

**Central Peninsula General Hospital
Heating System Repair
Soldotna, Alaska**

**Construction Cost Estimate
Schematic Submittal
September 11, 2008**

 **ESTIMATIONS**

1225 E. International Airport Road, Suite 205
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907.561.0790

Prepared for:

AMC Engineers

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Central Peninsula General Hospital
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Description	Estimated Cost	Div.
Basic Bid		
01 - GENERAL REQUIREMENTS	\$173,236	1
03 - CONCRETE	\$1,489	3
05 - METALS	\$9,477	5
09 - FINISHES	\$1,428	9
15 - MECHANICAL	\$303,610	15
16 - ELECTRICAL	\$13,959	16
Subtotal:	\$503,199	<<<<<
Estimating Contingency:	10.0%	\$50,320
Escalation For Inflation: 6 Mths @ 7.0%	3.4%	\$19,045
Total Estimated Cost - Basic Bid:	\$572,564	<<<<<

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Line No.	Description	Qty	UNITS	Material Costs		Labor Hours		Labor Cost	Equip Cost	Total Cost	Total Cost w/ OH & P
				Unit	Total	Units	Totals				
1	01 - GENERAL REQUIREMENTS										
2											
3	Project Management										
4	Project Manager, 16 Hour/Week	11	WEEKS			16.000	176.0	\$13,552		\$13,552	\$13,552
5	Supervisor, 50 Hour/Week	9	WEEKS			50.000	450.0	\$24,750		\$24,750	\$24,750
6	QC Manager, 30 Hour/Week	9	WEEKS			30.000	270.0	\$14,850		\$14,850	\$14,850
7	Project Expeditor, 20 Hour/Week	9	WEEKS			20.000	180.0	\$11,880		\$11,880	\$11,880
8	Special Inspections	1	LS	\$5,000.00	\$5,000					\$5,000	\$5,000
9											
10	Mob & Demob	1	LS	\$2,500.00	\$2,500	80.000	80.0	\$5,280		\$7,780	\$7,780
11											
12	Equipment										
13	Pickup (1 Ea)	9	WEEKS						\$5,400	\$5,400	\$5,400
14	Forklift (1 Ea)	4	WEEKS						\$4,800	\$4,800	\$4,800
15	Manlift (1 Ea)	4	WEEKS						\$1,620	\$1,620	\$1,620
16	Tools and Equipment	1	LS						\$2,500	\$2,500	\$2,500
17											
18	Other Requirements										
19	Cleaning	1	LS			40.000	40.0	\$2,640		\$2,640	\$2,640
20	Contract Closeout and Training	1	LS	\$2,500.00	\$2,500					\$2,500	\$2,500
21	Field Engineering: Submittals, Shop & Rec Dwg, Operating Instructions, O&M Manuals	80	HRS	\$5.00	\$400	1.000	80.0	\$5,280		\$5,680	\$5,680
22											
23											
24											
25											
26											
27											
28											
29											
30	General Contractor Overhead	5%									\$21,646
31	General Contractor Profit (Fee)	8%									\$36,365
32	General Contractor Bond & Insurance	2.5%									\$12,273
33											
34	Subtotal: 01 - GENERAL REQUIREMENTS				\$10,400		1,276.0	\$78,232	\$14,320	\$102,952	\$173,236
35											
36	Average Labor Rate for this division: \$61.31 per hour										

