

APPENDICES

**ENERGY ENGINEERING
ANALYSIS PROGRAM**

LIMITED ENERGY STUDY

**FORT HUNTER-LIGGETT, CALIFORNIA
1993**

VOLUME III

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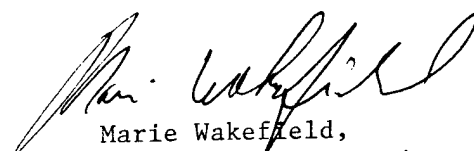


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APPENDIX F

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APPENDIX F

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*(235, 236, 237, 243, 244, 286, 288, 246 and 247 are identical.)

TABLE F-1 EEAP BUILDINGS (REAL PROPERTY LIST RECORDS)

Fac No.	Installation Name	Field Work Scope	Area (SF)	Useable (SF)	Category Code	Other Measure	Remarks
T 6	Family Housing NCO & Enl	Bldg	1,090	885	71115	1 Family	Evap Cing &
P 41A	Family Housing NCO & Enl	-	1,397	-	71115	1 Family	Ac Cing & Ht
P 41B	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 42A	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 42B	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 43A	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 43B	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 44A	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 44B	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 45A	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 45B	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 46	Family Housing CG & WO	Bldg	2,089	-	71114	1 Family	Ac Cing & Ht
P 47	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
P 51A	Family Housing NCO & Enl	Bldg	1,937	-	71115	1 Family	Ac Cing & Ht
P 51B	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 52A	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 52B	Family Housing NCO & Enl	-	1,937	-	71115	1 Family	Ac Cing & Ht
P 53	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
P 54	Family Housing CG & WO	Bldg	2,089	-	7111	41 Family	Ac Cing & Ht
P 55	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
P 56	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
P 57	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
P 58	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
P 59	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
P 60	Family Housing CG & WO	-	2,089	-	71114	1 Family	Ac Cing & Ht
S 79	Post Office, Main	Bldg	1,000	950	73073	-	Elec space H
P 80	Exchange, Main Retail	Bldg & Cing	9,093	8,200	74053	-	Ac Cing & Ht
P 81	Theater with Dressing Rm's	Bldg	6,719	5,913	74076	350 seats	Ac Cing & Ht
P 101	Open Din Cons (Hacienda) Club (Bar)	Bldg	6,171	19,546	74046	-	Ac Cing & Ht
	Hacienda, East Rooms	22,211	3,046				
	Hacienda, West Rooms	Total SF	4,721				
	Exchange Service Station	Bldg	8,273				
P 116	(Non-shop areas)	Total=1,788	1,126	1,573	74052	-	Ac Cing & Ht
			662				

TABLE F-1 EEAP BUILDINGS (REAL PROPERTY LIST RECORDS)

Fac No.	Installation Name	Field Work Scope	Area (SF)	Useable (SF)	Category Code	Other Measure	Remarks
T 120	Fire Station - Office	Bldg	3,636	9,120	74034	285 Seats	Elec Heat
	Fire Station - Dorm	Total SF	2,653	Outdated			
	Fire Station - Garage	11,238	4,949				
T 121	Bowling Center	Bldg & Cing	4,952	4,910	74011	-	AC Cing & Ht
		Total 5,580 S	628				
T 124	Family Housing LC & MJ	Bldg	2,001	2,033	71113	1 Family	Evap Cing &
T 127	Officers Quarters Military	Bldg	2,250	1,420	72410	10 PN	Evap Cing &
P 128	Officers Quarters Military	Bldg & Cing	20,196	16,900	72410	50 PN	Ac Cing & Ht
T 131	Family Housing CG & WO	Bldg	998	870	71114	1 Family	Ac & Evap Cing
S 144	Gymnasium	Bldg	7,172	6,201	74034	-	Ht PI
S 146	FE Facility	Bldg	4,042	3,840	21920	-	Evap Cing &
T 149	Family Housing NCO & Enl	Bldg	1,196	857	71115	1 Family	Ac Cing & Sp
T 156	FE Facility - Shop	Bldg	1,753	2,025	21920	-	Wood Stove
	FE Facility - Office	Total 2,250	497				
T 158	Vehicle Storage	Bldg	1,859	1,179	44262	-	-
T 161	Admin General Purpose	Bldg	2,250	1,556	61050	17 PN	Evap Cing &
T 162	Elec Maint. Shop	Bldg	2,250	1,429	21710	-	Evap Cing &
T 163	Officers Quarters Military	-	2,250	1,517	72410	10 PN	Evap Cing &
T 164	Admin General Purpose	-	2,250	2,205	61050	17 PN	AC Cing & Ht
T 165	Admin General Purpose	-	2,250	1,676	61050	017 PN	Ht PI
T 166	Officers Quarters Military	-	2,250	1,426	72410	10 PN	Evap Cing &
T 167	Officers Quarters Military	-	2,250	1,284	10 PN	10 PN	Evap Cing &
S 168	General Purp Warehouse	Bldg	6,560	5,597	44220	-	-
T 172	Cold Storage Warehouse	Bldg	800	720	43210	3,264 CF	Cold Stg for
P 177	Technical Library	Bldg & Cing	3,599	2,930	61065	-	Ac Cing & Ht
P 178	Child Development Cntr	Bldg	3,599	2,422	74047	-	Ac Cing & Ht
S 182	Commissary	Bldg	3,000	-	74021	-	-
S 186	Sup Svc Admin Bldg	Bldg	1,920	1,350	61023	16 PN	Ac Cing & El
P 190	Post Chapel	Bldg	2,720	2,394	73017	70 Seats	Ac Cing & Ht
S 197	Admin Bldg R&D - Office	Bldg	2,100	5,070	61060	57 PN	Ac Cing & Ht
	Admin Bldg R&D - Electronics	Total 7,728	6,062	Outdated			
S 198	General Inst Bldg	Cing Only	1,090	836	171120	25 PN	Evap Cing &
P 205	Admin General Purpose	-	35,820	29,693	61050	231 PN & CCN 74023	AC Cing & S
P 205A	Company HQ Building	-	5,161				

TABLE F-1 EEAP BUILDINGS (REAL PROPERTY LIST RECORDS)

Fac No.	Installation Name	Field Work Scope	Area (SF)	Useable (SF)	Category Code	Other Measure	Remarks
P 206	Enlisted Pers Dining Fac Kitchen Area - Scullery	Bldg	16,768	14,756	72210	1,5 PN	Ac Clng & Ht
P 207	Enl Barracks w/o Dining	Bldg	35,820	27,238	72111	245 PN	Ac Clng & Ht
P 207A	Company HQ Building	Bldg	5,161	-	14185	44 PN	-
P 208	Enl Barracks w/o Dining	Bldg & Clng	35,820	26,999	72111	245 PN	Ac Clng & Ht
P 208A	Company HQ Building	-	5,161	-	14185	44 PN	-
P 209	AAFES Snack Bar	Bldg	3,320	2,922	74062	-	Ac Clng & Ht
P 210	Hlth/Dntl Clinic w/ Beds	Bldg & Clng	10,973	5,877	5540	3 BD	Ac Clng & Ht
P 211	Outdoor Swimming Pool	-	-	-	75030	1 EA	Ht Pl 0.75-3.5
P 212	Gymnasium	Bldg	8,907	-	74034	1547 CM Evap Clr	Evap Clng & Ht
P 219	Physical Fitness Center	-	3,212	2,826	74028	-	Evap Clng & Ht
P 229	Enl Barracks w/o Dining	Bldg & Clng	40,915	26,692	72111	245 PN	Ac Clng & Ht
P 229A	Company HQ Building	-	5,161	-	72111	44 PN	-
P 230	Enl Barracks w/o Dining	Clng Only	35,820	36,063	72111	245 PN	Ac Clng & Ht
P 230A	Company HQ Building	-	5,161	-	72111	44 PN	-
S 235	Admin General Purpose	-	3,000	2,139	61050	27 PN	Ac Clng & Ht
S 236	Admin General Purpose	-	3,000	2,158	61050	27 PN	Ac Clng & Ht
S 237	Admin General Purpose	-	3,000	2,158	61050	27 PN	-
S 238	Sig Photo Lab Process	Bldg & Clng	14,548	10,477	14130	-	Ac Clng & Ht
P 240	Admin General Purpose	-	3,000	2,095	61050	27 PN	Ac Clng & Ht
S 241	GM Facility	Bldg & Clng	10,000	7,953	31220	-	AC & Evap C
S 243	Admin General Purpose	-	3,000	2,099	61050	27 PN	Ac Clng & Ht
S 244	Admin General Purpose	-	3,000	2,099	61050	27 PN	Ac Clng & Ht
S 246	Admin General Purpose	-	3,000	2,099	61050	27 PN	Ac Clng & Ht
S 247	Admin General Purpose	-	3,000	2,099	61050	27 PN	Ac Clng & Ht
P 252	Vehicle Maint Shop DS	Bldg	12,299	11,308	21420	12 Vehicles	Ht Pl
P 256	Vehicle Maint Shop ORG	-	5,294	4,722	221410	2 Vehicles	Ht Pl
P 259	Vehicle Maint Shop ORG	-	13,667	11,329	21410	12 Vehicles	Ht Pl
S 283	FE Maintenance Shop	Bldg	4,000	3,861	44220	-	-
S 286	Admin General Purpose	-	3,000	2,080	61050	27 PN	Ac Clng & Ht

TABLE F-1 EEAP BUILDINGS (REAL PROPERTY LIST RECORDS)

Fac No.	Installation Name	Field Work Scope	Area (SF)	Useable (SF)	Category Code	Other Measure	Remarks
P 287	Recreation Building	Bldg	5,584	4,914	74069	-	Ac Clng & Ht
S 288	General Purpose Warehouse	-	3,000	2,110	44220	-	Ac Clng & Ht
S 290	Electron Equip Facility	Cing Only	14,856	14,133	31740	-	Ac Clng & Ht
S 291	Cont Humid Warehouse	Bldg & Cing	7,400	6,512	44230	-	Ac Clng & Ht
P 295	Enl Barracks w/o Dining	Bldg & Cing	46,593	41,002	72111	228 PN	Ac Clng & Ht
P 301	ADP Building	Bldg & Cing	10,800	7,319	61031	50 PN	Ac Clng & Ht
P 642	Detached Latrine/Shower	Bldg	995	-	72324	-	Ht PI
S 2201	Control Tower - Range SPT	Bldg Ht Pmp	891	-	17123	-	Ac Clng & Ht

TABLE F-2 SUMMARY OF HEATING EQUIPMENT AND EFFICIENCIES SERVING EEAP BUILDINGS

Fac No.	Heating System Data			Heating System Losses							
	Fuel Used Type	System Type Code	Capacity BTUH	Firing Eff %	Auxiliary %	Radiant %	Convection %	Shut-Down %	General %	Net Eff %	
T 121	Propane	AHU-PROP/DX	480,000	75.0%	-	4.0%	3.0%	2.0%	2.0%	64.0%	
T 124	Propane	WAF-DX	NA	80.0%	-	8.0%	3.0%	2.0%	2.0%	65.0%	
T 127	Propane	WAF	90,000	80.0%	-	8.0%	4.0%	2.0%	2.0%	64.0%	
P 128	Propane	FCU-HWB/CW	567,000	89.0%	-	8.0%	4.0%	2.0%	2.0%	73.0%	
T 131	Propane	WAF-DX	NA	80.0%	-	10.0%	4.0%	2.0%	3.0%	61.0%	
S 144	Propane	PROP-UH	4 x NA	80.0%	-	6.0%	3.0%	2.0%	2.0%	67.0%	
S 146	Propane	WAF	150,000	80.0%	-	8.0%	5.0%	2.0%	3.0%	62.0%	
T 149	Propane	WAF-DX	90,000	80.0%	-	8.0%	3.0%	2.0%	2.0%	65.0%	
T 156	Shop - Wood	Stove	-	-	-	-	-	-	-	-	
	Office-Electric	Window AC	About 1 RT	-	-	-	-	-	-	-	
T 158	Electric	Window AC	About 1 RT	-	-	-	-	-	-	-	
T 161	Propane	WAF-PROP/DX	2 x 100,000	80.0%	-	4.0%	2.0%	1.0%	1.0%	72.0%	
T 162	Propane	WAF-PROP/DX	2 x 100,000	80.0%	-	4.0%	2.0%	1.0%	1.0%	72.0%	
T 163	Propane	WAF-PROP/DX	2 x 100,000	80.0%	-	4.0%	2.0%	1.0%	1.0%	72.0%	
T 164	Propane	WAF-PROP/DX	2 x 100,000	80.0%	-	4.0%	2.0%	1.0%	1.0%	72.0%	
T 165	Propane	WAF-PROP/DX	2 x 100,000	80.0%	-	4.0%	2.0%	1.0%	1.0%	72.0%	
T 166	Propane	WAF-PROP/DX	2 x 100,000	80.0%	-	4.0%	2.0%	1.0%	1.0%	72.0%	
T 167	Propane	WAF-PROP/DX	2 x 100,000	80.0%	-	4.0%	2.0%	1.0%	1.0%	72.0%	
S 168	None	None	-	-	-	-	-	-	-	-	
T 172	None	None	-	-	-	-	-	-	-	-	
P 177	Propane	RTAHU-PROP/D	250,000	78.4%	-	5.0%	3.0%	2.0%	2.0%	66.4%	
P 178	Propane	WAF-DX	2 x 100,000	80.0%	3.0%	5.0%	3.0%	2.0%	2.0%	65.0%	
S 182	Propane	AHU-PROP/DX	2 x 80,000	77.0%	2.0%	5.0%	3.0%	2.0%	2.0%	63.0%	
S 186	Propane	AHU-PROP/DX	NA	78.0%	-	5.0%	3.0%	2.0%	2.0%	66.0%	
P 190	Fuel Oil	RTAHU-HWB/DX	528,000	85.7%	-	5.0%	3.0%	2.0%	2.0%	73.7%	
S 197	Propane	AHU-PROP/DX	264,000+	86.0%	-	8.0%	5.0%	2.0%	2.0%	69.0%	
	Electric	Wind Ac + ER	30kW Ht, 2x1.5RT	-	-	-	-	-	-	-	
S 198	Propane	WAF	100,000	80.0%	-	5.0%	3.0%	2.0%	2.0%	68.0%	
P 205	Fuel Oil	AHU-HWB/CW	1,875,000	87.7%	-	7.0%	4.0%	2.0%	3.0%	71.7%	
P 205A	Fuel Oil	RTAHU-HWB/DX	(Same HW Bir)	87.7%	-	7.0%	4.0%	2.0%	3.0%	71.7%	
P 206	Fuel Oil	RTAHU-HWB/DX	2 x 1,875,000	86.8%	-	7.0%	4.0%	2.0%	3.0%	70.8%	
P 207	Fuel Oil	AHU-HWB/CW	1,875,000	87.4%	-	7.0%	4.0%	2.0%	3.0%	71.4%	
P 207A	Fuel Oil	RTAHU-HWB/DX	(Same HW Bir)	87.4%	-	7.0%	4.0%	2.0%	3.0%	71.4%	
P 208	Fuel Oil	AHU-HWB/CW	1,875,000	88.1%	-	7.0%	4.0%	2.0%	3.0%	72.1%	
P 208A	Fuel Oil	RTAHU-HWB/DX	(Same HW Bir)	88.1%	-	7.0%	4.0%	2.0%	3.0%	72.1%	

TABLE F-2 SUMMARY OF HEATING EQUIPMENT AND EFFICIENCIES SERVING EEAP BUILDINGS

Fac No.	Heating System Data		Heating System Losses							Net Eff %
	Fuel Used Type	System Type Code	Capacity BTUH	Firing Eff %	Auxiliary %	Radiant %	Convection %	Shut-Down %	General %	
P 209	Propane	RTAHU-HWB/DX	280,000	77.2%	-	6.0%	5.0%	2.0%	3.0%	61.2%
P 210	Fuel Oil	AHU-HWB/CW	472,000	81.1%	-	4.0%	3.0%	2.0%	2.0%	70.1%
P 211	Propane	HWB	972,000	77.2%	-	5.0%	3.0%	2.0%	2.0%	65.2%
P 212	Propane	WAF-DX	336,000	81.7%	-	6.0%	4.0%	2.0%	3.0%	66.7%
P 219	Propane	AHU-HWB/EC	650,000	79.0%	-	6.0%	3.0%	1.0%	2.0%	67.0%
P 229	Fuel Oil	AHU-HWB/CW	1,875,000	87.9%	-	7.0%	4.0%	2.0%	3.0%	71.9%
P 229A	Fuel Oil	RTAHU-HWB/DX (Same HW Blr)	1,875,000	87.9%	-	7.0%	4.0%	2.0%	3.0%	71.9%
P 230	Fuel Oil	AHU-HWB/CW	1,875,000	87.2%	-	7.0%	4.0%	2.0%	3.0%	71.2%
P 230A	Fuel Oil	RTAHU-HWB/DX (Same HW Blr)	1,875,000	87.2%	-	7.0%	4.0%	2.0%	3.0%	71.2%
S 235	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%
S 236	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%
S 237	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%
S 238	Propane	RTAHU-HWB/DX	260,000	81.9%	-	5.0%	4.0%	2.0%	2.0%	68.9%
P 240	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%
S 241	Propane	AHU-PROP/CW	437,500	83.6%	-	8.0%	4.0%	2.0%	3.0%	66.6%
	Electric	AHU-ER/DX	6 kW Reheat	-	-	-	-	-	-	0.0%
S 243	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%
S 244	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%
S 246	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%
S 247	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%
P 252	Fuel Oil	HWB-UH/R	650,000	84.0%	-	4.0%	3.0%	2.0%	2.0%	73.0%
P 256	Fuel Oil	HWB-UH/R	270,000	82.7%	-	4.0%	3.0%	2.0%	2.0%	71.7%
P 259	Fuel Oil	HWB-UH/R	650,000	84.9%	-	4.0%	3.0%	2.0%	2.0%	73.9%
S 283	Propane	PROP-UH	3 X 75,000	80.0%	-	4.0%	2.0%	2.0%	3.0%	69.0%
	Electric	Heat Pump	24,000	-	-	-	-	-	-	-
S 286	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%
P 287	Propane	RTAHU-PROP/D	470,000	75.0%	-	4.0%	3.0%	2.0%	2.0%	64.0%
S 288	Propane	AHU-PROP/DX	2 x 80,000	77.0%	-	4.0%	3.0%	1.0%	2.0%	67.0%
S 290	Propane	AHU-PROP/CW	1,020,000	80.8%	-	8.0%	4.0%	2.0%	3.0%	63.8%
	Electric	Window AC/ER	36.8 kW	-	-	-	-	-	-	-
S 291	Propane	AHU-STM/DX	1,020,000	78.8%	3.0%	7.0%	4.0%	2.0%	3.0%	59.8%
P 295	Propane	FCU-HWB/CW	3,250,000	77.7%	-	8.0%	5.0%	2.0%	3.0%	59.7%
P 301	Propane	AHU-Prop/DX	312,500	84.0%	-	6.0%	3.0%	2.0%	2.0%	71.0%
	Electric	CPU-ER/DX	2x(12.0,22.5)kW	-	-	-	-	-	-	-

TABLE F-2 SUMMARY OF HEATING EQUIPMENT AND EFFICIENCIES SERVING EEAP BUILDINGS

Fac No.	Heating System Data			Heating System Losses						
	Fuel Used Type	System Type Code	Capacity BTUH	Firing Eff %	Auxiliary %	Radiant %	Convection %	Shut-Down %	General %	Net Eff %
P 642	Electric	Heat Lamps	2 x 120 W	-	-	-	-	-	-	-
S 2201	Electric	Heat Pump	11,600	-	-	-	-	-	-	-

TABLE F-3 SUMMARY OF COOLING EQUIPMENT SERVING EEAP BUILDINGS SPACE & PROCESS COOLING REQUIREMENTS

Fac No.	Cooling System Descriptions	Manufacturer	Model Number	Serial Number
T 6	Split System, Evaporator Coil on WAF	Carrier	38EH0303005SM	4386E36750
P 41A	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 41B	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 42A	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 42B	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 43A	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 43B	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 44A	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 44B	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 45A	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 45B	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 46	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	R893300095
P 47	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 51A	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 51B	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 52A	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 52B	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 53	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 54	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 55	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 56	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 57	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 58	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 59	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
P 60	Split System, Evaporator Coil on WAF	Snyder General	AC0030GB	NA
S 79	Window A/C Units	Westinghouse & Dakin	NA	NA
P 80	Rooftop Heating & Cooling Unit	Lennox	DMS4360HW750	5175M0815SY
P 81	Split System, Central AHU	Trane	RAUA1253A & RAUB-406-E	NA
P 101	Chiller for Draw-thru Units Various Window A/C Units	Trane Various	CGAA-2006-MB NA	L77C03544 NA
P 116	Rooftop Heat Pump Unit	Carrier	T060233	NA
T 120	Pad Mounted Heating/Cooling Unit Pad Mounted Heating/Cooling Unit	Carrier Carrier	580AP048100 580AP048100	4289C13163 4289C13160

TABLE F-3 SUMMARY OF COOLING EQUIPMENT SERVING EEAP BUILDINGS SPACE & PROCESS COOLING REQUIREMENTS

Fac No.	Cooling System Descriptions	Manufacturer	Model Number	Serial Number
T 121	Packaged AHU	Carrier	48DD024 Series 400 MA	G393846
T 124	Split System, Evaporator Coil on WAF	Carrier	38EH030340	4488E29965
T 127	Evaporative Cooler	NA	NA	NA
P 128	A/C Chiller	Trane	CGAC25B	594867
T 131	Split System, Evaporator Coil on WAF	Carrier	38EH030300SM	4386E37907
S 144	Evaporative Cooler	NA	NA	NA
S 146	Evaporative Cooler	NA	NA	NA
T 149	Split System, Evaporator Coil on WAF	Carrier	38EH036300	4488E31779
T 156	Window A/C Unit (2 each)	NA	NA	NA
	Evaporative Cooler (2 each)	NA	NA	NA
T 158	Window A/C Unit	NA	NA	NA
T 161	Packaged Heat/Cool Unit, Pad Mounted	Lennox	HS17-953-3Y	NA
T 162	Packaged Heat/Cool Unit, Pad Mounted	Lennox	HS17-813-34	NA
T 163	Packaged Heat/Cool Unit, Pad Mounted	Lennox	HS17-813-34	NA
T 164	Packaged Heat/Cool Unit, Pad Mounted	Lennox	HS17-813-34	NA
T 165	Packaged Heat/Cool Unit, Pad Mounted	Lennox	HS17-813-34	NA
T 166	Packaged Heat/Cool Unit, Pad Mounted	Lennox	HS17-813-34	NA
T 167	Packaged Heat/Cool Unit, Pad Mounted	Lennox	HS17-813-34	NA
S 168	No Cooling System	-	-	-
T 172	Refer to separate listing - Refr's	-	-	-
P 177	Packaged Rooftop Unit, Pad Mounted	Trane	YCH120A3HOAA	E481426330
P 178	Split System, WAF w/evap coils (2 ea)	Lennox	Cond: HS16-651U-8P	NA
S 182	Air Handling Unit (2 each)	Hussmann	HOCA0315RLKXU	NA
S 186	Split System Air Cooled Condensing	Carrier/ Day-Night	569BPX090000ACAA	NA
P 190	Packaged Rooftop Unit (2 units)	Fedders	CTC060C8A	CM 904289
S 197	Packaged Unit	Lennox	0CS3-1353-350	NA
	Window A/C Units (2 each)	NA	NA	NA
S 198	Evaporative Cooler	NA	NA	NA
P 205	Split System DX on Dual Duct AHU	Trane	RAUA-8006-EA	NA
P 205A	Rooftop Package Unit	Air Fan	LPS18D	NA
P 206	Package Units (2 each)	Trane	SLZB4004HA	45C44DE4E
	Evaporative Cooling Units (6 total)	3 each Trane & Arvin	Trane: Type GW	K89M37985, NA,
P 207	Split System DX on Dual Duct AHU	Trane	RAUA-8006-EA	NA
P 207A	Rooftop Package Unit	Air Fan	LPS18D	NA
P 208	Split System DX on Dual Duct AHU	Trane	RAUA-8006-EA	NA
P 208A	Rooftop Package Unit	Air Fan	LPS18D	NA

TABLE F-3 SUMMARY OF COOLING EQUIPMENT SERVING EEAP BUILDINGS SPACE & PROCESS COOLING REQUIREMENTS

Fac No.	Cooling System Descriptions	Manufacturer	Model Number	Serial Number
P 209	Rooftop Packaged Unit (1 on Roof 1 Pad)	Mammoth & Trane	CEHB-181W258	17896-01-01
P 210	Chiller	Trane	CGABC256AB10F3	B81J04131
P 211	No Cooling			
P 212	Split System, DX Coil on WAF SA outlet	Lennox	HS6-1353V-7L (2 each)	5481J052, NA
P 219	Evap. cooling only, total 8 units	Arvin	NA	NA
P 229	Split System DX on Dual Duct AHU	Trane	RAUA-8006-EA	14969H84A10
P 229A	Rooftop Package Unit	Air Fan	LPS18D	0925
P 230	Split System DX on Dual Duct AHU	Trane	RAUA-8006-EA	NA
P 230A	Rooftop Package Unit	Air Fan	LPS18D	NA
S 235	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
S 236	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
S 237	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
S 238	Rooftop Package VAV Unit	McQuay	RP5030BY	3SG00759 13
P 240	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	3297G24837
S 241	Split system AHU=Computer Room Unit	Bohn	D/S 0041AV31	BMA8190
	Chiller - Air Cooled	McQuay	ALR020AS	3ML0049811
	Evaporative Cooling Unit	Arvin	ES-143A	4430
S 243	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
S 244	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
S 246	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
S 247	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
P 252	Evaporative Cooling Unit	Arvin (appearing)	Same as ES-143A	NA
P 256	Not in scope			
P 259	Evaporative Cooling Unit	Arvin (appearing)	Same as ES-143A	NA
S 283	Evaporative Cooling Units (2 each)	NA	NA	NA
	Window HP Unit	NA	NA	NA
S 286	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
P 287	Rooftop Unit	Trane	SBZB2006MB34C24D6	B4F00241
S 288	Pad Mounted Package Gas Heat / Mech Cool	Carrier (2 each)	48LH006580	NA
S 290	Air Cooled Chiller	Trane	CGAC25BRM	591276
	4 total Window A/C's & Heat Pumps	Carrier & Sears	See Notes	See Notes
S 291	Split System Air Cooled Condensing	NA	NA	NA
P 295	Chiller to Room FCU's	McQuay	AHR-054CD	A342600
P 301	Bldg: Air Cooled Condensing	Trane	RUAC B624-A	C81H-02942
	Cmptr Rm A/C: A-C Condensing	Contempo Engr Co	CEMA-2034	18951 J84
	Cmptr Rm A/C: A-C Condensing	Data Aire (3 each)	DAAD-2034	87-1352,4&5-A

TABLE F-3 SUMMARY OF COOLING EQUIPMENT SERVING EEAP BUILDINGS SPACE & PROCESS COOLING REQUIREMENTS

Fac No.	Cooling System Descriptions				Serial Number
	System Description	Manufacturer	Model Number	Model Number	
P 642	No Cooling System	-	-	-	-
S 2201	Window Type / Thru Wall Heat Pump	Zone-Aire, ZMO Inc.	CSM311350	CSM311350	187-120026
Totals					

TABLE F-3 SUMMARY OF COOLING EQUIPMENT SERVING EEAP BUILDINGS SPACE & PROCESS COOLING REQUIREMENTS

Cooling System Descriptions			
System Description	Manufacturer	Model Number	Serial Number
BUILDING 80 POST EXCHANGE: PRODUCT COOLERS AND CONDENSING UNITS			
PRODUCT CASES			
1. Product Case 1	Hussmann	1S06T1FG1	210878DX
2. Product Case 2	Tyler	X04FG12 Code 4208	NA
3. Product Case 3	Tyler	AFG6 1276 Code 807409W	NA
4. Product Case 4	NA	NA	NA
5. Product Case 5	Beverage Air	MT66	NA
6. Product Case 6	Beverage Air	MT65	NA
7. Product Case 7	True	GDM-46	NA
8. Walk-in Box	Bally Cold Box	BA-200A	NA
Evaporator in Walk-in Box	Bally Cold Box	BA-300A	NA
Evaporator in Walk-in Box	Bally Cold Box	BF-100A (2 each)	NA
CONDENSING UNITS			
Product Cooler Condensing Unit	Copelamatic	LAL 1 0310TAC	07C 75C 15227
Product Cooler Condensing Unit	Tyler	TTH8300 Code 3526	SO 801766W
Product Cooler Condensing Unit	Tyler	THS-300-502L Code 3526	268574SN
Product Cooler Condensing Unit	Copeland	LAHI-0310-TAC	NA
BUILDING 182 COMMISSARY: PRODUCT COOLERS AND CONDENSING UNITS			
PRODUCT CASES			
1. Ice Cream	NA	NA	NA
2. Frozen Pizza	NA	NA	NA
3. Frozen Vegetables	NA	NA	NA
4. Dairy Chiller	Hussmann	DM12ZHU	NA
5. Meat Chiller	Hussmann	MHF12U	NA
6. Produce	Hussmann	PH12U	NA
7. Produce	Hussmann	PH12U	NA
CONDENSING UNITS			
Condensing Unit - Air Cooled	Hussmann	HOCA0915 RLKXU	9061-004
Condensing Unit - Air Cooled (4 each)	Hussmann	HOCA0313VH-KXU	NA
BUILDING 172 COMMISSARY COLD STORAGE - COLD BOXES (units numbered in sequence with Bldg. 182 product cooler COLD BOXES			
8. Walk-in Cold Box	Bairrons Metal Products	MIL Spec: MILR10932E	NA
9. Walk-in Cold Box	Bairrons Metal Products	MIL Spec: MILR10932E	NA
10. Walk-in Cold Box	Bairrons Metal Products	MIL Spec: MILR10932E	NA
11. Walk-in Cold Box	Kolpak	NA	NA
12. Walk-in Cold Box	Kolpak	NA	NA
CONDENSING UNITS			

TABLE F-3 SUMMARY OF COOLING EQUIPMENT SERVING EEAP BUILDINGS SPACE & PROCESS COOLING REQUIREMENTS

Cooling System Description	Manufacturer	Model Number	Serial Number
8. Condensing Unit	Heatcraft	TRH-020-AL53F	WUH00040
9. Condensing Unit	Heatcraft	TRH-020-AL53F	WUH00033
10. Condensing Unit	Heatcraft	TRH-020-AL53F	WUH00045
11. Condensing Unit	Copeland	EBAM-A075-TAC-001	NA
12. Condensing Unit	Copeland	EBAM-A075-TAC-001	NA
BUILDING 241 WALK-IN COLD BOX	Marvalr	24VP-8-D83-AA	176

TABLE F-4 EXISTING DOMESTIC HOT WATER SYSTEM SUMMARY

Fac No.	Installation Name	Domestic Hot Water Use				Domestic Hot Water Heating System Data				
		Usage Code	PN	Days /Week	Meals /Day	Fuel Used	System Type	Volume Gallons	Capacity BTUH	Actual Temp
T 6	Family Housing NCO & Enl	10	3	7	15	Propane	HWH	40	29,000	135
P 41A	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 41B	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 42A	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 42B	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 43A	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 43B	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 44A	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 44B	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 45A	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 45B	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 46	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	145
P 47	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	145
P 51A	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 51B	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 52A	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 52B	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	50	36,000	140
P 53	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
P 54	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
P 55	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
P 56	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
P 57	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
P 58	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
P 59	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
P 60	Family Housing CG & WO	10	4	7	12	Propane	HWH	50	36,000	140
S 79	Post Office, Main	8	2	6	0	None	None	-	-	-
P 80	Exchange, Main Retail	8	60	7	0	Electric	HWH	80	18 kW	135
P 81	Theater with Dressing Rm's	6	350	3	-	Electric	HWH	20 & 40	2 kW & 4.5 kW	135
P 101	Open Din Cons (Hacienda) Club (Bar) Hacienda, Dwellings	7	17	7	120	Propane	HWH	100	251,000	160
		9	9	7	10	Propane	HWH	40	29,000	140
		3	10	7	-	Propane	HWH	83	200,000	140
		10	9	7	9	Propane	HWH	100	240,000	140
P 116	Exchange Service Station (Non-shop areas)	2	2	7	0	Electric	HWH	5	4.5 kW	120
		8	8	7	0		same unit			
T 120	Fire Station - Office Fire Station - Dorm Fire Station - Garage	1	7	7	-	Propane	HWH-Circ	100	240,000	110
		4	7	7	21	Propane	HWH-Circ	100	240,000	140
		2	-	-	-					
T 121	Bowling Center	5	10	5	10	Propane	HWH	31	37,000	121
		2	-	5	-	Electric	HWH	6	1.25 kW	142
T 124	Family Housing LC & MJ	10	4	7	12	Propane	HWH	40	34,000	160
T 127	Officers Quarters Military	3	10	7	0	Propane	HWH	100	240,000	128
P 128	Officers Quarters Military	4	80	7	160	Propane	BLR/TK-2Circ	100	240,000	140
T 131	Family Housing CG & WO	10	4	7	12	Propane	HWH	40	29,000	135
S 144	Gymnasium	5	Not in Use			Propane	HWH	69	500,000	NA
S 146	FE Facility	2	5	5	0	None	-	-	-	-
T 149	Family Housing NCO & Enl	10	4	7	12	Propane	HWH	40	29,000	135
T 156	FE Facility - Shop FE Facility - Office	2	3	5	0	Electric	HWH	6	1.65 kW	140
		1	-	-	-					
T 158	Vehicle Storage	2	0	0	0	None	-	-	-	-
T 161	Admin General Purpose	1	12	5	0	None	-	-	-	-
T 162	Elec Maint. Shop	2	11	5	0	None	-	-	-	-
T 163	Officers Quarters Military	3	NA	NA	NA	NA	-	-	-	-

TABLE F-4 EXISTING DOMESTIC HOT WATER SYSTEM SUMMARY

Fac No.	Installation Name	Domestic Hot Water Use				Domestic Hot Water Heating System Data				
		Usage Code	PN	Days /Week	Meals /Day	Fuel Used	System Type	Volume Gallons	Capacity BTUH	Actual Temp
S 290	Electron Equip Facility	2	15	5	0	Propane	HWH-C	100	197,000	135
S 291	Cont Humid Warehouse	2	6	5	0	None	None	-	-	-
P 295	Enl Barracks w/o Dining	3	114	7	0	Propane	BLR/TK-2Circ	1,700	3,250,000	128
P 301	ADP Building	1	20	7	0	Electric	HWH	5	1.5 kW	132
P 642	Detached Latrine/Shower	3.1	20	7	0	Propane	HWH/TK-Circ	80 & 350	180,000	130
S 2201	Control Tower - Range SPT	1	1	Few	0	None	None	-	-	-

TABLE F-5 BUILDING LIGHTING SYSTEM SUMMARY

Fac No.	Installation Name	Existing Interior Light Fixtures (Number Each) * Indicates only those fixtures subject to retrofit																					
		1x F40	2x F40	3x F40	4x F40	6x F40	2x F40J	1x F96	2x F96	3x F96	4x F96	1	1	1	1	1	1	1	HPS 1,000	MH 400	MV 400	MV 1,000	
P 287	Recreation Building	8			55																		
S 288	General Purpose Warehouse		115		32																		
S 290	Electron Equip Facility				72																		
S 291	Cont Humid Warehouse	10	29		6																		
P 295	Enl Barracks w/o Dining		284		3																		
P 301	ADP Building		11		143	2																	
P 642	Detached Latrine/Shower		10																				
S 2201	Control Tower - Range SPT		4																				
Building Totals		218	1631	143	1912	2	198	73	102	27	0	462	31	27	35	20	23	8	21	0	9		

Fac No.	Installation Name
P 287	Recreation Building
S 288	General Purpose Warehouse
S 290	Electron Equip Facility
S 291	Cont Humid Warehouse
P 295	Enl Barracks w/o Dining
P 301	ADP Building
P 642	Detached Latrine/Shower
S 2201	Control Tower - Range SPT
Building Totals	

*

TABLE F-6 LIGHTING FIXTURE DATA SUMMARY

Existing Lighting Fixtures			Retrofit Lighting Fixtures			Savings
Ballast & Lamp Types	Fixture Watts	Avg. Lamp Life (Hrs)	Fixture Type	Fixture Watts	Avg. Lamp Life (Hrs)	Savings per Fixture (W)
1 x F40T12	50	20,000	1 x F32T8	37	20,000	13
2 x F40T12	72	20,000	2 x F32T8	61	20,000	11
3 x F40T12	115	20,000	3 x F32T8	91	20,000	24
4 x F40T12	144	20,000	4 x F32T8	122	20,000	22
6 x F40T12	230	20,000	4 x F32T8	122	20,000	108
1 x F96T12/HO	135	12,000	2 x F32T8	61	20,000	74
2 x F96T12/HO	227	12,000	2 x (2)F32T8	122	20,000	105
3 x F96T12/HO	341	12,000	2 x (3)F32T8	182	20,000	159
4 x F96T12/HO	454	12,000	2 x (4)F32T8	244	20,000	210
1 60	60	1,000	13W/5T4	17	10,000	43
1 75	75	750	18W/7T4	25	10,000	50
1 100	100	750	18W/7T4	25	20,000	75
1 150	150	750	F32/T8	37	20,000	113
1 250	250	750	2 x F32/T8	61	20,000	189
1 300	300	750	2 x F32/T8	61	20,000	239
HPS 1,000	1,090	24,000	HPS 1,000	1,090	24,000	0
MH 400	461	24,000	MH 400	461	24,000	0
MV 400	450	24,000	MV 400	450	24,000	0
MV 1,000	1,080	24,000	MV 1,000	1,080	24,000	0

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BIH/RJB DATE 2/1 92

BUILDING NUMBER T-6 FUNCTION/USE Family Housing

INFORMATION SOURCE (DWG. NO./PERSON) SURVEY

GENERAL BUILDING DATA

BUILDING AGE: 30+ YEARS

DUPLICATE BUILDING NOS: _____

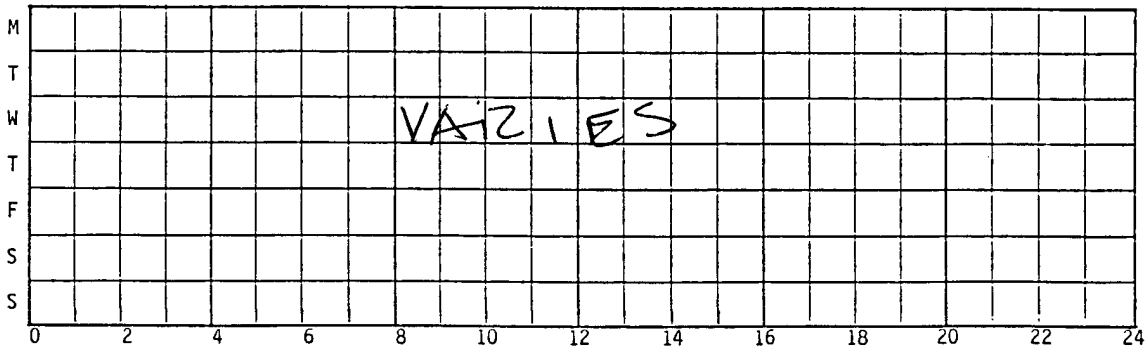
TOTAL: _____

SIMILAR BUILDING NOS: 124, 131, 149

TOTAL: 3

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 4

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: TV, Stereo, Dishwasher, MW Oven
Gas Stone 14CF Refr.

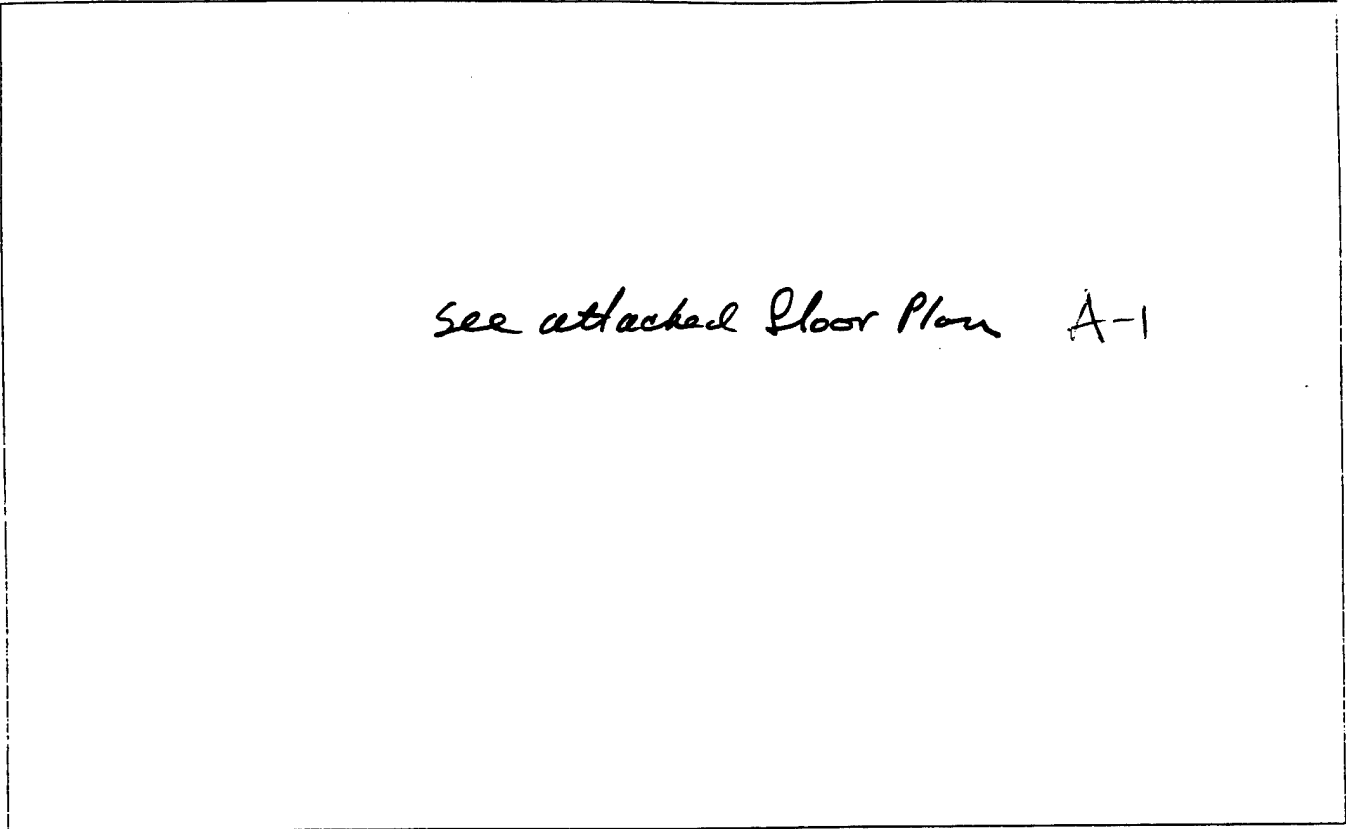
ADDITIONAL COMMENTS, CRITICAL LOADS: none

CRAWL SPACE: VENTILATED EXHAUSTED

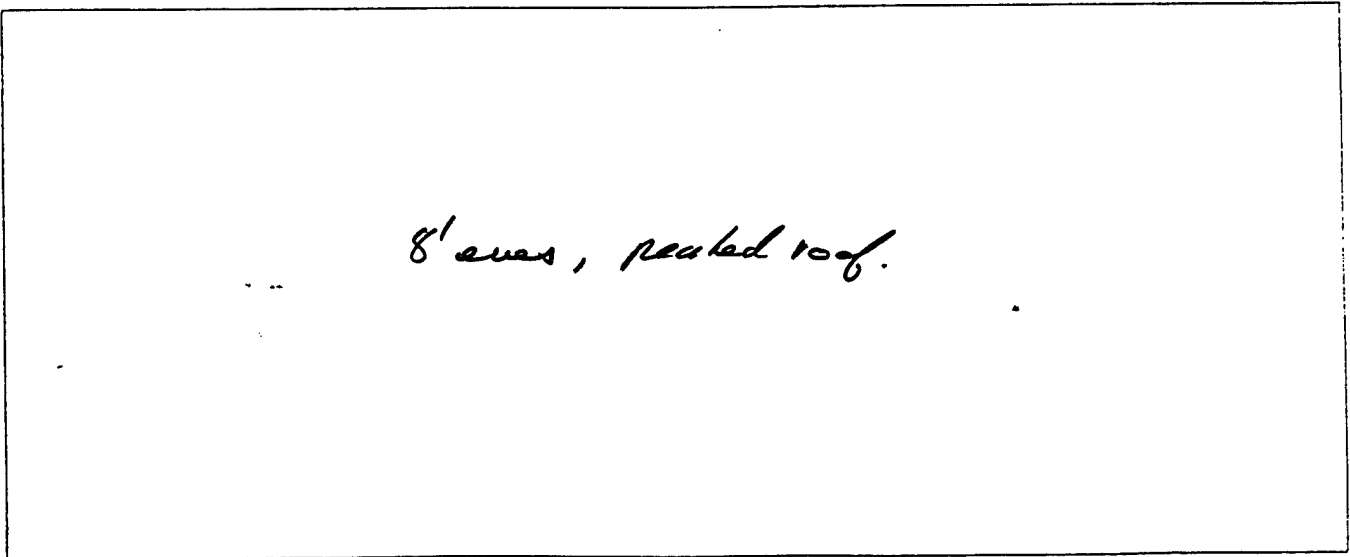
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)

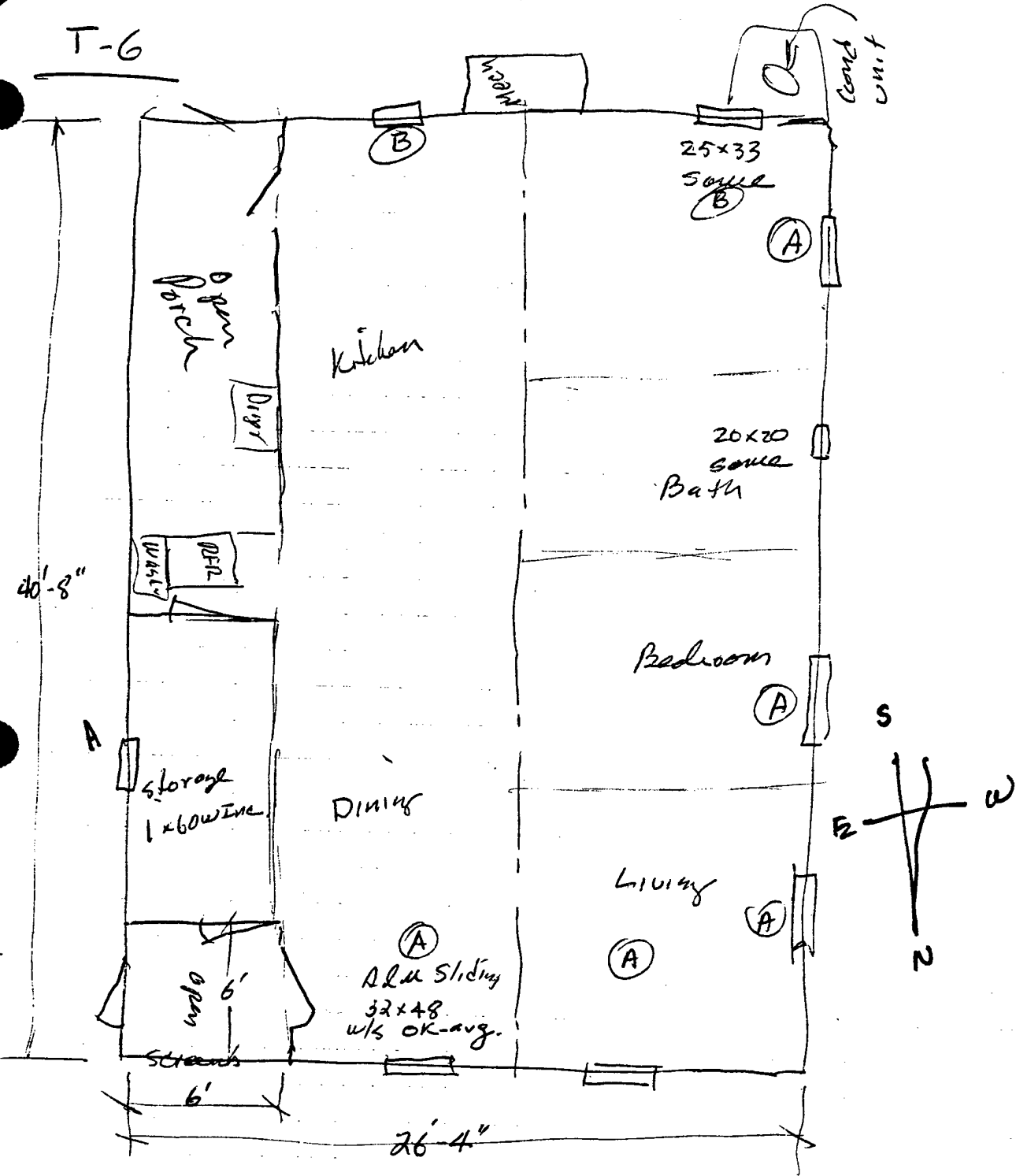


SOUTH ELEVATION (Show floor to ceiling elevations)



A-1

T-6



Elec Meter Installed

DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION				REMARKS *** **** *****			
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S	FIT	CRACK LENGTH					
																		YES		NO	LOOSE	AUG
ALU SCID/MG	3	2		1				3		32x48	3			M			✓					
"	3				2					25x33	3			M			✓					
"	3							1		20 x 20	3			M			✓					
DOOR				2						32x78			—	W			✓					
TOTAL AREA												U-VALUE										

- LEGEND:
- *GLAZING:
 - 1 - ORDINARY
 - 2 - 1/2" PLATE
 - 3 - HEAT ABSORBING
 - 4 - TINTED
 - **FRAME:
 - W - WOOD
 - M - METAL
 - T - METAL/THERMAL BREAK
 - ***SHADING:
 - A - SOLAR FILM
 - B - VEN BLIND
 - C - STORM WINDOW
 - D - DRAPES
 - ****VISIBILITY:
 - E - AWNING
 - F - SOLAR SCREEN
 - G - OVERHANG
 - OTHER - SPECIFY
 - WINDOW TYPES:
 - 1 - DOUBLE HUNG
 - 2 - SINGLE HUNG
 - 3 - SLIDING
 - 4 - CASEMENT
 - 5 - LOUVERED
 - 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FHC
BLDG. NO. T-6

CONSTRUCTION

WALL COLOR: D M L

TYPE: F P
COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Wood Siding</i>		
<i>Air</i>	<i>3 1/2"</i>	
<i>Gyp Bld</i>	<i>1/2</i>	
INSIDE FILM		
TOTAL		

U-FACTOR AREA

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Shingle Comp</i>		
<i>1/2" Deck</i>		
<i>Insul</i>		<i>22</i>
<i>Gyp Bld</i>		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Reef-Comp F.L.R.</i>	<i>3/4</i>	
<i>FF-Carpst</i>	<i>5/8</i>	
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

LOCATION FHL
BLDG. NO. T6

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 34k Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: Carrier Model No.: 38EN030300SM

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) Propane

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Continuous
Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: NA °F Receiver Tank Conditions: NA PSIG NA °F

If supplied Steam or Hot Water: Steam Pressure NA PSI Hot Water Supply Temp. NA °F Hot Water Return Temp. NA °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps NA V/PH/FLA _____ / _____ / _____
Mfg. NA Model NA HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION FHC
 BLDG. NO. T-6

COMPRESSOR(S)/CHILLER

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled X _____
 Evaporative _____
 Manufacturer CARRIER _____
 Model No. 38EN030300SM _____
 Size 5 TON _____
 Type of Fan / _____
 Fan Motor HP / _____
 Fan Motor Voltage 208 _____
 Fan Motor FLA 2.1 _____
 Measured Amps / _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FHC
BLDG. NO. 16

a. Is System Supported from (check one):
 Central Plant
 One System per Building
 Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: 110 °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
3/4" 25 FT

d. Is Piping System Insulated and Condition: MOST HT

e. Is Hot Water Circulated? Ho
 1) Condition of circulator - 3) Is aquastat provided? -
 2) Circulator capacity - 4) Aquastat temperature setting -

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	<u>CABINET</u>		
b. Areas Served	<u>All</u>		
c. Manufacturer and Model	<u>AMERICAN</u>	<u>GVP433TLPG</u>	
d. Energy (Oil, Gas, Electric, Coal, Etc.)	<u>PROPANE</u>		
e. Type Heaters & Quantities:			
1) Storage	<u>40 GAL</u>		
2) Instantaneous	<u>-</u>		
3) Semi-Instantaneous	<u>-</u>		
f. Heater Size and Storage Capacity	<u>-</u>		
g. Heating Capacity	<u>29 MBH W</u>		
h. Type Controls (Air, Steam, Electric)	<u>-</u>		
i. When Installed & Condition	<u>-</u>		
j. Heater Temperature Setting	<u>-</u>		
k. Average Water Maintained Temperature	<u>-</u>		
l. Temperature Differential (j) - (k)	<u>-</u>		
m. Is Hot Water Supply Adequate:	<u>YES</u>		
n. Insulation Thickness	<u>NA</u>	Type	
o. Insulation Material	<u>NA</u>		

4.2.1 Interior Lighting

LIGHTING

LOCATION FAC

BLDG. 16

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)
													C E I L I N G	W A L L	C E I L I N G	W A L L		
2	SS	F	2 / 34	20	70	6	365	153	150	0.5	NA	9						
3	S	I	1 / 60	2	120	4	365	175	150	0.8	NA							
Living Room	S	I	2 / 60	2	240	4	365	350	100	2.4	NA							
9	S	I	1 / 60	2	120	4	365	175	150	0.8	NA							
9	S	I	1 / 60	1	60	1	365	22	30	2	NA							
9	S	I	1 / 60	2	120	4	365	175	150	0.8	NA							
TOTAL BUILDING LIGHTING ENERGY																		

LIGHTING LEGEND:

Fixture Types:
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other---Describe

Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other---Describe

Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS

Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)

Tasks Code:
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store
 Other (describe on audit form)
 E = Exterior

LOCATION PH
 BLDG. NO. J-60

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>1</u>	<u>I</u>	<u>1</u>	<u>60</u>	<u>60</u>	<u>M</u>	

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey _____

Total installed _____

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey _____

Total installed _____

LOCATION PHC
BLDG. NO. T-6

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: _____

4.3.2 RECEPTACLES IN USE 80 PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler _____

Vending Machine _____

Space Heater _____

Coffee Pot ✓ _____

TV ✓ _____

XEROX _____

Other:

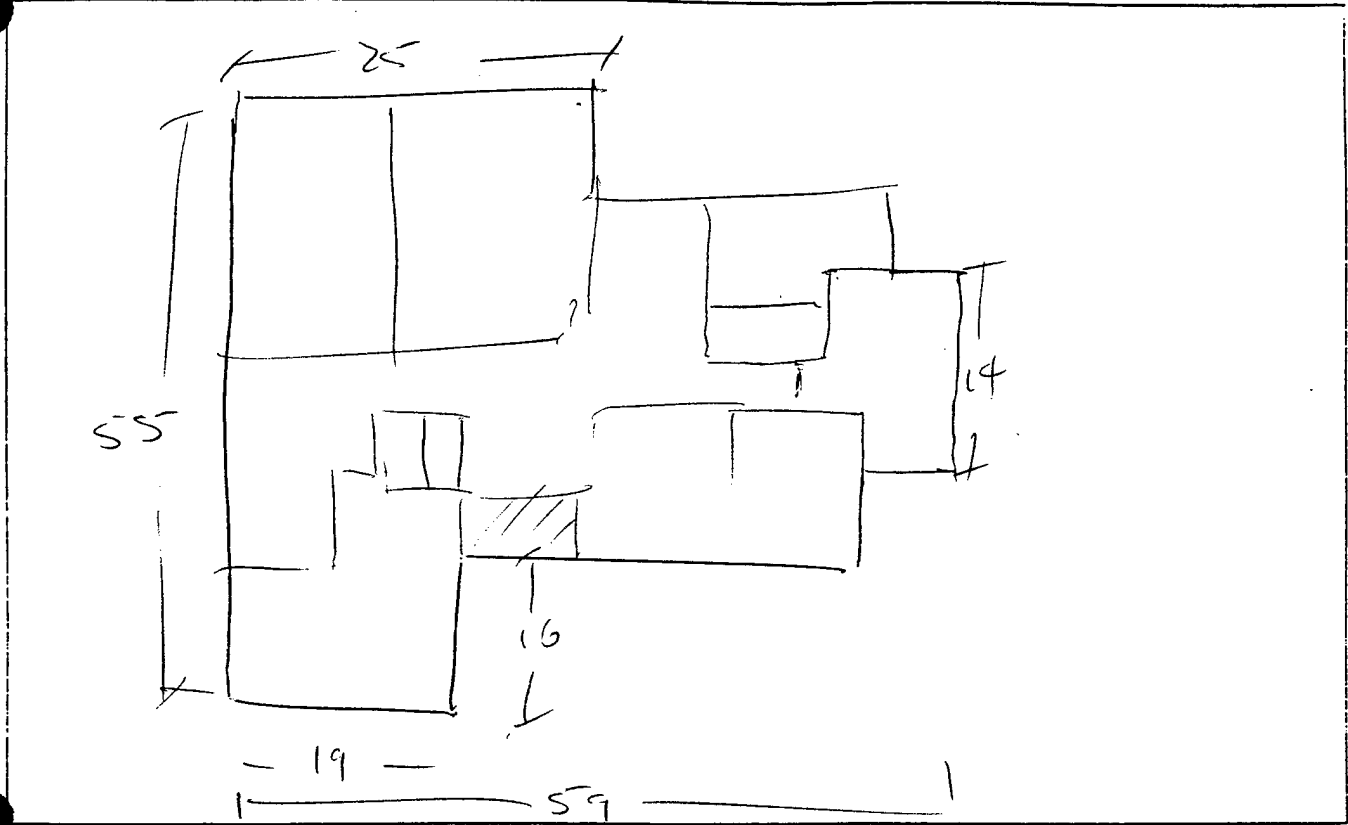
TV _____

STEREO _____

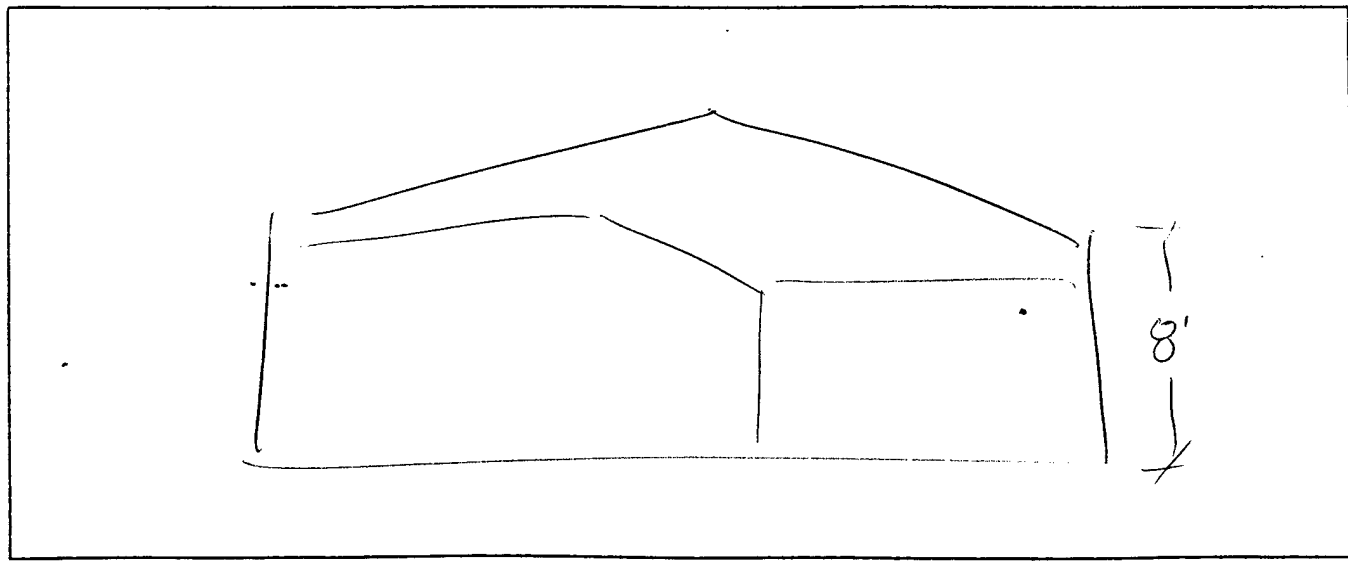
M-WAVE _____

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION			REMARKS ***, ****	
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S YES	FIT LOOSE	AUG		CRACK LENGTH
A	1	2								5' x 5'				M		Aug	50		
D	1									4x4				M			20		
C	1									2x2				M			16		
B				2						4x4				M			40		
B					2					4x4				M			40		
C								1		4x4				M			20		
C								1		3x3				M			15		

TOTAL AREA U-VALUE

- LEGEND:
- *GLAZING: 1 - ORDINARY, 2 - 1/4" PLATE, 3 - HEAT ABSORBING, 4 - TINTED
 - **FRAME: W - WOOD, M - METAL, T - METAL/THERMAL BREAK
 - ***SHADING: A - SOLAR FILM, B - VEN BLIND, C - STORM WINDOW, D - DRAPES
 - ****VISIBILITY: E - AWNING, F - SOLAR SCREEN, G - OVERHANG, OTHER - SPECIFY
 - WINDOW TYPES: 1 - DOUBLE HUNG, 2 - SINGLE HUNG, 3 - SLIDING, 4 - CASEMENT, 5 - LOUVERED, 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION Flr
 BLDG. NO. P-46

CONSTRUCTION

WALL COLOR: D M L

TYPE: F P
 COLOR: D M L

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		.25
Stucco		.32
PLYWOOD		.62
1" RIGID		4
3" BATT		11
GYP BOARD		.56
INSIDE FILM		.68
TOTAL		17.43

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
ROOF TILES		0.9
PLYWOOD		0.62
SPACE		0.61
8" BATT		22
GYP BOARD		0.56
INSIDE FILM		25.45
TOTAL		

U-FACTOR AREA

U-FACTOR AREA

FLOOR

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

LOCATION FHL
BLDG. NO. P-46

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 80 MBtu/Hr ^{IN} or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: SILVER GENERAL Model No.: GUARDIAN 12 AF

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: NA °F Operating Pressure: NA PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. NA Model No. NA Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
24 hrs/day Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day _____

Flue Gas Temperature: NA °F Receiver Tank Conditions: NA PSIG NA °F

If supplied Steam or Hot Water: Steam Pressure NA PSI Hot Water Supply Temp. NA °F Hot Water Return Temp. NA °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps NA V/PH/FLA NA / NA / NA
Mfg. UA Model NA HP NA RPM NA
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

HEATING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer	<u>NA</u>	<u>NA</u>
Model No.		
Size		
Refrigerant		
Motor HP (if available)		
Motor Voltage		
Motor FLA		
Measured Amps	<u>NA</u>	<u>NA</u>

COOLING TOWER

Gravity	<u>NA</u>	<u>NA</u>
Mech. Draft		
Manufacturer		
Model No.		
Type of Fan		
Fan RPM		
Fan Motor HP		
Fan Motor Voltage		
Fan Motor FLA		
Measured Amps	<u>NA</u>	<u>NA</u>

CONDENSER/CONDENSING UNIT

Water Cooled		
Air Cooled	<u>X</u>	
Evaporative		
Manufacturer	<u>CARRIER</u>	
Model No.	<u>38E100310</u>	
Size	<u>5-TON</u>	
Type of Fan	<u>CONDENSER</u>	
Fan Motor HP	<u>1/8</u>	
Fan Motor Voltage	<u>208</u>	
Fan Motor FLA	<u>0.9</u>	
Measured Amps	<u>10.5</u>	

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer	<u>NA</u>	<u>NA</u>
Model No.		
Capacity Gals.		
Head, Ft.		
Motor HP		
Motor Voltage		
Motor FLA		
Measured Amps	<u>NA</u>	<u>NA</u>

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer	<u>NA</u>	<u>NA</u>
Model No.		
Capacity, Gals.		
Head, Ft.	<u>NA</u>	
Motor HP		
Motor Voltage		
Motor FLA		
Measured Amps	<u>NA</u>	<u>NA</u>

REMARKS: _____

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FH
 BLDG. NO. 12-46

- a. Is System Supported from (check one):
 Central Plant
 One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 120 °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
3/4" 25 FT
- d. Is Piping System Insulated and Condition: SOME
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator NA 3) Is aquastat provided? NA
 2) Circulator capacity NA 4) Aquastat temperature setting NA

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location CABINET
- b. Areas Served ALL
- c. Manufacturer and Model DAYTON
- d. Energy (Oil, Gas, Electric, Coal, Etc.) PROPANE
- e. Type Heaters & Quantities:
 1) Storage ✓
 2) Instantaneous
 3) Semi-Instantaneous
- f. Heater Size and Storage Capacity
- g. Heating Capacity 34 MBH input
- h. Type Controls (Air, Steam, Electric) ELECTRIC
- i. When Installed & Condition NEW
- j. Heater Temperature Setting 120
- k. Average Water Maintained Temperature 120
- l. Temperature Differential (j) - (k) 0
- m. Is Hot Water Supply Adequate: YES
- n. Insulation Thickness NONE Type _____
- o. Insulation Material _____

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

LOCATION FH
BLDG. NO. P-46

CONTROL SYSTEM:

CONTROLLERS:

ELECTRIC

PNEUMATIC

ELECTRONIC

OPERATION:

MANUAL

CONTINUOUS

DEMAND

TIME CLOCK

EMCS

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

PROGRAMMABLE T-STAT BECOMES UNPROGRAMMED
AFTER A POWER OUTAGE

4.2.1 Interior Lighting

LOCATION FH2 BLDG P 46

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	F L O O R	C E I L I N G	F L O O R			
1	S	F/60	2/120	1	120	4	365	175	200	0.6	NA	9							
3	S	F/60	1/60	1	60	4	365	87	150	0.4	NA	9							
2	S	F/34	2/70	1	140	4	365	204	150	0.9	NA	9							
	S	F/60	1/60	1	60	4	365	87	150	0.4	NA	9							
9	S	F/60	2/120	1	120	4	365	175	200	0.6	NA	9							
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

Fixture Types:
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe

Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe

Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS

Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION FHL
BLDG. NO. P-46

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: NONE

4.3.2 RECEPTACLES IN USE 90 PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

- Water Cooler _____
- Vending Machine _____
- Space Heater _____
- Coffee Pot _____
- TV _____
- XEROX _____
- Other:

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHC SURVEYED BY BIH/RJB DATE 02 '92

BUILDING NUMBER _____ FUNCTION/USE FAMILY HOUSING

INFORMATION SOURCE (DWG. NO./PERSON) SURVEY

GENERAL BUILDING DATA

BUILDING AGE: NEW YEARS

DUPLICATE BUILDING NOS: _____ TOTAL: _____

SIMILAR BUILDING NOS: 41A TOTAL: 2

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 3

Indicate (number and) duration of occupants each day

M																						
T																						
W																						
T																						
F																						
S																						
S																						
	0	2	4	6	8	10	12	14	16	18	20	22	24									

VARIES

MISCELLANEOUS EQUIPMENT: _____

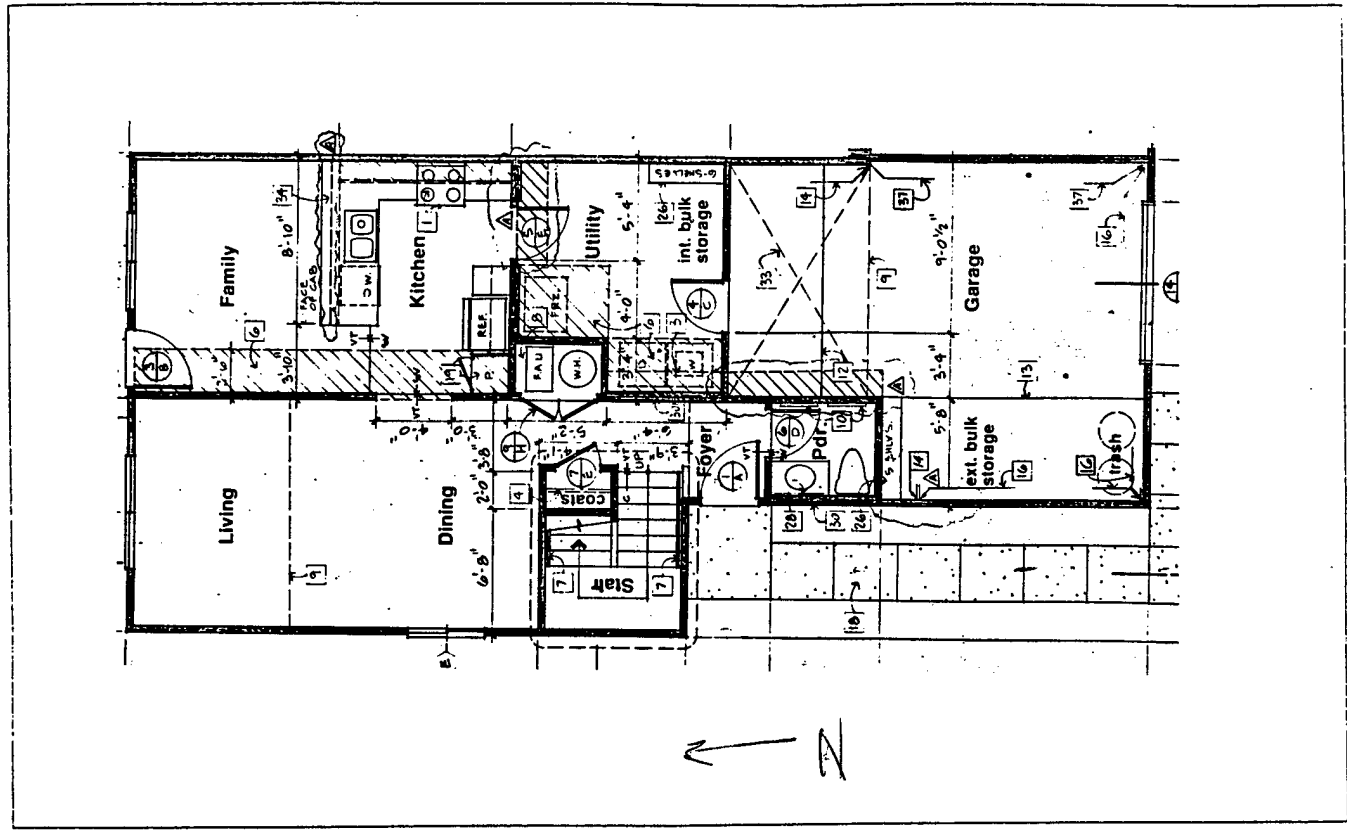
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED

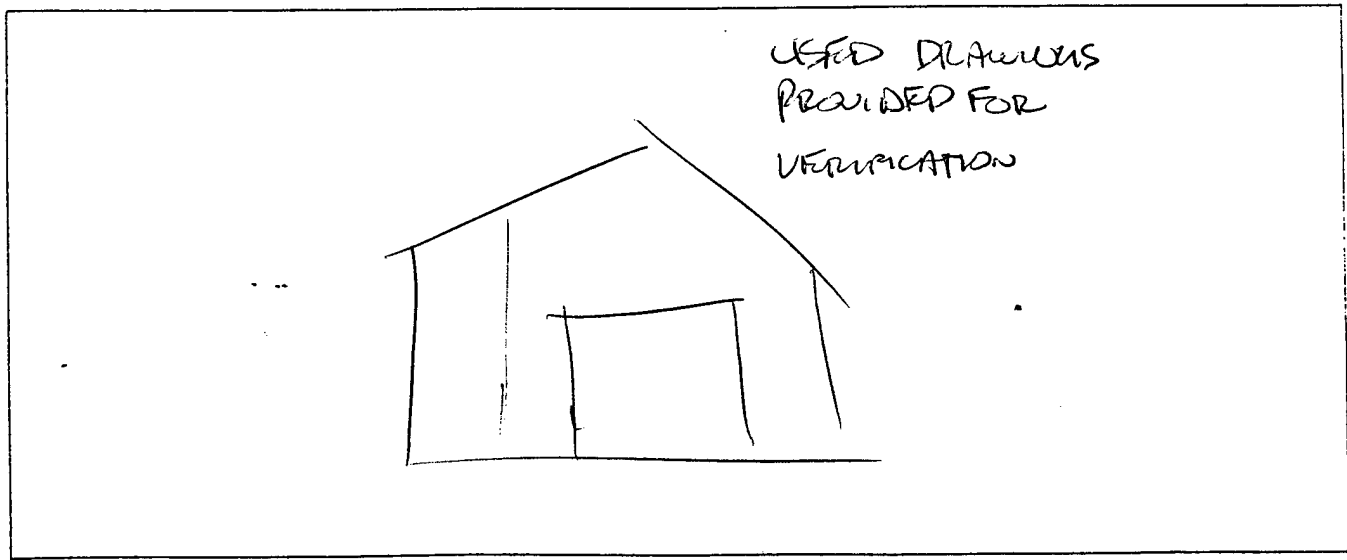
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



USED DRAWINGS
PROVIDED FOR
VERIFICATION

DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION								
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S	FIT		REMARKS *** ****					
																YES	NO		LOOSE	AUG	CRACK LENGTH		
1	M	X								6'4"		1				M			AUG	24'	D		
1	M	-						X		6'4"		1				M			NUM	24'	D		
TOTAL AREA											725F				U-VALUE								

2x

***SHADING:
A - SOLAR FILM
B - VEN BLIND
C - STORM WINDOW
D - DRAPES

**FRAME:
W - WOOD
M - METAL
T - METAL/THERMAL BREAK

*GLAZING:
1 - ORDINARY
2 - 1/8" PLATE
3 - HEAT ABSORBING
4 - TINTED

***VISIBILITY:
E - AWNING
F - SOLAR SCREEN
G - OVERHANG
OTHER - SPECIFY

WINDOW TYPES:
1 - DOUBLE HUNG
2 - SINGLE HUNG
3 - SLIDING
4 - CASEMENT
5 - LOUVERED
6 - FIXED GLASS

LEGEND :

2.4 BUILDING ENVELOPE

LOCATION FHC
 BLDG. NO. D-51A

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		.25
INSULATION		.32
PLYWOOD		.62
1" STUCCO		4
3" BATT		11
GYP BOARD		.56
INSIDE FILM		.68
TOTAL		17.43

U-FACTOR AREA

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM	0.	0.25
FLASHING		0.8
PLYWOOD		0.62
SPRINK		0.61
3" BATT		22
GYP BOARD		0.56
INSIDE FILM		0.61
TOTAL		25.45

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

LOCATION FHL
BLDG. NO. P-51A

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 80 MBtu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: SHIPER GENERAL Model No.: GUA080A012AFL

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
24HR Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: NA °F Receiver Tank Conditions: NA PSIG NA °F

If supplied Steam or Hot Water: Steam Pressure NA PSI Hot Water Supply Temp. NA °F Hot Water Return Temp. NA °F

Insulation: (1) Boiler (2) Other (Specify) NA
Poor Area NA FT² Poor Area NA FT²
None Temp. NA °F None Temp. NA °F

Pump: No. of Pumps NA V/PH/FLA NA / NA / NA
Mfg. NA Model NA HP NA RPM NA
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): _____

COMPRESSOR(S)/CHILLER

Manufacturer	<u>NA</u>	<u>NA</u>
Model No.	<u>NA</u>	<u>NA</u>
Size	<u>NA</u>	<u>NA</u>
Refrigerant	<u>NA</u>	<u>NA</u>
Motor HP (if available)	<u>NA</u>	<u>NA</u>
Motor Voltage	<u>NA</u>	<u>NA</u>
Motor FLA	<u>NA</u>	<u>NA</u>
Measured Amps	<u>NA</u>	<u>NA</u>

COOLING TOWER

Gravity	<u>NA</u>	<u>NA</u>
Mech. Draft	<u>NA</u>	<u>NA</u>
Manufacturer	<u>NA</u>	<u>NA</u>
Model No.	<u>NA</u>	<u>NA</u>
Type of Fan	<u>NA</u>	<u>NA</u>
Fan RPM	<u>NA</u>	<u>NA</u>
Fan Motor HP	<u>NA</u>	<u>NA</u>
Fan Motor Voltage	<u>NA</u>	<u>NA</u>
Fan Motor FLA	<u>NA</u>	<u>NA</u>
Measured Amps	<u>NA</u>	<u>NA</u>

CONDENSER/CONDENSING UNIT

Water Cooled	_____	_____
Air Cooled	<u>X</u>	_____
Evaporative	_____	_____
Manufacturer	<u>CARRIER</u>	_____
Model No.	<u>38E1030340</u>	_____
Size	<u>5 TON</u>	_____
Type of Fan	<u>CONDENSER</u>	_____
Fan Motor HP	<u>1/8</u>	_____
Fan Motor Voltage	<u>208</u>	_____
Fan Motor FLA	<u>0.9</u>	_____
Measured Amps	<u>11</u>	_____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer	<u>NA</u>	<u>NA</u>
Model No.	<u>NA</u>	<u>NA</u>
Capacity Gals.	<u>NA</u>	<u>NA</u>
Head, Ft.	<u>NA</u>	<u>NA</u>
Motor HP	<u>NA</u>	<u>NA</u>
Motor Voltage	<u>NA</u>	<u>NA</u>
Motor FLA	<u>NA</u>	<u>NA</u>
Measured Amps	<u>NA</u>	<u>NA</u>

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer	<u>NA</u>	<u>NA</u>
Model No.	_____	_____
Capacity, Gals.	_____	_____
Head, Ft.	_____	_____
Motor HP	_____	_____
Motor Voltage	_____	_____
Motor FLA	_____	_____
Measured Amps	<u>NA</u>	<u>NA</u>

REMARKS: _____

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FH
BLDG. NO. P-51A

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 120 °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
3/4" 25 FT
- d. Is Piping System Insulated and Condition: YES/PARTIAL
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator NA 3) Is aquastat provided? NA
2) Circulator capacity NA 4) Aquastat temperature setting NA

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location CABINET
- b. Areas Served All
- c. Manufacturer and Model DATCO 3E31C
- d. Energy (Oil, Gas, Electric, Coal, Etc.) PROPANE
- e. Type Heaters & Quantities:
- 1) Storage NA
- 2) Instantaneous NA
- 3) Semi-Instantaneous NA
- f. Heater Size and Storage Capacity 40 GAL
- g. Heating Capacity 34 MBH input
- h. Type Controls (Air, Steam, Electric) ELECTRIC
- i. When Installed & Condition NEW
- j. Heater Temperature Setting 120
- k. Average Water Maintained Temperature 120
- l. Temperature Differential (j) - (k) 0
- m. Is Hot Water Supply Adequate: YES
- n. Insulation Thickness Nil Type _____
- o. Insulation Material NA

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG CARRIER MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

SHUTS OFF AFTER POWER OUTAGES

4.2.1 Interior Lighting

LIGHTING

LOCATION

BLDG.

P-5A

FKC

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ.-FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	W A L L	C E I L I N G	W A L L			
1	S	F/60	2/120	1	120	4	365	175	200	0.6	NA	9							
3	S	F/60	1/60	1	60	4	365	87	150	0.4	NA	9							
2	S	F/60	2/120	1	110	4	365	204	150	0.9	NA	9							
	S	F/60	1/60	1	60	4	365	87	150	0.4	NA	9							
9	S	F/60	2/120	1	120	4	365	175	200	0.6	NA	9							
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair chm
 12 = Storage room
 13 = Retail store
 Other (describe on audit form)
 F = Exterior

LOCATION PH
 BLDG. NO. P-514

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>5</u>	<u>F</u>	<u>5</u>	<u>60</u>	<u>300</u>	<u>M</u>	

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey _____
 Total installed _____

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey _____
 Total installed _____

LOCATION FHC
BLDG. NO. P-51A

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: DONE

4.3.2 RECEPTACLES IN USE 90 PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler _____

Vending Machine _____

Space Heater _____

Coffee Pot X

TV X

XEROX _____

Other:

Refrigerator _____

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RJB DATE 11 OCT '92
 BUILDING NUMBER S-79 FUNCTION/USE POST OFFICE
 INFORMATION SOURCE (DWG. NO./PERSON) VISUAL

GENERAL BUILDING DATA

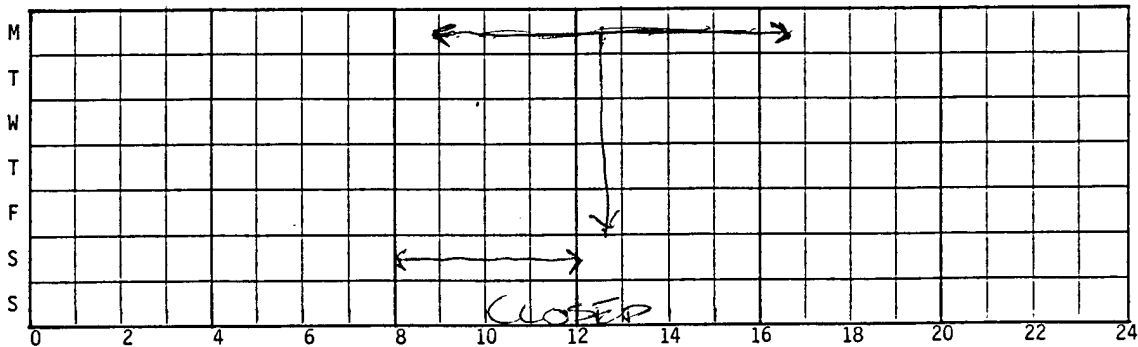
BUILDING AGE: _____ YEARS

DUPLICATE BUILDING NOS: _____
 _____ TOTAL: _____

SIMILAR BUILDING NOS: _____
 _____ TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 2

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: _____

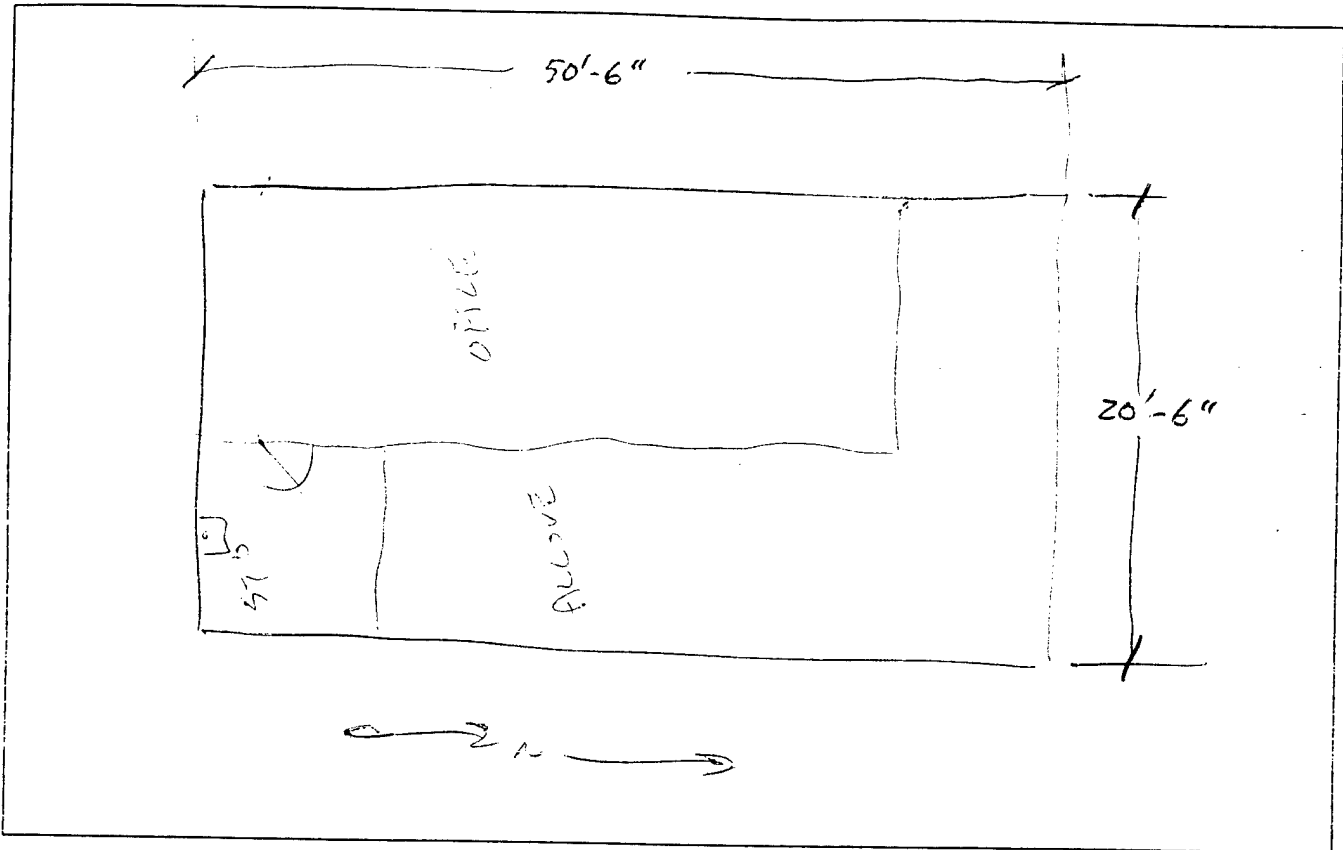
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED NOTE
 ATTIC: VENTILATED EXHAUSTED
NO NO

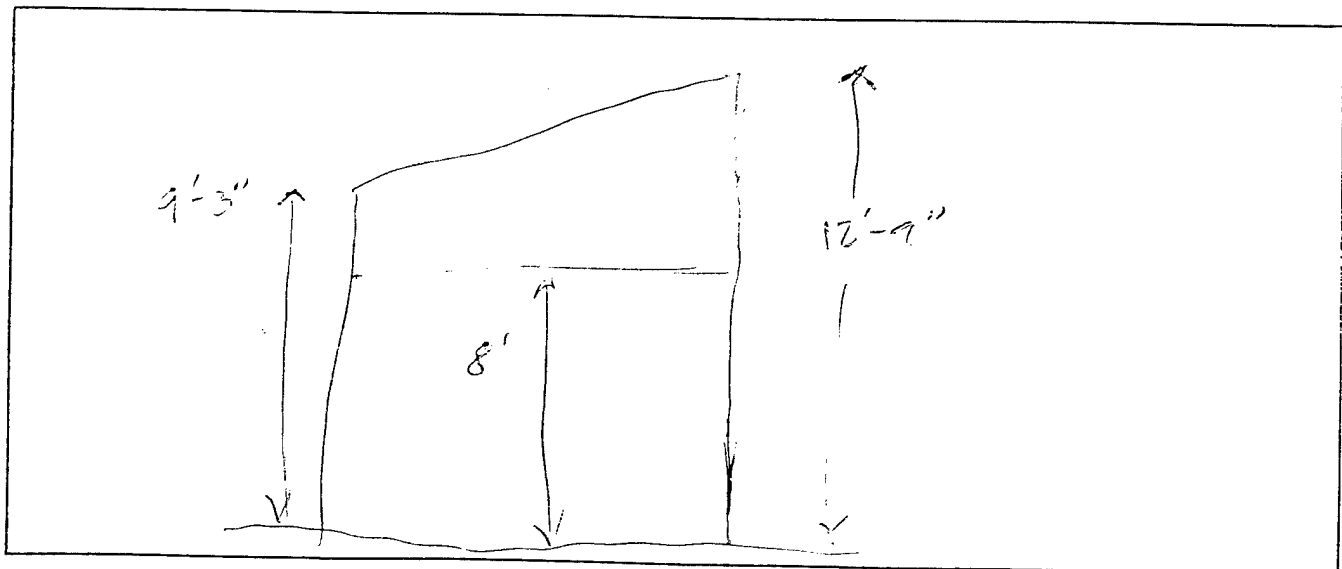
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHC
BLDG. NO. 79

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND
ELEVATION SKETCHES

2.3 ARCHITECTURAL WINDOWS & DOORS

LOCATION FHC
 BLDG. NO. 7a

DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION				REMARKS *** ****			
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S	FIT	CRACK LENGTH					
																		Y		N	Y	N
1		1		2		1				3x3	1	W		W								
TOTAL AREA																U-VALUE						

- ***GLAZING:
- 1 - ORDINARY
 - 2 - 1/4" PLATE
 - 3 - HEAT ABSORBING
 - 4 - TINTED
- ***FRAME:
- W - WOOD
 - M - METAL
 - T - METAL/THERMAL BREAK
- ***SHADING:
- A - SOLAR FILM
 - B - VEN BLIND
 - C - STORM WINDOW
 - D - DRAPES
- ***VISIBILITY:
- OTHER - SPECIFY
- ***WINDOW TYPES:
- 1 - DOUBLE HUNG
 - 2 - SINGLE HUNG
 - 3 - SLIDING
 - 4 - CASEMENT
 - 5 - LOUVERED
 - 6 - FIXED GLASS

LEGEND:

2.4 BUILDING ENVELOPE

LOCATION Fit
 BLDG. NO. 79

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
CONCRETE ON EXTERIOR SIDE	1/8"	
STUD	2"	
MOIST BARRIER	—	
5/8 GYP	5/8"	
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
1 1/4" DECK		
RAIRSPACE		
1/2" A		
STUD		
GYP CEILING		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

3.1 HEATING EQUIPMENT

LOCATION PH
BLDG. NO. 79

UNIT HEATERS (small)

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other ELECTRIC RESISTANCE UNIT HEATERS (LGR)

Capacity: _____ Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: _____ Model No.: _____

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) ELECTRIC - 2 x 3 kW

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION F42
BLDG. NO. 79

COMPRESSOR(S)/CHILLER

Manufacturer NA
Model No. _____
Size _____
Refrigerant _____
Motor HP (if available) _____
Motor Voltage _____
Motor FLA _____
Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
Air Cooled _____
Evaporative _____
Manufacturer _____
Model No. _____
Size _____
Type of Fan _____
Fan Motor HP _____
Fan Motor Voltage _____
Fan Motor FLA _____
Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
Model No. _____
Capacity, Gals. _____
Head, Ft. _____
Motor HP _____
Motor Voltage _____
Motor FLA _____
Measured Amps NA

COOLING TOWER

Gravity _____ NA
Mech. Draft _____
Manufacturer _____
Model No. _____
Type of Fan _____
Fan RPM _____
Fan Motor HP _____
Fan Motor Voltage _____
Fan Motor FLA _____
Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
Model No. _____
Capacity Gals. _____
Head, Ft. _____
Motor HP _____
Motor Voltage _____
Motor FLA _____
Measured Amps NA

REMARKS: ONLY SMALL PACKAGED WINDOW UNITS

1 - @

1 - DAKIN

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION Flt
BLDG. NO. 79

- a. Is System Supported from (check one): Central Plant One System per Building NA
 Several Small Systems per Building

NA

b. Domestic Hot Water Temperatures provided: _____ °F _____ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

d. Is Piping System Insulated and Condition: _____

e. Is Hot Water Circulated? _____

- 1) Condition of circulator _____ 3) Is aquastat provided? _____
2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location _____
b. Areas Served _____
c. Manufacturer and Model _____
d. Energy (Oil, Gas, Electric, Coal, Etc.) _____
e. Type Heaters & Quantities:
1) Storage _____
2) Instantaneous _____
3) Semi-Instantaneous _____
f. Heater Size and Storage Capacity _____
g. Heating Capacity _____
h. Type Controls (Air, Steam, Electric) _____
i. When Installed & Condition _____
j. Heater Temperature Setting _____
k. Average Water Maintained Temperature _____
l. Temperature Differential (j) - (k) _____
m. Is Hot Water Supply Adequate: _____
n. Insulation Thickness _____ Type _____
o. Insulation Material _____

NA

NA

4.2 Lighting
 4.2.1 Interior Lighting

LIGHTING LOCATION Fkt BLDG. 79

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L L I N G	F L L O O R	C E I L L I N G	F L L O O R			
12	R	F34	2 ms	1	70	8	260	145	100	.7	50/60	4							
6	S	F34	2 ms	8	560	8	260	1,165	800	0.7		2							
6	R	F34	2 ms	3	210	8	260	437	400	0.5		6							
PLANE	R	F34	2 ms	5	350	8	260	728	400	.88									
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

Window Code: If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS

Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe

Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION FIL
BLDG. NO. 79

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: 1 COMPUTER

4.3.2 RECEPTACLES IN USE 80 PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

- Water Cooler X
- Vending Machine STAMP
- Space Heater 2X 3KW/15AMP/208V/1Ø
- Coffee Pot _____
- TV _____
- XEROX _____
- Other:
 - REFRIG
 - 2X CASSABLANCA FANS
 - 1X 2 TON WESTINGHOUSE WINDOW A/C UNIT
 - 1X 2 TON DAKIN " " "

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BIH DATE 6 OCT 92

BUILDING NUMBER P-80 FUNCTION/USE POST EXCHANGE

INFORMATION SOURCE (DWG. NO./PERSON) WORKERS IN EACH SECTION OF BLDG

GENERAL BUILDING DATA

BUILDING AGE: _____ YEARS newish

DUPLICATE BUILDING NOS: _____

TOTAL: _____

SIMILAR BUILDING NOS: _____

TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY)

Indicate (number and) duration of occupants each day

Employees NO. OF OCCUPANTS 5
Patrons : 50 per day

M	Barber Shop		M-F 0900-1500	S/S: closed	1 PM + customer								
T	ADMIN OFFICES		40H/WK	3 PM									
W													
T													
F													
S													
S													
	0	2	4	6	8	10	12	14	16	18	20	22	24

MISCELLANEOUS EQUIPMENT: _____

ADDITIONAL COMMENTS, CRITICAL LOADS: _____

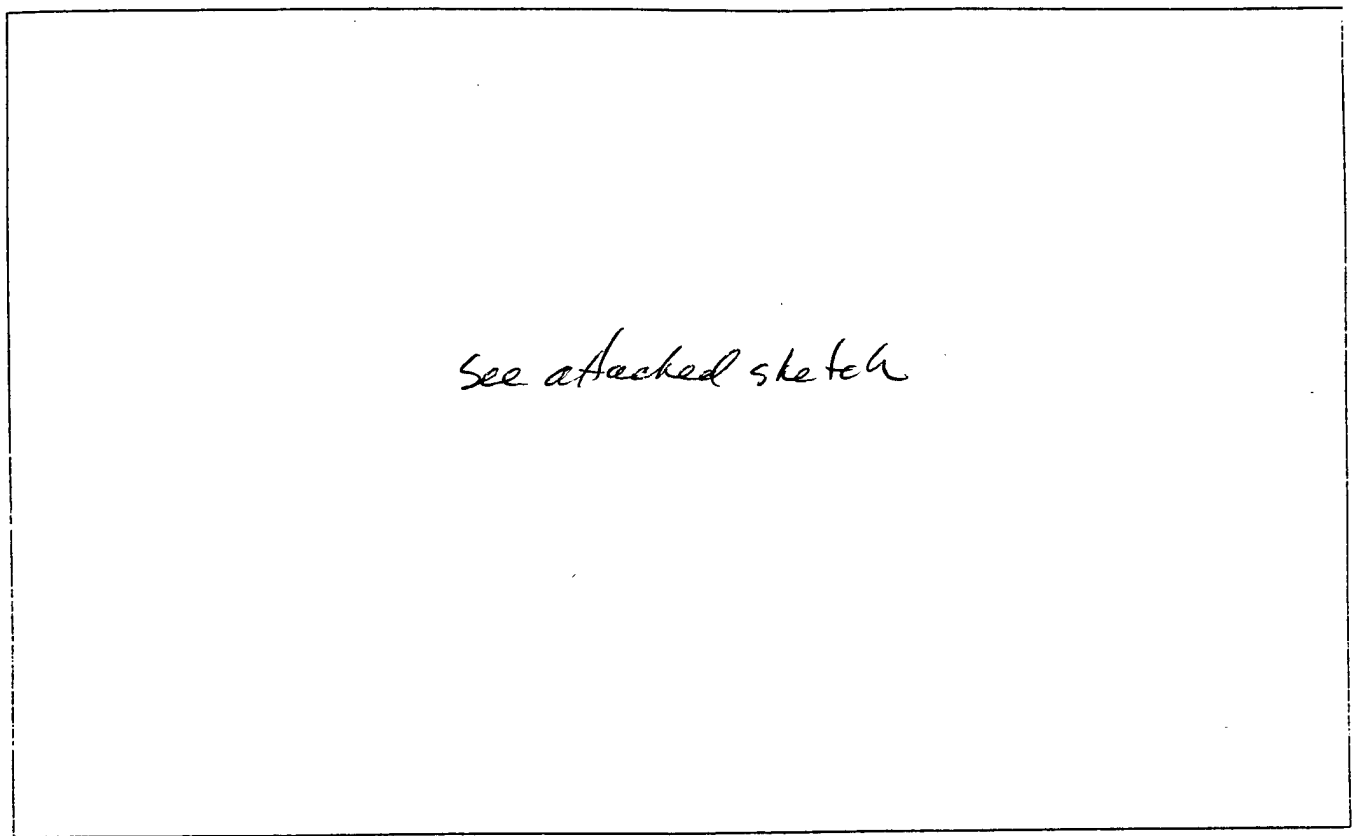
CRAWL SPACE: VENTILATED EXHAUSTED SOG

ATTIC: VENTILATED EXHAUSTED

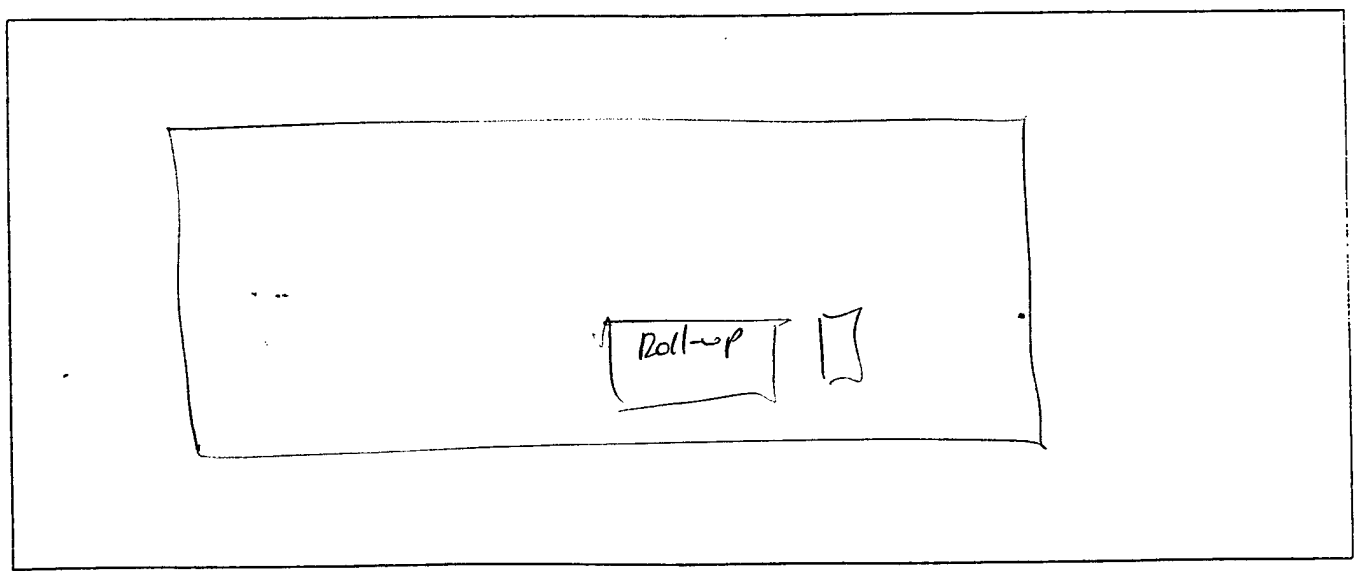
over front (N) of bldg - no attic over remainder of bldg

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



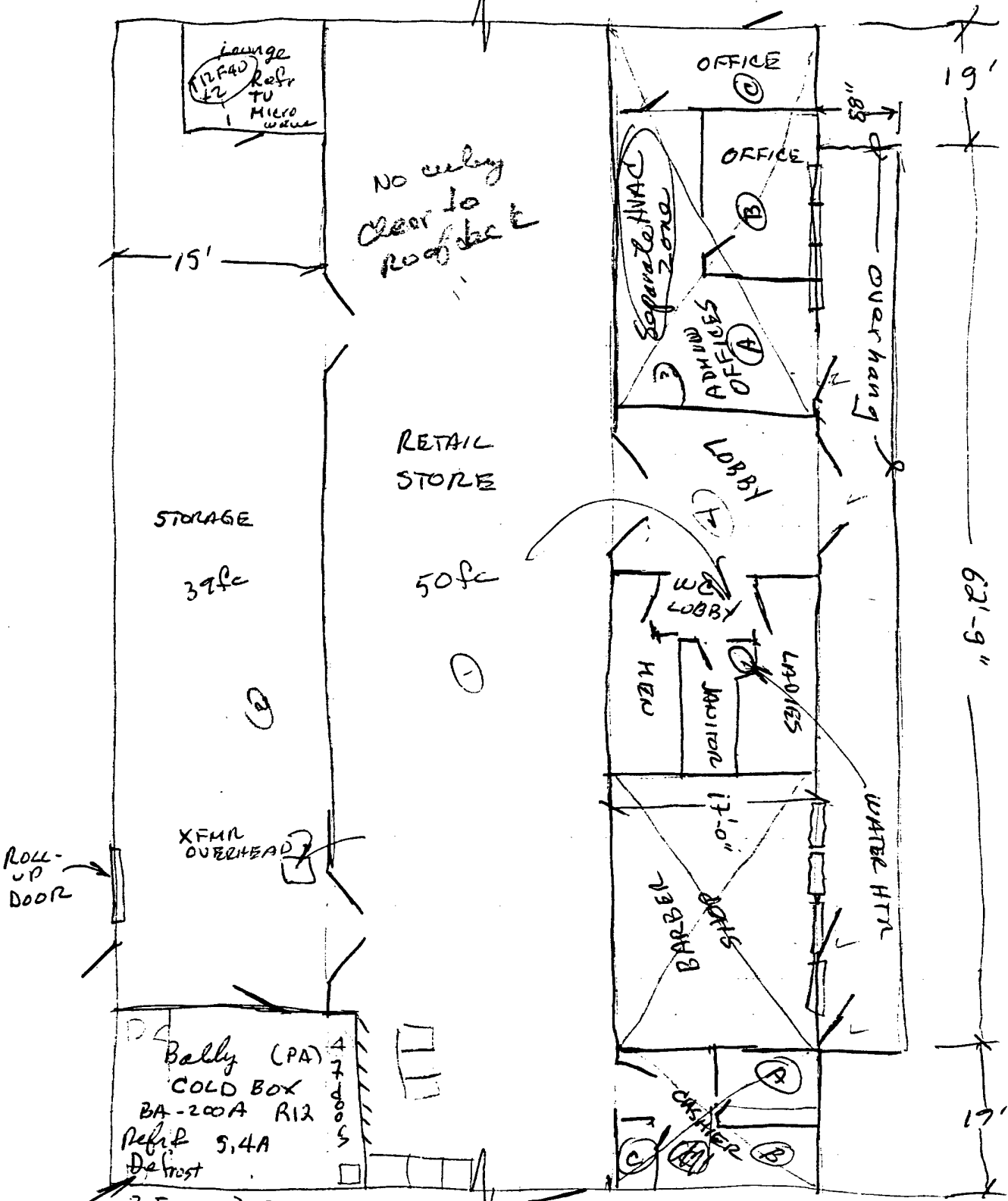
SOUTH ELEVATION (Show floor to ceiling elevations)



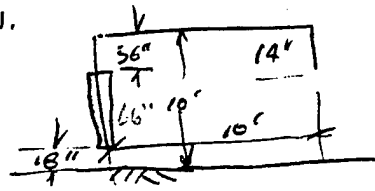
BCSG 80 POST EXCHANGE

← 84'-9" →

15.02.2012



2 Fans 2.7 FLARE
Set 37 actual 38°F
Mechanical & Electric
Rooms b/w here - not to scale



slab at front overhang

DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION				REMARKS *** ****	
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S YES	FIT LOOSE	AUG	CRACK LENGTH		
																				NO
FRONT WINDOWS	F	8								33 1/2 x 66	4			M	FIXED					
SINGLE-W/ LIGHTS DOOR		2								36 x 84				M						
LIGHTS IN SINGLE DOORS										28 x 67				M						
DOUBLE DOOR w/ LIGHTS		1								(36x84) 2	4			M						
LIGHTS IN DOUBLE DOORS										(28x67)	4			M						
PAINTED GLASS		4								68 x 16	R			M						
"		1								24 x 16	R			M						
FIXED WINDOWS		1								78 x 16	4			M						
"		2								24 x 16	4			M						
Roll-up Door																				
Personnel Doors										34 x 80				W						Loose

Not counting
Mech & Elec
Room Doors

TOTAL AREA U-VALUE

- LEGEND:
- *GLAZING: 1 - ORDINARY, 2 - 1/8" PLATE, 3 - HEAT ABSORBING, 4 - TINTED
 - **FRAME: W - WOOD, M - METAL, T - METAL/THERMAL BREAK
 - ***SHADING: A - SOLAR FILM, B - VEN BLIND, C - STORM WINDOW, D - DRAPES
 - ****VISIBILITY: E - AWNING, F - SOLAR SCREEN, G - OVERHANG, OTHER - SPECIFY
 - WINDOW TYPES: 1 - DOUBLE HUNG, 2 - SINGLE HUNG, 3 - SLIDING, 4 - CASEMENT, 5 - LOUVERED, 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FHL

BLDG. NO. 80

CONSTRUCTION

WALL

ALL

COLOR: D

M

L

TYPE: F

P

COLOR: D

M

L

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
STUCCO	3/4"	0.15
C.M.U.	6"	1.93
C.M.U.	8"	3.20
INSIDE FILM		.68
TOTAL		6.21

U-FACTOR

0.16

AREA

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
B.W. ROOFING		0.33
RIGID INSUL	2"	12.50
METAL DECK	1 1/2"	0.00
INSIDE FILM		.92
TOTAL		14.00

U-FACTOR

0.07

AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR

AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

LOCATION FH C
BLDG. NO. 80

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

253,900 net return

Capacity: 29500 Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water
out

Manufacturer: Hydro therm Model No.: OR 385 S.U. ORF - 2043
293#/HR 100PSI MAX

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim
7 day in Mech Room on 0500 to 2000, no day-studs installed. TORK MN 7300

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) Propane

Burner: Mfg. Economite Model No. RE 32P Metering Equipment: Yes No
stamped → 30000 BTU/HR MAX 50,000 BTU/HR MIN has pilot

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____

Weekdays & Holidays: From 5:00 To above Hr/Day _____

Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

all insulation deteriorated.

