ALASKA LEGISLATURE COMMITTEE FILES, 1989-1990 8672
5608 HOUSE COMMUNITY & REGIONAL AFFAIRS

HB

358

HOUSE COMMITTEE REPORT

(5)
Date Referred: January 31, 1990 FURTHER REFERRALS: FINANCE

Date of Committee Action: 2/6/90

The COMMUNITY & REGIONAL AFFAIRS Committee considered: SSHB 358

SSHB 358
"An Act establishing minimum thermal and lighting energy standards applicable to residential buildings that are constructed or purchased with state financial assistance, and excluding commercial and industrial buildings from the class of buildings to which state thermal and lighting standards apply; and providing for an effective date."

RECOMMENDATIONS:
[ ] be replaced with CSSS 358 [X] the same title [ ] a new title
[ ] have attached amendment(s)
[X] do pass
[ ] do not pass
[ ] no recommendation
[ ] individual recommendations
[ ] additional referral to the ________ Committee

ADOPTS: ________ letter of intent

ATTACHES NEW FISCAL NOTE(s): (Dept)
[ ] fiscal impact ________
[ ] zero fiscal note X
[ ] zero with analysis ________

APPROVES PREVIOUS: (Date/Dept)
[ ] fiscal note(s) ________
[ ] zero fiscal note(s) ________
[ ] zero fn/analysis ________

SIGNING DO PASS:

Eugene R. Kerttula
Richard Foster

SIGNING: (Check approp. column)

	Do Not Pass	No Rec	Amend
Chris Davis		✓	

Richard Foster
Chairman's Signature

Original sponsor(s): REP. BROWN, M.Davis, MacLean, Hudson, Koponen, Goll

IN THE HOUSE BY THE C&RA COMMITTEE

CS FOR SPONSOR SUBSTITUTE FOR HOUSE BILL NO. 358 (C&RA)

IN THE LEGISLATURE OF THE STATE OF ALASKA

SIXTEENTH LEGISLATURE - SECOND SESSION

A BILL

For an Act entitled: "An Act establishing minimum thermal and lighting energy standards applicable to residential buildings that are constructed or purchased with state financial assistance, and excluding commercial and industrial buildings from the class of buildings to which state thermal and lighting standards apply; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* Section 1. AS 18.56.090 is amended to read:

Sec. 18.56.090. GENERAL POWERS. In addition to other powers granted in this chapter, the corporation may, for the purpose of providing housing for persons of lower and moderate income or persons located in remote, underdeveloped, or blighted areas of the state and for its other corporate purposes,

(1) [REPEALED

(2)] make or participate in the making of mortgage loans to sponsors, developers, builders, and purchasers of residential housing, if the corporation determines that

(A) mortgage loans are not otherwise available, wholly or in part, from private lenders upon reasonably equivalent terms and conditions; and

(B) the residential housing for which the mortgage loans are made complies with applicable provisions of AS 18.56.096(c) and the applicable thermal and lighting energy standards

of AS 46.11.040;

(2) [(3)] purchase or participate in the purchase of mortgage loans made to sponsors, developers, builders, owners, and purchasers of residential housing, if the corporation

(A) has given approval before the initial making of the loan and has determined that mortgage loans were, at the time the approval was given, not otherwise available, wholly or in part, from private lenders upon reasonably equivalent terms and conditions, or

(B) has determined that

(i) the purchase or participation will result in additional residential housing, taking into account without limitation such factors as reinvestment of the proceeds of the sale in additional mortgage loans, increased availability of mortgage loans insured by the federal government, its agencies or departments, the reduction, if any, of interest payments to be made with respect to mortgage loans, or such other factors as will tend to increase or improve the supply of residential housing within the state; and

(ii) the residential housing covered by the mortgage loan complies with applicable provisions of AS 18.56.096(c) and the applicable thermal and lighting energy standards of AS 46.11.040;

(3) [(4)] make partial rental payments and mortgage interest payments under a contract with any housing owner if the payments will be applied to decrease rental or mortgage interest charges of persons of lower and moderate income or owners or purchasers of residential housing in remote, underdeveloped, or blighted areas of the state;

(4) [(5)] make loans from the housing development fund;

(5) [(6)] collect and pay reasonable fees and charges in connection with making, purchasing, and servicing its mortgages, loans, notes, bonds, certificates, commitments, and other evidences of indebtedness;

(6) [(7)] acquire real property, or any interest in real property, in its own name, by purchase, transfer, or foreclosure, when the acquisition is necessary or appropriate to protect any loan in which the corporation has an interest; sell, transfer, and convey the property to a buyer; and, if the sale, transfer, or conveyance cannot be effected with reasonable promptness or at a reasonable price, rent or lease the property to a tenant pending the sale, transfer, or conveyance;

(7) [(8)] sell, at public or private sale, to any purchaser, including the Federal National Mortgage Association, all or any part of a mortgage or other instrument or document securing a construction, land development, mortgage, or temporary loan of any type permitted by this chapter;

(8) [(9)] purchase, in order to meet the requirements of the sale of its mortgages to the Federal National Mortgage Association, stock of the Federal National Mortgage Association;

(9) [(10)] procure insurance against any loss in connection with its operation;

(10) [(11)] consent to the modification of the rate of interest, time of payment of any installment of principal or interest, or any other terms, of the mortgage loan, mortgage loan commitment, construction loan, temporary loan, contract, or agreement of any kind to which the corporation is a party;

(11) [(12)] borrow money as provided in this chapter to

carry out and effectuate its corporate purposes; and issue its obligations as evidence of borrowing;

(12) [(13)] include in any borrowing the amounts necessary to pay financing charges, interest on the obligations for a period not exceeding one year after the date on which the corporation estimates funds will otherwise be available to pay the interest, consultant, advisory and legal fees, and other expenses that are necessary or incident to this borrowing;

(13) [(14)] under AS 13.56.088, adopt and publish regulations respecting its lending programs and other regulations that are necessary to effectuate its purposes;

(14) [(15)] provide technical and advisory services to sponsors, builders, and developers of residential housing and to residents of it;

(15) [(16)] promote research and development in scientific methods of constructing low-cost and energy-efficient residential housing of high durability;

(16) [(17)] make and execute agreements, contracts, and other instruments necessary or convenient in the exercise of the powers and functions of the corporation under this chapter, including contracts with any person, firm, corporation, governmental agency, or other entity;

(17) [(18)] receive, administer, and comply with the conditions and requirements respecting any appropriation or gift, grant, or donation of property or money;

(18) [(19)] sue and be sued in its own name;

(19) [(20)] adopt an official seal;

(20) [(21)] adopt bylaws for the regulation of its affairs and the conduct of its business and adopt regulations and policies in

connection with the performance of its functions and duties;

(21) [(22)] employ fiscal consultants, engineers, attorneys, real estate counselors, appraisers, and other consultants and employees that may be required in the judgment of the corporation, and fix and pay their compensation from funds available to the corporation;

(22) [(23)] do all acts and things necessary, convenient, or desirable to carry out the powers expressly granted or necessarily implied in this chapter;

(23) [(24)] invest or reinvest, subject to its contracts with noteholders and bondholders, any money or funds held by the corporation in any obligations or other securities or investments in which banks or trust companies in the state may legally invest funds held in reserves or sinking funds or any funds not required for immediate disbursement, and in certificates of deposit or time deposits secured by obligations of, or guaranteed by, the state or the United States;

(24) [(25) REPEALED

(26) REPEALED

(27) REPEALED

(28)] purchase a mortgage loan made to refinance an existing mortgage loan, without regard to whether the corporation holds the existing mortgage loan, as long as the interest rate and fees charged to the borrower are sufficient to fully reimburse the corporation for all costs incurred by the corporation in purchasing the mortgage loan and as long as the borrower will be in compliance with AS 18.56.096(a)(6) after purchase of the mortgage loan by the corporation.

* Sec. 2. AS 18.56.096 is amended by adding a new subsection to read:

(c) The corporation may not make, participate in the making of, purchase, or participate in the purchase of a residential building if construction of the building begins after December 31, 1990, unless

the building complies with the thermal and lighting energy standards required by AS 46.11.040. The corporation

(1) may adopt regulations to implement this subsection; and

(2) shall, by regulation, establish

(A) procedures by which the person responsible for the construction of the building may demonstrate that the building complies with the thermal and lighting energy standards, including

(i) self-certification, if the contractor responsible for the building construction provides satisfactory evidence that the contractor has completed a training program of the Alaska Craftsman Home Program and the training program is satisfactory to the commissioner of community and regional affairs;

(ii) submission of the certificate of a registered architect, registered engineer, or a building inspector, and the architect, engineer, or building inspector has completed a training program of the Alaska Craftsman Home Program and the training program is satisfactory to the commissioner of community and regional affairs;

(iii) submission of the certificate of occupancy issued by the municipality in which the building is located, if the certificate is issued by a municipality in which the municipal building code meets or exceeds the thermal and lighting energy standards, as determined by the commissioner of community and regional affairs;

(iv) another method approved by the commissioner of community and regional affairs in regulations adopted by the commissioner after consultation with the executive

director of the corporation; and

(B) criteria by which the energy conservation standards may be met; for purposes of this subparagraph, the residential building complies with the energy standards if the residence has received a rating under the rating system developed by Energy Rated Homes of Alaska if, in the judgment of the commissioner of community and regional affairs, the rating meets or exceeds the thermal energy standards required by AS 46.11.040.

* Sec. 3. AS 18.56.105 is amended to read:

Sec. 18.56.105. ALLOCATION OF LENDING ACTIVITIES. The corporation shall designate regions within the state which in the aggregate, encompass the entire state. In participating in the making or purchasing of loans under AS 18.56.090(1) and (2) [AS 18.56.090(2) AND (3)] or under AS 18.56.100, the corporation shall make its money available through the private financial institutions in the state within each region designated by the corporation under this section. The corporation shall allocate its money among the regions on the basis of recent and future anticipated lending activity as well as the potential need for the loans in each region and may reallocate its money among the regions as it considers appropriate to reflect changes in lending activity or need in the regions.

* Sec. 4. AS 18.56.110(g) is amended to read:

(g) Notwithstanding AS 18.56.090(1) [AS 18.56.090(2)] and (a) of this section, the corporation may not issue bonds in any 12-month period beginning after June 30, 1983, in an amount that exceeds the amount of bonds authorized to be issued during the preceding period, unless a different amount is authorized by the legislature. This subsection does not apply to the issuance by the corporation of refunding bonds or to the issuance by the corporation of bonds the

proceeds of which are intended to be used to refinance mortgage loans held by the corporation.

* Sec. 5. Section 1, ch. 83, SLA 1980, is amended to read:

Section 1. DECLARATION OF POLICY. It is the policy of the state to encourage and facilitate the implementation of energy conservation measures relating to in-state energy use. This policy shall be implemented by

(1) the state setting an example of wise and efficient energy use, by designing and managing public buildings and their energy systems to meet appropriate standards for energy efficiency;

(2) providing incentives for the design and modification of residential [COMMERCIAL, AND INDUSTRIAL] buildings to accomplish maximum energy efficiency; and

(3) establishing mandatory energy efficiency standards for buildings purchased or constructed with state financial assistance.

* Sec. 6. AS 46.11.040 is amended to read:

Sec. 46.11.040. APPLICABILITY OF THERMAL AND LIGHTING ENERGY STANDARDS TO <u>RESIDENTIAL</u> [PRIVATE] BUILDINGS. State financial assistance may not be approved or granted for the construction <u>or purchase</u> of a [NEW] residential [OR COMMERCIAL] building if construction of the building begins after December 31, <u>1990</u> [1980], unless

(1) the building is in compliance with thermal and lighting energy standards;

(2) the building is in compliance with the building code of a municipality and the <u>standards for thermal and lighting energy of the</u> municipal building code <u>meet</u> [MEETS] or <u>exceed</u> [EXCEEDS] the thermal and lighting energy standards;

(3) the building

(A) is constructed under an exception to the municipal

building code granted because the exception will result in increased energy efficiency; or

(B) is located or is to be located in an area where thermal and lighting energy standards are not justified because of the high cost of implementation of the standards, as determined under regulations adopted by the commissioner of community and regional affairs; or

(4) the applicant agrees, in writing, that the building will be brought into compliance with thermal and lighting energy standards within one year of conveyance.

* Sec. 7. AS 46.11.900 is amended to read:

Sec. 46.11.900. DEFINITIONS. In this chapter

(1) "alternative energy system"

(A) means a source of thermal, mechanical, or electrical energy that [WHICH] is not dependent on oil or gas or a nuclear fuel for the supply of energy for space heating and cooling, refrigeration and cold storage, electrical power, mechanical power, or the heating of water;

(B) includes

(i) an alternative energy property as defined by [SEC. 48(l)(3)(A) OF THE INTERNAL REVENUE CODE (] 26 U.S.C. 48(l)(3)(A) [)]; and

(ii) a method of architectural design and construction that [WHICH] provides for the collection, storage, and use of direct radiation from the sun; [AND

(iii) REPEALED]

(2) "department" means the Department of Commerce and Economic Development;

(3) "energy audit" means a determination and written

summary prepared under 42 U.S.C. 3216(b) [42 U.S.C. 3216(b)(1)(A), (SEC. 215, P.L. 95-619, NATIONAL ENERGY CONSERVATION POLICY ACT)] of

(A) the energy consumption characteristics of a building, including the size, type, and rate of energy consumption of major energy consuming systems of the building and the climate characterizing the region where the building is located; and

(B) the energy conservation and cost savings likely to result from appropriate energy-conserving maintenance and operating procedures and modifications, including the purchase and installation of energy-related fixtures; for purposes of this subparagraph when a fossil fuel is the energy source, the energy cost savings shall be determined with reference to the projected price of that fossil fuel over a 10-year period;

(4) "financial institution" means a bank, trust company, savings bank, savings and loan association, or credit union;

(5) "life-cycle cost" means the total cost of owning, operating, and maintaining a building over its useful life, including its energy and fuel costs, determined on a basis of a systematic evaluation and comparison of alternative building systems, except that in the case of leased buildings the life-cycle cost shall be calculated over the effective remaining term of the lease;

(6) ["NEW BUILDING" MEANS A BUILDING THE CONSTRUCTION OF WHICH BEGINS AFTER DECEMBER 31, 1980;

(7)] "public building" means a building owned or controlled and held by the state for government or public use;

(7) [(8)] "state financial assistance" means a loan, grant, guarantee, insurance, payment, rebate, subsidy, or other form of state assistance other than aid under AS 05.35.010 - 05.35.070, AS 14.11.-100 - 14.11.135, and AS 29.60, including the purchase by a state

agency of a loan to finance the construction or purchase of a [NEW] residential [, COMMERCIAL, OR INDUSTRIAL] building;

(8) [(9)] "thermal and lighting energy standards" means the thermal and lighting energy standards

(A) established by the American Society of Heating, Refrigeration, and Air Conditioning Engineers as revised

(i) [(A)] by the commissioner of transportation and public facilities under AS 44.42.020(a) for public facilities; or

(ii) [(B)] by the commissioner of community and regional affairs for buildings and structures that are not public facilities; or

(B) developed in regulations adopted

(i) by the commissioner of transportation and public facilities under AS 44.42.020(a) for public facilities; or

(ii) by the commissioner of community and regional affairs for buildings and structures that are not public facilities.

* Sec. 8. APPLICATION OF THERMAL AND LIGHTING ENERGY STANDARDS TO PROGRAMS FOR RESIDENTIAL HOUSING THAT IS CONSTRUCTED OR PURCHASED WITH STATE FINANCIAL ASSISTANCE. Persons responsible for administration and management of programs in which state assistance is provided for the purchase or construction of residential buildings are encouraged to adopt and enforce the compliance standards and methods of AS 18.56.096(c)(2), added by sec. 2 of this Act, within the housing programs for which they are responsible.

* Sec. 9. This Act takes effect immediately under AS 01.10.070(c).

STEVE COWPER, GOVERNOR

DEPT. OF COMMUNITY & REGIONAL AFFAIRS

OFFICE OF THE COMMISSIONER

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August 24, 1989

POSITION PAPER

RE: House Bill 358 - "An Act relating to thermal and lighting standards applicable to residential, commercial, and industrial buildings ..."

SPONSORS: Representatives Brown and M. Davis

Program Effects of Bill

House Bill 358 proposes to amend statutes that mandate the development of state thermal and lighting standards for new residential, commercial and industrial buildings constructed or purchased with state financial assistance. The bill corrects the language of the existing statutes that Alaska Superior Court has ruled restricts the application of the standard to only the construction of buildings. Under this restrictive interpretation, the standard applies to a small minority of rural housing assistance loans and exempts Alaska Housing Finance Corporation and urban areas of the state. As a rule state financial assistance for homes only covers the purchase of the home by the consumer and not the construction by the builder.

AS 6.11.040, AS 46.11.900(8), and AS 46.11.900(9) are amended to include financial assistance for the purchase of new buildings as well as construction.

AS 46.11.040 is also amended to include new industrial buildings in the standard's coverage.

Comments

The Department strongly supports this bill because it corrects existing statutory language preventing the application of the standard to state financed new homes.

Energy is a critical concern in housing for all Alaskans. The cost of energy is usually one of the largest costs in terms of homeownership. A study by the Rural Alaska Community Action Program reported that in eight rural villages 16 to 37 percent of families' incomes were spent on energy, and 68 percent of Alaskans' energy bills are spent on staying warm.

Too often in the past, homes have been constructed that are not appropriate to the state's climate. While this is true statewide it is particularly true in rural Alaska where the 1988 Alaska Rural Housing Needs Assessment reported that an appalling 28 percent of rural homes could not maintain an inside temper ture of 70 degrees Fahrenheit. This problem is not solely in rural Alaska. During this past winter's cold snap, homeowners across the state experienced problems keeping their homes warm.

An energy standard is one of the most important factors in assuring energy efficiency in new homes. Most homebuyers are not involved in construction decisions about the homes in which they will live and for which they pay the heating bills. In addition, many important energy features are difficult and not economical to add later.

The research conducted by the University of Alaska's Institute of Social and Economic Research and the Department of Community and Regional Affairs estimates that a home built to the state's standard will reduce heating bills by an average of 37 percent statewide over a home built to current practice. For a village in the Interior, for example, a home built to the state's standard would cost an estimated $2,363 in additional construction and labor costs over a home built to HUD's minimum standard, but would cost $568 less to heat in the first year and over a 30 year period would save an estimated $9,453. This would have a simple payback in terms of energy savings of four years. It is estimated that if all of the 190 HUD homes that are to be built this year were constructed to the state standard it would reduce the heating bills of the low income families living in them by $94,000 annually. The standard is economical for the urban portions of the state as well. A recent analysis completed by the Institute of Social and Economic Research found that in Anchorage installing R-3 windows over R-2 are as lucrative to the homeowner as an investment in stocks or bonds paying 16.7 percent.

The Alaska Legislature recognized this in 1980 when they mandated the development of a residential thermal standard and stated that any state financed construction must meet the standard.

STATE OF ALASKA
1990 LEGISLATIVE SESSION

BILL VERSION: SS HB 358
PUBLISH DATE: _____

FISCAL NOTE

REQUEST:

Revision Date: _____
Title: "An Act..thermal & lighting energy standards..."
Sponsor: Reps Brown, M.Davis, MacLean, etc
Requestor: _____

Agency Affected: Community & Regional Affairs
BRU: _____
Components: _____

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	-0-	-0-	-0-	-0-	-0-	-0-
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND	-0-	-0-	-0-	-0-	-0-	-0-
FEDERAL FUNDS						
OTHER						
TOTAL	-0-	-0-	-0-	-0-	-0-	-0-

POSITIONS:

FULL-TIME	-0-	-0-	-0-	-0-	-0-	-0-
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

There is no fiscal effect for FY 90.

Prepared by: Jim Pearson
Division: Municipal & Regional Assistance
Phone: 465-4750
Date: 2/2/90

Approved by Commissioner: Jerry L. Adkins
Agency: Community & Regional Affairs
Date: 2/2/90

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

Kay Brown

Alaska State Legislature
House of Representatives

TO: Representative Eileen MacLean, Chair
Community and Regional Affairs Committee

FROM: Representative Kay Brown

DATE: February 2, 1990

SUBJ: SS HB 358 - Minimum Thermal Energy Standards

Thank you for so promptly scheduling SS HB 358, legislation that would require future new housing built with state financial assistance after December 31, 1990 to meet at least minimum energy efficiency standards.

The Need for Minimum Thermal Energy Standards

The arguments in support of minimum standards are compelling:

- A survey of eight rural villages found that 16 to 37% of family income is spent on energy while a 1988 "Alaska Rural Housing Needs Assessment" found that 36% of rural homes could not maintain an indoor temperature of 70 degrees during the cold winter months.

- An audit of 714 HUD housing units concluded that "projects are being developed that are infeasible, improperly designed, and inadequately constructed" noting that many of the the rural housing units being constructed were generally unsuited for the harsh Alaskan environment (in some homes interior walls were sheathed in ice during the winter).

- The State of Alaska is the financier (and now owner through AHFC) of thousands of repossessed residential properties. Due to poor building practices these REOs have required substantial funds to repair and upgrade simply to make them marketable.

- Typical home buyers do not have -- nor can they reasonably be expected to have -- the kind of technical expertise necessary to determine whether

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a home has been built to reasonable energy efficiency standards.

- Finally, it is far more costly (and in some cases physically impossible) to "retrofit" a home once the basic structure is complete. Unless attention is given to energy efficiency at the time of initial design and construction, significant cost-effective energy efficiency opportunities will be irretrievably lost.

A point worth emphasizing is that under HB 358 the state minimum thermal standards would apply only to future new homes built with state financial assistance.

Legislative History of the Alaska Thermal Energy Standard

In 1980, the Alaska Legislature enacted Chapter 83 SLA 1980, legislation that provided for the development and adoption of minimum thermal and lighting standards (AS 46.11.010 -.900). The 1980 legislation was enacted to ensure that new structures built with "state financial assistance" would meet minimum energy efficiency standards. Between 1983 and 1988, the Department of Community and Regional Affairs (DCRA) worked with a broad cross-section of interests (builders, consumer groups, etc.) to develop a standard for new state-financed residential construction. After literally years of effort, DCRA adopted a proposed standard that was to be implemented last October. However, just prior to the Standard becoming effective last fall a lawsuit was filed that took advantage of a drafting technicality in the original 1980 law.

Briefly, the 1980 law provides that "state financial assistance may not be approved for the construction of a new residential or commercial building" unless the building is in compliance with applicable state energy standards (AS 46.11.040). The plaintiffs argued for a narrow, literal reading of the law -- that the statute should limit the prohibition of state financial assistance to direct construction lending only.

Although the original 1980 legislation had a "Declaration of Policy" section clearly stating the Legislature's intent to establish "mandatory energy efficiency standards for buildings purchased or constructed with state financial assistance" (emphasis added), the language actually codified into law only referenced financing "for the construction of" new structures. The effect of the Superior Court ruling -- limiting the applicability of the Standard to direct construction lending -- renders the current statute almost meaningless since only a small portion of state financial assistance takes the form of direct construction lending. Pending appeal to the Alaska Supreme Court, implementation of the Standard has been enjoined.

After the Superior Court halted implementation of the Standard last spring, HB 358 was introduced to reaffirm the clear legislative objective of requiring that new homes financed through AHFC meet at least minimum thermal standards.

