

SUSITNA PROJECT

HARZA-EBASCO

Susitna Joint Venture
Document Number

2545

Please Return To
DOCUMENT CONTROL

WATANA DAM CAMP ESTIMATE

FEASIBILITY LEVEL ESTIMATE

VOLUME V

HARZA-EBASCO SUSITNA JOINT VENTURE

MARCH 1984

S U S I T N A - W A T A N A
M A N P O W E R S U M M A R Y

APRIL 2, 1984

(L LEVY/RAM D/OEB)

MONTH MAX = 112
MAX NUMBER OF MEN/MONTH = 2882
TOTAL MANHOURS= 22386441.

YEAR JAN FEB MARCH APR MAY JUNE JULY AUG SEPT OCT NOV DEC

1	0	0	286	286	766	766	766	456	456	59	59	0
2	0	0	508	508	1291	1291	1291	695	728	110	76	0
3	0	0	568	568	1435	1435	1435	749	769	89	69	0
4	0	0	506	506	1287	1287	1287	676	676	59	59	0
5	0	7	1072	1143	2598	2695	2695	1239	1143	78	19	19
6	19	19	1229	1229	2882	2882	2882	1229	1229	19	19	143
7	143	143	1373	1437	2817	2756	2724	1155	1155	146	22	22
8	58	58	883	1154	2306	2677	2702	1636	1179	400	84	84
9	84	84	797	797	1772	1772	1716	742	742	29	29	29
10	15	15	15									

- NOTES: (1) The number of workers is based on 260 MH/MO (10 hr/day X 26 day/mo).
 (2) A 25% peak increase was included in the computations.
 (3) The maximum of 2882 workers does not include personnel from Owner, Consultants and Subcontractors. An additional 470 workers should be added for this purpose. Total 3352 workers.
 (4) Each activity peaks @ 1.5 of average.

PROJECT: SUSITNA - WATANA
SUBJECT: HOUSING SUMMARY
DATE: APRIL 2, 1984

NO. #1563X103
EST. BY OEB
REV. L LEVY

HARZA ENGINEERING COMPANY
MANPOWER

SUMMARY OF HOUSING

LOCATION/BUILDING DESCRIPTION	#	CAPACITY	# OF MEN
MAIN CONSTRUCTION CAMP :			
- BACHELOR DORMS - COMPLEX	24	108	2592
- BACHLR DORM - TYPE A	8	28	224
- BACHLR DORM - TYPE B	9	24	216
- GUEST HOUSE OWN/MNG/CON	3	2	6
- CAMP MNGR OFFICE	3	1	3
MAIN CONSTRUCTION VILLAGE :			
TYPE I			
- SINGLE FAMILY (2 BDRM)	74	1	74
- SINGLE FAMILY (3 BDRM)	188	1	188
TYPE II			
- SINGLE FAMILY (2 BDRM)	16	1	16
- SINGLE FAMILY (3 BDRM)	16	1	16
- SINGLE FAMILY (4 BDRM)	16	1	16
TOTAL NUMBER OF MEN			3351

MANPOWER REQUIREMENTS VS TIME

NUMBER OF MEN

SCALE 1 = 57 MEN

1
2
3 0000:
4 0000:
5 000000000000:
6 000000000000:
7 000000000000:
8 000000:
9 000000:
10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89

90

91

92

$1 \frac{1}{2}$ unit
 $7 \frac{1}{2}$ y.
 $15 \frac{1}{2}$ y.
 4 y.
 12

CONSTRUCTION SCHEDULE

[illegible]

ALASKA ENERGY	ALASKA POWER AUTHORITY
ANCHORAGE DIV. OF	HOUSTON HYDROELECTRIC PROJECT
WATANA 2105	
UNDERGROUND POWERHOUSE	
A 2105-00010	

KIV 2304

CONSTRUCTION ACTIVITIES

MO • AVG SMO SMEN PMO PMEN
MEN

LAND & LAND RIGHTS

CLEARING - PHASE I	7	79	2	58	3	119
PHASE II	7	79	2	58	3	119
PHASE III	7	79	2	58	3	119

ROADS, RAIL FACILITIES & AIRSTRIP - I	7	279	2	176	3	417
- II	7	279	2	176	3	417
- III	7	279	2	176	3	417

CONSTRUCTION CAMP & FACILITIES - I	9	153	2	58	5	228
- II	9	153	2	58	5	228
- III	9	153	2	58	5	228
- IV	9	153	2	58	5	228

CONSTRUCTION CAMP SERVICING	7	188	2	119	3	281
(SUMMERS ONLY)	7	188	2	119	3	281
	7	188	2	119	3	281
	7	188	2	119	3	281
	7	188	2	119	3	281
	7	188	2	119	3	281
	7	188	2	119	3	281
	7	188	2	119	3	281

VISITORS, GUESTS & UNPAID TICKETS	7	42	2	27	3	64
(SUMMERS ONLY)	7	42	2	27	3	64
	7	42	2	27	3	64
	7	42	2	27	3	64
	7	42	2	27	3	64
	7	42	2	27	3	64
	7	42	2	27	3	64
	7	42	2	27	3	64

CONTRACT • 1

DIVERSION TUNNEL & FACILITIES - PHASE I	7	40	2	25	3	60
- PHASE II	7	40	2	25	3	60
- PHASE III	7	40	2	25	3	60
- PHASE IV	7	40	2	25	3	60

CONTRACT • 2

MAIN DAM EXCAVATION - PHASE I	7	96	2	60	3	143
- PHASE II	7	96	2	60	3	143

CONSTRUCTION ACTIVITIES

MO • AVG 5:10 SMEN PMO PMEN
MEN

- PHASE III	7	96	2	60	3	143

CONTRACT * 3						

FOUNDATION EXCAVATION, TREATMENT, EMBANKMENT TO ELEVATION 1468						
- PHASE I	7	79	2	50	3	119
- PHASE II	7	79	2	50	3	119
- PHASE III	7	79	2	50	3	119
COFFERDAMS						
- PHASE I	4	34	1	17	2	50
- PHASE II	4	20	1	10	2	30
POWER INTAKE EXCAVATION						
- PHASE I	7	92	2	50	3	138
- PHASE II	7	52	2	33	3	79

CONTRACT * 4						

SPILLWAY EXCAVATION, FOUNDATION TREATMENT AND DRAINAGE GALLERIES						
- PHASE I	7	234	2	147	3	349
- PHASE II	7	234	2	147	3	349

CONTRACT * 5						

OUTLET FACILITIES: TUNNEL EXCAVATION AND CONCRETE						
	35	13	9	6	17	13
POWER INTAKE CONCRETE						
- PHASE I	7	186	2	117	3	279
- PHASE II	7	186	2	117	3	279

CONTRACT * 6						

POWER FACILITIES (EXCAVATION & 1ST ST CONC)						
(A) ACCESS TUNNELS	7	126	2	79	3	188
(B) POWERHOUSE EXCAVATION AND FIRST STAGE CONCRETE	7	40	2	25	3	60
- PHASE I	7	40	2	25	3	60
- PHASE II						
- PHASE III	7	40	2	25	3	60
- PHASE IV	7	40	2	25	3	60
(C) TAILRACE TUNNELS & DRAFT TUBE TUNNELS	7	70	2	49	3	117
- PHASE I	4	61	1	31	2	92
- PHASE II						
(D) SURGE CHAMBER & VENT SHAFT	7	41	2	26	3	62
- PHASE I	7	41	2	26	3	62
- PHASE II	7	41	2	26	3	62
- PHASE III						
(E) TRANSFER GALLERY & TRANSFER SHAFT	7	13	2	8	3	19
- I	7	13	2	8	3	19
- II	7	13	2	8	3	19
- III						
(F) PENSTOCK TUNNELS- EXCAVATION & LINER	7	112	2	70	3	167
	7	112	2	70	3	167
	7	112	2	70	3	167
(G) DIVERSION TUNNEL PLUG	8	27	2	13	4	40
- PHASE I						
(H) SLIDE GATES & ACCESSORIES	8	60	2	30	4	90
- PHASE I						

CONSTRUCTION ACTIVITIES

MO • AVG SMO SMEN PMO PMEN
MEN

CONTRACT # 7

MAIN DAM: EMBANKMENT & RELICT CHANNEL

- PHASE I	7	717	2	452	3	1071
- PHASE II	7	717	2	452	3	1071
- PHASE III	7	717	2	452	3	1071
- PHASE IV	7	717	2	452	3	1071
- PHASE V	7	717	2	452	3	1071
- RELICT CHANNEL	7	224	2	141	3	334

CONTRACT # 8

AGGREGATE & CONCRETE SUPPLY
(INCLUDED IN CONCRETE ITEMS)

CONTRACT # 9

SPILLWAY CONCRETE - PHASE I
- PHASE II

11	209	3	123	5	313
7	219	2	138	3	327

CONTRACT # 10

GATES & HOISTS

7	210	2	132	3	313
---	-----	---	-----	---	-----

MECHANICAL & ELECTRICAL

TURBINE & GENERATOR

36	30	9	15	18	45
----	----	---	----	----	----

MECHANICAL & ELECTRICAL SYSTEMS

24	25	6	13	12	38
----	----	---	----	----	----

SWITCHYARD & CONTROL BUILDING

- EXCAVATION

7	27	2	17	3	41
---	----	---	----	---	----

- FOUND/STRUC & EQUIPMENT

7	64	2	40	3	96
---	----	---	----	---	----

TRANSMISSION LINES - PHASE I

7	233	2	147	3	348
---	-----	---	-----	---	-----

- PHASE II

7	233	2	147	3	348
---	-----	---	-----	---	-----

- PHASE III

7	233	2	147	3	348
---	-----	---	-----	---	-----

- PHASE IV

7	233	2	147	3	348
---	-----	---	-----	---	-----

1 MANHOURS/MO = 260.
 2 SIG DIGITS = 4.0
 3 PEAKMEN INC % = 25.0

ACTIVITIES	START		DURA		TOTAL		DIST	
	YR	MO	TION	MANHOURS	%	MO	MHR	
								MOS

LAND & LAND RIGHTS	1.	0.	1.					
CLEARING - PHASE I	1.	3.	7.	116125.	50.	67.		
PHASE II	2.	3.	7.	116125.	50.	67.		
PHASE III	3.	3.	7.	116125.	50.	67.		
ROADS,RAIL FACILITIES & AIRSTRIP - I	1.	3.	7.	407362.	50.	67.		
- II	2.	3.	7.	407362.	50.	67.		
- III	3.	3.	7.	407362.	50.	67.		
CONSTRUCTION CAMP & FACILITIES - I	1.	3.	9.	287200.	50.	67.		
- II	2.	3.	9.	287200.	50.	67.		
- III	3.	3.	9.	287200.	50.	67.		
- IV	4.	3.	9.	287200.	50.	67.		
CONSTRUCTION CAMP SERVICING	2.	3.	7.	275000.	50.	67.		
(SUMMERS ONLY)	3.	3.	7.	275000.	50.	67.		
	4.	3.	7.	275000.	50.	67.		
	5.	3.	7.	275000.	50.	67.		
	6.	3.	7.	275000.	50.	67.		
	7.	3.	7.	275000.	50.	67.		
	8.	3.	7.	275000.	50.	67.		
	9.	3.	7.	275000.	50.	67.		
VISITORS,GUESTS & UNPAID TICKETS	2.	3.	7.	62500.	50.	67.		
(SUMMERS ONLY)	3.	3.	7.	62500.	50.	67.		
	4.	3.	7.	62500.	50.	67.		
	5.	3.	7.	62500.	50.	67.		
	6.	3.	7.	62500.	50.	67.		
	7.	3.	7.	62500.	50.	67.		
	8.	3.	7.	62500.	50.	67.		

CONTRACT # 1								

DIVERSION TUNNEL & FACILITIES - PHASE I	2.	3.	7.	58785.	50.	67.		
- PHASE II	3.	3.	7.	58785.	50.	67.		
- PHASE III	4.	3.	7.	58785.	50.	67.		
- PHASE IV	5.	3.	7.	58785.	50.	67.		

CONTRACT # 2								

MAIN DAM EXCAVATION - PHASE I	3.	3.	7.	140000.	50.	67.		
- PHASE II	4.	3.	7.	140000.	50.	67.		
- PHASE III	5.	3.	7.	140000.	50.	67.		

56	*****						
57	CONTRACT # 3						
58	*****						
59	FOUNDATION EXCAVATION, TREATMENT, EMBANKMENT						
60	TO ELEVATION 1460 - PHASE I	2.	3.	7.	116250.	50.	67.
61	- PHASE II	3.	3.	7.	116250.	50.	67.
62	- PHASE III	4.	3.	7.	116250.	50.	67.
63							
64	COFFERDAMS - PHASE I	2.	8.	4.	28290.	50.	67.
65	- PHASE II	3.	8.	4.	16970.	50.	67.
66							
67	POWER INTAKE EXCAVATION - PHASE I	4.	3.	7.	135000.	50.	67.
68	- PHASE II	5.	3.	7.	77084.	50.	67.
69							
70	*****						
71	CONTRACT # 4						
72	*****						
73	SPILLWAY EXCAVATION, FOUNDATION TREATMENT						
74	AND DRAINAGE GALLERIES - PHASE I	5.	3.	7.	340950.	50.	67.
75	- PHASE II	6.	3.	7.	340950.	50.	67.
76							
77	*****						
78	CONTRACT # 5						
79	*****						
80	OUTLET FACILITIES: TUNNEL EXCAVATION						
81	AND CONCRETE	5.	2.	35.	94800.	50.	67.
82							
83	POWER INTAKE CONCRETE - PHASE I	6.	3.	7.	272200.	50.	67.
84	- PHASE II	7.	3.	7.	272200.	50.	67.
85							
86	*****						
87	CONTRACT # 6						
88	*****						
89	POWER FACILITIES (EXCAVATION & 1ST ST CONC)						
90							
91	(A) ACCESS TUNNELS	4.	3.	7.	184146.	50.	67.
92							
93	(B) POWERHOUSE EXCAVATION AND						
94	FIRST STAGE CONCRETE - PHASE I	5.	3.	7.	58750.	50.	67.
95	- PHASE II	6.	3.	7.	58750.	50.	67.
96	- PHASE III	7.	3.	7.	58750.	50.	67.
97	- PHASE IV	8.	3.	7.	58750.	50.	67.
98							
99	(C) TAILRACE TUNNELS & DRAFT TUBE TUNNELS						
100	- PHASE I	6.	3.	7.	114400.	50.	67.
101	- PHASE II	7.	3.	4.	51500.	50.	67.
102							
103	(D) SURGE CHAMBER & VENT SHAFT						
104	- PHASE I	4.	3.	7.	60800.	50.	67.
105	- PHASE II	5.	3.	7.	60800.	50.	67.
106	- PHASE III	6.	3.	7.	60800.	50.	67.
107							
108							
109							
110	(E) TRANSFER GALLERY & TRANSFER SHAFT - I	6.	3.	7.	19200.	50.	67.

111	- II	7.	3.	7.	19200.	50.	67.
112	- III	8.	3.	7.	19200.	50.	67.
113							
114	(F) PENSTOCK TUNNELS- EXCAVATION & LINER	5.	4.	7.	163400.	50.	67.
115		6.	3.	7.	163400.	50.	67.
116		7.	3.	7.	163400.	50.	67.
117							
118	(G) DIVERSION TUNNEL PLUG - PHASE I	8.	3.	8.	44950.	50.	67.
119							
120	(H) SLIDE GATES & ACCESSORIES - PHASE I	8.	3.	8.	101100.	50.	67.
121							
122	*****						
123	CONTRACT # 7						
124	*****						
125	MAIN DAM: EMBANKMENT & RELICT CHANNEL						
126	- PHASE I	5.	3.	7.	1045152.	50.	67.
127	- PHASE II	6.	3.	7.	1045152.	50.	67.
128	- PHASE III	7.	3.	7.	1045152.	50.	67.
129	- PHASE IV	8.	3.	7.	1045152.	50.	67.
130	- PHASE V	9.	3.	7.	1045152.	50.	67.
131	- RELICT CHANNEL	9.	3.	7.	326286.	50.	67.
132	*****						
133	CONTRACT # 8						
134	*****						
135	AGGREGATE & CONCRETE SUPPLY						
136	(INCLUDED IN CONCRETE ITEMS)						
137							
138	*****						
139	CONTRACT # 9						
140	*****						
141	SPILLWAY CONCRETE - PHASE I	6.	12.	11.	480000.	50.	67.
142	- PHASE II	8.	4.	7.	319800.	50.	67.
143							
144	*****						
145	CONTRACT # 10						
146	*****						
147	GATES & HOISTS	8.	4.	7.	306133.	50.	67.
148							
149	*****						
150	MECHANICAL & ELECTRICAL						
151	*****						
152	TURBINE & GENERATOR	7.	4.	36.	227571.	50.	67.
153							
154	MECHANICAL & ELECTRICAL SYSTEMS	8.	1.	24.	128867.	50.	67.
155							
156	SWITCHYARD & CONTROL BUILDING						
157							
158	- EXCAVATION	6.	3.	7.	40385.	50.	67.
159							
160	- FOUND/STRUC & EQUIPMENT	7.	3.	7.	94040.	50.	67.
161							
162	TRANSMISSION LINES - PHASE I	5.	3.	7.	340000.	50.	67.
163	- PHASE II	6.	3.	7.	340000.	50.	67.
164	- PHASE III	7.	3.	7.	340000.	50.	67.
165	- PHASE IV	8.	3.	7.	340000.	50.	67.