Insulation: (1) Boiler (2) Other (Specify) Pipe 1 1/2" φ
Poor Area 24 FT² Poor Area 50 CF LF 12
None Temp. _____ °F None Temp. not on °F

Pump: No. of Pumps 1: 1522 1S-1 FR V/PH/FLA 115 / 1 / 4.9

Mfg. BEG Model 173014 S.U. HP 1/4 RPM 1725

HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): none - had previously fixed Admin office area - installed a T-stat, better control now

3.2 COOLING EQUIPMENT

LOCATION F112
 BLDG. NO. 80

COMPRESSOR(S)/CHILLER

Manufacturer NA
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

COOLING TOWER

Gravity NA
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps NA

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps NA

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

PACKAGED ROOFTOP
LEITCH MOD: DMS4360 H6750

Internal Blower	No	Φ	FLA	HP
Return Air Fan	1	3	11	7.5
Compressor	1	3	4.8	3
	1	3	35.6	
	1	3	32.1	
Cond. Fan	2	3	3.9	2

REMARKS: Piping in Mech. Room 30 LF 1" Φ pipe needs more insulation for DX & condensers outside.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FHL
BLDG. NO. 80

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
3/4" 80ft
- d. Is Piping System Insulated and Condition: Yes
- e. Is Hot Water Circulated? _____
 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location Janitor's Closet
- b. Areas Served Mens/Womans Toilets
- c. Manufacturer and Model AOSmith DRE 80 790
- d. Energy (Oil, Gas, Electric, Coal, Etc.) Electric
- e. Type Heaters & Quantities:
 1) Storage NA
 2) Instantaneous NA
 3) Semi-Instantaneous NA
- f. Heater Size and Storage Capacity 80 gal
- g. Heating Capacity 480V 3φ 6KW x 3 = 18KW 21.6 EAmps
- h. Type Controls (Air, Steam, Electric) 3 Δ Phase 80 Gallons
- i. When Installed & Condition _____
- j. Heater Temperature Setting 135° F DHW
- k. Average Water Maintained Temperature 110
- l. Temperature Differential (j) - (k) 25
- m. Is Hot Water Supply Adequate: Yes
- n. Insulation Thickness 3/4" Type _____
- o. Insulation Material _____

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG Honeywell MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

FOR STORE:

Time clock control on heater - 7 day timer.

	ON	OFF
M	0500	2000
T		
W		
T		
F		
S		1900
S		2000

ADMIN OFFICES

Honeywell Energy Mgmt Sensor/stat.

4.2.1 Interior Lighting

LIGHTING LOCATION BLDG.

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
LOUNGE	S	F 40	2 / 100	1								8'-0"	LMFF	FF	NA	
CALD BOY	S	I 75	1 / 75	3								-	KMDSS	SS	NA	
STORAGE	P	F 40	2 / 100	17							25	14'-0"	LMFF	FF	NA	
lobby	R	F 40	4 / 160	3								8'-9"	LMFF	SS	NS	
Janitor	S	F 40	2 / 100	2							40	8'-0"	DDFF	FF	NA	
W/ Lobby	R	I 60	1 / 60	1									MMFF	FB	US	
Mens WE	S	F 40	2 / 100	2									MMFF	FS	NA	
Repair Store	P	F 40	2 / 80	35							50	14'-0"	DMFF	SS	NA	800ma-HO
BARBER SHOP	R	F 40	4 / 200	8							60	8'-9"	MMFF	FS	US	
ADMIN A	R	F 40	4 / 200	3								9'-9"	LLFF	FS	NA	
ADMIN B	R	F 40	4 / 200	6									LLFF	FF	NA	
TOTAL BUILDING LIGHTING ENERGY																
ADMIN C	R	F 40	4 / 200	4									LLFF	SS	NA	F=Flat

LIGHTING LEGEND: L LMB=Shimge F=Flat

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store
 Other (describe on audit form)
 E = Exterior

4.2.1 Interior Lighting

LIGHTING

LOCATION PHL

BLDG. 80

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ.-FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	MEASURED ILLUMINATION HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)			
													C	E	I	L	I	N			G	F	L
(A)	R	F40	/	2							60	8'-0"											
(B)	R	F40	/	5																			
(C)	R	F40	/	1																		NO loose 4-lamp F40 ballasts Ballast still not connected	
			/																				
			/																				
			/																				
			/																				
			/																				
			/																				
			/																				
			/																				
TOTAL BUILDING LIGHTING ENERGY																							

LIGHTING LEGEND:

Fixture Types:
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe

Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe

Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS

Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION FHC
 BLDG. NO. 80

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>4</u>	<u>R</u>	<u>4</u>	<u>75W(MV)</u>		<u>M</u>	<u>FRONT = NORTH SIDE</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey NA
 Total installed NA

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey NA
 Total installed NA

LOCATION FH
BLDG. NO. 80

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: _____ NA

NA

4.3.2 RECEPTACLES IN USE 80 PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

- Water Cooler _____
- Vending Machine _____
- Space Heater _____
- Coffee Pot _____
- TV _____
- XEROX _____
- Other: _____

4.4 SPECIAL ELECTRIC EQUIPMENT

IDENTIFICATION NO.	LOCATION (ROOM)	DESCRIPTION (MANUFACTURER, MODEL NO.)	CONNECTED LOAD KW	REMARKS
	BLDG Overhang OUTSIDE	Pepsi Machine		
	ADMIN OFFICES	TV		
		PC's 5 ea		
		Printers 5 ea		
		Xerox - 1 ea.		
		Water Cooler		
	CASHIERS OFFICE	3 PC's ea		
		2 Printers		
		Asc Office Supplies		
empty 28°F	Retail store	Tyler FG5 - 1775 Reach-in Cold Box (w/3 doors) 220V 7.3A R502 lights 120V 4.8A Cooler only 120V 10.0A		
		• Tyler XDAFG12 - 4208 3 Fans 0.8A ea 115V 4.0A R502		Frozen Foods 12°F
		Anti Sweat Htr: 1236W		
		Lights 115V 6.3A 208V Defrost Htr 4000W		
☆		• Hussmann ISD 671 FGL 115V 10.1 AMP R-12 150z		ICE 34°F
☆		• True GDM-46 1/2HP 115V 1ϕ 9.2FLA R12 210z. 37°F		SODAS SLIDING DOOR
☆		• Beverage Air MT65 115V 15.2FLA		SODAS 40°F
☆		• _____ 11 _____		37°F

☆ Self-contained units - reject heat into store

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RUB/BIH DATE 10/6/92

BUILDING NUMBER THEATER (P-81) FUNCTION/USE THEATER

INFORMATION SOURCE (DWG. NO./PERSON) VISUAL / AS-BUILT DWGS

GENERAL BUILDING DATA

BUILDING AGE: _____ YEARS

DUPLICATE BUILDING NOS: _____

TOTAL: _____

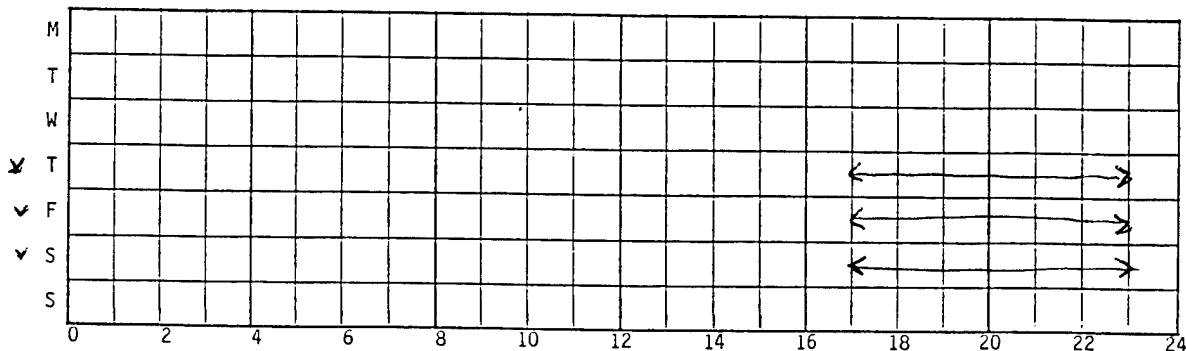
SIMILAR BUILDING NOS: _____

TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY)

NO. OF OCCUPANTS 350

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: _____

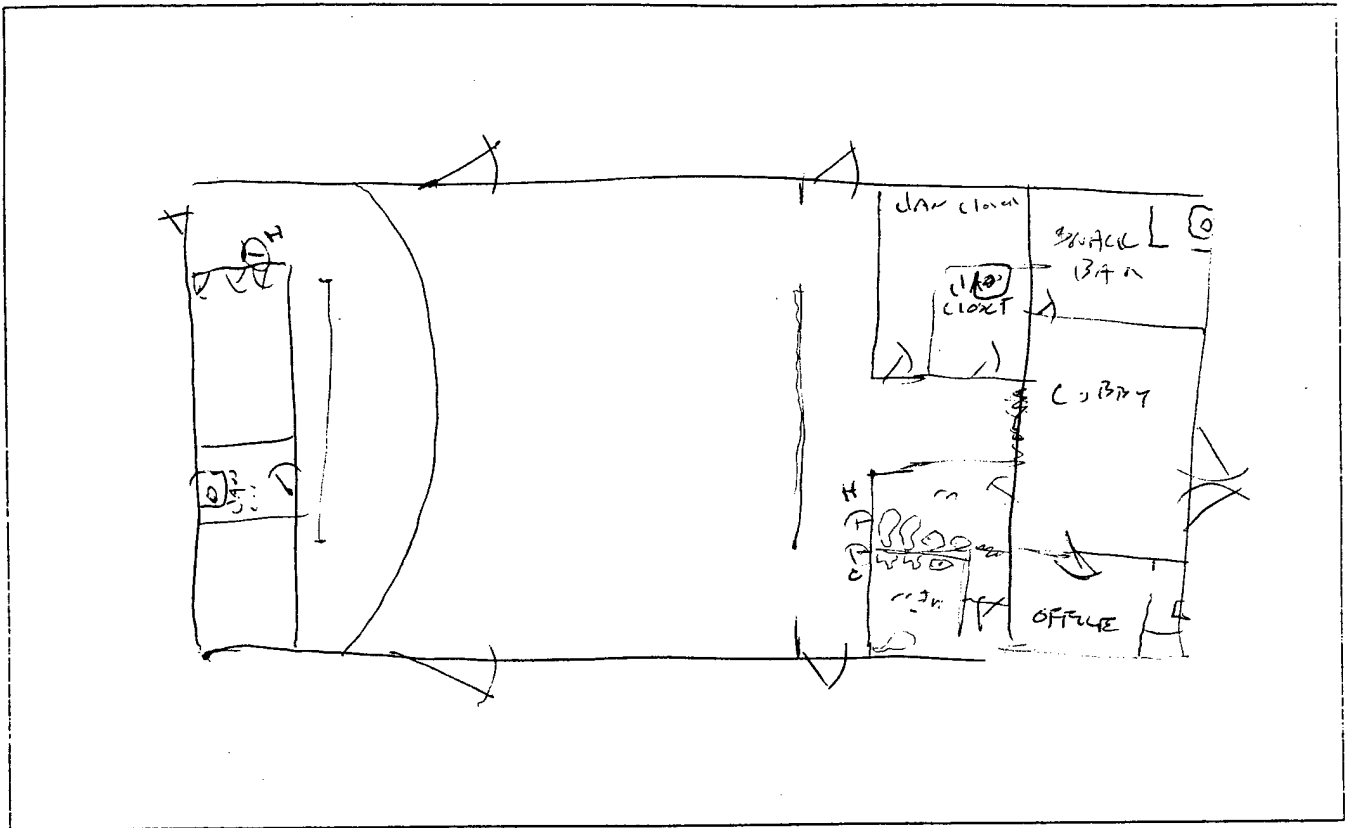
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED

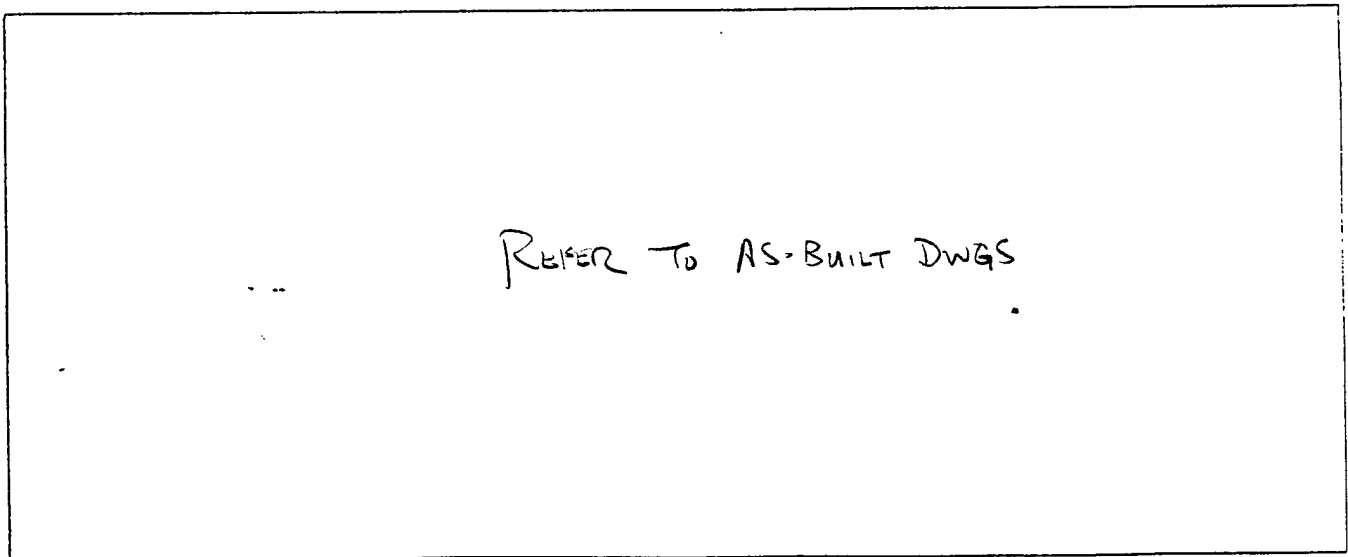
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



2.4 BUILDING ENVELOPE

LOCATION FHL
BLDG. NO. P-81

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
CMU	8"	
CMU	6"	
STALCO	3/4"	
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F P
COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
BUILT UP ROOFING		
2" EPS INSUL	2"	
2 1/2" CONC.		
SPECC DECK		
SPACE SUSP CEILING	1'-2" / 1 1/2"	
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

3.1 HEATING EQUIPMENT

LOCATION FAL
BLDG. NO. P-81

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 300 MBtu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: HYDROTECH Model No.: _____

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. ECONOMITE Model No. R332P Metering Equipment: Yes No

Operating Schedule: Weekdays: R/F/S From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area INTERNAL FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps 3 V/PH/FLA _____ / _____ / _____
Mfg. Bell & Gossett Model 60-114AA HP 1/3 RPM 1750
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION FHL
 BLDG. NO. P-81

COMPRESSOR(S)/CHILLER

~~Manufacturer TRANE "
 Model No. RAUA 1253-A "
 Size 2 CKT / 3 FAN "
 Refrigerant R-22 "
 Motor HP (if available) 1/2 "
 Motor Voltage 208 "
 Motor FLA 4.1 "
 Measured Amps _____~~

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled X " X
 Evaporative _____
 Manufacturer TRANE " TRANE
 Model No. RAUA 1253-A " RAUB-926E
 Size 2 CKT / 3 FAN " 1 CKT / 1 FA
 Type of Fan CONDENSER " "
 Fan Motor HP 1/2 " 1/2
 Fan Motor Voltage 208 " 208
 Fan Motor FLA 4.1 " 3.4
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

3.3 AIR HANDLING EQUIPMENT

LOCATION FHL
BLDG. NO. P-81

FANS

Type	DRAIN THROUGH CENTRIFUGAL		PRV
Unit/Zone	# MAIN	# ADA-2	# ROOF
Manufacturer	TRANE	"	SMALL
Model No.	CLCH-17	CLCH-3	
Type	CLIMATE CHANGE		
RPM of Fan			
Motor HP	5	3/4	
Motor Volts	208	208	
Motor FLA	16	2.6	
Measured Amps			
CFM (from Plans)			
Notes			

COILS

Indicate capacities where found:

COOLING		HUMIDIFICATION
DX	<u>X</u>	ELEC
H ₂ O		STEAM
OTHER		H ₂ O
HEATING		OTHER
GAS		AUX/MISC OTHER
H ₂ O	<u>X</u>	
ELEC		
OTHER		

FILTERS

Type		
Condition		
Manometer Reading 1/		

1/ Record only if manometer is installed on the unit.

HAS HUMIDIFIED CYCLE

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION KAL
 BLDG. NO. P-81

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? _____
 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	<u>MECH ROOM</u>	<u>CL. CLOSET</u>
b. Areas Served	<u>BACK</u>	<u>FRONT</u>
c. Manufacturer and Model	<u>NATIONAL NSL-20</u>	<u>NATIONAL NSL-40</u>
d. Energy (Oil, Gas, Electric, Coal, Etc.)	<u>ELEC</u>	<u>ELEC</u>
e. Type Heaters & Quantities:		
1) Storage	<u>20 GAL</u>	<u>40 GAL</u>
2) Instantaneous		
3) Semi-Instantaneous		
f. Heater Size and Storage Capacity		
g. Heating Capacity	<u>2 KW</u>	<u>4.5 KW</u>
h. Type Controls (Air, Steam, Electric)	<u>NHE</u>	<u>"</u>
i. When Installed & Condition	<u>WORKING</u>	<u>"</u>
j. Heater Temperature Setting		
k. Average Water Maintained Temperature		
l. Temperature Differential (j) - (k)		
m. Is Hot Water Supply Adequate:	<u>YES</u>	<u>"</u>
n. Insulation Thickness	<u>NONE</u>	
o. Insulation Material		Type <u>"</u>

LOCATION FAL
BLDG. NO. P-81

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

TIME CLOCK SET FOR 5PM - 11PM THURSDAY/FRIDAY
SATURDAY ONLY - AHC

3.6 SPECIAL EQUIPMENT

LOCATION FAL
BLDG. NO. P-81

IDENTIFICATION NO.	LOCATION (ROOM)	DESCRIPTION (MANUFACTURER, MODEL NO.)	CONNECTED LOAD KW	REMARKS
	M/ECH RM	HOT WATER UNIT HEATER	1/4 HP	
	M/ECH RM	PROPELLER WIND FAN	1/2 HP	

4.2.1 Interior Lighting

P-8/

BLDG.

LOCATION 577L

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)		
													C E I L L I N G	F L O O R	C E I L L I N G	F L O O R				
KITCHEN	S	F	2 / 34	4																
HALL	S	F	2 / 34	2																
OFFICE	R	F	1 / 100	8															ON DIMMER	
OFFICE	R	F	1 / 300	14															ON DIMMER	
JC	A	F	1 / 75	1	75															
JC	S	F	1 / 75	1	75															
JC	S	F	2 / 34	2																
LOBBY	R	F	1 / 300	6																
LOBBY	S	F	1 / 34	3																
WOMEN	S	F	1 / 34	4																
WOMEN	S	F	2 / 34	4																
TOTAL BUILDING LIGHTING ENERGY																				

LIGHTING LEGEND:

- Window Code: If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Tasks Code:
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms (ledgers only)
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION FAL
 BLDG. NO. P81

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>22</u>	<u>WCAP</u>		<u>300</u>		<u>M</u>	

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey _____
 Total installed _____

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey _____
 Total installed _____

4.4 SPECIAL ELECTRIC EQUIPMENT

IDENTIFICATION NO.	LOCATION (ROOM)	DESCRIPTION (MANUFACTURER, MODEL NO.)	CONNECTED LOAD KW	REMARKS
PREDICTOR	ROOM	75 DC UPS YEND 29 DC UNITS POWER SUPPLY		X2

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FtH SURVEYED BY BUH/RJB DATE 05 92

BUILDING NUMBER 101 FUNCTION/USE HACIENDA

INFORMATION SOURCE (DWG. NO./PERSON) DWG / SURVEY

GENERAL BUILDING DATA

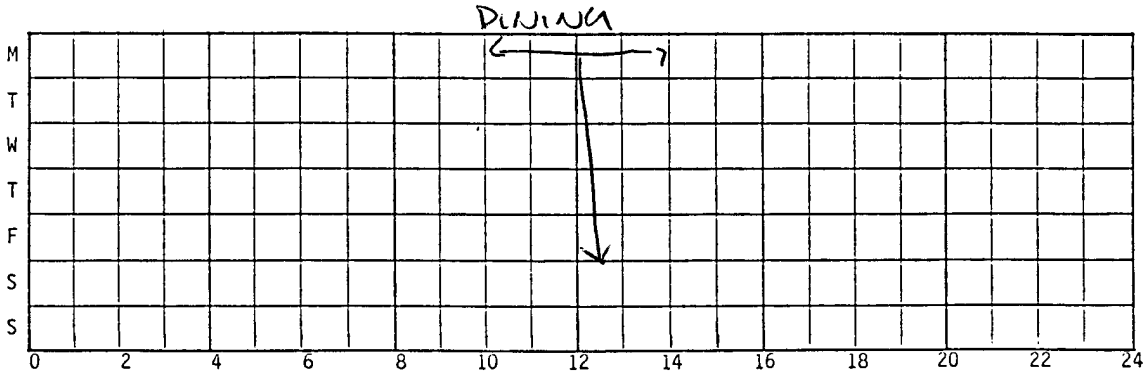
BUILDING AGE: OLD YEARS

DUPLICATE BUILDING NOS: _____
TOTAL: _____

SIMILAR BUILDING NOS: _____
TOTAL: _____

BUILDING OCCUPANCY: LIVING CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 40

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: KITCHEN & BAR AREA

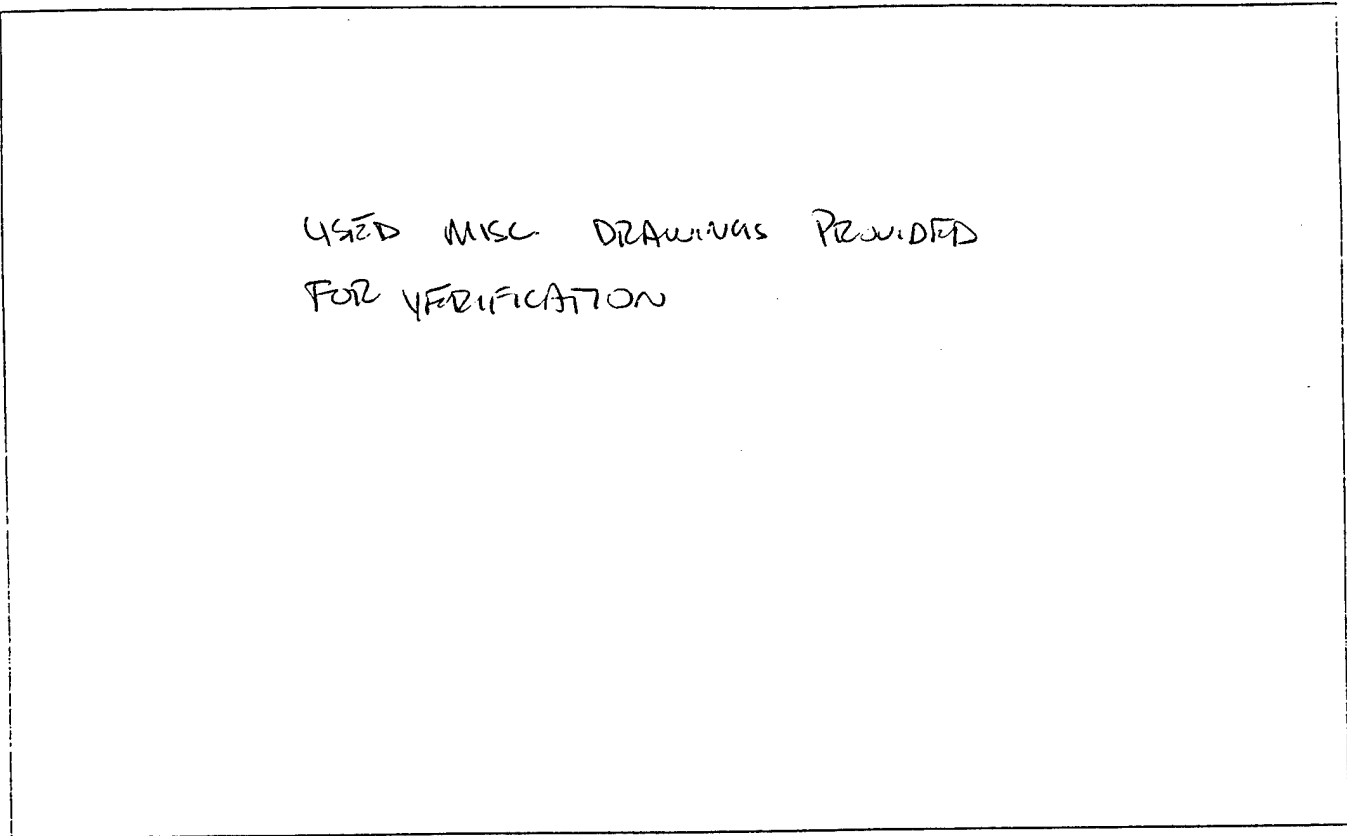
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED

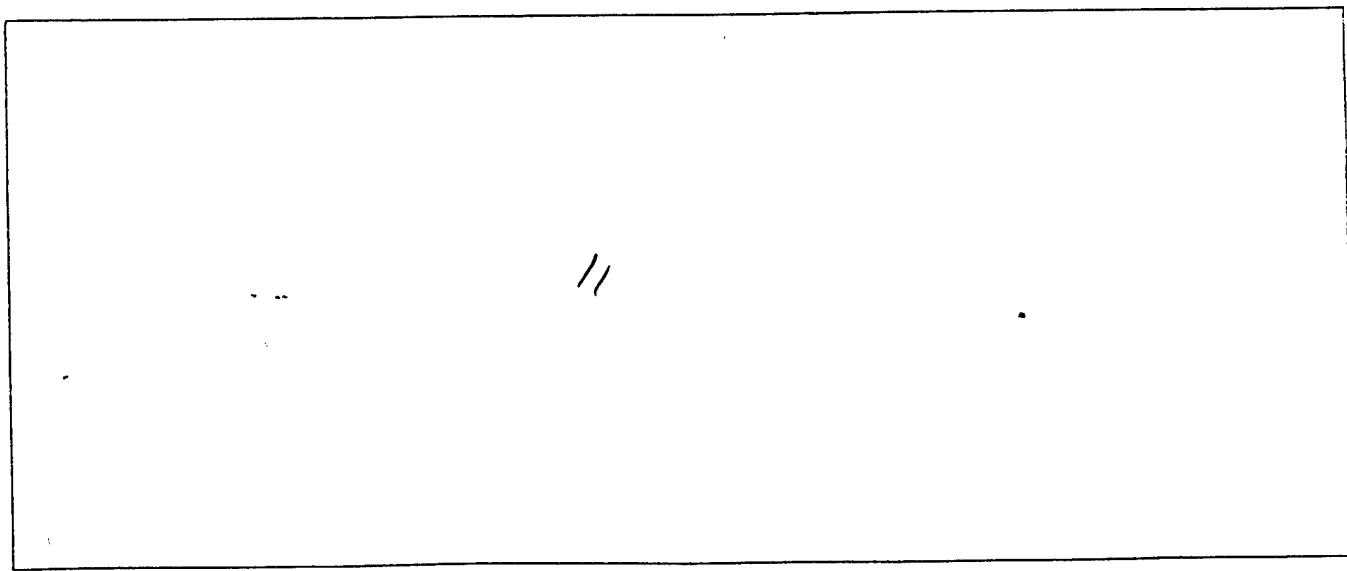
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION				REMARKS ***, ****
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		YES	NO	FIT LOOSE AUG	CRACK LENGTH	
A					2			2		7x8	X		W	Y		COZE	40		
B			6				2			5 1/2 x 4	1X		W	Y		COZE	22.5		
C							1			8 1/2 x 6	1X		W	Y		L	40		
D							1			8x7	1X		W	Y		L	28		
E		1								8 1/2 x 6	1X		W	Y		L	30		
F		1					3			8 1/2 x 6	1		W	Y		L	35		
G		2			4					5x5	1		W	Y		L	30		
H		2		1						8x7	1		W	Y		L	30		
I				1	2					11x7	1		W	X		L	47		
J				4	12					4x4	1		W	Y		L	16		
K				4			4			9x2	1		W	X		L	12		

TOTAL AREA U-VALUE

- LEGEND:
- *GLAZING: 1 - ORDINARY, 2 - 1/4" PLATE, 3 - HEAT ABSORBING, 4 - TINTED
 - **FRAME: W - WOOD, M - METAL, T - METAL/THERMAL BREAK
 - ***SHADING: A - SOLAR FILM, B - VEN BLIND, C - STORM WINDOW, D - DRAPES
 - ****VISIBILITY: E - AWNING, F - SOLAR SCREEN, G - OVERHANG, OTHER - SPECIFY
 - WINDOW TYPES: 1 - DOUBLE HUNG, 2 - SINGLE HUNG, 3 - SLIDING, 4 - CASEMENT, 5 - LOUVERED, 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION Fitz
 BLDG. NO. 121

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Heavy Acoustics	13"	3.6
INSIDE FILM		
TOTAL		3.6

U-FACTOR AREA 0.3

FLOOR NA

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.) TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Wood Slat		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR NA

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

3.1 HEATING EQUIPMENT

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other 30EA 3KW ELECTRIC RESIST. HEATERS (PLUMBING)

Capacity: 251 MBtu/Hr ^{IN} or _____ Boiler HP or _____ Lbs/Hr Steam or 203.6 GPH Hot Water

Manufacturer: AO SMITH Model No.: ST-25

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Other (Specify) PROPANE Induced

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
DEMAND D Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. 180 °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps 1 HW PUMP + 2 BLDG CIRC. PUMPS V/PH/FLA NA / NA / NA
Mfg. NA Model NA HP NA RPM NA
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): NA

3.2 COOLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 101

COMPRESSOR(S)/CHILLER

Manufacturer TRANE CHILLER
 Model No. CGAA-2006-MB
 Size _____
 Refrigerant R-22
 Motor HP (if available) _____
 Motor Voltage 200V/3φ
 Motor FLA 92
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled ✓
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP 2 e 1HP
 Fan Motor Voltage 200V/3φ
 Fan Motor FLA 6.0
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer 3 SMALL CIRC. PUMPS
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

FANS

Type	<u>CEIT</u>	<u>"</u>		
Unit/Zone	# <u>1</u>	# <u>2</u>	#	#
Manufacturer	<u>TRANE</u>	<u>"</u>		
Model No.	<u>CLCH</u>	<u>"</u>		
Type	<u>6</u>	<u>"</u>		
RPM of Fan				
Motor HP	<u>2</u>	<u>"</u>		
Motor Volts	<u>230</u>	<u>"</u>		
Motor FLA	<u>11.7</u>	<u>"</u>		
Measured Amps				
CFM (from Plans)				
Notes				

COILS

Indicate capacities where found:

COOLING		HUMIDIFICATION	
DX	<u> </u>	ELEC	<u>NA</u>
H ₂ O	<u>✓</u>	STEAM	<u>NA</u>
OTHER	<u> </u>	H ₂ O	<u>NA</u>
HEATING		OTHER	
GAS	<u> </u>		<u>NA</u>
H ₂ O	<u>✓</u>		<u>NA</u>
ELEC	<u> </u>		<u>NA</u>
OTHER	<u> </u>		<u>NA</u>
		AUX/MISC OTHER	
			<u>NA</u>
			<u>NA</u>
			<u>NA</u>

FILTERS

Type	<u>NA</u>	<u>NA</u>
Condition	<u>NA</u>	<u>NA</u>
Manometer Reading 1/	<u>NA</u>	<u>NA</u>

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION Fitz
BLDG. NO. 101

- a. Is System Supported from (check one):
 Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
1" - 75 FT

- d. Is Piping System Insulated and Condition: NO
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator NA 3) Is aquastat provided? NA
 2) Circulator capacity NA 4) Aquastat temperature setting NA

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location CLAN
- b. Areas Served ARCADIE
- c. Manufacturer and Model AO Smith BTC 240831
- d. Energy (Oil, Gas, Electric, Coal, Etc.) PROPANE
- e. Type Heaters & Quantities:
- 1) Storage 100 GAL
- 2) Instantaneous _____
- 3) Semi-Instantaneous _____
- f. Heater Size and Storage Capacity 25 MBH
- g. Heating Capacity 100 GAL / 203.6 GPH REWORK
- h. Type Controls (Air, Steam, Electric) ELECTRIC
- i. When Installed & Condition NLD
- j. Heater Temperature Setting —
- k. Average Water Maintained Temperature —
- l. Temperature Differential (j) - (k) —
- m. Is Hot Water Supply Adequate: YES
- n. Insulation Thickness NONE Type _____
- o. Insulation Material NONE

35 LBS OUTLET 3/4" φ NEEDS INSULATION

LOCATION FH2
 BLDG. NO. 101

3.6 SPECIAL EQUIPMENT

IDENTIFICATION NO.	LOCATION (ROOM)	DESCRIPTION (MANUFACTURER, MODEL NO.)	CONNECTED LOAD KW	REMARKS
Cooler	BAR	TRUUE MOD. GDM-46		
Hot water HR	BAR	AMERICAN GVE433LP		29 MBH input
Refriger	"	TRUUE MOD. T-23		
"	"	DELFIELD 4048-10		
Beer cooler	"	PERDUK CS123C2938 7uc		

4.2.1 Interior Lighting

Room 5 I/60 8480 = 1440
 Room 4 I/60 1'60 11 660

LOCATION FAL

BLDG. 101

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS			
													C E I L L I N G	F L O O R	C E I L L I N G	F L O O R					
RM-1-A S	S	I/60	2/120	3	960																
RM-1-B SURF	SURF	I/60	1/60	7	420																
RM-1-C S	S	F/60	2/120	5	600																
RM-1-D SURF	SURF	I/60	1/60	7	420																
RM-2 S	S	F/60	2/120	2	240						NA										
RM-3 S	S	F/60	1/60	9	540																
RM-3 S	S	I/60	1/60	2	120																
RM-3 S	S	I/60	1/60	20	1800																
DVR S	S	F/60	1/60	17	1055																
RM-3 S	S	F/60	2/70	1	70																
TAR S	S	I/60	6/60	4	1440																
TOTAL BUILDING LIGHTING ENERGY																					
S 5/60 12/800 1 800																					
I/60 1/60																					

LIGHTING LEGEND:

- Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: _____ NA

NA _____

4.3.2 RECEPTACLES IN USE 75 PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

- Water Cooler _____
- Vending Machine _____
- Space Heater X 1 2kw per room
- Coffee Pot X
- TV _____
- XEROX _____
- Other:

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FILE SURVEYED BY RJB/BIH DATE 01 92
 BUILDING NUMBER 116 FUNCTION/USE SERVICE STATION
 INFORMATION SOURCE (DWG. NO./PERSON) SURVEY

GENERAL BUILDING DATA

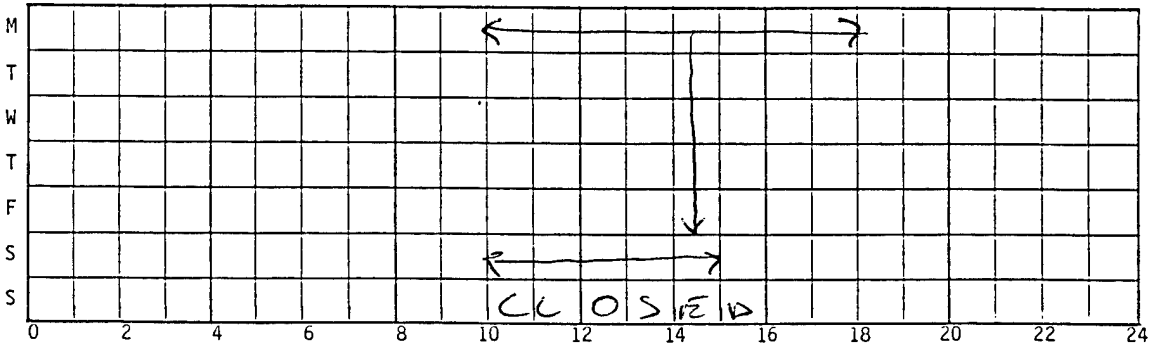
BUILDING AGE: 12 YEARS

DUPLICATE BUILDING NOS: _____
 TOTAL: _____

SIMILAR BUILDING NOS: _____
 TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 2

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: _____

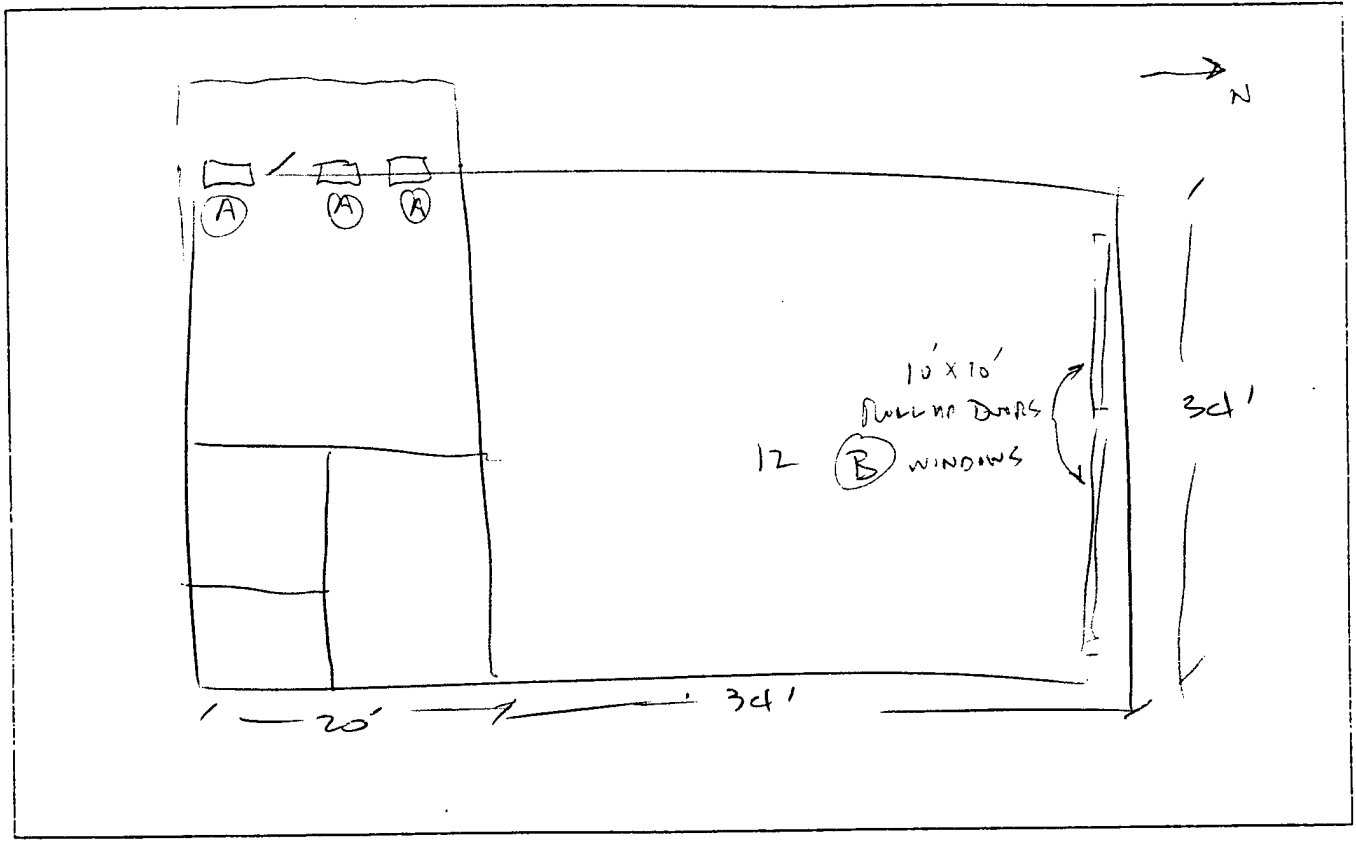
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED

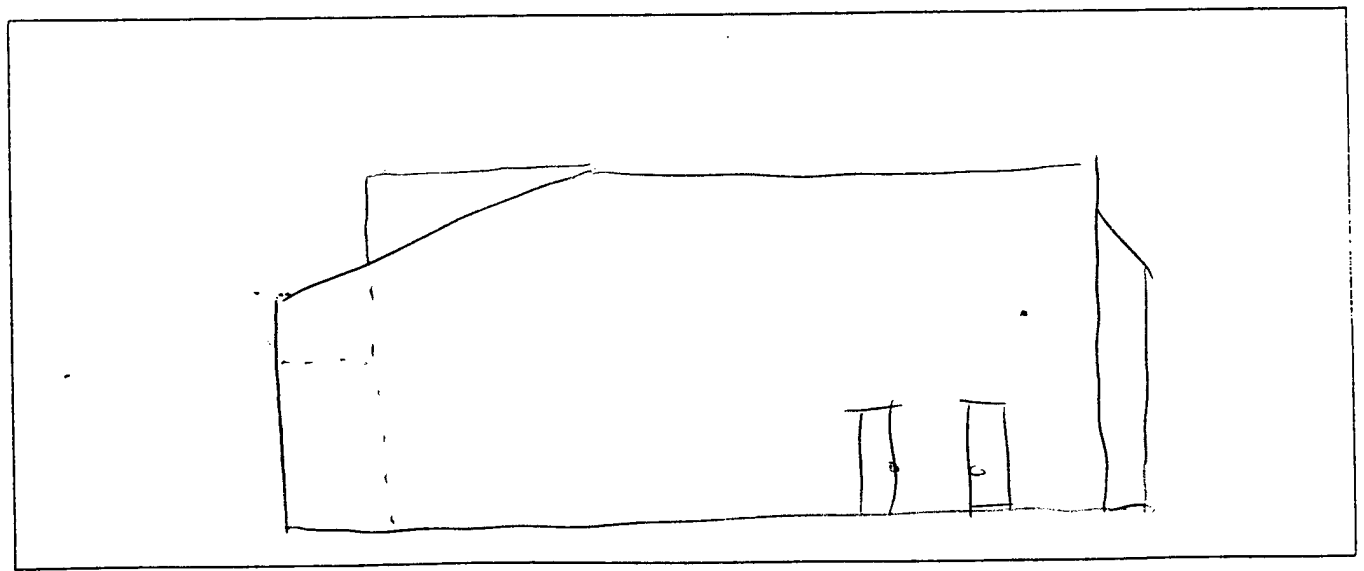
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



LOCATION FtH
 BLDG. NO. 116

2.4 BUILDING ENVELOPE

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Ctqul</i>		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>B.U. Roofing</i>		
<i>CONCRETE</i>		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

3.1 HEATING EQUIPMENT

LOCATION FHL
BLDG. NO. 116

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 32,000 Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: CARRIER Model No.: T060233

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) ELECTRIC

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer _____
Model No. _____
Size _____
Refrigerant _____
Motor HP (if available) _____
Motor Voltage _____
Motor FLA _____
Measured Amps _____

COOLING TOWER

Gravity _____
Mech. Draft _____
Manufacturer _____
Model No. _____
Type of Fan _____
Fan RPM _____
Fan Motor HP _____
Fan Motor Voltage _____
Fan Motor FLA _____
Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
Air Cooled _____
Evaporative _____
Manufacturer _____
Model No. _____
Size _____
Type of Fan _____
Fan Motor HP _____
Fan Motor Voltage _____
Fan Motor FLA _____
Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many
operative during normal operation: _____)

Manufacturer _____
Model No. _____
Capacity Gals. _____
Head, Ft. _____
Motor HP _____
Motor Voltage _____
Motor FLA _____
Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
Model No. _____
Capacity, Gals. _____
Head, Ft. _____
Motor HP _____
Motor Voltage _____
Motor FLA _____
Measured Amps _____

REMARKS:

HEAT PUMP
CARRIER MOD TO6033
FILTERS CLOGGED

3.3 AIR HANDLING EQUIPMENT

LOCATION F#L
BLDG. NO. 116

FANS

Type	<u>EXHAUST</u>	<u>BATH EXHAUST</u>		
Unit/Zone	<u># S10P</u>	<u>#</u>	<u>#</u>	<u>#</u>
Manufacturer				
Model No.	<u>CRF-135</u>	<u>CRF-82</u>		
Type				
RPM of Fan				
Motor HP	<u>1/8 HP</u>	<u>1/25 HP</u>		
Motor Volts	<u>230V/1φ</u>	<u>115V</u>		
Motor FLA	<u>1.6</u>	<u>1.9</u>		
Measured Amps				
CFM (from Plans)				
Notes				

COILS

Indicate capacities where found:

COOLING

DX _____
H₂O _____
OTHER _____

HEATING

GAS _____
H₂O _____
ELEC _____
OTHER _____

HUMIDIFICATION

ELEC _____
STEAM _____
H₂O _____
OTHER _____

AUX/MISC OTHER

FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one):
 Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 120 °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
1" 15 FT

- d. Is Piping System Insulated and Condition: Yes
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator - 3) Is aquastat provided? -
 2) Circulator capacity - 4) Aquastat temperature setting -

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|-----------------|------------|-------|
| a. Location | <u>Garage</u> | _____ | _____ |
| b. Areas Served | <u>AZ</u> | _____ | _____ |
| c. Manufacturer and Model | <u>AD SMITH</u> | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>-</u> | _____ | _____ |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | <u>-</u> | _____ | _____ |
| 2) Instantaneous | <u>-</u> | _____ | _____ |
| 3) Semi-Instantaneous | <u>-</u> | _____ | _____ |
| f. Heater Size and Storage Capacity | <u>20 gal</u> | _____ | _____ |
| g. Heating Capacity | <u>15 MBH</u> | _____ | _____ |
| h. Type Controls (Air, Steam, Electric) | <u>-</u> | _____ | _____ |
| i. When Installed & Condition | <u>-</u> | _____ | _____ |
| j. Heater Temperature Setting | <u>-</u> | _____ | _____ |
| k. Average Water Maintained Temperature | <u>-</u> | _____ | _____ |
| l. Temperature Differential (j) - (k) | <u>-</u> | _____ | _____ |
| m. Is Hot Water Supply Adequate: | <u>-</u> | _____ | _____ |
| n. Insulation Thickness | <u>-</u> | _____ | _____ |
| o. Insulation Material | <u>-</u> | Type _____ | _____ |

LOCATION F112
BLDG. NO. 116

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

HEAT/COOLING T-STAT
24-HR TIME CLOCK ON 0600
OFF 1900

4.2.1 Interior Lighting

LIGHTING

LOCATION

FIR

BLDG.

116

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	W A L L	C E I L I N G	W A L L			
8	S	F/95	2	2	280														
6	S	F/95	4	4	560														
10	R	F/95	4	4	560														
11	S	F/96	2	2	1536														
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION FHL
 BLDG. NO. 116

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

<u>ACTUAL NO. OF FIXTURES</u>	<u>TYPE OF FIXTURE</u>	<u>NO. OF FIXTURES IN USE</u>	<u>WATTS/ FIXTURE</u>	<u>TOTAL WATTS</u>	<u>CONTROL TYPE*</u>	<u>REMARKS</u>
<u>1</u>	<u>Lps</u>	<u>1</u>	<u>75</u>	<u>75</u>	<u>M</u>	

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey N/A

Total installed N/A

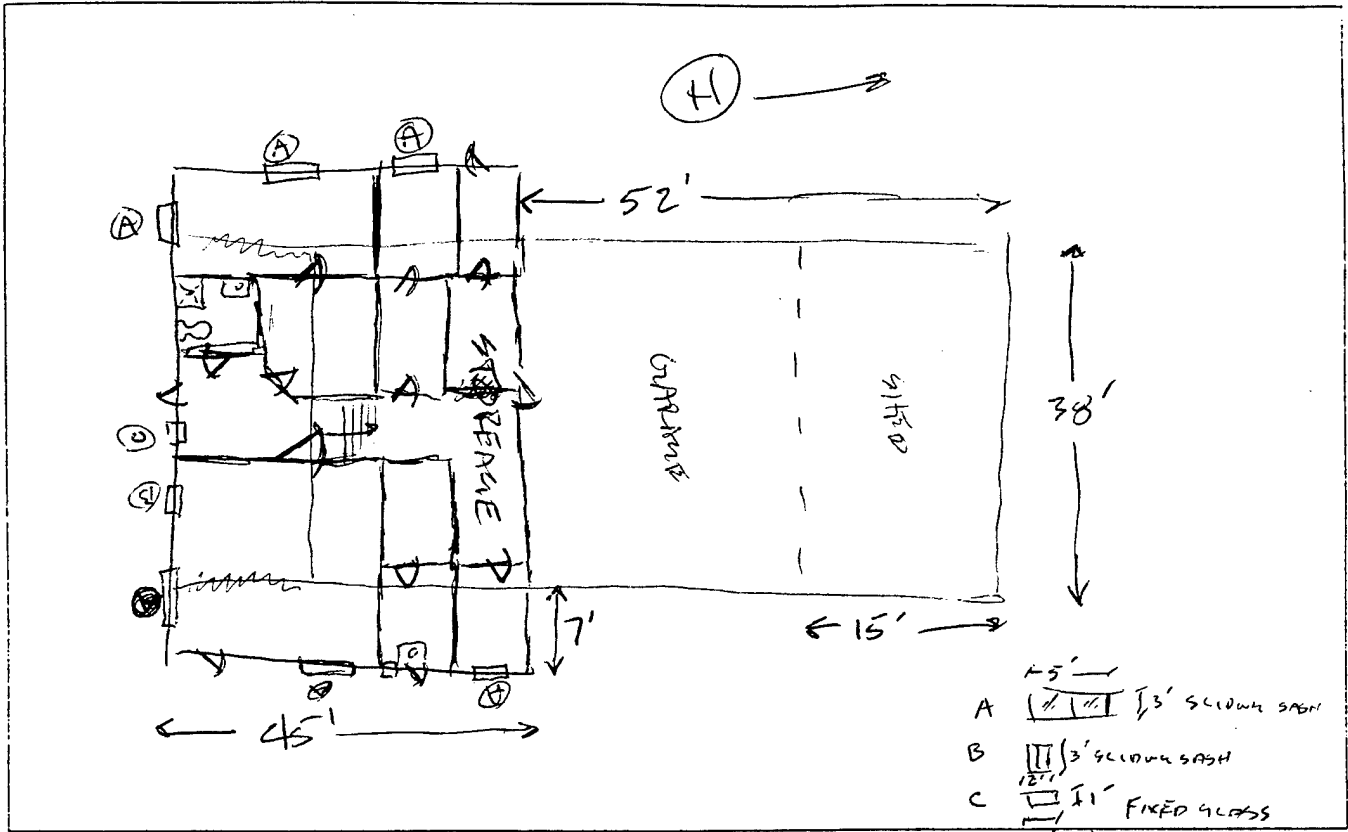
WATTS OF EXTERIOR LIGHTING

Actual on at time of survey N/A

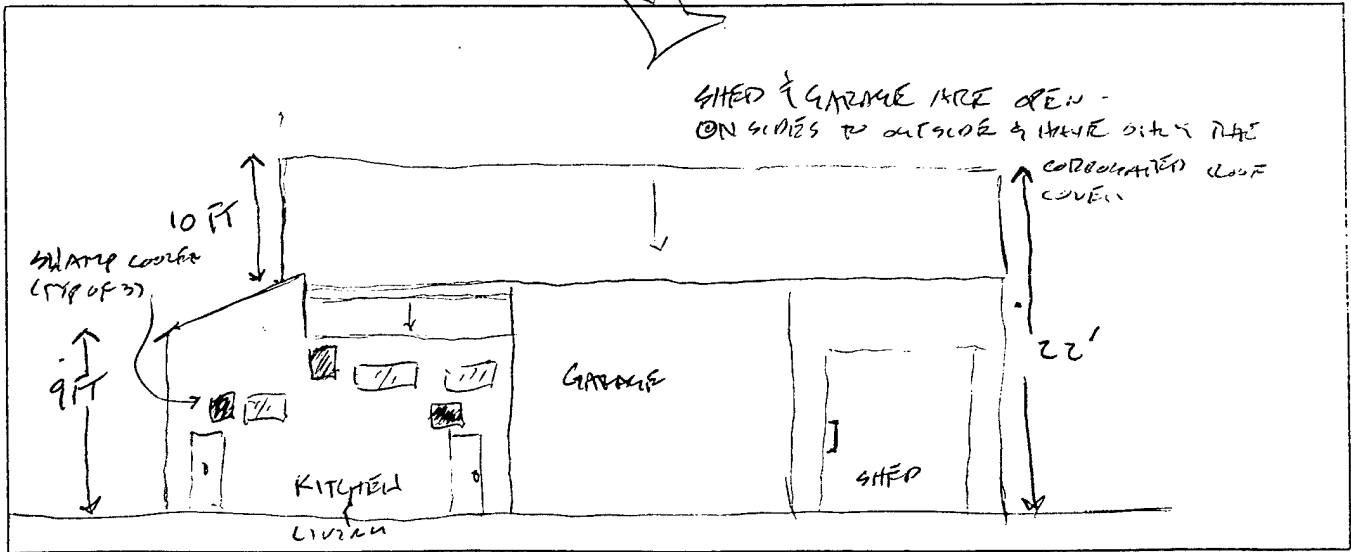
Total installed N/A

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

2.4 BUILDING ENVELOPE

LOCATION FHL
 BLDG. NO. 119

CONSTRUCTION

WALL KITCHEN COLOR: D M L

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
WOOD SIDING	1/4"	
PLYWOOD	1/4"	
WOOD GRAID	2"	
GYP BOARD	5/8"	
INSIDE FILM		
Insulation		TOTAL

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
CORRUGATED METAL OFFRAME		
PLYWOOD	1/4"	
WOOD FRAME		
AIR SPACE	4 FT	
GYP BOARD	5/8"	
INSIDE FILM		
Insulation		TOTAL

U-FACTOR AREA

U-FACTOR AREA

FLOOR

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
		TOTAL

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
		TOTAL

U-FACTOR AREA

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

SECTION 3

MECHANICAL SYSTEMS DATA

5 SWAMP COOLERS

1 ELECTRIC RESISTANCE SPACE HEATER

} NONE
IN
USE

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FH
BLDG. NO. 119

- a. Is System Supported from (check one):
 Central Plant
 One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: NA °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
30 FT
- d. Is Piping System Insulated and Condition: NO
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator NA 3) Is aquastat provided? NA
 2) Circulator capacity NA 4) Aquastat temperature setting NA

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|--------------------------|------|--|
| a. Location | <u>ATTIC</u> | | |
| b. Areas Served | | | |
| c. Manufacturer and Model | <u>AMERICAN ESG 41LP</u> | | |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>PROPANE</u> | | |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | <u>-</u> | | |
| 2) Instantaneous | <u>-</u> | | |
| 3) Semi-Instantaneous | <u>-</u> | | |
| f. Heater Size and Storage Capacity | <u>40 GAL</u> | | |
| g. Heating Capacity | <u>29 MBH</u> | | |
| h. Type Controls (Air, Steam, Electric) | <u>-</u> | | |
| i. When Installed & Condition | <u>-</u> | | |
| j. Heater Temperature Setting | <u>-</u> | | |
| k. Average Water Maintained Temperature | <u>-</u> | | |
| l. Temperature Differential (j) - (k) | <u>-</u> | | |
| m. Is Hot Water Supply Adequate: | <u>-</u> | | |
| n. Insulation Thickness | <u>-</u> | Type | |
| o. Insulation Material | <u>-</u> | | |

NO INSULATION ON ANY PIPING
OR WATER HEATER ITSELF
(NOT IN USE)

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION Fit SURVEYED BY RUB/BIH DATE 05 92

BUILDING NUMBER 120 FUNCTION/USE Fire House

INFORMATION SOURCE (DWG. NO./PERSON) SURVEY

GENERAL BUILDING DATA

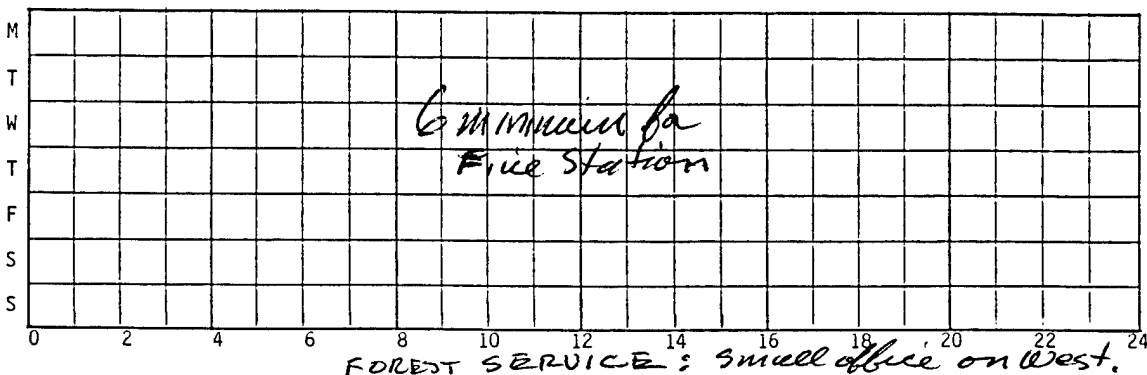
BUILDING AGE: NFD YEARS

DUPLICATE BUILDING NOS: _____
TOTAL: _____

SIMILAR BUILDING NOS: _____
TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 6

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: _____

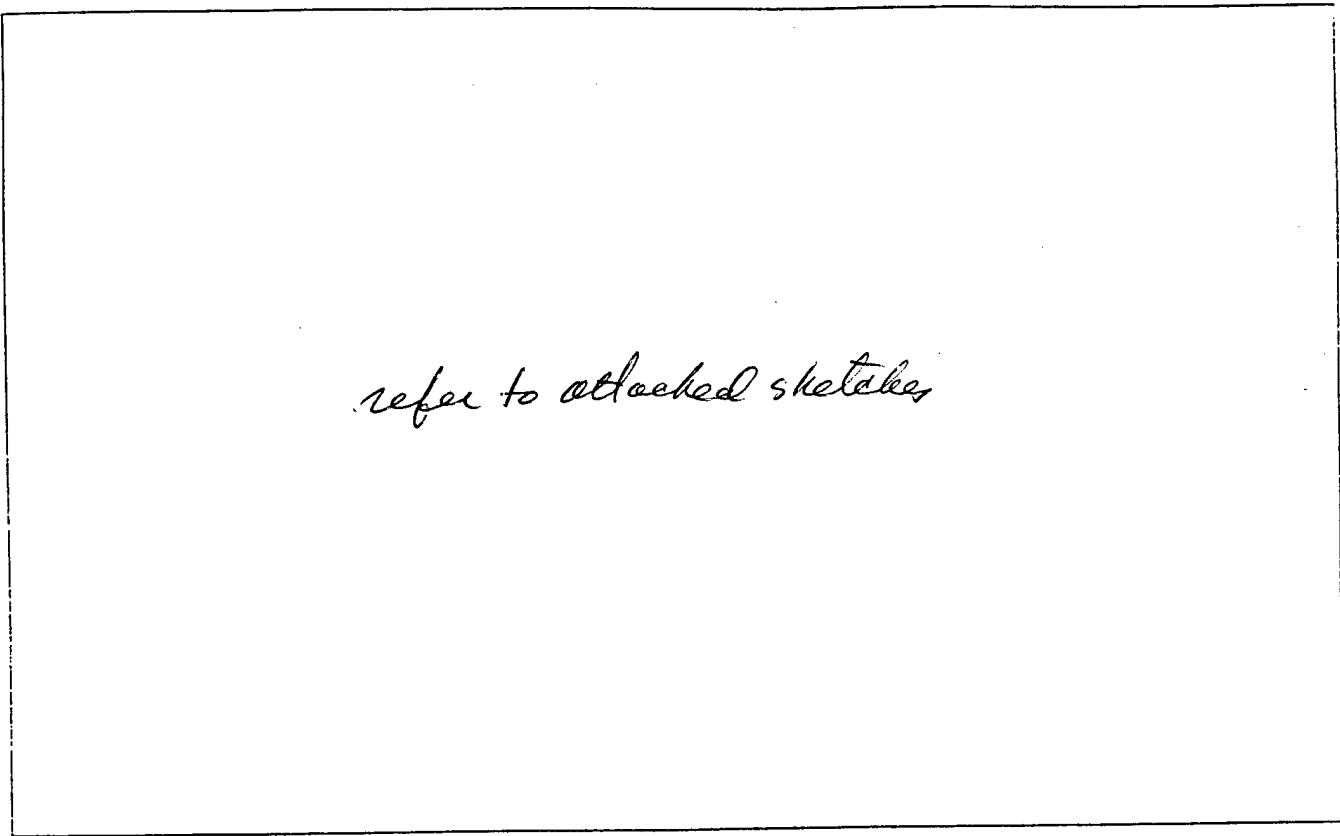
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED

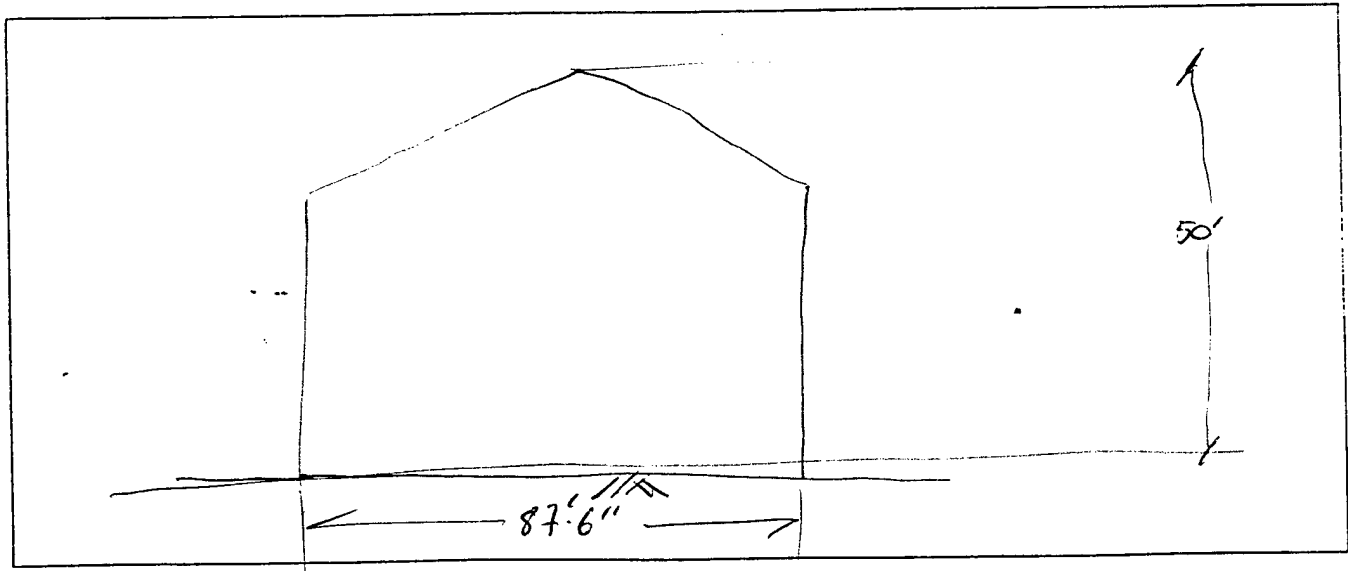
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)

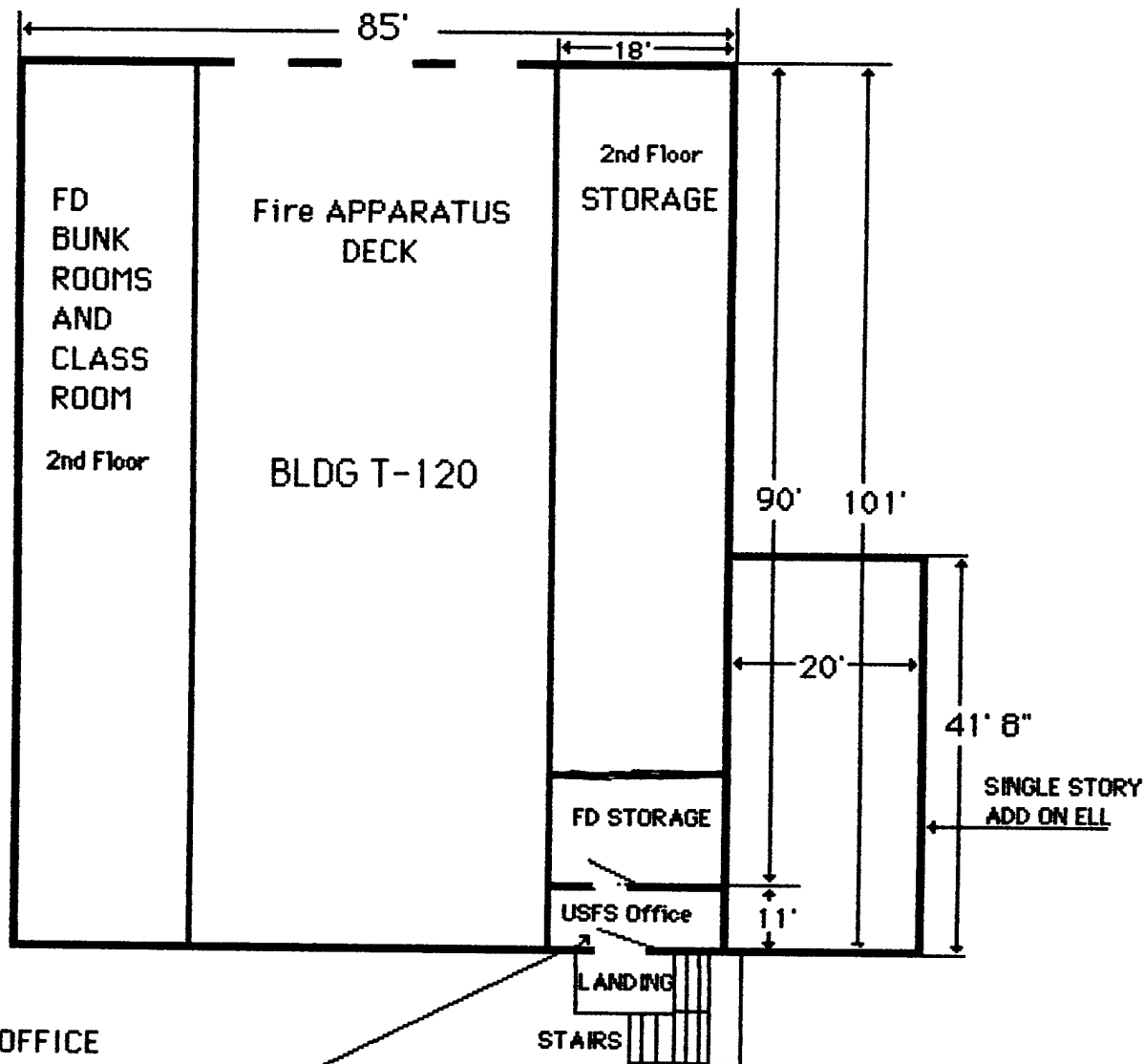


SOUTH ELEVATION (Show floor to ceiling elevations)



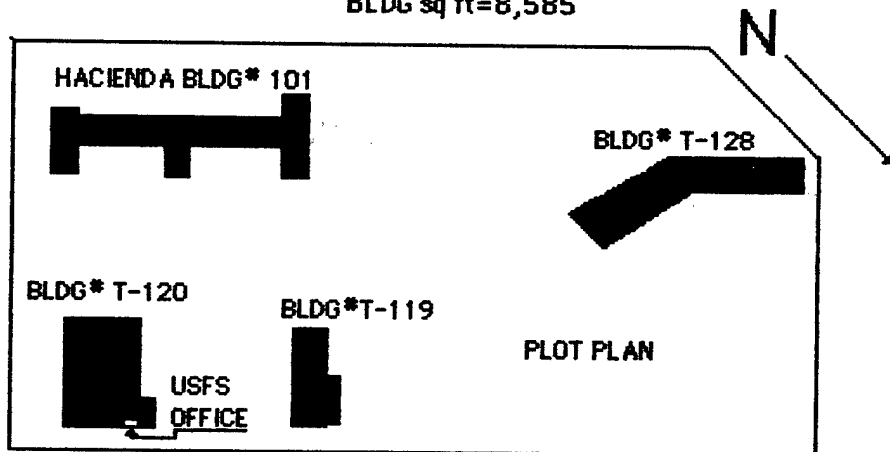
FHL FIRE DEPT. BLDG T-120

23 AUG '88

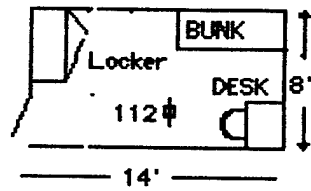


USFS OFFICE
11 ft. X 18 ft
198 Sq ft.

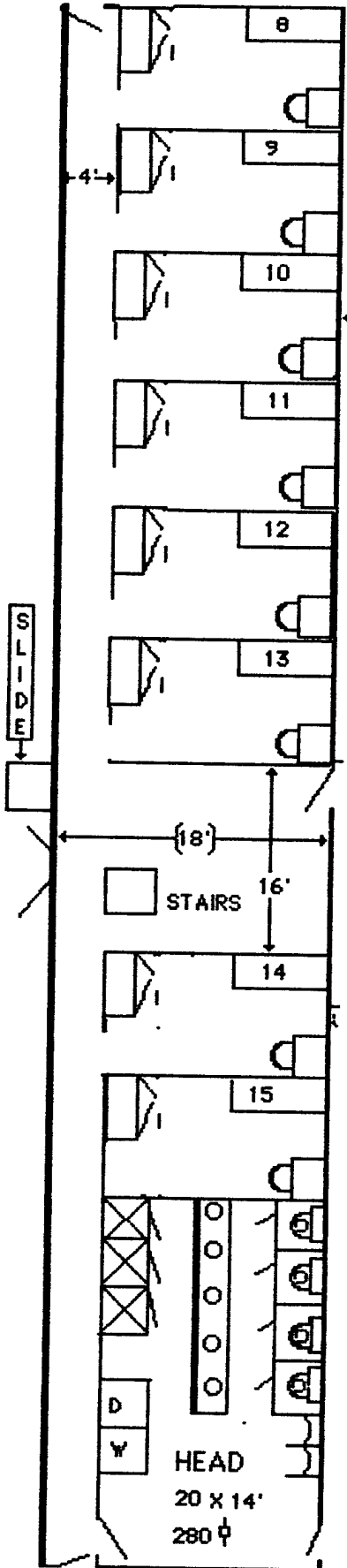
BLDG sq ft=8,585



CREWS UPSTAIRS BUNK ROOMS

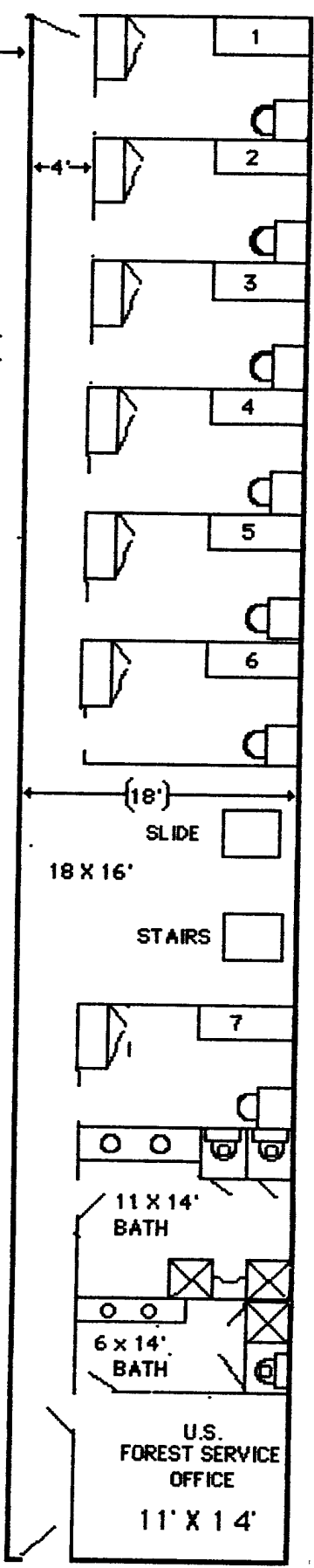


CREWS MAIN DECK BUNK ROOMS



100'

120



26 JULY 1990 MEETING

DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION			REMARKS ****	
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S YES	NO	FIT LOOSE		AUG
A Windows	4-3			5						45x30	M			M	✓		None		
B Windows	4-6			1						95x75	M			M	✓	Good			2x23x18" Casejoints inside
C Doors	4	6		3	2					36x79	W			W	✓	✓			
D GLASS Door?	4			1						36x83	M			M	✓	Loose			
E Windows	4-3			7						66x28	M			M	✓	None			
G Roll-up Door	Roll up				3					12'6" 11'-6"	M			M	✓	Loose			Garage
H Window	1			2						46x94	W			W	✓	Loose			
I Window	6									64x80	W			W	✓	Loose			
J -11-	4-3	1								72x85				W	✓	None			
K Dbl Door	4				1					36x7'	W			N	✓				
L Door	4	1								60x84				W	✓				

TOTAL AREA U-VALUE

- LEGEND:
- *GLAZING: 1 - ORDINARY, 2 - 1" PLATE, 3 - HEAT ABSORBING, 4 - TINTED
 - **FRAME: W - WOOD, M - METAL, T - METAL/THERMAL BREAK
 - ***SHADING: A - SOLAR FILM, B - VEN BLIND, C - STORM WINDOW, D - DRAPES
 - ****VISIBILITY: E - AWNING, F - SOLAR SCREEN, G - OVERHANG, OTHER - SPECIFY
 - *****WINDOW TYPES: 1 - DOUBLE HUNG, 2 - SINGLE HUNG, 3 - SLIDING, 4 - CASEMENT, 5 - LOUVERED, 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION File
 BLDG. NO. 120

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Metal wall		
1" rigid ins.		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

ROOF (INCL. CLG.) TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Metal roof		
2" rigid ins.		
Acoustical tile		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
/		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
/		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

Heat Source: Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other 2x165MBH DWRPRT UNIT HEATERS

Capacity: 165 MBtu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: LENOOX Model No.: G1205-165

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: NA °F Operating Pressure: NA PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Other (Specify) PROPANE Induced

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
MANUAL Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. NA Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION F112
 BLDG. NO. 120

PAD MTD COOLING/HTG UNIT - 2 EA

COMPRESSOR(S)/CHILLER

Manufacturer CARRIER
 Model No. 580AP048100
 Size _____
 Refrigerant R-22
 Motor HP (if available) _____
 Motor Voltage 208V/3p
 Motor FLA 15.4
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan NA
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled COND EVAP
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP 1/3 3/4
 Fan Motor Voltage 208V/1p 208V/1p
 Fan Motor FLA 2.2 4.5
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. NA
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. NA
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: PROPANE HEATING SECTION 100MBH INPUT
80MBH OUTPUT
FILTERS O.K.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one):
 Central Plant
 One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
1" 70 FT
- d. Is Piping System Insulated and Condition: MINIMAL
- e. Is Hot Water Circulated? YES
- 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity 1/4 HP 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	<u>STED</u>		
b. Areas Served	<u>LIVING</u>		
c. Manufacturer and Model	<u>AMERICAN MFG</u>	<u>DS1D 270-100-1</u>	
d. Energy (Oil, Gas, Electric, Coal, Etc.)	<u>PROPANE</u>		
e. Type Heaters & Quantities:			
1) Storage			
2) Instantaneous			
3) Semi-Instantaneous			
f. Heater Size and Storage Capacity	<u>100 GAL</u>		
g. Heating Capacity	<u>240 MBT</u>		
h. Type Controls (Air, Steam, Electric)	<u>ELECTRIC</u>		
i. When Installed & Condition	<u>NRD</u>		
j. Heater Temperature Setting	<u>-</u>		
k. Average Water Maintained Temperature	<u>-</u>		
l. Temperature Differential (j) - (k)	<u>-</u>		
m. Is Hot Water Supply Adequate:	<u>-</u>		
n. Insulation Thickness	<u>-</u>	Type	
o. Insulation Material	<u>-</u>		

exit lights - egg off type

LOCATION FHL BLDG. R2D

EAST SIDE - FIRST FLOOR

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)
													C	E	L	C	E	L		
Z	S	F 34	2 / 100	8															S	1 switch
I	S	F 34	2 / 100	8								8'-0"							NA	on 24hr/day
A	S	F 34	2 / 100	4							50								S	
B	S	F 34	2 / 100	4															NA	
B	S	I 75	1 / 75	1															NA	Installed with Fan
C	S	F 34	2 / 100	4															NA	1 sw
D	S	F 34	2 / 100	4																1 sw
E	S	F 34	2 / 100	8							50		10'-0"							3 sw
TOTAL BUILDING LIGHTING ENERGY																				

LIGHTING LEGEND:

Fixture Types:
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe

Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe

Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS

Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

4.2.1 Interior Lighting

120

BLDG.