Sponsor Substitute for HB 358

As you know, HB 358 was introduced at the very end of last session. During the interim I worked on the bill and developed a Sponsor Substitute that is now before the committee. Briefly, SS HB 358:

1) explicitly reaffirms the original 1980 intent of the legislature that minimum thermal standards apply to homes constructed as well as financed through AHFC with state financial assistance;

2) makes it clear that the thermal standards are intended to apply only to future new homes built with state-financial assistance homes (i.e., construction starting after December 31, 1990);

3) explicitly identifies several alternative means by which builders can demonstrate compliance with the standard, including self-certification; and

4) deletes commercial and industrial buildings from the scope of applicability.

Assuming HB 358 passes the legislature this session, the Department of Community and Regional Affairs would take the proposed minimum thermal standard out for what I hope will be the final round of public hearings and comment. If any legitimate technical concerns are identified at that time, appropriate changes can be made.

Finally, nearly all states have some form of minimum standard. It is ironic that, Alaska -- the state with the most extreme cold-weather temperatures and the highest heating costs in the nation -- is without even minimum energy efficiency requirements. Although it can be anticipated that there will always be a certain faction of builders who object to even minimum requirements, it should be noted that a significant number of Alaska homebuilders already construct homes that meet or exceed the proposed state minimum.

For your reference, I have attached the following materials:

- a Sectional Analysis of SS HB 358;

- a listing of the homebuilders, utilities, housing professionals, local governments, labor groups, non-profits, other organizations and

individuals that support the need for HB 358 and minimum thermal energy standards;

- excerpts from letters and testimony from builders and other housing professionals in support of HB 358 and minimum thermal energy standards;

- a "Question and Answers" briefing paper on HB 358 and the issue of thermal energy standards; and

- a collection of various news articles and excerpts from housing reports documenting the need for minimum thermal energy standards.

I look forward to the hearing on Tuesday. If you have any questions concerning HB 358, please let me know or contact Eric Myers of my staff at 465-4998.

attachments

2/2/90
Rep. Kay Brown

SECTIONAL ANALYSIS

SS HB 358 - Minimum Thermal Energy Standards

Section 1. Amends the existing "General Powers" provisions (AS 18.56.090) of the Alaska Housing Finance Corporation (AHFC) to clarify that new homes financed with AHFC mortgage loans must comply with minimum thermal standards.

Section 2. Amends current AHFC statutes (AS 18.56.096) to provide that the corporation may not finance new homes constructed after December 31, 1990 unless the building meets minimum thermal energy standards.

Specific means are identified by which builders can demonstrate compliance with the minimum thermal standard. Alternatives are provided, including:

- self-certification, provided the contractor provides evidence of having completed the Alaska Craftsman Home Program;
- an engineer's, architect's or building inspector's certification that the standard has been met, provided the person making this certification has completed the Alaska Craftsman Home Program;
- where a local government has an equivalent or higher thermal standard within their code, a copy of the Certificate of Occupancy stating compliance with the local code;
- a showing that the home has received a "four star plus" rating from Energy Rated Homes of Alaska; or
- another method approved by the Commissioner of the Department of Community and Regional Affairs in consultation with the Executive Director of AHFC.

Section 3. Technical correction; conforming amendment resulting from the numbering changes in Section 1.

Section 4. Technical correction; conforming amendment resulting from the numbering changes in Section 1.

Section 5. Amendment to the original Declaration of Policy section to delete "commercial and industrial" buildings.

Section 6. Amendment to existing law (AS 46.11.040) to clarify that "state financial assistance" includes the purchase of new homes (i.e., home mortgages financed by AHFC) constructed after December 31, 1990. Clarification of existing language to provide that a building is considered to be in compliance with the state standard if it complies with a local building code that is at least equivalent to the state minimum thermal energy standard.

Section 7. Amends the definitions section applicable to the chapter. Changes are made to reflect proper citations for the federal tax code and referenced federal law. Because "new building" is defined in context (see Section 2), the existing, separate definition is repealed as redundant. Clarification of the statutory authority of the Department of Community and Regional Affairs to develop the thermal standards for new residential homes built with state financial assistance and for the Department of Transportation and Public Facilities in the case of public facilities.

Section 8. State housing programs other than those administered by AHFC are directed to adopt the compliance methods identified in Section 2.

Section 9. Immediate effective date.

2/3/90
Rep. Kay Brown

HB 358 - Minimum Thermal Energy Standards
Endorsements and Statements of Support

Alaska Center for the Environment
Alaska Community Development Corporation (Anchorage)
Alaska Federation of Natives
Alaska Health Project
Alaska Housing Finance Corporation
Alaska Housing Policy Development Committee
Alaska Public Interest Research Group
Alaska Rural Electric Cooperative Association
Alaska State AFL-CIO
Alaska State Employees Association
Alaska Village Electric Cooperative
Alaska Wilderness Alliance
Alaska Wildlife Alliance
Alaska Window (Fairbanks)
Alaska Chapter Sierra Club
Analysis North/Alaska Utility Consumer Advocate
Anchorage League of Women Voters
American Lung Association of Alaska
Anchorage Daily News
Anchorage Neighborhood Housing Services, Inc.
Anchorage Recycling Center
Architects Bisset/Simansko (Anchorage)
Arctic Technical Services (Fairbanks)
Barrow Utilities and Electric Cooperative
Brandywine Homeowners Association (Eagle River)
Cedar Park Condominium Association (Anchorage)
Chugach Electric Association (Anchorage)
City of White Mountain
City of Brevig Mission
City of Nome
City of Koyuk
City of Shishmaref
City and Borough of Sitka
Denali Citizens Council
Dick Mueller Realty, Inc. (Kenai)
Dinyee Village Corporation (Stevens Village)
Dory and Associates (Nome)
Ester Construction (Fairbanks)
Fairbanks North Star Borough
Golden Valley Electric Association (Fairbanks)

Greenpeace USA
Kotzebue Electric Association
Heat Loss Analysis, Inc. (Anchorage)
Home Energy Service (Juneau)
Kachemak Bay Conservation Society
Kodiak Island Mayors League
Low-Income Weatherization Policy Advisory Committee
McGlothlin Balivet Co. - Architects & Planners (Anchorage)
National Audubon Society
North Slope Borough
North and Northwest Alaska Mayors Conference
Nushagak Electric Co-operative, Inc. (Dillingham)
Older Alaskans Commission
Older Persons Action Group, Inc.
Raj Bhargava Associates/Enginering in Alaska (Anchorage)
Rotecki, Bill (Ketchikan)
Rural Alaska Community Action Program
Second Annual Rural Energy Conference Resolution
S.I.H. Inc. Weatherization (Fairbanks)
Southwest Alaska Municipal Conference
State of Alaska Energy Policy Task Force
Thermo-Kool of Alaska, Inc. (Anchorage)
Thompson, David (Fairbanks)
Tlingit & Haida Regional Electrical Authority
Trustees for Alaska
U.S. Department of Housing and Urban Development
Western Alaska Building and Construction Trades Council

2/2/90
Rep. Kay Brown

BUILDER AND HOUSING PROFESSIONAL COMMENT IN SUPPORT OF HB 358 - MINIMUM THERMAL ENERGY STANDARDS

AHFC has been committed to the development of energy standards for new construction. Staff members have been working with DCRA from the very outset. We served on the Advisory Committee which assisted in the development of the recommended standards.... We believe the standards are a necessity to help ensure a better housing stock for Alaskans as well as provide homeowners with the potential for lower fuel bills.

Tom Behan, Executive Director
Alaska Housing Finance Corporation

The Alaska State Legislature should enact legislation to restore clear legal authority for the implementation of appropriate minimum thermal standards, based on regional differences, for newly constructed state-financed housing.

Housing Policy Development Committee
Alaska Housing Market Council

At Anchorage Neighborhood Housing Services we have had many occasions to inspect housing units as part of our requirements for lending and in conjunction with our construction assistance programs. There exists a great need for improvement to minimum thermal standards in most of the existing housing stock in Anchorage.

Cynthia A. Parker, Executive Director
Anchorage Neighborhood Housing Services, Inc.

As a builder of energy efficient homes in the Fairbanks area for many years which without exception exceed the State Energy Standard, I feel that [HB 358] will tend to put conscientious Alaskan builders on an even playing field with the fly-by-night contractors from outside who don't know how to build in this environment and, in some cases, don't care.

Mike Musick
Ester Construction
Ester, Alaska

As a builder, I am intimately familiar with what it takes to build appropriately for the Alaska climate. I know we can do better for the people of Alaska than we have in the past.... My own building practices meet or exceed the State minimum energy standard. Other builders should be doing the same.

Ralph W. Brodin, Owner
EE/CC General Contractors
Girdwood, Alaska

During the past two years I have built several homes in the Homer area that meet or exceed HB 358's energy standards. I counsel every one that I build for that an energy efficient house is not only healthy and comfortable but also a good investment because of energy savings.

David Ellington
Ellington Construction
Homer, Alaska

As the American Institute of Architects/Alaska Chapter representative on the Advisory Committee for the [state standard] I was impressed by the participation of all Alaska building industry's sectors.... [The standards] are reasonable and reflect logical and climatic conditions for each region of the State.... Too often builders have sought short term practices through the use of inadequate building practices at the expense of long term operation and maintenance costs.

Robert Balivet, AIA
McGlothlin Balivet Co. - Architects & Planners
Anchorage, Alaska

I am an architectural designer and have been involved in the design and construction of several homes that exceed the minimum energy standards. I am very knowledgeable about the building science and practices that ensure a comfortable, healthy, and energy efficient home. I am also aware of the very slow pace in which the building trades adopt new methods and materials... In order to improve the comfort and quality levels of our housing stock, we simply need HB 358.

James A. Dory
Dory and Associates
Nome, Alaska

As a building official of a major Southeast Alaska community, I have been involved with the entire public development of the standards .... [The standards] are technically sound, reasonable in their scope and practical in their nature and application.

Harry Chartier, Building Official
City and Borough of Sitka

[T]he minimum insulation requirements between the proposed State of Alaska "Energy Standard" for gas heated dwellings in [the] Anchorage area and HUD's MPS [Minimum Property Standards] are nearly identical. The major differences between the two is the state proposes to quantify acceptable infiltration losses and ventilation requirements. We believe that this is a positive step in establishing building performance criteria.

Arlene Patton
U.S. Housing and Urban Development
Anchorage Office - Region X

[T]here must be some inducement to encourage builders to maintain certain standards since businesses tend to stay with the old easy less expensive methods. We are just finishing a new home built to meet or exceed ACHP [Alaska Craftsman Home Program] specs which are more stringent than the proposed State standards.

David T. Thompson
Fairbanks, Alaska

The lack of thermal standards in the past provides the Low-Income Weatherization Program here in the Fairbanks North Star Borough with a seemingly endless supply of rapidly deteriorating high-energy-use dwellings...in need of so much more than the [weatherization] program can provide that the measures often become a band-aid approach to a terminal wound.... There is no reasonable excuse to perpetuate the supply of inadequately constructed buildings.

Robert Maxwell
S.I.H., Inc. - Weatherization
Fairbanks, Alaska

The average homebuyer knows very little, if anything, about energy efficient home design.... Yet they will live in these homes and pay the bills for them ever after.... In our design practices we always strive to meet or exceed the State minimum energy standard. Other architects should be doing the same.

Ronald Bisset and Andrew Simasko
Architects Bissett/Simansko
Palmer, Alaska

I view this legislation [HB 358] as critical to the future of our states building industry in that it will enable Alaska residents to finally receive thermal value in housing that is appropriate to the diverse climate zones of our great state. As a member of the National Association of Home Builders (NAHB) I am aware of attempts by many of our members to stall implementation of these standards and wish to clarify that there is not in any way a consensus to this effect.

Philip Louden
Arctic Technical Services
Fairbanks, Alaska

As a four year member of the Alaska Home Builders Association, I would like you to know that I support the Thermal Standards as written and their original intent. One of the reasons I especially liked the original implementation of the Alaska State Thermal Standards is they were not mandatory [and only apply to housing using] Alaska public funds.

C.R. Deer
Alaska Window
Fairbanks, Alaska

Even though the standards will eventually help the construction trades, the industry is taking a short-term viewpoint by delaying implementation... [further delay] is really unnecessary and only focuses on special interest groups who voice objections... Once again, Alaska is lagging behind the nation in implementing a rational energy policy.

Raj Bhargava, MSME
Raj Bhargava Associates - Engineering in Alaska

2/2/90
Rep. Kay Brown

QUESTIONS AND ANSWERS
SS HB 358 - Minimum Energy Standards

Why is a minimum thermal energy standard needed in Alaska?

Energy consumes a substantial fraction of Alaska family income. A survey of eight rural villages found that 16 to 37% of family income is spent on energy while a 1988 "Alaska Rural Housing Needs Assessment" found that 36% of rural homes could not maintain an indoor temperature of 70 degrees during the cold winter months. A recent audit of 714 HUD housing units concluded that "projects are being developed that are infeasible, improperly designed, and inadequately constructed." The audit found that in some homes interior walls were sheathed in ice during the winter.

Apart from lower monthly energy costs to individual consumers, the state also has a substantial equity interest in the quality of state-financed housing. Inadequate insulation or an improperly installed vapor barrier can result in severe structural damage. Substantial funds have been required to repair and upgrade state repossessed homes just to make them marketable for resale. The state's equity investment in future homes would be better protected with minimum standards to ensure quality construction.

Finally, most homebuyers don't have the kind of expertise and technical knowledge to properly evaluate the quality of a building when purchasing a new home. For many people a new home is the single most significant investment a person will make. A thermal energy standard will help ensure these homebuyers will receive at least a minimum quality of construction.

Do other states have minimum thermal energy standards?

Yes. In fact, nearly all states have some form of minimum thermal energy standard according to the most recent survey by National Conference of States on Building Codes and Standards (1989).

Would SS HB 358 require that all Alaska homes be built to the state minimum standard?

No. Only new homes developed with state financial assistance constructed after December 31, 1990 would be required to meet the state minimum thermal standard. Homes built "out of pocket" or financed without state funding would not be subject to the state standard.

Can Alaska builders meet the proposed state minimum thermal standard and still be competitive in the market?

Yes. A significant number of Alaska builders already meet the proposed state minimum standard. Moreover, there are 70 new homes statewide (a substantial fraction of total new housing starts) being developed to meet the much higher standards of the Alaska Craftsman Home Program (ACHP). Builders from various regions of the state have expressed support for HB 358 and the proposed state minimum standard. Adoption of a minimum state thermal standard would have the effect of putting builders on an "even playing field."

To put the proposed state minimum standard into perspective, for Anchorage gas-heated homes, the minimum insulation requirements under the proposed state standard are nearly identical to HUD's Minimum Property Standards (MPS). Significantly higher insulation levels are called for in the most recently published industry recommended standard published by the American Society of Heating Refrigeration and Air-Conditioning Engineers (ASHRAE, March 1989 - 90.2P).

Would meeting the minimum standard increase the cost of new homes?

A number of builders already meet or exceed the proposed state minimum; implementation of the standard would have essentially no impact on these builders. Other builders not presently meeting the standard would experience a slight increase in construction costs.

The incremental costs to meet the standard have been carefully evaluated and independent private sector cost estimating firms were used during the formulation of the standard. In general, those builders that are not already meeting the minimum standard could experience a 3 - 5 % increase in costs compared to "typical" construction practices during the "boom" real estate years of the early 1980s. For a typical 1,320 square foot Anchorage gas-heated house, incremental costs would be approximately $1,000 to $1,350.

Is the proposed state thermal standard cost-effective?

Yes. A recently updated economic analysis showed that even in Anchorage with relatively low-cost natural gas a home built to the proposed minimum standard showed energy cost savings substantially in excess of added costs. Based on a representative 1,320 square foot home, this analysis evaluated the homeowner cash flow (incremental costs vs. energy savings) to determine the economic merit of the conservation measures. Because interest paid on a home mortgage is tax deductible and utility payments are not, the after tax present value (i.e., cost) of the mortgage payments is only $1,033 and the overall net positive value (i.e., net cost savings) to the homeowner is $611, an extraordinary investment value by any measure.

Is energy efficiency recognized in the Alaska housing market?

Yes. The best demonstration of demand for energy efficient housing is provided by the fact that approximately 70 new Alaska Craftsman homes, are currently under development. These homes are extremely energy efficient, far exceeding the proposed state minimum standard, providing solid evidence of market demand for energy efficient housing stock.

Evidence of consumers recognizing a "resale premium" for energy efficient homes comes from a recent survey of AHFC home sales prepared by the Institute for Social and Economic Research (ISER 1988). Controlling for the houses' age, size, features and location, this study evaluated the sale price differences between homes heated with electricity vs. natural gas. The study found that the lower cost gas homes sold for about 15% more than comparable electric homes, indicating that the Alaska marketplace is well aware of energy efficiency and utility costs as a factor in homebuying.

Finally, there is also indirect evidence of a "resale premium" for energy efficient homes from a 1988 Canadian market survey of several matched pairs of Canadian energy efficient R2000 homes. This study found that the R2000 homes commanded a resale premium of about $5,000 (4.6%) on an average price of $108,000 (LeBlanc & Associates).

Are there financial incentives to encourage the construction of energy efficient homes?

Yes. In fact, the major Alaska lending institutions have developed a financing program that specifically rewards the purchasers of energy efficient homes. In recognition of the lower monthly utility costs associated with energy efficient homes, the Alaska Housing Finance Corporation (AHFC), the Federal National Mortgage Association (Fannie Mae), the Federal Home Mortgage Corporation (Freddie Mac), VA, FHA and the DCRA Housing Assistance Loan Program will all qualify a homebuyer for higher mortgages than would otherwise be possible.

Through the Energy Rated Homes of Alaska (ERHA) progr[illegible]aders will allow a homebuyer to qualify for a higher loan by increasing [illegible]able debt-to-income ratio in recognition of lower monthly utility costs. Under the ERHA program the buyer of an energy efficient house will qualify for an additional 1-2% on his/her debt-to-income ratio (i.e., increased from 28% to 29-30%). With a $4,000 income, this means a home buyer would qualify to borrow an additional $4,800 - $9,400 above the amount allowed for less efficient homes. The proposed state minimum thermal standard is equivalent to a "4 star plus" ERHA rating and will qualify homebuyers for the larger mortgage. Thus, by buying an energy efficient

home, the homeowner can "afford more home" with the same income and also lower monthly utility costs.

In addition, the Department of Community and Regional Affairs has provided incentive demonstration grants to builders to encourage the construction of energy efficient homes. Most recently, the department has developed a special loan "buy down" program to encourage the construction of homes to meet the state standard.

Are indoor air quality concerns addressed by the proposed state standard?

Yes. The indoor air quality issue was specifically addressed during development of the proposed state standard. A technical advisory committee was established which included representatives from the American Lung Association, local government building officials, private sector building professionals and representatives of the homebuilding industry. As a result of the advisory committee work, a consensus proposal was recommended by the committee and adopted by DCRA calling for a minimum ventilation standard of 0.5 air-changes-per-hour (ACH) to assure indoor air quality. By way of comparison, the proposed state ventilation standard of 0.5 ACH calls for somewhat more ventilation than the industry developed standard of 0.35 ACH recommended by the American Society of Heating Refrigeration and Air-Conditioning Engineers (ASHRAE). Moreover, because there are presently no specific ventilation requirements for new homes under present state law, adoption of the proposed state standard, which specifically addresses ventilation concerns, will help ensure that future homes have adequate supplies of fresh air.

Both the American Lung Association of Alaska and the Alaska Health Project, organizations specializing in occupational and environmental air quality concerns, have expressed support for the proposed state standard.

How would the standard be implemented?

SS HB 358 identifies several specific alternative options for builders to show compliance with the standard:

- Contractor self-certification, including proof that the contractor has completed the Alaska Craftsman Home Program training program or its equivalent;

- Showing that the home had received a "four star plus" rating from Energy Rated Homes of Alaska;

- In a community where the local government has a building inspection process which embodies the standard within their code, a copy of the Certificate of Occupancy stating compliance with the code; or

- An engineer's, architect's or building inspector's certification that the standard has been met, provided the person making this certification has completed the Alaska Craftsman training program or its equivalent; or

How does the proposed state minimum thermal standard compare to the Alaska Craftsman Home Program (ACHP)?

In contrast to the state standard, which was developed as a minimum standard, the Alaska Craftsman Program has developed energy standards which are much higher, optimum Alaska standards. Fundamentally, the ACHP provides education and technical assistance in the area of energy efficient design and building.

Is the proposed state thermal standard flexible?

The proposed minimum thermal standard is "regionalized" to recognize the different climatic conditions around the state. The standard also assures flexibility for the builder by allowing a choice among any of three different ways to meet the minimum standard:

Prescriptive Method - the easiest method of all, this method identifies certain mandatory design measures and minimum insulation levels.

Performance Method - this method allows the designer to "trade off" certain requirements against one another (e.g., window area vs. insulation in the walls).

Building Bu Method - total design flexibility is provided to a builder using this method within a total "heat loss budget" (BTUs lost per square foot).

State statute also provides for waivers in the event that a specific measure can be shown to be not cost-effective (AS 46.11.040).

Is there public support for an Alaska minimum thermal energy standard?

A broad cross-section of builders, industry professionals, utilities, consumer groups, unions, non-profits, local governments and individuals have all expressed support for Alaska minimum thermal energy standards.

Has the building industry been involved in the development of the proposed state minimum thermal energy standard?

Yes, extensively. Dating back to 1983, representatives of the homebuilding industry have been directly involved in the development of the proposed standard. An advisory committee was established that included representatives of the Alaska State Homebuilders Association (ASHBA), the Alaska Mortgage Bankers Association and the Alaska Association of General Contractors. The advisory

committee reviewed every phase of the research and analysis during development of the standard. Throughout the standards development the Building Industry Association of Anchorage (BIAA), the Anchorage chapter of the ASHBA, was provided the opportunity to comment on technical issues. Numerous specific compromises and changes were made at the request of the building industry. In October of 1986, BIAA representatives met with then-DCRA Commissioner Emil Notti and indicated that, although certain members of the organization would likely dissent, the BIAA could accept the proposed standard. As predicted at the time, certain builders remain opposed to the idea of a minimum standard.

Why was the state minimum energy standard enjoined by the Court?

Just prior to the proposed state standard became effective a lawsuit was filed that took advantage of a drafting technicality in the original 1980 law. That original 1980 law mandates that "state financial assistance may not be approved for the construction of a new residential or commercial building" unless the building is in compliance with applicable state energy standards (AS 46.11.040).

The plaintiffs argued for a narrow, literal reading of the law -- that the statute should limit the prohibition of state financial assistance to direct construction lending only. Limiting the applicability of the Standard to construction lending renders the standard almost meaningless since virtually no state financing involves direct construction lending.

Even though the original 1980 legislation had a "Declaration of Policy" section clearly stating the Legislature's intent to establish "mandatory energy efficiency standards for buildings purchased or constructed with state financial assistance" (emphasis added), the language actually codified into law only references financing "for the construction of" new structures. The lawsuit successfully exploited this drafting oversight in the Superior Court.

SS HB 358 was introduced to reaffirm the Legislature's clear intent in 1980 to have a minimum thermal standard apply to all new homes purchased or constructed with state financial assistance.

Anchorage Daily News
Thursday, September 14, 1989

Report says federal housing for Alaska Natives is a mess

By GEORGE FROST
Daily News reporter

A federal housing program for Alaska Natives is riddled with waste, and many of the homes built since 1975 are unsafe, substandard and ill-suited to harsh arctic conditions, according to a study released Tuesday by a federal housing inspector.