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				Unit	Total	Units	Totals				
37											
38	03 - CONCRETE										
39											
40	03300 Cast-In-Place Concrete										
41	Housekeeping Pads - 3 Ft x 10 Ft x 0.67 Ft	2	EA								
42	Forms	35	SF	\$1.56	\$54	0.125	4.3	\$286		\$340	\$442
43	Re-steel	108	LBS	\$0.65	\$71	0.027	2.9	\$193		\$264	\$343
44	Concrete	2	CY	\$105.00	\$163	1.286	2.0	\$133	\$23	\$319	\$415
45	Anchor Bolts	8	EA	\$7.00	\$56	0.314	2.5	\$166		\$222	\$289
46											
47											
48											
49	Subtotal: 03 - CONCRETE				\$344		11.7	\$778	\$23	\$1,145	\$1,489
50	Average Labor Rate for this division: \$66.50 per hour										
51											
52											
53	05 - METALS										
54											
55	05500 Metal Fabrications										
56	Framing Hardware, Bracing, Structural Equipment Supports - Allowance	2,000	LBS	\$2.00	\$4,000	0.029	58.0	\$4,241		\$8,241	\$9,477
57											
58											
59											
60	Subtotal: 05 - METALS				\$4,000		58.0	\$4,241		\$8,241	\$9,477
61	Average Labor Rate for this division: \$73.12 per hour										
62											
63											
64	09 - FINISHES										
65											
66	Misc Patch & Repair - Allowance	1	LS	\$200.00	\$200	16.000	16.0	\$990		\$1,190	\$1,428
67											
68											
69											
70	Subtotal: 09 - FINISHES				\$200		16.0	\$990		\$1,190	\$1,428
71	Average Labor Rate for this division: \$61.88 per hour										
72											

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				Unit	Total	Units	Totals				
73											
74	15 - MECHANICAL										
75											
76	15010 General Conditions										
77	Temporary Connections	1	LS	\$2,000.00	\$2,000	40.000	40.0	\$2,597		\$4,597	\$4,597
78	Seismic & Vibration Control	1	LS	\$7,600.00	\$7,600					\$7,600	\$7,600
79	Allowance For Phasing (System Must Remain In Continuous Operation During Construction.) 15% Of Labor	1	LS	\$16,300.00	\$16,300					\$16,300	\$16,300
80											
81	Demolition										
82	Demo Costs Include Structural Supports, Associated Piping, Valves, Specialties										
83	Heat Exchangers										
84	HX-R1: Heat Exchanger, 178 GPM	1	EA			24.000	24.0	\$1,558		\$1,558	\$1,558
85	HX-R2, R3: Heat Exchanger, 85 GPM	2	EA			20.000	40.0	\$2,597		\$2,597	\$2,597
86	Main HX: 10 PSIG Steam To Water	1	EA			24.000	24.0	\$1,558		\$1,558	\$1,558
87	HWH-1, HWH-2: DHW Heater	1	EA			24.000	24.0	\$1,558		\$1,558	\$1,558
88	Pumps										
89	HCP-1 - HCP-4: 3 HP	4	EA			4.000	16.0	\$1,039		\$1,039	\$1,039
90	HCP-10 - HCP-13: 5 HP	4	EA			5.000	20.0	\$1,299		\$1,299	\$1,299
91	HCP-X1 - X2: Fractional	2	EA			1.000	2.0	\$130		\$130	\$130
92	CP-1A- CP-1B: Condensate	2	EA			2.000	4.0	\$260		\$260	\$260
93	PMP-X: Glycol	1	EA			2.000	2.0	\$130		\$130	\$130
94											
95	Misc Other Boiler Room Equipment										
96	Air Separators, Expansion Tanks, Steam Specialties, PRV's, MOV's, Etc	1	LS			60.000	60.0	\$3,896		\$3,896	\$3,896
97	Demo Piping, Up To 1-1/2"	100	LF			0.040	4.0	\$260		\$260	\$260
98	Demo Piping, 2" - 3"	100	LF			0.053	5.3	\$344		\$344	\$344
99	Demo Piping, 4" - 6"	200	LF			0.160	32.0	\$2,078		\$2,078	\$2,078
100											
101	Housekeeping Pads	80	SF			0.143	11.4	\$757		\$757	\$984
102	Debris Handling & Disposal	6	TONS	\$40.00	\$241	8.000	48.2	\$3,142	\$211	\$3,594	\$4,313
103											
104											
105											