LOCATION

WEST SIDE - FIRST FLOOR

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ.-FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	F L L O O R	C E I L I N G	F L L O O R			
Wright Room	S	F40T12 HO	2	2															
12																			no lights yet.
13																			14 shielded
8A	S	F34	2/100	2															
	S	F60	1/60	2															
Washroom	S	F40	1/40	1															
Washroom	S	F40	2/100	2															1 long point
Laundry	S	F40T12 HO	2	1															
Bedroom A	S	F40	2/100	3															
Pr C	S	F60	1/60	1															
Bedroom B	R	F40	4/200	14							40								1/2 sig + 1/2 out
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

4.2.1 Interior Lighting

LOCATION 157K BLDG. 120

EAST SIDE - 2ND FLOOR

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)		
													C E I L I N G	W A L L	F L O O R	C E I L I N G	W A L L	F L O O R				
Classroom	S	F 34	2	12							60	8'-0"								3 sw		
	TRACK	I 40	1	4																1 sw		
12A	S	F 34	2	2							70									0 sep sw for both		
8	R	Heat 250	1	2																sep sw.		
	S	I 75	1	2																sw w/ form		
	S	F 34	2	2																		
12B	S	I 200	1	1							90											
9A	S	F 34	2	2																		
9B	S	F 34	2	6																		
9C	S	F 34	2	2																		
1	S	F 34	2	6																		
TOTAL BUILDING LIGHTING ENERGY																						

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BH DATE 6 OCT 92

BUILDING NUMBER P-121 FUNCTION/USE BOWLING CENTER

INFORMATION SOURCE (DWG. NO./PERSON) _____

GENERAL BUILDING DATA

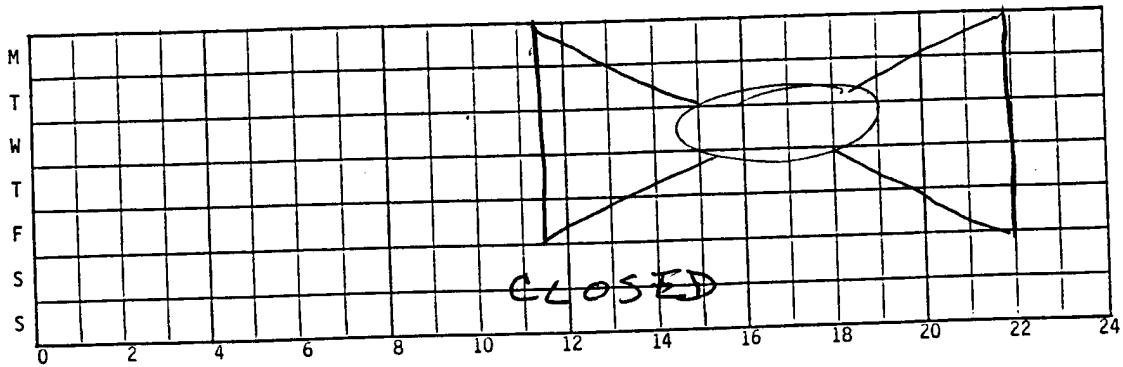
BUILDING AGE: _____ YEARS New

DUPLICATE BUILDING NOS: _____ TOTAL: _____

SIMILAR BUILDING NOS: _____ TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS _____

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: _____

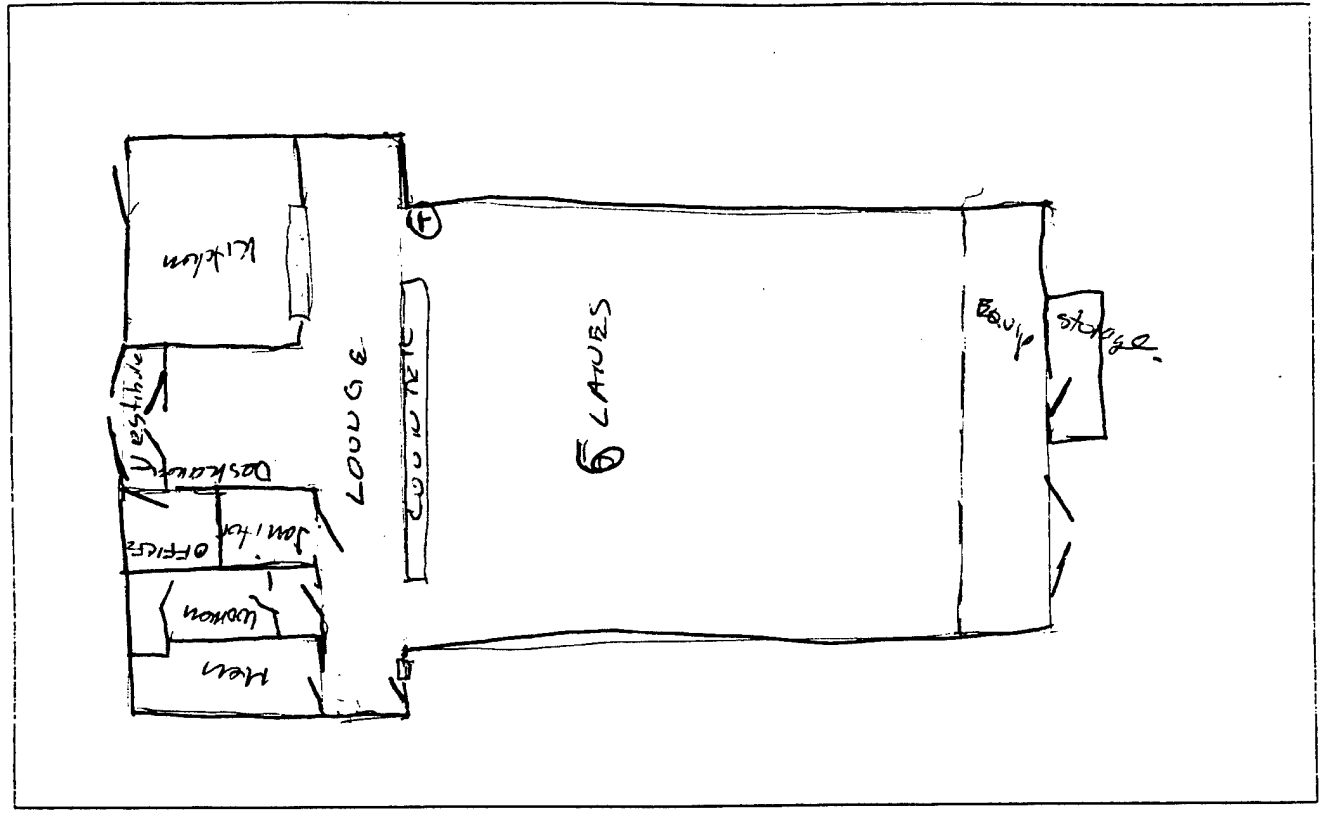
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED

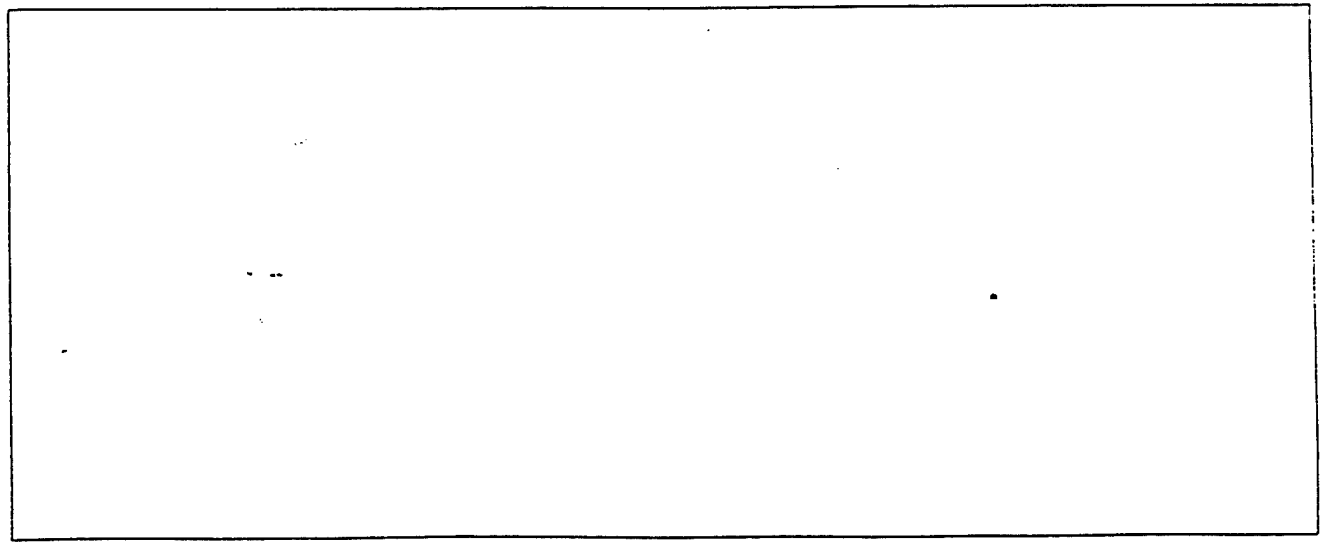
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



*Refer to Bldg
Plans*

LOCATION F14L
BLDG. NO. 121

2.4 BUILDING ENVELOPE

CONSTRUCTION

WALL COLOR: D M L

TYPE: F P
COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
STUCCO	5/8"	
METAL STUDS	—	
PE Insul	6"	
Dupe Board	1/2	
INSIDE FILM		

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

not in equip area behind pin settings
U-FACTOR AREA

leaking, poor roof
U-FACTOR AREA

FLOOR SOG-LINO

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL
U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL
U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.14

3.2

COOLING EQUIPMENT & HEATING

LOCATION FHL
BLDG. NO. 121

COMPRESSOR(S)/CHILLER PACKAGED AHU
 Manufacturer CARRIER
 Model No. 48DD024
 Size _____
 Refrigerant R-22
 Motor HP (if available) _____
 Motor Voltage 200V/3φ
 Motor FLA 80
 Measured Amps 74/68/82 TOTAL UNIT
COMPRESSOR ON

COOLING TOWER
 Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT
 Water Cooled CONDENSER EVAP/SUPPLY
 Air Cooled ✓ FAN
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP 2 e. 7HP 5HP
 Fan Motor Voltage 200V/1φ 200V/3φ
 Fan Motor FLA 7.6 16.2
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many
 operative during normal operation: _____)
 Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: PROPANE HEATING - 480 MBH INPUT
360 MBH OUTPUT

3.3 AIR HANDLING EQUIPMENT

LOCATION F12
BLDG. NO. 121

FANS

Type 5 each

Unit/Zone Roof Exhauster

Manufacturer _____

Model No. _____

Type _____

RPM of Fan _____

Motor HP 1/3 HP each x 6

Motor Volts (3 above pin settings; 2 above voltage; one per kitchen)

Motor FLA _____

Measured Amps _____

CFM (from Plans) _____

Notes _____

COILS

Refer to attached notes

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX _____	ELEC _____
H ₂ O _____	STEAM _____
OTHER _____	H ₂ O _____
	OTHER _____
HEATING	
GAS _____	AUX/MISC OTHER _____
H ₂ O _____	_____
ELEC _____	_____
OTHER _____	_____

FILTERS

Type _____

Condition _____

Manometer Reading 1/ _____

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 121 °F 142 °
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
1" 60 ft
- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? no
- 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	<u>STORAGE ROOM / SITOP</u>	<u>Kitchen Storage Rooms</u>
b. Areas Served	<u>SINK in Storage Room</u>	
c. Manufacturer and Model	<u>A/O Smith</u>	<u>A/O Smith WGA 50801</u>
d. Energy (Oil, Gas, Electric, Coal, Etc.)	<u>ELEC GEN 6 790</u>	<u>Propane</u>
e. Type Heaters & Quantities:		
1) Storage	<u>6 gal</u>	<u>31 gal 37,000 BTU/H</u>
2) Instantaneous		
3) Semi-Instantaneous		
f. Heater Size and Storage Capacity	<u>6 gal</u>	
g. Heating Capacity	<u>1250W</u>	
h. Type Controls (Air, Steam, Electric)		
i. When Installed & Condition		
j. Heater Temperature Setting		
k. Average Water Maintained Temperature		<u>121 °F</u>
l. Temperature Differential (j) - (k)	<u>142 °F</u>	
m. Is Hot Water Supply Adequate:		
n. Insulation Thickness		
o. Insulation Material		

never use this heater

lav in kit. storage area needs new faucet w/ aerators

LOCATION FHL
BLDG. #10. 121

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG HONEYWELL MODEL T874A1150 LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

*Temp 68° F Honeywell
inside
T874A1150
Separate Heating & Cooling
setpoints, not programmable*

*Time Clock set on = 0500 to 1900 for air cond.
7 day timer - no day-plus.*

*24 Hr time clock - outside lights
Irr. lights outside = 8 pm on to 0530*

LOCATION FHC BLDG. 121

Back of Kitchen Storage Room Zoa x 2 FACWOOD FIXTS R type

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
	STORAGE S	F 40	2 / 100	3							50	9'-11"				
	PIN SETTERS P	F 40	2 / 100	8							20	10+				
	Alloys S	F 40	2 / 100	2	2 each x 4-bay S						✓					Delayed to 1/1/84
	ROAD S	F 40	2 / 100	2	2 each						✓					discuss, 1 bal. every - other fixtr.
	ROLLING AREA R	F 40	4 / 200	4							18					
	LOBBY R	F 40	4 / 200	14							20/90					Delayed to 2
	KITCHEN R	F 40	4 / 200	2							25					Delayed to 2
	HALL S	F 40	1 / 100	1							-					
	WASHROOM S	F 40	1 / 100	1							-					
	Janitor S	F 75	1 / 75	1							-					
	Kitchen R	F 40	2 / 100	2							-					
TOTAL BUILDING LIGHTING ENERGY																

Must know also have 1 unit light fixture, box x surface Exit lights each 2x15w inc. lights

- Legend:**
- 1 = Corridors
 - 2 = Kitchens
 - 3 = Dining
 - 4 = Offices-general
 - 5 = Offices-bookkeeping (ledgers only)
 - 6 = Offices-drafting
 - 7 = Laundry
 - 8 = Toilets
 - 9 = Sleeping quarters
 - 10 = Supply rooms
 - 11 = Repair shops
 - 12 = Storage room
 - 13 = Retail store (PX, commissary)
 - Other (describe on audit form)
 - E = Exterior
- Tasks Code:**
- 1 = Corridors
 - 2 = Kitchens
 - 3 = Dining
 - 4 = Offices-general
 - 5 = Offices-bookkeeping (ledgers only)
 - 6 = Offices-drafting
 - 7 = Laundry
 - 8 = Toilets
 - 9 = Sleeping quarters
 - 10 = Supply rooms
 - 11 = Repair shops
 - 12 = Storage room
 - 13 = Retail store (PX, commissary)
 - Other (describe on audit form)
 - E = Exterior
- Window Code:**
- If there are windows, indicate:
 - Curtains = C
 - Shades = S
 - No Shading = NS
- Lamp Types:**
- Incandescent = I
 - Fluorescent = F
 - Sodium Vapor = SV
 - Mercury Vapor = MV
 - Metal Halide = MH
 - Other--Describe
- Fixture Types:**
- Recessed = R
 - Suspended = S
 - Ventilated = V
 - Pole Mounted = PM
 - Other--Describe

LOCATION Fit
 BLDG. NO. 121

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
1 2	Recessed Inc. 60w	2				
711 4	Pole 100w Inc	4				

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING
 Actual at time of survey _____
 Total installed _____

WATTS OF EXTERIOR LIGHTING
 Actual on at time of survey _____
 Total installed _____

NA

4.4 SPECIAL ELECTRIC EQUIPMENT

IDENTIFICATION NO.	LOCATION (ROOM)	DESCRIPTION (MANUFACTURER, MODEL NO.)	CONNECTED LOAD KW	REMARKS	
	Pin Set	Pin Setters			
	Kitchen	Flea Griddle 10a			
		Deep Fat Fryer Zen			
		Bun warmer			
		Reach-in Cold Box			
		Cold storage ^{CHILL Table}			
		Reach-In Refr R-12	115V 1 @	1/2 HP comp.	
			comp	115V 1000/10	PLA LRA
			Cond fan	-	7.9 57.0
			Evap fan	-	0.4 -
			Lights	40	1.1 -
		Condensate Htrs	-	0.9 -	
		Defrost load	600	- -	
		Convection Oven			
	Lounge	Video Games Zen.			
		Water Cooler			
		PC			
		TV			
		Pin Washer			
		Bull Washer			
	Office	Computers 3a			
		Pin Setters 6a			

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FAL SURVEYED BY RIH-RJB DATE OCT '92
BUILDING NUMBER T-124 FUNCTION/USE FAMILY HOUSING
INFORMATION SOURCE (DWG. NO./PERSON) INSPECTION

GENERAL BUILDING DATA

BUILDING AGE: _____ YEARS - OLDER

DUPLICATE BUILDING NOS: _____
TOTAL: _____

SIMILAR BUILDING NOS: _____
TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS _____

Indicate (number and) duration of occupants each day

M																						
T																						
W																						
T																						
F																						
S																						
S																						
	0	2	4	6	8	10	12	14	16	18	20	22	24									

MISCELLANEOUS EQUIPMENT: _____

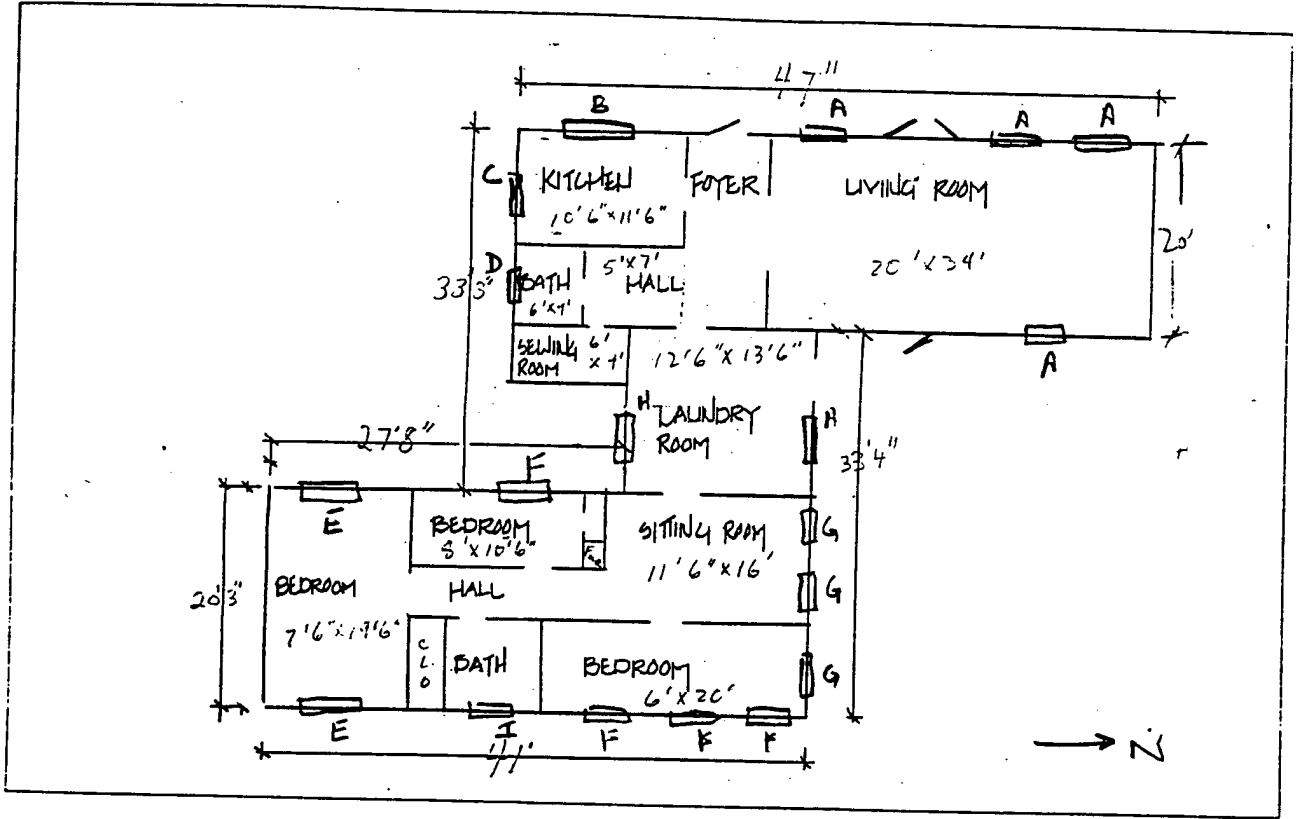
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED NO SKIRTING
ATTIC: VENTILATED EXHAUSTED

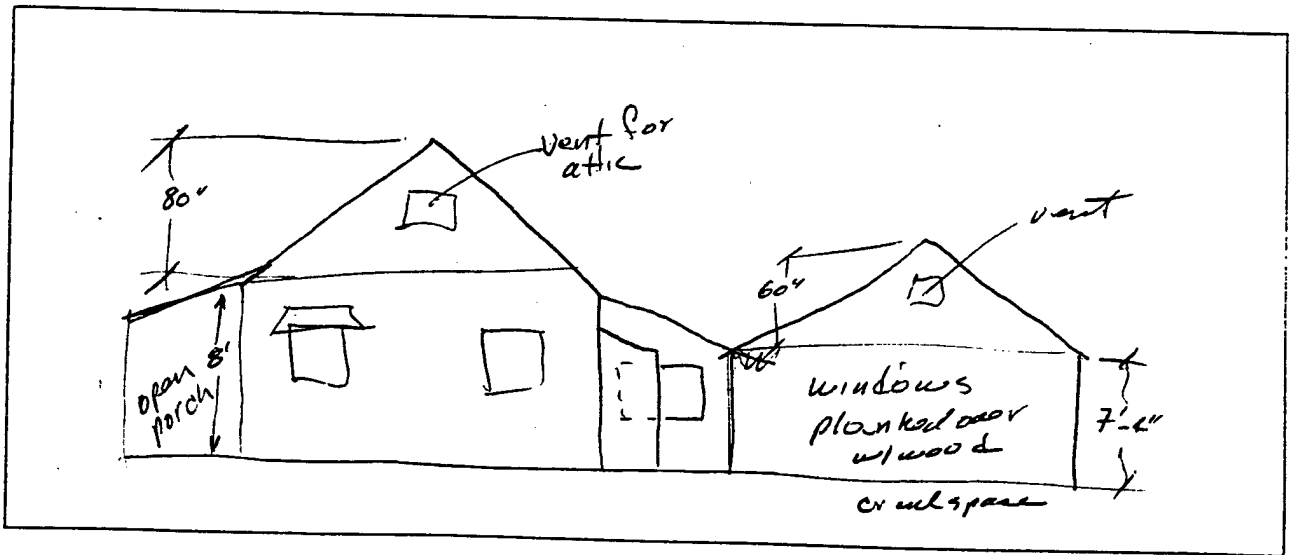
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FAL
 BLDG. NO. 124

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

2.4 BUILDING ENVELOPE

LOCATION FHL
 BLDG. NO. T-124

CONSTRUCTION

WALL ALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
WOOD SIDING		
BATT INSUL.	3"	
GYPSUM BOARD		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
COMP SIDING		
WOOD SHAKES		
AIRSPACE		
GYPSUM BOARD		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

3.1 HEATING EQUIPMENT

LOCATION FHL
BLDG. NO. 124

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: ± 80 MBtu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: _____ Model No.: _____

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Other (Specify) PROPANE Induced

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 124

COMPRESSOR(S)/CHILLER SPLIT SYSTEM
 Manufacturer CARRIER
 Model No. 38EA030340
 Size _____
 Refrigerant R-22
 Motor HP (if available) _____
 Motor Voltage 208V/1ϕ
 Motor FLA 15.1
 Measured Amps 11A@230V

COOLING TOWER
 Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT
 Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP Y8 HP
 Fan Motor Voltage 208V/1ϕ
 Fan Motor FLA .90
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)
 Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)
 Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: EVAPORATOR COIL IN PROPANE FURNACE

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FAL
 BLOG. NO. 124

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? _____
 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|----------------------|-------|-------|
| a. Location | _____ | _____ | _____ |
| b. Areas Served | <u>ALL</u> | _____ | _____ |
| c. Manufacturer and Model | <u>DAYTON 3E3112</u> | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>PROPANE</u> | _____ | _____ |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | <u>40 GAL</u> | _____ | _____ |
| 2) Instantaneous | _____ | _____ | _____ |
| 3) Semi-Instantaneous | _____ | _____ | _____ |
| f. Heater Size and Storage Capacity | _____ | _____ | _____ |
| g. Heating Capacity | <u>34 MBH</u> | _____ | _____ |
| h. Type Controls (Air, Steam, Electric) | _____ | _____ | _____ |
| i. When Installed & Condition | _____ | _____ | _____ |
| j. Heater Temperature Setting | _____ | _____ | _____ |
| k. Average Water Maintained Temperature | <u>165°F</u> | _____ | _____ |
| l. Temperature Differential (j) - (k) | _____ | _____ | _____ |
| m. Is Hot Water Supply Adequate: | _____ | _____ | _____ |
| n. Insulation Thickness | _____ | _____ | _____ |
| o. Insulation Material | _____ | _____ | _____ |

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY Bill / RJB DATE 29SEP92

BUILDING NUMBER T-127 FUNCTION/USE BOQ

INFORMATION SOURCE (DWG. NO./PERSON) Inspection

GENERAL BUILDING DATA

BUILDING AGE: NA YEARS

DUPLICATE BUILDING NOS: _____

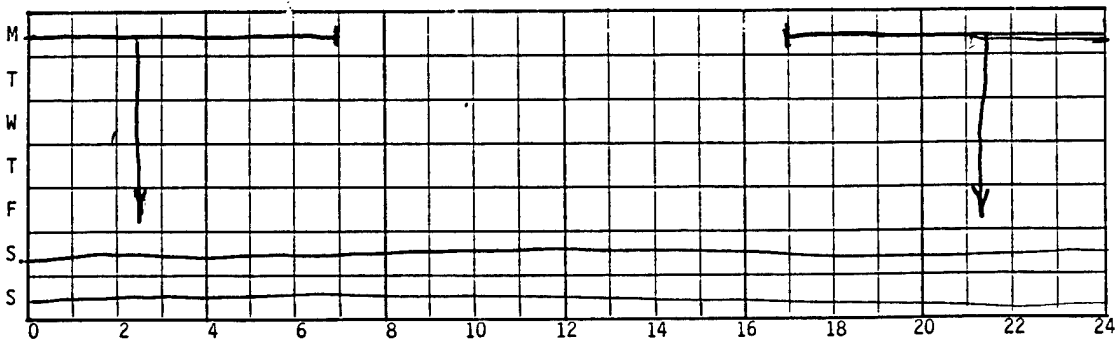
TOTAL: _____

SIMILAR BUILDING NOS: _____

TOTAL: _____

BUILDING OCCUPANCY: 10 PM CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 11

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: Washer & Dryer (electric) Domestic Size.
Washer has hot water connection
Water cooler.

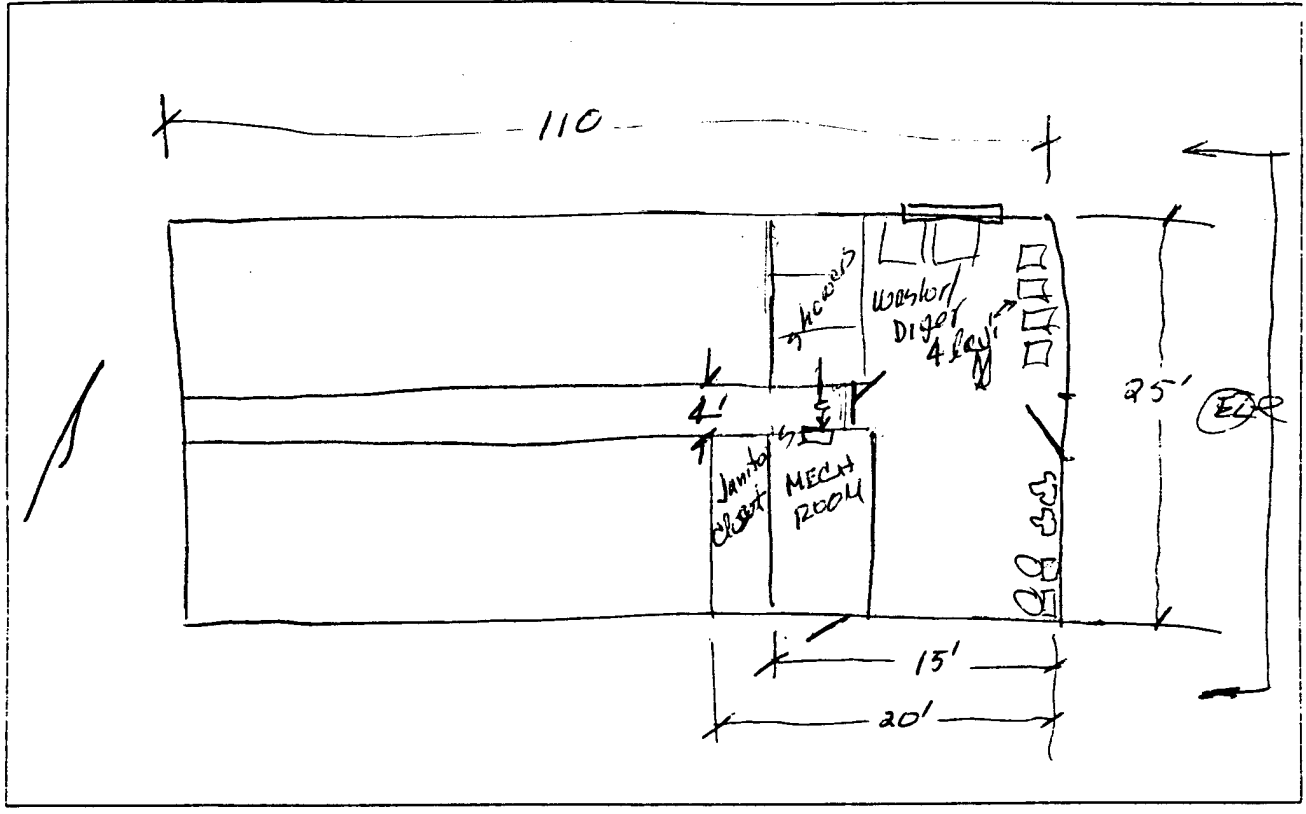
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED NONE - SOG

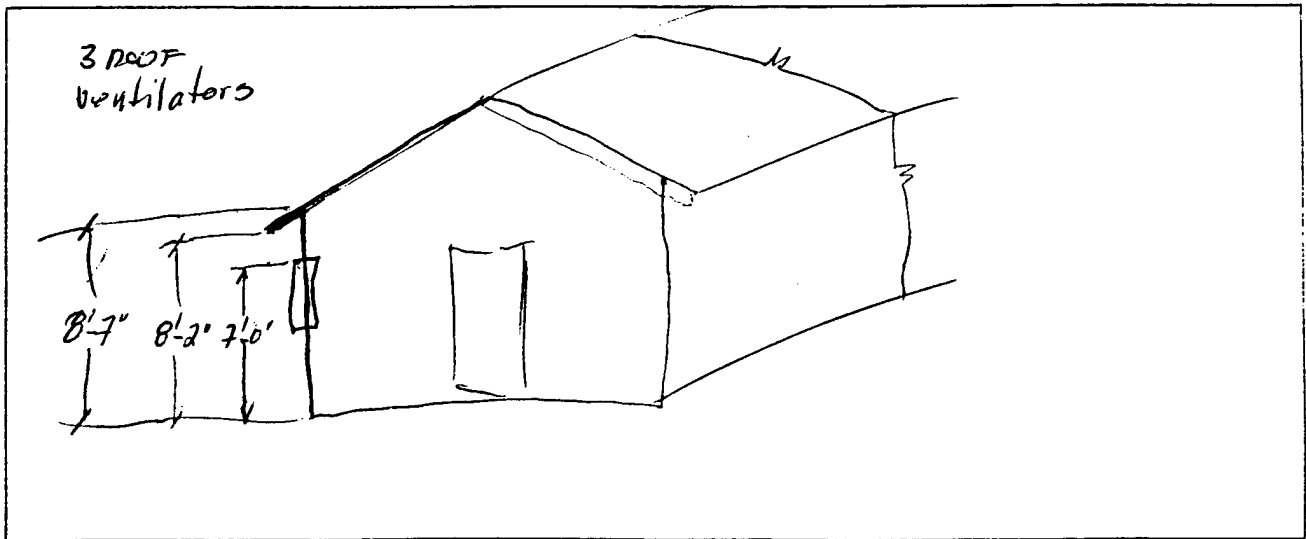
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



2.4 BUILDING ENVELOPE

LOCATION FHK
 BLDG. NO. 127

CONSTRUCTION

WALL SEE SKETCH COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR SDG Carpeting

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.) ^{SEE} SKETCH TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

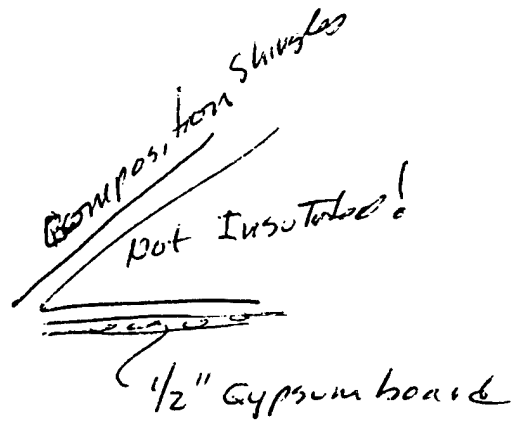
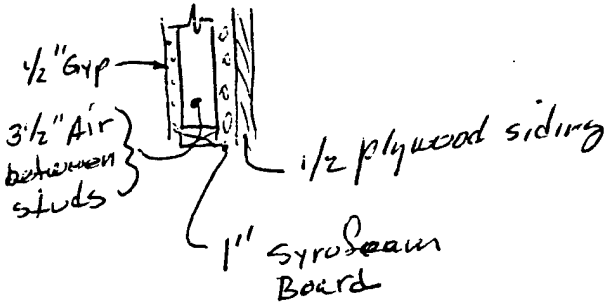
DOOR Wood 1 5/8" SOLID CORE

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

F#2

SL06 No. 127



LOCATION FHC
BLDG. NO. 127

3.1 HEATING EQUIPMENT

Heat Source: Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other

Capacity: 112,500 Btu/Hr or Boiler HP or Lbs/Hr Steam or GPM Hot Water

Manufacturer: 90,000 Btu/Hr Bonnet KRESKY, Petaluma Model No.: 115 FAF

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: 120/100 °F Operating Pressure: NA PSI

Fuel: Nat. Gas Only Nat. Gas/ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. SAME Model No. Metering Equipment: Yes No

Fan ~ 3/4HP (NO HOMEPLATE)
Operating Schedule: Weekdays: From To Hr/Day

Continuous, Weekdays & Holidays: From To Hr/Day

Burner found on with pilot lit. Operating Season: From Mon/Day, to Mon/Day

Flue Gas Temperature: °F Receiver Tank Conditions: PSIG °F

If supplied Steam or Hot Water: Steam Pressure PSI Hot Water Supply Temp. °F Hot Water Return Temp. °F

Insulation: (1) Boiler NONE (2) Other (Specify)
Poor Area FT² Poor Area FT²
None Temp. °F None Temp. °F

Pump: No. of Pumps NA V/PH/FLA / /
Mfg. Model HP RPM
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. Model

Condensate Pumps/Hot Water Pumps: Mfg. Model HP

Boiler/Furnace Condition:
Describe

Occupant Discomfort (Evaluate): No complaints

3.2 COOLING EQUIPMENT

LOCATION FH4
 BLDG. NO. 137

COMPRESSOR(S)/CHILLER

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: EVAP COOLER ON ROOF; NO ACCESS
CABINET SIZE: 4' x 4' x 4' approx
LOAD 106V @ 10.9 Amps, 1φ 60Hz.

Soyurs

3.3 AIR HANDLING EQUIPMENT

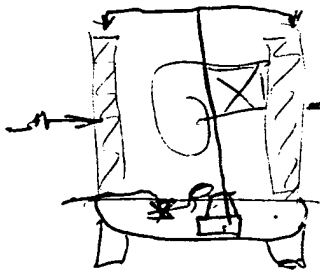
LOCATION FHL
BLDG. NO. 127

FANS

Type	<u>EVAP COOLER</u>		
Unit/Zone	# _____	# _____	# _____
Manufacturer	<u>See</u>		
Model No.	<u>previous</u>		
Type	<u>sheet</u>		
RPM of Fan	_____	_____	_____
Motor HP	_____	_____	_____
Motor Volts	_____	_____	_____
Motor FLA	_____	_____	_____
Measured Amps	_____	_____	_____
CFM (from Plans)	_____	_____	_____
Notes	_____	_____	_____

COILS

Indicate capacities where found:



COOLING	HUMIDIFICATION
DX _____	ELEC _____
H ₂ O _____	STEAM _____
OTHER _____	H ₂ O _____
	OTHER _____
HEATING	AUX/MISC OTHER
GAS _____	_____
H ₂ O _____	_____
ELEC _____	_____
OTHER _____	_____

FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading ^{1/}	_____	_____	_____

^{1/} Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one):
 Central Plant
 One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
1" supply & outlet from DWHT
- d. Is Piping System Insulated and Condition: NO Insulation
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location Mechanical Room
- b. Areas Served Entire Bldg
- c. Manufacturer and Model American Appliance Co. JSID370-100LR
- d. Energy (Oil, Gas, Electric, Coal, Etc.) PROPANE
- e. Type Heaters & Quantities:
- 1) Storage 100 GAL
- 2) Instantaneous -
- 3) Semi-Instantaneous -
- f. Heater Size and Storage Capacity 100 GAL
- g. Heating Capacity 240 MBH In 201.6 MBTCH Now 157g
- h. Type Controls (Air, Steam, Electric) Elec. Controls
- i. When Installed & Condition NA / Good Cond.
- j. Heater Temperature Setting 140°F
- k. Average Water Maintained Temperature 128°F
- l. Temperature Differential (j) - (k) 128° - 76°F
- m. Is Hot Water Supply Adequate: yes
- n. Insulation Thickness None specified
- o. Insulation Material NA

OA Temp at survey 80 69°F

LOCATION FHL
BLDG. NO. 127

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: *Cooling* TIME CLOCK
 MANUAL EMCS
 CONTINUOUS
 DEMAND *Heating & DHW*

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

Boiler good
Furnace average - old & has pilot.
EVAP Clk. average.

*All lavs have aspirators, no leaks found.
Showers Beach, standard, non low-flow*

4.2 Lighting
4.2.1 Interior Lighting

FHL
127

LIGHTING LOCATION BLDG.

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING-HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	W A L L	F L O O R	C E I L I N G	W A L L	F L O O R			
Mech	S	I 60	1/60	1	60							8'-0"	D	M	F	F	F	NA	1 SW / Light out		
	S	I 100	1/100	1	100								M	M	F	F	F	S	Manual		
	Desk	I 60	1/60	1	60																
8	S	I 100	1/100	2	200																
	W	I 60	1/60	2	120																Manual
E	S	I 60	1/60	3	180																Manual
1	S	I 60	1/60	3	180						25fc										Manual
TOTAL BUILDING LIGHTING ENERGY																					

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION FHL
BLDG. NO. 127

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: No computers - see misc equip.
list

4.3.2 RECEPTACLES IN USE _____ PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler 1

Vending Machine -

Space Heater -

Coffee Pot -

TV 11

XEROX _____

Other:

Refrigerators 11

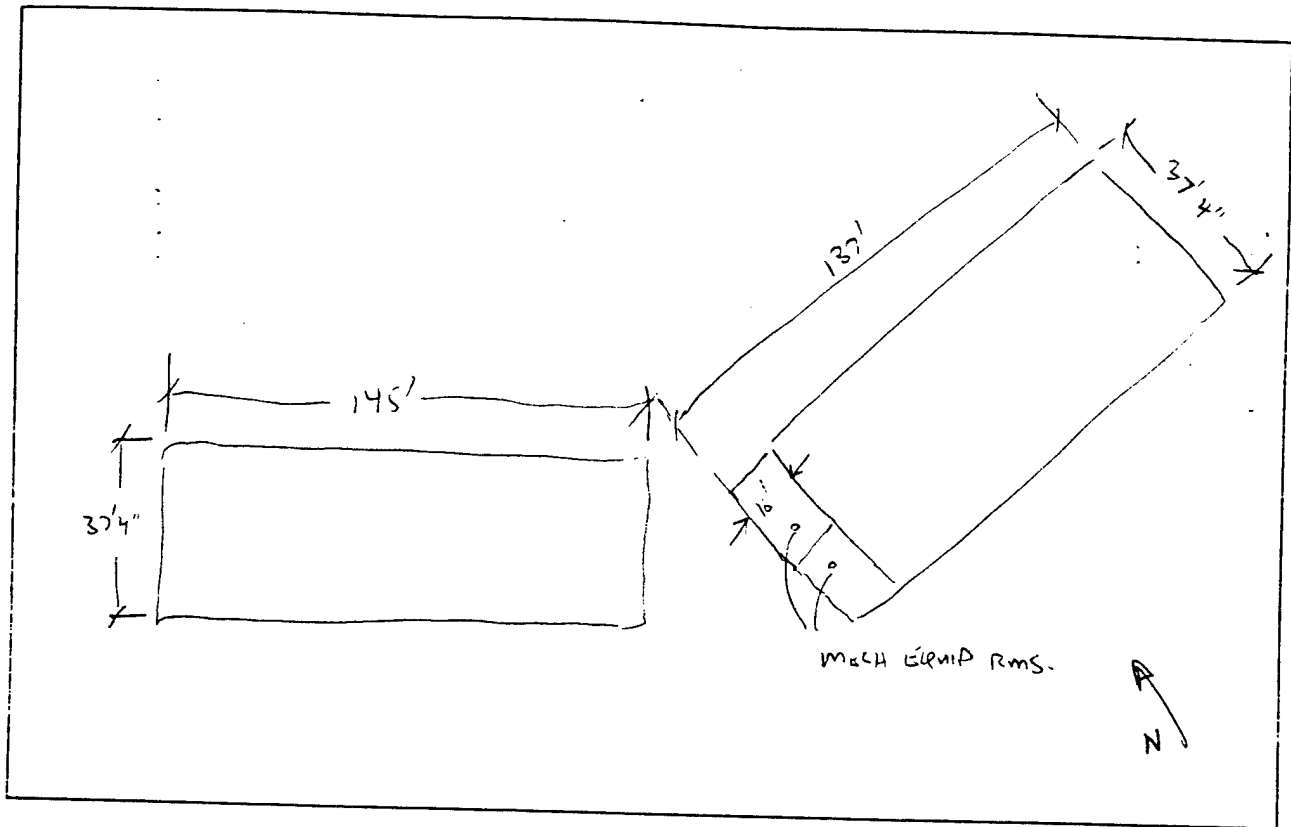
Microwaves 11

Misc Fans etc -

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHL
BLDG. NO. 128

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)

USED AS-BUILT DWGS FOR VERIFICATION

BUILDING FLOOR PLAN AND
ELEVATION SKETCHES

2.4 BUILDING ENVELOPE

LOCATION KITL
BLDG. NO. 128

CONSTRUCTION

WALL FRAME COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
STUCCO		0.39
PLYWOOD	3/8"	0.47
BATT INS	3"	11.00
GYPBOARD	5/8"	0.56
INSIDE FILM		0.68
TOTAL		13.35

U-FACTOR 0.075 AREA

ROOF (INCL. CLG.) TYPE: F P
COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.17
BUILT UP ROOF		0.33
PLYWOOD	1/2"	0.62
AIR SPACE		0.61
BATT INS	3"	11.00
GYPBOARD	5/8"	0.56
INSIDE FILM		0.61
TOTAL		13.9

U-FACTOR 0.07 AREA

WALL FLOOR CONCRETE - ENDS

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
CMU	8"	1.11
GYPBOARD	5/8"	0.56
INSIDE FILM		0.68
TOTAL		2.6

U-FACTOR 0.38 AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

128

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

128 567

Capacity: 453.6 MBtu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: CRAWTE Model No.: 8-300

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: 200 °F Operating Pressure: 18 PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To 24 HR Hr/Day _____
Weekdays & Holidays: From _____ To 24 HR Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

PUMP
measured
6.5A 450V
7.1A 20 PPH
7.1A
83 GPM
30 TDH
7.1" Impeller

Insulation: (1) Boiler (2) Other (Specify) PIPES
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps 1 V/PH/FLA 208 / 3 / 5

Mfg. AKO Model 10-12105-700061A01-1 HP 1 1/2 RPM 1725

HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____
NA

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION EHL
 BLDG. NO. 128

COMPRESSOR(S)/CHILLER

Manufacturer TRANE CHILLER
 Model No. CGAC 25B
 Size _____
 Refrigerant _____
 Motor HP (if available) NA
 Motor Voltage 208V/3φ
 Motor FLA 88
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP 3 HP
 Fan Motor Voltage 208V/3φ
 Fan Motor FLA 8.6
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

3.3 AIR HANDLING EQUIPMENT

FANS

	2-Pipe FAN-COIL UNIT	2-Pipe FAN-COIL UNIT		
Type				
Unit/Zone	# 45 UNITS	# 9 UNITS	#	#
Manufacturer				
Model No.				
Type				
RPM of Fan				
Motor HP	1/60	1/33		
Motor Volts				
Motor FLA				
Measured Amps				
CFM (from Plans)	200	300		
Notes				

COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX _____	ELEC _____
H ₂ O _____	STEAM _____
OTHER _____	H ₂ O _____
	OTHER _____
HEATING	AUX/MISC OTHER
GAS _____	
H ₂ O _____	
ELEC _____	
OTHER _____	

FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FH
BLDG. NO. 120

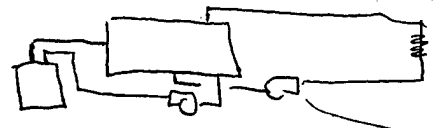
128

- a. Is System Supported from (check one):
 Central Plant
 One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 140 °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
1" 200FT
- d. Is Piping System Insulated and Condition: MID
- e. Is Hot Water Circulated? YES
- 1) Condition of circulator GOOD 3) Is aquastat provided? NO
 2) Circulator capacity 1/2 HP 4) Aquastat temperature setting

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|--------------------------------|------------|-------|
| a. Location | <u>MECH RM</u> | _____ | _____ |
| b. Areas Served | <u>ALL</u> | _____ | _____ |
| c. Manufacturer and Model | <u>FOURMOST</u> | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>ELECTRIC</u> | _____ | _____ |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | <u>-</u> | _____ | _____ |
| 2) Instantaneous | <u>-</u> | _____ | _____ |
| 3) Semi-Instantaneous | <u>-</u> | _____ | _____ |
| f. Heater Size and Storage Capacity | <u>246 GPH REC 100 GAL SPR</u> | _____ | _____ |
| g. Heating Capacity | <u>240 MBH INST</u> | _____ | _____ |
| h. Type Controls (Air, Steam, Electric) | <u>ELECTRIC</u> | _____ | _____ |
| i. When Installed & Condition | <u>MID</u> | _____ | _____ |
| j. Heater Temperature Setting | <u>140</u> | _____ | _____ |
| k. Average Water Maintained Temperature | <u>-</u> | _____ | _____ |
| l. Temperature Differential (j) - (k) | <u>-</u> | _____ | _____ |
| m. Is Hot Water Supply Adequate: | <u>YES</u> | _____ | _____ |
| n. Insulation Thickness | <u>-</u> | _____ | _____ |
| o. Insulation Material | <u>-</u> | Type _____ | _____ |

GIGASTONE HEAT EXCHANGER



1" / 1/2 HP / 115 Y / 1725-RPM / 2.2A

LOCATION FHL
BLDG. NO. 128

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

FAN - COIL UNITS - MANUAL CONTROL, 3 SPEED FAN SWITCH
SUMMER - WINTER CHANGE OVER - MANUAL CONTROL OF TWO
2 POSITION VALVES (BOTH VALVES IN OPEN POSITION)

LOCATION Fit BLDG. 128

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C	E	I	L	L	O			R
X2	S	F/75	2/70	1	70																
GENRAL	S	F/60	1/60	2	120																
CORRIDOR	S	F/60	1/60	1	60																
ROOM	S	F/35	4/140	40	5600																
"	S	F/125	1/125	30	2800																
"	S	F/60	1/60	40	2400																
TOTAL BUILDING LIGHTING ENERGY																					

SEE ATTACHED

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store
 Other (describe on audit form)
 E = Exterior

LOCATION F12
 BLDG. NO. 128

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>28</u>	<u>inc</u>	<u>28</u>	<u>60</u>	<u>1680</u>		

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey _____
 Total installed _____

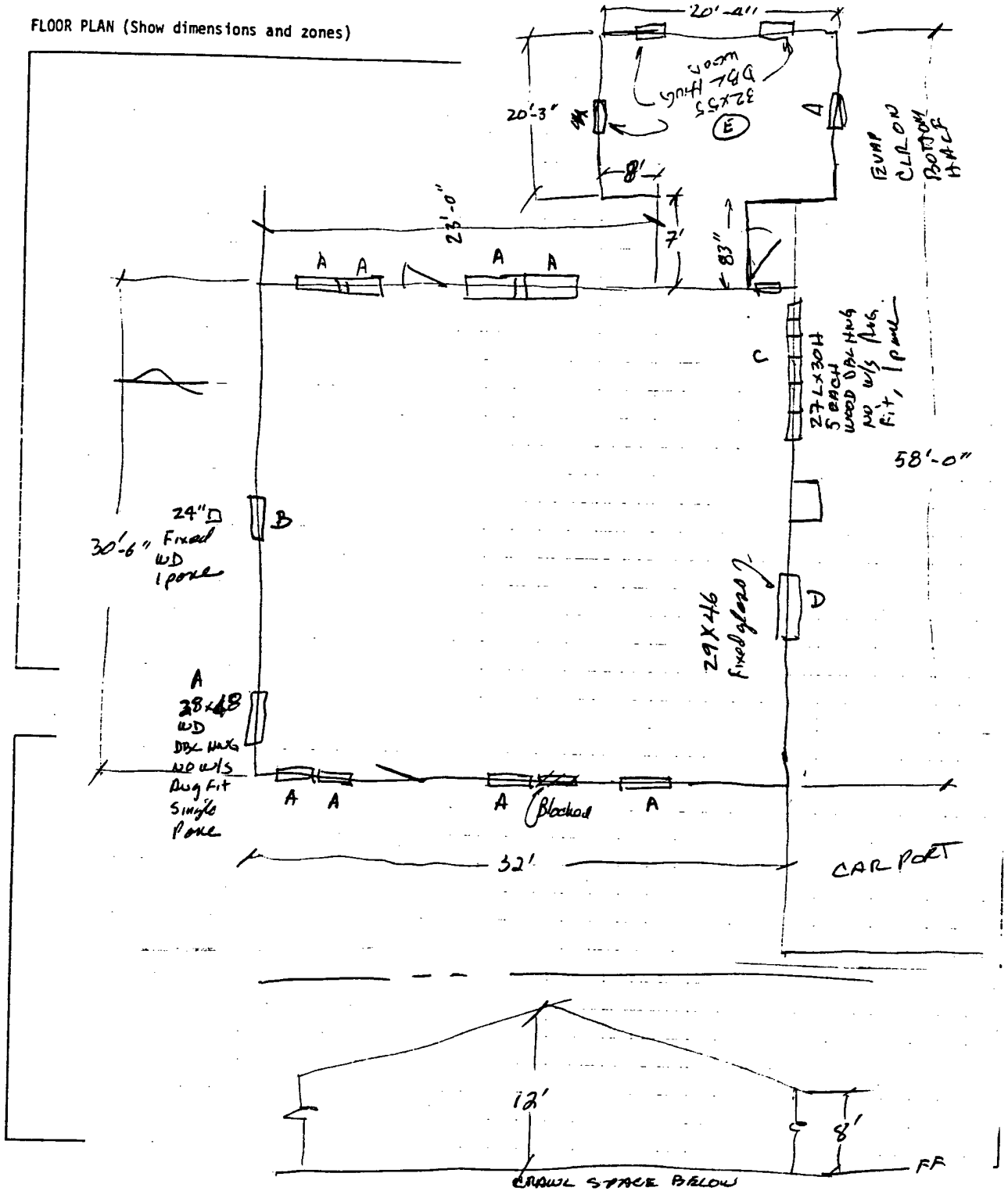
WATTS OF EXTERIOR LIGHTING

Actual on at time of survey _____
 Total installed _____

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHL
 BLDG. NO. 131

FLOOR PLAN (Show dimensions and zones)



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

2.4 BUILDING ENVELOPE

LOCATION FHL
 BLDG. NO. 131

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
WOOD SIDING		
BATT INSULATION 3"		
GYPSUM BOARD		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
COMP SINGLE		
SHUTTLING		
AIR SPACE		
GYPSUM BOARD		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

3.1 HEATING EQUIPMENT

LOCATION FAL
BLDG. NO. 131

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 90,000 Btu/Hr ^(EST) or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: WIA Model No.: _____

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day
Weekdays & Holidays: From _____ To _____ Hr/Day
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler Poor Area _____ FT² None Temp. _____ °F
(2) Other (Specify) _____ Poor Area _____ FT² None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION FAL
 BLDG. NO. 131

COMPRESSOR(S)/CHILLER

Manufacturer CARRIER SPLIT SYSTEM
 Model No. 38EF030300SM
 Size _____
 Refrigerant R-22
 Motor HP (if available) N/A
 Motor Voltage 208V/1φ
 Motor FLA 18
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage 208V/1φ
 Fan Motor FLA 2.1
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many
 operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: 1/3 HP EVAP COOLING

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FHL
 BLDG. NO. 131

a. Is System Supported from (check one):
 Central Plant
 One System per Building
 Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: _____ °F _____ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

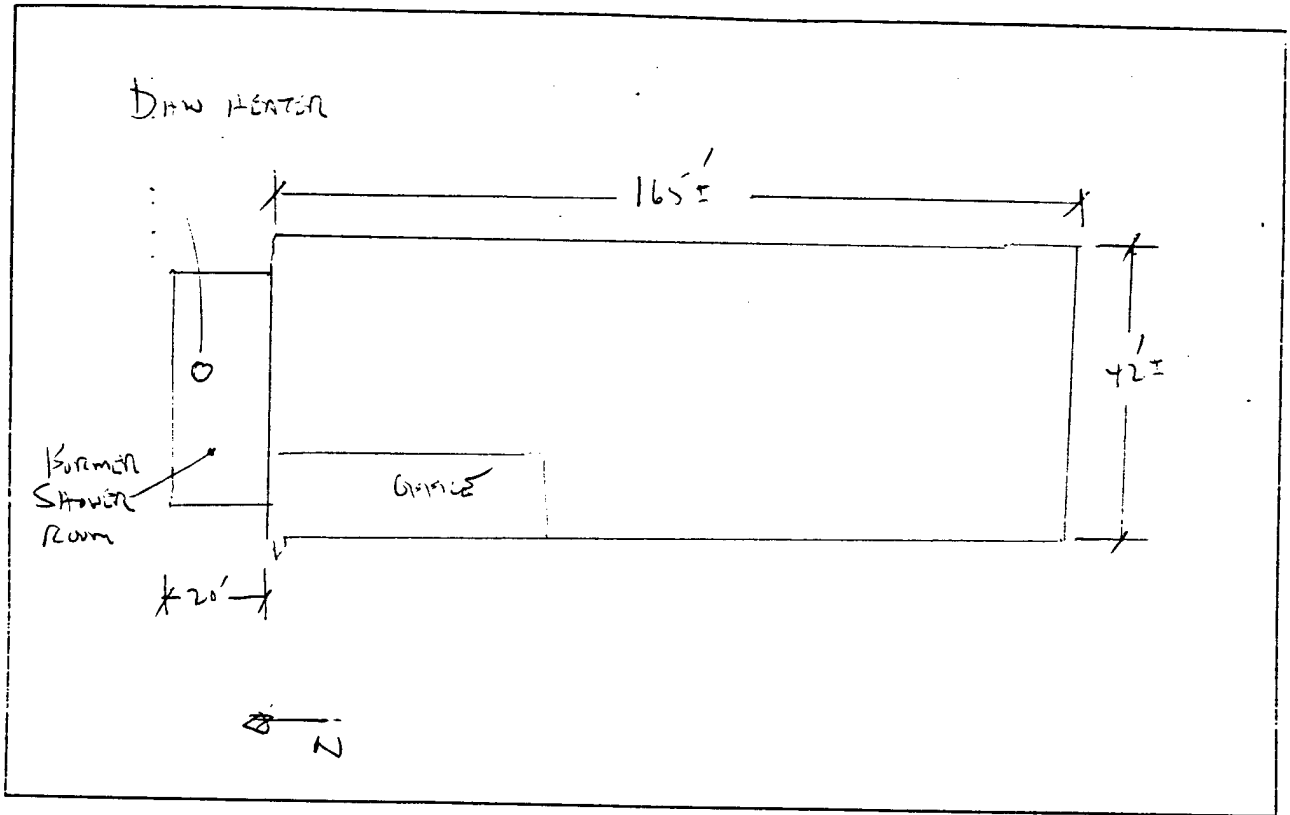
d. Is Piping System Insulated and Condition: NO INSULATION

e. Is Hot Water Circulated? _____
 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

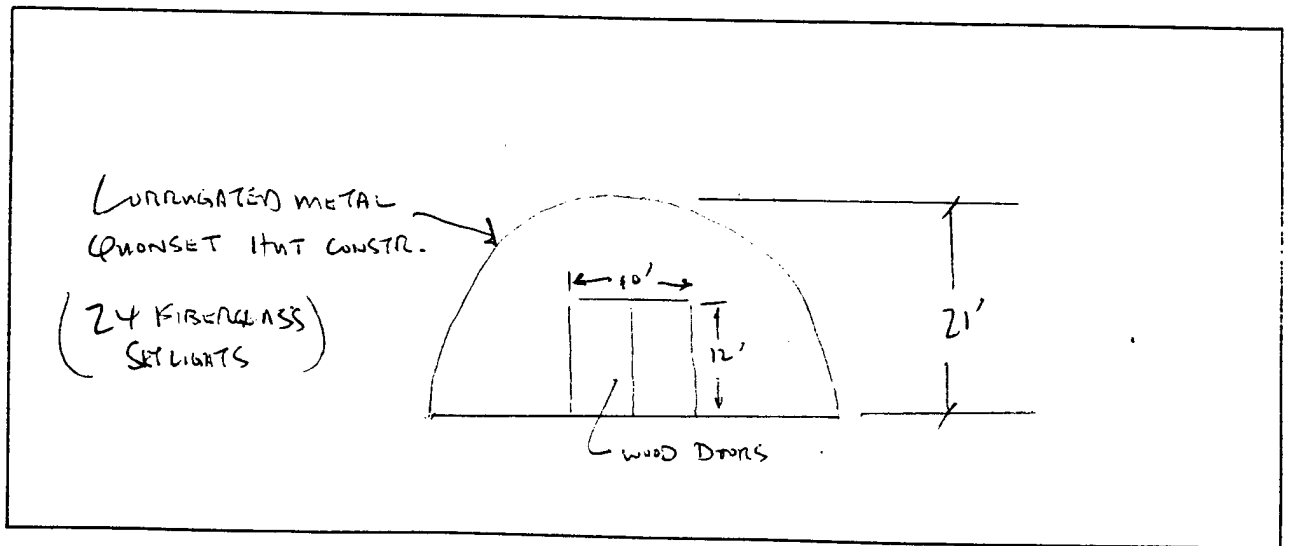
DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	_____	_____	_____
b. Areas Served	_____	_____	_____
c. Manufacturer and Model	<u>AMERICAN GVF433 LPG</u>	_____	_____
d. Energy (Oil, Gas, Electric, Coal, Etc.)	<u>PROPANE</u>	_____	_____
e. Type Heaters & Quantities:			
1) Storage	<u>✓</u>	_____	_____
2) Instantaneous	_____	_____	_____
3) Semi-Instantaneous	_____	_____	_____
f. Heater Size and Storage Capacity	<u>40 GAL.</u>	_____	_____
g. Heating Capacity	<u>29 MBH</u>	_____	_____
h. Type Controls (Air, Steam, Electric)	_____	_____	_____
i. When Installed & Condition	_____	_____	_____
j. Heater Temperature Setting	_____	_____	_____
k. Average Water Maintained Temperature	_____	_____	_____
l. Temperature Differential (j) - (k)	_____	_____	_____
m. Is Hot Water Supply Adequate:	_____	_____	_____
n. Insulation Thickness	<u>NO INSULATING BLANKET</u>	_____	_____
o. Insulation Material	_____ Type	_____	_____

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



3.1 HEATING EQUIPMENT

LOCATION FAL
BLDG. NO. 144

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant)

PROPANE-FIRED
 Other UNIT HEATERS
4 EA

Capacity: _____ Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: REZNOR Model No.: N/A

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/
 Other (Specify) PROPANE Draft: Forced Induced

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² None Temp. _____ °F
Poor Area _____ FT² None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. N/A Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION KITL
 BLDG. NO. 144

COMPRESSOR(S)/CHILLER

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

N/A

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: 1 EVAP COOLING FOR OFFICE AREA (3/4 HP ±)

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FIL
 BLDG. NO. 144

- a. Is System Supported from (check one):
 Central Plant
 One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: - NOT USED - °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? _____
 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|----------------------------------|-------|-------|
| a. Location | <u>SHOWERS ANNEX</u> | _____ | _____ |
| b. Areas Served | _____ | _____ | _____ |
| c. Manufacturer and Model | <u>A.O. SMITH BT-500A-721</u> | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>PROPANE</u> | _____ | _____ |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | <u>✓</u> | _____ | _____ |
| 2) Instantaneous | _____ | _____ | _____ |
| 3) Semi-Instantaneous | _____ | _____ | _____ |
| f. Heater Size and Storage Capacity | <u>69 GAL.</u> | _____ | _____ |
| g. Heating Capacity | <u>500 MBH 420 GPH @ 100° DT</u> | _____ | _____ |
| h. Type Controls (Air, Steam, Electric) | _____ | _____ | _____ |
| i. When Installed & Condition | _____ | _____ | _____ |
| j. Heater Temperature Setting | _____ | _____ | _____ |
| k. Average Water Maintained Temperature | _____ | _____ | _____ |
| l. Temperature Differential (j) - (k) | _____ | _____ | _____ |
| m. Is Hot Water Supply Adequate: | _____ | _____ | _____ |
| n. Insulation Thickness | _____ | _____ | _____ |
| o. Insulation Material | _____ | _____ | _____ |

4.2 Lighting
4.2.1 Interior Lighting

LIGHTING LOCATION 57-L BLDG. 144

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH				WINDOM CODE	REMARKS (LIGHTS/SWITCH)					
													C	E	F	W	C	E			F	W			
4	S	K96	2/227	3																					
	S	I60	1/60	20																					
LX7	S	I60	1/60	1																					
TOTAL BUILDING LIGHTING ENERGY																									

- LIGHTING LEGEND:**
- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store
 Other (describe on audit form)
 E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BIH DATE 9/29/92

BUILDING NUMBER S-146 FUNCTION/USE UTILITY SHOP; PLUMBING, HTS, ELEC.

INFORMATION SOURCE (DWG. NO./PERSON) INTERVIEW CURT HERMANSON

GENERAL BUILDING DATA

BUILDING AGE: N/A YEARS OLDER BUDS

DUPLICATE BUILDING NOS: _____

TOTAL: _____

SIMILAR BUILDING NOS: _____

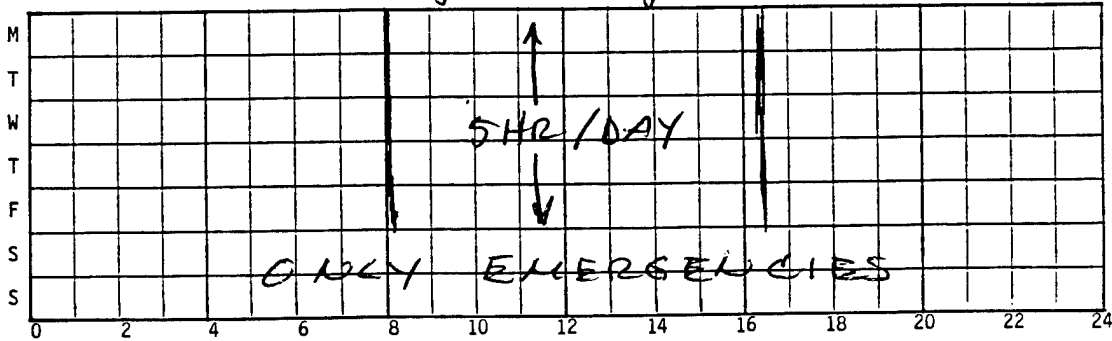
TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY)

NO. OF OCCUPANTS 1 to 5

Indicate (number and) duration of occupants each day

Average 6 Hrs/day use - intermittent, lights on all day



MISCELLANEOUS EQUIPMENT: See list in mech. section

ADDITIONAL COMMENTS, CRITICAL LOADS: seems tolerable in summer

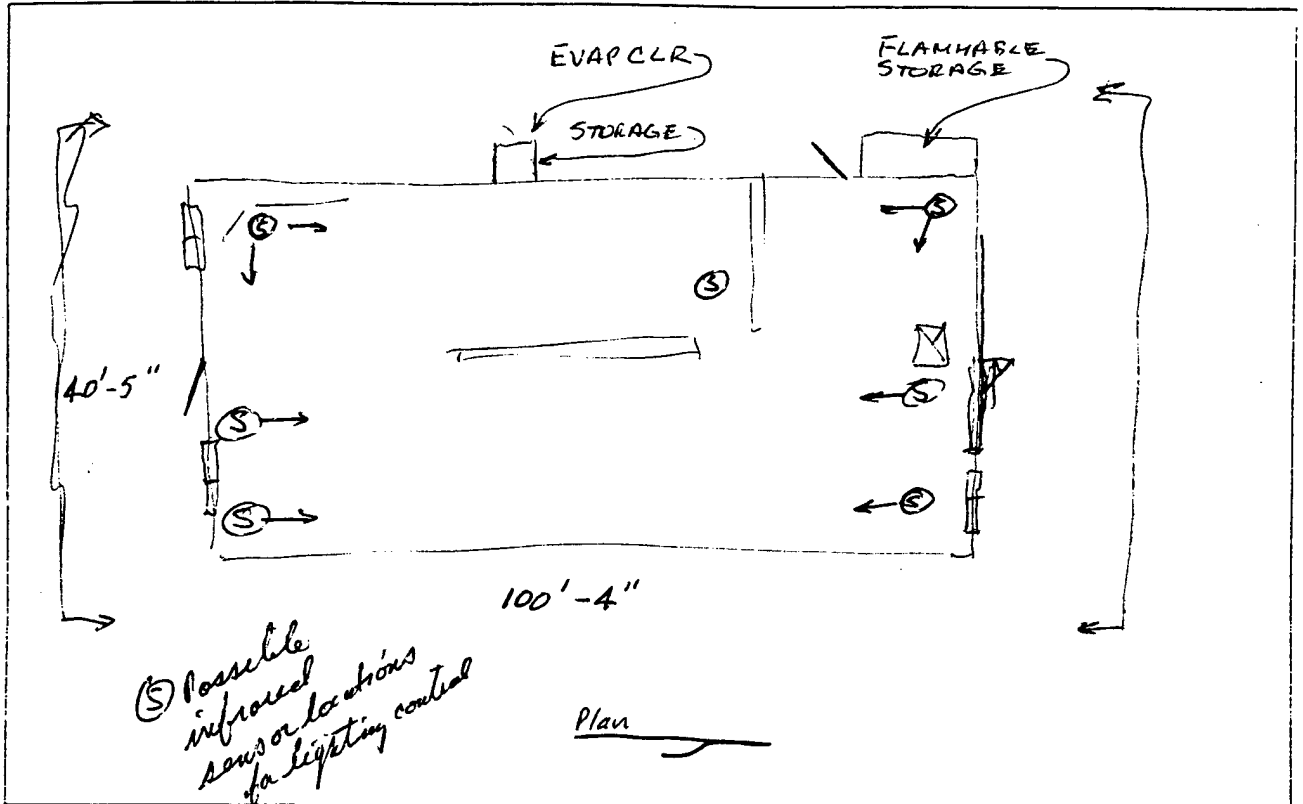
OK in winter.

CRAWL SPACE: VENTILATED EXHAUSTED NONE

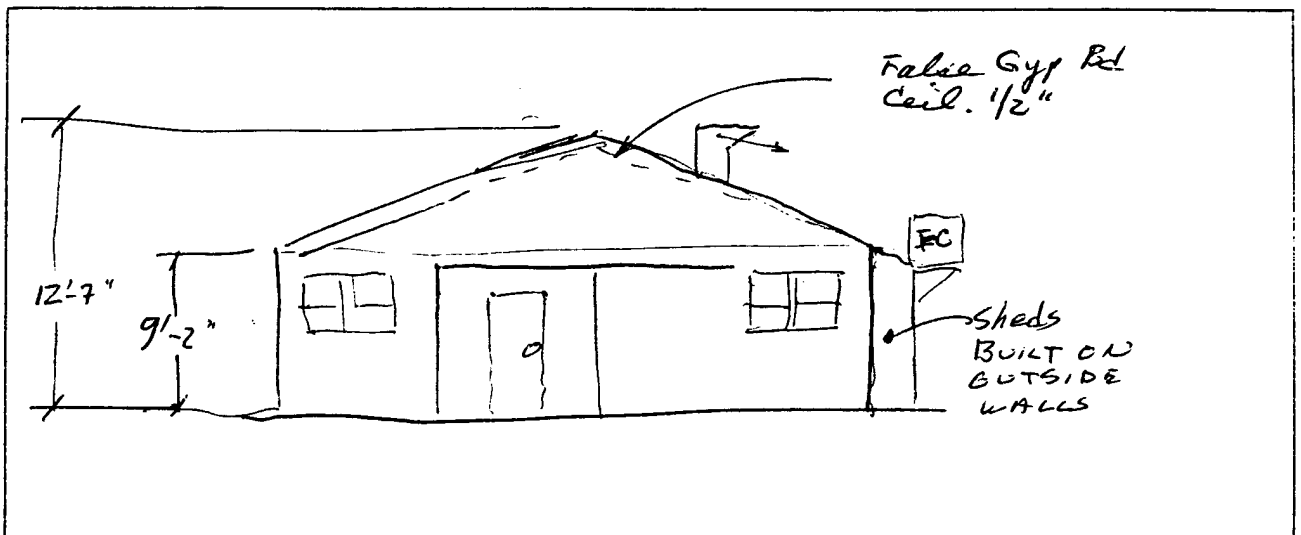
ATTIC: VENTILATED EXHAUSTED NONE False ceiling. 1' below

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

2.4 BUILDING ENVELOPE

LOCATION FAL
 BLDG. NO. 146

CONSTRUCTION

WALL: COLOR: D M L

TYPE: F P
 COLOR: D M L

ROOF (INCL. CLG.)

1/2 wall

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Corr. Metal</i>	<i>1/16</i>	
	<i>3 1/2"</i>	
<i>Gyp Bd.</i>	<i>1/2"</i>	
<i>Masonite</i>	<i>1/8"</i>	
INSIDE FILM		
TOTAL		

U-FACTOR: AREA:

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Corr Metal</i>	<i>1/16</i>	
<i>Air Space</i>		
<i>Gyp Board</i>		
INSIDE FILM		
<i>not voided.</i> TOTAL		

U-FACTOR: AREA:

FLOOR: SOG

DOOR:

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR: AREA:

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR: AREA:

BUILDING SKIRTING MATERIAL: None

LOCATION FAL
BLDG. NO. 146

3.1 HEATING EQUIPMENT

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

no nameplate - 6 burners

Capacity: 260,000 Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: Lennox Model No.: G1305-165-1

SN 5873L

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: 200°F Limit + 160°F Fan ON °F Operating Pressure: N/A PSI

Fuel: Nat. Gas Only Nat. Gas/_____ Draft: Forced

Other (Specify) Propane *3/4" supply* Induced

Burner: Mfg. Some Model No. _____ Metering Equipment: Yes No

On demand during unloader

Operating Schedule: Weekdays: From _____ To _____ Hr/Day

Weekdays & Holidays: From _____ To _____ Hr/Day

Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler *Furnace is old, in poor condition, but operating* (2) Other (Specify) SA DUCT

Poor: _____ Area _____ FT² Poor: _____ Area 305F FT²

None: _____ Temp. _____ °F None Temp. 30-160°F °F

Heating only

Pump: No. of Pumps None V/PH/FLA _____

Mfg. _____ Model _____ HP _____ RPM _____

HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): No complaints - Filter Clean

3.2 COOLING EQUIPMENT

LOCATION FHC
 BLDG. NO. 146

COMPRESSOR(S)/CHILLER None

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

COOLING TOWER None

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT None

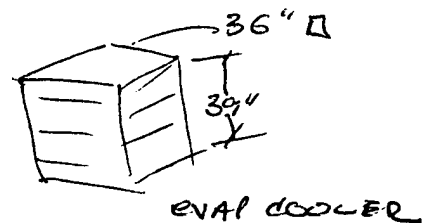
Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS None (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS None (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____



REMARKS: Evap cooler, see size. Manual control.
see diagram on following sheet @
recommended gullotried dampers.

3.3 AIR HANDLING EQUIPMENT

LOCATION FHL
BLDG. NO. 146

FANS

Type	<u>Evap cooler Furnace</u>			
Unit/Zone	# _____	# _____	# _____	# _____
Manufacturer	_____	_____	_____	_____
Model No.	_____	_____	_____	_____
Type	_____	_____	_____	_____
RPM of Fan	_____	_____	_____	_____
Motor HP	<u>1/4HP</u>	<u>1/4HP</u>	_____	_____
Motor Volts	_____	_____	_____	_____
Motor FLA	_____	_____	_____	_____
Measured Amps	_____	_____	_____	_____
CFM (from Plans)	_____	_____	_____	_____
Notes	<u>NO capacity for surge or motor plate</u>			

COILS

None

Indicate capacities where found:

COOLING		HUMIDIFICATION	
DX _____	_____	ELEC _____	_____
H ₂ O _____	_____	STEAM _____	_____
OTHER _____	_____	H ₂ O _____	_____
HEATING		OTHER _____	
GAS _____	_____	AUX/MISC OTHER _____	
H ₂ O _____	_____	_____	
ELEC _____	_____	_____	
OTHER _____	_____	_____	

FILTERS

Type	<u>Furnace</u>	<u>Evap Cooler Media</u>	_____
Condition	<u>good - new</u>	<u>Scal up.</u>	_____
Manometer Reading 1/	<u>—</u>	<u>—</u>	_____

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: none available °F _____ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each: N/A

d. Is Piping System Insulated and Condition: N/A

e. Is Hot Water Circulated? _____
 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one) none available

a. Location	_____	_____	_____
b. Areas Served	_____	_____	_____
c. Manufacturer and Model	_____	_____	_____
d. Energy (Oil, Gas, Electric, Coal, Etc.)	_____	_____	_____
e. Type Heaters & Quantities:			
1) Storage	_____	_____	_____
2) Instantaneous	_____	_____	_____
3) Semi-Instantaneous	_____	_____	_____
f. Heater Size and Storage Capacity	_____	_____	_____
g. Heating Capacity	_____	_____	_____
h. Type Controls (Air, Steam, Electric)	_____	_____	_____
i. When Installed & Condition	_____	_____	_____
j. Heater Temperature Setting	_____	_____	_____
k. Average Water Maintained Temperature	_____	_____	_____
l. Temperature Differential (j) - (k)	_____	_____	_____
m. Is Hot Water Supply Adequate:	_____	_____	_____
n. Insulation Thickness	_____	Type _____	_____
o. Insulation Material	_____	_____	_____

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

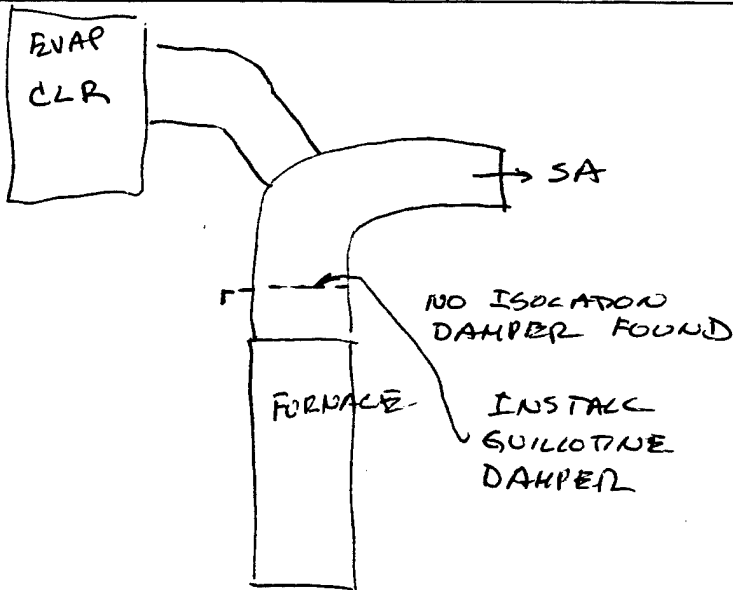
CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: COOLING TIME CLOCK
 MANUAL
 CONTINUOUS, EMCS
 Heating DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED): Heat/Cool switches



3.6 SPECIAL EQUIPMENT

LOCATION FHC
 BLDG. NO. 146

IDENTIFICATION NO.	LOCATION (ROOM)	DESCRIPTION (MANUFACTURER, MODEL NO.)	CONNECTED LOAD KW HP	REMARKS
		Exhaust Fan	1 1 1/2	
		Drill Press	0.5	
		Saw - metal	1.0	
		Grinder	1.0	
		Lathe	0.75	
		Line heater.	32A 230V	
		Refrigerator Freezer		11 CF
OTHER SHOP AREAS		Drill Press	1.0	
		Universal Taper	0.125	
		Metal Block	nominal	
		Hammer	0.5	
		Drill Press	0.5	
		Grinder	0.5	
		Refrigerator		6 CF
		Ice Machine	1/2 + 1/30 + 9 watts	TOTAL for all units
		Washing Machine		Domestic Type
		Metal Paker	nominal	
		Water Cooler		Standard.

SPECIAL EQUIPMENT

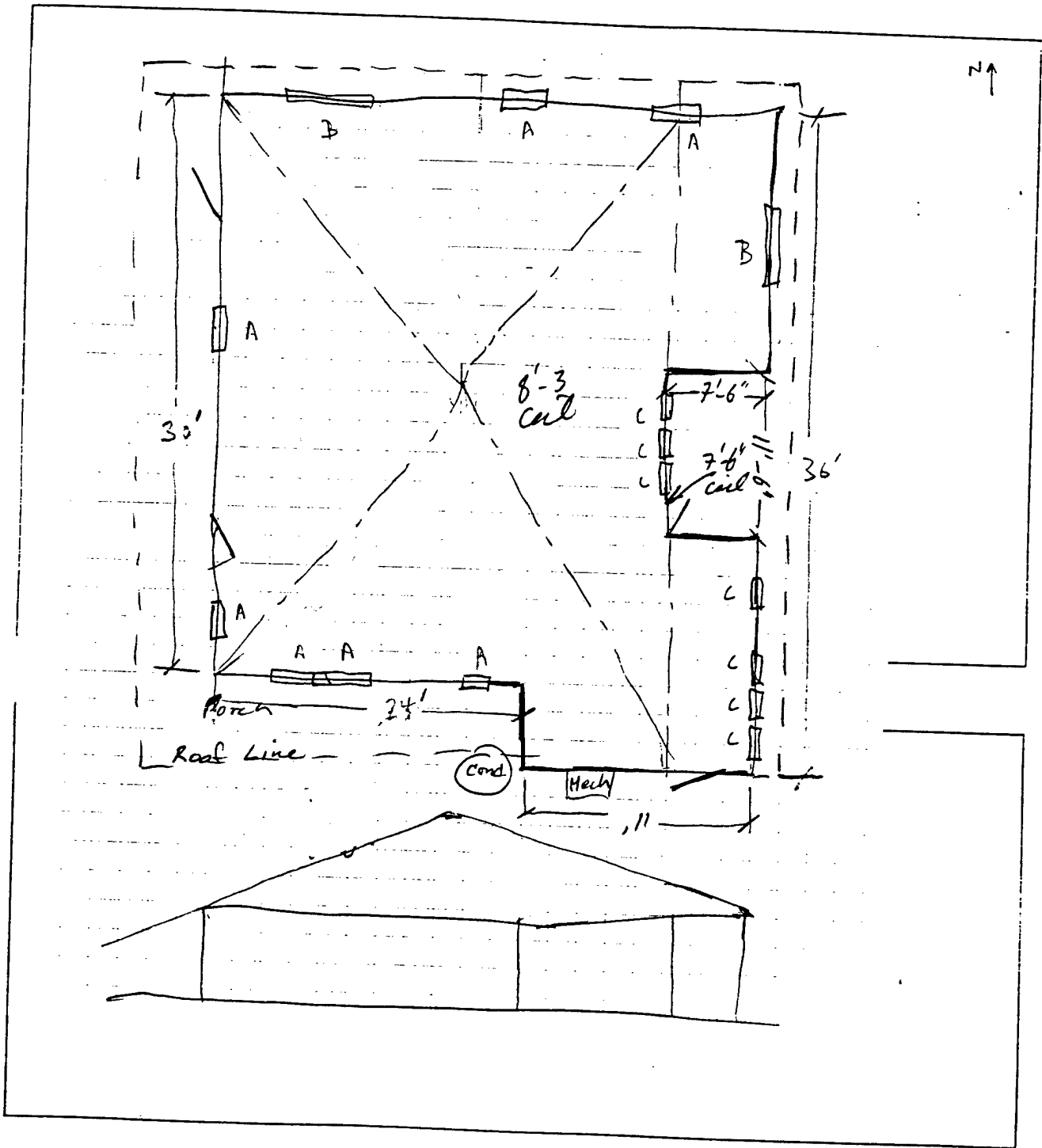
LOCATION _____ BLDG. _____

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ.FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	W A L L	F L O O R	C E I L I N G	W A L L	F L O O R			
11	S	F 34	2/100	30	3000	6-8	all w days				55		L M M	F F F	S						
11	S	F 34	2/100	1																	
	S	F 75	2/75	1																	Storage Room
8'-0" at wells, 11'-3" at pack in counter																					
TOTAL BUILDING LIGHTING ENERGY																					

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

FLOOR PLAN (Show dimensions and zones)



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

3.1 HEATING EQUIPMENT

LOCATION FHL
BLDG. NO. 149

Heat Source: CONTAINS DX W/INDY U.
 Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 90,000 Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: CARRIER Model No.: 5BGSC065

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Other (Specify) PROPANE Induced

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day
Weekdays & Holidays: From _____ To _____ Hr/Day
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 149

COMPRESSOR(S)/CHILLER

Manufacturer CARRIER
 Model No. 38EH036300
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage 230V/1φ
 Motor FLA 18.1
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____ PASO
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan LVND
 Fan Motor HP 1/8 HP
 Fan Motor Voltage 230/1φ
 Fan Motor FLA 0.9
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

4.2 Lighting

4.2.1 Interior Lighting

LOCATION F-1+L BLDG. 149

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
LV	S	F60	2 / 120	1								8'3"				
Din. r.	"	"	2 / 120	1												
KITCHEN	S	F34	2 / 72	1												
BR	S	F60	1 / 60	1												
	S	F60	1 / 60	1												
POUCH	S	F34	2 / 72	2												
	S	F60	1 / 60	3												
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

Fixture Types:
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe

Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe

Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS

Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops

12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RdB DATE OCT '92
 BUILDING NUMBER T-156 FUNCTION/USE SHOP
 INFORMATION SOURCE (DWG. NO./PERSON) VISUAL

GENERAL BUILDING DATA

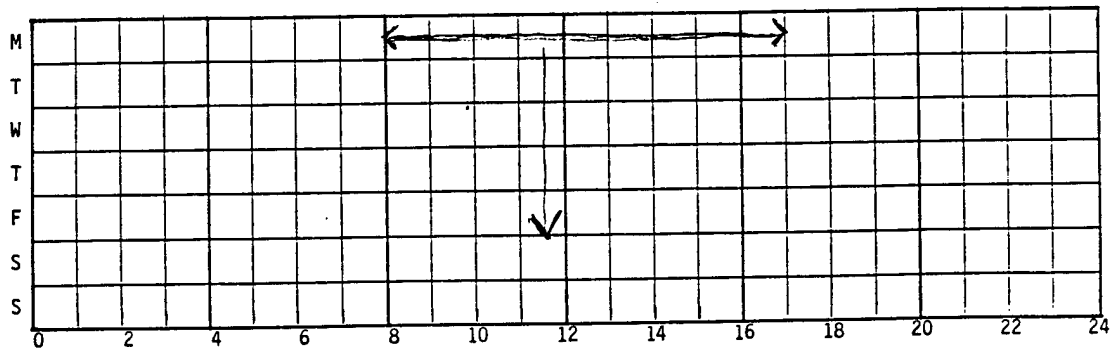
BUILDING AGE: _____ YEARS

DUPLICATE BUILDING NOS: _____
 TOTAL: _____

SIMILAR BUILDING NOS: _____
 TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 2

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: 1, 1 RADIAL SANDER, 4 RADIAL SAWS
2 CARVE/SANDER, 1 DRILL PRESS, 1 GRINDER, MISC HAND DRILLS/SAWS

ADDITIONAL COMMENTS, CRITICAL LOADS: _____

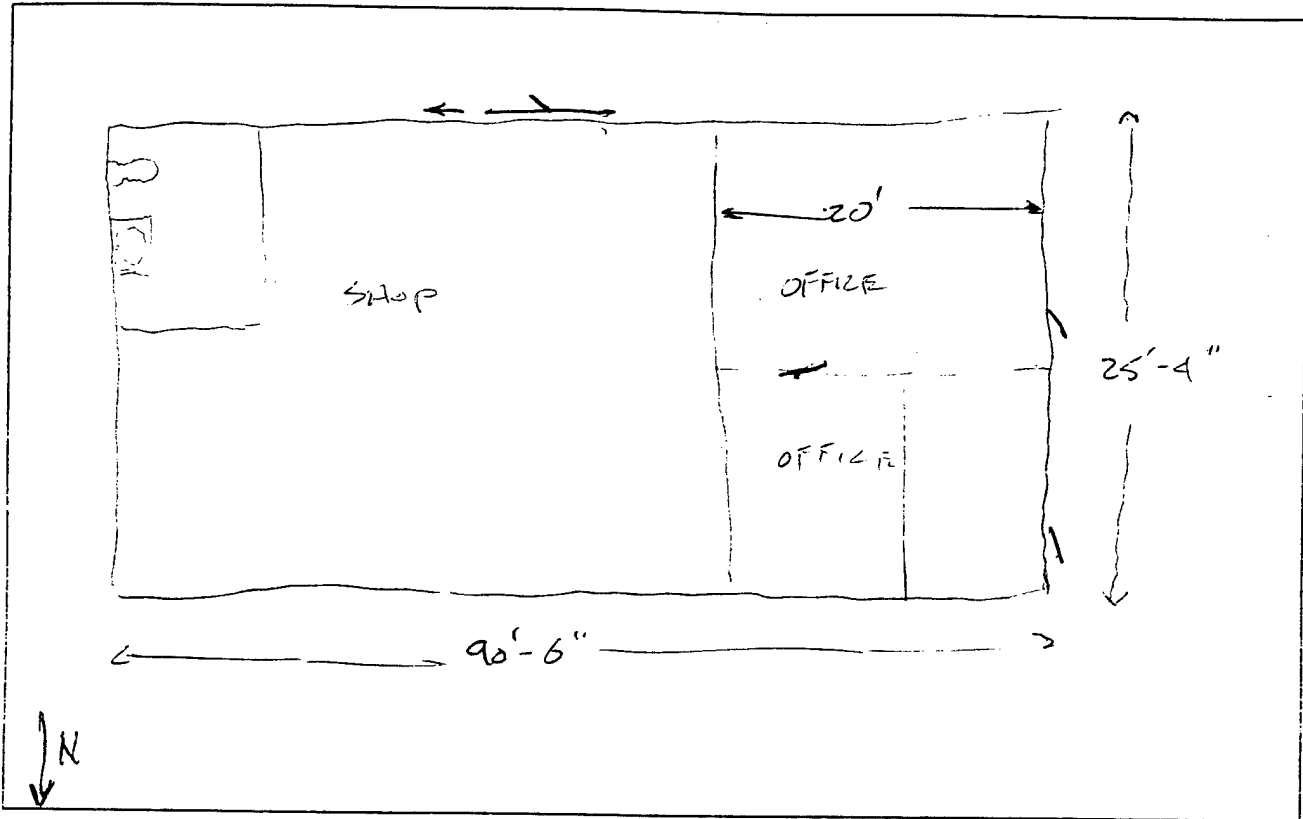
CRAWL SPACE: VENTILATED EXHAUSTED NONE

ATTIC: VENTILATED EXHAUSTED NONE

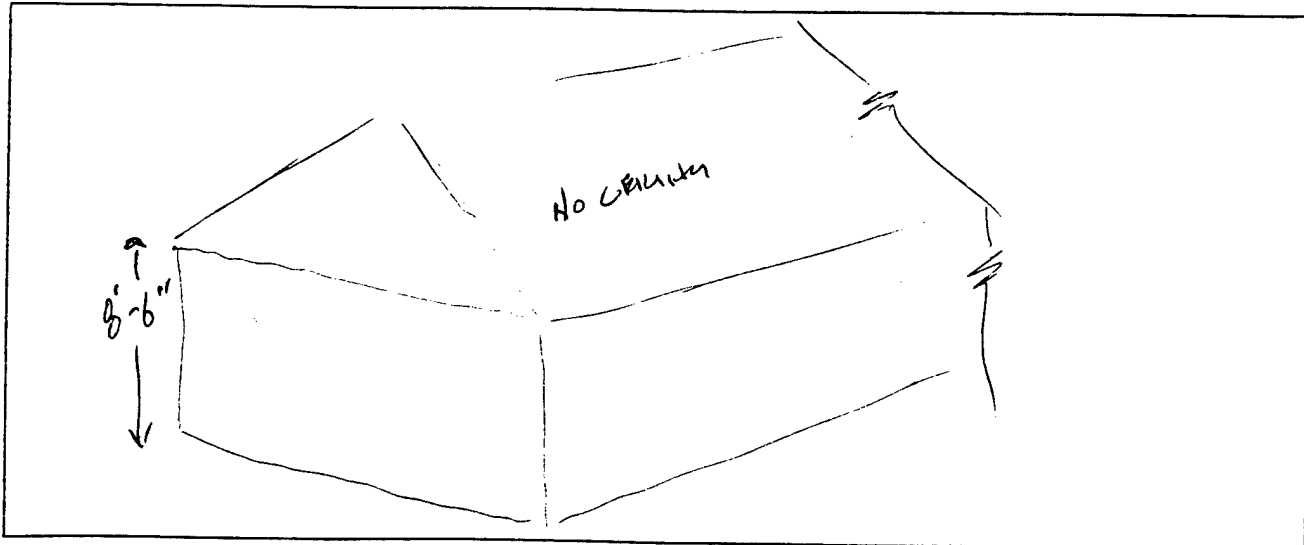
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHL
BLOG. NO. 156

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

2.3 ARCHITECTURAL WINDOWS & DOORS

LOCATION FHL
BLDG. #: 156

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DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L X H	GLAZING*			TYPE OF FRAME**	INFILTRATION			REMARKS *** ****		
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S YES	NO	FIT LOOSE		AUG	CRACK LENGTH
Window	3				5					30x69"				M					2x69" 3x30"	DO OVERHANG OR SHADING
	6				1					18"x14"				W					4x14"	WOOD DOOR
	3				5					30x69"				M					2x69" 3x30"	110 WOOD FRAME OR SHADING
	3				1					30x69"				M					2x69" 3x30"	B/F
Door					2					2'-10" X 6'-8"										SOLID
Window					4					12"x18"				W					4x (24+36)	WOOD DOOR
Door					1					36" X 7'-0"										SOLID

TOTAL AREA U-VALUE

LEGEND:

- *GLAZING: 1 - ORDINARY, 2 - 1/4" PLATE, 3 - HEAT ABSORBING, 4 - TINTED
- **FRAME: W - WOOD, M - METAL, T - METAL/THERMAL BREAK
- ***SHADING: A - SOLAR FILM, B - VEN BLIND, C - STORM WINDOW, D - DRAPES
- ***VISIBILITY: E - AWNING, F - SOLAR SCREEN, G - OVERHANG, OTHER - SPECIFY
- WINDOW TYPES: 1 - DOUBLE HUNG, 2 - SINGLE HUNG, 3 - SLIDING, 4 - CASEMENT, 5 - LOUVERED, 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FHL
 BLDG. NO. 156

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

*SEE SKETCH
 FOLLOWING PAGE*

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

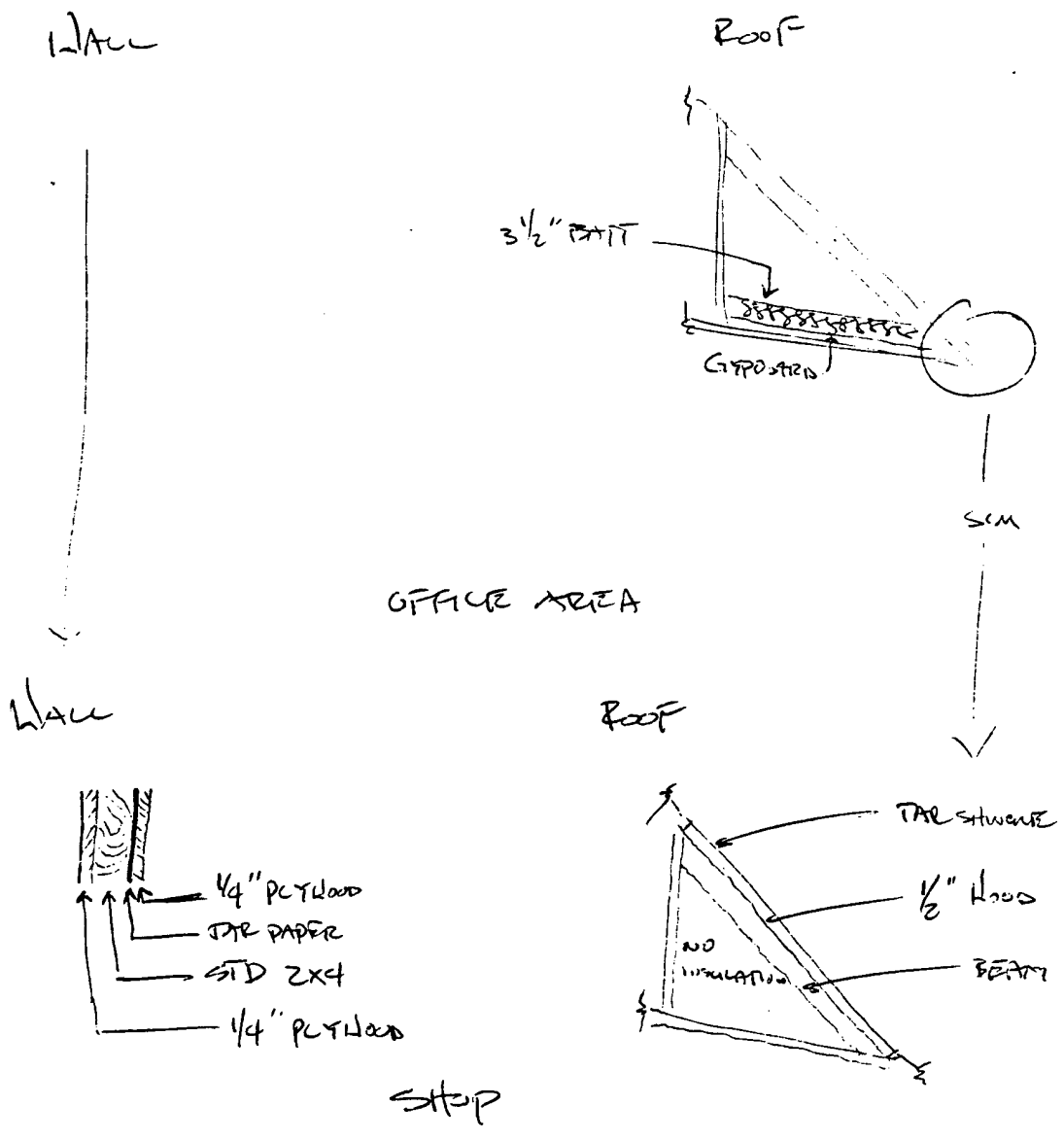
U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FHL
BLDG 156



LOCATION FHL
BLOG. NO. 156

3.1 HEATING EQUIPMENT

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other

OFFICE
ELEC WALL HEAT
WINDOOS A/C

Capacity: _____ Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: NO NAME RATE Model No.: _____

HA Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/_____ Draft: Forced Induced
 Other (Specify) Wood

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
DEMAND Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

STEP HAS WOOD-BURNING STOVE

3.2 COOLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 156

COMPRESSOR(S)/CHILLER

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS:

Outdoor A/C UNIT IN OFFICE Outdoor A/C IN OFFICE/LUNGEA
2X SWAMP COOLERS IN SHIP (1-2 Tons)

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FJL
 BLDG. NO. 156

- a. Is System Supported from (check one):
 Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 140° °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
1/2"
- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? No
- 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|---------------------------|------------|-------|
| a. Location | <u>2nd Floor</u> | _____ | _____ |
| b. Areas Served | <u>"</u> | _____ | _____ |
| c. Manufacturer and Model | <u>STATE SCI 61MS1 KH</u> | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>Electric</u> | _____ | _____ |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | <u>6 GAL</u> | _____ | _____ |
| 2) Instantaneous | | _____ | _____ |
| 3) Semi-Instantaneous | <u>X</u> | _____ | _____ |
| f. Heater Size and Storage Capacity | <u>6 GAL</u> | _____ | _____ |
| g. Heating Capacity | <u>1.65 KW</u> | _____ | _____ |
| h. Type Controls (Air, Steam, Electric) | <u>MAN</u> | _____ | _____ |
| i. When Installed & Condition | | _____ | _____ |
| j. Heater Temperature Setting | | _____ | _____ |
| k. Average Water Maintained Temperature | | _____ | _____ |
| l. Temperature Differential (j) - (k) | | _____ | _____ |
| m. Is Hot Water Supply Adequate: | <u>YES</u> | _____ | _____ |
| n. Insulation Thickness | <u>N/A</u> | Type _____ | _____ |
| o. Insulation Material | <u>N/A</u> | _____ | _____ |

4.2 Lighting
4.2.1 Interior Lighting

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BLDG.

