTURE: Project necessary to protect the structures of the existing facilities.	
	Exterior	Wood deck and stair assembly has some minor settlement behind building.	UBC 3303
	General	The building needs new windows in most areas.	UBC 805
		Typical throughout these lower rooms a number of water spots indicating some kind of leakage problem above.	UBC 3208(a)
	Girl's Toilet	There is loose, cracked vinyl with a series of holes where attempted repairs have been made.	UBC 104(d)
		The substrate is delaminated and needs major repair.	UBC 104(d)
		The wall behind the sinks is rotted away due to excessive moisture.	UBC 104(d)
	Interior	Most of 2"x2" ceiling tile has physical or water damage and requires replacement.	UBC 104(d)
		The ceiling in the low entry vestibule has been destroyed by water and has been replaced by raw plywood.	UBC 104(d)
102	Kitchen	The ceiling tiles show serious water damage in one corner of the room.	UBC 1708
105	Girl's Shower	The showers have some sort of replacement panel on top of the ceramic tile (this is probably a patch where there was tile damage; about 3'x8' Marlite which is deteriorating rapidly).	UBC 4712/ 3005
110	Girl's Toilet	There is floor deterioration due to flooding.	UBC 510(b)/ 4305(a)
112	Men's Toilet	There is water damage over 50% of ceiling.	
113	Boy's Toilet	There are serious floor problems and delamination of the substrate.	UBC 510
116	Boy's Shower	The floor is experiencing substrate failure.	UBC 4305(a)

NOORVIK HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
116	Boy's Shower	The shower ceiling has failed.	UBC 4305(a)
119	Arts/Crafts	There is heavy water damage in the ceiling.	UBC 4303(b)6
129	Storage Room	Ceiling has been destroyed by water and has been replaced by raw plywood. This room is filled with athletic gear. It has major ceiling damage, physical damage and water stains.	UBC 4305/ 4204
130	Computer Labs	There is extensive ceiling damage and water damage to the tile. The ceiling needs replacement.	UBC 4704(a)
203	Front Entry Vestibule	There is heavy water damage in the ceiling. The ceiling has been replaced with plywood.	UBC 4305/ 104(d) & 2336(a) UBC 4203
204	Corridor	The ceiling is water-stained in the locker area.	UBC 4305(a)/ 3208(a)
206		There is extensive ceiling damage and water damage to the tile. The ceiling needs replacement.	UBC 104(d)/ 2336(a) & 4305
207	Shop	There is extensive ceiling damage and water damage to the tile. The ceiling needs replacement.	UBC 104(d)/ 2336(a) & 4305

NOORVIK HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 4	CODE UPGRADE: Projects necessary to correct deficiencies under applicable legal standards relating to life, safety, or health matters to allow continued use of the facilities in support of the school district's respective educational program.	
Central Lobby	The carpet is fair to good with some minor seam ravel.	ADAAG 4.5.1
	There is some ceiling track displacement.	UBC 4704(a)
Exterior	The handicap ramp, in front of the building, has sustained some damage (a dozen of the grip stop panels have been bent) in the middle.	UBC 3307(a)/ 3101(b)2
	The ramp bottom landing is non-compliant.	ADAAG 4.8.7/ 4.8.4
	The stair and ramp handrail profiles are non-compliant.	ADAAG 4.26.2
	The stairs have open risers and are non-compliant.	ADAAG 4.9.2/ 4.5.1
	The handicap ramp in the front is probably in compliance but it has sustained some damage (about a dozen of the grip stop panels have been bent in the middle).	UBC 3104(a)/ ADAAG 4.5.1
General	The building is only partially sprinkled. The arts & crafts and shop rooms appear to be the only sprinkled areas. (Sprinklers depend on city water pressure.)	UBC 3802(b)
	The roof attic space access opening size is less than required.	UBC 3205(a)
	The signage is installed on door against code requirements.	ADAAG 4.30.1
	The building needs major ceiling repair and replacement.	UBC 4704(a)/ 2336(a)
	This building has experienced heavy use and needs proper maintenance.	UBC 104(d)
Girl's Toilet	There are no handicap provisions.	ADA

NOORVIK HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
	Interior	The carpet seams are split and unravelling.	UBC 104(d)
		Door jam and casing has been broken (forced entry).	UBC 104(d)
		The doors are P-lam faced with a double leaf door into the gym. Both leaves are essentially destroyed.	UBC 104(d)
	Janitor's Closet	The floor in this area is 12"x12" vinyl tile and heavily cracked with missing and broken tile.	UBC 104(d)
102	Kitchen	The ceiling penetrations for the electrical conduit above the main switch gear are oversized with no escutcheons which presents a sanitation problem.	UBC 4305(a)
		There is an Armstrong Corlon sheet vinyl floor, with seam separation and broken floor around the floor drains which presents sanitation problems.	ADAAG 4.5.1
		The main switch for the building has a refrigerator and an adjacent panel C in front of it. A code violation if not temporary.	NEC 110-16/ 370-19
104		The door does not provide the required clear width.	UBC 3304(f)
106	Girl's Locker	The vinyl base is missing and the seamless floor sheet vinyl is damaged and has cracks. This makes it difficult to maintain in a sanitary condition.	UBC 510(b)
109	Washer/Dryer Laundry Room	The door does not provide the required clear width at two doors.	UBC 3304(f)
110	Girl's Toilet	One of three toilet fixtures is missing; one of the two remaining is missing a tank; all three need replacement.	UBC 3105(b)/ ADAAG 4.23.1
111	Women's Toilet	There are no handicap provisions.	UBC 3105(b)
		The door does not provide the required clear width.	UBC 3304(f)
112	Men's Toilet	The door does not provide the required clear width.	UBC 3304(f)
		There are no handicap provisions.	UBC 3105(b)/ ADAAG 4.23
113	Boy's Toilet	There are unsanitary conditions in this area; sanitation is impossible to maintain due to damage.	UBC 104(d)/ 4305

NOORVIK HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
113	Boy's Toilet	The walls, floors, toilet partitions, toilets, light diffusers and ceiling all need replacement.	UBC 4704/ 104(d)/ 3101(a) & ADAAG 4.23.1
116	Boy's Shower	The floor and walls are in poor condition.	UBC 4712
119	Arts/Crafts	The 12"x12" vinyl floor tile is in poor repair.	ADAAG 4.5.1
141	Mechanical	There are two horizontal oil-fired furnaces over plywood floors in this room. There is probably adequate clearance.	UBC 808
201	Multi-use	There are damaged, thermally inefficient windows in this room. This is a window hardware problem.	UBC 104(d)
202		There are two troffers which don't light and one missing light diffuser.	UBC 104(d)
		This room has thermally defective windows.	UBC 104(d)
203	Front Entry Vestibule	There are inoperative 2"x4" troffer lights.	UBC 104(d)
204	Corridor	There is some heavy wall damage where the gypsum wall board has been kicked through behind the carpeting on the walls in the locker area.	UBC 4304(a)
		An electrical box, near the locker area, hanging out of the ceiling with a plate on it (probably a missing smoke detector).	NEC 362/370-10
		The door is seriously damaged.	UBC 3304
206		There are broken and deteriorating windows which have very poor thermal efficiency. The windows need replacement.	UBC 104(d)
207	Shop	There are broken and deteriorating windows which have very poor thermal efficiency. Windows need replacement	UBC 104(d)

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

**NOORVIK HIGH SCHOOL
INSPECTIONS**

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 5	OPERATING COST SAVINGS: Projects which will achieve operational cost savings in support of the school district's respective education programs.	

Central Lobby

There are a number of water spots indicating some kind of leakage problem above. This is typical throughout these lower rooms.

UBC 3201(a)/
104(d)

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

NOORVIK HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 6	FUNCTIONAL UPGRADE: Projects that will modify or rehabilitate existing facilities for the purpose of improving a school district's instructional program.	

Interior

The inner doors of the arctic entry have been removed.

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

NOORVIK HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 7		
OTHER: Projects that will provide facilities to meet instructional and program needs that are not met by the categories 1-6.		
Central Lobby	Area outside the main office area has dirty ceiling tile, extensive damage, water stains, physical damage.	UBC 104(d)
	The ceiling needs a tune-up and replacement of tile.	UBC 104(d)
Exterior	There are broken side lights on both sides of the building.	
General	The building has been heavily abused and significant maintenance work is necessary.	UBC 104(d)
Girl's Toilet	The vinyl base is missing.	UBC 104(d)
Gymnasium	The floor is a sheet vinyl with seam separation in some areas.	UBC 104(d)
Interior	There is extensive ceiling damage including broken light diffusers.	UBC 104(d)
	The vinyl base is loose.	UBC 104(d)
	The walls need painting.	UBC 104(d)
102	Kitchen	The Marlight wall panel is broken.
106	Girls' Locker	There is a plywood patch on door; the door has apparently punched the wall out (door pull).
110	Girl's Toilet	The toilet partitions have been heavily damaged.
111	Women's Toilet	There is heavy water damage on the entire ceiling.
119	Arts/Crafts	There are two broken light diffusers.
	The fire dampers in the two darkrooms off of the arts & crafts room are missing any kind of trim.	UBC 4304(c)
	Missing ceiling tiles need to be replaced.	

NOORVIK HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
120	Corridor	The floor vinyl is permanently stained and heavily worn.	
		The door wood frames are heavily worn and damaged.	UBC 3304
		All light troffers have missing diffusers.	UBC 104(d)
		The ceiling is severely damaged and has ceiling tiles that are broken and missing.	UBC 4704(a)/4305
		The wall panel is heavily worn.	UBC 104(d)
		There has been serious abuse (vandalism) and is a maintenance problem area.	UBC 104(d)
128	Custodial	Light diffusers are missing.	UBC 104(d)
		Light troffer is loose and hanging from the ceiling in one corner.	UBC 104(d)
129	Storage Room	Non-functioning luminaries.	UBC 104(d)
137	Administration Room	The carpet is fair and there is some seam ravel evident.	ADAAG 4.5.1
		There are missing light diffusers and broken light diffusers in this area.	UBC 104(d)
		There is moderate ceiling damage.	UBC 4303(b)6
201	Multi-use	There is light to moderate damage on several corridor doors (they are P/lam solid core doors).	UBC 3304
		There are several damaged ceiling tiles.	UBC 104(d)
		There is some carpet staining.	
202		The carpet is stained.	
203	Front Entry Vestibule	There are heavy stains on carpets.	
204	Corridor	The carpet is in fair condition with some wrinkles in the locker area.	ADAAG 4.5.1

NOORVIK HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
204	Corridor	There are heavy stains on the carpets.	
		There are wood doors, which are light temporary partition type door frames.	UBC 3305(h)
		There is some missing vinyl base in the locker area.	
		There are a few broken ceiling tiles in the locker area.	UBC 4704(a)/ 2336(a)

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

NOORVIK ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Structural Priority 1	HEALTH AND LIFE SAFETY: Project necessary to avert eminent danger or correct life-threatening situations for users of the facility.	
Exterior	Above-ground tank is in a timber storage rack.	UBC 2311/ 2330(a)
General	It's not likely that the school building meets current codes related to snow drift loads. The 1976 UBC (the earliest code available in Loftus and Dailey's offices) only mentions snow drift; no specific design criteria are given. The 1991 UBC has an extensive new section on snow drift design loads. In short, the new 1991 code suggests that 4 foot deep drift adds 74 PSF to the roof snow load, while a 6 foot deep drift adds 111 PSF. A common balanced snow load is 40 PSF. So, a 4 foot drift could increase the snow load by 286% while a 6 foot drift could increase it by 378%. To meet these updated snow loads, roof members would probably need to be strengthened or snow sheds could be built to prevent drifting. Calculation of the existing roof capacity is beyond the scope of this report.	UBC 2305/ 2340
	It's not likely that the school building meets current seismic codes or wind codes. Detailing requirements for lateral loads have changed substantially over the year. For example, tension straps are often required to resist tension forces in roof and floor diaphragms. Such straps are not seen on the existing school drawings, thus they were probably not used during construction. Another example: Holddown anchors at the ends of non-bearing shear walls are often required to resist overturning forces. No such holddowns are shown on the existing drawings, so it's unlikely any were used during construction. Calculation of lateral capacities is beyond the scope of this report.	UBC 2311/ 2330
Stairways	Stairs need repair. At vestibule (116) a post, which supports the stair, has slipped off its crib foundation. In general, the crib footings do not meet the UBC code. In some places handrails are missing.	UBC 3306

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

NOORVIK ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Structural Priority 3	PROTECTION OF STRUCTURE: Project necessary to protect the structures of the existing facilities.	

	Exterior	Siding has been removed allowing weathering of structure.	
		Riverbank is steadily eroding and could undermine school in future. Erosion is already beginning to undermine sewage plant/ECE Building.	UBC 2903(a)
112	Girl's Restroom	Signs of roof leaks. Maintenance department believes they will have definite leak problems in the future (as they have in the past).	
118	Special Education	Signs of roof leaks. Maintenance department believes they will have definite leak problems in the future (as they have in the past).	
120	Multi-purpose	Signs of roof leaks. Maintenance department believes they will have definite leak problems in the future (as they have in the past).	

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

NOORVIK HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
Structural Priority 1		HEALTH AND LIFE SAFETY: Project necessary to avert eminent danger or correct life-threatening situations for users of the facility.	
	Exterior	Dimensions of ramp and handrail, by front entry vestibule (203), do not meet code.	UBC 3306(i)/ ADAAG 4.26
		The grating, by front entry vestibule (203), has been overstressed and is bowed creating a safety hazard.	UBC 2303(a)
207	Shop	Storage rack is over-stressed and is sagging creating a safety hazard.	UBC 2303(a)

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

NOORVIK HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Structural Priority 3		
PROTECTION OF STRUCTURE: Project necessary to protect the structures of the existing facilities.		
Roof	Maintenance department reports that the roof has leaked in the past. Foam has been installed as a temporary measure.	
123 STAR Classroom	Gap of several inches exists between the deck and building. The handrail does not appear to meet code - clear spacing seems too large. Deck and stairs need painting.	UBC 3306/ ADAAG 4.26

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

STRUCTURAL INSPECTION

MECHANICAL INSPECTION

NOORVIK ELEMENTARY SCHOOL
INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Mechanical Priority 1	HEALTH AND LIFE SAFETY: Project necessary to avert eminent danger or correct life-threatening situations for users of the facility.	

Crawl space Space is of wood construction and does not have heat or smoke detectors.

Fire Protection Fire protection is by portable extinguishers. The buildings are wood frame and are skirted down to grade, accessible to ground or brush fires. There is no organized village firefighting unit.

Water/Sewer System serving school Water is pumped from the river and is treated and stored in holding tanks. The intake is subject to freezing. The sewage is pumped to an above-ground septic tank and the effluent is discharged to the lake nearby. The village has a sewer and water system but mains have not yet been extended to serve this area of the village.

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

NOORVIK ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Mechanical Priority 4		
CODE UPGRADE: Projects necessary to correct deficiencies under applicable legal standards relating to life, safety, or health matters to allow continued use of the facilities in support of the school district's respective educational program.		
Headstart Bathroom	No fan for ventilation.	UBC 805
Headstart Classroom	Windows not adequate for ventilation.	UBC 805
114	Mechanical Room	Electrical panel service is access limited.
		NEC Art 110-16a
		Inadequate combination air.
		UMC Ch 6
		Hot water converter is single wall construction.
		UPC 1003
		Bath fan vents to room
		UBC 805
116	Kitchen	Floor material is not coved.
		Health
		Pipes are not cleanable.
		Health
		No grease trap is provided for pot sink.
		UPC 711
120	Multi-purpose	Operable windows not large enough for vent. Plastic rain leader.
		UBC 805/ 802

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

NOORVIK HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
Mechanical Priority 1		HEALTH AND LIFE SAFETY: Project necessary to avert eminent danger or correct life-threatening situations for users of the facility.	
139	Mechanical Room	No smoke detectors in units.	UMC 1009
		Combustion air undersized.	UMC Ch 6
		Leak in burner could drip on hot flue pipe. (Note: This is a dangerous installation for service and fire with many potential sources for oil leaks and fires. The inaccessibility of the room, by pulldown ladder, compounds the problem.	Safety Hazard
		Access to equipment is limited.	UMC Sec 505
140		Leak in burner could drip on hot flue pipe. (Note: This is a dangerous installation for service and fire with many potential sources for oil leaks and fires. The inaccessibility of the room, by pulldown ladder, compounds the problem.	Safety Hazard
		Access to equipment limited.	UMC Sec 505
		Combustion air undersized.	UMC Ch 6
	Storage	No smoke detectors in units.	UMC 1009
141	Mechanical Room	No smoke detectors in units.	UMC 1009
		Leak in burner could drip on hot flue pipe. (Note: This is a dangerous installation for service and fire with many potential sources for oil leaks and fires. The inaccessibility of the room, by pulldown ladder, compounds the problem.	Safety Hazard
		Combustion air undersized.	UMC Ch 6
		Access to equipment limited.	UMC Sec 505
210	Welding Room	One hour separation walls are required.	UBC 802

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

**NOORVIK HIGH SCHOOL
INSPECTIONS**

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
Mechanical Priority 4		CODE UPGRADE: Projects necessary to correct deficiencies under applicable legal standards relating to life, safety, or health matters to allow continued use of the facilities in support of the school district's respective educational program.	
102	Kitchen	Electrical main disconnect in kitchen.	NEC Art 110-16a
		Pot sink requires grease trap.	UPC 711
		No chase for hood grease duct.	UMC Ch 20
129	Storage	Stairs by electrical panels making it inaccessible.	NEC 110-16/ 370-19

**NOORVIK SCHOOL
INVENTORY & CONDITION SURVEY**

INSPECTION PHOTOGRAPHS

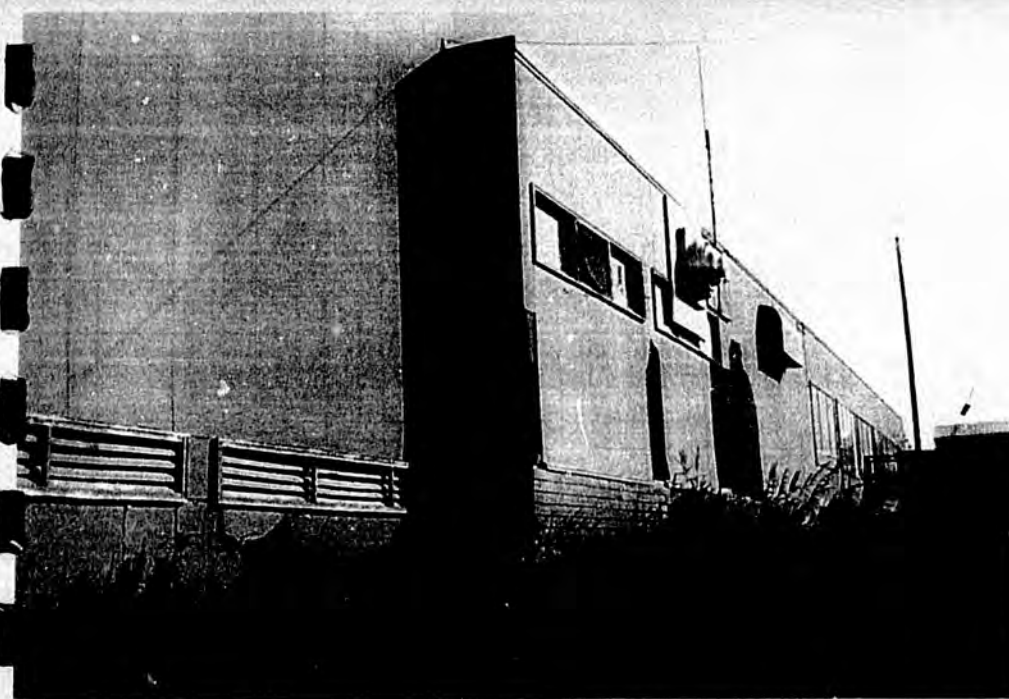


PHOTO 1

Holes were found in the elementary building's siding or siding has been removed. This could allow decay to occur.

Direction of arrowhead indicates TOP of photograph.

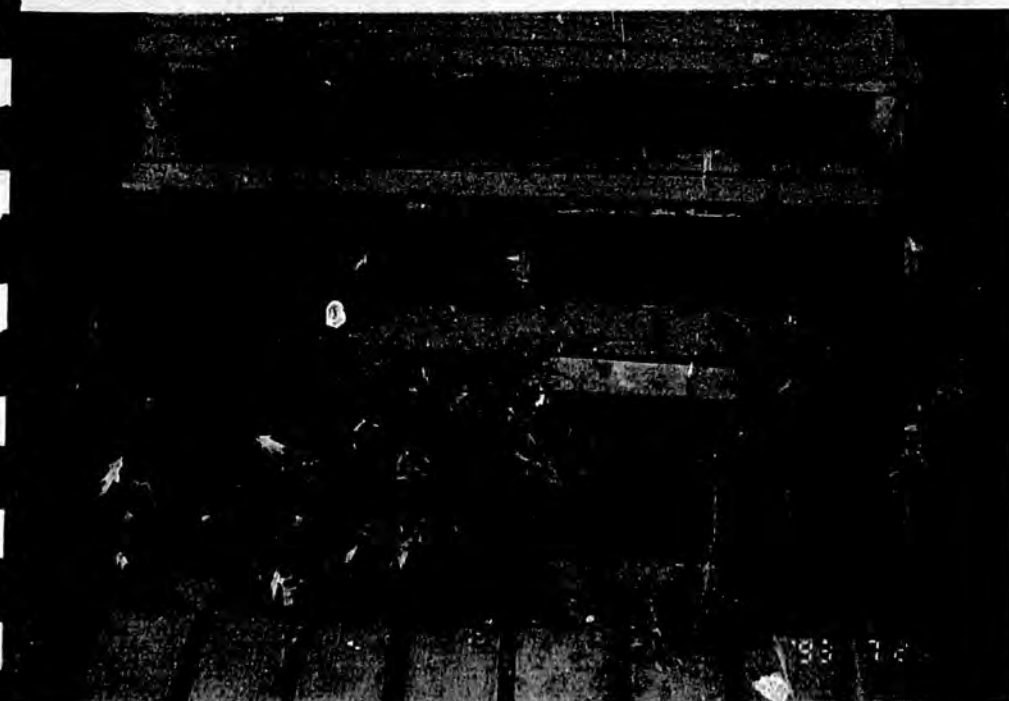


PHOTO 2

Steps at the elementary appear to be poorly designed and in disrepair. They do not meet ADA standards.

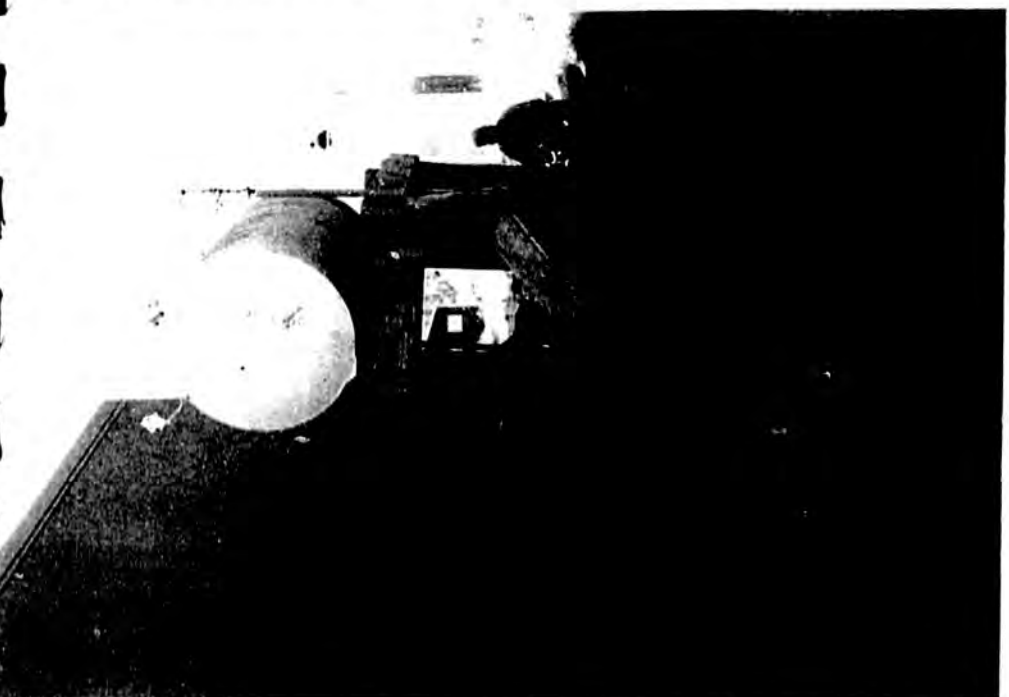


PHOTO 3

This raised tank at the elementary school does not appear to meet current codes for earthquake or wind loads.

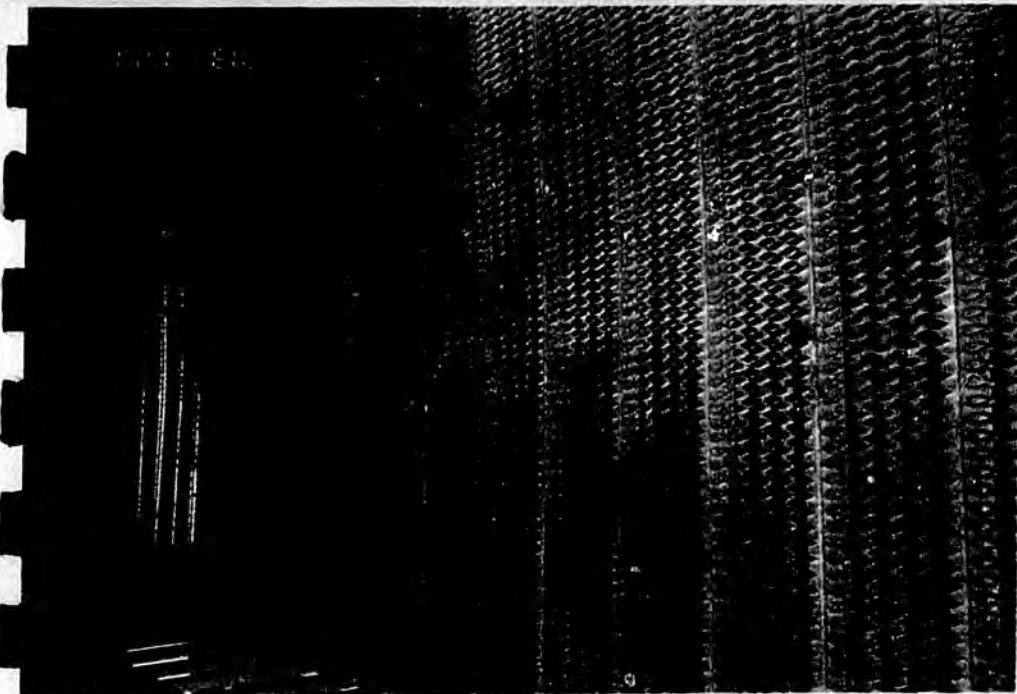


PHOTO 4

Steel grating at the porch of the high school appears to be permanently bent. This presents a tripping hazard or the grate could collapse if it is overloaded.



PHOTO 5

A gap several inches wide between the building and the deck outside of room 123 of the high school.

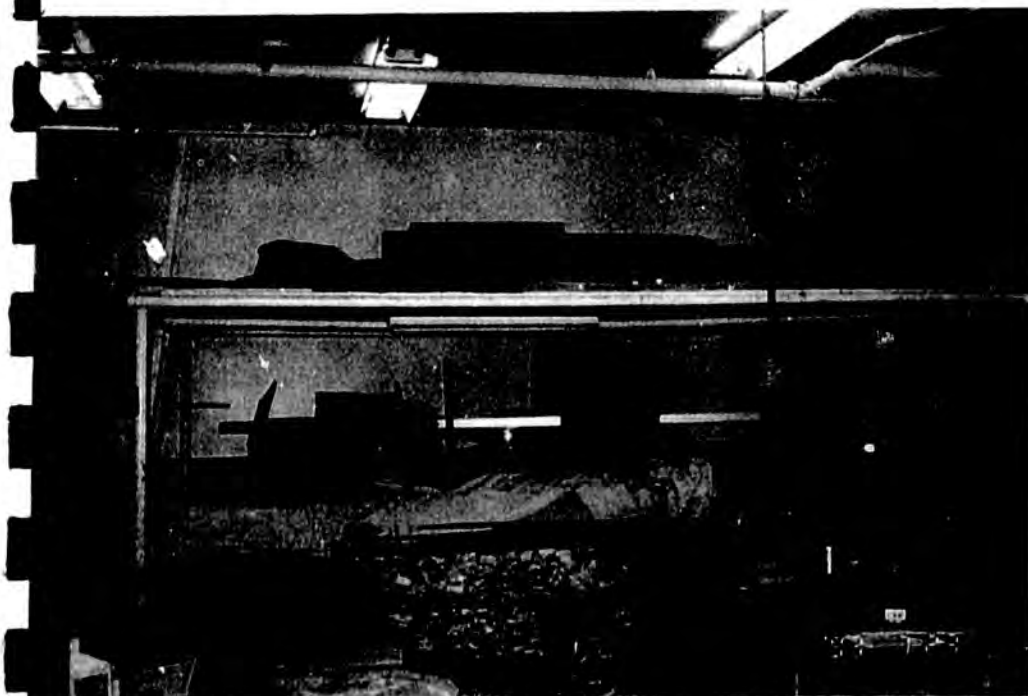


PHOTO 6

A storage rack in the high school shop is overloaded. It sags from excessive weight. There is inadequate storage space and the shop is cluttered. This creates a safety and fire hazard.



PHOTO 7



The kitchen in the elementary is inadequate for its intended purpose. The flooring is not coved. There is no grease trap for the pot sink.

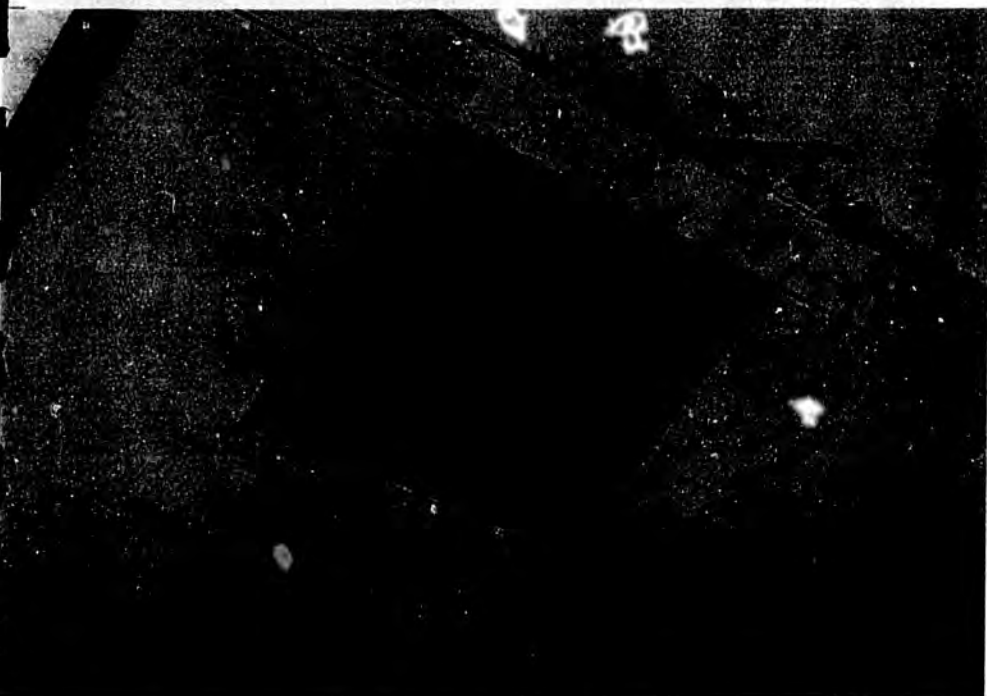


PHOTO 8



Kitchen (cont'd). Pipes are not cleanable and there is a hole in the ceiling creating a very unsanitary environment.



PHOTO 9



Bath fan in elementary vents into the room.

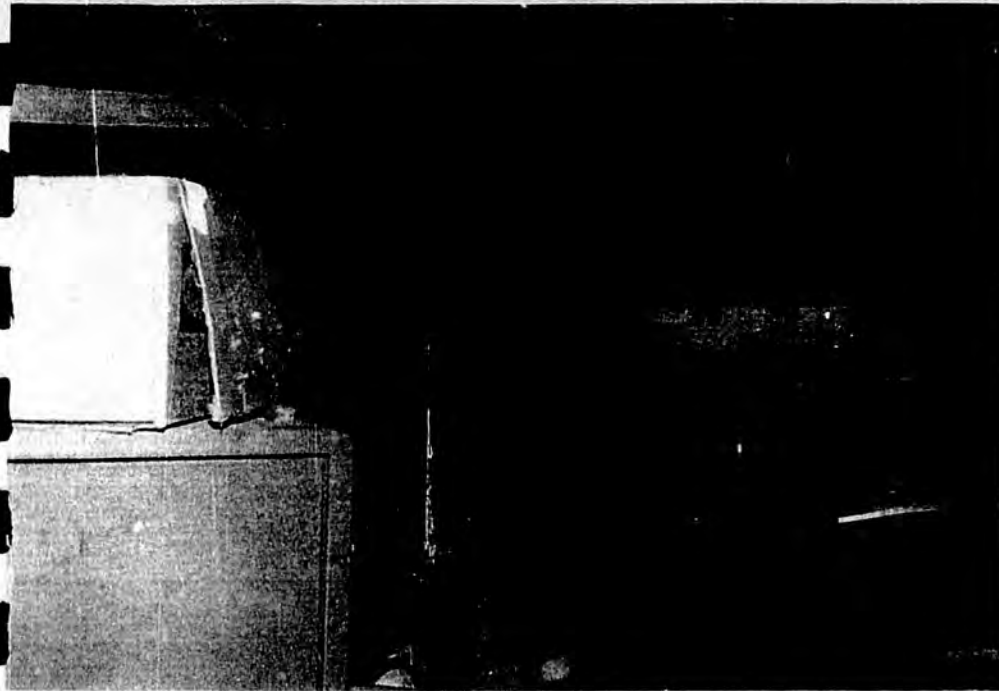


PHOTO 10

The crawl space in the elementary is wood construction and does not have fire or smoke detectors.



PHOTO 11

The bathroom for Head Start is in poor condition, does not have adequate ventilation, and the tile flooring appears to be the old asbestos-type floor tile.

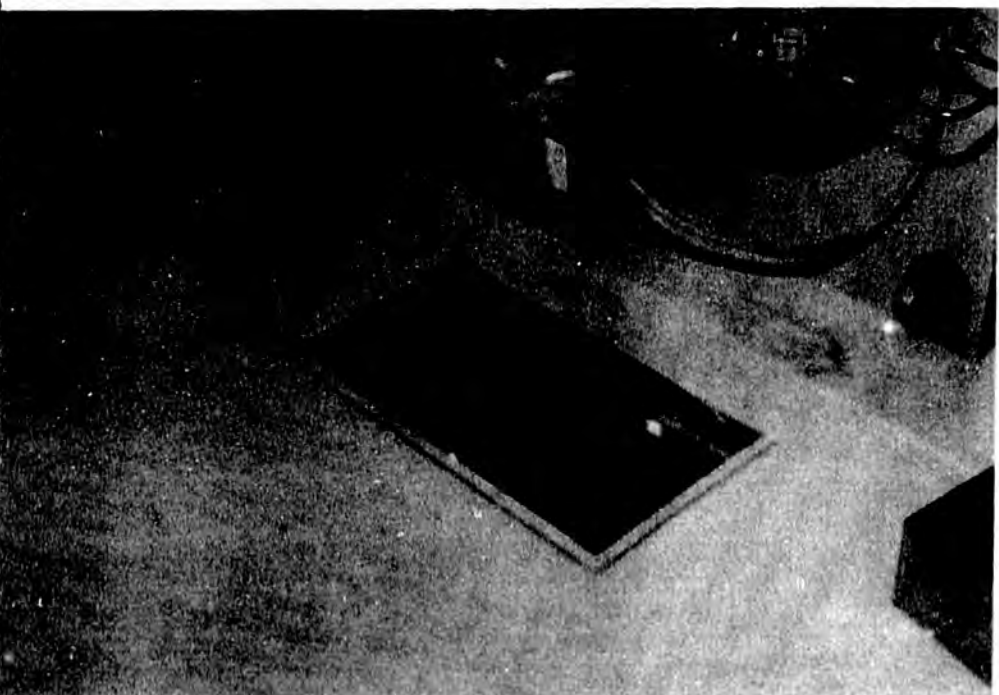


PHOTO 12

Wood flooring in the high school's mechanical room is not one-hour rated. The hole is also a safety hazard.

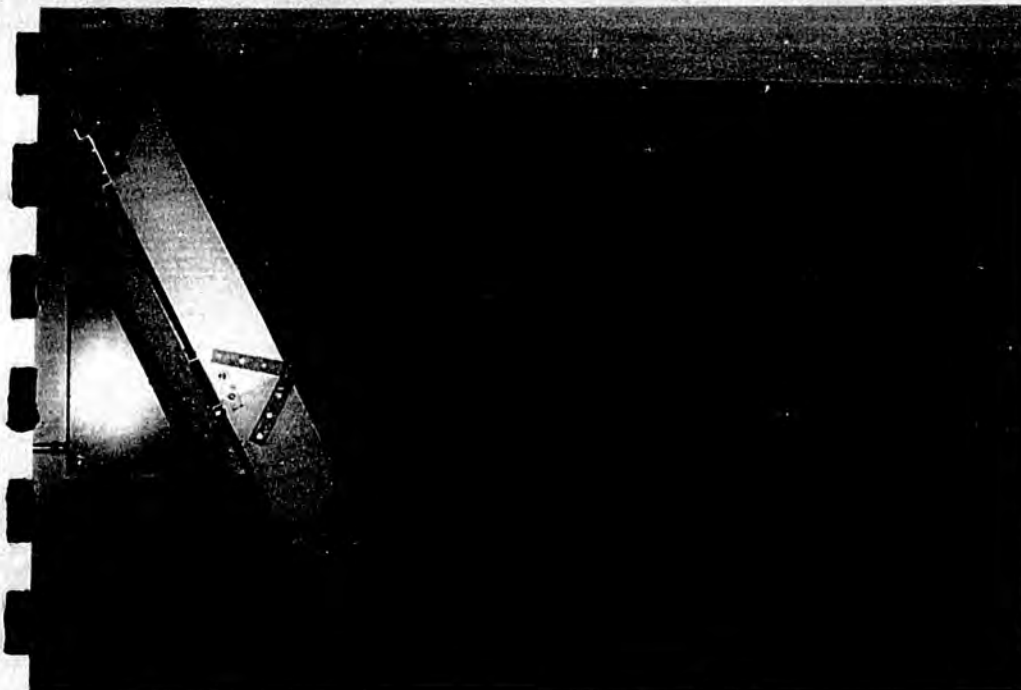


PHOTO 13

The electrical room is accessible only by pulldown ladder which obstructs accessibility to the panels.

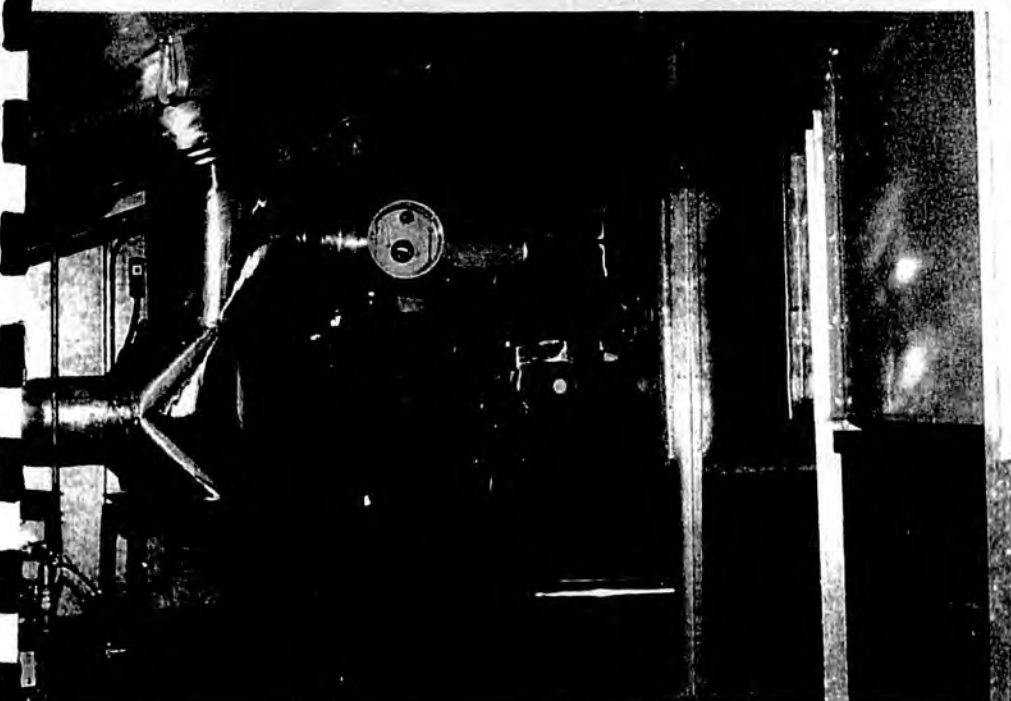


PHOTO 14

Access to equipment in this mechanical room is limited. The combination air is undersized. Leak in burner could drip on hot flue pipe and there are no smoke or fire detectors.

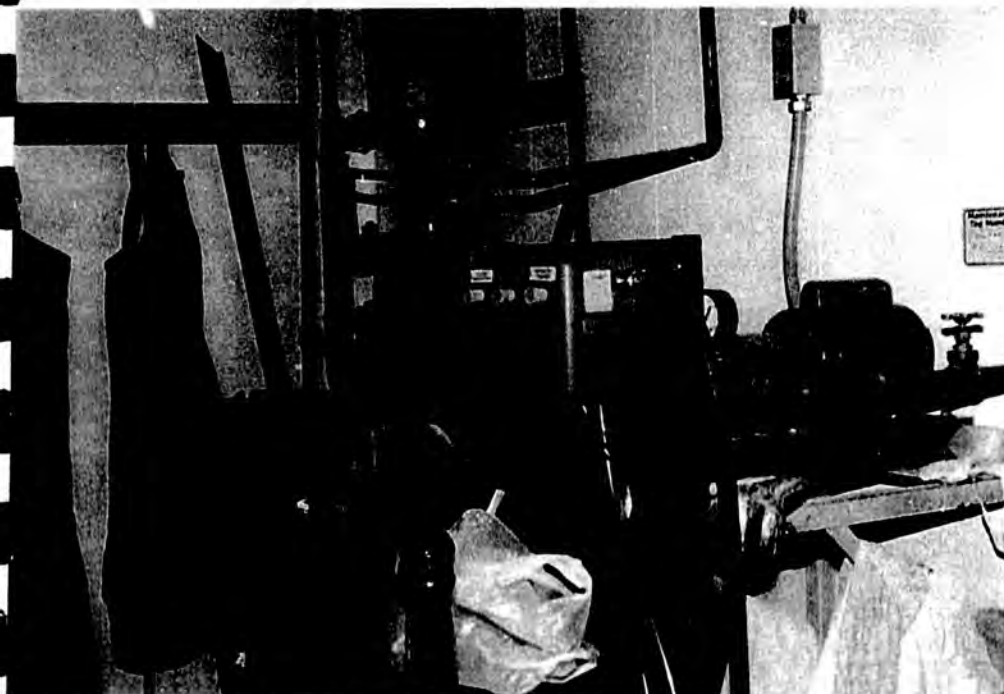


PHOTO 15

Due to lack of storage space combustibles have been stored with the oil pumps and piping. This is a fire hazard.



PHOTO 16

This bar joist configuration invalidates the one-hour separation requirement.



PHOTO 17

There is no chase for the kitchen hood grease duct. The electrical disconnect is in the kitchen.

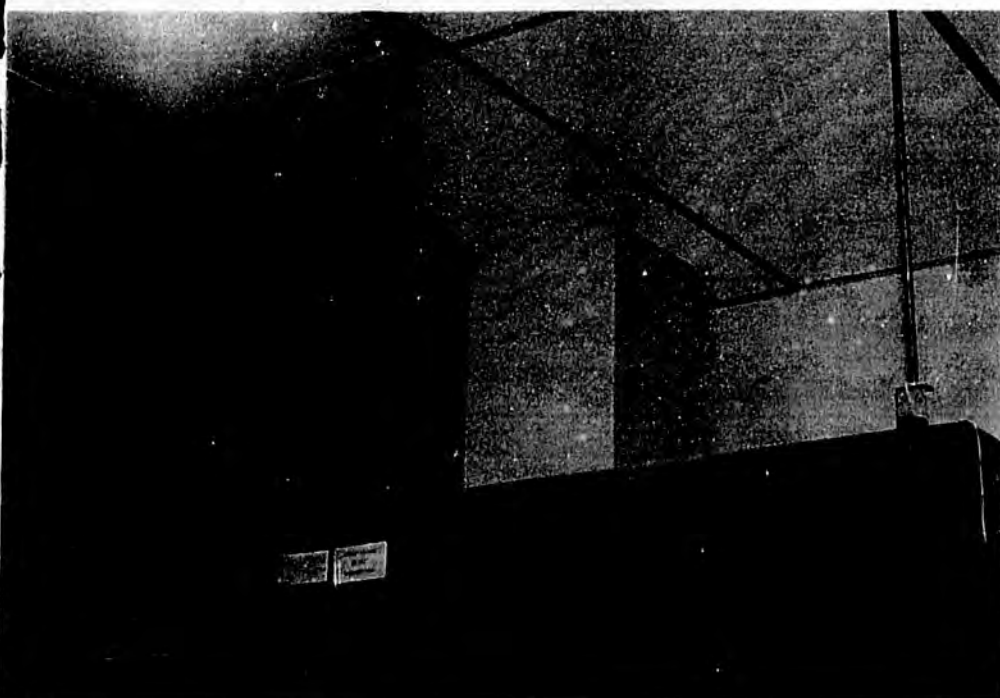


PHOTO 18

Extra stairs have been placed around the building at windows (2 west, 2 east) intended as fire egress; however, this does not comply with fire code standards.