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY UNIT	UNIT PRICE	TOTAL PRICE
MAIN CONSTRUCTION CAMP				
.1	MAIN CONSTRUCTION CAMP			
.11	SITE PREPARATION			
.111	CLEARING	145 ACRE	5938.25	861,046
.112	INSTALL GRANULAR PAD	788000 CY	4.93	3,884,840
.113	SITE REHABILITATION	145 ACRE	6821.55	989,125
.114	CONSTRUCT ROADWAYS			
.114A	MAIN ROADS IN CAMP (34')	9100 LF	41.62	378,742
.114B	CONNECT. RD. TO ACCESS RD.	1800 LF	43.37	78,066
.116	DRAINAGE			
.116A	DITCHING	24800 LF	3.38	83,824

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY UNIT	UNIT PRICE	TOTAL PRICE
.116B	CULVERTS	1200 LF	37.15	44,580
.117	PERIMETER FENCING			
.117A	PERIMETER FENCING	9900 LF	13.51	133,749
.118	PARKING AREAS			
.118A	PARKING AREAS INSIDE CAMP	1 LS	55780.50	55,781
.118B	PARKING LOT OUT CAMP(500 CARS)	4 ACRE	99742.00	398,968
.118C	ELECTRI. PLUG INS	500 EACH	80.96	40,480
.12	BUILDINGS			
.121	BACHLR DORMS-100 MAN CMLX	24 EACH	534410.00	12,825,840
.122	BACHELOR DORMS- MGMT- TYPE A	8 EACH	138392.00	1,107,136

SUBTOTAL, PAGE 2

14,606,534

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY UNIT	UNIT PRICE	TOTAL PRICE
.116B	CULVERTS	1200 LF	37.15	44,580
.117	PERIMETER FENCING			
.117A	PERIMETER FENCING	9900 LF	13.51	133,749
.118	PARKING AREAS			
.118A	PARKING AREAS INSIDE CAMP	1 LS	55780.50	55,781
.118B	PARKING LOT OUT CAMP (500 CARS)	4 ACRE	99742.00	398,968
.118C	ELECTRI. PLUG INS	500 EACH	80.96	40,480
.12	BUILDINGS			
.121	BACHLR DORMS-108 MAN CMLX	24 EACH	534410.00	12,825,840
.122	BACHELOR DORMS- MGMT- TYPE A	8 EACH	138392.00	1,107,136

SUBTOTAL, PAGE 2

14,606,534

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY UNIT	UNIT PRICE	TOTAL PRICE
.123	BACHELOR DORMS- MGMT- TYPE B	9 EACH	118620.50	1,067,585
.124	GUEST HSS-1 EA OWN/MGR/CON	3 EACH	161491.50	484,475
.125	CAMP MANAGER'S OFFICES	3 EACH	56220.50	168,662
.126	STAFF CLUBHOUSE	1 EACH	230920.00	230,920
.127	DINING HALL	1 EACH	1370470.00	1,370,470
.128	DINING HALL	1 EACH	2439895.00	2,439,895
.129	RECREATING BLDG.	1 EACH	863700.00	863,700
.1210	RECREATION BLDG.	1 EACH	1799340.00	1,799,340
.1211	GYMNASIUM	1 EACH	3002560.00	3,002,560
.1212	SECURITY OFFICE	1 EACH	197826.50	197,827

SUBTOTAL, PAGE 3

11,625,434

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY UNIT	UNIT PRICE	TOTAL PRICE
.1213	SOILS/MATERIAL LAB	1 EACH	457470.50	457,471
.1214	MAINTENANCE BLDG.	1 EACH	475993.50	475,994
.1215	WAREHOUSE-MANAGERS	1 EACH	852195.00	852,195
.1216	WAREHOUSE-FOOD SERVICE	1 EACH	993125.00	993,125
.1217	COMMUNICATION BLDG.	1 EACH	45278.85	45,279
.1218	HOSPITAL	1 EACH	3207715.00	3,207,715
.1219	ICE RINK	1 EACH	1637975.00	1,637,975
.1220	BANK	1 EACH	298006.00	298,006
.1221	STORE	1 EACH	140814.50	140,815
.1222	LAUNDRY	1 EACH	119201.50	119,202
.1223	PERMAWALK			
.1224A	6 FEET WIDE	670 LF	73.13	48,997

SUBTOTAL, PAGE 4

8,276,774

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
.1213	SOILS/MATERIAL LAB	1	EACH	457470.50	457,471
.1214	MAINTENANCE BLDG.	1	EACH	475993.50	475,994
.1215	WAREHOUSE-MANAGERS	1	EACH	852195.00	852,195
.1216	WAREHOUSE-FOOD SERVICE	1	EACH	993125.00	993,125
.1217	COMMUNICATION BLDG.	1	EACH	45278.85	45,279
.1218	HOSPITAL	1	EACH	3207715.00	3,207,715
.1219	ICE RINK	1	EACH	1637975.00	1,637,975
.1220	BANK	1	EACH	298006.00	298,006
.1221	STORE	1	EACH	140814.50	140,815
.1222	LAUNDRY	1	EACH	119201.50	119,202
.1223	PERMAWALK				
.1224A	6 FEET WIDE	670	LF	73.13	48,997

SUBTOTAL, PAGE 4

8,276,774

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY UNIT	UNIT PRICE	TOTAL PRICE
.1224B	10 FEET WIDE	2170 LF	113.74	246,816
.1224C	16 FEET WIDE	730 LF	195.00	142,350
.1224D	RELOCATED 160 MAN CAMP	1 LS	223620.50	223,621
.13	UTILITIES			
.131	WATER			
.131A	SUPPLY SYSTEM INTAKE			
.131A.1	3.4 MG POND	1 LS	284058.00	284,058
.131B	PUMP STATION			
.131B.1	600 GPM	1 LS	129337.00	129,337
.131C	BOOSTER PUMP STATION			
.131C.1	600 GPM	1 LS	124502.00	124,502

SUBTOTAL, PAGE 5

1,150,684

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
.131D	SUPPLY LINE				
.131D.1					
	6" DI PIPE	10000	LF	35.10	351,000
.131D.2					
	4" DI PIPE	10000	LF	31.15	311,500
.131E	HEAT TRACING & INSULATION				
.131E.1					
	6" PIPE	10000	LF	25.24	252,400
.131E.2					
	4" PIPE	10000	LF	22.82	228,200
.131F	UTILIDOR				
.131F.1					
	UTILIDOR	10000	LF	70.33	703,300
.131G	TREATMENT PLANT				
.131G.1					
	0.9 MGD	1	LS	1918300.00	1,918,300
.131H	BACK-UP WELLS				
.131H.1					
	BACK-UP WELLS	1	LS	245378.00	245,378

SUBTOTAL, PAGE 6

4,010,078

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
.131I	DISTRIBUTION MAIN TO CAMP				
.131I.1	6" DI PIPE	3500	LF	35.10	122,850
.131I.2	4" DI PIPE	3500	LF	31.15	109,025
.131J	HEAT TRACING * INSULATION				
.131J.1	6" PIPE	3500	LF	25.24	88,340
.131J.2	4" PIPE	3500	LF	22.82	79,870
.131K	UTILIDORS				
.131K.1	UTILIDORS	3500	LF	70.33	246,155
.131L	RESERVOIRS				
.131L.1	1 EA @ 0.8 MG & 1.2 MG	1	LS	232081.50	232,082
SUBTOTAL, PAGE 7					878,322

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
.131M	PUMP STATION				
.131M.1	4750 GPM	1	LS	76152.00	76,152
.131N	CAMP DISTRIBUTION SYSTEM DISTRIB LINES- BURIED				
.131N.1	12"	2130	LF	78.34	166,864
.131N.2	6"	300	LF	49.95	14,985
.1310	DISTRIB LINE UTILIDOR PIPING				
.1310.1	12" DIAMETER	2530	LF	67.63	171,104
.1310.2	6" DIAMETER	3470	LF	35.11	121,832
.1310.3	4" DIAMETER	605	LF	31.15	18,846
.131P	HEAT TRACING & INSULATION				
.131P.1	12" PIPE	4660	LF	44.77	208,628

SUBTOTAL, PAGE 8

778,411

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY UNIT	UNIT PRICE	TOTAL PRICE
.131P.2	6" PIPE	3770 LF	25.24	95,155
.131P.3	4" PIPE	605 LF	22.82	13,806
.131Q	HYDRANTS			
.131Q.1	HYDRANTS	12 EACH	1337.10	16,045
.131R	VALVES			
.131R.1	VALVES	1 LS.	10878.80	10,879
.131S	UTILIDORS			
.131S.1	UTILIDORS	7500 LF	66.32	497,400
.132	SEWAGE			
.132.1	COLLECTION SYSTEM PIPING			
.132.1.1	16" PIPE	650 LF	92.89	60,378

SUBTOTAL, PAGE 9

693,663

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY UNIT	UNIT PRICE	TOTAL PRICE
.132.1.2	12" PIPE	1850 LF	67.63	125,115
.132.1.3	8" PIPE	2950 LF	44.00	129,800
.132.1.4	6" PIPE	1600 LF	35.10	56,160
.132.1.5	4" PIPE	1200 LF	31.15	37,380
.132.2	HEAT TRACING & INSULATION			
.132.2.1	16"	605 LF	60.76	36,760
.132.2.2	12"	1850 LF	44.77	82,824
.132.2.3	8"	2950 LF	28.66	84,547
.132.2.4	6"	1600 LF	25.24	40,384
.132.2.4	4"	1200 LF	22.82	27,384
.132.3	UTILIDORS			
.132.3.1	UTILIDORS	1200 LF	70.33	84,396

SUBTOTAL, PAGE 10

704,750

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
.132.4	TREATMENT PLANT				
.132.4.1	SKIMMING TANK	1	EACH	20548.90	20,549
.132.4.2	LAGOONS- (1 @ 385' X 205' & 2 @ 280' X 155'	3	EACH	111022.00	335,466
.132.4.3	ROTATING BID CONTACTORS	6	EACH	166717.00	1,000,302
.132.4.4	PHYS/CHEM UNIT	1	EACH	111206.00	111,206
.132.4.5	CLARIFIER	1	EACH	205489.00	205,489
.132.4.6	DISINFECTION	1	EACH	111206.00	111,206
.132.4.7	HEAT PUMP	1	EACH	9670.05	9,670
.132.4.8	THICKENER	1	EACH	120876.00	120,876
.132.4.9	FILTER PRESS	1	EACH	118458.50	118,459

SUBTOTAL, PAGE 11

2,033,223

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY UNIT	UNIT PRICE	TOTAL PRICE
.132.4.10	DRYING BEDS	2 EACH	55282.50	110,565
.132.4.11	BUILDING	1 EACH	418230.50	418,231
.132.5.12	CONSTROLS/ INSTRUMENTATION	1 LS	139007.00	139,007
.132.5.13	PIPING, VALVES, FITTINGS	1 LS	395264.00	395,264
.132.5.14	LABORATORY	1 EACH	61646.50	61,647
.132.6	OUTFALL	2000 LF	61.68	123,360
.132.7	OUTFALL STRUCTURE	1 EACH	65273.00	65,273
.133	ELECTRICAL			
.133.1	GENERATING STATION			
.133.1.1	BUILDING	1 EACH	241751.50	241,752
SUBTOTAL, PAGE 12				1,555,099

726

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
.133.1.2	GENERATORS	4	EACH	871515.00	3,486,060
.133.1.3	DAY TANK	1	EACH	120876.00	120,876
.133.1.4	FUEL STORAGE TANK	2	EACH	241751.50	483,503
.133.1.5	SUBSTATION	1	EACH	80987.00	80,987
.133.2	DISTRIBUTION SYSTEM	1	LS	164391.00	164,391
.133.3	LIGHTING				
.133.3.1	POLE MOUNTED LUMINAIRES	60	EACH	1649.51	98,971
.133.3.2	FLOOD LIGHTS	25	EACH	613.27	15,332
.134	CAMP HEATING				
.134.1	FUEL OIL DISTRIBUTION	1	LS	130546.00	130,546
.135	FIRE PROTECTION				
.135.1	FIRE HOUSE	1	LS	414604.00	414,604

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
.135.2	ALARM SYSTEM	1	LS	211532.50	211,533
.135.3	SPRINKLER SYSTEM				
.135.3.1	MESS HALLS	1	LS	43515.30	43,515
.135.3.2	REC HALLS	1	LS	36262.75	36,263
.135.3.3	HOSPITAL	1	LS	19340.15	19,340
.135.3.4	SCHOOL	1	LS	29010.20	29,010
.136	TELEPHONE SYSTEM				
.136.1	TELEPHONE SYSTEM CAMP (WIRE)	1	LS	535480.00	535,480
.136.2	MICROWAVE	1	LS	775445.00	775,445
.137	TV/RADIO STATION	1	LS	204280.00	204,280
.138	SOLID WASTE FACILITY				
.138.1	SOLID WASTE FACILITY	1	LS	122084.50	122,085

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY UNIT	UNIT PRICE	TOTAL PRICE
.138.2	INCINERATOR	1 LS	78569.50	78,570
.139	PETROLEUM STORAGE FACILITY			
.139.1	GARAGE/MAINTENANCE BLDG	1 EACH	215159.00	215,159
.139.2	TANKS			
.139.2.1	50,000 GAL	4 EACH	20794.25	83,177
.139.2.2	100,000 GAL	36 EACH	37428.00	1,347,408
.139.3	EARTHWORK			
.139.3.1	CLEARING & GRUBBING	14 ACRE	10732.55	150,256
.139.3.2	BERMS	45000 CY	25.06	1,127,700
.139.4	PIPING	1 LS	183731.00	183,731
.139.5	FUEL STATION	1 LS	316694.50	316,695

SUBTOTAL, PAGE 15

3,502,696

SUBTOTAL - MAIN CONSTRUCTION CAMP

63,063,532

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY UNIT	UNIT PRICE	TOTAL PRICE
.2	MAIN CONSTRUCTION VILLAGE			
.21	SITE PREPARATION			
.211	CLEARING	116 ACRE	5937.75	688,779
.212	INSTALL GRANULAR PAD	743000 .CY	4.93	3,662,990
.213	SITE REHABILITATION	116 ACRE	6821.55	791,300
.214	CONSTRUCTION ROADWAYS			
.214.1	MAIN ROAD 34' WIDE	2200. LF	41.62	91,564
.214.2	SECONDARY ROADS 24' WIDE	175600 LF	43.37	7,615,772
.214.3	CONNECTION TO ACC RD 34'	1600 LF	41.62	66,592
.215	DRAINAGE			
.215.1	DITCHING	42800 LF	3.38	144,664

SURTOTAL PAGE 10

13,061,661

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY UNIT	UNIT PRICE	TOTAL PRICE
.215.2	CULVERTS-360 LOTS	8500 LF	37.15	315,775
.216	PERIMETER FENCING	10700 LF	13.51	144,557
.217	PARKING AREAS	36000 SF	1.28	46,080
.218	ELECTRICAL PLUG-INS	25 EA	80.96	2,024
.22	BUILDINGS			
.221	SINGLE FAMILY UNIT 2 BDRM	74 EA	33871.80	2,506,513
.222	SINGLE FAMILY UNIT 3 BDRM	108 EA	35648.70	6,701,956
.223	SINGLE FAMILY UNIT 2 BDRM	16 EA	56280.00	900,480
.224	SINGLE FAMILY UNIT 3 BDRM	16 EA	58697.50	939,160
.225	SINGLE FAMILY UNIT 4 BDRM	16 EA	65659.50	1,050,552

SUBTOTAL, PAGE 17

12,607,097

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
.226	SCHOOL	1	LS	1725070.00	1,725,070
.227	GYMNASIUM	1	LS	750640.00	750,640
.228	SWIMMING POOL	1	LS	979095.00	979,095
.229	RECREATION CENTER	1	LS	602830.00	602,830
.220	STORE	1	LS	1251500.00	1,251,500
.2211	GAS STATION	1	LS	207906.50	207,907
.23	UTILITIES				
.231	WATER - SUPPLY LINE				
.2311	4"	8300	FT	30.82	255,806
.2312	PUMP STATION-160 GPM	1	LS	88239.50	88,240
.2313	WATER STORAGE TANK 1.0 MG	1	EA	106370.50	106,371

SUBTOTAL, PAGE 10

5,967,459

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OED)

ITEM	DESCRIPTION	QUANTITY UNIT	UNIT PRICE	TOTAL PRICE
.231.2 DISTRIBUTION SYSTEM				
.231.21	PIPING 12" PI	1300 LF	67.63	87,919
.231.22	10" DI	1000 LF	53.02	53,020
.231.23	8" DI	1500 LF	44.00	66,000
.231.24	6" DI	8500 LF	35.10	298,350
.231.3 HEAT TRACING & INSUL				
.231.31	12" PIPE	1300 LF	44.77	58,201
.231.32	10" PIPE	1000 LF	38.97	38,970
.231.33	8" PIPE	1500 LF	28.66	42,990
.231.34	6" PIPE	8500 LF	25.24	214,540
.231.35	4" PIPE	8300 LF	22.82	189,406

SUBTOTAL, PAGE 19

1,049,396

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
.231.4	VALVES				
.231.41	12"	2	EA	1506.99	3,014
.231.42	10"	2	EA	1101.23	2,202
.231.43	8"	2	EA	868.22	1,736
.231.44	6"	17	EA	587.99	9,996
.231.5	HYDRANTS	18	EA	1337.10	24,068
.232	SEWAGE				
.232.1	COLLECTION SYSTEM PIPING				
.232.11	14" PIPE	700	LF	79.02	55,314
.232.12	12" PIPE	800	LF	67.63	54,104
.232.13	10" PIPE	1100	LF	53.02	58,322

SUBTOTAL, PAGE 20

208,756

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
.232.14	8" PIPE	4500	LF	44.00	198,000
.232.15	6" PIPE	5100	LF	35.10	179,010
.232.2	HEAT TRACING & INSUL				
.232.21	14" PIPE	700	LF	54.04	37,828
.232.22	12" PIPE	800	LF	44.77	35,816
.232.23	10" PIPE	1100	LF	38.97	42,867
.232.24	8" PIPE	4500	LF	28.66	128,970
.232.25	6" PIPE	18900	LF	25.24	477,036
.232.3	PUMPING SYSTEM STATION	1	LS	114832.00	114,832
.232.4	BOOSTER PUMP STATION	1	LS	27801.45	27,801
.232.4.1	6" FORCE MAIN	13800	LF	35.10	484,380

SUBTOTAL, PAGE 21

1,726,540

DATE MARCH 30, 1984
FILE NO 1563-103
PROJECT WATANA - CONSTRUCTION CAMPS

HARZA ENGINEERING COMPANY
FEASIBILITY ESTIMATE
(L LEVY/OEB)

ITEM	DESCRIPTION	QUANTITY UNIT	UNIT PRICE	TOTAL PRICE
.232.14	8" PIPE	4500 LF	44.00	198,000
.232.15	6" PIPE	5100 LF	35.10	179,010
.232.2	HEAT TRACING & INSUL			
.232.21	14" PIPE	700 LF	54.04	37,828
.232.22	12" PIPE	800 LF	44.77	35,816
.232.23	10" PIPE	1100 LF	38.97	42,867
.232.24	8" PIPE	4500 LF	28.66	128,970
.232.25	6" PIPE	18900 LF	25.24	477,036
.232.3	PUMPING SYSTEM STATION	1 LS	114832.00	114,832
.232.4	BOOSTER PUMP STATION	1 LS	27801.45	27,801
.232.4.1	6" FORCE MAIN	13800 LF	35.10	484,380

SUBTOTAL, PAGE 21

1,726,540

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		

MAIN CONSTRUCTION CAMP									
.1	MAIN CONSTRUCTION CAMP								
.11	SITE PREPARATION								
.111	CLEARING	145	ACRE	405,334	40,533	266,474	0	4912.70	712,341
.112	INSTALL GRANULAR PAD	788000	CY	425,520	23,640	2,765,880	0	4.08	3,215,040
.113	SITE REHABILITATION	145	ACRE	214,510	271,726	332,064	0	5643.45	818,300
.114	CONSTRUCT ROADWAYS								
.114A	MAIN ROADS IN								
1	CAMP (34')	9100	LF	89,362	175,448	48,503	0	34.43	313,313
.114B	CONNECT. RD. TO ACCESS RD.	1800	LF	15,660	36,774	12,150	0	35.88	64,584