LOCATION FHL

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)			
													C E I L I N G	W A L L	C E I L I N G	W A L L					
SHR	S	F46	2/227	18							46.50										
	S	F/60	1/60	1	60																
OFFICE	S	F40	2/72	2																	
OFFICE	S	F40	2/72	1																	
TOTAL BUILDING LIGHTING ENERGY																					

LIGHTING LEGEND:

- Window Code:**
If there are windows, indicate:
Curtains = C
Shades = S
No Shading = NS
- Lamp Types:**
Incandescent = I
Fluorescent = F
Sodium Vapor = SV
Mercury Vapor = MV
Metal Halide = MH
Other--Describe
- Fixture Types:**
Recessed = R
Suspended = S
Ventilated = V
Pole Mounted = PM
Other--Describe
- Tasks Code:**
1 = Corridors
2 = Kitchens
3 = Dining
4 = Offices-general
5 = Offices-bookkeeping (ledgers only)
6 = Offices-drafting
7 = Laundry
8 = Toilets
9 = Sleeping quarters
10 = Supply rooms
11 = Repair shops
12 = Storage room
13 = Retail store (PX, commissary)
Other (describe on audit form)
E = Exterior

LOCATION FAL
BLDG. NO. 156

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: COMPUTER IN OFFICE

4.3.2 RECEPTACLES IN USE 50% PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler	<u>1</u>
Vending Machine	<u>—</u>
Space Heater	<u>—</u>
Coffee Pot	<u>1</u>
TV	<u>—</u>
XEROX	<u>—</u>
Other:	
<u>PRINTER</u>	<u> </u>
<u>REFRIG</u>	<u> </u>
<u>SMALL (PRINTERS & STAPLER)</u>	<u> </u>
	<u> </u>

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHC SURVEYED BY RJB DATE OCT 92
 BUILDING NUMBER 161 FUNCTION/USE OFFICE
 INFORMATION SOURCE (DWG. NO./PERSON) VISUAL

GENERAL BUILDING DATA

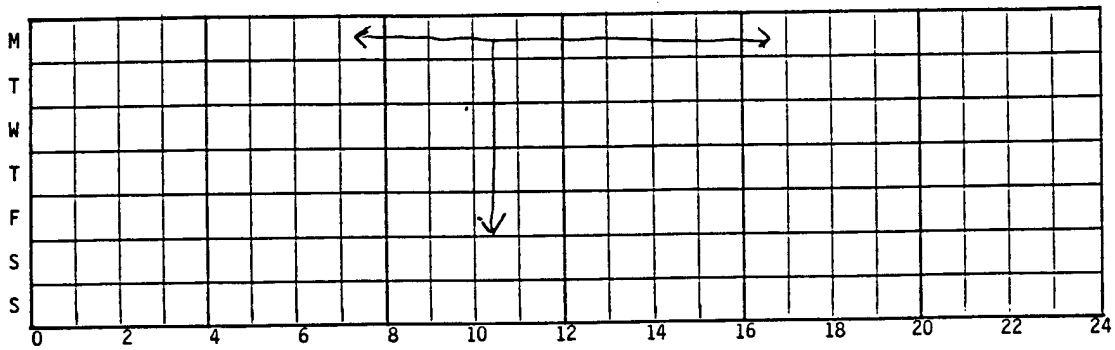
BUILDING AGE: NUM YEARS

DUPLICATE BUILDING NOS: 162
 TOTAL: 2

SIMILAR BUILDING NOS: _____
 TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 12

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: _____

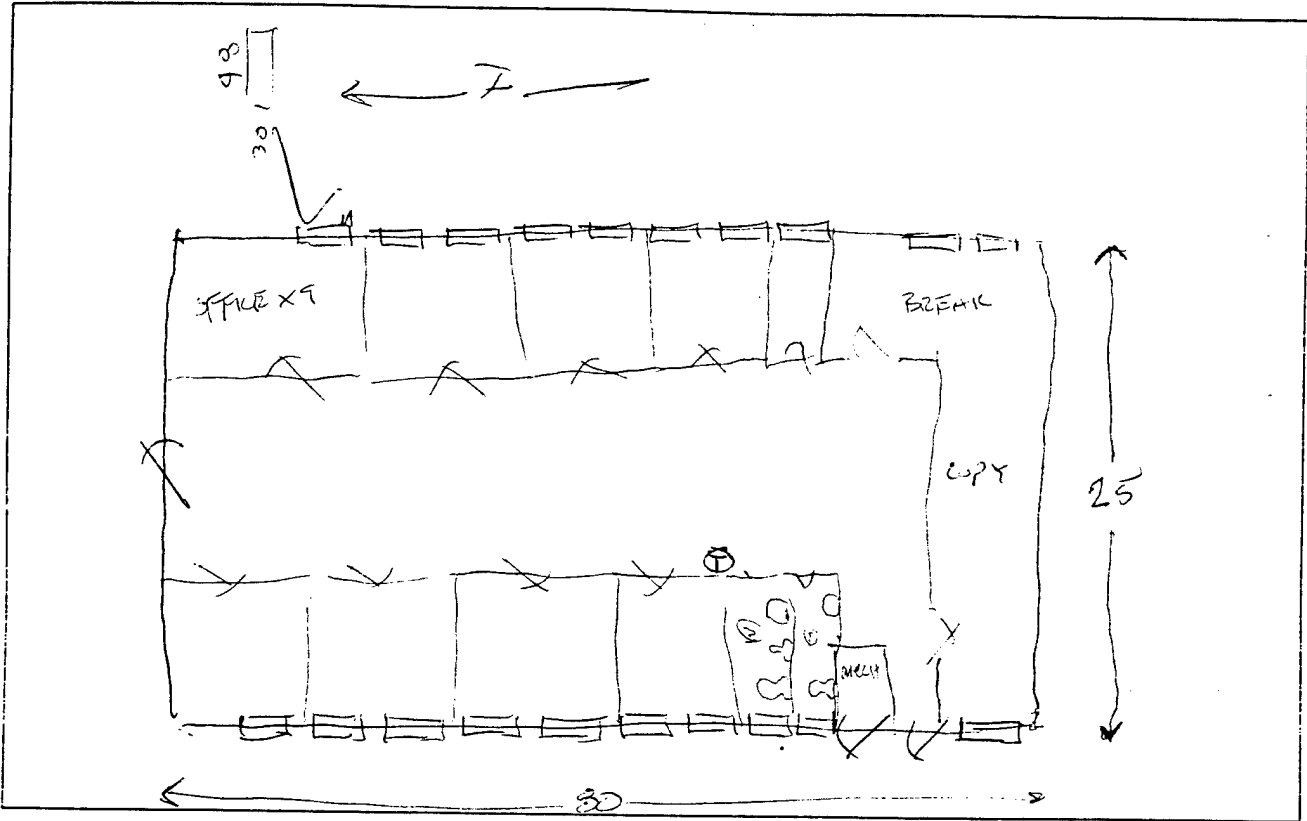
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED none SoB

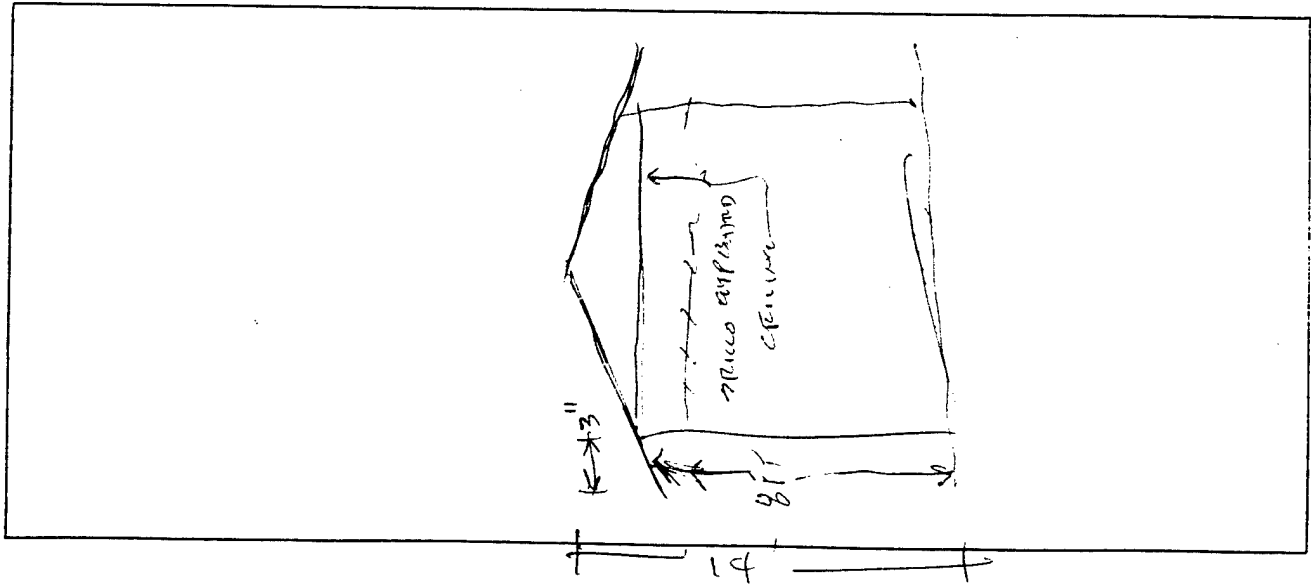
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

2.4 BUILDING ENVELOPE

LOCATION FHC
 BLDG. NO. 161

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
WOOD PANEL	1/4"	
POLY STYRENE	1"	
SMP	4"	
GIP BOARD	1/4"	
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR S.O.G.

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSULATION		
POLYWOOD	1/4"	
STUD	2"	
SPACE	0-5' A	
GIP BOARD		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
WOOD	2"	
INSIDE FILM		
TOTAL		

U-FACTOR AREA

LOCATION FHL
BLDG. NO. 161

3.1 HEATING EQUIPMENT - SEE 3.2

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant)

Other PACKAGED HEAT/COOL UNIT

Capacity: 100,000 Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: _____ Model No.: _____

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Other (Specify) PURPANE Induced

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps N/A V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT 1. ENHANCED SPLIT SYSTEM

LOCATION FHC
 BLDG. NO. 101

COMPRESSOR(S)/CHILLER

Compressors

Manufacturer Low FRIGIDA
 Model No. _____
 Size _____
 Refrigerant R-22 R-22
 Motor HP (if available) _____
 Motor Voltage 208/230 208/230
 Motor FLA 17.3 FLA 26.5 FLA
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled X _____
 Evaporative _____
 Manufacturer LEWIS _____
 Model No. HS17-953-3Y _____
 Size _____
 Type of Fan PROP _____
 Fan Motor HP 3/4 _____
 Fan Motor Voltage 208/230 _____
 Fan Motor FLA 3.7 _____
 Measured Amps 25 _____

CHILLED WATER PUMPS (If more than one, how many

operative during normal operation: _____)
 Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: THERMOSTAT IS NOT PROGRAMMABLE HOWEVER IT DOES
HAVE A TIME SWITCH

3.3 AIR HANDLING EQUIPMENT

LOCATION Flh
 BLDG. NO. 161

FANS

Type	<u>VERT INDUR</u>		
Unit/Zone	#	#	#
Manufacturer	<u>REVINOX</u>		
Model No.	<u>G16034-100-1</u>		
Type	<u>CELT direct</u>		
RPM of Fan			
Motor HP	<u>1/2</u>		
Motor Volts	<u>120</u>		
Motor FLA			
Measured Amps			
CFM (from Plans)			
Notes	<u>120V</u>		

COILS

Indicate capacities where found:

COOLING		HUMIDIFICATION	
DX	<u>2 STAGE</u>	ELEC	
H ₂ O		STEAM	
OTHER		H ₂ O	
HEATING		AUX/MISC OTHER	
GAS			
H ₂ O			
ELEC			
<u>PROP</u> OTHER	<u>100000 BTU (HP-1)</u>		

FILTERS

Type	<u>/</u>	<u>/</u>	<u>/</u>
Condition	<u>/</u>	<u>/</u>	<u>/</u>
Manometer Reading 1/	<u>/</u>	<u>/</u>	<u>/</u>

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION File
 BLDG. NO. 161

N/A

- a. Is System Supported from (check one):
 Central Plant One System per Building
 Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: _____ °F _____ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

d. Is Piping System Insulated and Condition: _____

e. Is Hot Water Circulated? _____

- 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	_____	_____	_____
b. Areas Served	_____	_____	_____
c. Manufacturer and Model	_____	_____	_____
d. Energy (Oil, Gas, Electric, Coal, Etc.)	_____	_____	_____
e. Type Heaters & Quantities:			
1) Storage	_____	_____	_____
2) Instantaneous	_____	_____	_____
3) Semi-Instantaneous	_____	_____	_____
f. Heater Size and Storage Capacity	_____	_____	_____
g. Heating Capacity	_____	_____	_____
h. Type Controls (Air, Steam, Electric)	_____	_____	_____
i. When Installed & Condition	_____	_____	_____
j. Heater Temperature Setting	_____	_____	_____
k. Average Water Maintained Temperature	_____	_____	_____
l. Temperature Differential (j) - (k)	_____	_____	_____
m. Is Hot Water Supply Adequate:	_____	_____	_____
n. Insulation Thickness	_____	Type _____	_____
o. Insulation Material	_____	_____	_____

N/A

4.2 Lighting
4.2.1 Interior Lighting

LIGHTING

LOCATION FH BLDG. 161

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	MEASURED CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	W A L L	C E I L I N G	W A L L			
	F		2	7							15								
	F		2	5							30								
	F		4	2							30								
TOTAL BUILDING LIGHTING ENERGY																			

417
REACH

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (px, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION FHC
 BLDG. NO. 101

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>2</u>	<u>WALL</u>	<u>2</u>				

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING
 Actual at time of survey _____
 Total installed _____

~~WATTS OF EXTERIOR LIGHTING
 Actual on at time of survey _____
 Total installed _____~~

LOCATION FH
BLDG. NO. 161

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: COMPUTER 15 EA

4.3.2 RECEPTACLES IN USE 26% PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler	<u>1</u>
Vending Machine	_____
Space Heater	_____
Coffee Pot	<u>1</u>
TV	_____
XEROX	<u>1</u>
Other:	
<u>MICROWAVE</u>	_____
<u>STURDIER</u>	_____
<u>MIX OFFICE EQ</u>	_____
_____	_____

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BIT DATE 9/30/92
BUILDING NUMBER 162 FUNCTION/USE TED Plans - Admin. Office
INFORMATION SOURCE (DWG. NO./PERSON) Ralph Sirtak

GENERAL BUILDING DATA

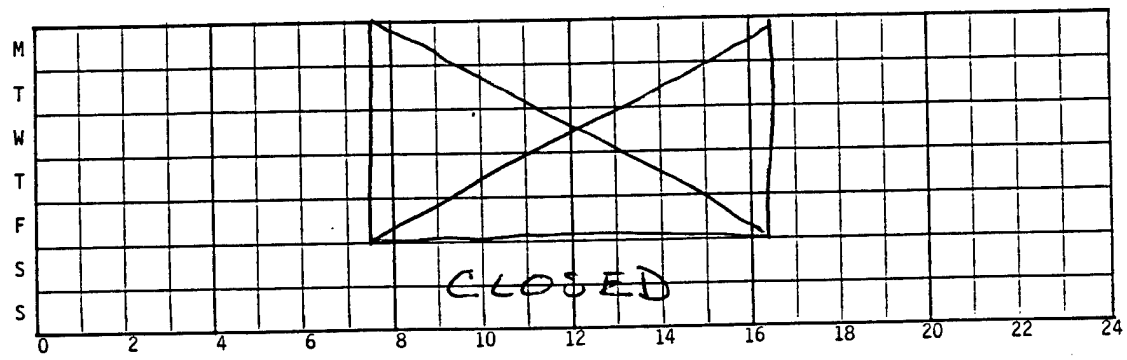
BUILDING AGE: Renovated YEARS OLD

DUPLICATE BUILDING NOS: _____ TOTAL: _____

SIMILAR BUILDING NOS: _____ TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY)
Indicate (number and) duration of occupants each day

NO. OF OCCUPANTS _____
11-9/30/92 @ RIF
4-10/1/92



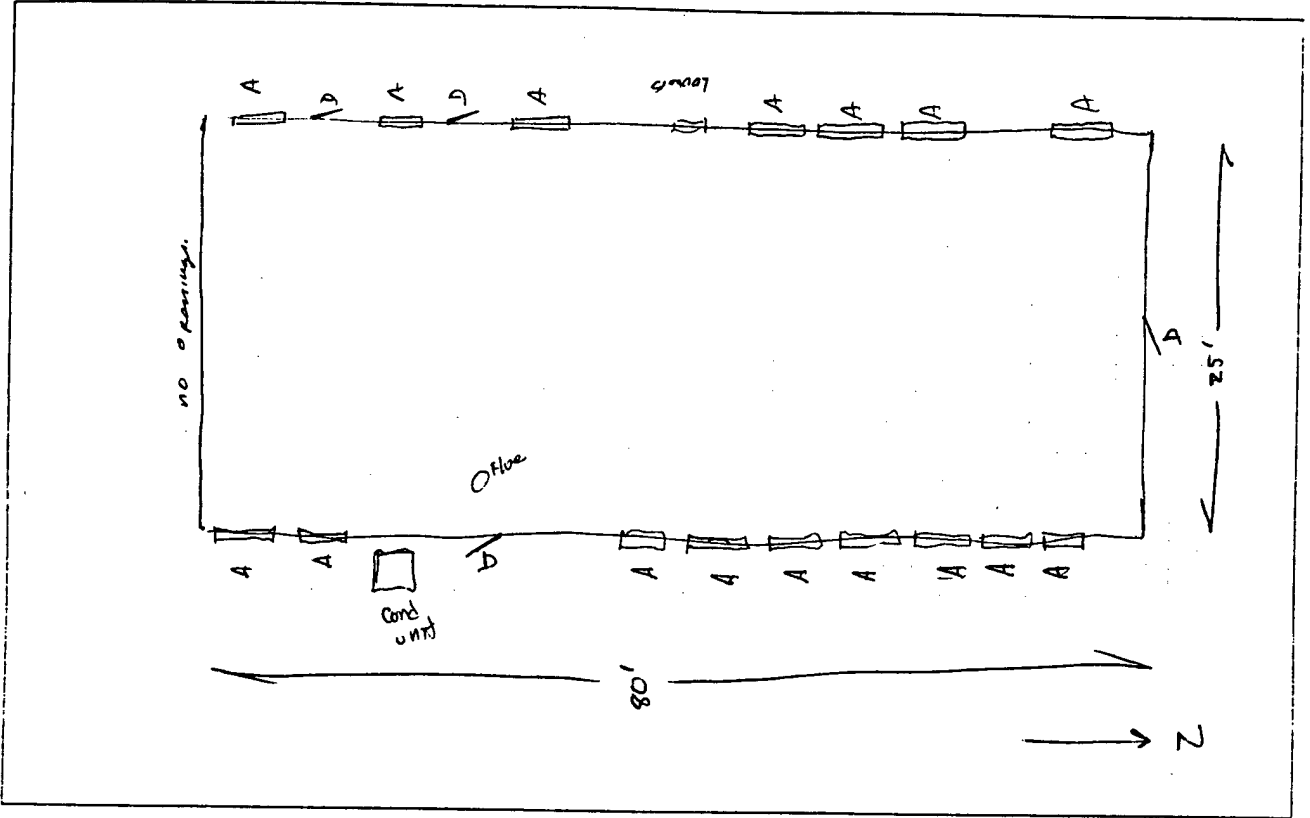
MISCELLANEOUS EQUIPMENT: See lists

ADDITIONAL COMMENTS, CRITICAL LOADS: _____

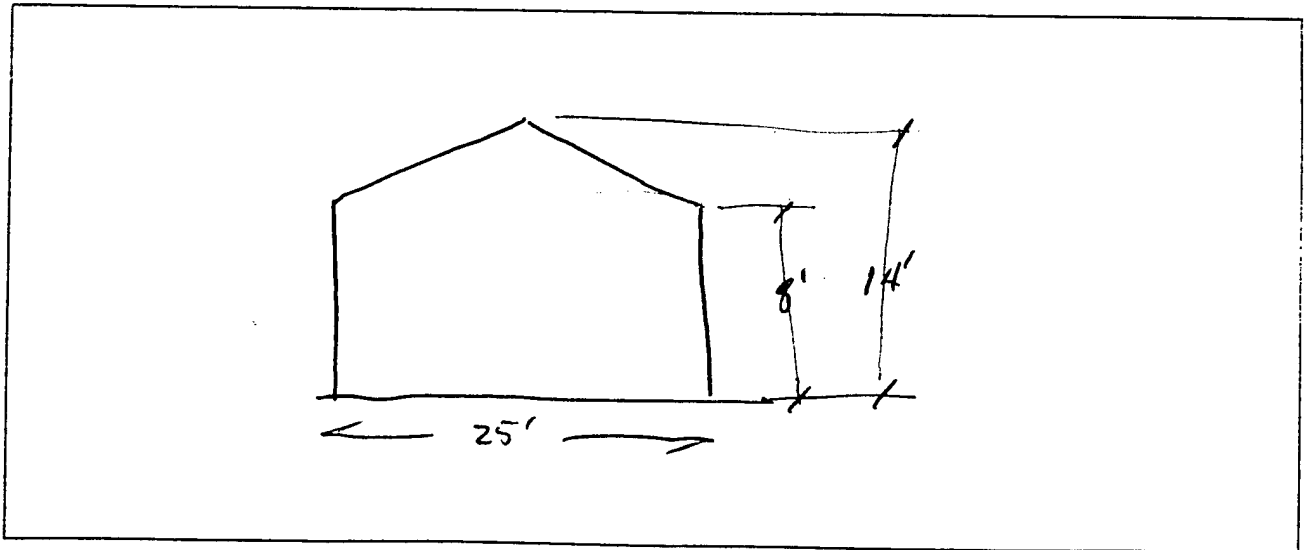
CRAWL SPACE: VENTILATED EXHAUSTED SOG
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

2.3 ARCHITECTURAL WINDOWS & DOORS

LOCATION FAC
BLDG. NO. 162

DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE									SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION				REMARKS *** *****					
		N	NE	E	SE	S	SW	W	NW	TYPE		DBL	TRPL	W/S YES		NO	FIT LOOSE	AUG	CRACK LENGTH						
Windows	3		9					9			66 x 80"	1			M		AVG	222"							
Doors			2					1			36 x 84"	-	-	M		✓	240"								
TOTAL AREA																									

TOTAL AREA U-VALUE

- *GLAZING:**
 1 - ORDINARY
 2 - 1/4" PLATE
 3 - HEAT ABSORBING
 4 - TINTED
- **FRAME:**
 W - WOOD
 M - METAL
 T - METAL/THERMAL BREAK
- ***SHADING:**
 A - SOLAR FILM
 B - VEN BLIND
 C - STORM WINDOW
 D - DRAPES
- ***VISIBILITY:**
 E - AWNING
 F - SOLAR SCREEN
 G - OVERHANG
 OTHER - SPECIFY
- WINDOW TYPES:**
 1 - DOUBLE HUNG
 2 - SINGLE HUNG
 3 - SLIDING
 4 - CASEMENT
 5 - LOUVERED
 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FAL
BLDG. NO. 162

CONSTRUCTION

WALL COLOR: D M L

TYPE: F P
COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Plywood	1/2"	
Styrofoam	1"	
Moisture Barrier	-	
Gypsum Board	1/2"	
INSIDE FILM		

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Comp. Ash Shingles		
Air Space	60" at peak	
Gypsum Board	1/2"	
INSIDE FILM		

TOTAL

ash FE of deck insulat metal

U-FACTOR AREA

U-FACTOR AREA

FLOOR SOG

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
SOG		
Limestone		
INSIDE FILM		

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Wood	1 5/8	
INSIDE FILM		

TOTAL

TOTAL

U-FACTOR AREA

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

New units.

Capacity: 100,000 Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: Lennox Model No.: G 1603/4-100-1

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI
6AM-6PM 7d/wk - 7 day time clock - no stops on s/s

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) Propane

Burner: Mfg. Sams Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From 6am To 6pm Hr/Day 12
Weekdays & Holidays: From _____ To _____ Hr/Day 12
Operating Season: From _____ Mon/Day, to _____ Mon/Day
*150° E
120° F
90° F*

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler New (2) Other (Specify) LA
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): NO significant problems

3.2 COOLING EQUIPMENT

Package

COMPRESSOR(S)/CHILLER

Manufacturer Lennox
 Model No. _____
 Size _____
 Refrigerant R22
 Motor HP (if available) _____
 Motor Voltage 208/230 3φ
 Motor FLA ~~FLA~~ RLA 21.5
 Measured ~~FLA~~ RLA Amps 135

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled ✓
 Evaporative _____
 Manufacturer Lennox
 Model No. HS 17-813-34
 Size _____
 Type of Fan propeller
 Fan Motor HP 3/4
 Fan Motor Voltage 230V 1φ
 Fan Motor FLA 3.5
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many

operative during normal operation: _____)
 Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

*208V on
 A 21A Cond,
 B 23A unit.
 C 20A*

REMARKS: _____

3.3 AIR HANDLING EQUIPMENT

LOCATION FAC
BLDG. NO. 162

FANS

See data on WAF / Chg coils

Type	_____	_____	_____	_____
Unit/Zone	# _____	# _____	# _____	# _____
Manufacturer	_____	_____	_____	_____
Model No.	_____	_____	_____	_____
Type	_____	_____	_____	_____
RPM of Fan	_____	_____	_____	_____
Motor HP	_____	_____	_____	_____
Motor Volts	_____	_____	_____	_____
Motor FLA	_____	_____	_____	_____
Measured Amps	_____	_____	_____	_____
CFM (from Plans)	_____	_____	_____	_____
Notes	_____	_____	_____	_____

none
vent - 240V's
2 w.c.'s

COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX <u>Coleman C17-95/135U-1</u>	ELEC _____
H ₂ O _____	STEAM _____
OTHER _____	H ₂ O _____
HEATING	OTHER _____
GAS _____	AUX/MISC OTHER _____
H ₂ O _____	_____
ELEC _____	_____
OTHER _____	_____

FILTERS

Type	<u>FG</u>	_____	_____
Condition	<u>Good</u>	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT None

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? _____
1) Condition of circulator _____ 3) Is aquastat provided? _____
2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|-------|------------|-------|
| a. Location | _____ | _____ | _____ |
| b. Areas Served | _____ | _____ | _____ |
| c. Manufacturer and Model | _____ | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | _____ | _____ | _____ |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | _____ | _____ | _____ |
| 2) Instantaneous | _____ | _____ | _____ |
| 3) Semi-Instantaneous | _____ | _____ | _____ |
| f. Heater Size and Storage Capacity | _____ | _____ | _____ |
| g. Heating Capacity | _____ | _____ | _____ |
| h. Type Controls (Air, Steam, Electric) | _____ | _____ | _____ |
| i. When Installed & Condition | _____ | _____ | _____ |
| j. Heater Temperature Setting | _____ | _____ | _____ |
| k. Average Water Maintained Temperature | _____ | _____ | _____ |
| l. Temperature Differential (j) - (k) | _____ | _____ | _____ |
| m. Is Hot Water Supply Adequate: | _____ | _____ | _____ |
| n. Insulation Thickness | _____ | Type _____ | _____ |
| o. Insulation Material | _____ | _____ | _____ |

LOCATION FHL

BLDG. NO. 162

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: ^{*}MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

Thermostat w/ Heat/Cool/Fan only
6 Hr timer switch installed to operate HVAC

3.6 SPECIAL EQUIPMENT

LOCATION FHC
BLDG. NO. 162

IDENTIFICATION NO.	LOCATION (ROOM)	DESCRIPTION (MANUFACTURER, MODEL NO.)	CONNECTED LOAD KW	REMARKS
	LUNCH ROOM	Water Cooler		Lunch Run
		Xerox		
		Coffee Maker		
		Coffee Maker		
		Microwave		
		Bar Refrig		✓
	offices	PC		11A 11A 11
		Printers		11A 11A

SPECIAL EQUIPMENT

LIGHTING 1 S 34 2/ 6 LOCATION _____ BLDG. _____

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)		
													C E I L I N G	W A L L	C E I L I N G	W A L L				
4(1)	S	F 34	2	3							50									
4(2)				2							40									
4(3)				3																
4(3)				2																
4(1)				2																
4(2)				2																
4(4)				2																
8		F 34	2	1																
8		F 34	1	1																
(8)			2	2																
(10)		F 34	2	2																
TOTAL BUILDING LIGHTING ENERGY																				

LIGHTING LEGEND:

- Window Code:
If there are windows, indicate:
Curtains = C
Shades = S
No Shading = NS
- Lamp Types:
Incandescent = I
Fluorescent = F
Sodium Vapor = SV
Mercury Vapor = MV
Metal Halide = MH
Other--Describe
- Fixture Types:
Recessed = R
Suspended = S
Ventilated = V
Pole Mounted = PM
Other--Describe

- Tasks Code:
1 = Corridors
2 = Kitchens
3 = Dining
4 = Offices-general
5 = Offices-bookkeeping (ledgers only)
6 = Offices-drafting
7 = Laundry
8 = Toilets
9 = Sleeping quarters
10 = Supply rooms
11 = Repair shops
12 = Storage room
13 = Retail store (PX, commissary)
Other (describe on audit form)
E = Exterior

LOCATION FHC
 BLDG. NO. 162

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

<u>ACTUAL NO. OF FIXTURES</u>	<u>TYPE OF FIXTURE</u>	<u>NO. OF FIXTURES IN USE</u>	<u>WATTS/ FIXTURE</u>	<u>TOTAL WATTS</u>	<u>CONTROL TYPE*</u>	<u>REMARKS</u>
<u>3</u>	<u>Surface LPS</u>	<u>3</u>	<u>75</u>			

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey _____

Total installed _____

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey _____

Total installed _____

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION 242 SURVEYED BY RJB DATE 10/92
BUILDING NUMBER T-168 FUNCTION/USE STORAGE
INFORMATION SOURCE (DWG. NO./PERSON) VISUAL

GENERAL BUILDING DATA

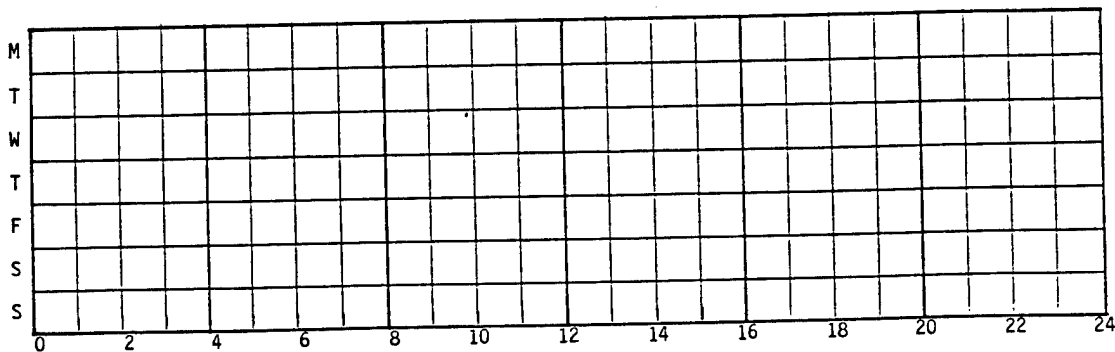
BUILDING AGE: _____ YEARS

DUPLICATE BUILDING NOS: _____
TOTAL: _____

SIMILAR BUILDING NOS: _____
TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 0

Indicate (number and) duration of occupants each day 0-1 hr




MISCELLANEOUS EQUIPMENT: _____

ADDITIONAL COMMENTS, CRITICAL LOADS: NO HEATING OR COOLING

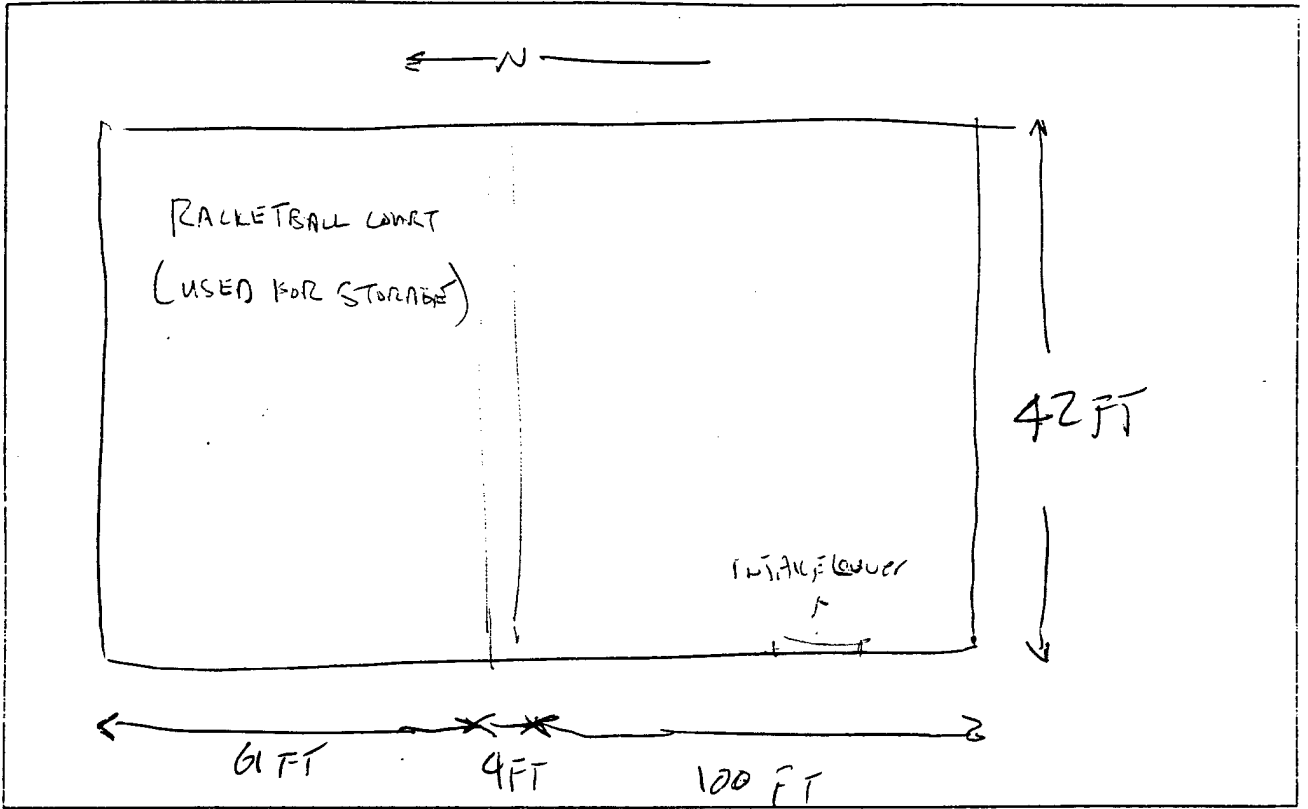
CRAWL SPACE: VENTILATED EXHAUSTED

ATTIC: VENTILATED EXHAUSTED

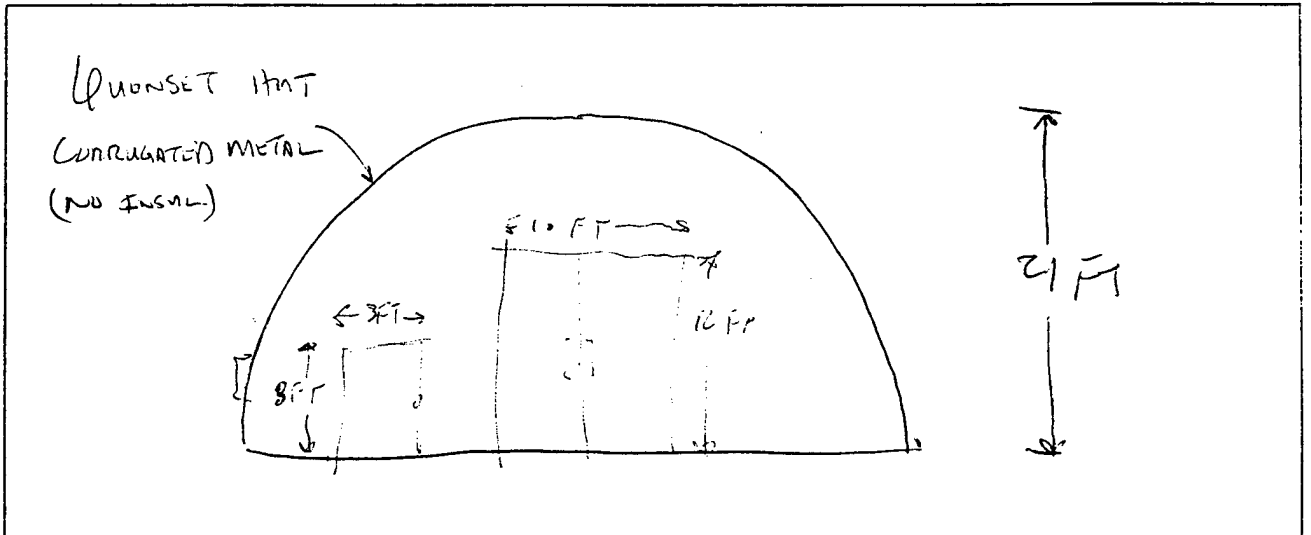
 7' x 20' x 8' 1/2" high

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



2.3 ARCHITECTURAL WINDOWS & DOORS

LOCATION FAL
BLDG. NO. 168

Vertical text label on the left side, possibly a window type or material specification.

DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE						SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION						
		N	NE	E	SE	S	SW		W	NW	TYPE		DBL	TRPL	W/S YES NO	FIT LOOSE	AUG	CRACK LENGTH	REMARKS *** ****

TOTAL AREA U-VALUE

- LEGEND:
- *GLAZING:
 - 1 - ORDINARY
 - 2 - 1/4" PLATE
 - 3 - HEAT ABSORBING
 - 4 - TINTED
 - **FRAME:
 - W - WOOD
 - M - METAL
 - T - METAL/THERMAL BREAK
 - ***SHADING:
 - A - SOLAR FILM
 - B - VEN BLIND
 - C - STORM WINDOW
 - D - DRAPES
 - ****VISIBILITY:
 - E - AWNING
 - F - SOLAR SCREEN
 - G - OVERHANG
 - OTHER - SPECIFY
 - WINDOW TYPES:
 - 1 - DOUBLE HUNG
 - 2 - SINGLE HUNG
 - 3 - SLIDING
 - 4 - CASEMENT
 - 5 - LOUVERED
 - 6 - FIXED GLASS

4.2 Lighting
4.2.1 Interior Lighting

LIGHTING LOCATION FHL BLDG. 168

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L L I N G	W A L L	C E I L L I N G	W A L L			
12	S	F40	2 72	17															
12	R	F40	4 144	4															
TOTAL BUILDING LIGHTING ENERGY																			

- LIGHTING LEGEND:
- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general (ledgers only)
 5 = Offices-bookkeeping
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FILE SURVEYED BY RJB DATE OCT. '92
 BUILDING NUMBER 177 FUNCTION/USE TECH LIBRARY
 INFORMATION SOURCE (DWG. NO./PERSON) VISUAL

GENERAL BUILDING DATA

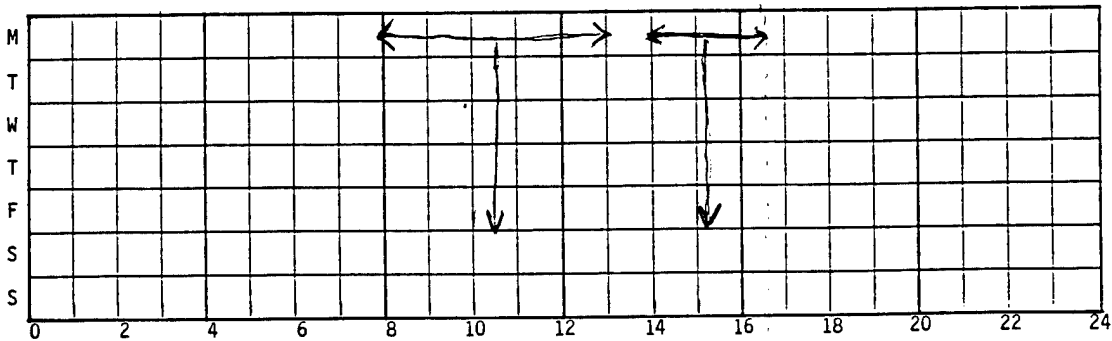
BUILDING AGE: _____ YEARS

DUPLICATE BUILDING NOS: _____
 _____ TOTAL: _____

SIMILAR BUILDING NOS: _____
 _____ TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 4

Indicate (number and) duration of occupants each day



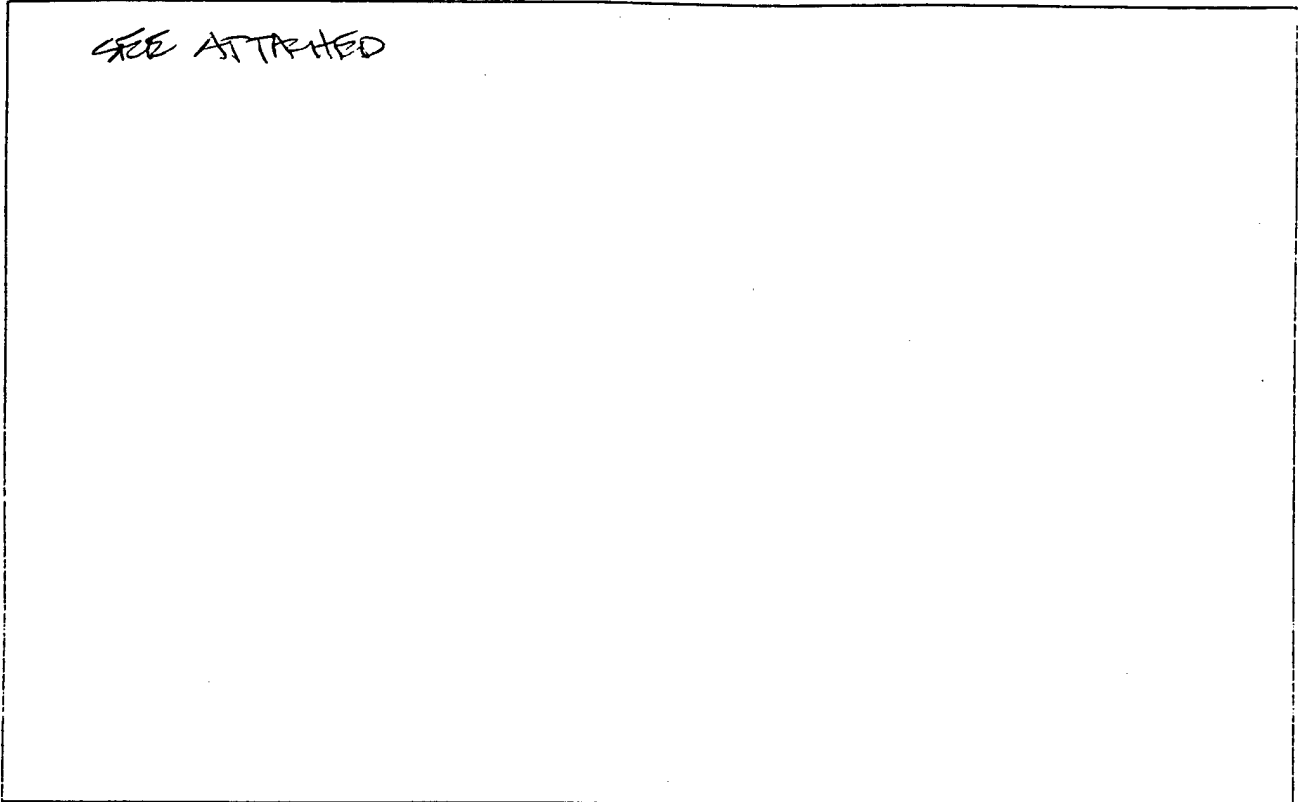
MISCELLANEOUS EQUIPMENT: 6 COMPUTERS
2 MICRIFILM
MISC OFFICE SUPPLIES

ADDITIONAL COMMENTS, CRITICAL LOADS: EVERYTHING IS AUTOMATED EXCEPT THE LIGHTS

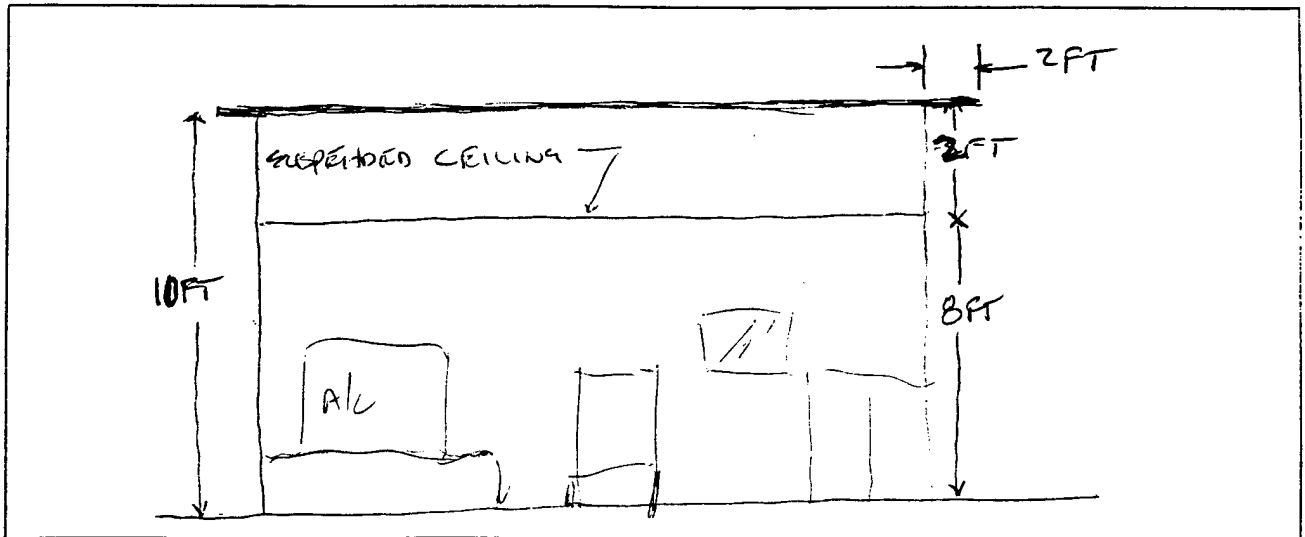
CRAWL SPACE: VENTILATED EXHAUSTED
 ATTIC: VENTILATED EXHAUSTED NONE

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND
ELEVATION SKETCHES

2.3 ARCHITECTURAL WINDOWS & DOORS

LOCATION FAL
BLDG. NO. 177

DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION				REMARKS *** ****		
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S YES NO	FIT LOOSE AUG	CRACK LENGTH				
Window	3			2							32x54	1			M	X		AUG	3x54 2x32		
Window	6			1							32x24	1			M	X		AUG	2x32 2x24		
Window	3			1							54x32	1			M	X		AUG	54x32 2x54		
Window	6	2									36x36	1			M	X		AUG	4x36		
Window	3										32x54	1			M	X					
Window	6										54x24	1			M	X					
Window	3										54x32	1			M	X					
Window	3										30x36	1			M	X					
Window	3										54x32 36x36	1			M	X					
Door				1							36x84				M					SINGLE	
Door											72x84				M						DOUBLE

TOTAL AREA U-VALUE

LEGEND:

- *GLAZING:
 - 1 - ORDINARY
 - 2 - 1/4" PLATE
 - 3 - HEAT ABSORBING
 - 4 - TINTED
- **FRAME:
 - W - WOOD
 - M - METAL
 - T - METAL/THERMAL BREAK
- ***SHADING:
 - A - SOLAR FILM
 - B - VEN BLIND
 - C - STORM WINDOW
 - D - DRAPES
- ****VISIBILITY:
 - E - AWNING
 - F - SOLAR SCREEN
 - G - OVERHANG
 - OTHER - SPECIFY
- WINDOW TYPES:
 - 1 - DOUBLE HUNG
 - 2 - SINGLE HUNG
 - 3 - SLIDING
 - 4 - CASEMENT
 - 5 - LOUVERED
 - 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FAL
 BLDG. NO. 177

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
COKE BLOCK	8	2.18
INSIDE FILM		0.68
TOTAL		3.11

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
BUILT UP		0.33
AIRSPACE	36	0.61
Insulation	R-19	19.00
WOOD DECK		0.77
SUSPENDED C.		
INSIDE FILM		
TOTAL		20.96

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
WOOD	2	
INSIDE FILM		
TOTAL		

U-FACTOR AREA

LOCATION FHL
 BLDG. NO. 177

3.2 COOLING EQUIPMENT

PACKAGED ROOFTOP COOLING/LPG HEATING UNIT (MOUNTED ON GROUND)

COMPRESSOR(S)/CHILLER

Manufacturer TRANS
 Model No. YCH120A3H0AA
 Size _____
 Refrigerant R-22
 Motor HP (if available) _____
 Motor Voltage 208
 Motor FLA 2 e 19A
 Measured Amps 23A - PKG. UNIT TOTAL

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

COND. EVAP
 Water Cooled _____
 Air Cooled ✓
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage 208V/1φ 208V/1φ
 Fan Motor FLA 5.5 7.5
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

3.4

DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

(Hotels)

LOCATION FAL
BLDG. NO. 177

- a. Is System Supported from (check one):
- Central Plant One System per Building
- Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: _____ °F _____ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

d. Is Piping System Insulated and Condition: _____

e. Is Hot Water Circulated? _____

- 1) Condition of circulator _____ 3) Is aquastat provided? _____
- 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	_____	_____	_____
b. Areas Served	_____	_____	_____
c. Manufacturer and Model	_____	_____	_____
d. Energy (Oil, Gas, Electric, Coal, Etc.)	_____	_____	_____
e. Type Heaters & Quantities:			
1) Storage	_____	_____	_____
2) Instantaneous	_____	_____	_____
3) Semi-Instantaneous	_____	_____	_____
f. Heater Size and Storage Capacity	_____	_____	_____
g. Heating Capacity	_____	_____	_____
h. Type Controls (Air, Steam, Electric)	_____	_____	_____
i. When Installed & Condition	_____	_____	_____
j. Heater Temperature Setting	_____	_____	_____
k. Average Water Maintained Temperature	_____	_____	_____
l. Temperature Differential (j) - (k)	_____	_____	_____
m. Is Hot Water Supply Adequate:	_____	_____	_____
n. Insulation Thickness	_____	Type _____	_____
o. Insulation Material	_____	_____	_____

LOCATION FHL
BLDG. NO. 177

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG York MODEL _____ LOCATION SEE SKETCH

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

OFF/HEAT/AIR COOL

4.2 Lighting
4.2.1 Interior Lighting

177

BLDG.

LOCATION FHL

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOM CODE	REMARKS			
													C E I L I N G	W A L L	F L O O R	C E I L I N G	W A L L	F L O O R					
6	R	F	3/55	54	5670						40									(LIGHTS/SWITCH) Flat top of 89 lbs 175000 sq ft			
6	R	F	3/55	6	630															S			
12	R	F	2/55	6	420															S			
8	S	F	2/55	2	140																		
8	S	F	2/55	2	140																		
TOTAL BUILDING LIGHTING ENERGY																							

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION FAL
 BLDG. NO. 177

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>4</u>	<u>HAND</u>					

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey _____

Total installed _____

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey _____

Total installed _____

LOCATION FHL
BLDG. NO. 177

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: 6 computers

4.3.2 RECEPTACLES IN USE _____ PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler 1

Vending Machine _____

Space Heater _____

Coffee Pot _____

TV _____

XEROX 1

Other: _____

1 shredder _____

2 microfilm _____

Misc office sup _____

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BIT DATE 9/30/92
BUILDING NUMBER 178 FUNCTION/USE CHILD DEVELOPMENT CENTER
INFORMATION SOURCE (DWG. NO./PERSON) CDC DIRECTOR

GENERAL BUILDING DATA

BUILDING AGE: 1939 YEARS Remodel

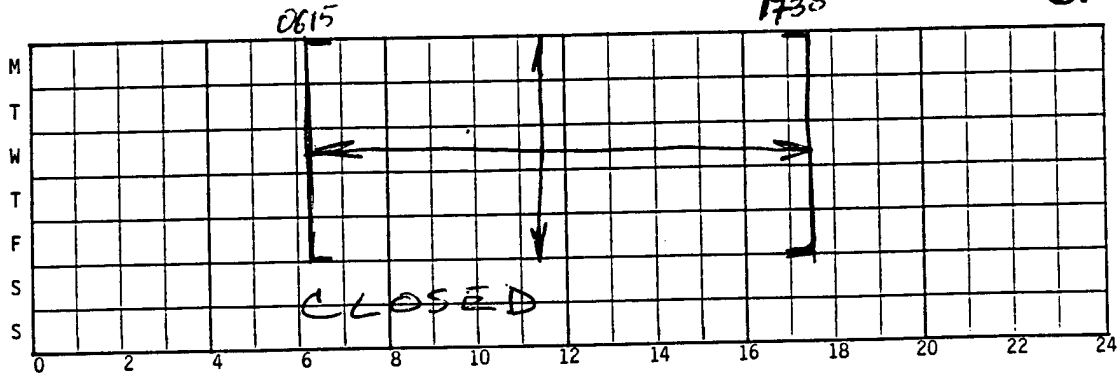
DUPLICATE BUILDING NOS: _____ TOTAL: _____

SIMILAR BUILDING NOS: _____ TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY)

Indicate (number and) duration of occupants each day

NO. OF OCCUPANTS
STAFF = 12
CHILDREN = 31



MISCELLANEOUS EQUIPMENT: _____

ADDITIONAL COMMENTS, CRITICAL LOADS: No SALK program.

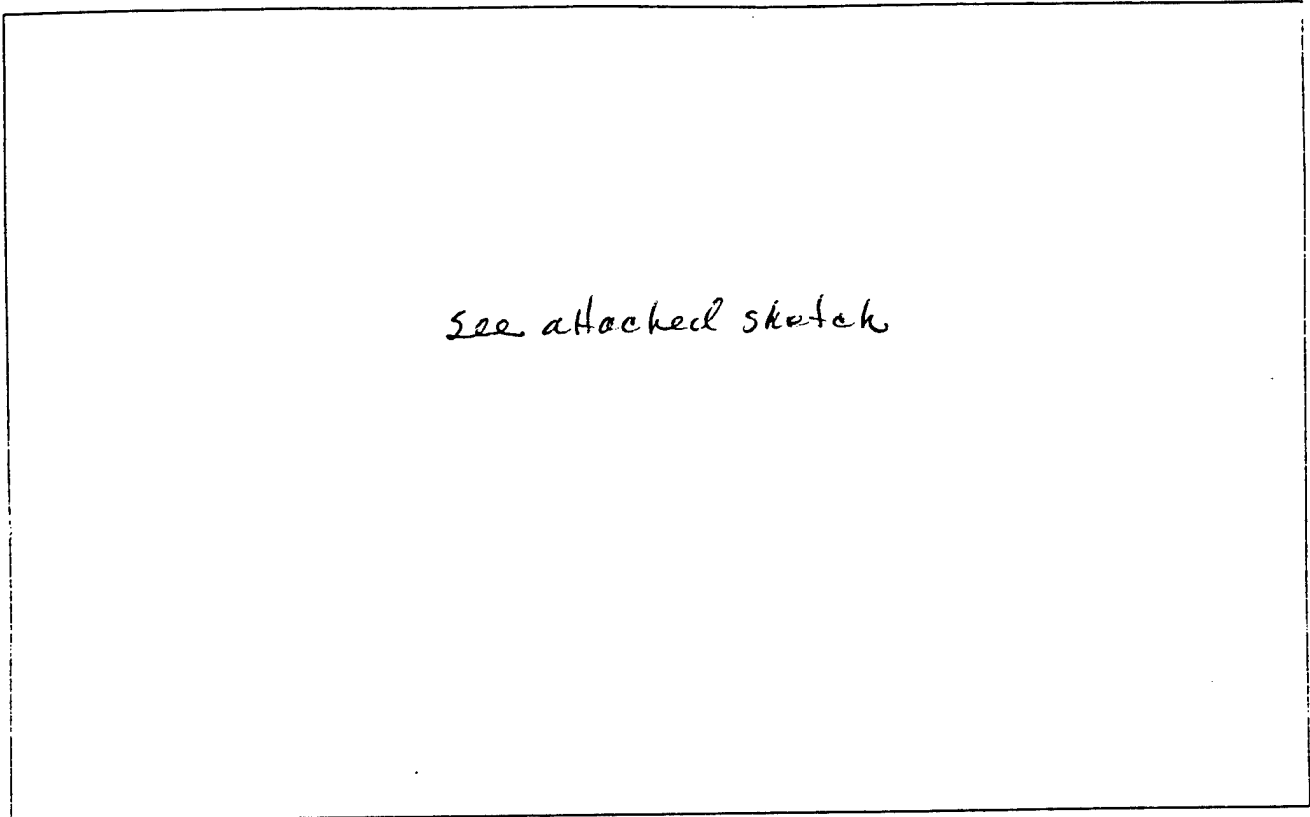
Cooling/Heating difficult to control - not balanced properly - kitchen is a problem.

CRAWL SPACE: VENTILATED EXHAUSTED SOG

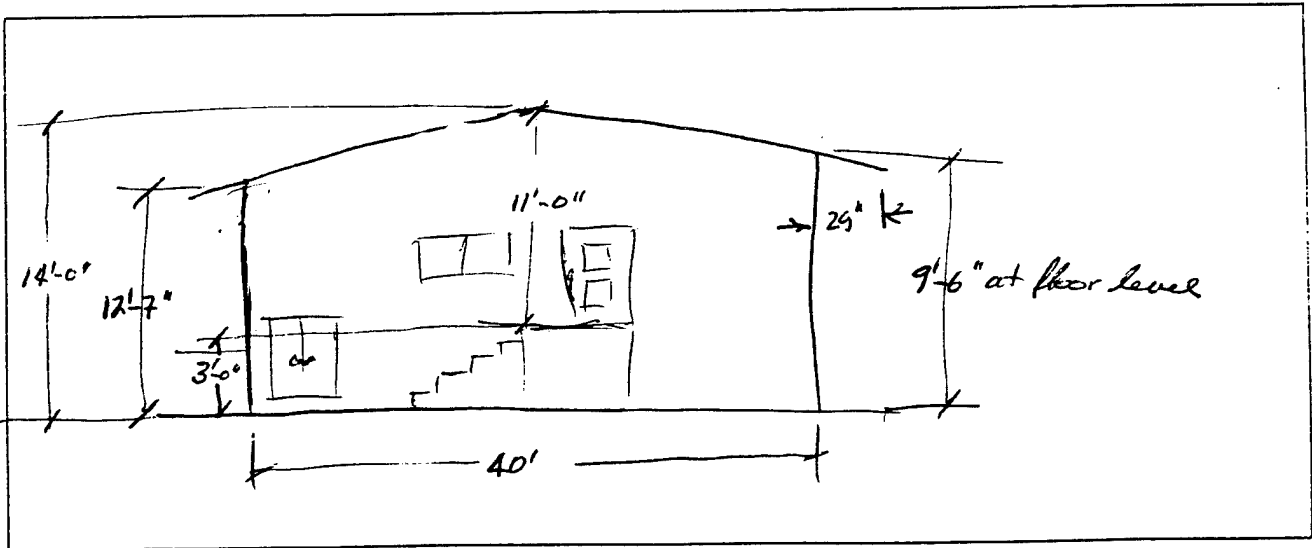
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)

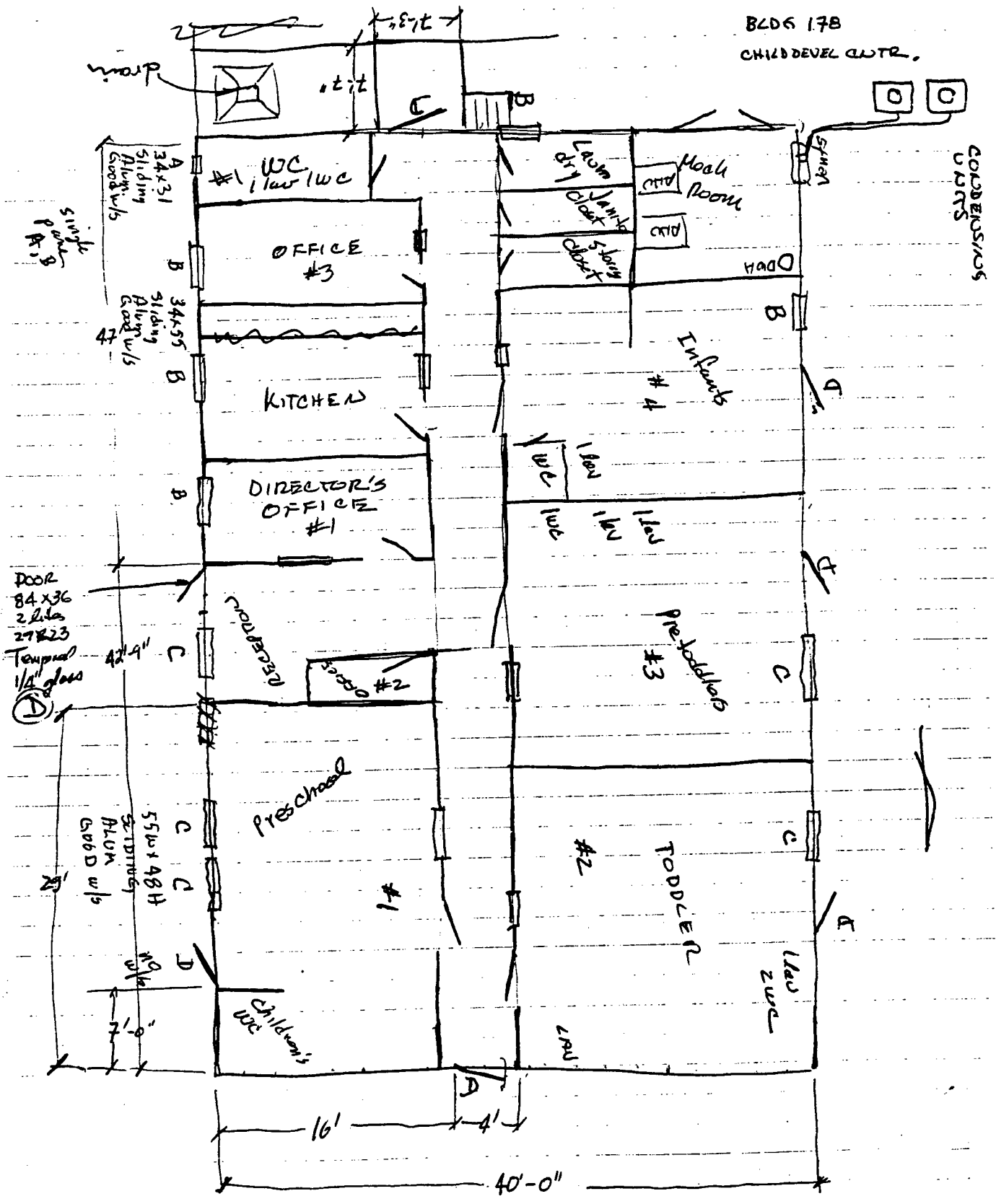


SOUTH ELEVATION (Show floor to ceiling elevations)



BLDG 17B
CHILD DEVEL CTR.

CONDENSING
UNITS



DOOR
84x36
2 doors
27x23
Temporary
1/4" glass

simple
wood
8 ft

A 34x31
Sliding
Aluminum
Good w/s

B 34x55
Sliding
Aluminum
Good w/s

C 55 w x 48 ft
Sliding
Aluminum
Good w/s

7'-6"

16'

4'

40'-0"

RECEPTION

Preschool

DIRECTOR'S
OFFICE
#1

KITCHEN

OFFICE
#3

WC
1 w/c
1 w/c

#2

TODDLER

Preschool
#3

Infants
#4

Nap
Room

Laundry
Dry
Cabinet

Children's
WC

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

1 w/c

2.4 BUILDING ENVELOPE

LOCATION FHL
 BLDG. NO. 178

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
CONCRETE BLOCK	8"	
—		
INSIDE FILM		

TOTAL

U-FACTOR AREA

FLOOR SOG

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
SOG		
Linoam		
Some Carpet		
INSIDE FILM		

TOTAL

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.) TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
BUR		
FG INS.	—	19
Sus. Coe 2.545	3/4"	
Air 2A"		
INSIDE FILM		

TOTAL

U-FACTOR AREA

DOOR WOOD

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
WOOD	1 5/8"	
GLASS	1/4"	
INSIDE FILM		

TOTAL

U-FACTOR AREA

3.1 HEATING EQUIPMENT

New units

LOCATION FHL
BLDG. NO. 178

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 2, each 100000 Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: Lennox Conservator III Model No.: G16Q5-100-7

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: 150°F °F Operating Pressure: L PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced

Burner: Mfg. Integral Model No. _____ Metering Equipment: Yes No

on demand - see schedule in Arch. notes.

Operating Schedule: Weekdays: From _____ To _____ Hr/Day
Weekdays & Holidays: From _____ To _____ Hr/Day
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Set 200 } of
120 } of
90 } of

Flue Gas Temperature: _____ °F Receiver Tank Conditions: Has flue damper integral to unit. PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler Poor Area _____ FT² None Temp. _____ °F
(2) Other (Specify) All ducts Poor Area insulated FT² None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. none Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): Some zones not balanced properly -
occupants have had FE shut off & adjust
on occasion - no serious complaints at
this time.

3.2 COOLING EQUIPMENT

-2, 1 for each AHU/WAF

LOCATION FAL
BLDG. NO. 178

COMPRESSOR(S)/CHILLER

Manufacturer Lennox in Cond Unit
 Model No. see below
 Size _____
 Refrigerant R22
 Motor HP (if available) NA
 Motor Voltage 208/230 1φ
 Motor FLA 27.6
 Measured Amps 1φ

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled ✓
 Evaporative _____
 Manufacturer Lennox
 Model No. H516-651U-8P
 Size _____
 Type of Fan _____
 Fan Motor HP 1/4
 Fan Motor Voltage 208/230
 Fan Motor FLA 2.2 A
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

Evaporator
Lennox C14-65-1FF
R22
one on top
of each AHU/FURNACE

REMARKS: LOAD AT COND. UNIT.
120V 1φ 19 Amps

3.3 AIR HANDLING EQUIPMENT

FANS

Type	<u>Package w/ AHU</u>	<u>Exhaust</u>		
Unit/Zone	#	<u># Kitchen</u>	#	#
Manufacturer		<u>Sunair - Birmingham, AL</u>		
Model No.		<u>ATEO WH 4B</u>		
Type		<u>Kitchen</u>		
RPM of Fan				
Motor HP				
Motor Volts		<u>110</u>		
Motor FLA		<u>0.833</u>		
Measured Amps		<u>-</u>		
CFM (from Plans)		<u>240 from nameplate.</u>		
Notes				

COILS

See AHU data

Indicate capacities where found:

COOLING	<u>2 each</u>	HUMIDIFICATION	
DX	<u>✓ Lennox C14-65-1FF</u>	ELEC	<u>/</u>
H ₂ O		STEAM	
OTHER		H ₂ O	
HEATING		OTHER	
GAS	<u>/</u>	AUX/MISC OTHER	<u>/</u>
H ₂ O			
ELEC			
OTHER			

FILTERS

Type	<u>EG</u>		
Condition	<u>New</u>		
Manometer Reading 1/			

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
3/4" insulated with 1" FG insulation, no jacket.
- d. Is Piping System Insulated and Condition: yes, new Ball & Gossett Series #100 CSS 106189 2250F
- e. Is Hot Water Circulated? Circ Pump
- 1) Condition of circulator new 3) Is aquastat provided? on boiler
2) Circulator capacity see catalog, famm. 4) Aquastat temperature setting "warm"

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location Mech Room
- b. Areas Served Bldg
- c. Manufacturer and Model American Appliance Mfg Corp. GVFB554T LP.
- d. Energy (Oil, Gas, Electric, Coal, Etc.) Propane
- e. Type Heaters & Quantities: Santa Monica, Ca.
- 1) Storage _____
- 2) Instantaneous _____
- 3) Semi-Instantaneous _____
- f. Heater Size and Storage Capacity 50000 BTUH
- g. Heating Capacity ~ 40 gallons not on nameplate
- h. Type Controls (Air, Steam, Electric) demond.
- i. When Installed & Condition recent / good
- j. Heater Temperature Setting "warm"
- k. Average Water Maintained Temperature _____
- l. Temperature Differential (j) - (k) _____
- m. Is Hot Water Supply Adequate: yes
- n. Insulation Thickness integral to new htr.
- o. Insulation Material _____

LOCATION FHL
BLDG. NO. 178

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL 7-day, 24Hr LOCATION _____
Time Clock

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

New, set for 7 days/week
on from 0400
off at 1900
Recommend set to on at 0600
off at ~~0530~~ 1730

Storage = 1 R F3442
Room
Jambly = 1
Laundry = 1

LOCATION F1+L BLDG. 178

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
Entry	R	F 34	2	3								7'-11"	LL	FF	NS	Each side, 1 switch
Corridor	R		2	6											NS	
WC#1	S	F 34	1	2											NS	105°F DHW
OFFICE #35	R	F 34	2	2											NS	
KITCHEN	R	F 34	2	3											NS	
"	S	F 75	1	1											NS	IN HOOD
OFFICENT	R	F 34	2	2											NS	
OFFICENT	R	F 34	2	1											NS	
Preschool Room	R	F 34	2	7												
Toddler	R	F 34	2	6												
Room 3	R	F 34	2	6												
TOTAL BUILDING LIGHTING ENERGY																

Room 6

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION PAC
 BLDG. NO. 178

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>NESS = 4</u>	<u>LPS</u>	<u>4 same</u>	<u>75</u>		<u>P</u>	

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey _____

Total installed _____

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey _____

Total installed _____

LOCATION FHL
BLDG. NO. 178

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: none

4.3.2 RECEPTACLES IN USE _____ PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

- Water Cooler _____
- Vending Machine _____
- Space Heater _____
- Coffee Pot _____
- TV _____
- XEROX _____

Other:
Elec. Kit. Stone 1
Dishwasher 1
Ref. _____

Jackson / ALCO Model 24B
1/2 HP load
Run Hrs
Wash Hrs
Total Load 5.9 kW @ 208V
→ 7.2 kW @ 230V

McCull MN 3020
120V 6.2A.

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHC SURVEYED BY BIH/RJB DATE OCT 92
 BUILDING NUMBER S-182/S-172 FUNCTION/USE COMMISSARY
 INFORMATION SOURCE (DWG. NO./PERSON) Visual

GENERAL BUILDING DATA

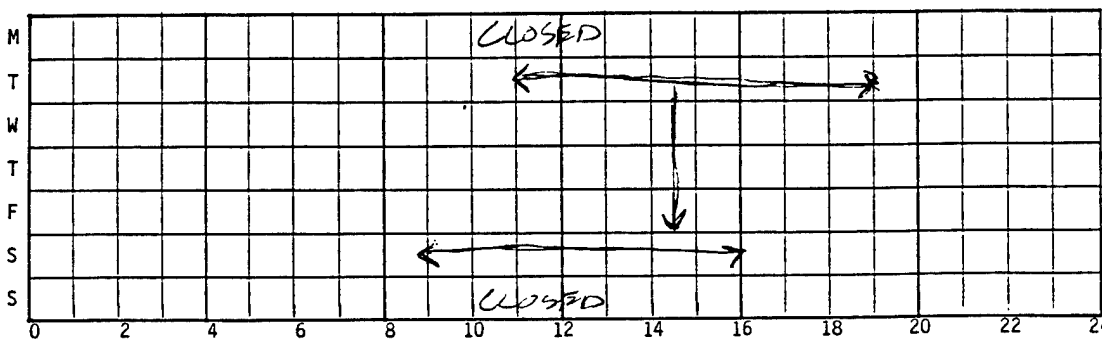
BUILDING AGE: New YEARS

DUPLICATE BUILDING NOS: _____
 TOTAL: _____

SIMILAR BUILDING NOS: _____
 TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 25

Indicate (number and) duration of occupants each day



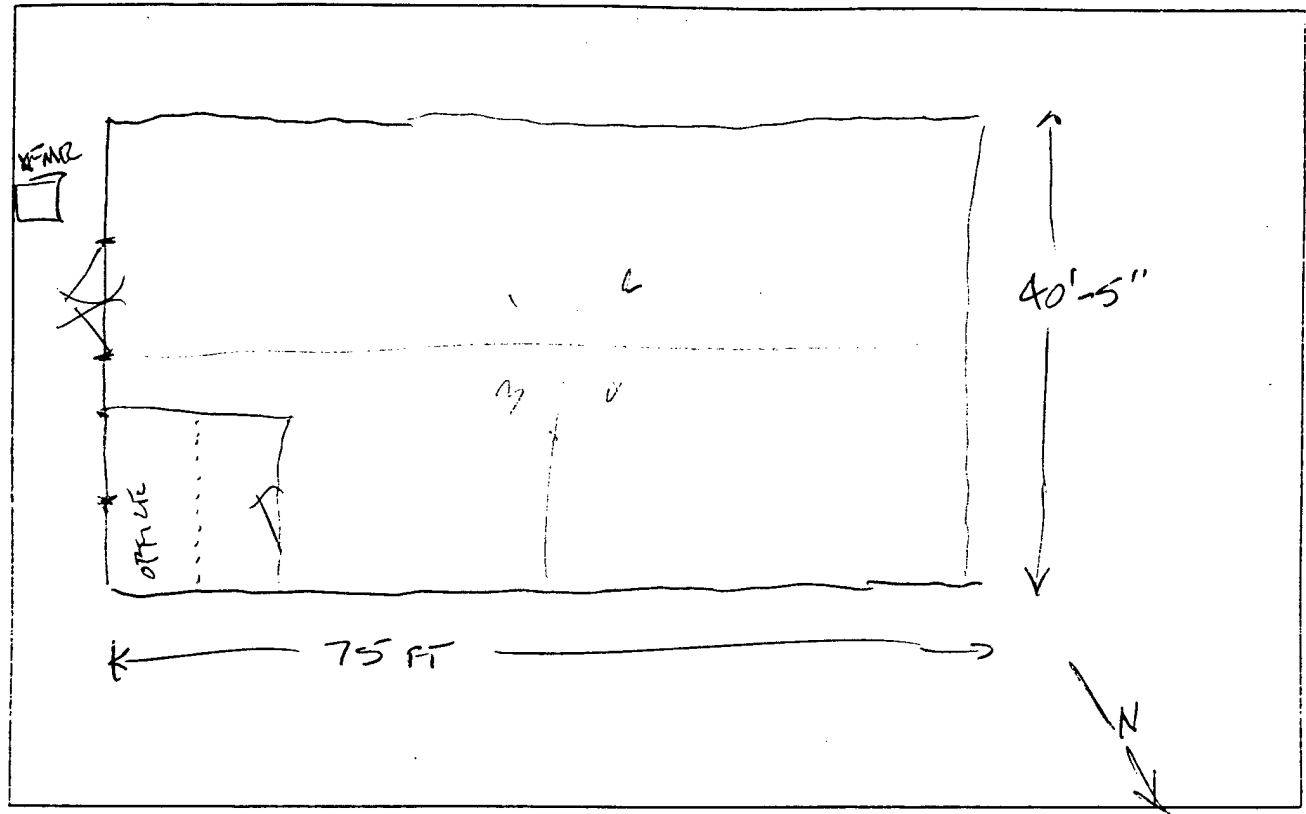
MISCELLANEOUS EQUIPMENT: _____
REFRIGERATION EQUIP. - FREEZERS + COOL BOXES - SEE ATTACHED

ADDITIONAL COMMENTS, CRITICAL LOADS: _____

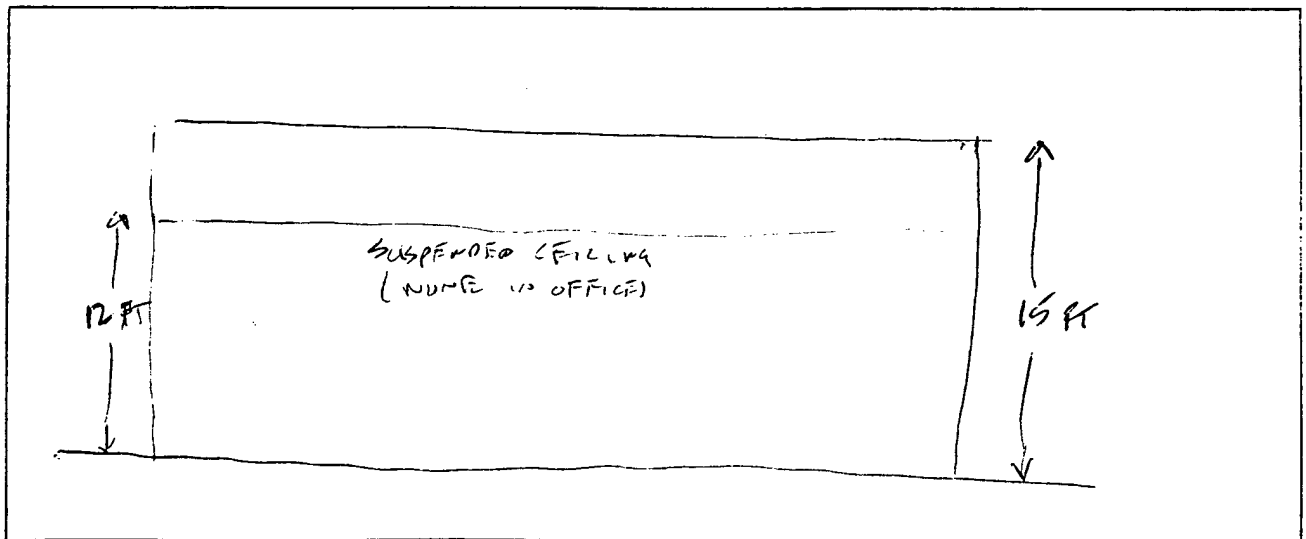
CRAWL SPACE: VENTILATED EXHAUSTED
 ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



2.4 BUILDING ENVELOPE

LOCATION FHL
 BLDG. NO. 182

CONSTRUCTION

WALL ALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
METAL		0.61
BATT INSUL	3"	11.00
AIR SPACE		0.68
GYP BOARD		0.32
INSIDE FILM		0.68
TOTAL		13.54

U-FACTOR 0.07 AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
METAL ROOF		0.61
6" BATT		19.00
GYP BOARD		0.32
INSIDE FILM		0.68
TOTAL		20.86

U-FACTOR 0.05 AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

LOCATION FHL
BLDG. NO. 182

3.1 HEATING EQUIPMENT PACKAGED PROPANE HEATING/DX COOLING UNIT (2 UNIT)

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 80 MBtu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: CARRIER Model No.: _____

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 182

PACKAGED PROPANE/DX RHW'S (2 EACH)

COMPRESSOR(S)/CHILLER

Manufacturer CARRIER WEATHERMAKER
 Model No. 48LH006580
 Size 5 TONS
 Refrigerant R-22
 Motor HP (if available) _____
 Motor Voltage 208V/34
 Motor FLA 17
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

	<u>COND</u>	<u>EVAP</u>
Water Cooled	_____	_____
Air Cooled	<u>✓</u>	_____
Evaporative	_____	_____
Manufacturer	_____	_____
Model No.	_____	_____
Size	_____	_____
Type of Fan	_____	_____
Fan Motor HP	_____	_____
Fan Motor Voltage	<u>208V/1φ</u>	<u>208V/1φ</u>
Fan Motor FLA	<u>2</u>	<u>4</u>
Measured Amps	_____	_____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

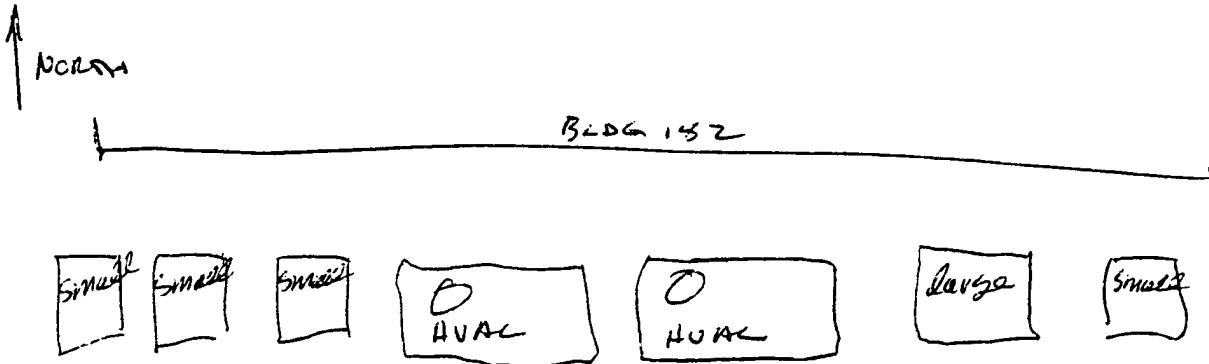
- a. Is System Supported from (check one):
 Central Plant
 One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 100° °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
3/4" 20 FT
- d. Is Piping System Insulated and Condition: Yes
- e. Is Hot Water Circulated? No
- 1) Condition of circulator NA 3) Is aquastat provided? NA
 2) Circulator capacity NA 4) Aquastat temperature setting NA

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	<u>WHT CLOSET</u>		
b. Areas Served	<u>BARBERS</u>		
c. Manufacturer and Model	<u>MIL BRASS</u>		
d. Energy (Oil, Gas, Electric, Coal, Etc.)	<u>PROPANE</u>		
e. Type Heaters & Quantities:			
1) Storage			
2) Instantaneous			
3) Semi-Instantaneous			
f. Heater Size and Storage Capacity	<u>1500 W</u>		
g. Heating Capacity	<u>6 GAL</u>		
h. Type Controls (Air, Steam, Electric)	<u>ELEC</u>		
i. When Installed & Condition	<u>NEW</u>		
j. Heater Temperature Setting	<u>-</u>		
k. Average Water Maintained Temperature	<u>-</u>		
l. Temperature Differential (j) - (k)	<u>-</u>		
m. Is Hot Water Supply Adequate:	<u>-</u>		
n. Insulation Thickness	<u>-</u>	Type	
o. Insulation Material	<u>-</u>		

REFRIGERATION EQUIPMENT DATA

CONDENSING UNITS

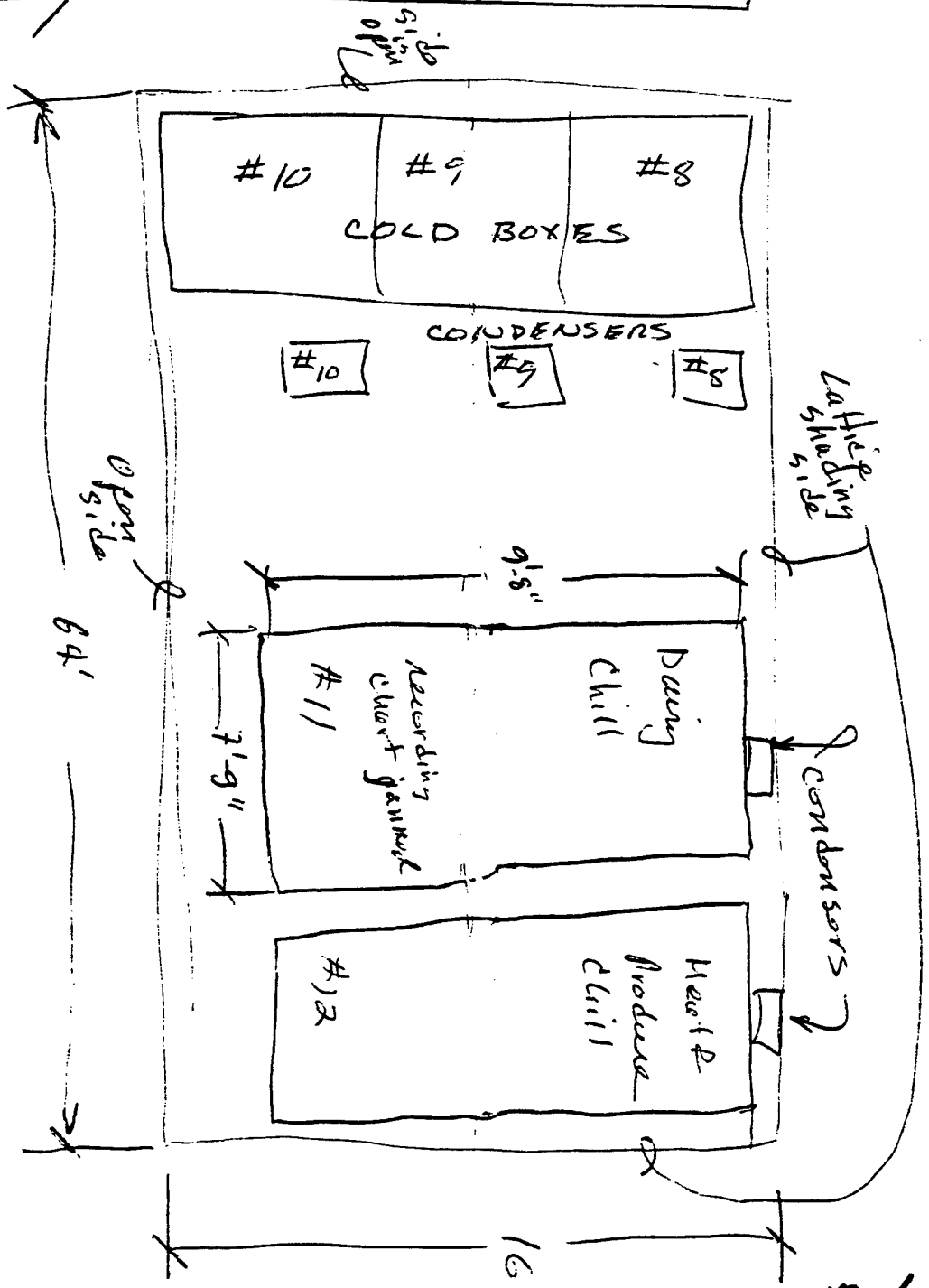


LARGE: HUSSMANN H0CA0915RLKXU
 SN 9061-004
 PNL NO. 0K42
 Receiver Cap. 80% Full 99 LBS 250Z
 Field Chge —
 Compr RLA 32 Amps 208/230 Volts 60 Hz 3φ
 Compr. Clng Fan Mtr 208/230 Volts 1φ
 Cond. Fan Mtr 2.5 FLA 208/230 Volts 60 Hz 1φ
 Max Defrost Amps ~~50 A~~ 50 A 460V 3φ
 Min Ckt Ampacity 50 A 460V
 MAX Overcurrent Protective Device
 208/230V 70 A 460V

5/10/90

SMALL: HUSSMANN MODEL H0CA0313VHXU
 (TYP FOR 4)
 Compr. RLA = 12 208/230V, 3φ
 COND FAN MTR 2.5A 208/230V, 1φ
 COMP. FAN 208/230V, 1φ
 R-22

FHL
182/172



182/172

UNITS INSIDE & OUTSIDE
containing Product

- #4 Hussmann KD DM13214U R502
120V 11.9A Lights
208V 7.5A Defrost
120V 2.1A Fan
- #5 Hussmann MN:MHF13U R502
120V 7.2 Lights
208V 7.8 Defrost
120V 3.1 Fan
- #6 Hussmann MN:PH13U
120V 3.3 A lights
208V ———
120V 1.4 A Fan
- #7 Same as #6
- #8 Baycons Metal Products
MILSPEC: MIL R 10932E
TECH MANUAL: MBS 4110 304/1
MN: 600 C1 T2
- #9 Same as #8
- #10 Same as #8
- #11 Kolpak Walk-in Box see plan for dimensions
- #12 _____ ii _____


CONDENSING UNITS

- #8 Heatcraft Inc.
 MN: TRH-020-A253F SN: WUH00040
 208/230V 3PH 60HZ MID CKT AMPLTY 17.0
 COMPRESSOR: COND. FAN
 RLA LRA 2 EA 1/15 HP 0.5 FLA EACH
 5.9 46.0 A
 DESIGN PRESSURE KIT EVAP FAN HTR
 High Low AK-IT 5 AMPS
 400 psig 162 psig DEFROST HTR 17 AMP[^]
 R502; 6.2 R6a -40°F EVAP MIN 0°F EVAP MAX
- #9 Same as #8 SN: WUH00033
- #10 Same as #8 SN: WUH00045
- #11 Copeland EBAM-A075-TAC-001
 01F9D PRODUCT CODE NO
 COMP. 2.6 RLA 19.4 LRA 4.4 MID AMPLTY R12
 208/230V 3P 60#2 15A fuse
- #12 Same as #11

Refrigeration Temperature Control

Com Tral E2-set TMP-3005

CKT 1	-14	°F
2	-9	
3	-6	
4	38	
5	31	
6	35	
7	39	
8	1	
9	-5	
10	-4	
11	32	
12	34	



4.2 Lighting

4.2.1 Interior Lighting

182

BLDG.

FHL

LOCATION

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH				REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	F L O O R	C E I L I N G	F L O O R	C E I L I N G	F L O O R		
13	S	F96	1/135	69							50.60									
4	S	F40	2/72	4																
REF1	S	F72	4/240	1																
REF2	S	F72	6/360	1																
REF3	S	F72	6/360	1																
REF4	S	F72	2/120	1																
REF5	S	F40	4/144	1																
REF6	S	F40	3/115	1																
REF7	S	F40	3/115	1																
WALL	S	F20	2/50	1																
TOTAL BUILDING LIGHTING ENERGY																				

LIGHTING LEGEND:

- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION Fitz
 BLDG. NO. 132

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>2</u>	<u>FLUORESCENT</u>	<u>2</u>	<u>1000</u>	<u>2000</u>	<u>TOP P</u>	
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING
 Actual at time of survey NA
 Total installed _____

WATTS OF EXTERIOR LIGHTING
 Actual on at time of survey _____
 Total installed _____

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RHS DATE Oct 92
BUILDING NUMBER 3-186 FUNCTION/USE OFFICE
INFORMATION SOURCE (DWG. NO./PERSON) VISUAL

GENERAL BUILDING DATA

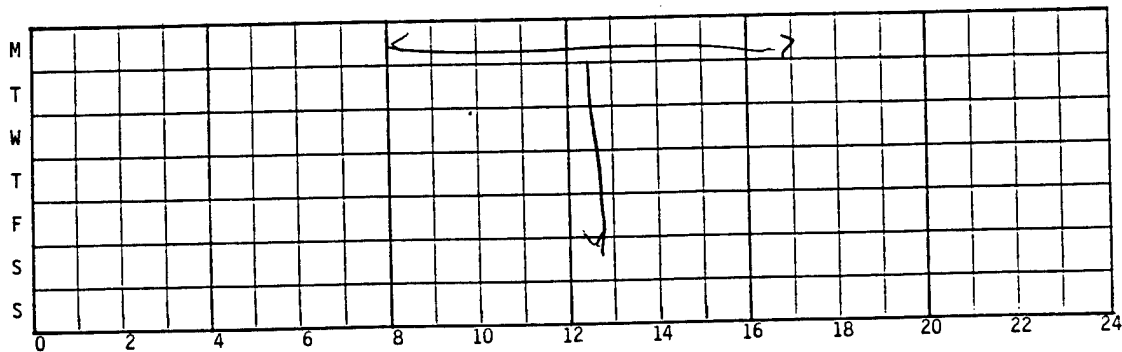
BUILDING AGE: NEW YEARS

DUPLICATE BUILDING NOS: _____ TOTAL: _____

SIMILAR BUILDING NOS: _____ TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 2

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: _____

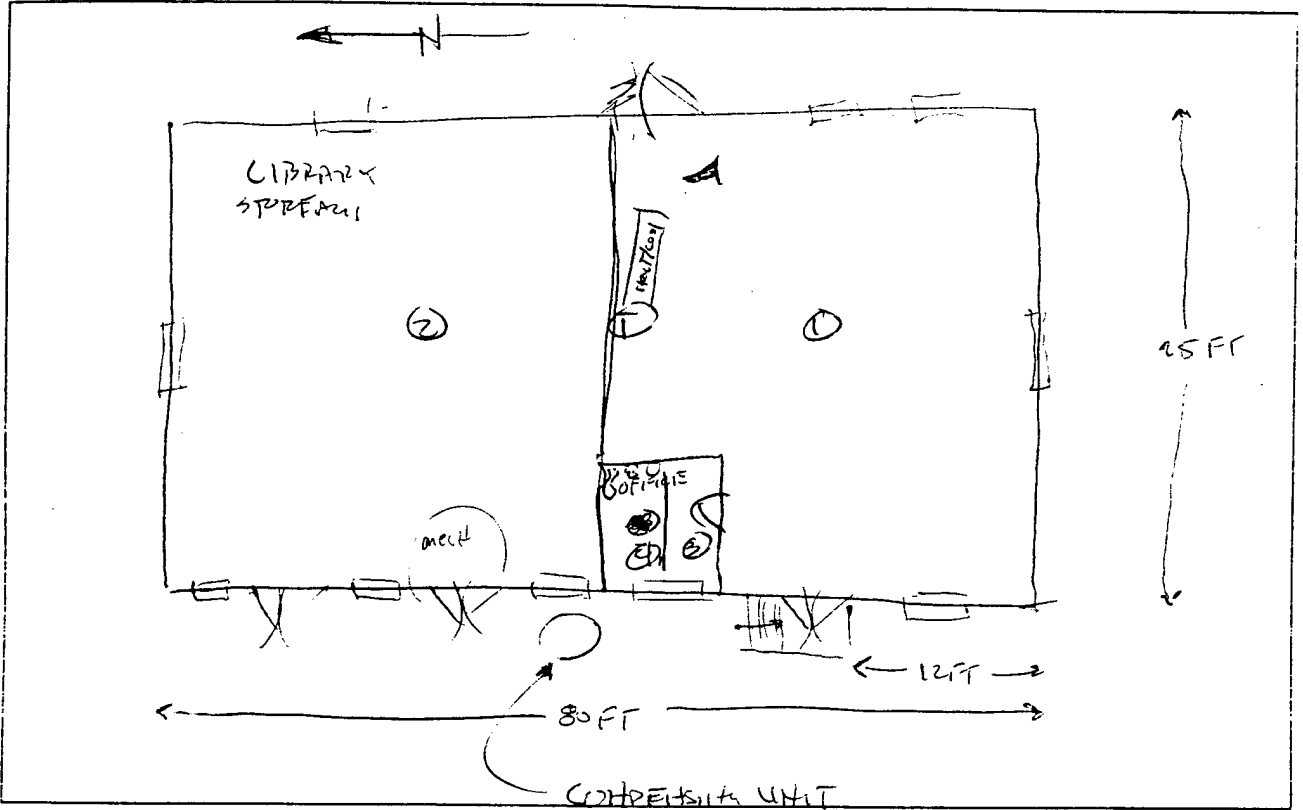
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED NONE

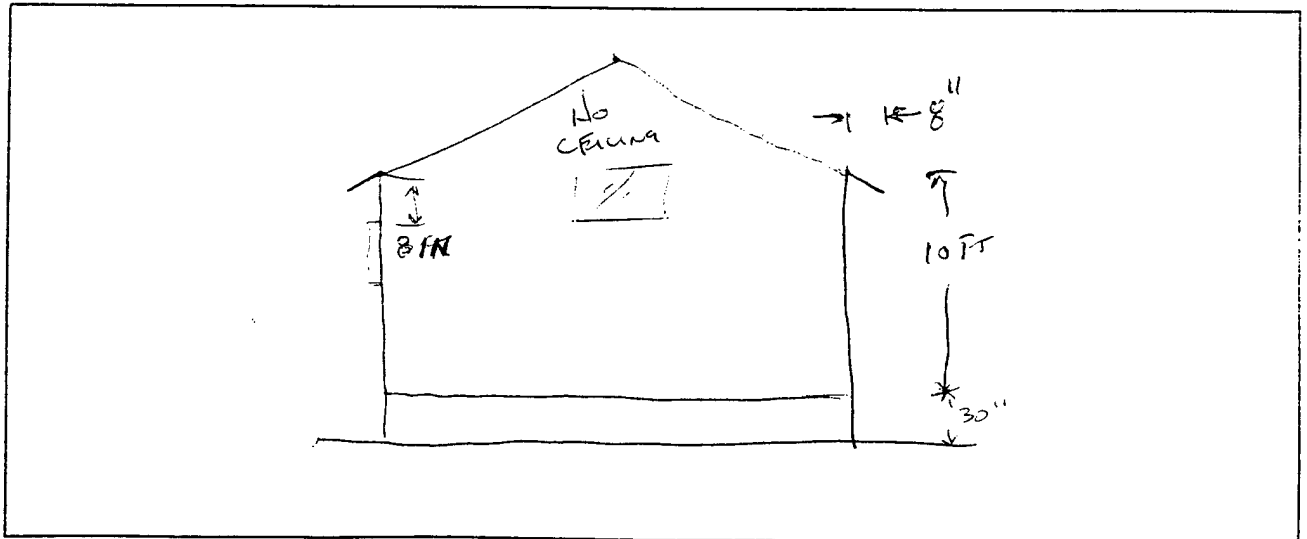
ATTIC: VENTILATED EXHAUSTED NONE

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION				REMARKS ***, ****					
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S YES	NO	FIT LOOSE	AUG.		CRACK LENGTH				
Window	6	1		3		1		5		60x48				4		M			X	TIGHT	3 X (2 X 16) (1 X 80)	P		
Door	4			1				3		6' X 8'											3 X 3' 2 X 6'	MEDIC		
TOTAL AREA												U-VALUE												

- *GLAZING:**
1 - ORDINARY
2 - 1/4" PLATE
3 - HEAT ABSORBING
4 - TINTED
- **FRAME:**
W - WOOD
M - METAL
T - METAL/THERMAL BREAK
- ***SHADING:**
A - SOLAR FILM
B - VEN BLIND
C - STORM WINDOW
D - DRAPES
- ****VISIBILITY:**
E - AWNING SCREEN
F - SOLAR SCREEN
G - OVERHANG
OTHER - SPECIFY
- WINDOW TYPES:**
1 - DOUBLE HUNG
2 - SINGLE HUNG
3 - SLIDING
4 - CASEMENT
5 - LOUVERED
6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FLR
 BLDG. NO. 130

CONSTRUCTION

WALL COLOR: D M L

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM	METAL	
METAL	METAL 1/8"	
FIBERGLASS INSULATION	1"	
METAL	1/8"	
INSIDE FILM		

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
CEMENTITE MEOR	1/8"	
FIBERGLASS INSULATION	1"	
AIR SPACE	4"	
ACROSTIC CRU	1/2"	
INSIDE FILM		

TOTAL
 U-FACTOR AREA

TOTAL
 U-FACTOR AREA

FLOOR S.G.G.