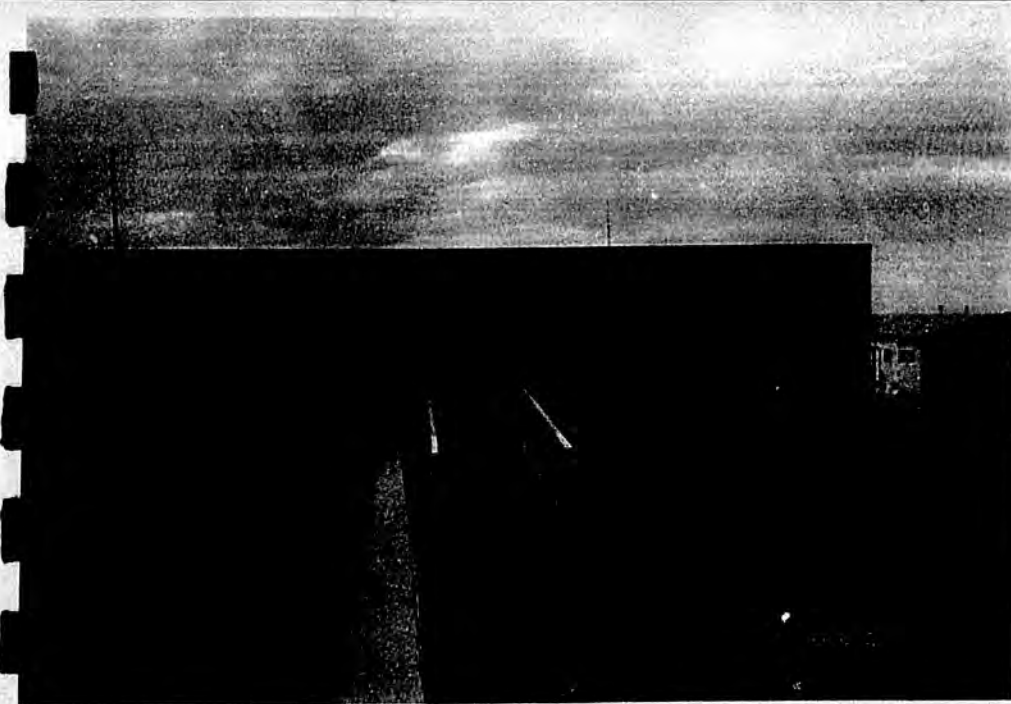


PHOTO 19

The elementary school ramp, which is apparently intended as handicap access, has an approximate 4" rise at the base. This does not meet ADA standards. The utilidor runs along the ground covered by wood.

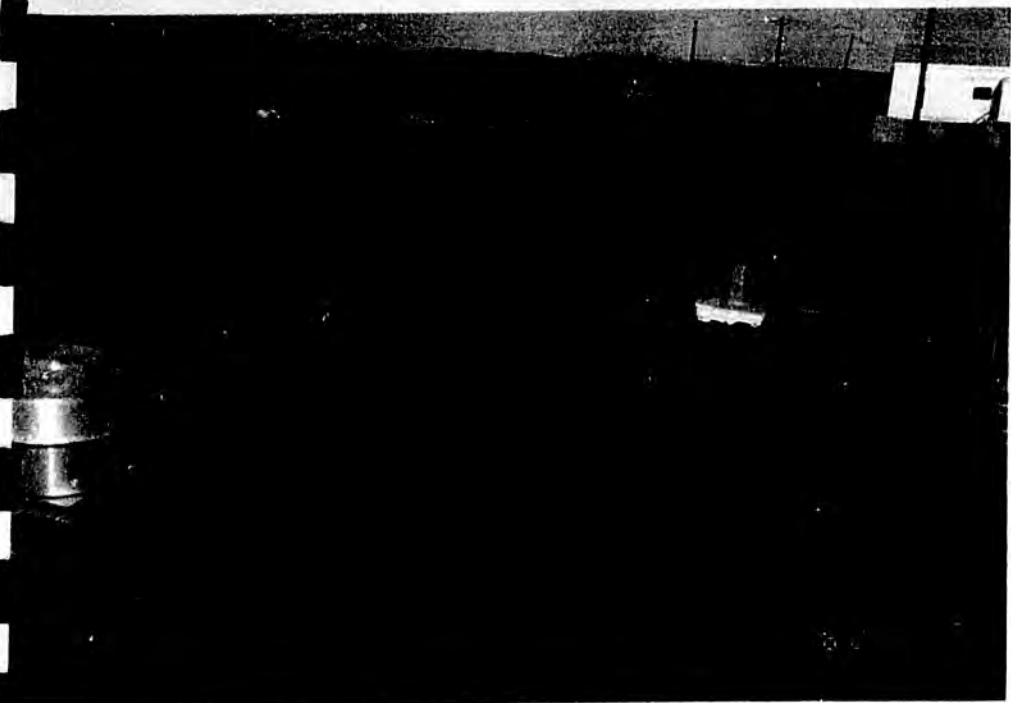


PHOTO 20

It appears that there is a hot mop application underneath the 90 lb. layer and probably a 3-ply build-up. Roof failure is eminent. The roof requires replacement if this building is to continue to be utilized. There is serious bubbling and cracking and a number of holes.

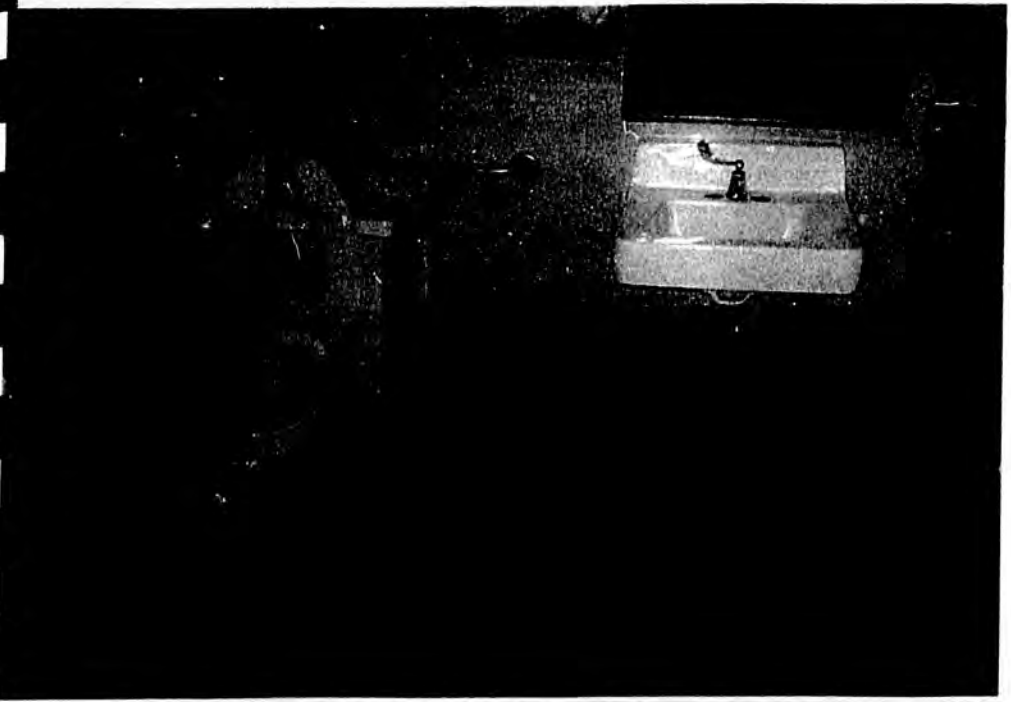


PHOTO 21

There is water damage on gypsum board wall, there is a crack in the floor covering and missing base, and there is a temporary plywood patch in the wall. This elementary bathroom is unsanitary and does not meet ADA requirements.

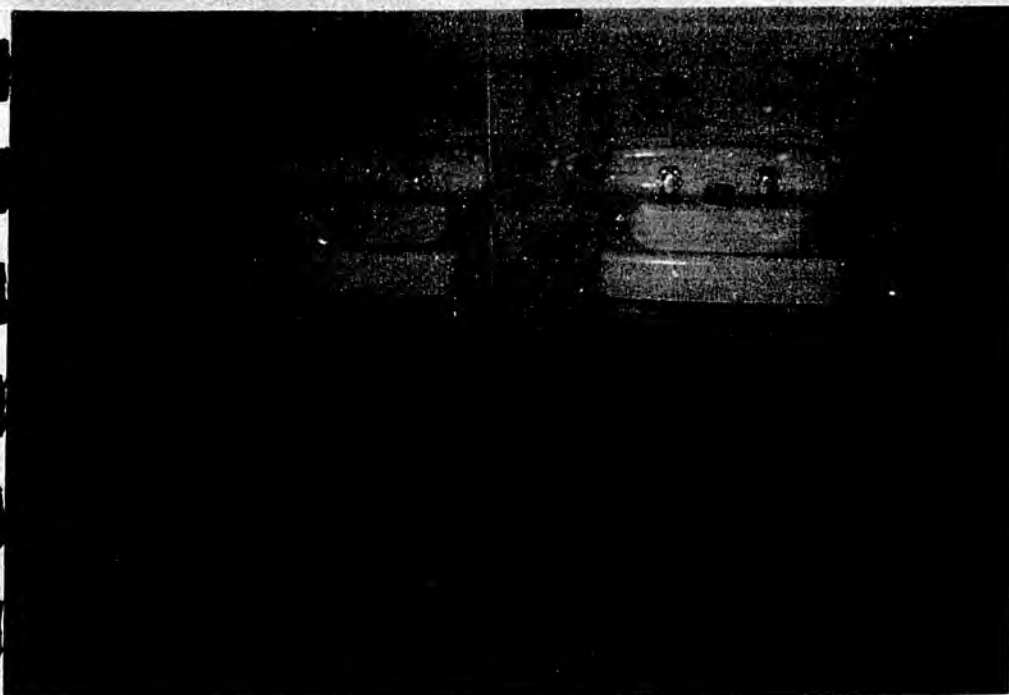


PHOTO 22

Plywood has been placed over holes caused by water rotting. Cove base is missing and there is loose and cracked vinyl. There are no handicap provisions.



PHOTO 23

The elementary has long outlived its intended use and is in very poor condition.

**NOORVIK EMRGENCY MAJOR
MAINTENANCE
FY97 CIP REQUEST**

PROJECT DESCRIPTION

The Noorvik elementary schools is in very poor condition. We have requested funding for replacement of this facility for several years. We have repeatedly warned the state about the dangerous condition of this facility and requested emergency funding to construct a K-12 facility on another site. Conditions at Noorvik must be improved.

The district has maintained the existing elementary school for many years but due to the age of the building and the condition of the existing roof, septic system and foundations it now needs major emergency upgrades. If the new school is funded this year it will still be the fall of 1998 before the work on the new school can be completed and the old elementary can be abandoned..

The buildings problems are compounded by a site that is being eroded by the river and ice formations that are melting. The existing on-site sewage treatment system has failed due to thawing and erosion. Sewage is being dumped directly into a lake/lagoon at the bottom of the hill. See Condition Survey for details and photographs. Honey buckets were required for much of the last school year due to frozen and broken pipes. This present a serious health hazard and places a undue burden on the custodial staff.

This grant would provide for a temporary sewer system connection to the new Noorvik city sewer system. The cost is large because the city has not extended service to this area of the city. The community is abandoning development in the area around the elementary school due to unstable soil conditions.

One corner of the building is losing its foundation. Structural movement in the building is causing cracks in the walls. If the condition is allowed to continue it may cause loss of bearing surfaces for major structural components.

We are requesting money to provide temporary foundation repairs so that this building can remain in service until the new building can be completed. We do not believe that this site or building are suitable for long term occupancy by the school district.

The old flat built-up roof is in very poor condition and is more than 20 years old. This style roof is not an adequate design for the Noorvik environment and can not withstand the environmental and physical wear and tear of an arctic school facility. The district has invested maintenance dollars and patched the roof on a regular basis but the existing roof has exceeded its useful life expectancy.

**NOORVIK EMERGENCY MAJOR MAINTENANCE
FY97 CIP REQUEST**

Replacement of the roof will protect the structural integrity of the building and prevent further deterioration of the structural framing members. We have included a substantial contingency in our budget to cover unforeseen but anticipated structural deterioration. Our experience on similar roof replacement projects indicates that existing nailing patterns may be inadequate to handle the wind and shear loads. Snow loads were not adequately considered in most of the old BIA facilities. Further structural investigations will be required once the project is funded.

We are proposing that a temporary pitched metal roof be added to the building until a new facility can be completed. Once the new facility is ready for occupancy the old school will be demolished.

All of these major maintenance projects have poor cost to benefit ratios. The real answer to the problems in Noorvik is a new combined K-12 facility at the existing high school site. It is very expensive for the district to operate two facilities separated by almost a mile in such a small community. Continued improvements to a wood frame building designed by the BIA for New Mexico conditions, that is 37 years old and has major structural problems is not cost effective.

The districts options are very limited and no other facilities exist within the community that can house the students. The school is presently using a old abandoned church in the same area for storage. Unfortunately its condition is no better than that of the elementary school. The existing high school has its own problems and is very crowded.

The district has tried to mitigate these problems by patching the roof, using honey buckets and shoring up the building. We have expended a substantial portion of our maintenance budget on Noorvik for the last five years. "The condition Survey prepared in 1993 demonstrates that the Noorvik deficiencies are due to age, outdated design practices, structural damage due to environmental factors. Current code requirements, and other factors beyond the scope of preventative maintenance, routine maintenance, or custodial care."

Please reference the grant application for replacement and the Condition Survey submitted as part of the Northwest Arctic Boroughs six year CIP request for this year.

The estimated construction cost for these temporary repairs is \$377,000.00. The temporary sewer connection will cost \$127,000.00. The Roof is estimated at \$250,000.00. Both exceed the \$25,000.00 criteria established by the state for major maintenance.

NOORVIK EMERGENCY MAJOR MAINTENANCE

Major Maintenance					
Connect to City Sewer				\$127,000	
Replace Roof				\$250,000	
Foundation Stabilization				\$45,000	
Demolition/Asbestos Abatement				\$25,000	
Repair Damaged Finishes				\$15,000	
Clean up		L/S		\$15,000	
Mobilization		L/S		\$65,000	
<i>Subtotal Sitework</i>					\$542,000
Overhead and Profit		15.0%		\$81,300	
<i>Est. Total Construction Value</i>					\$623,300
Project Overhead					
Administration Costs		6.0%		\$37,398	
Design Costs		12.0%		\$74,796	
Furnishings & Equipment		0.0%		\$0	
Art		0.5%		\$3,117	
Construction Inspection		6.0%		\$37,398	
Site Investigation				\$0	
Land				\$0	
<i>Subtotal Overhead</i>					\$152,709
<i>Total Project Cost</i>					\$776,009
Project Contingency		15.0%		\$116,401	
TOTAL PROJECT COST					\$892,410

State of Alaska
Department of Public Safety
DIVISION OF FIRE PREVENTION

State of Alaska
Department of Public Safety
DIVISION OF FIRE PREVENTION

Reply To: ☐ P.O. Box 111200
450 Whittier St.
Juneau, AK 99811
(907) 465-4331
FAX: (907) 463-5860

☒ 5700 E. Tudor Rd.
Anchorage, AK 99507
(907) 269-5604
FAX: (907) 338-4375

☐ 1979 Peger Rd.
Fairbanks, AK 99709
(907) 458-4002
FAX: (907) 458-2065

NOTIFICATION OF FIRE HAZARDS AND AN ORDER TO CORRECT

To: Mr Edwin Honion Occupancy Name: Noorvik H.S.
NWABSD Location: Noorvik
Box 51 UBC Classification: E-1
Kotzebue 99252 Inspection Date: 3/11/93
Phone No. 442-3476

	INSTALLED	ACTIVE (+)	LAST SERVICED	SERVICED BY
SPRINKLER SYSTEM	YES/NO	YES/NO	<u>1</u>	
HOOD & DUCT SYSTEM	<u>YES/NO</u>	<u>YES/NO</u>	<u>9/92</u>	<u>arctic weld</u>
STANDPIPE SYSTEM	YES/NO	YES/NO	<u>1</u>	
FIRE ALARM SYSTEM	<u>YES/NO</u>	<u>YES/NO</u>	<u>12/92</u>	<u>maint</u>
TYPE: MANUAL _____, AUTOMATIC _____, S.S. SMOKE DETECTOR _____				
PORTABLE FIRE EXT.	<u>YES/NO</u>	<u>YES/NO</u>	<u>9/92</u>	<u>arctic weld</u>
PROPER TYPE/DESCRIPTION: <u>YES/NO</u>				
EVACUATION DRILLS:	REQUIRED:	YES/NO	LAST CONDUCTED <u>12/92</u>	<u>cold weather</u>

The following deficiencies were noted and are required to be corrected as indicated:

	CODE REF.	CORRECTION REQUIRED BY
① Various storage areas have too much combustibles / provide more storage for separate storage areas.	<u>UFC 11.203</u>	
② Shop area has sprinklers w/ painted heads + verify system has been inspected + tested in past 12 mos. Note: Shop not used	<u>UFC 10.302</u>	
③ ventilation cond then floor in furnace room / remove + replace Pies NEC	<u>UFC 95.164</u>	<u>3/31/93</u>

WRITTEN RESPONSE IS REQUIRED

YOU ARE HEREBY ORDERED TO IMMEDIATELY CORRECT THE LISTED DEFICIENCIES AND TO NOTIFY THIS OFFICE OF THE CORRECTION BY THE DATE SPECIFIED IN COLUMN THREE.
SEE OTHER SIDE FOR YOUR APPEAL RIGHTS.

Received by: Tom Shearn Deputy: Jerry Kephth
Relation to property: Asst Dir Date: 3/14/93
Authority: AS 18.70.070 - 18.70.080 - 18.70.300 - 18.70.310 Page 1 of 2

White-Owner

Yellow-File

Pink-Fire Department

Goldenrod-Director

(Continuation Sheet)

DATE

④ Lin. Tape in furnace room need repair / repair cracked & missing tape UFC 10.401

⑤ Storage room in furnace room not properly labeled / remove storage or provide proper ventilation UFC 11.203

⑥ Kilaheon hood system non compliance /
no power shut off / provide automatic
power shut off. UFC 10.312

- ✓ Kitchen separation w/ gym.
- ✓ exit windows
- ✓ egress windows

Noorvik H.S.
Owner/Operator (Initial)

Div. of Fire Prevention (Initial)

3/11/53
Date

Occupancy (Name)

Page 2 of 2**White - Owner**

Yellow - File

Pink - Fire Department

Goldenrod - Director

**Department of Public Safety
DIVISION OF FIRE PREVENTION**

Reply
To:

☐ P.O. Box 111200
450 Whittier St.
Juneau, AK 99811
(907) 465-4331
FAX: (907) 463-5860

☒ 5700 E. Tudor Rd.
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FAX: (907) 338-4375

☐ 1979 Peger Rd.
Fairbanks, AK 99709
(907) 458-4002
FAX: (907) 458-2065

NOTIFICATION OF FIRE HAZARDS AND AN ORDER TO CORRECT

To: Mr Edwin Honion Occupancy Name: Noorvik Elm
NWABSD Location: Noorvik
Box 51 UBC Classification: E-1
Kotzebue 99752 Inspection Date: 3/11/93
Phone No: 442-3476

	INSTALLED	ACTIVE (+)	LAST SERVICED	SERVICED BY
SPRINKLER SYSTEM	YES/NO	YES/NO	<u>1</u>	
HOOD & DUCT SYSTEM <u>(2)</u>	YES/NO	YES/NO	<u>9/92</u>	<u>arctic weld</u>
STANDPIPE SYSTEM	YES/NO	YES/NO	<u>1</u>	
FIRE ALARM SYSTEM	YES/NO	YES/NO	<u>11/92</u>	<u>maint</u>
TYPE: MANUAL _____, AUTOMATIC _____				
PORTABLE FIRE EXT.	YES/NO	YES/NO	<u>9/92</u>	<u>arctic weld.</u>
PROPER TYPE/DESCRIPTION: YES/NO				
EVACUATION DRILLS: REQUIRED: YES/NO			<u>2/93</u>	

The following deficiencies were noted and are required to be corrected as indicated:

	CODE REF.	CORRECTION REQUIRED BY
<u>(1) Both kitchen hood systems</u>		
<u>non-compliance for power shut</u>	<u>UFC 10.312</u>	
<u>offs / provide shut offs</u>		
<u>(2) Storage in air handling room</u>		<u>3/31/93</u>
<u>by kitchen / remove storage</u>	<u>UFC 10.203</u>	
<u>(3) Heat detector hanging from</u>		<u>3/31/93</u>
<u>ceiling in kitchen / re-mount</u>		
<u>detector</u>	<u>UFC 10.302</u>	
WRITTEN RESPONSE IS REQUIRED		

YOU ARE HEREBY ORDERED TO IMMEDIATELY CORRECT THE LISTED DEFICIENCIES AND TO NOTIFY
THIS OFFICE OF THE CORRECTION BY THE DATE SPECIFIED IN COLUMN THREE.
SEE OTHER SIDE FOR YOUR APPEAL RIGHTS.

Received by: Tom Sparrow Deputy: Jim Bent
Relation to property: Acct Dir Date: 3/11/93
Authority: AS 18.70.070 - 18.70.080 - 18.70.300 - 18.70.310 Page 1 of 2

White-Owner

Yellow-File

Pink-Fire Department

Goldenrod-Director

DEFICIENCIES/CORRECTIVE ACTION REQUIRED

DATE

(4) Fire Tape in furnace room need repair / Repair cracked/damaged tape. UEC 10.401

(5) Storage room in furnace room not properly labeled / remove storage or provide proper ventilation. UEC 11.203

(6) Kitchen hood system non compliant / on power shut off / provide automatic power shut off. UEC 10.312

✓ Kitchen separation w/ gym.
 ✓ exit windows
 ✓ egress windows

Noorvik H.S.
 Owner/Operator (Initial)

JH
 Div. of Fire Prevention (Initial)

3/11/93
 Date

Occupancy (Name)

Page 2 of 2

White - Owner

Yellow - File

Pink - Fire Department

Goldenrod - Director

State of Alaska
Department of Public Safety
DIVISION OF FIRE PREVENTION

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Juneau, AK 99811
(907) 465-4331
FAX: (907) 463-5860

☒ 5700 E. Tudor Rd.
Anchorage, AK 99507
(907) 269-5604
FAX: (907) 338-4375

☐ 1979 Peger Rd.
Fairbanks, AK 99709
(907) 456-4002
FAX: (907) 456-2065

NOTIFICATION OF FIRE HAZARDS AND AN ORDER TO CORRECT

To: Mr. Edwin Honion Occupancy Name: Noorvik elm
NWABSD Location: Noorvik
Box 51 UBC Classification: E-1
Kotzebue 99752 Inspection Date: 3/11/93
Phone No: 442-3476

	INSTALLED	ACTIVE (+)	LAST SERVICED	SERVED BY
SPRINKLER SYSTEM	YES/NO	YES/NO	<u>1</u>	
HOOD & DUCT SYSTEM <u>(2)</u>	YES/NO	YES/NO	<u>9/92</u>	<u>arctic weld</u>
STANDPIPE SYSTEM	YES/NO	YES/NO	<u>1</u>	
FIRE ALARM SYSTEM	YES/NO	YES/NO	<u>11/92</u>	<u>maint</u>
TYPE: MANUAL, AUTOMATIC, S.S. SMOKE DETECTOR				
PORTABLE FIRE EXT.	YES/NO	YES/NO	<u>9/92</u>	<u>arctic weld.</u>
PROPER TYPE/DESCRIPTION:	YES/NO			
EVACUATION DRILLS: REQUIRED:	YES/NO	LAST CONDUCTED	<u>2/93</u>	

The following deficiencies were noted and are required to be corrected as indicated:

	CODE REF.	CORRECTION REQUIRED BY
<u>① Both kitchen hood systems non-compliance for power shut off / provide shut off</u>	<u>UFC 10.312</u>	
<u>② Storage in air handling room by kitchen / remove storage</u>	<u>UFC 10.203</u>	<u>3/31/93</u>
<u>③ Heat detector hanging from ceiling in kitchen / re-mount detector</u>	<u>UFC 10.302</u>	<u>3/31/93</u>
<u>WRITTEN RESPONSE IS REQUIRED</u>		

YOU ARE HEREBY ORDERED TO IMMEDIATELY CORRECT THE LISTED DEFICIENCIES AND TO NOTIFY THIS OFFICE OF THE CORRECTION BY THE DATE SPECIFIED IN COLUMN THREE.
SEE OTHER SIDE FOR YOUR APPEAL RIGHTS.

Received by: Tom Spence
Relation to property: Acct Dir
Authority: AS 18.70.070 - 18.70.080 - 18.70.300 - 18.70.310

Deputy: Jim Smith
Date: 3/11/93
Page 1 of 2

White-Owner

Yellow-File

Pink-Fire Department

Goldenrod-Director

DATE _____

- Owner/Operator (Initial) DS Div. of Fire Prevention (Initial) JL Date 3/11/93
Occupancy (Name) noorvik elem Page 2 of 2

Goldenrod - Director

KIANA

PROJECT DESCRIPTION

INTRODUCTION:

The Northwest Arctic School District is requesting funds to remedy overcrowding, poor design and health/life safety problems at Kiana. The problems have been documented by certified architects and engineers in the 1993 condition survey.

The high school building will require a major remodel and addition effort to correct all handicap accessibility and health/life safety violations. The remodel and upgrade effort will also be used to redefine and programmatically reallocate some of the existing K-12 educational space and to arrange for some joint-use spaces for the overall program once the new addition is funded.

PROJECT JUSTIFICATION:

Below, we have summarized some of the major concerns that justify the proposed renovation and upgrade of the existing Kiana high school facilities.

While this renovation request is presented separately from the Kiana K-12 school Replacement/Expansion request, it is our firm opinion that the two Kiana projects should be viewed essentially as a "package" that should proceed together to provide for maximum educational efficiency and to allow for the most cost effective planning and mobilization.

FIRE/LIFE SAFETY:

The existing high school has significant health/life safety code violations. They include: inoperable emergency exit lighting, inadequate number of exits for the occupant load, inadequate fire separation between exit enclosures and adjacent spaces, inadequate doors, fire and smoke separation, inadequate interior circulation exit pathways, and attics do not contain required fire draft stops. The building does not have a sprinkler system. The gymnasium is constructed as a type-five, non-rated structure due to a lack of fireproofing and an assembly occupancy cannot be housed in this building classification. The composite hazard due to the extent, type, and number of fire code violations in the schools, when considered in their entirety, are of such a magnitude that they constitute an imminently dangerous situation for the occupants of the building.

FACILITY AGE:

The high school is relatively new, constructed in 1973 and has had no major renovations since that time. In spite of the extent of life safety code concerns identified, and given the age of the high school structure, we believe it would be more cost-effective to retain portions with corrective remodeling and repair than to completely replace the structure.

DETAILED PROJECT DESCRIPTION:

The proposed project will result in an updated and expanded 7-12 facility located on the existing high school site. The high school site is adequate to accommodate the expansion within the existing site boundaries. The total proposed area will include 13,352 square feet of renovated existing facilities. The gross square feet of school program space does not meet the state DOE Optimum Space Guideline.

DETAILED PROJECT RECOMMENDATIONS:

- ◆ Upgrade the existing high school facility to correct structural deficiencies and to comply with current code requirements.
- ◆ Limit programs located adjacent to the gym and shop areas in the renovated high school to those that are compatible with high noise level.
- ◆ Renovate and expand locker rooms, showers, and restrooms to meet ADA, and appropriately sized for P.E. activities and team sports.
- ◆ Upgrade all portions of remaining high school to meet current life-safety code and educational program needs.
- ◆ Upgrade the existing fuel system to meet current code requirements and repair existing deficiencies.

EVIDENCE THAT THE PROJECT IS NOT PREVENTIVE MAINTENANCE:

The Northwest Arctic Borough School District has a comprehensive preventive maintenance program and has expended extensive funds in recent years on maintenance of the Kiana school facilities. In FY93 and FY94, the school district spent over \$695,000 on maintenance at Kiana school facilities.

The condition survey prepared in 1993 demonstrates that the Kiana facility deficiencies are due to age, outdated design practices, structural damage due to environmental factors, modern code requirement, and other factors beyond the scope of preventive maintenance, routine maintenance, or custodial care.

KIANA HIGH SCHOOL

	AREA	FACTOR	1991 \$/SF	1991 COST	LINE TOTAL
Assignable Educational Areas					
Basic Elementary Classroom	0		\$87.56	\$0	
Basic Secondary Classroom	0		\$90.89	\$0	
Gifted/Special Ed. Classrooms	0		\$112.31	\$0	
Bilingual/Bicultural	0		\$105.88	\$0	
Library and Media Center	0		\$106.84	\$0	
Computer Lab/Tech. Resource	0		\$112.31	\$0	
Science Laboratory	0		\$138.83	\$0	
Music/Drama Rooms	0		\$102.90	\$0	
Auditorium	0		\$136.53	\$0	
Art / Journalism Classroom	0		\$105.47	\$0	
Photographic Lab	0		\$130.28	\$0	
Home Economics	0		\$155.61	\$0	
Vocational Shop	0		\$130.84	\$0	
Gymnasium	0		\$112.42	\$0	
Lockers/Showers	0		\$142.29	\$0	
Pool	0				
Subtotal Assignable Areas	0				\$0
Optional Auxiliary Areas					
Administrative and Offices Areas	0		\$84.04	\$0	
Testing and Counseling	0		\$84.04	\$0	
Nurse	0		\$114.38	\$0	
Food Service	0		\$208.13	\$0	
Toilets	0		\$161.04	\$0	
Circulation	0		\$89.92	\$0	
Mechanical/Electrical	0		\$77.43	\$0	
Storage	0		\$74.50	\$0	
Structure	0		\$84.04	\$0	
Subtotal Auxiliary Areas	0				\$0
Total Proposed New Area	0				
Optional Special Requirements					
Sprinkler System	13352		\$4.44	\$59,283	
Remodeling - Light	245		\$11.30	\$2,769	
Remodeling - Medium	6868		\$28.20	\$193,678	
Remodeling - Heavy	6239		\$56.40	\$351,880	
Subtotal Special Requirements					\$607,609
Unadjusted Cost					\$607,609
Mob. GOC. Contractors Profit		20%		\$121,522	
Geographic Index Applied		169.11%		\$1,233,032	
Contingency					
General		15%		\$184,955	
Escalation (From 1991 Figures)		21.67%		\$267,198	
Sitework					
Road Improvements				\$0	
Fuel Storage Improvements		L/S		\$250,000	
Heat Recovery System Expansion				\$0	
Demolition/Relocation/Asbestos Abatement				\$0	
Site Prep				\$0	
Site Improvements				\$0	
Utilities				\$0	
Subtotal Sitework					\$250,000
Est. Total Construction Value					\$1,935,185
Project Overhead					
Administration Costs		5.0%		\$96,759	
Design Costs		8.0%		\$154,815	
Furnishings & Equipment		7.0%		\$135,463	
Technology		2.0%		\$38,704	
Art		0.5%		\$9,676	
Construction Inspection		6.0%		\$116,111	
Site Investigation				\$0	
Land				\$0	
Subtotal Overhead					\$551,528
Total Project Cost					\$2,486,713
Project Contingency		6.5%		\$161,636	
TOTAL PROJECT COST					\$2,648,349

FIRE, LIFE SAFETY, AND BUILDING SUITABILITY AT KIANA SCHOOL

As the technical team leader, Heery International Inc. visited the Kiana Schools and supervised preparation of the inspection reports for this project. Individual engineers have prepared specific reports where appropriate and have identified specific items that they deem Priority 1 issues. Heery has also completed an item-specific list for the architectural components.

This document will certify that Harold J. Nesland, Jr. personally visited the school facilities on the 21st of June 1993 and supervised the preparation of the architectural inspection report at Kiana. In preparing this report, Mr. Nesland also reviewed the engineers' reports and discussed specific concerns they had with them. Mr. Nesland is an experienced professional architect, registered to practice in the State of Alaska. Based on the inspections, and review of other pertinent data relating to the facility, it is our professional opinion that the items identified as Priority 1 items constitute health and life safety code violations. Priority 2-7 items describe other situations that have a bearing on the suitability of these facilities for use as K-12 education facilities. Below, we have summarized the concerns that have led us to recommend partial replacement, expansion, and comprehensive remodeling of these facilities.

The Elementary School

The facility is a wood frame structure on piles and does not have a sprinkler system. There are significant fire and life safety code violations including: lack of one-hour fire separations where required; lack of one-hour-rated corridor walls and ceiling; lack of 20 minute door assemblies in the corridor; lack of required egress width at doors and in portions of the corridors; lack of adequate detection and fire alarm systems; inoperative exit lighting systems; and lack of seismic bracing; as well as structural distress caused by pile jacking and differential settlement. Additionally, the space above the ceiling does not contain the required fire draft stops. This condition would allow the rapid spread of any fire located in the attic. A similar situation exists under the building in the open space created by skirted pile construction.

The composite of the hazards, due to the extent, type and number of health and life safety code violations in this facility, plus structural problems with the building, when considered in their entirety, are of such a magnitude that they constitute an imminently dangerous situation for the occupants of the building.

The High School

The high school building also has significant life safety code exiting violations which are more fully documented in our Priority 1 assessment. They include: inoperable emergency exit lighting, an inadequate number of exits for the occupant load, inadequate fire separations between exit enclosures and adjacent spaces, inadequate door fire and smoke separation, and inadequate interior circulation exit pathways. Attic spaces do not contain the required fire draft stops which would allow the rapid spread of any fire located in the attic space. The building does not have a sprinkler system. Of particular concern is the gymnasium which is constructed as a type-five, non-rated structure due to lack of fireproofing of the structural steel members. A gymnasium or assembly occupancy cannot be housed in this building classification.

The composite hazard due to the extent, type, and number of fire code violations in this facility, when considered in their entirety, are of such a magnitude that they constitute an imminently dangerous situation for the occupants of the building. Extensive remodeling of this building will need to be undertaken given the extent of life safety code problems.

In addition to the problems associated with the initial design and construction, the school is significantly undersized. Specific problems include: lack of a properly programmed and designed media center, lack of administrative and teaching support spaces, lack of specific-use classrooms such as a science classroom, undersized computer lab, and lack of adequate storage.

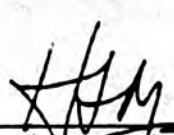
In spite of the extent of life safety code concerns we have identified, given the newer age of the high school structure we believe it would be more cost-effective to retain portions of the structure with corrective remodeling and repair than to totally replace the structure. The high school should be expanded and remodeled to meet program needs, as well as corrections made to meet current building and handicapped (ADA) codes. Additionally, the interior of the school is badly damaged and deteriorated and many areas will require extensive remodeling. The existing elementary school should be demolished and replaced in a contiguous addition to the high school, forming a single K-12 facility, sized to meet current program needs. Appropriate outdoor activity areas should be provided.

Concluding Recommendations

I, Harold J. Nesland Jr., hereby certify that I have reviewed all the facility evaluation items listed herein and have determined that the composite of the problems and hazards identified herein are greater than the individual parts. It is my professional opinion that because of:

- ♦ The limited availability of fire protection services in the community;
- ♦ Compelling and extensive life safety code, fire separation, and exiting violations;
- ♦ Pile jacking and differential settlement problems at the elementary school;
- ♦ Lack of a fire sprinkler system;
- ♦ The age and type of construction;
- ♦ And other compelling factors,

replacement of the elementary structure, extensive and substantial remodeling of the high school, and fire sprinkling of all structures housing students is dictated as the minimum level of work which should be undertaken. Completion of this work at the earliest possible date will enhance education programs and reduce life safety risks associated with continued use of the Kiana Schools.



Harold J. Nesland Jr.
Alaska Architectural License A-8453
Director of Design, Western Region
Heery International, Inc.

Attested this 25th day of August, 1993.

ARCHITECTURAL INSPECTION

KIANA ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 1 HEALTH AND LIFE SAFETY: Project necessary to avert eminent danger or correct life-threatening situations for users of the facility.		
Exterior, East	These boardwalks carry the utilidoors for the building which contain heat water, hot water from the boiler plant in the utility building, all the water lines and the sewer lines. All the external elements are at risk as a result of the pile jacking on these combination boardwalk/utilidoors.	UBC 104(d)/ 2907(e)
General	A single horn/strobe is needed in the central corridor.	UBC 809/ ADAAG 4.28.1
	Doors and frames are non-rated and lack closers and smoke seals.	UBC 3505(h)
	The attic does not have draft stops.	UBC 2516(f)
	Egress doors throughout the building are narrower than required.	UBC 3304(f)
	There is no corridor fire protection.	UBC 3305(g)
	Overcrowding has forced the school to expand into an attic space which hasn't been designed for floor loads.	UBC 2304(a)/ 3301(a)
Interior	No closures and magnetic holders on the north entry doors.	
	The walls in corridor are non-rated.	UBC 3305(g)
	No fire protection is apparent other than alarm system.	UBC 809
	No handicap provisions for egress are provided.	UBC 3101(a)
	There are two roll-up doors at the counter between the kitchen and the main corridor with no provisions for automatic closure.	UBC 3305(h)

KIANA ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
	Utility Building	Shed has exposed foam on the wall which was cited by the Fire Marshal.	13 AAC 50.070(A)9
		An unguarded double exit door with a ten-foot drop to the ground poses a safety problem.	UBC 3301(a)
102	Entry Vestibule	The double doors into the vestibule from corridor 103 and to the exterior are 32" doors.	UBC 3304(f)
103	Corridor	The attic space was partially converted into storage. This is a non-code conforming use and lacks adequate fire separations.	UBC 3301(a)/ 2304(a)
		At the south end of the corridor there are single 32" doors.	UBC 3304(f)
		South end of the corridor which previously had a double door has been modified now has only one door which will affect the egress calculation.	UBC 3301(a)
		Neither of the lighted exit signs are operative.	UBC 3314
		The separation between corridor and rooms is required to be 1-hour fire-resistive construction.	UBC 3305(g)/ 3318
103A	Storage	A wood door and frame, are non-compliant with non-rated door assembly, that lacks a smoke seal and a closer.	UBC 3305(h)
		Storage room requires sprinklering.	UBC 3802(e)2
104	5th & 6th Grade	Door assembly is non-compliant with a non-rated door and frame.	UBC 3305(h)
106	Kitchen	Gypsum board joint failure and holes in the ceiling, above the kitchen hood, need to be repaired and repainted.	UBC 4704(a)/ Sanitation
		There are two rolling doors which are not controlled by the fire alarm system.	UBC 3305(h)
112A	Girl's Restroom	There are no door closers.	UBC 3305(h)
		There is no closing hardware on the door.	UBC 3305(h)
112B	Boy's Restroom	No closing hardware was installed on the door.	UBC 3305(h)

KIANA ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
115	Janitor	The janitor's closet is lined with a Masonite panel which does not have a one-hour rating.	UBC 802(d)
A103	Corridor	Half of the stair has been converted to a ramp.	UBC 3103(a)/ 3307(a)
A104	Entry Vestibule	The lighted exit sign at this door is inoperative.	UBC 3313
		A 6" drop at the threshold of the exterior door. Is in non-compliance with ADA and other codes.	UBC 3103(a)/ 3304(j)
A105	Mechanical/ Storage	This room is not compliant with the code as a storage room and has a non-rated door assembly.	UBC 3305(h)
A106	Toilet	There are no door closers.	UBC 3305(h)
A108	Pre-K & Kindergarten	The exterior door has a 6" rise at the threshold.	UBC 3304(j)/ 3101(a)
		The school is in process of building storage space in center bay of trusses which have not been designed for loads of this nature.	UBC 2303(a)
		Battery pack, on fire horn and smoke detector, is inoperative.	UBC 809

**KIANA SCHOOL
INVENTORY & CONDITION SURVEY**

KIANA ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 3 PROTECTION OF STRUCTURE: Project necessary to protect the structures of the existing facilities.		
Exterior	Pile jacking is evident in the outside corner of Room 112 on the floor plan. There is approximately a 2" discrepancy at that corner.	UBC 2907(c)
	There are some loose and curling roof sheets.	UBC 104(d)
Exterior - Back	There is serious offset of 1" - 1 1/4" in. floor differential levels due to settlement.	ADA
Exterior, East	The boardwalks at the rear of the building have suffered severe pile jacking and vertical dislocation.	UBC 2907(e)
Exterior, South	Settlement in piling system and ramps in and out of building.	UBC 2907(e)
	Minor gutter problems need repair.	UBC 3207(a)
	Loose T1-11 siding requires reattachment.	UBC 2516(g)
Exterior, West	The external utilidoors are underneath and in conjunction with boardwalks with considerable displacement due to settlement of the piling.	UBC 2907(e)
General	All the windows in this building are single pane with a plexiglass outer cover. They are old and loose and generally thermally inefficient.	UBC 104(d)
	The attic is not ventilated.	UBC 3205(c)
	Settlement problems are putting the heating system at risk. The southwest corner of building is approximately 3" high.	UBC 2907(e)
Interior	Stained ceiling tiles indicate evidence of roof leaks.	UBC 3201(a)
	There are a few broken windows in classrooms.	UBC 104(d)

KIANA ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
	Utility Building	Major settlement has occurred in this building; approximately 1 1/2 " in three feet (judging by a doorhead).	UBC 104(d)/ 2907(e)
104	5th & 6th Grade	Sagging, water-stained, and damaged ceiling tiles need repair and/or replacement.	UBC 2336(a)/ 4704(a)
109	Bilingual	Water-stained ceiling tile in the center of the room need repair or replacement.	UBC 4704(a)/ 104(d)
112B	Boy's Restroom	The floor is sloped in the corner of the building where the pile jacking is evident.	UBC 2907(e)
		Numerous water-stained ceiling tiles need repairs.	UBC 104(d)/ 4704(a)
A101	Entry Vestibule	At the wall intersection in the junction of room 101A and 103A daylight is visible through a gap to the outside of approximately 1/4".	UBC 104(d)
A104		Poorly fit weather strip around the door.	
A105	Mechanical/ Storage	Water stains in the ceilings of each room indicate roof leaks.	UBC 3201(a)
		Cracks in corners of the ceiling indicate settlement in building.	UBC 2907(c)
A106	Toilet	Stained tile ceiling needs repair.	UBC 3201(a)
		Floor slope at this end of building is evidence of settlement.	
A108	Pre K & Kindergarten	The exterior door weather strip needs replacement.	UBC 104(d)
		There are several water-stained ceiling tiles.	UBC 4704(a)/ 104(d)
	Pre-K & Kindergarten	Small building on south side is experiencing settlement that's exposing heating system piping.	UBC 2907(e)
A109	Exit Vestibule	Numerous water stains on the ceiling tile.	UBC 104(d)/ 4704(a)

KIANA ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 4	CODE UPGRADE: Projects necessary to correct deficiencies under applicable legal standards relating to life, safety, or health matters to allow continued use of the facilities in support of the school district's respective educational program.	
Exterior	There is no handicap access to this building. There are 8 to 10 risers off the ground.	UBC 3103(a)/ ADAAG 4.1.1
	All the windows in the building are old and have plexiglass outer panes which creates poor thermal efficiency for all windows.	UBC 104(d)
Exterior - Back	There is an attempt to make a handicap provision with small ramp, however, the ramp won't handle wheelchair traffic).	ADA
Exterior, North	One vent bent to 45 degrees, probably by snow slide needs repair.	UBC 3201(a)/ UMC
	No handicap access provided. Access is by wood stairs at all entrances and exits.	UBC 3103(a)4
Exterior, West	Access to the addition is by 8-riser wooden stairs. No handicap ramp is provided.	UBC 3103(a)4
General	The door hardware throughout the elementary school building is non-compliant with accessibility code.	ADAAG 4.13.9
	The lighting in these rooms would be marginally adequate in the wintertime. Room 110, which is typical for the building throughout, is lighted by 48 forty-watt tubes. The room is 35' x28'.	UBC 805
	The elevated boardwalk/utilidor do not provide a "slip-resistant" surface.	ADAAG 4.5.1
	The heat pipes in this building in all the classrooms are suspended about 12" off the ceiling. The maintenance superintendent advises that the insulation contains asbestos.	AAC
	The carpets are generally frayed and have failing seams.	ADAAG 4.5.1

KIANA ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
	Interior	Lighting is marginally adequate.	UBC 805
	Janitor's Closet	The floor is 8"x8" tile, possibly vinyl asbestos.	AAC
	Tank Farm	All vitrollic pipe connections are uphill from the river. There are nine vertical tanks on timber platforms which have no diking and no membrane. The tank farm is uphill from the river.	
	Utility Building	The floors are wooden. In the back of this building is the school's main electrical distribution, it is also being used for food storage, day fuel tank for boilers is in the adjacent room.	UMC 2117
104	5th & 6th Grade	The insulation on the pipe is asbestos. Loose carpeting, split, open and frayed seams pose a tripping hazard in an emergency situation. Exposed hot copper pipe at the elbows and short sections near the base board radiation covers need protection.	AAC ADAAG 4.5.1
105	Library	The room has a 12'x12' asphalt tile which is possibly vinyl asbestos. There is broken tile and moderate to fair shrinkage so that all of the cracks are exposed and open.	AAC
106	Kitchen	Antique formica counter tops with crominum steel cove moulding and edge moulding create a sanitation problem. No base around the walls constitutes a sanitation issue. Unguarded open penetrations in kitchen ceiling need repair.	Sanitation Sanitation Sanitation
107	Kitchen Storage	The base is missing which poses a sanitation concern.	Sanitation
112A	Girl's Restroom	Handicap provisions have not been provided. Exposed sections of heat pipe create a safety problem.	UBC 3105(b)/ ADAAG 4.23.1

KIANA ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
112B	Boy's Restroom	There are no handicap provisions.	UBC 3105(b)/ ADAAG 4.23.1
		Exposed short sections of heat pipe, elbows and connections at the radiation panels create a safety problem.	
113	Toilet	The room has 12"x12" floor tile which is possibly vinyl asbestos.	AAC
		Wood base, and rusting steel shower cabinet is inadequate by current standards.	ADAAG 4.231
		There are no handicap provisions.	UBC 3105(b)/ ADAAG 4.23.1
		The shower cabinet is rusted and in poor condition.	UBC 104(d)
115	Janitor	The room has an old 8"x8" floor tile which is possibly vinyl asbestos. The floor system is badly worn, cracked and damaged.	AAC
116	Corridor	This small corridor has open seams on the carpet which is a potential tripping hazard.	ADAAG 4.5.1
A101	Entry Vestibule	Carpet separation in the junction of room 101A and 103A poses a tripping hazard.	ADAAG 4.5.1
		At the junction of room 101A and 103A there is an offset in the floor of approximately 1". This is probably due to settlement.	ADAAG 4.5.1
A105	Mechanical/ Storage	Poor carpet seams with frayed edges.	ADAAG 4.5.1
		There is 12"x12" floor tile which is possibly vinyl asbestos.	AAC
A106	Toilet	The sheet vinyl floor, adjacent to the sink, is badly worn and damaged.	UBC 510
		There are no handicap provisions.	UBC 3105(b)/ ADAAG 4.23.1
A108	Pre K & Kindergarten	Stained carpet and minor seam separation in the carpet.	ADAAG 4.5.1

**KIANA SCHOOL
INVENTORY & CONDITION SURVEY**

KIANA ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 6	FUNCTIONAL UPGRADE: Projects that will modify or rehabilitate existing facilities for the purpose of improving a school district's instructional program.	