SUBTOTAL, PAGE 1				1,150,386	548,121	3,425,071	0		5,123,578

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.116	DRAINAGE								
.116A	DITCHING	24800	LF	41,168	6,200	22,072	0	2.80	69,440
.116B	CULVERTS	1200	LF	14,796	17,184	4,896	0	30.73	36,876
.117	PERIMETER FENCING								
.117A	PERIMETER FENCING	9900	LF	21,582	85,239	3,861	0	11.18	110,682
.118	PARKING AREAS								
.118A	PARKING AREAS INSIDE CAMP	1	LS	12,562	25,556	8,029	0	46147.00	46,147
.118B	PARKING LOT OUT CAMP (500 CARS)	4	ACRE	207,260	20,724	102,080	0	82516.00	330,064
.118C	ELECTRI. PLUG INS	500	EACH	6,500	26,990	0	0	66.98	33,490
.12	BUILDINGS								
.121	BACHLR DORMS-108 MAN CMPLX	24	EACH	2,142,000	8,147,472	321,288	0	442115.00	10,610,760
SUBTOTAL, PAGE 2				2,445,868	8,329,365	462,226	0		11,237,459

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	COST CATEGORIES			SUB- CONTRACTS	UNIT COST	TOTALS TOTAL COST
				LABOR	MATERIALS & SUPPLIE	EQUIPMENT			
.122	BACHELOR DORMS- MGMNT- TYPE A	8	EACH	184,240	704,056	27,632	0	114491.00	915,928
.123	BACHELOR DORMS- MGMNT- TYPE B	9	EACH	177,660	678,906	26,640	0	98134.00	883,206
.124	GUEST HSS-1 EA OWN/MGR/CON	3	EACH	98,805	287,178	14,820	0	133601.00	400,803
.125	CAMP MANAGER'S OFFICES	3	EACH	35,280	98,964	5,289	0	46511.00	139,533
.126	STAFF CLUBHOUSE	1	EACH	39,200	145,960	5,879	0	191039.00	191,039
.127	DINING HALL	1	EACH	257,320	837,866	38,597	0	1133783.00	1,133,783
.128	DINING HALL	1	EACH	494,095	1,450,304	74,114	0	2018513.00	2,018,513
.129	RECREATING BLDG.	1	EACH	197,645	487,242	29,646	0	714533.00	714,533
.1210	RECREATION BLDG.	1	EACH	411,740	1,015,086	61,760	0	1488586.00	1,488,586
.1211	GYMNASIUM	1	EACH	915,005	1,431,750	137,250	0	2484005.00	2,484,005
SUBTOTAL, PAGE 3				2,810,990	7,137,312	421,627	0		10,369,929

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	COST CATEGORIES			SUB- CONTRACTS	UNIT COST	TOTALS TOTAL COST
				LABOR	MATERIALS & SUPPLIE	EQUIPMENT			
.1212	SECURITY OFFICE	1	EACH	49,385	106,869	7,407	0	163661.00	163,661
.1213	SOILS/MATERIAL LAB	1	EACH	114,345	17,151	246,967	0	378463.00	378,463
.1214	MAINTENANCE BLDG.	1	EACH	91,490	288,574	13,723	0	393787.00	393,787
.1215	WAREHOUSE-MANAGERS	1	EACH	263,515	401,975	39,527	0	705017.00	705,017
.1216	WAREHOUSE-FOOD SERVICE	1	EACH	164,675	632,233	24,701	0	821609.00	821,609
.1217	COMMUNICATION BLDG.	1	EACH	5,145	31,543	771	0	37459.00	37,459
.1218	HOSPITAL	1	EACH	307,440	2,500,172	46,115	0	2653727.00	2,653,727
.1219	ICE RINK	1	EACH	411,740	281,508	61,760	0	1355087.00	1,355,087
.1220	BANK	1	EACH	51,450	187,372	7,717	0	246539.00	246,539
.1221	STORE	1	EACH	20,500	92,829	3,006	0	116495.00	116,495
.1222	LAUNDRY	1	EACH	12,100	84,609	1,826	0	98615.00	98,615
SUBTOTAL, PAGE 4				1,491,945	5,024,914	453,600	0		6,970,459

DATE MARCH 6, 1984
 FILE NO 1563XI
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	COST CATEGORIES			SUB- CONTRACTS	UNIT COST	TOTALS TOTAL COST
				LABOR	MATERIALS & SUPPLIE	EQUIPMENT			
.1223	PERMAWALK								
.1224A	6 FEET WIDE	670	LF	22,834	17,701	0	0	60.50	40,535
.1224B	10 FEET WIDE	2170	LF	115,010	89,187	0	0	94.10	204,197
.1224C	16 FEET WIDE	730	LF	66,342	51,421	0	0	161.32	117,763
.1224D	RELOCATED 160 MAN CAMP	1	LS	141,000	20,000	24,000	0	185000.00	185,000
.13	UTILITIES								
.131	WATER								
.131A	SUPPLY SYSTEM INTAKE								
.131A.1	3.4 MG POND	1	LS	12,000	221,000	2,000	0	235000.00	235,000
.131B	PUMP STATION								
.131B.1	600 GPM	1	LS	20,000	85,000	2,000	0	107000.00	107,000
SUBTOTAL, PAGE 5				377,186	484,309	28,000	0		889,495

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.131C	BOOSTER PUMP STATION								
.131C.1	600 GPM	1	LS	14,000	89,000	0	0	103000.00	103,000
.131D	SUPPLY LINE								
.131D.1	6" DI PIPE	10000	LF	120,800	72,700	96,900	0	29.04	290,400
.131D.2	4" DI PIPE	10000	LF	107,400	64,200	86,100	0	25.77	257,700
.131E	HEAT TRACING & INSULATION								
.131E.1	6" PIPE	10000	LF	85,500	123,300	0	0	20.88	208,800
.131E.2	4" PIPE	10000	LF	80,000	108,800	0	0	18.88	188,800
.131F	UTILIDOR								
.131F.1	UTILIDOR	10000	LF	111,000	407,400	63,400	0	58.18	581,800
SUBTOTAL, PAGE 6				518,700	865,400	246,400	0		1,630,500

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.131G	TREATMENT PLANT								
.131G.1	0.9 MGD	1	LS	30,000	1,520,000	29,000	0	1587000.00	1,587,000
.131H	BACK-UP WELLS								
.131H.1	BACK-UP WELLS	1	LS	30,000	153,000	20,000	0	203000.00	203,000
.131I	DISTRIBUTION MAIN TO CAMP								
.131I.1	6" DI PIPE	3500	LF	42,200	25,445	33,915	0	29.04	101,640
.131I.2	4" DI PIPE	3500	LF	37,590	22,470	30,135	0	25.77	90,195
.131J	HEAT TRACING * INSULATION								
.131J.1	6" PIPE	3500	LF	29,925	43,155	0	0	20.88	73,080
.131J.2	4" PIPE	3500	LF	28,000	38,080	0	0	18.88	66,080
.131K	UTILIDORS								
.131K.1	UTILIDORS	3500	LF	38,050	142,590	22,190	0	58.18	203,630
SUBTOTAL, PAGE 7				236,645	1,952,740	135,240	0		2,324,625

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.131L	RESERVOIRS								
.131L.1	1 EA @ 0.8 MG & 1.2 MG	1	LS	21,000	157,000	14,000	0	192000.00	192,000
.131M	PUMP STATION								
.131M.1	4750 GPM	1	LS	10,000	53,000	0	0	63000.00	63,000
.131N	CAMP DISTRIBUTION SYSTEM DISTRIB LINES- BURIED								
.131N.1	12"	2130	LF	51,653	36,743	49,650	0	64.81	138,046
.131N.2	6"	300	LF	5,028	2,181	5,187	0	41.32	12,396
.1310	DISTRIB LINE UTILIDOR PIPING								
.1310.1	12" DIAMETER	2530	LF	54,344	43,643	43,567	0	55.95	141,554
.1310.2	6" DIAMETER	3470	LF	41,952	25,227	33,624	0	29.05	100,803
SUBTOTAL, PAGE 8				183,977	317,794	146,028	0		647,799

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.1310.3	4" DIAMETER	605	LF	6,498	3,884	5,209	0	25.77	15,591
.131P	HEAT TRACING & INSULATION								
.131P.1	12" PIPE	4660	LF	62,910	109,696	0	0	37.04	172,606
.131P.2	6" PIPE	3770	LF	32,233	46,484	0	0	20.88	78,717
.131P.3	4" PIPE	605	LF	4,840	6,582	0	0	18.88	11,422
.131Q	HYDRANTS								
.131Q.1	HYDRANTS	12	EACH	3,192	10,082	0	0	1106.17	13,274
.131R	VALVES								
.131R.1	VALVES	1	LS.	2,000	7,000	0	0	9000.00	9,000
.131S	UTILIDORS								
.131S.1	UTILIDORS	7500	LF	75,300	305,550	30,675	0	54.87	411,525
SUBTOTAL, PAGE 9				186,973	489,278	35,884	0		712,135

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.132	SEWAGE								
.132.1	COLLECTION SYSTEM PIPING								
.132.1.1	16" PIPE	650	LF	18,850	15,983	15,119	0	76.85	49,952
.132.1.2	12" PIPE	1850	LF	39,738	31,913	31,857	0	55.95	103,508
.132.1.3	8" PIPE	2950	LF	42,775	30,296	34,308	0	36.40	107,379
.132.1.4	6" PIPE	1600	LF	19,328	11,632	15,504	0	29.04	46,464
.132.1.5	4" PIPE	1200	LF	12,888	7,704	10,332	0	25.77	30,924
.132.2	HEAT TRACING & INSULATION								
.132.2.1	16"	605	LF	13,159	17,255	0	0	50.27	30,414
.132.2.2	12"	1850	LF	24,975	43,549	0	0	37.04	68,524
.132.2.3	8"	2950	LF	27,671	42,273	0	0	23.71	69,944
SUBTOTAL, PAGE 10				199,384	200,605	107,120	0		507,109

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.132.2.4	6"	1600	LF	13,680	19,720	0	0	20.88	33,408
.132.2.4	4"	1200	LF	9,600	13,056	0	0	18.88	22,656
.132.3	UTILIDORS								
.132.3.1	UTILIDORS	1200	LF	13,320	48,888	7,608	0	58.18	69,816
.132.4	TREATMENT PLANT								
.132.4.1	SKIMMING TANK	1	EACH	11,000	2,000	4,000	0	17000.00	17,000
.132.4.2	LAGOONS- (1 @ 385' X 285' & 2 @ 280' X 155'	3	EACH	61,296	128,493	87,741	0	92510.00	277,530
.132.4.3	ROTATING BID CONTACTORS	6	EACH	122,442	623,472	81,630	0	137924.00	827,544
.132.4.4	PHYS/CHEM UNIT	1	EACH	18,000	61,000	13,000	0	92000.00	92,000
.132.4.5	CLARIFIER	1	EACH	32,900	115,000	23,000	0	170000.00	170,000
SUBTOTAL, PAGE 11				201,338	1,011,637	216,979	0		1,509,954

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.132.4.6	DISINFECTION	1	EACH	18,000	61,000	13,000	0	92000.00	92,000
.132.4.7	HEAT PUMP	1	EACH	2,000	5,000	1,000	0	8000.00	8,000
.132.4.8	THICKENER	1	EACH	19,000	68,000	13,000	0	100000.00	100,000
.132.4.9	FILTER PRESS	1	EACH	19,000	66,000	13,000	0	98000.00	98,000
.132.4.10	DRYING BEDS	2	EACH	27,142	55,280	9,048	0	45735.00	91,470
.132.4.11	BUILDING	1	EACH	115,000	206,000	25,000	0	346000.00	346,000
.132.5.12	CONSTROLS/ INSTRUMENTATION	1	LS	57,000	58,000	0	0	115000.00	115,000
.132.5.13	PIPING, VALVES, FITTINGS	1	LS	162,000	165,000	0	0	327000.00	327,000
.132.5.14	LABORATORY	1	EACH	3,000	48,000	0	0	51000.00	51,000
.132.6	OUTFALL	2000	LF	14,840	75,360	11,860	0	51.03	102,060
.132.7	OUTFALL STRUCTURE	1	EACH	20,000	14,000	20,000	0	54000.00	54,000
SUBTOTAL, PAGE 12				456,982	821,640	105,908	0		1,384,530

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	COST CATEGORIES			SUB- CONTRACTS	UNIT COST	TOTALS TOTAL COST
				LABOR	MATERIALS & SUPPLIE	EQUIPMENT			
.133	ELECTRICAL								
.133.1	GENERATING STATION								
.133.1.1	BUILDING	1	EACH	50,000	20,000	50,000	80,000	200000.00	200,000
.133.1.2	GENERATORS	4	EACH	288,400	2,307,200	288,400	0	721000.00	2,884,000
.133.1.3	DAY TANK	1	EACH	20,000	60,000	20,000	0	100000.00	100,000
.133.1.4	FUEL STORAGE TANK	2	EACH	80,000	240,000	80,000	0	200000.00	400,000
.133.1.5	SUBSTATION	1	EACH	11,000	54,000	2,000	0	67000.00	67,000
.133.2	DISTRIBUTION SYSTEM	1	LS	23,000	109,000	4,000	0	136000.00	136,000
.133.3	LIGHTING								
.133.3.1	POLE MOUNTED LUMINAIRES	60	EACH	13,620	65,198	3,060	0	1364.63	81,878
.133.3.2	FLOOD LIGHTS	25	EACH	2,500	10,184	0	0	507.36	12,684
SUBTOTAL, PAGE 13				408,520	2,865,582	447,460	80,000		3,881,562

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
				LABOR	MATERIALS & SUPPLIE	EQUIPMENT		
.134	CAMP HEATING							
.134.1	FUEL OIL DISTRIBUTION	1	LS	55,000	53,000	0	108000.00	108,000
.135	FIRE PROTECTION							
.135.1	FIRE HOUSE	1	LS	112,000	215,000	16,000	343000.00	343,000
.135.2	ALARM SYSTEM	1	LS	110,000	65,000	0	175000.00	175,000
.135.3	SPRINKLER SYSTEM							
.135.3.1	MESS HALLS	1	LS	23,000	13,000	0	36000.00	36,000
.135.3.2	REC HALLS	1	LS	19,000	11,000	0	30000.00	30,000
.135.3.3	HOSPITAL	1	LS	10,000	6,000	0	16000.00	16,000
.135.3.4	SCHOOL	1	LS	15,000	9,000	0	24000.00	24,000
.136	TELEPHONE SYSTEM							
.136.1	TELEPHONE SYSTEM CAMP (WIRE)	1	LS	279,000	164,000	0	443000.00	443,000
SUDTOTAL, PAGE 14				623,000	536,000	16,000	0	1,175,000

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	COST CATEGORIES			SUB- CONTRACTS	UNIT COST	TOTALS TOTAL COST
				LABOR	MATERIALS & SUPPLIE	EQUIPMENT			
.136.2	MICROWAVE	1	LS	427,000	1,520	213,000	0	641520.00	641,520
.137	TV/RADIO STATION	1	LS	33,000	136,000	0	0	169000.00	169,000
.138	SOLID WASTE FACILITY								
.138.1	SOLID WASTE FACILITY	1	LS	53,000	42,000	6,000	0	101000.00	101,000
.138.2	INCINERATOR	1	LS	23,000	42,000	0	0	65000.00	65,000
.139	PETROLEUM STORAGE FACILITY								
.139.1	GARAGE/MAINTENANCE BLDG	1	EACH	91,000	76,000	11,000	0	178000.00	178,000
.139.2	TANKS								
.139.2.1	50,000 GAL	4	EACH	0	68,812	0	0	17203.00	68,812
.139.2.2	100,000 GAL	36	EACH	0	1,114,704	0	0	30964.00	1,114,704
SUBTOTAL, PAGE 15				627,000	1,481,036	230,000	0		2,338,036

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY UNIT	LABOR	COST CATEGORIES		SUB- CONTRACTS	UNIT COST	TOTALS TOTAL COST
				MATERIALS & SUPPLIE	EQUIPMENT			
.139.3	EARTHWORK							
.139.3.1	CLEARING & GRUBBING	14 ACRE	33,530	0	90,776	0	8879.00	124,306
.139.3.2	BERMS	45000 CY	126,900	622,350	183,600	0	20.73	932,850
.139.4	PIPING	1 LS	68,000	84,000	0	0	152000.00	152,000
.139.5	FUEL STATION	1 LS	109,000	145,000	8,000	0	262000.00	262,000
SUBTOTAL, PAGE 16			337,430	851,350	282,376	0		1,471,156
SUBTOTAL - MAIN CONSTRUCTION CAMP			12,416,324	32,917,083	6,759,919	80,000		52,173,326

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.139.3	EARTHWORK								
.139.3.1	CLEARING & GRUBBING	14	ACRE	33,530	0	90,776	0	8879.00	124,306
.139.3.2	BERMS	45000	CY	126,900	622,350	183,600	0	20.73	932,850
.139.4	PIPING	1	LS	68,000	84,000	0	0	152000.00	152,000
.139.5	FUEL STATION	1	LS	109,000	145,000	8,000	0	262000.00	262,000
SUBTOTAL, PAGE 16				337,430	851,350	282,376	0		1,471,156
SUBTOTAL - MAIN CONSTRUCTION CAMP				12,416,324	32,917,083	6,759,919	80,000		52,173,326

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.2	MAIN CONSTRUCTION VILLAGE								
.21	SITE PREPARATION								
.211	CLEARING	116	ACRE	324,220	32,427	213,179	0	4912.29	569,826
.212	INSTALL GRANULAR PAD	743000	CY	401,220	22,290	2,607,930	0	4.08	3,031,440
.213	SITE REHABILITATION	116	ACRE	171,600	217,381	265,652	0	5643.46	654,641
.214	CONSTRUCTION ROADWAYS								
.214.1	MAIN ROAD 34' WIDE	2200	LF	21,604	42,416	11,726	0	34.43	75,746
.214.2	SECONDARY ROADS 24' WIDE	175600	LF	1,527,720	3,587,500	1,185,300	0	35.88	6,300,528
.214.3	CONNECTION TO ACC RD 34'	1600	LF	15,712	30,848	8,528	0	34.43	55,088
.215	DRAINAGE								
.215.1	DITCHING	42000	LF	71,048	10,700	30,092	0	2.80	119,840
SUBTOTAL, PAGE 17				2,533,132	3,943,570	4,330,407	0		10,807,109

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.215.2	CULVERTS-360 LOTS	8500	LF	104,805	121,720	34,680	0	30.73	261,205
.216	PERIMETER FENCING	10700	LF	23,326	92,127	4,173	0	11.18	119,626
.217	PARKING AREAS	36000	SF	10,440	21,240	6,480	0	1.06	38,160
.218	ELECTRICAL PLUG-INS	25	EA	325	1,349	0	0	66.96	1,674
.22	BUILDINGS								
.221	SINGLE FAMILY UNIT 2 BDRM	74	EA	609,168	1,371,220	93,240	0	28022.00	2,073,628
.222	SINGLE FAMILY UNIT 3 BDRM	188	EA	1,547,616	3,760,000	236,880	0	29492.00	5,544,496
.223	SINGLE FAMILY UNIT 2 BDRM	16	EA	188,160	528,000	28,800	0	46560.00	744,960
.224	SINGLE FAMILY UNIT 3 BDRM	16	EA	188,160	560,000	28,800	0	48560.00	776,960
.225	SINGLE FAMILY UNIT 4 BDRM	16	EA	219,520	616,000	33,600	0	54320.00	869,120
SUBTOTAL, PAGE 18				2,091,520	7,071,656	466,653	0		10,429,829

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.226	SCHOOL	1	LS	58,984	1,266,160	102,000	0	1427144.00	1,427,144
.227	GYMNASIUM	1	LS	228,800	357,900	34,300	0	621000.00	621,000
.228	SWIMMING POOL	1	LS	247,680	558,720	3,600	0	810000.00	810,000
.229	RECREATION CENTER	1	LS	109,760	372,480	16,480	0	498720.00	498,720
.220	STORE	1	LS	182,080	825,120	27,360	0	1035360.00	1,035,360
.2211	GAS STATION	1	LS	46,000	126,000	0	0	172000.00	172,000
.23	UTILITIES								
.231	WATER - SUPPLY LINE								
.2311	4"	8300	FT	86,901	53,286	71,463	0	25.50	211,650
.2312	PUMP STATION-160 GPM	1	LS	12,000	61,000	0	0	73000.00	73,000
.2313	WATER STORAGE TANK 4.0 MG	1	EA	11,000	77,000	0	0	88000.00	88,000
SUBTOTAL, PAGE 19				984,005	3,697,666	255,203	0		4,936,874

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA.