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL
 U-FACTOR AREA

TOTAL
 U-FACTOR AREA

BUILDING SKIRTING MATERIAL

LOCATION FAC
BLDG. NO. 185

3.1 HEATING EQUIPMENT ^(SPLIT DIST)
(PUMPED UNIT SEE CAT DATA)

Heat Source: Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: _____ Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: CARRIER Model No.: _____

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

LOCATION ITL
 BLDG. NO. 1306

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) NA _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled λ _____
 Evaporative _____
 Manufacturer CARRIER / DAY TIGHT _____
 Model No. 569 BPX09000 ACAA _____
 Size _____
 Type of Fan COND COMP _____
 Fan Motor HP 1/2 _____
 Fan Motor Voltage 208/230 208/230 _____
 Fan Motor FLA 2.9 FLA 30.1 FLA _____
 Measured Amps _____
1 φ 2 φ

CHILLED WATER PUMPS (If more than one, how many

operative during normal operation: _____)
 Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA NA _____
 Measured Amps _____

REMARKS: _____

3.3 AIR HANDLING EQUIPMENT SPLIT SYSTEM
PROJECT# 3956AV048075AAGA

FANS

Type	_____	_____	_____	_____
Unit/Zone	# _____	# _____	# _____	# _____
Manufacturer	<u>CARRIER</u>	_____	_____	_____
Model No.	<u>3956AV048075</u>	_____	_____	_____
Type	<u>INDOOR CENT</u>	_____	_____	_____
RPM of Fan	_____	_____	_____	_____
Motor HP	<u>1/2</u>	_____	_____	_____
Motor Volts	_____	_____	_____	_____
Motor FLA	_____	_____	_____	_____
Measured Amps	_____	_____	_____	_____
CFM (from Plans)	<u>3.5" SP</u>	_____	_____	_____
Notes	<u>ECONOMIZER GA RETROFIT BUT NO RELIEF</u>			

COILS

Indicate capacities where found:

COOLING <u>CRUAL</u>	HUMIDIFICATION
DX MOD. <u>513CXV043000 MACA</u>	ELEC _____
H ₂ O _____	STEAM _____
OTHER _____	H ₂ O <u>NA</u>
HEATING	OTHER _____
GAS <u>✓</u>	AUX/MISC OTHER
H ₂ O _____	<u>NA</u>
ELEC _____	_____
OTHER _____	_____

FILTERS

Type	_____	_____	_____
Condition	<u>NA</u>	<u>NA</u>	<u>NA</u>
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

3.3.2

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? _____
 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location _____
- b. Areas Served _____
- c. Manufacturer and Model _____
- d. Energy (Oil, Gas, Electric, Coal; Etc.) _____
- e. Type Heaters & Quantities:
 1) Storage _____
 2) Instantaneous _____
 3) Semi-Instantaneous _____
- f. Heater Size and Storage Capacity _____
- g. Heating Capacity _____
- h. Type Controls (Air, Steam, Electric) _____
- i. When Installed & Condition _____
- j. Heater Temperature Setting _____
- k. Average Water Maintained Temperature _____
- l. Temperature Differential (j) - (k) _____
- m. Is Hot Water Supply Adequate: _____
- n. Insulation Thickness _____ Type _____
- o. Insulation Material _____

JJA

MIZWATEX

446LSHR.P

LOCATION 174c BLDG. 186

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)
													C	E	I	C	E	I		
06	S	F	4	12																4 SWITCHEs
06	S	F	4	4																S
06	S	F	4	2																S
06	S	F	4	19							60									S
TOTAL BUILDING LIGHTING ENERGY																				

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION Fitz
 BLDG. NO. 136

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>3</u>	<u>Incand</u>	<u>3</u>			<u>T</u>	<u>ON 24HR TIMER</u>

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey _____
 Total installed 111

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey _____
 Total installed _____

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHC SURVEYED BY RUB/BIH DATE 10/6/92

BUILDING NUMBER 19-0 FUNCTION/USE CHAPEL

INFORMATION SOURCE (DWG. NO./PERSON) VISUAC/DRAWING

GENERAL BUILDING DATA

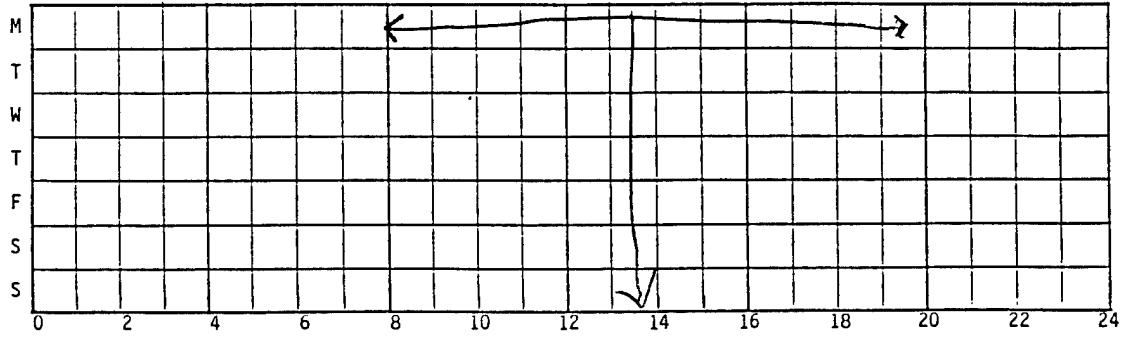
BUILDING AGE: New YEARS

DUPLICATE BUILDING NOS: _____ TOTAL: _____

SIMILAR BUILDING NOS: _____ TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 10

Indicate (number and) duration of occupants each day



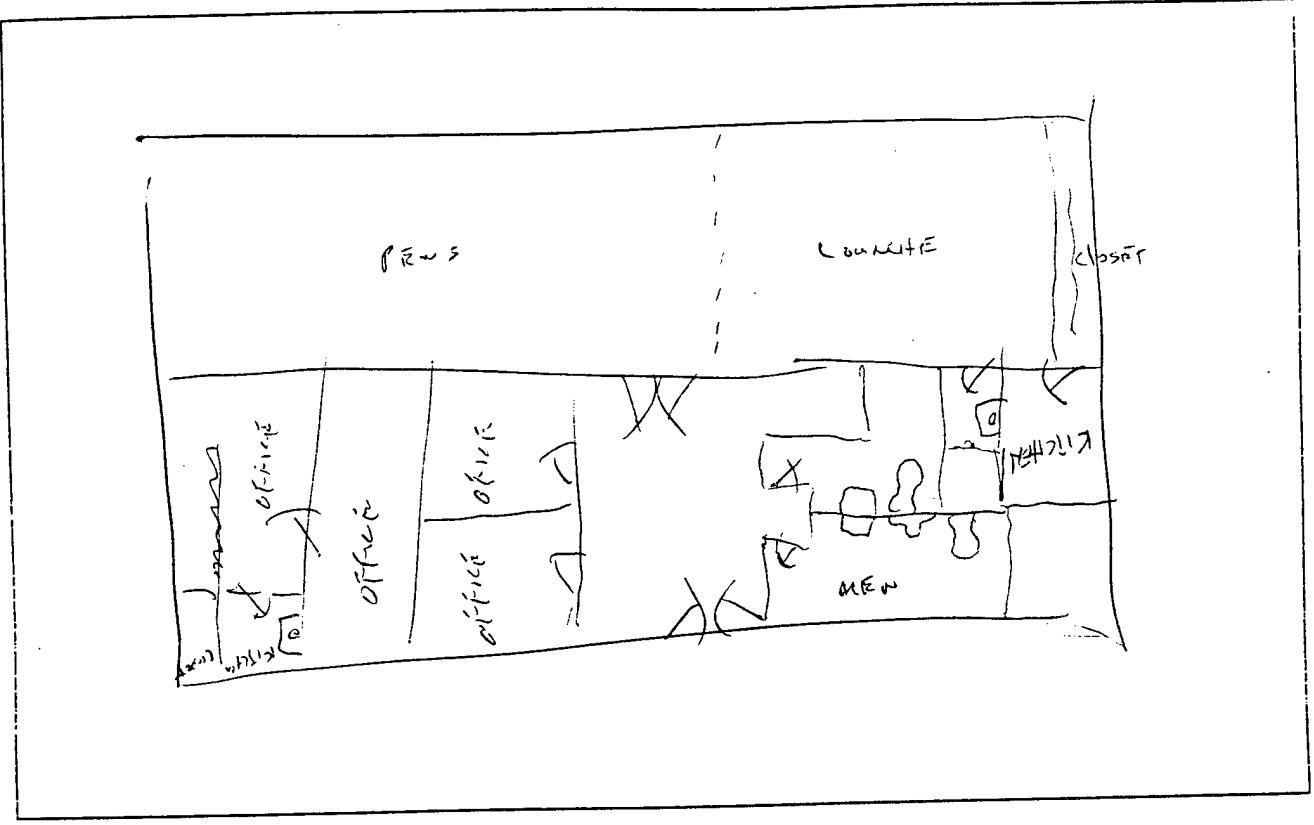
MISCELLANEOUS EQUIPMENT: _____

ADDITIONAL COMMENTS, CRITICAL LOADS: _____

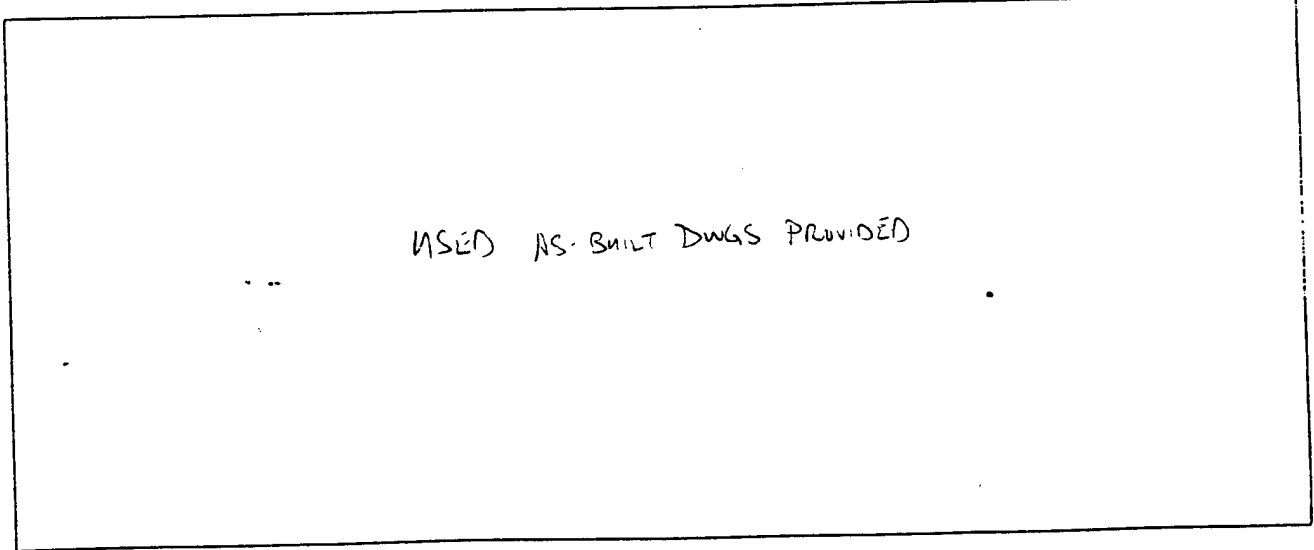
CRAWL SPACE: VENTILATED EXHAUSTED
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION			REMARKS
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S	FIT	CRACK LENGTH	
W5	6" D A = D				1					4' x 6' 10"	3			W	W/S	Good gears		
W6					1					4' x 18'	3							
W4			6							3' x 5' 6"	3							
W3			2							18" x 54"	5							
D1			1							6' x 4'	wood							
D3			2							3' x 7'	wood							
W2					4					6' x 6'	5							
D2					1					3' x 7'	wood							
b70					1					6' x 8'	wood							
TOTAL AREA											U-VALUE							

- LEGEND:
- *GLAZING: 1 - ORDINARY 2 - 1/4" PLATE 3 - HEAT ABSORBING 4 - TINTED 5 - Normal Insulating
 - **FRAME: W - WOOD M - METAL T - METAL/THERMAL BREAK
 - ***SHADING: A - SOLAR FILM B - VEN BLIND C - STORM WINDOW D - DRAPES
 - ****VISIBILITY: E - AWNING F - SOLAR SCREEN G - OVERHANG OTHER - SPECIFY
 - WINDOW TYPES: 1 - DOUBLE HUNG 2 - SINGLE HUNG 3 - SLIDING 4 - CASEMENT 5 - LOUVERED 6 - FIXED GLASS

LOCATION FH
 BLDG. NO. 190

2.4 BUILDING ENVELOPE

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR AREA

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

USED DRAWINGS PROVIDED FOR SKIRTING

3.1 HEATING EQUIPMENT

LOCATION Fitz
BLDG. NO. 190

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 422 MBtu/Hr or 12.6 Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: 5281MPT BURNHAM Model No.: 4FW 63-50-LB

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) NO. 2 OIL

Burner: Mfg. RAY BURNER MFG Model No. JRE-0 Metering Equipment: Yes No

Operating Schedule: Weekdays: From 0530 To 1900 Hr/Day _____
Weekdays & Holidays: From 0530 To 1900 Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps 2 V/PH/FLA _____ / _____ / _____
Mfg. BELL & CROSSETT Model _____ HP 1/4 1/2 RPM 1750
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe HT WITH SET PT. 116
OF SET POINT 94 40° OA LOCKOUT

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

SEE UNIT PAGES

3.3 AIR HANDLING EQUIPMENT

LOCATION File
BLDG. NO. 190

FANS

Type				
Unit/Zone	# <u>AZ-1</u>	# <u>AZ-2</u>	#	#
Manufacturer	<u>FEDDEAS</u>	<u>FEDDEAS</u>		
Model No.	<u>CTL060C8A</u>	<u>CTL090P8F</u>		
Type	<u>PAUCATED</u>	<u>PAUCATED</u>		
RPM of Fan				
Motor HP	<u>3/4</u>	<u>1</u>		
Motor Volts	<u>208</u>	<u>208</u>		
Motor FLA	<u>6.4</u>	<u>17.1</u>		
Measured Amps	<u>20.0 mA</u>	<u>33.0 mA</u>		
CFM (from Plans)				
Notes				

COILS

Indicate capacities where found:

COOLING		HUMIDIFICATION	
DX	<u>✓</u>	ELEC	<u>/</u>
H ₂ O		STEAM	<u>/</u>
OTHER		H ₂ O	<u>/</u>
HEATING		AUX/MISC OTHER	
GAS			<u>/</u>
H ₂ O	<u>✓</u>		<u>/</u>
ELEC			<u>/</u>
OTHER			<u>/</u>

FILTERS

Type	<u>/</u>	<u>/</u>	<u>/</u>
Condition	<u>/</u>	<u>/</u>	<u>/</u>
Manometer Reading ^{1/}	<u>/</u>	<u>/</u>	<u>/</u>

^{1/} Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
1" SD PT
- d. Is Piping System Insulated and Condition: NO
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|-----------------------|------------|-------|
| a. Location | <u>MECH RM</u> | _____ | _____ |
| b. Areas Served | _____ | _____ | _____ |
| c. Manufacturer and Model | <u>NATIONAL HSG-6</u> | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>ELEC</u> | _____ | _____ |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | _____ | _____ | _____ |
| 2) Instantaneous | _____ | _____ | _____ |
| 3) Semi-Instantaneous | _____ | _____ | _____ |
| f. Heater Size and Storage Capacity | <u>6 GPM</u> | _____ | _____ |
| g. Heating Capacity | <u>1.25 Kw</u> | _____ | _____ |
| h. Type Controls (Air, Steam, Electric) | _____ | _____ | _____ |
| i. When Installed & Condition | _____ | _____ | _____ |
| j. Heater Temperature Setting | _____ | _____ | _____ |
| k. Average Water Maintained Temperature | _____ | _____ | _____ |
| l. Temperature Differential (j) - (k) | _____ | _____ | _____ |
| m. Is Hot Water Supply Adequate: | _____ | _____ | _____ |
| n. Insulation Thickness | _____ | _____ | _____ |
| o. Insulation Material | _____ | Type _____ | _____ |

LOCATION Fitz
BLDG. NO. 190

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG Boiler BARBER COLEMAN MODEL _____ LOCATION Mechanical RM

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

0530 → 1900 7 DAY / WEEK
1 MASTER CONTROLLER } AC UNIT
2 ZONE CONTROLS

LOCATION FXK BLDG. 190

LIGHTING 2/35

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)			
													C	E	I	L	L	I			N	G	C
2	R	F	1 / 35	1																			
6A	S	F	2 / 35	2																			
6A	S	F	2 / 35	2																			
	R	I	1 / 60	2																			
6A	S	F	2 / 35	1																			
6A	S	F	2 / 35	1																			
1	S	F	2 / 35	2																			
8	R	I	1 / 60	2																			
8	R	F	2 / 35	1																			
News	S	I	1 / 35	16																			
TOTAL BUILDING LIGHTING ENERGY																							

LIGHTING LEGEND:

- Window Code: If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION Flr
 BLDG. NO. 190

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

<u>ACTUAL NO. OF FIXTURES</u>	<u>TYPE OF FIXTURE</u>	<u>NO. OF FIXTURES IN USE</u>	<u>WATTS/ FIXTURE</u>	<u>TOTAL WATTS</u>	<u>CONTROL TYPE*</u>	<u>REMARKS</u>
<u>11</u>	<u>FLOOR</u>		<u>75</u>			

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING
 Actual at time of survey _____
 Total installed NA _____

WATTS OF EXTERIOR LIGHTING
 Actual on at time of survey _____
 Total installed _____

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: COMPUTER X 2

4.3.2 RECEPTACLES IN USE 80 PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

- Water Cooler _____
- Vending Machine _____
- Space Heater _____
- Coffee Pot 2 _____
- TV 1 _____
- XEROX _____
- Other:
 - REMA _____
 - MICROWAVE _____
 - STEREO SYST _____
 - _____

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHC SURVEYED BY RUB/BIH DATE 05 92
BUILDING NUMBER 197 FUNCTION/USE ADMIN/RTD
INFORMATION SOURCE (DWG. NO./PERSON) SURVEY

GENERAL BUILDING DATA

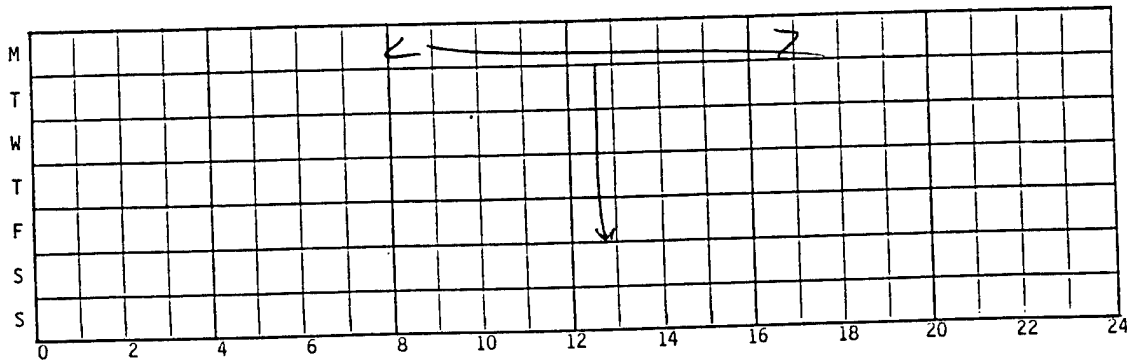
BUILDING AGE: OLD YEARS

DUPLICATE BUILDING NOS: _____ TOTAL: _____

SIMILAR BUILDING NOS: _____ TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 20

Indicate (number and) duration of occupants each day

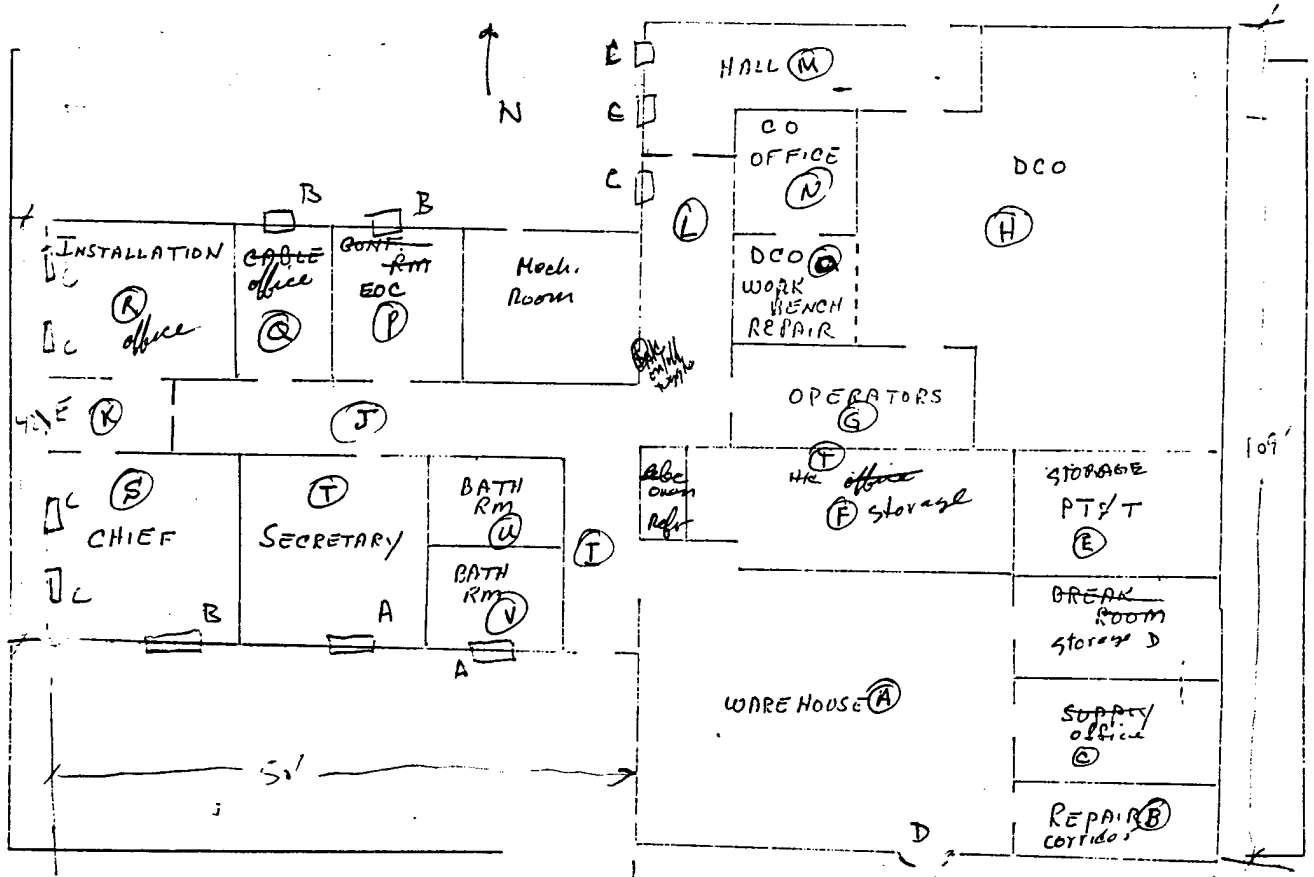


MISCELLANEOUS EQUIPMENT: _____
WALK-IN COOL BOX 208V/1Φ/11.5A MERS.

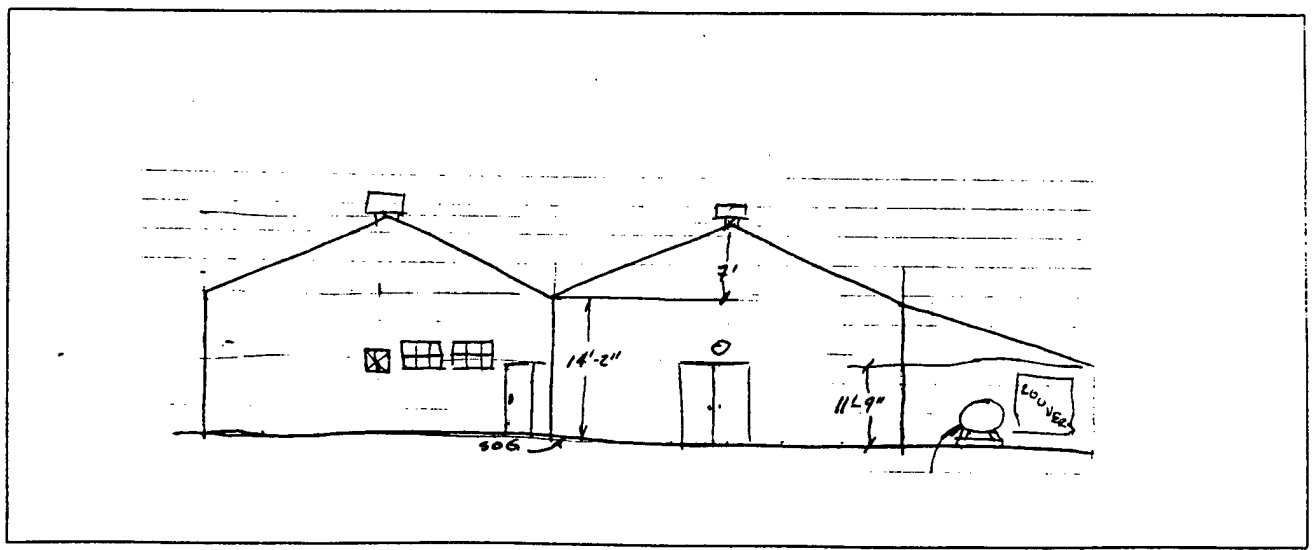
ADDITIONAL COMMENTS, CRITICAL LOADS: _____
EMERGENCY GENERATOR 100kW, 240/480V, 1800 RPM
GENERAL MIN 440PDRS 01746-A915

CRAWL SPACE: VENTILATED EXHAUSTED

ATTIC: VENTILATED EXHAUSTED



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE						SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION			REMARKS *** ****	
		N	NE	E	SE	S	SW		W	NW	TYPE		DBL	TRPL	W/S		FIT
A	W				2						1	W		W/5	Loose	184	
B	W	2			1					1	W			Loose	142		
C	W		3			7				1	W			N/A	220		
D	Door				1						W						
E	Door					1					W						

TOTAL AREA: [] U-VALUE: []

- *GLAZING:**
 1 - ORDINARY
 2 - 1/4" PLATE
 3 - HEAT ABSORBING
 4 - TINTED
- **FRAME:**
 W - WOOD
 M - METAL
 T - METAL/THERMAL BREAK
- ***SHADING:**
 A - SOLAR FILM
 B - VEN BLIND
 C - STORM WINDOW
 D - DRAPES
- ****VISIBILITY:**
 E - AWNING
 F - SOLAR SCREEN
 G - OVERHANG
 OTHER - SPECIFY
- WINDOW TYPES:**
 1 - DOUBLE HUNG
 2 - SINGLE HUNG
 3 - SLIDING
 4 - CASEMENT
 5 - LOUVERED
 6 - FIXED GLASS

LEGEND:

2.4 BUILDING ENVELOPE

LOCATION Fltz
 BLDG. NO. 197

CONSTRUCTION

WALL COLOR: D M L

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
COLOURED ALUMINIUM		
R-11		
Air space		
GYP BRD		
INSIDE FILM		

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
COLOURED ALUMINIUM		
Air space		
R-11		
ACROSTIC TILE		
INSIDE FILM		

TOTAL
 U-FACTOR AREA

TOTAL
 U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL
 U-FACTOR AREA

TOTAL
 U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

PLGD HEAT/COOL UNIT

Heat Source: Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 264 MBtu/Hr ^{ONT} or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: LENNOX Model No.: _____

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Other (Specify) PROPANE Induced

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler Poor Area _____ FT² None Temp. _____ °F
(2) Other (Specify) _____ Poor Area _____ FT² None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

PLGD HEAT/COOL UNIT

3.2 COOLING EQUIPMENT

PACKAGED HEAT/COOL UNIT

COMPRESSOR(S)/CHILLER

Manufacturer LENNOX
 Model No. _____
 Size _____
 Refrigerant R-22
 Motor HP (if available) _____
 Motor Voltage 208V/3Ø
 Motor FLA 46.7
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan COND.
 Fan Motor HP 2 3/4HP
 Fan Motor Voltage 208V
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many
 operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS

(If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

CONDENSING UNIT

3.3 AIR HANDLING EQUIPMENT

LOCATION F14
BLDG. NO. 197

FANS

Type			
Unit/Zone	# OFFICES	# ELECTRONICS AREA	#
Manufacturer	LENOX	NO NAMEPLATE	
Model No.	0231333 350		
Type	RECYCLED		
RPM of Fan	261 MBH output		
Motor HP	5		
Motor Volts	208V/3Ø		
Motor FLA	14		
Measured Amps		208V/3Ø/3.4A	
CFM (from Plans)			
Notes		ELECTRIC DUCT HTR	
		220V/60Hz/3Ø/43 FLA	

COILS

Indicate capacities where found:

COOLING		HUMIDIFICATION
DX <input checked="" type="checkbox"/>		ELEC
H ₂ O		STEAM
OTHER		H ₂ O
HEATING		OTHER
GAS		AUX/MISC OTHER
H ₂ O		
ELEC		
OTHER	none	

FILTERS

Type			
Condition			
Manometer Reading <u>1/</u>			

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one):
 Central Plant
 One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
1" 32 FT
- d. Is Piping System Insulated and Condition: NO INSULATION
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator NA 3) Is aquastat provided? NA
 2) Circulator capacity NA 4) Aquastat temperature setting NA

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|--------------------------|------------|-------|
| a. Location | _____ | _____ | _____ |
| b. Areas Served | <u>All</u> | _____ | _____ |
| c. Manufacturer and Model | <u>SEARS 183.32 4611</u> | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>ELECTRIC</u> | _____ | _____ |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | _____ | _____ | _____ |
| 2) Instantaneous | _____ | _____ | _____ |
| 3) Semi-Instantaneous | _____ | _____ | _____ |
| f. Heater Size and Storage Capacity | <u>5.5 KW</u> | _____ | _____ |
| g. Heating Capacity | <u>52 GAL</u> | _____ | _____ |
| h. Type Controls (Air, Steam, Electric) | <u>ELECTRIC</u> | _____ | _____ |
| i. When Installed & Condition | <u>MFD</u> | _____ | _____ |
| j. Heater Temperature Setting | _____ | _____ | _____ |
| k. Average Water Maintained Temperature | _____ | _____ | _____ |
| l. Temperature Differential (j) - (k) | _____ | _____ | _____ |
| m. Is Hot Water Supply Adequate: | _____ | _____ | _____ |
| n. Insulation Thickness | _____ | Type _____ | _____ |
| o. Insulation Material | _____ | _____ | _____ |

8' lamps F96T12 CWIES PHILIPS Economy Smart
Pendants - 18" from ceil

LIGHTING

LOCATION FTR BLDG. YGT

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)
													C I L L I N G	W A L L	F L O O R	C E I L I N G		
(A) 10	P Indstr. Pendent	F96T12 CWIES	3	13							60	12'-0"	LL	LD	FF	FS	NA	4 hove 1 lamp
(B) 1				4							40	12'-0"	"	"	"	"	NA	2 hove 1 lamp 1 disconnected
(C) 4				2							20	12'-0"	"	"	"	"	NA	1 hove 2 lamps on response
(D) 12				4							20	12'-0"	"	"	"	"	NA	2 hove 1 lamp
(E) 12				2							35	12'-0"	"	"	"	"	NA	
(F) 12				2							-	12'-0"	"	"	"	"	NA	
(G) 4				2							38	12'-0"	"	"	"	NA		
(H) 4				16							40	12'-0"	"	"	"	NA	NA	4 lx lamps, not used
(I) 1	S	F96T12 60	1/60	1							-	9'-0"						
(J) 1	S	F96T12 50	1/50	4							-	9'-0"						
(K) 1	S	F34	1/34	1							-	9'-0"						
TOTAL BUILDING LIGHTING ENERGY																		

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

197

BLDG.

LOCATION FHL

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)		
													C	E	I	C	E	F			C	F
②	P	F36 T12s	2	1							35	12'0"	LD	FF	FS	NA						
④	P	"	2	2							40	12'0"	"	"	"	S						
④	S	F34	2	3							50	7'6"	"	"	"	NA				New Fixtrs 1 out		
④	P	F36 T12s	2	1							45	12'0"	"	"	"	NA						
④	S	F34	2	4							35	9'0"	"	"	"	S				New Fixtrs 2 out		
④	S	F34	2	4							40		"	"	"	S				1 out		
④	S	F34	2	4							45		"	"	"	S				1 out		
④	S	F34	2	4							45		"	"	"	S				1 out		
④	S	F34	2	3							20		"	"	"	S						
④	S	I50	1/50	4							-		"	"	"	NA						
④	S	I50	1/50	2							-		"	"	"	NS						
TOTAL BUILDING LIGHTING ENERGY																						

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION FIR BLDG. 197

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMP TYPE AND WATTS / FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L L I N G	C E I L L I N G	F L O O R	F L O O R			
ESY 2012	P	F96 T12	1	2															
	P	I 100	1	1															
Barber Rm	S	I 60	2	2															
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

... Fixture Types:
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe

Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other---Describe

Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS

Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RJB/B14 DATE 5 OCT 92

BUILDING NUMBER 198 FUNCTION/USE Laundry / Dry Cleaning

INFORMATION SOURCE (DWG. NO./PERSON) _____

GENERAL BUILDING DATA

85°F misc

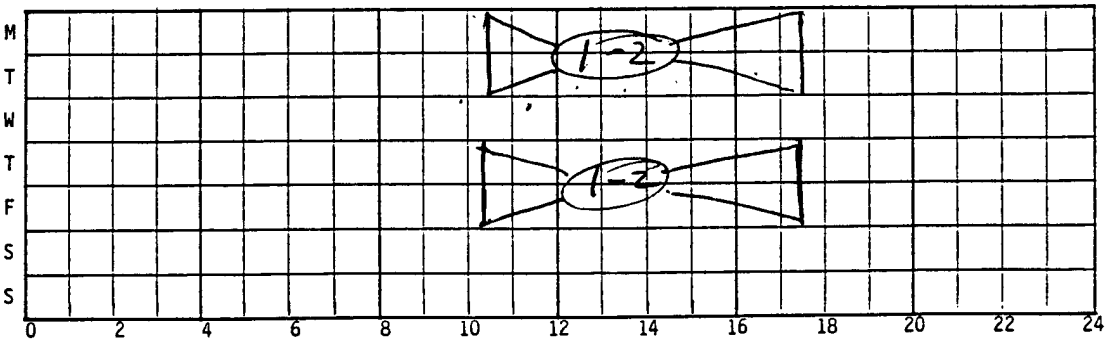
BUILDING AGE: _____ YEARS New

DUPLICATE BUILDING NOS: _____ TOTAL: _____

SIMILAR BUILDING NOS: 191 @ architecture, also 209 TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS _____

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: TV, Stereo
Bathroom exh fan 1/15 AP

ADDITIONAL COMMENTS, CRITICAL LOADS: _____

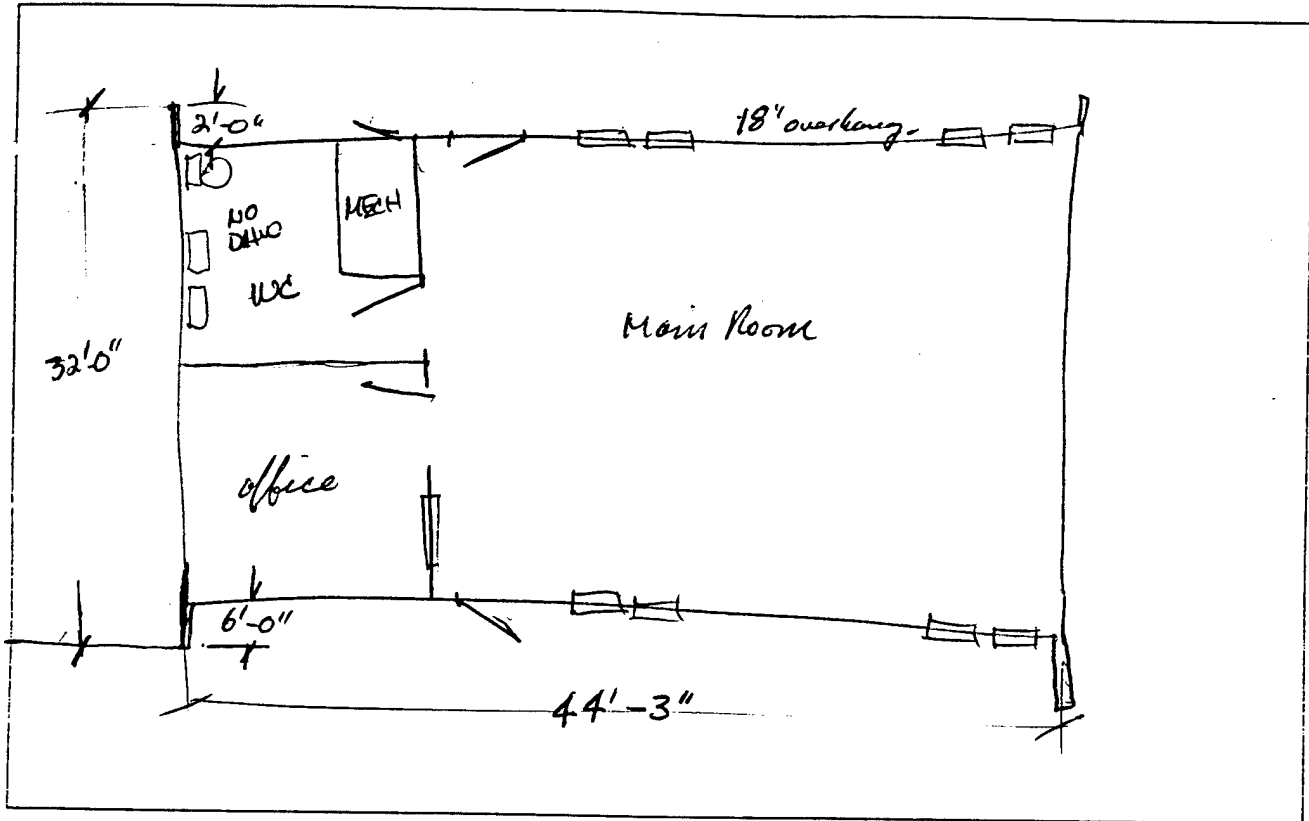
CRAWL SPACE: VENTILATED EXHAUSTED SOB

ATTIC: VENTILATED EXHAUSTED

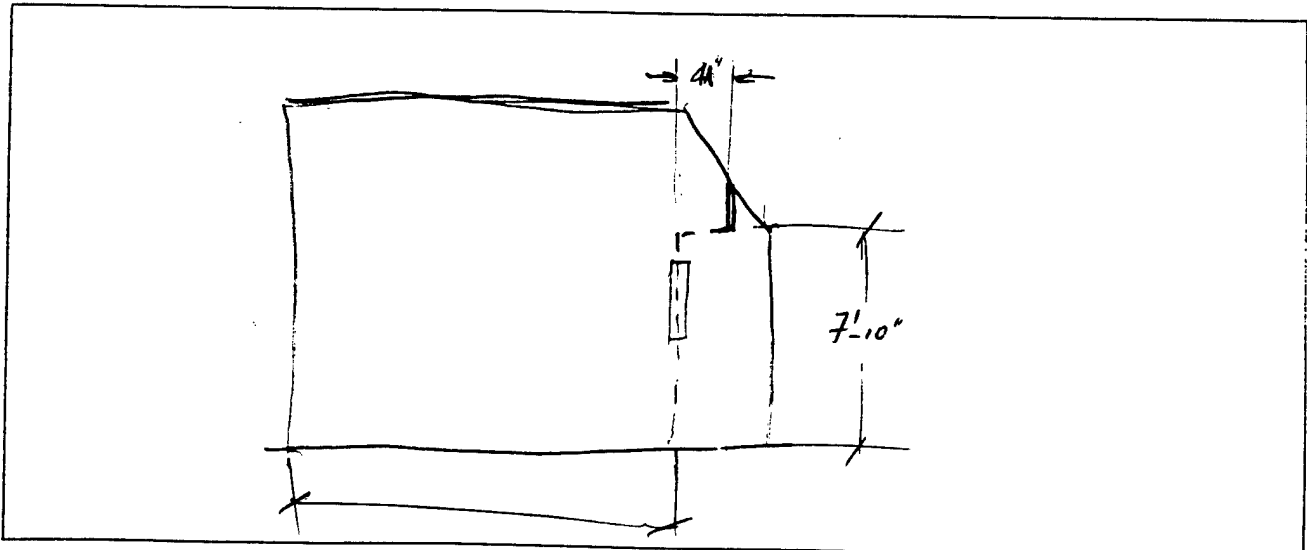
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION Flt
BLDG. NO. 198

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND
ELEVATION SKETCHES

2.3 ARCHITECTURAL WINDOWS & DOORS

LOCATION Flr
BLDG. NO. 178

DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION			REMARKS ***, ****								
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		YES	NO	W/S		LOOSE	AUG	FIT	CRACK LENGTH				
										15																
		TOTAL AREA														U-VALUE										

WA

LEGEND:

- *GLAZING:**
1 - ORDINARY
2 - $\frac{1}{8}$ " PLATE
3 - HEAT ABSORBING
4 - TINTED
- **FRAME:**
W - WOOD
M - METAL
T - METAL/THERMAL BREAK
- ***SHADING:**
A - SOLAR FILM
B - VEN BLIND
C - STORM WINDOW
D - DRAPES
- ****VISIBILITY:**
E - AWNING
F - SOLAR SCREEN
G - OVERRIANG
OTHER - SPECIFY
- WINDOW TYPES:**
1 - DOUBLE HUNG
2 - SINGLE HUNG
3 - SLIDING
4 - CASEMENT
5 - LOUVERED
6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FH
 BLDG. NO. 198

CONSTRUCTION

WALL COLOR: D M L

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Stucco	5/8"	
1/2" Plywood	1/2"	
FG Insulation	-	R-11
Gyp Board	5/8"	
INSIDE FILM		
TOTAL		

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
PLYWOOD DECK	1/2"	
R-19 INSUL		
Built-up roof		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

U-FACTOR AREA

FLOOR SOG

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
SOG		
LITD		
INSIDE FILM		
TOTAL		

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Wood	1/2"	
Gypsum	1 3/8"	
INSIDE FILM		
TOTAL		

U-FACTOR AREA

U-FACTOR AREA

BUILDING SKIRTING MATERIAL None

3.1 HEATING EQUIPMENT

Heat Source: Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 100 MBH IN 80 MBH out Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: TAPPAN Model No.: UGI 100 D 13 E
SELLER # 78F11197

Boiler/Furnace Control: Manual Time Clock 24 Hr Demand EMCS O₂ Trim

Operating Temperature: 190° OUTLET AIR °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day
Weekdays & Holidays: From _____ To _____ Hr/Day
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F
N/A

Insulation: (1) Boiler Poor Area _____ FT² None Temp. _____ °F
(2) Other (Specify) _____ Poor Area _____ FT² None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe 1/3 HP FAN N=BR 8.5 Amps

Occupant Discomfort (Evaluate): 115 V 1 1/2 60 Hz

3.2 COOLING EQUIPMENT

LOCATION FIR
 BLDG. NO. 173

COMPRESSOR(S)/CHILLER

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS:

3.3 AIR HANDLING EQUIPMENT

FANS

Type SWAMP COOLER (4FT x 4FT x 4FT)

Unit/Zone # _____ # _____ # _____ # _____

Manufacturer _____

Model No. _____

Type _____

RPM of Fan _____

Motor HP _____

Motor Volts _____

Motor FLA _____

Measured Amps _____

CFM (from Plans) _____

Notes _____

ALSO ZXCASIBLANCA FANS

COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX _____	ELEC _____
H ₂ O _____	STEAM _____
OTHER _____	H ₂ O _____
	OTHER _____
HEATING	AUX/MISC OTHER
GAS _____	_____
H ₂ O _____	_____
ELEC _____	_____
OTHER _____	_____

FILTERS

Type _____

Condition _____

Manometer Reading 1/ _____

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? _____
 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|-----------|------------|-------|
| a. Location | _____ | _____ | _____ |
| b. Areas Served | _____ | _____ | _____ |
| c. Manufacturer and Model | _____ | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>WA</u> | _____ | _____ |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | _____ | _____ | _____ |
| 2) Instantaneous | _____ | _____ | _____ |
| 3) Semi-Instantaneous | _____ | _____ | _____ |
| f. Heater Size and Storage Capacity | _____ | _____ | _____ |
| g. Heating Capacity | _____ | _____ | _____ |
| h. Type Controls (Air, Steam, Electric) | _____ | _____ | _____ |
| i. When Installed & Condition | _____ | _____ | _____ |
| j. Heater Temperature Setting | _____ | _____ | _____ |
| k. Average Water Maintained Temperature | _____ | _____ | _____ |
| l. Temperature Differential (j) - (k) | _____ | _____ | _____ |
| m. Is Hot Water Supply Adequate: | _____ | _____ | _____ |
| n. Insulation Thickness | _____ | Type _____ | _____ |
| o. Insulation Material | _____ | _____ | _____ |

LOCATION F12
BLDG. NO. 198

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

SWAMP COOLER CONTROLLED BY ~~TEMP~~ HALL SWITCH

LOCATION PH BLDG. (98)

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I T I N G	W A L L	C E I T I N G	W A L L			
Room	S	F 34	4/100	10						50		10'-0"							on
g	S	F 34	2/100	3															on w/ 1/15 HP fan
d	S	F 34	3/100	4															25W
<i>off lights are on energy saving type</i>																			
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

Fixture Types:
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe

Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe

Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS

Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)

6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION FFH
 BLDG. NO. 190

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>2</u>	<u>S</u>	<u>2</u>	<u>60</u>		<u>M</u>	<u>never used lights</u>

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey _____
 Total installed _____

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey _____
 Total installed _____

LOCATION Fish
BLDG. NO. 198

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: _____

4.3.2 RECEPTACLES IN USE _____ PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler	_____
Vending Machine	_____
Space Heater	_____
Coffee Pot	_____
TV	<u>1</u>
XEROX	_____
Other:	
<u>Stereo</u>	<u>1</u>
<u>Floor Fan</u>	<u>1</u>
<u>Ceiling Fan</u>	<u>1</u>
_____	_____

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RCL/BIH/RJB DATE 10CT 92
BUILDING NUMBER 206 FUNCTION/USE DINING FACILITY
INFORMATION SOURCE (DWG. NO./PERSON) Inspection & Food Service Manager

GENERAL BUILDING DATA

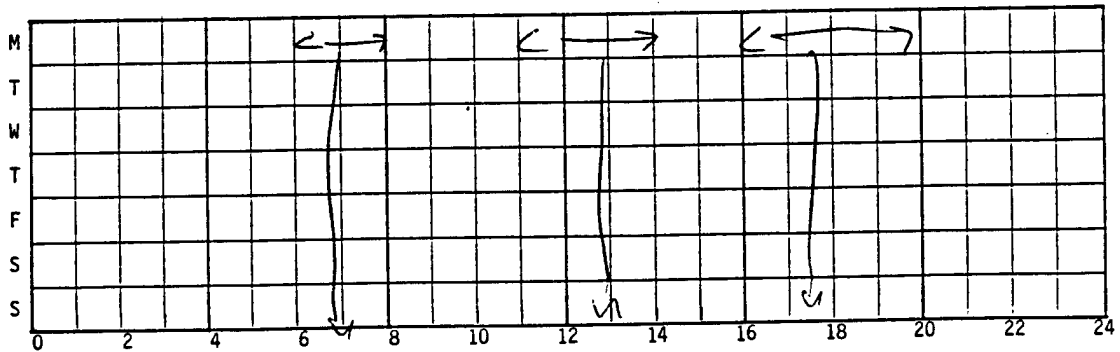
BUILDING AGE: _____ YEARS

DUPLICATE BUILDING NOS: None TOTAL: _____

SIMILAR BUILDING NOS: None TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 100

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: _____

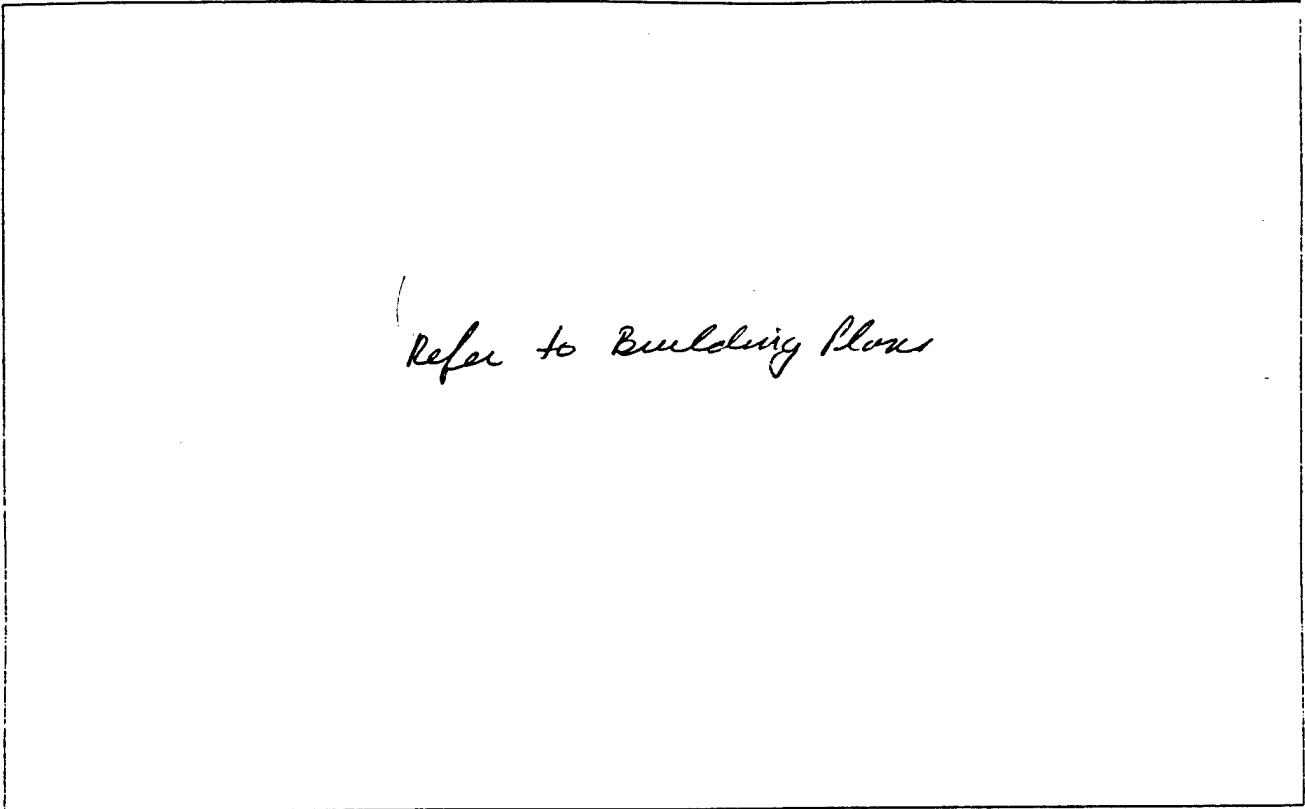
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED

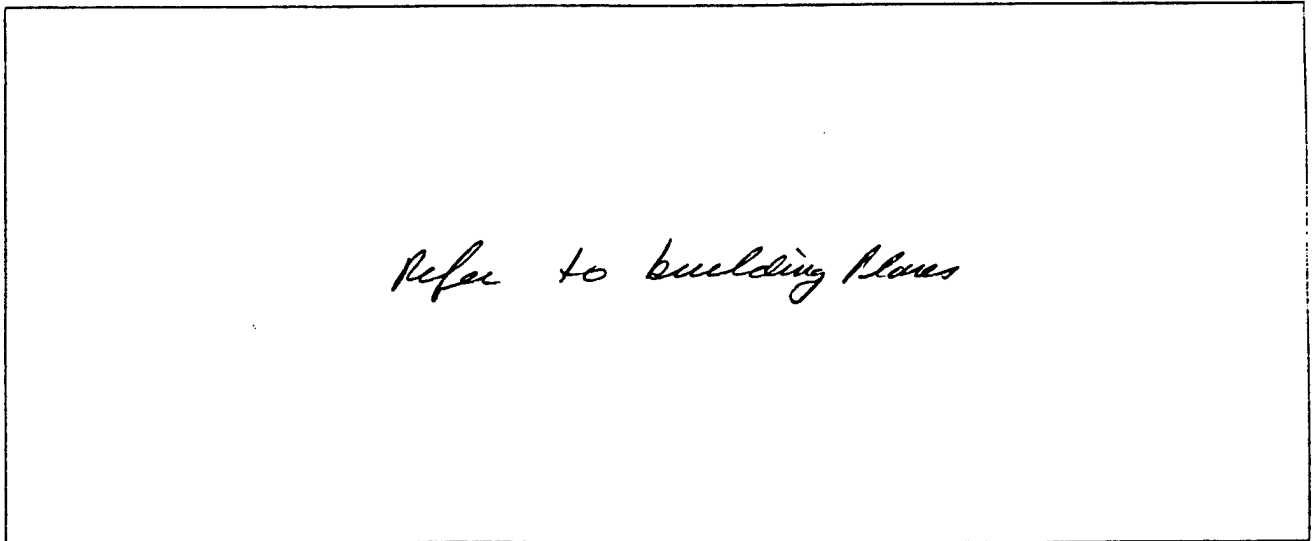
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



2.3 ARCHITECTURAL WINDOWS & DOORS

LOCATION Fit
BLDG. NO. 206

DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION			REMARKS ***, ****
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S	FIT	CRACK LENGTH	
<i>REFER TO RAUS</i>																		
TOTAL AREA U-VALUE																		

LEGEND :

- *GLAZING: 1 - ORDINARY 2 - 1/2" PLATE 3 - HEAT ABSORBING 4 - TINTED
- **FRAME: W - WOOD M - METAL T - METAL/THERMAL BREAK
- ***SHADING: A - SOLAR FILM B - VEN BLIND C - STORM WINDOW D - DRAPES
- ****VISIBILITY: E - AWNING F - SOLAR SCREEN G - OVERHANG OTHER - SPECIFY
- WINDOW TYPES: 1 - DOUBLE HUNG 2 - SINGLE HUNG 3 - SLIDING 4 - CASEMENT 5 - LOUVERED 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION Fitz

BLDG. NO. 206

CONSTRUCTION @ Detail sheet 70 As-Built

WALL COLOR: D M L

TYPE: F P
 COLOR: D M L

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<u>Stucco</u>	<u>1/2"</u>	
<u>Rigid Insul</u>	<u>1"</u>	
<u>Air Space</u>	<u>1"</u>	
<u>CMU</u>	<u>8"</u>	
—		
INSIDE FILM		

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

TOTAL

U-FACTOR AREA

U-FACTOR AREA

FLOOR SOG

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

TOTAL

U-FACTOR AREA

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

LOCATION FTH
BLDG. NO. 205

3.1 HEATING EQUIPMENT

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 280 MBtu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: _____ Model No.: D-3200-054 46262

Boiler/Furnace Control: Manual Time Clock w/ Demand EMCS O₂ Trim

Operating Temperature: 175 °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. EUROPIPE Model No. DE 32P Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
7 DAY/ WEEK Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area 8'-3 1/2' FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps 1 V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP 1/3 RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION 206
 BLDG. NO. 197

COMPRESSOR(S)/CHILLER

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many

operative during normal operation: _____)
 Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

SEE ATTACHED

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

3.3 AIR HANDLING EQUIPMENT

FANS

Type	_____	_____	_____	_____
Unit/Zone	# _____	# _____	# _____	# _____
Manufacturer	_____	_____	_____	_____
Model No.	_____	_____	_____	_____
Type	_____	_____	_____	_____
RPM of Fan	_____	_____	_____	_____
Motor HP	_____	_____	_____	_____
Motor Volts	_____	_____	_____	_____
Motor FLA	_____	_____	_____	_____
Measured Amps	_____	_____	_____	_____
CFM (from Plans)	_____	_____	_____	_____
Notes	_____	_____	_____	_____

COILS

Indicate capacities where found:

SEE ATTACHED

COOLING	HUMIDIFICATION
DX _____	ELEC _____
H ₂ O _____	STEAM _____
OTHER _____	H ₂ O _____
	OTHER _____
HEATING	AUX/MISC OTHER
GAS _____	_____
H ₂ O _____	_____
ELEC _____	_____
OTHER _____	_____

FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading ^{1/}	_____	_____	_____

^{1/} Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION PH
BLDG. NO. 200

- a. Is System Supported from (check one):
 Central Plant One System per Building
 Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: _____ °F _____ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

d. Is Piping System Insulated and Condition: _____

e. Is Hot Water Circulated? _____

- 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

See Attached

a. Location	_____	_____	_____
b. Areas Served	_____	_____	_____
c. Manufacturer and Model	_____	_____	_____
d. Energy (Oil, Gas, Electric, Coal, Etc.)	_____	_____	_____
e. Type Heaters & Quantities:			
1) Storage	_____	_____	_____
2) Instantaneous	_____	_____	_____
3) Semi-Instantaneous	_____	_____	_____
f. Heater Size and Storage Capacity	_____	_____	_____
g. Heating Capacity	_____	_____	_____
h. Type Controls (Air, Steam, Electric)	_____	_____	_____
i. When Installed & Condition	_____	_____	_____
j. Heater Temperature Setting	_____	_____	_____
k. Average Water Maintained Temperature	_____	_____	_____
l. Temperature Differential (j) - (k)	_____	_____	_____
m. Is Hot Water Supply Adequate:	_____	_____	_____
n. Insulation Thickness	_____	Type _____	_____
o. Insulation Material	_____	_____	_____

PAC-4	PAC-5	EUC-1	EUC-2	EUC-3	EUC-4	EUC-5	
NAMEPLATE	SAME	/	/	/	ARUNO	"	
TRAFFIC		/	/	/	MOV ESS30A	"	
WD 5L234004 HA		/	/	/	SERIAL 012235	012232	
DSC4DE4E		/	/	/	3/4, 1 HP	"	
460V/60Hz/3Ø		/	/	/			
MCA 123		/	/	/	COIL (COP)	COIL (COP)	COIL (COP)
COMPRESSOR		/	/	/	TRAFFIC	TRAFFIC	TRAFFIC
QTY 4		/	/	/	TYPE 200	TYPE 200	TYPE 200
460V/60Hz/3Ø		/	/	/	SERIAL #	SERIAL #	SERIAL #
73RCA		/	/	/	K89M37985	K87M37989	K87M37987
CONDENSER (A/C)	SAME	/	/	/			
QTY 4 (1HP)		/	/	/	PNEUMATIC	"	"
460V/60Hz/3Ø		/	/	/	CONTROL	"	"
2.6 FLA EA.		/	/	/	STAT W/OUT	"	"
EVAP MOTOR		/	/	/			
QTY 1 (10HP)		/	/	/			
460V/60Hz/3Ø		/	/	/			
13.6 FLA EA		/	/	/			
REPAIR MANUAL		/	/	/			
QTY 1 (5HP)		/	/	/			
460V/60Hz/3Ø	/	/	/				
7.2 FLA EA.	/	/	/				
OFF	ON						
MEASURED 87.75 Amps HP/COIL			MEASURED Kmps 1A 1A 1A		MEASURED Naps 1A 1A 1A		
EUC-6							
DISMANTLED							
5.1 Mins							
TS							
0.7 Mins							
				space temp. measured during area - 79°F			
						6F3 Bldg 206	

APPLICABLE TO
1st 3rd 5th

EU	NAME	TYPE	MODEL	HP	RPM	Elec	MEASURE
2	CORE SPAT	SMALL MUSHROOM	10-2412	3	1725	230V/50Hz/30 400	9.2FLA/4.6
3		MED MUSHROOM		1/2	1725		
4		MED MUSHROOM		1/4	1725	115V	
5		SAME AS P2AW					MEASURED 1.8/1.8/1.4
6	(Aimed at 2)	UPDCAST LARGE MUSHROOM	GREENHOLE MOD. CUBIC 18-5				
7	GL PROJECT		10-2412	3	1725	230V/60Hz/30 400	9.2FLA/4.6 2.5/3/2
8	"	"	"	"	"	"	2.6/2.3/2
9	"	"	"	"	"	"	"
10		SMALL MUSHROOM					
11		"					
12		"					
13		"					
14		MED MUSHROOM					

2013
200

15th AVE AS 7

3.2/32/12

16 GARAGE EAST MASTER ROOM

3.2/32/12

LOCATION FH
BLDG. NO. 206

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

4.2.1 Interior Lighting

LOCATION Flr BLDG. 206

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
												C E I L L I N G	W A L L	C E I L L I N G	W A L L			
DISH WASH	SMF	F34	2	5														
Z	R	I	1/150	28														
3	R	F(6) 34	2/72	49							40-45							C
LAND DUCK	R	MV 100	1	6														
8	S	F34	2/72	2														
8	S	F34	2/72	2														
8	S	F34	2/72	4														
8	S	F34	2/72	3														
ENTRY	R	MV 100	1	3														
8	S	F(6) 34	2/72	4														
EXIT		EG	4	6														
TOTAL BUILDING LIGHTING ENERGY																		

LIGHTING LEGEND:

Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe

Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS

Tasks Code:
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION PTH BLDG. 206

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)		
													C	E	I	L	A	W			C	E
BUR Rm	Pendant	F34	2	5																		
3	R	F(M) 34	2/72	49							40											
1	R	F(M) 34	2/72	10																		
2	R	F34	4/144	8																		
2	R	F(M) 34	2/72	29							50-60											
2	R	F34	4/144	8																		
2	R	F(M) 34	4/40	32																		
2	Surf	F34	2/72	33																		
12	Surf	F34	2/72	9																		
4	R	F34	4/144	2																		
2	Surf	F34	2/72	15																		
TOTAL BUILDING LIGHTING ENERGY.																						

LIGHTING LEGEND:

Fixture Types:
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe

Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe

Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS

Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

4.2.1 Interior Lighting

LIGHTING

LOCATION

BLDG.

206

FH

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L L I N G	W A L L	C E I L L I N G	W A L L			
EXTERNAL	S	MV 100	1	4															
EXTERNAL	S	S 100	1	7															
EXTERNAL	PM	MV	1	2															RECEIVING AREA
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FAL SURVEYED BY RJB / BHH DATE 8 OCT 92
 BUILDING NUMBER 207 & 207A FUNCTION/USE Baracks / OFFICES
 INFORMATION SOURCE (DWG. NO./PERSON) _____

GENERAL BUILDING DATA

BUILDING AGE: 15 YEARS (mid '70's CONSTR.)

DUPLICATE BUILDING NOS: 205/205A, 208/208A, 229/229A, 230/230A
 TOTAL: _____

SIMILAR BUILDING NOS: _____
 TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 80 (207)
10 (207A)
 Indicate (number and) duration of occupants each day

M																				
T																				
W																				
T																				
F																				
S																				
S																				
	0	2	4	6	8	10	12	14	16	18	20	22	24							

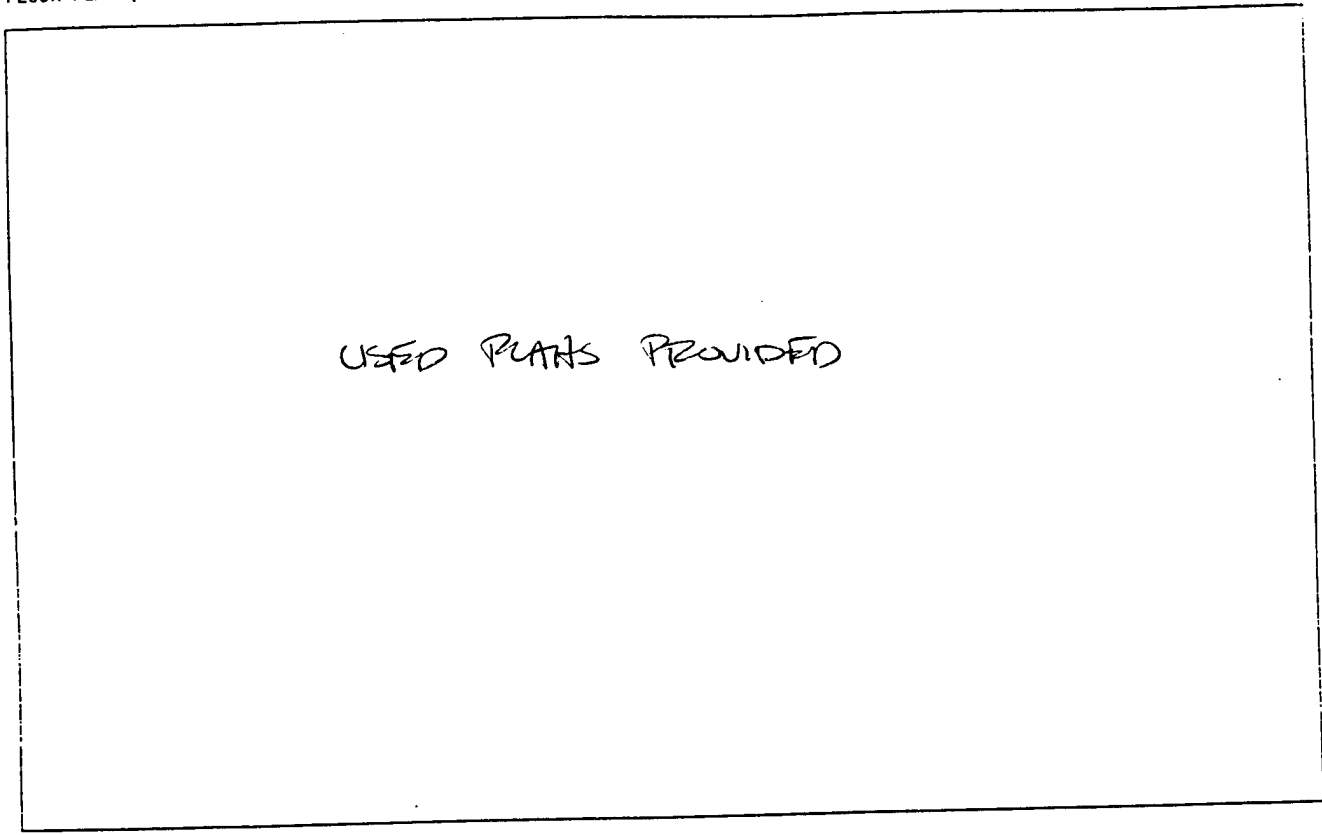
MISCELLANEOUS EQUIPMENT: 207A: Shredder, drill press, Xerox, RFR
16

ADDITIONAL COMMENTS, CRITICAL LOADS: A/C works well & always has

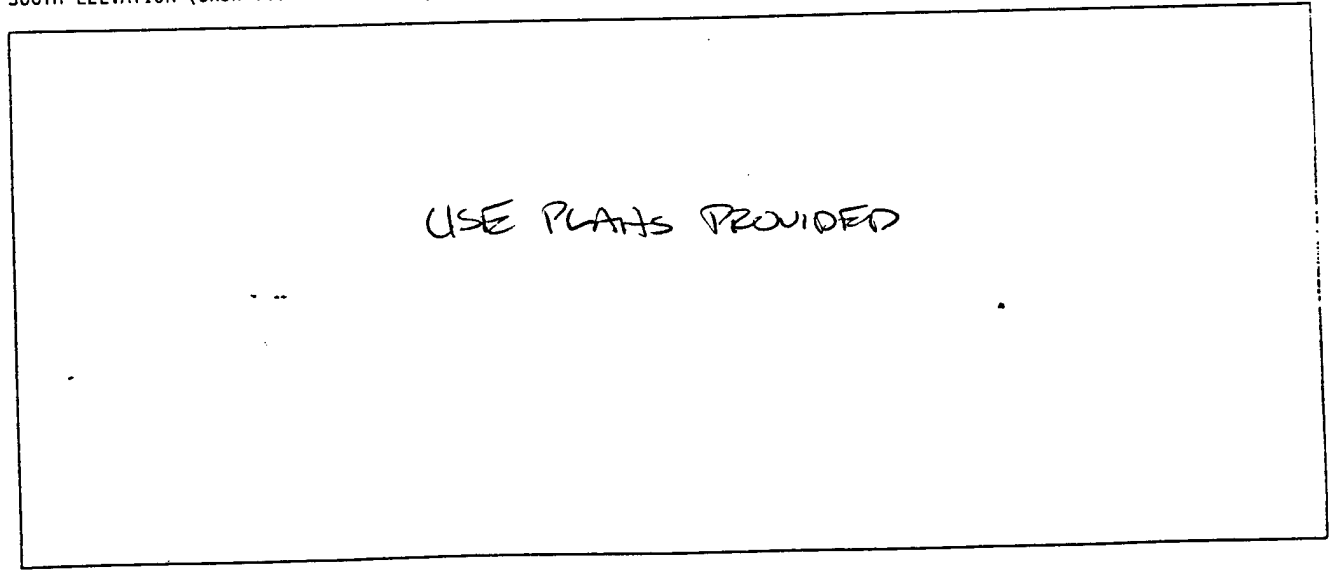
CRAWL SPACE: VENTILATED EXHAUSTED
 ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION				REMARKS *** ****
		N	NE	E	SE	S	SW	W	WM		TYPE	DBL	TRPL		W/S	FIT	CRACK LENGTH		
A	1	24	18	45					12	2'x6'	1			M	✓	✓			
B	6/4		4						2	2'8"x7'4"	1			M	✓	✓			

TOTAL AREA [] U-VALUE []

- LEGEND:**
- *GLAZING:
1 - ORDINARY
2 - 1/4" PLATE
3 - HEAT ABSORBING
4 - TINTED
 - **FRAME:
W - WOOD
M - METAL
T - METAL/THERMAL BREAK
 - ***SHADING:
A - SOLAR FILM
B - VEN BLIND
C - STORM WINDOW
D - DRAPES
 - ****VISIBILITY:
E - AWNING
F - SOLAR SCREEN
G - OVERHANG
OTHER - SPECIFY
 - WINDOW TYPES:
1 - DOUBLE HUNG
2 - SINGLE HUNG
3 - SLIDING
4 - CASEMENT
5 - LOUVERED
6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FHL
 BLDG. NO. 207/207A

CONSTRUCTION

WALL ALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
STUCCO	1/2"	
RIGID INSUL.	1"	
AIR SPACE	1"	
CMU	8"	
INSIDE FILM		
TOTAL		

U-FACTOR AREA

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
SAFETY ROOF		
RIGID INSUL.	4"	
L W CONCRETE/ METAL DECK	6"	
AIR SPACE		
SUSP. CEILING		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR SOG.

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

Heat Source: Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 1,875 MBtu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: HURST Model No.: FB225-30-0

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: 190 °F Operating Pressure: 16 PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PET.

Burner: Mfg. GORDON PLATT Model No. B8.3-0-15 Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) PIPES GOOD
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps 2 V/PH/FLA _____ / _____ / _____
Mfg. DAKO Model 10-10705-700061A01-1 HP 1 1/2 RPM 1725
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled X _____
 Evaporative _____
 Manufacturer TRANE _____
 Model No. R41A-8006-EA _____
 Size 80 TON _____
 Type of Fan COND. _____
 Fan Motor HP 7.5 _____
 Fan Motor Voltage 200 _____
 Fan Motor FLA 25.4 _____
 Measured Amps 50 (RPM) _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA NA _____
 Measured Amps _____

REMARKS: _____

3.3 AIR HANDLING EQUIPMENT

LOCATION PH
BLDG. NO. 207

FANS

	<u>207</u>	<u>207A</u>		
Type	<u>CEAT</u>	<u>RECYCLED</u>		
Unit/Zone	# <u>BLDG</u>	# <u>MDU W</u>	#	#
Manufacturer	<u>TRANE</u>	<u>TRANE</u>		
Model No.	<u>CLCH</u>	<u>LPS1 8 P</u>		
Type	<u>#50</u>	<u>SN 0925</u>		
RPM of Fan	<u>RETURN - 10 HP</u>			
Motor HP	<u>SUPPLY - 2.5 HP</u>	<u>1.5</u>		
Motor Volts	<u>200</u>	<u>208</u>		
Motor FLA	<u>6</u>	<u>6</u>		
Measured Amps	<u>50 Amps</u>			
CFM (from Plans)				
Notes				

COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX <u>Y</u>	ELEC _____
H ₂ O _____	STEAM _____
OTHER _____	H ₂ O _____
	OTHER _____
HEATING	AUX/MISC OTHER
GAS _____	<u>NA</u>
H ₂ O <u>Y</u>	_____
ELEC _____	_____
OTHER _____	_____

FILTERS

Type	_____	_____	_____
Condition	<u>.55" H₂O</u>	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? Y. EC - BLDG 207
 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	<u>207 MECH ROOM</u>	<u>207A</u>	
b. Areas Served	<u>207</u>	<u>207A</u>	
c. Manufacturer and Model			
d. Energy (Oil, Gas, Electric, Coal, Etc.)	<u>F.O.</u>	<u>ELECTRIC</u>	
e. Type Heaters & Quantities:	<u>HEAT. EXCHANGER</u>		
1) Storage	<u>1,075 GAL.</u>	<u>15 GAL.</u>	
2) Instantaneous			
3) Semi-Instantaneous			
f. Heater Size and Storage Capacity		<u>3 KW</u>	
g. Heating Capacity			
h. Type Controls (Air, Steam, Electric)			
i. When Installed & Condition			
j. Heater Temperature Setting	<u>145°F</u>	<u>130°F</u>	
k. Average Water Maintained Temperature			
l. Temperature Differential (j) - (k)			
m. Is Hot Water Supply Adequate:			
n. Insulation Thickness			
o. Insulation Material			

LOCATION FHA
BLDG. NO. 209

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

208A: Had & cool T stats
HOA & dial to

Back room of 208A has
14 PC's , TV , 20 PW & overboats for some reason.

4.2.1 Interior Lighting

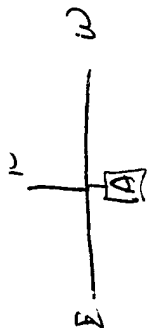
LIGHTING

LOCATION

FHC

BLDG.

207



TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/ DAY ON	DAYS/ YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS
	4 general S	F 40	4	16							40-50	9'-3"	LLM	FFF	S	(LIGHTS/SWITCH) xor ox f-12 pe's
	WC	F 40	2	9												recessed. 12' x 12'
	4 general S	F 40	4	1												
	Central Corridors	F 40	2	6							15					
	"	F 40	2	5												
	Duptr Room	F 40	2	not												
	12	F 40	4	5												
TOTAL BUILDING LIGHTING ENERGY																

X 3 windows
X 3 floors

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

4.2.1 Interior Lighting

207A

BLDG.

LOCATION FAL

4 S F 2/ 2 Z
4 S F 2/ 2 Z

LIGHTING

1ST FLOOR

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)				
													C	E	I	C	E	I			F	L	O	
	Recessed S	F 40	2/100	8								9'0"	W	L	L	F	L	O						
	Suspended S	F	2/	10										W	L	L	F	L	O					
	S	F	2/	2										W	L	L	F	L	O					
	Corridor S	F	4/	5										W	L	L	F	L	O					
	S	F 40	2/	2										W	L	L	F	L	O					
	Shop S	F	2/	6										W	L	L	F	L	O					
	Office R	F	2/	6							60	9'0"		W	L	L	F	L	O					
	I R	F	2/	5										W	L	L	F	L	O					
	A S	F	2/	2										W	L	L	F	L	O					
	A S	F	2/	2										W	L	L	F	L	O					
	Lighting			12										W	L	L	F	L	O					
TOTAL BUILDING LIGHTING ENERGY																								

LIGHTING LEGEND:

- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FH SURVEYED BY RIB/RIH DATE 10/15
BUILDING NUMBER 208 + 208A FUNCTION/USE RAZORACKS / OFFICES
INFORMATION SOURCE (DWG. NO./PERSON) Visum

GENERAL BUILDING DATA

BUILDING AGE: 15 YEARS

DUPLICATE BUILDING NOS: _____
TOTAL: _____

SIMILAR BUILDING NOS: _____
TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 90-208
Indicate (number and) duration of occupants each day 10-208A

M																							
T																							
W																							
T																							
F																							
S																							
S																							
	0	2	4	6	8	10	12	14	16	18	20	22	24										

MISCELLANEOUS EQUIPMENT: _____

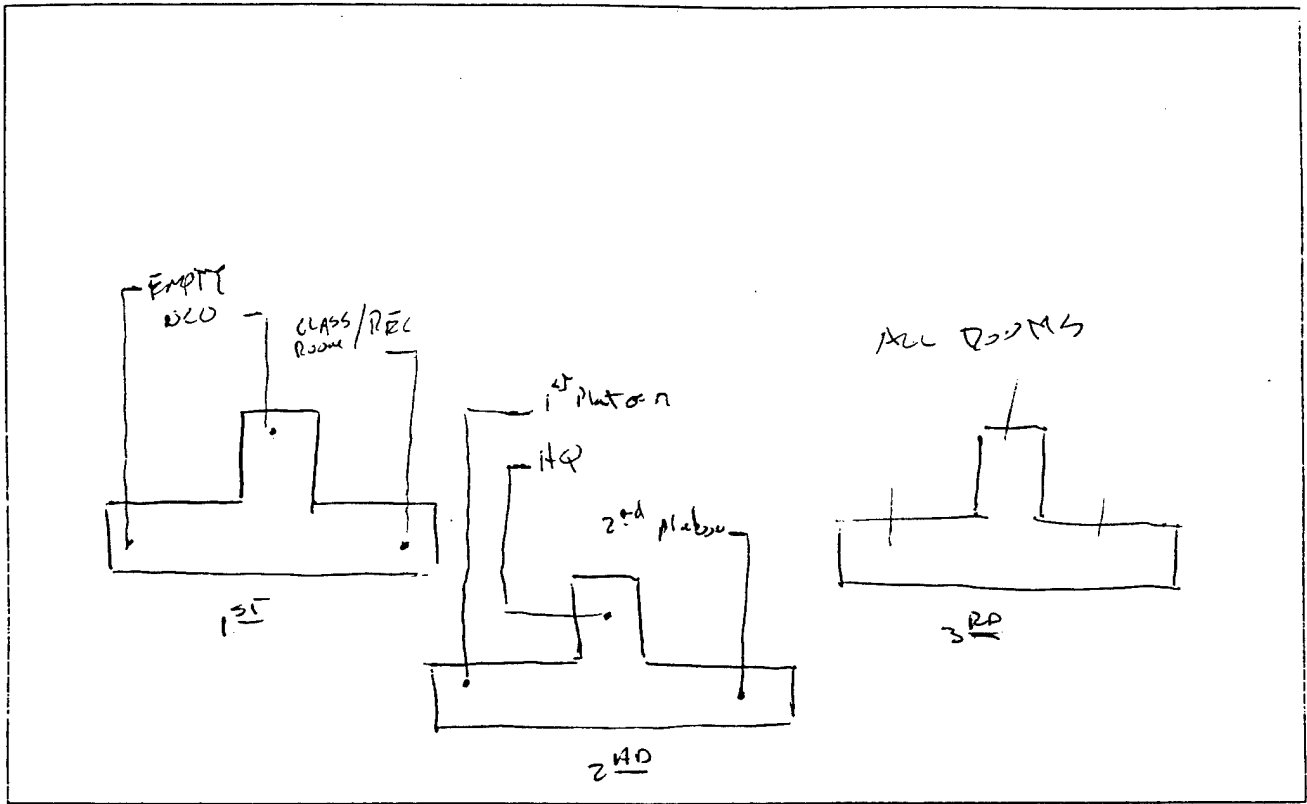
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED

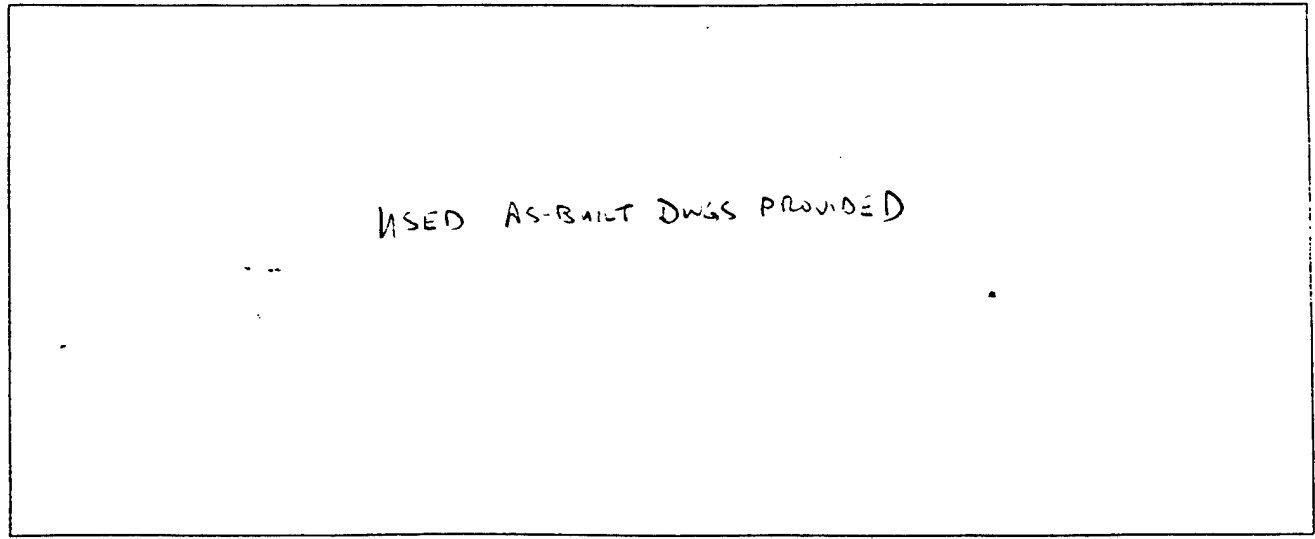
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



2.3 ARCHITECTURAL WINDOWS & DOORS

LOCATION FHL
 BLDG. #: 208/208A

DOOR/ WINDOW DESG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION				REMARKS ***, ****
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		YES	NO	FIT	CRACK LENGTH	
A	1	18	45			12		24		2' x 6'	1		M	✓	✓				
B	6/4	4				2				28" x 74"	1		M	✓	✓				

TOTAL AREA U-VALUE

- *GLAZING:**
- 1 - ORDINARY
 - 2 - 1/4" PLATE
 - 3 - HEAT ABSORBING
 - 4 - TINTED
- **FRAME:**
- W - WOOD
 - M - METAL
 - T - METAL/THERMAL BREAK
- ***SHADING:**
- A - SOLAR FILM
 - B - VEN BLIND
 - C - STORM WINDOW
 - D - DRAPES
- ****VISIBILITY:**
- E - AWNING
 - F - SOLAR SCREEN
 - G - OVERHANG
 - OTHER - SPECIFY
- WINDOW TYPES:**
- 1 - DOUBLE HUNG
 - 2 - SINGLE HUNG
 - 3 - SLIDING
 - 4 - CASEMENT
 - 5 - LOUVERED
 - 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FHL
 BLDG. NO. 208/208A

CONSTRUCTION

WALL ALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Stucco	1/2"	
RIGID INSULATION	1"	
AIR SPACE	1"	
CMU	8"	
INSIDE FILM		
TOTAL		

U-FACTOR AREA

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
BUILT-UP ROOF		
RIGID INSUL.	4"	
LT WEIGHT CONCRETE/METAL DECK	6"	
AIR SPACE		
SUSP. CEILING		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR 506

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 1875 MBH or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: HURST Model No.: FB225-3010

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: 190 °F Operating Pressure: 16 PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced AS Induced DAMPER

Other (Specify) PETROL

Burner: Mfg. GARDNER Model No. R8.3-0-15 Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
 Weekdays & Holidays: From _____ To _____ Hr/Day _____
 Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) PIPES
 Poor Area _____ FT² Poor Area _____ FT²
 None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps 2 V/PH/FLA _____ / _____ / _____
 Mfg. PACO Model 10-10705-700061A01-1 HP 1 1/2 RPM 1725
 HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 208/208A

COMPRESSOR(S)/CHILLER

SPLIT SYSTEM DX

Manufacturer TRANE
 Model No. RAAA-8006-EA
 Size _____
 Refrigerant _____
 Motor HP (if available) 80HP
 Motor Voltage 208V/3φ
 Motor FLA 264
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled X
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan 2 EA COND.
 Fan Motor HP 7.5 HP
 Fan Motor Voltage 208V/3φ
 Fan Motor FLA 25.4
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

3.3 AIR HANDLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 208/208A

FANS

	<u>208</u>	<u>208A</u>		
Type	<u>Climate CHANGER</u>	<u>ROOFTOP PKG UNIT</u>		
Unit/Zone	<u># AC-208</u>	<u># 208A</u>	#	#
Manufacturer	<u>TRANE</u>	<u>AIR FAN</u>		
Model No.	<u>50</u>	<u>LPS18D</u>		
Type				
RPM of Fan				
Motor HP				
Motor Volts				
Motor FLA				
Measured Amps				
CFM (from Plans)				
Notes				

COILS

Indicate capacities where found:

<p>COOLING</p> <p>DX <input checked="" type="checkbox"/></p> <p>H₂O _____</p> <p>OTHER _____</p>	<p>HUMIDIFICATION</p> <p>ELEC _____</p> <p>STEAM _____</p> <p>H₂O _____</p> <p>OTHER _____</p>
<p>HEATING</p> <p>GAS _____</p> <p>H₂O <input checked="" type="checkbox"/></p> <p>ELEC _____</p> <p>OTHER _____</p>	<p>AUX/MISC OTHER</p> <p>_____</p> <p>_____</p> <p>_____</p>

FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): Central Plant One System per Building Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated?
 1) Condition of circulator GOOD 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	<u>208 mech Equip Room</u>	<u>208A</u>	_____
b. Areas Served	<u>208</u>	<u>208A</u>	_____
c. Manufacturer and Model	_____	_____	_____
d. Energy (Oil, Gas, Electric, Coal, Etc.)	<u>F.O.</u>	<u>ELECTRIC</u>	_____
e. Type Heaters & Quantities:			
1) Storage	<u>HEAT EXCHANGER</u>	_____	_____
2) Instantaneous	_____	_____	_____
3) Semi-Instantaneous	_____	_____	_____
f. Heater Size and Storage Capacity	<u>1,075 GALS</u>	<u>15 GALS</u>	_____
g. Heating Capacity	_____	<u>3 kW</u>	_____
h. Type Controls (Air, Steam, Electric)	_____	_____	_____
i. When Installed & Condition	_____	_____	_____
j. Heater Temperature Setting	<u>140°F</u>	<u>140°F</u>	_____
k. Average Water Maintained Temperature	_____	_____	_____
l. Temperature Differential (j) - (k)	_____	_____	_____
m. Is Hot Water Supply Adequate:	_____	_____	_____
n. Insulation Thickness	_____	Type _____	_____
o. Insulation Material	_____	_____	_____

4.4 Lighting

4.2.1 Interior Lighting

708/208A

BLDG.

LOCATION

FINISH

COLORS

MEASURED ILLUMINATION HEIGHT

WATTS PER SQ. FT.