The program, administered by the Department of Housing and Urban Development, is so poorly run that it must be considered a failure, said Rich Nygaard, regional inspector general for the Department of Housing and Urban Development.

"Despite more than 14 years experience, HUD has not provided Alaska Natives with decent, safe or affordable housing. Design and construction defects, deferred maintenance and poor housekeeping continues to create safety and health hazards for Alaska families," he said.

Local HUD officials disagreed strenuously with many of the audit findings.

"We feel the audit report is completely flawed and does not cover what they said they were covering," said Arlene Patten, acting HUD manager of the Anchorage office. "It is based on a false premise and a misunderstanding of the program."

Patten said the audit focused on projects built in the late 1970s and early 1980s startup phase of the program and "does not show the substantial improvements."

"Since then, most of these things have been corrected and the homes are no longer substandard," she said.

"I think the program is trying to meet the need of the regional Bush people of Alaska, and without that program there would be no housing out there for them."

More than $300 million has been spent to build 3,290 single-family homes under the Alaska Mutual Help Home Ownership Program.

Please see Back Page, HOMES

Continued from Page A-1

The Alaska program, part of a nationwide Indian housing system, gives low-income Native families an opportunity to purchase their own homes. They pay whatever they can afford, and HUD makes the remainder of the loan payments.

Of all the homes built since 1975, more than six of every 10 have been either the subject of a lawsuit because of poor construction or have required extra HUD funding to correct those problems, according to the detailed, 141-page report.

An inspection of 207 of the 714 newer homes built since 1984 showed that almost all had serious problems. All 207 had defective foundations, Many of the homes rest on primitive pads that are unsuited for the fragile tundra, subject to summertime floods and fierce winter storms.

Fifty-seven had broken or deficient furnaces, stoves and other mechanical systems.

"In some projects, home and basic sanitary maintenance was quite limited and others nonexistent," the study said.

A series of inspections in villages throughout the Bush turned up numerous safety hazards: broken stairs and porches, tottering foundations, and electrical hazards from improperly installed lighting fixtures, the audit said.

Some families use Coleman camping stoves to cook their meals because their regular stoves are broken or they can't afford propane cylinders that fuel them. Others burn creosote-soaked driftwood for heating, another potential hazard.

Nine of 50 homeowners in one village reported that cracks in the flooring of their homes allowed winds to "enter with such force that it raises the vinyl flooring off the floor, creating an effect like walking on pillows."

And in wintertime, interior walls are sheathed in up to 4 inches of ice, the audit found.

HUD contracts with 13 different Indian Housing Authorities, most of them subdivisions of local government or Native corporations and agencies, to run the program.

William Nishamura, regional HUD administrator for Alaska, disagreed that a majority of homes are substandard. The audit ignored the complexities of building in the Arctic, he said. Building standards and materials are not yet perfected for Alaska.

Nishamura laid blame for many of the problems at the door of the Native housing agencies. Building sites are chosen by the Native agencies, which also provide the soils engineers, architects, planners and builders, he said.

A majority of problems cited in the report are caused by poor maintenance, not poor design or construction. And it is the responsibility of Native housing agencies to train homebuyers how to maintain their furnaces, stoves and foundations, not HUD's, he said.

John Guinn, executive director of a Bethel-based housing agency run by the Association of Village Council Presidents, agreed with many criticisms in the audit but said the program was not a failure.

"I disagree that it's not working. It's been very effective in providing housing for the needy. The program just needs somebody at HUD who is willing to stand up for what we need."

Guinn said the housing program operated at a furious pace in the early 1980s, and mistakes were made.

"A lot of it was finding a contractor who knew how to build in rural Alaska," he said. "And a lot of (housing) directors didn't have construction experience. We were playing catchup. I think our housing authorities built over 400 in one year.

"We were building so fast there would have been problems in construction and in HUD oversight."

In the early years of the program, homes were built to Lower 48 standards, he said. "There were not adequate furnaces, not adequately insulated. They (HUD) don't realize that when it's 30 below and blowing 100 outside you have got quite a wind-chill factor."

The Native housing agencies are repairing many of the problems and training families in basic maintenance, he said.

"They are all being repaired. We will authorize $25,000 or more per house for new furnaces, doors, insulation."

A problem that all concerned agreed on was a shortage of money for the program, and an unrealistic "cap" of $92,200 that can be spent for any one home.

That money must stretch to pay for "planning, architecture, a soils engineer, shipping, construction, everything," Guinn said. "In many cases in remote villages it is not enough to do the job, so at some point you have to cut corners."

"When you get out to some of these remote tundra villages, gravel is like gold," he said. "You can't afford to fly it in. A couple years down the road the house starts moving."

Guinn said that HUD signs off on every home that is built, and "someplace along the line I think somebody in the HUD system should have had the intestinal fortitude to say, this foundation won't work or this heating system isn't adequate."

Opinion

Energy costs drain the rural economy

By DAVID G. HOFFMAN

In most rural Alaskan communities energy costs are placing a serious strain on the local economy. this burden is illustrated by research showing that rural Alaskans spend between 16 percent and 37 percent of their family incomes on energy bills. In Anchorage energy costs take only two or three percent of a person's paycheck.

Local governments are feeling the pinch too, as the result of the downturn in the states economy combined with cuts in federal funding. Many rural communities have facilities that they can no longer afford to heat or maintain.

Alaska is one of only three states in the union without an energy standard for home construction, and all too often homes built here simply don't measure up to the climate and states energy costs. A Department of Community and Regional Affairs Rural Housing needs assessment found that 28 percent of homes in rural Alaska could not ,maintain a healthy indoor air temperature of 70 degrees Fahrenheit during the long winter months, regardless of how well the furnace or woodstove is burning.

The wretched condition of rural housing was underscored in the Federal Housing and urban Development's recent audit of it's rural housing program. HUD auditors determined that rural housing projects "are being developed which are infeasible, improperly designed and inadequately constructed."

This can be seen in the Northwest Alaska community of Golovin, where a low income family living in a 400 square foot home uses a barrel of heating oil a week and still cannot achieve a comfortable temperature.

Answers are not hard to find

An obvious solution would be to construct home that can withstand the rigors of an Alaskan winter and have affordable heating bills. It's now possible to construct homes that are comfortable and healthy, and can be heated for less than $300 a year. The department of Community and Regional Affairs recently announced the award of a grant to build 13 such "superinsulated" homes in Golovin next summer.

The Alaska Craftsman Home Program, also sponsored by the Department of community and Regional Affairs, encourages the construction of such homes by offering training and technical assistance to contractors, lending institutions and home builders. Over 50 homes across the state are now being constructed to the program's voluntary standard. But voluntary standards are not enough.

Energy standard needed

In addition, the state needs to implement an energy standard for homes that have been purchased with state financial assistance. The department has developed a standard geared to the different regions of the state to reflect Alaska' diverse climate, energy expenses, and construction costs. Implementation of the standard is being delayed, however, by a legal challenge from a small group of urban contracts.

Rep. Kay Brown, D-Anchorage, has introduced legislation (House Bill 358) which addresses the legal issues raised by the suit, to clear the way to implement the standard. Alaskans deserve homes that are comfortable, healthy and affordable to heat.

Another solution would be to retrofit community facilities so they could have healthy temperatures and be less expensive to maintain. For example, it is possible to reduce a building's heating costs an average of 60 percent through remodeling it to so-called "superinsulation" values. New energy-efficient light bulbs can provide the same amount of light while using 35 percent less electricity and last four times longer than standard light bulbs.

These are not pie-in-the-sky dreams. Down to earth examples can be found in Tununak where the village clinic was superinsulated, reducing the annual $4,000 heating bill to $1,100. a Mat-Su Valley home will be heated by its water heater after it is retrofitted through the Alaska Craftsman Home Program. A lighting retrofit in Nikolai cost $2,246 and is expected to net a $1,151 savings in the first year.

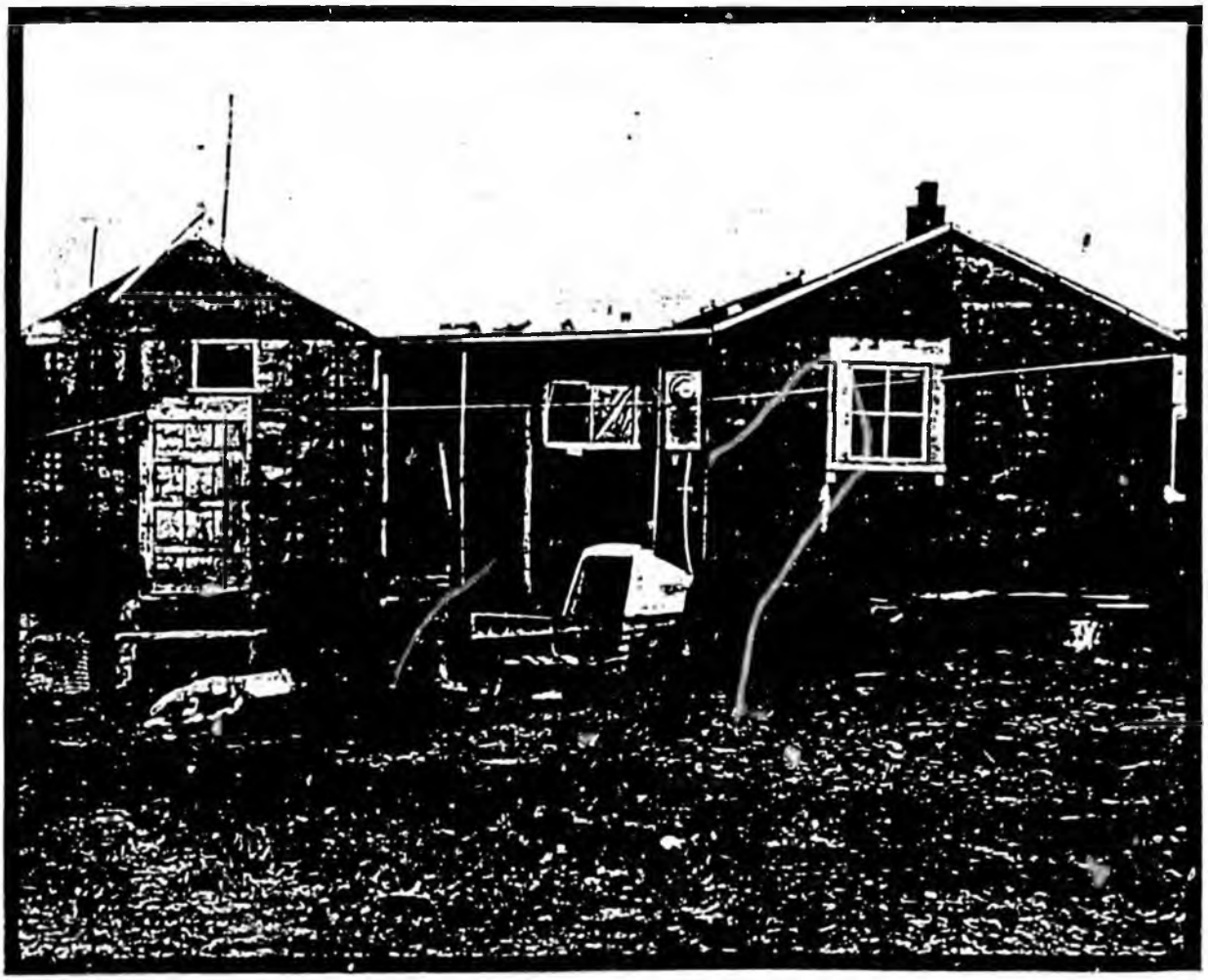
Everybody benefits

The Low Income Weatherization Program assists those Alaskans who are least able to afford high energy bills. The heating expenses for needy Alaskans participating in the program have been cut by an average of 25 percent after receiving home improvements such as additional insulation, repairs to cracked walls and installation of efficient heating systems. This program makes particular sense for rural Alaska with its high energy costs, severe weather and high incidence of substandard housing.

Energy programs strengthen local communities by reducing the operating costs of homes and community facilities, ensuring long-term financial savings. And because the labor skills needed to make the improvements are easily attainable in each community, sorely needed jobs are created. it's a combination that makes sense for rural Alaska.

(David G. Hoffman is the Commissioner of the Department of community and Regional Affairs, which is responsible for energy conservation and weatherization programs in the state.)

1988 Rural Housing Needs Assessment Study



DOYON Region - Photo by Rob Stapleton, Jr.

State of Alaska
Steve Cowper, Governor

Department of Community
and Regional Affairs
David G. Hoffman, Commissioner

Submitted in fulfillment under contract 88-0137 to the
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by

Rural Alaska Community Action Program (RurAL CAP)
ASK• Marketing Information Search
Alaska Public Interest Research Group (AKPIRG)

March 1988

HOUSING PHYSICAL CONDITION BASED ON INSULATION

In the following table, percentages of houses with attics and walls of different R-values are listed by region. R-values refer to the level of insulation. One inch of batt insulation is approximately equal to R-3. For example, R-38 is equivalent to 12 inches of batt, and R-19 is equivalent to 6 inches of batting.

Insulation Levels in Percentages:

	Attic					Walls		Can't Maint
	R<R11	R<R19	R<R22	R<R30	R<R38	R<R11	R<R19	70 deg F
Ahtna	15%	51%	78%	80%	96%	22%	69%	56%
Aleut	23%	36%	50%	65%	76%	23%	45%	16%
Arctic Slope	0%	6%	19%	36%	56%	1%	18%	37%
Bering Sts	14%	29%	89%	94%	97%	11%	41%	67%
Bristol Bay	14%	39%	76%	78%	90%	19%	52%	22%
Calista	3%	34%	68%	77%	77%	11%	78%	41%
Chugach	16%	26%	47%	56%	71%	20%	52%	15%
Cook Inlet	7%	22%	52%	71%	77%	10%	62%	12%
Doyon	4%	18%	47%	74%	79%	11%	65%	40%
Koniag	2%	11%	17%	18%	20%	3%	63%	27%
NANA	25%	25%	50%	50%	50%	1%	26%	72%
Sealaska	12%	55%	93%	95%	97%	15%	81%	41%
TOTAL	9%	29%	58%	69%	76%	12%	57%	36%

According to the 1986 Energy Conservation Standard For New Residential Buildings published by the State DCRA Office of Energy Programs, the minimum prescribed insulation requirement for ceilings is R-38, except in Arctic Slope where the ceiling requirement is R-52. The minimum prescribed insulation requirements for walls are R-21 in Sealaska; R-18 in Aleut, Chugach, Cook Inlet, and Koniag; R-25 in Ahtna, Bristol Bay, Calista, and Doyon; R-30 in Bering Straits and NANA; and R-35 in Arctic Slope.

Houses with attic R-values less than R-38 range from 71% to 97% in nine of the regions, and more than half of the houses in two more regions. Houses with wall R-values less than R-19 range from 41% to 81% in all but two region.

Living in the mistakes of the past

Houses are slums after only 10 years

By HAL BERNTON
Daily News reporter

ST. MICHAEL — When the west winds bring a blast of cold Siberian air to the island village of St. Michael, Leo Kobuk huddles indoors and tries to keep his family warm. He tacks a blanket across the back door, puts an electric heater in his bedroom and turns his fuel-oil stove up full blast.

In the worst of the winter cold snaps, when the outside temperature may dip below minus 50, Kobuk still can't shelter enough heat to keep his house comfortable. Frost forms along the living room wall, as roots overhead recede and water may freeze and spoil on the kitchen floor.

In warmer weather, Kobuk has other problems to contend with.

Snow that drifts into the eaves melts and trickles down through walls and the kitchen ceiling. As summer approaches, the permafrost beneath his house begins to thaw. The wood foundation leaves and his floor begins to move in strange ways. Kobuk used to level the house by jacking it up and adjusting the wooden support blocking. But the jacks never did the job. They raised the middle of the house, but left the sides sagging.

Kobuk's three-bedroom box house is one of 500 housing units financed 10 years ago by the federal government in 10 Bush villages. Designed by architects of the federal Bureau of Indian Affairs, each house was identical to the next — rectangular red, yellow and green-painted boxes of siding, plywood flooring and metal roofs.

A decade after their completion, many of the houses are falling apart. Floors are rotting, joints separating and some houses are in danger of sliding off their foundations. Kobuk can shove a knife blade through the cracks along the base of his living room wall.

"When they were building

See Page E-2, ALASKA 000

Andrew and Esther Otton stand in front of their old house, left, and their new home.

Designers slowly learn how to build housing in the Bush

By HAL BERNTON
Daily News reporter

ST. MICHAEL — From the outside, the house looks quite ordinary — boxcar shape, stilt-like foundation and metal roof. Only a fresh coat of yellow paint distinguishes it from much of the other Native housing built in this western Alaska village.

But step inside on a sub-zero, mid-winter day. With the end of a small fuel-oil furnace, the house stays warm. No ice on bedroom walls. No frost inside the windows. No huge heating bills. To St. Michael villagers, this house — just completed in December — means a major step up.

"Everybody in town, they look at this and say, 'where were these houses 12 years ago?'" said Albert Washington, St. Michael's mayor.

The St. Michael house is an example of a new wave of federal housing in the Bush — better designed and better insulated than predecessors built in the 1970s. Although not without problems, the new dwellings are helping improve the tattered reputation of federal Native housing projects in rural Alaska. These projects offer villagers the chance eventually to take title to the houses through monthly payments. The size of the payments is pegged to their incomes.

A decade ago, many of the Native houses built in Alaska proved better-suited for milder Lower 48 climes. Nearly a thousand dwellings — low-budget affairs put together with the aid of of villagers who often lacked construction skills — went up throughout western and interior Alaska. Housing materials were of poor quality. Foundations ill-designed. Hundreds of the homes now seemed destined for early obsolescence.

Today, the permafrost and intense cold of the far north still pose formidable construction challenges. But in a long and sometimes painful learning process, designers are figuring out ways to build better Bush housing.

The St. Michael house, a prototype developed by Phil Kaluza, a Nome builder, features a double outer wall stuffed fat with insulation. Triple-pane windows — made by a Fairbanks manufacturer — help keep warm air trapped inside. When the air gets stale, a heat exchanger sends the air outside and draws in fresh air. The furnace, controlled by a computer sensor, is nearly twice as energy-efficient as old-style systems installed in many of the neighboring houses.

Design Lab Inc., an Anchorage-based architectural firm, also has worked to improve the quality of Bush projects. During the past decade, it has designed about 1,500 houses for regional housing authorities funded by the federal Department of Housing and Urban Development. In the interior, it has created Indian homes of log. In the Yukon-Kuskokwim Delta, houses feature 10-inch-thick walls and heavily insulated floors and ceilings. In Southwest, the firm has experimented with a double-walled structure.

Foundation systems also have changed. A decade ago, house sites often were flat spots bulldozed out of the tundra. With the protective insulation of the vegetative layer stripped away, these sites turned to bogs in warm weather. Houses built on these sites tended to lean on their pods as the wooden support system sank into the softened ground.

Since then, two different tacks have been taken to deal with the permafrost. Some designs call for metal pilings to be driven through the permafrost layer and into solid ground. Others designs leave the tundra intact, then insulate with special synthetic pads and gravel wherever possible. The wood foundations are built on top of this cover. Each year, as the ground settles, they are leveled with jacks.

Federal officials who fund the housing projects view the new designs with cautious optimism. Many of the cold problems that plagued the '70s-vintage houses have been vanquished. But in the process of curing old problems, new ones have arisen.

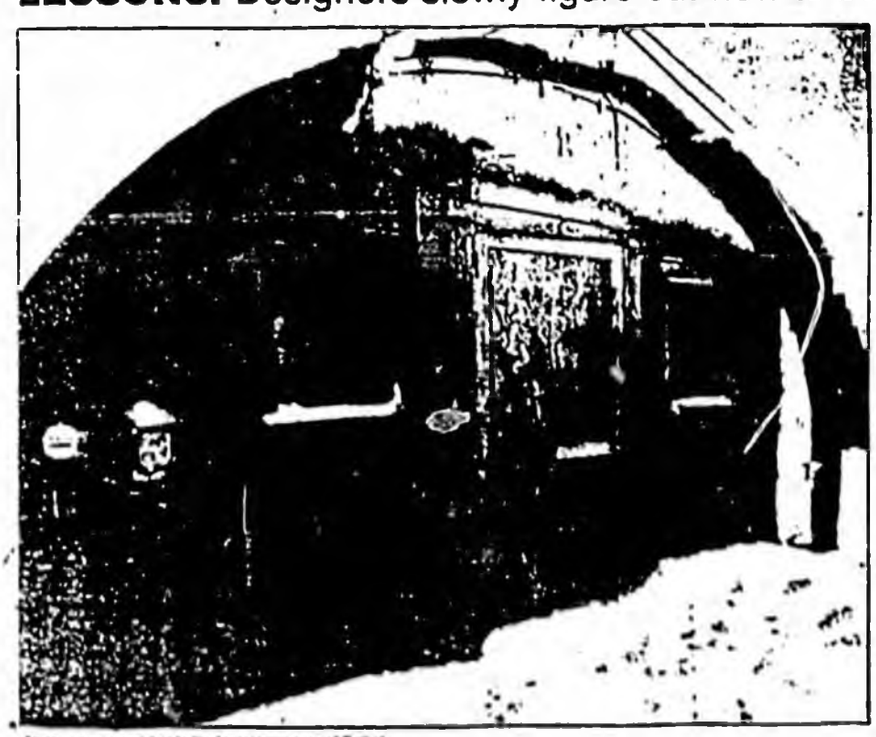
About 800 of the more than 3,000 late-model project houses have major design problems the federal government is spending $8.6 million to repair, said Miller Lutton, director of HUD's Alaska housing program. These houses are scattered about more than 40 Alaska villages.

"If you counted the number of innovative houses that have been tried in Alaska, you could count over 100," Lutton said. "Many appear to be successful. But you got to put them out there for a while."

Almost all of the new hous-

See Page E-3, LESSONS

LESSONS: Designers slowly figure out how to build houses in the Bush



An abandoned building in the Limestones area of Bethel

Continued from Page E-1

re are perched up off the ground on wooden stilts. To keep cold air from blowing up underneath the house, some weatherization teams and home buyers have put particle board skirting around the stilts. The skirting not only keeps out the cold air, it holds in the warm in some soils, that may cause the permafrost to melt. Once that happens, some foundations have begun to sag and self destruct, Amays said.

Even when design problems are overcome, houses still may not meet early expectations. Most of the houses now are built by contractors, and housing authorities are finding they need tough quality control to make sure the jobs get done correctly.

In a recently completed housing project in Scammon Bay, for example, Felix Grant, a villager who worked on the project, says construction crews rushed through the job. They didn't nail down all the walls and left some wood supports out from under some floors.

When Grant moved into his new house, he found the vinyl floor unraveling and soaked with fuel oil. "There are lots of problems," Grant said. "The whole plywood floor should come out where it's soaked with fuel oil."

John Gwinn, director of the Association of Village Council Presidents, the Bethel-based housing authority that developed the Scammon Bay project, says he's aware of some problems with new houses. The contractor has been asked to go back and fix them, he says.

Gwinn also has been working to get village home buyers to take care of more of their routine maintenance. In theory, when a toilet plugs up, a window breaks or the house needs a fresh coat of paint, the home buyer is to be responsible for repairs.

But home buyers often lack the inclination or the skills to do such work. And their villages often have no hardware stores to supply parts. Many look at the housing authorities as landlords, whose staff should fix whatever goes wrong.

