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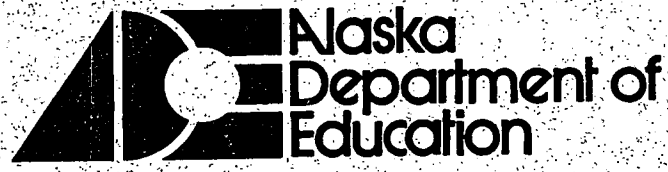
ABSTRACT

The Program Demand Cost Model for Alaskan Schools (Cost Model) is a tool for use by school districts and their consultants in estimating school construction costs in the planning phase of a project. This document sets out the sixth edition of the demand-cost model, a rewrite of the whole system. The model can be used to establish a complete budget for each facility or to determine the current replacement value for insurance purposes. The document explains, using detailed worksheets, how to use the demand-cost model for new school construction, school expansion, and renovation work. Three tables are included. (Contains six references.) (LMI)



Program Demand Cost Model for Alaskan Schools

6th Edition
(August 1996 Revision)

STATE OF ALASKA

MEMORANDUM

Department of Education
Educational Support Services
Facilities Section

To: All School Districts and
District Building Consultants

Date: October 14, 1996

Phone: 465-8666

From: Michael Morgan
Special Projects Manager

Subject: **Appropriate Use and Application of the DOE Program Demand Cost Model for Alaskan Schools**

The Program Demand Cost Model for Alaskan Schools (Cost Model) is a tool for use by school districts and their consultants in estimating school construction costs in the planning phase of a project. The Cost Model is based on a specific building system and location with general allowances to accommodate variations in construction and locale. The tool is designed to assist in formulating an estimate for a project during its conceptual phase. The estimate produced is often termed a "rough order of magnitude" estimate. It is definitely NOT a construction level estimate. It would normally be expected that the model's estimates would almost always be higher that a construction quality estimate.

The Cost Model is not intended as a total replacement for other methods of estimation, such as: detailed material takeoffs, labor hours unit rate estimates or construction systems estimates.

Consider the following as guidelines when applying the model:

When to Use

When working on a conceptual plan.
In the early planning stages of a project.
When little detail is known.
When trying to formulate a budget prior to beginning planning and design.
To check an estimate from an architect/engineer for reasonableness.

When not to Use

When a project specific estimate from an architect/engineer is available.
When requesting construction funding (provide a construction level estimate).
Any time better information is available (quotes, contractor estimates, actual costs, etc.)

TABLE OF CONTENTS

NOTES: Program Demand Cost Models: First Edition - May 1981; Second Edition - November 1983 (Computerized December 1984); Third Edition - August 1986; Fourth Edition - August 1988; and Fifth Edition - June 1991.

Supplementary information to the Sixth Edition of the Demand Cost Model contains base cost estimates, basis of unit costs for new work and renovations.

I. INTRODUCTION

The cost estimate demand model for Alaskan schools was originally developed for the State of Alaska, Department of Education in 1981; and has been used over the years with some success. It has been updated from time to time through the 5th Edition.

This new 6th Edition of the Demand Cost Model, developed by HMS Inc., 4103 Minnesota Drive, Anchorage, Alaska 99503, is a complete rewrite of the whole system, and includes demand cost models for both new construction (or major additions) and renovation. The approach is also different in that all space unit costs were generated using computerized systems. The Demand Cost Model itself was developed for computer use first and adapted for manual use for those who do not have the necessary hardware or software. Thus, the 6th Edition of the Demand Cost is available in both paper and electronic media.

The new Demand Cost Model is a 90's product, providing a system that is technologically current; being produced in Excel 5.0 for Windows. Also, the cost model values have been included for greater use of low voltage electrical systems to allow for increased computer networks, communication systems, addressable systems and security systems in schools.

The intent of the cost demand model is to establish a complete budget for each facility, useful for legislative requests or bond issues or other forms of appropriation to be placed before the electorate. Or, it can be used merely as a feasibility analysis without going to the expense of producing architectural drawings or engineering reports, but simply with the developed educational specifications and this program demand model. The secondary use for the cost estimate program demand model is to establish the present replacement value for insurance purposes.

Prices and unit rates are based on mid-1996 costs for materials, equipment and freight, also Title 36 labor rates. It should be noted that this is a method to develop a budget only and actual costs will vary.

II. HOW TO USE THE DEMAND COST MODEL

A. COMPUTER (ELECTRONIC) OPERATION

Demand Cost Model was created in Microsoft Excel 5.0.

1. Open pertinent Demand Cost Model Template on your disk.

   - NEWWORK.XLT (New School or Addition)
   - RENOVATE.XLT (Renovation Work)
   - NEW-REN.XLT (New and Renovation Work Combined)

2. Starting with the Summary sheet, fill in the necessary information in the red cells (all other sheets will be formatted accordingly). The square foot quantity must be placed on the Renovation Demand Model only; New Addition is calculated by quantities placed in model.

   Next, go to Tab 1.0 for New Construction or Tab 11.00 for Renovation Work, place quantities in applicable red cells. NOTE: The red cells are the only cells that can be edited. If you hit the Tab key, you will move from cell-to-cell that requires input.

   If a red cell is a percentage, the number needs to be entered as a decimal (for example: .25 will show in the cell as 25.00%). Proceed to your other tabbed sheets. All subtotal calculations and summary sheets will be calculated automatically.

3. After completing the variable information save your workbook as an appropriate file name, then print the entire workbook.

NOTE: Tables referred to in the Demand Cost Models are located on the disk as TABLES.XLT.

II. HOW TO USE THE DEMAND COST MODEL

B. MANUAL OPERATION

NEW SCHOOL OR ADDITIONS INSTRUCTIONS: Photocopies of pages 15 through 24 should be made for use in accomplishing a manual calculation of school construction costs using the Program Demand Cost Model.

SUMMARY

To be completed after all the following calculations have been performed.

1.0 LEARNING AND VOCATIONAL AREAS

Multiply appropriate areas x $/SF to arrive at cost. (NOTE: Not all categories will necessarily have a square foot quantity).

ADD Line Items 1.01 - 1.12 (areas and costs) to arrive at Subtotals.

Carry forward Subtotals to next page.

2.0 SUPPORT AREAS

Multiply appropriate areas x $/SF to arrive at cost.

ADD Subtotals Carried Forward (Line 1.13) plus Line Items 2.01 - 2.06 to arrive at Subtotals (Line 2.07).

Carry forward Cost Subtotal only to next page.

II. HOW TO USE THE DEMAND COST MODEL

B. MANUAL OPERATION (Continued)

NEW SCHOOL OR ADDITIONS INSTRUCTIONS (Continued)

3.0 OPTIONAL SPECIAL REQUIREMENTS

Multiply appropriate quantities x unit rates to arrive at costs.

ADD Subtotal Carried Forward (Line 2.07) plus Line Items 3.01 - 3.05 to arrive at Subtotal (Line 3.06).

Carry forward Subtotal to next page.

4.0 SITEWORK

Multiply appropriate quantities x unit rates to arrive at cost.

ADD Subtotal Carried Forward (Line 3.06) plus Line Items 4.01 - 4.06 to arrive at Total Building Costs (Line 4.07).