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.231.2	DISTRIBUTION SYSTEM								
.231.21	PIPING 12" PI	1300	LF	27,924	22,425	22,386	0	55.95	72,735
.231.22	10" DI	1000	LF	17,060	13,120	13,680	0	43.86	43,860
.231.23	8"DI	1500	LF	21,750	15,405	17,445	0	36.40	54,600
.231.24	6" DI	8500	LF	102,680	61,795	82,365	0	29.04	246,840
.231.3	HEAT TRACING & INSUL								
.231.31	12" PIPE	1300	LF	17,550	30,602	0	0	37.04	48,152
.231.32	10" PIPE	1000	LF	10,750	21,490	0	0	32.24	32,240
.231.33	8" PIPE	1500	LF	14,070	21,495	0	0	23.71	35,565
.231.34	6" PIPE	8500	LF	72,675	104,805	0	0	20.88	177,480
.231.35	4" PIPE	8300	LF	66,400	90,304	0	0	18.88	156,704
SUBTOTAL, PAGE 20				350,859	381,441	135,876	0		868,176

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.231.4 VALVES									
.231.41	12"	2	EA	864	1,629	0	0	1246.50	2,493
.231.42	10"	2	EA	600	1,222	0	0	911.00	1,822
.231.43	8"	2	EA	520	917	0	0	718.50	1,437
.231.44	6"	17	EA	2,210	6,059	0	0	486.41	8,269
.231.5	HYDRANTS	10	EA	4,780	15,123	0	0	1106.17	19,911
.232 SEWAGE									
.232.1 COLLECTION SYSTEM PIPING									
.232.11	14" PIPE	700	LF	17,500	14,259	14,000	0	65.37	45,759
.232.12	12" PIPE	800	LF	17,184	13,800	13,776	0	55.95	44,760
.232.13	10" PIPE	1100	LF	18,766	14,432	15,048	0	43.86	48,246
SUBTOTAL, PAGE 21				62,432	67,441	42,824	0		172,697

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES		SUB- CONTRACTS	UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT			
.232.14	8" PIPE	4500	LF	65,250	46,215	52,335	0	36.40	163,800
.232.15	6" PIPE	5100	LF	61,600	37,077	49,419	0	29.04	148,104
.232.2	HEAT TRACING & INSUL								
.232.21	14" PIPE	700	LF	13,475	17,822	0	0	44.71	31,297
.232.22	12" PIPE	800	LF	10,800	18,832	0	0	37.04	29,632
.232.23	10" PIPE	1100	LF	11,825	23,639	0	0	32.24	35,464
.232.24	8" PIPE	4500	LF	42,210	64,405	0	0	23.71	106,695
.232.25	6" PIPE	18900	LF	161,595	233,037	0	0	20.88	394,632
.232.3	PUMPING SYSTEM STATION	1	LS	11,000	80,000	4,000	0	95000.00	95,000
.232.4	BOOSTER PUMP STATION	1	LS	11,000	8,000	4,000	0	23000.00	23,000
.232.4.1	6" FORCE MAIN	13800	LF	166,704	100,326	133,722	0	29.04	400,752
SUBTOTAL, PAGE 22				555,467	629,433	243,476	0		1,428,376

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.232.5	UTILIDORS								
.232.51	MAIN RUNS IN VILLAGE	12200	LF	127,124	497,028	49,098	0	55.25	674,050
.232.52	STREET CROSSING 50 LF EA	1000	LF	10,420	40,740	4,090	0	55.25	55,250
.232.53	PUMP STA TO TREATMT PLANT	8300	LF	107,153	338,142	33,947	0	57.74	479,242
.232.54	STUBS TO HSE 350 LOTS @ 20'	7200	LF	75,024	293,328	29,448	0	55.25	397,800
.232.55	STUBS TO BLDGS- 10 @ 25'	250	LF	2,605	10,185	1,022	0	55.25	13,812
.233	INTEGRATED OFC AREA OWNER/MGRS OFFICE	1	EA	202,000	547,000	18,000	0	767000.00	767,000
.234	ELECTRICAL								
.234.1	GENERATING STATIONS								
.234.11	BUILDING	1	LS	50,000	20,000	50,000	80,000	200000.00	200,000
SUBTOTAL, PAGE 23				574,326	1,746,423	186,405	80,000		2,587,154

DATE MARCH 6, 1984
 FILE NO 1563X1
 PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
 ENGINEERS ESTIMATE
 DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	LABOR	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
					MATERIALS & SUPPLIE	EQUIPMENT	SUB- CONTRACTS		
.234.12	GENERATORS	4	EA	208,400	2,307,200	208,400	0	721000.00	2,884,000
.234.13	DAY TANK	1	EA	20,000	60,000	20,000	0	100000.00	100,000
.234.14	FUEL STORAGE TANK	2	EA	80,000	240,000	80,000	0	200000.00	400,000
.234.15	SUBSTATION	1	EA	11,000	54,000	2,000	0	67000.00	67,000
.234.2	DISTRIBUTION	1	LS	28,000	136,000	5,000	0	169000.00	169,000
.235	FIRE ALARM SYSTEM	1	LS	8,000	5,000	0	0	13000.00	13,000
.236	TELEPHONE SYSTEM	1	LS	186,000	109,000	0	0	295000.00	295,000
.3	ACCESS ROAD CAMPS								
.31	ACCESS ROAD/RAILHEAD CAMP FACs, CATERING & OPER SUP	80000	MAND	1,760,000	1,222,400	1,580,800	0	57.04	4,563,200
.32	RAILHEAD CAMP OPER FACS, CATERING & OPER SUP	90000	MAND	3,416,400	1,368,000	220,500	0	55.61	5,004,900
SUBTOTAL, PAGE 24				5,797,000	5,501,600	2,190,700	0		13,496,100

DATE MARCH 6, 1984
FILE NO 1563X1
PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
ENGINEERS ESTIMATE
DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
				LABOR	MATERIALS & SUPPLIE	EQUIPMENT		
.5	PERMANENT TOWN	1	LS	2,775,000	8,033,000	502,000	0 11310000.00	11,310,000
SUBTOTAL, PAGE 25				2,775,000	8,033,000	502,000	0	11,310,000
SUBTOTAL - MAIN CONSTRUCTION VILLA				16,524,541	31,072,230	8,359,544	80,000	56,036,315

DATE MARCH 6, 1984
FILE NO 1563X1
PROJECT SUSITA - WATANA

HARZA ENGINEERING COMPANY
ENGINEERS ESTIMATE
DIRECT COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT	COST CATEGORIES			UNIT COST	TOTALS TOTAL COST
				LABOR	MATERIALS & SUPPLIE	EQUIPMENT		
SUBTOTAL, PAGE 26				0	0	0	0	0
GRAND TOTALS				28,940,865	63,989,313	15,119,463	160,000	108,209,641

PROJECT: CUSITNA - WATANA
SUBJECT: CONSTRUCTION CAMP INDIRECT COSTS
DATE: MARCH 2, 1964

NO. #1563X103
EST. BY OED
REV. L. LEVY

HARZA ENGINEERING COMPANY
INDIRECT COSTS

SUMMARY OF INDIRECT COSTS
=====

A.1 PERSONNEL - ADMINISTRATIVE	147,000
A.2 PERSONNEL - SUPERVISORY	1,269,500
A.3 PERSONNEL - ENGINEERING	531,000
A.4 PERSONNEL - OFFICE	201,000
A.5 PERSONNEL - PURCHASING	87,000
A.6 PERSONNEL - WAREHOUSING	336,000
A.7 PERSONNEL - MEDICAL SAFETY	105,000
B. VEHICLES	547,100
C. TRAVEL AND ALLOWANCES	193,000
D. MISC & MAINTENANCE EXPENSES	652,200
E.. PIONEERING CAMP	5,157,850
F. GENERAL PLANT	1,473,000
GRAND TOTAL INDIRECT COSTS	10,699,650

SUBJECT: SUBSTATION - UYATANA
 SUBJECT: CONSTRUCTION CAMP INDIRECT COSTS
 DATE: 12 FEB 2, 1964

NO. #1563X103
 197. BY DEB
 RLV. L LEVY

HARZA ENGINEERING COMPANY
 INDIRECT COSTS

THE CONSTRUCTION OF THE CAMP WILL
 BE FINANCED USING 300 MEN IN THE
 FOLLOWING BREAKDOWN OF MAN-HOURS:

- (1) CAMP CAMP 65,479 MH
- (2) BUILDINGS 125,200 MH
- (3) UTILITIES 150,000 MH

TOTAL 340,679 MH

AT THE RATE OF \$1.00 PER MAN-HOUR
 340,679 MH

AT THE RATE OF \$1.00 PER MAN-HOUR
 340,679 MH
 THE CAMP SHOULD BE
 CONSIDERED AS APPROXIMATELY
 10% OF THE TOTAL COST OF THE
 CAMP CONSTRUCTION.

A. PERSONNEL - ADMINISTRATIVE

MANAGER	1.0 X 6.000	6000.	60,000
ASSISTANT	1.0 X 6.000	6000.	15,000
CLERK	1.0 X 6.000	6000.	21,000
WATCHMAN	1.0 X 6.000	6000.	51,000

TOTAL - PERSONNEL - ADMINISTRATIVE

147,000

PROJECT: SUSITNA - WATANA
 SUBJECT: CONSTRUCTION CAMP INDIRECT COSTS
 DATE: MARCH 2, 1964

PO. #1563X103
 EST. BY OED
 REV. L LEVY

HARZA ENGINEERING COMPANY
 INDIRECT COSTS

A.2 PERSONNEL - SUPERVISORY

SUPERINTENDENT - LABOR	2.0 X	6. PD @	8500.	102,000
SUPERINTENDENT - EXCAVATION	2.0 X	6. PD @	8500.	102,000
SUPERINTENDENT - ELECTRICAL	2.0 X	6. PD @	8500.	102,000
SUPERINTENDENT - MECHANICAL	2.0 X	6. PD @	8500.	102,000
SUPERINTENDENT - CARPENTER	2.0 X	6. PD @	8500.	102,000
SUPERINTENDENT - CONCRETE	2.0 X	6. PD @	8500.	102,000
SUPERINTENDENT - ROAD	2.0 X	6. PD @	8500.	102,000
MASTER MECHANIC	2.0 X	6. PD @	8500.	102,000
GLASSER TRUCK DRIVER	2.0 X	6. PD @	6000.	72,000
TRUCK CRANE OPERATOR	2.0 X	6. PD @	5500.	63,500
" " OILER	2.0 X	6. PD @	8500.	96,000
" " DRIVER	2.0 X	6. PD @	6000.	72,000
LOG DRIVERS	2.0 X	6. PD @	6000.	72,000
LOG LOG DRIVERS	2.0 X	6. PD @	6500.	78,000

SUBTOTAL - A.2 PERSONNEL - SUPERVISORY 1,269,500

A.3 PERSONNEL - ENGINEERING

FIELD ENGINEER	2.0 X	6. PD @	6500.	78,000
PLANT ENGINEER	6.0 X	6. PD @	4500.	144,000
CONSTRUCTION	1.0 X	6. PD @	3000.	18,000
PLANT CHIEF	2.0 X	6. PD @	6500.	78,000
PLANT ENGINEER	2.0 X	6. PD @	6500.	72,000
PLANT CHIEF	4.0 X	6. PD @	5000.	120,000
DRIVER	1.0 X	6. PD @	3500.	21,000

SUBTOTAL - A.3 PERSONNEL - ENGINEERING 531,000

PROJECT: SUSITNA - WATANA
SUBJECT: CONSTRUCTION CAMP INDIRECT COSTS
DATE: MARCH 2, 1964

NO. 1563X103
EST. BY OED
REV. L LEVY

HARZA ENGINEERING COMPANY
INDIRECT COSTS

A.4 PERSONNEL - OFFICE

OFFICE MANAGER	1.0 X	6. MO @	6000.	36,000
PERSONNEL MANAGER	1.0 X	6. MO @	3500.	21,000
RECEIPTS	2.0 X	6. MO @	2500.	30,000
POSTMASTER	1.0 X	6. MO @	2500.	15,000
CLERKS	3.0 X	6. MO @	2500.	45,000
STENOGRAPHERS	2.0 X	6. MO @	3000.	36,000
SWITCHBOARD RECEPTIONIST	1.0 X	6. MO @	3000.	18,000

SUBTOTAL - A.4 PERSONNEL - OFFICE 201,000

A.5 PERSONNEL - PURCHASING

PURCHASING AGENT	1.0 X	6. MO @	8000.	48,000
CLERKS	1.0 X	6. MO @	2500.	15,000
RECEIPTS	1.0 X	6. MO @	4000.	24,000

SUBTOTAL - A.5 PERSONNEL - PURCHASING 87,000

PROJECT: COSTA - UTAHNA
SUBJECT: CONSTRUCTION CAMP INDIRECT COSTS
DATE: MARCH 2, 1964

NO. #1563X103
EST. BY OEB
REV. L LEVY

HARZA ENGINEERING COMPANY
INDIRECT COSTS

A.5 PERSONNEL - WAREHOUSING

CHIEF WAREHOUSEMAN	2.0 X	6.10 @	6800.	72,000
RECEIVING CLERK	4.0 X	6.10 @	2500.	60,000
RECORDS CLERK	2.0 X	6.10 @	2500.	30,000
TELETYPE	2.0 X	6.10 @	4000.	48,000
FORK DISPATCHER	2.0 X	6.10 @	3500.	42,000
FORK LIFT OPERATOR	4.0 X	6.10 @	3500.	84,000

SUBTOTAL - A.5 PERSONNEL - WAREHOUSING 336,000

A.7 PERSONNEL - MEDICAL SAFETY

FIRST AID KIT	2.0 X	6.10 @	3500.	42,000
AMBULANCE CREW	3.0 X	6.10 @	3500.	63,000

SUBTOTAL - A.7 PERSONNEL - MEDICAL SAFETY 105,000

PROJECT: CIVIL - OTHER
 26.0% OF HIGHWAY INDIRECT COSTS
 DATE: APRIL 2, 1954

NO. #1563X103
 EST. BY GLEB
 REV. L. LEVY

INDEX ENGINEERING COMPANY
 INDIRECT COSTS

B. VEHICLE OPERATING EXPENSE & RENTAL

TRUCK	5.0 %	6. HRS @	600.	10,800
PICK UPS	15.0 %	6. HRS @	600.	54,000
FLIGHTS	1.0 %	6. HRS @	600.	7,200
SUPPLY TRUCKS	2.0 %	6. HRS @	600.	9,600
LOGGERS	2.0 %	6. HRS @	600.	9,600
TRUCK LIFTS	2.0 %	6. HRS @	1000.	12,000
TRUCK CRANES	2.0 %	6. HRS @	15000.	180,000
BUSES	2.0 %	6. HRS @	7000.	93,500
WAGONS	2.0 %	6. HRS @	800.	9,600
ATV/UTV	1.0 %	6. HRS @	11500.	69,000
HAZARDOUS WASTE REMOVAL	1.0 %	6. HRS @	15000.	90,000
LODGE FEES & PERMITS	30.0 %	1. YRS @	60.	1,800

SUBTOTAL - B. VEHICLES 547,100

C. TRAVEL AND RELOCATIONS

OF CONTRACTS & 1

TRAVEL TO JOB

TRUCK	4.0 %	1. HRP @	2000.	8,000
TRUCK	8.0 %	1. HRP @	2000.	16,000

SUPPLY OF PERSONAL GOODS

TRUCK	4.0 %	1. HRP @	15000.	60,000
TRUCK	8.0 %	1. HRP @	8000.	64,000

HAZARDOUS WASTE-JOB CONNECTED

TRUCK	4.0 %	1. HRP @	2000.	8,000
TRUCK	8.0 %	1. HRP @	2000.	16,000

SUBSISTENCE - TRAVEL

	14.0 %	1. HRS @	1500.	21,000
--	--------	----------	-------	--------

TURN OVER FACTOR (10.0)

SUBTOTAL - C. TRAVEL AND RELOCATIONS 194,000

PROJECT: SOUTHO - MARIANA
 SUBJECT: CONSTRUCTION CAMP INDIRECT COSTS
 DATE: MARCH 2, 1954

NO. #1563K103
 EST. BY UEB
 REV. L LEVY

HAREN ENGINEERING COMPANY
 INDIRECT COSTS

D. MISCELLANEOUS EXPENSES/MAINTENANCE

OFFICE SUPPLIES	G. FMS @	500.	5,000
OFFICE PORT CHAIR (TEMPORARY)	G. FMS @	2500.	15,000
OFFICE EQUIPMENT	G. FMS @	1500.	9,000
ENGINEERING SUPPLIES	G. FMS @	1000.	6,000
ENGINEERING EQUIPMENT-RENTAL	G. FMS @	3000.	18,000
PHOTOS AND REPRODUCTIONS	G. FMS @	1000.	6,000
RECYCLED & PURCHASE AIR	G. FMS @	12000.	72,000
LABOR RELATED SUPPLIES	G. FMS @	1000.	6,000
SAFETY & FIRST AID SUPPLIES	G. FMS @	11000.	66,000
BUILDING MAINTENANCE	G. FMS @	6000.	36,000
TELEPHONE & REX	G. FMS @	4500.	27,000
UTILITIES & MAINTENANCE SERVICES	G. FMS @	10000.	60,000
SUBMITTAL FACILITIES	G. FMS @	5000.	18,000
WATER SUPPLIES	G. FMS @	2000.	12,000
REPAIRS CAMP AND ICE	G. FMS @	2000.	12,000
STOCK COMMODITIES	G. FMS @	7500.	45,000
CONTRACTING FEES	1. LS	50000.	50,000
LEGAL FEE/LEASE	1. LS	100000.	100,000
INSUR.	1. LS	50000.	50,000
WATER UTILITIES	1. LS	10000.	10,000
PIPE PROTECTION	1. LS	25000.	25,000
PAINTS	1. LS	5000.	5,000
POSTAGE	G. FMS @	200.	1,200