	General	Throughout the building the counter sink units in the classrooms are badly worn, damaged, and need replacement.
	Interior	The cabinetry is generally in poor condition.
104	5th & 6th Grade	The little sink cabinet modules are all in very poor condition and need replacement.
113	Toilet	The toilet and lavatory are antique porcelain.
A105	Mechanical/ Storage	Apparently intended as a storage area (has skis and other equipment); not acceptable as classroom space.

**KIANA SCHOOL
INVENTORY & CONDITION SURVEY**

KIANA ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 7		OTHER: Projects that will provide facilities to meet instructional and program needs that are not met by the categories 1-6.	
	Exterior	The siding and fascia is peeling and needs painting.	UBC 104(d)
	General	All the rooms have exposed sections of bare heat pipe, typically at fittings and elbows in and out of the radiation sections.	
	Utility Building	This area has serious paint peeling problems.	
112A	Girl's Restroom	The door to one toilet partition is missing.	UBC 104(d)
112B	Boy's Restroom	The doors are missing for the toilet compartment.	UBC 104(d)
113	Toilet	Exhaust louver in the ceiling which is badly rusted.	
A106		An improperly fitting toilet seat needs replacement.	
A109	Exit Vestibule	The walls and base board radiation covers need painting.	UBC 104(d)

**KIANA SCHOOL
INVENTORY & CONDITION SURVEY**

KIANA HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 1	HEALTH AND LIFE SAFETY: Project necessary to avert eminent danger or correct life-threatening situations for users of the facility.	
Fuel Tank Farm	The fuel supply piping to the building crosses the driveway and is exposed in one area, virtually on the surface with truck and other vehicular traffic passing over the pipe.	
General	The building type of construction is type 5 - non-rated due to non-fire proof steel, and a gymnasium or assembly cannot be housed in this type of construction.	UBC 505(a)/501
	The gymnasium is unsprinkled or does not provide an egress door every 50' of wall.	UBC 3802(b)1
	The mechanical equipment providing HVAC is located on a mezzanine and is not separated from the rest of building by 1-hour fire-resistive construction.	UBC 808
	The building occupant load require three exits, two fire exits are provided, one exit is through a room.	UBC 3303(a)
	There are no fire alarm horn/strobe systems in this building.	UBC 809
	No fire-rated door assemblies have been installed throughout the building.	UBC 3305(h)
Interior	There are a number of over-sized glass panels without notation to indicate safety glass.	UBC 5406(a)/3305(h)
	Doorways have wood frames, wood casings, non-rated doors and frames, without smoke seals and magnetic holders.	UBC 3305(h)/503(d)
100 Gymnasium	There are offsets of up to 4" at the threshold onto all the wood decks at all exterior exits.	UBC 3304(i)J
101 Kitchen	The ceiling assembly appears to be unrated.	UBC 1705(a)

KIANA HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
101	Kitchen	The Halon system for the kitchen grease hood has tag on it, indicating non-compliance.	UFC 10.513(a)
104	Storage	The door does not provide the required clear width.	UBC 3304(f)
105	Girl's Shower	The exterior exit lighted sign is not operational in the girl's shower room.	UBC 3314
		The battery pack emergency light in the shower area is inoperative.	UBC 3313
		Minor damage of the ceramic 4x4 wall tile needs repair.	UBC 104(d)/ 4712
106	Girl's Locker	The exit sign is inoperable.	UBC 3314
107	Drying Area	The battery pack emergency light is inoperative.	UBC 3313(a)
109	Washer/Dryer Laundry Room	The door does not provide the required clear width.	UBC 3304(f)
111	Women's Toilet	The door does not provide the required clear width.	UBC 3304(f)
112	Men's Toilet	The door does not provide the required clear width.	UBC 3304(f)
114	Boy's Locker	The battery pack emergency light is inoperative.	UBC 3313
116	Boy's Shower	The supply air diffusers in the ceiling are missing. The flexible duct links that connect these diffusers and distribution points to the main duct work are often multi-angled and don't deliver air well.	UBC 805
117	Shop	The room is not separated from other classroom and spaces with 1-hour fire resistive construction and 1-hour door assemblies.	UBC 802(d)
		There are no shunt trip kill buttons in any of these shops.	NEC
		The dust collection system is inadequate. (It is disconnected).	UFC Ch 76
119	Shop/ Arts/ Crafts	The room is not separated from other classroom and spaces with 1-hour fire resistive construction and 1-hour door assemblies.	UBC 802(d)

KIANA HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
119 Shop/ Arts/ Crafts	Moderate damage to the ceiling needs repair.	UBC 104(d)/ 3201(a)
127 Office Storage	The room is missing one 2"x2" ceiling tile in the suspended ceiling system to reveal a wood frame floor joist system. This suggests that the ceiling assembly is not fire-rated.	UBC 808
129 Equipment Storage	The access to mechanical equipment-139 and -140, via retractable stair, is a non-rated assembly.	UBC 4306
	Electrical panel B is missing covers over blank spaces #35 and #38. There are exposed live wires and connections.	NEC
130 Computer Lab	The door into Room 137 has a large Relite (2'x5'), which is not labeled as safety glass.	UBC 5406(a)
	The area of glazing in the wall common with corridor-135 exceeds allowable glazing: wall ratio.	UBC 3305(h)2
	The room has two 5'x6' Relite panels, less than three feet to the floor with no indication that they are tempered or safety glass.	UBC 5406(a)
	The corridor door has a very large Relite (2'x5'), which is not labeled as safety glass.	UBC 3305(h)
132 Entry Foyer	The lighted exit light is not operable.	UBC 3313(a)
135 Corridor	The enclosing walls and ceiling are non-compliant with fire resistive construction requirements.	UBC 3305(g)
136 Science/ Math	The room is not separated from other classrooms and spaces with 1-hour fire resistive construction and 1-hour door assemblies.	UBC 802(d)
138 Principal's Office	The room has a very large Relite (2'x5'), which is not labeled as safety glass.	UBC 5406(a)
	The area of glazing in the wall common with corridor-135 exceeds allowable glazing: wall ratio.	UBC 3305(h)2

**KIANA SCHOOL
INVENTORY & CONDITION SURVEY**

KIANA HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 3		
PROTECTION OF STRUCTURE: Project necessary to protect the structures of the existing facilities.		
Exterior	There are double doors exiting shop-117 that need replacement.	UBC 104(d)
	There is very heavy caulk around fresh air intake louvers that feed the heating system upstairs.	UBC 1708
	Staff confirms that the water stains on the ceiling at the front are roof leaks.	UBC 3201(a)
	The metal vertical seams in the metal siding panels have been caulked, indicating problems with metal siding.	UBC 2516(g)
	At the south side area at the back deck, the foam closure at the fascia is falling out as it is on the front of the building.	UBC 104(d)
Exterior, Main Entry	The foam closure at the fascia is falling loose and needs repair.	UBC 104(d)
114	Boy's Locker	There is a missing sheet vinyl patch (6" triangle).
		UBC 104(d)
		Substrate failure beneath the vinyl sheet flooring adjacent to the shower room. Is the result of flooding and delamination of the plywood substrates.
		UBC 104(d)/ 4305
116	Boy's Shower	Most of one wall has lost all the 4"x4" ceramic tile; there is about 40 sq. ft. missing.
		UBC 4712
117	Shop	A broken window needs repair.
		UBC 104(d)
123	Language Arts	Water-stained and dirty ceiling tiles need replacement.
		UBC 3201(a)/ 104(d)
130	Computer Lab	There is significant water damage to the ceiling tile.
		UBC 4704(a)/ 2336(a)
131	Storage	Ceiling has failed from extensive water damage and total replacement is required.
		UBC 4704(a)/ 3201(a)

KIANA HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
134	Special Education	Numerous water-stained and displaced ceiling tile need repair.	UBC 4704(a)/2336(a)
136	Science/ Math	Numerous stained ceiling tile and dislocated ceiling tile throughout this room need repair.	UBC 4704(a)/2336(a) & 3201(a)

KIANA HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 4	CODE UPGRADE: Projects necessary to correct deficiencies under applicable legal standards relating to life, safety, or health matters to allow continued use of the facilities in support of the school district's respective educational program.	
Exterior	The back steps have a 7" rise and 11 1/2 " tread which also defines the pitch of the ramp and is non-compliant.	UBC 3307(a)/ 3104(a) & AGAAG 4.1.1
	At the front of the building there is a 500-gallon fuel tank with a temporary sand bag and membrane type dike; need replacement (photo).	
	The stair landings are non-compliant.	ADAAG 4.5.1
	The building does not have ramps and is, therefore, not handicap accessible.	UBC 3104(a)/ ADAAG 4.1.3
	The stairs have open risers and are non-compliant.	ADAAG 4.9.2
	There is no handicap access and all stairs on the exterior are wood.	UBC 3104(a)/ ADAAG 4.1.1
	The stair handrail profiles are non-compliant.	ADAAG 4.26.2
	There is an extremely steep ramp, at main entry, which is probably intended as a skid ramp.	UBC 3104(a)/ ADAAG 4.1.1 & 4.8.1
Fuel Tank Farm	There is no apparent membrane liner.	
	The tanks and piping are in good repair. The problems are the worn down dike and the absence of a membrane.	
	The tanks sit on planks, directly on the earth.	
	The tanks are diked but the dike is worn down in some areas and doesn't have the necessary containment.	
General	The signage is installed on doors, and is non-compliant.	ADAAG 4.30.1

KIANA HIGH SCHOOL**INSPECTIONS**

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
101	Kitchen	There is a gap of approx. 16" in seam under the 3-tub sink, which represents a sanitation problem.	UBC 104(d)
		The Corlon is ill-fit around floor drains which creates a sanitation problem.	UBC 104(d)/ UPC 909
106	Girl's Locker	There is separation in the Corlon floor at the cove-base seams creates a sanitation problem.	UBC 510(b)
110	Girl's Toilet	There are no handicap provisions.	UBC 3105(b)/ ADAAG 4.23.1
		There is missing head casing at the door.	UBC 4306(a)K
113	Boy's Toilet	In the restroom area the vinyl base is loose and has gaps of up to 3/4" indicating a sanitary consideration.	UBC 510(b)
		There are broken toilet seats.	UBC 104(d)
		There are no handicap provisions, such as, handicap grab bars on the toilet stall.	UBC 3105(b)/ ADAAG 4.23.1
		Both urinals are missing.	UBC 805
114	Boy's Locker	The sheet vinyl cove base is cracked.	UBC 104(d)
		The vinyl sheet flooring is cracked and cove base vinyl sheet flooring is badly broken and damaged.	UBC 510 (b)
115	Drying Area	There is severely cracked and damaged cove base at floor adjacent to the shower area; replacement of the entire floor is recommended.	UBC 510(b)
116	Boy's Shower	There are no handicap provisions in the shower.	UBC 3105(b)/ ADAAG 4.23.1
123	Language Arts	Irregular substrate is beneath the carpet in some areas of this room. The cause of the problem is unknown.	ADAAG 4.5.1
		Open and frayed carpet seam along the length of the room in two areas needs repair.	ADAAG 4.5.1
125	Darkroom	The carpet seams have minor ravel.	ADAAG 4.5.1

KIANA HIGH SCHOOL**INSPECTIONS**

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
130	Computer Lab	Sag in the ceiling suspension system needs repair.	UBC 4704(a)/ 2338(a)
134	Special Education	The carpet seam is ravelled.	ADAAG 4.5.1
136	Science/ Math	Open seam the whole length of the room in the carpet poses a tripping hazard.	ADAAG 4.5.1
		One window has been replaced with a single plexiglass panel which is thermally inefficient.	UBC 104(d)
137	Administrative Office	Minor carpet seam split needs repair.	ADAAG 4.5.1
138	Principal's Office	The bottom of the Relite glazing is approximately 32" above the finished floor.	UBC 5406(a)
139	Mechanical	Two horizontal oil-fired furnaces are installed on plywood floors in this room.	UBC 808
		Furnace below the eave and firetape gypsum board lid has only 2" of vertical clearance on the outside wall with only one layer of 5/8" gypsum board.	UBC 808
141		Two horizontal oil-furnaces are installed on plywood floors in this room.	UPC 808
		Furnace below the eave and firetape gypsum board lide has only 2" of vertical clearance on the oustide wwall with only one layer of 5/8" gypsum board.	UPC 808

KIANA HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 6	FUNCTIONAL UPGRADE: Projects that will modify or rehabilitate existing facilities for the purpose of improving a school district's instructional program.	

100	Gymnasium	The substrate is not flat. It has lots of wrinkles and dimples. There is some seam separation of the gymnasium floor.	ADAAG 4.5.1
113	Boy's Toilet	The toilet fixtures are antique.	
122	Social Studies/ Home Economics	The plastic laminate on the counter and cabinets is damaged.	

**KIANA SCHOOL
INVENTORY & CONDITION SURVEY**

KIANA HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
Architectural Priority 7		OTHER: Projects that will provide facilities to meet instructional and program needs that are not met by the categories 1-6.	
105	Girl's Shower	The ceiling needs painting.	UBC 104(d)
		Loose escutcheons at two shower heads need reattachment.	UBC 104(d)
106	Girl's Locker	The cove moulding along the ceiling needs repair.	UBC 104(d)
		The walls above lockers have been damaged with a series of holes.	UBC 104(d)
110	Girl's Toilet	The toilet compartment doors require replacement.	UBC 104(d)
		The toilet partition needs refinishing toilet seats are loose and need repair.	UBC 104(d)
		Broken light diffuser in the ceiling needs replacement.	UBC 104(d)
113	Boy's Toilet	The ceiling light in the entry vestibule is broken.	UBC 104(d)
		Missing ceiling supply air diffuser needs replacement.	
		The doors are damaged and laminations has chipped along the bottom edges.	UBC 3305(h)
		Missing light diffuser needs replacement.	
		Ceiling paint is peeling and needs repainting.	UBC 104(d)
		The is gypsum board ceiling is damaged in the entry vestibule and requires repair and repainting.	UBC 104(d)
114	Boy's Locker	The ceiling needs painting.	UBC 104(d)
		Some wallboard is damages from screws.	UBC 104(d)
		Loose moulding at the top of the vinyl sheet flooring on the wall adjacent to the shower room needs repair.	UBC 510 (b)

KIANA HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
116	Boy's Shower	The ceiling in the shower room needs refinishing and repainting.	UBC 104(d)
117	Shop	Three broken ceiling light diffusers need replacement.	UBC 104(d)
125	Darkroom	The room has some damaged vinyl base.	UBC 104(d)
		The walls are dirty and need painting.	UBC 104(d)
		Ceiling tiles need repair and replacement.	
128	Custodial	The finish on the Marlight panels at the janitor's sink hss deteriorated.	UBC 104(d)
		Several missing ceiling tile and light diffusers in the troffer lights need replacement.	UBC 104(d)
129	Equipment Storage	Broken light diffuser needs replacement.	UBC 104(d)
137	Administrative Office	Broken light diffuser in the room needs replacement.	UBC 104(d)

STRUCTURAL INSPECTION

KIANA ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Structural Priority 1	HEALTH AND LIFE SAFETY: Project necessary to avert eminent danger or correct life-threatening situations for users of the facility.	
Exterior	Antenna tower appears to be jacking and leaning. May become unstable and topple.	
General	The school suffers from severe frost jacking. This not only causes serious structural distress, but makes the building operate poorly. For example: doors and windows "stick".	UBC 2907(e)
	It's not likely that the school building meets current codes related to snow drift loads. The 1976 UBC (the earliest code available in Loftus and Dailey's offices) only mentions snow drift; no specific design criteria are given. The 1991 UBC has an extensive new section on snow drift design loads. In short, the new 1991 code suggest that 4 foot deep drift adds 74 PSF to the roof snow load, while a 6 foot deep drift adds 111 PSF. A common balanced snow load is 40 PSF. So, a 4 foot drift could increase the snow load by 286% while a 6 foot drift could increase it by 378%. To meet these updated snow loads, roof members would probably need to be strengthened or snow sheds may be built to prevent drifting. Calculation of the existing roof capacity is beyond the scope of this report.	UBC 2305/ 2340
	It's not likely that the school building meets current seismic codes or wind codes. Detailing requirements for lateral loads have changed substantially over the year. For example, tension straps are often required to resist tension forces in roof and floor diaphragms. Such straps are not seen on the existing school drawings, thus they were probably not used during construction. Another example - hold down anchors at the ends of non-bearing shear walls are often required to resist overturning forces. No such hold downs are shown on the existing drawings, so it's unlikely any were used during construction. Calculation of lateral capacities is beyond the scope of this report.	UBC 2311/ 2330

KIANA ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Structural Priority 3	PROTECTION OF STRUCTURE: Project necessary to protect the structures of the existing facilities.	

Roof

Roofing is not firmly attached. Evidence of leaks was found.

UBC 3201(a)

**KIANA SCHOOL
INVENTORY & CONDITION SURVEY**

KIANA HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
Structural Priority 1		HEALTH AND LIFE SAFETY: Project necessary to avert eminent danger or correct life-threatening situations for users of the facility.	
	Exterior	Foam seals have pulled out of the standing seam roofing and siding. May allow water to enter.	UBC 2516(g)
	Maintenance Shop	The framing for this ramp appears to be very light. It seems that a small car or truck on the ramp could cause collapse.	UBC 2303(a)
		The corners of the roof do not appear to be properly designed. The roof plywood cantilevers about 4 feet in one direction plus about 2 feet in the other.	UBC 3201(a)
		Building sits on crib footings at ground surface. Wind or earthquake loads on the building likely can't be resisted by the crib footings.	UBC 2311/2330(a)
		Ramp is composed of untreated wood below grade susceptible to rotting.	UBC 2516(c)
101	Kitchen	Exhaust hood and garage door appear are connected to the roof structure.	UBC 2303(a)

**KIANA SCHOOL
INVENTORY & CONDITION SURVEY**

KIANA HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Structural Priority 4	CODE UPGRADE: Projects necessary to correct deficiencies under applicable legal standards relating to life, safety, or health matters to allow continued use of the facilities in support of the school district's respective educational program.	

Exterior

Exit stairs appear to be generally well designed, except crib footings probably cannot resist lateral loads. Since no distress was seen this is categorized as a non-priority item.

132

Entry Foyer

The Maintenance Superintendent noted that they've had roof leak problems in the past an indication of leakage was found in room 134.

UBC 3201(a)

**KIANA SCHOOL
INVENTORY & CONDITION SURVEY**

MECHANICAL INSPECTION

KIANA ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Mechanical Priority 4		
CODE UPGRADE: Projects necessary to correct deficiencies under applicable legal standards relating to life, safety, or health matters to allow continued use of the facilities in support of the school district's respective educational program.		
General	In classrooms 104, 106, 108, 109, 110, 112, and 108, operable windows are not large enough for adequate ventilation.	UBC Sec 805
Utility building	This building was to be a mechanical and wood shop and is partially finished. It is presently used for storage. The mechanical systems and installations have numerous code violations and service access to equipment is inadequate. The hood shown in the photograph is about to fall down.	
106	Kitchen	Grease duct forms a trap at fan. No make-up air unit is provided.
		UBC Ch 20

**KIANA SCHOOL
INVENTORY & CONDITION SURVEY**

KIANA ELEMENTARY SCHOOL

INSPECTIONS

ROOM/LOCATION	DESCRIPTION OF PROBLEM	CITATION
Mechanical Priority 1	HEALTH AND LIFE SAFETY: Project necessary to avert eminent danger or correct life-threatening situations for users of the facility.	
Boiler Building	Fire protection is by portable extinguishers. Buildings are wood frame and skirted to ground. With the presence of severe frost heaving the possibility of mechanical or electrical failure is high. Building are surrounded by brush and ground or brush fire could easily spread to building. There is no organized fire fighting group in the village.	
	Work space is limited in mechanical room. Seismic bracing is required. Equipment was tilted due to frost heaving under building.	UMC 505/ 2116
	Food, boxes, and fuel tank are stored in electrical room.	NEC Art 110-16A/ Safety Hazard
Crawl Space	Lighting by pigtails with broken bulbs, romex wiring, and no heat or smoke detectors.	NEC Art 110-3b/ Safety hazard

KIANA HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
Mechanical Priority 1		HEALTH AND LIFE SAFETY: Project necessary to avert eminent danger or correct life-threatening situations for users of the facility.	
129	Equipment Storage	Needs ventilation.	UBC Sec 805
139	Mechanical	Inadequate service access.	UMC Sec 504
		Room not 1-hour constructed. (Note: This is a dangerous installation.)	UBC Sec 808
		Inadequate combination air.	UMC Ch 6
		Oil can drip on flue.	Fire Hazard
		No duct detectors.	UMC Sec 1009
141		No duct detectors.	UMC Sec 1009
		Inadequate combination air.	UMC Ch 6
		Inadequate service access.	UMC Sec 504
		Room not 1-hour constructed. (Note: This is a dangerous installation.)	UBC Sec 808
		Oil can drip on flue.	Fire Hazard

**KIANA SCHOOL
INVENTORY & CONDITION SURVEY**

KIANA HIGH SCHOOL

INSPECTIONS

ROOM/LOCATION		DESCRIPTION OF PROBLEM	CITATION
Mechanical Priority 4		CODE UPGRADE: Projects necessary to correct deficiencies under applicable legal standards relating to life, safety, or health matters to allow continued use of the facilities in support of the school district's respective educational program.	
101	Kitchen	Main electrical disconnect is installed in the kitchen.	NEC Art 110-16a
		No make-up air unit.	UMC Ch 20
		No grease trap for pot sink.	UPC Sec 711
		Hood duct not in shaft.	UMC Ch 20
119	Shop/ Arts/ Crafts	Area does not have provisions for a wood shop.	UBC Sec 905

**KIANA SCHOOL
INVENTORY & CONDITION SURVEY**

INSPECTION PHOTOGRAPHS



PHOTO 1

Main electrical disconnect in the kitchen storage room making access difficult. Poor kitchen storage system. Appropriate storage needed for food supplies.

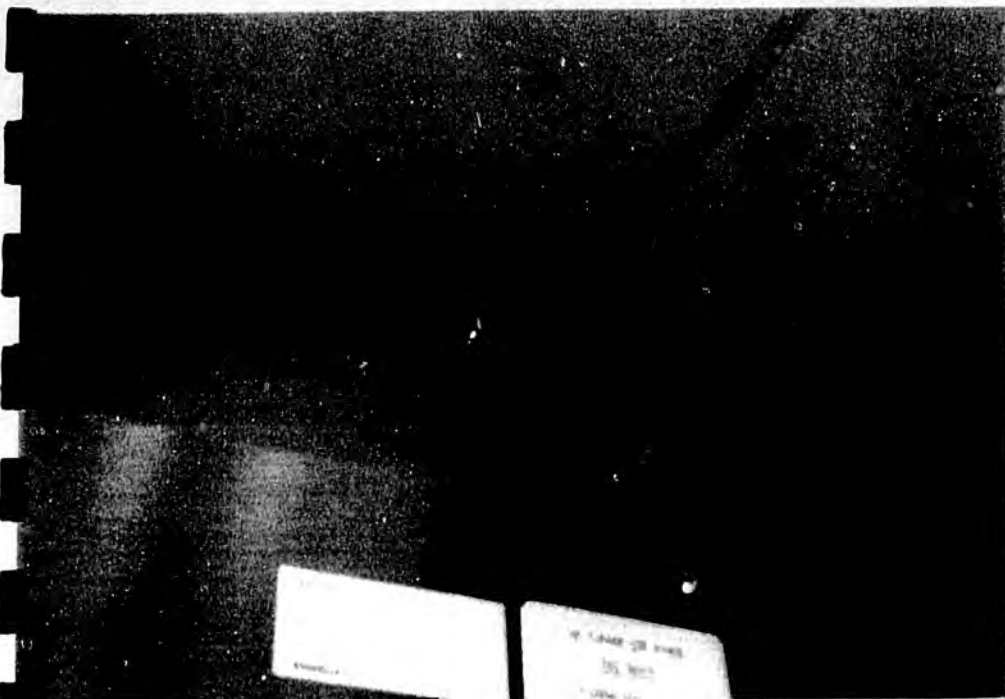


PHOTO 2

Hood duct not in an enclosed shaft. There is no makeup air unit.

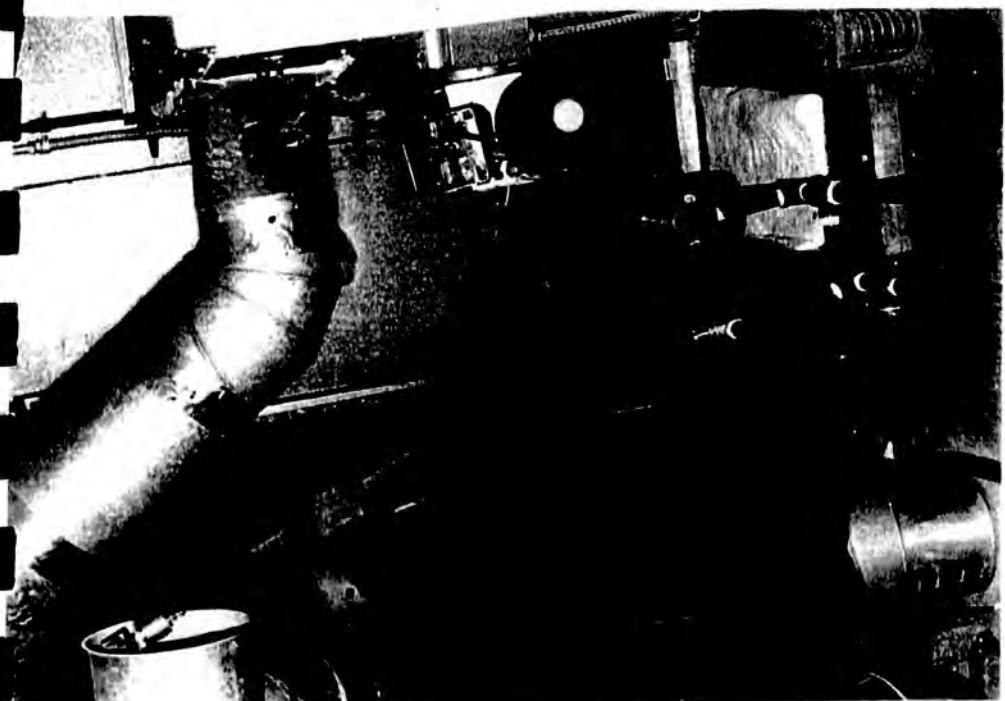


PHOTO 3

Plywood flooring and inadequate service access make for a dangerous installation.



PHOTO 4

Improper and exposed wiring, broken lighting with no face cover for protection in the crawl space.



PHOTO 5

No seismic bracing and tanks are tilted due to frost heaving (pile jacking) causing floor shifting.

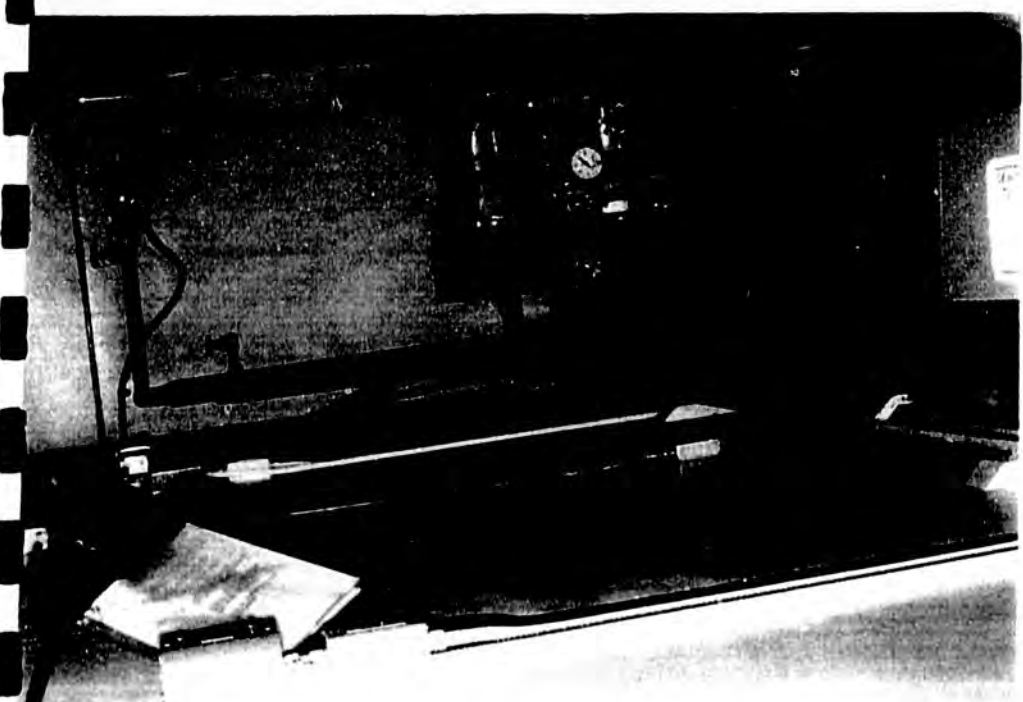


PHOTO 6

Wood plank flooring and limited access space for utilities.

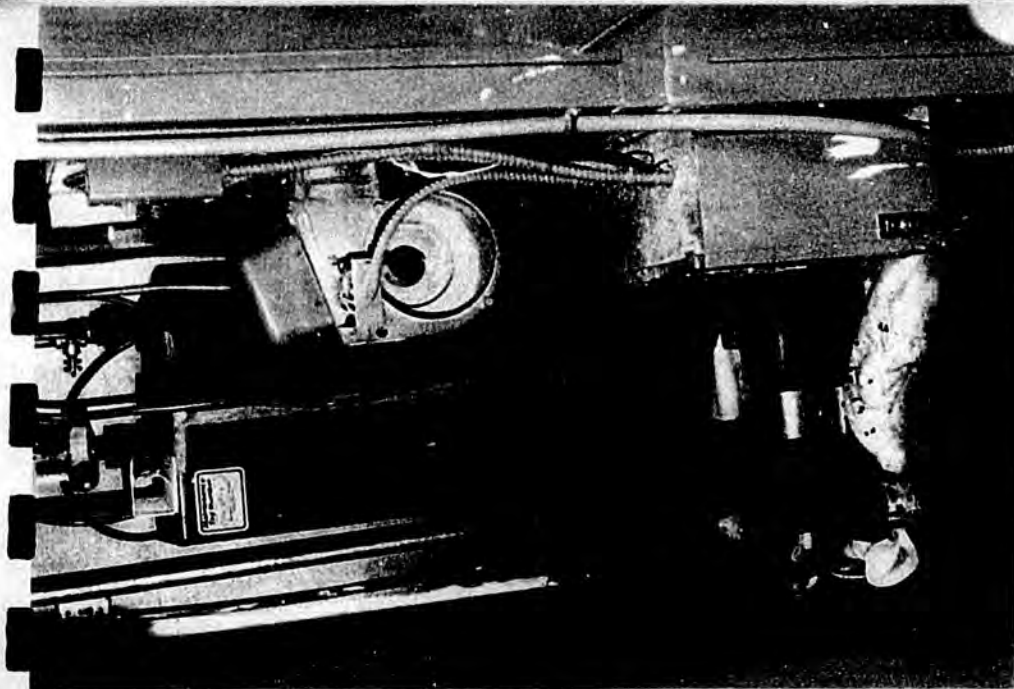


PHOTO 7

Plywood flooring, oil soaked rags and trash. Inadequate service access.



PHOTO 8

The high school rests on crib footings which probably do not meet wind and earthquake load codes.

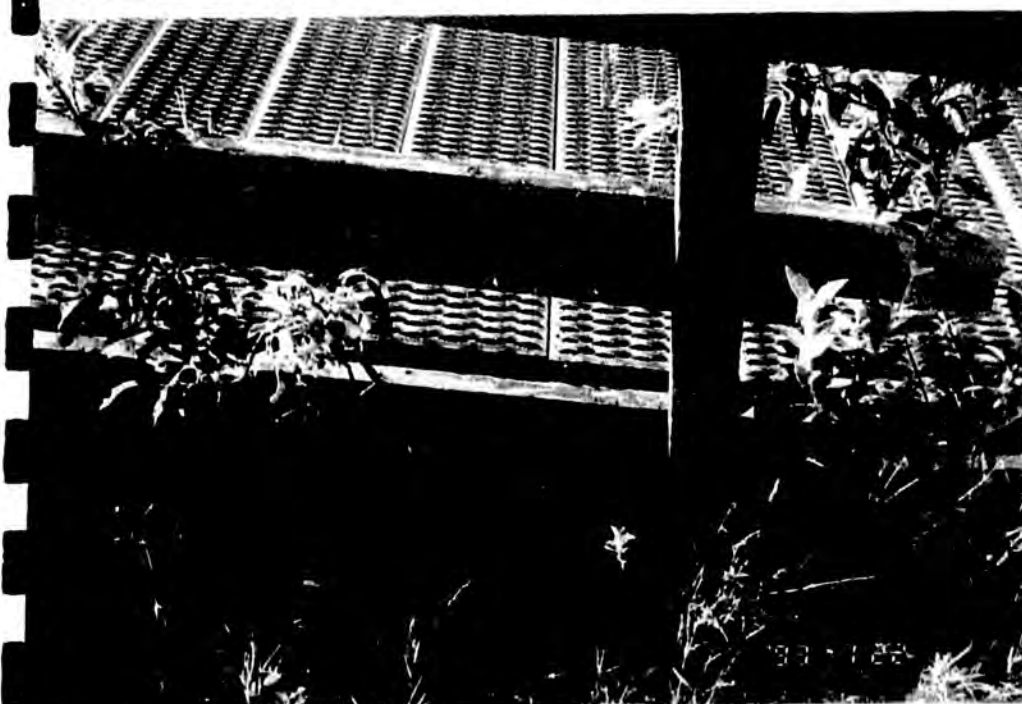


PHOTO 9

The ramp of the maintenance shop/storage building appears to be poorly designed. Some untreated timber members are in contact with the ground which will cause them to decay. In addition, framing appears inadequate.

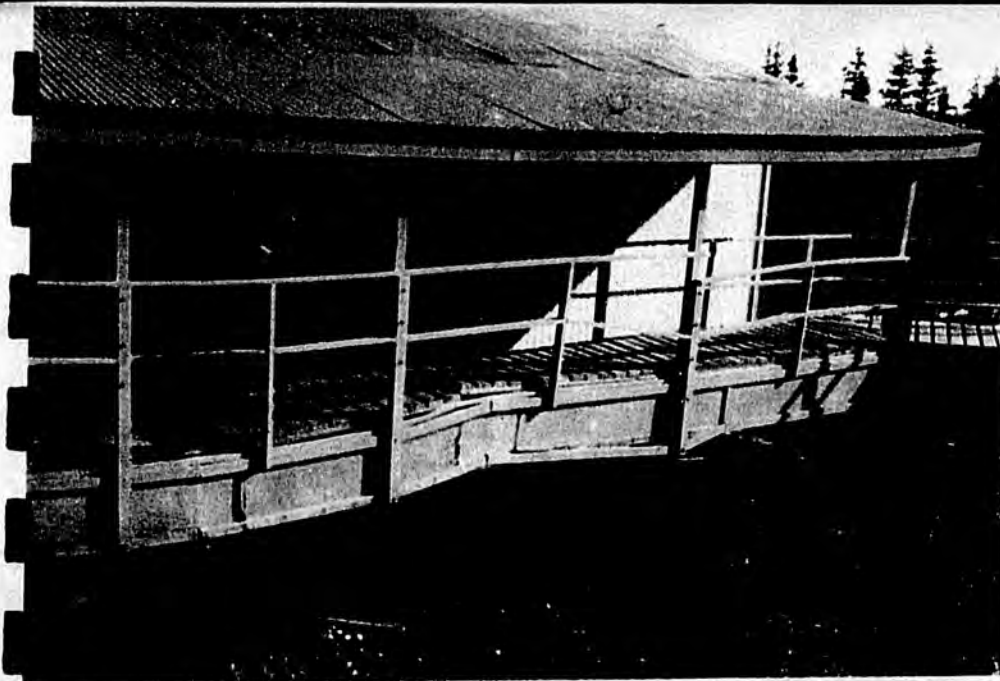


PHOTO 10

Apparent pile/frost jacking as shown by structural distress in the walkway in front of the mechanical building.



PHOTO 11

Pile/frost jacking apparent as shown by mud line on pile foundation. The soils appear to jack up to the mud line in winter and subside in the summer.

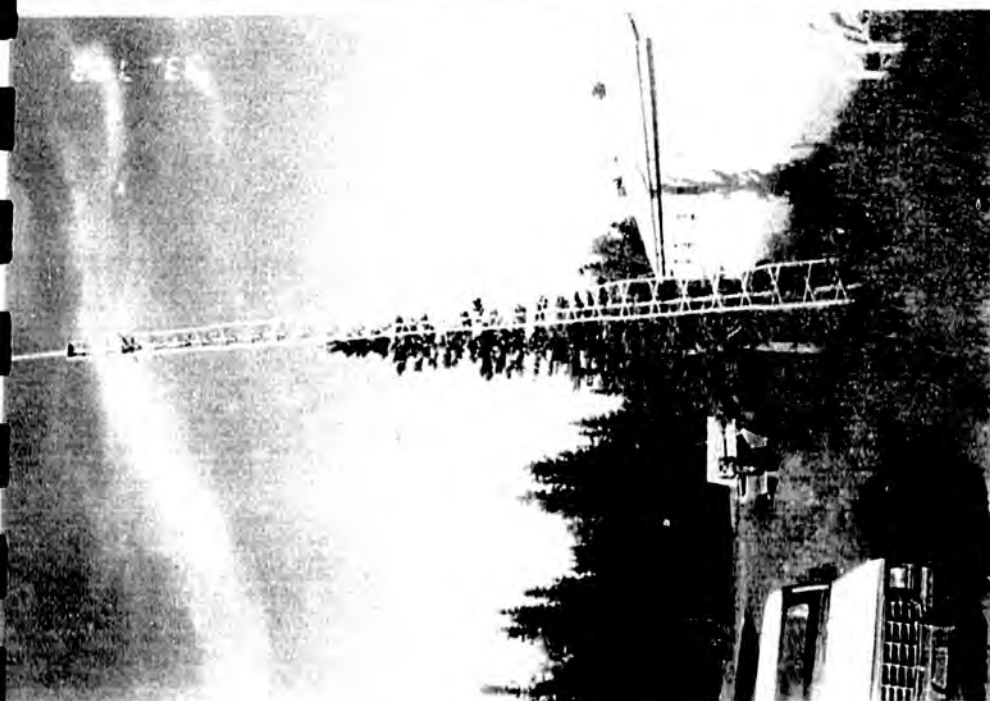


PHOTO 12

Antenna tower appears to be jacking and leaning. May become unstable and topple.

State of Alaska
Department of Public Safety
DIVISION OF FIRE PREVENTION

State of Alaska
Department of Public Safety
DIVISION OF FIRE PREVENTION

Reply
To:

☐ P.O. Box 111200
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Juneau, AK 99811
(907) 465-4331
FAX: (907) 463-5860

☒ 5700 E. Tudor Rd.
Anchorage, AK 99507
(907) 269-5604
FAX: (907) 338-4375

☐ 1979 Peger Rd.
Fairbanks, AK 99709
(907) 456-4002
FAX: (907) 456-2065

NOTIFICATION OF FIRE HAZARDS AND AN ORDER TO CORRECT

To: Mr. Edwin Monson
NWABSD
Box 51
Kotzebue 99752
Phone No: 442-3476

Occupancy Name: Kiana HS
Location: Kiana
UBC Classification: F-1
Inspection Date: 3-11-93

	INSTALLED	ACTIVE (+)	LAST SERVICED	SERVICED BY
SPRINKLER SYSTEM	YES ☒ NO ☐	YES ☐ NO ☒	<u>1</u>	
HOOD & DUCT SYSTEM	YES ☒ NO ☐	YES ☒ NO ☐	<u>9/92</u>	<u>Arctic Weld</u>
STANDPIPE SYSTEM	YES ☒ NO ☐	YES ☐ NO ☒	<u>1</u>	
FIRE ALARM SYSTEM	YES ☒ NO ☐	YES ☐ NO ☒	<u>11/92</u>	<u>Maint</u>
TYPE: MANUAL ☒ AUTOMATIC ☒ S.S. SMOKE DETECTOR				
PORTABLE FIRE EXT.	YES ☒ NO ☐	YES ☐ NO ☒	<u>9/92</u>	<u>Arctic</u>
PROPER TYPE/DESCRIPTION: YES ☒ NO ☐				
EVACUATION DRILLS:	REQUIRED: YES ☒ NO ☐	LAST CONDUCTED <u>11/93</u> <u>Cold weather</u>		

The following deficiencies were noted and are required to be corrected as indicated:

	CODE REF.	CORRECTION REQUIRED BY
① Main exit corridors not fire rated / provide proper proper separation <u>UFC 12.105</u>		
② Storage throughout is too much & not neat & orderly & 2' below ceiling <u>UFC 11.203</u>		
③ Wood shop: large amounts of scrap wood & dust storage of lumber scattered & piled throughout / do not use shop for wood working until amount of combustible materials removed <u>UFC 4.203</u>		<u>3/26/93</u>
WRITTEN RESPONSE IS REQUIRED		

YOU ARE HEREBY ORDERED TO IMMEDIATELY CORRECT THE LISTED DEFICIENCIES AND TO NOTIFY THIS OFFICE OF THE CORRECTION BY THE DATE SPECIFIED IN COLUMN THREE.
SEE OTHER SIDE FOR YOUR APPEAL RIGHTS.

Received by: Tom S. Lewis
Relation to property: Asst Dir
Authority: AS 18.70.070 - 18.70.080 - 18.70.300 - 18.70.310

Deputy: Gary Hentel
Date: 3/11/93
Page 1 of 2

White-Owner

Yellow-File

Pink-Fire Department

Goldenrod-Director

NOTIFICATION OF FIRE HAZARDS AND AN ORDER TO CORRECT
(Continuation Sheet)

DEFICIENCIES/CORRECTIVE ACTION REQUIRED

DATE

- | | |
|--|------------|
| ④ wood shop: use of electrical extension cords are not permitted / provide proper wiring per NEC | UFC 85.104 |
| ⑤ Dust collector not hooked up / provide proper dust collection system to all appliances | UFC 76.103 |
| ⑥ various elect panels have blank spaces / provide covers for missing breakers | UFC 85.104 |
| ⑦ Various ceiling tiles missing / replace missing & broken tiles | UFC 10.401 |
| ⑧ numerous wall penetrations thru R.W.B. / repair penetrations | UFC 10.401 |
| + fire tape needs to be repaired through. | |
| ⑨ Storage in front of electrical panel in Kitchen / remove storage to beyond 30" of panel | UFC 85.108 |
| ⑩ fire lapping in furnace room need to be repaired & coated / repair fire tape | UFC 10.401 |
| ✓ drip pans under fuel burners | |
| ✓ damper 5/8 for combustion air in furnace Rm. & Plywood floor 1 1/4" | |

Owner/Operator (Initial) DTS Div. of Fire Prevention (Initial) JL Date 3/11/93
Occupancy (Name) Kiana HS Page 2 of 2

White - Owner Yellow - File Pink - Fire Department Goldenrod - Director

Power Cost Equalization (PCE)

- The State of Alaska's PCE program began in 1984, with earlier versions dating back to 1980. Its purpose is to make electric rates paid by rural Alaska consumers similar to those paid by consumers in Anchorage, Fairbanks and Juneau.
- PCE is rural Alaska's share of the state's investment in electric power infrastructure. Urban communities received their share primarily in the form of hydroelectric, intertie and other projects. PCE was developed as an assistance program for rural communities where there is no economically feasible alternative to high-cost diesel generation.
- Consumers in 175 rural Alaska communities—totaling about 76,000 residents—benefit from PCE. Consumers other than state and federal facilities are eligible for PCE.
- Electric rates in more than 80 percent of PCE communities are 30 cents or more per kilowatt-hour, compared to an average of 9.7 cents in urban Alaska. Even after PCE is applied, residents of 102 communities pay more than twice urban rates.
- Consumers pay at least the first 9.7 cents per kilowatt-hour for all electricity used. PCE pays a portion of the costs greater than that amount.
- Residential and commercial users receive PCE only on usage up to 700 kilowatt-hours (kwh) per month, about the average monthly residential usage statewide. Consumers pay the full utility rate for usage greater than 700 kwh.

PCE is Vital to Basic Infrastructure in Rural Alaska

- High fuel, transportation and capital costs for rural areas result in high electricity rates. PCE helps maintain the necessary infrastructure for basic electricity and other utility and public services in rural communities. It pays a major portion of the electric bills for water and sewer systems. Without PCE, many local economies could not pay the cost of these services.
- PCE serves as a credit base, allowing electric utilities to obtain financing to improve infrastructure and lower costs.
- A precipitous end to PCE would bring economic chaos to rural Alaska. Urban businesses that serve rural areas would also suffer from lost sales in the rural market.

--continued on other side--

The Program has Significant Oversight

- The Legislature approves funding available for the program each year through the state operating budget. Funds come from the Power Cost Equalization and Rural Electric Capitalization Fund, established by the Legislature in 1993 with a capitalization of \$66.9 million.
- Using a formula, the Alaska Public Utilities Commission determines a rate of PCE assistance for each community after reviewing eligible costs. The Legislature allocated \$17 million for FY97 compared to the \$20 million that would be needed to fully fund the program under the current formula.
- Utilities provide a PCE credit to consumers on their bills and are reimbursed by the Alaska Division of Energy.

Program Funding is at Risk

- In 1993 energy legislation that appropriated funds to urban and rural areas, the Legislature indicated its intent to allocate \$17 million annually to PCE through 2013 to give utilities time to lower the cost of power in rural Alaska. However, the PCE fund was not adequately capitalized for this period. A revenue stream for the fund anticipated by the Legislature—money from repayment of state loans for the "Four Dam Pool"—has stopped as the money is being used to repair several of these hydroelectric projects. The existing PCE fund is expected to run out of money in 1999.