Carry forward Total Building Costs to next page.

5.0 CONSTRUCTION GENERAL REQUIREMENTS

Multiply Carried Forward Subtotal (Line 4.07) x percentage (15.00%).

Example:

$ 100,000
x 15%
$ 15,000

II. HOW TO USE THE DEMAND COST MODEL

B. MANUAL OPERATION (Continued)

NEW SCHOOL OR ADDITIONS INSTRUCTIONS (Continued)

5.0 CONSTRUCTION GENERAL REQUIREMENTS (Continued)

ADD Line Items 4.07 + 5.01 to arrive at Base Total (Line 5.02).

Carry forward Base Total to next page.

6.0 GEOGRAPHIC AREA COST FACTOR

Refer to Table No. 1 for percentage addition. If percentage addition applies, follow the same instructions as Section 5.0.

ADD Line Item 5.02 + 6.01 to arrive at Subtotal (Line 6.02).

Carry forward Subtotal to next page.

7.0 SIZE FACTOR

Refer to Table No. 2 for details on how to arrive at a size factor. If size adjustment factor applies, multiply Carried Forward Subtotal (Line 6.02) by the size adjustment factor (Line 7.01) as a percentage. This will give you a new Subtotal.

Carry forward Subtotal to next page.

II. HOW TO USE THE DEMAND COST MODEL

B. MANUAL OPERATION (Continued)

NEW SCHOOL OR ADDITIONS INSTRUCTIONS (Continued)

8.0 CONTINGENCIES

Multiply Carried Forward Subtotal (Line 7.01) with 8.01 - General Contingency (10.00%).

ADD Line 7.01 + 8.01 to arrive at Subtotal (Line 8.02).

For section 8.03 use the escalation percentages given according to the year you anticipate construction to begin (Table No. 3). That percentage is then multiplied by the Subtotal (Line 8.02).

ADD Line 8.02 + 8.03 to arrive at Total Estimated Construction Value (Line 8.04).

Carry forward Total Estimated Construction Value to next page.

9.0 PROJECT OVERHEAD AND OTHER COSTS

Place percentages and quantities in appropriate cells, Line Items 9.01 - 9.03 and 9.05 (use the suggested DOE percentage ranges for a guide).

Multiply Items 9.01 through 9.03 individually by the Subtotal Carried Forward (Line 8.04).

ADD Line Items 8.04 + 9.01 - 9.03 to arrive at Subtotal One (Line 9.04).

Some project overhead costs are not subject to an escalation contingency as construction parameters are clarified. Escalation contingency will be added to the total of Line Items 9.01 - 9.03 only. Multiply Line 9.04 by Line 9.05 percentage.

ADD 9.04 and 9.05 to arrive at Subtotal Two (Line 9.06).

II. HOW TO USE THE DEMAND COST MODEL

B. MANUAL OPERATION (Continued)

NEW SCHOOL OR ADDITIONS INSTRUCTIONS (Continued)

9.0 PROJECT OVERHEAD AND OTHER COSTS (Continued)

Fill in the appropriate quantities for Line Items 9.07 - 9.10, if applicable. Multiply Line Items 9.08 and 9.09 by Subtotal Construction Value (Line 8.04).

ADD Subtotal Two (Line 9.06) and Line Items 9.07 through 9.10 to arrive at Total Project Cost (Line 9.11).

SUMMARY

The summary on Page 15 now can be completed.

Gross Floor Area is the total area of Line 2.07. Total Estimated Construction Value is Line 8.04, and Project Total Costs is Line 9.11.

NOTE: Figures from each of the functional categories (1.00 - 9.00) can also be manually entered on the detailed summary sheets found on Pages 25 and 26.

II. HOW TO USE THE DEMAND COST MODEL

B. MANUAL OPERATION (Continued)

RENOVATION WORK INSTRUCTIONS: Photocopies of pages 28 through 35 should be made for use in accomplishing a manual calculation of school renovation costs using the Program Demand Cost Model.

SUMMARY

To be completed after all the following has been performed.

11.0 REMODEL

Multiply appropriate quantities x $/Unit to arrive at cost. (Note: Not all categories will necessarily have a square foot quantity).

ADD Line Items 11.01 - 11.18 to arrive at Subtotal (Line 11.19).

Carry forward Subtotal to next page.

12.0 ADDITIONAL COSTS FOR HAZARDOUS MATERIALS REMOVAL

Multiply appropriate quantities x $/Unit to arrive at cost.

ADD Subtotal Carried Forward (Line 11.19) plus Line Items 12.01 - 12.10 to arrive at Subtotal (Line 12.11).

Carry forward Subtotal to next page.

II. HOW TO USE THE DEMAND COST MODEL

B. MANUAL OPERATION (Continued)

RENOVATION WORK INSTRUCTIONS (Continued)

13.0 CONSTRUCTION GENERAL REQUIREMENTS

Multiply Carried Forward Subtotal (Line 12.11) x percentage (20.00%).

Example:

$ 100,000
x 20%
$ 20,000

ADD Line 12.11 + 13.01 to arrive at Base Total (Line 13.02).

Carry forward Base Total to next page.

14.0 GEOGRAPHIC AREA COST FACTOR

Refer to Table No. 1 for percentage addition. If percentage addition applies, follow the same instructions as Section 13.0

ADD Line 13.02 + 14.01 to arrive at Subtotal (Line 14.02).

Carry forward Subtotal to next page.

II. HOW TO USE THE DEMAND COST MODEL

B. MANUAL OPERATION (Continued)

RENOVATION WORK INSTRUCTIONS (Continued)

15.0 SIZE FACTOR

Refer to Table No. 2 for details on how to arrive at a size factor. If size adjustment factor applies, multiply Carried Forward Subtotal (Line 14.02) by the size adjustment factor (Line 15.01) as a percentage. This will give you a new Subtotal.

Carry forward Subtotal to next page.

16.0 CONTINGENCIES

Multiply Carried Forward Subtotal (Line 15.01) with 16.01 - General Contingency (15.00%).

ADD Line 15.01 + 16.01 to arrive at Subtotal (Line 16.02).

For section 16.03 use the escalation percentages given according to the year you anticipate construction to begin (Table No. 3). That percentage is then multiplied by the Subtotal (Line 16.02).

ADD Line 16.02 + 16.03 to arrive at Total Estimated Construction Value (Line 16.04).

Carry forward Total Estimated Construction Value to next page.

II. HOW TO USE THE DEMAND COST MODEL

B. MANUAL OPERATION (Continued)

RENOVATION WORK INSTRUCTIONS (Continued)

17.0 PROJECT OVERHEAD AND OTHER COSTS

Place percentages and quantities in appropriate cells, Line Items 17.01 - 17.03 and 17.05 (use the suggested DOE percentage ranges for a guide). Multiply Items 17.01 through 17.03 individually by the Subtotal Carried Forward (Line 16.04). ADD Line Items 16.04 + 17.01 - 17.03 to arrive at Subtotal One (Line 17.04).

Some project overhead costs are not subject to an escalation contingency as construction parameters are clarified. Escalation contingency will be added to the total of Line Items 17.01 - 17.03 only. Multiply Line 17.04 by Line 17.05 percentage. ADD 17.04 and 17.05 to arrive at Subtotal Two (Line 17.06).