FLOOR AREA SERVED

LIGHTING ENERGY

DAYS/YEAR ON

HOURS/DAY ON

TOTAL WATTS

NUMBER OF FIXTURES

LAMPS PER FIXTURE

LAMP TYPE AND WATTS

FIXTURE TYPE

TASK CODE

REMARKS

WINDOW CODE

(LIGHTS/SWITCH)

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS
IDENTICAL TO 2074 207A																
TOTAL BUILDING LIGHTING ENERGY																

LIGHTING LEGEND:

Fixture Types:

- Recessed = R
- Suspended = S
- Ventilated = V
- Pole Mounted = PM
- Other--Describe

Lamp Types:

- Incandescent = I
- Fluorescent = F
- Sodium Vapor = SV
- Mercury Vapor = MV
- Metal Halide = MH
- Other--Describe

Window Code:

- If there are windows, indicate:
- Curtains = C
- Shades = S
- No Shading = NS

Tasks Code:

- 1 = Corridors
- 2 = Kitchens
- 3 = Dining
- 4 = Offices-general
- 5 = Offices-bookkeeping (ledgers only)
- 6 = Offices-drafting
- 7 = Laundry
- 8 = Toilets
- 9 = Sleeping quarters
- 10 = Supply rooms
- 11 = Repair shops
- 12 = Storage room
- 13 = Retail store (PX, commissary)
- Other (describe on audit form)
- E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FAL SURVEYED BY RJB/BIH DATE 7 OCT 92

BUILDING NUMBER 209 FUNCTION/USE SNACK BAR

INFORMATION SOURCE (DWG. NO./PERSON) SURVEY / AS BUILT DWGS

GENERAL BUILDING DATA

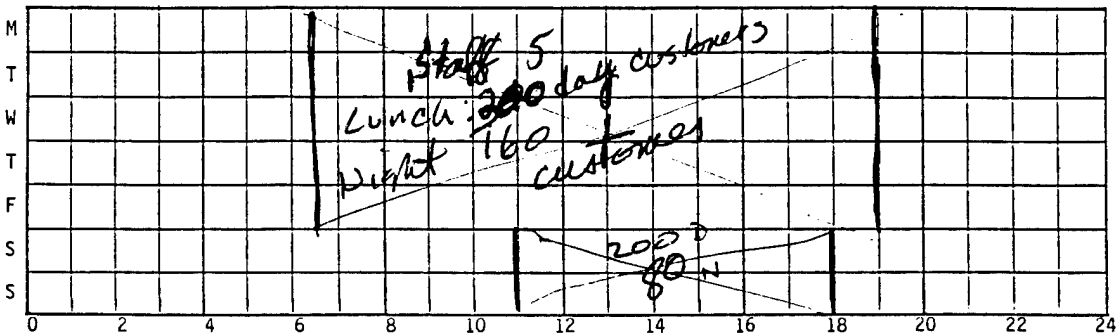
BUILDING AGE: MFD YEARS

DUPLICATE BUILDING NOS: _____ TOTAL: _____

SIMILAR BUILDING NOS: _____ TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 5

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: _____

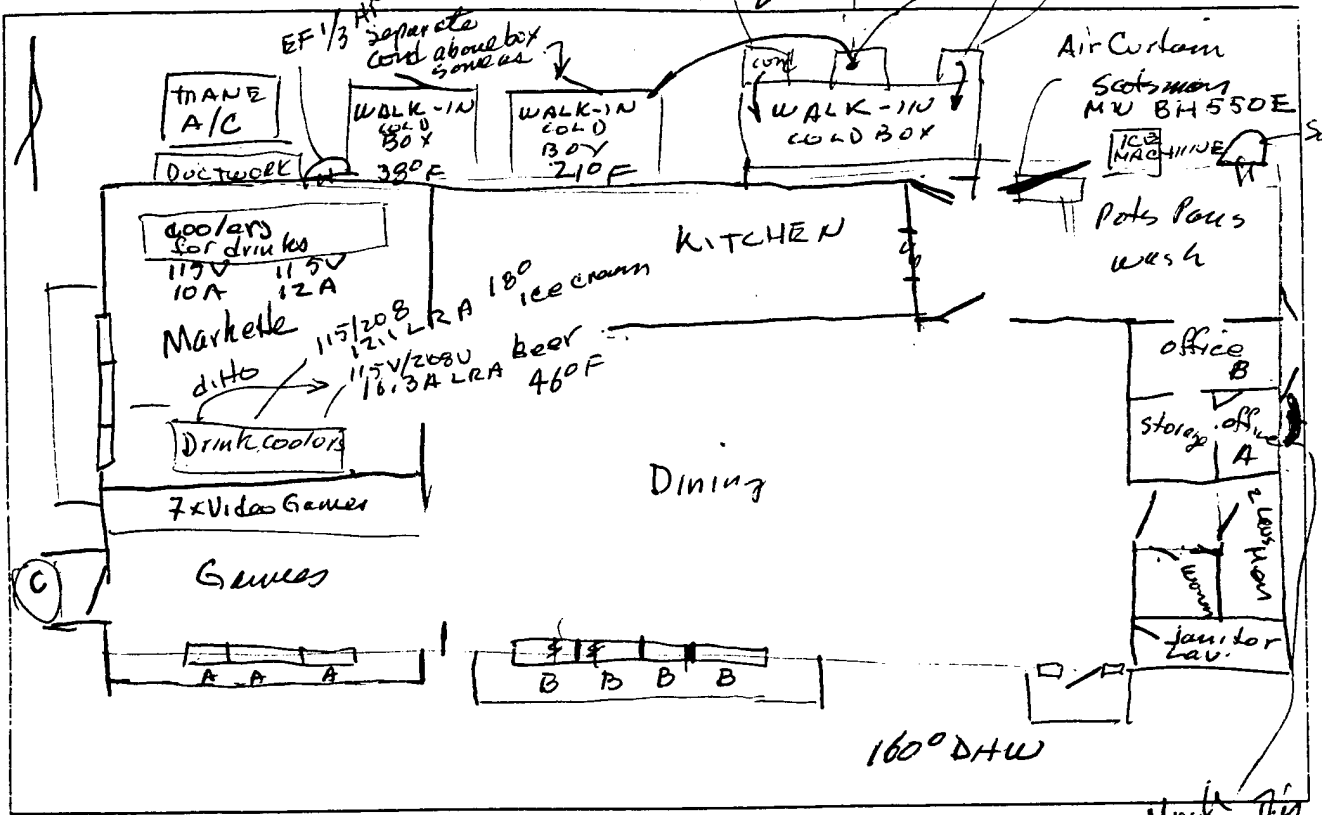
ADDITIONAL COMMENTS, CRITICAL LOADS: adequate - mini mart and video game room
no a/c (unit is broken) has been
up for years.

CRAWL SPACE: VENTILATED EXHAUSTED - DOG / LIHO
ATTIC: VENTILATED EXHAUSTED

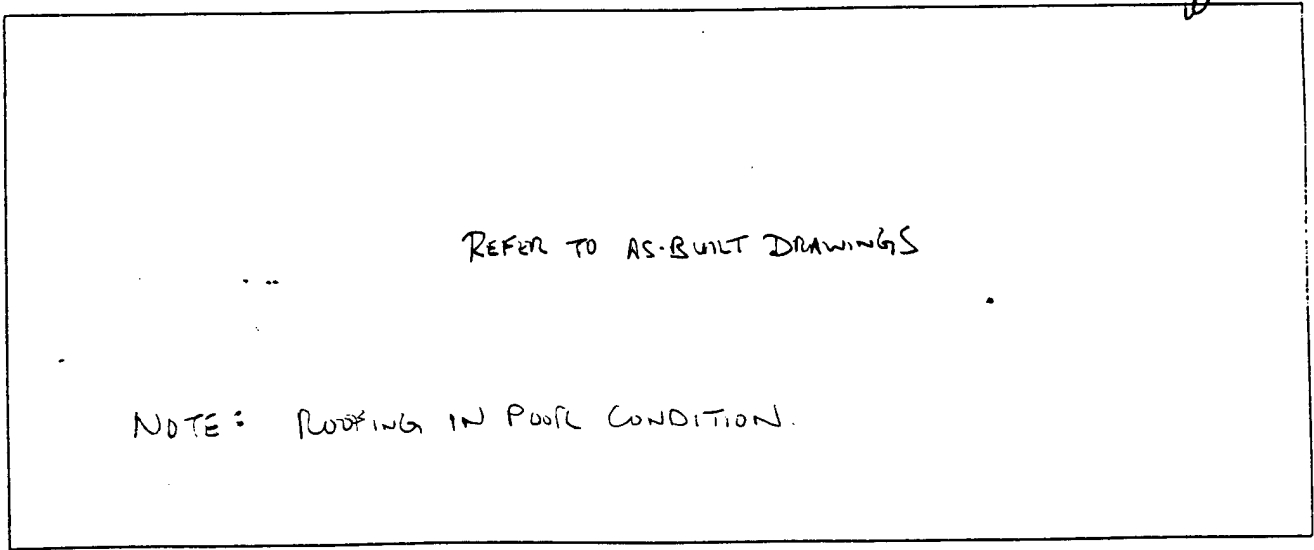
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHC
 BLDG. NO. 209
 210V P-P
 1.5A, 0.5A

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

DOOR/WINDOW DESIG.	TYPE	NUMBER EXPOSURE							SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION				REMARKS ***, ****							
		N	NE	E	SE	S	SW	W		NW	TYPE	DBL		TRPL	W/S	FIT	CRACK LENGTH								
Extr Window	A					3					56x31	4		M		/								over hang - 5 studs.	
(A) Window	B					4					46x65	4		M		/									
(B) Window	C					1					122 1/2 x 44 1/2			W			/		AVG						
(C) Door	D										36x80														

TOTAL AREA [] U-VALUE []

- LEGEND:
- *GLAZING: 1 - ORDINARY, 2 - 1/8" PLATE, 3 - HEAT ABSORBING, 4 - TINTED
 - **FRAME: W - WOOD, M - METAL, T - METAL/THERMAL BREAK
 - ***SHADING: A - SOLAR FILM, B - VEN BLIND, C - STORM WINDOW, D - DRAPES
 - ****VISIBILITY: E - AWNING, F - SOLAR SCREEN, G - OVERHANG, OTHER - SPECIFY
 - WINDOW TYPES: 1 - DOUBLE HUNG, 2 - SINGLE HUNG, 3 - SLIDING, 4 - CASEMENT, 5 - LOUVERED, 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

Refer to bldg plans

LOCATION F16
BLDG. NO. 209

CONSTRUCTION

WALL COLOR: D M L

TYPE: F P
COLOR: D M L

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

TOTAL

U-FACTOR AREA

U-FACTOR AREA

FLOOR

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

TOTAL

U-FACTOR AREA

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

LOCATION Fitz
BLDG. NO. 209

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 28000 Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: Bryon Model No.: D-350W-W 5046262

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: not energized 175/215°F on stats 75°F HW Reset Control °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) Propane

Burner: Mfg. Economite Model No. RE 32P Metering Equipment: Yes No

Operating Schedule: Bl/Ac Time Clock 24hr, not 7-day on 0500 off 1530
Weekdays: From _____ To _____ Hr/Day _____

Weekdays & Holidays: From 7 days/week Hr/Day _____

Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: see records _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler Poor Area 8' x 3 1/2' FT² (2) Other (Specify) _____
None Temp. _____ °F Poor Area _____ FT²
None Temp. _____ °F

Pump: No. of Pumps 1 In-Line Circulator V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP 1/3 RPM
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): _____

LOCATION Fitz
 BLDG. NO. 229

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant UA _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size UA _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS PACKAGE TRANE UNIT: SACA753-C
1 comp. 30 60Hz 30.3 - 20.8 FLA 208/240 LRA 163.0
2 cond fans 10 60Hz 2.7 FLA @ 208 2.7 FLA @ 240V
1 Evap Fan 30 60Hz 7.5 - 208 6.8 - 240
P-22

unit is turned off at disconnect so. COOLING EQUIPMENT
 HW Htg coil also. Economizer dampers disconnected

3.3 AIR HANDLING EQUIPMENT

LOCATION FIR
BLDG. NO. 209

FANS

Type	<u>Air Curtain on North to Hot</u>	<u>(</u>	<u>PKD. Rooftop AHU</u>
Unit/Zone	<u># door</u>	<u>= Mech Pen Exh #</u>	<u>=</u>
Manufacturer	<u>Universal Jet</u>	<u>?</u>	<u>MAMMOTH M/N.</u>
Model No.			<u>LEHB-181W238</u>
Type	<u>Centr.</u>	<u>~ 1/3 HP</u>	<u>COMPRESSOR & COND.</u>
RPM of Fan		<u>on T stat set</u>	<u>208V/3φ/88 FLA</u>
Motor HP		<u>80°F</u>	<u>AHU LOAD MEAS:</u>
Motor Volts		<u>also on A/C</u>	<u>62AR 208V/3φ</u>
Motor FLA		<u>HR prior</u>	
Measured Amps			
CFM (from Plans)			
Notes			

COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX _____	ELEC _____
H ₂ O _____	STEAM _____
OTHER _____	H ₂ O _____
HEATING	OTHER _____
GAS _____	AUX/MISC OTHER _____
H ₂ O _____	
ELEC _____	
OTHER _____	

NA (written diagonally across COOLING and HEATING sections)

FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
1" 225'

- d. Is Piping System Insulated and Condition: OK
- e. Is Hot Water Circulated? no
 1) Condition of circulator OK 3) Is aquastat provided? NA
 2) Circulator capacity NA 4) Aquastat temperature setting NA

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location _____
- b. Areas Served _____
- c. Manufacturer and Model American EFR 42D-1L
- d. Energy (Oil, Gas, Electric, Coal, Etc.) _____
- e. Type Heaters & Quantities:
 1) Storage 42 gal
 2) Instantaneous _____
 3) Semi-Instantaneous _____
- f. Heater Size and Storage Capacity _____
- g. Heating Capacity 208V 1φ 240V 1φ
- h. Type Controls (Air, Steam, Electric) 3375 4500 W upper
Lower
- i. When Installed & Condition _____
- j. Heater Temperature Setting Disconnected W = 3375/4500
- k. Average Water Maintained Temperature _____
- l. Temperature Differential (j) - (k) _____
- m. Is Hot Water Supply Adequate: _____
- n. Insulation Thickness _____ Type _____
- o. Insulation Material _____

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL
 CONTINUOUS
 DEMAND

TIME CLOCK
 EMCS

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

Honeywell thermostats H&C H=55°F
C=68°F

muscle temp 68°F

all

4.1 - MAIN SERVICE

4.1.1 TRANSFORMER: Size 150 kVA

Dry Type

Connection Y

Oil Filled

Location Site outs. To. mech room

13470 GRDY / 7200 - 208Y / 120

4.1.2 MAIN SWITCHBOARD: 2170 Amp

Bldg is Metered - see meter reading notes

MANUFACTURER _____ (BRKR) (FUSE) _____

BUS RATING _____ AMPS _____ VOLTS _____ PHASE _____ WIRE _____ NEUTRAL _____

MAIN (BRKR)(FUSE)(MLO) RATING _____ AMPS

SOURCE _____ VOLTS: _____ AN _____ BN _____ CH

CIRCUIT INFORMATION:

CKT NO.	DESCRIPTION	BKR MFG.	FRAME/TRIP	LOAD			
				A	B	C	II

NA

LIGHTING Pots/pans S F 40 2/100 5 LOCATION Fix BLDG. 205

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)
													C E I T I N G	W A L L	C E I T I N G	F L O O R		
8 men	R	F 34	2/100	1							30	8'						
1-8	S	F 34	4/200	1							50	8'						
8 women	R	I 60	1/60	1								9'6"						
Janitor	S	F 34	1/34	1														
3	R	I 60	1/60	15														
Serving	R	I 60	1/60	4														
	DOWN	F 40	1/40	4														
Market	R	I 60	1/60	9														
Grocery	R	I 60	1/60	6														
Kitchen	S	F 34	2/	7														
Storage office	AS	F 34	1/	8														
TOTAL BUILDING LIGHTING ENERGY																		

office B S F 40 4/200 2

Fixture Types:
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe

Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe

Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS

Lighting Legend:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)

Tasks Code:
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>North</u> 2	<u>PAR 150</u>	<u>2</u>				
<u>2</u>	<u>Recessed</u>	<u>2</u>				
<u>East</u> 1	<u>LPS 250</u>	<u>1</u>				

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey N/A
 Total installed _____

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey _____
 Total installed _____

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHC SURVEYED BY PUB/BIH DATE OCT 92

BUILDING NUMBER 210 FUNCTION/USE HEALTH/DENTAL CLINIC

INFORMATION SOURCE (DWG. NO./PERSON) SURVEY/AS BUILT DWGS

GENERAL BUILDING DATA

BUILDING AGE: NEW YEARS

DUPLICATE BUILDING NOS: _____ TOTAL: _____

SIMILAR BUILDING NOS: _____ TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 10

Indicate (number and) duration of occupants each day

M																							
T																							
W																							
T																							
F																							
S																							
S																							
	0	2	4	6	8	10	12	14	16	18	20	22	24										

MISCELLANEOUS EQUIPMENT: _____

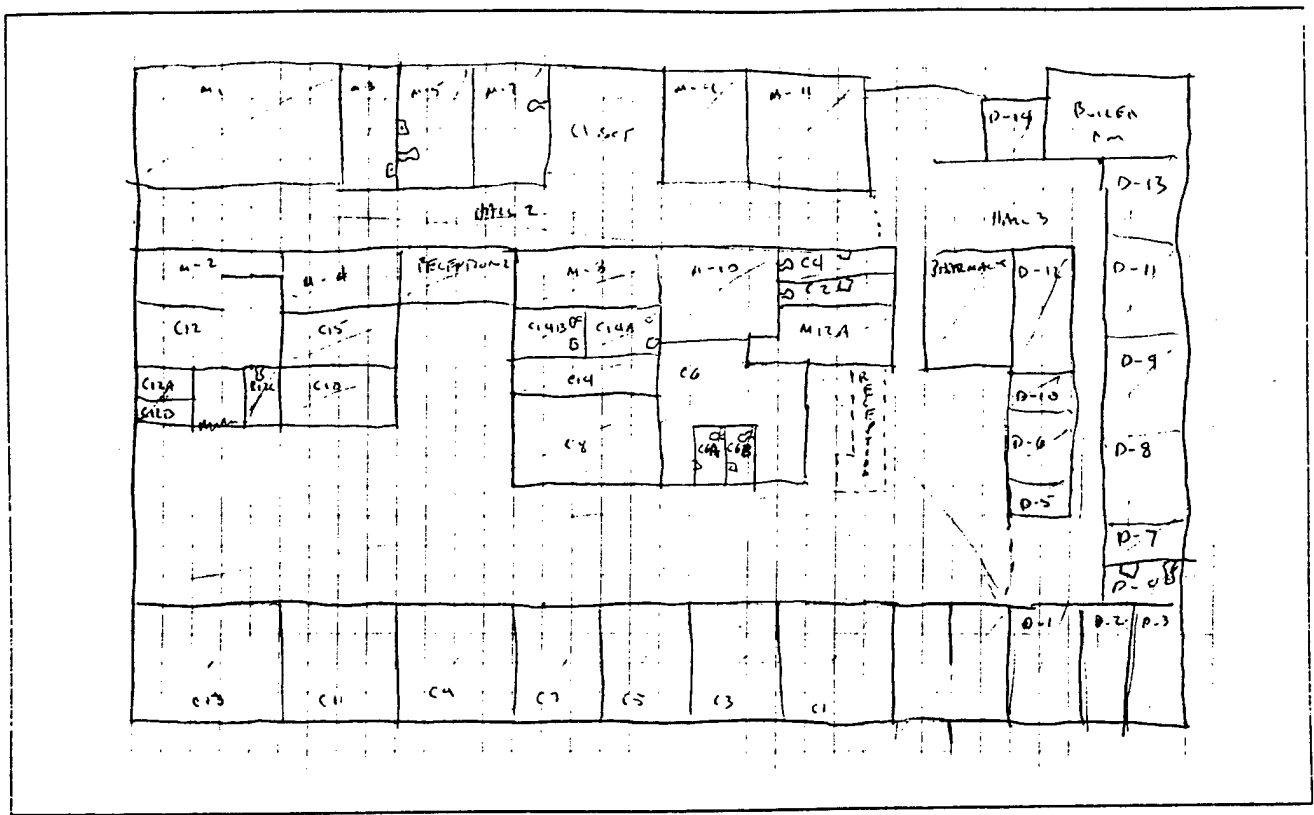
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED

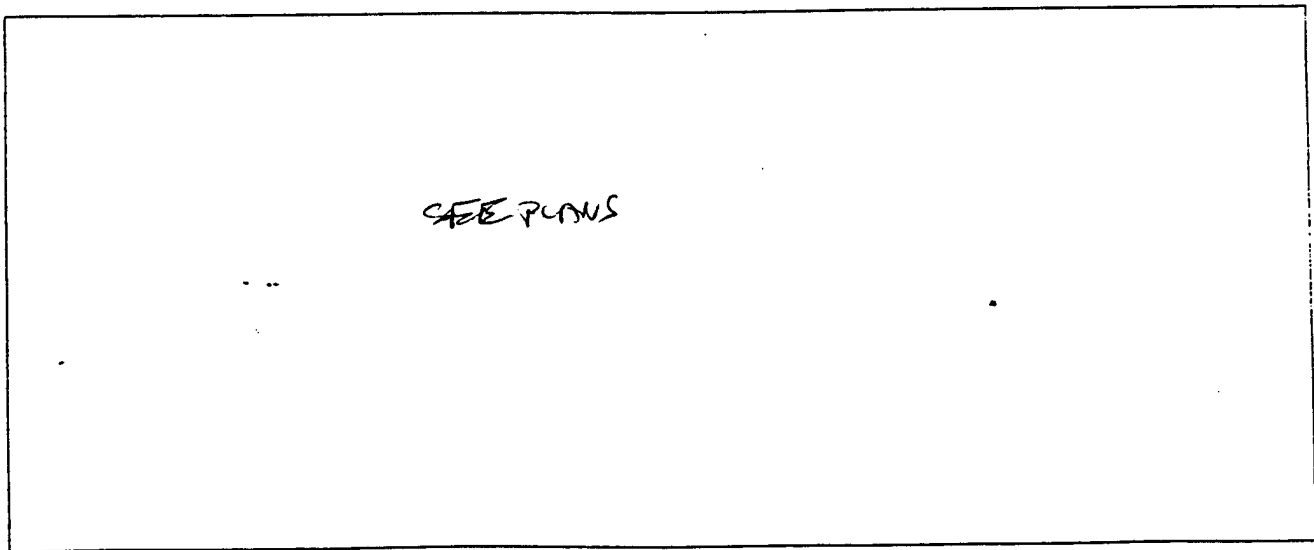
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION			REMARKS *** ****												
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S	FIT	CRACK LENGTH													
														YES	NO	LOOSE	AUG													
<i>SPACED GLASS</i>																														
														TOTAL AREA		U-VALUE														

- LEGEND:**
- *GLAZING: 1 - ORDINARY, 2 - 1/4" PLATE, 3 - HEAT ABSORBING, 4 - TINTED
 - **FRAME: W - WOOD, M - METAL, T - METAL/THERMAL BREAK
 - ***SHADING: A - SOLAR FILM, B - VEN BLIND, C - STORM WINDOW, D - DRAPES
 - ****VISIBILITY: E - AWNING, F - SOLAR SCREEN, G - OVERHANG, OTHER - SPECIFY
 - *****WINDOM TYPES: 1 - DOUBLE HUNG, 2 - SINGLE HUNG, 3 - SLIDING, 4 - CASEMENT, 5 - LOUVERED, 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION Fit
BLDG. NO. 409

CONSTRUCTION

WALL COLOR: D M L

TYPE: F P
COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.68
GLASS		0.39
Plumb. 1 1/2"		7
8" CMU		1.04
INSIDE FILM		0.25
TOTAL		9.36

U-FACTOR AREA

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.61
Flat up roof		0.33
space		0.61
4" BATT		13
Acoustic tile		1.25
INSIDE FILM		0.25
TOTAL		16.1

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

LOCATION FH
BLDG. NO. 210

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 300 MBtu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: BURNHAM Model No.: 4NW-63-SPL-0-GPL

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: 192 °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) Fuel Oil

Burner: Mfg. BURNHAM Model No. PUG.1-0-03 Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
CONT- Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps 2 (1 SPARE) V/PH/FLA _____ / _____ / _____
Mfg. BAG Model _____ HP 1/3 RPM 1750
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 210

COMPRESSOR(S)/CHILLER

Manufacturer IRANE
 Model No. CGABCZ56AB10F3
 Size _____
 Refrigerant R-22
 Motor HP (if available) _____
 Motor Voltage 200V/3φ
 Motor FLA 86
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan COND-
 Fan Motor HP 3 @ 1HP
 Fan Motor Voltage 200V/3φ
 Fan Motor FLA 4.1
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan N/A
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: 1)

Manufacturer	<u>B+G</u>	<u>CA HYDRAUNICS</u>
Model No.	<u>185011</u>	<u>11/2AB</u>
Capacity Gals.		<u>50GPM</u>
Head, Ft.		<u>40 FT</u>
Motor HP	<u>1 1/2</u>	<u>1 1/2</u>
Motor Voltage	<u>208V</u>	<u>208V</u>
Motor FLA	<u>4.8</u>	<u>4.8 I</u>
Measured Amps RPM	<u>1745</u>	<u>1750</u>

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

3.3 AIR HANDLING EQUIPMENT

LOCATION PH
BLDG. NO. 210

FANS

Type	<u>BLW FAN</u>			
Unit/Zone	<u># ALL 7 ZONES</u>	#		#
Manufacturer	<u>TRANE</u>			
Model No.	<u>CLCH</u>			
Type	<u>CCBB25CEGLO</u>			
RPM of Fan				
Motor HP	<u>SMOPLY 10HP</u>	<u>RETURN FAN</u>		
Motor Volts	<u>230/3φ</u>	<u>TRANE M/N 27B-9-11F</u>		
Motor FLA	<u>27</u>			
Measured Amps				
CFM (from Plans)				
Notes				

COILS

Indicate capacities where found:

COOLING		HUMIDIFICATION	
DX		ELEC	
H ₂ O		STEAM	
OTHER		H ₂ O	
HEATING		OTHER	
GAS		AUX/MISC OTHER	
H ₂ O	<u>Y</u>		
ELEC			
OTHER			

FILTERS

Type			
Condition	<u>GOOD</u>		
Manometer Reading 1/			

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
1" 60 FT

- d. Is Piping System Insulated and Condition: YES
- e. Is Hot Water Circulated? YES
- 1) Condition of circulator GOOD 3) Is aquastat provided? NO
 2) Circulator capacity 30 GPM @ 15 FT 4) Aquastat temperature setting NO

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|---------------------------|------------|-------|
| a. Location | <u>MECH</u> | _____ | _____ |
| b. Areas Served | <u>ALL</u> | _____ | _____ |
| c. Manufacturer and Model | <u>BXX 2412 11-81-256</u> | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>PROP</u> | _____ | _____ |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | _____ | _____ | _____ |
| 2) Instantaneous | _____ | _____ | _____ |
| 3) Semi-Instantaneous | _____ | _____ | _____ |
| f. Heater Size and Storage Capacity | <u>100 GAL</u> | _____ | _____ |
| g. Heating Capacity | <u>240 GPH</u> | _____ | _____ |
| h. Type Controls (Air, Steam, Electric) | <u>FIRE</u> | _____ | _____ |
| i. When Installed & Condition | <u>GOOD</u> | _____ | _____ |
| j. Heater Temperature Setting | <u>140°</u> | _____ | _____ |
| k. Average Water Maintained Temperature | <u>110</u> | _____ | _____ |
| l. Temperature Differential (j) - (k) | <u>30</u> | _____ | _____ |
| m. Is Hot Water Supply Adequate: | <u>YES</u> | _____ | _____ |
| n. Insulation Thickness | _____ | Type _____ | _____ |
| o. Insulation Material | _____ | _____ | _____ |

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

Reception area + stat set 72°F w/ toggle timer, 4-hour.
for cooling. (no cover on stat)

M-10 Office behind Reception = same set 90°F

D-2 some installation - Dam led wiring on E wall - outside
set 65°F on

D-10 in center core of bldg = some control set 67°F

M-1 (ER) some set 90°F.

Center, near M-1: set 85°F

M-12 Pharmacy - some - no access set pt. not found.

4.2.1 Interior Lighting

210

BLDG.

LOCATION

PH

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C	E	I	L	I	N			G
C-01	R	F/35	2/35	2																	
C-02	R	F/35	2/35	1																	
C-03	R	F/35	2/35	1																	
C-04	R	F/35	2/35	9							50										
C-05	R	F/35	2/35	2							50										
C-06	R	F/35	2/35	4																	
C-07	R	F/35	2/35	2																	
C-08	R	F/35	2/35	2																	
C-09	R	F/35	2/35	1																	
C-10	R	F/35	2/35	2																	
C-11	R	F/35	2/35	2																	
C-12	1	F/35	2/35	2																	
TOTAL BUILDING LIGHTING ENERGY																					

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

4.2.1 Interior Lighting

LOCATION ITC BLDG. 210

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
												C E I L L I N G	W A L L	C E I L L I N G	W A L L			
C11 EXAM	R	F/35	2	2														
C13 EXAM	R	F/35	2	2														
C9 OFFICE	R	F/45	2	2														
C7 EXAM	R	F/35	2	2														
C5 OFFICE	R	F/35	2	2														
C3 EXAM	R	F/35	2	2							50							
C-1 OFFICE	R	F/35	2	2														
RECORDS	R	F/35	2	12							15							
"	R	F/35	2	2														
M-12 RECORDS	R	F/35	2	4														
V-2 AIRWAYS	R	F/15	2	2														
TOTAL BUILDING LIGHTING ENERGY																		

LIGHTING LEGEND:

Fixture Types:

- Recessed = R
- Suspended = S
- Ventilated = V
- Pole Mounted = PM
- Other--Describe

Lamp Types:

- Incandescent = I
- Fluorescent = F
- Sodium Vapor = SV
- Mercury Vapor = MV
- Metal Halide = MH
- Other--Describe

Window Code:

- If there are windows, indicate:
- Curtains = C
- Shades = S
- No Shading = NS

Tasks Code:

- 1 = Corridors
- 2 = Kitchens
- 3 = Dining
- 4 = Offices-general
- 5 = Offices-bookkeeping (ledgers only)
- 6 = Offices-drafting
- 7 = Laundry
- 8 = Tailors
- 9 = Sleeping quarters
- 10 = Supply rooms
- 11 = Repair shops
- 12 = Storage room
- 13 = Retail store (PX, commissary)
- Other (describe on audit form)
- E = Exterior

4.2.1 Interior Lighting

9-1032
50 people
on Ave

BLDG. 210

LOCATION FAR

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)			
													C	E	I	C	E	I			F	L	L
M-1	R	F	2 / 35	10																			
M-10	R	F	2 / 35	10																			
M-8	R	F	2 / 35	3																			
M-2	R	F	2 / 35	2																			
M-1	R	F	2 / 35	1																			
M-3	R	F	2 / 35	2																			
M-5	R	F	2 / 35	4																			
M-7	R	F	2 / 35	4																			
TOTAL BUILDING LIGHTING ENERGY																							

LIGHTING LEGEND:

- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

BLDG. 210

LOCATION FIR

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMP TYPE AND WATTS	LAMP TYPE AND WATTS	LAMP TYPE AND WATTS	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ.FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)		
															C E I L L I N G	W A L L	F L O O R	C E I L I N G	W A L L	F L O O R				
M-9	R	F	F	R	R	3																		
M-11	SRF	F	F	R	R	2																		
HALL	R	R	R	R	R	10																		
P-1 OFFICE	R	F	F	R	R	2							80											
P-2 OFFICE	R	F	F	R	R	2																		
P-3 OFFICE	R	F	F	R	R	2																		
P-4 OFFICE	R	F	F	R	R	1																		
P-7 EXAM	R	F	F	R	R	2							80											
P-5	SRF	F	F	R	R	1																		
P-8 EXAM	R	F	F	R	R	2																		
P-10 LAB	R	F	F	R	R	3																		
TOTAL BUILDING LIGHTING ENERGY																								

LIGHTING LEGEND:

- Window Code:**
 - If there are windows, indicate:
 - Curtains = C
 - Shades = S
 - No Shading = NS
- Lamp Types:**
 - Incandescent = I
 - Fluorescent = F
 - Sodium Vapor = SV
 - Mercury Vapor = MV
 - Metal Halide = MH
 - Other--Describe
- Tasks Code:**
 - 1 = Corridors
 - 2 = Kitchens
 - 3 = Dining
 - 4 = Offices-general
 - 5 = Offices-bookkeeping (ledgers only)
 - 6 = Offices-drafting
 - 7 = Laundry
 - 8 = Toilets
 - 9 = Sleeping quarters
 - 10 = Supply rooms
 - 11 = Repair shops
 - 12 = Storage room
 - 13 = Retail store (PX, commissary)
 - Other (describe on audit form)
 - E = Exterior

4.2.1 Interior Lighting

LIGHTING LOCATION FR BLDG. 210

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS				FINISH				WINDOW CODE	REMARKS (LIGHTS/SWITCH)			
													C E I L L I N G	W A L L	F L O O R	C E I L L I N G	W A L L	F L O O R	C E I L L I N G	W A L L			F L O O R		
P-9 TREAT	R	F	1 35	2																					
P-5 DAP	R	F	2 35	3																					
D-11 TREAT	R	F	4 35	2																					
D-12 STAIR	R	F	2 35	2																					
P-13 TREAT	R	F	1 35	2																					
P-11 STAIR	R	F	2 35	2																					
P-14 STAIR	R	F	4 35	2																					
HALL 3	R	F	2 35	6																					
TOTAL BUILDING LIGHTING ENERGY																									

- LIGHTING LEGEND:**
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toflets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BIH/RJB/RCL DATE 20 OCT 92

BUILDING NUMBER 212 FUNCTION/USE _____

INFORMATION SOURCE (DWG. NO./PERSON) Mark Hernandez
& AS-BUILT DWGS

GENERAL BUILDING DATA

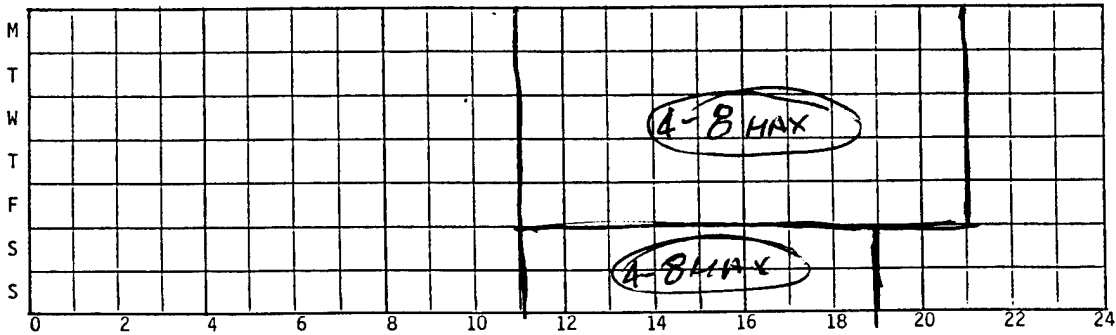
BUILDING AGE: _____ YEARS LOWISH.

DUPLICATE BUILDING NOS: _____
TOTAL: _____

SIMILAR BUILDING NOS: _____
TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS see below

Indicate (number and) duration of occupants each day



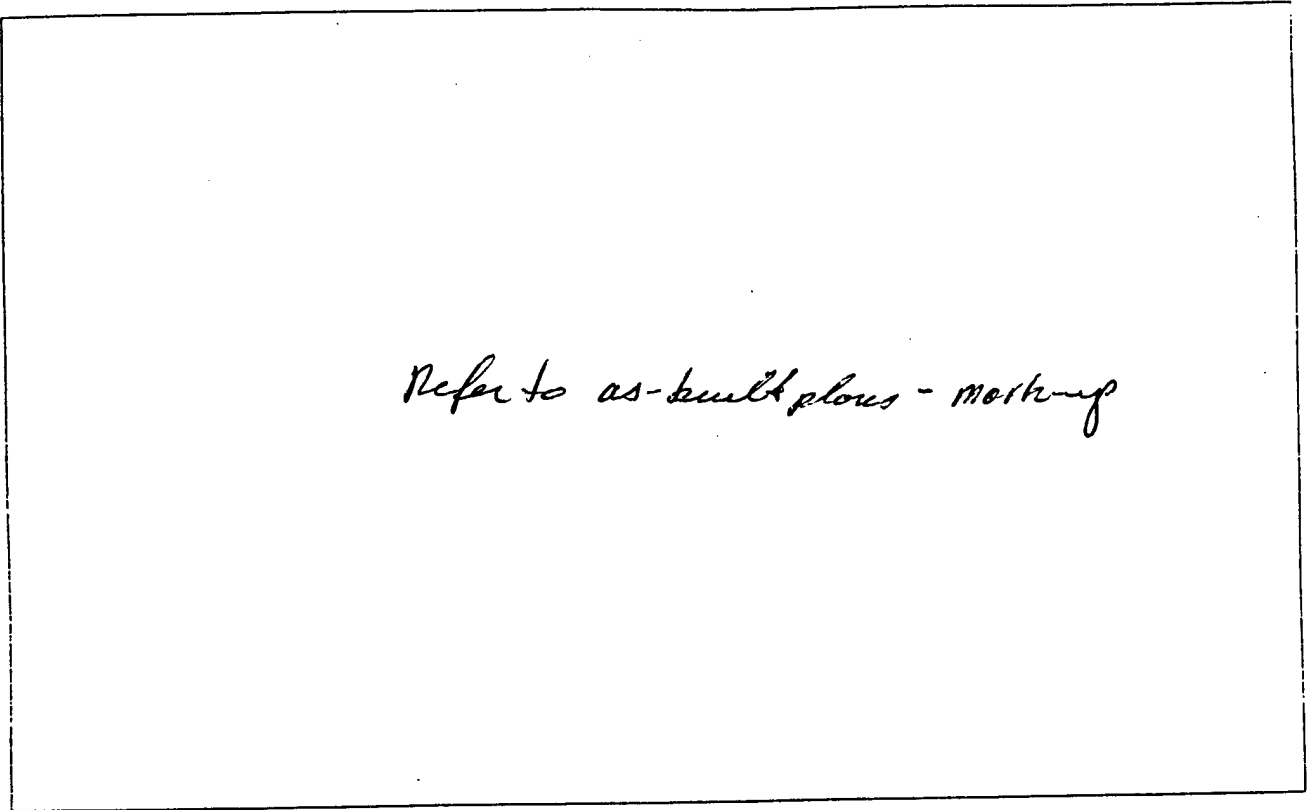
MISCELLANEOUS EQUIPMENT: pepsi machine,

ADDITIONAL COMMENTS, CRITICAL LOADS: none

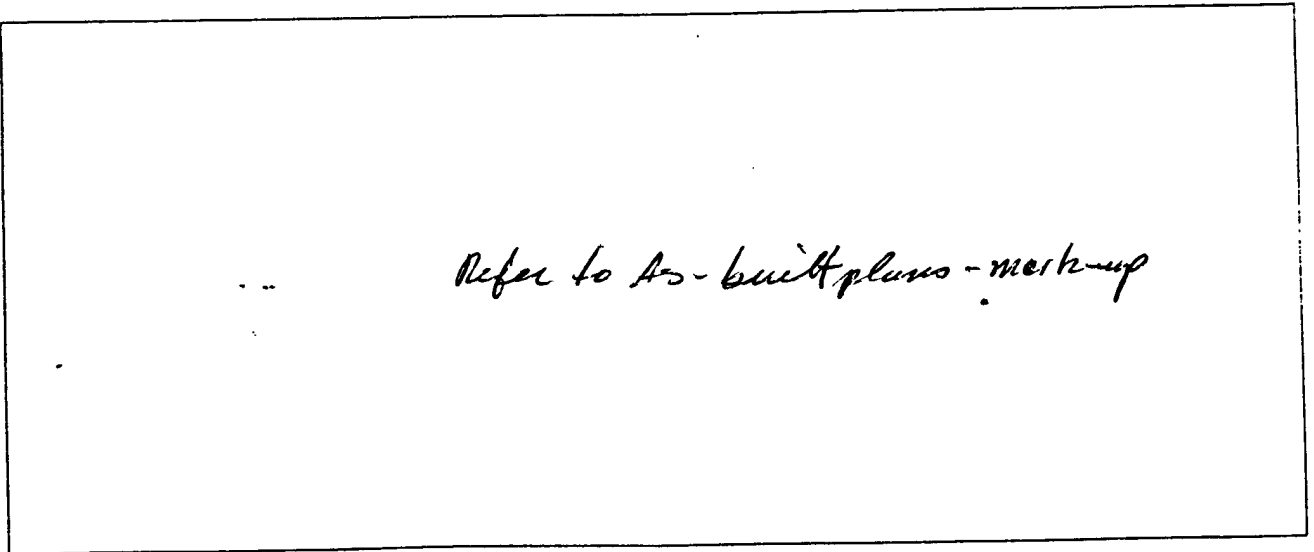
CRAWL SPACE: VENTILATED EXHAUSTED SOG
ATTIC: VENTILATED EXHAUSTED refer to bldg plans

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



2.4 BUILDING ENVELOPE

Refer to mark-up of as-built plans

LOCATION FHK
BLDG. NO. 212

CONSTRUCTION

WALL COLOR: D M L

TYPE: F P
COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR SOG

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR Metax

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

LOCATION FHC
BLDG. NO. 212

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

2BA-

Capacity: 168 m Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: LENNOX Model No.: 012Q5-168-1

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: ~~Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F~~

Insulation: (1) Boiler Poor Area see plans for WAF's FT² None Temp. _____ °F
(2) Other (Specify) OK Poor Area OK FT² None Temp. _____ °F

Pump: No. of Pumps NONE V/PH/FLA _____ / _____ / _____

Mfg. _____ Model _____ HP _____ RPM _____

HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

WAF-1 vibrates significantly when on - restriction in RA flow or unbalanced flow.
Could not cause dampers in AVAC to operate
Dampers seem to both be partly closed (VAFRA)
readjust and check damper actuators for correct operation.

LOCATION Fth
BLDG. NO. 212

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer LENNOX
Model No. HSG-1353V-7L
Size _____
Refrigerant R-22
Motor HP (if available) _____
Motor Voltage 208V/3φ
Motor FLA 42.8
Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
Air Cooled _____
Evaporative _____
Manufacturer _____
Model No. _____
Size _____
Type of Fan _____
Fan Motor HP 2 @ 1/2 HP
Fan Motor Voltage 208V/1φ
Fan Motor FLA 3.4
Measured Amps _____

COOLING TOWER

Gravity _____
Mech. Draft _____
Manufacturer _____
Model No. _____
Type of Fan _____
Fan RPM _____
Fan Motor HP _____
Fan Motor Voltage _____
Fan Motor FLA _____
Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
Model No. _____
Capacity Gals. _____
Head, Ft. _____
Motor HP _____
Motor Voltage _____
Motor FLA _____
Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
Model No. _____
Capacity, Gals. _____
Head, Ft. _____
Motor HP _____
Motor Voltage _____
Motor FLA _____
Measured Amps _____

REMARKS: DX coil over WAF's, cond. unit outside - air cooled

3.3 AIR HANDLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 241

FANS

Type	<u>2 WARM AIR/DX</u>	<u>MEN'S RM EXHAUST</u>	<u>WORKMANS RM EXHAUST</u>	
Unit/Zone	# _____	# _____	# _____	# _____
Manufacturer	<u>LENNOX</u>			
Model No.				
Type				
RPM of Fan				
Motor HP	<u>3/4</u>	<u>1/2 AC</u>	<u>FRAC.</u>	
Motor Volts				
Motor FLA				
Measured Amps				
CFM (from Plans)				
Notes				

COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX _____	ELEC _____
H ₂ O _____	STEAM _____
OTHER _____	H ₂ O _____
	OTHER _____
HEATING	AUX/MISC OTHER
GAS _____	_____
H ₂ O _____	_____
ELEC _____	_____
OTHER _____	_____

FILTERS

SEG PA 3.5

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

LOCATION FHC
BLDG. NO. 212

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one):
 Central Plant
 One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
130°F
DHW
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? _____
1) Condition of circulator _____ 3) Is aquastat provided? _____
2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location Mecklenburg
- b. Areas Served _____
- c. Manufacturer and Model AMERICAN APPLIANCE MFG MA 75-8DH
- d. Energy (Oil, Gas, Electric, Coal, Etc.) Propane
- e. Type Heaters & Quantities:
1) Storage 1
2) Instantaneous _____
3) Semi-Instantaneous _____
- f. Heater Size and Storage Capacity 80 GAL
- g. Heating Capacity 75.5 MBH INPUT 63.4 GAL/HR @ 100°F
- h. Type Controls (Air, Steam, Electric) _____
- i. When Installed & Condition _____
- j. Heater Temperature Setting _____
- k. Average Water Maintained Temperature _____
- l. Temperature Differential (j) - (k) _____
- m. Is Hot Water Supply Adequate: _____
- n. Insulation Thickness _____ Type _____
- o. Insulation Material _____

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

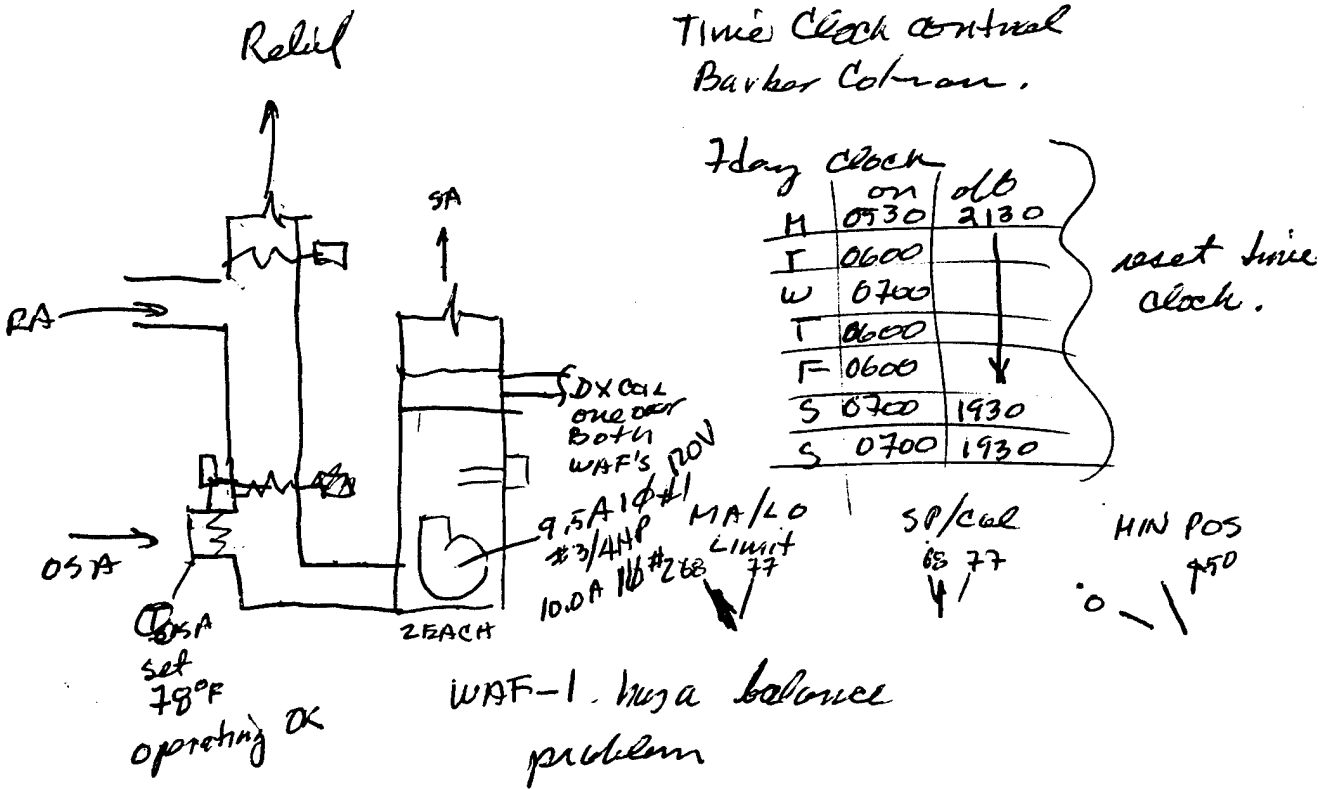
CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

insulate 3/4" CU
8 LF
Water Dampers on OSA/RA lines appear to be restricting air flow
DRW line from HTR



Both Furnaces have mesh filters donot cover entire flow area - are clean, but not doing the job.

LOCATION FHL BLDG. 212

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)		
													C E I L I N G	W A L L	C E I L I N G	W A L L				
4	R	F34	1	2								9					NS			
RADMET CT 1	R	MH 400	1	7															Lights on !!!	
RADMET CT 2	R	MH 400	1	7																
EXERCISE ROOM	R	MH 400	1	7																
EXERCISE ROOM	R	MPS 70	1	12															Control IN OFFICE	
(EXTR)	S	F34	1	1																
8M	S	F34	2	2																
8M	S	F34	2	2																
8 SHOWER	S	F34	1	1																
EXERCISE	S	MPS 150	1	3																
PAINT	PM	MPS 250	1	1																
TOTAL BUILDING LIGHTING ENERGY																				

LIGHTING LEGEND:

- * SAME AS RADMETBALL COMET
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION FHL
BLDG. NO. 212

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: None

4.3.2 RECEPTACLES IN USE PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler 1

Vending Machine 1

Space Heater

Coffee Pot 1

TV

XEROX

Other:

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHC SURVEYED BY RJB/BIH/RCL DATE 225 Oct 92

BUILDING NUMBER 219 FUNCTION/USE Gym, Weight Room, Swimming Pool (#211)

INFORMATION SOURCE (DWG. NO./PERSON) Inspection & Sports Director

GENERAL BUILDING DATA

BUILDING AGE: _____ YEARS new

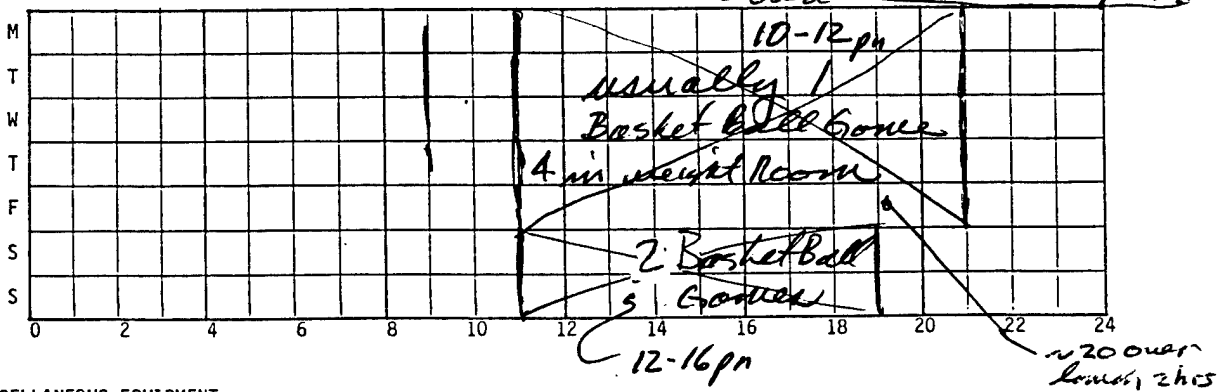
DUPLICATE BUILDING NOS: NONE TOTAL: _____

SIMILAR BUILDING NOS: NONE TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS _____

Indicate (number and) duration of occupants each day

Pool 11-1800 7d/week
closed 2 Oct - mid-April



MISCELLANEOUS EQUIPMENT: _____

Swimming pool: normally closed 1 Oct thru mid-April
Heat used only for first 2 to 2 1/2 months, then
turned off.

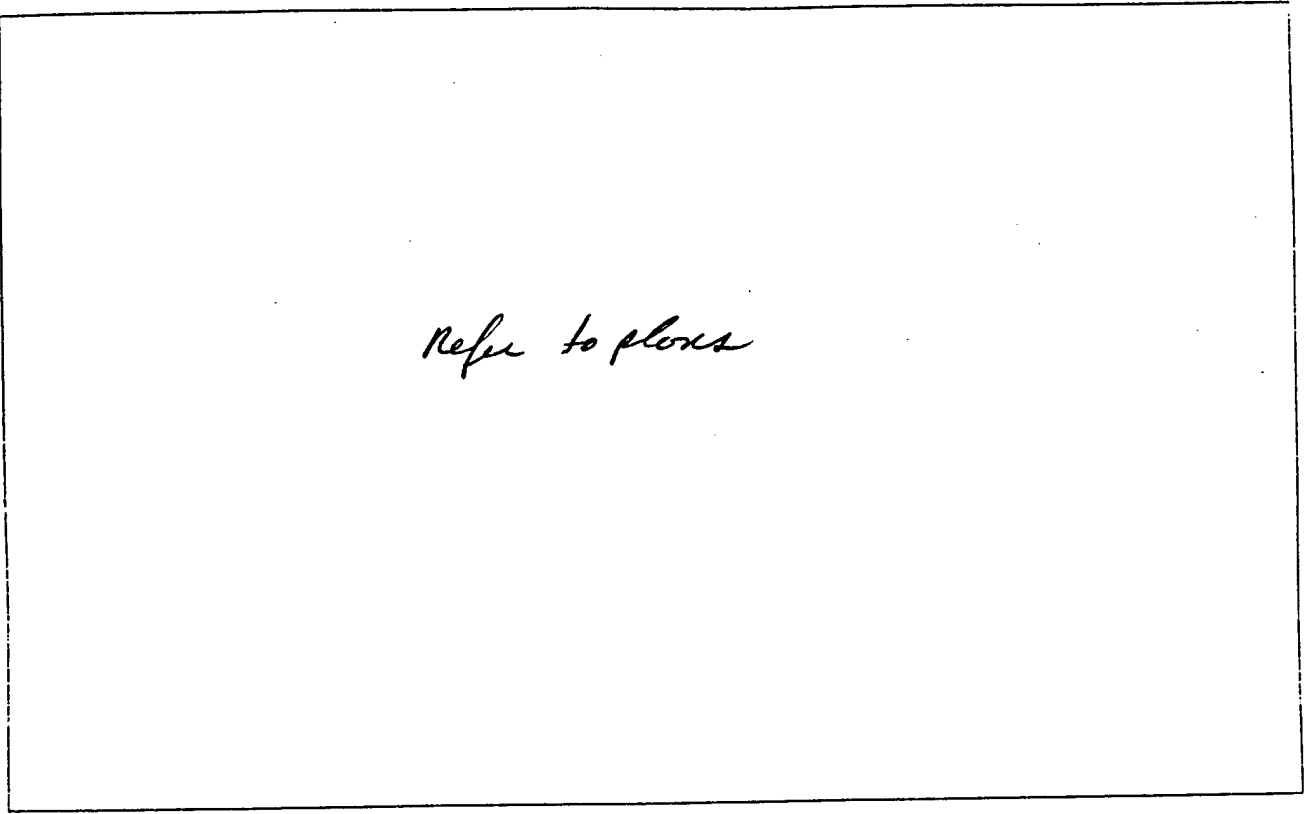
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED SOG

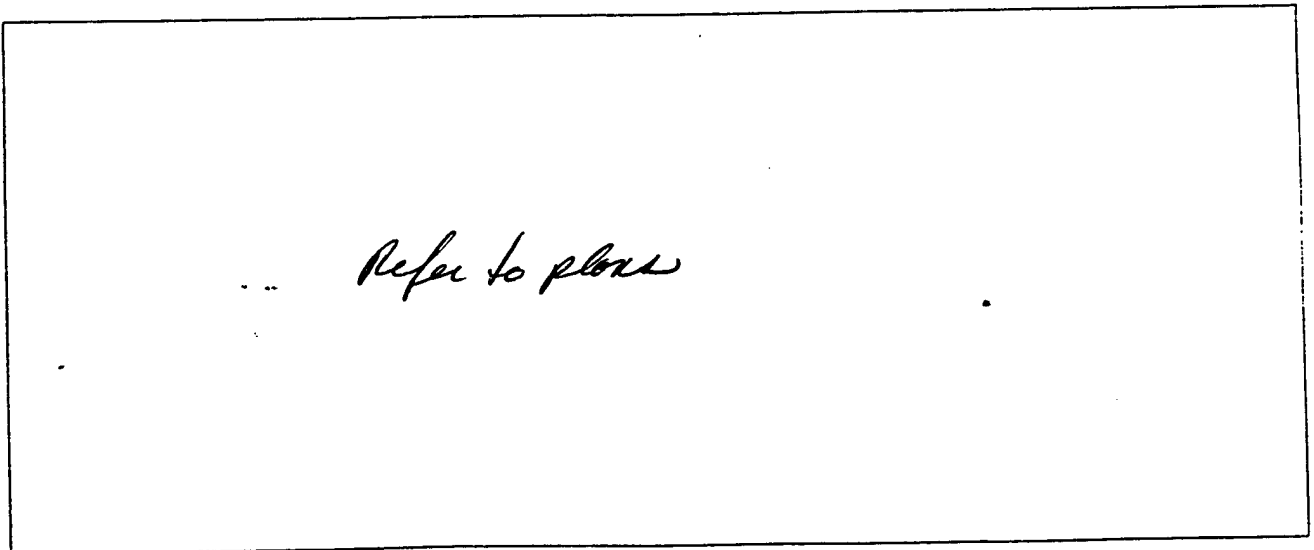
ATTIC: VENTILATED EXHAUSTED NONE

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION			REMARKS *** ****
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S YES	FIT NO	CRACK LENGTH	
no windows																		
Double Hl Door				2														Loose
Single Metal Door				1														Loose
Fixed windows high in gym				6						7' x 24'				M				

TOTAL AREA U-VALUE

- ***GLAZING: 1 - ORDINARY 2 - 1/2" PLATE 3 - HEAT ABSORBING 4 - TINTED
- ***FRAME: W - WOOD M - METAL T - METAL/THERMAL BREAK
- ***SHADING: A - SOLAR FILM B - VEN BLIND C - STORM WINDOW D - DRAPES
- ***VISIBILITY: E - AWNING F - SOLAR SCREEN G - OVERHANG OTHER - SPECIFY
- ***WINDOW TYPES: 1 - DOUBLE HUNG 2 - SINGLE HUNG 3 - SLIDING 4 - CASEMENT 5 - LOUVERED 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FHL
BLDG. NO. 219

CONSTRUCTION

WALL Gym COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
8" CONCRETE BRICK	8"	2.18
ACUSTIC PANELS		1.00
INSIDE FILM		.68
TOTAL		4.11

U-FACTOR 0.24 AREA

FLOOR SOB Lino/Carminale

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F P
COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
CONC. SLAB		0.86
RIGID INSUL.	1"	4.00
INSIDE FILM		.68
TOTAL		5.79

U-FACTOR 0.17 AREA

DOOR Red Metal

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

3.1 HEATING EQUIPMENT

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 650 IN MBTH
520 OUT MBtu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: BRYAN Model No.: FN-650-W-LPGI

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: 180 °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

LOCATION FHL
BLDG. NO. 211
(Pool)

3.1 HEATING EQUIPMENT

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

1200 MBH IN

Capacity: 972 m Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: TELEDYNE LARS Model No.: AP1430IP16C01

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Other (Specify) PROPANE Induced

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps 1 VARIFLEX 87.5% EFF. / 460V
Mfg. MAGNETEK Model CAT No. R338 HP 10 RPM 3520
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 219

COMPRESSOR(S)/CHILLER

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: 8 EVAPORATIVE COOLERS - AROUND 1 1/2 HP 208V/3P

3.3 AIR HANDLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 219

FANS

Type	AHU - HEATING ONLY		IF 4U UNIT (3 EACH)
Unit/Zone	# WEIGHT RM.	# GYM	#
Manufacturer	TRANE		
Model No.	TUDB03AG01F0ARR02	NAME PLATES	PAINTED OVER
Type			
RPM of Fan			
Motor HP	1 HP		
Motor Volts	208V	208V/3φ	
Motor FLA			
Measured Amps	8.8 A		
CFM (from Plans)			
Notes			

COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX _____	ELEC _____
H ₂ O _____	STEAM _____
OTHER _____	H ₂ O _____
	OTHER _____
HEATING	AUX/MISC OTHER
GAS _____	
H ₂ O <input checked="" type="checkbox"/> _____	
ELEC _____	
OTHER _____	

FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading ^{1/}	_____	_____	_____

^{1/} Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FHL
 BLDG. NO. 219

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? _____
 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|--------------------------------|------------|-------|
| a. Location | _____ | _____ | _____ |
| b. Areas Served | _____ | _____ | _____ |
| c. Manufacturer and Model | <u>HOTT 11D 80-500RW-3 LPG</u> | | |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | _____ | _____ | _____ |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | <u>512 MBIT PROPANE</u> | | |
| 2) Instantaneous | _____ | _____ | _____ |
| 3) Semi-Instantaneous | _____ | _____ | _____ |
| f. Heater Size and Storage Capacity | <u>80 GALS.</u> | | |
| g. Heating Capacity | <u>465.5 GPH</u> | | |
| h. Type Controls (Air, Steam, Electric) | _____ | _____ | _____ |
| i. When Installed & Condition | _____ | _____ | _____ |
| j. Heater Temperature Setting | _____ | _____ | _____ |
| k. Average Water Maintained Temperature | <u>120° F</u> | | |
| l. Temperature Differential (j) - (k) | _____ | _____ | _____ |
| m. Is Hot Water Supply Adequate: | _____ | _____ | _____ |
| n. Insulation Thickness | _____ | _____ | _____ |
| o. Insulation Material | _____ | Type _____ | _____ |

LOCATION FHL
BLDG. NO. 219

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

*Locker Rooms
Have a night set-back & day
thermostat sensors*

Grogan has the same

LOCATION Kit BLDG. 219

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)		
													C E I L I N G	W A L L	F L O O R	C E I L I N G	W A L L	F L O O R			C E I L I N G	W A L L
GYM		APS	1	15							30			L	L	M	F	F	S		<i>orange colored light</i>	
Wht Room		F 34	4/200	13							25											
Locker Room	Hall	F 34	1	2																		
Men	8	F 34	1	4																		
Men Lockers		F 34	2/100	4																		
Men Showers		F 34	2/100	1																		
													<i>see building plan</i>									
													<i>some for women's toilet, showers/lockers</i>									
TOTAL BUILDING LIGHTING ENERGY																						

LIGHTING LEGEND:

--- Fixture Types: R Recessed = R S Suspended = S V Ventilated = V PM Pole Mounted = PM Other--Describe

Lamp Types: Incandescent = I Fluorescent = F Sodium Vapor = SV Mercury Vapor = MV Metal Halide = MH Other--Describe

Window Code: If there are windows, indicate: Curtains = C Shades = S No Shading = NS

Tasks Code: 1 = Corridors 2 = Kitchens 3 = Dining 4 = Offices-general 5 = Offices-bookkeeping (ledgers only) 6 = Offices-drafting 7 = Laundry 8 = Toilets 9 = Sleeping quarters 10 = Supply rooms 11 = Repair shops 12 = Storage room 13 = Retail store (PX, commissary) Other (describe on audit form) E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BIA RJB DATE 1 OCT 92
 BUILDING NUMBER 229 & 229A FUNCTION/USE Baracks
 INFORMATION SOURCE (DWG. NO./PERSON) _____

GENERAL BUILDING DATA

BUILDING AGE: 15 YEARS

DUPLICATE BUILDING NOS: _____ TOTAL: _____

SIMILAR BUILDING NOS: _____ TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY)

Indicate (number and) duration of occupants each day

NO. OF OCCUPANTS 28 (229)
Permanant 10 (229A)

M																				
T																				
W																				
T																				
F																				
S																				
S																				
	0	2	4	6	8	10	12	14	16	18	20	22	24							

MISCELLANEOUS EQUIPMENT: _____

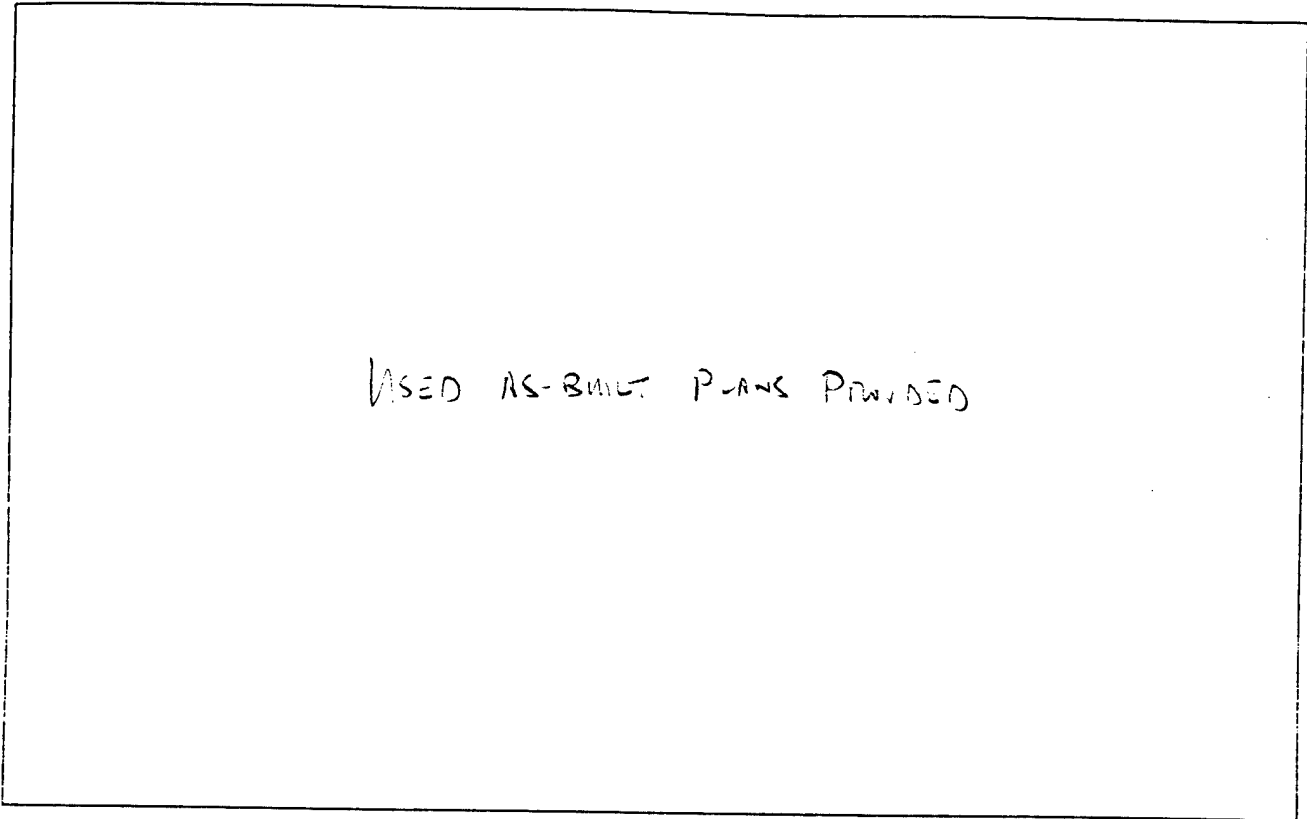
ADDITIONAL COMMENTS, CRITICAL LOADS: 3rd Floor locked up - for training only

CRAWL SPACE: VENTILATED EXHAUSTED

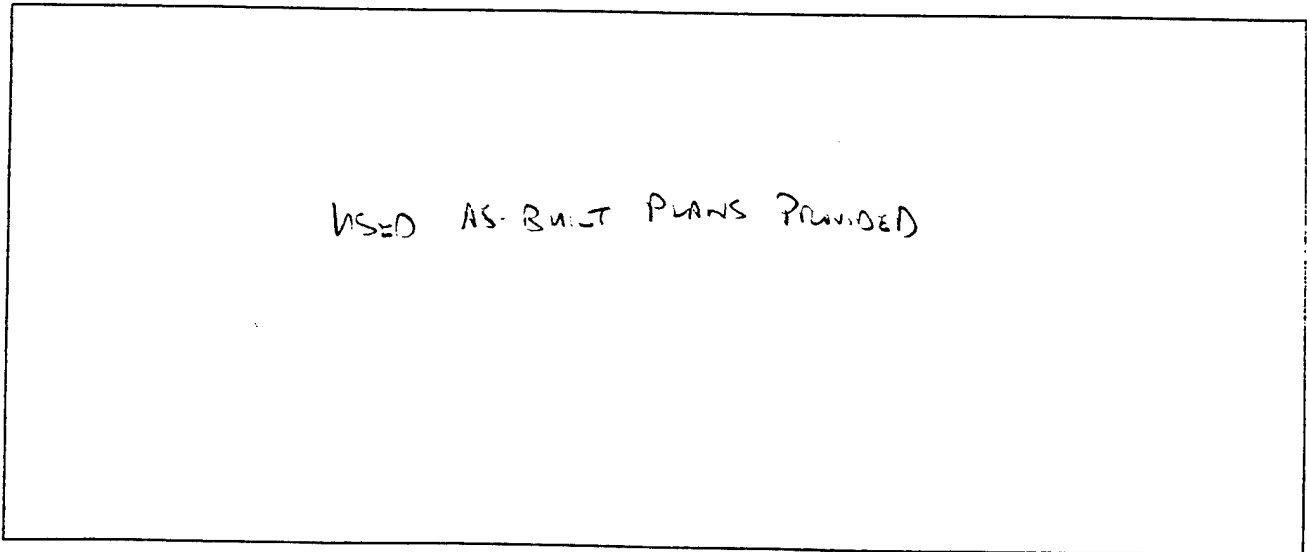
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION				REMARKS *** *****								
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S		FIT	CRACK LENGTH									
															YES	NO				LOOSE	AUG						
A	1	18		45		12		24		2' x 6'	1			M			✓	✓									
B	6/4	4				2				2'8" x 7'4"	1			M			✓	✓									
										TOTAL AREA																	

- LEGEND:
- *GLAZING: 1 - ORDINARY, 2 - 1/8" PLATE, 3 - HEAT ABSORBING, 4 - TINTED
 - **FRAME: W - WOOD, M - METAL, T - METAL/THERMAL BREAK
 - ***SHADING: A - SOLAR FILM, B - VEN BLIND, C - STORM WINDOW, D - DRAPES
 - ****VISIBILITY: E - AWNING, F - SOLAR SCREEN, G - OVERHANG, OTHER - SPECIFY
 - WINDOW TYPES: 1 - DOUBLE HUNG, 2 - SINGLE HUNG, 3 - SLIDING, 4 - CASEMENT, 5 - LOUVERED, 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION FHL
 BLDG. NO. 229/229A

CONSTRUCTION

WALL ALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
STUCCO	1/2"	
RIGID INSAL.	1"	
AIR SPACE	1"	
CMU	8"	
INSIDE FILM		
TOTAL		

U-FACTOR: AREA:

FLOOR S-O-G

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR: AREA:

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
B.W.R.		
RIGID INSAL.	4"	
LW CONCRETE/ METAL DECK	6"	
AIR SPACE		
SAS CEILING	1/2"	
INSIDE FILM		
TOTAL		

U-FACTOR: AREA:

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR: AREA:

3.1 HEATING EQUIPMENT

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 1,875 MBtu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: HURST Model No.: EB 225-30-0

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: 190 °F Operating Pressure: 16 PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) F.O.

Burner: Mfg. GORDON PLATT Model No. R8.3-0-15 Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps 2 V/PH/FLA _____ / _____ / _____
Mfg. PALCO Model _____ HP 1 1/2 RPM 1725
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 229/229A

COMPRESSOR(S)/CHILLER

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

3.3 AIR HANDLING EQUIPMENT

FANS

Type	_____	_____	_____	_____
Unit/Zone	# _____	# _____	# _____	# _____
Manufacturer	_____	_____	_____	_____
Model No.	_____	_____	_____	_____
Type	_____	_____	_____	_____
RPM of Fan	_____	_____	_____	_____
Motor HP	_____	_____	_____	_____
Motor Volts	_____	_____	_____	_____
Motor FLA	_____	_____	_____	_____
Measured Amps	_____	_____	_____	_____
CFM (from Plans)	_____	_____	_____	_____
Notes	_____	_____	_____	_____

COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX _____	ELEC _____
H ₂ O _____	STEAM _____
OTHER _____	H ₂ O _____
	OTHER _____
HEATING	AUX/MISC OTHER
GAS _____	_____
H ₂ O _____	_____
ELEC _____	_____
OTHER _____	_____

FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading ^{1/}	_____	_____	_____

^{1/} Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? _____
 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|-------|------------|-------|
| a. Location | _____ | _____ | _____ |
| b. Areas Served | _____ | _____ | _____ |
| c. Manufacturer and Model | _____ | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | _____ | _____ | _____ |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | _____ | _____ | _____ |
| 2) Instantaneous | _____ | _____ | _____ |
| 3) Semi-Instantaneous | _____ | _____ | _____ |
| f. Heater Size and Storage Capacity | _____ | _____ | _____ |
| g. Heating Capacity | _____ | _____ | _____ |
| h. Type Controls (Air, Steam, Electric) | _____ | _____ | _____ |
| i. When Installed & Condition | _____ | _____ | _____ |
| j. Heater Temperature Setting | _____ | _____ | _____ |
| k. Average Water Maintained Temperature | _____ | _____ | _____ |
| l. Temperature Differential (j) - (k) | _____ | _____ | _____ |
| m. Is Hot Water Supply Adequate: | _____ | _____ | _____ |
| n. Insulation Thickness | _____ | Type _____ | _____ |
| o. Insulation Material | _____ | _____ | _____ |

LOCATION FHL
BLDG. NO. 229/229A

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

*A Section: Control by Honeywell H/C thermostat
T874A 1036 Temp 72° set
db/50°F
reset to 78°F*

4.2 Lighting
4.2.1 Interior Lighting

299/299A

LOCATION F-H L BLDG.

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)							
													C E I L I N G	W A L L	F L O O R	C E I L I N G	W A L L	F L O O R									
TOTAL BUILDING LIGHTING ENERGY																											

TOTAL TO 207/207A

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION F12L SURVEYED BY Bill - RJR DATE OCT '92

BUILDING NUMBER 230/230A FUNCTION/USE BARRACKS / OFFICES

INFORMATION SOURCE (DWG. NO./PERSON) SARBY / AS-BUILT DWGS

GENERAL BUILDING DATA

BUILDING AGE: 15 YEARS

DUPLICATE BUILDING NOS: _____
TOTAL: _____

SIMILAR BUILDING NOS: _____
TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 80 - 230
Indicate (number and) duration of occupants each day 10 - 230A

M																						
T																						
W																						
T																						
F																						
S																						
S																						
	0	2	4	6	8	10	12	14	16	18	20	22	24									

MISCELLANEOUS EQUIPMENT: _____

ADDITIONAL COMMENTS, CRITICAL LOADS: _____

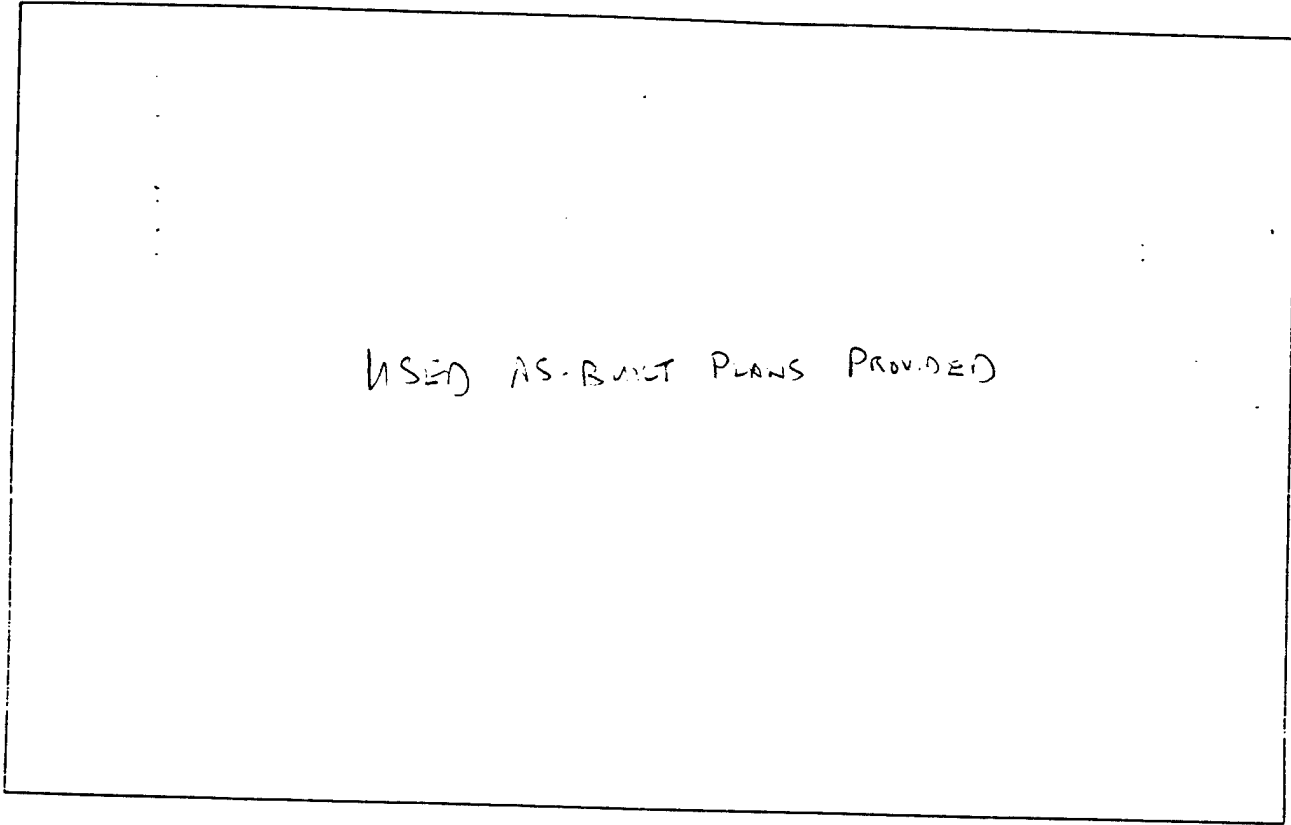
CRAWL SPACE: VENTILATED EXHAUSTED
ATTIC: VENTILATED EXHAUSTED

SOG + MILIT EQUIP. RM.
BELOW GRADE

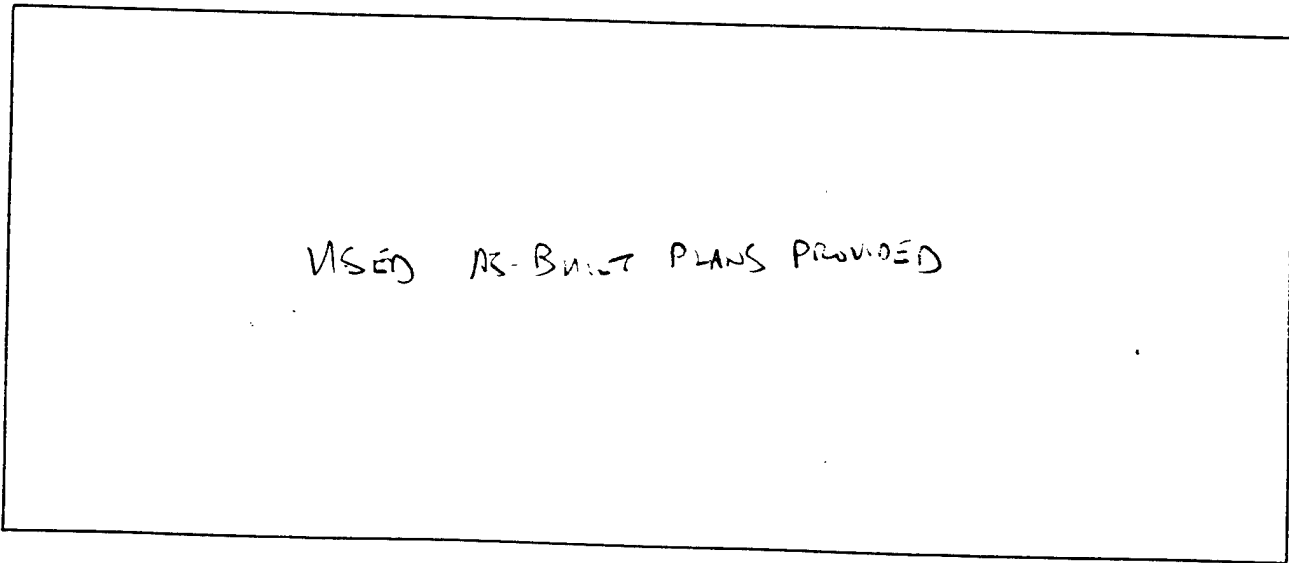
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FAL
BLDG. NO. 230/230A

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND
ELEVATION SKETCHES

2.4 BUILDING ENVELOPE

LOCATION KHL
 BLDG. NO. 230/230A

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
Stucco	1/2"	
RIGID ENSUL.	1"	
AIR SPACE	1"	
CMU	8"	
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR SOG

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
BUILT-UP ROOF		
RIGID ENSUL.	4"	
L.W. CONCRETE METAL DECK	6"	
AIR SPACE		
SUS. CEILING		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

3.1 HEATING EQUIPMENT

LOCATION FHL
 BLDG. NO. 230/230A

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 1875 M Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: HURST Model No.: EB225-30-0

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: 190 °F Operating Pressure: 16 PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) K-O

Burner: Mfg. GURDON PLATT Model No. R8.3-0-15 Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day
 Weekdays & Holidays: From _____ To _____ Hr/Day
 Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
 Poor Area _____ FT² Poor Area _____ FT²
 None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps 2 V/PH/FLA _____ / _____ / _____
 Mfg. DALCO Model _____ HP 1 1/2 RPM 1725
 HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 230/230A

COMPRESSOR(S)/CHILLER SPLIT-SYSTEM DX
 Manufacturer TRANE
 Model No. RAUA-8006-EA
 Size _____
 Refrigerant _____
 Motor HP (if available) 80HP
 Motor Voltage 208V/3φ
 Motor FLA 264
 Measured Amps _____

CONDENSER/CONDENSING UNIT
 Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan 2 EA WIND
 Fan Motor HP 7.5
 Fan Motor Voltage 208V/3φ
 Fan Motor FLA 25.4
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)
 Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

COOLING TOWER
 Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)
 Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

3.3 AIR HANDLING EQUIPMENT

LOCATION FHL
BLDG. NO. 230/230A

FANS

	<u>230</u>	<u>230A</u>		
Type	<u>DUAL DUCT AHU</u>	<u>ROOFTOP PKGD. UNIT</u>		
Unit/Zone	<u># BLDG 230</u>	<u># BLDG 230A</u>	<u>#</u>	<u>#</u>
Manufacturer	<u>TRANE CLIMATE CHANGER</u>	<u>AIR FAN</u>		
Model No.	<u>50</u>	<u>LPS 18D</u>		
Type				
RPM of Fan				
Motor HP	<u>2.5 HP S.A.</u>			
Motor Volts				
Motor FLA				
Measured Amps				
CFM (from Plans)				
Notes				

COILS

Indicate capacities where found:

COOLING

DX _____
H₂O _____
OTHER _____

HUMIDIFICATION

ELEC _____
STEAM _____
H₂O _____
OTHER _____

HEATING

GAS _____
H₂O _____
ELEC _____
OTHER _____

AUX/MISC OTHER

FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? YES
 1) Condition of circulator GOOD 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	<u>230 MECH EQUIP RM</u>	<u>208A</u>	_____
b. Areas Served	<u>208</u>	<u>208A</u>	_____
c. Manufacturer and Model	_____	_____	_____
d. Energy (Oil, Gas, Electric, Coal, Etc.)	<u>F.O.#2</u>	<u>ELECTRIC</u>	_____
e. Type Heaters & Quantities:			
1) Storage	<u>HEAT EXCHANGER</u>	_____	_____
2) Instantaneous	_____	_____	_____
3) Semi-Instantaneous	_____	_____	_____
f. Heater Size and Storage Capacity	<u>1,075 GALS</u>	<u>15 GALS</u>	_____
g. Heating Capacity	_____	<u>3 KW</u>	_____
h. Type Controls (Air, Steam, Electric)	_____	_____	_____
i. When Installed & Condition	_____	_____	_____
j. Heater Temperature Setting (<u>MENS</u>)	<u>129°F</u>	<u>130°F</u>	_____
k. Average Water Maintained Temperature	_____	_____	_____
l. Temperature Differential (j) - (k)	_____	_____	_____
m. Is Hot Water Supply Adequate:	_____	_____	_____
n. Insulation Thickness	_____	_____	_____
o. Insulation Material	_____	_____	_____

4.2 Lighting
 4.2.1 Interior Lighting

230A
230A

BLDG.

FHL

LOCATION

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	W A L L	C E I L I N G	W A L L			
TOTAL BUILDING LIGHTING ENERGY																			

IDENTICAL TO 207/207A

LIGHTING LEGEND:

- Fixture Types:**
 - Recessed = R
 - Suspended = S
 - Ventilated = V
 - Pole Mounted = PM
 - Other--Describe
- Lamp Types:**
 - Incandescent = I
 - Fluorescent = F
 - Sodium Vapor = SV
 - Mercury Vapor = MV
 - Metal Halide = MH
 - Other--Describe
- Window Code:**
 - If there are windows, indicate:
 - Curtains = C
 - Shades = S
 - No Shading = NS
- Tasks Code:**
 - 1 = Corridors
 - 2 = Kitchens
 - 3 = Dining
 - 4 = Offices-general
 - 5 = Offices-bookkeeping (ledgers only)
 - 6 = Offices-drafting
 - 7 = Laundry
 - 8 = Toilets
 - 9 = Sleeping quarters
 - 10 = Supply rooms
 - 11 = Repair shops
 - 12 = Storage room
 - 13 = Retail store (PX, commissary)
 - Other (describe on audit form)
 - E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FH SURVEYED BY RAH / RJB DATE 05 92

BUILDING NUMBER 238 FUNCTION/USE TEXCOM

INFORMATION SOURCE (DWG. NO./PERSON) SURVEY / AS-BUILT DWGS

GENERAL BUILDING DATA

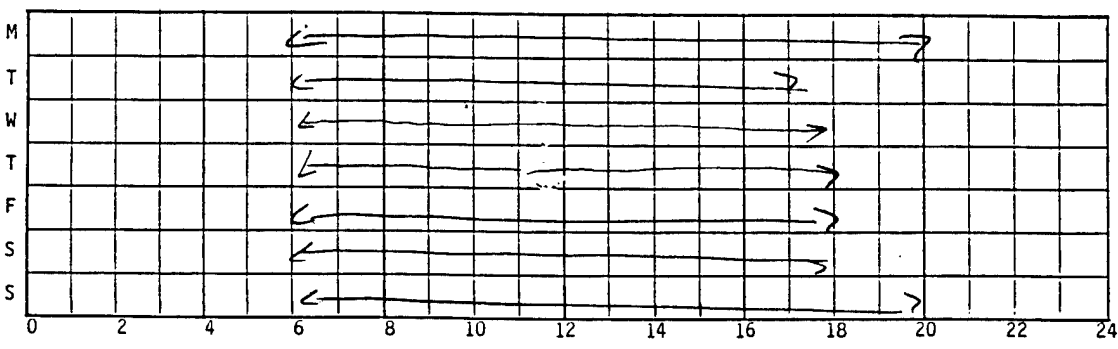
BUILDING AGE: NEW YEARS

DUPLICATE BUILDING NOS: _____
TOTAL: _____

SIMILAR BUILDING NOS: _____
TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 20

Indicate (number and) duration of occupants each day



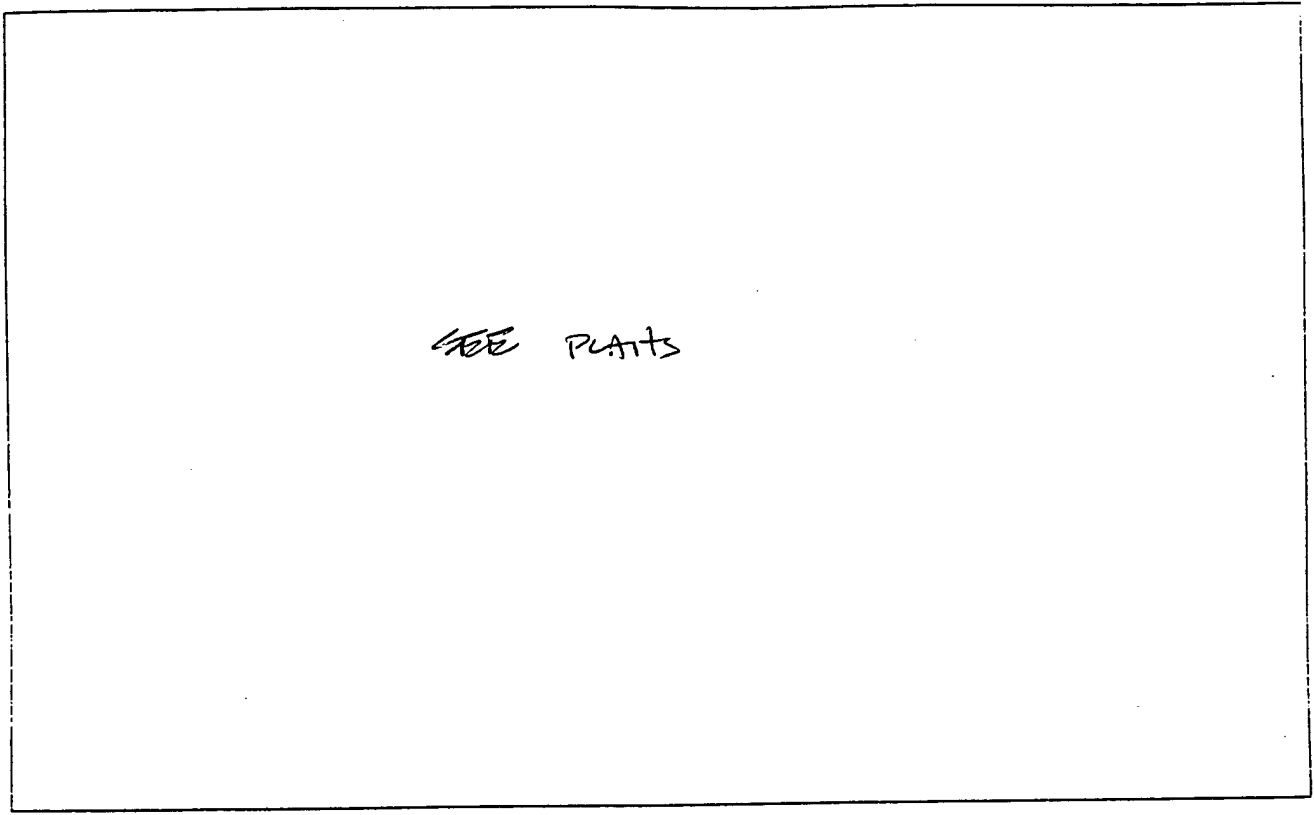
MISCELLANEOUS EQUIPMENT: _____

ADDITIONAL COMMENTS, CRITICAL LOADS: _____

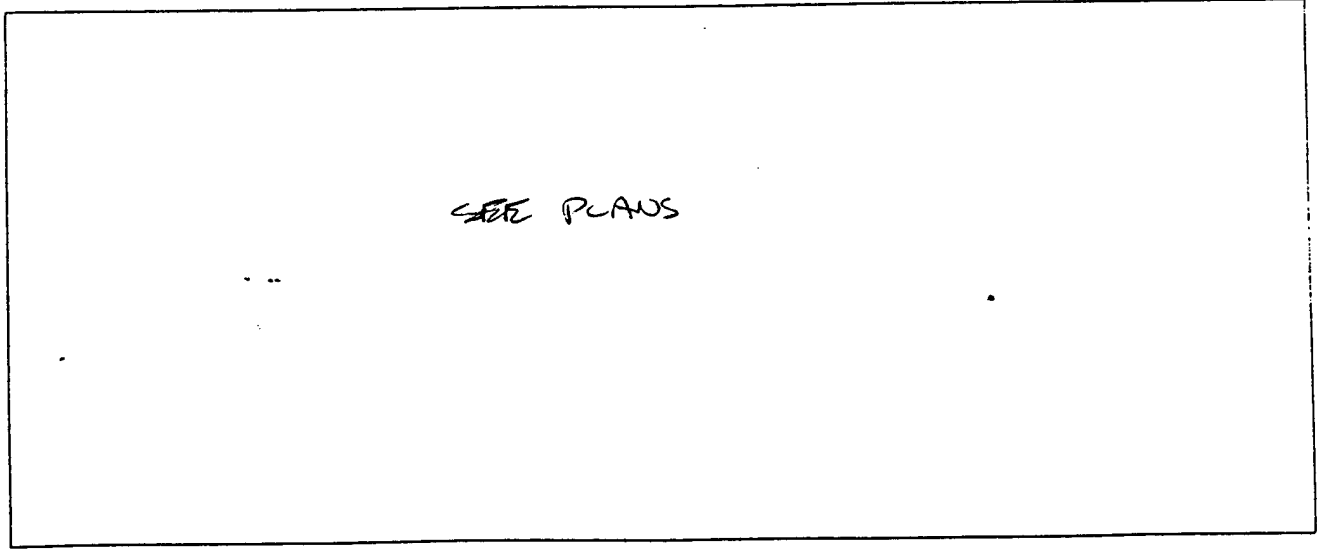
CRAWL SPACE: VENTILATED EXHAUSTED
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



DOOR/ WINDOW DESIG.	TYPE	NUMBER EXPOSURE								SIZE L x H	GLAZING*			TYPE OF FRAME**	INFILTRATION				REMARKS
		N	NE	E	SE	S	SW	W	NW		TYPE	DBL	TRPL		W/S	FIT	CRACK LENGTH	LEIGHT	
<i>SEE PLAN</i>																			
														TOTAL AREA		U-VALUE			

- LEGEND:**
- *GLAZING:
 - 1 - ORDINARY
 - 2 - 1/4" PLATE
 - 3 - HEAT ABSORBING
 - 4 - TINTED
 - **FRAME:
 - W - WOOD
 - M - METAL
 - T - METAL/THERMAL BREAK
 - ***SHADING:
 - A - SOLAR FILM
 - B - VEN BLIND
 - C - STORM WINDOW
 - D - DRAPES
 - ***VISIBILITY:
 - E - AWNING
 - F - SOLAR SCREEN
 - G - OVERHANG
 - OTHER - SPECIFY
 - WINDOW TYPES:
 - 1 - DOUBLE HUNG
 - 2 - SINGLE HUNG
 - 3 - SLIDING
 - 4 - CASEMENT
 - 5 - LOUVERED
 - 6 - FIXED GLASS

2.4 BUILDING ENVELOPE

LOCATION Fitz
 BLDG. NO. 238

CONSTRUCTION

WALL COLOR: D M L

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.17
CMU	8"	1.11
R-11		11
GYP BOARD	5/8"	0.56
INSIDE FILM		0.68
TOTAL		13.5

U-FACTOR AREA

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.61
Rigid ins.	3"	11.6
BS UP RIF		0.33
INSIDE FILM		
TOTAL		12.5

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 204 MBtu/Hr ^{or} _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: Wau McClane Model No.: RH-5-PI

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day
DEMAND Weekdays & Holidays: From _____ To _____ Hr/Day
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps 1 V/PH/FLA _____ / _____ / _____
Mfg. MARATHON Model TALCSTER 7074AD HP 1 RPM 1740
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____
N/A

Occupant Discomfort (Evaluate): _____

LOCATION PH
BLDG. NO. 238

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer BAILEY _____
Model No. PW-75-1 _____
Size _____
Refrigerant R-12 _____
Motor HP (if available) _____
Motor Voltage 230 _____
Motor FLA 5.4 _____
Measured Amps _____

COOLING TOWER

Gravity _____
Mech. Draft _____
Manufacturer _____
Model No. _____
Type of Fan _____
Fan RPM _____
Fan Motor HP _____
Fan Motor Voltage _____
Fan Motor FLA _____
Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
Air Cooled _____
Evaporative _____
Manufacturer _____
Model No. _____
Size _____
Type of Fan _____
Fan Motor HP _____
Fan Motor Voltage _____
Fan Motor FLA _____
Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
Model No. _____
Capacity Gals. _____
Head, Ft. _____
Motor HP _____
Motor Voltage _____
Motor FLA _____
Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
Model No. _____
Capacity, Gals. _____
Head, Ft. _____
Motor HP _____
Motor Voltage _____
Motor FLA _____
Measured Amps _____

REMARKS: _____

3.3 AIR HANDLING EQUIPMENT

LOCATION FHL
BLDG. NO. 238

FANS

Type	<u>PACKAGED VAV</u>		
Unit/Zone	<u># R02P</u>	<u>#</u>	<u>#</u>
Manufacturer	<u>MCCRAY</u>		
Model No.	<u>RS030BT</u>		
Type	<u>R02P</u>		
RPM of Fan			
Motor HP	<u>2.0 SUPPLY / 1.5 RETURN</u>		
Motor Volts	<u>460/3Ø</u>	<u>460/3Ø</u>	
Motor FLA	<u>27</u>	<u>11</u>	
Measured Amps	<u>110(Acu)</u>		
CFM (from Plans)			
Notes			

COILS

Indicate capacities where found:

COOLING		HUMIDIFICATION	
DX	<u>✓</u>	ELEC	
H ₂ O		STEAM	
OTHER		H ₂ O	
HEATING		OTHER	
GAS		AUX/MISC OTHER	<u>NA</u>
H ₂ O	<u>✓</u>		
ELEC			
OTHER			

FILTERS

Type	<u>NA</u>	<u>NA</u>	<u>NA</u>
Condition			
Manometer Reading ^{1/}			

^{1/} Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
1" 25 FT
- d. Is Piping System Insulated and Condition: YES
- e. Is Hot Water Circulated? YES
- 1) Condition of circulator GOOD 3) Is aquastat provided? NO
- 2) Circulator capacity Big series 100 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location Mech Rm.
- b. Areas Served All
- c. Manufacturer and Model PUL MOD 27P 125A-P4
- d. Energy (Oil, Gas, Electric, Coal, Etc.) PEPME
- e. Type Heaters & Quantities:
- 1) Storage _____
- 2) Instantaneous _____
- 3) Semi-Instantaneous _____
- f. Heater Size and Storage Capacity 192 MBH
- g. Heating Capacity 125 MBH
- h. Type Controls (Air, Steam, Electric) ELEC
- i. When Installed & Condition NEW
- j. Heater Temperature Setting /
- k. Average Water Maintained Temperature _____
- l. Temperature Differential (j) - (k) /
- m. Is Hot Water Supply Adequate: /
- n. Insulation Thickness _____ Type _____
- o. Insulation Material _____

LOCATION PH
BLDG. NO. 238

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG *Howell* MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

4.2.1 Interior Lighting

238

BLDG.