The PCE Program Must Be Sustained

- The rural utility members of ARECA have developed a plan to prevent rural economic disaster. Recommendations include:
 - Reducing full funding of the program from \$20 million in FY96 to \$15 million in FY99.
 - Restructuring the PCE formula to reduce demand in a way that minimizes impacts to residential and community facility consumers.
 - Appropriating enough money to assure the \$15 million funding level through the year 2013. If revenue from the Four Dam Pool is available again, an additional \$10 million will be needed annually.

This fact sheet is a publication of the Alaska Rural Electric Cooperative Association (ARECA). ARECA is the statewide trade association for electric and cooperative utilities. For more information, contact ARECA at 203 West Tudor Road, #200 Anchorage, Alaska 99502. Telephone (907) 561-6103 or Fax (907) 561-5547.

Affordable Power in Rural Alaska

ARECA RURAL ISSUES FORUM REPORT
1996

Alaska Rural Electric Cooperative Association, Inc.
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Anchorage, Alaska 99503
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Contents

1	<i>Introduction</i>
2	<i>Executive Summary</i>
6	<i>Turning on the Lights</i>
8	<i>A Brighter, Safer World</i>
12	<i>The Cost of Power</i>
16	<i>Power Cost Equalization</i>
22	<i>Rural Economies: Affordable Power and Economic Development</i>
26	<i>Urban Economies Benefit from Affordable Rural Electricity</i>
30	<i>Powerful Solutions</i>
38	<i>An Affordable Future Requires Partnerships</i>
42	<i>ARECA and the Rural Issues Forum</i>
44	<i>References</i>

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Introduction

The availability of reliable, affordable electricity in rural Alaska is critical to the future of our communities, in both rural and urban Alaska.

The tremendous achievement of bringing electric service to Alaska's rural communities has been made possible by a strong partnership between local leaders, utilities, and the state and federal governments. A continuation of this public and private sector cooperation is essential if we are to make power more affordable.

Alaska's rural electric utilities have been successful in decreasing costs despite inflation. Real cost to the consumer has gone down dramatically in some areas. But providing power is still expensive.

There is no specific rate at which power becomes affordable. But when electricity costs four times the state and national averages, in communities with less than average income, it is clearly not affordable.

Government has been an active partner in the effort to make affordable power available in rural areas because electric service promotes economic development, improves living conditions and helps achieve public health and safety goals. Universal service benefits urban as well as rural Alaska.

Both the federal and state governments are now struggling with budget problems. Cuts in government funding for rural energy efforts could create a fiscal crisis for rural utilities and the communities they serve. Consumers that already pay high electric bills could face even higher bills.

The Power Cost Equalization (PCE) program is of particular concern, since it currently plays a major role in helping to make power affordable for rural Alaskans. Funding for PCE will disappear in just a few short years if no new money is appropriated. A precipitous end to the program could jeopardize the public and private investment made in rural infrastructure and have severe consequences for consumers.

This report explains the current status of the effort to bring affordable power to rural communities and some of the actions being taken to lower costs. It is presented to stimulate discussion about the critical issues we face. We look forward to productive dialogue with those who will work with us to assure that rural consumers have access to affordable power.

*Public and private
sector cooperation
is essential if
electric service is
to be maintained
and made
more affordable.*

Bringing electricity to rural communities required government participation.

Turning on the Lights

Electric service is relatively new in rural Alaska. Bringing electricity to rural communities required government participation as well as strong local and utility commitment. The isolation of rural communities resulted in the proliferation of small utilities that serve individual communities.

The State of Alaska has built power projects throughout the state, with most of the money spent benefitting urban areas. Rural areas received some direct investment and the Power Cost Equalization (PCE) program to promote affordable power, since they received no direct benefit from the larger power projects. Several hundred million dollars have been invested by the public and private sectors in rural electric systems.

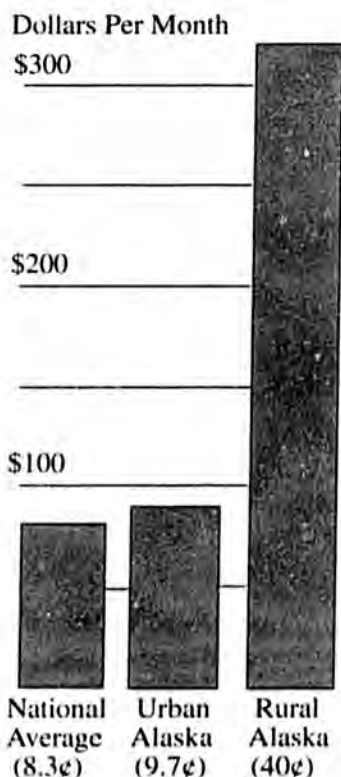
A Brighter, Safer World

Electric service has provided the basic foundation for other services and improved the standard of living in rural communities. It has become an essential part of daily life in homes, in schools, in health clinics, in local government offices, and in businesses. It supports water and sewer and telecommunications systems. Average electricity use in rural communities is about half that in urban areas because electricity is expensive.

The Cost of Power

Providing electricity in rural areas is expensive. Small populations in isolated areas must bear high capital, fuel and transportation costs. Rural utilities have few opportunities for creating economies of scale that would lower the per unit cost of providing power. They are, however, winning the battle against inflation, through constant efficiency improvements. Adjusted for inflation, operating costs per kilowatt-hour (kwh) are about one-third less than they were when the

Electricity Costs



Rates vary, but many rural Alaskans pay four times the state and national averages for the electricity they use.

Executive Summary

*Average electricity use
in rural communities
is about half that in
urban areas because
electricity is expensive.*

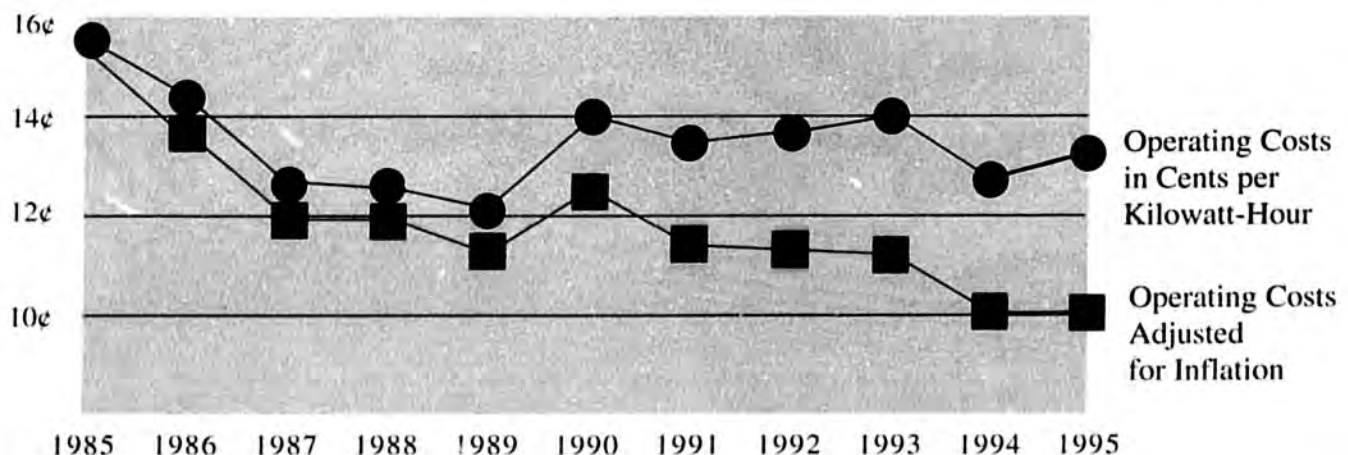
state began its PCE program. Electricity rates are still often more than four times the state and national averages in communities with below average income. Rates are 40 cents or more per kwh in about 60 percent of the communities eligible for PCE.

Power Cost Equalization

The State of Alaska's PCE program is currently a critical link in making electricity affordable for rural residents. PCE pays part of the cost of a limited amount of electricity usage. It is applied to just one-third of the power sold in rural Alaska each year; consumers pay for the other two-thirds at full rates. Residential consumers and community facility accounts receive most of the benefit from PCE. In 1994, PCE paid 64 percent of the cost of electricity for municipal water and sewer systems in communities served by the Alaska Village Electric Cooperative (AVEC).

Operating Costs for Utilities Receiving PCE, 1985 to 1995 (does not include fuel costs)

Rural utilities are winning the battle against inflation. Through efficiency improvements and other means, PCE utilities have reduced operating costs by about one-third since 1985.



Long-term solutions usually take years to develop.

Even with PCE, rural residents typically pay rates twice what urban Alaskans pay for electricity. In FY95, residents of 102 communities paid more than 20 cents per kwh for the electricity they used, after receiving PCE. PCE provides a stable revenue source that assists utilities in their effort to seek financing for building electrical infrastructure and making efficiency and service improvements. Loss of PCE would retard the effort to develop affordable power in rural areas and could mean the loss of service in some areas.

Rural and Urban Economies

Affordable power encourages economic development and job creation. Most of Alaska's wealth is based on resource extraction from rural areas. Urban areas that are service centers for these activities benefit from rural infrastructure that facilitates commerce. Electricity helps to support transportation, sanitation, and other infrastructure. Rural residents have more to spend both locally and in urban areas if they are able to spend less on electricity. Utilities themselves are important businesses in rural communities and purchase specialized equipment and services from urban Alaska businesses.

Powerful Solutions

The specific solutions to the problem of providing affordable power must consider local circumstances. Long-term solutions usually take years to develop. There are three effective strategies that utilities pursue: improving economies of scale, increasing generation and operational efficiencies, and developing new technologies.

Examples of actions being taken include consolidation of and cooperation among rural utilities, improvement of load factors by matching capacity with load needs, development of a new fuel efficient electricity generator from a diesel truck engine, and development of hydroelectric and wind generation. While conservation programs may help individual consumers reduce costs, large-scale programs could undercut efforts to improve economies of scale and, in general, would not be as effective as other methods in reducing costs to utilities and their customers as a whole.

An Affordable Future

Rural Alaska will not achieve affordable power unless businesses, government, utilities and consumers strengthen their partnership efforts. Continuation of the PCE program, while long-term solutions are implemented, is of critical importance. Economic development efforts and support for utility initiatives to improve efficiencies and explore new technologies will help to ensure affordable power for the future. Utilities will continue to explore avenues of cooperation with others in this effort.

Electricity Use in Rural and Urban Alaska

Rural Alaskans use electricity conservatively because it is expensive. Average usage varies between communities and in different seasons. Overall, an average of 326 kilowatt-hours (kwh) used per residential and commercial customer were eligible for PCE credit in 1995.

How 326 kwh might be used in a village home:

*Refrigerator (1,000 watt, 14 cu ft. frostless)	100
*Freezer (1,000 watt, 15 cu ft. frostless)	100
Coffee Maker	15
Toaster	3
Hair Dryer	2
Clock	2
Television	20
VCR	4
*Indoor Lighting	60
Outdoor Lighting	20
TOTAL	326

Urban homes typically have a number of other appliances that may or may not be present in rural homes. Below are examples of the estimated range of usage for additional appliances that might be in an Anchorage home:**

Electric Range(Stove)	30-60
Dishwasher	20-50
Slow Cooker	3-12
Garbage Disposal	2-5
Vacuum Cleaner	4-6
Sewing Machine	1-4
Car Engine Heater	30-150
Heat Tape or Deicer Cable	10-150
Stereo	1-5
Video Games	1-4
Computer	2-35
Washing Machine	4-12
Clothes Dryer	50-150
Water Heater	150-550

* Actual kwh used depends on appliance efficiency and use patterns. A highly efficient refrigerator or freezer opened rarely might draw 40 kwh per month while an older, less efficient model opened often could draw 200 or more kwh per month. The lighting example is based on four 100-watt bulbs on for five hours per day, though the same kwh would be used by fewer lights on for a longer period or more lights of lower wattage used for the same period.

** From *Sometimes The House That Costs More, Costs Less*,
a publication of Chugach Electric Association, based in Anchorage.

Together and through their utilities, government and consumers have made a tremendous investment in the rural electrification effort. That could be jeopardized if power does not remain affordable.

Electric service is relatively new in most of Alaska's smaller communities. The effort to electrify villages began in earnest about 30 years ago and continues to a lesser extent today. Nearly all of Alaska's communities now have electricity. This tremendous achievement was made possible by partnership between the public and private sectors.

The first major electrification effort began after a 1966 report by the federal Rural Electrification Administration (REA) noted that 206 villages were without central station service. Federal officials worked with rural leaders to form the Alaska Village Electric Cooperative (AVEC) in 1968. AVEC used low-interest loans from the REA and local volunteer construction labor in a creative effort that helped make service feasible. Still, economics forced the co-op to limit its efforts to communities that had at least 150 residents. By 1972, AVEC had electrified 48 villages. It is now the largest utility serving rural Alaska. The consumer-owned co-op has made capital investments of more than \$54 million in generation and distribution systems serving 50 villages. Alaska Power and Telephone (AP&T), an employee-owned company, has also worked to bring power to rural communities. Today, it serves 21 communities throughout Alaska.

There are a few other utilities that serve a number of communities, and utilities in rural regional centers typically serve more than 1,000 consumers. But these larger utilities are the exception. Sixty of the 103 utilities participating in the PCE program serve individual communities with fewer than 100 consumers. Most of these small utilities are municipal, Native corporation, or tribal utilities. Some

Turning On the Lights

*Many rural communities
received central electric service
for the first time within
the last 30 years.*

communities installed generation, and some built lines to distribute power purchased from the local school district, cannery, or other business. Many of these systems were initially funded by a state grant or loan.

In the 1970s and 1980s, the State of Alaska provided grants and loans and arranged bonding and other third-party financing to develop power projects throughout Alaska. The goal was to turn part of the state's new oil wealth into lasting energy infrastructure. Through the Alaska Power Authority (later called the Alaska Energy Authority), the state spent a total of about \$907 million on this effort, mostly to develop transmission and hydroelectric projects in urban areas. The Anchorage-Fairbanks Intertie and state-owned hydroelectric projects at Swan, Tyee, Terror, and Bradley Lakes and at Solomon Gulch were among these projects. In addition to direct expenditures, the state provided loans or facilitated bond financing for these and other projects.

After evaluating the situation in rural Alaska in the early 1980s, state officials concluded there was no viable alternative to diesel generation in most rural communities. Since then the state has spent about \$173 million in direct development or upgrade of rural electric systems. It also began a power cost assistance program for rural residents to balance assistance provided to urban Alaskans through development of large power projects. The program later became the Power Cost Equalization (PCE) program.

Together, government and consumers — through their utilities — have made a tremendous investment in rural electrification.

*AVEC used
low-interest
federal loans
and local
volunteer labor
to help make
service feasible.*

Healy Lake: Ushering in the Future

Healy Lake village residents will never forget 1994. It's the year Alaska Power and Telephone (AP&T), with assistance from the Alaska Division of Energy (DOE), installed a 64 kw diesel powered generator system and a telephone network to serve the 30-resident village near Delta Junction. The work required an investment of \$300,000.



"Power and communication are two basic things you need in a community. It means jobs."

—Pappy Kirsteatter

Mike Fifer (left), Ray Fifer (center), and John Harvey survey equipment as construction of the electric system begins at Healy Lake.

How important is the arrival of power and telephones to a village previously connected to the outside world only by boat or airplane?

"Our people have been carbon-dated to 11,000 years of occupancy in this area," says Fred Kirsteatter of the Healy Lake Tribal Council. "When you look at it that way, and we're just now getting electricity, it's a big deal."

"Healy Lake is one of the last villages of its size in Alaska to obtain a generator system," says Ray Fifer, Tribal Administrator. Obtaining power is the first step in the village plan that within a few years includes new homes, a washeteria, school, clinic, community center and a commercial fishery. Whitefish are plentiful in Healy Lake, and the power system can support commercial freezers needed to start the fishery.

"Power and communication are the two basic things you need in a community," says Paul "Pappy" Kirsteatter, Tribal Chief and a 51-year resident of Healy Lake. "It means jobs."

How does it feel to finally have electric power service?

"To have street lights, yard lights, running water and communications?" Fifer says. "It's culture shock. It's great."

This story has been excerpted and condensed from an AP&T article.

A Brighter, Safer World

Electricity in Rural Alaska

Electricity has improved the lives of rural Alaskans. It has created brighter, safer communities and become an essential element of daily life. There are other factors besides electricity necessary to achieve a higher standard of living, strong economic development and good educational opportunities. But universal electric service has been and remains a basic instrument in achieving these goals.

Electricity use in rural communities has been increasing but is still used very conservatively because of its high cost. Residential consumers of the Alaska Village Electric Cooperative now use an average 335 kilowatt-hours (kwh) per month, compared to 144 kwh in 1969. Usage varies according to the season. For instance, average residential use by AVEC consumers was 269 kwh in June of 1994 and 415 kwh in December of that year.

Growing populations are another major factor increasing electricity use. In Unalakleet, consumption per residential consumer in 1994 (495 kwh per month) was about the same as it was in 1989 (499 kwh per month). But the total amount of residential electricity sold in Unalakleet increased 13 percent due to an increase in the number of consumers. Statistics on the Power Cost Equalization (PCE) program published by the State of Alaska also demonstrate this trend. The population in communities eligible for PCE increased by more than 7,000 between 1990 and 1995, with a corresponding 11 percent increase in the number of residential and commercial consumers.

Economic growth, school activity, and development of water and sewer systems and other community facilities account for much of the growth in electrical usage. Average electricity use by AVEC's commercial customers, now 1,620 kwh per month, has increased about 22 percent since 1990. The amount of all PCE eligible electricity sold to community facilities in Alaska increased by 47 percent between 1990 and 1995.

Electric usage will continue to increase with modernization and as new technologies and utility efficiencies help to lower the cost of power. The light bulb replaced kerosene lamps when electricity came to rural communities. In the future, electricity may displace fuels now being used for other things, such as propane stoves in village homes. Rural Alaskans are finding computers and other electrically operated equipment more and more important in their lives, as are people all over the world. This trend increases the importance of having reliable, affordable electricity in rural Alaska.

- *Home and business lighting*
- *Street lighting*
- *Televisions*
- *Computers*
- *Refrigerators and freezers to safely store subsistence foods*
- *Commercial freezers in village stores*
- *Vehicle preheaters for cars, snowmobiles, airplanes and four-wheelers*
- *Power for ignition and fans for energy-efficient home heating systems*
- *Power for telecommunications and electronic equipment delivering educational programs to rural students*
- *Pumps for water and sewer systems*
- *Laundry facilities*
- *Airport runway lighting*

Electricity has created safer communities with strong potential for economic growth.

The Power of a Kilowatt-Hour

Electricity makes life easier because even one kilowatt-hour does a tremendous amount of work, compared to human labor. One kilowatt-hour is the energy used to light one 100-watt light bulb for 10 hours.

Also consider:

A person shoveling a foot of snow off a driveway 10 feet wide does about 23 foot-pounds of work per shovel-ful. That person would have to clear a driveway two miles long to generate energy equal to one kwh.

A person working steadily with a hand pump for one hour can pump 4,000 gallons of water out of a 25-foot well. An electric powered pump, using one kilowatt-hour (about 1 1/3 horsepower), would pump 10,000 gallons out of the same well.

(Source: Mataruska Electric Association)

Electricity Brightens the Winter World in Ambler

It's forty-five degrees below zero. "Not too bad," quips Scott Whalin as he sips morning coffee at the Kobuk River Lodge. He'll be out in that cold soon, working to fix the local telephone system. At the elementary school, principal Steve Cathers supervises efforts to thaw frozen water pipes.

Telephones and running water are basic services, but they rely on something even more basic — electricity. A battery backup system would keep the telephones operating for just eight hours if the electricity failed. The water and sewer system would freeze quickly in this weather without electricity to power circulation pumps.

Ambler is about 138 miles northwest of Kotzebue. Established in 1958, its population has grown in the last 25 years from a few families to 345 people. As it grew, so did the need for services.



Ambler in winter.

Cooperative Effort Brought Electricity

In 1976, Ambler leaders worked with the Alaska Village Electric Cooperative (AVEC) to bring central station service to their community. Like other cooperatives, AVEC is a democratic, non-profit organization. Everyone who buys electricity is a member and eligible to participate in the election of the co-op's leaders.

Helena Jones, 45, of Ambler is one of AVEC's seven directors. Her parents, Tommy and Clara Lee, were among those who established the village. Like others in Ambler, her mother remembers the bright lights that came with electric service. "It was too dark," she said of life with kerosene lamps.

Telephones and running water are basic services, but they rely on something even more basic — electricity.

On one evening in the village, Helena fixes spaghetti with caribou meat and caribou sausage and then sits down to watch national championship figure skating on television with two of her children. Her son Craig, 18, plays a computer game. Another son is in a basketball game under the lights of the school gymnasium. Helena's husband, Scott, is on the telephone coordinating business of the local air taxi operation, for which he works as a pilot and aircraft mechanic.

Helena, who is also on the Northwest Arctic School District board, says she believes one of the most important benefits of electricity is that it allows village children to learn computer skills that will prepare them for future employment.

Cathers says schools use electricity in many ways. "If we didn't have electricity, schools would cease to function as they do," he said. The journalism class uses computers to write stories; spanish language classes are brought in via satellite.

But it was the children's health, not their learning, that made the principal anxious to get water flowing when the pipes froze. "With hepatitis going around, we're particularly concerned about having hot water for washing," he said.

One of the community's health aides, Julia Cleveland, says just about everything in the local clinic runs on electricity — from the lights, to the sterilizer, to the radios and telephones that allow her to communicate with doctors at the hospital in Kotzebue.

Ron Randall heats both his home and his small store, where he sells a variety of items from snowmachine parts to soda, with fuel-efficient heaters that must have electricity to operate. That's an indication of the trust people have that electricity's going to be there when they need it, trust that led elder Art Douglas to replace his propane stove with an electric one. "It's more reliable," he explained. Propane lines freeze in the calm and crisp cold that grips Ambler these winter days.

The importance of electricity to the community is summed up succinctly by the city administrator, Carol Cleveland: "We couldn't do without it," she said.

This story is an excerpted and edited version of a longer story that appeared in *Ruralite* magazine in March 1993.



Scott Whalin, a journeyman lineman with the area telephone company, relaxes at the Kobuk River Lodge.

Our rural communities are isolated from one another and utilities are not able to spread the cost of providing electric service over a large consumer base.

There are three main factors contributing to the high cost of power in rural Alaska: the large capital costs involved in installing systems, high fuel costs, and high transportation costs. These are all exacerbated by the lack of economies of scale. Rural utilities have relatively few opportunities, compared with urban utilities, to lower the per unit cost of electricity by spreading fixed costs over a large consumer base, or by getting cost breaks for buying large amounts of materials.

Nevertheless, rural utilities have successfully reduced costs. Real operating costs of utilities participating in the Power Cost Equalization (PCE) program are about one-third less than they were when the program began. Rates paid by Alaska Village Electric Cooperative (AVEC) consumers are 65 percent less in constant (inflation-adjusted) dollars than they were in 1978.

Producing and distributing electricity in rural Alaska remains expensive. In order to cover costs, utilities must often charge rates that are far higher than those paid by urban Alaskans or by most people in other states. Residential customers in Alaska's largest cities — Anchorage, Fairbanks and Juneau — pay an average of about 9.7 cents per kilowatt-hour (kwh). Nationwide, the average is about 8.3 cents per kwh.

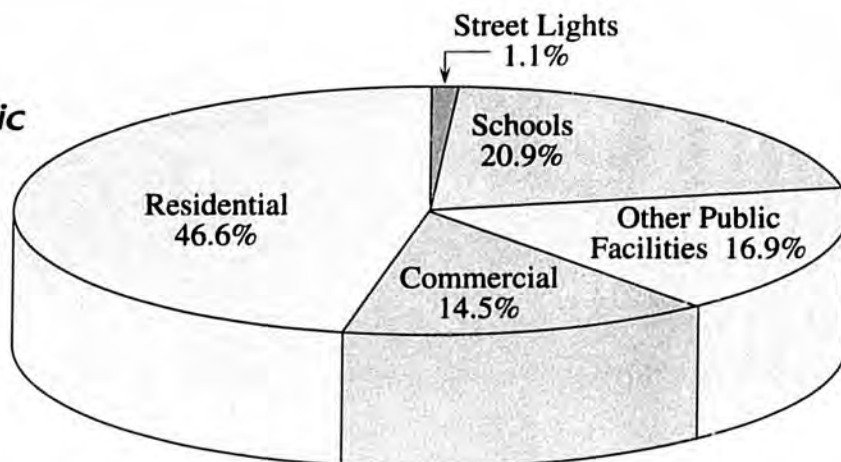
In rural Alaska, residential electricity costs between 15.0 cents per kwh (Anaktavuk Pass) and \$1.00 per kwh (Telida). Residents in more than 80 percent of PCE communities face rates of 30 or more cents per kwh and about 60 percent pay more than 40 cents per kwh. The wide variation in rates reflects differences in the factors that influence costs.

The fact that average household income is generally lower in rural communities where the cost of power is high means that rural residents pay a higher percentage of income for using the same amount of electricity as other consumers. Eight out of eleven rural census areas had lower median household incomes than the statewide average (\$41,408) in 1992. For the Wade-Hampton area on the Yukon-Kuskokwim Delta, median household income was just \$20,586. Overall, 21.4 percent of rural Alaskans lived in poverty, compared with nine percent of all Alaska residents.

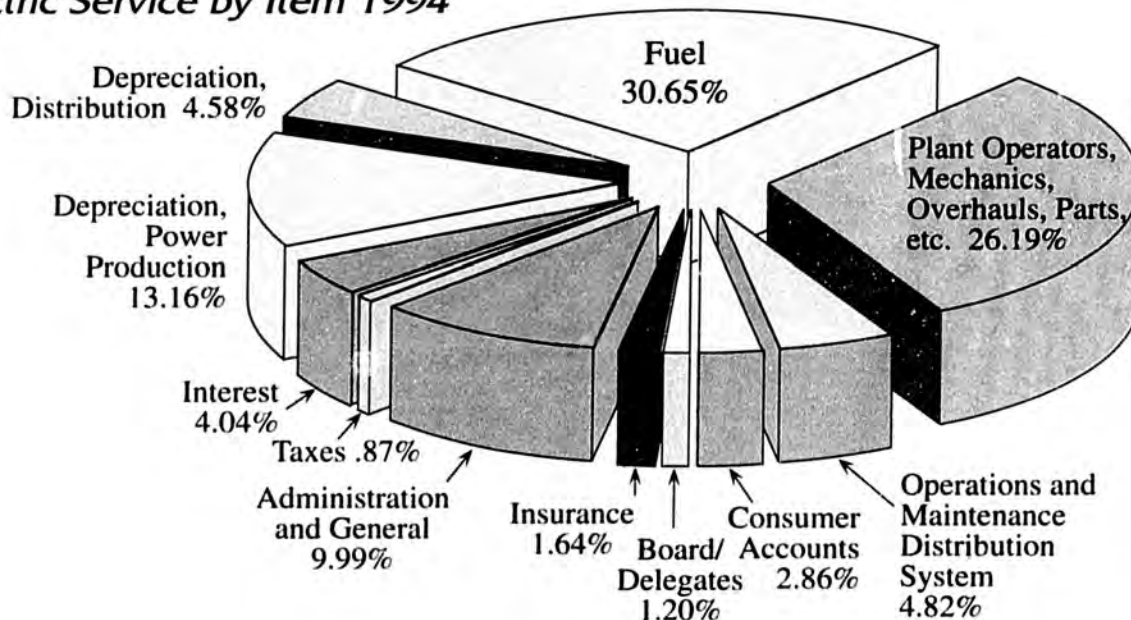
Nationally, residential consumers use 822 kwh per month and spend \$821 on electricity each year. The annual electric bill is about 2.7 percent of median household income (\$30,786) in the U.S. A consumer living in a household with median income on the Yukon-Kuskokwim Delta paying 40 cents per kwh would spend \$3,945 per year to use the same amount of electricity. That's 19 percent of household income. Half of households in the area have incomes below the median; they would pay an even larger percentage of their income to use that amount of electricity.

The Cost of Power

**Alaska Village Electric Cooperative (AVEC)
Source of Electric Revenue 1994**



AVEC Total Cost of Electric Service by Item 1994



The reality is that, in part because of the high cost of power, most households in rural Alaska use less than half the state (682 kwh) and national averages. State statistical reports indicate each residential and commercial consumer used an average of 326 PCE-eligible kwh per month in FY95. At 40 cents per kwh that would cost the example household \$1,565 per year, or about 7.6 percent of household income.

Rural residents also pay high rates for other types of energy they use, such as fuel oil for heating and gasoline for vehicles. The combined effect is that a much higher percentage of income is spent on energy than in other places.

Rural residents generally pay a higher percentage of income for the same amount of electricity as urban residents.

Factors Contributing to the High Cost of Electricity in Rural Alaska

Capital Costs

Among the most significant factors is the high capital investment cost to serve a small number of people. Capital costs for AVEC, measured as depreciation and interest on loans taken out to install equipment, represent about one-fifth of the annual cost of providing electricity.

Fuel Costs

The vast majority of rural communities rely on diesel generation, and the cost of generation fluctuates with changes in the price of fuel. In 1994, fuel costs were about one-third of AVEC's costs of providing electricity. The largest rural utilities, which pay the lowest diesel prices, still pay five times per Btu (unit of energy) what urban utilities in Alaska pay for natural gas.

Transportation Costs

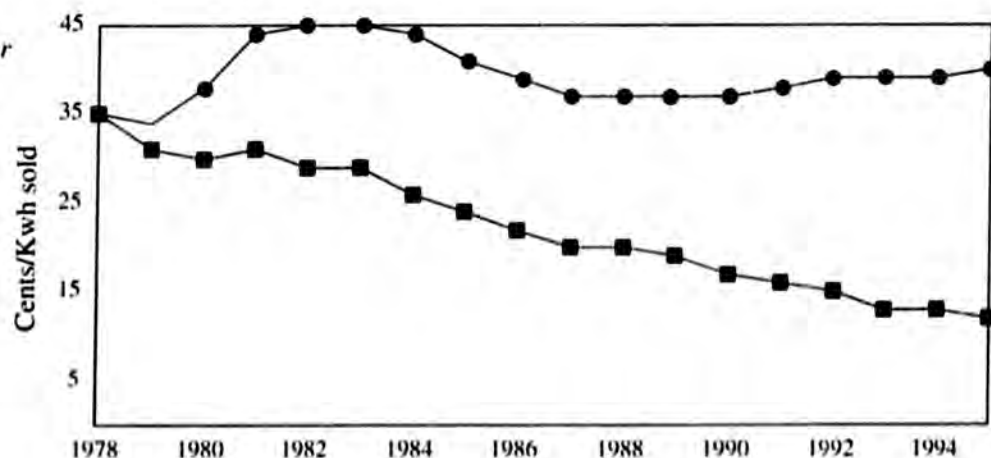
Fuel, equipment, most supplies and some labor must all be flown or barged in to most rural communities. Thus transportation costs significantly increase the cost of materials and supplies needed to produce electricity.

AVEC Average Revenue Per Kwh Sold

AVEC has reduced the real cost of power to consumers.

In 1978, the Alaska Village Electric Cooperative sold electricity for about 35¢ per kwh. The rate was 40¢ per kwh in 1995 — but only 12¢ per kwh in 1978 dollars.

- Actual cost
- Costs adjusted for inflation using the Consumer Price Index



Naknek: Reducing Costs with Economies of Scale

Spreading relatively fixed high capital, operations, and maintenance costs over a larger sales base helps to improve the economies of scale for utilities, lowering the per kilowatt-hour cost of power production. The recent experience of Naknek Electric Association (NEA) provides a good example of how this process can help utilities reduce costs to both consumers and the state's Power Cost Equalization (PCE) program.

The area NEA serves in southwestern Alaska has experienced good growth in the last few years. The number of retail kilowatt-hours (kwh) sold increased 22 percent between 1989 and 1994. NEA used more fuel to generate that electricity; fuel costs rose 21 percent. Even though capital investments of \$2.2 million were made during that period, total nonfuel costs rose less than 12 percent. Utility costs increased slower than the growth in electric sales.

NEA's general manager, Meera Kohler, says improved economies of scale through increased sales has been a significant part of making it possible for the consumer-owned co-op to reduce rates by almost 10 percent. In 1995, NEA charged an average 21.73 cents per retail kwh, compared to 22.32 cents in 1989. A further rate reduction to 19.3 cents went into effect in January 1996. This rate reduction is more impressive when you consider rates would normally increase due to inflation in the general economy.

The utility's success in reducing the cost of providing power is also reducing costs to the PCE program. In 1989, the state provided 9.84 cents per eligible kwh used by an NEA consumer. By 1995 that had dropped to 7.24 cents per kwh. About 1.6 cents of the drop was attributable to increased efficiency and increased economies of scale experienced by the utility.*

Naknek consumers use approximately four million eligible kwh each year. That means the state is now saving \$64,000 annually in PCE expenses in this one area alone. The number of eligible kilowatt-hours has increased due to additional eligible consumers, but net PCE costs to the state were still \$47,000 less in FY95 than they would have been without the improved efficiency and economies of scale.

* Naknek also improved fuel efficiency by replacing its three oldest generators with more efficient engines. In 1989, NEA sold 12.76 kwh per gallon. In 1994, it sold 13.67 kwh per gallon. The State of Alaska contributed \$170,000 to the \$900,000 efficiency effort.



*NEA's general manager,
Meera Kohler, in the
co-op's diesel electric plant.*

The PCE program was developed to give rural residents a share in the use of oil revenue to promote affordable power.

The State of Alaska's Power Cost Equalization (PCE) program currently plays a critical role in making power more affordable in rural Alaska. The program pays a portion of consumers' bills for a limited amount of electricity. Only about one-third of the electricity sold in eligible communities qualifies for PCE; the other two-thirds is paid for at the full rate charged by the electric utility.

The PCE program works by providing reimbursement to utilities for credits applied to consumer bills for up to 700 kilowatt-hours (kwh) of electricity used each month. The credits are calculated using PCE rates established by the Alaska Public Utilities Commission (APUC) for each individual utility.

Before setting the PCE rate, the APUC reviews a utility's reported costs and determines which are reasonable costs of providing power. The APUC can and does disallow costs it deems excessive or inappropriate. This review ensures that the state's money is spent only on necessary costs. Items such as depreciation on equipment provided to the utility through state grants are not allowed. Any costs above 52.5 cents per kwh are also excluded from the calculation.

After determining reasonable eligible costs, the state applies a formula derived from statutes and regulations to determine the PCE credit rate for each community. Consumers are required to pay the first 9.5 cents of cost for each kwh used before receiving any assistance. This is about the average cost of power in Anchorage, Fairbanks, and Juneau. The PCE credit covers 95 percent of the additional cost of power.* In FY95, the PCE rate ranged from a low of 2.1 cents per kwh in Skagway to a high of 34.7 cents per kwh in Manley and five villages along the Kuskokwim River.

"Equalizing" Power Costs

State assistance to rural consumers began in 1980. Earlier programs were replaced with the PCE program in 1984. The stated purpose of the PCE program was to "equalize" the cost of power between rural and urban communities, bringing consumer costs in communities dependent upon diesel generation close to the average cost of power in Anchorage, Fairbanks, and Juneau.

It does not accomplish this goal. Most rural residents still pay more than twice as much for the electricity they use than do urban

Only 1/3 of the electricity sold in rural communities qualifies for PCE assistance.

* In recent years, full funding has not always been available for the PCE program, so consumers have seen a percentage reduction in the amount of their credit.

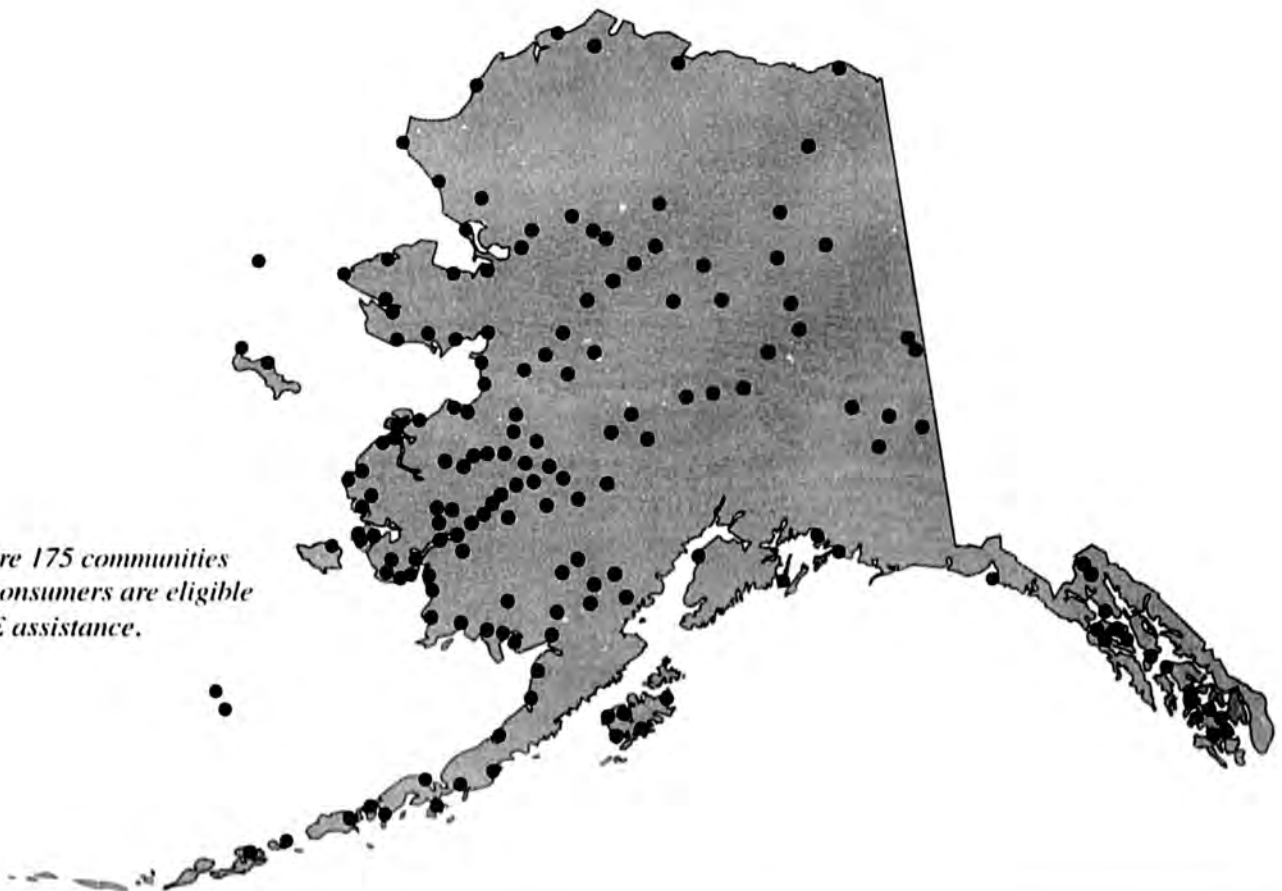
Power Cost Equalization

After PCE, many rural residents still pay more than twice as much as urban Alaskans for the electricity they use.

Alaskans, even after getting PCE. The effective rate paid by consumers — assuming that all kwh were eligible for assistance — ranged in FY95 from 9.5 cents per kwh in villages served by North Slope Borough Power & Light to 73.4 cents per kwh in Telida. Residents of 102 communities paid 20 cents or more per kwh for their electricity, even after getting PCE.

At 20 cents per kwh, consumers living on the Yukon-Kuskokwim Delta who use the average amount of electricity for PCE consumers (326 kwh) and have median household income for the area, would pay a higher percentage of income (3.8 percent) after getting PCE for the electricity they use than the average national consumer pays for more than twice as much electricity.

There are 175 communities where consumers are eligible for PCE assistance.



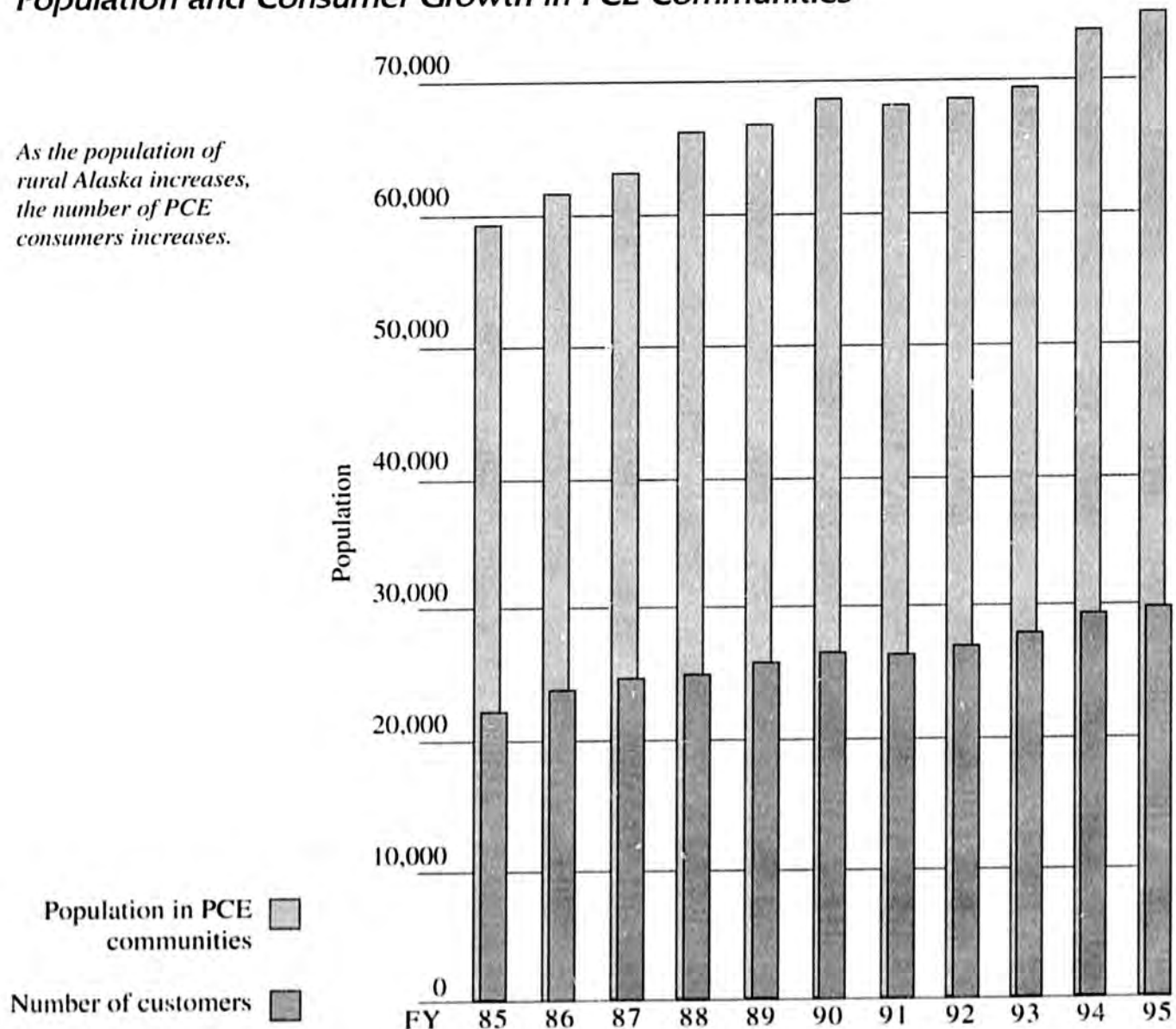
Who Gets PCE?

In 1993, the Alaska Legislature eliminated state and federal offices from eligibility for PCE. All other residential and commercial consumers are eligible. In addition, the accounts that pay for community facilities — such as street lights, water and sewer systems, and civic buildings — are eligible for PCE but are subject to different limits. PCE for such facilities is limited to a community-wide total of 70 kwh per resident per month. The program average in FY95 was just 29 eligible kwh per capita used each month.

There are far more residential than commercial consumers in rural Alaska, so the program primarily benefits households. The 700 kwh cap on eligible kwh limits the program's value to businesses, but PCE is important for many small businesses. Schools are among the largest commercial customers and get PCE, but most of the electricity used for education is paid for at the full rate.

Population and Consumer Growth in PCE Communities

As the population of rural Alaska increases, the number of PCE consumers increases.