Fill in the appropriate quantities for Line Items 17.07 and 17.08, if applicable. Multiply Line Item 17.08 by Subtotal Construction Value (Line 16.04). ADD Subtotal Two (Line 17.06) and Line Items 17.07 through 17.08 to arrive at Total Project Cost (Line 17.09).

SUMMARY

The summary on Page 28 now can be completed.

Gross Floor Area is placed here. Total Estimated Construction Value is Line 16.04, and Project Total Costs is Line 17.09.

NOTE: Figures from each of the functional categories (11.00 - 17.00) can also be manually entered on the detailed summary sheets found on Pages 36 and 37.

II. HOW TO USE THE DEMAND COST MODEL

B. MANUAL OPERATION (Continued)

NEW SCHOOL OR ADDITION AND RENOVATION WORK INSTRUCTIONS: Photocopies of pages 15 through 24 (new work or additions) and 28 through 35 (renovation) should be made for use in accomplishing a manual calculation of projects involving both school construction and school renovation costs using the Program Demand Cost Model. Follow the instructions found on pages 4 through 8 to calculate project costs for new work or additions and pages 9 through 12 for projects involving renovation work.

SUMMARY

The summary on Page 39 now can be completed.

Gross Floor Areas for each category of project is placed here. Total Estimated Construction Value is Line 8.04 for New Work or Additions and Line 16.04 for Renovation. Project Total Costs is Line 9.11 for New Work or Additions and Line 17.09 for Renovation.

NOTE: Figures from each of the functional categories (1.00 - 9.00, and 11.00 - 17.00) can also be manually entered on the detailed summary sheets found on Pages 40 through 43.

III. PROGRAM DEMAND COST MODEL
NEW SCHOOL OR ADDITIONS

The following pages are for use in a manual calculation of school construction costs. The pages as they appear in the electronic version's Excel spreadsheets will differ slightly in format. Each estimating category (e.g., Learning and Vocational Area, Support Areas, Geographic Cost Factors, etc.) resides on its own page.

Two summaries are provided. Page 15 has a summary of overall costs for construction and total project costs. Pages 25 through 26 provide a detailed summary which captures all line item costs in a concise tabulation.

ALASKA DEPARTMENT OF EDUCATION
PROGRAM DEMAND COST MODEL FOR ALASKAN SCHOOLS

NEW SCHOOL OR ADDITIONS

SCHOOL DISTRICT: _____

DATE OF ESTIMATE: _____

PROJECT: _____

LOCATION: _____

SUMMARY

	GROSS FLOOR AREA	CONSTRUCTION COSTS	PROJECT TOTAL COSTS
New School or Additions	[ ] SF	$ [ ]	$ [ ]
TOTAL NEW SCHOOL OR ADDITIONS:		$ [ ]	$ [ ]

NOTES: Gross Floor Area is the area total of Line 2.07.
Total Construction Costs from Line 8.04.
Total Project Costs from Line 9.11.

NEW SCHOOL OR ADDITIONS

	AREA		$/SF		COST
1.00 LEARNING AND VOCATIONAL AREAS					
1.01 Standard Classroom[1]		SF x	$ 85.74	=	$
1.02 Kindergarten/Primary Classroom[2]		SF x	90.79	=	
1.03 Damp Classroom/Laboratory[3]		SF x	101.86	=	
1.04 Multi-Purpose Room[4]		SF x	104.37	=	
1.05 Gymnasium[5]		SF x	121.70	=	
1.06 Library and Media Center		SF x	90.84	=	
1.07 Music Room		SF x	87.57	=	
1.08 Auditorium[6]		SF x	122.06	=	
1.09 Home Economics		SF x	100.48	=	
1.10 Industrial Arts[7]		SF x	119.25	=	
1.11 Lockers/Showers		SF x	153.27	=	
1.12 Other		SF x		=	
1.13 SUBTOTALS (Lines 1.01 thru 1.12):		SF			$

NOTES:

[1] Includes general educational space as well as special instructional areas to include: business, drivers' education, typing, language laboratory, and special education. Cost for computer outlets included in classrooms.

[2] Includes a toilet.

[3] Includes art, sciences, craft and cosmetology.

[4] Lunch rooms, etc.

[5] Physical education (dressing rooms and health classrooms).

[6] Includes stage and support area square footage.

[7] Includes wood/metal shop, automotive shop and agriculture.

NEW SCHOOL OR ADDITIONS

	AREA		$/SF		COST
SUBTOTAL CARRIED FORWARD (Line 1.13):		SF			$
2.00 SUPPORT AREAS					
2.01 Administration[1]		SF x	$ 98.06	=	$
2.02 Cafeteria/Food Preparation[2]		SF x	279.45	=	
2.03 Storage		SF x	75.13	=	
2.04 Toilets		SF x	174.20	=	
2.05 Circulation		SF x	88.76	=	
2.06 Mechanical/Electrical[3]		SF x	75.86	=	
2.07 SUBTOTALS (Lines 1.13 + 2.01 thru 2.06):		SF[4]			$

NOTES:

[1] Includes space for counselor's area, clinic areas and administrative areas.
[2] Includes kitchen and serving areas (Dining in 1.04 - Multipurpose Room).
[3] Does not include equipment or systems, just space.
[4] The total square foot area arrived at from Sections 1.00 and 2.00 is the gross floor area of the building.

NEW SCHOOL OR ADDITIONS

					COST
SUBTOTAL CARRIED FORWARD (Line 2.07):					$
3.00 OPTIONAL SPECIAL REQUIREMENTS					
3.01 125 KW Electrical Generator		LS x	$ 78,560	=	$
3.02 Fuel Oil 1,000 Gallon Storage for Generator		LS x	10,465	=	
3.03 Sprinkler System[1]		SF x	2.37	=	
3.04 Water Storage or Special Supply Requirements (Technical Assistance Required)		LS x		=	
3.05 Other Special Requirements		LS x		=	
3.06 SUBTOTAL (Lines 2.07 + 3.01 thru 3.05):					$

NOTES:

[1] Sprinkler system cost assumes easy access to water supply and a suitable pressure.

NEW SCHOOL OR ADDITIONS

					COST
SUBTOTAL CARRIED FORWARD (Line 3.06):					$
4.00 SITEWORK (TECHNICAL ASSISTANCE REQUIRED)					
4.01 Site Preparation[1]	(Estimate)	1 LS x	$	=	$
4.02 Site Improvements[2]	(Estimate)	1 LS x		=	
4.03 Playground Equipment/Sports Equipment	(Estimate)	1 LS x		=	
4.04 Utilities and Fuel Oil	(Estimate)	1 LS x		=	
4.05 Site Lighting	(Estimate)	1 LS x		=	
4.06 Special Circumstances Additional Costs[3]	(Estimate)	1 LS x		=	
4.07 TOTAL BUILDING COSTS (Line 3.06 + 4.01 thru 4.06):					$

NOTES:

[1] Clearing, grading and drainage, excavation and fill.

[2] Landscaping, play fields, sports fields, signage, nature trails, etc.