Since the late '70s, Gwinn says his Bethel housing authority has built more than 600 houses in Kuskokwim-Yukon Delta villages. But the program still has fallen far short of meeting all the needs in his region for low-income housing. "There are 56 villages in the area, and there are a lot left that haven't had any housing."

More than 15,000 Eskimos are housed in the Bush, Amays said.

> *"If you counted the number of innovative houses that have been tried in Alaska, you could count over 100."*
>
> — Miller Lutton

ALASKA 500: 10-year-old federally financed houses now falling apart

Continued from Page E-1

these houses, they were thinking of the Lower 48," says Kobuk's wife, Katherine. "They are not built for Alaska."

Andrew and Esther Otten, the Kobuks' neighbors, have caulked up most of the cracks in their inside walls. But on a blustery day, the wind still freezes the moisture to the living room paneling.

The Ottens hung up a tapestry in the house proclaiming "Home Sweet Home." But Andrew Otten said he sometimes has second thoughts about the federally financed housing.

"My old house used to be warmer. It had two rooms and it didn't use that much oil."

The Alaska 500 homes now hold an infamous niche in the history of a gargantuan federal effort to bring modern housing to Alaska's villages. The federal Department of Housing and Urban Development — working largely through regional housing authorities — has spent more than $500 million to build more than 4,500 houses in rural Alaska.

The program has sought to improve the living conditions of Alaska Natives by moving them out of overcrowded shacks and cabins and into more spacious, better-built housing. Wherever possible, the houses were hooked up to new sewer and water systems developed by the Public Health Service. Villagers then became home buyers, obligated to make modest monthly payments that eventually allow them to take title to their houses.

Today, the program is nearly 20 years old and has replaced much of the ramshackle old housing in the Bush. By many yardsticks, it can be measured as a success.

In recent years, architects have adapted innovative insulation systems, foundation designs and construction techniques to create a new generation of public housing. Some of these homes suffer from design defects, but most are better able to withstand the rigors of Alaska's permafrost and two-zero cold than the early housing of the 1970s.

As overcrowding has decreased, the incidence of tuberculosis, once a major killer, has declined. And life expectancies have increased. Better housing has helped slow the rural migration to cities. In many villages, populations have stabilized or begun to increase, said Miller Lutton, director of the federal housing program in Anchorage.

But the program has a mixed legacy. In learning how to build good housing, the government has financed a lot of bad. And many people are still living in the mistakes of the past, saddled with sagging foundations and fuel bills they can ill afford to pay.

Kobuk says he uses more than $250 a month worth of fuel — three-and-a-half 55-gallon drums of oil — during the worst of the winter cold. Federal assistance pays only part of the bill.

Rafael Afcan, an aging carpenter living in another federally financed house in St. Marys, a Yukon River village, says his fuel bill leaves him with little money for groceries. "Sometimes, it's a question of paying for heat or paying for food."

All told, the problem houses include about a 1,000 houses built between the late '60s and the late '70s representing about a fifth of the total federal project units. These houses are riddled with design and construction flaws. Some have been abandoned or razed to make way for replacements; the rest still are inhabited.

Some of the worst housing is in St. Michael and seven other western Alaska villages. Here, more than 40 percent of the housing is of the Alaska 500 vintage. Many of the houses "are in danger of collapse or self-destruction," wrote Dan Harrelson, executive director of the Bering Straits Housing Authority, in a 1984 report to federal officials.

Harrelson listed faulty wiring, foundations sliding off their earthern pads, deficient insulation, mildew and rot among the houses' many problems.

Villagers, disappointed with the quality of the homes, joined with other Alaska 500 homeowners in a class action suit against HUD for failure to deliver on its promise of a "decent home in a suitable living environment."

In a recent out-of-court settlement, the agency offered to try to repair most of the design and construction defects of the Alaska 500 homes. As an alternative, a villager could simply take title to his home, as is.

Most villagers chose to take the house and forget about the costly fix-up job. "I decided it would take years to get any of the repairs done," Kobuk said.

Andrew and Esther Otten in their home in St. Michael

The federal housing program in the Bush was launched in the mud-'60s as national efforts to attack poverty in America reached a fever pitch. East Coast journalists trekked to Appalachia, the Midwestern ghettos and the Southern farm belt to profile the plight of the poor. Then, in the summer of 1968, Homer Bigart, a New York Times reporter, reached Alaska, and proclaimed the Kuskokwim-Yukon Delta the poorest place in the nation.

"The worst slums in the United States are not in racially turbulent quarters of New York, Cleveland, Chicago or Los Angeles," Bigart wrote. "By all available indices of poverty, they are sparsely strewn, like garbage on an ice floe, along the nation's desolate sea frontier with the Soviet Union."

The Eskimos that Bigart encountered had largely abandoned traditional homes of sod, driftwood and whale bone in favor of small log cabins and shacks of plywood, tarpaper and tin. Subsistence foods, not measured in standard poverty indices, helped make up for a lack of cash to buy groceries. But diet alone could do little to combat the diseases that ran rampant in the cramped, overcrowded housing.

In Kuskokwim Delta villages, 12 out of every 100 babies died before age 1. Tuberculosis, introduced decades earlier by whites, was a major killer of Eskimo and Indian adults. The Natives had a life expectancy one-half that of the average American.

Two years after Bigart's report, a Senate subcommittee led by Sen. Ted Kennedy, D-Mass., arrived in Bethel to tour a dilapidated section of riverside property known as Lousetown. The area was such a mess that several senators didn't even want to get off the bus, recalls Gene Pamplona, a Bethel resident who accompanied the senators. Kennedy, followed closely by Sen. Walter Mondale, D-Minn., disembarked, gingerly walked up to a garbage dump and discovered a dead dog, frozen to the ground.

Finishing his tour, Kennedy vowed to build new housing in Bethel. Within months of his return to Washington, the money was in the pipeline.

□

The first federal funds flowed to the Alaska State Housing Authority, which quickly launched a series of village housing programs. In many cases, these houses "began to deteriorate within moments of the last nails being driven," wrote one ASHA official in a memorandum forwarded to Alaska Sen. Ted Stevens. "The common complaints ... consist of ceiling tiles coming apart; frost accumulating six feet high on the walls; cabinets coming off the walls; sagging, buckling ...."

Instead of winning Bush support for its housing programs, ASHA was hit with class action lawsuits filed by Alaska Legal Services lawyers. ASHA ended up giving away 200 of the houses to homeowners. Another 100 homeowners, in a settlement funded by the federal government, obtained new houses.

These fiascos convinced ASHA that it wanted no part of any new Bush housing projects. "It has been said that even if ASHA could walk on water, it would nonetheless drown in the Bush areas, ...," the ASHA official wrote. "... The animosity of the purchasers towards ASHA ... as a result of these programs is immense. These people feel that they have been lied to and that representations have been made that were not kept."

Despite ASHA's withdrawal from the Bush, the federal pipeline of housing dollars kept flowing. In 1973, it reached north to St. Michael. Back then, many St. Michael villagers lived in cabins and shacks left over from the boom days of the Gold Rush. During the early 1900s, St. Michael was a town of more than 10,000 people, the major port of entry for goods bound to the gold fields of the upper Yukon.

After the Gold Rush, most of the whites left. By the time the federal housing project began, St. Michael's population had dwindled to less than 400, mostly Eskimos. For lodging, some lived into the old log dwellings left behind by the Army; others had pieced together plywood and tarpaper shacks.

The St. Michael project was an attempt at self-help housing, home buyers themselves would build the houses and would be paid for at least part of their labor. To ensure quality housing, the Bureau of Indian Affairs was appointed to develop designs and supervise construction. Regional housing authorities were created to administer the program.

The program, which encompassed 500 houses in 13 villages, may have looked good on paper, but it unfolded in a chaotic series of events. Most of the houses, pre-cut true piece-together packages by an Oregon manufacturer, were barged north in the summer of 1975. One of the barges sank in the Bering Sea. The rest of the houses arrived safely in the villages.

In the frenzied months of construction, there proved to be scant time for quality control. The villagers proved largely unskilled in home building. And in some regions, feuds between the BIA and regional housing authorities prevented inspectors from ever setting foot in the villages.

At many sites, the fragile layer of tundra that helps keep the permafrost cool was stripped away to prepare for the wood foundation pad. That meant the permafrost would melt, turning into a soggy bog when the temperature warmed. Insulation and plywood were soaked by the rain, then slapped into the homes. The wet insulation lacked heat-retention value, and the plywood gradually rotted.

Poor-quality materials and design problems compounded the errors of faulty construction. The windows, for example, even if installed properly, let in lots of cold air. The fiber board cabinets were made cheaply. Even when nailed firmly to the walls, they tended to self-destruct. Tops fell off drawers and doors off shelves.

Still, when the homes finally were finished, people were eager to move in, recalled Albert Washington, mayor of St. Michael. "First cold weather we got, everyone was excited. They thought they were going to be warm. Then they found out how cold the homes were. The kitchen stoves couldn't even begin to heat the homes."

One hundred miles to the south, along the bluffs overlooking the Andreafsky River, 20 St. Marys villagers were moving their families into new homes. Today, those homes are in much the same battered shape as those in St. Michael.

Therese Mike, mother to 11 children, lives in a house where the interior walls have separated from the roof. The gap between the two is wide enough to stick a fist through. Her kitchen pipes leak, so most of the time she keeps the water turned off. Her hot water heater broke down years ago, so none of the kids ever takes baths in the tub. The house's foundation needs to be shored up.

Mike is a big woman who wears a long dress and floral apron. She prefers to speak in her native Yupik, but will switch to English for a visitor.

She says her husband is in jail, so she is raising her family alone.

In December, she heard news of the new settlement reached by home buyers with the federal government. Since then, she's been mulling over her options. Should she get the house fixed by the government and continue her $70-a-month payments? Or should she opt for an renovation, but title free and clear to the house?

It would be nice to get the house fixed up, she says. But she isn't sure she can afford that option. At times, she hasn't been able to come up with the monthly payments and has been threatened with eviction.

Perhaps it's best to take title to the house, she says. Repairs can await another day.

To date, all but a handful of the Alaska 500 homeowners have chosen to settle the suit by foregoing repairs and taking title to the houses.

That choice troubles Andrew Pushaw, mayor of St. Marys. He doesn't see much hope for the Alaska 500 in his town without a lot of work. "If they keep shuffling they won't withstand another 10 years. We'll have to see them down and rebuild."

The cabinets in Therese Mike's home in St. Marys are coming apart.

Daily News photos by Bob Hallinen

An above-ground utility system connects newer houses in Bethel.

HB

407

HOUSE COMMITTEE REPORT

(5)
Date Referred: March 9, 1990 | FURTHER REFERRALS:

Date of Committee Action: 3/15/90 | FINANCE

The COMMUNITY & REGIONAL AFFAIRS Committee considered: SSHB 407

SS HOUSE BILL NO. 407 APPROP: ANCHORAGE WATER & SEWER UPGRADE

"An Act making special appropriations for payment as grants to the Municipality of Anchorage for the reconstruction and upgrade of the Alyeska Utilities, Inc., water and sewer system and for purchase of water and sewer facilities constructed within the Girdwood Valley; and providing for an effective date."

RECOMMENDATIONS:

[ ] be replaced with ______________ [ ] the same title / [ ] a new title

[ ] have attached amendment(s)

[X] do pass

[ ] do not pass

[ ] no recommendation

[ ] individual recommendations

[ ] additional referral to the ______________ Committee

ADOPTS: ______________ letter of intent

ATTACHES NEW FISCAL NOTE(s): (Dept)

[ ] fiscal impact ______

[ ] zero fiscal note ______

[ ] zero with analysis ______

APPROVES PREVIOUS: (Date/Dept)

[ ] fiscal note(s) ______

[ ] zero fiscal note(s) ______

[ ] zero fn/analysis ______

SIGNING DO PASS:

E. P. Mischan
Eugene Kohler
Richard Foster

SIGNING: (Check approp. column)

	Do Not Pass	No Rec	Amend
Cheri Davis		X	

Eileen P. MacLean
Chairman's Signature

CORRECTION

THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY

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[ ] individual recommendations

[ ] additional referral to the _____ Committee

ADOPTS: _____ letter of intent

ATTACHES NEW FISCAL NOTE(s): (Dept)

[ ] fiscal impact_____

[ ] zero fiscal note_____

[ ] zero with analysis_____

APPROVES PREVIOUS: (Date/Dept)

[ ] fiscal note(s) _____

[ ] zero fiscal note(s)_____

[ ] zero fn/analysis _____

SIGNING DO PASS:

T P Mickens

Eugene Kubina

Richard Foster

SIGNING: (Check approp. column)

	Do Not Pass	No Rec	Amend
Cheri Davis		X	

Eileen P. Mickens
Chairman's Signature

March 12, 1990

Overview of the Sponsor Substitute for
House Bill 407
by Rep. Johnny Ellis

I believe adequate water and sewer systems are necessary items for private sector development and provision of these services is a basic and traditional function of government.

This measure appropriates $2.3 million to the Municipality of Anchorage for reconstruction of the Alyeska Utilities water and sewer system in Girdwood. It also appropriates $3.8 million to the municipality for expansion of the water and sewer infrastructure to the proposed Alyeska destination resort development.

In September of 1989, an agreement was signed between Seibu-Alaska, Inc. and the Anchorage Economic Development Corporation (AEDC) which provided economic incentive to expand the tourist destination resort.

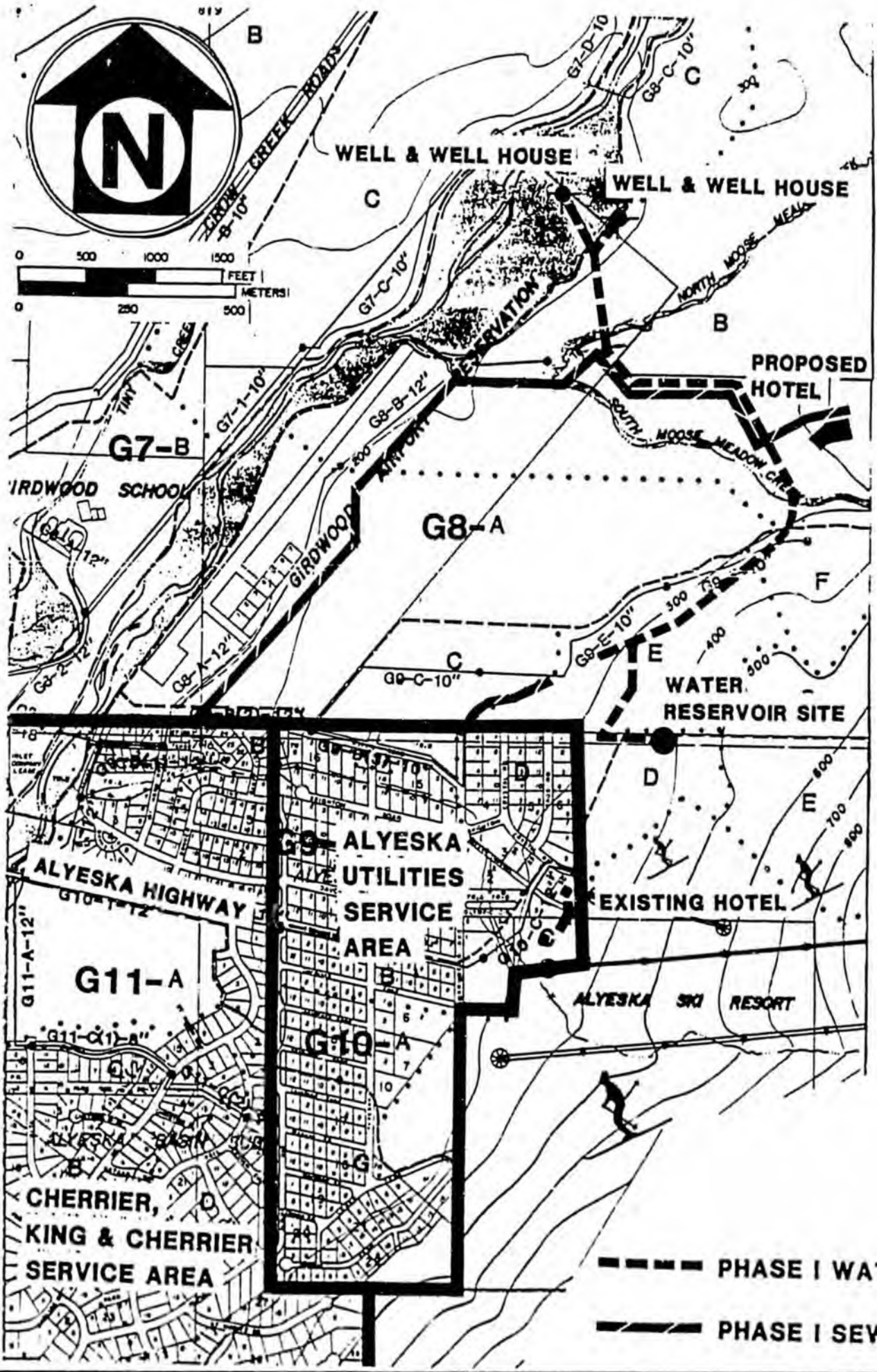
In accordance with that agreement, the full funding of the projects in SSHB 407 is contingent on Seibu, Inc. constructing a 300 room hotel by December 1992. If Seibu does not meet the timeline set out in the agreement, the expansion funding will be reduced as agreed to by the parties.

Full funding of SSHB 407 would result in four development projects:

Expansion of the water and sewer infrastructure
Reconstruction and repair of the existing Alyeska Utilities water and sewer system
Construction of the new ski slope improvements
Construction of a 300 room hotel

The water and sewer reconstruction and expansion, and other associated projects will stimulate the economy, create jobs, encourage business expansion in the area, promote tourism and expand recreation opportunities in Alaska.

GIRDWOOD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ALYESKA HIGHWAY
ALYESKA SKI RESORT
GIRDWOOD SCHOOL
GIRDWOOD AIRPORT
CROW CREEK ROADS
NORTH MOOSE MEADOW CREEK
SOUTH MOOSE MEADOW CREEK
TINY CREEK
G7-B
G8-A
G11-A
G10-A
CHERRIER, KING & CHERRIER SERVICE AREA
PHASE I WATER
PHASE I SEWER

ANCHORAGE
ECONOMIC
DEVELOPMENT
CORPORATION

Alyeska Resort Expansion
Briefing Paper

GOAL: To facilitate a $45m - $50m expansion of the Alyeska Ski Resort by Seibu Alaska, Inc., to be complete by year-end 1993.

BENEFITS: Will create approximately 300 direct new jobs; will establish a destination resort in Anchorage and begin development of a winter-time tourism industry; will spur tourism investment from Japan; in doing so, will allow Alaska to begin tapping the large and growing Japanese visitor industry. Successful penetration of the Japanese market will result in additional air service between Alaska and Japan, which will partially offset the recent trend toward fewer foreign aircraft landings at Anchorage International Airport.

NEEDS: Due to the risk associated with developing an entirely new element of the Alaska tourism industry, it is important that the State of Alaska demonstrate its commitment to the project by participating in the development of basic project infrastructure such as sewer and water.

PROPOSAL: In response to the willingness of the leadership of the Alaska Legislature to support the project, the Anchorage Economic Development Corporation (AEDC) has negotiated an agreement with Seibu. The agreement calls for Seibu to develop the full-scale resort if the State of Alaska will fund $6.1 million in water and sewer improvements. This represents both an acceleration and an expansion of scope for Seibu vis-a-vis their 1987 Heritage Land Bank agreement.

DETAILS: Alyeska Resort currently owns a water system in Girdwood that serves 500 Girdwood households. Under the AEDC agreement, Seibu will turn both the existing system and the new system over to Anchorage Water and Wastewater Utility (AWWU).

The infrastructure funding request includes:

550 West 7th Avenue
Suite 1130
Anchorage, AK 99501
Telephone (907) 258-3700
FAX (907) 258-6646

1. Upgrade Existing Water System **$2.3m**

   To be done by AWWU upon conveyance of system from Seibu. Upgrade work is necessary in order for AWWU to take over system. Conveyance will require APUC approval and an affirmative vote of system's customers.

2. New Water and Sewer System **$3.8m**

   Will serve new resort and any additional development nearby. Will be constructed by Seibu and conveyed to AWWU upon completion. Seibu will be reimbursed for new system upon completion of it's new resort hotel. New water reservoir will enhance flow to existing residential system and improve fire protection in upper Girdwood.

There is also a need for improved water service throughout Girdwood. Unfortunately, Girdwood is the only major geographic area in Anchorage not served by AWWU. This proposal would allow AWWU to enter the Girdwood service area and would put it in a better position to address the other water needs of the area.

ANCHORAGE
ECONOMIC
DEVELOPMENT
CORPORATION

Seibu agrees to build Girdwood hotel

Seeks state funds for improvements

By JACQUES PICARD
Times Business Writer

Seibu Alaska will construct a 300-room hotel in Girdwood in exchange for state funding of $6.1 million worth of water and sewer improvements needed by the resort.

The agreement was announced Wednesday between Seibu, the Japanese owner of the Alyeska Resort, and the Anchorage Economic Development Corp.

Funds for the agreement have not yet been appropriated by the state legislature. Senate President Tim Kelly recommended that the Railbelt Energy Fund be tapped for the money next session. He said there was broad support in the legislature for funding the agreement.

"Basically, Seibu is satisfied that the legislature will fund it," said Anchorage Assemblyman Jim Barnett.

Seibu is expected to spend about $45 million to $50 million on the resort development, including about $28 million on the hotel complex.

Upon completion, the resort will employ about 300 people and indirectly create about 100 to 150 jobs in Girdwood, said Scott Hawkins, president of the AEDC.

The agreement requires Seibu to make a "best effort" to complete the hotel by the end of 1992, but work must be finished no later than the end of 1993, he said.

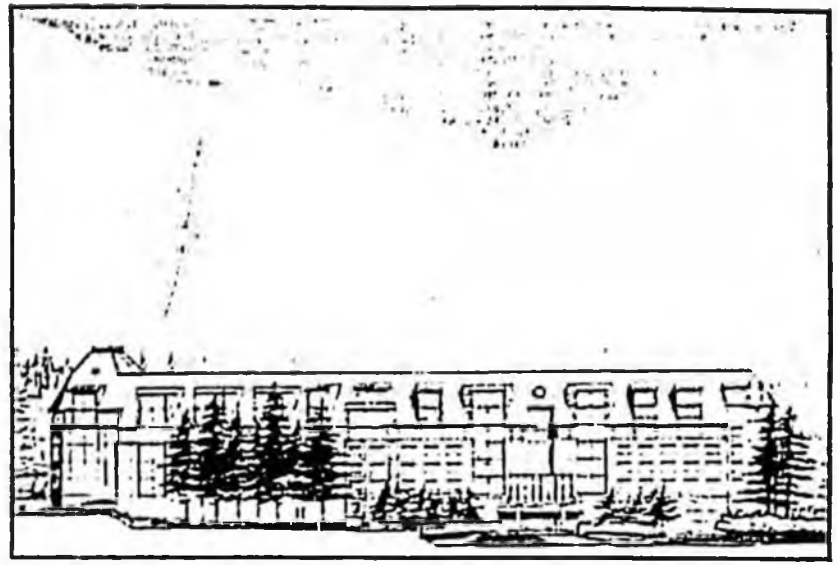
If the project is not completed on time or the hotel does not have at least 300 rooms, Seibu will not receive full reimbursement for the estimated $3.8 million cost of construction of new water and sewer lines to the hotel, said Hawkins.