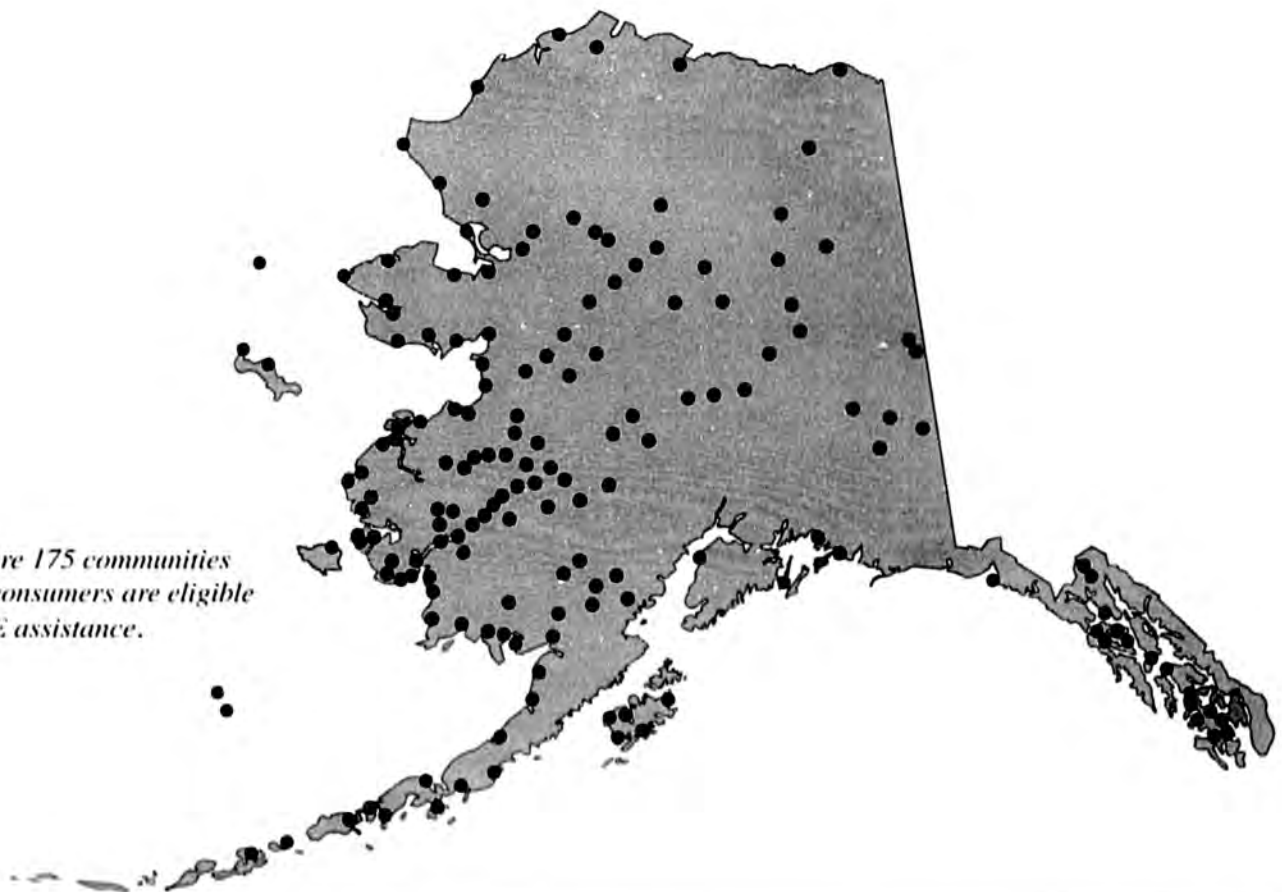
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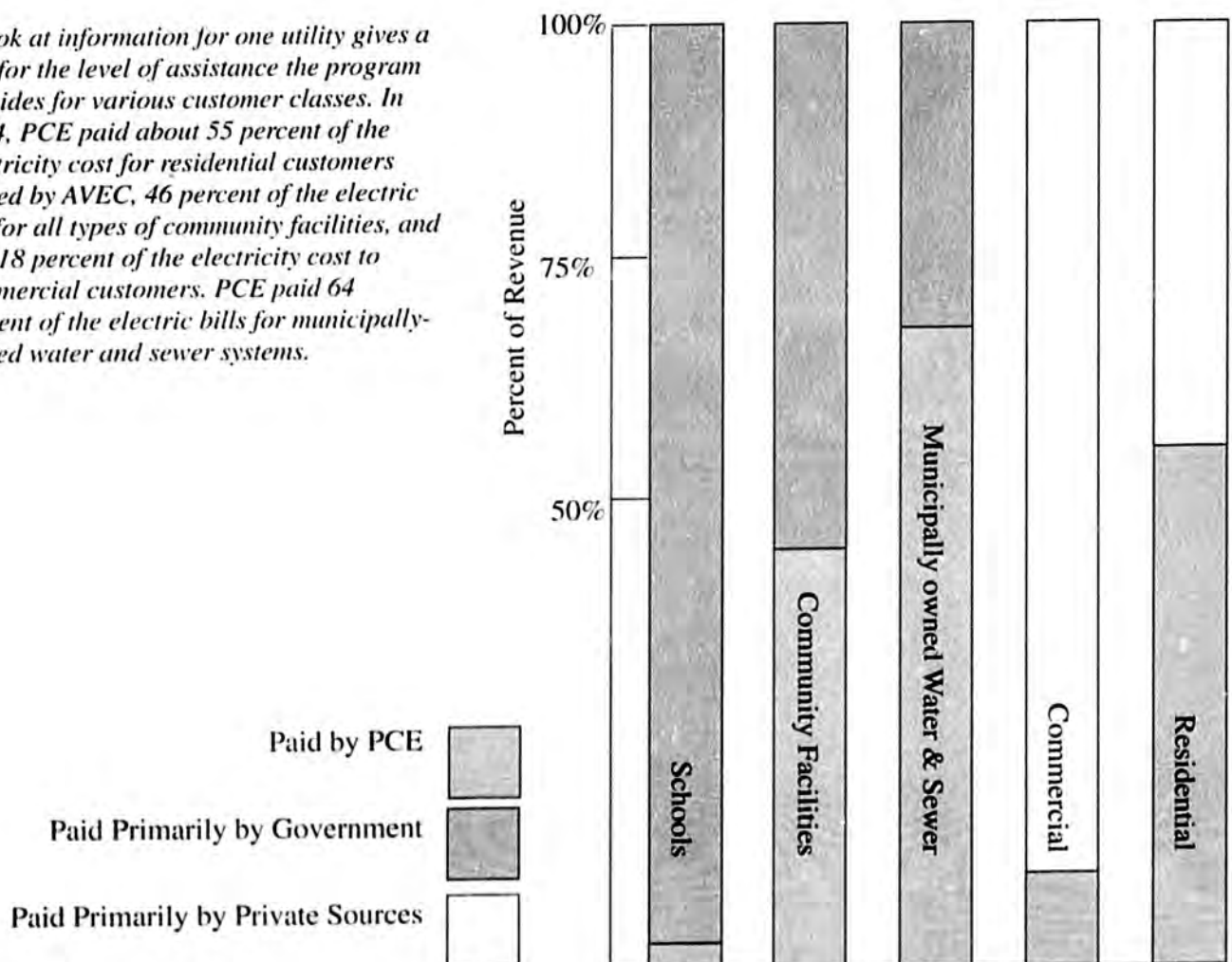


What has PCE Cost the State of Alaska?

The program's annual cost has been between \$17 and \$20 million. Budgets are estimated each year based on anticipated need and the existing formula for PCE credit. The state has spent a total of about \$240 million assisting rural residents with electric bills since 1980. The cost of the PCE program has risen since it began in 1984, but the eligible kwh usage and cost per consumer have remained relatively stable. In FY 95, an average of \$637 in PCE was paid to 29,021 rural consumers, an almost identical benefit to that received by eligible consumers in 1985 (\$636). However, the cost of living increased about 30 percent in that time, so the actual benefit in constant dollars has decreased over time. The relative stability of program cost, despite inflation and increasing population, reflects efforts by utilities and the state to increase the efficiency of utility operations.

Source of Revenue by Customer Class, AVEC 1994

A look at information for one utility gives a feel for the level of assistance the program provides for various customer classes. In 1994, PCE paid about 55 percent of the electricity cost for residential customers served by AVEC, 46 percent of the electric bill for all types of community facilities, and just 18 percent of the electricity cost to commercial customers. PCE paid 64 percent of the electric bills for municipally-owned water and sewer systems.



Required minimum living standards cannot be sustained without adequate and affordable electric service.

Benefits of PCE

- ***Makes Electricity Affordable for Rural Residential Customers***

The average annual PCE assistance to residential consumers in FY95 was \$637. The amount varies from community to community and consumer to consumer, depending on electric rates and usage.

- ***Provides Reliable Revenue to Rural Utilities to Sustain Electric Systems***

The state's PCE program assists rural utilities in obtaining financing for capital improvements from lenders because the utilities can show that they have a stable revenue stream.

- ***Supports Public Health and Safety, Education and Economic Development Goals***

PCE underwrites a substantial portion of the electricity cost for community facilities, such as water and sewer systems and street lights. PCE contributed 64 percent of the cost of electricity to run municipal water and sewer systems in communities served by AVEC in 1994, about \$358,000. PCE paid 65 percent of the cost of lighting street lights in those communities.

Although businesses mostly pay the full cost of power because PCE credit is limited to 700 kwh per month, they still benefit from the program. Average use by AVEC's 343 commercial customers was 1628 kwh per month in 1994. PCE paid for about 18 percent of commercial bills, compared to 55 percent of residential billings. The \$440,000 received by commercial consumers was about one-tenth the amount received by residential consumers. But the average annual amount received per commercial consumer was higher than per residential consumer (\$1,281 compared to \$954), because of the higher average usage.

The Future of the PCE Program

The Alaska Legislature established the Power Cost Equalization and Rural Electric Capitalization Fund in 1993 to pay for PCE. It put in statute an intent to fund the program at \$17 million annually through 2013. The fund was not adequately capitalized, however, and money for PCE will run out in a few years unless more is appropriated. Even if the legislature follows through on its funding intent, benefit levels will significantly decrease due to inflation and population growth.

What Will Happen if PCE is Eliminated?

If PCE is eliminated or if the fund is allowed to run dry, consumers will react to the loss of assistance according to their ability to pay the increased cost of electric service. The larger towns, where electric rates are relatively low and household incomes are relatively high, would see less impact from the loss of PCE. The severe impact would be in smaller villages where residents have less money. Many households would be forced to do without electricity, perhaps resorting to kerosene lamps, with wood stoves or gravity feed pot burner oil stoves replacing systems that now require electrical ignition for space heating. This would simply bring back conditions that helped spur the rural electrification effort.

Community infrastructure would be threatened by the same problem of finding money to pay the higher electric bills. With no tax base and reduced government funding, the use of community facilities, including water and sewer systems, would not be affordable in many villages. The costs to local government would increase dramatically. For instance, the cost to the Bristol Bay Borough of running the water and sewer system and other community facilities in communities served by Naknek Electric Association would increase by about \$86,000 per year.

In a worst-case scenario, some communities could lose electric service because consumers would not be able to pay enough of the cost of maintaining the system to sustain their local utility. It is hard to tell how many communities would be in jeopardy of this extreme result. Utilities with high power costs serving small populations in low-income areas would be most vulnerable.

The gains in living standards over the past 30 years in rural Alaska would be lost if electricity were to again become unaffordable. Hundreds of millions of dollars of infrastructure investments made by the government and private entities would be abandoned.

The social costs would be enormous. Most likely, the government would ultimately be forced to start over on solving the costly problem of meeting minimum living standards in village Alaska. The required minimum living standards cannot be sustained without adequate and affordable electric service.

***The amount of
PCE assistance
per consumer
has stayed
stable;
if inflation
is considered,
the value has
gone down
since 1985.***

Affordable power can help to stimulate economic development that, in turn, helps to reduce the cost of electricity.

Rural businesses of all types require reliable, affordable electricity:

Fish processing plants

Ice-making plants in fishing communities

Hide tanning facilities

Support facilities for fishing fleets

Mineral extraction and processing

Tourist-based food service and housing

Timber harvesting and processing

Commercial laundromats

Grocery stores

Lowering the cost of power will improve the viability of rural businesses.

Rural Economies: Affordable Power and Economic Development

Economic development and affordable power are synergistic in the effort to grow healthy economies in Alaska's smaller communities. Affordable power stimulates economic development; economic development brings increased electricity use that can create the economies of scale that reduce the overall cost of electricity.

This reality applies in both urban and rural Alaska; a recent example is development of the Fort Knox gold mine near Fairbanks. The availability of affordable power was important to developers of the mine. The local electric cooperative, Golden Valley Electric Association, expects electricity sales to the mine will allow it to reduce residential rates.

Nome Joint Utilities System is hoping potential mining activity at Rock Creek will help do the same thing for its consumers. But providing affordable power at a competitive price is necessary to get the load. Mining companies and other major businesses in rural areas will choose to generate their own power when it is cheaper to do so. Local residents lose the potential benefit from increased economies of scale when this occurs. They could also lose jobs if a mine developer chooses to ship material out for milling, rather than milling locally, because power costs are too high.

Rural businesses of all types require reliable, affordable electricity. Electric service has facilitated development of local stores and other businesses, which use it for lighting, computer accounting, inventory and billing, refrigeration, power tools, and a multitude of other tasks. High electricity costs are passed on to consumers in the higher cost of goods and services in rural areas. Lowering the cost of power will improve the viability of rural businesses.

The more residents spend on electricity, the less they have to spend at local businesses. Affordable electricity increases the money available to support the local economy.

The utilities themselves are often among the largest local businesses. Rural utilities provide jobs and spend millions of dollars each year in rural Alaska. For example, AVEC plant operators and laborers on utility projects earned nearly \$1.9 million in 1994. That money helped fuel the local economy of the villages served by AVEC.

Kake: Cooperative Economic Development is Revitalizing the Village Economy

The synergy of economic development and affordable power is clear in the cooperative effort to resurrect the traditional fisheries economy in Kake, a community of about 800 people on Kupreanof Island in Southeast Alaska.

In 1992, tribal corporation leaders began a major effort to improve use of a cold storage fish processing facility. The facility, leased to others, had been used sporadically since construction in the late 1970s. "Affordable power is real important to the bottom line, particularly when you're getting started," said Gordon Jackson, president of Kake Tribal Corporation (KTC).

Steve Andison (left) and Marvin Kadake pose in front of the Gunnuck Creek Hatchery.



Tlingit-Haida Regional Electrical Authority (T-HREA) wanted to support the development effort and generally was looking for ways to bring self-generating commercial electricity users into the utility system to help lower the per unit cost of providing power.

The State of Alaska helped fund a line extension to Kake Cold Storage (KCS), owned by KTC. T-HREA financed the initial cost of installing service equipment. The utility also offered KTC a new commercial interruptible rate that gives a substantial price break for large power users who have their own backup generation.

Regular commercial users pay \$50 per month in a basic charge, plus 29 cents per kilowatt-hour (kwh), and \$10 for each kilowatt of the peak demand used during the month. Customers on the interruptible rate pay \$160 per month plus a decreasing charge from 16.6 to 14.0 cents per kwh as energy use increases.

It was a win-win situation. KTC got a good deal on power costs and did not have to replace aging generators. It was also able to achieve its economic development goal. "Because of all of us working cooperatively together, we have a real active waterfront (now)," Jackson said.

T-HREA got what is now the largest commercial customer on its utility system, which serves six separate communities in southeast Alaska. The utility's general manager, Bob Martin, said revenue from the cold storage is about equal to the cost of serving the facility, but other consumers benefit because the large load stabilizes the utility's cost per kilowatt-hour of providing electricity.

"We believe that we have benefited in two ways — by spreading fixed costs over a larger base and then by having jobs available," Martin said. When people have jobs they can afford to use electricity and pay their power bills. Kake Cold Storage employs up to 60 to 80 people, depending on the season, processing black cod, salmon and other seafood.

The City of Kake is also participating in the effort to rejuvenate the fisheries economy. It created a nonprofit entity that refurbished and runs a hatchery at Gunnuck Creek. The hatchery began 21 years ago as a high school project with just a couple of 55 gallon drums fitted with egg trays. The recent \$3 million upgrade increased its capacity from 20 million to 65 million incubated fry.

The president of the hatchery nonprofit corporation's board of directors, Marvin Kadake, is proud that it now provides jobs as well as education. About 15 are employed in summer, many college students from the community. "They come home and they have a job," he said.

"With upgrade of the facility, power costs are becoming more important," said Steve Anderson, general manager of the hatchery. The hatchery pays the regular commercial rate. Only four percent of the electricity it used in January 1996 was eligible for Power Cost Equalization (PCE). The effort to keep costs down is never ending. "We're trying to cut every corner," Anderson said. "We're driving a 1964 Ford."

Most of the hatchery salmon will be chum salmon, which will be sold to another KTC subsidiary, Health Sea, for making salmon ham and sausage. KTC received a state marketing loan that helped it sell the products to the Williams-Sonoma gourmet food catalog. The value-added processing is expected to bring another 12 to 15 year-round jobs to the community.

"The city has really vested its financial future in that cannery project. We have to break through to the other side and succeed," Anderson said. Finding ways to continue reducing power costs is one of many efforts.

Kadake is in a unique position to understand that concern, as he is also the manager of the local T-HREA utility plant. One option being evaluated is construction of an intertie to connect Kake to Petersburg and the power available through the state's Tyee Lake hydroelectric project. "If we can keep the power costs down, that can keep our (hatchery) operations cost down. That equals profit to the community," he said. "I know (T-HREA) is trying to do that."



Workers process black cod at the Kake cold storage facility.

The reality is that most equipment, supplies, professional services and specialized labor skills are purchased from urban areas of the state.

Urban Alaska businesses are affected by the health of the rural economy:

Air taxis to remote villages

Banks with rural branches

Air freight companies

Fuel Suppliers

Direct mail shopping services

Dog mushing suppliers

Generally, what is good for rural Alaska is good for urban Alaska.

Urban Economies Benefit from Affordable Rural Electricity

The economic health of urban communities in Alaska depends upon industries that extract resources from rural areas. Oil production on the North Slope is one obvious example. Salmon harvested in Bristol Bay are flown from Dillingham and King Salmon to urban processing plants. Thousands of urban dwellers earn seasonal income by fishing and working in rural communities. This trend is true on many smaller levels in different industries throughout Alaska.

Electric systems and other basic infrastructure in rural Alaska facilitate urban economic activity related to rural areas. Lowering the cost of power in rural Alaska helps to decrease costs for urban businesses when they work in rural Alaska.

Urban Alaska also directly and indirectly benefits from dollars spent in rural Alaska by government, by business, and by local residents. The reality is that most equipment, supplies, professional services, and specialized labor skills are purchased from urban areas of the state.

This is true for utilities as well as other rural businesses. Naknek Electric Association's 1995 budget included about \$1.79 million in purchases benefitting other areas of the state, mostly Anchorage. Naknek's purchases outside the community include such things as fuel, lube oil, materials, consultants, vehicles, and generation supplies.

In Tok, the local electric utility purchases all of its fuel from a refinery in North Pole, thereby participating in the economy of the North Star Borough.

There have been few studies of where rural residents spend their dollars, but in one survey of households in Levelock, more than a quarter of the households named Anchorage as their main location for shopping for groceries, clothes, home appliances and furniture, professional services, snow machines, and gifts.

Rural Alaskans come to urban areas for medical and other services, on business and to shop. In a 1993 survey, the Anchorage Convention and Visitors Bureau found that rural visitors to Anchorage tended to stay longer in hotels and spend more than visitors from nonrural parts of the state, spending an average of \$711 each trip. The Municipality of Anchorage has estimated that the Alaska Federation of Natives annual convention alone is worth about \$2.5 million to the city's businesses.

Businesses in urban Alaska are affected by the health of the rural economy. In general, it is true that what is good for rural Alaska is good for urban Alaska.

Frontier Expeditors: An Urban Business Supplying the Bush

Diapers, four-wheelers, jeans, and other essential items for rural households are piled high in the south Anchorage warehouse of Frontier Expeditors. The company, a subsidiary of Alaska Commercial Company (AC), supplies 35 AC stores and 150 village stores in rural Alaska. It ships more than \$100 million in goods each year.

It is the largest of a number of highly competitive companies providing this sort of service to rural communities. Frontier's general manager, Justin Bell, said approximately 80 people work at its office, warehouse, and meat processing plant in Anchorage. The business is one of the more visible signs of the fact that most things headed for rural Alaska come through Anchorage or Fairbanks. Urban Alaska gets part of the rural economic pie.

Bell has lived in Dillingham and other rural communities. His father worked for the old Northern Commercial Company, a precursor of AC. He said he's concerned about the cost of power because it affects not only the bottom line of the companies he works for, but also the well-being of rural communities. Lowering power costs, as a part of keeping all costs down, is an important goal. "It means we can better the standard of living in the communities we serve out there," Bell said.

As an urban-based supply business, Frontier Expeditors doesn't have much of a rural power bill. High electricity cost is, however, one of the disadvantages village stores have in trying to compete with large mail-order chain stores. The high cost of power contributes to high prices to customers, particularly for perishable items that require refrigeration.

***Most things
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Anchorage
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***Urban Alaska
gets part of the
rural economic pie.***

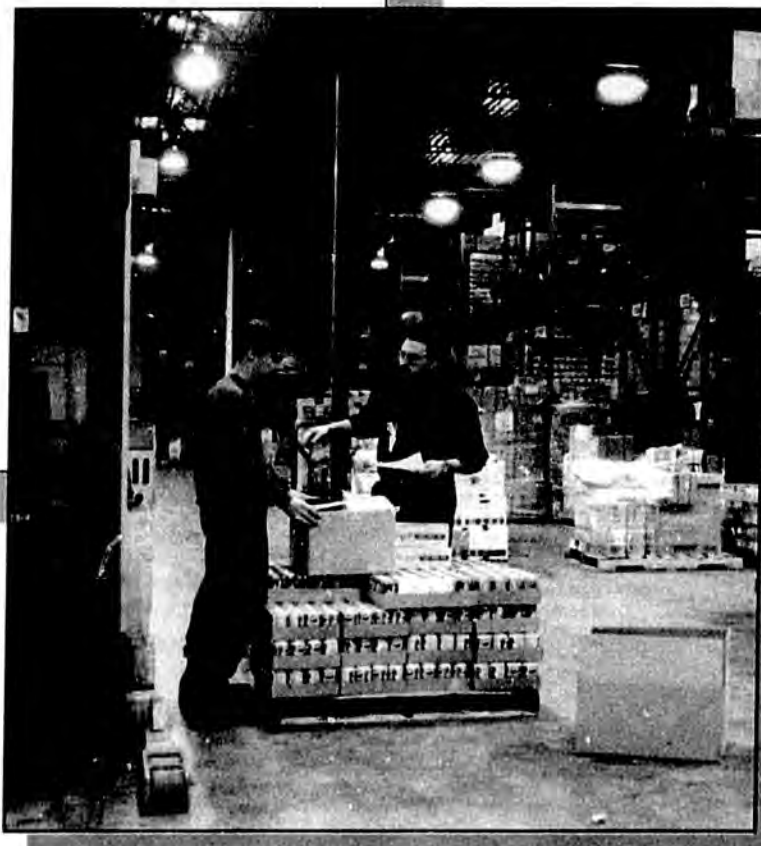
Since the large AC stores in regional centers use so much electricity, Bell said that low-cost power is important to them. But they don't get much help from the PCE program, since such a small percentage of the electricity used is eligible for PCE. "PCE is far more important to the small villages than it is to Bethel or Kotzebue," he said.

Though actual usage varies tremendously, a typical village store might use about 1,500 kwh per month, according to Georgia Shaw, manager of member services for the Alaska Village Electric Cooperative. With that usage, a store would qualify for the maximum PCE assistance on 700 kwh per month, receiving \$180 per month or \$2,160 per year. More than half of the bill would be paid at a rate four times the cost of electricity in Anchorage.

The loss of PCE assistance to stores would hurt village residents by increasing prices, and the loss of PCE to residents would hurt stores by decreasing the amount of goods residents purchase. "Whatever amount that is (that PCE is reduced) it's going to lower what they can spend on consumables," Bell said. "Obviously, we're going to feel the impact of that."

On the bright side, success in lowering the cost of power could reap significant benefits to local rural economies, and allow stores to better serve their customers through offering more perishable items, Bell said.

Justin Bell (right) reviews an order with warehouse worker Brian Femimore.



*Solutions are mostly long-term,
taking years to implement.*

Specific solutions to the problems of providing affordable power in any particular area must consider local circumstances. Solutions that work well in one area may not be effective in another. But there are some good strategies that can be applied in most communities.

Utilities have found that improving economies of scale, increasing generation and operational efficiencies, and developing new technologies are some of the most effective strategies. Conservation and demand-side management efforts may work well in some communities, but because they also hinder efforts to improve economies of scale, they may be less effective than other methods.

Quick results may be possible in some communities, but most long-term solutions will take years to develop and implement.

Improving Economies of Scale

As noted earlier, the lack of economies of scale is an important factor in the high cost of power in rural Alaska. Identified ways to improve these economies of scale include expanded sales through economic growth, consolidation of utilities, and interconnection of systems.

Economic Growth

Utilities have little control over economic growth, but government policies and decisions of businesses regarding development in rural Alaska have a strong impact on the affordability of power in rural Alaska. It is important that utilities be included in economic development efforts to ensure adequate planning for solid growth.

Consolidation of Utilities

There are more utilities in Alaska than in Washington, Oregon, Idaho, and Montana combined, most of them serving very few consumers. The State of Alaska has provided technical assistance as well as PCE to many of the smallest utilities.

Consolidation of utilities or development of other methods to share resources (such as joint operating and maintenance agreements) could help to reduce costs, particularly for small, stand-alone systems with limited technical or financial capabilities. By joining together to share resources or merging with another utility, the costs of administration, accounting, engineering, insurance, financing, and other

*Consolidating
or sharing
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particularly for
small, stand-
alone systems.*

Powerful Solutions

Improving economies of scale, increasing efficiency and developing new technology are three effective approaches.

important operational costs can be spread over a larger sales base, increasing economies of scale.

Existing systems such as Alaska Village Electric Cooperative, Tlingit-Haida Regional Electrical Authority, Alaska Power & Telephone Company (AP&T), Iliamna-Newhalen-Nondalton Electric Cooperative, Middle Kuskokwim Electric Cooperative, Naknek Electric Association, and North Slope Borough Power & Light are testament to the viability of regional rural utilities.

AP&T has brought nine village systems into its operation since 1990: Bettles, Evansville, Mentasta Lake, Coffman Cove, Eagle, Eagle Village, Alatna, Allakaket and Northway. AVEC began serving Brevig Mission in 1994. Also in 1994, Tlingit-Haida Regional Electrical Authority added service to the Chilkat Valley near Haines to improve its economies of scale.

Increasing Generation and Operational Efficiencies

Utilities in Alaska are constantly working to increase generation and operational efficiencies. Since fuel is a substantial percentage of the cost of producing power, a number of these efforts have focused on reducing fuel cost and using fuel more efficiently.

Altogether, about 28 million gallons of diesel fuel are used each year to produce the electricity consumed in rural communities. A decrease of a few cents per gallon in price, or an increase of a few kilowatt-hours per gallon in generation efficiency, quickly adds up to a lot of savings.

Since 1985, the fuel efficiency (kwh sold per gallon of fuel used) of PCE utilities has increased from 10.6 kwh per gallon to 12.9 kwh per gallon. This 22 percent increase in efficiency has been achieved through a combination of increased generation efficiencies, decreased line losses, and improved metering. Without these efficiencies, the cost of producing the kilowatt-hours PCE utilities sold in 1995, using 1995 fuel costs, would have been about \$3.4 million (about 12 percent).

Bulk Fuel Purchasing

Purchasing fuel in bulk and in cooperation with other utilities has yielded dramatic savings in fuel costs for many utilities. Bulk fuel storage, however, can be expensive and involves more complex management in order to ensure that facilities meet regulatory and environmental requirements.

Improving Load Factors

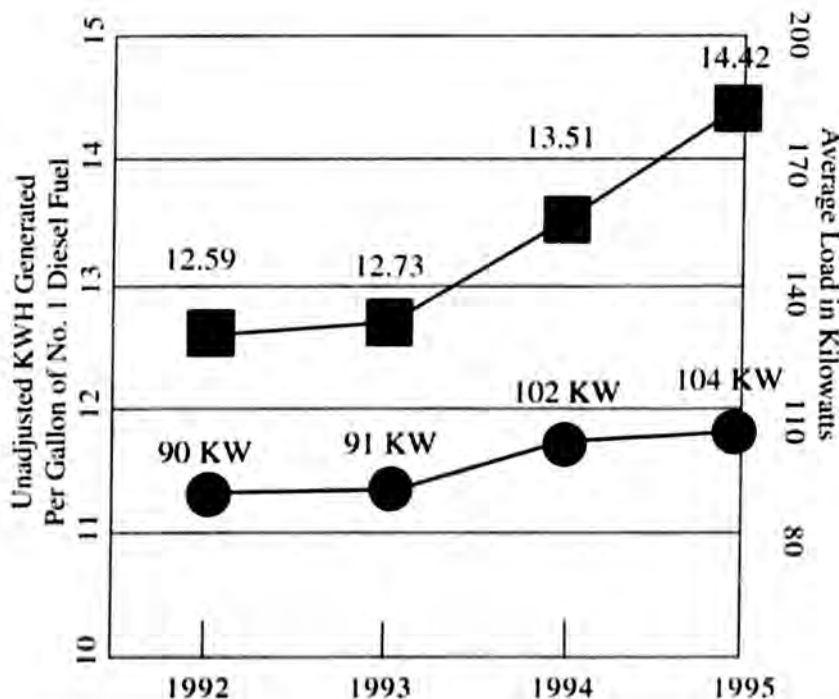
Matching the type and capacity of diesel generator systems with electrical load needs in villages helps to improve the fuel efficiency of generation. Replacement of incorrectly sized generator sets in small communities has improved the fuel efficiency of PCE utilities and has reduced costs.

Decreasing Line Losses

Utilities work to decrease line losses by installing more efficient and properly sized transformers. As in other efforts to increase efficiency, the gains to be achieved must be weighed against the higher cost of the equipment. Line losses can also be reduced by matching the type of conductors (electric lines) used with the load and distance being carried, similar to matching generator size to load. Recalibrating and replacing meters contributes substantially to reducing apparent line loss.

Improving Engine Efficiency

Increasing sales in a system can allow use of a larger engine that produces energy more efficiently. Larger engines often have efficiencies in the range of 14 to 16 kwh per gallon that are not



Increasing Efficiency of Generation in New Stuyahok

In New Stuyahok, installation of a fuel-efficient engine led to a 13% overall gain in generating efficiency from 1993 to 1995.

*Efficient energy use requires
steady growth of level loads.*

*This achieves the
highest benefit
from capital
investments on
equipment.*

possible with smaller engines. Increasing the potential sales base could make alternatives to diesel generation more attractive by providing a large enough market for electricity to justify a large capital investment. This is sometimes the case with hydropower projects.

Intertie Infrastructure Development

Where feasible, electrical interties are being pursued to share existing or future power generation among neighboring communities. Rural intertie prospects include one connecting Klawock, Thorne Bay, and Kasaan; one between Metlakatla and Ketchikan; one tying communities in the Iliamna Lake area into the INN Electric Cooperative system; one connecting Skagway, Haines and the Chilkat Valley; and one between Kake and Petersburg. Government funding is needed to match local resources.

Developing New Technologies

Alaska's rural utilities are working to develop renewable and other local energy sources to supplement or replace existing diesel generation and to reduce production costs. Hydroelectric, wind, clean-coal, coal-bed methane, geothermal, and fuel cell generation are all being considered.

The Black Bear Hydro project, located on Prince of Wales Island, is one of the most recent success stories. Run by a subsidiary of AP&T, the project is expected to lower the real cost of power by stabilizing the cost of energy to communities on the island.

Development of local resources often involves testing and development of new technologies. Kotzebue Electric Association has participated in wind profile studies and recently received grants to assist it in developing wind generation demonstration projects, which the utility hopes will decrease production costs. Naknek Electric Association is scheduled to be a test utility for a demonstration fuel cell project in 1999. Fuel cells are a new technology for producing electricity efficiently from fossil fuels using direct chemical reaction.

Good progress is also being made by applying innovation to existing systems. AVEC worked with Alaska Diesel Detroit to retrofit a fuel-efficient engine originally developed for heavy trucks to make it usable as an efficient electricity generator for small communities. Operational data on some of the first of these units installed show increased efficiencies ranging from nine percent to 13 percent. In New Stuyahok, 14.42 kwh are produced per gallon now compared with 12.73 kwh in 1993.

Efficient Use of Electric Energy in Rural Alaska

While efficient use of energy is an important social goal, utilities find that using conservation as a tool to decrease costs is less effective than actions that increase the efficiency of generation and distribution of electric energy.

Rural utilities encourage the efficient and effective use of electricity by providing information to their consumers and by working with developers to discourage uses that are not cost effective or that will impose a high demand during peak times. But the reality is that there is limited opportunity for using conservation and demand-side management to reduce overall costs in rural Alaska.

The high cost of electricity in rural Alaska already forces most residential consumers to use it frugally. Commercially, electricity is used for high priority loads such as lighting, pumping, and refrigeration.

There are undoubtedly some communities where demand-side management and conservation efforts could be effective in the effort to reduce costs, particularly when conservation eliminates or postpones the need for additional capital investment. But in some communities, a major conservation effort aimed at reducing costs could backfire.

Because of the very high fixed costs associated with generating and delivering power in rural areas, reducing the number of kilowatt-hours sold may simply result in increasing the cost per kilowatt-hour. Consumers may find themselves paying the same amount — or more — for less electricity.

Rural utilities occasionally witness inappropriate uses of electric energy, usually where it is used to produce heat in communities that rely on diesel generation. The conversion losses make it senseless to generate electricity with oil and then turn it back into heat. A prime example is using an electric water heater instead of an oil-fired water heater.

Utilities discourage such uses when they are discovered. For instance, architects and program officials sometimes favor the low initial cost of electric water heaters for housing projects, without considering the high operating cost for these appliances. Utilities frequently see electric clothes dryers specified for village washeterias and all-electric kitchens specified for village schools.

Most of these errors are eventually corrected before construction. One of the reasons there is little opportunity for major conservation efforts is that alternative fuels and technologies are already being used in rural Alaska. There are no water heater conversion rebate programs because there are very few electric water heaters.

Because of very high fixed costs, reducing the number of kilowatt-hours sold may result in increasing the cost per kilowatt-hour.

Conservation Cost Complexities

Reducing electricity use in communities served by diesel generation would reduce fuel costs. These savings could be substantial. However, they may not be able to offset the corollary effect of having to spread fixed costs over a smaller sales base.

A hypothetical example is a medium-sized village utility that sells 1,860,000 kwh annually. Fuel costs are \$226,854; nonfuel costs are \$505,028. Assuming that conservation reduces consumption (sales) by 20 percent, fuel used for generation would fall by up to 20 percent. This presumes the utility is able to maintain its current fuel efficiency even with the reduced engine load.

Nonfuel costs, however, are unlikely to change much. Because these costs are being spread over a smaller sales base, the utility's total costs per kwh would rise from 39.3 cents to 46.1 cents (a 17.3 percent increase). The average residential consumer's electric usage would drop from 379 kwh to 303 (20 percent), but the utility's total cost per consumer would drop only \$9.27 (from \$148.95 to \$139.68), just six percent. Similarly, any savings to the Power Cost Equalization (PCE) program would be minimal, as the PCE rate would increase with the increase in the cost per kilowatt-hour of providing service.

If it is possible to pass all of these savings on directly to the consumer, an average residential consumer who reduced consumption by 20 percent would save about \$10 per month or \$120 per year on their bill; the savings would only be about six percent, instead of 20 percent. Similarly, there would be savings to the PCE program, but it would be much smaller than the percentage of reduction in electricity usage or in fuel cost.

If achieving the reduction in electricity use requires purchasing new energy efficient appliances or other conservation investment, the savings would be less and may take several years to recover. If a \$1,000 new refrigerator achieved the 20 percent reduction in use (76 kwh) in this example, it would take more than eight years for the consumer to recoup the cost of that investment through energy cost savings.

Consumers unable to buy an energy efficient refrigerator or with no other means of effectively cutting their electricity use would end up paying even more for their electricity because of the higher rate per kilowatt-hour.

If the utility provided rebates or spent money promoting conservation, the minimal savings achieved would be even less. These sorts of interrelationships are one reason the rural utility industry focuses on efforts that provide a greater return in cost reduction, such as increasing sales and increasing efficiency of operation.

There is little opportunity for conservation without eliminating some basic uses of electricity.

Brevig Mission Benefits From Joining Co-op

The new electric system in Brevig Mission is an example of what can be done for rural communities when people work together. That's what Charlie Walls, general manager of the Alaska Village Electric Cooperative (AVEC), told residents and government officials gathered in the community's city hall January 20, 1994. "This is a success story that everyone here had a part in," he said.

Brevig Mission, a community of 198 people living on the coast of Port Clarence, 70 miles northwest of Nome, recently became the 50th community to join AVEC, a private nonprofit utility owned by its member-consumers. During the open house, local residents got tours of the upgraded power plant, which reflected some of the half million dollars in capital improvements that have been made to the system in the past year.

Among the improvements was installation of a new energy efficient generator developed by AVEC and Alaska Detroit-Diesel Allison that gets about twice the amount of electricity from the same amount of fuel as the old generator. Other improvements included a waste oil filtration system that burns the oil and eliminates a disposal problem, and a new distribution line to a section of the community that had been plagued with power outages.

The city used to get electricity from the school district, and keeping the power on when school was out in summer was difficult. Outages caused many problems, including the loss of subsistence foods. "The food is all kept in the freezer – everything had to be thrown out," said the mayor, Elmer Olanna. With the co-op in charge, there will be year-round power. "This AVEC's pretty good with everybody," Olanna said.



Students tour the power plant during AVEC's open house in Brevig Mission.

***We want to see other villages
stabilize their systems."***

—Tim Towarak

The local school principal, Monica Dickens, said she's glad it won't be her responsibility to deal with emergency situations, such as the time she saw lots of smoke billowing from the power plant. "I didn't know what to do," she said. With the help of the school's plant operator, the situation was brought under control.

Bering Strait School District (BSSD) and City of Brevig Mission officials turned to AVEC for help in upgrading the electric system and providing professional utility management. "We're happy that Brevig Mission is part of the AVEC operation and we want to see other villages stabilize their (power) systems too," said Tim Towarak, a BSSD official who helped negotiate the change-over.

Local, state, federal, and co-op resources were combined to upgrade Brevig Mission's power system. The school district and city donated existing equipment, the State of Alaska provided a \$50,000 grant, and AVEC invested \$450,000 with the expectation the federal government would provide a below-market low-interest loan to finance half of that amount.

The effort to qualify Brevig Mission for the federal loan program led to legislation this past fall that could benefit dozens of communities in Alaska. The legislation clarifies that eligible Rural Electrification (REA)* borrowers may use loans to make improvements in communities that already have central station service. AVEC is one of many REA borrowers in Alaska. Most are electric cooperatives.

Walls said that this change provides a new opportunity for Alaska to leverage federal funds to make capital improvements that communities might normally ask the State of Alaska to fund. But, he said, taking advantage of this opportunity requires the state to continue its commitment to solving rural energy problems through its capital investment and Power Cost Equalization (PCE) programs. Federal officials demand that a utility show it will be able to repay a loan. The PCE program, which assists rural consumers in paying their high cost of power, provides some assurance that the utility will have adequate revenue, said Walls.

This story is an excerpted and edited version of a longer story that appeared in the March 1994 issue of *Ruralite* magazine.

* The Rural Electrification Administration is now the Rural Utilities Service.

Rural Alaska will not achieve affordable power unless business, government, utilities and consumers continue to work together.

The effort to see that affordable power is available to Alaska's rural residents has always been a partnership effort. In the early days, local businesses shared electricity they generated with their communities so residents could have electricity. Federal and state agencies have been intimately involved in the effort to develop power systems to serve rural residents.

Rural Alaska will not achieve affordable power unless business, government, utilities — and consumers — continue and strengthen their partnership efforts. Business and government have been and will continue to be significant beneficiaries of reductions in the cost of power, since they pay the largest bills in rural areas.

Business Partnerships

Alaska's businesses can best help the effort in two ways. First, those doing business in rural Alaska can talk with their utility about energy needs and future development plans, working together to identify cost savings that may be possible.

Business also has a strong role to play in promoting rural economic development. Working with utilities in planning for energy needs and to develop economies in a way that yields solid steady growth with consistent energy demands will help to ensure steady progress toward affordable power in rural areas.

Consumer Partnerships

Consumers should stay informed about political changes that may affect them and their ability to access reliable and affordable power. Utilities will continue to help consumers learn about the efficient and wise use of electrical energy, and consumers must act to achieve this in their daily lives.

Government Partnerships

It would be penny-wise and pound-foolish for government to pull out of its long-standing partnership in the effort to achieve affordable power. It still has a critical role to play. Government can be an effective partner in these efforts:

PCE: By following through on the Alaska Legislature's intent to fund the PCE program annually at \$17 million through 2013, the State of Alaska will provide a basic revenue flow to sustain the

An Affordable Future Requires Partnerships

*The Legislature's commitment
to the PCE program will
sustain existing infrastructure
and allow utilities to create
more affordable options.*

existing rural infrastructure and allow utilities to create more affordable options — while continuing to make electricity more affordable for individual rural consumers.

Development Coordination: Rural electric utilities should be consulted when housing, water and sewer, economic development, and other projects that may require electricity are being considered for rural communities. Working together, we can help to identify ways to get the most efficient use of increased electricity usage in our communities.

Infrastructure Development: Government participation through funding and technical assistance will help to speed development of new technologies that can help to reduce the cost of power. Support for the development of intertie systems and other capital improvements will help to improve economies of scale.

Financing: In addition to direct financing of some projects, government can effectively assist the effort to bring affordable power to rural communities by continuing low-interest loan programs that ensure access to the money necessary to maintain and upgrade electric systems.

We all have a shared interest in seeing that rural residents have adequate, safe, and affordable power. If we work together, we will eventually achieve this goal and decrease or eliminate the need for direct government assistance.

There are potentially many areas of cooperation between utilities, business, and government that are yet to be explored. We look forward to working with government and business leaders and the consumers we serve in developing effective strategies to achieve and maintain affordable power in rural Alaska.

Kotzebue: Winds of the Future

Kotzebue Electric Association's (KEA) effort to develop wind power provides a good example of both the challenges facing rural utilities in developing alternatives to diesel generation, and the exciting potential of new technologies to help solve the affordable power puzzle in rural Alaska. It also shows the need for strong public-private sector partnerships in seeking solutions.

The consumer-owned co-op, which serves the rural regional center of Kotzebue, began researching opportunities for wind generation four years ago. First, it needed a good understanding of what the resource could provide and worked with researchers to chart wind patterns in the community. The results were promising.

"We have a wind regime that is stronger in the winter when we have our highest loads, which means that we can utilize wind for peaking generation," said Brad Reeve, KEA's general manager. That means use of wind power to supplement diesel generation can reduce the fuel costs of the diesel system and may eliminate the need for some standby capacity.

The next challenge was to find a turbine supplier. "There were none that wanted to work in the Arctic," said Reeve. "They don't know how their equipment will operate in severe cold, so they don't want to take the risk." Eventually, KEA worked out agreements with two companies, Northern Power Systems (NPS) and Atlantic Orient Company (AOC), that will design and install turbines.

In an initial test phase, AOC will supply three, 80 kilowatt (kw) turbines. The hope is that these can eventually be used in smaller villages when the wind project is complete. KEA is also a partner with

NPS to test a 100 kw turbine being developed for the Antarctic, which will be installed in Kotzebue in 1996. KEA is receiving technical assistance on the project from the U.S. Department of Energy's National Renewable Energy Laboratory (NREL).

Though there is a pressing need to explore alternative generation options, KEA also has a responsibility to be careful in how it spends its consumer-owners' money. So it sought financing



Kotzebue in winter.

partners. Grants from state and federal agencies will pay most of the estimated \$1.5 million cost of the project. So far the federal government is funding most of the project, with \$640,000 in grant funds, while the State of Alaska (\$282,000) and the co-op (\$250,000) are contributing similar shares.

Reeve said it's necessary, and fair, to spread the risk, because the ability of the wind turbines to effectively help lower costs has yet to be proven and the project could benefit others besides KEA consumers. "There aren't many machines in the Arctic, so we won't know until we have some operating costs on it exactly what the cost-benefits are going to be," Reeve said. "If we make it successful here then it's going to help out a lot of other coastal communities."

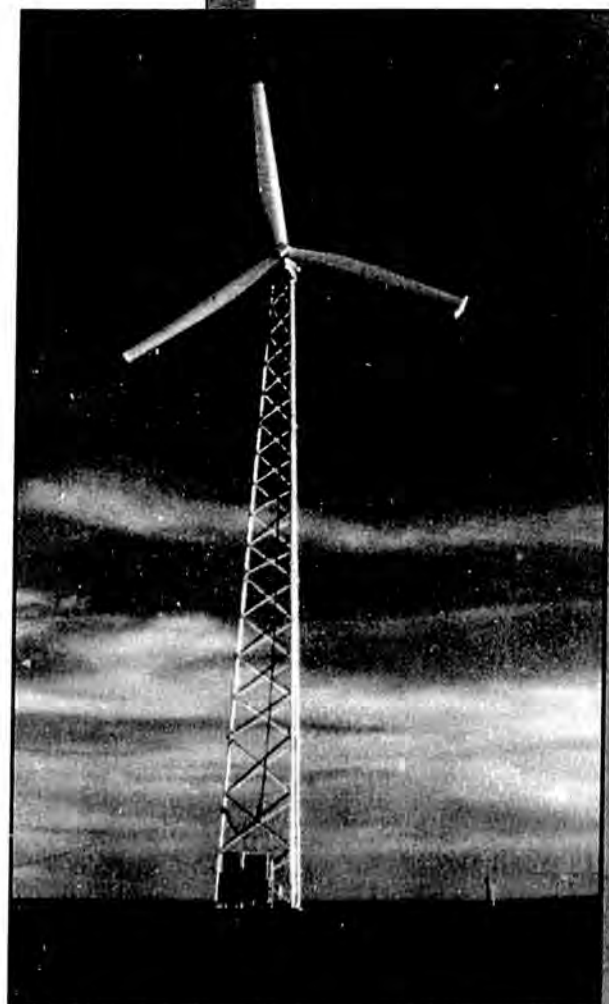
KEA is already working with a nearby village on another wind project. The one in Deering, just across Kotzebue Sound, will include a system for using excess wind power to help heat community buildings.

KEA and NREL worked together in successfully applying for a \$600,000 "Innovative Technology Grant" from the U.S. Environmental Protection Agency for the project. It's expected the system will be installed sometime in the next year. It will include a cluster of American-made wind turbines tied into the current diesel system and is expected to save about 45,000 gallons of fuel per year.

The Kotzebue experience shows that it takes years to do the appropriate planning and implementation of alternative energy projects that may help to lower rural energy costs. "Anytime you're dealing with a new technology area, you do have to spend a lot of time to research and understand how it's going to function in a new environment; that's something that just takes a lot of time," Reeve said.

That's one of the reasons it's important to keep the Power Cost Equalization (PCE) program around, with the financial stability it provides rural utilities, until it's clear these alternatives work, he said. "Having (PCE) around allows us to be able to try some alternatives that we wouldn't be able to do otherwise," Reeve said.

An Atlantic Orient Corporation 15/50 wind turbine on Prince Edward Island in eastern Canada.



The Alaska Rural Electric Cooperative Association (ARECA) is the statewide trade association for electric utilities in Alaska. In August 1995, ARECA's Board of Directors formally recognized the ARECA Rural Issues Forum as an advisory group of the organization.

The Forum includes the chief executive officers of ARECA member electric utilities that participate in the Power Cost Equalization (PCE) program. At this time, there are 17 utilities participating that provide electricity to more than 53,000 people in 100 communities. Nine of the member utilities are consumer-owned cooperatives, four are municipal utilities, three are investor or employee-owned, and one is a regional electrical authority.