[3] Standard piling in areas where piling is the norm are not special circumstances. Costs for piling is adjusted in the geographic cost factor. The additional cost for thermopiles or similar are to be considered a special circumstance cost.

NEW SCHOOL OR ADDITIONS

				COST
SUBTOTAL CARRIED FORWARD (BUILDING COSTS) (Line 4.07):				$
5.00 CONSTRUCTION GENERAL REQUIREMENTS				
5.01 Mobilization, General Operating Costs and Contractor's Profit	Line 4.07 x	15.00%	=	$
5.02 BASE TOTAL (Line 4.07 + 5.01):				$

NEW SCHOOL OR ADDITIONS

		COST
SUBTOTAL CARRIED FORWARD (BASE TOTAL) (Line 5.02):		$
6.00 GEOGRAPHIC AREA COST FACTOR		
6.01 Place Geographic Area Here (Refer to Table No. 1 for percentage addition)	Line 5.02 x ____ % =	$
6.02 SUBTOTAL (Line 5.02 + 6.01):		$

NEW SCHOOL OR ADDITIONS

	COST
SUBTOTAL CARRIED FORWARD (Line 6.02):	$

7.00 SIZE FACTOR

NOTE: Refer to Table No. 2 for details on how the size adjustment factor is arrived at.

7.01 Size Adjustment Factor
SUBTOTAL: Line 6.02 x [ ]% = $ [ ]

FORMULA:

Proposed School Size [ ] SF = [ ]
Base School Size 25,000 SF

NOTE: Divide proposed school size (SF) by base school size (25,000 SF). However, if the proposed new school exceeds 25,000 SF, this calculation is disregarded.

NEW SCHOOL OR ADDITIONS

	COST
SUBTOTAL CARRIED FORWARD (Line 7.01):	$

8.00 CONTINGENCIES

8.01 GENERAL
For construction unknowns and the unanticipated. Line 7.01 x 10.00% = $

8.02 SUBTOTAL (Line 7.01 + 8.01):

8.03 ESCALATION
Escalation is to be added for future cost estimates. Please put the year you anticipate the project to be escalated to. Escalation has been ***estimated*** only to the year ***2000***. Use the following escalation percentages for the appropriate year.

1996 - 0.00%; 1997 - 3.10%; 1998 - 6.10%;
1999 - 9.00%; 2000 - 12.00%

YEAR
Line 8.02 x % = $

8.04 TOTAL ESTIMATED CONSTRUCTION VALUE (Line 8.02 + 8.03): $

NEW SCHOOL OR ADDITIONS

				COST	See Below for Suggested DOE Ranges
SUBTOTAL CARRIED FORWARD (CONSTRUCTION VALUE) (Line 8.04):				$	
9.00 PROJECT OVERHEAD AND OTHER COSTS					
9.01 Construction Management	Line 8.04 x	%	=	$	2% to 4%[3]
9.02 Indirect Costs (Administration)	Line 8.04 x	%	=	$	2% to 4%
9.03 Design Costs	Line 8.04 x	%	=	$	6% to 8%
9.04 SUBTOTAL ONE (Line 8.04 + 9.01 thru 9.03):				$	
9.05 Project Contingency for Changes[1]	Line 9.04 x	%	=	$	5% to 7%
9.06 SUBTOTAL TWO (Line 9.04 + 9.05):				$	
9.07 Site Investigation (Estimate)		--		$	--
9.08 Furnishings & Equipment Costs[2]	Line 8.04 x	%	=	$	0% to 7%
9.09 Art (Where Applicable)	Line 8.04 x	%	=	$	1.00% (Statutory)
9.10 Land Purchase Costs (Estimate)	1 LS			$	
9.11 PROJECT TOTAL COST (Line 9.06 + 9.07 thru 9.10):				$	

NOTES:

[1] Items 9.07 through 9.10 are not sensitive to Project Contingency.

[2] Includes for computers and other low voltage equipment. Note: Costs for conduit, wire, backboards, outlets, etc. are included with building costs.

[3] Check statutory limitation.

ALASKA DEPARTMENT OF EDUCATION
PROGRAM DEMAND COST MODEL FOR ALASKAN SCHOOLS

NEW SCHOOL OR ADDITIONS

SCHOOL DISTRICT: _____ DATE OF ESTIMATE: _____

PROJECT: _____

LOCATION: _____

CONSTRUCTION SUMMARY	Gross Floor Area		Construction Costs	Project Total Costs
New School or Additions		SF	$	$
TOTAL NEW SCHOOL OR ADDITIONS:			$	$

1.00 LEARNING AND VOCATIONAL AREAS	AREA		$/SF	COST
1.01 Standard Classroom		SF	$ 85.74	$
1.02 Kindergarten/Primary Classroom		SF	90.79	$
1.03 Damp Classroom/Laboratory		SF	101.86	$
1.04 Multi-Purpose Room		SF	104.37	$
1.05 Gymnasium		SF	121.70	$
1.06 Library and Media Center		SF	90.84	$
1.07 Music Room		SF	87.57	$
1.08 Auditorium		SF	122.06	$
1.09 Home Economics		SF	100.48	$
1.10 Industrial Arts		SF	119.25	$
1.11 Lockers/Showers		SF	153.27	$
1.12 Other		SF	$	$
1.13 SUBTOTALS:		SF		$

2.00 SUPPORT AREAS				
2.01 Administration		SF	$ 98.06	$
2.02 Cafeteria/Food Preparation		SF	279.45	$
2.03 Storage		SF	75.13	$
2.04 Toilets		SF	174.20	$
2.05 Circulation		SF	88.76	$
2.06 Mechanical/Electrical		SF	75.86	$
2.07 SUBTOTALS:		SF		$

3.00 OPTIONAL SPECIAL REQUIREMENTS				
3.01 125 KW Electrical Generator		LS	78,560	$
3.02 Fuel Oil 1,000 Gallon Storage for Generator		LS	10,465	$
3.03 Sprinkler System[1]		SF	2.37	$
3.04 Water Storage or Special Supply Requirements (Technical Assistance Required)		LS	$	$
3.05 Other Special Requirements		LS	$	$
3.06 SUBTOTAL:				$

NEW SCHOOL OR ADDITIONS

4.00 SITEWORK (TECHNICAL ASSISTANCE REQUIRED)

4.01	Site Preparation (Estimate)	1 LS	$	$
4.02	Site Improvements (Estimate)	1 LS	$	$
4.03	Playground Equipment/Sports Equipment (Estimate)	1 LS	$	$
4.04	Utilities and Fuel Oil (Estimate)	1 LS	$	$
4.05	Site Lighting (Estimate)	1 LS	$	$
4.06	Special Circumstances Additional Costs (Estimate)	1 LS	$	$
4.07	TOTAL BUILDING COSTS:			$