Ownership of the existing water system owned by Seibu will be transferred to the Municipality of Anchorage, which will receive $2.3 million to upgrade the system. This is one of two privately owned water systems in Girdwood. It serves about 500 households and is considered substandard, Barnett said.

Seibu must begin constructing an access road and the first part of the water project by Oct. 1, said Larry Daniels, planning director for Seibu.

Seibu also will receive title to 76 acres of land upon completion of the resort and payment of $1.5 million, under a 1987 agreement with the municipality's Heritage Land Bank, Daniels said. This agreement required a minimum of

See Resort, page A-9



Seibu Alaska will put $3.8 million into this 300-room hotel in Girdwood.

The Anchorage Times
Thursday, September 21, 1989

Resort

Continued from page A-7

$15 million worth of improvements by Seibu to be completed before 1996, he said.

Seibu will construct an aerial tramway system capable of carrying 60 to 80 passengers at a cost of about $6.8 million and two new chairlifts at a cost of about $7 million, under the new agreement.

The new hotel will require construction of a road running one mile west of the current road system, and the ski slope will require an additional three miles of new road to the west. The new ski slope will cover about 400 acres, Barnett said.

Future development of the Glacier Valley-Winter Creek area could expand the ski slope area to around 4,000 acres, with a vertical ski descent of 5,000 feet, Barnett said. This would make it the largest slope with the longest descent in North America, he said.

AGREEMENT

This Agreement entered into this 20th day of September, 1989, between ANCHORAGE ECONOMIC DEVELOPMENT CORPORATION, an Alaska nonprofit corporation ("AEDC") and SEIBU ALASKA, INC., an Alaska corporation ("Seibu").

Recitals

A. Seibu has entered into an agreement with the Municipality of Anchorage for the expansion of Alyeska Resort. The estimated cost of the required Resort improvements is $15 million with substantial completion required by 1995.

B. The existing water utility, Alyeska Utilities, Inc. (A.U.I.), wholly owned by Seibu, is inadequate to serve the needs of the Resort and individual water users. Substantial improvements are required for rehabilitation and expansion is necessary for the proposed Resort development.

C. In consideration of certain economic incentives proffered by AEDC, Seibu is willing to consider expansion of the Resort at an earlier date and beyond the scope required by the existing agreement with the Municipality, with the value of the incentives proffered by AEDC to be determined by the extent to which Seibu accelerates its timetable and expands the scope of its project.

D. AEDC is willing to pledge its best efforts to obtain public funding for the water and sewer system in consideration of Seibu's accelerated construction of the Resort improvements.

E. The expansion project will provide substantial construction employment, an additional 150 or more recurrent operational jobs, and a destination resort for domestic and foreign visitors.

WHEREFORE, the parties agree as follows:

1. AEDC will use its best efforts to obtain from public sources $6,100,000 for the reconstruction and expansion of the A.U.I. water system and the sewer line extension to the new Resort complex as described on the attached Exhibit A. The funds will be committed to the project no later than August 1, 1990.

2. Contingent upon receipt of the contemplated funding, AEDC will provide the following economic incentives to Seibu:

(A) Upon Seibu's substantial completion of its project as set forth in this Agreement, AEDC will reimburse, or cause to be reimbursed, to Seibu its cost of design and construction of the new water source and distribution facilities, and its cost of design and construction of the sewer/ wastewater extension mains required as part of the infrastructure for its proposed hotel expansion project under those Subdivision Agreements with the Municipality of Anchorage dated December 16, 1987, and generally described on Exhibit A attached. Such reimbursement shall not exceed the sum of 3.8 million dollars, and will be based upon the scope of the project as follows:

(i) For a hotel consisting of 150 or a fewer number of guest rooms, the incentive reimbursement entitlement shall be zero;

(ii) for a hotel consisting of 300 or a greater number of guest rooms, the reimbursement entitlement shall be the lesser of 3.8 million dollars or Seibu's cost; and

(iii) for a hotel sized between 150 and 300 guest rooms, the reimbursement entitlement shall be prorated from zero to 3.8 million dollars based upon the actual number of guest rooms constructed. (For example, a 200 room hotel would entitle Seibu to the approximate reimbursement as follows:

$$\frac{200-150 = 50}{300-150 = 150} \times \$3.8 \text{ million} = \$1,256,666.67)$$

(B) AEDC will provide, or cause to be provided, the sum of 2.3 million dollars to Anchorage Water and Wastewater Utility (AWWU) for the reconstruction and upgrade of the existing A.U.I. water utility system upon its conveyance by Seibu as hereafter contemplated; Seibu shall not have an obligation under any circumstance to reconstruct, or finance the reconstruction of, such existing A.U.I. water utility system. To the extent funds are available, AWWU may make improvements to adjacent water systems.

3. In consideration of the funds contemplated to be provided by AEDC under Section 2 above, and of AEDC's pledge to

use its best efforts in assisting Seibu to obtain the necessary permits and approvals, Seibu agrees:

(A) To commence infrastructure construction by September 30, 1989, to commence construction of the new ski slope improvements by September 30, 1990, to use its best efforts to commence hotel construction by September 30, 1990, and to use its best efforts to achieve substantial completion of such project by December 31, 1992;

(B) Subject to APUC approval and upon AWWU's receipt of the $2.3 million for repair and reconstruction of the water utility system as set forth in Section 2(B) above, Seibu shall convey to the Anchorage Water and Wastewater Utility (AWWU), Seibu's wholly owned water utility, Alyeska Utilities, Inc., and upon Seibu's receipt of the reimbursement funds provided for under this Agreement, shall further convey the new water distribution system and facilities described in Section 2(A) above; and

(C) Exclusive of construction requirements for tram and chair lift improvements, Seibu will contract only with general construction contractors which are properly licensed and qualified to do business in the State of Alaska and which have historically maintained a significant presence within the State, and it will include in such construction contracts a local hire provision as well as a prevailing wage requirement.

4. In the event of Seibu's failure to obtain substantial compliance with its commitments set forth under this

Agreement, then AEDC's remedies shall be limited to reducing Seibu's reimbursement entitlement determined under Section 2 (or if already paid, Seibu will reimburse to AEDC) as follows:

(A) If Seibu fails to achieve substantial completion of its project by December 31, 1993, but does achieve such substantial completion by December 31, 1994, its reimbursement entitlement shall be reduced by the sum of $10,000 per month for each month, or portion thereof, of such delay (this provision contemplates a 12 month "grace" period from the optimum completion date of December 31, 1992, prior to any reduction of the reimbursement entitlement);

(B) If Seibu fails to achieve substantial completion of its project by January 1, 1995, its reimbursement entitlement shall be reduced by the sum of $120,000 plus, the sum of $140,000 per month for each month, or portion thereof, that substantial completion is delayed after January 1, 1995.

5. Upon Seibu's receipt of the reimbursement incentive contemplated in Section 2, Seibu and AEDC agree to establish a joint resort development program having the following objectives:

(A) Establish the irrevocable dedication of sufficient seating on the various Japan/Anchorage air routes to warrant the promotion of Anchorage and of Alyeska Resort in the Japanese market;

(B) Upon the availability of sufficient dedicated airline seats, to increase marketing efforts to the Japanese tourism and recreational ski market accordingly;

(C) Conduct a technical and economic feasibility study of the expansion of the ski resort industry into the Glacier-Winner Creek area; and,

(D) Seek expedition of the necessary land conveyances to the Municipality and of the proposal and regulatory approval processes to implement and accommodate ski resort industry expansion and development activities.

Seibu and AEDC agree such resort development program will be funded for five years with an annual budget and work plan mutually agreed upon and supported by an annual cash contribution from Seibu equal to the lesser of (i) $30,000 per year, or (ii) .79% per year of the actual reimbursement incentive received by Seibu pursuant to Sections 2 and 4. The priority of the program objectives will be determined by Seibu, with the program to be administered and executed by AEDC.

6. Seibu may extend the time for performance under this Agreement with the consent of the AEDC which consent shall not be unreasonably withheld, and, in the case of delay in the performance of its obligations of development by reason of (i) acts of God, (ii) restrictive governmental laws or regulations, including but not limited to delays created by reasons of processing times and/or difficulties in obtaining required government permits, and/or (iii) other cause(s) or factor(s)

without fault and reasonably beyond the control of Seibu, then and in such event(s) the time period for completion of Seibu's obligations as described under Section 4 above shall be extended for a period corresponding to the effective lost time caused or created by such delay.

7. Should the funding commitment not be obtained by August 1, 1990, this Agreement shall be null and void and neither party shall have any obligation hereunder.

8. Notices pursuant to this Agreement shall be sent to:

Anchorage Economic Development Corporation
550 West 7th Avenue
Suite 1130
Anchorage, Alaska 99501

Seibu Alaska, Inc.
P.O. Box 249
Girdwood, Alaska 99587

ANCHORAGE ECONOMIC DEVELOPMENT CORPORATION

By: Scott E. Lawler

Its: President

DATED: August 31, 1989

SEIBU ALASKA, INC.

By: [signature]

Its: SECRETARY

DATED: SEPTEMBER 20, 1989

Alyeska Resort
Girdwood, Alaska

Master Plan
April 1987

Seibu Alaska, Inc.

Planning, Architecture
Sasaki Associates, Inc.
Watertown, MA

Engineering, Surveying, Planning
Dowl Engineers
Anchorage, AK

Ski Facilities Planning
Sno Engineering Inc.
Lyme, NH

Consulting Architect
Phillip Usher & Assoc.
Anchorage, AK

Consulting Architect
John Baker, Architect
Girdwood, AK

TABLE OF CONTENTS

I. Introduction

Since first opening its slopes to the skiing public in 1959, Alyeska Ski Resort has continued to expand and upgrade its facilities to better serve the needs of local skiers and tourists. Additional lifts, snow grooming and snow making equipment and commercial facilities have upgraded the resort as well as contributed to the Girdwood economy.

Looking to the future, Seibu Alaska, Inc., which owns and operates Alyeska, anticipates continued growth and the need for expansion. The resort facilities must be upgraded and expanded to meet the demands and requirements of hosting international competition such as World Cup Racing Series or the Olympics. In addition, to serve an expanding ski market as well as to accommodate international events, additional space is required for new lodging facilities, intermediate and beginner slopes, and parking.

To meet these objectives, Seibu Alaska, Inc., began assessing its options for expansion and facility upgrading within the existing confines of the resort. The Alyeska Resort encompasses about 1180 acres including both private and U.S. Forest Service land. Of this total, Seibu Alaska, Inc., owns a total of 225 acres and leases the remainder under two separate permits. A Term Special Use Permit includes that area where permanent facilities are presently located (approximately 52 acres). A Special Use Permit allows the use of an additional 874 acres which includes the ski slopes and avalanche paths for avalanche control purposes. Both permits were renewed in 1980 and will expire December 31, 1999. The permits are renewable and grant Alyeska the exclusive use of the subject areas.

Of the 255 acres owned by Seibu, 221 acres are utilized as ski slope or can be considered undevelopable due to natural or topographic constraints. A total of 10 acres are used for parking and 1.5 acres contain resort development. The remaining 20.5 acres are currently undeveloped and severely constrained by steep slopes and lack of accessability. Thus expansion opportunities are severely limited.

To accomplish the goal of achieving a first class ski area and resort, which could accommodate international alpine events, Seibu Alaska, Inc. concluded that necessary improvements would require expansion beyond its existing boundaries. The adjacent property to the north was identified as the logical area for expansion. This property would allow the integration of existing facilities with proposed new uses and facilities in a manner precluded if expansion sites were under separate ownership or were physically separated from the existing resort.

II. Agreement with Municipality

In 1981, Seibu Alaska, Inc. initiated discussions with the Municipality of Anchorage concerning acquisition of Municipality owned property for expansion of Alyeska Resort.

Following a suitability study of the Municipality's property by Seibu, an offer was made to the Municipality for purchase of approximately 75 acres. No formal agreements resulted and the proposed acquisition was placed on hold.

In the interim, the Municipality created the Heritage Land/Bank Commission, to manage parcels of Municipally owned land designated for inclusion within the Heritage Land/Bank. The land proposed for acquisition by Seibu was placed under the Heritage Land/Bank's jurisdiction.

In 1985, Seibu initiated a master plan for resort expansion. The Acquisition Master Plan, as it has come to be known, was completed in January 1986 and accompanied Seibu's formal application to the Heritage Land/Bank to purchase and lease approximately 107 acres from the Municipality.

Following a series of public meetings in Girdwood and Anchorage a purchase agreement was formulated. On September 30, 1986 the Municipal Assembly approved the formal purchase agreement. (See Appendix - Sec. XI).

The property includes a portion of Parcels 70 and 74, both lying within Section 9, Township 10 North, Range 2 East. For ease of reference the subject property has been divided into several tracts and identified as Parcels A, B, C, D and E. This designation has been used throughout the master plan process (see Parcel Designation Map).

The Agreement calls for a fee simple purchase of Parcels A, B, C, and D and the lease of Parcel E from the Municipality for a period of 55 years. The use of Parcel E under the terms of the lease is specific.

Conditions of the sale of parcels A, B, C, and D and the lease of Parcel E to Seibu Alaska, Inc. require appropriate platting and approval by the Anchorage Planning and Zoning Commission of a development master plan in accordance with Title 21 of the Municipal Code. Final Conditional Use approval of

Seibu's Phase I development is required for Parcels A and B which will be subject to covenants prohibiting their use for any purposes other than commercial resort facilities. Under the terms of the Agreement, Seibu Alaska, Inc. is required to submit its application for the plat and master plan within eight months of Municipal Assembly approval. Those requirements are met concurrently with the submission of this document.

Since entering into the Agreement, the Turnagain Arm Comprehensive Plan has been modified to include a resort designation which encompasses all of Alyeska Resort's existing properties and the proposed expansion area. A Recreation Development Plan providing an overview of the project intent is required for property within the Resort designation.

This new requirement under Title 21 of the Municipal Code is coextensive with Seibu's contractual requirement and is similarly intended to be satisfied by this submission.

III. Goals and Objectives

The principal operational goal for Alyeska is set forth below. It forms the basis for the master plan program and is stated as follows:

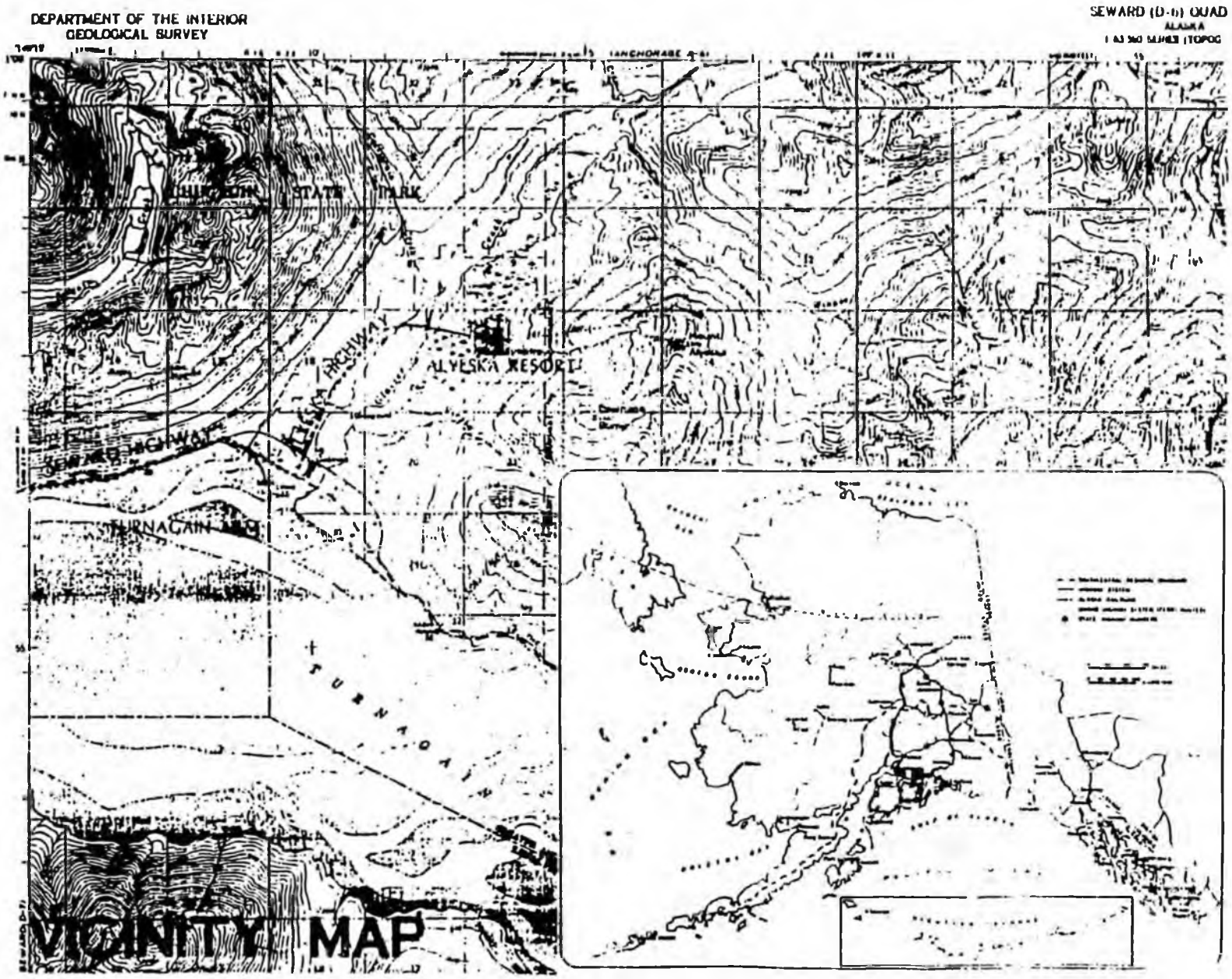
- To provide for continued upgrading and expansion of the Alyeska Resort facility in order to increase winter and summer utilization (sightseeing) while enhancing the quality of the ski and resort customer experience on a year-round basis.

A number of objectives have been drafted to guide the future direction of Alyeska in attaining the presented goal. They are:

- Develop Alyeska's status as a regional destination resort with year-round activities unique to its setting.
- Provide upgraded facilities in order to improve the quality of the ski experience.
- Create for the overnight visitor and day-skier an experience which is memorable and expressive of the unique qualities of Alyeska and its dramatic Alaskan setting.
- Enhance skiing opportunities for entry level and low ability level skiers, including low intermediate and intermediate skiers.
- Obtain a better understanding of skier perceptions, desires and expectations through quantitative and qualitative analysis.
- Increase the bedbase to accommodate more overnight visitors on a year-round basis and concurrently enhance the ability of Alyeska to host a greater number of convention and group tourist activities.
- Develop a greater variety of ski terrain tailored to the market breakdown as best as possible.
- Improve the lift and trail network to maximize skiing opportunities.
- Minimize lift lines (maximum of ten minute wait) while maintaining trail densities to industry standards.
- Preserve and enhance the environment which comprises the ski area, including private land, the US Forest Service Permit Area, and land leased from the Municipality of Anchorage.
- Provide additional parking at the new hotel site, creating a new visitor entry portal to the resort.
- Provide support facilities and services for the ever increasing numbers of winter and summer visitors.

The purpose of the Master Plan is to establish the direction and priorities for the physical development of Alyeska. The Master Plan identifies "how to", "where to" and "when to". Furthermore, it is anticipated that the Master Plan will be a key support document in obtaining additional long term financing for the replacement, enhancement and expansion of capital assets at Alyeska. Additionally, it is expected that the Master Plan will satisfy the permit requirements established by the U.S. Forest Service.

By definition, master plans are conceptual and broad based. Although a master plan is based on the assimilation of data and observations, etc. and is an evaluation using a variety of criteria and design arts, it is not an engineering or construction document. It is rather a graphic and textual "road map" which expresses the spatial relationships and economic rationale for the improvement, enhancement and expansion of a facility.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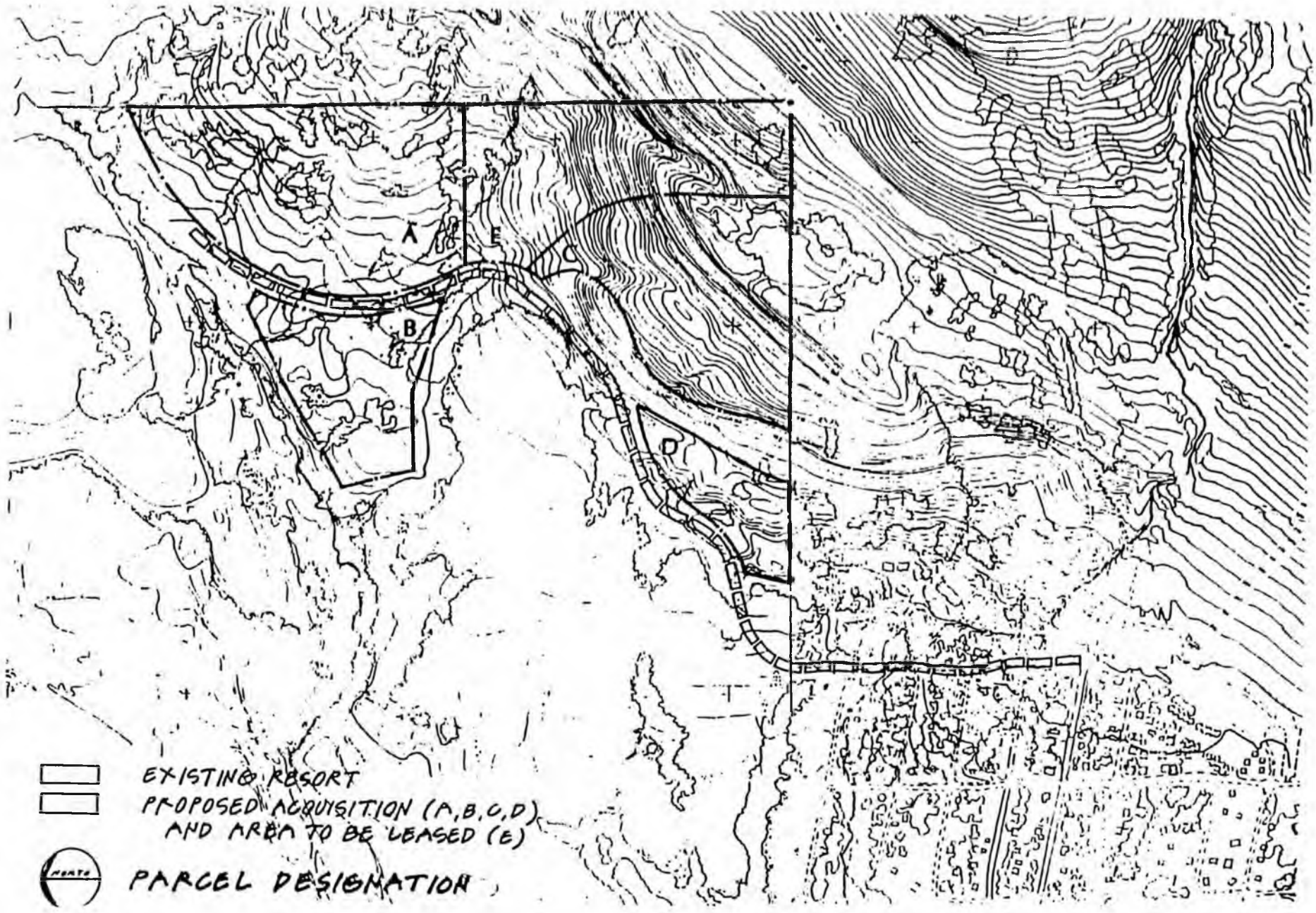

A
B
C
D
E
EXISTING RESORT
PROPOSED ACQUISITION (A,B,C,D) AND AREA TO BE LEASED (E)
PARCEL DESIGNATION

IV. The Site

Alyeska Resort is located in Glacier Creek Valley at Girdwood, 40 miles south of Anchorage on the Seward Highway. Alyeska's location on the state's major highway system and near Anchorage International Airport make it very accessible. Alyeska presently serves as a local destination resort to skiers from Anchorage, as well as serving regional skiers from Fairbanks (400 miles north) and the Kenai Peninsula (100 miles south). A record number of 145,000 skier visits was recorded in 1985-86, representing a 20% increase over 1984-85 which was also a record year for skier visitation. Alyeska/Girdwood is designated as a distinct management and planning area within the Municipality of Anchorage.