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106											
107	15080 Mechanical Insulation										
108	Piping Insulation										
109	Fiberglass Pipe Insulation, 1-1/2" - 2" Thick W/ ASJ										
110	2" Pipe, Fittings	20	LF	\$4.63	\$93	0.080	1.6	\$115		\$208	\$239
111	2-1/2" - 3" Pipe, Fittings	70	LF	\$5.77	\$404	0.089	6.2	\$444		\$848	\$975
112	Sched 40 Blk Steel										
113	4" Pipe, Fittings	60	LF	\$6.26	\$376	0.107	6.4	\$459		\$835	\$960
114	6" Pipe, Fittings	80	LF	\$7.66	\$613	0.133	10.6	\$760		\$1,373	\$1,579
115	8" Pipe, Fittings	140	LF	\$7.66	\$1,072	0.133	18.6	\$1,333		\$2,405	\$2,766
116	Finishes: Aluminum Covering, .016"	345	SF	\$0.81	\$279	0.080	27.6	\$1,978		\$2,257	\$2,596
117											
118	Equipment Insulation										
119	Heat Exchangers, Expansion Tanks, AS-1	200	SF	\$3.23	\$646	0.320	64.0	\$4,586		\$5,232	\$6,017
120											
121	15110 Valves										
122	OS&Y Gate, 8"	4	EA	\$2,600.00	\$10,400	10.000	40.0	\$2,597		\$12,997	\$12,997
123	NRS Gate, 8"	3	EA	\$4,000.00	\$12,000	10.000	30.0	\$1,948		\$13,948	\$13,948
124	OS&Y Gate, 4"	6	EA	\$900.00	\$5,400	5.000	30.0	\$1,948		\$7,348	\$7,348
125	OS&Y Gate, 3"	5	EA	\$600.00	\$3,000	4.000	20.0	\$1,299		\$4,299	\$4,299
126	OS&Y Gate, 2"	1	EA	\$540.00	\$540	2.000	2.0	\$130		\$670	\$670
127	Smaller and Unsized Valves, Specialties & Fittings - Allowance	1	LS	\$12,000.00	\$12,000	40.000	40.0	\$2,597		\$14,597	\$14,597
128											
129	15122 Meters And Gages										
130	Thermometers	4	EA	\$80.00	\$320	0.500	2.0	\$130		\$450	\$450
131	Pressure Gauges	16	EA	\$80.00	\$1,280	0.500	8.0	\$519		\$1,799	\$1,799
132											
133											
134											
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142											
143	15181 Hydronic Piping										
144	Pipe & Fittings, Copper Type L										
145	3/4" Pipe	30	LF	\$7.00	\$210	0.121	3.6	\$234		\$444	\$444
146	3/4" Ell	4	EA	\$3.07	\$12	0.484	1.9	\$123		\$135	\$135
147	3/4" Tee	6	EA	\$5.68	\$34	0.767	4.6	\$299		\$333	\$333
148	1" Pipe	50	LF	\$9.82	\$491	0.136	6.8	\$442		\$933	\$933
149	1" Ell	4	EA	\$7.59	\$30	0.575	2.3	\$149		\$179	\$179
150	1" Tee	4	EA	\$17.50	\$70	0.920	3.7	\$240		\$310	\$310
151	Schedule 40 Blk Steel, (Import)										
152	3" Pipe	40	LF	\$15.90	\$636	0.257	10.3	\$669		\$1,305	\$1,305
153	3" Ell	8	EA	\$42.00	\$336	1.840	14.7	\$954		\$1,290	\$1,290
154	3" Tee	4	EA	\$60.50	\$242	3.067	12.3	\$799		\$1,041	\$1,041
155	4" Pipe	60	LF	\$23.50	\$1,410	0.400	24.0	\$1,558		\$2,968	\$2,968
156	4" Ell	4	EA	\$78.00	\$312	3.067	12.3	\$799		\$1,111	\$1,111
157	4" Tee	4	EA	\$118.00	\$472	4.600	18.4	\$1,195		\$1,667	\$1,667
158	6" Pipe	80	LF	\$36.50	\$2,920	0.600	48.0	\$3,117		\$6,037	\$6,037
159	6" Ell	8	EA	\$215.00	\$1,720	3.943	31.5	\$2,045		\$3,765	\$3,765
160	6" Tee	8	EA	\$355.00	\$2,840	6.900	55.2	\$3,584		\$6,424	\$6,424
161											
162	Hydronic Specialties										
163	Auto Air Vent, High Capacity	1	EA	\$1,200.00	\$1,200	1.000	1.0	\$65		\$1,265	\$1,265
164	AS-X: Air Separator W/ Strainer - OFCI	1	EA	\$200.00	\$200	8.000	8.0	\$519		\$719	\$719
165	Diaphragm Type Expansion Tanks										
166	ET-X: ASME Expansion Tank, Unsized	1	EA	\$3,500.00	\$3,500	6.000	6.0	\$390		\$3,890	\$3,890
167	ET-X: ASME Expansion Tank, Unsized	1	EA	\$3,500.00	\$3,500	6.000	6.0	\$390		\$3,890	\$3,890
168	ET-X: DHW Expansion Tank	1	EA	\$2,500.00	\$2,500	4.000	4.0	\$260		\$2,760	\$2,760
169	Pump, Equipment Flex Connector	8	EA	\$200.00	\$1,600	1.000	8.0	\$519		\$2,119	\$2,119
170	Glycol System										
171	Mixing Tank	1	EA	\$850.00	\$850	6.000	6.0	\$390		\$1,240	\$1,240
172	Propylene Glycol	211	GAL	\$9.00	\$1,903	0.227	48.0	\$3,117		\$5,020	\$5,020
173	Valves, Piping, Feed Reg, Controls	1	LS	\$400.00	\$400	4.000	4.0	\$260		\$660	\$660
174											
175											
176											
177											
178											