5.00 CONSTRUCTION GENERAL REQUIREMENTS

5.01	Mobilization, General Operating Costs and Contractor's Profit	15.00%	$
5.02	BASE TOTAL:		$

6.00 GEOGRAPHIC AREA COST FACTOR

6.01	Geographic Area Cost Factor	%	$
6.02	SUBTOTAL:		$

7.00 SIZE FACTOR

7.01	Size Adjustment Factor SUBTOTAL:	$

8.00 CONTINGENCIES

8.01	GENERAL: For construction unknowns and the unanticipated.	10.00%	$
8.02	SUBTOTAL:		$
8.03	ESCALATION: Allowance for escalation from Summer 1996 to . . .	%	$
8.04	TOTAL ESTIMATED CONSTRUCTION VALUE:		$

9.00 PROJECT OVERHEAD AND OTHER COSTS

9.01	Construction Management		%	$
9.02	Indirect Costs (Administration)		%	$
9.03	Design Costs		%	$
9.04	SUBTOTAL ONE:			$
9.05	Project Contingency for Changes		%	$
9.06	SUBTOTAL TWO:			$
9.07	Site Investigation (Estimate)		--	$
9.08	Furnishings & Equipment Costs		%	$
9.09	Art (Where Applicable)		%	$
9.10	Land Purchase Costs (Estimate)	1 LS		$
9.11	**PROJECT TOTAL COST:**			$

IV. PROGRAM DEMAND COST MODEL
RENOVATION WORK

The following pages are for use in a manual calculation of school renovation costs. The pages as they appear in the electronic version's Excel spreadsheets will differ slightly in format. Each estimating category (e.g., Learning and Vocational Area, Support Areas, Geographic Cost Factors, etc.) resides on its own page.

Two summaries are provided. Page 28 has a summary of overall costs for construction and total project costs. Pages 36 through 37 provide a detailed summary which captures all line item costs in a concise tabulation.

RENOVATION WORK

SCHOOL DISTRICT: _____ DATE OF ESTIMATE: _____

PROJECT: _____

LOCATION: _____

SUMMARY

	GROSS FLOOR AREA	CONSTRUCTION COSTS	PROJECT TOTAL COSTS
Renovation Work	SF[1]	$	$
TOTAL RENOVATION WORK:		$	$

NOTES:

[1] The square foot area for renovation needs to be inserted.

RENOVATION WORK

			$/UNIT		COST
11.00	**REMODEL**				
11.01	Heavy Renovation (Interior Replacement)	SF x	64.06	=	$
11.02	Replace Roof (Roof Area)	SF x	6.86	=	
11.03	Exterior Upgrades (Replace Doors and Windows)	SF x	10.27	=	
11.04	Replace Interior and Refinish	SF x	12.05	=	
11.05	Replace Plumbing Fixtures	EA x	1,837.79	=	
11.06	Replace Heating and Ventilation Systems	SF x	17.45	=	
11.07	New Sprinkler System	SF x	4.59	=	
11.08	New Standby Power	LS x	90,790.00	=	
11.09	New Fire Alarm System	SF x	0.75	=	
11.10	New Computer Outlets (Rough-In)	SF x	0.43	=	
11.11	New Telephone/Public Address/Intercom System	SF x	1.51	=	
11.12	New Public Address (Gym and Stage)	LS x	29,665.00	=	
11.13	New Security System	SF x	0.55	=	
11.14	New MATV System	SF x	0.42	=	
11.15	New Hearing Impaired Audio system	LS x	6,864.00	=	
11.16	Replace Fuel Oil Tank (Below Ground)	GALS x	14.79	=	
11.17	Replace Fuel Oil Tank (Above Ground)	GALS x	11.24	=	
11.18	Other Renovation	x		=	
11.19	**SUBTOTAL (Lines 11.01 thru 11.18):**				$

NOTES:

It is probable that technical assistance will be needed to complete these forms.

RENOVATION WORK

			$/UNIT		COST
SUBTOTAL CARRIED FORWARD (Line 11.19):					$
12.00 ADDITIONAL COSTS FOR HAZARDOUS MATERIALS REMOVAL (OPTIONS) (SUPPLEMENT TO SECTION 11.00)					
12.01 Heavy Renovation (Interior)		SF x	$ 18.06	=	$
12.02 Roof Replacement (Roof Area)		SF x	3.13	=	
12.03 Exterior Upgrade (Number of Doors)		EA x	416.08	=	
12.04 Replace Interiors		SF x	6.53	=	
12.05 Replace Plumbing Fixtures		EA x	390.09	=	
12.06 Replace Heating and Ventilation Systems		SF x	2.67	=	
12.07 New Sprinkler System		SF x	2.47	=	
12.08 Work in Connection with New Electrical Installations		SF x	0.59	=	
12.09 Soil Remediation		CY x	161.11	=	
12.10 Other Specific Abatement		x		=	
12.11 SUBTOTAL (Lines 11.19 + 12.01 thru 12.10):					$

NOTES:

The areas or quantities to be inserted must only be the locations where hazardous materials are found, NOT the total building area.

RENOVATION WORK

		COST
SUBTOTAL CARRIED FORWARD (Line 12.11):		$
13.00 CONSTRUCTION GENERAL REQUIREMENTS		
13.01 Mobilization, General Operating Costs and Contractor's Profit	Line 12.11 x 20.00% =	$
13.02 BASE TOTAL (Line 12.11 + 13.01):		$

RENOVATION WORK

		COST
SUBTOTAL CARRIED FORWARD (BASE TOTAL) (Line 13.02):		$
14.00 GEOGRAPHIC AREA COST FACTOR		
14.01 Place Geographic Area Here (Refer to Table No. 1 for percentage addition)	Line 13.02 x ____ % =	$
14.02 SUBTOTAL (Line 13.02 + 14.01):		$

RENOVATION WORK

	COST
SUBTOTAL CARRIED FORWARD (Line 14.02):	$

15.00 SIZE FACTOR

NOTE: Refer to Table No. 2 for details on how the size adjustment factor is arrived at.

15.01 Size Adjustment Factor
SUBTOTAL: Line 14.02 x ____ % = $ ____

FORMULA:

Proposed School Size ____ SF = ____
Base School Size 25,000 SF

NOTE: Divide proposed school size (SF) by base school size (25,000 SF). However, if the proposed new school exceeds 25,000 SF, this calculation is disregarded.

Also, disregard this calculation when the renovation is part of an addition and the total area (renovation and addition) is above 25,000 SF.

RENOVATION WORK

	COST
SUBTOTAL CARRIED FORWARD (Line 15.01):	$

16.00 CONTINGENCIES

16.01 GENERAL
For construction unknowns and the unanticipated. Line 15.01 x 15.00% = $

16.02 SUBTOTAL (Line 15.02 + 16.01): $

16.03 ESCALATION
Escalation is to be added for future cost estimates. Please put the year you anticipate the project to be escalated to. Escalation has been ***estimated*** only to the year ***2000***. Use the following escalation percentages for the appropriate year.
1996 - 0.00%; 1997 - 3.10%; 1998 - 6.10%;
1999 - 9.00%; 2000 - 12.00%

YEAR
Line 16.02 x % = $

16.04 TOTAL ESTIMATED CONSTRUCTION VALUE (Line 16.02 + 16.03): $

RENOVATION WORK

				COST	
SUBTOTAL CARRIED FORWARD (CONSTRUCTION VALUE) (Line 16.04):				$	
17.00 PROJECT OVERHEAD AND OTHER COSTS					See Below for Suggested DOE Ranges
17.01 Construction Management	Line 16.04 x	%	=	$	2% to 4%[3]
17.02 Indirect Costs (Administration)	Line 16.04 x	%	=	$	2% to 4%
17.03 Design Costs	Line 16.04 x	%	=	$	6% to 8%
17.04 SUBTOTAL ONE (Line 16.04 + 17.01 thru 17.03):				$	
17.05 Project Contingency for Changes[1]	Line 17.04 x	%	=	$	5% to 7%
17.06 SUBTOTAL TWO (Line 17.04 + 17.05):				$	
17.07 Site Investigation (Estimate)		--		$	--
17.08 Furnishings & Equipment Costs[2]	Line 16.04 x	%	=	$	0% to 7%
17.09 PROJECT TOTAL COST (Line 17.06 + 17.07 thru 17.08):				$	

NOTES:

[1] Items 17.07 and 17.08 are not sensitive to Project Contingency.