ARECA Rural Issues Forum

Alaska Power and Telephone serves 2,971 electricity consumers in 21 communities, including: Skagway, Tok, Tanacross, Dot Lake, Chistochina, Mentasta Lake, Tetlin, Healy Lake, Allakaket, Alatna, Craig, Hydaburg, Hollis, Bettles, Evansville, Coffman Cove, Whale Pass, Eagle, Eagle Village, Northway and Northway Village.

Alaska Village Electric Cooperative serves 5,679 consumers in 50 villages with plants in: Alakanuk, Ambler, Andreafski, Anvik, Brevig Mission, Chevak, Eek, Elim, Emmonak, Gambell, Goodnews Bay, Grayling, Holy Cross, Hooper Bay, Huslia, Kalskag (Lower & Upper), Kasigluk, Kaltag, Kiana, Kivalina, Koyuk, Marshall, Mekoryuk, Minto, Mountain Village, New Stuyahok, Noatak, Noorvik, Nulato, Nunapitchuk, Old Harbor, Pilot Station, Pitkas Point, Quinhagak, Russian Mission, St. Marys, St. Michael, Savoonga, Scammon Bay, Selawik, Shageluk, Shaktoolik, Shishmaref, Shungnak, Stebbins, Togiak, Toksook Bay, Tununak and Wales.

City of Galena serves 320 consumers in Galena.

City of Unalaska serves 844 consumers in Unalaska.

Cordova Electric Cooperative serves 1,559 consumers in Cordova.

Haines Light and Power serves 950 consumers in Haines.

INN Electric Cooperative serves 266 consumers in Newhalen, Nondalton and Iliamna.

ARECA and the Rural Issues Forum

Kotzebue Electric Association serves 1,150 consumers in Kotzebue.

Levelock Electric Cooperative serves 75 consumers in Levelock.

McGrath Light and Power serves 267 consumers in McGrath.

Middle Kuskokwim Electric Cooperative serves 183 consumers in Sleetmute, Stony River, Chuathbaluk, Crooked Creek and Red Devil.

Naknek Electric Association serves 907 consumers in Naknek, South Naknek and King Salmon.

Nome Joint Utility Systems serves 1,940 consumers in Nome.

Nushagak Electric Cooperative serves 1,277 consumers in Dillingham and Aleknagik.

Tlingit-Haida Regional Electrical Authority serves 1,507 consumers in Angoon, Hoonah, Kake, Kasaan, Klawock and the Chilkat Valley.

Unalakleet Valley Electric Cooperative serves 311 consumers in Unalakleet.

Yakutat Power serves 358 consumers in Yakutat.

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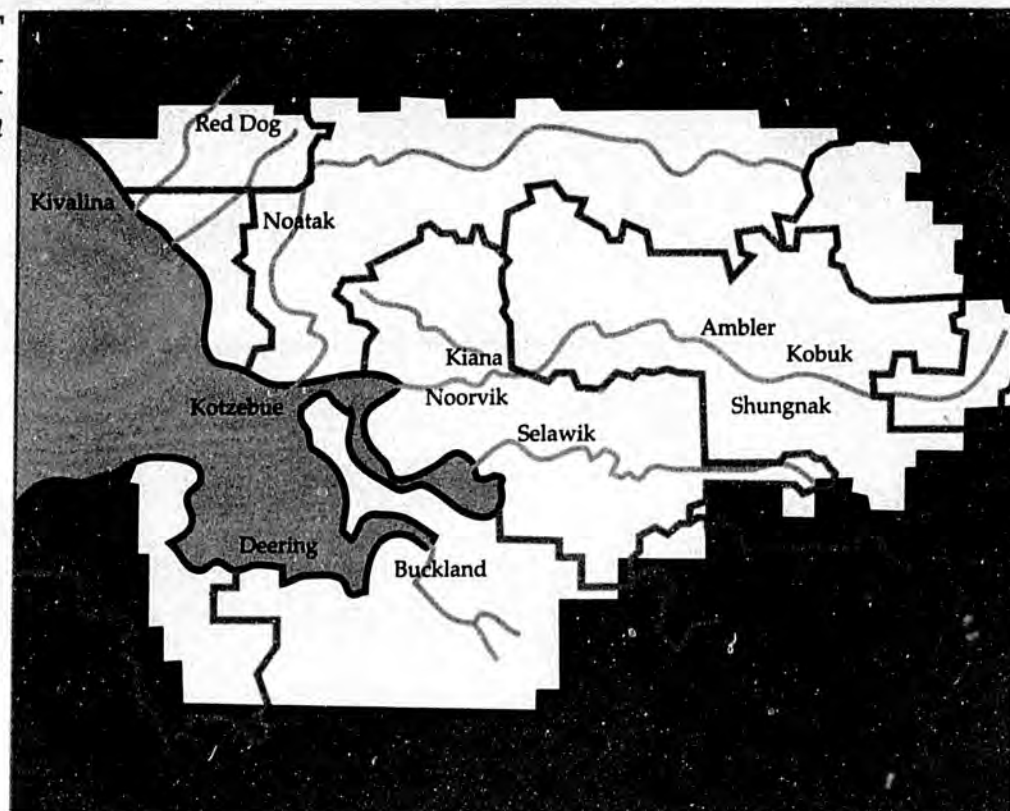
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Page 41: Atlantic Orient Corporation

NORTHWEST ARCTIC BOROUGH

The Region



The Northwest Arctic Borough is the second-largest borough in the state of Alaska, comprising approximately 39,000 square miles. Extending 175 miles north to south and 250 miles east to west, the borough is roughly the same size as the state of Indiana.

The borough is home to 6,641 people in 11 communities. Over 90 percent of the residents are Inupiaq Eskimos whose ancestors settled the land over 10,000 years ago. Then, as today, life in the region depended on the resources of the land — the bounty of the sea, wild game and fowl, and the berries and plants of the earth.

The terrain of northwest Alaska varies dramatically, with mountains, giant sand dunes, tundra and boreal forests. Numerous rivers thread the region from surrounding mountain ranges. Major waterways include the Kivalina, Noatak, Kobuk, Selawik and Ambler rivers.

While the region's economy is still largely based on subsistence activities, the land offers great opportunities for economic development. Mineral deposits within the borough include zinc, lead, silver, gold, coal, jade, copper and other metals. There is also opportunity for expanded tourism and seafood marketing. The Northwest Arctic Borough's goal is to manage the land and its resources wisely so as to strengthen the local economy while protecting the traditional lifestyle of its residents.

Local Government

The Northwest Arctic Borough was incorporated as a first-class borough under state law in 1986 with full authority over education, planning, and taxation. In 1987, borough voters adopted a home-rule charter, the highest form of local government permitted under state law. The borough has a strong mayor form of government with an 11-member assembly.

The borough is based in Kotzebue, the transportation, commercial and communication center for the region. Kotzebue is located 549 air miles northwest of Anchorage.

Regional Organizations

In addition to the borough government, three other regional institutions have a strong impact on the social, cultural and economic activities within the borough.

NANA Regional Corporation

Perhaps the most influential of all organizations is NANA Regional Corporation, organized under the Alaska Native Claims Settlement Act (ANCSA) of 1971. Under ANCSA, regional and village corporations received cash and land in settlement of the Natives' aboriginal land claims. In the northwest region, 8,500 shareholders — all Inupiaq Eskimos — enrolled in NANA.

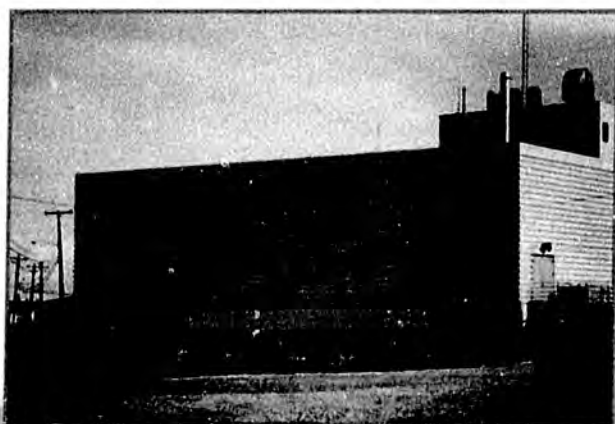
such, it has initiated much of the economic development of the region's private sector. NANA's diverse portfolio ranges from ownership of the world class lead/zinc reserves at Red Dog Mine to oil field services and personnel services for the oil industry, to industrial security, catering and housekeeping as well as hotel ownership, crafts marketing and other related hospitality investments.

In all its enterprises, NANA provides employment and training opportunities for its shareholders.

Maniilaq Association

Maniilaq Association is a regional non-profit organization which serves the health and social needs of Northwest Arctic Borough villages and Pt. Hope. In the 1970s, Maniilaq managed health and social service pro-

NANA, like all Native corporations, was formed as a profit-making entity. As



grams established by the federal government to meet its obligation to Native Americans. By the 1990s, Maniilaq's role had expanded to include management of state programs and services.

Maniilaq currently oversees a wide variety of services, including hospital and dental services, counseling, substance abuse treatment, emergency shelter, village government assistance, vocational training and housing assistance. Although based in Kotzebue, Maniilaq has a presence in all the villages it serves through a network of community clinics, adult education programs and tribal operations.

Northwest Arctic Borough School District

The Northwest Arctic Borough School District provides public education in all 11 villages, from early childhood education through adult courses. The district seeks to prepare students with the skills to succeed in the modern world, enhanced by a knowledge of the traditional Inupiat culture. Accordingly, a standard curriculum is blended with the language, history and traditional activities of the Inupiat people.

The Northwest Arctic Borough School District, with an annual budget of more than \$22 million, is the largest employer in the borough, employing nearly 400 personnel, including 130 teachers and principals. The administrative staff, based in Kotzebue, travels extensively throughout the region assisting schools with their educational programs and needs. The district also operates a post-secondary technical center, located in Kotzebue.



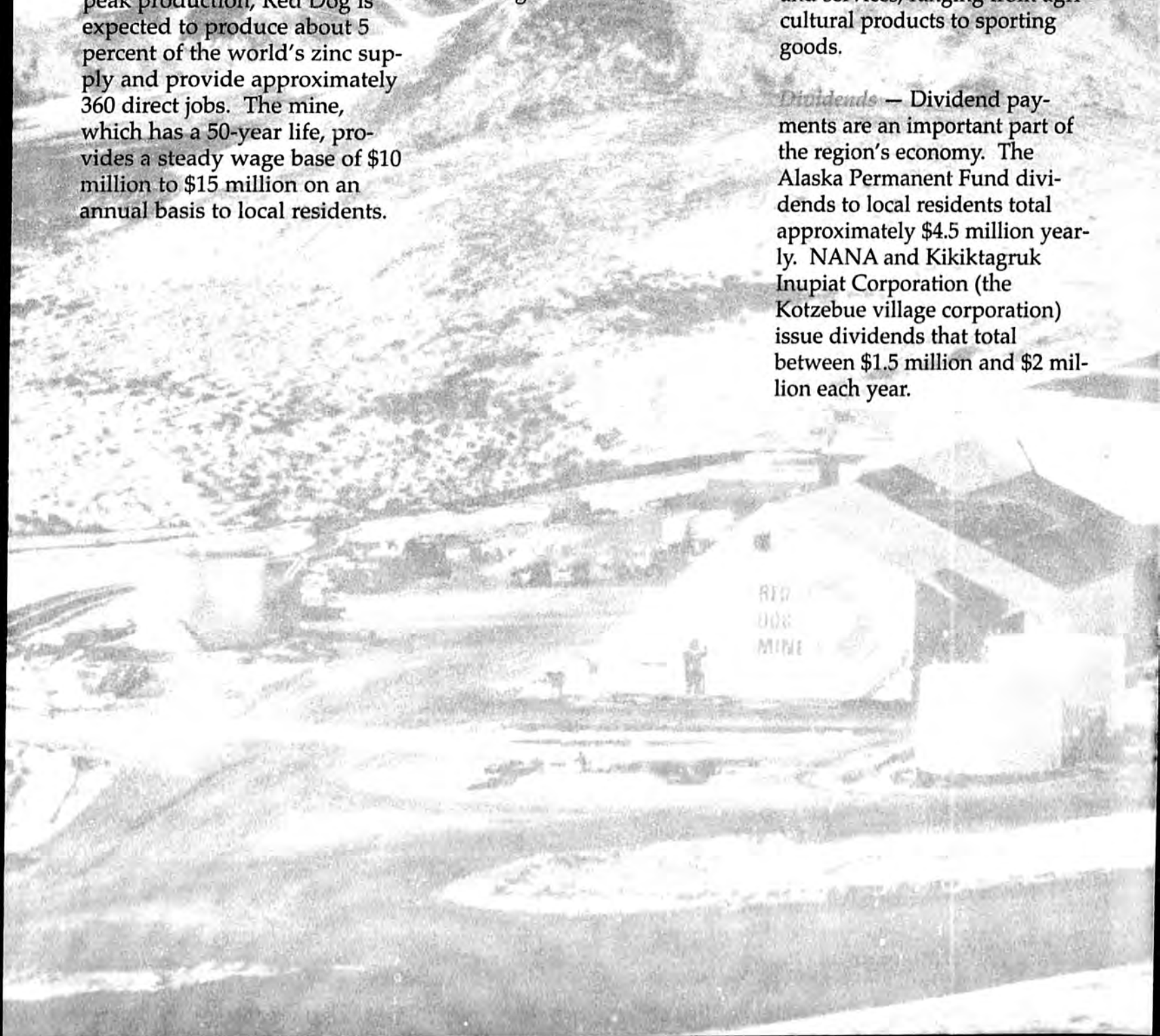
*Other Major Employers/
Contributors
to the Economy*

Red Dog — The largest economic project in the Northwest Arctic Borough is the Red Dog Mine, located 90 miles north of Kotzebue. Owned by NANA Regional Corporation and operated by Cominco, Inc., the mine holds the richest zinc deposits in the world, as well as a large supply of lead. At peak production, Red Dog is expected to produce about 5 percent of the world's zinc supply and provide approximately 360 direct jobs. The mine, which has a 50-year life, provides a steady wage base of \$10 million to \$15 million on an annual basis to local residents.

Federal and State Government — The economy of the Northwest Arctic Borough is strongly driven by public sector spending. The state and federal governments have provided funding for the region's infrastructure, such as water and sewer systems, community facilities and bulk fuel storage tanks. Future construction projects include airports, a new hospital, water and sewer systems, and major capital project repairs in Kotzebue and several villages.

Other Private Businesses — The private sector is the smallest segment of the borough's economy, and is mainly focused on providing goods and services to the public sectors. A survey taken in 1989 showed that 266 businesses operated in the borough. Sixty-five of those businesses provided real estate services, and 45 provided merchandise, groceries or miscellaneous retail items. The remainder supplied a wide variety of goods and services, ranging from agricultural products to sporting goods.

Dividends — Dividend payments are an important part of the region's economy. The Alaska Permanent Fund dividends to local residents total approximately \$4.5 million yearly. NANA and Kikiktagruk Inupiat Corporation (the Kotzebue village corporation) issue dividends that total between \$1.5 million and \$2 million each year.



Population and Labor Force

The population of the Northwest Arctic Borough is 90 percent Inupiaq Eskimo and 7 percent Caucasian. According to a 1991 economic survey, nearly 40 percent of the population works full or part time, and slightly more than one-fourth engage in seasonal or temporary work.

The household income for families in the region tends to be low, since most of the population relies heavily on subsistence. About 28 percent of households earn more than \$50,000/year, 20 percent earn between \$35,000 and \$49,000, and 52 percent earn less than \$20,000. The labor force is comprised of 2,220 men and women.

Education

Residents have the opportunity to take post-secondary courses at the following institutions:

Chukchi Campus — Chukchi Campus is a branch of the University of Alaska-Fairbanks, College of Rural Alaska. Based in Kotzebue, Chukchi Campus provides academic programs throughout the region through the use of audio-conferences. Students can pursue studies in math and English, a two-year degree in General Studies or a B.A. degree in education, rural development or social work.

Alaska Technical Center — The Alaska Technical Center (ATC) is an adult vocational school built in 1981 specifically to meet the vocational and technical needs for both nine-month courses and employer-designed short courses. The result is a small but very efficient school with a high placement rate among graduates. The long-term core programs include: Building Industrial Technology, Health Occupations, and Office Occupations. Some of the short courses include Adult Basic Education, Standard First Aid/CPR, Introduction to Computers, Computer Applications, Coast Guard License Preparation, and a Management Development Series. Although located in Kotzebue, ATC serves students from all over the state.



Land Ownership and Development Potential

Major land owners within the region are NANA Regional Corporation, Kikiktagrut Inupiat Corporation, the Northwest Arctic Borough, the State of Alaska and the federal government. More than half of all the land within the borough is federally owned and is protected as parks, preserves and wildlife refuges. State lands are primarily located in the upper Kobuk, Kivalina and Seward Peninsula areas. These lands have high mineral potential.

Under the terms of ANCSA, NANA was entitled to select more than two million acres of land, most of it located around the villages in the region. The Kikiktagruk Inupiat Corporation of Kotzebue owns 161,000 acres of surface acreage. The Northwest Arctic Borough is entitled to 285,000 acres of state lands, and is currently in the process of making its selection.

Planning and zoning is overseen by the Northwest Arctic Borough Planning Department. While development projects on private lands must be coordinated with the private owners, all development requests must be approved by the Borough Planning Department.

Potential Areas of Economic Growth

Secondary jobs — Red Dog Mine is expected to generate between \$7 million and \$10 million annually in local wages, money which has the potential of creating secondary employment in goods and services. The borough is in the process of developing an assistance program for new or expanding businesses in the region.

Commercial Fishing — A small salmon fishery currently exists in the Northwest Arctic Borough, and has the potential for expansion. The borough administration is exploring ways to develop value-added products to the fishery, such as processing roe or producing smoked salmon. Other commercial fisheries might also be developed, using such species as whitefish and flounder.



Russian Far East — The warming relations between Alaska and the Russian Far East could create opportunities in tourism, trade and cultural exchanges. The Northwest Arctic Borough, NANA and the Soviet precursor of the Chukotka district of Russia have already signed a protocol to further ties between the two regions.

Tourism — Tour Arctic, a NANA subsidiary, currently offers visitors an opportunity to explore Kotzebue and the nearby area. This growing tourism industry can be expanded further with improved marketing of locally-made Native arts and crafts; side excursions from Kotzebue to villages, the Red Dog Mine or the Russian Far East; and enhanced shopping opportunities for tourists in the evenings. Increased sportfishing opportunities for visitors are also being developed throughout the region. Interested parties should contact the Borough for further information about sportfishing opportunities.

Mineral Development — With the operation of the Red Dog Mine now on-line, attention can be turned to the development of other mineralized areas. The most promising are:

- Lead/zinc/silver deposits northwest of the Red Dog Mine
- Copper in the Ambler Mining District
- Chicago Creek coal deposits on the Seward Peninsula

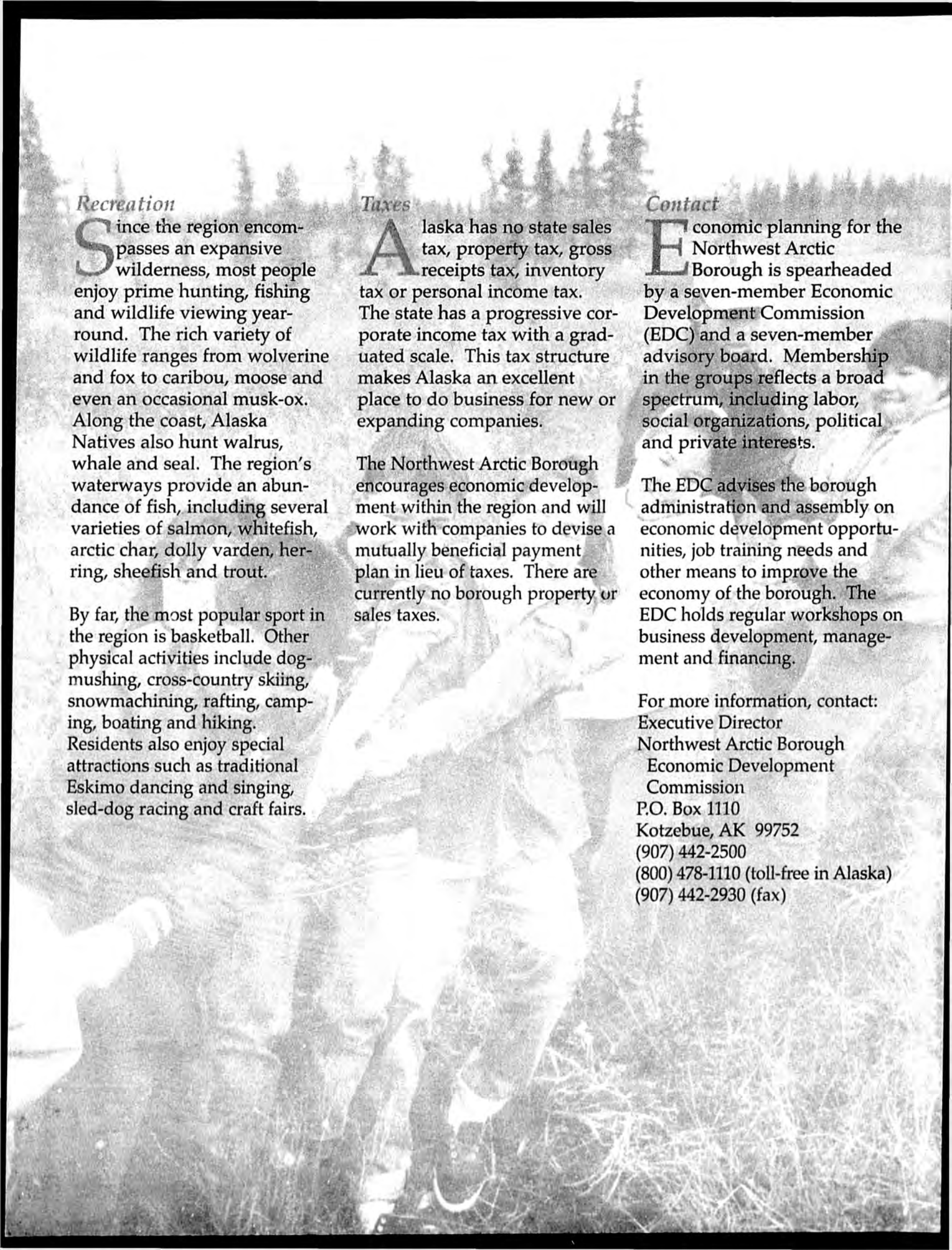
Communications

The Northwest Arctic Borough is linked to the rest of Alaska and the world with a state-of-the-art telecommunication network. Residents and businesses enjoy excellent long-distance phone and fax service, broadcast and cable television, public radio, statewide and local newspapers, and dependable mail service.

Transportation

The only way to reach the Northwest Arctic Borough is by air or water. One passenger airline and two freight airlines provide daily service to Kotzebue from Anchorage. Individuals wishing to travel or send cargo to the outlying communities have a choice of several scheduled and chartered airlines based in Kotzebue, Ambler and Kiana. The region is also served by air carriers from Anchorage (Frontier and Alaska Airlines.) Crowley Marine Services and Bowhead Transportation provide barge freight services to Kotzebue, and from Kotzebue to the outlying communities. Air Cargo is also available directly from Anchorage by Lynden Air and Northern Air Cargo.





Recreation

Since the region encompasses an expansive wilderness, most people enjoy prime hunting, fishing and wildlife viewing year-round. The rich variety of wildlife ranges from wolverine and fox to caribou, moose and even an occasional musk-ox. Along the coast, Alaska Natives also hunt walrus, whale and seal. The region's waterways provide an abundance of fish, including several varieties of salmon, whitefish, arctic char, dolly varden, her-ring, sheefish and trout.

By far, the most popular sport in the region is basketball. Other physical activities include dog-mushing, cross-country skiing, snowmachining, rafting, camping, boating and hiking. Residents also enjoy special attractions such as traditional Eskimo dancing and singing, sled-dog racing and craft fairs.

Taxes

Alaska has no state sales tax, property tax, gross receipts tax, inventory tax or personal income tax. The state has a progressive corporate income tax with a graduated scale. This tax structure makes Alaska an excellent place to do business for new or expanding companies.

The Northwest Arctic Borough encourages economic development within the region and will work with companies to devise a mutually beneficial payment plan in lieu of taxes. There are currently no borough property or sales taxes.

Contact

Economic planning for the Northwest Arctic Borough is spearheaded by a seven-member Economic Development Commission (EDC) and a seven-member advisory board. Membership in the groups reflects a broad spectrum, including labor, social organizations, political and private interests.

The EDC advises the borough administration and assembly on economic development opportunities, job training needs and other means to improve the economy of the borough. The EDC holds regular workshops on business development, management and financing.

For more information, contact:

Executive Director

Northwest Arctic Borough

Economic Development
Commission

P.O. Box 1110

Kotzebue, AK 99752

(907) 442-2500

(800) 478-1110 (toll-free in Alaska)

(907) 442-2930 (fax)



Noorvik

Location

Noorvik is located on the right-hand bank of the Nazuruk Channel of the Kobuk River, 33 miles northwest of Selawik and approximately 45 miles east of Kotzebue. The village was established by the Kowagmuit Eskimo fishermen and hunters from the village of Deering in the early 1900s.

Noorvik, which means "a place that is moved to," was also settled by people from Oksik, a few miles upriver. The village is downriver from the 1.7-million-acre Kobuk Valley National Park.

The People

The population of Noorvik declined from 1920 through the 1930s, but has rapidly increased since then. The 1990 census put the population at 543 people, of whom nearly 94 percent are Inupiat Eskimos.

Labor and Employment

The Noorvik economy is primarily based on subsistence, and is supplemented with cash income in most cases. Many residents find seasonal employment in the summer at Red Dog Mine, commercial fishing in Kotzebue or in fire fighting. Depending on the need, the Bureau of Land Management hires between 16 and 32 firefighters from Noorvik each summer. Residents also find work in occasional construction projects.

The Northwest Arctic Borough School District provides most of the year-round employment in the community, with 33 full-or part-time employees. The Maniilaq Association employs 10 people, the City of Noorvik employs five, and the Alaska National Guard Armory has one full-time and 22 part-time employees. Other contributors to the economy include the Noorvik Public Health Clinic, the Noorvik IRA, and Noorvik's two stores. The Morris Hotel provides food and lodging to tourists and construction workers.

Climate and Topography

Noorvik is located in the transitional climate zone which is characterized by long, cold winters and cool summers. Temperature extremes of 87 degrees in the summer and minus 54 degrees in the winter have been recorded, with summer temperatures averaging 60 degrees. Over 16 inches of precipitation falls annually, including 60 inches of snow. Prevailing winds are easterly in the winter and westerly in the summer, averaging 10 knots. Noorvik's topography consists of a sloping river bluff with low bushes and trees.



Transportation Services and Facilities

The major means of transportation in Noorvik are barge, plane, small boat and snowmachine. There are no roads linking the village to other communities.

Air — The Robert (Bob) Curtis Memorial Airport has a 2,600-foot by 100-foot gravel runway, with runway lights and navigational aids. There is a 200-foot by 50-foot taxiway and a 200-foot by 100-foot parking apron. The airport, maintained year-round by the city, is the second-largest airfield in the borough. Six airlines provide charter and regular scheduled air service to Noorvik: Hagland, Baker Aviation, Cape Smythe Air, Bering Air, Yute Air and Alaska Island Air. There are two charter-air guide services and one cargo-only airline. A round-trip ticket from Noorvik to Kotzebue starts at \$70.

Land — Roads extend throughout the village and out of town to the airstrip, cemetery and solid waste disposal site, as well as down to the waterfront. Residents use the many trails, especially along streams, for inter-village travel and access to hunting and fishing grounds. Villagers commonly use all-terrain vehicles and snowmachines in the winter.

Water — Crowley Marine Services barges general supplies and fuel to Noorvik from July through mid-September in small, shallow-draft vessels at the rate of \$17.10/100 lbs. Small boats are often used for travel to other villages for visits and supplies as well as for subsistence hunting and fishing.

Community Facilities

Community buildings in Noorvik include the city office, the IRA

(tribal council) office, health clinic, water and sewer plant, National Guard Armory and Public Safety Building, which accommodates between 300 and 400 people. Noorvik's two stores sell and deliver food, dry goods, fuel, gas, and a variety of other products.

Housing

In Noorvik there are approximately 80 homes, none for rent. The Northwest Inupiaq Housing Authority (NIHA) recently completed repairs and insulation upgrades on 29 homes, spending an average of \$12,000 on each unit. The repairs have helped homeowners lower their monthly heating costs significantly. NIHA has also recently spent \$1.2 million to build 10 new homes for low-income families under a HUD contract.

Land Ownership

The townsite trustee is in the process of transferring established lots to existing home-owners. Noorvik is eligible to receive up to 1,280 acres under the Alaska Native Claims Settlement Act 14 (c)(3) reconveyance process.

Local Governmental Services

Noorvik incorporated as a second-class city in 1964 and has a mayor-council form of government. The city employs an administrator, clerk, finance director, water/sewer operator and village public officer. Current services include:

Water — The present water supply consists of an intermittent pumping system using the Kobuk River as a source. Water is filtered, chlorinated and fluoridated in the utility building in the west part of town. From the storage tank, a conventional system provides pressure to a single-main circulating system which transports the water throughout the village in utilidors. Water samples are routinely sent to Fairbanks to ensure the water's purity. Monthly water and sewer charges are \$85 for homes, and \$1,702 for the school district.

Sewer — Noorvik has a vacuum sewer system in which sewage is carried by air instead of water. A constant vacuum is maintained by vacuum pumps in the 60,000-gallon collection tank at the end of the sewer mains. The system requires special toilets and water valves which collect waste from conventional sinks, lavatories and showers.

Solid Waste Disposal — Solid waste is collected by the city and deposited in a solid waste disposal area.

Public Safety — Noorvik has two public safety officers and a Public Safety Building which can accommodate three people in its cells.

Other Services and Utilities

Health Services — A health clinic, operated by Maniilaq Association, is staffed by four health aides who are on call 24 hours a day. Routine

medical services are offered between 10 a.m. and 12 p.m. and from 1 p.m. to 5 p.m. daily, but patients needing emergency services fly to Kotzebue. The single-story clinic has seven rooms, including two examination rooms.

Electricity — The Alaska Village Electric Co-op supplies power to the schools and residents of the village. The generating facility includes three diesel generators with a peak capacity of 350 kw. Monthly rates are as follows: residential use, 49.98¢/kwh; small commercial use, 45.98¢/kwh; and large commercial use, 44.08¢/kwh for the first 1,500 kwh in one month, and then 36.08¢/kwh thereafter in that month.

Telephone — Telephone service is offered by OTZ from Kotzebue. Basic monthly service and maintenance charges for a single line are \$21.31 for homes and \$29.61 for businesses, without tax. Hook-up fees begin at \$37.50 and increase depending on the service needed. For more information, call OTZ at 442-3114 or (800) 478-3111. Long-distance service is available through ATU-Alascom.

Fuel — The Noorvik Native Store sells heating oil for \$2.61/gallon, and gasoline for \$2.81/gallon.

Communications

Noorvik keeps up-to-date on news and entertainment through the selected network programming available on the Alaska Rural Communications System (ARCS), through Microcom (cable television) of Anchorage, and through public radio station KOTZ. The village also occasionally receives other Anchorage and Fairbanks radio stations. A wide range of newspapers are delivered to the community including the Arctic Sounder, Tundra Times and Anchorage Daily News. The post office is open Monday through Saturday and mail is delivered to the community on a daily basis.

Schools

Both elementary and high school level classes are held in the Noorvik Aqqaaluk High School. Currently, there are approximately 118 elementary, middle and high school students enrolled in the school system. Built in 1974-75, the school is a modern facility with computers installed. Chukchi Campus, a telecommunications service of the University of Alaska-Fairbanks, offers post-secondary courses in Noorvik.

For more information, contact:

City of Noorvik
P.O. Box 146
Noorvik, AK 99763
(907) 636-2100/2211
(907) 636-2135 (fax)



Buckland

Location

The community of Buckland is located on the west bank of the Buckland River, about 75 miles, southeast of Kotzebue. Although this site was settled in the late 1960s, the community of Buckland existed under various names at other locations, including Elephant Point, Old Buckland and New Site. The presence of many fossil finds at Elephant Point indicates that site was used by prehistoric civilization.



The People

The 1970 census showed a population of 104 and a 1975 update estimated the population at 145. Since then, the community has steadily grown, and estimates show that 440 persons now live in Buckland. A recent survey indicates that 95 percent of the population is Inupiaq Eskimo.

Labor and Employment

Buckland primarily exists on subsistence activities. According to a 1989 survey, 20.3 percent of the population works full time, 25.4 percent works part time, and 27.4 percent holds seasonal or temporary jobs. More than one-fourth do not hold paying jobs. The Northwest Arctic Borough School District is a major employer, with 18 employees in Buckland.

A reindeer herd of more than 2,000 supplements the local economy; helpers are paid in meat. Other employers include the City of Buckland (which employs nine persons), the Northwest Arctic Borough School District (18), Maniilaq Association (five), the health clinic (four), Buckland Native Store (four) and a private store (one).

Climate

Cool summers and long, cold winters characterize Buckland's transitional climate zone. Although temperatures of 85 degrees and minus 60 degrees have been recorded, temperatures are usually closer to 59 degrees in summer and minus 19 degrees in winter. Precipitation is light, with less than nine inches annually, including 35 to 40 inches of snow. Winds average 10 knots, and are easterly in winter and westerly in summer.

Buckland's landscape is made up of riverbed tundra with low bushes and no trees.

Transportation Services and Facilities

Buckland's main means of transportation are plane, barge, small boat and snowmachine; there are no roads linking Buckland with other parts of the state.

Air — Most supplies are brought into Buckland by air. Flying weather is considered good year-round, but is best in late winter and spring. Adverse crosswinds restrict flying approximately 5 percent of the time, primarily in winter. Buckland has a 2,600-foot by 100-foot gravel airstrip. Six chartered and regular scheduled air carriers serve Buckland: Hagland, Baker Aviation, Cape Smythe Air, Bering Air, Yute Air and Alaska Island Air. There is one airline that ships only cargo and two that offer charter-air guide service. A round-trip ticket from Kotzebue to Buckland starts at \$80.

Water — Crowley Marine Services barges general supplies and fuel each year from July to September at the rate of \$20.50/100 lbs. Small boats are often used for travel to other villages for visits, supplies and subsistence hunting and fishing.

Land — Roads extend through the village to the river, airstrip and waste disposal site. Villagers use the many trails along the river for year-round inter-village travel and for hunting and fishing. Residents commonly use all-terrain vehicles and snowmachines to travel in the winter, but rarely use dog sleds except for recreation.

Community Facilities

The city building houses the city administration office, the police department, NANA Fuel Project (an energy project of the regional Native corporation) and Maniilaq Association, a regional non-profit health and social service agency. A central

washeteria offers showers, a Laundromat and drinking water. Other community buildings include a community hall, health clinic, Friends Church and a snowmachine sales and repair shop.

Housing

Currently, there are 72 homes in Buckland. Although six homes are available for rent, four of those are usually occupied by teachers. The Northwest Inupiaq Housing Authority recently upgraded 30 houses, spending an average of \$12,000 on each for insulation and repairs to help cut homeowners' heating bills, which can average \$300/month. Heating oil and gasoline cost \$2.85/gallon through the NANA Fuel Project.

Land Ownership

The township trustee is in the process of transferring established lots to existing homeowners. Buckland is eligible to receive title to 1,280 acres under the Alaska Native Claims Settlement Act 14 (c)(3) reconveyance process.

Local Governmental Services

Buckland was incorporated as a second-class city in 1966, and has a mayor-council form of government. The city employs an administrator, clerk, part-time mechanic, electric plant operator, patrol officer, and washeteria clerk. The city levies a 2 percent sales tax and offers the following services:

Water — Water is pumped from the Buckland River through a 300-foot-long insulated transmission line to a community washeteria. The water is filtered, chlorinated and fluoridated in the washeteria building before being stored in a 100,000-gallon insulated water storage tank. Residents obtain drinking water from the washeteria and use the facility for showers and laundry. Buckland school facilities, connected to the washeteria, have full plumbing. Residents are charged for the use of the washeteria, the school district is charged \$1,500/month for water and sewer service.

Wastewater — Greywater from the washeteria is stored in a holding tank located in the washeteria building, and is pumped periodically through a 500-foot-long main to a greywater treatment lagoon. In individual homes, chemical toilets and honey buckets are used.

Solid Waste Disposal — Residents dispose of solid waste at a sewage lagoon.

Public Safety — A patrol officer oversees public safety.

Fire Protection — Buckland is served by a volunteer chief and fire department, with the use of a fire truck.

Electricity — A village co-op maintained by the Indian Reorganization Act (IRA) tribal council provides electricity to Buckland. There are three diesel generators with a peak capacity of 100 kw. Costs average \$100 to \$150 a month at 33¢/kwh for residential use.

Other Services and Utilities

Health Services — A health clinic, operated by Maniilaq Association, has three health aides who are on call 24 hours a day. Routine medical services are offered 9 a.m. to 12 p.m. and from 2 p.m. to 3 p.m. daily. In cases of emergency, patients fly to Kotzebue. The clinic has full water and sewer service.

Telephone — Telephone service is offered by OTZ from Kotzebue. Basic monthly service and maintenance charges for a single line are \$21.31 for homes and \$29.61 for businesses, without tax. Hook-up fees begin at \$37.50 and increase depending on the service needed. For more information, call OTZ at 442-3114 or (800) 478-3111. Long-distance service is available through ATU-Alascom.

Communications

Buckland stays up-to-date on news and entertainment through public radio station KOTZ, through Microcom (cable television) of Anchorage, and through the selected network programming on the Alaska Rural Communications System (ARCS). Buckland also receives two weekly newspapers, the Arctic Sounder and Tundra Times. The community enjoys daily mail delivery, and the post office is open Monday through Saturday.

Schools

The school in Buckland serves 163 students from early childhood education to 12th grade. The staff includes one principal, eight teachers and 12 classified employees. The school consists of three buildings. One school building holds the gymnasium, library and six classrooms, the second houses pre-kindergarten classes, and the smallest building houses a workshop. Post-secondary courses are available in Buckland through Chukchi Campus.

For more information, contact:

City of Buckland
P.O. Box 49
Buckland, AK 99727
(907) 494-2121
(907) 494-2138 (fax)



Kiana

Location

Kiana is located on the north bank of the Kobuk River, 57 air miles east of Kotzebue. Long ago, Kiana was the central village of the Kobuk River people and later became a supply center for placer gold mines on the Squirrel River in 1909. Translated, Kiana means a "place where three rivers meet."

The People

The population of Kiana has steadily increased during the past 50 years. The 1970 census reported 278 residents, all but 10 of them Inupiaq Eskimos. By 1995, the population had risen to 403, with 93.5 percent of them Inupiaq Eskimos.

Labor and Employment

The economy in Kiana still depends on traditional subsistence patterns, but is increasingly being augmented or replaced by a cash economy. According to a recent survey, 30.4 percent of the population works full-time, 23.2 percent works part-time and 21.4 percent holds seasonal or temporary jobs.

The community's largest employer is the Northwest Arctic Borough School District, with 24 employees. Other employers include the City of Kiana, with 12 employees, and Maniilaq Association with seven. Seasonal jobs are also available in commercial fishing, fire fighting, jade and copper ore mining, and working on river barges. Red Dog Mine also provides employment opportunities.

One of the more modern villages, Kiana has three general stores, and one small engine repair service.

Climate and Topography

Located in the transitional climate zone, Kiana's weather is characterized by long, cold winters and cool summers. Temperatures usually range between 67 degrees in the summer and minus 16 in the winter, although extremes of 85 degrees and minus 60 have been recorded. On the average, over 16 inches of precipitation falls annually, including 60 inches of snow. The topography consists of sloping riverbanks with trees. Prevailing winds are easterly in winter and westerly in summer, averaging 10 knots.

Transportation Services and Facilities

Kiana's main means of transportation are plane, small boat and snowmachine. There are no roads linking the village to other areas of the state.

Air — Flying weather is generally good year-round, but the best is in winter and early spring. Kiana's Bob Baker Memorial Airport has a 4,000-foot by 150-foot gravel runway with beacon



lights, and a 100-foot by 200-foot parking apron. The airport is graded on a regular basis by the city. Five chartered and regular scheduled air carriers serve Kiana: Baker Aviation,

Cape Smythe Air, Bering Air, Yute Air, Hagland and Alaska Island Air. There is one airline that ships only cargo and two that offer charter-air guide service. A round-trip ticket from Kotzebue to Kiana starts at \$80.

Water — Crowley Marine Services barges fuel and general supplies to Kiana each year between July and mid-September at the rate of \$17.10/100 lbs. There are rarely any problems, such as low water or high winds, that limit barge traffic. The Kobuk River is normally open to small boats from the last week in May to the first week in October.

Land — A road extends out of Kiana along the river shoreline to Kobuk Camp, and returns along the bluff on high ground. Another road also connects the village to the airstrip and several garbage disposal sites beyond the runway. Residents still use a network of old trading trails along the river for inter-village travel, and for hunting and fishing.

The City of Kiana uses an emergency van for bringing residents to the health clinic and transporting elders. There are 20 trucks, while most residents own snowmachines and all-terrain vehicles.

Community Facilities

Kiana has a combined City Hall/Community Center which is used for city meetings, as well as for youth games and other activities. Other community structures include the Kiana Traditional Council building, which is used for potlatches and meetings by elders; the health clinic, school, fire hall, police building, National Guard Armory, Friends Church and Baptist Church.

Housing

There are 98 homes in Kiana, but only a few are for rent. The Northwest Inupiaq Housing Authority has recently upgraded 35 homes in the village, spending up to \$12,000 to repair and upgrade the insulation on each unit, bringing significant reductions in monthly heating costs. The authority also recently built 10 new HUD homes for low-income families, which sold for approximately \$120,000 each.

Land Ownership

The townsite trustee is in the process of transferring established lots to existing home owners. Kiana is eligible to receive up to 1,280 acres under the Alaska Native Claims Settlement Act 14 (c)(3) reconveyance process.

Local Governmental Services

Kiana was incorporated as a second-class city in 1964 and has a mayor/council form of government. The city employs a manager, administrative assistant, clerk, two water/sewer operators, an airport manager, fuel project manager, patrolman, cable television operator, and three janitors. The city levies a two-percent sales tax and provides the following services:

Water — Kiana has two community water wells and a central distribution system. The wells are connected to a 1,600-foot circulating well line. One well is on-line at a time, whereby water is pumped to the water treatment building. There, it is chlorinated, fluoridated and stored in the 200,000-gallon, insulated, bolted steel storage tank. The water is then pumped through a pressurized, circulating distribution system. The city provides water and sewage service to approximately 80 homes at a monthly rate of \$51, plus tax.

Sewage — The sewage collection system consists of 3,300 feet of six-inch Arctic pipe and 2,000 feet of eight-inch Arctic pipe. Wastewater flows from the homes by gravity through the collection system to an 18,000 gallon/day extended aeration package treatment plant. After chlorination, the treated waste flows by gravity through a manhole and 400 feet of six-inch pipe to the river.

Solid Waste Disposal — Solid waste is collected sporadically with a city-owned dump truck and hauled to a disposal area approximately one mile from town.

Police Services/Fire Protection — Kiana has two public safety officers and two holding cells for offenders in the Public Safety Building. Fire protection is provided by a volunteer fire chief and a 22-member fire crew with the use of a fire truck.

Other Services and Utilities

Health Clinic — The health clinic, operated by Maniilaq Association, is staffed by three health aides on call 24-hours a day. Routine medical services are offered 10 a.m. to 12 p.m. and from 1 p.m. to 5 p.m. daily. The two-story clinic is fully plumbed and has several medical and dental examination rooms. The second floor is used as lodging for visiting doctors and has a kitchen available.

Electricity — Electricity is provided by the Alaska Village Electric Co-op. The generating facility includes three diesel generators with a peak capacity of 350 kw. Monthly rates are as follows: residential use, 45.63¢/kwh; small commercial use, 42.53¢/kwh; and large commercial use, 40.73¢/kwh for the first 1,500 kwh in one month, and then 32.73¢/kwh thereafter in that month. The Kiana Traditional Council sells heating oil for \$2.50/gallon.

Telephone — Telephone service is offered by OTZ from Kotzebue. Basic monthly service and maintenance charges for a single line are \$21.31 for homes and \$29.61 for businesses, without tax. Hook-up fees begin at \$37.50 and increase depending on the service needed. For more information, call OTZ at 442-3114 or (800) 478-3111. Long-distance service is available through ATU-Alascom.

Communications

Kiana keeps up-to-date on news and entertainment through public radio station KOTZ, through Microcom (cable television) of Anchorage, and through the selected network programming on the Alaska Rural Communications System (ARCS). Kiana also receives two weekly newspapers: the Arctic Sounder and the Nome Nugget. Mail is delivered six days a week and the post office is closed Sunday.

Schools

The elementary school in Kiana houses six classrooms and a library, and serves 131 students from pre-kindergarten to sixth grade. The high school houses four classrooms, a typing/computer room, a gymnasium, shop and library; and serves 58 students. The schools employ one principal, nine teachers and 14 staff. Chukchi Campus offers post-secondary courses in Kiana.

For more information, contact:

City of Kiana
P.O. Box 150
Kiana, Alaska 99749
(907) 475-2136 • (907) 475-2174 (fax)



Shungnak

Location

Shungnak is located about 150 miles east of Kotzebue on a bluff overlooking the Kobuk River. The village was settled in the 1920s by residents of Kobuk, 10 miles upstream, who came here because of riverbank erosion at the Kobuk site.

Shungnak takes its name from the Inupiaq Eskimo word "Issingnak," which means jade, a stone found extensively throughout the surrounding hills.

The People

A 1970 census showed Shungnak's population at 165. That figure rose only slightly in a 1976 estimate, which placed the population at 175. Today, Shungnak has a population of 237 residents, of which 95 percent is Inupiaq Eskimo.

Labor and Employment

Shungnak exists primarily on subsistence activities, although many residents depend on seasonal jobs for some cash income. According to a 1989 survey, 18.9 percent of the population works full-time, 13.2 percent works part-time and 43.4 percent holds seasonal or temporary jobs.

The main year-round employers include the Northwest Arctic Borough School District (with 17 employees), the City of Shungnak (eight) and Maniilaq Association (four). The primary seasonal employer is the Bureau of Land Management, which hires up to 32 residents each year for fire fighting. Shungnak also has a strong crafts industry. Residents make and sell finely crafted baskets, masks, mukluks, parkas, hats and mittens.