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179											
180	15182 Steam And Condensate Piping LP And HP										
181	Schedule 40 Blk Steel										
182	8" Pipe	140	LF	\$65.00	\$9,100	0.460	64.4	\$4,182		\$13,282	\$13,282
183	8" Ell	16	EA	\$525.00	\$8,400	4.600	73.6	\$4,779		\$13,179	\$13,179
184	8" Tee	16	EA	\$805.00	\$12,880	9.200	147.2	\$9,558		\$22,438	\$22,438
185											
186	Schedule 80 Blk Steel										
187	2" Pipe	20	LF	\$10.80	\$216	0.243	4.9	\$318		\$534	\$534
188	2" Ell	3	EA	\$6.68	\$20	0.460	1.4	\$91		\$111	\$111
189	2" Tee	2	EA	\$9.35	\$19	0.753	1.5	\$97		\$116	\$116
190	2.5" Pipe	30	LF	\$16.35	\$491	0.340	10.2	\$662		\$1,153	\$1,153
191	2.5" Ell	12	EA	\$15.00	\$180	0.592	7.1	\$461		\$641	\$641
192	2.5" Tee	8	EA	\$22.00	\$176	0.920	7.4	\$480		\$656	\$656
193	3/4" Pipe	100	LF	\$4.00	\$400	0.200	20.0	\$1,299		\$1,699	\$1,699
194	3/4" Ell	12	EA	\$1.85	\$22	0.295	3.5	\$227		\$249	\$249
195	3/4" Tee	8	EA	\$3.18	\$25	0.460	3.7	\$240		\$265	\$265
196	Unsize Piping, Valves, Fittings - Allowance	1	LS	\$10,000.00	\$10,000	80.000	80.0	\$5,195		\$15,195	\$15,195
197											
198	15185 Hydronic Pumps										
199	HCP-3A. HCP-3B 221 GPM, 7.5 HP	2	EA	\$4,700.00	\$9,400	8.000	16.0	\$1,039		\$10,439	\$10,439
200	Suction Diffuser, Assoc Piping & Valves	1	LS	\$2,500.00	\$2,500	8.000	8.0	\$519		\$3,019	\$3,019
201	HCP-3A. HCP-3B 96 GPM, 2 HP	2	EA	\$2,555.00	\$5,110	4.000	8.0	\$519		\$5,629	\$5,629
202	Suction Diffuser, Assoc Piping & Valves	1	LS	\$2,500.00	\$2,500	4.000	4.0	\$260		\$2,760	\$2,760
203	PMP-X Glycol Makeup	1	EA	\$850.00	\$850	4.000	4.0	\$260		\$1,110	\$1,110
204											
205	15487 Heat Exchangers										
206	HX-1A: Steam/Glycol - OFCI	1	EA	\$200.00	\$200	20.000	20.0	\$1,299		\$1,499	\$1,499
207	HX--1B: Steam/Glycol (Future)										
208	HWH-1A, HWH-1B, Steam/DHW 800 MBH Skid Mtd Package - OFCI	1	EA	\$200.00	\$200	24.000	24.0	\$1,558		\$1,758	\$1,758
209											
210											
211											
212											
213											