LOCATION FHL

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)		
													C	E	I	L	L	O			R	C
6	R	F 1/35	2/70	170	11900																	
EXT.	R			9																		
TOTAL BUILDING LIGHTING ENERGY																						

LIGHTING LEGEND:

- Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS

- Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe

- Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY BIH/RJB DATE OCT 92

BUILDING NUMBER 240 FUNCTION/USE OFFICE

INFORMATION SOURCE (DWG. NO./PERSON) VISUAL INSPECTION

GENERAL BUILDING DATA

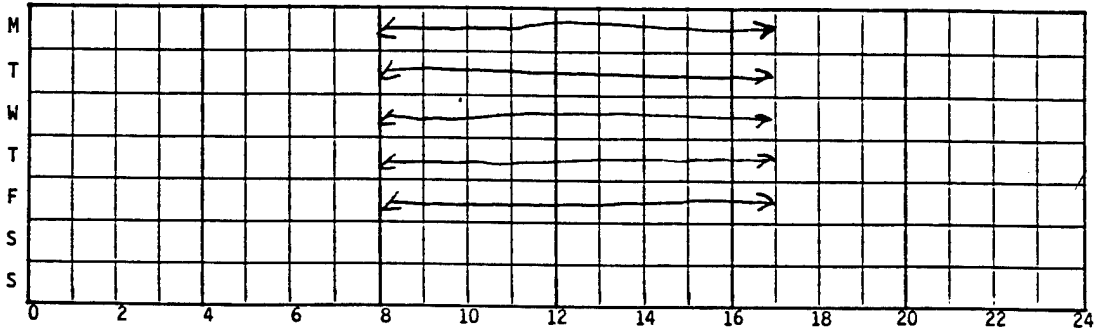
BUILDING AGE: 2-3 YEARS

DUPLICATE BUILDING NOS: 235, 236, 237, 243, 244, 286, 288, 246, 247
 TOTAL: _____

SIMILAR BUILDING NOS: _____
 TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 12

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: _____

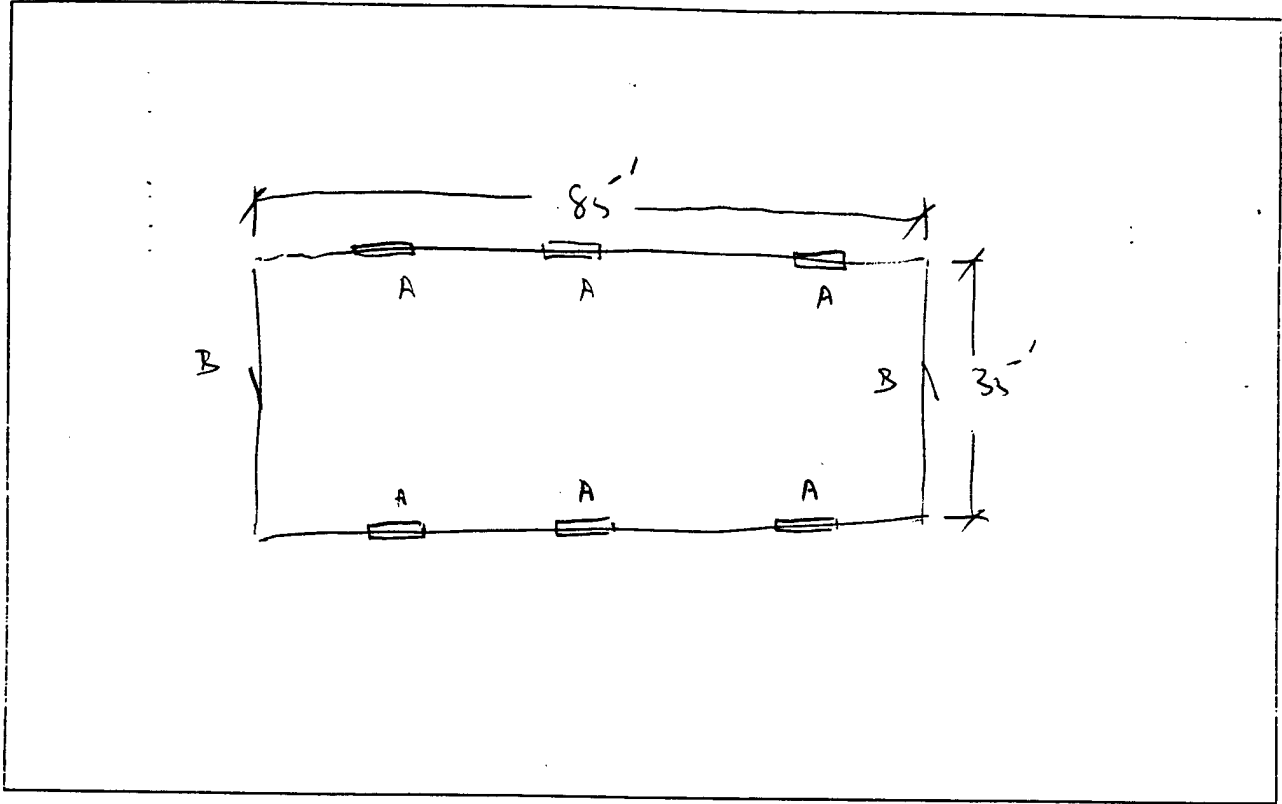
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED
 ATTIC: VENTILATED EXHAUSTED

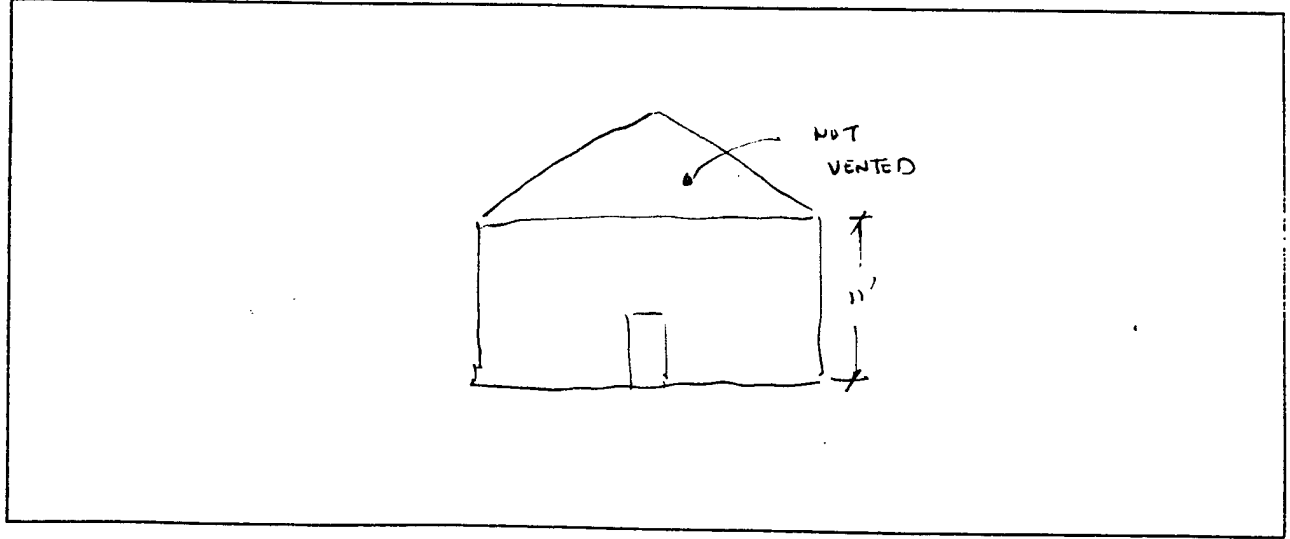
2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

LOCATION FHL
BLDG. NO. 240

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND ELEVATION SKETCHES

2.4 BUILDING ENVELOPE

LOCATION FHL
 BLDG. NO. 240

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
1/2-IN PLYWOOD		0.62
R-11 INSULATION		11.00
GYPSOARD		0.56
INSIDE FILM		0.68
TOTAL		13.11

U-FACTOR AREA

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
METAL ROOF		0.61
R-19 INSULATION		19.00
GYPSOARD		0.56
		0.68
INSIDE FILM		21.1
TOTAL		

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

LOCATION FAL
BLDG. NO. 240

PACKAGED PROPANE HEATING/DRAWING UNIT (2 EA.)

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 61.6 M Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: CARRIER Model No.: _____

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Other (Specify) PROPANE Induced

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____

Weekdays & Holidays: From _____ To _____ Hr/Day _____

Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____

Mfg. _____ Model _____ HP _____ RPM _____

HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 240

PURCHASED HEAT/COOLING UNIT - PAD MOUNTED (2 EACH)

COMPRESSOR(S)/CHILLER

Manufacturer CARRIER WEATHERMAKER
 Model No. 48LH006580
 Size 4 TONS
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage 208V/3Ø
 Motor FLA 17
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled	<u>COND</u>	<u>EVAP</u>
Air Cooled	<u>✓</u>	_____
Evaporative	_____	_____
Manufacturer	_____	_____
Model No.	_____	_____
Size	_____	_____
Type of Fan	_____	_____
Fan Motor HP	_____	_____
Fan Motor Voltage	<u>208V/1Ø</u>	<u>208V/1Ø</u>
Fan Motor FLA	<u>2</u>	<u>4</u>
Measured Amps	_____	_____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT - NONE

LOCATION FHL
BLDG. NO. 240

- a. Is System Supported from (check one):
 Central Plant One System per Building
 Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: _____ °F _____ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

d. Is Piping System Insulated and Condition: _____

e. Is Hot Water Circulated? _____

- 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|-----------|-------|-------|
| a. Location | _____ | _____ | _____ |
| b. Areas Served | _____ | _____ | _____ |
| c. Manufacturer and Model | _____ | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | _____ | _____ | _____ |
| e. Type Heaters & Quantities: | <u>NA</u> | | |
| 1) Storage | _____ | _____ | _____ |
| 2) Instantaneous | _____ | _____ | _____ |
| 3) Semi-Instantaneous | _____ | _____ | _____ |
| f. Heater Size and Storage Capacity | _____ | _____ | _____ |
| g. Heating Capacity | _____ | _____ | _____ |
| h. Type Controls (Air, Steam, Electric) | _____ | _____ | _____ |
| i. When Installed & Condition | _____ | _____ | _____ |
| j. Heater Temperature Setting | _____ | _____ | _____ |
| k. Average Water Maintained Temperature | _____ | _____ | _____ |
| l. Temperature Differential (j) - (k) | _____ | _____ | _____ |
| m. Is Hot Water Supply Adequate: | _____ | _____ | _____ |
| n. Insulation Thickness | _____ | _____ | _____ |
| o. Insulation Material | _____ | _____ | _____ |

DOMESTIC HOT WATER SYSTEM/EQUIPMENT

LOCATION FAL
BLDG. NO. 240

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

TWO THERMOSTATS - 1 HEATING, 1 COOLING - NON PROGRAMMABLE/NON SETBACK
TIME CLOCK { ON 0630 } MON - FRI
 { OFF 1800 }
6 HR MAX OVERRIDE TIMERS ADJACENT TO T-STATS

LIGHTING LOCATION FHL BLDG. 240

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	W A L L	C E I L I N G	W A L L			
1	Surf	F34	2/72	6							20	8 1/2	L L	L L					
4	Recl.	F34	4/144	32							60±	11	L L	L L			NS	1/2-SWITCHES / DISFUSE	
EXT.	Surf	LPS 70	1/95	3															
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RUB/BIH DATE 01 92
BUILDING NUMBER 241 FUNCTION/USE GM FACILITY
INFORMATION SOURCE (DWG. NO./PERSON) SURVEY

GENERAL BUILDING DATA

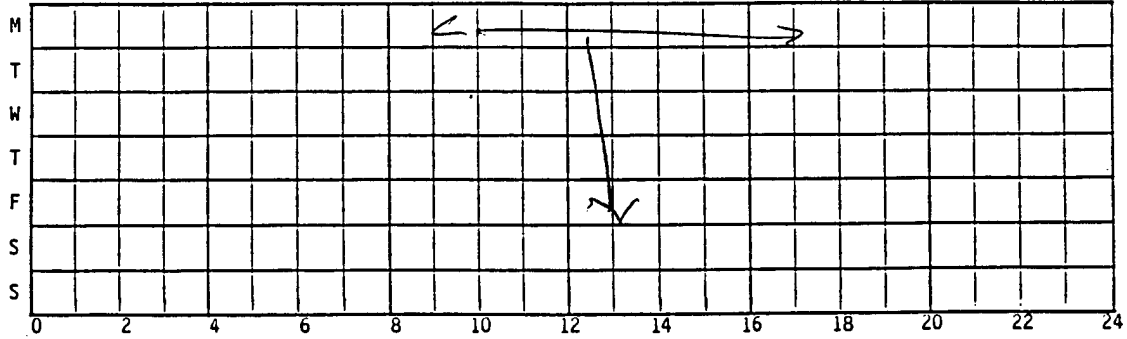
BUILDING AGE: WED YEARS

DUPLICATE BUILDING NOS: _____
TOTAL: _____

SIMILAR BUILDING NOS: _____
TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 20

Indicate (number and) duration of occupants each day



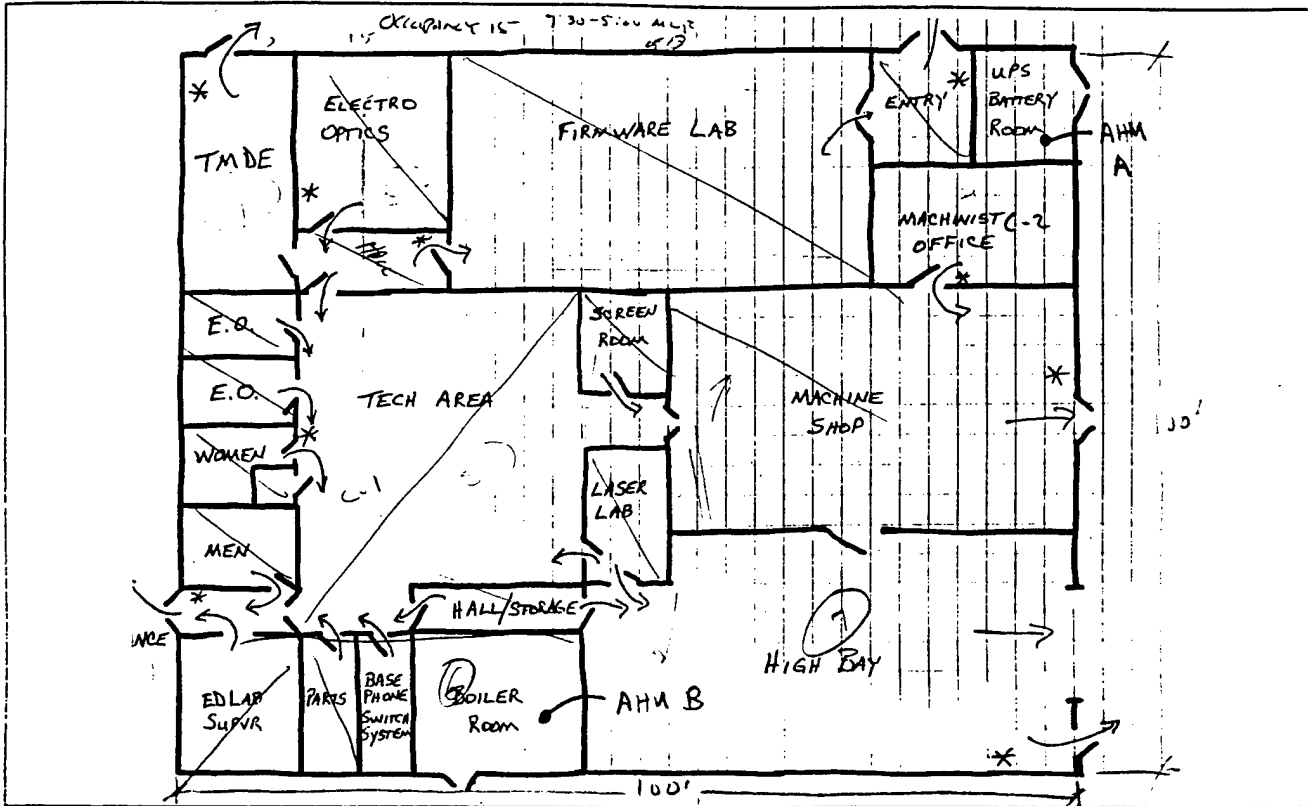
MISCELLANEOUS EQUIPMENT: _____

ADDITIONAL COMMENTS, CRITICAL LOADS: _____

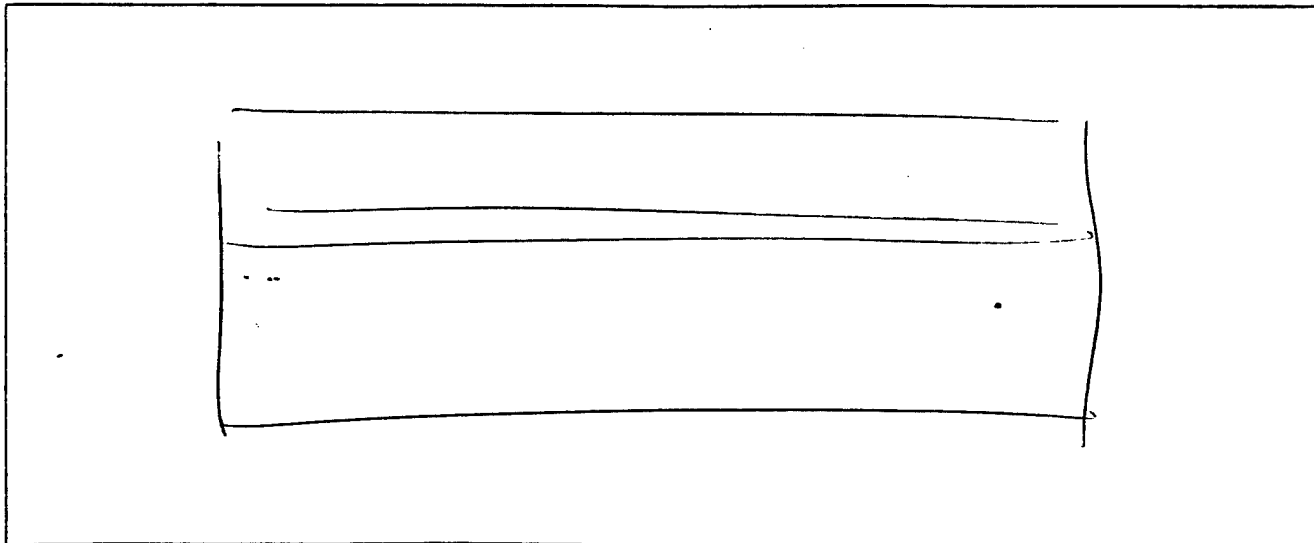
CRAWL SPACE: VENTILATED EXHAUSTED
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



2.4 BUILDING ENVELOPE

LOCATION FH2
 BLDG. NO. 241

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
MEET COVER		0.61
2" BATT		11
AIR SPACE		0.68
AIR BOARD		0.32
INSIDE FILM		0.68
TOTAL		13.54

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
MEET ROOF		0.61
6" BATT		19
INSIDE FILM		0.68
TOTAL		20.54

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

3.1 HEATING EQUIPMENT

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 400 MBtu/Hr¹² or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: Jedward Model No.: 100

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. ECONOMITE Model No. 400H33 Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
24 HR Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

~~Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No~~

~~FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____~~

~~Condensate Pumps/Hot Water Pumps: Mfg. NA Model _____ HP _____~~

~~Boiler/Furnace Condition: _____~~

~~Describe _____
_____~~

~~Occupant Discomfort (Evaluate): _____
_____~~

3.2 COOLING EQUIPMENT

LOCATION FHL
BLDG. NO. 241

COMPRESSOR(S)/CHILLER

For
A174-B
Manufacturer McQUAY
Model No. ALR320AS
Size _____
Refrigerant R-22
Motor HP (if available) 25
Motor Voltage 460/3φ
Motor FLA 41
Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
Air Cooled ✓
Evaporative _____
Manufacturer _____
Model No. _____
Size _____
Type of Fan _____
Fan Motor HP 3e3/4P
Fan Motor Voltage 460/1φ
Fan Motor FLA 3e2.4
Measured Amps _____

COOLING TOWER

Gravity _____
Mech. Draft _____
Manufacturer _____
Model No. _____
Type of Fan _____
Fan RPM _____
Fan Motor HP _____
Fan Motor Voltage _____
Fan Motor FLA _____
Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer B+G
Model No. 60-60-2AMZ
Capacity Gals. _____
Head, Ft. _____
Motor HP 1HP
Motor Voltage 460V/3φ
Motor FLA 2.2
Measured Amps 2.2/2.4/2.5

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
Model No. _____
Capacity, Gals. _____
Head, Ft. _____
Motor HP _____
Motor Voltage _____
Motor FLA _____
Measured Amps _____

REMARKS: _____

3.3 AIR HANDLING EQUIPMENT

LOCATION FAL
BLDG. NO. 241

FANS

Type			CRAC	
Unit/Zone	# AHA-B	#	# AHU-A	#
Manufacturer	AIR DYNAMICS		DATA AIR	
Model No.	AH-65		DTA-0532-01	
Type				
RPM of Fan	~ 1HP SUPPLY			
Motor HP	2HP RETURN			
Motor Volts	460/3φ		208/3φ COMPRESSOR	
Motor FLA			18	
Measured Amps				
CFM (from Plans)	6,575			
Notes	BELTS BROKEN		6 KW REHEAT	

BOHN-COND UNIT *
2 KW SEC 1/2 HP EA.
208V/1φ/3.6 FLA

COILS

Indicate capacities where found:

COOLING

DX _____
H₂O _____
OTHER _____

HUMIDIFICATION

ELEC _____
STEAM _____
H₂O _____
OTHER _____

HEATING

GAS _____
H₂O _____
ELEC _____
OTHER PROPANE _____

AUX/MISC OTHER

FILTERS

Type	METAL		
Condition	DIRTY		
Manometer Reading 1/			

1/ Record only if manometer is installed on the unit.

* DX PIPING REQUIRES INSULATION 3/4" φ.
OUTSIDE 36 LB
INSIDE 42 LB

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION FH
BLDG. NO. 241

- a. Is System Supported from (check one):
 Central Plant One System per Building
 Several Small Systems per Building

b. Domestic Hot Water Temperatures provided: _____ °F _____ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

d. Is Piping System Insulated and Condition: _____

- e. Is Hot Water Circulated? _____
 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location _____
 b. Areas Served *NA* _____
 c. Manufacturer and Model _____
 d. Energy (Oil, Gas, Electric, Coal, Etc.) _____
 e. Type Heaters & Quantities:
 1) Storage _____
 2) Instantaneous _____
 3) Semi-Instantaneous _____
 f. Heater Size and Storage Capacity _____
 g. Heating Capacity _____
 h. Type Controls (Air, Steam, Electric) _____
 i. When Installed & Condition _____
 j. Heater Temperature Setting _____
 k. Average Water Maintained Temperature _____
 l. Temperature Differential (j) - (k) _____
 m. Is Hot Water Supply Adequate: _____
 n. Insulation Thickness _____
 o. Insulation Material _____ Type _____

LOCATION FHL
BLDG. NO. 241

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS ATTN B
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

SCHEDULE ATTN-B TIME CLOCK

	<u>ON</u>	<u>OFF</u>
M	0500	1730
T	0500	1630
W	0500	1700
Th	0400	1730
F	0530	1700
S	1200	1800
S	1200	1830

4.2.1 Interior Lighting

241

LOCATION FR BLDG. FR

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	W A L L	C E I L I N G	W A L L			
ED LAB	surf	R	4 / 35	4															
supr	surf	R	2 / 35	2															
TRN	surf	R	4 / 35	46															
APPE	surf	R	4 / 35	6															
PARTS	surf	R	2 / 35	2															
worsh	surf	R	1 / 35	2															
E.O.	surf	R	2 / 35	1															
HALL	surf	R	4 / 35	6															
RECOR	surf	R	4 / 35	12															
RECOR	surf	R	4 / 35	7															
RECOR	surf	R	3 / 35	25															
TOTAL BUILDING LIGHTING ENERGY																			

2 X

RECOR
202

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe

- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS

Tasks Code:

- 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LIGHTING LOCATION PR BLDG. 241

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L L I N G	W A L L	C E I L I N G	W A L L			
STAIR	surf	P	4/55	2															
HIGH BAY	surf	P	3/55	27							45								
LAD	surf	P	4/55	4															
TOTAL BUILDING LIGHTING ENERGY																			

- FIXTURE TYPES:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- LAMP TYPES:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- WINDOW CODE:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- TASKS CODE:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FH SURVEYED BY R. B. B. / B. H. DATE 07/92
BUILDING NUMBER 252 FUNCTION/USE VEHICLE MAINT SHOP
INFORMATION SOURCE (DWG. NO./PERSON) SURVEY / AS-BUILT DWGS

GENERAL BUILDING DATA

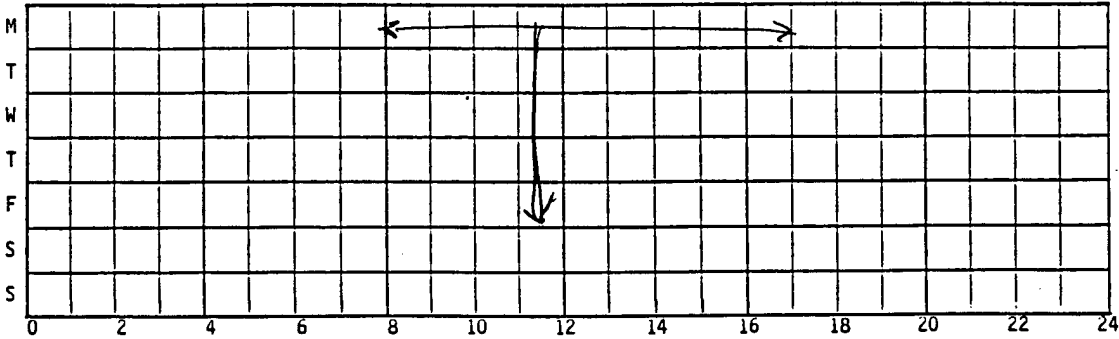
BUILDING AGE: 11 YEARS

DUPLICATE BUILDING NOS: _____
TOTAL: _____

SIMILAR BUILDING NOS: _____
TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 6

Indicate (number and) duration of occupants each day



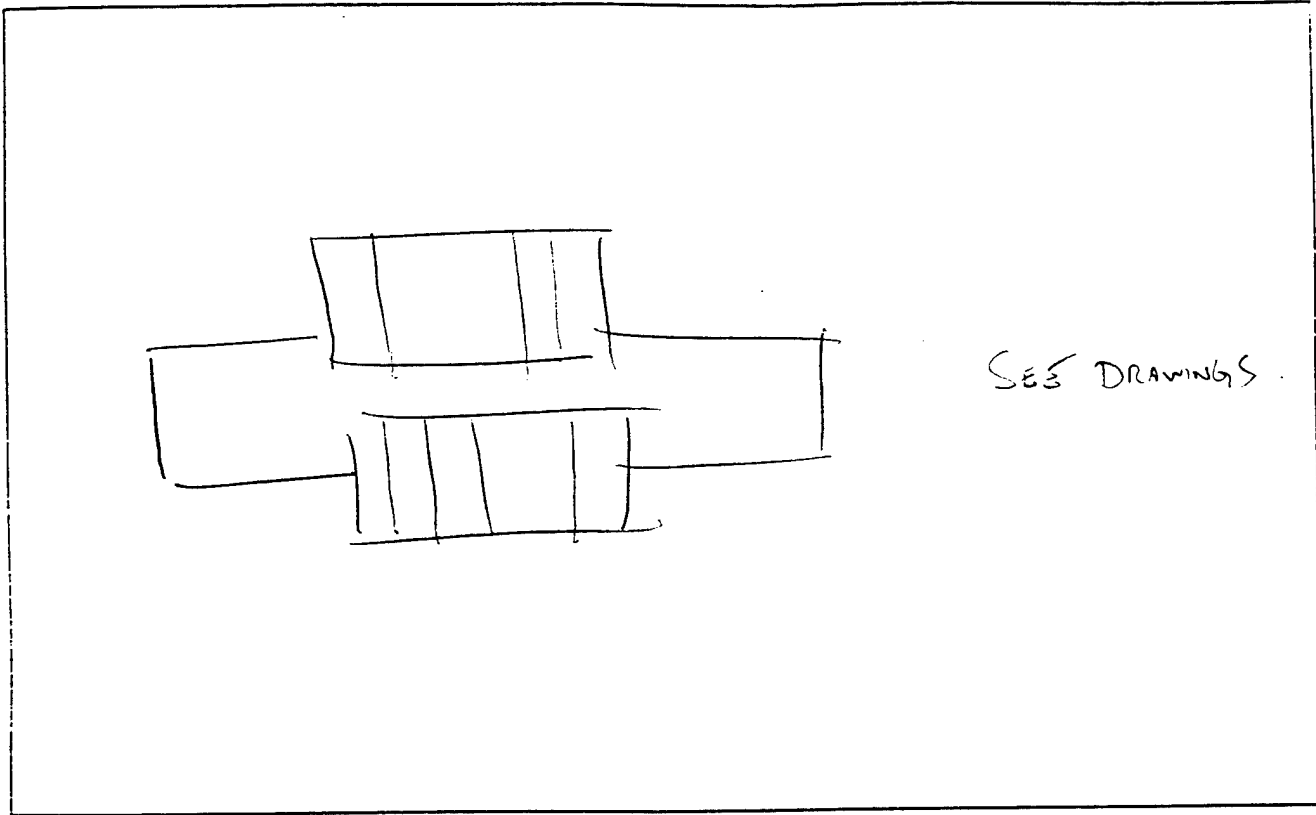
MISCELLANEOUS EQUIPMENT: _____

ADDITIONAL COMMENTS, CRITICAL LOADS: _____

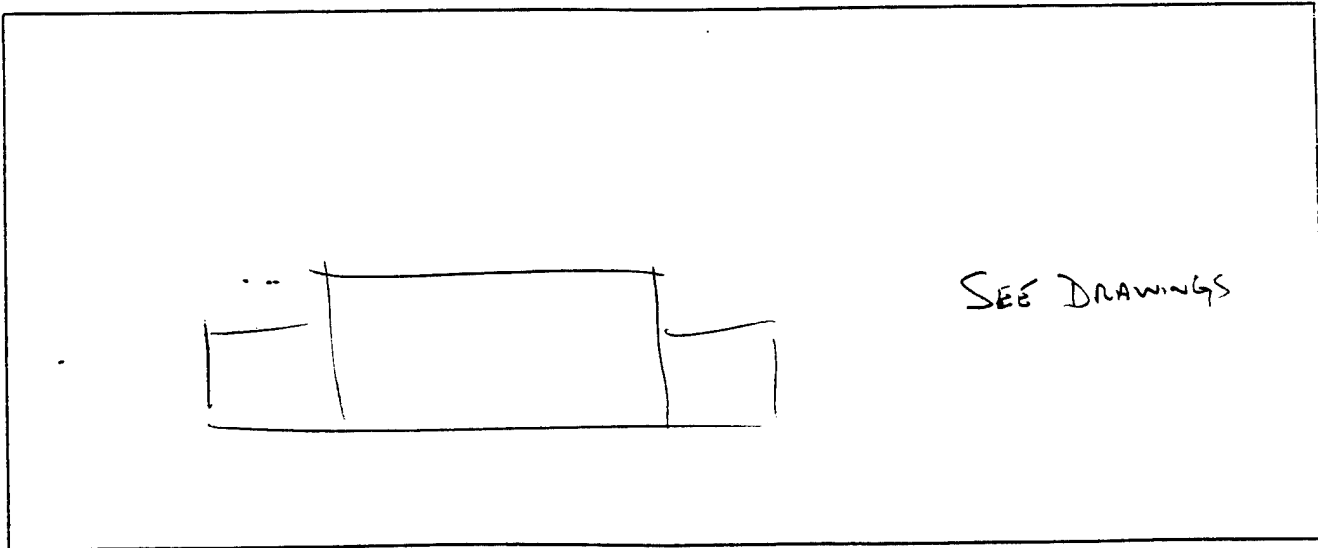
CRAWL SPACE: VENTILATED EXHAUSTED
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



2.4 BUILDING ENVELOPE

LOCATION FH
 BLDG. NO. 252

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR AREA

WALL DRAWINGS

3.1 HEATING EQUIPMENT

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 1050 MBtu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: Kewanee Model No.: M-63-KO

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) OIL

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
DEMAND Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps 1 V/PH/FLA 480, 3, 1
Mfg. BAG Model 14T-DZ HP 3/4 RPM 1750
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe NA

Occupant Discomfort (Evaluate): _____

2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

FANS

Type	_____	_____	_____	_____
Unit/Zone	# _____	# _____	# _____	# _____
Manufacturer	_____	_____	_____	_____
Model No.	_____	_____	_____	_____
Type	_____	_____	_____	_____
RPM of Fan	_____	_____	_____	_____
Motor HP	_____	_____	_____	_____
Motor Volts	_____	_____	_____	_____
Motor FLA	_____	_____	_____	_____
Measured Amps	_____	_____	_____	_____
CFM (from Plans)	_____	_____	_____	_____
Notes	_____	_____	_____	_____

COILS

Indicate capacities where found:

COOLING

DX _____ *VA*
 H₂O _____
 OTHER _____

HEATING

GAS _____
 H₂O _____
 ELEC _____
 OTHER _____

HUMIDIFICATION

ELEC _____
 STEAM _____
 H₂O _____
 OTHER _____

AUX/MISC OTHER

FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading ^{1/}	_____	_____	_____

^{1/} Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one):
 Central Plant
 One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
1" 20 ft

- d. Is Piping System Insulated and Condition: YES
- e. Is Hot Water Circulated? _____
 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|---------------------------|------------|-------|
| a. Location | <u>MED</u> | _____ | _____ |
| b. Areas Served | <u>All</u> | _____ | _____ |
| c. Manufacturer and Model | <u>AMERICAN EFR-52-10</u> | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>ELEC</u> | _____ | _____ |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | _____ | _____ | _____ |
| 2) Instantaneous | _____ | _____ | _____ |
| 3) Semi-Instantaneous | _____ | _____ | _____ |
| f. Heater Size and Storage Capacity | <u>52 gal</u> | _____ | _____ |
| g. Heating Capacity | <u>6 kw</u> | _____ | _____ |
| h. Type Controls (Air, Steam, Electric) | <u>Electric</u> | _____ | _____ |
| i. When Installed & Condition | <u>MED</u> | _____ | _____ |
| j. Heater Temperature Setting | _____ | _____ | _____ |
| k. Average Water Maintained Temperature | _____ | _____ | _____ |
| l. Temperature Differential (j) - (k) | _____ | _____ | _____ |
| m. Is Hot Water Supply Adequate: | _____ | _____ | _____ |
| n. Insulation Thickness | _____ | Type _____ | _____ |
| o. Insulation Material | _____ | _____ | _____ |

4.2.1 Interior Lighting

LOCATION Flk BLDG. 557

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ.FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	W A L L	C E I L I N G	W A L L			
	S	F/32	2	62	8440														
	S	F/100	33	33	9900														
	S	F/35	4	90	1120														
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

- Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION File
 BLDG. NO. 252

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>9</u>	<u>I</u>	<u>9</u>	<u>300</u>	<u>2700</u>	<u>M</u>	
<u>7</u>	<u>I</u>	<u>7</u>	<u>60</u>	<u>420</u>	<u>M</u>	

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey _____
 Total installed N/A _____

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey _____
 Total installed _____

LOCATION FH
BLDG. NO. 252

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: 2 COMPUTERS

4.3.2 RECEPTACLES IN USE _____ PERCENT

4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

Water Cooler	<u>X</u>
Vending Machine	<u>✓</u>
Space Heater	_____
Coffee Pot	<u>X</u>
TV	_____
XEROX	_____
Other:	
_____	_____
_____	_____
_____	_____
_____	_____

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FH SURVEYED BY BH/RJB DATE OCT'92
 BUILDING NUMBER 283 FUNCTION/USE STORAGE (FORMERLY FE SHOP)
 INFORMATION SOURCE (DWG. NO./PERSON) INSPECTION

GENERAL BUILDING DATA

BUILDING AGE: _____ YEARS

DUPLICATE BUILDING NOS: _____
 _____ TOTAL: _____

SIMILAR BUILDING NOS: _____
 _____ TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 2 AT

Indicate (number and) duration of occupants each day

10 HRS/WK MAX.

M																						
T																						
W																						
T																						
F																						
S																						
S																						
	0	2	4	6	8	10	12	14	16	18	20	22	24									

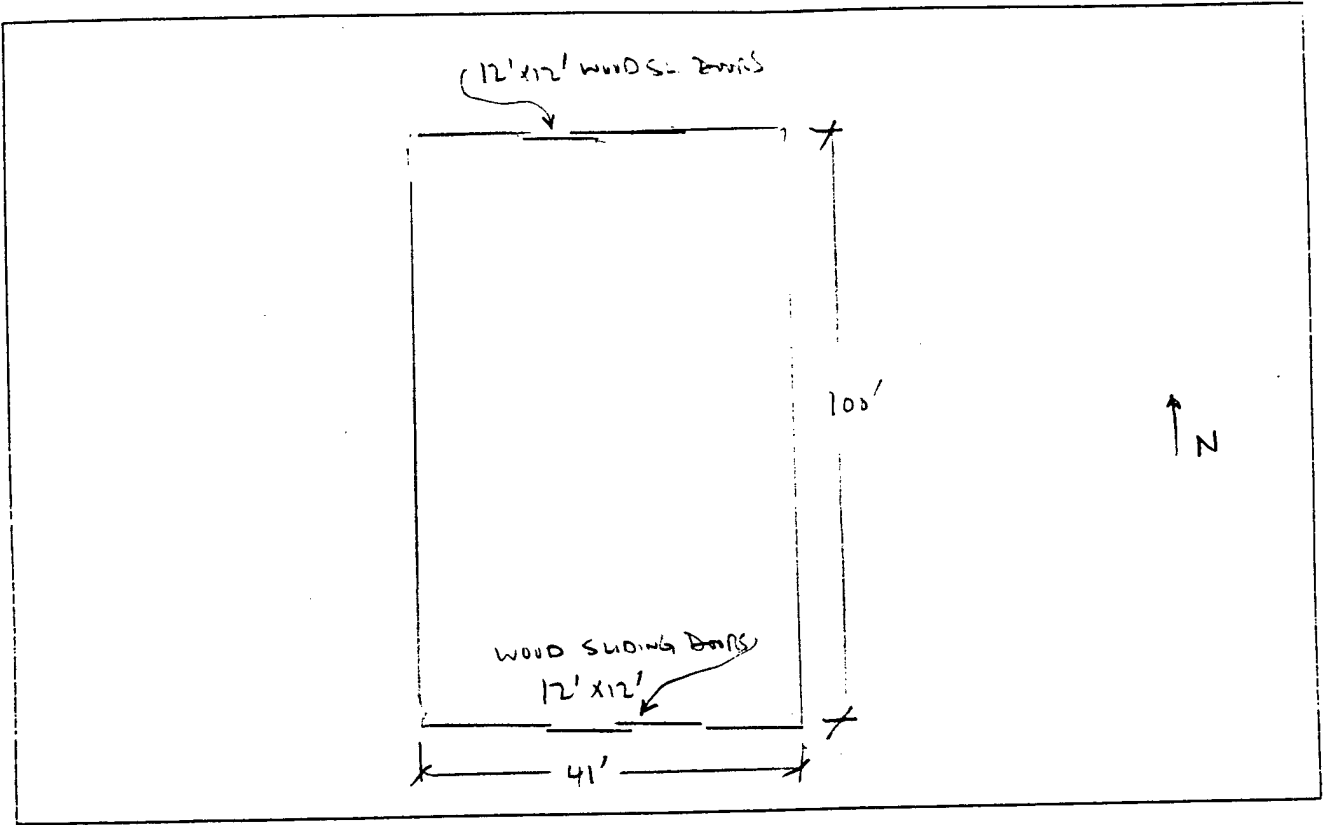
MISCELLANEOUS EQUIPMENT: _____
6 ~ 1 HP MOTORS ON SHOP EQUIPMENT - NOT USED

ADDITIONAL COMMENTS, CRITICAL LOADS: _____
NO DHW

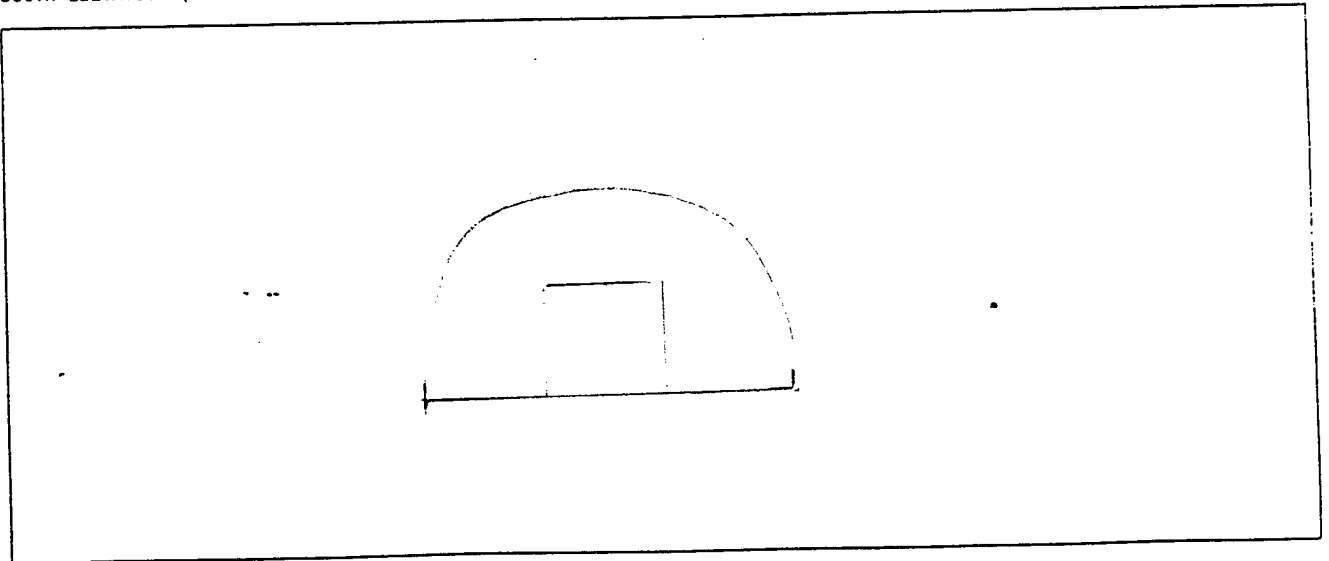
CRAWL SPACE: VENTILATED EXHAUSTED SOG
 ATTIC: VENTILATED EXHAUSTED NONE

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



2.4 BUILDING ENVELOPE

LOCATION KAL
 BLDG. NO. 283

CONSTRUCTION QUONSET PNT
 WALL ALL COLOR: D M L

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<u>METAL</u>		
<u>(UNPAINTED)</u>		
INSIDE FILM		
TOTAL		

U-FACTOR: AREA:

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR: AREA:

FLOOR:

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR: AREA:

DOOR:

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR: AREA:

BUILDING SKIRTING MATERIAL:

3.1 HEATING EQUIPMENT

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other UNIT HEATERS
(3 EACH)

Capacity: 75,000 Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: _____ Model No.: _____

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced
 Other (Specify) PROPANE Induced

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: 2 EVAPORATIVE COOLERS @ 3/4 HP EA WATER LEAK ONE
 (APPROX 120 DRAS/MIN)
1 WINDOW HEAT PUMP (2 TONS ±)

LOCATION FPL
BLDG. NO. 283

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

SEPARATE T-STAT FOR EACH UNIT HEATER
MANUAL CONTROL OF HEAT PUMP & EVAP COOLERS

4.2 LIGHTING
4.2.1 Interior Lighting

LIGHTING

LOCATION FHL

BLDG. 283

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT.	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	F L O O R	C E I L I N G	F L O O R			
SHOP	S	F40	4 144	21							SD								
12	S	F100	1 100	6															
12	S	F40	2 127	2															
E	Surf																		
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

Lamp Types:

- Incandescent = I
- Fluorescent = F
- Sodium Vapor = SV
- Mercury Vapor = MV
- Metal Halide = MH
- Other--Describe

Window Code:

- If there are windows, indicate:
- Curtains = C
- Shades = S
- No Shading = NS

Tasks Code:

- 1 = Corridors
- 2 = Kitchens
- 3 = Dining
- 4 = Offices-general
- 5 = Offices-bookkeeping (ledgers only)
- 6 = Offices-drafting
- 7 = Laundry
- 8 = Toilets
- 9 = Sleeping quarters
- 10 = Supply rooms
- 11 = Repair shops
- 12 = Storage room
- 13 = Retail store (PX, commissary)
- Other (describe on audit form)
- E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FH SURVEYED BY RH/RJB DATE 09 92
 BUILDING NUMBER 290 FUNCTION/USE ELECTRON EQUIP FR.
 INFORMATION SOURCE (DWG. NO./PERSON) SURVEY / INTERVIEW

GENERAL BUILDING DATA

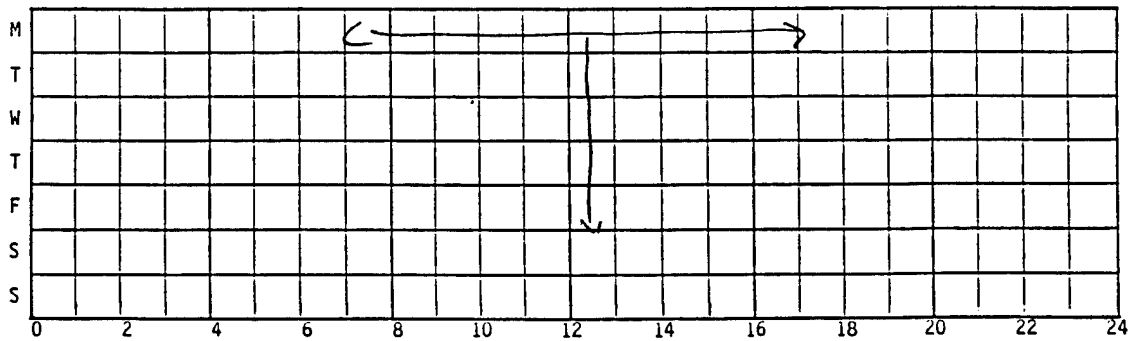
BUILDING AGE: 11/20 YEARS

DUPLICATE BUILDING NOS: _____
 TOTAL: _____

SIMILAR BUILDING NOS: _____
 TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 4

Indicate (number and) duration of occupants each day



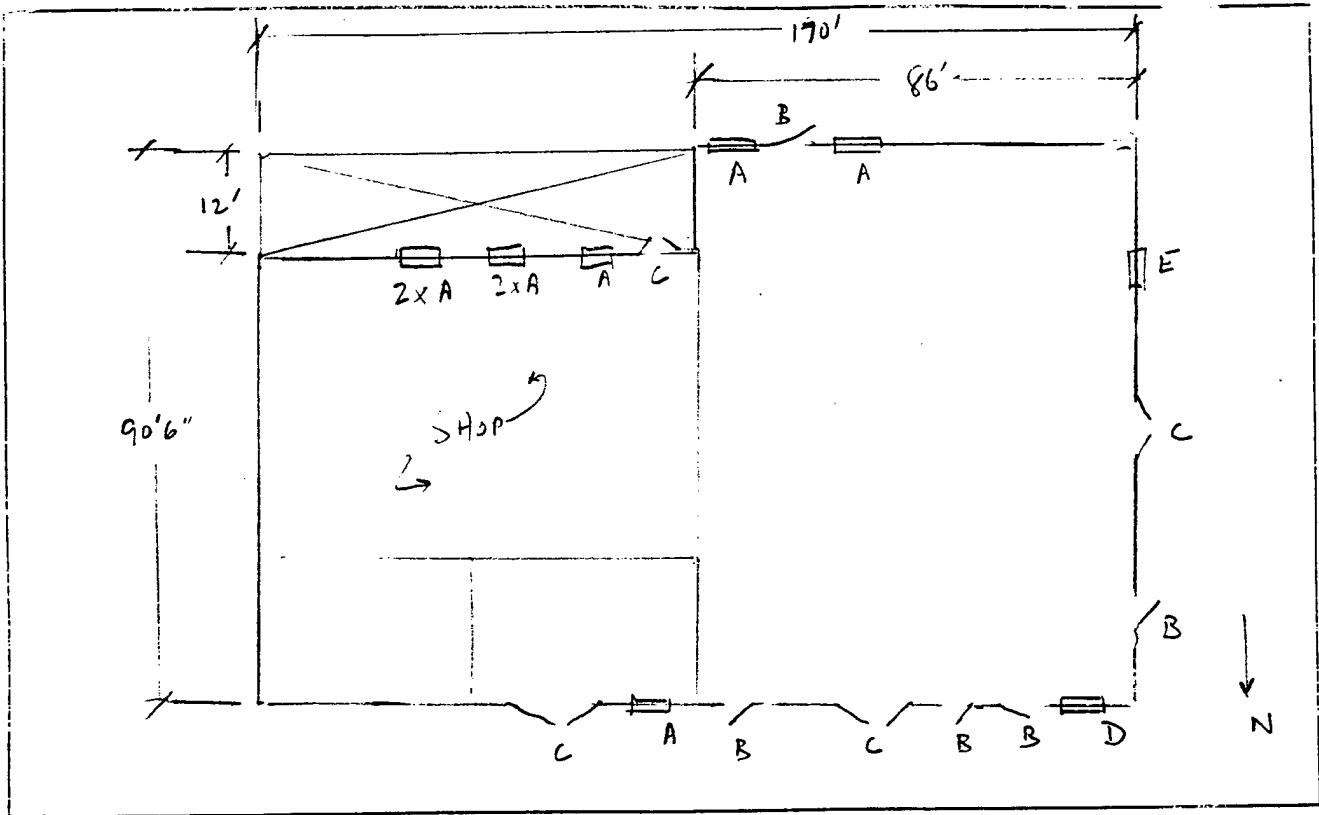
MISCELLANEOUS EQUIPMENT: _____

ADDITIONAL COMMENTS, CRITICAL LOADS: _____

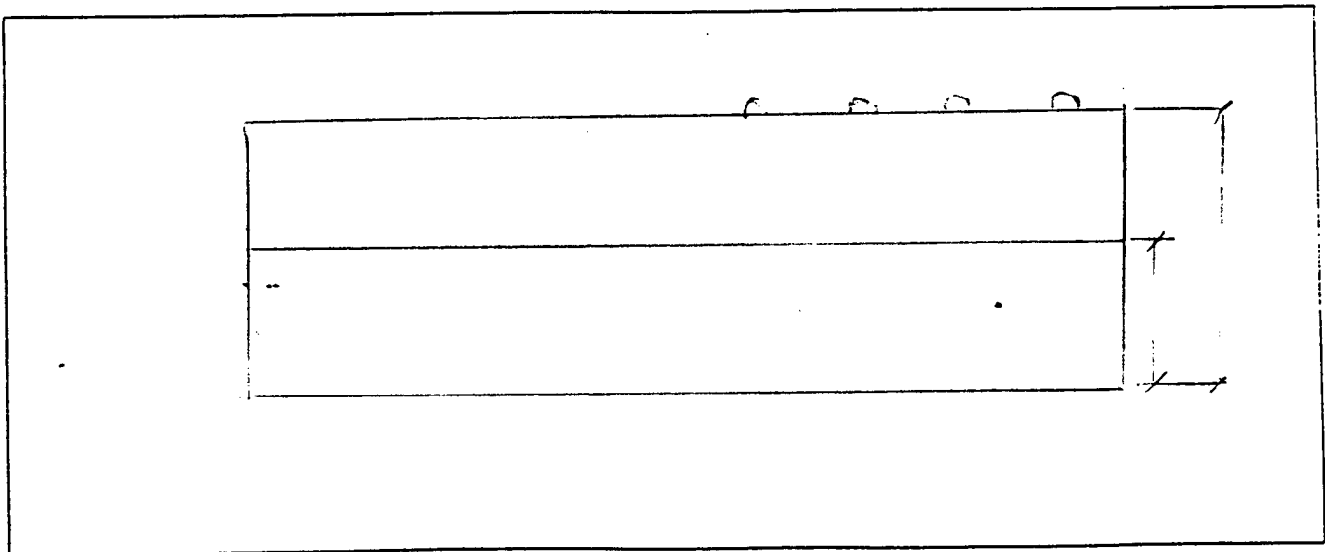
CRAWL SPACE: VENTILATED EXHAUSTED
 ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND
 ELEVATION SKETCHES

2.4 BUILDING ENVELOPE

LOCATION Fit
BLDG. NO. 290

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
MEPLA SIDE		0.61
BATT 3"		11.00
FRAME		-
CLIP		0.45
INSIDE FILM		0.68
TOTAL		12.99

U-FACTOR AREA

ROOF (INCL. CLG.)

TYPE: F P
COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
MEPLA SIDE		0.61
D-19		19.00
CLIP		0.45
INSIDE FILM		0.68
TOTAL		20.99

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

LOCATION FH
BLDG. NO. 290

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 816 MBtu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: CRANE Model No.: 7-402

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: 140 °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Other (Specify) PROPANE
Draft: Forced Induced

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

~~Operating Schedule: Weekdays: From _____ To _____ Hr/Day
Weekdays & Holidays: From _____ To _____ Hr/Day
Operating Season: From NA Mon/Day, to _____ Mon/Day~~

~~Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F~~

~~If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F~~

Insulation: (1) Boiler Poor Area _____ FT² None Temp. _____ °F
(2) Other (Specify) _____ Poor Area _____ FT² None Temp. _____ °F

Pump: No. of Pumps 1 V/PH/FLA _____
Mfg. PACO Model 0-15701-7300X1A02-1HP 2 RPM 1725
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____
Describe NA

Occupant Discomfort (Evaluate): _____

.2 COOLING EQUIPMENT

COMPRESSOR(S) / CHILLER - PACKAGED
 Manufacturer TRANE CARRIER
 Model No. CAAC25BRM 5590P000
 Size 26 TONS
 Refrigerant R-22
 Motor HP (if available) _____
 Motor Voltage 440 230
 Motor FLA 44 21.3
 Measured Amps _____

COOLING TOWER
 Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan DA
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT
 Water Cooled _____
 Air Cooled 1
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP 3 1/3
 Fan Motor Voltage 440 230/1φ
 Fan Motor FLA 4.3 2.0
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)
 Manufacturer PKCO
 Model No. 10257051300X1442
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP 1
 Motor Voltage 460
 Motor FLA 1.8
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP NA
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

2EA - BARD PKCO A/C UNITS
Compressor: 240V/3A/3φ
OUTSIDE FAN: 240V/3.6A/1φ
INNER FAN:
HEAT STRIP: 240V/21.7A/3φ/19kw

REMARKS: 20 FT OF 2 1/2" PIPE NEEDS INSULATION

3.3 AIR HANDLING EQUIPMENT

LOCATION FHU
BLDG. NO. 200

FANS

Type	<u>AHU</u>			
Unit/Zone	<u># 124</u>	#	#	#
Manufacturer	<u>TRANE</u>			
Model No.	<u>CLC17</u>			
Type	<u>17</u>			
RPM of Fan	<u>1700</u>			
Motor HP	<u>-</u>			
Motor Volts	<u>230</u>			
Motor FLA	<u>-</u>			
Measured Amps	<u>5.8</u>			
CFM (from Plans)				
Notes				

COILS

Indicate capacities where found:

COOLING		HUMIDIFICATION	
DX	_____	ELEC	_____
H ₂ O	<u>Y</u>	STEAM	_____
OTHER	_____	H ₂ O	_____
HEATING		OTHER	<u>Y</u>
GAS	_____	AUX/MISC OTHER	_____
H ₂ O	<u>Y</u>		_____
ELEC	_____		_____
OTHER	_____		_____

FILTERS

Type	_____		
Condition	<u>OK</u>		
Manometer Reading 1/	_____		<u>NA</u>

1/ Record only if manometer is installed on the unit.

ACCESSORY HEATERS 230V/3φ
 20.8 FLA
 31.1
 41.5
 52.0
 ↓
 Y

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

LOCATION Fitz
BLDG. NO. 290

- a. Is System Supported from (check one):
 Central Plant
 One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 120 °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
1" 30 ft
- d. Is Piping System Insulated and Condition: NO
- e. Is Hot Water Circulated? YES
- 1) Condition of circulator good 3) Is aquastat provided? NO
 2) Circulator capacity 1/17 HP 4) Aquastat temperature setting NO

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|--------------------|-------------------|--|
| a. Location | <u>MECH</u> | | |
| b. Areas Served | <u>ALL</u> | | |
| c. Manufacturer and Model | <u>AD SMITH</u> | <u>BT-197-681</u> | |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>PROPANE</u> | | |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | | | |
| 2) Instantaneous | | | |
| 3) Semi-Instantaneous | | | |
| f. Heater Size and Storage Capacity | <u>100 GAL</u> | | |
| g. Heating Capacity | <u>197 MBH out</u> | | |
| h. Type Controls (Air, Steam, Electric) | <u>ELEC.</u> | | |
| i. When Installed & Condition | <u>MECH</u> | | |
| j. Heater Temperature Setting | <u>/</u> | | |
| k. Average Water Maintained Temperature | <u>/</u> | | |
| l. Temperature Differential (j) - (k) | <u>/</u> | | |
| m. Is Hot Water Supply Adequate: | <u>/</u> | | |
| n. Insulation Thickness | <u>/</u> | Type | |
| o. Insulation Material | <u>/</u> | | |

LOCATION F12
BLDG. NO. 290

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

SETTINGS: ON 6:30 AM
OFF 7:00 PM

A-1 SET UP FOR ECONOMIZER - NOT OPERATING PROPERLY

BLDG. 290

LOCATION FHL

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L L I N G	F L O O R	C E I L L I N G	F L O O R			
RELECT	S	F	2 / 35	12															
	S	F	2 / 35	3															
PRENE	S	F	2 / 35	6															
SPRINK	S	F	2 / 35	2															
OFFICE	S	F	2 / 35	6															
OFFICE	S	F	2 / 35	6															
OFFICE	S	F	2 / 35	6															
MECH	S	F	1 / 300	9															
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LIGHTING

LOCATION FR

BLDG. 290

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	W A L L	C E I L I N G	W A L L			
SHP	S	F	2 / 40	40															
	S	F	2 / 35	4															
HALL	surc	F	2 / 35	3															
d.c	S	F	2 / 35	1															
WASH	S	F	2 / 35	2															
MEN	S	F	2 / 35	3															
SHOWER	S	F	2 / 35	2															
ASHTRAY	S	F	2 / 35	50						50.60									
RECEPT	Surc	F	2 / 35	80															
OFFICE 1	Surc	F	1 / 35	2															
OFFICE 2	Surc	F	2 / 35	1															
TOTAL BUILDING LIGHTING ENERGY																			

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LIGHTING LEGEND:

- Fixture Types:
- Recessed = R
 - Suspended = S
 - Ventilated = V
 - Pole Mounted = PM
 - Other--Describe
- Lamp Types:
- Incandescent = I
 - Fluorescent = F
 - Sodium Vapor = SV
 - Mercury Vapor = MV
 - Metal Halide = MH
 - Other--Describe

- Window Code:
- If there are windows, indicate:
- Curtains = C
 - Shades = S
 - No Shading = NS

- Tasks Code:
- 1 = Corridors
 - 2 = Kitchens
 - 3 = Dining
 - 4 = Offices-general
 - 5 = Offices-bookkeeping (ledgers only)
 - 6 = Offices-drafting
 - 7 = Laundry
 - 8 = Toilets
 - 9 = Sleeping quarters
 - 10 = Supply rooms
 - 11 = Repair shops
 - 12 = Storage room
 - 13 = Retail store
 - Other (describe on audit form)
 - E = Exterior

Location FHL
 BLDG. NO. 290

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

<u>ACTUAL NO. OF FIXTURES</u>	<u>TYPE OF FIXTURE</u>	<u>NO. OF FIXTURES IN USE</u>	<u>WATTS/ FIXTURE</u>	<u>TOTAL WATTS</u>	<u>CONTROL TYPE*</u>	<u>REMARKS</u>
<u>3</u>	<u>Quartz</u>	<u>3</u>	<u>500</u>	<u>1500</u>	<u>M</u>	

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey _____

Total installed _____

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey _____

Total installed _____

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FtH SURVEYED BY RJB/BIH DATE 01 92

BUILDING NUMBER 291 FUNCTION/USE Cat Humid Warehouse

INFORMATION SOURCE (DWG. NO./PERSON) SKETCH

GENERAL BUILDING DATA

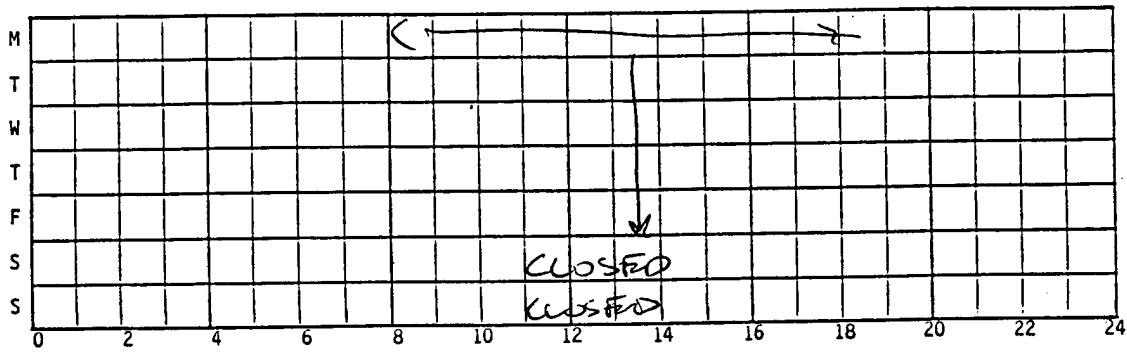
BUILDING AGE: MED YEARS

DUPLICATE BUILDING NOS: _____ TOTAL: _____

SIMILAR BUILDING NOS: _____ TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 15

Indicate (number and) duration of occupants each day



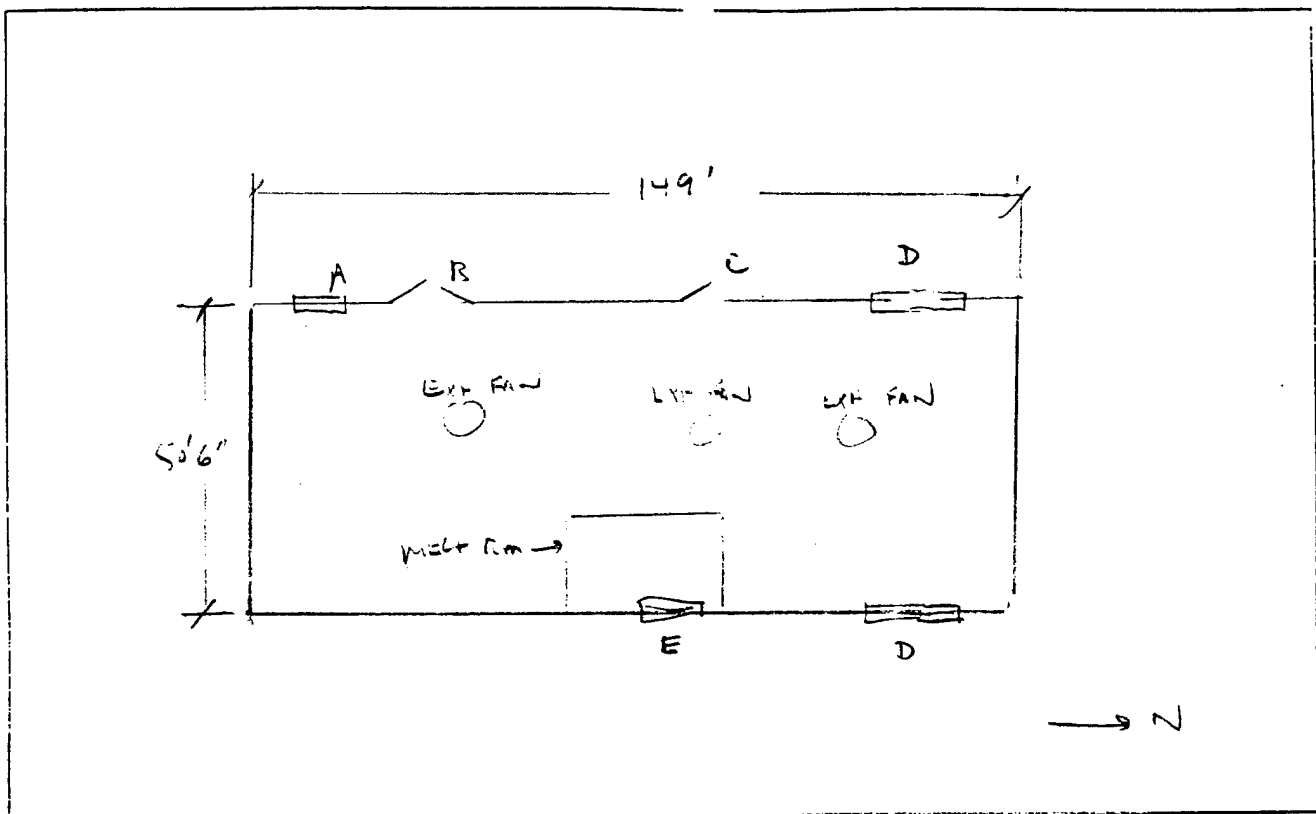
MISCELLANEOUS EQUIPMENT: _____

ADDITIONAL COMMENTS, CRITICAL LOADS: _____

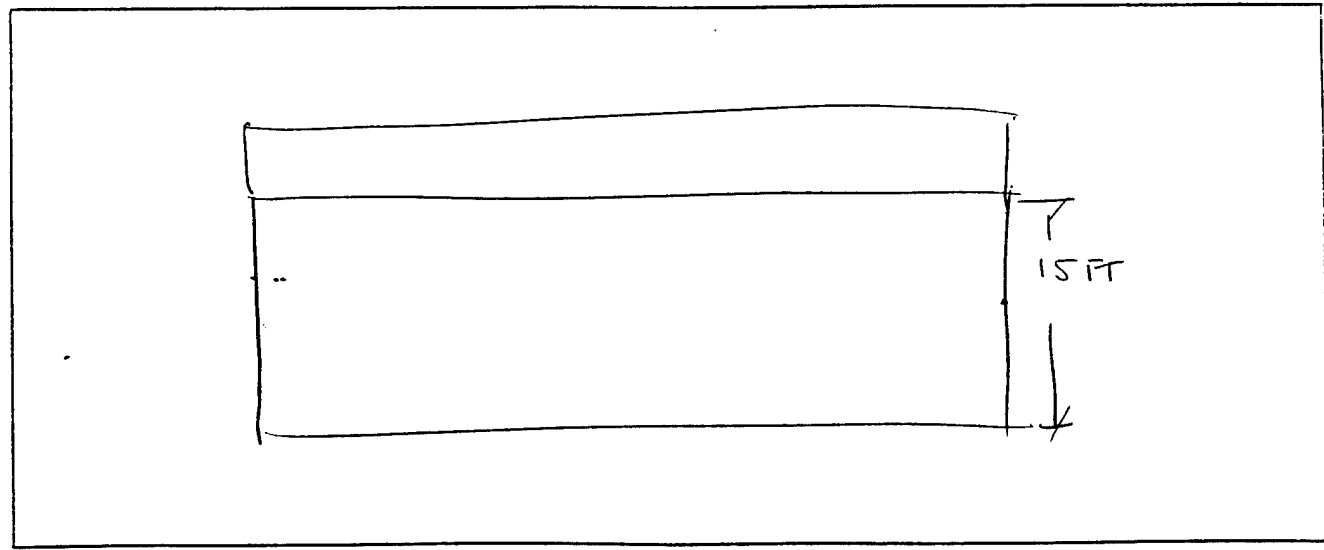
CRAWL SPACE: VENTILATED EXHAUSTED
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



2.4 BUILDING ENVELOPE

LOCATION FHC
 BLDG. NO. 291

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
METAL SIDING		0.61
3" BATT		11
GYP BOARD		0.45
INSIDE FILM		0.68
TOTAL		12.99

U-FACTOR AREA

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
METAL DECK		0.61
6" BATT		19
GYP BOARD		0.45
INSIDE FILM		0.68
TOTAL		21

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

LOCATION FAL
BLDG. NO. 291

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 1,020,000 Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: _____ Model No.: _____

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____

Weekdays & Holidays: From _____ To _____ Hr/Day _____

Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler Poor Area _____ FT² None Temp. _____ °F
(2) Other (Specify) _____ Poor Area _____ FT² None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____

Mfg. _____ Model _____ HP _____ RPM _____

HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): NA

3.2 COOLING EQUIPMENT

LOCATION F.L.L
 BLDG. NO. 291

COMPRESSOR(S)/CHILLER SPLIT SYSTEM

Manufacturer _____
 Model No. _____
 Size _____
 Refrigerant _____
 Motor HP (if available) _____
 Motor Voltage 460V/3p
 Motor FLA _____
 Measured Amps 10.6/9.6/7.4

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

3.3 AIR HANDLING EQUIPMENT

LOCATION FAL
BLDG. NO. 291

FANS

Type	<u>EXHAUST FANS - 2 @ 1HP, 1 @ 1 1/2HP, 1 @ 1/2HP</u>			
Unit/Zone	<u># A+V</u>	<u>#</u>	<u>#</u>	<u>#</u>
Manufacturer	<u>-</u>	<u>PAINT SPRAY Booth - 5HP EXHAUST FAN</u>		
Model No.	<u>-</u>	<u>16,400 CFM</u>		
Type				
RPM of Fan	<u>503</u>			
Motor HP				
Motor Volts	<u>460/3φ</u>			
Motor FLA	<u>-</u>			
Measured Amps	<u>2.0/2.0/2.0</u>			
CFM (from Plans)				
Notes				

COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX <input checked="" type="checkbox"/>	ELEC _____
H ₂ O _____	STEAM _____
OTHER _____	H ₂ O _____
HEATING	OTHER _____
GAS _____	AUX/MISC OTHER _____
H ₂ O _____	
ELEC _____	
OTHER <u>STEAM</u>	

FILTERS

Type	<u>METAL</u>		
Condition	<u>CLEAN</u>		
Manometer Reading ^{1/}			

^{1/} Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? _____
 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

a. Location	_____	_____	_____
b. Areas Served	_____	_____	_____
c. Manufacturer and Model	_____	_____	_____
d. Energy (Oil, Gas, Electric, Coal, Etc.)	_____	_____	_____
e. Type Heaters & Quantities:			
1) Storage	_____	_____	_____
2) Instantaneous	_____	_____	_____
3) Semi-Instantaneous	_____	_____	_____
f. Heater Size and Storage Capacity	_____	_____	_____
g. Heating Capacity	_____	_____	_____
h. Type Controls (Air, Steam, Electric)	_____	_____	_____
i. When Installed & Condition	_____	_____	_____
j. Heater Temperature Setting	_____	_____	_____
k. Average Water Maintained Temperature	_____	_____	_____
l. Temperature Differential (j) - (k)	_____	_____	_____
m. Is Hot Water Supply Adequate:	_____	_____	_____
n. Insulation Thickness	_____	Type _____	_____
o. Insulation Material	_____	_____	_____

LOCATION FH2
BLDG. NO. 291

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

DAMPER POSITIONS ARE MANUALLY CHANGED - NO CONTROLS

LIGHTING

LOCATION Ftr

BLDG. 291

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)			
													C	E	I	C	E	I			C	E	I
BIG OFFICE	SRF	F	2 / 35	5							55												
	SRF	F	2 / 35	20																			
	S	F	1 / 35	10																			
SMALL OFFICE	SRF	F	4 / 35	6							50												
HAUL	SRF	I	1 / 60	1																			
DC SUP																							
CORRIDOR	SRF	R	2 / 35	26																			
BIJNET	SRF	F	1 / 60	1																			
E	SRF	Quartz	1 / 500	4																			
E	SRF	I 60	1 / 60	2																			
TOTAL BUILDING LIGHTING ENERGY																							

6 FT

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FAL SURVEYED BY BIH / RJB DATE 8 Oct 79
 BUILDING NUMBER 295 FUNCTION/USE BARRACKS
 INFORMATION SOURCE (DWG. NO./PERSON) Inspection of FIRST SERGEANT & AS-BUILT DWGS

GENERAL BUILDING DATA

BUILDING AGE: _____ YEARS

DUPLICATE BUILDING NOS: _____
 TOTAL: _____

SIMILAR BUILDING NOS: _____
 TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS 600
 Indicate (number and) duration of occupants each day See # of Rooms

M																						
T																						
W																						
T																						
F																						
S																						
S																						
	0	2	4	6	8	10	12	14	16	18	20	22	24									

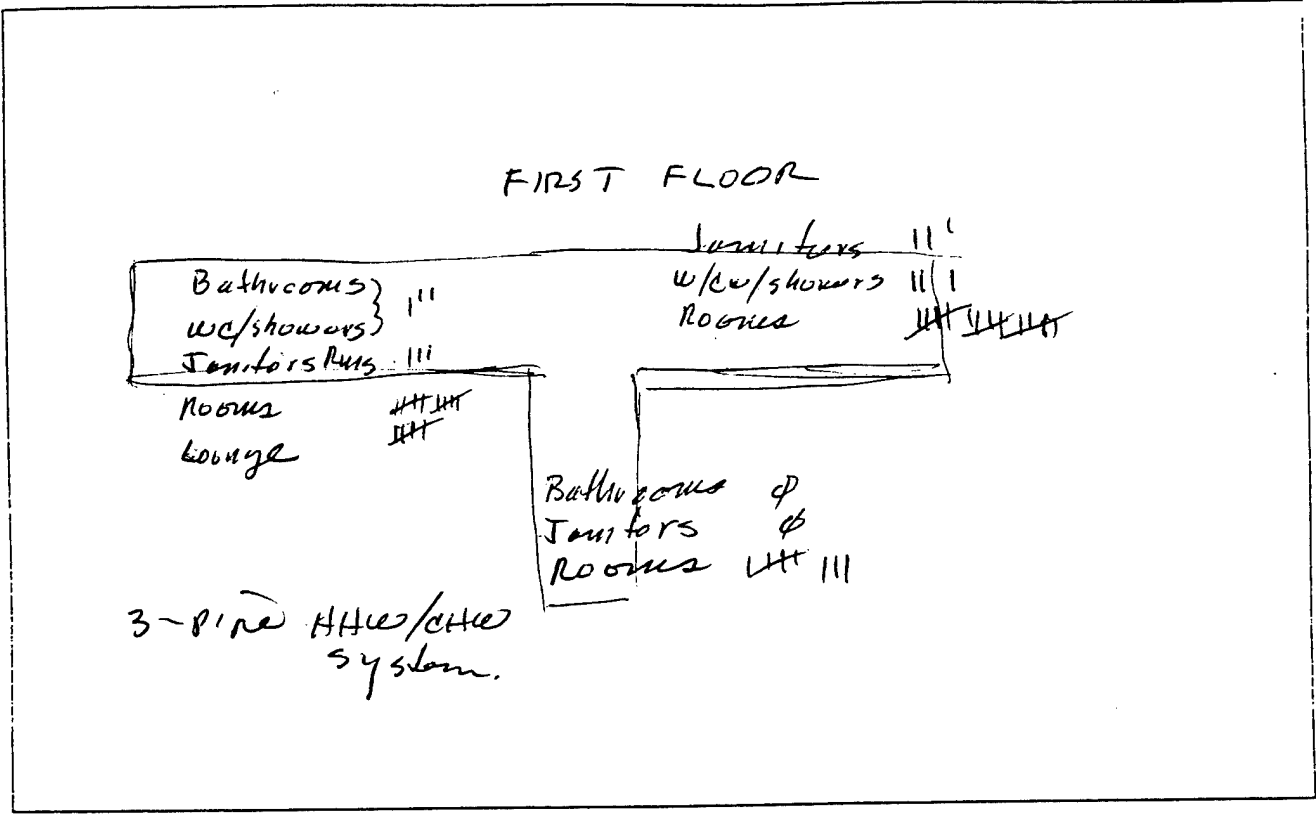
MISCELLANEOUS EQUIPMENT: 1st Floor ²⁰⁰ Washer/Dryer - Domestic w/HW
Water Coolers 3
2nd Flr 2 washer/dryer Dryers - Domestic w/HW
3 Water Coolers
3rd Flr 2 washers/dryer Dryers Domestic w/HW
GF Lobby = 1 Peps machine & 1 vending machine
 ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED SOG

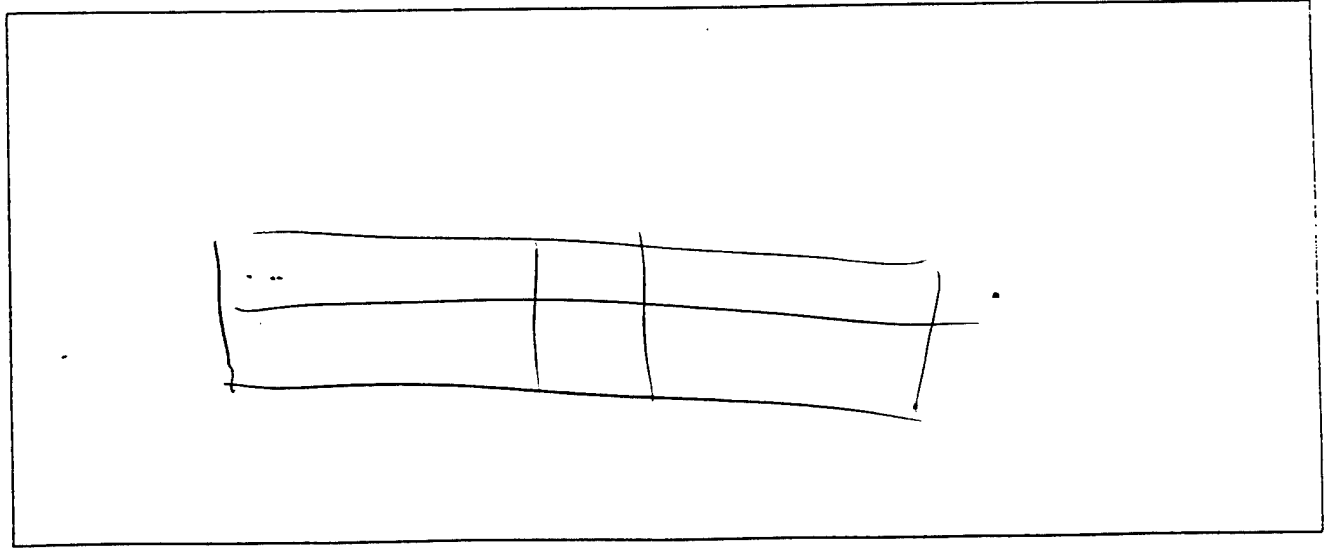
ATTIC: VENTILATED EXHAUSTED None

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



2.4 BUILDING ENVELOPE

LOCATION FH
 BLDG. NO. 295

CONSTRUCTION

WALL CMU COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
CMU	8"	1.72
INSIDE FILM		0.68
TOTAL		

U-FACTOR 0.38 AREA 2.65

ROOF (INCL. CLG.) TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
BT UP ROOF		0.33
3" BATT		11.0
5" Cat. 4.13		2.0
I.A.	0.6	0.61
INSIDE FILM		
TOTAL		14.19

U-FACTOR 0.07 AREA

FLOOR SOG LINO & CARPET IN ROOMS DOOR WOOD - no lights

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL none

3.1 HEATING EQUIPMENT

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 2600 MBtu/Hr ^{est} or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: ALAX Model No.: WG-3250A

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: 170 °F Operating Pressure: - PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Other (Specify) PROPANE Induced

Burner: Mfg. NA Model No. NA Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day
Weekdays & Holidays: From _____ To _____ Hr/Day
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: NA °F Receiver Tank Conditions: NA PSIG NA °F

If supplied Steam or Hot Water: Steam Pressure NA PSI Hot Water Supply Temp. NA °F Hot Water Return Temp. NA °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps 1 V/PH/FLA 110 / 60 / 12
Mfg. BAG Model 150 GPM HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer McQuay
 Model No. AHP 054 CD
 Size 54 BN
 Refrigerant R-22
 Motor HP (if available) -
 Motor Voltage 460/3p
 Motor FLA 2x 58 (EA)
 Measured Amps 76

CONDENSER/CONDENSING UNIT

Water Cooled _____
 Air Cooled ✓
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP _____
 Fan Motor Voltage 460/3p
 Fan Motor FLA 2 @ 4.5
 Measured Amps _____

COOLING TOWER

Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan NA
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer Peerless
 Model No. 2x 2 1/2 x 6S
 Capacity Gals. NA
 Head, Ft. NA
 Motor HP 1 1/2
 Motor Voltage NA
 Motor FLA NA
 Measured Amps NA

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP NA
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: THERE'S A DEAD CAT STUCK IN THE CONTROLS

3.3 AIR HANDLING EQUIPMENT

LOCATION FH
BLDG. NO. 295

FANS

Type	<u>FCU</u>			
Unit/Zone	#	#	#	#
Manufacturer	<u>McQuay</u>			
Model No.	<u>TSC</u>			
Type	<u>FAN COIL</u>			
RPM of Fan	<u>NA</u>			
Motor HP	<u>NA</u>			
Motor Volts	<u>NA</u>			
Motor FLA	<u>NA</u>			
Measured Amps	<u>NA</u>			
CFM (from Plans)	<u>NA</u>			
Notes	<u>NA</u>			
COILS	<u>1ST 2ND 3RD</u>	<u>40 ZONES</u>	<u>40 ZONES</u>	<u>40 ZONES</u>

Indicate capacities where found:

COOLING		HUMIDIFICATION	
DX		ELEC	
<u>Bathrooms</u> H2O	<u>leads for heating connector</u>	STEAM	
OTHER		H2O	
HEATING		OTHER	
GAS		AUX/MISC OTHER	
H2O	<u>X</u>		
ELEC			
OTHER			

FILTERS

Type	<u>-</u>		
Condition	<u>ADULTERATE</u>		
Manometer Reading 1/	<u>-</u>		

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one):
 Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F

c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

HEAT EXCHANGER

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? YES
 1) Condition of circulator AUZE 3) Is aquastat provided? _____
 2) Circulator capacity 150 GPM @ 60 PSI 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (if more than one location, list each one)

a. Location	_____	_____	_____
b. Areas Served	_____	_____	_____
c. Manufacturer and Model	_____	_____	_____
d. Energy (Oil, Gas, Electric, Coal, Etc.)	_____	_____	_____
e. Type Heaters & Quantities:			
1) Storage	_____	_____	_____
2) Instantaneous	_____	_____	_____
3) Semi-Instantaneous	_____	_____	_____
f. Heater Size and Storage Capacity	_____	_____	_____
g. Heating Capacity	_____	_____	_____
h. Type Controls (Air, Steam, Electric)	_____	_____	_____
i. When Installed & Condition	_____	_____	_____
j. Heater Temperature Setting	_____	_____	_____
k. Average Water Maintained Temperature	_____	_____	_____
l. Temperature Differential (j) - (k)	_____	_____	_____
m. Is Hot Water Supply Adequate:	_____	_____	_____
n. Insulation Thickness	_____	_____	_____
o. Insulation Material	_____	Type _____	_____

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

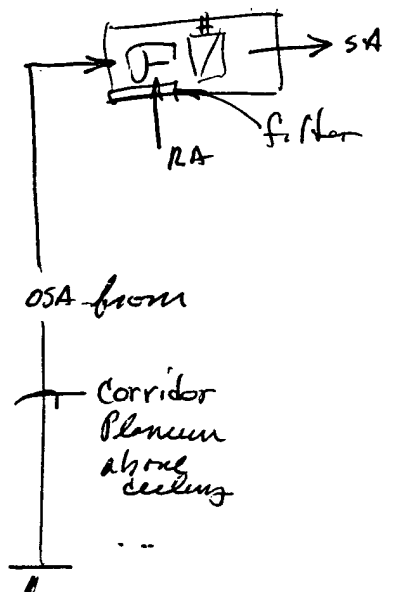
CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

FCU - min 1/room., larger offices/rooms have 2 in.



coil control for each unit by T-stat
 fan speed by restart-switch
 no time clocks.

lowers at stair wells (3 each floor)
 screens are caked shut - little OSA available.

4.2.1 Interior Lighting

Rooms w/ 120°F
 each 8) 5
 Return to 28°F
 Room as described (Stage F34 2 Lamp fixture = 120 = 30 rooms)
 S =

LOCATION FHL BLDG. 295
 FIRST (GROUND FLOOR) 4 on first floor
 Exit Signs = 2 x FGI 5 SW

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
161	S	I 75	1 / 75	1												
162	S	F 34	2 / 70	3							5	8'-0"	LLM	FFS	NA	
163	R	F 34	2 / 70	7							5	8'-0"	LLM	FFS	NA	
164																
165																
166	R	F 34	2 / 70	20							5	8'-0"	LLM	FFS	NA	
167	R	F 34	2 / 70	1												
168	S	F 34	1 / 35	1												
169	S	F 34	2 / 70	1												
170	S	F 34	2 / 70	8												
171	S	F 34	4 / 140	1												
TOTAL BUILDING LIGHTING ENERGY																

5000

LIGHTING LEGEND:

- Fixture Types:
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

4.2.1 Interior Lighting

295

LOCATION FHL BLDG.

ORP RM
I II III
R F 2/35 8 560
240 P2

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS	FINISH	WINDOW CODE	REMARKS (LIGHTS/SWITCH)
II	R	F	2/35	10	700						5	7'-4"				
I	R	F	2/35	10	700						5	7'-4"				
III	R	F	2/35	8	560						5	7'-4"				
II	R	F	2/35	16	560							8'				
I	R	F	2/35	15	525							8'				
III	R	F	2/35	15	525							8'				
II	R	R	2/35	3	210											
I	R	F	2/35	3	210											
III	R	F	4/35	1	140											
II	S	F	1/60	3	180											
I	S	F	1/60	3	180											
TOTAL BUILDING LIGHTING ENERGY																
III	S	F	1/60	3	180											

HALLWAY
Rooms
LAP ROOM
APPOINT ROOM
JC

LIGHTING LEGEND:

- Window Code:
If there are windows, indicate:
Curtains = C
Shades = S
No Shading = NS
- Lamp Types:
Incandescent = I
Fluorescent = F
Sodium Vapor = SV
Mercury Vapor = MV
Metal Halide = MH
Other--Describe
- Fixture Types:
Recessed = R
Suspended = S
Ventilated = V
Pole Mounted = PM
Other--Describe
- Tasks Code:
1 = Corridors
2 = Kitchens
3 = Dining
4 = Offices-general
5 = Offices-bookkeeping (ledgers only)
6 = Offices-drafting
7 = Laundry
8 = Toilets
9 = Sleeping quarters
10 = Supply rooms
11 = Repair shops
12 = Storage room
13 = Retail store
Other (describe on audit form)
E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FHL SURVEYED BY RCL/BIH/RJB DATE 20CT92

BUILDING NUMBER 301 FUNCTION/USE Test & Computer Division

INFORMATION SOURCE (DWG. NO./PERSON) PFEIL / AS-BUILT DWGS.

GENERAL BUILDING DATA

BUILDING AGE: _____ YEARS

DUPLICATE BUILDING NOS: None

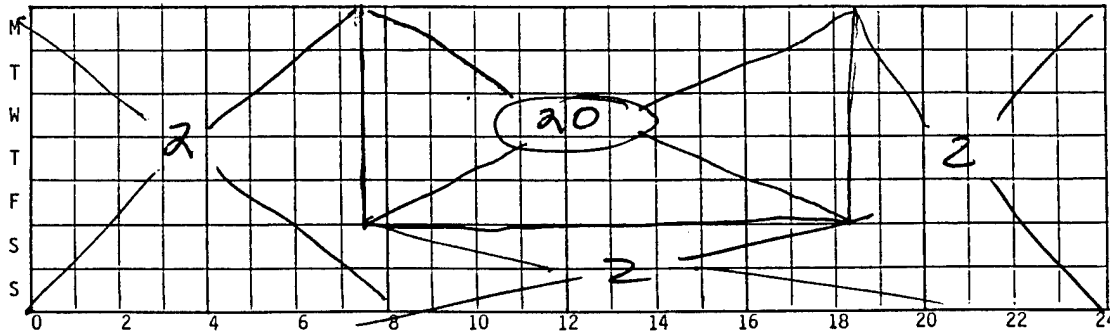
TOTAL: _____

SIMILAR BUILDING NOS: None

TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY) NO. OF OCCUPANTS _____

Indicate (number and) duration of occupants each day



MISCELLANEOUS EQUIPMENT: _____

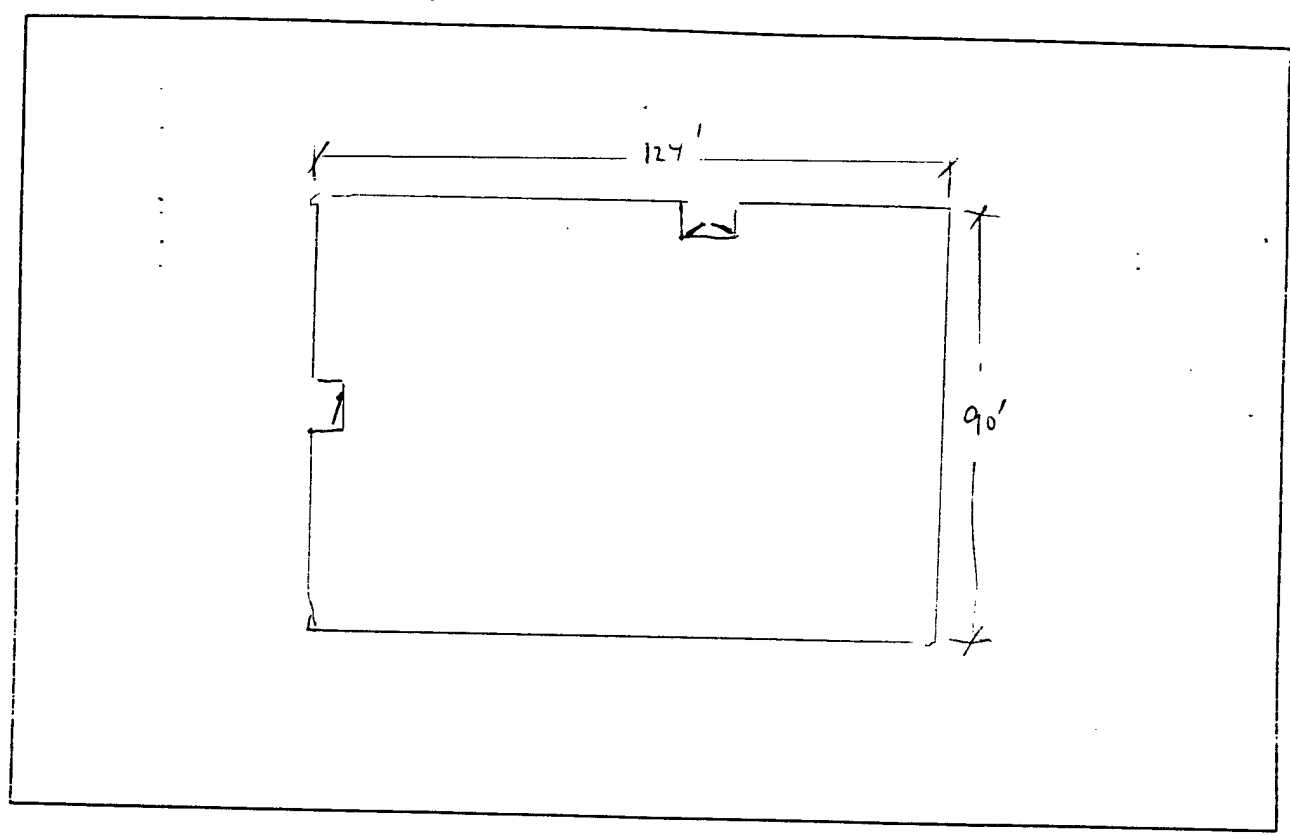
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED

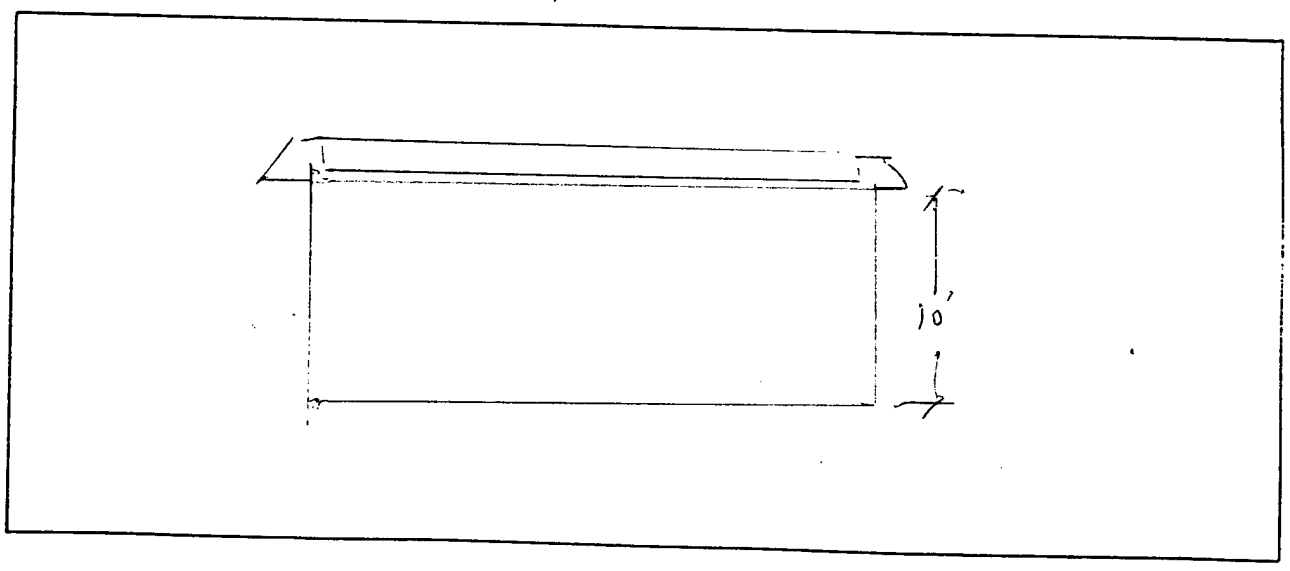
ATTIC: VENTILATED EXHAUSTED

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



BUILDING FLOOR PLAN AND
ELEVATION SKETCHES

2.4 BUILDING ENVELOPE

LOCATION FHL
 BLDG. NO. 301

CONSTRUCTION

WALL COLOR: D M L

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
STUCCO		0.09
8" CMU		4.72
6" BATT		19
5/8" GYP		0.32
INSIDE FILM		0.68
TOTAL		25

U-FACTOR AREA

ROOF (INCL. CLG.)