Climate and Topography

Located in the continental climate zone, Shungnak's weather is characterized by long, cold winters and relatively warm summers. Temperatures typically range between 68 degrees in summer and minus 12 degrees in winter. Precipitation is relatively high for the region at 16 inches, including 71 inches of snow. Shungnak's topography consists of river highlands with spruce and birch trees. Prevailing winds average five knots annually, and are east-northeasterly most of the year, except for the summer when they are westerly.

Transportation Services and Facilities

The major means of transportation in Shungnak are barge, plane, small boat and snowmachine. There are no roads linking the village to other parts of the state.

Air — The airport consists of a 3,400-foot gravel airstrip with beacon lights. Flying weather is considered best in late winter and early spring and poorest in late summer and fall. Six air-

lines provide charter and regular scheduled air service to Shungnak: Hagland, Baker Aviation, Cape Smythe Air, Bering Air, Yute Air and Alaska Island Air. There are



two charter-air guide services and one cargo-only airline. A round-trip ticket from Kotzebue to Shungnak starts at \$140

Water — Fuel and general supplies are barged to Shungnak each year by Crowley Marine Services at the rate of \$20.50/100 lbs. The Kobuk River is generally safe for boats from the last week in May to the first week in October. Small boats are often used for inter-village travel, supplies, subsistence hunting and fishing.

Land — Roads extend throughout the village and trails along the river are still used for inter-village travel, hunting and fishing. Residents use all-terrain vehicles, snowmachines and dog sleds for winter travel.

Community Facilities

Shungnak has two stores and a lodge which accommodates up to 20 people. Other community buildings include the recreation center, city office, health clinic, National Guard Armory and public safety building. The village also has three churches — Friends, Baptist and Seventh-day Adventist.

Housing

Housing in Shungnak consists of 57 privately owned homes and two trailers for teachers. Three of the homes are available for rent. The Northwest Inupiaq Housing Authority in Kotzebue is the primary developer within the region. New homes cost approximately \$69,500.

Land Ownership

The townsite trustee is in the process of transferring established lots to existing home-owners. Shungnak is eligible to receive up to 1,280 acres under the Alaska Native Claims Settlement Act 14 (c)(3) reconveyance process.

Local Governmental Services

Shungnak was incorporated as a second-class city in 1967 and has a mayor-council form of government. The city employs a city administrator, clerk, water/sewer operator, cable maintenance/repair operator, electrical operator, public safety officer, airport maintenance operator, city janitor, and clinic janitor. The city has a 2 percent tax and provides the following services:

Water — An intermittently filled reservoir utilizing the Kobuk River is Shungnak's water source. A portable pump fills the 200,000-gallon steel water storage tank through 1,110 feet of buried four-inch arctic pipe. The water storage tank and a pump house are located at the top of the river bluff, and serve the area on top of the bluff. Running water and sewer service is provided to most homes, the health clinic, school, community building and one of the churches. Water and sewer services cost \$50 per month for homes and businesses.

Wastewater — Shungnak has 4,500 feet of buried six-inch arctic gravity main line which connects to buildings through four-inch service lines. An additional 2,220 feet of the sewer main drains sewage to a small lake located one-half mile northwest of the city. A dike surrounds the lake to provide a 4 million-gallon waste stabilization lagoon. The effluent is chlorinated before being discharged to the lake, and the lagoon is fenced.

Solid Waste Disposal — A solid waste disposal area is maintained with use of a trailer and full-tracked tractor. There is no charge for disposing of solid waste.

Public Safety/Fire Protection - The City of Shungnak employs a public safety officer and uses the services of a Village Public Safety Officer employed by Maniilaq Association. The city has use of a Paktrak fire vehicle for fire protection.

Other Services and Utilities

Health Services — Shungnak's health clinic, operated by Maniilaq Association, employs a certified health aide and two certified health practitioners who are on call 24 hours a day. Routine medical services are provided from 10 a.m. to 12 p.m. and from 1 p.m. to 5 p.m. daily, but patients needing emergency services fly to Kotzebue.

Electricity — Electricity is provided by the Alaska Village Electric Co-op. The generating facility includes four diesel generators with a peak capacity of 297 kw. Monthly rates are as follows: residential use, 50.38¢/kwh; small commercial use, 47.28¢/kwh; and large commercial use, 45.48¢/kwh for the first 1,500 kwh in one month, and 37.48¢/kwh thereafter in that month.

Fuel — The Shungnak Native Store sells heating oil for \$3/gallon, and gasoline for \$3.25/gallon.

Telephone — Telephone service is offered by OTZ from Kotzebue. Basic monthly service and maintenance charges for a single line are \$21.31 for homes and \$29.61 for businesses, without tax. Hook-up fees begin at \$37.50 and increase depending on the service needed. For more information, call OTZ at 442-3114 or (800) 478-3111. Long-distance service is available through ATU-Alascom.

Communications

Shungnak keeps up-to-date on news and entertainment through cable television and through the selected network programming on the Alaska Rural Communications System (ARCS). Shungnak also receives public radio station KOTZ and two weekly newspapers: the Arctic Sounder and the Tundra Times. Many residents also use citizens band radio. The post office is open six days a week and mail is delivered to the community on a daily basis.

Schools

Shungnak schools serve 73 students from pre-kindergarten to 12th grade, including high school students from Kobuk. The elementary and high schools are combined in one building with a total of five classrooms, a large open classroom, library, shop and gymnasium. The school employs five teachers and 13 staff members. Chukchi Campus, a telecommunications service of the University of Alaska-Fairbanks, offers post-secondary courses in Shungnak.

For more information, contact:

City of Shungnak
General Delivery
Shungnak, AK 99773
(907) 484-2132
(907) 437-2176 (fax)

moderate-income housing for eligible residents through HUD contracts. Since 1970, NIHA has received contracts to build 102 low-income houses for qualified Kotzebue residents. Low-income Native residents can receive federal funding for home repairs and renovations through the Kotzebue IRA, a local tribal organization. The IRA also provides insulation and other energy-saving services.

Hotel Accommodations

The Nullagvik Hotel provides comfortable, modern accommodations for visitors to Kotzebue. A subsidiary of NANA, the Nullagvik offers 67 rooms and full-service restaurant overlooking the Kotzebue Sound. Hotel rates begin at \$97/night.

Land Ownership and Development Potential

The City of Kotzebue comprises about 850 acres of land. Approximately 340 acres (40 percent) of the land is owned by the state, borough, federal government, NANA and Kikiktagruk Inupiaq Corporation. The City of Kotzebue owns approximately 136 acres (16 percent) and the remaining 374 acres (44 percent) are privately owned.

Local Governmental Services

Kotzebue is a second-class city, incorporated in 1954. The city functions under the authority of a mayor and seven-member council. The day-to-day affairs are handled by a city manager and administrative staff. The city levies a 3 percent sales tax and offers the following services:

Police — The police department consists of a chief of police, captain and seven patrolmen.

Fire — The city fire department consists of one fire chief, two paid firemen/EMTs, a volunteer fire department, one fire truck on tracks, one quick-attack truck, one pumper fire truck and one tanker fire truck.

Water/Sewer - The city provides water/sewer service to 521 homes with sewer hookup. The water is piped from a lake one-and-a-half miles east of the city through a four-inch plastic hook-up. The sewer rate is \$13.03/month. Because of recurring freeze-up problems in the winter, the City of Kotzebue is seeking approximately \$10 million in state and federal money to overhaul the system.

Solid waste — Garbage and honeybuckets are disposed of in an open pit. Garbage rates are \$12.41/month.

Other utilities and services

Electricity — Electricity is supplied by the Kotzebue Electric Association. Average cost/home is \$52.99 month. The rate breakdown is as follows: 36.55¢/kwh is charged for the first 50 kwh; 32.14¢/kwh is charged for the next 50 kwh; 22.79¢ is charged for the next 9,900 kwh; and 21.69¢/kwh is charged for over 10,000 kwh/month.

Fuel — Fuel is supplied by Pacific Alaska Fuel Services. Other fuel can be purchased at Hanson's, Bison Street, Lee's Auto, Pacific Alaska Fuel Services, NAPA Auto Parts, K.I.C. and Baker's Fuel.

Communications

Kotzebue keeps up-to-date on news and entertainment through public radio station KOTZ, cable television, and the selected network programming on the Alaska Rural Communications System (ARCS). Kotzebue receives the Arctic Sounder and other newspapers from around the state. The community enjoys daily mail delivery, and the post office is open Monday through Saturday.

Schools

Schools in Kotzebue serve a total of 676 students from pre-kindergarten through 12th grade. The high school employs a principal, assistant principal and 22 teachers; the elementary school employs a principal, assistant principal and 28 teachers. The Northwest Arctic Borough School District office, which is based in Kotzebue, houses the administrative staff for the entire region, including a superintendent, assistant superintendent and support personnel in bilingual education, special education, counseling and other programs.

The middle/high school's facilities include a full-size gymnasium, library, shop and classrooms. The elementary school includes a library, multi-purpose room, classrooms and playgrounds. The district also operates an adult technical center that serves the entire borough. Chukchi Campus, a telecommunications service of the University of Alaska-Fairbanks, offers post-secondary courses in Kotzebue.

For more information, contact:

City of Kotzebue
P.O. Box 46
Kotzebue, AK 99752
(907) 442-3401 • (907) 442-3742 (fax)



Location

Kotzebue is built on a spit approximately three miles long and from 1,100 feet to 3,600 feet wide. The site has been inhabited for at least 600 years. Centuries before European explorers visited the area, "Kikiktagruk" was a busy trading center. Its location on ocean waters near the discharge point of a number of major interior river systems made it the hub of ancient arctic trading routes.

Today, Kotzebue is still an active trading center. Located 549 air miles from Anchorage, Kotzebue is the gateway to northwest Alaska. Its proximity to the Russian Far East, only 200 miles from the eastern tip of the region, enables Kotzebue to engage in cultural and economic exchange with the Russian Far East.

The People

The population of Kotzebue has increased steadily since the early 1900s. From a population of 200 at the turn of the century, the community grew rapidly to its present population of 3,705. This increase has resulted from expanding economic activities and services in the area. Within the next 15 years, officials estimate that Kotzebue's population may well increase to 6,000 as economic development continues. Seventy-five percent of the City of Kotzebue is Inupiaq Eskimo, with the rest of the population comprised of Caucasians, other Natives and other ethnic groups.

Labor and Employment

Kotzebue is the urban center for all the villages in the northwest region, with a healthy cash economy, a growing private sector and a variety of public service agencies. The basis for Kotzebue's economic strength lies in its strategic position in the water transportation system. The three major river systems that drain into the Kotzebue Sound — the Noatak, Kobuk and Selawik — are easily accessible from Kotzebue. Because of this, Kotzebue has become the transfer point between ocean and inland shipping. Kotzebue is also the air transport center for the region.

Kotzebue

The regional offices of many state and federal agencies serving northwest Alaska are in Kotzebue, the seat of the Northwest Arctic Borough. NANA Regional Corporation and Maniilaq



Association (a regional health and social service organization) also have their headquarters in Kotzebue.

The main employers in Kotzebue include the Northwest Arctic Borough School District (420 employees), Maniilaq Association (383), retail and commercial stores (101), the City of Kotzebue (86), airline companies (72), the State of Alaska (59) and NANA (44).

Many local residents also hunt, fish and gather food for subsistence purposes; at least half of this region's livelihood is from non-monetary subsistence income. During the summer, many residents are active in commercial fishing, catching and processing chum salmon. Much of the fish is sold to the locally-owned Kotzebue Sound Area Fisheries.

Climate

Kotzebue is located in the transitional climate zone which is characterized by long, cold winters and cool summers. Temperatures typically range from 58 degrees in the summer to minus 15 degrees in the winter, although temperature extremes of 85 degrees and minus 52 have been recorded. An average of nine inches of precipitation falls annually, including 40 inches of snow. The topography consists of a gravel and tundra spit, low bushes and no trees.

Transportation Services and Facilities

Air — The Ralph Wein Memorial Airport's main runway is 6,000 feet long with an asphalt surface. The north/south runway is 4,000 feet long with a gravel surface. There are six airlines providing charter and regular scheduled air service: Hagland, Baker Aviation, Cape Smythe Air, Bering Air, Yute Air and Alaska Island Air. There is one airline that ships only cargo and two that offer charter-air guide service. A round-trip ticket from Anchorage to Kotzebue starts at \$338.

Water — Kotzebue Sound is free of ice three months of the year. During this time, deep-draft ocean-going vessels arrive carrying fuel, building materials, heavy equipment and food supplies. However, due to the gravel and sand deposited by the Noatak River, which enters the Sound four miles above Kotzebue, these vessels are forced to anchor about 15 miles offshore.

Crowley Marine Services has shallow draft barges that are able to provide lighterage services. Freight is unloaded and stored at Kotzebue and later delivered to the outlying villages by barge. Lighterage services for the last 15 miles make up one-fourth of the total shipping cost from Seattle, over 3,000 miles away. Most of the major supplies are shipped from Seattle.

Land — Kotzebue has approximately 26 miles of gravel roads, used by cars, trucks and motorcycles in the summer. In the winter months, residents use snowmachines as their preferred means of transportation. There are also two taxi services in Kotzebue, including Cab Co. and Polar Cab. The regular fare is \$3/ride in town and \$5 to or from the airport.

City Offices

City Hall — City Hall is a two-story building built in 1974 to house the

city's administrative offices and to provide meeting space for the city council and community. Current occupants include the city manager, city clerk, administrative staff, division of finance and the receptionist.

Old Fire Hall — The Old Fire Hall located adjacent to City Hall was built in 1973 and consists of two offices, four vehicle parking stalls, a shop and several storage rooms.

Public Works — The Public Works building is a two-story complex consisting of a large maintenance/garage/mechanic shop on the ground floor with a partial second story devoted to office space and an open mezzanine for parts storage.

Transit Facility — The two-story transit building was constructed in 1987. It is designed to house three transit vans used in transporting the public, handicapped and elderly on daily routes throughout the city. The building also houses the Building Maintenance Division.

Building Maintenance Storage/City Jail Exercise Center — This wood frame, sheet-metal sided structure located next to the Public Safety building was built in 1974. Originally designed as a Public Works garage, its interior was divided in part into a storage area for maintenance

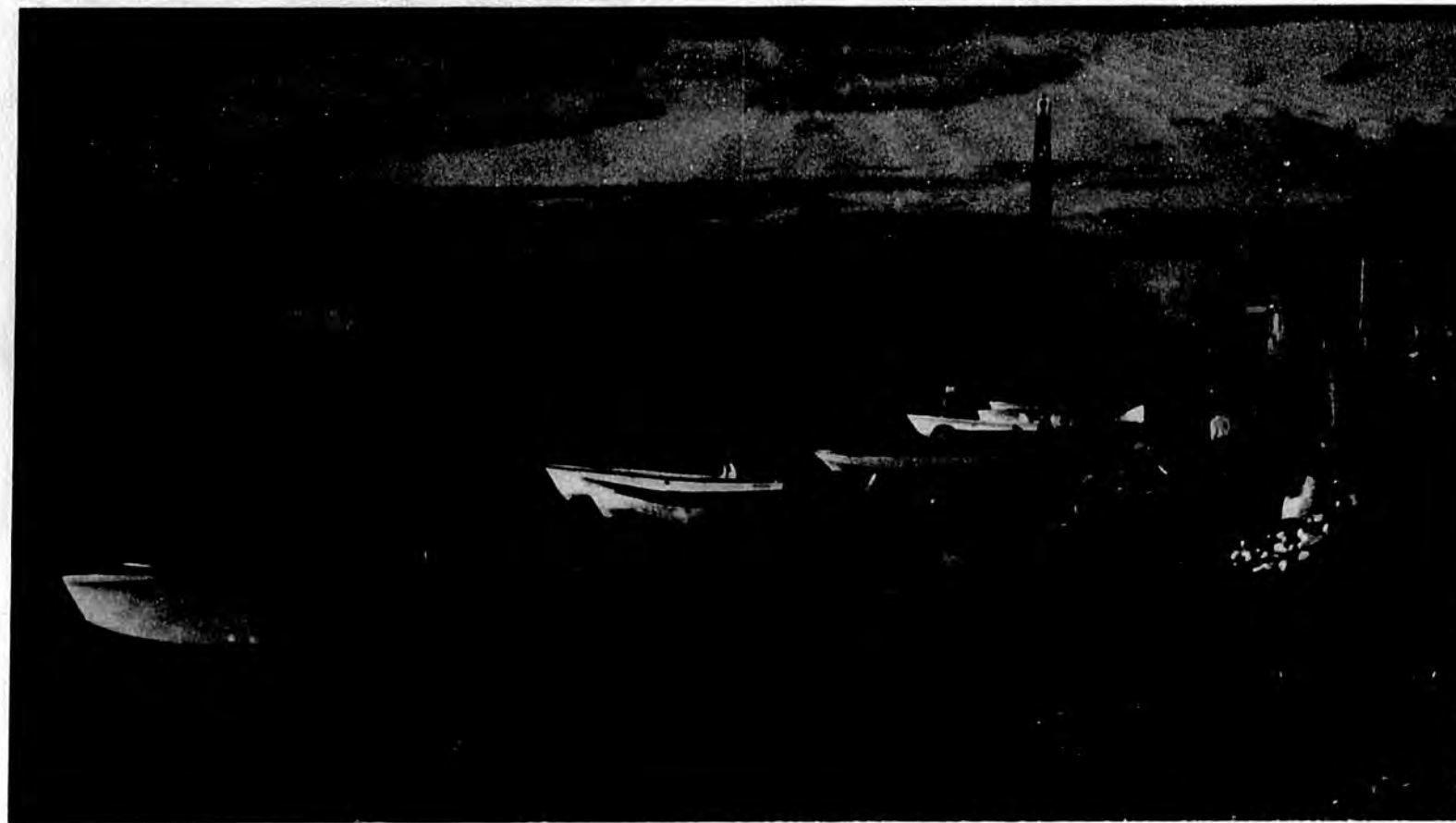
supplies, and a large room where inmates at the City Jail exercise. The building is in poor condition and the storage portion will be torn down to make room for the new jail facilities.

Vehicle Garage — This large, metal Quonset building was constructed in 1969-70 to serve as a storage and equipment facility. It is located next to the Public Works headquarters, and is in fair condition.

Public Safety

Police — The Kotzebue Public Safety Building is located behind the Old Fire Hall and contains the offices of the Kotzebue Police Department, the City Jail, Animal Control kennels and staff. The two-story building was constructed in 1976 and is in poor condition. The city began construction of a new facility in 1989.

Fire — The Fire Training Center was built with state funding in 1982 to assist in training rural fire department personnel. The two-story building is composed of three vehicle stalls, a hose drying and drill tower, a training room, sleeping quarters, several offices, a break room, fire extinguisher room, air pack room and storage. The center houses a hook and ladder fire truck, a tanker and an ambulance.



Community Facilities

Medical/Dental — Kotzebue has one Public Health Service Hospital which has 17 beds. Professional health care is provided by six doctors, 22 nurses, three pharmacists and three dentists. This hospital is used by all the outlying villages, comprising an area of approximately 43,000 square miles. A state Public Health Service Clinic also serves the area.

Other — Other community buildings include Chukchi Campus, the Alaska Technical Center, a recreation center, senior citizens' cultural center, hotel, library, bank, two museums, restaurants, beauty parlors, three main grocery stores, variety and video stores, snowmachine shops, hardware stores, and miscellaneous other stores. There is a wide selection of churches, such as Catholic, Baptist, Friends, Mormon, Seventh-day Adventist, Episcopal and Church of God.

Housing

A recent housing survey showed a total inventory of 864 units, consisting of 629 single-family homes, 26 duplexes, one 41-plex, one 29-plex, one 16-plex, one 10-plex, three nine-plexes, four six-plexes and nine four-plexes. Since Kotzebue's population is expected to nearly double in the next 15 years, the city will soon need additional housing. However, Kotzebue faces an unusual problem: built on a spit of land only two miles long and one mile wide, there is not much land left for residential growth. The city is currently exploring other places to build additional homes. Privately owned one and two-bedroom homes or unit-plexes are being leased or rented at from \$500 to \$700/month. A three- to four-bedroom home or apartment rents for \$700 to \$900/month. Efficiencies rent for \$640/month.

The Northwest Inupiaq Housing Authority (NIHA) provides low- and



Ambler

Location

Ambler is located on the north bank of the Kobuk River, approximately 138 air miles northeast of Kotzebue. The newest community in this region, Ambler was settled in 1958 when people from Shungnak and Kobuk moved upstream for the rich variety of fish and game. Points of interest nearby include Onion Portage, the site of an archeological dig, and the Great Kobuk Sand Dunes, some 35 miles away.

The People

The 1970 census listed 29 families in Ambler and a total population of 169. By 1995, the total population had grown to 297, according to the Alaska Department of Community and Regional Affairs. Today, almost 90 percent of the community is Inupiaq Eskimo, and the remaining 10 percent is Caucasian.

Labor and Employment

Ambler's economy is based on subsistence activities. According to a 1989 survey, 25.4 percent of the population works full time, 19.5 percent works part time, and 28 percent holds seasonal or temporary jobs.

The main employer in Ambler is the Northwest Arctic Borough School District, which employs 26 people, including a principal, eight teachers and 17 classified employees. The City of Ambler is the next largest employer, with seven employees, and Maniilaq Association has six employees. Other cash income comes from Ambler's two grocery stores, a general merchandise store and a store that specializes in snowmachine sales, repairs and parts. Some residents sell finely crafted birch baskets in gift stores throughout the state, and other others sell animal pelts. There are also skilled stonecutters, who get jade from the nearby Kobuk Valley jade mine.



Climate

Located in the continental climate zone, Ambler's weather is characterized by long, cold winters and relatively warm summers. Although temperatures typically range from minus 14 degrees to 68 degrees, Ambler has had record temperatures of 92 degrees in the summer and minus 65 degrees in the winter. Precipitation averages 16 inches annually, including 80 inches of snow. Prevailing winds are westerly in the summer and east-northeasterly during the rest of the year, averaging five knots.

Transportation Services and Facilities

Ambler's main means of transportation are barge, plane, small boat and snowmachine. There are no roads linking Ambler with other parts of the state.

Air — Ambler is served by a 3,000-foot gravel main airstrip and a 2,400-foot gravel crosswind airstrip, located approximately one-and-a-half miles from the city. The airstrip is lighted and maintained year-round by the city. Flying weather is acceptable year-round but is best in late winter and early spring. Six chartered and regular scheduled air carriers serve Ambler: Hagland, Baker Aviation, Cape Smythe Air, Bering Air, Yute Air and Alaska Island Air. There is one airline that ships only cargo and two that offer charter-air guide service. A round-trip ticket from Kotzebue to Ambler starts at \$180.

Water — Crowley Marine Services barges fuel and general supplies to Ambler each year between early July and mid-October at a rate of \$20.50/100 lbs. Small boats are often used for travel to other villages for visits and supplies, as well as for subsistence hunting and fishing.

Land — Roads extend throughout the village to the river, airstrip, cemetery and waste disposal site. Residents use the many trails along the river for year-round inter-village travel and for hunting and fishing. Villagers commonly use all-terrain vehicles and snowmachines in the winter, but rarely use dog sleds except for recreation.

Community Facilities

The city building houses the city administrative office, the court system, OTZ telephone, ATU-Alascom, and the Village Public Safety Officer office. The main meeting place is the community hall, which accommodates 40 to 50 persons. Other community facilities include the elementary and high schools, the National Guard Armory, the IRA (tribal council) building and community freezer, health clinic, Friends Church and Baptist Mission.

Housing

There are about 57 homes in Ambler, with very few for rent. The Northwest Inupiaq Housing Authority (NIHA) recently built 10 new three- and four-bedroom HUD homes, each costing about \$120,000. Funding for low-income housing upgrades and repairs is also available through Maniilaq Association, a regional non-profit health social service agency.

Visitors to Ambler can stay at the Kobuk River Lodge, a private lodge and restaurant, with three rooms and a cabin available year-round. The nightly rate is \$90/person.

Land Ownership and Development Potential

Coal deposits are known to occur in the region, but their extent has not been determined. Sand and gravel are available for construction from a pit at the far end of the runway, approximately one and a half miles northwest of town.

The townsite trustee is in the process of transferring established lots to existing homeowners. Ambler is eligible to receive up to 1,280 acres under the Alaska Native Claims Settlement Act 14 (c)(3) reconveyance process.

Local Governmental Services

Ambler was incorporated as a second-class city in 1971 and has a mayor-council form of government. The city employs an administrator, clerk, public safety officer, health aide, water and sewer attendant, airport manager and custodian. A 2 percent sales tax is levied. The city offers the following services:

Water — The main water source for Ambler's piped distribution system is a 17-foot-deep well, installed near the Kobuk River. Water is pumped from the well by a submersible pump through 940 feet of transmission line to the pumphouse/water treatment plant. A standby well is also located at the plant. Water is stored in a 210,000-gallon, insulated water storage tank. Fifty-seven homes are connected to the city's circulating water system.

The City of Ambler provides residential water and sewer services at the monthly rate of \$70/month.

Sewer — A piped collection system serves 57 homes. Service lines are connected to eight-inch and six-inch arctic pipe. Sewage flows to a facultative lagoon through two lift stations, where it discharges to a natural watershed and then to the Kobuk River.

Solid Waste Disposal — Ambler uses a sanitary landfill for solid waste disposal and maintains the facility with the use of a truck, two-wheeled trailer and full-track tractor.

Public Safety — Public safety is handled by two public safety officers. The office has two cells for holding offenders.

Fire Protection — Ambler is served by a volunteer fire department. Fire hydrants are installed along the main water line for limited fire protection.

Other Services and Utilities

Health Services — The health clinic, operated by Maniilaq Association, consists of a single-story, wood frame building with eight rooms, including two exam rooms and a dental exam office. Routine medical services are offered on a daily basis, but individuals fly to Kotzebue for emergency services.

Electricity — The Alaska Village Electric Co-op supplies power to the schools and residents of Ambler. The generating facility includes three diesel generators with a peak capacity of 271 kw. Monthly rates are as follows: residential, 50.81¢/kwh; small commercial, 47.71¢/kwh; and large commercial, 45.91¢/kwh for the first 1,500 kwh in one month, and then 37.91¢/kwh thereafter in that month.

Telephone — Telephone service is offered by OTZ from Kotzebue. Basic monthly service and maintenance charges for a single line are \$21.31 for homes and \$29.61 for businesses, without tax. Hook-up fees begin at \$37.50 and increase depending on the service needed. For more information, call OTZ at 442-3114 or (800) 478-3111. Long-distance service is available through ATU-Alascom.

Communications

Ambler keeps up-to-date on news and entertainment through public radio station KOTZ, through Microcom (cable television) of Anchorage, and through the selected network programming on the Alaska Rural Communications System (ARCS). Ambler also receives the weekly Arctic Sounder newspaper. The community enjoys daily mail delivery, and the post office is open six days a week.

Schools

The school in Ambler provides education for grades kindergarten through high school for 101 students. Facilities include a high school with a gymnasium, three classrooms, a shop and a kitchen; and an elementary school with an office and five classrooms. Chukchi Campus also offers post-secondary education.

For more information, contact:

City of Ambler
P.O. Box 9
Ambler, AK 99786
(907) 445-2122
(907) 445-2174 (fax)



Deering

Location

Deering is located on the north side of the Seward Peninsula at the mouth of the Inmachuk River on Kotzebue Sound, 57 miles southwest of Kotzebue. The city was established in 1901 as a supply station for gold mining near the historic Eskimo village of Inmachukmiut. Today, the city sits on a flat sand and gravel spit 18 feet above sea level.

The People

The population of Deering dropped from more than 100 in 1958 to a low of 85 in a 1970 census. Since that time, the population has steadily increased, and today is 159 persons. Over 94 percent of the community is Inupiaq Eskimo.

Labor and Employment

Deering's economy is a mix of cash and subsistence activities. According to a 1989 survey, 30.4 percent of the population works full time, 23.2 percent works part time and 21.5 percent holds seasonal or temporary jobs. A number of residents earn income from trapping and handicraft activities.

Year-round employment opportunities in Deering are provided by the Northwest Arctic Borough School District (with five teachers and six classified employees), the City of Deering (nine employees), health clinic (one), stores (two), Maniilaq Association (four) and the airlines (three). Summer construction projects and reindeer herding provide additional employment.

Climate and Topography

Located in the transitional climate, Deering's weather is characterized by long, cold winters and cool summers. The all-time high in Deering was 85 degrees, and the low was minus 60 degrees, but temperatures generally hover between 63 degrees in summer and minus 19 degrees in winter. Precipitation is light and averages less than nine inches annually, including 36 inches of snow. Built on a spit in the Kotzebue Sound, Deering's topography consists of a treeless tundra and river system. Prevailing winds average 10 knots annually and are easterly in winter and westerly in summer.

Transportation Services and Facilities

Deering's main means of transportation are plane, small boat and snowmachine. There are no roads linking Deering with other parts of the state.

Air — Deering's 2,600-foot by 80-foot gravel airstrip, located south of town, accommodates the mail and passenger flights provided by six chartered and regular scheduled air services: Hagland, Baker Aviation, Cape Smythe Air, Bering Air, Yute Air and Alaska Island Air. There is one airline that ships only cargo and two that offer charter-air guide service. A round-trip ticket from Kotzebue to Deering starts at \$80.

Water — Deering's location on the coast provides the community with good access by water. Crowley Marine barges

goods from Kotzebue at the rate of \$20.50/100 lbs. Small boats are mainly used for subsistence activities.

Land — There are a number of roads in the Deering area, including roads to the dumpsite and the cemetery, and a

road that leads to several mining sites in the interior of the Seward Peninsula. Residents travel on the many winter snow machine trails, including the trails to Candle and Buckland.

Community Facilities

The city building houses the city administrative offices, library, post office, public safety office and electric company office. Other community buildings include the school, health clinic, Friends Church, two stores and a community hall.

Housing

A 1986 survey showed a total of 52 homes in Deering, with 37 occupied full time. The Northwest Inupiaq Housing Authority recently refurbished three homes in Deering, spending an average of \$12,000 for insulation and general repairs on each, to help lower residents' heating costs.



Land Ownership

The township trustee is in the process of transferring established lots to existing homeowners. Deering is eligible to receive up to 1,280 acres under the Alaska Native Claims Settlement Act 14 (c)(3) reconveyance process.

Local Governmental Services

Deering was incorporated as a second-class city in 1970, and has a mayor-council form of government. The city employs an administrator, clerk, patrol officer, alternate health aide, heavy equipment operator, librarian, airport manager, airport maintenance operator and city electrical generator and manager operator. To pay for services, the city levies a 3 percent sales tax and offers the following services:

Water — Water is pumped from the Inmachuk River. The water is filtered, chlorinated and fluoridated before being pumped to a 400,000-gallon insulated storage tank located in town. Deering uses a "fill-and-draw" system, filling a storage tank in summer, which the community draws on for a winter water supply. The Deering School water storage tank is also filled in the summer. The city is currently pursuing a piped water and sewer system.

A community washeteria contains a laundry room, shower facilities, sinks, flush toilets and a watering point. Residents can purchase water at the washeteria for 10¢/gallon.

Sewage — Residents use honey buckets for in-house liquid waste disposal. Honeybucket wastes are disposed of on the beach in front of town, on the sea ice or at the community dumpsite. The school has a small package sewage treatment plant that treats sewage before it is disposed of through an outfall in the ocean in front of town. The washeteria utilizes a small subsurface septic tank and leach field to dispose of liquid wastes.

Solid Waste Disposal — A fenced, sanitary landfill is used for solid waste disposal. The community has a refuse haul trailer; however, residents dispose of their solid waste individually.

Electricity — Ikpnaphciaq Electric supplies electricity to the City of Deering with four diesel-powered generators, with a peak capacity of 255 kw. The minimum monthly charge for residential use is \$125 for the first 450 kwh, and 38.5¢/kwh for any additional usage. The school and washeteria are charged 34.5¢/kwh. The City of Deering owns the electric company, but it is managed by an independent board.

Police Services/Fire Protection — Public safety is handled by one public safety officer with one holding cell for offenders. Fire protection is provided by a volunteer fire fighting force.

Other Services and Utilities

Health clinic — A health clinic, operated by Maniilaq Association, has one health aide on call 24 hours a day. Routine medical services are offered from 10 a.m. to 12 p.m. and from 1 p.m. to 5 p.m. daily, but patients needing emergency services fly to Kotzebue. The clinic has three rooms, including one examination room.

Telephone — Telephone service is offered by OTZ from Kotzebue. Basic monthly service and maintenance charges for a single line are \$21.31 for homes and \$29.61 for businesses, without tax. Hook-up fees begin at \$37.50 and increase depending on the service needed. For more information, call OTZ at 442-3114 or (800) 478-3111. Long-distance service is available through ATU-Alascom.

Communications

Deering stays up-to-date on news and entertainment through public radio station KOTZ, six channels of cable television, and the selected network programming on the Alaska Rural Communications System (ARCS). Deering also receives four newspapers: the Arctic Sounder, Nome Nugget, Northland News and Fairbanks Daily News-Miner. The post office is open every day except Saturday and Sunday, and mail is delivered to the community six days a week.

Schools

The Deering school consists of a new steel-frame building that houses the school offices, elementary, middle and high school classrooms, gymnasium, cafeteria and library. School employees include one principal, five teachers, and nine staff. There are seven classrooms serving 40 students from pre-kindergarten through grade 12. Community and adult education classes are conducted in the school which is also used for a variety of community meetings. Chukchi Campus offers post-secondary courses in Deering.

For more information, contact

City of Deering
P.O. Box 36049
Deering, AK 99736
(907) 363-2136
(907) 363-2156 (fax)



Kivalina

Location

The city of Kivalina sits at the tip of a barrier reef, 700 feet wide by eight miles long, located between the Chukchi Sea and Kivalina River. Approximately 80 air miles northwest of Kotzebue, the village has long been a stopping-off place for seasonal travelers between arctic coastal areas and Kotzebue Sound communities. Kivalina is the only village in the region where people hunt the bowhead whale.

The People

Population growth in Kivalina has steadily increased over the past 50 years. In 1920, Kivalina was estimated to have 87 residents; by 1970, the number had grown to 188. Today, the population is approximately 372, of which nearly 98 percent is Inupiaq Eskimo.

Labor and Employment

Although Kivalina residents subsist mainly on hunting and fishing, full and part-time jobs supplement the local economy. A recent survey shows that 27.1 percent of the population works full-time, 25.6 percent works part-time, and 19.4 percent holds seasonal or temporary jobs.

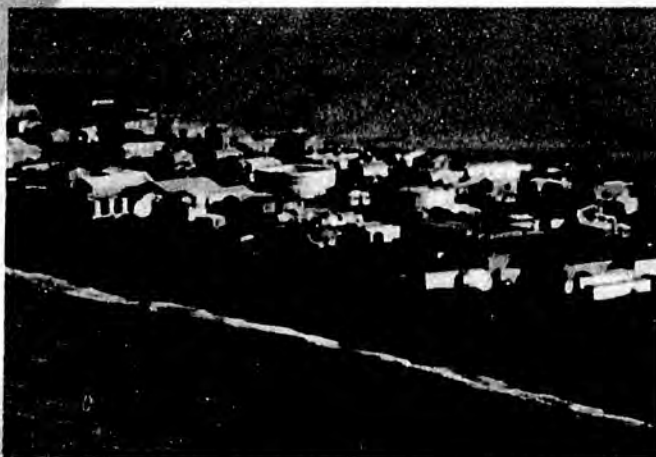
The main employer in Kivalina is the Northwest Arctic Borough School District, with 19 full and part-time employees. Other employers include the City of Kivalina (seven employees); Maniilaq Association, a regional health and social service association (four); the IRA tribal council (three); the Kivalina Native Store (five); the post office (one) and airline companies (four, part-time). Some residents find summer employment at the Red Dog Mine, or in fire fighting or commercial fishing. The Native crafts industry has expanded in recent years, with Kivalina residents specializing in carving ivory and producing jewelry from caribou hoofs.

Kivalina has five stores which provide a variety of goods, including groceries, sporting goods, gift items, sewing notions, hardware, dry goods and fuel.

Climate and Topography

Kivalina lies in the transitional climate zone which is characterized by long, cold winters and cool summers. Even though the village is located on the coast, the climate is more continental than maritime, partly because the Chukchi Sea is ice-covered from November to June. Temperatures typically range between 60 degrees in summer and minus 17 degrees in

winter. About 8.6 inches of precipitation falls here annually, including 57 inches of snow. Winds average 10 knots. The topography consists of a



sand and gravel ocean spit.

Transportation Services & Facilities

The main means of transportation in Kivalina are plane, small boat and snowmachine. There are no roads linking the village to other areas of the state.

Air — Kivalina has a 3,000-foot airstrip, which lies on the beach 11 feet above sea level. Flying weather is considered good year-round, but is best in winter and poorest in late summer. Six chartered and regular scheduled air carriers serve Kivalina: Hagland, Baker Aviation, Cape Smythe Air, Bering Air, Yute Air and Alaska Island Air. There is one cargo-only airline and two charter-air guide services. A round-trip ticket from Kotzebue to Kivalina starts at \$60.

Water — Crowley Marine Services barges fuel and general supplies to Kivalina each year between July and August at the rate of \$17.10/100 lbs. The Chukchi Sea is usually open to boat traffic from about mid-June to the first of November. Small boats are used for inter-village travel, supplies, hunting and fishing.

Land — Residents rely on all-terrain vehicles for transportation in the summer and on snowmachines in the winter. Two main hunting trails follow the Kivalina and Wulik rivers.

Community Facilities

Community facilities at Kivalina include the city office, community building, fire hall, jail, National Guard Armory, elementary and high school, Native Store, and post office. Kivalina has two churches, the Episcopal Church and Friends Church. Social services are offered in the suicide prevention center and the health clinic.

Housing

There are approximately 65 homes in Kivalina, not counting school staff quarters. With all available housing fully occupied, the community needs more housing. The average cost of a new home is \$70,000. The Northwest Inupiaq Housing Authority, based in Kotzebue, provides construction services based on HUD contracts.

Land Ownership

The townsite trustee is in the process of transferring established lots to existing home owners. Kivalina is eligible to receive up to 1,280 acres under the Alaska Native Claims Settlement Act 14 (c) (3) reconveyance process.

Local Governmental Services

Kivalina was incorporated as a second-class city in 1969 and has a mayor/council form of government. The city employs an administrator, clerk, public safety officer and custodian full time; and a water-treatment-plant operator, bingo accountant and cable TV operator part time. The city offers the following services:

Water — Kivalina's source of water is the Wulik River. Water is pumped through a three-mile surface transmission line into a 600,000-gallon steel storage tank. The water is chlorinated and fluoridated before it is stored. Kivalina "fill-and draw" system, filling a storage tank in summer, then drawing on it for a winter water supply.

Sewage — Household sewage is emptied into four disposal bunkers located throughout the community.

Solid Waste Disposal — Residents bring their solid waste to a disposal site located one and one-quarter miles from the town.

Police Services — Kivalina has two public safety officers, who provide police protection.

Other Services and Utilities

Health Clinic — Kivalina's health clinic, operated by Maniilaq Association, is staffed by two health aides who are on call 24 hours a day. The clinic offers routine medical services from 10 a.m. to 12 p.m., and from 1 p.m. to 3 p.m., but patients fly to Kotzebue for emergency services. The single-story clinic contains a waiting room, two exam rooms, office/radio room, toilet and storage room.

Electricity — Electricity is provided by the Alaska Village Electric Co-op. The generating facility includes four diesel generators with a peak capacity of 337 kw. Monthly rates are as follows: residential use, 46.14¢/kwh; small commercial use, 43.04¢/kwh; and large commercial use, 41.24¢/kwh for the first 1,500 kwh in one month, and then 33.24¢/kwh thereafter in that month.

Telephone — Telephone service is offered by OTZ from Kotzebue. Basic monthly service and maintenance charges for a single line are \$21.31 for homes and \$29.61 for businesses, without tax. Hook-up fees begin at \$37.50 and increase depending on the service needed. For more information, call OTZ at 442-3114 or (800) 478-3111. Long-distance service is available through ATU-Alascom.

Communications

Kivalina keeps up-to-date on news and entertainment through public radio station KOTZ, through Microcom (cable television) of Anchorage, and through the selected network programming on the Rural Alaska Television Network (RATNET). Kivalina also receives three newspapers: the Arctic Sounder, Tundra Times and Northland News. Mail is delivered to the community six days a week, and the post office is open Monday through Saturday.

Schools

A combined elementary and high school serves Kivalina's 109 students from pre-kindergarten to 12th grade. The school employs one principal, seven teachers and 13 staff. Kivalina's school, known as the McQueen School, consists of nine classrooms, a wood shop, darkroom, gymnasium and library. Chukchi Campus offers post-secondary courses in Kivalina.

For more information, contact:

City of Kivalina
P.O. Box 50079
Kivalina, AK 99750
(907) 645-2137 • (907) 645-2175 (fax)



Kobuk

Location

Originally called Shungnak, Kobuk is located on the right bank of the Kobuk River about seven miles northeast of Shungnak and 128 air miles northeast of Kotzebue. The village was founded in 1899 as a supply point for mining activities in the Cosmos Hills. Due to river erosion, the village was relocated in the 1920s to a new site downstream called Kochuk — now Shungnak. The few people who stayed behind renamed the present village Kobuk.

The People

Kobuk is the smallest village in the Northwest Arctic Borough. The 1970 census listed a population of 56 people, which represented approximately nine families. The 1990 census put the population at 97. Nearly 90 percent of the community is Inupiaq Eskimo.

Labor and Employment

Subsistence is the primary way of life in Kobuk. According to a 1989 survey 36.1 percent of the population works full-time, 11.1 percent works part-time and 30.6 percent holds seasonal or temporary jobs.

The main employers in Kobuk include the Northwest Arctic Borough School District (eight employees), the City of Kobuk (two) and Maniilaq Association (two). During the summer, some residents find work in fire fighting and construction.

Climate and Topography

Kobuk lies in the continental climate zone, characterized by long, cold winters and relatively warm summers. Although record temperatures of 90 degrees and minus 68 degrees have been recorded, temperatures normally range between 68 degrees in the summer and minus 24 degrees in the winter. Roughly 17 inches of precipitation fall annually in Kobuk, including 56 inches of snow. Prevailing winds average five knots annually and are

east-northeast most of the year, and westerly in the summer. The topography consists of riverbanks, tundra, foothills and trees.

Transportation Services and Facilities

The main means of transportation in Kobuk are plane, barge, small boat and snowmachine; there are no roads linking the village with other parts of the state.

Air — Kobuk has a 2,500-foot lighted gravel airstrip. Aircraft land either on the airstrip or on the river with floats. Flying weather is considered good year-round, but is best in the winter and early spring. Five airlines provide charter and regular scheduled air service to Kobuk: Baker Aviation, Cape Smythe Air, Hagland, Bering Air, Yute Air and Alaska Island Air. There is one airline that ships only cargo and two that offer charter-air guide service. A round-trip ticket from Kobuk to Kotzebue starts at \$190.

Water — Crowley Marine Services barges general supplies and fuel during spring and fall high river stages at the rate of \$20.50/100 lbs. Small boats are often used for travel to other

villages for visits, supplies and subsistence hunting and fishing. The Kobuk River is generally safe for small boats from the end of May to the end of October.

Land — Residents use many of the trails along the river for

year-round inter-village travel and for hunting and fishing. Villagers use all-terrain vehicles for transportation in the summer and snowmachines in the winter.

Community Facilities

A health clinic, community hall, two privately owned stores and a Baptist Church make up Kobuk's community facilities.



Housing

There are now 25 homes in Kobuk, most of them older log structures. Nine of these homes recently received up to \$12,000 in repairs and insulation upgrades, reducing monthly heating costs for residents.

Land ownership

The townsite trustee is in the process of transferring established lots to existing home owners. Kobuk is eligible to receive up to 1,280 acres under the Alaska Native Claims Settlement Act 14 (c)(3) reconveyance process.

Local Governmental Services

Kobuk was incorporated as a second-class city in 1973 and has a mayor-council form of government. The city has an administrator, clerk and volunteer fire department. Kobuk provides the following services:

Water — Kobuk has a community washeteria, which includes laundry facilities, showers and drinkable water. Residents haul water from the washeteria for their private use. The water is stored in a well and is filtered, chlorinated and fluoridated. The school system has its own well and treated water.

Sewer — Sewage from the washeteria is discharged to a septic tank and seepage pit. In individual homes, honeybuckets and privies are used and waste is disposed of at Dall Creek.

Solid Waste Disposal — Residents haul solid wastes to an uncontrolled dump-site located two miles out of town. The dump is inaccessible in the summer due to the tundra bog.

Electricity — Kobuk receives electricity through the generators in Shungnak. Residents pay rates established by the Kobuk Valley Electric Cooperative. Monthly rates are as follows: 53¢/kwh for everyone in the village except the school and airport.

Other Services and Utilities

Health services — Kobuk's health clinic, operated by Maniilaq Association, is staffed by a health aide and is open from 1 p.m. to 5 p.m. daily. The clinic offers routine medical services, but patients needing emergency care fly to Kotzebue. The clinic houses an office, waiting room, two exam rooms, bathroom, storage room and furnace.

Police Services — A Village Public Safety Officer, employed by Maniilaq Association, oversees public safety.

Telephone — Telephone service is offered by OTZ from Kotzebue. Basic monthly service and maintenance charges for a single line are \$21.31 for homes and \$29.61 for businesses, without tax. Hook-up fees begin at \$37.50 and increase depending on the service needed. For more information, call OTZ at 442-3114 or (800) 478-3111. Long-distance service is available through ATU-Alascom.

Communications

Kobuk keeps up-to-date on news and entertainment through the selected network programming on the Alaska Rural Communications System (ARCS), and through public radio station KOTZ. Mail is delivered to the community six days a week and the post office is open Monday through Saturday.

Schools

The smallest school in the region, with just 19 students from pre-kindergarten through 8th grade, Kobuk School employs one principal/teacher, one teacher and three staff members. High school students attend the Shungnak School, just seven miles away. The one-room school is attached to the principal's quarters.

For more information, contact:

City of Kobuk
P.O. Box 49
Kobuk, AK 99751
(907) 948-2217
(907) 948-2228 (fax)



Noatak

Location

Noatak is located on the west bank of the Noatak River, 55 miles north of Kotzebue at about 60 feet above sea level. Named for an adjacent waterway meaning "inland river," Noatak was established as a fishing and hunting camp in the 19th century. This is the only settlement along the pristine, 296 mile-long Noatak River, which is encompassed by a 66-million acre national preserve.