TOTAL - D. MISCELLANEOUS EXPENSES

652,200

PROJECT: CUCUTHA - WATANA
 STATE: CONSTRUCTION CAMP INDIRECT COSTS
 DATE: MARCH 2, 1954

NO. #1563X103
 EST. BY: OLB
 REV. L. LEVY

HAREN ENGINEERING COMPANY
 INDIRECT COSTS

D. MISCELLANEOUS EXPENSES/MAINTENANCE

OFFICE SUPPLIES	G. FMS @	500.	5,000
OFFICE RENT (WIRE TELEPHONE)	G. FMS @	2500.	15,000
OFFICE EQUIPMENT	G. FMS @	1500.	9,000
ENGINEERING SUPPLIES	G. FMS @	1000.	6,000
ENGINEERING EQUIPMENT-RENTAL	G. FMS @	3000.	18,000
PHOTOS AND REPRODUCTIONS	G. FMS @	1000.	6,000
RENTAL & PURCHASE AIR	G. FMS @	12000.	72,000
LABOR RELATED SUPPLIES	G. FMS @	1000.	6,000
SAFETY & FIRST AID SUPPLIES	G. FMS @	11000.	66,000
BOARDING MAINTENANCE	G. FMS @	6000.	36,000
TELEPHONE & RENT	G. FMS @	4500.	27,000
UTILITIES & MAINTENANCE SERVICES	G. FMS @	10000.	60,000
SAFETY FACILITIES	G. FMS @	3000.	18,000
WATER SUPPLIES	G. FMS @	2000.	12,000
HEATING OIL & ICE	G. FMS @	2500.	15,000
TRAVEL EXPENSES	G. FMS @	7500.	45,000
CONTRACTING FEES	1. LS	50000.	50,000
LEGAL FEES	1. LS	100000.	100,000
INSURANCE	1. LS	50000.	50,000
TEST FEES	1. LS	10000.	10,000
PIPE PROTECTION	1. LS	25000.	25,000
POSTAGE	G. FMS @	500.	5,000
		200.	1,200

TOTAL - D. MISCELLANEOUS EXPENSES

652,200

PROJECT: SUSITHA - WATANA
 SUBJECT: CONSTRUCTION CAMP INDIRECT COSTS
 DATE: MARCH 2, 1964

NO. #1563X103
 EST. BY OLD
 REV. L. LEVY

HARZA ENGINEERING COMPANY
 INDIRECT COSTS

E. PIONEERING CAMP

THE PIONEERING CAMP WILL BE
 CONSTRUCTED IN 3 MONTHS WITH
 50 MEN. IT WILL BE ASSUMED THAT
 THE CAMP WILL BE FIELD TO THE
 JOBSITE FROM THE CITY OF CHICAGO.
 NO TRUCK CHARGES

HOUSING -

50 MEN X 52 DAYS @ \$45/DAY 50.0 X 52. \$/DAY 45. 117,000

TRAVEL -

50 MEN X 52 DAYS @ \$30/DAY 50.0 X 52. \$/DAY 50. 130,000

TRAVEL TO JOBSITE

4 TRUCKS @ 35. \$/HR 50.0 X 35. \$/HR 200. 364,000

B) JOBSITE HOUSING

800 SF - 500 MEN X 110 SF/MEN
 @ \$30/SF 80. \$/SF 33000. 2,640,000

CHURCH & 300 SF FOR THE

HOUSING AND MOUNTED

STORAGE INCLUDES

STORAGE COSTS, UTILITIES ETC)

C) DIRECT MATERIALS SERVICES

2000 SF @ \$30/SF 100. \$/SF 7500. 750,000

D) 1000 SF @ \$30/SF FIRST MID-POST

OFFICE, BATHS AND OTHER

1000 SF @ \$30/SF 100. \$/SF 9000. 900,000

E) 1000 SF @ \$30/SF

OFFICE, BATHS AND OTHER

1000 SF @ \$30

1000 SF @ \$30 20 HRS X 20 DAYS

1000 SF @ \$30

1000 SF @ \$30

1000 SF @ \$30 X 3120

STORAGE LIGHTS

1. 10 10040. 16,850

2. 10 120000. 240,000

SUBTOTAL - E. PIONEERING CAMP

5,157,850

PROJECT: GUATEMALA - GUATEMALA
 SUBJECT: CONSTRUCTION CAMP INDIRECT COSTS
 DATE: MARCH 2, 1964

NO. #1563X103
 EST. BY GLEB
 REV. L. LEVY

HARZ ENGINEERING COMPANY
 INDIRECT COSTS

F. GENERAL FUND

WATERHOUSE			
CONCRETE & SLOPES	1. LS	300000.	300,000
HOSPITAL OR FIRST AID TRAILER	1. LS	30000.	30,000
INSTRUCTOR FIELD OFFICE	2. LH	12000.	24,000
FIELD OFFICES	2. LH	12000.	24,000
SHOWER AND TOILETROOMS	1. LS	15000.	15,000
CHARGE HOUSE	1. LS	20000.	20,000
OFFICERS' QUARTERS	2. LH	10000.	20,000
TOOK SHED	1. LS	10000.	10,000
CRIBS AND BARRACKS SHOP	1. LS	50000.	50,000
COOKHOUSE	1. LS	450000.	450,000
FIELD STOREHOUSE	1. LS	140000.	140,000
FIELD LIFT	1. LS	20000.	20,000
GEN. STORAGE	1. LS	45000.	45,000
STATION STATION	1. LS	100000.	100,000
TRAILER	1. LS	100000.	100,000
CONCRETE REPAIRS	1. LS	10000.	10,000
CONCRETE REPAIRS	1. LS	50000.	50,000
CONCRETE REPAIRS	1. LS	50000.	50,000
CONCRETE REPAIRS	1. LS	10000.	10,000
CONCRETE REPAIRS	1. LS	5000.	5,000

SUBTOTAL - F. GENERAL FUND

1,475,000

SUBTOTAL - INDIRECT COSTS

10,699,650

PROJECT: SUSITHA, ALASKA FILE # 1494X EST. OEB REV. L LEVY
 SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION DATE: FEBRUARY 4, 1984
 COST ANALYSIS

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOT
CLEARING		145 ACRE	405335	26647.1	40533	712,342
UNIT COSTS			2795.41	1837.75	279.54	4912.70
INSTALL GRANULAR PAD		788000 CY	424194	2762437	21209	3,207,040
UNIT COSTS			0.54	3.51	0.03	4.07
SITE REHABILITATION		145 ACRE	214510	332064	271725	810,299
UNIT COSTS			1479.38	2290.10	1873.97	5643.44
CONSTRUCTION ROAD-MAIN		9100 LF	89355	48525	175467	313,347
UNIT COSTS			9.82	5.33	19.28	34.43
CONSTRUCTION ROAD-ACCESS		1800 LF	15657	12153	36782	64,592
UNIT COSTS			8.70	6.75	20.43	35.88
DRAINAGE - DITCHING		24800 LF	41250	22139	6187	69,576
UNIT COSTS			1.66	0.89	0.25	2.81
DRAINAGE CULVERTS		1200 LF	14800	4894	17179	36,873
UNIT COSTS			12.33	4.08	14.32	30.73
PERIMETER FENCING		9900 LF	21630	3910	85231	110,771
UNIT COSTS			2.18	0.39	8.61	11.19
PARKING AREA - MAIN CAMP		1 LUMP	12562	8029	25556	46,147
UNIT COSTS			12562.00	8029.00	25556.00	46147.00
PARKING LOT-OUT CAMP (500)		4 ACRE	51815	25520	5181	82,516
UNIT COSTS			12953.75	6380.00	1295.25	20629.00

MANPOWER SUMMARY

ACTIVITY	QUANTITY	CREW	MANHOURS	QTY/MH	\$/UNIT	DAYS
CLEAR AND GRUB	145 ACRE	17.	10955	0.01	2795.41	64
GRANULAR PADDING	108,000 CY	45.	11163	16.84	2.26	25
SITE REHAU	145 ACRE	14.	4900	0.03	1182.76	35
BASE COURSE	11,000 CY	5.	3202	3.44	10.19	64
PAVING	65,400 SY	5.	446	146.64	0.27	9
DITCHING	24,800 LF	6.	1250	19.84	1.66	21
EXC, LAY & BACKFILL	1,200 LF	10.	400	3.00	12.33	4
FENCING	9,900 LF	5.	618	16.02	2.18	12
LIMING	145 SF	6.	1265	0.11	296.62	21
AGGREGATE PRODUCTION	14,875 TONS	9.	1067	13.94	2.65	12
TOTAL MANHOURS			35266			

NOTE : DAYS BASED ON 10 HRS SHIFTS

=====

PROJECT: SUSITHA, ALASKA FILE # 1494X EST. OEB REV. L LEVY

SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION DATE: FEBRUARY 4, 1984

COST ANALYSIS

=====

EQUIPMENT SUMMARY

DESCRIPTION	UNIT COST \$/HR			TOTALS		
	TOTAL	LABOR	CREW	OPR HRS	MANHOURS	COST
SUB PUMP 8" (1600 GPM)	5.26	2.75	35.00	3620	184	19041
D-7G (92V) TRACTOR	57.48	19.35	35.00	3250	1796	186809
D8I W/RIPPER	85.44	29.05	35.00	6455	5357	551515
CAT 14G GRADER	51.59	17.90	35.00	3206	1680	169524
CASE 480C CK(W/BACKHOE)	12.63	4.20	35.00	60	7	757
CAT 966D FEL	50.60	15.40	35.00	60	26	3073
CAT 980B FEL	115.74	35.70	35.00	5205	5390	611605
SELF-PROP VIBR ING-RAND	21.98	8.77	35.00	2580	646	56708
PAN TYPE VIB 19.5 X 25.5	1.91	0.80	35.00	120	2	229
GROVE 68 HYD CRANE	39.06	14.90	35.00	60	25	2343
6 X 4 REAR DUMP(HW 10CY)	31.00	6.62	35.00	2125	401	66044
EUCLID R-25 (14 CY)	42.45	10.15	35.00	2500	724	106124
EUCLID R-75 (45 CY)	102.77	19.72	35.00	12400	7031	1202569
10000 GAL WATER TRUCK	94.81	30.63	35.00	3745	3277	355063
FLAT BED TRAC/TKLR 30T	26.07	6.30	35.00	210	37	5474
CHIPPING MACHINE	80.00	28.00	35.00	500	400	40000
CHAIN SAWS	1.25	0.40	35.00	4000	45	5000
GRAVEL PLANT (145 HP)	65.00	26.00	35.00	125	92	8125
PORTABLE CONVYR (105 HP)	50.00	18.00	35.00	125	64	6250
PAVING MACHINE	75.10	22.50	35.00	90	63	7359
10T PORTABLE CONVEYOR	25.00	7.50	35.00	90	21	2450
TOTALS				56702	27368	3486142

PROJECT: SUSITNA, ALASKA FILE # 1494X EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION DATE: FEBRUARY 4, 1984
COST ANALYSIS

ITEM: CLEARING	QUANTITY:	145	ACRE
----------------	-----------	-----	------

-*** MINIPOWER *****-**

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
1	CLEAR AND GRUB	145	ACRES	17.	1.00	10955	0.02	405,335
TOTAL MANHOURS & LABOR COST						10955		405,335

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
CAT D7 DOZER	2.00	500.00	1.00 57.48	57,479
FEL 988B	1.00	500.00	1.00 115.74	57,869
TRUCK REAR DUMP	5.00	500.00	1.00 42.45	106,124
CHIPPING MACHINE	1.00	500.00	1.00 80.00	40,000
CHAIN SAWS	8.00	500.00	1.00 1.25	5,000

TOTAL EQUIPMENT COSTS	266,474
-----------------------	---------

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
ST & S 10.2 OF LABOR	-			40,533
TOTAL MATERIAL AND SUPPLIES COSTS				40,533

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOT	
CLEARING		145	ACRE	4053.35	266474	40533	712,342
UNIT COSTS				2795.41	1837.75	279.54	4912.70

PROJECT: SUSITNA, ALASKA FILE # 1494X EST. DEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION DATE: FEBRUARY 4, 1984
COST ANALYSIS

ITEM: CLEARING	QUANTITY:	1.45	ACRE
----------------	-----------	------	------

ITEM CRITERION

THE CLEARING AND STRIPPING OF THE MAIN CONSTRUCTION CAMP WILL BE PERFORMED USING 2-CLEARING CREWS AND 1-CHIPPING CREW AS SHOWN BELOW.

CLEARING CREW - 1 FOREMAN	CHIPPING CREW - 1 CHIPPER OPERATOR
4 CHAIN SAW OPERATORS	1 TRUCK DRIVER
1 BULL DOZER OPERATOR	1 FEL OPERATOR
1 TRUCK DRIVER	

7 X 2 = 14 MEN

3 MEN

THE PRODUCTION FOR CLEARING IS BASED AS FOLLOWS:

$$\text{TRAVEL EMPTY (DOZER)} = (209/10) \times 209 / 514 \times 60 \text{ MIN} = 10.00 \text{ MIN}$$

CUTTING TREES : TREES= 43560/150 = 290 TREES/ACRE

290 TREES X 1.5 MIN

= 435.00 MIN

445 MIN

$$\text{PRODUCTION/DAY} = 10 \text{ HR/DAY} / (445/50) \times 2 \text{ CREWS} = 2.25 \text{ ACRES/DAY}$$

=====

PROJECT: SUSITHA, ALASKA FILE # 1494X EST. OEB REV. L LEVY
 SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION DATE: FEBRUARY 4, 1984
 COST ANALYSIS

=====

ITEM: INSTALL GRANULAR PAD QUANTITY: 788,000 CY

-----*** MANPOWER ***-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
2	GRANULAR PADDING	188000	CY	45.	1.00	11163	16.84	424,194
TOTAL MANHOURS & LABOR COST							11163	424,194

EQUIPMENT TYPE	NO.	OPR HOURS		\$/HR	TOTAL COST
CAT D8K W/RIPPER	4.00	1040.00	1.00	85.44	355,430
FEL 988B 7 CY	4.00	1040.00	1.00	115.74	481,478
B7D 55CY	12.00	1040.00	1.00	102.77	1,282,569
CAT D8K	2.00	1040.00	1.00	85.44	177,715
MOTOR GRADER 14G	2.00	1040.00	1.00	51.59	107,307
WATER TRUCKS	3.00	1040.00	1.00	94.01	295,007
8" WATER PUMPS	3.00	1040.00	1.00	5.26	16,411
SELF PROP VIBR ING RAMP	2.00	1040.00	1.00	21.98	45,718
TOTAL EQUIPMENT COSTS					2,762,437

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
ST & S 5.2% OF LABOR				21,209
TOTAL MATERIAL AND SUPPLIES COSTS				21,209

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOT	
INSTALL GRANULAR PAD		788000	CY	424194	2762437	21209	3,207,840
UNIT COSTS				0.54	3.51	0.03	4.07

=====

PROJECT: SUSITHA, ALASKA	FILE # 1494X	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION	DATE: FEBRUARY 4, 1984	
COST ANALYSIS		

=====

ITEM: INSTALL GRANULAR PAD QUANTITY: 708,000 CY

ITEM CRITERIA

THE GRANULAR MATERIAL FOR THE ROADWAY FILL AND CAMP WILL BE OBTAINED FROM A BORROW PIT APPROXIMATELY 9100 FT FROM CAMP. THE 4 FT DEEP GRANULAR PAD WILL BE INSTALLED IN 2-10HR SHIFTS USING THE FOLLOWING CREWS:

PIT CREW: 1 FOREMAN	SERVICING CREW: 1 MASTER MECHANIC
4 DOK OPERATORS	1 MECHANIC FOREMAN
4 FEL OPERATORS	10 MECHANICS
12 TRUCK DRIVERS	2 OILERS

21 MEN

14 MEN

ROAD CREW:

1 FOREMAN
2 DOZER OPERATOR
3 WATER TRUCK DRIVERS
2 GRADER OPERATORS
2 COMPACTOR OPERATORS

10 MEN

PRODUCTION = 7 CY X 0.85 X 0.8 X 40 CYCLES/HR = 190 BCY/HR PER EXCAVATOR
FLEET PRODUCTION/DAY = 4 X 190/HR X 2-10HR SHIFTS = 15,200 CY/DAY
DURATION = 52 WORKING DAYS (1040 OPERATING HOURS)

=====

PROJECT: SUSITHA, ALASKA	FILE # 1494X	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION	DATE: FEBRUARY 4, 1984	
COST ANALYSIS		

=====

ITEM: SITE REHABILITATION QUANTITY: 145 ACRE

-----MANPOWER-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
3	SITE REHAD	145	ACRES	14.	1.00	4900	0.02	171,500
10	LINING	145	ACRES	6.	1.00	1265	*****	43,010
TOTAL MANHOURS & LABOR COST							6165	214,510

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
DOZERS D7	4.00	500.00	1.00 57.48	114,959
FEL 980B	1.00	500.00	1.00 115.74	57,869
MOTOR GRADERS 14G	2.00	500.00	1.00 51.59	51,589
WATER TRUCK	1.00	500.00	1.00 94.81	47,404
8" WATER PUMP	1.00	500.00	1.00 5.26	2,629
TRUCK REAR DUMP	3.00	500.00	1.00 31.08	46,619
SELF PROP VIBR ING RAND	1.00	500.00	1.00 21.98	10,989
TOTAL EQUIPMENT COSTS				332,064

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
FILTER CLOTH	145	CRE	1000.00	261,000
ST & S 5.% OF LABOR				10,725
TOTAL MATERIAL AND SUPPLIES COSTS				271,725

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOT
SITE REHABILITATION		145	ACRE	214510	332064	271725
UNIT COSTS				1479.38	2298.10	1873.97
						818,299
						5643.44

=====

PROJECT: SUSITHA, ALASKA	FILE # 1494X	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION	DATE: FEBRUARY 4, 1984	
COST ANALYSIS		

=====

ITEM: SITE REHABILITATION QUANTITY: 145 ACRE

ITEM CRITERIA

THE SITE REHABILITATION WORK ENTAILS GENERAL GROUND PREPARATION CREW
AND A FILTER CLOTH CREW WHICH WILL LINE ENTIRE CAMP AREA.