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214											
215	15900 HVAC Instrumentation And Controls										
216	Control Points	25	PTS	\$750.00	\$18,750					\$18,750	\$24,375
217											
218	15950 Testing, Adjusting, And Balancing										
219	Balance Hydronic System	1	LS	\$200.00	\$200	15.000	15.0	\$1,025		\$1,225	\$1,593
220	Commissioning, Startup	120	HRS			1.000	120.0	\$8,203		\$8,203	\$10,664
221											
222											
223	Subtotal: 15 - MECHANICAL				\$183,591		1,648.4	\$108,434	\$211	\$292,236	\$303,610
224											
225	Average Labor Rate for this division: \$65.78 per hour										
226											
227	16 - ELECTRICAL										
228											
229	16010 Basic Electrical Requirements										
230	Field Engineering: Submittals, Shop & Record										
231	Dwgs, Operating Instructions, O&M Manuals	16	HRS	\$5.00	\$80	1.000	16.0	\$704		\$784	\$784
232											
233	16055 Electrical Demolition										
234	Demo Elec Connections To Existing Equip	12	HRS			1.000	12.0	\$849		\$849	\$1,104
235											
236	16420 Enclosed Controllers										
237	Fractional To 1/4 HP	1	EA	\$65.00	\$65	1.000	1.0	\$71		\$136	\$177
238	Wiring: Nom. 3/4" EMT 3#10, 1N	50	LF	\$2.77	\$139	0.094	4.7	\$333		\$472	\$614
239	Starter/Disconnects 3 HP	2	EA	\$740.00	\$1,480	4.000	8.0	\$566		\$2,046	\$2,660
240	3/4" EMT, 3#10, 1#10	160	LF	\$2.77	\$443	0.094	15.0	\$1,062		\$1,505	\$1,957
241	Starter/Disconnects 5 HP	2	EA	\$740.00	\$1,480	5.000	10.0	\$708		\$2,188	\$2,844
242	3/4" EMT, 3#10, 1#10	160	LF	\$2.77	\$443	0.094	15.0	\$1,062		\$1,505	\$1,957
243											
244	16442 Panelboards										
245	Modify Existing Panel, Add Breakers For New Pumps & Controls	1	LS	\$300.00	\$300	16.000	16.0	\$1,132		\$1,432	\$1,862
246											
247	Subtotal: 16 - ELECTRICAL				\$4,430		97.7	\$6,487		\$10,917	\$13,959
248											
249	Average Labor Rate for this division: \$66.40 per hour										