The People

The population of Noatak increased steadily from 1880 to 1939, at which time the population began to decline slightly. Today, the population stands at about 369, nearly all Inupiaq Eskimo. Recent trends show that the current population appears stable and may be increasing.

Labor and Employment

The economy is fairly diverse, but principally based on subsistence hunting and fishing. According to a 1989 economic survey, 16.2 percent of the population works full-time, 20.2 percent works part-time and 27.3 percent holds seasonal or temporary jobs.

Noatak's main employers include the Northwest Arctic Borough School District (with 19 employees), the City of Noatak (four)



and Maniilaq Association (four). Other income comes from the city's four stores, occasional housing construction and water/sewer repairs. In the summer, many residents travel to seasonal fish camps at Sheshalik and Kotzebue, where the men work as commercial fishermen and the women tend subsistence fisheries.

Climate

Located on the border between the transitional and continental climate zones, Noatak is characterized by long, cold winters and warm summers. Due to its proximity to the coast, the area is slower to warm up in the spring and the summer temperatures tend to be cooler than inland locations. Temperatures typically range between 54 degrees in summer and minus 21 degrees in winter.

Precipitation averages from 10 inches to 13 inches annually, including 48 inches of snow. Prevailing winds average 10 knots annually and are easterly in winter, and westerly in summer.

Transportation Services and Facilities

The major means of transportation in Noatak are plane, small boat and snowmachine. There are no roads linking the village to other communities.

Air — Noatak's airport is located at the south end of the village and has a 2,400-foot by 90-foot gravel runway with runway lights and a small parking apron measuring 150 feet by 200 feet. There are six airlines providing charter and regular scheduled air service: Hagland, Baker Aviation, Cape Smythe Air, Bering Air, Yute Air and Alaska Island Air. There is one cargo-only airline and two charter-air guide services. A round-trip ticket from Kotzebue to Noatak starts at \$70.

Water — Barge service to Noatak has been discontinued, but small boats are often used for inter-village travel and for subsistence hunting and fishing.

Land — A network of gravel roads links the community. In addition, there are small roads from the village to the airstrip and the garbage dump. Many historic trails along the Noatak River remain important today for inter-village travel, hunting and fishing both summer and winter. Residents commonly use all-terrain vehicles and snowmachines in the winter.

Community Facilities

Most of the city business is conducted in the Noatak IRA building which houses the IRA office, post office and Village Public Safety office. Other community buildings include the Noatak clinic, fire hall, bingo hall, the warm storage building, the Napaaqtugmiut elementary and high school and the Alaska National Guard. The Noatak Friends Church was built in 1989 and the Noatak Native Store was remodeled that same year.

Housing

There are 85 houses in Noatak, none of them available as rentals. Twenty homes were upgraded when the Northwest Inupiaq Housing Authority (NIHA) recently spent up to \$12,000 on each house to perform structural repairs and insulation upgrades. NIHA also recently built 10 new homes for low-income families through HUD's Mutual Help and Occupancy Program, which sold for approximately \$120,000 each.

Land Ownership

The townsite trustee is in the process of transferring established lots to existing home owners. Noatak is eligible to receive up to 1,280 acres under the Alaska Native Claims Settlement Act 14 (c)(3) reconveyance process.

Local Governmental Services

Noatak is incorporated as an IRA village (a village incorporated by the Bureau of Indian Affairs under the Indian reorganization Act), but is unincorporated under state law as a municipality. The community has a seven-member council with a president appointed from the council. Employees include an administrator, power plant operator, water/sewer operator and janitor. The village provides the following services:

Water/Sewer — A piped, recirculating water and sewer distribution system served all the homes in Noatak before a severe cold snap in 1989 rendered the entire system inoperative. Local and state agencies are seeking to replace the system with new pipe facilities during the summer of 1991.

Solid Waste Disposal — A landfill is maintained by the city one-quarter mile beyond the airport. Residents haul their trash individually to the dump.

Fire Protection — Fire hydrants are distributed throughout the village, and residents all help in fire fighting.

Other Services and Utilities

Health Clinic — Noatak's health clinic, operated by Maniilaq Association, is staffed by three health aides. Routine medical services are provided from 10 a.m. to 12 p.m. and from 1 p.m. to 5 p.m. daily,

but patients needing emergency services fly to Kotzebue. The single-story clinic houses an office/radio room, guest area, kitchen, bathroom, waiting room and storage area.

Public Safety — Public safety is provided by a Village Public Safety Officer, employed by Maniilaq Association.

Electricity — The Alaska Village Electric Co-op supplies power to the schools and residents of the village. The generating facility includes three diesel generators with a peak capacity of 271 kw. Monthly rates are as follows: residential use, 52.81¢/kwh; small commercial use, 49.08¢/kwh; and large commercial use, 47.28¢/kwh for the first 1,500 kwh in one month, and then 39.28¢/kwh thereafter in that month.

Telephone — Telephone service is offered by OTZ from Kotzebue. Basic monthly service and maintenance charges for a single line are \$21.31 for homes and \$29.61 for businesses, without tax. Hook-up fees begin at \$37.50 and increase depending on the service needed. For more information, call OTZ at 442-3114 or (800) 478-3111. Long-distance service is available through ATU-Alascom.

Fuel — The Noatak Native Store sells heating oil for \$2.40/gallon, and gasoline for \$3.50/gallon.

Communications

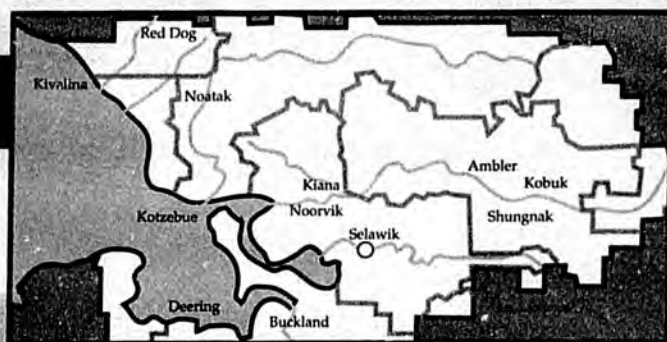
Noatak keeps up-to-date on news and entertainment through public radio station KOTZ, and the selected network programming on the Alaska Rural Communications System (ARCS). Noatak also receives three newspapers: the Arctic Sounder, Tundra Times, and Nome Nugget. The community enjoys daily mail delivery, and the post office is open Monday through Saturday.

Schools

The Napaaqtugmiut School provides education for 118 students from pre-kindergarten to 12th grade. The high school and elementary programs are housed in two buildings that are attached, in addition to a second, older building for elementary school use. The schools' facilities include eight classrooms, a library, shop, special education room, gymnasium and student store. The schools employ one principal, seven teachers and 15 staff. Chukchi Campus, a telecommunications service of the University of Alaska-Fairbanks, offers post-secondary courses in Noatak.

For more information, contact:

Noatak IRA Council
P.O. Box 89
Noatak, AK 99761
(907) 485-2173



Selawik

Location

Selawik, approximately 70 miles southeast of Kotzebue, is the second-largest village in the region. Lt. L.A. Zagoskin of the Imperial Russian Navy first reported its existence in the 1840s as the settlement of "Chilvik." Ivan Petroff counted 100 "Selawigamute" people in his 1880 census. Selawik takes its name from the adjacent river, which is the Native name for a species of fish. The community is located near the Selawik National Wildlife Refuge, which is a key breeding and resting spot for migratory waterfowl.

The People

Around 1908, the present site consisted of a small wooden schoolhouse and church. The community has continued to grow since then and has expanded across the Selawik River onto three banks, linked by bridges. The current population of Selawik is estimated at 640 people, nearly 96 percent of them Inupiaq Eskimos.

Labor and Employment

Inhabitants of Selawik subsist mainly on fishing and hunting. According to a 1989 survey, 22.4 percent of the population works fulltime, 15.5 percent works parttime and 33.9 percent holds seasonal or temporary jobs. Some residents sell handmade crafts in local stores or outside the community.

The Northwest Arctic Borough School District is the primary year-round employer, with 30 full and part-time employees. The City of Selawik is the second-largest employer, with 15 employees. Other employers in Selawik include the IRA (tribal council), Maniilaq Association (a regional health and social service agency), the State of Alaska, the U.S. Postal Service and Selawik's three local grocery stores. Residents also find work outside of Selawik at Red Dog Mine or in fire fighting, commercial fishing or barge operations.

Climate and Topography

Selawik is located in the transitional climate zone which is characterized by long, cold winters and cool summers. Temperatures typically range between 61 degrees in summer and minus 23 degrees in winter. Precipitation is relatively light, with less than 10 inches annually, including 35 to 40 inches of snow. The topography consists of river flood plains and tundra with low bushes. Prevailing winds are easterly in winter and westerly in summer, averaging 10 knots.



Transportation Services and Facilities

The major means of transportation in Selawik are barge, plane, small boat and snowmachine. There are no roads linking the village to other parts of the state.

Air — Most supplies are brought in by air. The airport consists of a 3,000-foot by 70-foot gravel runway with one maintenance building. Flying weather is considered good year-round but is best in late winter and early spring, and poorest in summer when storms and fog are more frequent. Six airlines provide charter and regular scheduled air service to Selawik: Hagland, Baker Aviation, Cape Smythe Air, Bering Air, Yute Air and Alaska Island Air. There is one cargo-only airline and two charter-air guide services. A round-trip ticket from Kotzebue to Selawik starts at \$80.

Water — Fuel and general supplies are barged to Selawik each year between July and mid-September by Crowley Marine Services at the rate of \$17.10/100 lbs. The Selawik River is normally open to small boats from the last week in May to the second week in October. These boats are often used for inter-village travel, as well as for subsistence hunting and fishing.

Land — Boardwalks constructed throughout town allow movement between buildings when ground conditions are wet and marshy. The boardwalks lead through town and out to the airport, cemetery and dumpsite. In the winter, residents use all-terrain vehicles and snowmachines for transportation.

Community Facilities

Meeting places in Selawik include a community building,

which can accommodate 100 people, and a multi-purpose building, which can accommodate 300 people. In addition, there are four churches — Baptist, Friends, Seventh-day Adventist and Selawik Christian Fellowship. Other community facilities include the city office, IRA office, safe water facility, shop building, health clinic and three stores.

Housing

There are 153 single family housing units, with a few for rent. More housing is needed. The Northwest Inupiaq Housing Authority recently completed construction of a low-rent housing project in Selawik.

Land Ownership

The townsite trustee is in the process of transferring established lots to existing home owners. Selawik is eligible to receive up to 1,280 acres under the Alaska Native Claims Settlement Act 14 (c)(3) reconveyance process.

Local Governmental Services

Selawik is incorporated as a second-class city and has a mayor-council form of government. The city employs an administrator, clerk and 12 other employees who work in the city office, health clinic, public safety and the water treatment facility. City services include:

Water — A central facility pumps water in from the Selawik River, treats it prior to use and provides up to 8,000 gallons of water a day. The central building provides laundry and shower facilities and a water distribution point from which residents can purchase water for 10¢/gallon. A summer distribution line extends throughout the town for three miles. In winter, however, the line freezes and cannot be used.

Currently, the school, teachers' quarters, health clinic and about one-third of the homes have full plumbing. Water and sewer service costs \$20 a month for residents, and \$125 per day for the school.

Sewer — Waste from the central facility and the school is pumped to a sewage lagoon. Individuals use honeybuckets, which are either emptied at a sewage lagoon or on the river ice.

Solid Waste Disposal — Residents bring their solid waste to a city-maintained dumpsite located one mile west of town.

Public Safety/Fire Protection — Public safety is provided by three Public Safety Officers. A holding facility with three cells each hold a maximum of six people. Fire protection is provided by a volunteer fire force of 15 people with the use of two fire pumps.

Fuel — The Selawik Native Store sells heating oil for \$1.50/gallon in the summer, and gasoline for \$2/gallon.

Other Services and Utilities

Health Services — Selawik's health clinic, operated by Maniilaq Association, employs a community health practitioner and alternate who are on-call 24 hours a day. Patients are seen daily from 10 a.m. to 12 p.m. and from 1 p.m. to 5 p.m., but patients needing emergency services fly to Kotzebue. The single-story clinic has eight rooms, including two examination rooms.

Electricity — Electricity is provided by the Alaska Village Electric Co-op. The generating facility includes three diesel generators with a peak capacity of 350 kw, and a 557 kw unit is currently being installed. Monthly rates are as follows: residential use, 48.02¢/kwh; small commercial use, 44.92¢/kwh; and large commercial use, 43.12¢/kwh for the first 1,500 kwh in one month, and then 35.12¢/kwh thereafter in that month.

Telephone — Telephone service is offered by OTZ from Kotzebue. Basic monthly service and maintenance charges for a single line are \$21.31 for homes and \$29.61 for businesses, without tax. Hook-up fees begin at \$37.50 and increase depending on the service needed. For more information, call OTZ at 442-3114 or (800) 478-3111. Long-distance service is available through ATU-Alascom.

Communications

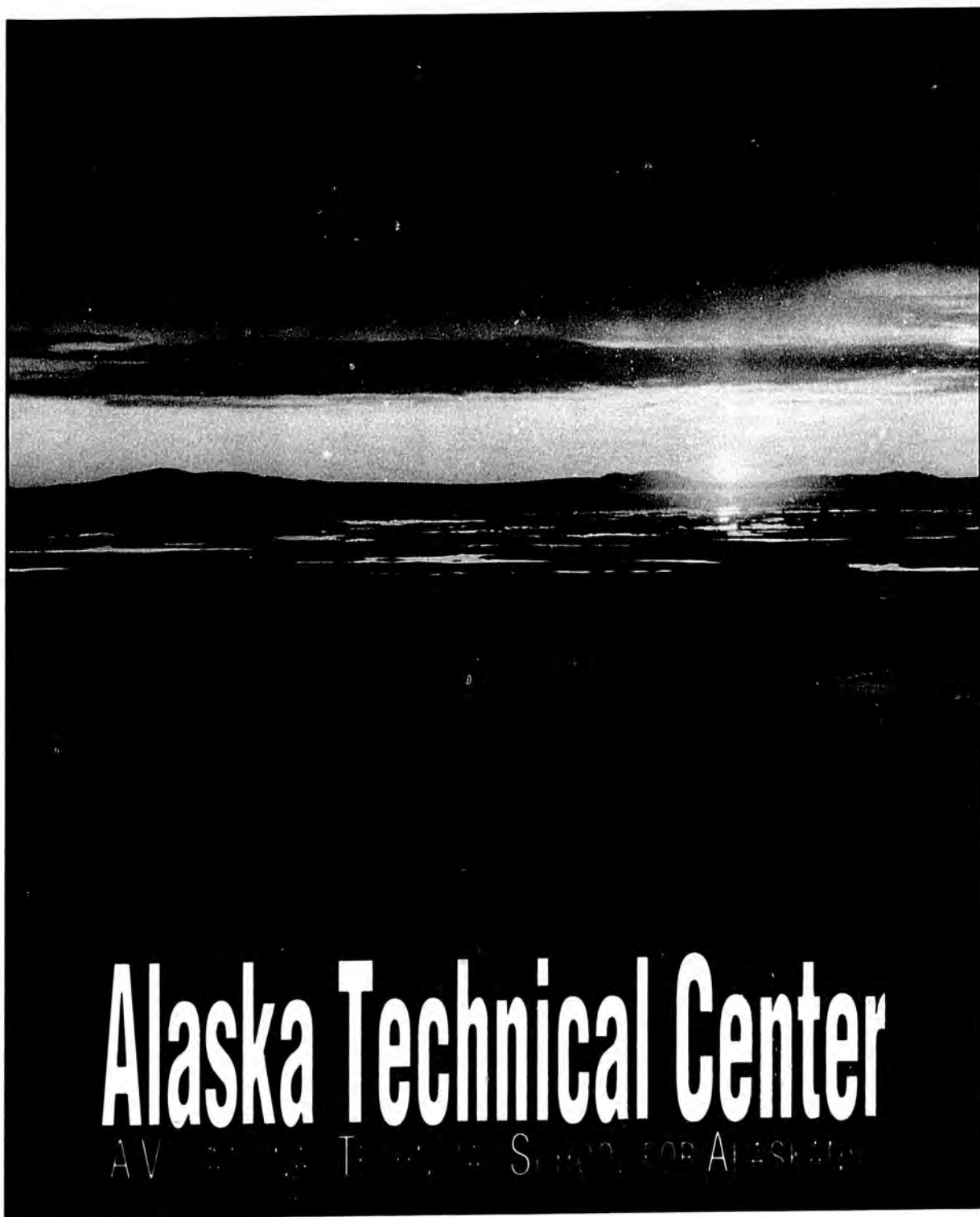
Selawik stays up-to-date on news and entertainment through cable television, the selected network programming on the Alaska Rural Communications System (ARCS), public radio station KOTZ, and three newspapers: the Arctic Sounder, Tundra Times and Nome Nugget. Mail is delivered to the community on a daily basis, and the post office is open Monday through Saturday.

Schools

The schools in Selawik serve 217 students from pre-kindergarten through 12th grade. The elementary facility consists of six classrooms and the high school houses nine classrooms, a library, gymnasium and shop. The two schools employ one principal, 13 teachers and 16 staff. Chukchi Campus, a telecommunications service of the University of Alaska-Fairbanks, offers post-secondary courses in Selawik.

For more information, contact:

City of Selawik
P.O. Box 49
Selawik, AK 99770
(907) 484-22132



Alaska Technical Center

AN OFFICE OF TECHNICAL SERVICES FOR ALASKA



The Alaska Technical Center does not discriminate in employment admissions, access to or treatment in its programs, activities and services on the basis of race, color, age, sex, national origin, religion, veteran status, handicap or otherwise as prescribed by applicable state and federal laws and regulations, including Title IX of the Education Amendments of 1972 and Section 504 of the Rehabilitation Act of 1973 and E.O. 11246 as amended.

FOUNDED 1981

Alaska Technical Center

A VOCATIONAL TECHNICAL SCHOOL FOR ALASKANS

Student Catalog
1995-1997

P. O. Box 51
Kotzebue, Alaska
99752

Phone:
907-442-3733

Toll-free:
800-478-3733

Fax:
907-442-2764

Office hours:
8 a.m. to 4:30 p.m.

WELCOME

FROM THE DIRECTOR

Welcome to the Alaska Technical Center!

The Alaska Technical Center (ATC) is part of a state-wide vocational training system, working together with industry and state agencies to provide a comprehensive and unified response to Alaska's training needs.

Our job here is to provide the opportunity for you to obtain the skills and knowledge needed to get a job, or to advance in your current occupation.

Our ATC family believes that everyone has something to offer, and our staff is just as prepared to learn from you as we are to offer invaluable occupational knowledge.

One of ATC's greatest strengths is our staff's genuine concern for the success of each student. We are here to help you reach your goals.

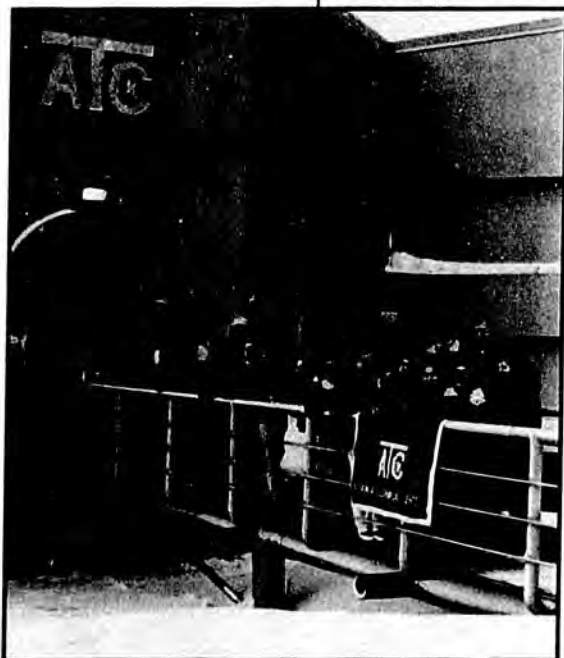
We are very proud of our school, and strive for continuous improvement in order to provide quality programs. We pride ourselves on our blend of traditional and modern-day technology, which we provide in a comfortable, rural setting.

This catalog will provide you with information about the vocational and technical training opportunities and services offered here at ATC.

If, after reading this catalog, you would like to learn more about our school, please call, drop us a line, or come visit.

We look forward to hearing from you.

CHERYL EDENSHAW
DIRECTOR



CONTENTS

WELCOME	4
CONTENTS	5
ALASKA TECHNICAL CENTER	6
KOTZEBUE	7
ROOM AND BOARD	8
FINANCIAL AID	9
ADMISSION	10
CALENDAR	11
PAYMENTS AND REFUNDS	12
PROGRAMS	14
TRAINING METHODS	16
TRAINEE CONDUCT	17
GRIEVANCE PROCEDURE	19
BUILDING INDUSTRIAL TECHNOLOGY	20
HEALTH OCCUPATIONS	22
OFFICE OCCUPATIONS	24
ADULT BASIC EDUCATION	25
SUPPORT SERVICES	26
RESOURCES	27
GOVERNANCE AND ADMINISTRATION	28
FACULTY AND STAFF	29

TABLE OF CONTENTS

ALASKA TECHNICAL CENTER

The Alaska Technical Center is an adult vocational school built in 1981 specifically to meet the vocational and technical training needs of rural Alaskans. ATC has expanded to meet the needs of both nine-month courses and employer-designed short courses. The result is a small but very efficient school with a high placement rate among graduates.

ATC operates September through May, except for school holidays. Programs vary in their starting dates and length. Opening dates for specific programs are available through the Registrar's office. Apply Early!

Our trainees come to us from all over Alaska—from as far south as Sitka to as far north as Barrow. Most of our trainees are from small, rural communities; Venetie, Emmonak, Wainwright, Point Hope, Galena, Bethel, Huslia and Noatak are just a few of our graduates' hometowns.

The Alaska Technical Center sits on the shores of Kotzebue Sound at the north end of the city. The main ATC facility is a 23,000-square foot, modern building designed to meet the needs of our trainees and faculty. Classrooms, administration offices, the cafeteria and our Learning Resource Center are all housed in this building.

The ATC Dormitory is located only 30 yards from the main building. The dormitory is a 10,000 square-foot facility that provides housing for 40 trainees. Complete with pool tables, color cable TV, a soft drink machine, microwave, refrigerator and washers and dryers, the dormitory is a comfortable place to live, relax and have fun.

TRAINEE POPULATION

MAIN FACILITY

DORMITORY

KOTZEBUE

Kotzebue, with a population of 3,000 people, is the economic, social and cultural center for the people of northwest Alaska. Situated 30 miles north of the Arctic Circle on the tip of the Baldwin Peninsula, Kotzebue rests on the shores of Kotzebue Sound. Anchorage is 550 miles to the south; the shores of the Russian Far East lie only 220 miles to the west.

Kotzebue has a long history of commerce and trade. As a transportation hub, Kotzebue enjoys regularly scheduled jet service by two major airlines, as well as by a host of local commuter air services. The eleven surrounding villages in the region are just a short hop away by local air taxi.

Supermarkets provide groceries and household supplies, while half a dozen restaurants feature everything from Chinese and Japanese cuisine to pizza and burgers.



ROOM AND BOARD

ATC DORMITORY

The Alaska Technical Center has a 40-bed dormitory right across the street from the school. The dormitory has its own recreation facility, including cable television with a video cassette recorder (VCR) and pool tables. Trainees are admitted to the dorm on a first-come, first-serve basis. Double occupancy rooms at the dorm are \$300 per month, per student. The dorm is supervised 24 hours a day.

MEALS

Meals are served daily during regular operations. This includes three meals during weekdays; during the weekends, a special late brunch and an early dinner are served. The meal plan cost is \$350 per month. All trainees living in the dorm are required to participate in the full meal plan. Trainees not living in the dorm may participate in the full meal plan, or may purchase individual meals daily.



FINANCIAL AID

Many trainees attending ATC are able to receive financial aid through either grants or loans. Some sources of financial aid include:

- Job Training Partnership Act (JTPA)
- Regional non-profit organizations
- State of Alaska Department of Community and Regional Affairs
- State of Alaska Student Loan Program
- Bureau of Indian Affairs (BIA)
- Regional and Village Corporation scholarship programs

Some trainees qualify for aid from the Division of Vocational Rehabilitation (DVR) and are directly assisted by a DVR office located at ATC. Applicants who intend to apply for financial aid must understand that there may be eligibility requirements.

Persons who have resided in Alaska for more than two years can apply for a student loan through the State of Alaska's student loan program. This program is administered directly through the state student loan office, and not through ATC. For more information, or to request an application, contact:

Alaska Student Loan Program
P.O. Box 110505
Juneau, Alaska 99811-0505

SOURCES OF FINANCIAL AID

VOCATIONAL REHABILITATION AID

ALASKA STUDENT LOAN

ADMISSION

HOW TO APPLY FOR ADMISSION

Applicants are encouraged to apply at least three months before classes begin.

The following requirements must be met, and completed forms must be mailed to the ATC Admissions Office (there is no application fee):

- ATC Application Form
- Transcripts — Copies of all transcripts from high school and any post-secondary schools attended during the past five years must be submitted.

How Applications are Processed

Due to limited space in ATC programs, trainees are admitted on a first-come, first-serve basis.

An applicant may be admitted into a specific program area based upon:

- Completeness of application file
- Interest, aptitude, and academic achievement
- Physical ability to perform training activities in a manner that would ensure reasonable opportunity for success

Personal Interviews

To assist in program selection, applicants are encouraged to have a personal interview with our vocational counselor and with the program instructor prior to making any final decisions.

ADMISSION INFORMATION

You may request application forms or further information by contacting the ATC Admissions Office at:
Alaska Technical Center
Admissions Office
P.O. Box 51
Kotzebue, Alaska 99752
(907) 442-3733
(800) 478-3733—Toll-free

CALENDAR

	1995-1996	1996-1997
CLASSES BEGIN	SEPT. 11	SEPT. 9
THANKSGIVING BREAK	NOV. 23-24	NOV. 21-22
CHRISTMAS BREAK	DEC. 18-JAN.5	DEC. 16-JAN. 6
CLASSES RESUME	JAN. 8	JAN. 8
SPRING BREAK	MARCH 18-22	MARCH 17-21
GRADUATION	MAY 22	MAY 21



PAYMENTS AND REFUNDS

FINANCIAL RESPONSIBILITY

All payments must be made to the Office of Registrar at ATC. The following steps are the responsibility of the trainee:

1. Verification of payment must be made on or before the time of enrollment.
2. Official notification from the funding agency or Alaska Student Loan Program concerning the amount of financial assistance must be on file prior to enrollment. Contact the appropriate funding agency for further information.
3. All trainee accounts must be paid in full prior to receiving a Certificate of Completion.

TUITION AND FEES

Tuition Refund

1. During the first week of training, ninety percent (90%)
2. During the following three weeks of training, eighty percent (80%)
3. During the time exceeding four weeks of training, but no more than one-third of the program, fifty-five percent (55%)
4. During the time exceeding one-third of the program, but no more than half of the program, thirty percent (30%)
5. There is no tuition refund for any reason after one-half of the program has passed

Fees Refund

1. During the first week of training, eighty percent (80%)
2. During the following week, sixty percent (60%)
3. There is no refund of fees for any reason after the second week of training

PAYMENTS AND REFUNDS

Exception for Veterans

Refunds to eligible veterans for tuition, fees and other charges will be made on a prorated basis.

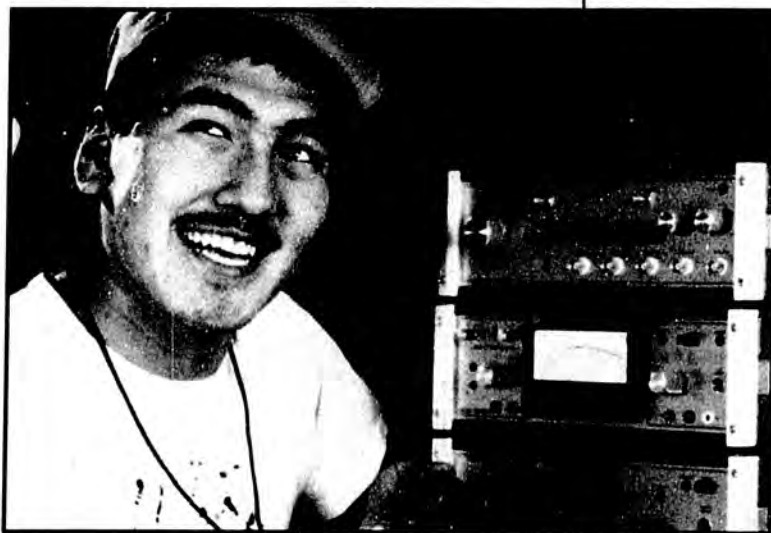
VETERANS

Room and Board Refund

1. Eighty percent (80%) refund the first week of any month of the program
2. Sixty percent (60%) refund the second week for any month of the program
3. No refund after the second week for any month of the program

ROOM AND BOARD

Trainees may voluntarily withdraw from the room and board program in any month and be eligible for the standard refund.



PROGRAMS

	DURATION	TUITION	FEES	TOOLS/BOOKS
<i>BUILDING INDUSTRIAL TECHNOLOGY</i>				
PRINCIPLES OF TECHNOLOGY	14 weeks	\$600	\$500	\$350/\$100
CONSTRUCTION TRADES	7 weeks	\$250	\$200	\$150/\$50
PLUMBING SYSTEMS	7 weeks	\$250	\$200	\$150/\$50
ELECTRICAL SYSTEMS	9 weeks	\$250	\$200	\$150/\$60
HEATING SYSTEMS	9 weeks	\$250	\$200	\$150/\$80
ALL COURSES COMBINED	46 weeks	\$1,600	\$1,000	\$950/\$250
<i>HEALTH OCCUPATIONS</i>				
BASIC HEALTH TECHNOLOGY	14 weeks	\$720	\$240	\$250
CERTIFIED NURSES ASSISTANT	14 weeks	\$395	\$170	\$100
MEDICAL TERMINOLOGY	14 weeks	\$220	\$0	\$75
<i>OFFICE OCCUPATIONS</i>				
ACCOUNTING CLERK	32 weeks	\$960	\$250	\$50
SECRETARIAL	32 weeks	\$960	\$250	\$50
CLERK/RECEPTIONIST	14 weeks	\$420	\$250	\$50

PROGRAMS

Each trainee will be given an American Red Cross-certified First Aid and CPR course. This will require approximately 15-20 hours. Upon successful completion, a Standard First Aid and CPR card will be issued. Those trainees who attend ATC for a short course may not be able to take this course due to time constraints.

Driver's training is available free of charge to our trainees. The training is offered after the day's regular training is completed. Those trainees whose job requires driving skills, or who are more employable if they have a driver's license, will be given priority for this course. Others will be trained when space is available.

Special short courses are also offered in conjunction with specific employer requests and/or public interest. Short courses may include:

- Charisma
- Computer Aided Drafting
- Driver's Education
- Accounting Game
- Aircraft Maintenance
- Computer Applications
- First Aid/CPR
- ABE/GED Services
- Management Development
- Quality Education Training
- Introduction to Computers
- Coast Guard License Preparation

FIRST AID

DRIVER'S TRAINING

SHORT COURSES



TRAINING METHODS

PROGRAM INSTRUCTION

Program instruction involves technical knowledge, "hands-on" training and practical employment advice to prepare trainees for their selected occupational fields. All programs are competency-based, with a written list of occupational skills which trainees must complete before receiving a Certificate of Completion. Progress reports are submitted monthly by instructors.

ATC does not give letter grades, but does issue a skill-mastery list for each program.

Upon completion of a training program, trainees receive a Certificate of Completion and a Certified Skills Card for each program completed. One additional copy is furnished free of charge; additional copies cost five dollars (\$5) per set.

PROGRAM SELECTION

In keeping with the philosophy of vocational education, ATC offers programs in occupations that have been identified for their potential employment opportunities. Because employment needs are constantly changing, the programs we offer at ATC may change from year to year. Please check with the ATC Office of Admissions for any recent program changes.

Programs last between seven and 32 weeks. For specific information on program length, please refer to specific program listings in this catalog.

DAILY SCHEDULE

Unlike high school or college classes, ATC programs are set up in such a fashion to offer "real-world" training. ATC classes are taught from 8:30 a.m. to 4:30 p.m. each day, with two coffee breaks and a one-hour break for lunch.

TRAINEE CONDUCT

We expect maximum effort from all trainees here at ATC. Our staff and faculty are available to help our trainees meet this expectation. The General Educational Development (GED) test can be administered when necessary. However, prospective trainees are encouraged to have basic skills assessed prior to enrolling at ATC. Trainees who receive prior assessment and basic skills instruction have a head start on their training program.

We have a full-time Adult Basic Education (ABE) instructor and two GED technicians to assist in improving basic math, reading and writing skills.

We expect trainees to attend all classes and to always be on time. Good attendance patterns are very important to potential employers. Attendance skills learned and followed during training can help show potential employers good work habits. When reviewing job applicants, employers will pay as much attention to the attendance records of school graduates as they will to academic scores.

As in the world of employment, trainees may be put on probation for poor attendance or for actions that may jeopardize the health and safety of themselves or others. Excessive absences or tardiness will result in disciplinary action and possible dismissal. Exceptions are made for illness or extenuating circumstances.

Trainees with poor conduct may require corrective action. In these cases, a trainee will first meet with their instructor and the counselor. During this meeting, a probationary contract will be drawn up, indicating the required behavior to remain in the program. If termination from ATC is recommended, a final decision will be made by the Director.

LEARNING EXPECTATIONS

ATTENDANCE

CORRECTIVE ACTION

TRAINEE CONDUCT

GENERAL CONDUCT

Trainees are expected to conduct themselves in the classroom and at training stations as they would at any job site where they might be employed in the future. Instructors set the expectations of work behavior for individual programs much in the same manner as industry supervisors set rules of conduct. Such expectations are defined to keep both the training and work sites safe, and to ensure a good working environment for all workers or trainees.

STANDARDS OF PROGRESS

All programs are competency based, with a written list of occupational skills for the trainees to work on before receiving a certificate of completion from their training program. Trainees receive monthly evaluations from their instructor(s) on their progress.

The Alaska Technical Center does not give letter grades but does issue a list of skills mastered for each trainee completing a program. The "Skills Card" also indicates the proficiency the trainee reached in each skill or knowledge area. Trainees who continually lack progress may be terminated from their program.

ADVANCED STANDING/ TRANSFER OF CREDIT

The Alaska Technical Center will review transcripts and documented work experience upon admission. The trainee may receive credit for previous education or training.

GRIEVANCE PROCEDURE

When a trainee is dissatisfied with a decision concerning a program, with a disciplinary action, or with any other aspect of a program, our procedure is as follows:

1. Trainees must first present the grievance complaint in person or in writing to their instructor or counselor within 48 hours.
2. If the grievance remains unresolved after three days, trainees can then present their case in writing to the next level of authority, until the matter is resolved. Following is a list of levels of authority: ATC Registrar, ATC Director, Northwest Arctic Borough School District Compliance Officer, NWABSD Superintendent, NWABSD Board of Education.

ATC pledges to respond in a timely manner at all levels in order to obtain resolution of grievances.

Any trainee who remains unsatisfied with a situation may file with any of the following agencies:

Alaska Postsecondary Education
30 Vintage Blvd.
Juneau, Alaska 99811
(907) 465-2854

Anchorage Equal Rights Commission
620 East 10th Ave., Suite 204
Anchorage, Alaska 99501

State of Alaska Commission for Human Rights
800 A Street, Suite 204
Anchorage, Alaska 99501
(907) 274-4692

ATC PROCEDURE

CONTACT AGENCIES

BUILDING INDUSTRIAL TECHNOLOGY

PRINCIPLES OF TECHNOLOGY

Two major components—Principles of Technology and Building Maintenance—make up this program and prepare trainees for employment in building maintenance and related fields.

This 14-week program is designed to effectively prepare trainees for technical careers, and is a prerequisite for the rest of the Building Industrial Technology program.

The complexity and rapid change of modern technology requires training that is applicable to more than just a single job. Technicians must understand the mechanical, fluid, electrical and thermal principles on which modern equipment operates.

If technicians understand the principles on which their current work is based, they can apply those principles to new tasks when needed.



The Principles of Technology course is applied science which:

- provides an understanding of the principles of technology and the mathematics associated with them
- helps trainees learn how to continually adapt themselves to the work force and its changing demands
- uses an appealing, instructional system of audio-visual presentations, texts, demonstrations and hands-on laboratory work
- demonstrates through hands-on experiences how to troubleshoot, maintain and control complex technical systems

BUILDING INDUSTRIAL TECHNOLOGY

After completing the Principles of Technology program, trainees may move on to our Building Maintenance programs. These programs are designed to meet the needs of entry-level maintenance technicians.

Trainees will need to purchase their own hand tools for the Building Maintenance programs; upon program completion, trainees will be able to take their tools with them for use in their future professions.

This nine-week program covers basic electricity and electronics to establish a knowledge base of operation with many types of electrical equipment. Trainees will develop an understanding of building electrical power circuits as needed to repair and maintain power systems. This course includes the installation and repair or replacement of common building electrical fixtures.

This program also lasts for nine weeks, and centers around oil heating systems used in the Arctic. The program is specifically concerned with operation and adjustment of burner equipment and control systems.

This seven-week program includes instruction in basic plumbing, skills development and re-plumbing of building fluid transfer systems. Emphasis is placed on the use of proper tools combined with the knowledge needed to solve maintenance problems in plumbing systems.

This seven-week program focuses on the skills needed in the construction industry. During this program, trainees learn construction techniques and methods, basic carpentry skills and safe usage of power tools.

BUILDING MAINTENANCE

ELECTRICAL SYSTEMS

HEATING SYSTEMS

PLUMBING SYSTEMS

CONSTRUCTION TRADES

HEALTH OCCUPATIONS

BASIC HEALTH CARE

Our Basic Health Care Technology program consists of four separate courses. As a full-time student, the program lasts for 14 weeks.

CERTIFIED NURSING ASSISTANT

Students of this course receive training in basic nursing skills, and become efficient health care team members. The course content includes learning responsibility as a health care worker, effective communication skills, the structure and functions of the human body, infection control, hygiene needs, nutrition, vital signs, standard First Aid and more.

Instruction includes classroom lectures with lab, and clinical experience in a long-term care facility.

Trainees are certified in three areas:

- Certified Nurses Aide (CNA)
- Personal Care Attendants (PCA)
- Home Health Aide (HHA)

CAREERS IN HEALTH

This course is designed to provide an introduction into various health care-related occupations, allowing trainees to better grasp all their options once they complete our program. Basic fundamentals covered in this course include an in-depth exploration of careers and a look at health care systems and administrations. Trainees also learn about human growth and development, safety issues, communications, employability skills and current health issues.

MEDICAL TERMINOLOGY

This course content includes the basic components of medical words, and their body structure and function.

WORK EXPERIENCE

We provide trainees with hands-on opportunities that allow for observation and participation in a variety of health care settings in the community. This part of the

HEALTH OCCUPATIONS

program enables trainees to discover a wide-range of job options and to explore their personal areas of interest while improving their job skills. Another goal of this experience is to increase self-confidence among our trainees. Sites available for work experience include—but are not limited to—programs dealing with maternal child health, prematernal homes, health education and emergency medical services.

During the Basic Health Care Technology program, trainees are also provided with an opportunity to learn introductory computer skills, or to improve existing skills.

Individual courses are available for part-time students. Students wishing to enroll on a part-time basis in the Basic Health Care Technology program may take one or more of the following courses:

- Certified Nursing Assistant
- Medical Terminology I
- Standard First Aid



WORK EXPERIENCE (CONT.)

COMPUTER SKILLS

PART-TIME STUDENTS



OFFICE OCCUPATIONS

ACCOUNTING CLERK

This 32-week program is designed to prepare trainees for entry-level positions in the field of accounting. Trainees are taught routine computing, calculating and posting numerical data. Trainees learn to maintain accounting records and to record details of business transactions involving basic bookkeeping concepts and practices. In addition, trainees are introduced to the use of computers for account activities and computer spreadsheet applications.

SECRETARY

This program, which runs for 32 weeks, prepares trainees for entry into the secretarial labor market. Trainees gain knowledge of office procedures, records management, business correspondence and high-level keyboarding skills. Secretarial trainees also learn word processing, machine transcription and computer operation.

CLERK/RECEPTIONIST

This 14-week program prepares trainees for entry-level clerical positions. Areas of emphasis include keyboarding skills, filing, office procedures, telephone techniques, office mail procedures and operation of both word processing and office equipment.



Office Equipment

- LAN Network System with IBM EduQuest Forty 486 computers
- IBM compatible 386 computers with Windows and/or DOS
- Macintosh SE II computers
- Laser printers
- IBM Color Jet printer
- Typewriters
- Duplicating and postage machines
- Calculating and transcribing machines
- Telephone system and fax machines

ADULT BASIC EDUCATION

ATC trainees who have not yet received their high school diploma are encouraged to enroll in the General Educational Development (GED) preparation program. A GED tutor is available at ATC to assist trainees.

The Adult Basic Education Program offers instruction in the following areas:

Our basic skills course develops reading, writing and math skills. Trainees obtain these skills through study in the following areas:

- Reading: catalogs, trade journals, manuals
- Writing: business letters, work orders, reports, journals
- Math: consumer, trade and occupational math

This course helps trainees develop skills and knowledge in the areas of English, reading, science, social studies and mathematics to acquire a high school equivalency diploma.

Trainees may use this course to increase skills that will help them to better function in a community, or to enhance their employability. These life-skills include: computer literacy, money management, resume writing, completing applications and awareness of current issues.

Each ATC trainee is evaluated for basic skills by the Adult Basic Education staff upon enrollment. Trainees requiring basic skills development are provided with an individualized study plan. Trainees may participate in tutoring, computer-assisted instruction, self-paced/directed instruction, group directed instruction or audio-visual supplemental instruction.

BASIC SKILLS

GED PREPARATION

LIFE SKILLS

TESTING

SUPPORT SERVICES

COUNSELING

Our goal here at ATC is to help trainees attain their goal—successful employment. To that end, we offer counseling services to assist trainees in the development of an immediate employment plan. Our counseling service will also help trainees develop long-term career plans. Counseling services include:

Orientation

During their first week at ATC, trainees are provided with an organized opportunity for trainees to get acquainted with each other as a group, to meet our staff, tour the facilities and to find out more about Kotzebue. We use this orientation to help trainees make a smooth transition into training.

Employability

This is a required, 40-hour course. Topics covered include the job search, job interviews, resume writing, job applications, employee relations and life skills. As with all programs at ATC, this course helps to reinforce solid work habits (punctuality, dependability, proper attitude) and to maximize job success.

Job Placement

Employment for trainees is our priority. Our counselor and instructors work with trainees to determine the best way to secure employment. Even though ATC cannot guarantee jobs, we have successfully assisted in placing 90 percent of our graduates.

Personal Counseling and Referral

The counselor is available to discuss problems trainees might have that could affect their performance at ATC. Referrals to other service agencies are available upon request.

RESOURCES

Our Learning Resource Center is centrally located to provide easy access for our trainees. The center serves as a meeting area, media center and study area. Technical materials—both written and audio-visual—that pertain to each training area, are available at the center. There are also many career-related materials that can provide information on prospective jobs. The study center fits the needs of trainees who cannot attend regular classes or who need to study individually.



ATC is part of the Northwest Arctic Borough School District, trainees have access to the Kotzebue High School gymnasium, weight room and showers on a regular basis. Like most rural communities, city league basketball is very popular, and is available to ATC trainees. Outdoor recreation is very popular in our area—ice fishing, camping, hunting, snow machine trips and cross-country skiing are some of the activities trainees might want to participate in. Also popular are spectator sports, such as dog sled and snow machine races.

LEARNING RESOURCE CENTER

RECREATION

GOVERNANCE AND ADMINISTRATION

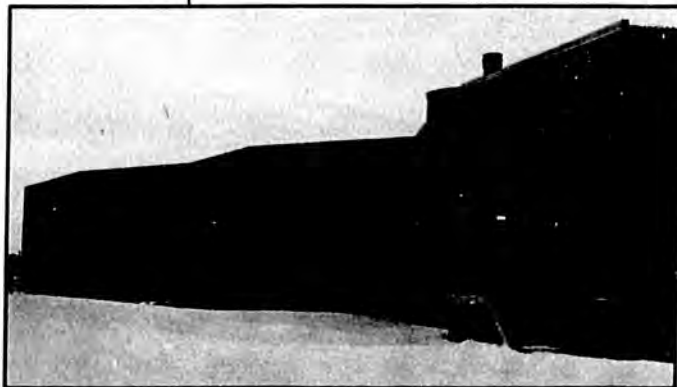
GOVERNING BODY

Northwest Arctic Borough School District Board of Education

Pete Schaeffer, Kotzebue, President
Vince Schuerch, Kiana, Vice-President
Carolyn Smith, Kotzebue, Parliamentarian
Walter Sampson, Kotzebue, Treasurer
James Barefoot, Noorvik, Secretary
Elsie Bahr, Noorvik
Larry Jones, Noatak
Sophie Ferguson, Kotzebue
Helena Jones, Ambler
June Nelson, Kotzebue
Roberta Thomas, Buckland
Randy Swenson, Superintendent of Schools

ATC ADMINISTRATION

Cheryl Edenshaw, Director
Lulu Chamblee, Registrar
Reggie Joule, Recruiter/Administrator
Jerri Ann Lane, Secretary
Mona Strickland, Receptionist
Dorothy Brown, JTPA Outreach



FACULTY AND STAFF

Building Industrial Technology

Brian McDermott, Building Maintenance Instructor
Todd Stevens, Principles of Technology Instructor

Health Care Occupations

Cindy Lincoln, Instructor

Office Occupations

Mavis Troyer, Instructor

Adult Basic Education

Jerry Vick, Instructor
Lance Kramer, ABE/GED Technician
Rose Barr, ABE/GED Technician

Driver's Training

Irvin Troyer, Instructor

Food Service

Norma Mills, Food Service Manager
Sadie Mighell, Gene Foster, Henry
Douglas, Elmer Pungalik, Cooks

Dormitory

Maureen Reich, Supervisor
Amos Foster, Attendant/Custodian
Ramona Dublin, Attendant
Lance Simons, Attendant

Facilities

Jamie Pettichord, Facilities Specialist

Custodian

Morris Douglas



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MICHAEL GERHARDT/CHARLES CRISS FOR THE ARCTIC SOUNDER (PAGE 7)

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MICHAEL GERHARDT

CREATIVE BUSINESS MEDIA

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