EARTH CREW :	1 FOREMAN	LINING CREW:	
	2 DOKER OPERATORS		5 COMMON
	2 MOTORGRADERS		1 TRUCK DRIVER (FLATBED)
	1 WATER TRUCK DRIVER		-----
	4 COMMON LABORERS		6 MEN
	1 MECHANIC		
	3 TRUCK DRIVERS		

14 MEN

THE EARTH WORK CREW WILL WORK FOR 35 DAYS SAME AS THE CLEARING CREW.
LINING PRODUCTIVITY = 145 ACRES X 43560 / 5000 SF/MH = 1265 MH

PROJECT: SUSTINA, ALASKA FILE # 1494X EST. OED REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION DATE: FEBRUARY 4, 1964
COST ANALYSIS

ITEM: CONSTRUCTION ROAD-MAIN	QUANTITY:	9.100	LF
------------------------------	-----------	-------	----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
11	AGGREGATE PRODUCTION	7850	TONS	9	1.00	600	15.00	22,200
4	BASE COURSE	5000	CY	5	1.00	1657	3.50	57,995
5	PAVING	34400	SY	5	1.00	229	40.00	9,160
TOTAL MANHOURS & LABOR COST						2486		89,355

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST	
PAVING MACHINE	1.00	50.00	1.00	75.10	3,754
10T TANDEM ROLLER	1.00	50.00	1.00	25.00	1,250
MOTOR GRADER 14G	2.00	50.00	1.00	51.59	5,158
REAR DUMP TRUCKS	3.00	65.00	1.00	31.08	6,060
WATER TRUCK	1.00	65.00	1.00	94.81	6,162
GRAVEL PLANT 120 TONS/HR	1.00	65.00	1.00	65.00	4,225
BELT CONVEYOR (2000 CY/H	1.00	65.00	1.00	50.00	3,250
DBK	2.00	65.00	1.00	85.44	11,107
FEL 966D	1.00	0.65	1.00	50.68	32
FEL 988B	1.00	65.00	1.00	115.74	7,523

TOTAL EQUIPMENT COSTS	48,525
-----------------------	--------

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BITUMINOUS WEARING COURSE	5700	TONS	30.00	171,000
ST & S 5% OF LABOUR				4,467

TOTAL MATERIAL AND SUPPLIES COSTS	175.467
-----------------------------------	---------

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOT	
CONSTRUCTION ROAD-PAV		9100	1.1	89355	48525	175467	315347
UNIT COSTS			9.02	5.33	19.28	34.43	

=====

PROJECT: SUSITNA, ALASKA	FILE # 1494X	EST. OED REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION	DATE: FEBRUARY 4, 1984	
COST ANALYSIS		

=====

ITEM: CONSTRUCTION ROAD-MAIN QUANTITY: 9,100 LF

ITEM CRITERIA

THE CONSTRUCTION OF THE 34 FT WIDE MAIN ROAD WILL BE PERFORMED USING THE FOLLOWING CREWS:

GRAVEL COURSE CREW: 1 FOREMAN	PAVING CREW: 1 PAV OPR	E
2 GRADER OPERATOR	1 ROLLER	
1 DOZER	1 MECHANIC	
1 WATER TRUCK DRIVERS	1 COMMON	
-----	1 FEL OPR	
5 MEN	-----	
	5 MEN	

AGGREGATE CREW : 1 FOREMAN
1 PLANT OPERATOR
2 COMMON
1 DO OPR
1 FEL OPR
3 TRUCK DRIVERS

9 MEN

THE AGGREGATE WILL BE OBTAINED FROM A BORROW PIT USING THE ABOVE CREW. THE BITUMINOUS WEARING COURSE WILL BE APPLIED USING 1 PAVING MACHINE AND 1 10T ROLLER. THE ROADWAY WILL BE PAVED AT 7500 SY/10HR DAY. THE 3" BITUMINOUS WEARING COURSE MATERIAL WILL BE PURCHASED AT \$ 30/TON (5700 TONS.

DURATION - $(9100 \times 34 / 9) / 7500$ - 5 DAYS

=====

PROJECT: SUSITNA, ALASKA FILE # 1494X EST. DEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION DATE: FEBRUARY 4, 1984
COST ANALYSIS

=====

ITEM: CONSTRUCTION ROAD-ACCESS QUANTITY: 1,800 LF

-----MANPOWER-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
11	AGGREGATE PRODUCTION	1150	TONS	9.	1.00	76	15.00	2,812
4	BASE COURSE	850	CY	5.	0.00	303	3.50	10,605
5	PAVING	6000	SY	5.	0.00	56	*****	2,240
TOTAL MANHOURS & LABOR COST							435	15,657

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
PAVING MACHINE	1.00	10.00	1.00 75.10	750
10T TANDEM ROLLER	1.00	10.00	1.00 25.00	250
MOTOR GRADER	2.00	15.00	1.00 51.59	1,547
REAR DUMP TRUCK	3.00	15.00	1.00 31.00	1,390
10000 GAL WATER TRUCK	1.00	15.00	1.00 94.01	1,422
GRAVEL PLANT 145 HP	1.00	15.00	1.00 65.00	975
PORTABLE CONVEY 105 HP	1.00	15.00	1.00 50.00	750
DOK W/RIPPER	2.00	15.00	1.00 85.44	2,563
CAT 900D FEL	1.00	15.00	1.00 50.60	760
CAT 900D FEL	1.00	15.00	1.00 115.74	1,736
TOTAL EQUIPMENT COSTS				12,153

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BITUMINOUS WEARING COURSE	1200	TONS	30.00	36,000
ST & S 5% OF LABOR				782
TOTAL MATERIAL AND SUPPLIES COSTS				36,782

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOT
CONSTRUCTION ROAD-ACCESS	1800	LF	15657	12153	36782	64,592
UNIT COSTS			8.70	6.75	20.43	35.88

=====

PROJECT: CJSITNA, ALASKA	FILE # 1494X	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION	DATE: FEBRUARY 4, 1984	
COST ANALYSIS		

=====

ITEM: CONSTRUCTION ROAD-ACCESS QUANTITY: 1,800 LF

ITEM CRITERIA

SAME CREW AS IN THE MAIN ROADS. THE CONSTRUCTION ROAD-ACCESS WILL BE
24 FT WIDE.

SY = $1800 \times 24/9 = 4800$ SY
BASE COURSE = $4800 \times 6"/12 \div 3 = 850$ CY
AGGREGATE REQ = $850 \times 1.35 = 1150$ TONS

=====

PROJECT: SUSITNA, ALASKA	FILE # 1494X	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION	DATE: FEBRUARY 4, 1984	
COST ANALYSIS		

=====

ITEM: CONSTRUCTION ROAD-ACCESS QUANTITY: 1,800 LF

ITEM CRITERIA

SAME CREW AS IN THE MAIN ROADS. THE CONSTRUCTION ROAD-ACCESS WILL BE
24 FT WIDE.

SY = $1800 \times 24/9 = 4800$ SY
BASE COURSE = $4800 \times 6"/12 \div 3 = 850$ CY
AGGREGATE REQ = $850 \times 1.35 = 1150$ TONS

=====

PROJECT: SUSITNA, ALASKA FILE # 1494X EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION DATE: FEBRUARY 4, 1984
COST ANALYSIS

=====

ITEM: DRAINAGE - DITCHING QUANTITY: 24,000 LF

ITEM CRITERIA

THE DRAINAGE DITCHES FOR THE ROADS AND CAMP WILL BE PERFORMED CONCURRENTLY WITH THE GRANULAR PADDING ACTIVITY. THE PRODUCTION FOR THIS TYPE OF WORK IS 20 LF/HR. THE 5 MAN CREW CREW WILL COMPLETE THE ACTIVITY IN 25 10HR DAYS (1000 LF/DAY).

CREW : 1 DOZER OPERATOR
4 COMMON LABORERS
1 TRUCK DRIVER

-----***** MANPOWER *****-----						
CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF MANHOURS	\$/HR TOTAL COST
6	DITCHING	24000	LF	6.	1.00	1250 19.04 41,250
TOTAL MANHOURS & LABOR COST					1250	41,250

EQUIPMENT TYPE		NO.	OPR HOURS		\$/HR	TOTAL COST
DOZER D7		1.00	250.00	1.00	57.40	14,369
REAR DUMP TRUCK (10 CY)		1.00	250.00	1.00	31.00	7,769
TOTAL EQUIPMENT COSTS						22,139

MATERIAL DESCRIPTION		QUANTITY	UNIT	\$/UNIT		TOTAL COST
ST & S 15.% OF LABOR						6,187
TOTAL MATERIAL AND SUPPLIES COSTS						6,187

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOT
	DRAINAGE - DITCHING	24000	LF	41250	22139	6187
	UNIT COSTS		1.00	0.99	0.25	2.01

=====

PROJECT: SUSITNA, ALASKA	FILE # 1494X	EST. DEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION		DATE: FEBRUARY 4, 1984
COST ANALYSIS		

=====

ITEM: DRAINAGE CULVERTS QUANTITY: 1,200 LF

ITEM CRITERIA

THE 18" DIA AC CULVERTS WILL BE PURCHASED AT \$ 13.70/LF. THE FOLLOWING CREWS WILL BE USED FOR THIS TYPE OF WORK: (A 2 X 2 FT TRENCH ASSUMED)

TRENCH CREW: 1 BACKHOE OPERATOR	PIPE CREW: 1 PIPE LAYING FOREMAN
1 WELDER	1 CRANE OPERATOR
2 COMMON LABORERS	1 TRUCK DRIVER
1 DOZER OPERATOR	2 PIPE FITTERS

5 MEN

5 MEN

THE EXCAVATION, LAYING PIPE AND BACKFILL BE PERFORMED IN 4 CREW DAYS.

PRODUCTION LF/WH = 1200 / 10 MEN X 10 HR X 4 DAYS = 3.0 LF/WH

-----***** MANPOWER *****-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
7	EXC, LAY & BACKFILL	1200 LF		10.	1.00	400	3.00	14,000
TOTAL MANHOURS & LABOR COST						400		14,000

EQUIPMENT TYPE	NO.	OPR HOURS		\$/HR	TOTAL COST
BACKHOE CASE 480C	1.00	60.00	1.00	12.63	757
PAN TYPE VIB 19X25"	2.00	60.00	1.00	1.91	229
CRANE GROVE 10T	1.00	60.00	1.00	39.06	2,343
FLATBED 30T	1.00	60.00	1.00	26.07	1,564
TOTAL EQUIPMENT COSTS					4,894

MATERIAL DESCRIPTION	QUANTITY	UNIT		\$/UNIT	TOTAL COST
AC 18" DIA CULVERT	1200	LF		13.70	16,439
ST & S 5% OF LABOR					740
TOTAL MATERIAL AND SUPPLIES COSTS					17,179

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOT
DRAINAGE CULVERTS		1200 LF	14000	4894	17179	36,073
UNIT TOTAL			14.00	4.08	14.32	30.75

=====

PROJECT: SUSITHA, ALASKA FILE # 1494X EST. OEB REV. L LEVY
 SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION DATE: FEBRUARY 4, 1984
 COST ANALYSIS

=====

ITEM: PERIMETER FENCING QUANTITY: 9,900 LF

ITEM CRITERIA

THE PERIMETER FENCING WILL BE ASSUMED TO BE 6FT HIGH CHAIN LINK. THE FENCE WILL BE PURCHASED AND DELIVERED TO SITE AT \$ 0.50/LF. THE PRODUCTION USED FOR THIS TYPE OF ACTIVITY IS 16 LF/HR. A 5 MAN CREW WILL COMPLETE THIS ACTIVITY IN 9900 LF/16 X 5 X 10 = 13 DAYS.

-----MANPOWER-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
8	FENCING	9900	LF	5	1.00	618	16.00	21,630
TOTAL MANHOURS & LABOR COST						618		21,630

EQUIPMENT TYPE	NO.	OPR HOURS		\$/HR	TOTAL COST
FLAT BED TRUCK	1.00	150.00	1.00	26.07	3,910
TOTAL EQUIPMENT COSTS					3,910

MATERIAL DESCRIPTION	QUANTITY	UNIT		\$/UNIT	TOTAL COST
6FT HIGH CHAIN LINK	9900	LF		0.50	04,150
ST & S 5.2 OF LABOR					1,081
TOTAL MATERIAL AND SUPPLIES COSTS					05,231

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOT
PERIMETER FENCING		9900 LF	21630	3910	05231	110,771
UNIT COSTS			2.10	0.39	8.61	11.19

=====

PROJECT: SUSITNA, ALASKA FILE # 1494X EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION DATE: FEBRUARY 4, 1984
COST ANALYSIS

=====

ITEM: PARKING AREA - MAIN CAMP QUANTITY: 1 LUMP

-----MANPOWER-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
11	AGGREGATE PRODUCTION	11500	HS	9.	1.00	76	15.00	2,812
4	BASE COURSE	850	Y	5.	1.00	242	3.50	8,470
5	PAVING	4040	Y	5.	1.00	32	*****	1,280
TOTAL MANHOURS & LABOR COST							350	12,562

EQUIPMENT TYPE	NO.	OPR HOURS		\$/HR	TOTAL COST
PAVING MACHINE	1.00	8.00	1.00	75.10	600
10T PORTABLE CONVEYOR	1.00	8.00	1.00	25.00	200
CAT 14G GRADER	2.00	8.00	1.00	51.59	825
REAR DUMP TRUCK (10CY)	3.00	10.00	1.00	31.08	932
10000 GAL WATER TRUCK	1.00	10.00	1.00	94.81	948
GRAVEL PLANT 145 HP	1.00	10.00	1.00	65.00	650
PORTABLE CONVEY 105 HP	1.00	10.00	1.00	50.00	500
D8K W/RIPPER	2.00	10.00	1.00	85.44	1,708
CAT 960D FEL	1.00	10.00	1.00	50.68	506
CAT 988D FEL	1.00	10.00	1.00	115.74	1,157

TOTAL EQUIPMENT COSTS 8,029

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BITUMINOUS WEARING MATL	810	NS	30.00	24,300
ST & S 10.% OF LABOR				1,256

TOTAL MATERIAL AND SUPPLIES COSTS 25,556

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOT
PARKING AREA - MAIN CAMP	1	LUMP	12562	8029	25556	46,147
UNIT COSTS			12562.00	8029.00	25556.00	46147.00

=====

PROJECT: SUSITNA, ALASKA	FILE # 1494X	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION	DATE: FEBRUARY 4, 1984	
COST ANALYSIS		

=====

ITEM: PARKING AREA - MAIN CAMP QUANTITY: 1 LUMP

ITEM CRITERIA

THE PROVIDED FOR THE PARKING AREA INSIDE THE CAMP WILL BE TAKEN AS
1 ACRE.

BASE COURSE 6" = $43560 \times 6/12 / 27 = 805$ SAY 850 CY

TONS OF AGGREGATE = $850 \text{ CY} \times 1.35 = 1150$ TONS

PAVING AREA = $43560/9 = 4840$ SY

THE SAME CREWS AND PRODUCTION RATES WILL BE USED AS IN THE ROAD PAVING.

PROJECT: SUSITNA, ALASKA FILE # 1494X EST. OLD REV. L LEVY
 SUBJECT: CONSTRUCTION CAMP - SITE PREPARATION DATE: FEBRUARY 4, 1984
 COST ANALYSIS

ITEM: PARKING LOT-OUT CAMP(500 CARS) QUANTITY: 4 ACRE

ITEM CRITERIA

THE PARKING LOT PAVING WILL BE PERFORMED USING THE SAME CREWS AS THE MAIN ROAD CREWS.

SY = 4 X 43560 / 9 = 19360 SY
 BASE COURSE 6" = 4 X 43560 X 6/12 / 27 = 3227 SAY 3500 CY
 TONS OF AGGREGATE = 3500 X 2700/2000 = 4725 TONS

-----MANPOWER-----						
CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF MANHOURS	\$/HR TOTAL COST
11	AGGREGATE PRODUCTION	4725	TONS	9.	1.00	315 15.00 11,655
4	BASE COURSE	3500	CY	5.	1.00	1000 3.50 35,000
5	PAVING	19360	SY	5.	1.00	129 ***** 5,160

TOTAL MANHOURS & LABOR COST 1444 51,815

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
PAVING MACHINE	1.00	30.00	1.00 75.10	2,252
10T PORTABLE CONVEY	1.00	30.00	1.00 25.00	750
CAT 14G GRADER	2.00	30.00	1.00 51.59	3,095
REAR DUMP TRUCK (10 CY)	3.00	35.00	1.00 31.00	3,263
10000 GAL WATER TRUCK	1.00	35.00	1.00 94.81	3,318
GRAVEL PLANT 145 HP	1.00	35.00	1.00 65.00	2,275
PORTABLE CONVEY 105 HP	1.00	35.00	1.00 50.00	1,750
DOK W/RIPPER	1.00	35.00	1.00 85.44	2,990
CAT 966D FEL	1.00	35.00	1.00 50.60	1,773
CAT 980B FEL	1.00	35.00	1.00 115.74	4,050

TOTAL EQUIPMENT COSTS 25,520

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BITUMINOUS WEARING COURSE	3250.	TONS	30.	
ST & S 10.2 OF LABOR				5,101

TOTAL MATERIAL AND SUPPLIES COSTS 5,101

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	MS	TOT
	PARKING LOT-OUT CAMP(500	4	ACRE	51815	25520	5101 82,516
	UNIT COSTS			12951.25	6300.00	12951.25 20629.00

1

=====

PROJECT: SUSITNA, ALASKA	FILE # 1563	EST. OLB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS		DATE: FEBRUARY 8, 1984
COST ANALYSIS		

=====

SUMMARY:	ITEM	QUANTITY		LABOR	EQUIPMENT	M&S	TOTAL
BACHELOR DORMS-100 MAN CO		24	EA	89250	13307	339478	442,115
UNIT COSTS							
BACHELOR DORMS-MGNT TYPE		8	EA	23030	3454	88007	114,491
UNIT COSTS							
BACHELOR DORMS-MGMT-TYPE		9	EA	19740	2960	75434	98,134
UNIT COSTS							
GUEST HOUSE 1 EA OWN/MGR/		3	EA	32935	4940	95726	133,601
UNIT COSTS							
CAMP MANAGERS OFFICES		3	EA	11760	1763	32908	46,511
UNIT COSTS							
STAFF CLUBHOUSE		1	EA	39200	5079	145960	191,039
UNIT COSTS							
DINING HALL # 1		1	EA	257320	38597	837866	1,133,783
UNIT COSTS							
DINING HALL # 2		1	EA	494095	74114	1450304	2,018,513
UNIT COSTS							
RECREATION BUILDING # 1		1	EA	197645	29646	487242	714,533
UNIT COSTS							
RECREATION BUILDING # 2		1	EA	411740	61760	1015086	1,488,586
UNIT COSTS							
GYMNASIUM		1	EA	915005	137250	1431750	2,484,005
UNIT COSTS							
SECURITY OFFICE		1	EA	49305	7407	106869	163,661
UNIT COSTS							
SOILS/MATERIALS LAB		1	EA	114345	17151	246967	378,463
UNIT COSTS							
MAINTENANCE BUILDING		1	EA	91490	13723	288574	393,787
UNIT COSTS							
WAREHOUSE - MANAGERS		1	EA	263515	39527	401975	705,017
UNIT COSTS							
WAREHOUSE - FOOD SERVICE		1	EA	164675	24701	632233	821,609
UNIT COSTS							
COMMUNICATIONS BUILDING		1	EA	5145	771	31457	37,373
UNIT COSTS							
HOSPITAL (20 BED CAPACITY)		1	EA	307440	46115	2300172	2,653,727
UNIT COSTS							
ICE RINK		1	EA	411740	61760	881587	1,355,087
UNIT COSTS							
BANK		1	EA	51450	7717	187372	246,539
UNIT COSTS							
STORE		1	EA	70500	3086	92829	116,495
UNIT COSTS							
LAUNDRY		1	EA	17160	1876	84009	98,115
UNIT COSTS							