Glacier Creek Valley is bordered on the east and north by the Chugach National Forest and on the west by Chugach State Park. These public lands provide opportunities for hiking, mountain climbing, fishing, camping, cross-country skiing and late season glacier skiing. In addition to visitors using these recreation resources, many tour groups use Alyeska as a stopover on the way to Portage Glacier. These factors have resulted in summer visitation of 35,000 to the area as reflected by annual foot passengers on the Alyeska lift system for the last two seasons.

Alyeska Peak and Max's Mountain, the ski terrain for the resort, lie in the center of the southern Chugach mountains along the eastern edge of the Glacier Creek Valley. The Chugach Mountain Range is extensive rising to a maximum height of 13,717 ft. (Mt. Marcus Baker) about 25 miles from tidewater. Approximately 200 miles long by 50 miles wide, the range contains an abundance of high, heavily glaciated mountains with deep valley floors generally near sea level. The watershed divide, about 10 miles east of Alyeska Resort, separates Prince William Sound to the east and Cook Inlet to the west.

Land uses surrounding the existing resort include a variety of residential densities and tourist oriented commercial uses which are compatible with the proposed expansion of the Alyeska ski facilities. Development south of the resort area consists predominantly of single family dwellings and some multi-family dwellings. The resort lodge and ancillary facilities are south of the ski slopes. slopes. Adjacent to the resort lodge on the north is a concentration of condominium units.

The west side of the acquisition areas is defined by Moose Meadow, a wetland which has been designated for park use as an Environmental Reserve under the Anchorage Park and Greenbelt Plan and revised Turnagain Arm Comprehensive Plan.

These existing land uses restrict the resort's options for expansion in any direction other than north to the proposed acquisition areas. The subject property, Parcels A, B, C and D, and the leased Parcel E are located north of the existing Resort and immediately west of the Chugach National Forest and lie within the following tracts:

Number One

Tract Nine "B" (9-B), of Section 9, Township 10 North Range 2 East, Seward Meridian, in the Anchorage Recording District, State of Alaska, and;

Number Two

All that portion of Tract B of Alaska State Land Survey AK-149, according to Plat 84-446, filed in the Anchorage Recording District, State of Alaska, lying within the NE 1/4 of Section 9, Township 10 North, Range 2 East, Seward Meridian.

A. PARCEL DESCRIPTION

The Acquisition Master Plan (January 1986) identified five primary use areas for the proposed acquisition area (Parcels A, B, C, D) and land to be leased (Parcel E). The uses proposed in the Acquisition Master Plan and refined herein are all related directly to the resort expansion.

Parcel A: The largest of the parcels - approximately 31 acres in size - this area is located at the north end of the Arlberg Extension Road, bordered by the Chugach National Forest on the east and Arlberg Extension on the west. This parcel will be the location of the major resort hotel facilities, village center, and aerial tram to the skyride restaurant.

Parcel B: Approximately 21.8 acres in size, Parcel B will serve as a main resort parking area for day skiers and visitors to the village center. The parcel is located immediately west of Parcel A and is bordered by Moose Meadow and South Moose Meadow Creek on the south, Arlberg Extension on the east, and North Moose Meadow Creek on the north.

Parcel C: Parcel C is approximately 23 acres in size and is planned to provide for additional resort bedroom units in a future phase. It is located on the east side of Arlberg Extension, but borders the road for only 100'.

The Winner Creek Trail Corridor provides the remainder of its western border. Immediately to the south is existing Alyeska property and Secret Pond. Parcel E defines the eastern border.

Parcel D: This is the smallest of the parcels - approximately 9.8 acres - and is also designated for additional resort units in a future phase. It is the first parcel served by Arlberg Extension, its northwestern border. The Winner Creek Trail corridor runs the length of its eastern border and existing residential development is immediately south.

Parcel E: This parcel, to be used exclusively as ski trails linking existing Alyeska facilities and ski slopes with the proposed hotel/village center on Parcel A, is approximately 27 acres in size. Chugach National Forest lies immediately east. Parcel A is to the north, existing Alyeska land to the south, and Parcel C to the west. Parcel E will be leased from the Municipality of Anchorage.

B. NATURAL CONDITIONS AND CONSTRAINTS

1. WEATHER AND CLIMATE

The Girdwood climate is generally characterized as subarctic, which is defined as one to four months with mean monthly temperatures greater than 50°F and at least one month with a mean monthly temperature 32°F or colder.

The recently revised Turnagain Arm Comprehensive Plan (March 1987) states that area climatological records provide only a generalized picture due to the short period of record. Until 1979, weather stations were located at Girdwood (50 feet msl) and at Alyeska (250 feet msl). Since the Girdwood weather station was closed in 1979, temperature and precipitation information are available from Alyeska and wind data from the old Girdwood Train Station area. Furthermore, until fairly recently, the collection of weather data in Girdwood tended to focus on the winter months.

Average winter temperatures typically range from 16°F to 22°F, although they occasionally drop to -25°F, with January and February tending to be the coldest months. Winter weather at Alyeska is typified by periods of cold, stable weather followed by long periods of warm, inclement weather. These patterns are produced by the interaction of the extremely cold, dense, high pressure systems that develop over interior Alaska in the winter, and the relatively warm, moisture-laden, low pressure systems produced in the Gulf of Alaska. Although these systems are typical, occasional periods of cool, cloudy weather with very little precipitation are also experienced.

Storms generally create an airflow from the southeast, producing heavy precipitation on the east side of the mountain range and light precipitation on the west. Girdwood averages 67 inches of precipitation annually compared with 171 at Whittier and 27 inches at Anchorage. Similarly, the winter snowfall in Girdwood of 144 inches exceeds that in Anchorage of 52 inches.

Although stormy periods consistently generate snow above the 2,000 foot level in the winter, either rain or snow may occur at sea level. This freezing at higher elevations occasionally results in a shortage of snow at lower elevations. The elevation factor is evident in the average December to April snowfall on the mountain: base (100 feet) 144 inches; midway (1,700 feet) 455 inches; Chair #2, the top of the lift-serviced area (2,800 feet) 527 inches.

Periods of clear winter weather may prevail for as long as a month when low sunlight angles cause a daily net radiation loss. During such extended periods of cold weather, temperatures gradually decrease, reaching -20°F or lower in the valley. Generally, such conditions remain unchanged until a very large, low pressure system moves the dense, cold air mass from the region.

The highest wind velocities experienced at Alyeska typically occur from the northeast and sweep across the upper mountain chairlifts. Wind related closures on Chairs 1, 2, and 4 average about seven days per year. Chairs 1 and 4 are affected between Prusik Rock and the Skyride Restaurant, while Chair 2 receives the greatest wind in the vicinity of the "5 tower area" and near the upper terminals. During periods of high winds, lifts C-3 and C-5 are not required to shut down.

Average summer high temperatures are in the 70s, with occasional highs in the 80s. Summer lows are typically in the 40s. The warmest month in Girdwood is July, followed by August and June.

Based on records for the past five years, average summer precipitation was two inches each in June and July, four inches in August, and six inches in September. Total monthly precipitation varies between 0.2 inches and 28.1 inches with the annual monthly precipitation at 5.2 inches. Annual totals have been as low as 3.2 inches and as high at 99.7 inches.

2. GEOLOGY AND SOILS

The Glacier Creek valley traverses a thick Mesozoic marine deposit that extends through the Chugach mountains. The valley was enlarged by glaciers during the Pleistocene when ice filled it to 1,500 feet. As the ice melted, unconsolidated materials (diamicton) were deposited on the valley floor. Occasionally, Turnagain Arm encroached on the valley leaving marine deposits of mostly fine grained material. Deposits of both marine and glacial origin have been reworked locally by stream action. Colluvium continues to be deposited on hillsides, a result of the downslope movement of rock or other materials caused by gravity. These various unconsolidated deposits overlie the bedrock typically in depths ranging in thickness from 90 feet near Glacier Creek to two feet or less on the side slopes.

A preliminary geotechnical investigation (See Appendix - Sec. X) was undertaken to obtain a general understanding of the subsurface conditions and to evaluate the impact on the Phase I development. The study area included Parcels A and B as well as the adjacent portions of Arlberg Avenue.

The project area was found to have a surface layer of brown peat up to 10.5 feet thick, but generally about one to three feet thick. This peat is wet to saturated and soft. Below the peat there is a layer of silt or silty clay which has a low plasticity and contains sand and angular pieces of gravel. These silty soils are generally deep to saturated and firm. It appears the water table is perched in the peat and is constrained by the fine grained soils below. Beneath the silty soils there is a very dense glacial till which consists of a silty gravel.

The area identified as Parcel A has been overlain with a deposit of silts, sands and gravels. These deposits are relatively loose and are generally saturated. The base of this stratum is delineated by a layer of peat and ash. The deposit is up to about 20 feet in thickness and has been mapped by the U.S. Geological Survey and the Alaska Division of Geological and Geophysical Surveys as an alluvial fan deposit.

The groundwater at the site is relatively near the ground surface. It appears to be perched above the silts or silty clay found below the peat. During the drilling, water was present at the ground surface (manifested as seeps) over much of the northeast portion of the site.

A generalized geologic map was prepared for the expansion area based on the geologic units described in the 1974 U.S. Geological Survey report by Chester Zenone, "Geology and Water Resources of the Girdwood-Alyeska Area, Alaska." The extent of the units and their engineering characteristics were refined based on the field exploration and laboratory tests.

The map identifies alluvial deposits which occur along Glacier Creek and the alluvial fan encompassing Parcel A; colluvium and/or bedrock which characterizes most of Parcels C, D, and E; and glacial or marine deposits underlying Parcel B and the Moose Meadow. Areas where these latter deposits are overlain by five or more feet of peat are also identified. A description of these units and the associated engineering considerations are shown on the map and accompanying chart included in the Appendix - Section X.

Earthquakes in the area are associated with the Pacific Rim Fault System and occur several times a year. Major earthquakes can be expected to damage numerous buildings in the valley which sit on deep beds of unconsolidated alluvium and clay. Although the 1964 earthquake resulted in only modest damage to the resort facilities, it also produced major snow avalanches from the face of Max's Mountain, which damaged Chair 1 in several locations.

The greatest potential impact would be an earthquake triggered avalanche during operating hours. If the seismic activity is large enough to trigger a slide off the face of Max's Mountain, several lifts, the Day Lodge, the Aid room, proximate dwelling units, as well as skiers would be endangered.

No major subsidence of land has been noted in the area other than occasional, small rockfalls from steep slopes. Major rockslides and slumps can be minimized if proper site drainage is provided as part of road and ski trail development. The terrain for ski development has been limited to those areas that would permit trail construction and improvements without major geologic disturbance.

3. SURFACE HYDROLOGY

Alyeska Resort and the proposed expansion area lie within the Glacier Creek Valley which flows from peaks exceeding 6,000 feet in the north, to Turnagain Arm in the south. The lower section of Glacier Creek exhibits a braided channel with a broad floodplain. The U.S. Army Corps of Engineers has identified much of the lower valley as lying within the 100-year floodplain.

According to the Chugach National Forest Environmental Atlas (USDA 1981), mean annual runoff per square mile is approximately 2 to 3 cfs with 50-year flood flows as high as 60 to 100 cfs per square mile. A hydrograph for Glacier Creek, derived from USGS gaging data collected downstream of the project area is included within the Conservation Wetlands report in the Appendix - Section X.

Alyeska Creek flows from the glacier on Alyeska Peak, through the existing resort area, and into Glacier Creek. The proposed expansion lands are tributary to North and South Moose Meadow Creeks, which enter Glacier Creek approximately 6,500 feet upstream of Alyeska Creek. North Moose Meadow Creek defines the northern limits of this project. South Moose Meadow Creek flows defines the southern extent of parcels A and B.

Water quality in the Glacier Creek basin is generally good. The streams are clear with low levels of dissolved and suspended solids. Siltation occurs intermittently, mainly during periods of unusually heavy rainfall or during spring runoff. Revegetation of disturbed slopes will minimize siltation levels.

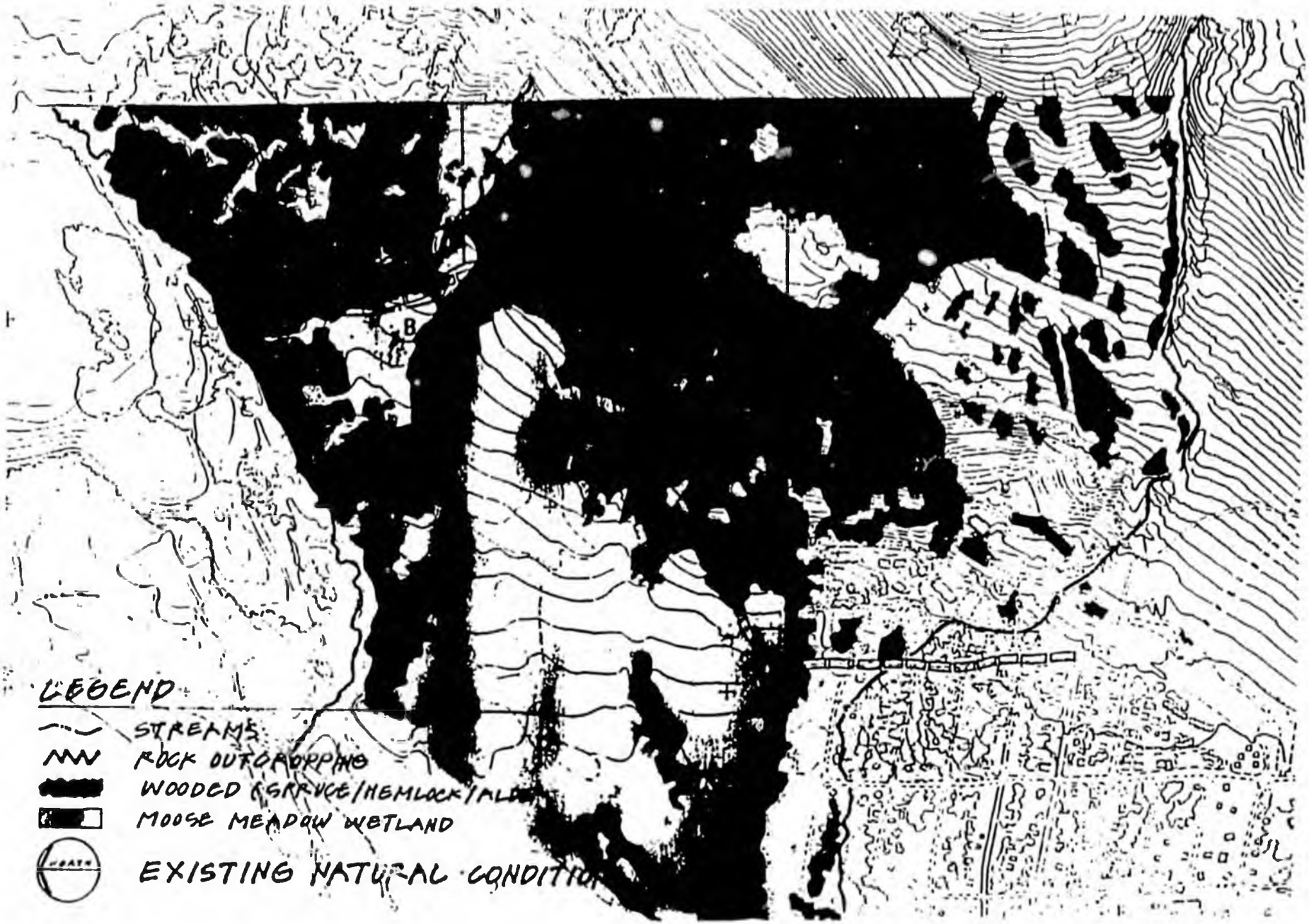
Previously, when septic tanks were still used, overflows and leakage caused contamination of the surface water downstream of the project area. The problem has been corrected with the installation of a community sewer system by the Anchorage Water and Wastewater Utility.

Water resources in the region are used for mining operations, domestic and industrial water supply, hydropower, agriculture, transportation, forestry operations, and fisheries. The creeks adjacent to the proposed development are tributaries to anadromous fish streams. No other users of the water resources of the site or those nearby have been identified.

4. VEGETATION

The lower mountain slopes, such as those in the vicinity of Parcel A, consist of an open mixed forest overstory, dominated by mountain hemlock, white and black spruces, and paper birch. The shrubs and groundcover include highbush cranberry, huckleberry and blueberry, sporadic alder and devil's club, baneberry, various species of Rubus, and ferns and mosses. The slopes above 2,000 feet are characterized by meadows of heath and native grasses.

Construction of ski trails from 1960 to 1970 has reduced the vegetative cover in places, the most notable being the [illegible], Waterfall and [illegible] Hill and lower Racing Trail areas. Erosion has created small gullies in some of these locations. In recent years, an effort has been made to re-establish vegetation.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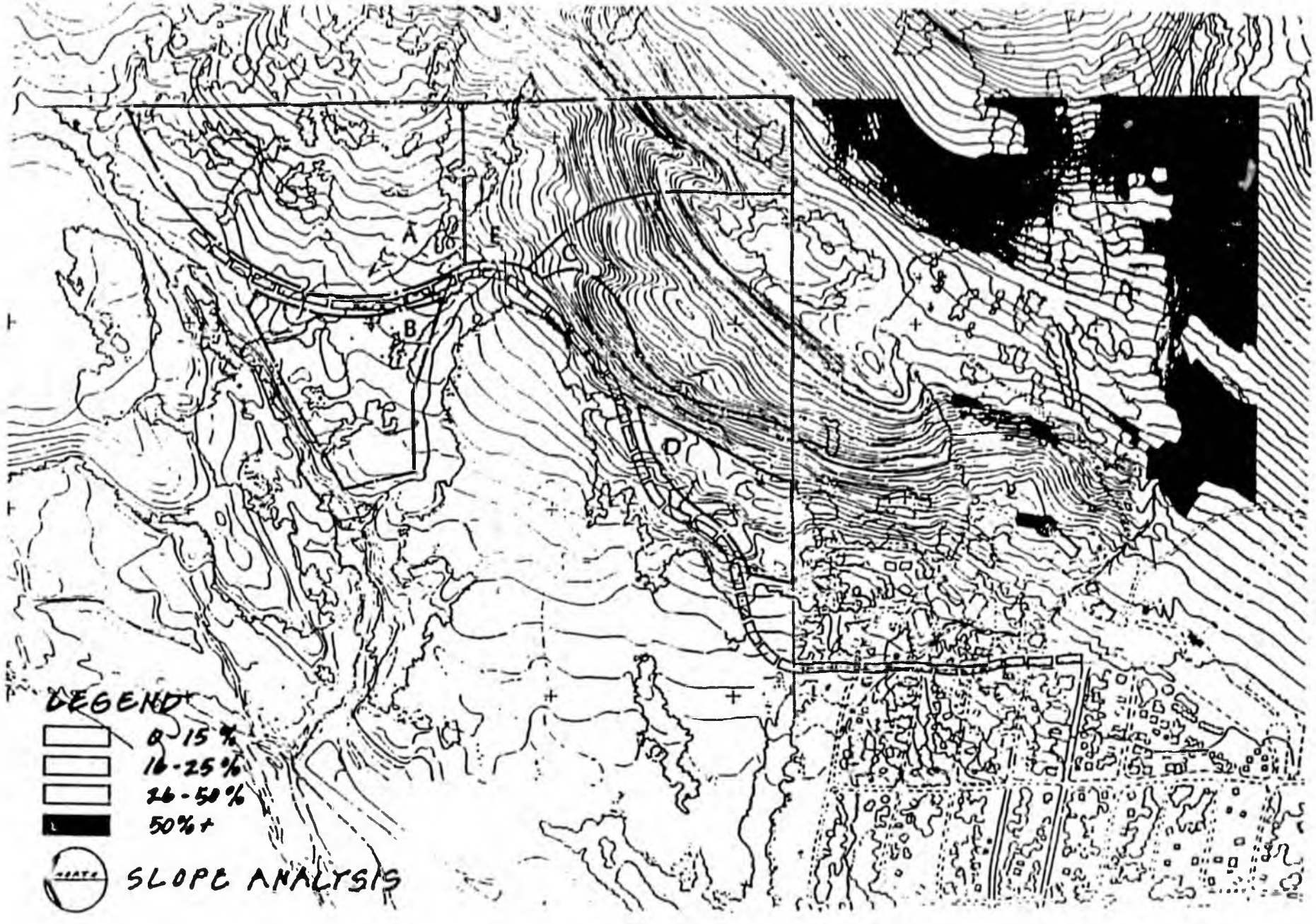
STREAMS
ROCK OUTCROPPING
WOODED (SPRUCE/HEMLOCK/ALDER)
MOOSE MEADOW WETLAND
EXISTING NATURAL CONDITION


A
B
C
D
E
LEGEND
0-15%
16-25%
26-50%
50%+
SLOPE ANALYSIS

The Mouse Meadow and a portion of Parcel B consist of an open meadow with generally flat topography. The wetland area is a low and dwarf shrub scrub community with minor black spruce intrusions, surrounded by older and open mixed forest uplands.

Within the wetlands the woody species are denser on the higher areas, and thin to the point of nearly disappearing in lower, wetter areas. The wetland vegetation association is dominated by willow, dwarf birch, cinquefoil, crowberry and cranberry in the woody component, and grasses and sedges, sphagnum and other mosses.

C. SLOPE ANALYSIS

The proposed expansion site exhibits a variety of terrain (See Slope Analysis Map) with several areas having steep slopes (greater than 25%). Of the approximately 112.6 acres comprised within Parcels A, B, C, D and E, roughly 21 acres have slopes greater than 20%. The steepest slopes lie at the southern end of the site, just north of the existing resort. Both Parcels C and E have predominantly steep slopes ranging from 15% to 50%.

Parcels A & B are situated on the gentlest slopes of the site as the land transitions from the base of the mountain to Moose Meadow. Parcel A has an average slope of just under 10% which is quite suitable for the proposed hotel and village center development. Parcel B has an average slope of less than 5% and is ideally suited for parking to serve the proposed uses on Parcel A. Parcel B's location with respect to the Moose Meadow wetland will require sensitive treatment of parking areas to afford minimum impact on the meadow and the streams which define the northern and southern edges of the parcel.

Parcel C has a mix of slope conditions ranging from the relatively flat area in the vicinity of Secret Pond to very steep (30 to 35%) as the parcel transitions at Moose Meadow. There is, however, an area of more gentle slope running diagonally through the parcel in a northeast and southwest direction. Within this 400' wide bank, slopes are in the 15% range providing approximately 9 acres of area suited for resort development.