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		0.25
PER LAP ROOF		0.33
STEEL DECK		-
ADDITIONAL INSULATION		1.03
6" BATT		19
5/8" GYP		0.32
INSIDE FILM		0.68
TOTAL		21.6

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>NA</i>		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>NA</i>		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

Heat Source:
 Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: 250 MBtu/Hr ^{out} or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: ECATMITE Model No.: 400233

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: 140° °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) PROPANE

Burner: Mfg. ECATMITE Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day
Weekdays & Holidays: From _____ To _____ Hr/Day
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: NA
Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

LOCATION FHL
 BLDG. NO. 301

CONDENSER
COMPRESSOR(S)/CHILLER/SOR ROOFTOP UNIT
 Manufacturer TRANE
 Model No. TRAC RB24-A
 Size _____
 Refrigerant R-22
 Motor HP (if available) _____
 Motor Voltage 460/3φ
 Motor FLA 10.7
 Measured Amps _____

COOLING TOWER
 Gravity _____
 Mech. Draft _____
 Manufacturer _____
 Model No. _____
 Type of Fan _____
 Fan RPM _____
 Fan Motor HP _____
 Fan Motor Voltage _____
 Fan Motor FLA _____
 Measured Amps _____

CONDENSER/CONDENSING UNIT
 Water Cooled _____
 Air Cooled _____
 Evaporative _____
 Manufacturer _____
 Model No. _____
 Size _____
 Type of Fan _____
 Fan Motor HP 2 e 1/2 HP
 Fan Motor Voltage 460V/3φ
 Fan Motor FLA 2.0
 Measured Amps _____

CHILLED WATER PUMPS (If more than one, how many
 operative during normal operation: _____)
 Manufacturer _____
 Model No. _____
 Capacity Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)
 Manufacturer _____
 Model No. _____
 Capacity, Gals. _____
 Head, Ft. _____
 Motor HP _____
 Motor Voltage _____
 Motor FLA _____
 Measured Amps _____

REMARKS: _____

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT

- a. Is System Supported from (check one): Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: 110 °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:
3/4 50 FT
- d. Is Piping System Insulated and Condition: YES
- e. Is Hot Water Circulated? NO
- 1) Condition of circulator _____ 3) Is aquastat provided? _____
 2) Circulator capacity _____ 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- | | | | |
|--|---------------------|-------|-------|
| a. Location | <u>MECH.</u> | _____ | _____ |
| b. Areas Served | <u>ALL</u> | _____ | _____ |
| c. Manufacturer and Model | <u>AM APPLIANCE</u> | _____ | _____ |
| d. Energy (Oil, Gas, Electric, Coal, Etc.) | <u>ELECT</u> | _____ | _____ |
| e. Type Heaters & Quantities: | | | |
| 1) Storage | <u>6000</u> | _____ | _____ |
| 2) Instantaneous | <u>-</u> | _____ | _____ |
| 3) Semi-Instantaneous | <u>-</u> | _____ | _____ |
| f. Heater Size and Storage Capacity | <u>1500 W</u> | _____ | _____ |
| g. Heating Capacity | <u>-</u> | _____ | _____ |
| h. Type Controls (Air, Steam, Electric) | <u>-</u> | _____ | _____ |
| i. When Installed & Condition | <u>-</u> | _____ | _____ |
| j. Heater Temperature Setting | <u>-</u> | _____ | _____ |
| k. Average Water Maintained Temperature | <u>-</u> | _____ | _____ |
| l. Temperature Differential (j) - (k) | <u>-</u> | _____ | _____ |
| m. Is Hot Water Supply Adequate: | <u>-</u> | _____ | _____ |
| n. Insulation Thickness | <u>-</u> | _____ | _____ |
| o. Insulation Material | <u>-</u> | _____ | _____ |

LOCATION FHL
BLDG. NO. 321

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS ENCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

4.2.1 Interior Lighting

LIGHTING

LOCATION

FR

BLDG.

301

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS			FINISH			WINDOW CODE	REMARKS (LIGHTS/SWITCH)		
													C	E	I	L	I	N			G	C
4	TR	F37	4	18							36	9										
	VMUT.	F34	6	1							80											
	R	F34	4	4																		
	P	F34	2	8																		
	R	F37	4	2																		
	R	F37	2	1																		
	EXITS	FOTS	2	3																		
	EXTERNAL	MV LOG	1	6																		
TOTAL BUILDING LIGHTING ENERGY																						

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store
 Other (describe on audit form)
 E = Exterior

4.2.1 Interior Lighting

LIGHTING

LOCATION

PK

BLDG.

201

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOM CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L L I N G	W A L L	C E I L L I N G	W A L L			
1	R	F34	4	13							25	9'							
1	R	F34	6	1															
4	R	F34	4	2															
4	R	F34	4	6															
4	R	F34	4	6															
4	R	F34	4	4															
4	R	F34	4	40															
12	R	F34	4	6															
12	S	F34	2	3															
1	R	F34	4	6															
4	R	F34	4	20															
TOTAL BUILDING LIGHTING ENERGY																			

4EN

1200
5400

LIGHTING LEGEND:

Fixture Types:
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe

Lamp Types:
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe

Window Code:
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS

Tasks Code:
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

LOCATION Flr
 BLDG. NO. 301

4.2 LIGHTING (continued)

4.2.2 Exterior Lighting

ACTUAL NO. OF FIXTURES	TYPE OF FIXTURE	NO. OF FIXTURES IN USE	WATTS/FIXTURE	TOTAL WATTS	CONTROL TYPE*	REMARKS
<u>6</u>	<u>S</u>	<u>6</u>	<u>100</u>	<u>600</u>		

* M = Manual T = Timer P = Photocell Enter schedule under Remarks.

CALCULATIONS

WATTS OF INTERIOR LIGHTING

Actual at time of survey _____

Total installed NA _____

WATTS OF EXTERIOR LIGHTING

Actual on at time of survey _____

Total installed _____

LOCATION Etc
BLDG. NO. 301

4.3 POWER USAGE SURVEY

4.3.1 CRITICAL LOAD (Computer, Communications)

Describe: COMPUTER ROOM

4.3.2 RECEPTACLES IN USE 80 PERCENT

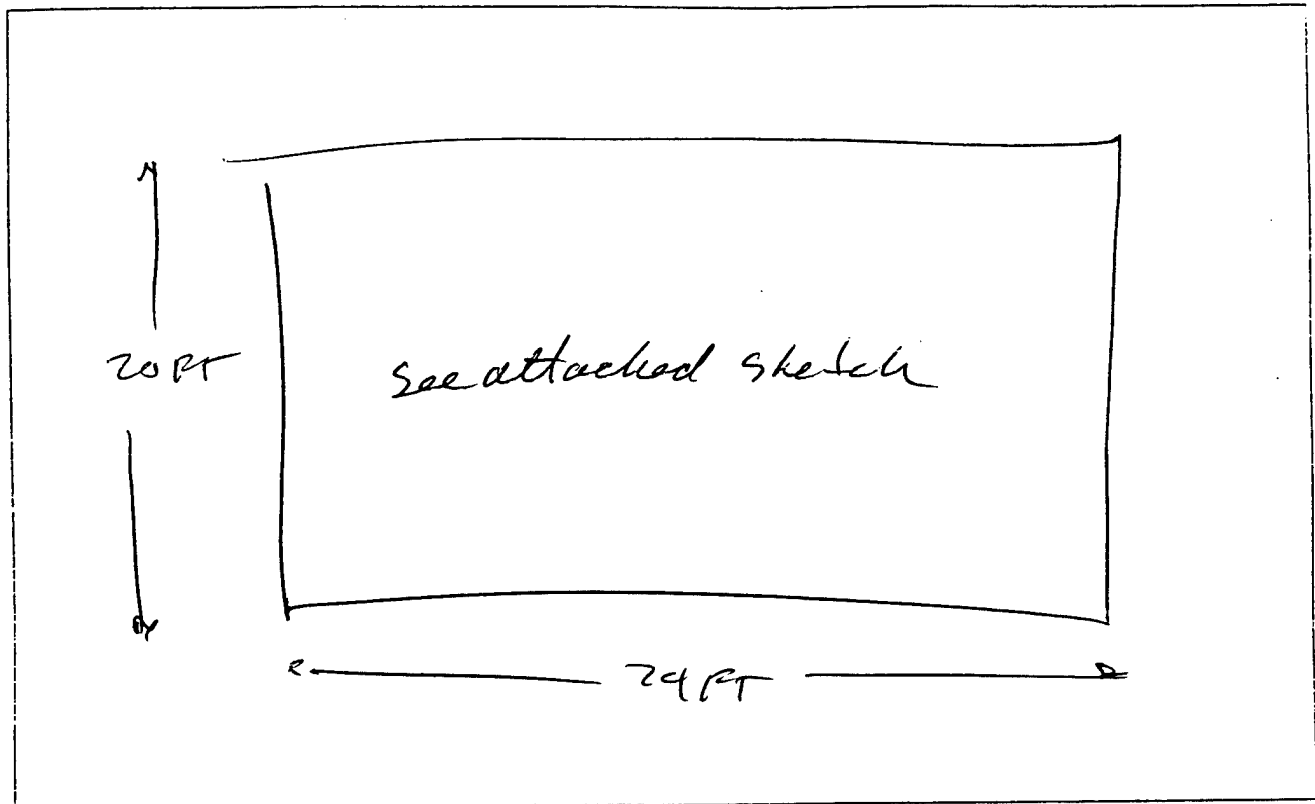
4.3.3 SMALL APPLIANCES IN USE (ENTER COUNT)

- Water Cooler _____
- Vending Machine _____
- Space Heater _____
- Coffee Pot _____
- TV _____
- XEROX _____
- Other:

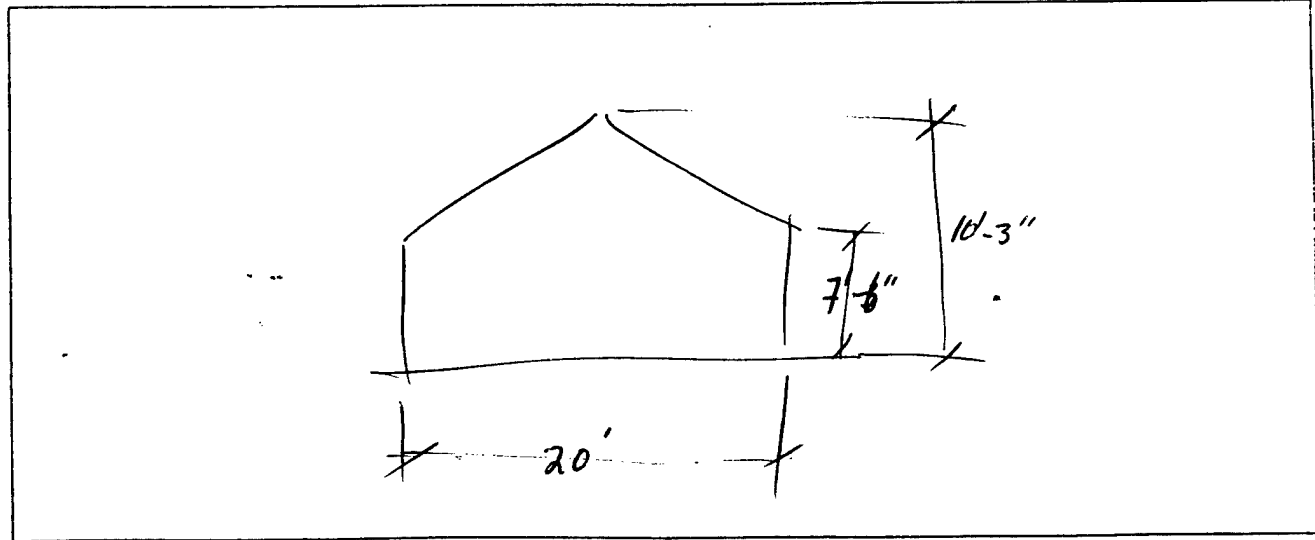
OFFICE EQUIP

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)

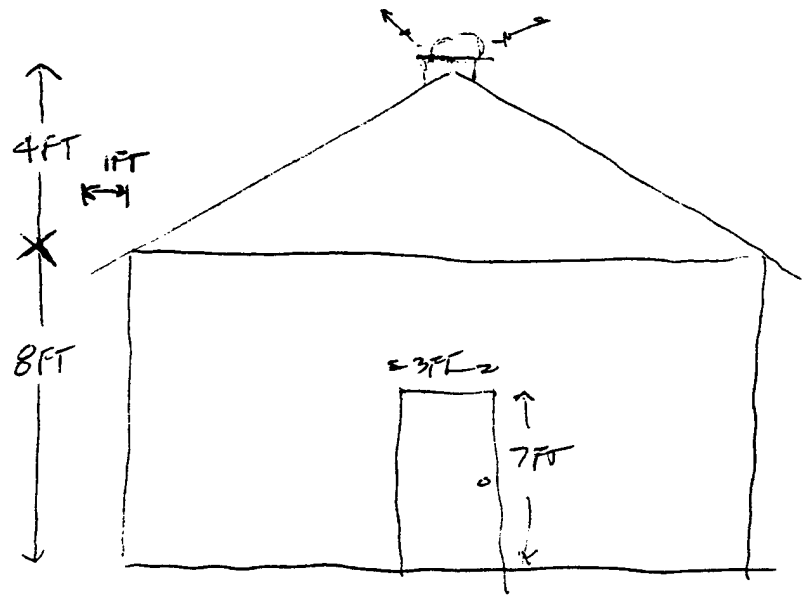
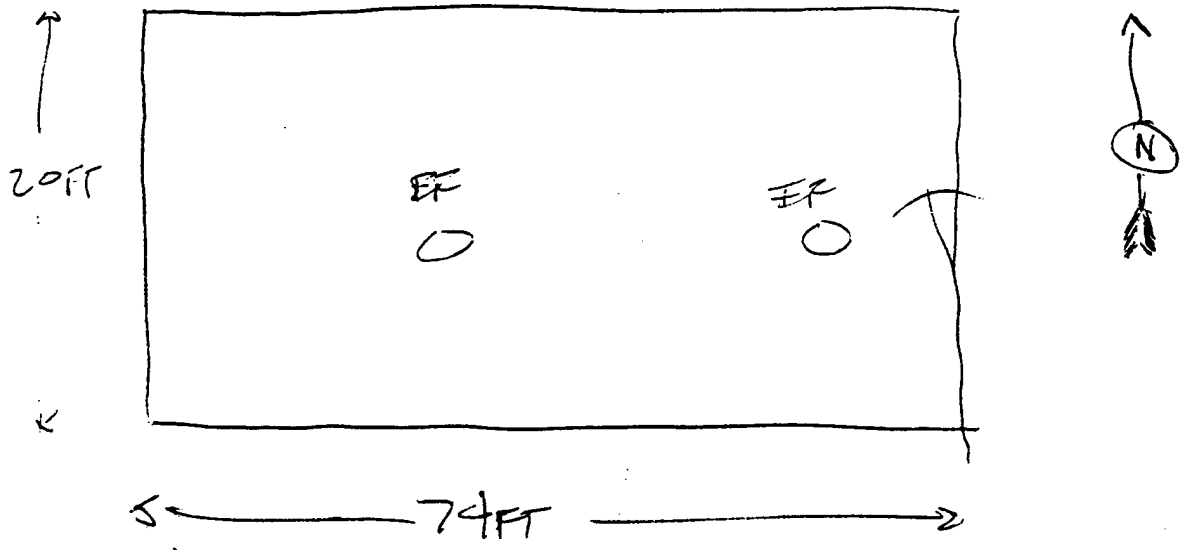


SOUTH ELEVATION (Show floor to ceiling elevations)



CORROUGATED STEEL SHED

BLDG 325



2.4 BUILDING ENVELOPE

LOCATION Fin
BLDG. NO. 325

CONSTRUCTION

WALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Corr Metal</i>		<i>0</i>
INSIDE FILM		

TOTAL

U-FACTOR AREA

ROOF (INCL. CLG.) TYPE: F P
COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>Corr Metal</i>		<i>0</i>
INSIDE FILM		

TOTAL

U-FACTOR AREA

FLOOR 30A

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		

TOTAL

U-FACTOR AREA

DOOR wood

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
<i>wood</i>	<i>1 5/8</i>	
INSIDE FILM		

TOTAL

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

3.1 HEATING EQUIPMENT

no heating equip

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

Capacity: _____ Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: _____ Model No.: _____

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) _____

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____
Weekdays & Holidays: From _____ To _____ Hr/Day _____
Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____
Mfg. _____ Model _____ HP _____ RPM _____
HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): _____

3.2 COOLING EQUIPMENT

COMPRESSOR(S)/CHILLER

Manufacturer	_____	_____
Model No.	_____	_____
Size	_____	_____
Refrigerant	_____	_____
Motor HP (if available)	_____	_____
Motor Voltage	_____	_____
Motor FLA	_____	_____
Measured Amps	_____	_____

CONDENSER/CONDENSING UNIT

Water Cooled	_____	_____
Air Cooled	_____	_____
Evaporative	_____	_____
Manufacturer	_____	_____
Model No.	_____	_____
Size	_____	_____
Type of Fan	_____	_____
Fan Motor HP	_____	_____
Fan Motor Voltage	_____	_____
Fan Motor FLA	_____	_____
Measured Amps	_____	_____

COOLING TOWER

Gravity	_____	_____
Mech. Draft	_____	_____
Manufacturer	_____	_____
Model No.	_____	_____
Type of Fan	_____	_____
Fan RPM	_____	_____
Fan Motor HP	_____	_____
Fan Motor Voltage	_____	_____
Fan Motor FLA	_____	_____
Measured Amps	_____	_____

CHILLED WATER PUMPS (If more than one, how many operative during normal operation: _____)

Manufacturer	_____	_____
Model No.	_____	_____
Capacity Gals.	_____	_____
Head, Ft.	_____	_____
Motor HP	_____	_____
Motor Voltage	_____	_____
Motor FLA	_____	_____
Measured Amps	_____	_____

CONDENSER WATER PUMPS (If more than one, how many operate on normal operation: _____)

Manufacturer	_____	_____
Model No.	_____	_____
Capacity, Gals.	_____	_____
Head, Ft.	_____	_____
Motor HP	_____	_____
Motor Voltage	_____	_____
Motor FLA	_____	_____
Measured Amps	_____	_____

REMARKS: Evaporative Cooler 42x36x42 high.
Water not connected

3.3 AIR HANDLING EQUIPMENT

LOCATION F7A
 BLDG. NO. 325

FANS

Type	<u>Exhaust - Roof - Ventilators</u>		
Unit/Zone	# _____	# _____	# _____
Manufacturer	<u>NA</u>		
Model No.	<u>NA</u>		
Type	<u>Propeller</u>		
RPM of Fan	_____	_____	_____
Motor HP	<u>1/12</u>	<u>1/12</u>	_____
Motor Volts	<u>120</u>	<u>120</u>	_____
Motor FLA	_____	_____	_____
Measured Amps	_____	_____	_____
CFM (from Plans)	_____	_____	_____
Notes	_____	_____	_____

COILS

Indicate capacities where found:

COOLING	HUMIDIFICATION
DX _____	ELEC _____
H ₂ O _____	STEAM _____
OTHER _____	H ₂ O _____
HEATING	OTHER _____
GAS _____	AUX/MISC OTHER _____
H ₂ O _____	_____
ELEC _____	_____
OTHER _____	_____

FILTERS

Type	_____	_____	_____
Condition	_____	_____	_____
Manometer Reading 1/	_____	_____	_____

1/ Record only if manometer is installed on the unit.

3.4 DOMESTIC HOT WATER HEATING SYSTEM/EQUIPMENT None

- a. Is System Supported from (check one):
 Central Plant One System per Building
 Several Small Systems per Building
- b. Domestic Hot Water Temperatures provided: _____ °F _____ °F
- c. Average Pipe Sizes of All HW Piping and Approximate Run of Each:

- d. Is Piping System Insulated and Condition: _____
- e. Is Hot Water Circulated? _____
 - 1) Condition of circulator _____
 - 2) Circulator capacity _____
 - 3) Is aquastat provided? _____
 - 4) Aquastat temperature setting _____

DOMESTIC HOT WATER HEATING EQUIPMENT (If more than one location, list each one)

- a. Location _____
- b. Areas Served _____
- c. Manufacturer and Model _____
- d. Energy (Oil, Gas, Electric, Coal, Etc.) _____
- e. Type Heaters & Quantities:
 - 1) Storage _____
 - 2) Instantaneous _____
 - 3) Semi-Instantaneous _____
- f. Heater Size and Storage Capacity _____
- g. Heating Capacity _____
- h. Type Controls (Air, Steam, Electric) _____
- i. When Installed & Condition _____
- j. Heater Temperature Setting _____
- k. Average Water Maintained Temperature _____
- l. Temperature Differential (j) - (k) _____
- m. Is Hot Water Supply Adequate: _____
- n. Insulation Thickness _____
- o. Insulation Material _____ Type _____

LOCATION Fin
BLOG. NO. 325

3.5 CONTROL/MISCELLANEOUS PROCESS/SKETCHES *None*

CONTROL SYSTEM:

CONTROLLERS: ELECTRIC PNEUMATIC
 ELECTRONIC

OPERATION: MANUAL TIME CLOCK
 CONTINUOUS EMCS
 DEMAND

MFG _____ MODEL _____ LOCATION _____

CONDITION (GIVE DETAILED LIST OF PROBLEMS AS REQUIRED):

4.2.1 Interior Lighting

300

BLDG.

LOCATION 17h

LIGHTING

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ. FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C E I L I N G	W A L L	C E I L I N G	W A L L			
12	P	F 34	2	2															
12	P	F 75 TRM	2	2															
12	P	F 34	3	3															
12	P	I 75	3	3															
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

- Fixture Types:
- R = Recessed
 - S = Suspended
 - V = Ventilated
 - PM = Pole Mounted
 - Other--Describe
- Lamp Types:
- I = Incandescent
 - F = Fluorescent
 - SV = Sodium Vapor
 - MV = Mercury Vapor
 - MH = Metal Halide
 - Other--Describe
- Window Code:
- If there are windows, indicate:
- C = Curtains
 - S = Shades
 - NS = No Shading
- Tasks Code:
- 6 = Offices-drafting
 - 7 = Laundry
 - 8 = Toilets
 - 9 = Sleeping quarters
 - 10 = Supply rooms
 - 11 = Repair shops
 - 12 = Storage room
 - 13 = Retail store
 - Other (describe on audit form)
 - E = Exterior

2.1 ARCHITECTURE - MISCELLANEOUS

LOCATION FAL SURVEYED BY RIH/RTB DATE 10/5/92

BUILDING NUMBER 2201 FUNCTION/USE CONTROL TOWER

INFORMATION SOURCE (DWG. NO./PERSON) SURVEY + DWGS

GENERAL BUILDING DATA

BUILDING AGE: _____ YEARS

DUPLICATE BUILDING NOS: NONE

TOTAL: _____

SIMILAR BUILDING NOS: _____

TOTAL: _____

BUILDING OCCUPANCY: CONTINUOUS (24 HRS/DAY)

NO. OF OCCUPANTS 2

Indicate (number and) duration of occupants each day

IN USE DURING RANGE OPERATIONS ONLY

M																						
T																						
W																						
T																						
F																						
S																						
S																						
	0	2	4	6	8	10	12	14	16	18	20	22	24									

MISCELLANEOUS EQUIPMENT: _____

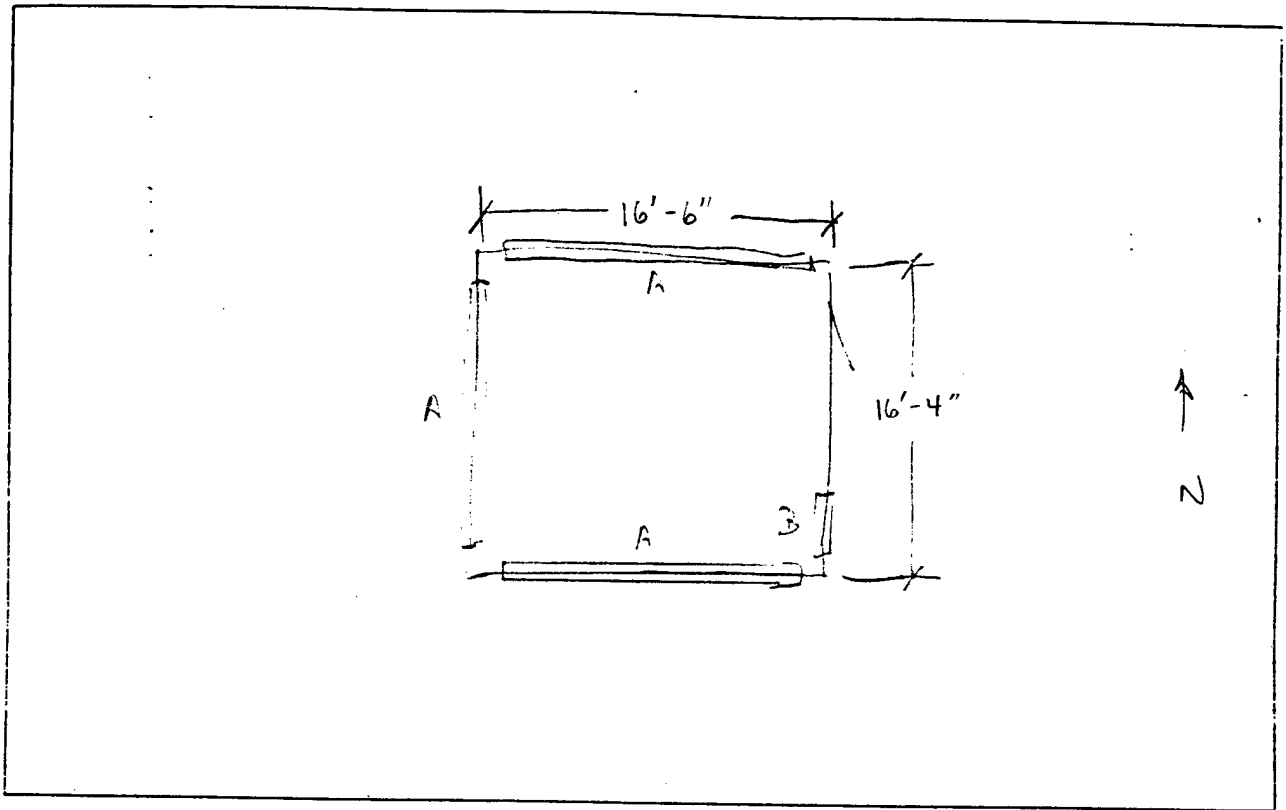
ADDITIONAL COMMENTS, CRITICAL LOADS: _____

CRAWL SPACE: VENTILATED EXHAUSTED N/A

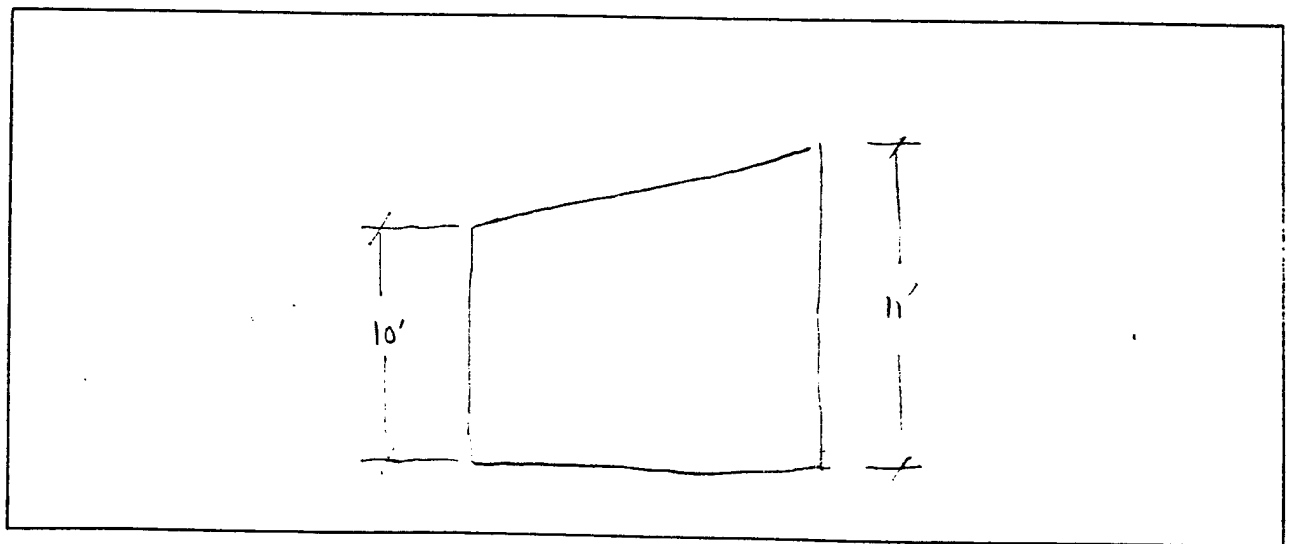
ATTIC: VENTILATED EXHAUSTED N/A

2.2 BUILDING FLOOR PLAN AND ELEVATION SKETCHES

FLOOR PLAN (Show dimensions and zones)



SOUTH ELEVATION (Show floor to ceiling elevations)



2.4 BUILDING ENVELOPE

LOCATION FHL
 BLDG. NO. 220

CONSTRUCTION

WALL ALL COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
ALUMINUM SIDING		
3" FOAM INSULATION		
ALUM. SIDING		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

FLOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

BUILDING SKIRTING MATERIAL

ROOF (INCL. CLG.)

TYPE: F P
 COLOR: D M L

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
ALUM SIDING		
3" FOAM INSUL		
ALUM. SIDING		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

DOOR

MATERIAL	THICKNESS (IN.)	R VALUE
OUTSIDE FILM		
INSIDE FILM		
TOTAL		

U-FACTOR AREA

3.1 HEATING EQUIPMENT & COOLING

LOCATION FHL
BLDG. NO. 2201

Heat Source:

Furnace Steam Boiler Hot Water Boiler Heat Pump Supplied Steam or Hot Water (External Boiler Plant) Other _____

11,800 Btu/Hr - cooling 208V/1Ø/7.1A

Capacity: 11,600 Btu/Hr or _____ Boiler HP or _____ Lbs/Hr Steam or _____ GPM Hot Water

Manufacturer: ZONE AIR - ZMO, INC. Model No.: CSM3113SD

Boiler/Furnace Control: Manual Time Clock Demand EMCS O₂ Trim

Operating Temperature: _____ °F Operating Pressure: _____ PSI

Fuel: Nat. Gas Only Nat. Gas/ _____ Draft: Forced Induced
 Other (Specify) _____

Burner: Mfg. _____ Model No. _____ Metering Equipment: Yes No

Operating Schedule: Weekdays: From _____ To _____ Hr/Day _____

Weekdays & Holidays: From _____ To _____ Hr/Day _____

Operating Season: From _____ Mon/Day, to _____ Mon/Day

Flue Gas Temperature: _____ °F Receiver Tank Conditions: _____ PSIG _____ °F

If supplied Steam or Hot Water: Steam Pressure _____ PSI Hot Water Supply Temp. _____ °F Hot Water Return Temp. _____ °F

Insulation: (1) Boiler (2) Other (Specify) _____
Poor Area _____ FT² Poor Area _____ FT²
None Temp. _____ °F None Temp. _____ °F

Pump: No. of Pumps _____ V/PH/FLA _____ / _____ / _____

Mfg. _____ Model _____ HP _____ RPM _____

HW Pump Starter: HOA Reset P/B S/S Push Button Interlocked with Boiler? Yes No

FOR LARGE BOILERS (over 6,000 MBTUH): Combustion Control Mfg. _____ Model _____

Condensate Pumps/Hot Water Pumps: Mfg. _____ Model _____ HP _____

Boiler/Furnace Condition: _____

Describe _____

Occupant Discomfort (Evaluate): _____

4.2 Lighting
 4.2.1 Interior Lighting

LIGHTING LOCATION FAL BLDG. 22d

TASK CODE	FIXTURE TYPE	LAMP TYPE AND WATTS	LAMPS PER FIXTURE AND WATTS/FIXTURE	NUMBER OF FIXTURES	TOTAL WATTS	HOURS/DAY ON	DAYS/YEAR ON	LIGHTING ENERGY (KWH/YR)	FLOOR AREA SERVED (FT ²)	WATTS PER SQ.-FT. (W/FT ²)	MEASURED ILLUMINATION (FC)	CEILING HEIGHT (FT)	COLORS		FINISH		WINDOW CODE	REMARKS (LIGHTS/SWITCH)	
													C	E	C	F			E
4	Susp	F34	2/72	4															
	(SUSPENDED)																		
EXT	Susp	60T	1/60	3															
TOTAL BUILDING LIGHTING ENERGY																			

LIGHTING LEGEND:

- Fixture Types:**
 Recessed = R
 Suspended = S
 Ventilated = V
 Pole Mounted = PM
 Other--Describe
- Lamp Types:**
 Incandescent = I
 Fluorescent = F
 Sodium Vapor = SV
 Mercury Vapor = MV
 Metal Halide = MH
 Other--Describe
- Window Code:**
 If there are windows, indicate:
 Curtains = C
 Shades = S
 No Shading = NS
- Tasks Code:**
 1 = Corridors
 2 = Kitchens
 3 = Dining
 4 = Offices-general
 5 = Offices-bookkeeping (ledgers only)
 6 = Offices-drafting
 7 = Laundry
 8 = Toilets
 9 = Sleeping quarters
 10 = Supply rooms
 11 = Repair shops
 12 = Storage room
 13 = Retail store (PX, commissary)
 Other (describe on audit form)
 E = Exterior

APPENDIX G

**Energy Conservation Regulation
and
Engineering Technical Letters**

DEPARTMENT OF THE ARMY
HEADQUARTERS, 7TH INFANTRY DIVISION (LIGHT) AND FORT ORD
Fort Ord, California 93941-5000

Ft Ord Regulation
No. 11-2

30 OCT 1985

Army Programs
ENERGY CONSERVATION MANAGEMENT

1. PURPOSE. This regulation updates, adds, and describes policies, procedures, and responsibilities for the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Program. This regulation additionally supplements AR 11-27, Army Energy Program, 7 July 1985.

2. APPLICABILITY. This regulation applies to all elements of the 7th Infantry Division (Light) and Fort Ord Base Complex including all Government-owned contractor-operated (GOCO) activities and leased facilities. The regulation applies to the administrative and other non medical areas of hospitals and medical facilities where practicable.

3. REFERENCES.

- a. AR 11-27, Army Energy Program.
- b. AR 420-49, Heating, Energy Selection and Fuel Storage, Distribution, and Dispensing Systems.
- c. AR 190-11, Physical Security of Arms, Ammunition and Explosives.
- d. AR 200-1, Environmental Protection and Enhancement.
- e. Army Facilities Energy Plan.
- f. Fort Ord Regulation 420-1.
- g. Fort Ord Base Complex Comprehensive Energy Plan.
- h. DA Pamphlet 210-2, Handbook for Family Housing Occupants.
- i. Fort Ord Addendum to DA Pam 210-2.

4. DEFINITIONS.

a. Energy. The term "energy" as used herein encompasses all forms and sources, including renewable and nonrenewable, of energy.

b. Mobile fuels: All forms of energy sources/fuels used in combustion engine equipment, to include portable TOE generators, wheel and track vehicles, heavy equipment and all types of aircraft and marine equipment.

* This regulation supersedes Fort Ord Regulation 11-2, 26 Apr 79, and all changes.

30 OCT 1985

c. Facilities energy. All forms of energy sources/fuels used in the provision of utilities services.

d. Nonrenewable energy source. Fuel oil, petroleum, natural gas, liquefied petroleum gas, synthetic fuels, coal, purchased steam or electricity, or other such energy sources.

e. Renewable energy source. Sunlight (solar), wind, geothermal, hydropower, biomass, solid wastes, or other such sources of energy.

f. Fort Ord Base Complex. All units and activities located at Fort Ord, Fort Hunter Liggett, Presidio of Monterey, including tenant units and activities, Army Reserve Centers and units, and activities satellited on Fort Ord or the subinstallations (FHL, POM) for support.

5. OBJECTIVES. To meet the objectives stated in the Army Energy Program AR 11-27 and the following:

a. To not only meet the energy goals established by FORSCOM and higher headquarters, but to consume less energy than allocated.

b. To continuously evaluate, analyze, and revise energy programs, policies, directives, operating procedures, and efforts to ensure that available energy resources are used efficiently and effectively in support of mission requirements.

c. To become the recognized leader in energy conservation in Forces Command.

d. Establish energy conservation as a priority Command interest program. As such, Commanders and supervisors at all levels are expected to impress on each individual, military and civilian, the importance of their contribution.

e. Promote energy awareness and achieve an environment in which each individual actively and willfully conserves energy and participates in the Program.

f. Recognize accomplishments of military and civilian personnel in energy conservation.

6. POLICY. The 7th Infantry Division (Light) and Fort Ord Base Complex energy policies are consistent with the Army Energy Program policies and are supplemented as follows:

a. Energy waste will not be tolerated and will be eliminated.

b. The energy conservation opportunities and measures provided in the appendices of the Army Facilities Energy Plan will be implemented in all facilities where applicable and appropriate.

c. Energy Conservation in no way: reduces the effectiveness of any organization, impairs the health and safety of any personnel, or lessens "quality of life" objectives. In fact, energy conservation efforts help improve each of these areas when properly managed.

d. The 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council will serve as the forum to formulate, coordinate, revise, and disseminate energy policy and actions.

7. RESPONSIBILITIES.

a. Commanding General, 7th Infantry Division (Light) & Fort Ord: Overall responsibility for the efficient management of energy resources of the 7th Infantry Division (Light) & Fort Ord Base Complex.

b. Assistant Division Commander (Maneuver).

1. Has direct responsibility for the efficient management of energy resources.

2. Presides as the chairman of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council; directs the activities of the Council; conducts Council meetings at least quarterly to review reports and recommendations, and evaluates the progress and effectiveness of energy conservation programs. Reviews progress toward meeting energy goals assigned by higher headquarters.

3. Directs and expedites staff actions on energy matters as necessary to enhance the effectiveness of energy conservation efforts and to make adjustments in policy as required to meet the energy goals assigned by higher headquarters.

c. Assistant Division Commander (Support): acts as deputy chairman of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council and is responsible for the overall supervision of the Energy Conservation Program. Staff responsibility will be exercised through the Energy Coordinator in coordination with principal staff personnel.

d. Energy Coordinator.

(1) Manages the DEH, Energy Management Branch.

(2) Responsible for the administrative duties of directing the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Program.

(3) Coordinates facility, mobility, and research and development energy matters.

(4) Serves as single POC on all energy related matters for the Command and higher headquarters.

- (5) Develops and maintains active command energy program.
- (6) Writes regulations to implement policy and controls established for effective energy conservation management as directed by higher authority and the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.
- (7) Actively promotes Command and family housing community energy awareness.
- (8) Actively participates in the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.
- (9) Develops and maintains the Complex comprehensive energy plan (facility energy and mobility fuels) with input provided by DOL.
- (10) Develops and maintains an active energy information program.
- (11) Develops and maintains accurate and timely energy management information programs. The Defense Energy Information System (DEIS) reports are the foundation of the program.
- (12) Maintains liaison and cooperation with local representatives of Federal, State, and other local energy offices.
- (13) Develops and recommends energy conservation projects.
- (14) Coordinates energy conservation matters with the FORSCOM energy office.
- (15) Maintains liaison on energy matters with the Corps of Engineers and other MACOMS as appropriate.
- (16) Maintains communications with contractor's energy offices.
- (17) Reviews commercial activities (CA) work statement to ensure contractor participation in energy conservation.
- (18) In conjunction with government contracting personnel, ensures that operational organizations placed under the CA work statement have responsibility to physically develop methods/projects for the conservation of energy.
- (19) The above responsibilities will not usurp the functional and technical responsibilities of the facility engineering, supply, financial, or industrial operations activities.
- (20) Manages other energy conservation related functions as may be specified in Fort Ord Regulation 420-1.
- (21) Provides support to units/activities upon request for energy

inspections, energy SOP development, Energy Conservation Officer training, and energy conservation opportunity/measure implementation.

e. Director of Engineering and Housing (DEH).

(1) Maintains and actively supports the Energy Management Branch. Staffs the Branch with full-time personnel. The Chief of this Branch is the Energy Coordinator for the 7th Infantry Division (Light) and Fort Ord Base Complex.

(2) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(3) Assigns facility energy goals for each subinstallation (FHL and POM) and Army Reserve Center attached for support purposes based on: active facility area (sq. ft.) and expected increases, environmental conditions, energy goals assigned to the Complex by higher headquarters, and other energy engineering considerations.

(4) Ensures efficient operation of existing utilities, plants, systems; and develops construction and modification projects for facilities to employ conservation principles. Provides guidance and recommendations on the efficient use of facility energy.

(5) Performs continuous analysis of utilities and energy consuming operations to ensure efficient and economical use of equipment, energy, and materials. Reviews the electric, gas, and water consumption charges and rate schedules for accuracy.

(6) Develops and obtains data on status of utilities programs for reporting at conferences and developing graphical reports.

(7) Reviews, conducts, and supervises a Complex wide utilities conservation and facilities maintenance self-help program for all units and activities utilizing and occupying government owned facilities including BOQ'S. Includes family housing in the program as changes occur in the contractor scope of work that may leave energy conservation related tasks uncovered by the contract due to budget constraints.

(8) Monitors family housing utility usage where possible. Ensures all occupants are aware of their responsibilities under the Energy Program prior to occupation of quarters. Conducts housing area inspections for energy conservation violations such as leaving outside lights on during daylight hours and improper lawn watering. Impresses upon family housing residents the significance of their individual contribution and compliance with the Energy Program. Keeps family housing residents informed of energy conservation related matters.

(9) Keeps the Energy Coordinator informed of and actively involved in all activities and plans that involve energy use and conservation.

f. Director of Logistics.

(1) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) Ensures that the most energy efficient and cost effective processes and equipment are used in all operations.

(3) Identifies high energy consuming processes and coordinates energy efficiency improvements with the Energy Coordinator.

(4) Determines, in conjunction with the Energy Coordinator, possible and necessary modifications to reduce energy consumption and improve energy efficiency in plant operations.

(5) Takes necessary actions to schedule heavy energy (electrical) using devices for operation during off-peak hours whenever possible.

(6) In conjunction with the Energy Coordinator, develops Energy Conservation and Management (ECAM) projects for GOCO plants.

(7) Exercises overall supervision of the Mobility Fuel Conservation Program.

(8) Monitors and ensures compliance with the policies of the Mobility Fuel Conservation Program for the 7th Infantry Division (Light) and Fort Ord Base Complex in conjunction with ACofS G-3, G-4, and DPTM.

(9) Prepares and ensures the timely submission of the DEIS I report. Provides the Energy Coordinator with an information copy of the report.

(10) In conjunction with ACofS G-3, G-4, and DPTM, formulates goals, plans, and priorities as required for the allocation of mobility fuels to units and activities of the 7th Infantry Division (Light) and Fort Ord Base Complex.

(11) Provides assistance as required to the Energy Coordinator for development and implementation of Comprehensive Energy Plans (facility and mobility) for the Complex.

(12) Keeps the Energy Coordinator informed of and actively involved in activities and plans that involve energy use and conservation.

g. Director of Personnel and Community Activities (DPCA).

(1) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) Monitors energy usage by non appropriated and sundry fund activities.

(3) Ensures that energy consuming fund raising activities such as car washes are only approved for officially recognized charities.

(4) Ensures sound energy management is exhibited in all facilities such as the commissary and post exchanges, eg., space temperature, lighting, concessions.

(5) Ensures that energy saving products are made available for purchase at the post exchange.

(6) Provides support and necessary assistance to the DEH Energy Management Branch for Energy Awareness Week Activities.

(7) Keeps the Energy Coordinator informed of all activities and plans that involve energy consumption and conservation.

h. Director of Plans, Training and Mobilization (DPTM).

(1) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) In coordination with DOL/ACofS G-3, G-4, formulates goals, plans, and priorities as required for the allocation of mobility fuels for operations and training.

(3) Implements and monitors the Mobility Fuel Conservation Program as it pertains to operations and training.

(4) Keeps the Energy Coordinator and DOL informed of all activities and plans that involve energy consumption and conservation.

i. Assistant Chief of Staff (G-3).

(1) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) In coordination with DOL, DPTM, and ACofS G-4 formulates goals, plans, and priorities as required for the allocation of mobility fuels for operations and training.

(3) In conjunction with DPTM, implements and monitors the Mobility Fuel Conservation Program as it pertains to operations and training.

(4) Keeps the Energy Coordinator and DOL informed of all activities and plans that involve energy consumption and conservation.

j. Assistant Chief of Staff (G-4).

(1) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) In coordination with DOL, DPTM, and ACoFS G-3 formulates goals, plans, and priorities as required for the allocation of mobility fuels to units and activities of the 7th Infantry Division (Light) and Fort Ord Base Complex.

(3) In conjunction with DOL implements and monitors divisional and non-divisional POL consumption and the Mobility Fuel Conservation Program.

(4) Checks for compliance with energy conservation policies of this and referenced regulations and energy plans when inspecting dining facilities.

(5) Keeps the Energy Coordinator, DEH, and DOL informed of all activities and plans that involve energy consumption and conservation.

k. Garrison Commanders Fort Hunter Liggett and Presidio of Monterey.

(1) Serve as members of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) Establish Energy Conservation Programs and Energy Councils for FHL and POM consistent with and based on policies and guidance in this regulation. This regulation may be supplemented on those subinstallations in lieu of developing separate Energy Programs.

(3) Directly responsible for meeting assigned energy goals established for POM/FHL and as such will serve as chairmen of their respective subinstallation energy councils.

(4) Keep the Energy Coordinator and DEH (Fort Ord) informed of activities and plans that involve energy consumption and conservation.

l. Public Affairs Office (PAO).

(1) The PAO will serve as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) Supports the energy conservation program and energy awareness efforts by the use of all available media in order to educate personnel on energy matters and stimulate active support.

(3) Ensures that energy awareness articles are given priority and provided a place of prominence in newspapers and publications.

(4) Provides media coverage of the annual Energy Awareness Week activities.

(5) In conjunction with DPCA, assists the Energy Coordinator in planning and developing annual Energy Awareness Week activities.

m. Provost Marshal.

(1) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) Assists in the implementation of energy conservation measures when safety and security requirements may be affected.

(3) Assists in the enforcement of the directives of this regulation where applicable in cooperation with the Energy Coordinator and other members of the Energy Council. Special attention will be given to lighting, watering, and electric space heater violations.

n. Civilian Personnel Officer (CPO).

(1) Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

(2) Recognizes units/activities and individuals for outstanding achievements in energy conservation.

(3) Will develop and implement a Facilities Energy Conservation Excellence Incentive Award Program for units and activities with input provided by DEH.

o. Adjutant General will ensure that energy conservation articles are published in official publications, periodicals, and bulletins, and serve as a member of the Energy Council.

p. 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council members will:

(1) Meet with the chairman upon notification. (See Appendix A for membership).

(2) Appoint an Energy Conservation Officer (ECO) on DF (DA Form 2496) for each level of command down to and including the brigade and battalion level. Brigade and battalion Commanders may at their discretion require the appointment of ECOs at the company, battery, or troop level. Other personnel may be additionally assigned at the division level, directorates, activities, tenant organizations and activities, and Offices to assist in carrying out the program. Each member of the Energy Council will appoint at least one Energy Conservation Officer in writing to carry out the duties of the Energy Conservation Officer as specified in this regulation. Senior NCOs (E-7 through E-9) may be appointed as ECO at the company, troop, battery level. Civilian employees may be appointed as ECO at the directorates, Offices, and other organizations when the Director, Office Chief, or Commander deems the appointment appropriate. A copy of all the ECO appointing authority DFs will be forwarded to Chief, ERMD, AFZW-DE-RM, ATTN: Energy Management Branch.

(3) Personally support, monitor, and ensure compliance with the energy conservation program and directives.

q. Energy Conservation Officers will:

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Profr → (1) Publish an energy conservation SOP for the Command, battalion, company, troop, battery, or other organization assigned and forward a copy through command channels to Chief, ERMD, AFZW-DE-RM, ATTN: Energy Coordinator. The energy conservation SOP will not be a restatement of this regulation or AR 11-27, but will assign specific responsibilities and duties to various personnel within the organization for which it is applicable. For example, the unit may have a motor pool that has authorized security lights that are manually controlled. The SOP will specifically address when the lights may be turned on and off and who will do it each day, including weekends.

(2) Attend energy conservation training classes. See Fort Ord Reg 420-1.

(3) Company, troop, and battery level ECOs, and ECOs of other organizations specified by Commanders, will conduct monthly inspections of assigned buildings and areas. All other organizational level ECOs will conduct inspections at least quarterly of all units, buildings, and areas.

(4) Appoint Energy Conservation Monitors for each building/area assigned. Provide training for appointed Monitors.

(5) Take immediate action to implement the energy conservation opportunities and measures provided in the appendices A and C and no/low cost portion of appendix B of the Army Facilities Energy Plan. Maintain records showing implementation progress.

(6) Take immediate action to correct discrepancies discovered during inspections. Ensure records are maintained describing completed work/progress or action taken to complete work.

(7) Take immediate action/provide direction and guidance to correct discrepancies discovered by Energy Conservation Monitors. Maintain records describing completed work/progress or action taken to correct discrepancies.

(8) Request inspection assistance once each quarter from Chief, ERMD, AFZW-DE-RM, ATTN: Energy Management Branch by DF (DA Form 2496). Requests are to be forwarded enough in advance to allow two weeks notice.

(9) Maintain liaison with the DEH Energy Management Branch. Request assistance from the Branch as required to: implement energy conservation opportunities and measures, prepare energy conservation SOP, conduct inspections (quarterly), clarify energy related policies/directives.

(10) Serve as the single POC for Energy Conservation Monitors in reporting space temperature complaints or other energy related problems/recommendations. The Energy Conservation Officer is the only authorized person (except the alternate in his absence) to request assistance from the DEH to correct energy related problems (particularly heating).

r. Energy Conservation Monitors will:

(1) Conduct daily, weekly, and monthly inspections as specified by Fort Ord Regulation 420-1 and as may be directed by the Energy Conservation Officer.

(2) In conjunction with the Energy Conservation Officer, ensure that all building occupants are aware of their responsibilities and that occupant cooperation and assistance is essential.

(3) Forward a copy of the Building Energy Conservation Monitor Checklist to the Energy Conservation Officer at the end of each month. (See FO Reg 420-1).

(4) Notify the Energy Conservation Officer immediately of any energy related problems that require immediate attention/resolution as specified in the energy conservation SOP.

(5) Inform all building occupants that the Energy Conservation Monitor (Energy Conservation Officer in the absence of the Monitor) is the single POC for energy related problems/complaints/recommendations.

(6) Place a mercury thermometer in each normally occupied space that is authorized heating and cooling (when applicable). Indicate on the thermometer or on a 3X5 card (placed next to the thermometer) the maximum heating temperature (and the minimum cooling temperature for Fort Hunter Liggett).

s. Family Housing Mayors (Fort Ord) will:

(1) Maintain liaison with the DEH Energy Management Branch.

(2) Assist the DEH Energy Management Branch with energy awareness and education activities/actions for family housing occupants.

(3) Provide assistance to the DEH Energy Management Branch in energy conservation incentive efforts.

(4) Establish a Family Housing Energy Council and elect a family housing mayor to serve as the chairman of the Family Housing Energy Council and as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

t. Director Health Services and Director Dental Services will develop Energy Conservation Programs, regulations, and directives for all medical and dental facilities; will appoint an Energy Conservation POC for their respective Commands and forward a copy of the appointment correspondence to Chief, ERMD, AFZW-DE-RM, ATTN: Energy Management Branch.

u. Inspector General (IG) makes energy conservation a matter of special interest during inspections. Serves as a member of the 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council.

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The proponent of this regulation is Directorate of Engineering and Housing. Users are invited to send comments or suggestion changes to Commander, 7th Infantry Division and Fort Ord, ATTN: AFZW-DE-RM, Ft Ord, CA 93941-5777

FOR THE COMMANDER:



JAMES B. BYRNES
Colonel, GS
Chief of Staff

KENT R. SCHNEIDER
MAJ, SC
Director of Information Management

APPENDICES:

- A - 7th Infantry Division (Light) and Fort Ord Base Complex Energy Council
- B - Heat Conservation Guidance and Space Heating Temperature Standards
- C - Domestic Hot Water
- D - Electrical Energy Conservation Directives
- E - Water Conservation Directives
- F - Building Space Utilization and Survey
- G - Miscellaneous Procedures
- H - Energy Conservation Contingency Actions

DISTRIBUTION:

A plus AFZW-DE-RM (10)
AFZW-DI-PO (10)
AFZW-MI-AP (200)

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Fort Ord Reg 11-2

APPENDIX A - 7TH INFANTRY DIVISION (LIGHT) AND FORT ORD
BASE COMPLEX ENERGY COUNCIL

1. PURPOSE. Serve as a forum to formulate, coordinate, and disseminate energy policy and actions.
2. MEMBERSHIP. The membership of the Energy Council will consist of the following:
 - a. ADC(M), 7TH INF DIV - Chairman
 - b. ADC(S), 7TH INF DIV - Deputy Chairman
 - c. Gar Cdr, Fort Ord
 - d. DEH, Energy Coordinator
 - e. DEH, Ft Ord
 - f. DOL, Ft Ord
 - g. DPCA, Ft Ord
 - h. DPTM, Ft Ord
 - i. Chief of Staff
 - j. Gar Cdr, FHL
 - k. Gar Cdr, POM
 - l. ACofS, G-3
 - m. ACofS, G-4
 - n. PAO
 - o. Provost Marshal
 - p. DRM
 - q. Adjutant General
 - r. CPO
 - s. Chairman, Family Housing Energy Council, Ft Ord
 - t. Cdr, 1st Bde, 7TH INF DIV
 - u. Cdr, 2nd Bde, 7TH INF DIV
 - v. Cdr, 3rd Bde, 7TH INF DIV
 - w. Cdr, Bayonet Combat Support Bde, 7TH INF DIV
 - x. Cdr, DIVARTY, 7TH INF DIV
 - y. Cdr, DISCOM, 7TH INF DIV
 - z. CMDT, DLI
 - aa. Cdr, 1/51st ADA BN, 7TH INF DIV
 - bb. Cdr, 13th ENGR BN, 7TH INF DIV
 - cc. Cdr, CBT AVN Bde
 - dd. Cdr, 7/7TH ADA Bn
 - ee. Cdr, 2/10th RECON. SQDN
 - ff. Cdr, 107 MI BN (CEWI), 7TH INF DIV
 - gg. Cdr, 127th SIGNAL BN, 7TH INF DIV
 - hh. Cdr, P&A BN
 - ii. Cdr, HHC, 7TH INF DIV
 - jj. DRCS, Ft Ord
 - kk. Cdr, IASO
 - ll. DOIM, Ft Ord
 - mm. DHS, Ft Ord
 - nn. DDS, Ft Ord
 - oo. Dir. CDEC
 - pp. IG, Ft Ord
 - qq. Post Chaplain
 - rr. Cdr, USAIC SATCOM Camp Roberts, CA

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3. RESPONSIBILITIES.

a. Assist the Commanding General, 7th Infantry Division (Light) and Fort Ord meet the objectives of the Army Energy Program AR 11-27 and the additional objectives specified in this regulation.

b. Review guidance and directives from higher headquarters, relating to energy, and keep abreast of all changes.

c. Review existing and proposed changes to the 7th Infantry Division (Light) and Fort Ord Base Complex energy regulations, policies, directives, and energy plans to ensure that they are in consonance with the energy guidance and directives from higher headquarters.

d. Develop and recommend initiatives, incentives, and additional actions for consideration to improve the energy program.

e. Personally promote energy awareness in areas of responsibility and ensure compliance with existing energy policy and directives.

f. Recognize accomplishments of Army personnel as they pertain to energy conservation.

g. Participate in contingency planning for actions to be taken in the event of an energy supply interruption or curtailment.

APPENDIX B - HEAT CONSERVATION GUIDANCE AND
SPACE HEATING TEMPERATURE STANDARDS

1. BUILDING TEMPERATURE - NON FAMILY HOUSING. A majority of the building heating systems are controlled automatically and no manual adjustment is required. Adjustments to automatic systems will be made by DEH.

a. All building occupants will refer building space temperature complaints to the appointed Energy Conservation Monitor. The Energy Conservation Monitor will refer valid temperature complaints to the Energy Conservation Officer (or to the appointed alternate in his absence). The Energy Conservation Officer (ECO) is the only authorized person to refer space temperature complaints to DEH.

b. Valid space temperature complaints will be referred by the ECO to the DEH Work Management Branch, ext 7664 for buildings not controlled by the energy monitoring control system (EMCS). EMCS controlled building space temperature complaints will be referred to the DEH Energy Management Branch, ext 4503 by the ECO.

c. Energy Conservation Monitors will check the space temperature in the assigned building daily. The temperature in any area shall not exceed the temperature outlined below during the heating season. The monitor will adjust manual thermostats to lower the temperature when possible. The monitor will contact the ECO and inform him immediately when the temperature can not be lowered due to automatic or manual control malfunction.

d. Except for hospitals, other medical and dental facilities, child care centers, pre-schools, and special requirement areas that have been authorized an exception in writing by DEH, buildings will not be heated when the outside air temperature is 65 degrees F or above. The following are the maximum authorized heating temperatures and must not be exceeded:

(1) 65 degrees F. Living quarters when occupied and occupants are awake, dining facilities, administrative areas, offices, chapels, PX buildings, commissaries, theaters, locker rooms, and shower areas in gymnasiums, and similar areas involving little or no physical exercise. The temperature in these areas shall be reduced to 55 degrees F during non-working hours, periods when not normally occupied, and hours when occupants are sleeping.

(2) 60 degrees F. Supply and issue rooms and similar areas.

(3) 55 degrees F. Shops, hangars, gymnasiums, motor pools, and other buildings or sections of buildings, where many employees work in a standing position and exercise moderately.

(4) 40 degrees F. Shops, warehouses, and similar areas, where personnel do work involving considerable exercise such as heavy packing, crating, and stacking; or where the building is normally unoccupied, but heat is required to protect material and installed equipment from freezing. Heat will not be permitted in warehouse sections which do not contain material or equipment requiring protection from freezing or condensation

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and where warehousing of stored goods is the only operation. Heat for prevention of condensation on stored machinery and materials will be supplied only after a thorough survey of all conditions and the approval of FORSCOM.

- (5) 76 degrees F. Operating and delivery rooms.
- (6) 75 degrees F. Recovery rooms, nursery, and nursing units.
- (7) 80 degrees F. Intensive care, special care nursery, and special treatment rooms.
- (8) 70 degrees F. Other occupied medical areas.
- (9) Special purpose rooms such as paint shops and drying rooms may be allowed up to a maximum 80 degrees F when authorized in writing by DEH.

e. The operation of threshold heaters and portable heating devices is prohibited where the intent is to supplement central heating systems. They are also prohibited where the intent is to circumvent the heating standards outlined above. Electrical resistance heating is not authorized for personnel comfort. In rare instances or in an emergency, written permission to utilize heating equipment other than the central system may be obtained from DEH. In such instances, utilization of such heating equipment must allow the central system to be lowered or shut down and an overall energy consumption reduction can be achieved and proven. Electric heaters, when permitted, shall be Underwriter's Laboratories, Inc., labeled or listed and shall be of a type in which the electrical circuitry is automatically shut off in the event the unit is tipped over. Power supply cords and plugs shall be in good condition and the supply circuit shall be adequate for safe use. Unapproved heaters shall be considered contraband and will be confiscated by the Provost Marshal. A copy of the DF granting approval to use electric space heaters must be posted and available to Fire or Energy Inspectors, Provost Marshal personnel, and inspection parties at all times.

f. The heating system shall be shut down/turned to the lowest setting whenever windows or doors are opened. (See paragraph 2 below)

g. When sunlight is available during winter days, the drapes, blinds, and shades shall be opened on the sunny sides of buildings. The window coverings shall be closed when it is cloudy/overcast and at the end of each work day.

h. The Energy Conservation Officer will inform the DEH Energy Management Branch, ext 4503 anytime a building that is normally occupied and heated will be unoccupied for more than 72 hours.

i. Opening windows and doors shall not be used as a method of regulating heat. Rooms/buildings that cannot be maintained at or below the maximum authorized temperature shall be reported to the Energy Conservation Officer and DEH immediately.

j. Personnel who are responsible for ensuring compliance to the temperature standards should be encouraged to report violations.

2. VENTILATION - (NON-MEDICAL FACILITIES).

a. Ventilation of buildings during the heating season or when the outside temperature is less than 65 degrees F will be limited to that necessary for the health of occupants. Noticeable odors are good indicators of the need to ventilate spaces.

b. Ventilation of buildings will be closely monitored to prevent heating and air conditioning energy waste. The heating or air conditioning system must be shut off when the windows and doors of a building are opened for more than a couple of minutes to provide fresh air and ventilation. The Building Energy Monitor shall turn the thermostat to ensure the heater or air conditioner will not come on (eg. lowest setting during heating season and highest setting during air conditioning season). The Building Energy Monitor shall call the Energy Management Branch, ext 4503 to have the systems shut off by the Energy Monitoring Control System computer when applicable. Windows may be opened at anytime and for as long as desired providing the heating and air conditioning systems have been shut off.

c. Exhaust hoods in food preparation areas shall be used only while cooking operations are in progress. The air path in the exhaust duct shall be closed when a damper is provided and the fan is not in operation.

3. BUILDING TEMPERATURE - FAMILY HOUSING.

a. Family housing occupants will maintain indoor temperatures at a maximum 65 degrees F while awake. The thermostat shall be set to 55 degrees F before retiring in the evening.

b. Thermostats will be turned down to the lowest setting anytime the house will be unoccupied for more than 12 consecutive hours.

c. Windows near thermostats will be kept tightly closed.

d. The filter in forced air heating systems will be inspected each month by an adult resident when the filters are accessible or at least once each quarter by DEH when filters are not accessible to residents.

e. Portable space heaters of any type are strictly forbidden except as authorized and may be furnished by DEH in an emergency.

f. Thermostats will be turned to the lowest setting anytime the windows and doors are left open for more than a couple of minutes.

APPENDIX C - DOMESTIC HOT WATER

1. HOT WATER TEMPERATURES. Hot water heating equipment will be operated to provide water to the points of use at maximum temperatures shown below to include all hot water other than that used for space heating.

(a) 105 degrees F. General domestic uses, personal hygiene, or general cleaning will not exceed the maximum temperature at the destination, or it will not exceed the lowest setting on the hot water temperature control if the specified temperature cannot be achieved. Includes family housing units without automatic dishwashers.

(b) 140 degrees F. Automatic dishwashers in dining facilities or other food service areas. Includes family housing units equipped with automatic dishwashers.

(c) 180 degrees F. Final rinsing of dishes and kitchen utensils in dining facilities and other food service areas. Does not include family housing units.

2. HOT WATER SUPPLY. Hot water will not be supplied to the following areas: administrative areas (offices); retail areas, except for food service and handling areas; warehouses; light work shops; toilet rooms and other spaces that could function without hot water.

3. EXCEPTIONS. Except for the following, requests for exceptions to the hot water temperature and supply restrictions will be forwarded to Chief, ERMD, AFZW-DE-RM, ATTN: Energy Management Branch through the Director of Health Services.

a. Industrial and manufacturing processes.

b. Medical and food handling operations. Hot water temperatures required to meet health regulations are exempt.

c. Domestic hot water obtained wholly from solar energy and/or waste heat recovery processes.

4. Hot water heaters will be insulated with fiberglass insulation blankets unless the heaters are the "Energy Efficient" type that have the additional insulation built in.

5. Domestic hot water supply piping shall be insulated where readily accessible.

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APPENDIX D - ELECTRICAL ENERGY CONSERVATION DIRECTIVES

1. Electric heaters are prohibited for use in any building on the Fort Ord Base Complex except as noted in Appendix B. Electric hot water heaters are prohibited in all facilities except when there are no other alternative energy sources (utilities) available and an exception has been authorized by DEH in writing. Electric space heaters shall not be purchased or issued for use in any facility. Requests for purchase/issue to meet emergency requirements will be forwarded to DEH through Chief, ERMD, AFZW-DE-RM, ATTN: Energy Management Branch.
2. Refrigerators are prohibited for use in all facilities except dining facilities, family housing, barracks (BEQs/BOQs), commissaries, food retail areas, and authorized food storage and handling areas. Requests for exceptions to this policy shall be forwarded to the Garrison Commander through DEH. Exceptions may be authorized on a case-by-case basis for special situations or requirements such as storage of photographic film, chemicals, etc. Energy Conservation Officers will ensure that refrigerators are being fully utilized in barracks. In general, 2 cubic feet of refrigerator space per person should be maximum authorized in barracks (BEQs/BOQs).
3. Heat producing appliances used for cooking or heating food, except coffee pots, are prohibited for use in all areas except family housing, dining facilities, commissaries, and food retail sales areas. Requests for exceptions to this policy shall be forwarded to the Garrison Commander through DEH.
4. Controls, commensurate with the objectives of the energy program, will be established by the unit Commander or supervisor for electrical personal convenience items.
5. AIR CONDITIONING.
 - a. During the summer cooling season, space temperatures will not be held lower than 78 degrees F for personnel comfort.
 - b. Will not be turned on when the outside air temperature is below 78 degrees F.
 - c. Will be turned off when the building is unoccupied, except as required for special equipment.
 - d. Army Medical Department facilities are exempt from the above listed standards. Requests for other exceptions to this policy shall be forwarded to DEH.
6. Refrigerated drinking water fountains shall not be plugged in and the electrical cords shall be removed except for those in medical facilities and those at Fort Hunter Liggett.

7. Government furnished or owned clothes dryers shall be natural gas or propane fueled when possible. Natural gas and propane clothes dryers will have electric ignition when purchased. Government contracting personnel shall not purchase an electric clothes dryer for use in any facility unless electricity is the only source of power/fuel available.

8. The use of electric appliances such as ranges, stoves, and ovens is discouraged. When natural gas or propane is available to a facility, replacement appliances shall be natural gas or propane. Existing operational electric appliances shall not be removed and replaced merely to meet this requirement. This requirement will be met through attrition, eg. when an electric range fails it will be replaced by a natural gas range if natural gas is available. New natural gas and propane appliances shall be equipped with electric ignition.

9. Lighting.

a. All lights will be turned off when not in use.

b. Except for security lighting required by AR 190-11, Physical Security of Arms, Ammunition, and Explosives, no Army requirement exists for security or firelights over the doors of buildings during unoccupied periods. These lights shall not be used on any building during periods of unoccupancy except as required by AR 190-11. Requests for exceptions to this policy shall be forwarded through the Provost Marshal and DEH to the Garrison Commander.

c. Outdoor advertising lighting is not permitted.

d. Exterior lighting will not be used:

(1) When natural or street lighting is adequate in any area.

(2) All night except approved security lighting. If security lights are needed, approval must be attained by DF (DA Form 2496) forwarded to the Provost Marshal. If the Provost Marshal determines that a security requirement exists, a DA Form 4283 with the approving DF will be forwarded to Chief, ERMD, AFZW-DE-RM, ATTN: Energy Management Branch. Approved security lighting will be the most energy-efficient lighting practicable, generally high pressure sodium.

(3) Continuously over weekends in any area. Energy Conservation Officers will provide necessary procedures and instructions to ensure that manually controlled outside lighting is turned off at dawn seven days per week. This procedure will be provided in the responsible organization's SOP along with the location of the lights and individual switches.

(4) On buildings not occupied by personnel at night.

e. EXTERIOR DECORATIVE and CHRISTMAS LIGHTS.

(1) One exterior electrically lighted Christmas tree or other electrical display is permitted on each installation/subinstallation. On Fort Ord the exterior display will be located at the Main Post Chapel. On FHL/POM The Garrison Commander will designate the location. All other outdoor decorations will be non-electric.

(2) Each family housing unit, unit chapel, dining facility, and troops quarters building is authorized one interior illuminated Christmas tree or other electrical display. Interior displays in all other areas will be non-electric.

(3) All personnel and family housing residents will reduce lighting and electrical consumption in their areas as a minimum compensation for the additional electrical power consumption expected during the holiday season.

f. Automatic time clocks and photocells will be installed where appropriate to control outside lighting when not needed. Automatically controlled outside lighting that has failed on (continuously illuminated even during daylight hours) will be reported immediately to DEH.

g. Outside lighting such as porch lights on family quarters and barracks shall not exceed 25 watts. Exterior lights on family quarters will normally be extinguished by 2300 hours daily.

h. Desks and furniture shall be located to take maximum advantage of daylight. Interior lights will not be used when natural light is adequate nor will they be used in unoccupied or unused portions of facilities.

i. Interior incandescent lighting will be replaced with fluorescent lighting where appropriate.

j. Energy Conservation Officers will inspect their assigned areas for proper lighting levels. A DEH, Energy Management Branch technician will assist, using a light meter, when requested. DEH assistance may be requested by telephone, ext 4503. Allow at least two working days notice prior to desired inspection date.

k. During working hours, interior overhead lighting will provide 50 foot-candles at the desk surface level, 30 foot candles in general work areas, and 10 or less foot-candles in non working areas. Illumination shall not exceed 75 foot-candles in any area except in medical and dental facilities when prescribed by the Surgeon General. In general, the maximum authorized wattage for incandescent lamps provided in Table D-1 shall not be exceeded.

APPENDIX D TABLE D-1

Schedule of Maximum Authorized Incandescent Light Wattages

LOCATION	MAX WATTS
Barracks, NCO rooms, Orderly room	75
Exterior, Family housing/vestibule	25
Exterior, (over doors of barracks or other buildings normally occupied at night)	25
Fire exit signs	15
Kitchen, pantry, living room, bedroom	60
Arms Room	100
Auditorium	200
Toilet rooms, baths, and showers	60
Motor Repair Shops/Libraries	150
Squad Room	60
Maintenance Shops	200
Utility and storage closets	40
Heater/furnace rooms	60
Dining facility	75
Corridor/hallway	40
Stairways/stairwells	100
Loading ramp-outside	100
Training/classroom	100

NOTE: The maximum authorized wattage shown for each case is merely a guide to use when light meter readings have not been taken. Army Medical Department Facilities are exempt from these guidelines in general.

APPENDIX E - WATER CONSERVATION DIRECTIVES

1. USE OF WATER. Water use will be supervised in all cases by a responsible individual to prevent water waste.
2. WATERING. Irrigation (lawn watering) is not permitted during or immediately after rain storms. Grass will not be watered during the rainy season, 1 October to 1 May. In the event of a protracted dry season as determined by DEH, an official exception to this policy may be issued. Due to the shortage of good quality water in this area, lawns will only be watered enough to sustain life. Lush green lawns are not desirable and are indicative of water waste. Lawns will not be watered between the hours 1000-1800 except by DEH and contracted gardeners.
 - a. Fort Ord housing areas may water two times per week as outlined below.
 - (1) Sunday and Wednesday: Hayes, Stilwell, Marshall, Fitch.
 - (2) Saturday and Tuesday: All other housing areas.
 - b. Fort Ord Troop Areas may water two times per week as outlined below.
 - (1) Tuesday and Friday - Area 1 (Bounded by 6th Avenue, Gigling Road, First Avenue, and Third Street.)
 - (2) Monday and Thursday - Area 2 (Bounded by 6th Avenue and Imjim Rd, Twelfth Street, First Avenue, and Third Street, including all of the 2800 area buildings.)
 - (3) Wednesday and Saturday - Area 3 (Bounded by the area east of 6th Avenue and Imjim Rd, west of First Avenue, and the areas not enclosed by boundaries as specified for areas 1 and 2 above.)
 - c. Watering will be limited to 20 minutes per sprinkler location. An adult shall be present at all times during watering. Watering will be closely monitored to ensure that water does not flow or spray onto streets, driveways, etc.
 - d. Watering flowers is permitted at any time. A hose with an automatic shut off nozzle must be used.
3. Hardstands, streets, walks, washracks, and driveways which can be broom swept will not be washed with water. Oil spots will be cleaned up using a commercially available oil dry compound or other equivalent means such as cat litter or sand. Saturated oil dry will be properly disposed of.
4. Dining facility clean-up areas will be scrubbed and flushed as required to maintain sanitation. Usually, once daily will be sufficient. Hot water will be used sparingly. Vehicles, civilian or military will not be washed in these areas.

5. Hoses with automatic shut off nozzles shall be used for washing vehicles. Hot water will not be used to wash any vehicle.
6. Decorative water fountains are prohibited.
7. Organized car washes may be authorized only to raise funds for officially recognized charities as determined by DPCA. Requests for car washes shall be forwarded to DPCA. A copy of approved car wash requests shall be delivered to DEH at least one day prior to the scheduled date. Car wash requests shall cite that a supervisor will be present to prevent water waste, automatic shutoff nozzles will be used, and environmental standards will be adhered to. The supervisor shall have a copy of the approved car wash DF in his possession at all times and shall present it to an Energy Inspector upon request.

APPENDIX F - BUILDING SPACE UTILIZATION AND SURVEY

1. Inefficient use of space is one of the largest sources of energy waste in the Army today. Area allowances for personnel are established by Army regulation AR 405-70 and provides a basis for determining which buildings are under utilized. Personnel and functions must be added to under utilized buildings, or the existing personnel and functions must be relocated to permit building closure.

2. AR 405-70 requires Commanders to ensure that only the required minimum number of buildings are being used. Each Commander is responsible to ensure that building utilization surveys are conducted annually to determine actions to be taken to reduce the number of buildings utilized. The following actions should be included in the survey.

a. Make drawing of building and rooms (or use blueprints).

b. Identify each heated/cooled room by activity, number of occupants, and normal hours occupied.

c. Identify rooms that are occupied intermittently, eg. conference rooms, or rooms that are occupied beyond normal working hours.

d. Identify rooms that have independent heat or air conditioning controls or temperature sensors.

e. Reschedule use of rooms that are intermittently occupied, such as classrooms, so fewer rooms are better utilized.

f. Rearrange personnel and functions so that rooms which are not occupied or are occupied only intermittently may be closed off.

g. In training buildings, schedule classes so that buildings are occupied a maximum of four days per week and ensure the heating temperature is reduced to 40 degrees F for the unoccupied period. If there is no danger of pipe freezing, the temperature may be lowered even further or the system shut down completely.

h. If a building is found to be under utilized, move personnel and functions to another under utilized building, or at a minimum move personnel to one floor of a two story building. Close off the unoccupied floor and allow only enough heat to prevent pipes from freezing if applicable.

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APPENDIX G - MISCELLANEOUS PROCEDURES

1. Utilities (gas, water, electrical) services may not be connected to trailers, campers, recreation vehicles of any kind, electric vehicles, or similar structures/vehicles from government housing or buildings.
2. Temporary repairs to broken windows, doors, etc. will be made on the spot to conserve energy. Corrective and permanent repairs required to conserve energy will be performed by the unit R&U or DEH, as appropriate, in accordance with Fort Ord Regulation 420-1. An example of what is meant as a temporary repair is the covering of a broken window pane with a piece of cardboard and tape until a permanent repair can be effected.

APPENDIX H - ENERGY CONSERVATION CONTINGENCY ACTIONS

1. GENERAL. In the event it should become necessary to reduce energy consumption levels below current usage, immediate action will be taken to maximize the efficient use of available energy resources. The ADC(M) will call an Energy Council meeting immediately to direct appropriate action in accordance with this plan and as he may deem necessary. An Energy Emergency Advisory Board consisting of the following personnel as a minimum will take immediate action to implement this plan and keep the Major General informed through the ADC(M): Energy Coordinator, DEH, DIO, DPT, DIC, CofS, ADC(S), PAO, CPO, Chairman of Fort Ord Family Housing Energy Council, Cdr FHL, DPC POM, and DHS.

2. REDUCTION PHASES. Phases of energy reduction have been devised to assist in managing available reduced energy supplies. The reduction levels vary from 15% to greater than 50% of normal supply. Each phase (mobility and facility) provides an implementation program to keep usage commensurate with supply.

<u>PHASE NUMBER</u>	<u>MOBILITY REDUCTION</u>	<u>FACILITY ENERGY REDUCTION</u>
I	15%	15%
II	35%	25%
III	50%	35%
IV	greater than 50%	50%

3. COMPUTING REDUCTIONS. Following an announcement to reduce energy consumption to an appropriate phase, the percentage rates of reduction are to be based upon consumption figures for gallons of vehicular fuels (including aviation fuels), MBTU for heating fuels, and kilowatts of electricity as close to the announcement date as possible.

4. PHASE I (15% Reduction Level).

a. MOBILITY FUELS (15%).

(1) Vehicles.

- (a) Consider fuel expenditures when planning types of training.
- (b) Schedule training to maximize use of pooled equipment.
- (c) Develop most economical means of transportation for equipment and personnel to training sites.
- (d) Select close-in training sites when possible.

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- (e) Maximize combination-type training (road march and range firing) to conserve fuels.
- (f) Eliminate all vehicle pass bys at change of command ceremonies.
- (g) Combine proficiency training with normal operations.
- (h) Consolidate administrative trips such as ration breakdown and supply runs. Reduce number of trips when consolidation is not feasible.
- (i) Reduce or discontinue use of equipment for community civic action projects.

(2) Aircraft

- (a) Ensure Combat Readiness Flying (CRF) is conducted in conjunction with operational missions whenever possible.
- (b) Eliminate static displays for public viewing.
- (c) Eliminate use of aircraft in demonstrations and other non-mission essential activities such as flyovers and change of command ceremonies.

b. FACILITY HEATING FUELS (15%).

- (1) Maximum space utilization will be enforced.
- (2) Shut off all heat in shops, motor pools, gymnasiums, and hangars.
- (3) Reduce thermostat settings to 55 degrees F. maximum in admin and housing areas.

c. ELECTRICITY (15%).

- (1) All outside lighting except as required by AR 190-11 will be disconnected.
- (2) Where possible reduce use of electrical equipment.
- (3) Enforce maximum efficient space utilization.

5. PHASE II (25% and 35% Reduction Level).

a. MOBILITY FUELS (35%).

- (1) Reduce number of administrative staff visits to subordinate units.

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(2) Reduce number of conferences, review records of vehicle use, and withdraw vehicles from use where priority or mission and/or utilization is not justified.

(3) Reduce all performance oriented training where fuel is consumed.

(4) Reduce number of vehicles used in driver training.

(5) Reduce number of tactical vehicles in operation and consolidated use in training.

b. FACILITY HEATING FUELS (25%).

(1) Heat will be shut off in all admin, company, and headquarter buildings.

(2) Housing will reduce heating hours where possible.

c. ELECTRICITY (25%).

(1) Shut off all air-conditioning except in surgery at Silas B. Hays Army Hospital.

(2) Shut off all non-essential electrical power consuming equipment and appliances.

6. PHASE III AND IV (Energy Reductions of 50% and greater).

a. MOBILITY FUELS (50%).

(1) Stop all mechanized training.

(2) Use only one administrative vehicle for each major unit.

(3) Reduce the number of support vehicles by 75%.

(4) Vehicles will not be used to simulate unit training.

b. FACILITY HEATING FUELS (50%).

(1) All efforts will be made to reduce heating in housing and barracks to a minimum.

(2) Reduced heating efforts will be supplemented with rotating outages.

c. ELECTRICITY (50%).

(1) Stop use of all power equipment, except in absolute emergency.

(2) Use only appliances necessary for food preservation and preparation.

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(3) Rotate power outages on post by area. Outages to last from two to six hours. These selective area power outages will have to be determined at time of energy reduction.

Engineer Technical
Letter 1110-3-282

Engineering and Design
ENERGY CONSERVATION

1. Purpose. This letter provides design guidance regarding energy conservation measures for Army facilities.

2. Applicability. This letter applies to all OCE elements and field operating agencies having military construction design responsibility.

3. Background.

a. Executive Order 12003, dated 20 July 1977, established energy conservation goals for new and existing Federal facilities. These goals are to reduce energy usage by 45 percent in new buildings and 20 percent in existing buildings, on a per square foot basis, in 1985 when compared to 1975 levels. The Department of Energy (DOE) was tasked by the Executive Order (EO) to establish a program to achieve these goals. DOE is required to prepare guidelines, as part of this program, for all agencies to follow in preparing agency plans for energy conservation. Annual reports will be required on progress made toward achieving the goals. Additionally, as part of the guidelines, DOE was directed to establish " a practical and effective method for estimating and comparing life cycle capital and operating costs for Federal buildings."

b. Additional guidance on energy conservation will be included in the next revision to DOD Construction Criteria Manual DOD 4270.1-M.

4. Design Guidance.

a. Inclosure 1 is a paraphrased listing of energy conservation measures, taken from current DOD and OCE criteria, that are to be considered in the design of new facilities. All items listed in Inclosure 1 will not be technically applicable to every building, and some will be technically applicable but not economically feasible. Therefore, a careful evaluation should be made of each item for each proposed facility.

b. Since mid-1973 to the present, DOD and OCE have been revising construction criteria to minimize military energy usage. Therefore, by relating existing criteria to the paraphrased listing of energy conservation measures, a consolidated criterion is developed.

5. Action To Be Taken. The above guidance will be applied where practical to project designs, subject to availability of funds.

6. Implementation. This letter will have routine application as defined in paragraph 6c, ER 1110-345-100.

FOR THE CHIEF OF ENGINEERS:

1 Incl
as

LEE S. GARRETT
Chief, Engineering Division
Military Construction

ENERGY CONSERVATION MEASURES

1. SITE CONSIDERATIONS.

- a. Orient buildings to take advantage of views, topography, trees and other site features to the extent that such orientation provides favorable energy conservation benefits.
- b. Utilize natural terrain and landscape planting (coniferous trees on north side) to provide windbreaks to reduce heating loads, and shading (deciduous trees on south) to reduce cooling loads.
- c. Where natural ventilation (screened doors and windows) can be used to provide human comfort in trade wind areas and in spring and fall, use natural terrain, landscape planting and features to improve wind patterns around buildings.
- d. Locate parking areas to avoid creating heat islands adjacent to the building. Provide adequate landscape planting to absorb heat and exhaust pollution.
- e. Consider locating all or part of the facility underground. Consider berms or mounding around ground level facilities.
- f. Fit structure to terrain considering air flow, topography and existing tree cover.

2. ARCHITECTURAL.

- a. Minimize wall and glass areas exposed to the south, southwest and west when air conditioning rather than heating is expected to be the major load. Architectural shading, deciduous trees, tinted glass, or solar screening should be considered for all glass having these exposures. For applications where heating is the major concern, more glass exposure to the south, southwest and west and less to the north would be desirable.
- b. Evaluate use of glass since glass permits the greatest transfer of energy of the building components. For areas where natural ventilation is possible, operable windows may be desirable.
- c. Evaluate the use of double glazing,, double glazing with storm windows, or triple glazing. Exterior walls of buildings located in mild climate areas with large glass areas can have a lower composite "U" value

Inclsure 1

with double glazing and uninsulated walls than with single glazing and insulated walls; therefore, the cost study of buildings with large window areas should consider the cost effectiveness of using double glazing and uninsulated walls,

d. When air conditioning rather than heating is of primary importance, use light colored surfaces on walls and roofs to reduce solar heat gain. Where heating is the primary concern, the use of darker exterior colors may be in order.

e. Use minimum ceiling heights to minimize volume to be environmentally controlled.

f. To reduce infiltration losses, as well as total heating and cooling loads, consider unconditioned vestibules to act as "air locks" for entrances to conditioned spaces.

g. Since the north side of facilities are subject to most extreme cold, rooms with low utilization are to be located on the north wall to provide a thermal buffer, if functional requirements permit.

h. Consider magnetic weather stripping around steel insulated doors to reduce drafts and leaks.

i. Consider window area reduced to eight percent of floor areas, except on properly shaded south orientation.

j. Consider exceeding criteria requirements by increasing insulation in walls and roofs.

k. Optimize the wall and roof area to interior volume ratio to reduce the exterior surface area available for heat gain and heat loss in extremely hot and cold climates.

l. Consider consolidation of individual structures into one facility.

m. Select construction material and assemblies for exterior envelope that have high resistance to heat flow and/or that will provide, thermal lag.

n. Locate corridors, stairwells, elevator shafts, storage rooms, etc. on exterior to act as a buffer between exterior and conditioned space - west exposure when air conditioning is significant, north exposure when heating is significant.

o. Utilize natural lighting when cost of electrical energy saved will exceed cost of additional energy required for air conditioning and heating.

3. MECHANICAL.

a. HVAC Systems.

(1) Evaluate the following HVAC systems which are considered to have low energy use potential:

(a) Variable air volume (VAV).

(b) Hydronic loop heat pump.

- (c) Air-to-air heat pump.
- (d) Water-to-air heat pump (where a water source is available).
- (2) Do not use reheat systems when new energy is required.
- (3) Consider economizer cycle for air conditioning applications; and provide enthalpy controller, as necessary.
- (4) Evaluate the economic feasibility of using solar energy for heating and/or air conditioning.
- (5) Hot water and space heating requirements will be met by using wasted or excess steam from a nearby facility if economically feasible.
- (6) Where feasible, considering health and economic restrictions, heat contained in exhaust air will be recovered and reused by a heat recovery system.

b. HVAC Equipment.

- (1) Use double bundle condensers on refrigeration machines to reclaim rejected heat. Use rejected heat for domestic water preheating, perimeter heating (when there is a requirement for year around air conditioning) and/or reheat (when humidity control is required or when economically justified).
- (2) Use run-around coils, thermal wheels or heat pipes to reduce air conditioning and heating loads resulting from make-up and exhaust air.
- (3) Consider use of return air lighting fixtures to prevent lamp and ballast heat from entering the occupied, space thereby reducing supply air requirements and fan horsepower. Warm air from fixtures can be used for reheat in air conditioning systems.
- (4) Water-cooled lighting fixtures should also be considered, to reduce air conditioning loads. Water heated by the light fixtures can be used to heat perimeter spaces or for reheat in air conditioning space.
- (5) Consider thermal storage (such as water tanks) systems to store heated or chilled water. Waste heat from air conditioning condensers water cooled lighting fixtures, etc. can be stored for heating purposes in the winter time. Chilled water can be stored to reduce the size of refrigeration machines required for peak loads.
- (6) Use built-up water-to-air or air-to-air heat pumps in larger buildings. Consider use of diesel or gas turbine drive (see paragraphs (7) and (10) below), and collect waste heat for domestic water heating, space heating and absorption air conditioning.
- (7) Consider the use of diesel engines or gas turbines to drive pumps and other industrial loads to reduce electrical load and electrical demand. Use waste heat as noted in paragraph (6) above.

(8) Consider the use of single stage evaporative coolers as a pre-cooler for outside air make-up in air conditioning systems in arid zones.

(9) Consider the use of air cooled condensers in series with cooling towers to minimize equipment sizes and reduce electrical consumption. Use a small cooling tower in series with a large air cooled condenser for peak saving, particularly in arid zones.

(10) For large multi-use building complexes consider cogeneration (total energy) systems whereby electric power is generated on-site and waste heat from prime mover is reclaimed for use as noted in paragraph (6) above.

(11) When split system unitary air conditioning assemblies of the RCU-A-C and RCU-A-CB. (see Table 1, Chapter 42, 1975 ASHRAE Handbook) types having capacities of 60,000 Btuh and less are used, they will have a Btuh/Watt ratio of not less than 7.5 based on the condensing unit and coil only. This ratio will be established for both types of assemblies from the capacity and power ratings listed for RCU-A-C assemblies in ARI publication "Directory of Certified Unitary Air Conditioners." In determining the ratio for a RCU-A-CB assembly, when the condensing unit is listed under RCU-A-C assemblies with different coils, the condenser coil assembly with the highest Btuh/Watt ratio will be used to determine the acceptability of the RCU-A-CB assembly. In cases where the condensing unit used with a RCU-A-CB assembly is not listed as part of RCU-A-C assembly, the Btuh/Watt ratio based on the information listed for the RCU-A-CB assembly will not be less than 6.5.

(12) When room (window) air conditioning units are used for air conditioning existing quarters, they will produce not less than 8.5 . Btuh per Watt input for 120 volts and not less than 8.0 Btuh per Watt input for 230 volt units. In order to establish these ratings, the Association of Home Appliance Manufacturers' publication "Directory of Certified Room Air Conditioners" (latest edition) will be the sole determination. Energy rates for through-the-wall units will be as specified in Federal Specification 00-A-372B. All future replacements of room units will conform to these requirements.

(13) Consider the use of waste heat boilers in conjunction with incinerators to recover energy from solid wastes.

(14) Consider use of modular equipment where part load performance would be improved.

c. Controls.

(1) Use the DOD type thermostat which limits space temperatures to a maximum of 75 degrees F in winter and a minimum of 75 degrees F in the summer.

(2) Provide controls to reduce or eliminate outside ventilation air in unoccupied buildings.

(3) Use an outside temperature sensing unit to modulate hot water heating systems by increasing water temperature as outside air drops and decreasing water temperature as outside air rises. When fan coil units are used to provide both heating and air conditioning, the hot water should be modulated down to a maximum temperature of 75 degrees F when the ambient temperature is 60 degrees F.

(4) Provide a positive shut-off of heating systems when rising outside air temperature reaches 60 degrees F, except in medical facilities.

(5) Use programed control through clocks or other systems for night, weekend and holiday temperature setback (or cutoff) to reduce air conditioning and heating loads. Normally for personnel comfort, air conditioning, will be cut off and heating will be reduced by 15 degrees F during unoccupied hours.

d. Plumbing.

(1) Electric water heaters of 80 gallon capacity and less shall comply with the requirements of Federal Specification W-H-196J. This applies to both new and replacement installations. Water heaters meeting these requirements are included in the current GSA term contract; therefore, all procurements for family housing should be through GSA in accordance with the requirements of DOD 4270.1-M.

(2) Provide domestic hot water to all latrines, heads and toilet facilities without showers or tubs at 100 degrees F. See ETL 1110-3-266 for additional requirements.

(3) In buildings operated on a nominal 40 hour week or in buildings operated on a nominal two shift basis (5 or 7 day week), a clock timer should be used to stop the domestic hot water circulating pump during unoccupied hours, allowing 15 minutes before starting and 30 minutes before normal work hours end.

(4) Evaluate the economics of solar energy to generate domestic hot water.

4. ELECTRICAL.

a. Use three-phase transformers particularly in large substations to reduce transformer losses.

b. Design facilities to provide high power factor.

c. Maintain a base wide power factor of not less than 95 percent.

d. Use high efficiency light sources such as fluorescent lamps in lieu of incandescent in as many areas as possible, and use high intensity discharge lamps such as high pressure sodium in lieu of incandescent lamps or mercury vapor lamps for area floodlighting.

e. Use multiple switching to permit lights near windows and those in

unattended areas to be turned off.

f. Consider the use of time clock or photocell control of exterior lighting.

g. Consider use of multilevel ballasts to permit selection of non-uniform general lighting.

h. Use task lighting instead of high level general lighting. (Requires location of task, by architect or interior designer).

i. Use highest distribution voltage consistent with economics and safety.

j. Provide fluorescent ballast with high power factors (pf=0.90 min).

k. Use three phase power where possible.

(1) Electric water heaters should be replaced with the regular electric or gas water heaters to meet new and updated energy efficiency requirements are included in the all procurements for family housing with the requirements of DOE.

(2) Provide domestic hot water facilities without showers for additional requirements.

Buildings operated on a normal basis should be allowed to operate on a normal basis, allowed to operate on a normal basis.

Buildings should be operated on a normal basis.

reduce transformer losses.

a. Basic facilities to provide

a. Provide a base with power lines

high efficiency light sources

1. Provide as many areas as possible with high pressure sodium vapor lamps for area lighting

Use multiple switching to permit light