MANPOWER SUMMARY

ACTIVITY	QUANTITY	CREW	MANHOURS	QTY/MH	\$/UNIT	DAYS
CONSTRUCTION-LABOR	275,160 CY	10.	113819	2.42	14.48	1138
TOTAL MANHOURS			113819			

NOTE : DAYS BASED ON 10 HRS SHIFTS

=====

PROJECT: SUSITNA, ALASKA	FILE # 1503	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS		DATE: FEBRUARY 8, 1984
COST ANALYSIS		

=====

EQUIPMENT SUMMARY

DESCRIPTION	UNIT COST \$/HR			TOTALS	
	TOTAL	LABOR	CREW	OPR HRS	MANHOURS COST
CONSTRUCTION EQUIPMENT	80.00	25.00	39.09	7409	4777 597549
TOTALS				7409	4777 597549

ITEM: BACHELOR DORMS-100 MAN COMPLEX	QUANTITY:	24	EA
--------------------------------------	-----------	----	----

REQD SF = 108 MEN X 120 SF/MAN = 12960 SF
MEANS PRICE = \$ 38.00
PRODUCTIVITY RATIO = 11650/2300 MH = 5.10 SF/MH
DURATION = (12960/5.10)/10 MEN X 10 HR/DAY = 25 DAYS
MATERIAL COSTS (1) BUILDING MAT'L = \$ 16/SF
(2) FURNITURE 1- BLD \$ 375
1- CHAIR \$ 55
1- CHEST \$ 150

$$\begin{aligned} 580 \times 100/12960 &= \$ 4.85/\text{SF} \\ &= \$ 5.00/\text{SF} \end{aligned}$$

15	CONSTRUCTION-LABOR	12960 SF	10. 1.00	2590 35.00	89,250
----	--------------------	----------	----------	------------	--------

TOTAL MANHOURS & LABOR COST	2550	89,250
-----------------------------	------	--------

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
----------------	-----	-----------	-------	------------

CONSTRUCTION EQUIPMENT	1.00	167.34	1.00	80.00	13.387
------------------------	------	--------	------	-------	--------

TOTAL EQUIPMENT COSTS	13,307
-----------------------	--------

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
----------------------	----------	------	---------	------------

BUILDING MATERIALS	12960	SF	16.00	207,360
--------------------	-------	----	-------	---------

FURNITURE	12900	SF	4.85	62,855
-----------	-------	----	------	--------

FREIGHT	12960	51	5.00	64,800
---------	-------	----	------	--------

ST & S	5.2% OF LABOR	4,462
--------	---------------	-------

TOTAL MATERIAL AND SUPPLIES COSTS	339,478
-----------------------------------	---------

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
----------	------	----------	-------	-----------	-----	-------

BACHELOR DEGREE-103 HON CO	24	EN	89250	16387	339478	442,115
UNIT COSTS			3718.75	557,791	414,492	18421.46

=====

PROJECT: SUSITNA, ALASKA	FILE # 1563	EST. OLD REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS		DATE: FEBRUARY 8, 1984
COST ANALYSIS		

=====

ITEM: BACHELOR DORMS-MIGHT TYPE A QUANTITY: 8 EA

ITEM CRITERIA

SF = 3360 SF
 MEN = 3360/120 = 28 MEN/DORM
 PRODUCTIVITY RATIO = 5.10 SF/MEN
 DURATION = (3360/5.10)/28 MEN X 10 HR/DAY = 7 DAYS
 MATERIAL COSTS (1) BUILDING MAT'L = \$ 16/SF
 (2) FURNITURE 1- BED \$ 375
 1- CHAIR \$ 55
 1- CHEST \$ 150

 500 X 100/12960 = \$ 4.05/SF
 (3) FREIGHT SEATTLE TO SITE = \$ 5.00/SF

-----MANPOWER-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	3360 SF	10.	1.00	058	35.00		23,030

TOTAL MANHOURS & LABOR COST							658	23,030
-----------------------------	--	--	--	--	--	--	-----	--------

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	43.18	1.00 80.00	3,454
TOTAL EQUIPMENT COSTS				3,454

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	3360	SF	16.00	53,760
FURNITURE	3360	SF	4.85	16,295
FREIGHT	3360	SF	5.00	16,800
ST & S 5.0% OF LABOR				1,151
TOTAL MATERIAL AND SUPPLIES COSTS				88,007

SUMMARY:

ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
BACHELOR DORMS, MIGHT TYPE	8 EA	23030	3454	88007	114,491
UNIT COSTS		2878.75	431.75	11000.00	14311.50

PROJECT: SUSITNA, ALASKA FILE # 1563 EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS DATE: FEBRUARY 8, 1984
COST ANALYSIS

ITEM: BACHELOR DORMS-MGMT-TYPE B QUANTITY: 9 EA

ITEM CRITERIA

SF = 2880

$$\text{MEN} = 2880 / 120 = 24 \text{ MEN/DORM}$$

PRODUCTIVITY RATIO = 5.10 SF/MH

DURATION = (2880/5.10)/10 MEN X 10 HR/DAY = 6 DAYS

MATERIAL COSTS (1) BUILDING MAT'L = \$ 16/SF

(2) FURNITURE 1- BED \$ 375

1- CHAIR \$ 55

1- CHEST \$ 150

$$580 \times 108 / 12960 = \$ 4.85 / \text{SF}$$

(3) FREIGHT SEATTLE TO SITE = \$ 5.00/SF

-*** MANPOWER ***-

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	2800	SF	10.	1.00	564	35.00	19,740

TOTAL MANHOURS & LABOR COST	564	19,740
-----------------------------	-----	--------

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
----------------	-----	-----------	-------	------------

CONSTRUCTION EQUIPMENT	1.00	37.01	1.00	80.00	2,960
------------------------	------	-------	------	-------	-------

TOTAL EQUIPMENT COSTS	2,960
-----------------------	-------

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
----------------------	----------	------	---------	------------

BUILDING MATERIALS	2880	SF	16.00	46,080
--------------------	------	----	-------	--------

FURNITURE	2880	SF	4.85	13,967
-----------	------	----	------	--------

FREIGHT	2880	SF	5.00	14,400
---------	------	----	------	--------

ST & S 5.2 OF LADOR 987

TOTAL MATERIAL AND SUPPLIES COSTS	75,434
-----------------------------------	--------

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
----------	------	----------	-------	-----------	-----	-------

BACHELOR DORMS-NIGHT-TYPE	9	EA	197.40	2960	7543.4	98,134
UNIT COSTS			2193.33	328.09	8381.56	10903.70

PROJECT: SUSITHA, ALASKA FILE # 1563 EST. OEB REV. L LEVY
 SUBJECT: CONSTRUCTION CAMP - BUILDINGS DATE: FEBRUARY 8, 1984
 COST ANALYSIS

ITEM: GUEST HOUSE 1 EA OWH/MGR/CON QUANTITY: 3 EA

ITEM CRITERIA

SF = 3360

MATERIAL COSTS (1) BUILDING MAT'L = \$ 18/SF
 (2) FURNITURE, ETC = \$ 5.00/SF
 (3) FREIGHT SEATTLE TO SITE = \$ 5.00/SF

***** MANPOWER *****

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	3360	SF	10.	0.70	941	35.00	32,935

TOTAL MANHOURS & LABOR COST 941 32,935

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	61.75	1.00 80.00	4,940

TOTAL EQUIPMENT COSTS 4,940

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	3360	SF	18.00	60,480
FURNITURE	3360	SF	5.00	16,800
FREIGHT	3360	SF	5.00	16,800
ST & S 5.2 OF LABOR				1,646

TOTAL MATERIAL AND SUPPLIES COSTS 95,726

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
GUEST HOUSE 1 EA OWH/MGR/	3	EA	32935	4940	95726	133,601
UNIT COSTS			10928.33	1646.67	31908.67	44533.67

=====

PROJECT: SUSITHA, ALASKA	FILE # 1563	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS		DATE: FEBRUARY 8, 1984
COST ANALYSIS		

=====

ITEM: CAMP MANAGERS OFFICES QUANTITY: 3 EA

ITEM CRITERIA

SF = 1200

MATERIAL COSTS	(1) BUILDING MAT'L	= \$ 16/SF
	(2) FURNITURE, ETC	= \$ 4.00/SF
	(3) FREIGHT SEATTLE TO SITE	= \$ 5.00/SF

-----***** MANPOWER *****-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	1200	SF	10.	0.70	336	35.00	11,760
TOTAL MANHOURS & LABOR COST							336	11,760

EQUIPMENT TYPE	NO.	OPR HOURS		\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	22.05	1.00	80.00	1,763
TOTAL EQUIPMENT COSTS					1,763

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	1200	SF	18.00	21,600
FURNITURE	1200	SF	4.00	4,800
FREIGHT	1200	SF	5.00	6,000
ST & S 5.2 OF LABOR				588
TOTAL MATERIAL AND SUPPLIES COSTS				32,988

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
CAMP MANAGERS OFFICES	3	EA	11760	1763	32900	46,511
UNIT COSTS			3920.00	587.67	10996.00	15503.67

=====

PROJECT: SUSITNA, ALASKA	FILE # 1563	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS		DATE: FEBRUARY 8, 1984
COST ANALYSIS		

=====

ITEM: STAFF CLUBHOUSE QUANTITY: 1 EA

ITEM CRITERIA

SF = 4000 SF

MATERIAL COSTS	(1) BUILDING MAT'L	= \$ 16/SF
	(2) FURNITURE	= \$ 5.00/SF
	(3) FURNISHINGS (POOL TABLES, TV, VIDEO GAMES)	= \$ 10.00/SF
	(4) FREIGHT SEATTLE TO SITE	= \$ 5.00/SF

-----*** MANPOWER ***-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	4000 SF		10.	0.70	1120	35.00	39,200
TOTAL MANHOURS & LABOR COST						1120		39,200

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	73.50	1.00 80.00	5,879
TOTAL EQUIPMENT COSTS				5,879

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	4000	SF	16.00	64,000
FURNITURE	4000	SF	5.00	20,000
FURNISHINGS	4000	SF	10.00	40,000
FREIGHT	4000	SF	5.00	20,000
ST & S 5.2 OF LABOR				1,960
TOTAL MATERIAL AND SUPPLIES COSTS				145,960

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
STAFF CLUBHOUSE	1	EA	39200	5879	145960	191,039
UNIT COSTS			39200.00	5879.00	*****	191039.00

PROJECT: SUSITNA, ALASKA FILE # 1563 EST. OEB REV. L LEVY
 SUBJECT: CONSTRUCTION CAMP - BUILDINGS DATE: FEBRUARY 8, 1984
 COST ANALYSIS

ITEM: DINING HALL # 1 QUANTITY: 1 EA

ITEM CRITERIA

SF = 15000 SF

MATERIAL COSTS (1) BUILDING MAT'L = \$ 20/SF
 (2) FURNISHINGS = \$ 5.00/SF
 (3) KITCHEN EQUIPMENT
 (3000 SF X \$ 100/SF)/15000 SF = \$ 20.00/SF
 (3) FREIGHT SEATTLE TO SITE = \$ 10.00/SF

***** MANPOWER *****						
CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS \$/HR TOTAL COST
15	CONSTRUCTION-LABOR	15000	SF	10.	0.40	7352 35.00 257,320
TOTAL MANHOURS & LABOR COST				7352		257,320

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	482.47	1.00 80.00	38,597
TOTAL EQUIPMENT COSTS				38,597

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	15000	SF	20.00	300,000
FURNISHINGS	15000	SF	5.00	75,000
KITCHEN EQUIPMENT	3000	SF	100.00	300,000
FREIGHT	15000	SF	10.00	150,000
ST & S 5.% OF LABOR				12,866
TOTAL MATERIAL AND SUPPLIES COSTS				837,866

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
DINING HALL # 1		1 EA	257320	38597	837866	1,133,783
UNIT COSTS						1133783.00

ITEM: DINING HALL # 2 QUANTITY: 1 EA

ITEM CRITERIA

SF - 28800

MATERIAL COSTS (SAME AS FOR DINING HALL # 1)

*** MAHPOLIER ***

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
------	-----------------	-----	------	------	----	----------	-------	------------

15	CONSTRUCTION-LABOR	28800 SF	10. 0.40	14117 35.00	494,095
----	--------------------	----------	----------	-------------	---------

TOTAL MANHOURS & LABOR COST	14117	494,095
-----------------------------	-------	---------

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10
11	11	11	11	11
12	12	12	12	12
13	13	13	13	13
14	14	14	14	14
15	15	15	15	15
16	16	16	16	16
17	17	17	17	17
18	18	18	18	18
19	19	19	19	19
20	20	20	20	20
21	21	21	21	21
22	22	22	22	22
23	23	23	23	23
24	24	24	24	24
25	25	25	25	25
26	26	26	26	26
27	27	27	27	27
28	28	28	28	28
29	29	29	29	29
30	30	30	30	30
31	31	31	31	31
32	32	32	32	32
33	33	33	33	33
34	34	34	34	34
35	35	35	35	35
36	36	36	36	36
37	37	37	37	37
38	38	38	38	38
39	39	39	39	39
40	40	40	40	40
41	41	41	41	41
42	42	42	42	42
43	43	43	43	43
44	44	44	44	44
45	45	45	45	45
46	46	46	46	46
47	47	47	47	47
48	48	48	48	48
49	49	49	49	49
50	50	50	50	50
51	51	51	51	51
52	52	52	52	52
53	53	53	53	53
54	54	54	54	54
55	55	55	55	55
56	56	56	56	56
57	57	57	57	57
58	58	58	58	58
59	59	59	59	59
60	60	60	60	60
61	61	61	61	61
62	62	62	62	62
63	63	63	63	63
64	64	64	64	64
65	65	65	65	65
66	66	66	66	66
67	67	67	67	67
68	68	68	68	68
69	69	69	69	69
70	70	70	70	70
71	71	71	71	71
72	72	72	72	72
73	73	73	73	73
74	74	74	74	74
75	75	75	75	75
76	76	76	76	76
77	77	77	77	77
78	78	78	78	78
79	79	79	79	79
80	80	80	80	80
81	81	81	81	81
82	82	82	82	82
83	83	83	83	83
84	84	84	84	84
85	85	85	85	85
86	86	86	86	86
87	87	87	87	

CONSTRUCTION EQUIPMENT	1.00	926.43	1.00	80.00	74,114
------------------------	------	--------	------	-------	--------

TOTAL EQUIPMENT COSTS	74,114
-----------------------	--------

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
----------------------	----------	------	---------	------------

BUILDING MATERIALS	26800	SF	20.00	576,000
--------------------	-------	----	-------	---------

FURNISHINGS	28000	SF	5.00	144,000
-------------	-------	----	------	---------

KITCHEN EQUIPMENT	5760	SF	100.00	576,000
-------------------	------	----	--------	---------

FREIGHT	12960 SF	10.00	129,600
---------	----------	-------	---------

ST & S 5.2 OF LABOR	24,704
---------------------	--------

TOTAL MATERIAL AND SUPPLIES COSTS	1,450,304
-----------------------------------	-----------

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
----------	------	----------	-------	-----------	-----	-------

DINING HALL # 2	1	EA	494095	74114	1450304	2,010,513
UNIT COSTS						2010513.00

PROJECT: SUSITHA, ALASKA FILE # 1563 EST. OEB REV. L LEVY
 SUBJECT: CONSTRUCTION CAMP - BUILDINGS DATE: FEBRUARY 8, 1984
 COST ANALYSIS

ITEM: RECREATION BUILDING # 1 QUANTITY: 1 EA

ITEM CRITERIA

SF = 14400 SF
 MATERIAL COSTS (1) BUILDING MAT'L = \$ 19/SF
 (2) FURNISHINGS

	QTY	UP
- CARD TABLES	25	\$150/EA
- POOL TABLES	10	\$800/EA
- PING PONG	10	\$100
- SNACK BAR	1	10000/EA
- VIDEO GAMES	25 @ 1500	
- POST OFFICE	1 @ 3000	
- TV	5 @ 10000/EA	
- BARBER SHOP	1 @ 8000/EA	

TOTAL COST \$ 73,742
 UNIT 5.12 X 1.20 = 6.15 = \$ 6.15/SF
 (3) FREIGHT SEATTLE TO SITE = \$ 8.00/SF

*** MANPOWER ***

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
------	-----------------	-----	------	------	----	----------	-------	------------

15	CONSTRUCTION-LABOR	14400 SF	10.	0.50		5647	35.00	197,645
----	--------------------	----------	-----	------	--	------	-------	---------

TOTAL MANHOURS & LABOR COST							5647	197,645
-----------------------------	--	--	--	--	--	--	------	---------

EQUIPMENT TYPE	NO.	HOURS	\$/HR	TOTAL COST
----------------	-----	-------	-------	------------

CONSTRUCTION EQUIPMENT	1.00	370.58	1.00 80.00	29,646
------------------------	------	--------	------------	--------

TOTAL EQUIPMENT COSTS				29,646
-----------------------	--	--	--	--------

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
----------------------	----------	------	---------	------------

BUILDING MATERIALS	14400	SF	19.00	273,600
--------------------	-------	----	-------	---------

FURNISHINGS	14400	SF	6.15	88,559
-------------	-------	----	------	--------

FREIGHT	14400	SF	8.00	115,200
---------	-------	----	------	---------

ST & S 5.% OF LABOR				9,802
---------------------	--	--	--	-------

TOTAL MATERIAL AND SUPPLIES COSTS				487,242
-----------------------------------	--	--	--	---------

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
----------	------	----------	-------	-----------	-----	-------

RECREATION BUILDING # 1	1	EA	197645	29646	487242	714,533
-------------------------	---	----	--------	-------	--------	---------

UNIT COSTS			29646.00			714533.00
------------	--	--	----------	--	--	-----------

=====

PROJECT: SUSITNA, ALASKA	FILE # 1563	EST. DEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS		DATE: FEBRUARY 8, 1984
COST ANALYSIS		

=====

ITEM: RECREATION BUILDING # 2 QUANTITY: 1 EA

ITEM CRITERIA

SF = 30,000

MATERIAL COSTS (SEE RECREATION BUILDING # 1)

-----*** MANPOWER ***-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	30000	SF	10.	0.50	11764	35.00	411,740
TOTAL MANHOURS & LABOR COST						11764		411,740

EQUIPMENT TYPE	NO.	OPR HOURS		\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	772.01	1.00	80.00	61,760
TOTAL EQUIPMENT COSTS					61,760