Parcel D lies at the foot of the mountain and slightly above Moose Meadow. Slopes on this parcel are generally between 10 to 15% and offer no constraints to future development.

Slopes on Parcel E transition from a range of 40 to 50% at the southern edge of the parcel, adjacent to the existing ski slopes, to approximately 10 to 15% at the northern edge adjacent to Parcel A. This provides for excellent ski linkage from existing slopes to the proposed hotel development on Parcel A. Further, the aspect of the slopes relative to Parcel B should allow skiers to ski back to the parking areas. This will help distribute the load on pedestrian, vehicular and shuttle circulation systems.

D. SOLAR ORIENTATION/VIEWS

The resort center expansion area is north to northwest of Alyeska Mountain at the base of its slope. The position of the parcels with respect to adjacent mountains and the low winter sun angle limits their exposure to direct sunlight during the winter ski season. This orientation implies that careful siting of the hotel facilities will be required to take advantage of the limited opportunities for sun exposure.

The parcels do offer numerous panoramic mountain and valley views (See Solar Orientation/Views Map). Several locations have dramatic vistas to Turnagain Arm. The hotel site on Parcel A affords a range of views. From the highest elevations at the rear (east) of the parcel there are views to the glaciers at the north end of the valley as well as down the valley towards Turnagain Arm to the south. This site will also offer views of Alyeska Mountain as a backdrop and to the proposed ski trails on Parcel E.

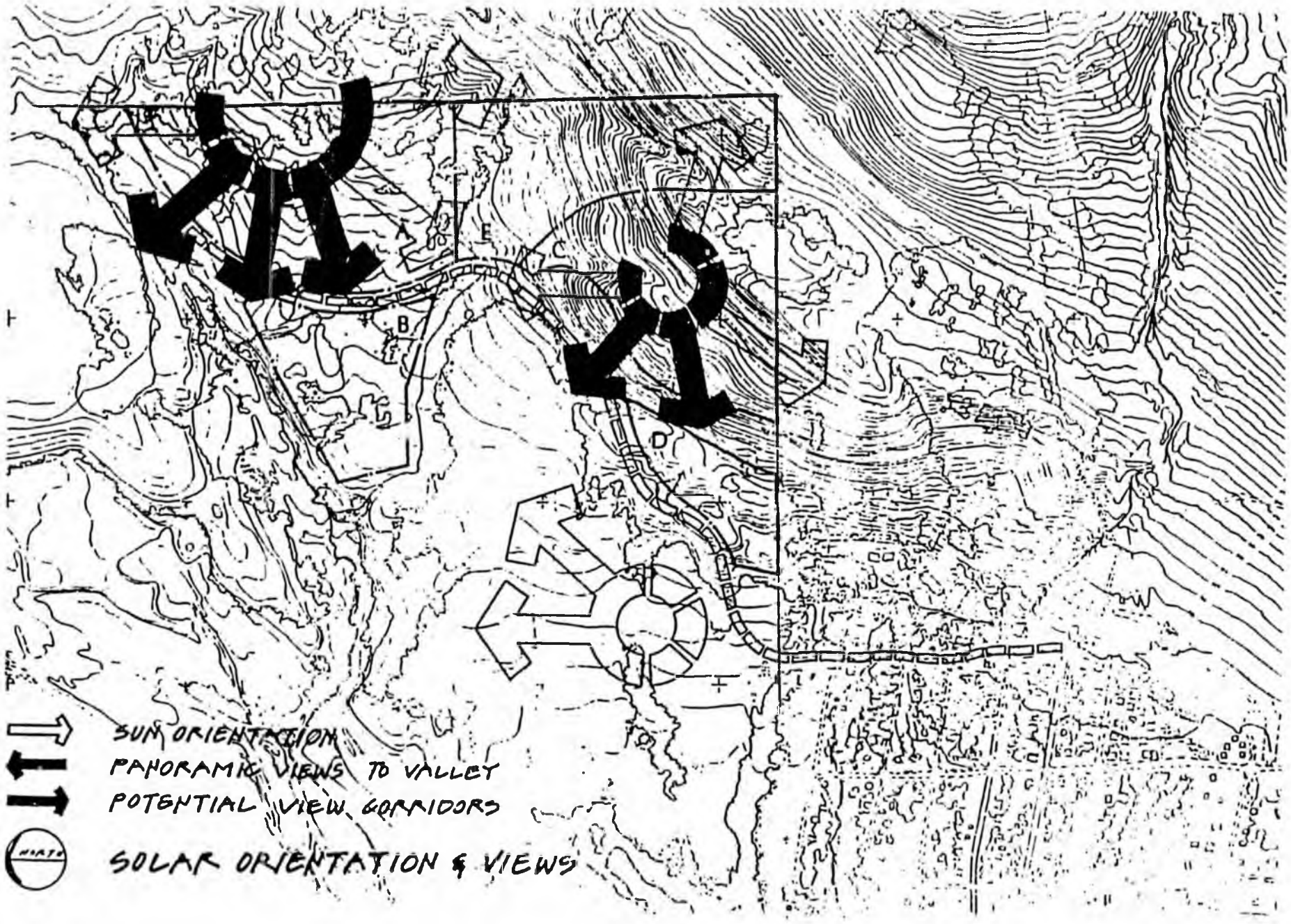
The elevation of Parcel D provides dramatic vistas of the Glacier Creek Valley, Moose Meadow, and the distant mountains as well as the existing and proposed ski slopes. Just southeast of Parcel C a small pond, Secret Pond, provides an especially beautiful setting with views in all directions of the valley and ski facilities. The Secret Pond area is intended to remain as a natural open space amenity.

F. LAND USE REGULATIONS

The subject property lies within the Municipality of Anchorage and is thus subject to local zoning ordinances. Land within the Turnagain Arm area, south of Potter Marsh, is zoned R-11 under Title 21 of the Anchorage Municipal Code. This district permits uses which conform to the Turnagain Arm Comprehensive Plan (MOA, revised 1979) recognizing that "flexible controls (are) required" to deal with anticipated growth.

According to Title 21, the R-11 zone was established in order "to provide flexibility in the design and planning of land uses while providing control over major developmental activities and their impacts". The purpose of these controls is to "integrate site design with unique scenic and environmental features". The Resort Development Master Plan and conditional use permit which is required for the proposed Alyeska development are employed to "provide review for major development activities" which exceed the defined development thresholds (tied to numbers of lots or units and building size) within the ordinance. The objective of the conditional use process is to ensure compatibility of the proposed development with existing uses. A public hearing will be required to consider the physical aspects (i.e., height, bulk, exterior treatment, access, landscaping) of the proposed development.

The proposed development must also comply with the 1984 Anchorage Park and Greenbelt Plan which designates Moose Meadow as a "reserve" because of its environmental significance and identifies low intensity recreational use as appropriate. The plan categorizes "reserves" as areas "defined by their unique physical characteristics and community held values". While the plan recognizes the proposed Alyeska expansion and the necessity for an access road which crosses a small portion of the Meadow, it expects the resort to "minimize the visibility of the development in order to maintain the woodland edge while providing public access to the Meadows."


A
B
C
D
E
SUN ORIENTATION
PANORAMIC VIEWS TO VALLEY
POTENTIAL VIEW CORRIDORS
SOLAR ORIENTATION & VIEWS

The proposed development must also respond to the Municipality's trail plan for the Girdwood/Alyeska area. This plan, a joint effort of the Anchorage Parks and Recreation Department and the Community Planning Department, identified two trails which affect the acquisition area:

- Moose Meadow Trail, which follows the wooded fringe of Moose Meadow.
- Winner Creek Trail, which provides linkage from Girdwood to the Winner Creek area and also provides access from Moose Meadow to existing lodge facilities.

It is the intention of the trails plan that these trails are to be built by the Municipality for use by pedestrians and cross country skiers.

F. EXISTING INFRASTRUCTURE

1. WATER SYSTEM

The Girdwood/Alyeska area is currently served by three privately-owned and operated water systems. The systems are fed by groundwater sources and distributed by relatively small diameter distribution mains. Some residences are served by individual wells. The only water treatment by the utilities is chlorination at the source.

The Alyeska Subdivision System which services the existing resort and the Alyeska Subdivision operates two wells which produce 300 gpm and 175 gpm or approximately 684,000 gallons per day. This system appears to meet the present needs although water shortages occasionally occur during peak demand periods. Typically, two-thirds of the daily water use occurs between 2 and 8 p.m. The peak demand is further aggravated by water loss due to leaks in the distribution lines. The combined peak demand cycle and the leaks create a usage of 541 gpm compared to a maximum generation of 475 gpm under the most favorable conditions. the 100 gpm shortfall may be corrected through distribution system repairs.

The water is characterized by relatively high amounts of iron and manganese resulting in mineral stains on fixtures and a brackish taste. Samples taken by the Anchorage Water and Wastewater Utility (AWWU) in 1984 contained visible solid particles.

A permanent, year-round water source is not currently available to the Skyride Restaurant. Alyeska developed a water source and water line from the base of the glacier above Chair 2 to serve the restaurant facility. However, the water flow ceased during the winter, requiring Alyeska to reinstitute the labor intensive delivery system which had been used in the past. Water is presently transported to the restaurant on Chair 1 on a regular basis. Expansion of the seating capacity and food service capabilities will require developing a sustained water source by devising a more efficient means of transporting water or constructing a water storage facility.

The existing Alyeska Resort water source cannot be relied upon to provide water of sufficient quantity or quality to meet the operational and fire-flow requirements of the proposed expansion. Therefore, a new private water source and distribution system will be provided by Seibu Alaska, Inc. to serve the proposed development. The new source will be designed to eventually replace the existing Alyeska Subdivision water source.

2. SANITARY SEWER SYSTEM

The existing sanitary sewer system which services the Girdwood/Alyeska area was designed for a capacity of 14,700 residents. It is owned and operated by AWWU. The system terminates with a 20-inch diameter pipeline at an advanced secondary treatment plant where the sewage is treated and discharged to a percolation pond. An overflow at one corner of the pond discharges to Glacier Creek.

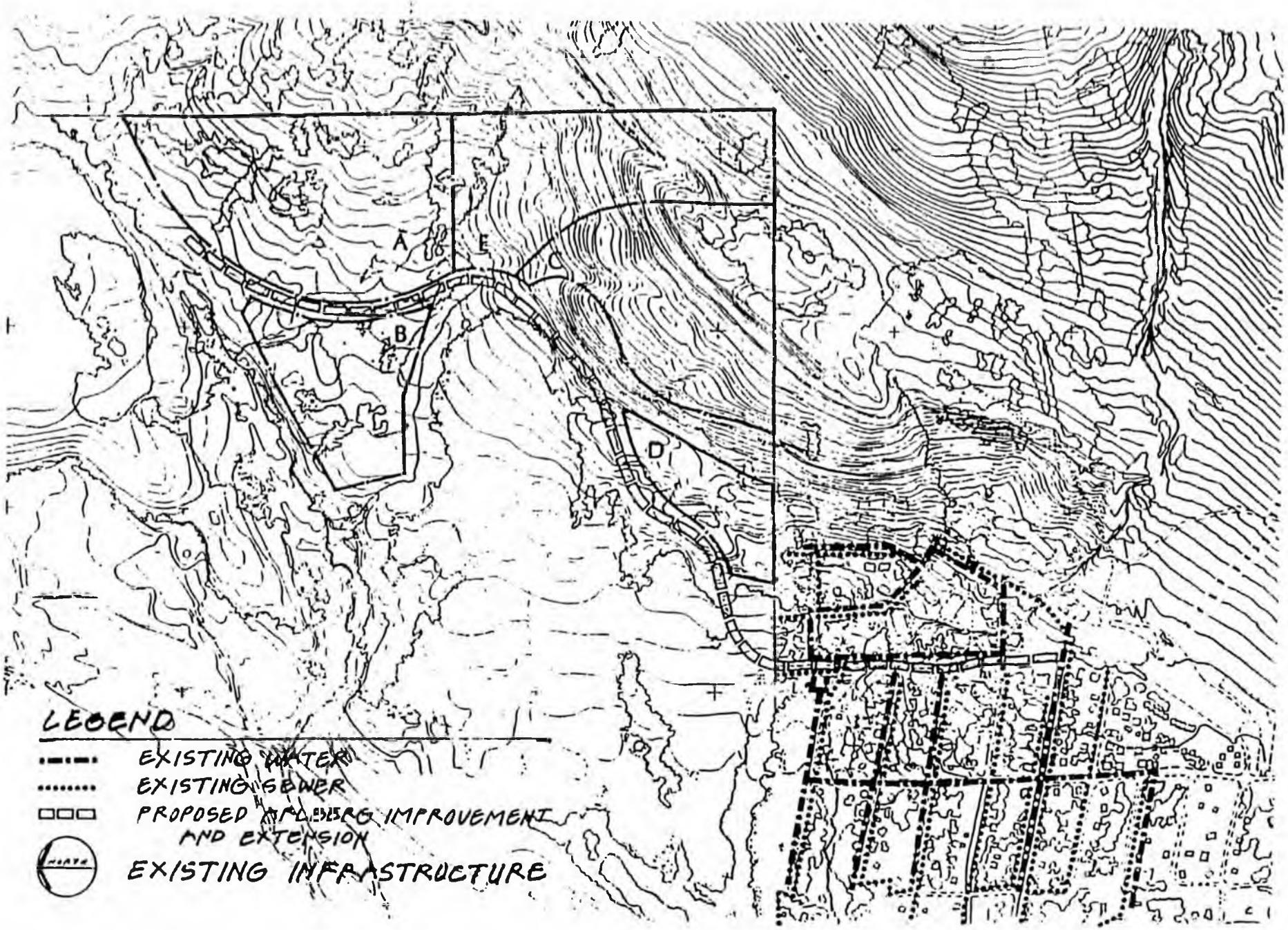
According to the AWWU July, 1985 "Girdwood Sewer Master Plan Update", the existing system is adequately sized to serve the saturation development conditions of the current service area with additional capacity available to provide service to undeveloped areas. The Plan also states that the existing treatment plant loads are significantly less than those used for design purposes. According to AWWU projections, the treatment plant should not require expansion until 1995 if certain system maintenance procedures are undertaken.

The Skyride Restaurant presently utilizes a low volume flush chemical system, which drains into a large holding tank. The tank is periodically pumped into a 500 gallon tank, which is then transported on a snow cat to the base area for disposal. Numerous ski areas use this form of sewage disposal for upper mountain food service facilities.

Further expansion of the restaurant facility will require either the development of a permanent sewage treatment system or the hauling of effluent on a more frequent basis.

1. CIRCULATION

Direct access to the expansion area will originate at the northerly terminus of Arlberg Avenue, identified in the MOA Official Streets and Highway Plan (OSHP) as a collector street. The existing dedicated right-of-way of this street is 60 feet. As stipulated by the Development Agreement between Seibu Alaska, Inc. and the Municipality of Anchorage, Arlberg will be reconstructed from its intersection with Edelweiss and extended northeast, skirting Moose Meadow, to serve the proposed development parcels. This extension will maintain at least the existing 60' right of way of Arlberg Avenue and eventually terminate at the north edge of Parcel A.


A
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C
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E
LEGEND
EXISTING WATER
EXISTING SEWER
PROPOSED PAVING IMPROVEMENT AND EXTENSION
EXISTING INFRASTRUCTURE

4. POWER

Power is supplied by Chugach Electric. System failures occur periodically, requiring the resort to use standby generators for ski lift operation, etc. The existing system will require upgrades in conjunction with base area expansion.

5. COMMUNICATION

Public telephone communication at Alyeska is provided by Anchorage Telephone Utility. For internal operating needs, the resort uses a radio communication system consisting of two base stations, twenty portables, and one mobile unit.

6. FUEL STORAGE

Diesel and gasoline fuels are presently stored west of Chair #5. During the summer of 1987, fuel storage will be moved to the new maintenance facility. A 5,000-gallon diesel tank and a 1,000-gallon gasoline tank will be installed at that time, according to the terms of the Conditional Use Permit granted for the maintenance facility by the Municipality.

C. REGIONAL CONTEXT AND OPPORTUNITIES

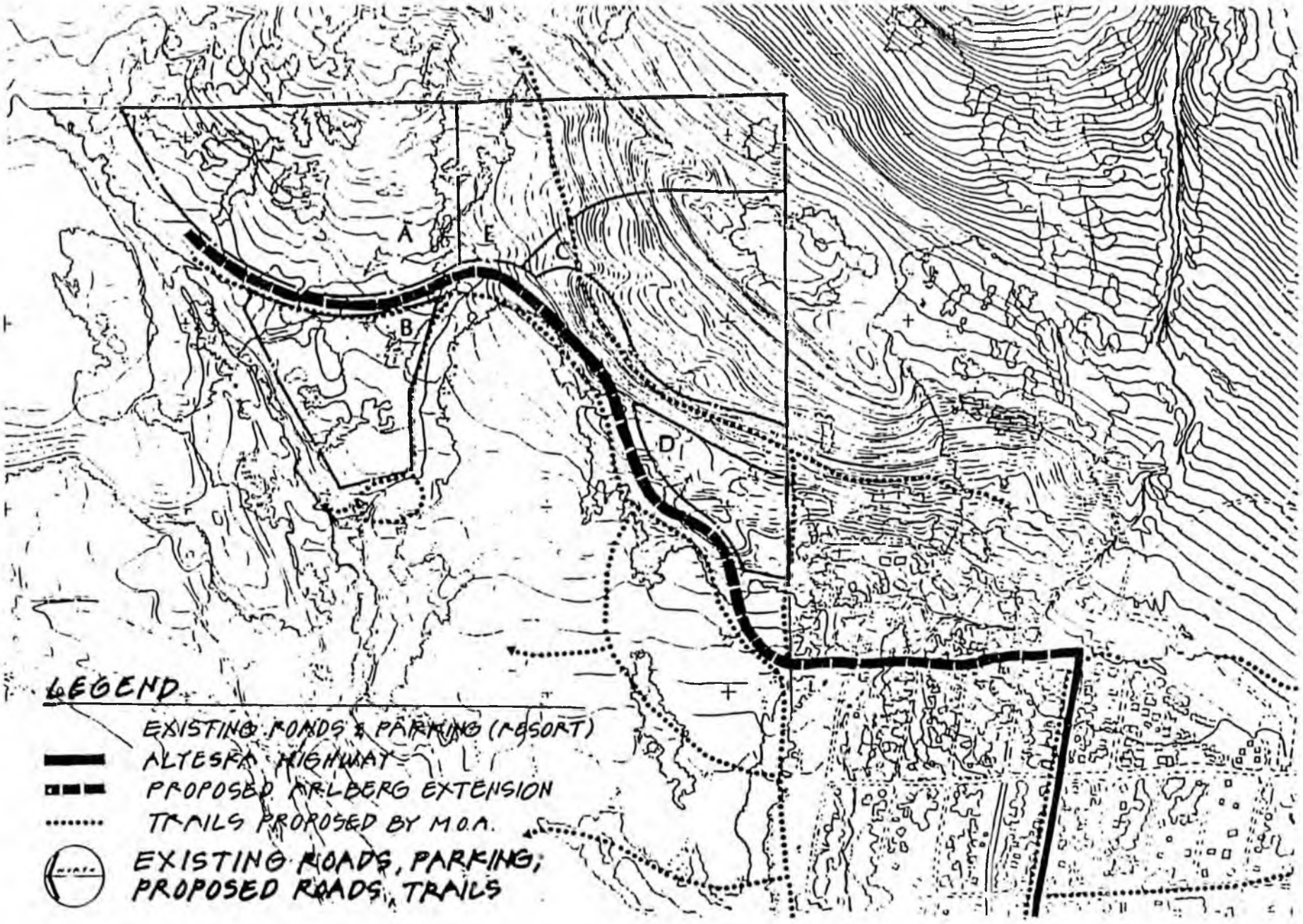
The attractiveness of the valley as a source of recreation is compelling and a number of studies prepared by the Municipality of Anchorage address this issue. Presently, the Alyeska Ski Resort represents the major source of recreation to the valley as a destination for skiers primarily from Anchorage. Additionally, the valley is served by several trails and provides excellent opportunities for hiking, camping and cross country skiing. The expansion of the trail system as an objective is represented in the Municipality's Trails Plan and its Park, Greenbelt and Recreation Facility Plan. These plans propose a fabric of trails into the valley supporting year round activity. One of the objectives of the Alyeska Master Plan is to accommodate this trail expansion by providing sufficient corridors for their extension. The Phase One Hotel will provide for additional visitors to the valley and, with the tram to the Skyride Restaurant, will improve the Resort's ability to serve visitors on a year round basis.

There are a number of critical issues concerning the balance between the fragile nature of the valley and the opportunities for expanded recreation potential as identified by the Municipality of Anchorage and the U.S. Forest Service. Uses discussed as appropriate for the valley such as golf, glacier skiing, and expanded skiing at Winner Creek have a direct bearing on the future of the Alyeska Resort. Golf, for example, could provide an important link to the Resort and would further support its use as a four-season destination. The winter use of such a course for cross country skiing would also be in concert with the objectives for creating a multi-use and multi-seasonal resort facility.

If the expansion of future alpine skiing were realized at Winner Creek Mountain as identified by the Forest Service , the expanded resort facilities and ultimately the Resort Village Center, could support Winner Creek opportunities by serving as a base, thereby minimizing penetration into the valley. The impact of expanding recreation opportunities must be evaluated against the associated traffic and parking implications. The parking area on Parcel B could help ameliorate such future pressure on the valley. The introduction of golf into the valley, either on the valley floor or higher up the slope into Forest Service land, could be served from Parcel B parking. The club house could be located appropriately on either Parcel B or A.

In addition to the expanding recreation potential of the valley there are several functional opportunities which resort expansion will address and accommodate. The alignment of the Arlberg Extension corridor is positioned to provide for its future extension by the Municipality of Anchorage to Crow Creek Road. This extension would create a loop road system for the valley which would ease circulation while providing visitors with additional exposure to the valley and its glaciers. Making this connection before Crow Creek's confluence with Glacier Creek would adequately serve circulation needs and would insure necessary control over the potential negative impact of the automobile on the fragile valley's beauty.

The Alyeska Resort Village Center will support multi-season destination objectives as well as provide additional recreation, entertainment and employment opportunities for the residents of Girdwood and Anchorage. The aerial tram will be the focus of the Resort Village Center and will be a significant addition to Alyeska. With a vertical rise exceeding 2000 feet, the tram ride linking the Hotel/Village Center area with the Skyride Restaurant will become a popular year-round attraction. The notion of the Hotel/Village Center complex serving as a focal point of activity and service at Winner Creek is opened to skiing is a compelling one for future consideration.


A
B
C
D
LEGEND
EXISTING ROADS & PARKING (RESORT)
ALYESKA HIGHWAY
PROPOSED ARLBERG EXTENSION
TRAILS PROPOSED BY M.O.A.
EXISTING ROADS, PARKING,
PROPOSED ROADS, TRAILS

V. Market Research

A. INTRODUCTION

The Alyeska Resort Marketing Department has administered several skier questionnaires in the last few years. The most recent surveys were conducted in March and November of 1986. The first survey was primarily designed to yield skier profile data. Questions were also included which measured satisfaction with various aspects of resort service and awareness of marketing efforts. The survey was administered at lift lines, and in skier service facilities by 5 trained interviewers working in staggered shifts. 823 valid surveys were completed during the nine-day sampling period. The second survey was intended to illicit feedback on plans for resort expansion, including a new hotel. This survey was mailed to 250 households and received only a 27.6 percent response. Results of both surveys are summarized below.