[2] Includes for computers and other low voltage equipment. Note: Costs for conduit, wire, backboards, outlets, etc. are included with building costs.

[3] Check statutory limitation.

ALASKA DEPARTMENT OF EDUCATION
PROGRAM DEMAND COST MODEL FOR ALASKAN SCHOOLS

RENOVATION WORK

SCHOOL DISTRICT: _____ DATE OF ESTIMATE: _____

PROJECT: _____

LOCATION: _____

CONSTRUCTION SUMMARY	Gross Floor Area		Construction Costs	Project Total Costs
Renovation Work		SF	$	$
TOTAL RENOVATION WORK:			$	$

11.00 REMODEL	AREA		$/SF	COST
11.01 Heavy Renovation (Interior Replacement)		SF	64.06	$
11.02 Replace Roof (Roof Area)		SF	6.86	$
11.03 Exterior Upgrades (Replace Doors and Windows)		SF	10.27	$
11.04 Replace Interior and Refinish		SF	12.05	$
11.05 Replace Plumbing Fixtures		EA	1,837.79	$
11.06 Replace Heating and Ventilation Systems		SF	17.45	$
11.07 New Sprinkler System		SF	4.59	$
11.08 New Standby Power		LS	90,790.00	$
11.09 New Fire Alarm System		SF	0.75	$
11.10 New Computer Outlets (Rough-In)		SF	0.43	$
11.11 New Telephone/Public Address/Intercom System		SF	1.51	$
11.12 New Public Address (Gym and Stage)		LS	29,665.00	$
11.13 New Security System		SF	0.55	$
11.14 New MATV System		SF	0.42	$
11.15 New Hearing Impaired Audio system		LS	6,864.00	$
11.16 Replace Fuel Oil Tank (Below Ground)		GALS	14.79	$
11.17 Replace Fuel Oil Tank (Above Ground)		GALS	11.24	$
11.18 Other Renovation			$	$
11.19 SUBTOTAL:				$

12.00 ADDITIONAL COSTS FOR HAZARDOUS MATERIALS REMOVAL (OPTIONS) (SUPPLEMENT TO SECTION 11.00)				
12.01 Heavy Renovation (Interior)		SF	$ 18.06	$
12.02 Roof Replacement (Roof Area)		SF	3.13	$
12.03 Exterior Upgrade (Number of Doors)		EA	416.08	$
12.04 Replace Interiors		SF	6.53	$
12.05 Replace Plumbing Fixtures		EA	390.09	$
12.06 Replace Heating and Ventilation Systems		SF	2.67	$
12.07 New Sprinkler System		SF	2.47	$
12.08 Work in Connection with New Electrical Installations		SF	0.59	$
12.09 Soil Remediation		CY	161.11	$
12.10 Other Specific Abatement			$	$
12.11 SUBTOTAL:				$

ALASKA DEPARTMENT OF EDUCATION
PROGRAM DEMAND COST MODEL FOR ALASKAN SCHOOLS

RENOVATION WORK

13.00 CONSTRUCTION GENERAL REQUIREMENTS			
13.01 Mobilization, General Operating Costs and Contractor's Profit		20.00%	$
13.02 BASE TOTAL:			$
14.00 GEOGRAPHIC AREA COST FACTOR			
14.01 Geographic Area Cost Factor		%	$
14.02 SUBTOTAL:			$
15.00 SIZE FACTOR			
15.01 Size Adjustment Factor SUBTOTAL:			$
16.00 CONTINGENCIES			
16.01 GENERAL: For construction unknowns and the unanticipated.		15.00%	$
16.02 SUBTOTAL:			$
16.03 ESCALATION: Allowance for escalation from Summer 1996 to . . .		%	$
16.04 TOTAL ESTIMATED CONSTRUCTION VALUE:			$
17.00 PROJECT OVERHEAD AND OTHER COSTS			
17.01 Construction Management		%	$
17.02 Indirect Costs (Administration)		%	$
17.03 Design Costs		%	$
17.04 SUBTOTAL ONE:			$
17.05 Project Contingency for Changes		%	$
17.06 SUBTOTAL TWO:			$
17.07 Site Investigation (Estimate)			$
17.08 Furnishings & Equipment Costs		%	$
17.09 PROJECT TOTAL COST:			$

V. PROGRAM DEMAND COST MODEL SUMMARY FOR NEW SCHOOL OR ADDITION AND RENOVATION WORK

The following pages are only the summary sheets for this category of estimate. Worksheets for a manual calculation should be obtained from the individual New Work and Renovation sections. Two summaries are provided. Page 39 has a summary of overall costs for construction and total project costs. Pages 40 through 43 provide a detailed summary which captures all line item costs in a concise tabulation.

NEW SCHOOL OR ADDITIONS AND RENOVATION WORK

SCHOOL DISTRICT: _____ DATE OF ESTIMATE: _____

PROJECT: _____

LOCATION: _____

SUMMARY

	GROSS FLOOR AREA	CONSTRUCTION COSTS	PROJECT TOTAL COSTS
New School or Additions	SF	$	$
Renovation Work	SF[1]	$	$
TOTAL NEW SCHOOL AND RENOVATION WORK:		$	$

ALASKA DEPARTMENT OF EDUCATION
PROGRAM DEMAND COST MODEL FOR ALASKAN SCHOOLS

NEW SCHOOL OR ADDITIONS AND RENOVATION WORK

SCHOOL DISTRICT: _____ DATE OF ESTIMATE: _____

PROJECT: _____

LOCATION: _____

CONSTRUCTION SUMMARY	Gross Floor Area	Construction Costs	Project Total Costs
New School or Additions	SF		
Renovation Work	SF	$	$
TOTAL NEW SCHOOL AND RENOVATION WORK:		$	$