MATERIAL DESCRIPTION	QUANTITY	UNIT		\$/UNIT	TOTAL COST
BUILDING MATERIALS	30000	SF		19.00	570,000
FURNITURE	30000	SF		6.15	184,499
FREIGHT	30000	SF		8.00	240,000
ST & S 5.% OF LABOR					20,587
TOTAL MATERIAL AND SUPPLIES COSTS					1,015,086

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
RECREATION BUILDING # 2		1 EA	411740	61760	1015086	1,488,586
UNIT COSTS						1488586.00

EST. OEB REV. L LEVY

DATE: FEBRUARY 8, 1984

COST ANALYSIS

ITEM: GYMNASIUM

QUANTITY:

EA

ITEM CRITERIA

SF = 40000

(MEANS COST = \$ 54.20/SF)

MATERIAL COSTS (1) BUILDING MAT'L

B \$ 18/SF

(2) FURNISHINGS

- SAUNAS 2 @ \$ 3000/EA

-- WEIGHT ROOM 2 @ \$10000

- SHOWER. M/F 2 @ \$15000

- BASKETBALL @ \$ 5000

- WOOD FLOOR

5.00/SF @ \$ 180000

- MISCELLANEOUS

2.00/SF @ 80000

TOTAL	\$ 321000
-------	-----------

UNIT COST 8.03 X 1.20

= \$ 9.65/SF

(3) FREIGHT SEATTLE TO SITE

= \$ 7.00/SF

-***** MANPOWER *****-

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
------	-----------------	-----	------	------	----	----------	-------	------------

15	CONSTRUCTION-LABOR	40000 SF	10. 0.30	26143 35.00	915,005
----	--------------------	----------	----------	-------------	---------

TOTAL MANHOURS & LABOR COST	26143	915,005
-----------------------------	-------	---------

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
----------------	-----	-----------	-------	------------

CONSTRUCTION EQUIPMENT	1.00	1715.63	1.00	80.00	137,250
------------------------	------	---------	------	-------	---------

TOTAL EQUIPMENT COSTS	137,250
-----------------------	---------

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
----------------------	----------	------	---------	------------

BUILDING MATERIALS	40000	SF	18.00	720,000
--------------------	-------	----	-------	---------

DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL PRICE
FURNISHINGS	40000	SF	9.65	385,999

FREIGHT	40000	SF	7.00	280,000
---------	-------	----	------	---------

ST & S	5.2% OF LABOR	45,750
--------	---------------	--------

TOTAL MATERIAL AND SUPPLIES COSTS	1,431,750
-----------------------------------	-----------

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
----------	------	----------	-------	-----------	-----	-------

GYMNASIUM	1	EA	915005	137250	1431750	2,404,005
-----------	---	----	--------	--------	---------	-----------

UNIT COSTS	2484005.00
------------	------------

SUBJECT: CONSTRUCTION CAMP - BUILDINGS
COST ANALYSIS

DATE: FEBRUARY 8, 1984

ITEM: SECURITY OFFICE QUANTITY: 1 EA

ITEM CRITERIA

SF = 3600 SF

MATERIAL COSTS (1) BUILDING MAT'L = \$ 18/SF
(2) FURNISHINGS (RADIO, ALARMS) = \$ 6/SF
(3) FREIGHT SEATTLE TO SITE = \$ 5.00/SF

***** MANPOWER *****

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	3600 SF		10.	0.50	1411	35.00	49,385

TOTAL MANHOURS & LABOR COST							1411	49,385
-----------------------------	--	--	--	--	--	--	------	--------

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	92.60	1.00 80.00	7,407

TOTAL EQUIPMENT COSTS				7,407
-----------------------	--	--	--	-------

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	3600	SF	18.00	64,800
FURNISHINGS	3600	SF	6.00	21,600
FREIGHT	3600	SF	5.00	18,000
ST & S 5.2 OF LABOR				2,469

TOTAL MATERIAL AND SUPPLIES COSTS				106,869
-----------------------------------	--	--	--	---------

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
	SECURITY OFFICE	1 EA	49385	7407	106869	163,661
	UNIT COSTS		49385.00	7407.00	*****	163661.00

PROJECT: SUSITNA, ALASKA FILE # 1563 EST. OEB REV. L LEVY
 SUBJECT: CONSTRUCTION CAMP - BUILDINGS DATE: FEBRUARY 8, 1984
 COST ANALYSIS

ITEM: SOILS/MATERIALS LAB QUANTITY: 1 EA

ITEM CRITERIA

SF = 5000

(MEANS UP = \$ 90.50/SF)

MATERIAL COSTS (1) BUILDING MAT'L = \$ 18/SF
 (2) FURNISHINGS

- OVERHEAD DOORS \$ 3000
 - EXTINGUISHERS \$ 5000
 - LAB EQUIPMENT \$ 50000

TOTAL COST \$ 54000

UNIT COST 16.88 X 1.20 = \$ 20.25/SF

(3) FREIGHT SEATTLE TO SITE = \$ 10.0/SF

***** MANPOWER *****

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	5000 SF	10.0	0.30	3267	35.00	114,345	

TOTAL MANHOURS & LABOR COST	3267	114,345
-----------------------------	------	---------

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	214.40	1.00 80.00	17,151

TOTAL EQUIPMENT COSTS	17,151
-----------------------	--------

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	5000 SF	18.00	90,000	
FURNISHINGS	5000 SF	20.25	101,250	
FREIGHT	5000 SF	10.00	50,000	
ST & S 5.2 OF LABOR			5,717	

TOTAL MATERIAL AND SUPPLIES COSTS	246,967
-----------------------------------	---------

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
SOILS/MATERIALS LAB	1 EA	114345	17151	246967	378,463	
UNIT COSTS					378463.00	

=====

PROJECT: SUSITNA, ALASKA	FILE # 1563	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS		DATE: FEBRUARY 8, 1984
COST ANALYSIS		

=====

ITEM: MAINTENANCE BUILDING QUANTITY: 1 EA

ITEM CRITERIA

SF = 4000 SF
(CONCRETE SLAB = 8000 SF)

MATERIAL COSTS	(1) BUILDING MAT'L	= \$ 10/SF
	(2) FURNISHINGS	
	- COMPRESSORS @ 100000	
	- HYDRAULIC LIFTS @ 50000	
	- STORAGE TANK @ 30000	

	TOTAL COST 180000	
	UNIT COST = 45 X 1.2	= \$ 54.0/SF
(3) FREIGHT SEATTLE TO SITE		= \$ 7.00/SF

-----*** MANPOWER ***-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	8000 SF		10.	0.60	2614	35.00	91,490
TOTAL MANHOURS & LABOR COST						2614		91,490

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	171.54	1.00 80.00	13,723
TOTAL EQUIPMENT COSTS				13,723

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	4000	SF	10.00	40,000
FURNISHINGS	4000	SF	54.00	216,000
FREIGHT	4000	SF	7.00	28,000
ST & S 5.2 OF LABOR				4,574
TOTAL MATERIAL AND SUPPLIES COSTS				288,574

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
MAINTENANCE BUILDING	1	EA	91490	13723	288574	393,787
UNIT COSTS						393787.00

=====

PROJECT: SUSITNA, ALASKA	FILE # 1563	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS		DATE: FEBRUARY 8, 1964
COST ANALYSIS		

=====

ITEM: WAREHOUSE - MANAGERS QUANTITY: 1 EA

ITEM CRITERIA

SF = 19200 SF

(MEANS UP = \$ 25.10/SF)

MATERIAL COSTS	(1) BUILDING MAT'L	= \$ 12/SF
	(2) FURNISHINGS	
	- STORAGE BINS 25 @ 2000	
	UNIT COST 2.60 X 1.2	= \$ 3.15/SF
	(3) FREIGHT SEATTLE TO SITE	= \$ 4.00/SF

-----*** MANPOWER ***-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	19200	SF	10.	0.50	7529	35.00	263,515

TOTAL MANHOURS & LABOR COST	7529	263,515
-----------------------------	------	---------

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	494.09	1.00 80.00	39,527

TOTAL EQUIPMENT COSTS	39,527
-----------------------	--------

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	19200	SF	12.00	230,400
FURNISHINGS	19200	SF	3.25	62,400
FREIGHT	19200	SF	5.00	96,000
ST & S 5.% OF LABOR				13,175

TOTAL MATERIAL AND SUPPLIES COSTS	401,975
-----------------------------------	---------

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
WAREHOUSE - MANAGERS	1	EA	263515	39527	401975	705,017
UNIT COSTS						705017.00

=====

PROJECT: SUSITNA, ALASKA	FILE # 1563	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS		DATE: FEBRUARY 8, 1984
COST ANALYSIS		

=====

ITEM: WAREHOUSE - FOOD SERVICE QUANTITY: 1 EA

ITEM CRITERIA

SF = 12000

MATERIAL COSTS	(1) BUILDING MAT'L	= \$ 12/SF
	(2) FURNISHING	
	- COLD STORAGE \$ 300000	
	UNIT COST = 25 X 1.20	= \$ 30/SF
	(3) FREIGHT SEATTLE TO SITE	= \$ 10.0/SF

-----***** MANPOWER *****-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	RF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	12000 SF		10.	0.50	4705	35.00	164,675
TOTAL MANHOURS & LABOR COST							4705	164,675

EQUIPMENT TYPE	NO.	OPR HOURS		\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	308.77	1.00	80.00	24,701
TOTAL EQUIPMENT COSTS					24,701

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	12000	SF	12.00	144,000
FURNISHINGS	12000	SF	30.00	360,000
FREIGHT	12000	SF	10.00	120,000
ST & S 5.2 OF LABOR				8,233
TOTAL MATERIAL AND SUPPLIES COSTS				632,233

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
WAREHOUSE - FOOD SERVICE	1	EA	164675	24701	632233	821,609
UNIT COSTS						821609.00

=====

PROJECT: SUSITHA, ALASKA	FILE # 1563	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS		DATE: FEBRUARY 8, 1984
COST ANALYSIS		

=====

ITEM: COMMUNICATIONS BUILDING QUANTITY: 1 EA

ITEM CRITERIA

SF = 600 SF

MATERIAL COSTS (1) BUILDING MAT'L = \$ 20/SF
 (2) FURNISHINGS
 - RADIO EQ \$ 10000
 UNIT COST = 16.67 X 1.2 = \$ 20/SF
 (3) FREIGHT SEATTLE TO SITE = \$ 12.0/SF

-----***** MANPOWER *****-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	600 SF		10.	0.80	147	35.00	5,145
TOTAL MANHOURS & LABOR COST						147		5,145

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	9.65	1.00 30.00	771
TOTAL EQUIPMENT COSTS				771

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	600	SF	20.00	12,000
FURNISHINGS	600	SF	20.00	12,000
FREIGHT	600	SF	12.00	7,200
ST & S 5.% OF LABOR				257
TOTAL MATERIAL AND SUPPLIES COSTS				31,457

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
COMMUNICATIONS BUILDING	1	EA	5145	771	31457	37,373
UNIT COSTS			5145.00	771.00	31457.00	37373.00

=====

PROJECT: SUSITNA, ALASKA	FILE # 1563	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS		DATE: FEBRUARY 8, 1984
COST ANALYSIS		

=====

ITEM: HOSPITAL (20 BED CAPACITY) QUANTITY: 1 EA

ITEM CRITERIA

SF = 22400

(MEANS UP = \$ 112/SF)

MATERIAL COSTS (1) BUILDING MAT'L = \$ 30/SF

(2) MEDICAL EQUIPMENT

SURGICAL TABLE, SURGICAL EQ

DENTAL EQUIPMENT, BLOOD

BANK, XRAY, OPERATING

MICROSCOPE, BEDS ETC)

= \$ 60.0/SF

(3) FREIGHT SEATTLE TO SITE

= \$ 12.0/SF

-----***** MANPOWER *****-----

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	22400	SF	10.	0.50	8784	35.00	307,440

TOTAL MANHOURS & LABOR COST	8784	307,440
-----------------------------	------	---------

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	576.45	1.00 80.00	46,115

TOTAL EQUIPMENT COSTS	46,115
-----------------------	--------

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	22400	SF	30.00	672,000
MEDICAL EQUIPMENT	22400	SF	60.00	1,344,000
FREIGHT	22400	SF	12.00	268,800
ST & S 5.2 OF LABOR				15,372

TOTAL MATERIAL AND SUPPLIES COSTS	2,300,172
-----------------------------------	-----------

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
HOSPITAL (20 BLD CAPACITY	1	EA	307440	46115	2300172	2,653,727
UNIT COSTS						2653727.00

PROJECT: SUSITNA, ALASKA FILE # 1563 EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS DATE: FEBRUARY 8, 1964
COST ANALYSIS

ITEM: ICE RINK	QUANTITY:	1	EA
----------------	-----------	---	----

ITEM CRITERIA

SF = 42000

(MEANS PRICE ONLY FOR PLUMBING & REFIG. = \$ 10.88/SF)

MATERIAL COSTS	(1) BUILDING MAT'L	= \$ 12/SF
	(2) FURNISHINGS	= \$ 3.50/SF
	(3) FREIGHT SEATTLE TO SITE	= \$ 5.00/SF

-*** MANPOWER ***-

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	42000	SF	10.	0.70	11764	35.00	411,740

TOTAL MANHOURS & LABOR COST	11764	411,740
-----------------------------	-------	---------

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	772.01	1.00 80.00	61,760

TOTAL EQUIPMENT COSTS	61,760
-----------------------	--------

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	42000	SF	12.00	504,000
FURNISHINGS	42000	SF	3.50	147,000
FREIGHT	42000	SF	5.00	210,000
ST & S 5.% OF LABOR				20,587

TOTAL MATERIAL AND SUPPLIES COSTS	881,587
-----------------------------------	---------

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
ICE RINK		1 EA	411740	61760	881587	1,355,007
UNIT COSTS						1355007.00

PROJECT: SUSITNA, ALASKA FILE # 1563 EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS DATE: FEBRUARY 8, 1984
COST ANALYSIS

ITEM: BANK QUANTITY: 1 EA

ITEM CRITERIA

SF = 3000

(MEANS UP = \$ 88.60/SF)

MATERIAL COSTS (1) BUILDING MAT'L = \$ 20/SF
(2) FURNISHINGS

- BULLET RESISTANT DOORS @ 5000
- ALARM SYSTEM 5000
- COUNTERS 4000
- SAFETY DEPOSIT BOXES
500 @ 100/EA 50000
- CLOSED CIRCUIT TV 15000

TOTAL COST	79000
------------	-------

$$\text{UNIT COST} = 26.33 \times 1.2 = \$ 31.60/\text{SF}$$

(3) FREIGHT SEATTLE TO SITE = \$ 10.0/SF

-*** MANPOWER ***-

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
------	-----------------	-----	------	------	----	----------	-------	------------

15	CONSTRUCTION-LABOR	3000 SF	10. 0.40	1470 35.00	51,450
----	--------------------	---------	----------	------------	--------

TOTAL MANHOURS & LABOR COST	1470	51,450
-----------------------------	------	--------

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
----------------	-----	-----------	-------	------------

CONSTRUCTION EQUIPMENT	1.00	96.47	1.00	80.00	7.717
------------------------	------	-------	------	-------	-------

TOTAL EQUIPMENT COSTS	7.717
-----------------------	-------

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
----------------------	----------	------	---------	------------

BUILDING MATERIALS	3000 SF	20.00	60,000
--------------------	---------	-------	--------

FURNISHINGS	3000	SF	31.60	94.799
-------------	------	----	-------	--------

FREIGHT	3000 SF	10.00	30,000
---------	---------	-------	--------

ST & S 5.2% OF LABOR	2,572
----------------------	-------

TOTAL MATERIAL AND SUPPLIES COSTS	187,372
-----------------------------------	---------

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
BANK		1 EA	51450	7717	187372	246,539
	UNIT COSTS					246539.00

=====

PROJECT: SUSITNA, ALASKA	FILE # 1563	EST. DEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS		DATE: FEBRUARY 8, 1984
COST ANALYSIS		

=====

ITEM: STORE	QUANTITY:	1	EA
-------------	-----------	---	----

ITEM CRITERIA

SF = 1800

(MEANS UP = \$ 37.30/SF)

MATERIAL COSTS	(1) BUILDING MAT'L	= \$ 18/SF
	(2) FURNISHINGS	= \$ 28/SF
	(3) FREIGHT SEATTLE TO SITE	= \$ 5.00/SF

-*** MANPOWER ***-

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	1800	SF	10.	0.60	588	35.00	20,580
TOTAL MANHOURS & LABOR COST						588		20,580

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	38.59	1.00 80.00	3,086
TOTAL EQUIPMENT COSTS				3,086

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	1800	SF	18.00	32,400
FURNISHINGS	1800	SF	28.00	50,400
FREIGHT	1800	SF	5.00	9,000
ST & S 5% OF LABOR				1,029
TOTAL MATERIAL AND SUPPLIES COSTS				92,829

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	M&S	TOTAL
STORE		1 EA	20500	3086	92029	116,495
UNIT COSTS			20500.00	3086.00	92029.00	116495.00

=====

PROJECT: SUSITNA, ALASKA	FILE # 1563	EST. OEB REV. L LEVY
SUBJECT: CONSTRUCTION CAMP - BUILDINGS		DATE: FEBRUARY 8, 1984
COST ANALYSIS		

=====

ITEM: LAUNDRY	QUANTITY:	1	EA
---------------	-----------	---	----

ITEM CRITERIA

SF = 1600

MATERIAL COSTS	(1) BUILDING MAT'L	= \$ 20/SF
	(2) FURNISHINGS	
	- WASHERS & DRYERS	
	20 @ 1500/EA = 30000	

	UNIT COST = 18.75 X 1.20	= \$ 22.5/SF
	(3) FREIGHT SEATTLE TO SITE	= \$ 10.0/SF

-----***** MANPOWER *****

CODE	ITEM/ACTIVITIES	QTY	UNIT	CREW	PF	MANHOURS	\$/HR	TOTAL COST
15	CONSTRUCTION-LABOR	1600	SF	10.	0.90	348	35.00	12,180

TOTAL MANHOURS & LABOR COST	348	12,180
-----------------------------	-----	--------

EQUIPMENT TYPE	NO.	OPR HOURS	\$/HR	TOTAL COST
CONSTRUCTION EQUIPMENT	1.00	22.04	1.00 00.00	1,026

TOTAL EQUIPMENT COSTS	1,826
-----------------------	-------

MATERIAL DESCRIPTION	QUANTITY	UNIT	\$/UNIT	TOTAL COST
BUILDING MATERIALS	1600	SF	20.00	32,000
FURNISHINGS	1600	SF	22.50	36,000
FREIGHT	1600	SF	10.00	16,000

ST & S 5.2 OF LABOR 609

TOTAL MATERIAL AND SUPPLIES COSTS	84,609
-----------------------------------	--------

SUMMARY:	ITEM	QUANTITY	LABOR	EQUIPMENT	MES	TOTAL
LAUNDRY		1 EA	12100	1026	84009	98,615
UNIT COSTS			12100.00	1026.00	84009.00	98615.00