B. SUMMARY OF FINDINGS

1. ALYESKA SKIER PROFILE

- 50 percent of Alyeska skiers are between 26 and 44 years old. 20 percent are between 13 and 17, and 21 percent are 18 to 25 years old.
- 61 percent of skiers are male.
- 61 percent of skiers have some form of post-high school education and 43 percent have completed post-graduate work.
- Professional and technical professions account for 20 percent of skiers and 22 percent are students.
- 39 percent of skiers have an annual household income of over $50,000, with 24 percent falling between $30,000 and $50,000.
- Skiers classified their ability levels as:

Beginner	10%
Low Intermediate	25%
High Intermediate	40%
Advanced	25%

- In response to the question regarding how many years they have been skiing, respondents answered:

First year	15%
2-3 years	22%
4-5 years	16%
6-12 years	23%
Over 12 years	23%

- 11 percent of respondents learned to ski at Alyeska Ski School, and the majority of current students rated the ski school excellent.
- 32 percent of respondents ski only at Alyeska.
- 38 percent of skiers expect to ski more than 5 midweek days per year. 23 percent of skiers expect to ski more than 5 nights per year.
- Satisfaction with skier services was expressed as follows:

	Good-Excellent	Poor-Average
Lift line length	31%	63%
Lodging accommodations	37%	39%
Base parking facilities	40%	51%
Restroom facilities	39%	60%
Trail signs	59%	35%

2. RESORT EXPANSION SURVEY RESULTS

- Respondents to the survey ski at Alyeska with the following frequency:

1-10 times/year	49%
10-20 times/year	33%
20 or more times/year	21%

- If new resort amenities were added, respondents indicated they would increase their use of the area in the following amounts:

1-5 times/year	28%
5-10 times/year	31%
10 or more times/year	26%

- The five most preferred mountain improvements were ranked as follows:

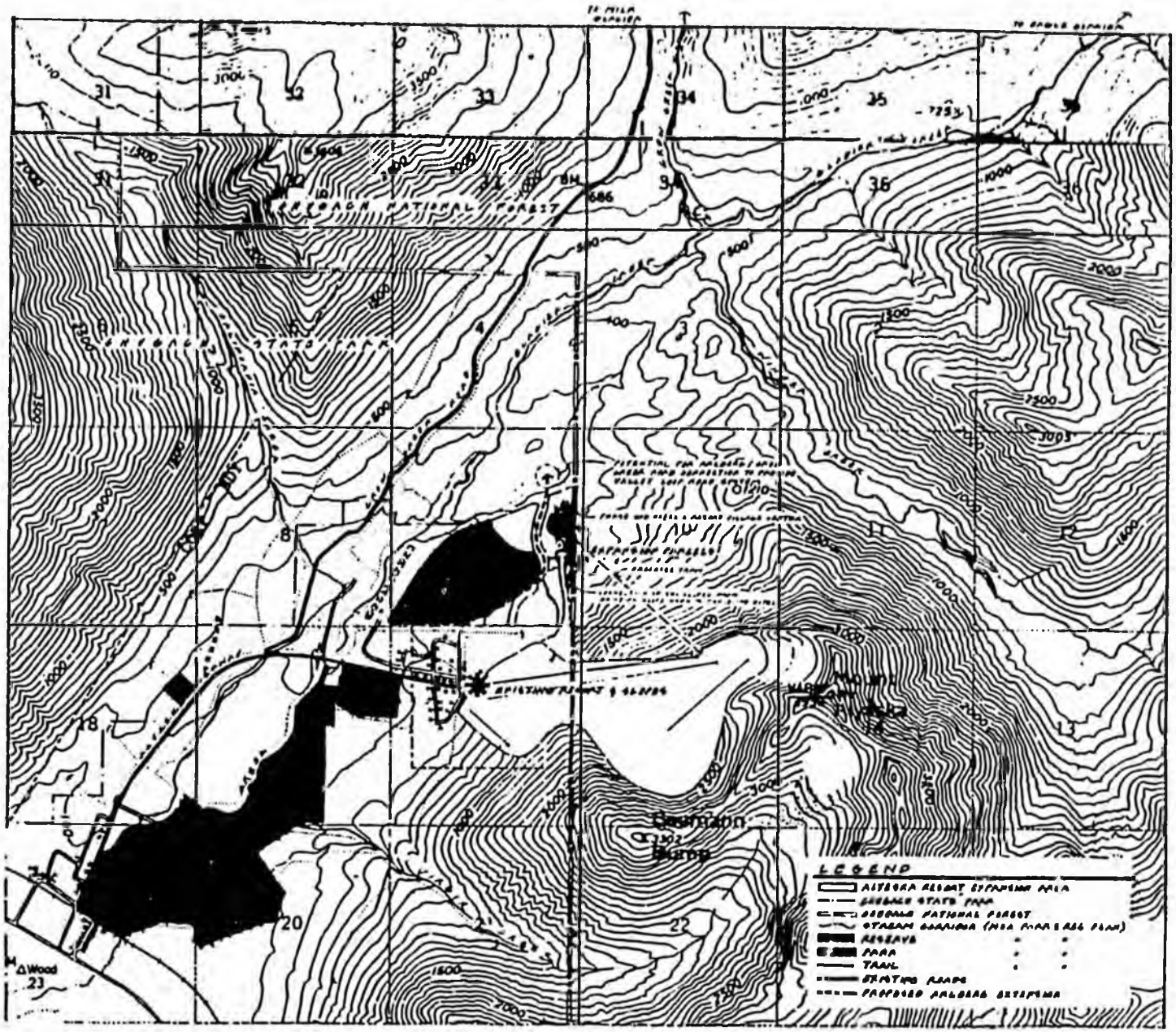
Expanded Upper Mountain Terrain	16%
New Gondola/Tram/Highspeed Lift	26%
Expanded Beginner Terrain	16%
New Day Lodge Facility	12%
Expanded Parking	4%

- The four most preferred leisure amenities are ranked as follows:

Expanded Cross-Country Trails	12%
Hot Tubs and/or Saunas	26%
Variety of Restaurants/Pubs/Lounges	15%
Spa Facilities for Exercise	4%

- 64 percent of respondents preferred Standard accommodations over Economy or Deluxe.
- 46 percent of respondents indicated they would use a new hotel facility. Of this 46 percent, 44 percent would pay $100-$115, 18 percent would pay $115-$130, and 9 percent would pay $130-$150 per night.
- 75 percent indicated they would stay 1-3 weekday nights, while 16 percent would stay more than 3 weekday nights.
- 72 percent indicated they would stay 1-3 weekend nights, while 28 percent would stay more than 3 weekend nights.

These perceptions of the existing ski product offered at Alyeska in addition to skier's preferences as indicated by this and other industry wide surveys have been used in formulating recommendations for the upgrading and expansion of the ski area. This data base should be updated periodically to reflect skier response to improvements and additions undertaken as a result of the master planning process. New skier surveys will also allow Alyeska management to keep abreast of changes in the composition of the skier market, etc.



MASTER PLAN AND PHASE ONE DEVELOPMENT

SEIBU ALASKA, INC.

REGIONAL CONTEXT AND OPPORTUNITIES

VI. Existing Facilities Analysis

A. ENVIRONMENTAL DETERMINANTS AND DESIGN CRITERIA

The upgrading and expansion of Alyeska is influenced by a variety of environmental factors and design criteria that affect lift and trail design and help to create a quality skiing experience. This section will briefly review these factors as they apply to facilities upgrading, replacement or future expansion.

1. FALL LINE

This factor provides for the natural flow of skiers and skier routes which will service ability levels from the top to the bottom. A consistent fall line provides the best recreational skiing experience for the least amount of environmental disruption due to minimal requirements for earthwork during trail construction.

2. SLOPE

The following gradients are used to determine the skier ability level of the mountain terrain.

Beginner	8 to 15%
Novice	to 25% (about 14 degrees to 26%)
Low Intermediate	to 30% (about 16 degrees to 35%)
Intermediate	to 40% (about 22 degrees to 45%)
Advanced Intermediate	to 50% (about 26 degrees to 51%)
Expert	over 50% (maximum 90%)

3. TRAILS

Each trail must have generally consistent grades to provide an interesting, challenging, yet safe skier experience for the ability level for which the trail is designed. Optimum trail widths should range between 100 to 200 feet, depending upon the slope gradient and the caliber of skier served. The trail network must minimize cross-traffic and should provide the full range of ability levels responsive to the market demand. The trails must be designed and/or constructed to minimize or eliminate all fall line conditions.

4. AVALANCHE POTENTIAL AND CONTROL

Alyeska is classified by the U.S. Forest Service as a Class "A" avalanche area, the most serious classification given. Avalanche hazards in the Alyeska area were identified as part of a 1982 study prepared for the Municipality of Anchorage by Art Mears ("Anchorage Snow Avalanche Zoning Analysis"). Avalanches were categorized by degree of hazard based on frequency and destructive potential.

Generally, a moderate hazard avalanche has a return period of approximately 100 years. A high hazard avalanche has a return period of approximately 10 years. These designations by necessity are somewhat broad because of the recent settlement history and relatively short record period.

The existing Alyeska Resort facilities have a well documented (recent) avalanche history. Several avalanches have reached the base area of the ski resort. These have been identified by Mears as being representative of 10-year avalanches.

An avalanche safety program, designed to identify and mitigate hazards, is in effect throughout the ski season. The program is monitored and refined on an on going basis. To date, no deaths or serious injuries have occurred on the mountain as a result of avalanches, attesting to the quality of the avalanche safety program.

Alyeska currently uses avalanche forecasting in combination with various control methods. These include the use of 105 mm howitzer rifles at three locations as well as hand delivered explosives. Slides are also induced by ski patrol members by cutting the snow with their skis.

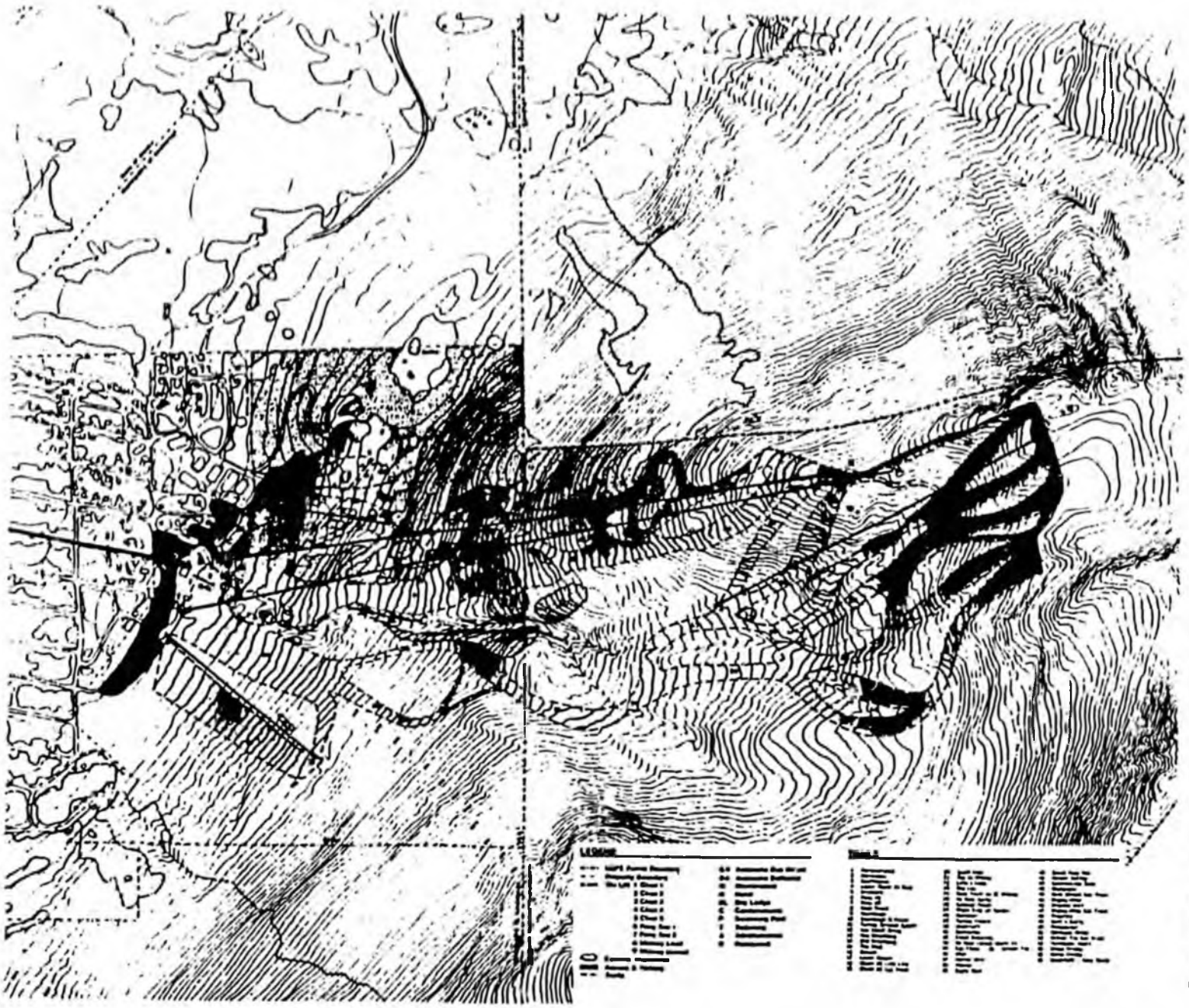
Artillery firings for avalanche control currently exceed municipal noise ordinances which restrict noise in residential areas to 90 decibles. However, the lower gun, which produces the highest decibel levels, is generally fired less than 30 days per year and the firing is timed so as to reduce the noise affect on near-by residents.

In contrast to the existing base facilities, the proposed facilities are sited well outside of the nearest identified avalanche hazard areas. The avalanche area is referred to as the Zug Slide. According to Mears, it was triggered by a skier in March 1981 and destroyed many trees in excess of 20 years old. This avalanche has been classified as a 100-year event. The avalanche was observed to stop within a relatively short distance considering the large snow mass and high velocities.

According to Mears, the analysis of similar large avalanche paths (of 100 or 200 year magnitude) suggests that the avalanches tend to stop quickly once they reach forested land. The proposed buildings and roads are therefore well situated in respect to this identified avalanche zone. The only anticipated conflict between avalanches and development is in the area of ski slope development on the northeast of Mt. Alyeska.

Although Alyeska currently performs some avalanche control on the North Face, this situation can be further mitigated through a variety of methods common to the ski industry such as reliance by artillery firing, hand charges and gating during times of high hazard.

Generally, the areas of greatest hazard are best avoided. To this end, a tram was chosen as the preferred means of delivering skiers from the proposed hotel to the existing summit area. The proposed tram is designed with no terminal within the identified hazard areas, although there will be a tower near the top of the avalanche area. This design allows the North Face, including Zug Slide, to be safely traversed.



MASTER PLAN
AND
PHASE ONE
DEVELOPMENT

SEIBU
ALASKA,
INC.

Figure One

EXISTING
DEVELOPMENT
Scale 1" 800

5. RELATIONSHIP TO BASE AREA PROPERTY

Particular attention has focused on the efficient circulation of skiers between the lift sites themselves, and between lifts and the existing base area,as well as the site for the proposed phase one hotel. In general, skiers should gravitate into the base areas allowing convenient access to one of the lift systems operating from either base. In addition, the actual relationship of base lands to the ski site has been considered specifically in context to transportation and parking related issues.

6. TRAIL DENSITY

The calculation of skier capacity of Alyeska is based, in part, upon capacity of the trails for skiers at one time. The criteria used for this project are as follows:

Advanced Intermediate/Expert	15 skiers/acre
Intermediate/Low Intermediate	30 skiers/acre
Beginner/Novice	50 skiers/acre

These criteria assume that on an average day only [illegible] percent of the total number of skiers in the area will be on the trails at one time. The remainder of the skiers are either in lift lines, riding the lifts or utilizing skier support facilities.

7. VARIETY OF TERRAIN

The future development and expansion of Alyeska has addressed the need for a broad range of skiing terrain to satisfy skiers from beginner through expert levels within the natural topographic characteristics of the ski area site.

8. INTERCONNECTABILITY

In the replacement or development of additional ski lifts at Alyeska, particular emphasis has been placed upon the need to integrate expanded ski facilities within existing operations. In this fashion, conceptual lift placements are evaluated in terms of ease of circulation and interconnection from one lift to another.

9. BALANCE OF FACILITIES

The facilities master planning process emphasizes the importance of balancing facility development at Alyeska. The size of the skier service functions must be matched to the Comfortable Carrying Capacity (CCC) of the mountain. The future development of the ski area should be designed and coordinated to maintain a balance between skier demand, ski area capacity (lifts and trails), and the supporting equipment and facilities (grooming machines, day lodge services and facilities, overnight lodging, utility infrastructure and parking).

B. MOUNTAIN FACILITIES

1. INTRODUCTION

Seven ski areas of varying sizes exist in the Anchorage area. Alyeska is the largest by a considerable margin and is also the largest ski area in Alaska. The majority of Alyeska's skier visitation is generated by residents of the Anchorage bowl. Since Alyeska is a major regional destination resort in Alaska, the area also attracts skiers from more distant Alaskan cities and towns. The resort also caters to a small percentage of out of state guests.

Alyeska has the greatest resources of the ski facilities serving the Anchorage market. The smaller ski areas do not have the capacity, slope variety, or services to compete with larger resorts, such as Alyeska. However, these local "ski hills" are useful in generating interest in the sport and producing low intermediate skiers which then support Alyeska.

2. EXISTING LIFTS

Alyeska currently has 5 double chairlifts and 2 cable rope tows, (see Figure 1 - Existing Development Map). Chairs 1 and 4 serve roughly the same terrain stretching from the base area to the Skyride Restaurant. These chairs also provide access to Chair 2, which provides the best intermediate round trip skiing opportunities at Alyeska. Chair 2 is situated in the "Bowl" on the upper mountain. Accordingly, Chair 2 is the most popular lift at the Resort. Chair 3, serving the lower ski slopes out of the base area, is the only chairlift servicing terrain for ability levels below intermediate. Chair 5 serves advanced ski terrain on the lower mountain. Table 1 provides specifications for the chairlifts. The two "pony" rope tows are located in the base area serving beginner and novice terrain.

In general, the lifts appear to be well maintained and in good condition. The average life expectancy of a lift is approximately fifteen to twenty years. Chair 2 was installed in 1972, and accordingly, should be considered for replacement in the near future. As shown in Table 1, the remainder of the lifts are seven to twelve years old.

TABLE 1

CHAIRLIFT SPECIFICATIONS - ALYESKA RESORT

Name	Type	Length	Vertical	Avg Slope	Hourly Capacity	Rope Speed	Manufacturer	Year Built
Chair 1	Double	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Riblet	[illegible]
Chair 2	Double	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Riblet	1972
Chair 3	Double	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Riblet	[illegible]
Chair 4	Double	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Riblet	[illegible]
Chair 5	Double	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Riblet	[illegible]

One of the critical steps in estimating total capacities, and a way of making certain that the figures are applicable, is to determine the density of skiers per acre of skiable terrain. Using the trail and capacity figures developed in Table 1, the resultant density breakdown for Alyeska is shown in Table 4.

TABLE 4

EXISTING DENSITY ANALYSIS

LIFT	CCC	Skiable Terrain	Skiers Per Acre CCC/ Skiable Terrain	Acceptable Density	Ability Level
Chairs 1 & 4	1,660	71.0	18	20	Int./Expert
Chair 2	570	60.2	14	20	Int./Expert
Chair 3	335	11.1	30	40	Novice/Int.
Chair 5	310	11.6	19	20	Int./Adv. Int.
Pony #1	25	0.3	83	50	Novice
Pony #2	20	0.1	400	80	Beginner

The density figures above take into account all of the 2,500 skiers who are distributed throughout the entire area and do not reflect just those numbers of skiers actually populating the trails themselves. In fact, it has been estimated that an average of about 25 to 31 percent of the total skiers (depending on weather and snow conditions) will be using the trail system at any given time, while the remaining numbers will be on the lifts, in the waiting lines, and/or in the base buildings and milling areas. This means, if a particular lift and trail system has a trail density of 15 skiers per acre, there are only between 4 and 12 skiers actually populating that acre at any given time.

It is obvious from the preceding table that all of the lift systems at Alyeska have trail densities which are slightly below the acceptable standards. Accordingly, the development of higher capacity chairlifts is acceptable under these conditions. Although it is better to have densities which are lower rather than higher than the standards since it provides a more desirable ski experience for the skier at a relatively low cost, the facilities master plan will attempt to create a better density balance throughout the ski area in order to maximize income potential.

Alyeska experiences skier visitation patterns which are common to all local day-use areas and many smaller regional resorts. The majority of usage occurs on weekends and special holidays throughout the ski season, sometimes exceeding the Comfortable Carrying Capacity of the area. Conversely, weekdays generally receive modest use, whereby the ski area operates at a level which is considerably lower than the Comfortable Carrying Capacity. One of Alyeska's foremost objectives is to generate more activity during the weekdays to offset this dichotomy.

6. EXISTING NIGHT SKIING PROGRAM

Alyeska currently provides night skiing on the trail networks served by Chairs 1, 3, and 4. Trails illuminated for night skiing account for approximately 41.1 acres. These trails accommodate ability levels ranging from novice to expert. Lifts and trails served by the night lighting system have a CCC of 870 skiers. The night lighting program at Alyeska also permits a full day of operating during the early ski season when shorter daylight hours prevail.

Under normal operating conditions, Alyeska utilizes Chairs 1 and 3 for night skiing. Chair 4 is operated at times when conditions are exceptionally good and peak attendance occurs. Night skiing attendance has increased considerably in recent years. Average night visitation during the 1985-86 season amounted to 241 skiers. The highest attendance normally occurs on Saturday night with a peak crowd of 611 during the same season. The highest recorded visitation occured in 1984-85, with 811 skiers. It should be noted that these figures do not account for season pass holders.

7. SNOWMAKING

The existing Alyeska snowmaking installation covers approximately 30 acres, including the Lower Racing trail (below Chair 4 midway unload) in addition to ski trails served by Chair 1 and the Cabbage Patch area. The lifts and trails served by the snowmaking system have a CCC of 940 skiers. The existing snowmaking coverage provides for novice and intermediate skiers. The system currently draws water from Alyeska Creek, which has a variable flow rate of between 800-1,500 gallons per minute. The water supply is adequate for the present system.

The snowmaking system has had a major positive effect on the Alyeska operation, assuring that an adequate snow base is present on the lower ski trails, especially during the early part of the season. This has enabled the ski area to be open more days, thereby achieving greater continuity of operation and a resultant increase in ski area utilization.

The addition of the snowmaking system has provided excellent early season skiing on Chair 1 and midway up on Chair 4. The increased patronage has resulted in considerable lift lines during peak use periods. Expansion of the snowmaking system to include Chair 5 will provide advanced intermediate terrain and additional uphill capacity, helping relieve pressure on Chairs 1 and 4.

8. GROOMING

The ski area has three grooming vehicles which are used extensively. For grooming purposes, the ski terrain is divided into three priority groupings. Approximately 114 acres are groomed. Of this total, 71 acres fall into the first priority, 28 acres in the second, and 11 acres into the third order of grooming priority.