NEW SCHOOL OR ADDITIONS

	AREA	$/SF	COST
1.00 LEARNING AND VOCATIONAL AREAS			
1.01 Standard Classroom	SF	$ 85.74	$
1.02 Kindergarten/Primary Classroom	SF	90.79	$
1.03 Damp Classroom/Laboratory	SF	101.86	$
1.04 Multi-Purpose Room	SF	104.37	$
1.05 Gymnasium	SF	121.70	$
1.06 Library and Media Center	SF	90.84	$
1.07 Music Room	SF	87.57	$
1.08 Auditorium	SF	122.06	$
1.09 Home Economics	SF	100.48	$
1.10 Industrial Arts	SF	119.25	$
1.11 Lockers/Showers	SF	153.27	$
1.12 Other	SF	$	$
1.13 SUBTOTALS:	SF		$
2.00 SUPPORT AREAS			
2.01 Administration	SF	$ 98.06	$
2.02 Cafeteria/Food Preparation	SF	279.45	$
2.03 Storage	SF	75.13	$
2.04 Toilets	SF	174.20	$
2.05 Circulation	SF	88.76	$
2.06 Mechanical/Electrical	SF	75.86	$
2.07 SUBTOTALS:	SF		$
3.00 OPTIONAL SPECIAL REQUIREMENTS			
3.01 125 KW Electrical Generator	LS	78,560	$
3.02 Fuel Oil 1,000 Gallon Storage for Generator	LS	10,465	$
3.03 Sprinkler System[1]	SF	2.37	$
3.04 Water Storage or Special Supply Requirements (Technical Assistance Required)	LS	$	$
3.05 Other Special Requirements	LS	$	$
3.06 SUBTOTAL:			$

ALASKA DEPARTMENT OF EDUCATION
PROGRAM DEMAND COST MODEL FOR ALASKAN SCHOOLS

NEW SCHOOL OR ADDITIONS AND RENOVATION WORK

NEW SCHOOL OR ADDITIONS (CONTINUED)

4.00 SITEWORK (TECHNICAL ASSISTANCE REQUIRED)				
4.01 Site Preparation (Estimate)	1 LS		$	$
4.02 Site Improvements (Estimate)	1 LS		$	$
4.03 Playground Equipment/Sports Equipment (Estimate)	1 LS		$	$
4.04 Utilities and Fuel Oil (Estimate)	1 LS		$	$
4.05 Site Lighting (Estimate)	1 LS		$	$
4.06 Special Circumstances Additional Costs (Estimate)	1 LS		$	$
4.07 TOTAL BUILDING COSTS:				$
5.00 CONSTRUCTION GENERAL REQUIREMENTS				
5.01 Mobilization, General Operating Costs and Contractor's Profit			15.00%	$
5.02 BASE TOTAL:				$
6.00 GEOGRAPHIC AREA COST FACTOR				
6.01 Geographic Area Cost Factor		%		$
6.02 SUBTOTAL:				$
7.00 SIZE FACTOR				
7.01 Size Adjustment Factor SUBTOTAL:				$
8.00 CONTINGENCIES				
8.01 GENERAL: For construction unknowns and the unanticipated.			10.00%	$
8.02 SUBTOTAL:				$
8.03 ESCALATION: Allowance for escalation from Summer 1996 to . . .			%	$
8.04 TOTAL ESTIMATED CONSTRUCTION VALUE:				$
9.00 PROJECT OVERHEAD AND OTHER COSTS				
9.01 Construction Management			%	$
9.02 Indirect Costs (Administration)			%	$
9.03 Design Costs			%	$
9.04 SUBTOTAL ONE:				$
9.05 Project Contingency for Changes			%	$
9.06 SUBTOTAL TWO:				$
9.07 Site Investigation (Estimate)			--	$
9.08 Furnishings & Equipment Costs			%	$
9.09 Art (Where Applicable)			%	$
9.10 Land Purchase Costs (Estimate)	1 LS			$
9.11 PROJECT TOTAL COST (NEW SCHOOL OR ADDITIONS):				$

NEW SCHOOL OR ADDITIONS AND RENOVATION WORK

RENOVATION WORK

11.00 REMODEL

		AREA		$/SF	COST
11.01	Heavy Renovation (Interior Replacement)		SF	64.06	$
11.02	Replace Roof (Roof Area)		SF	6.86	$
11.03	Exterior Upgrades (Replace Doors and Windows)		SF	10.27	$
11.04	Replace Interior and Refinish		SF	12.05	$
11.05	Replace Plumbing Fixtures		EA	1,837.79	$
11.06	Replace Heating and Ventilation Systems		SF	17.45	$
11.07	New Sprinkler System		SF	4.59	$
11.08	New Standby Power		LS	90,790.00	$
11.09	New Fire Alarm System		SF	0.75	$
11.10	New Computer Outlets (Rough-In)		SF	0.43	$
11.11	New Telephone/Public Address/Intercom System		SF	1.51	$
11.12	New Public Address (Gym and Stage)		LS	29,665.00	$
11.13	New Security System		SF	0.55	$
11.14	New MATV System		SF	0.42	$
11.15	New Hearing Impaired Audio system		LS	6,864.00	$
11.16	Replace Fuel Oil Tank (Below Ground)		GALS	14.79	$
11.17	Replace Fuel Oil Tank (Above Ground)		GALS	11.24	$
11.18	Other Renovation			$	$
11.19	SUBTOTAL:				$

12.00 ADDITIONAL COSTS FOR HAZARDOUS MATERIALS REMOVAL (OPTIONS) (SUPPLEMENT TO SECTION 11.00)

12.01	Heavy Renovation (Interior)		SF	$ 18.06	$
12.02	Roof Replacement (Roof Area)		SF	3.13	$
12.03	Exterior Upgrade (Number of Doors)		EA	416.08	$
12.04	Replace Interiors		SF	6.53	$
12.05	Replace Plumbing Fixtures		EA	390.09	$
12.06	Replace Heating and Ventilation Systems		SF	2.67	$
12.07	New Sprinkler System		SF	2.47	$
12.08	Work in Connection with New Electrical Installations		SF	0.59	$
12.09	Soil Remediation		CY	161.11	$
12.10	Other Specific Abatement			$	$
12.11	SUBTOTAL:				$

13.00 CONSTRUCTION GENERAL REQUIREMENTS

13.01	Mobilization, General Operating Costs and Contractor's Profit	20.00%	$
13.02	BASE TOTAL:		$

14.00 GEOGRAPHIC AREA COST FACTOR

14.01	Geographic Area Cost Factor	%	$
14.02	SUBTOTAL:		$

ALASKA DEPARTMENT OF EDUCATION
PROGRAM DEMAND COST MODEL FOR ALASKAN SCHOOLS

NEW SCHOOL OR ADDITIONS AND RENOVATION WORK

RENOVATION WORK (CONTINUED)

15.00 SIZE FACTOR

15.01	Size Adjustment Factor SUBTOTAL:		$

16.00 CONTINGENCIES

16.01	GENERAL: For construction unknowns and the unanticipated.		15.00%	$
16.02	SUBTOTAL:			$
16.03	ESCALATION: Allowance for escalation from Summer 1996 to . . .		%	$
16.04	TOTAL ESTIMATED CONSTRUCTION VALUE:			$

17.00 PROJECT OVERHEAD AND OTHER COSTS

17.01	Construction Management	%	$
17.02	Indirect Costs (Administration)	%	$
17.03	Design Costs	%	$
17.04	SUBTOTAL ONE:		$
17.05	Project Contingency for Changes	%	$
17.06	SUBTOTAL TWO:		$
17.07	Site Investigation (Estimate)		$
17.08	Furnishings & Equipment Costs	%	$
17.09	**PROJECT TOTAL COST (RENOVATION WORK):**		**$**

VI. TABLES

No. 1 - Geographic Area Cost Factor
No. 2 - Size Adjustment Chart
No. 3 - Alaskan Construction Escalation Index

TABLE NO. 1

GEOGRAPHIC AREA COST FACTOR

JUNE 1996

	INDEX	PERCENTAGE
SOUTHCENTRAL		
Anchorage	100.00	0.00%
Mat-Su Valley	97.00	-3.00%
Kenai	98.60	-1.40%
Homer	104.50	-4.50%
Kodiak	111.40	11.40%
Town on Road System	121.90	21.90%
SOUTHEASTERN		
Juneau	101.60	1.60%
Ketchikan	109.80	9.80%
Smaller Town	118.90	18.90%
Village	130.40	30.40%
INTERIOR		
Fairbanks	105.00	5.00%
Town on Road System	110.90	10.90%
Remote Village	136.80	36.80%

TABLE NO. 1

GEOGRAPHIC AREA COST FACTOR
(Continued)

	INDEX	PERCENTAGE
ALEUTIAN		
Village	121.90	21.90%
Remote Village	138.20	38.20%
WESTERN		
Bethel	151.10	51.10%
Lower Kuskokwim Village	162.10	62.10%
NORTHWEST		
Kotzebue	159.70	59.70%
Village	176.50	76.50%
NORTH SLOPE		
Barrow	165.80	65.80%
Village	177.20	77.20%

TABLE NO. 1

GEOGRAPHIC AREA COST FACTOR
(Continued)

NOTES

Back-up data for this analysis is held at HMS Inc., 4103 Minnesota Drive, Anchorage, Alaska.

This is an estimate of geographic area cost factors based on averages for materials, freight and equipment costs, also current Title 36 labor rates as of January 1996. The cost factors are based on an institutional building in Alaska using a standard AIA contract or similar contract.

This is only a guide and not necessarily correct for any specific need. It represents only a collection of costs normally found on some construction projects, rather than the custom requirements of a particular project.

This is not an index. This is a geographic area cost factor which includes not merely cost changes and logistical consideration, but also design criteria and how it is applied in different locations.

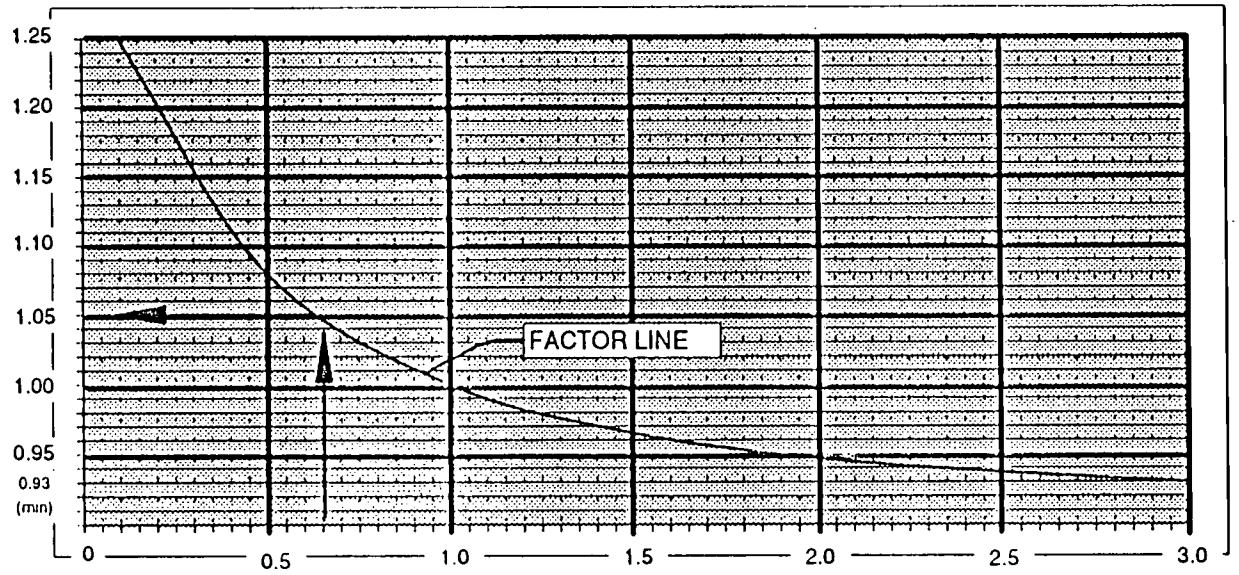
Such design considerations include the obvious standard concrete footings used mostly in Southcentral and Southeastern Alaska, to piling requirements in Arctic and sub-Arctic, Alaska, to the not so apparent for a local audience for landscape in Anchorage to none in rural areas.

The calculations used in developing these cost factors are based on reasonable assumptions. For example, barge freight is mostly included rather than air freight for all materials and equipment. It is also assumed that local labor can be used to the fullest general availability, rather than all imported workers.

Village-to-village costs will vary plus or minus 5%. When using this geographic cost factor consider how the location for which the estimate is being prepared is different from other surrounding places.

TABLE NO. 2

SIZE ADJUSTMENT CHART



EXAMPLE: The Size Adjustment Factor is desired for a 16,000 SF Academic Facility.

AREA RELATIONSHIP: $\frac{\text{PROPOSED FACILITY SIZE}}{\text{TYPICAL FACILITY SIZE}} = \frac{16{,}000}{25{,}000} = 0.64$

Find .64 on the horizontal axis. Trace a vertical line to the factor curve and then trace a horizontal line to the vertical axis' Size Adjustment Factor which is 1.05.

Source: Military Handbook Cost Engineering: Policy and Procedures - MIL-HDBK-1010A, dated August 1992.

TABLE NO. 3

ALASKAN CONSTRUCTION ESCALATION INDEX
ANCHORAGE, ALASKA

SEPTEMBER 1995

Base Year 1990	Index 100.00	Base Year 1990	Index 100.00		Percentage
1980	100.00	1991	134.30		
1981	104.40	1992	138.80		
1982	107.70	1993	143.30		
1983	115.60	1994	144.40		
1984	118.60	1995	143.40		
1985	117.70	1996	146.50		
1986	121.40	1997	149.50	* Estimate	3.10%
1987	123.00	1998		* Estimate	6.10%
1988	124.80	1999		* Estimate	9.00%
1989	126.40	2000		* Estimate	12.00%
1990	131.80				

NOTES

Back-up data for this analysis is held at HMS Inc., 4103 Minnesota Drive, Anchorage, Alaska.

This estimate is an index based on averages for materials, freight and equipment, also current Title 36 labor rates as of September 1995. The index is based on an institutional building in Anchorage using a standard AIA contract or similar contract.

It should be noted that while the index is a useful guide, it will not necessarily be correct for a specific need.

Remember always that an index is only a guide and not necessarily correct for any specific need. It represents only a collection of costs normally found on some construction projects, rather than the custom requirements of a particular project.

The prediction for 1996 and 1997 are estimates assuming more of the same low escalation based on recent factors.

VII. BIBLIOGRAPHY

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