

REPORT- SV-A System Design Parameters for PlB (B.N11) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	464.0	1.	0.102	9.126	0.742	-8.214	0.266	0.271	-9.960

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	304.	1.00	0.091	0.93	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
PlB North Perim Zn (B.N11P	304.	0.	0.000	0.740	31.	0.00	0.00	5.02	0.00	-8.59	1.

REPORT- SV-A System Design Parameters for PlB (B.N13) APT4 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	2465.0	3.	0.107	45.950	0.742	-41.355	0.266	0.271	-50.151

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	1533.	1.00	0.460	0.93	1.2	0.48	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
PlB North Perim Zn (B.N13P	1533.	0.	0.000	0.732	165.	0.00	0.00	28.66	0.00	-42.81	1.

REPORT- SV-A System Design Parameters for P1B (B.NE14) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	705.0	1.	0.102	13.847	0.742	-12.462	0.266	0.271	-15.113

		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	462.	1.00	0.138	0.93	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
P1B NE Perim Zn (B.NE14) 1	462.	0.	0.000	0.740	47.	0.00	0.00 6.57	0.00	-13.04	1.

REPORT- SV-A System Design Parameters for L1A (G.E19) APT2 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	1033.8	1.	0.128	16.141	0.742	-14.527	0.266	0.271	-17.616

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	538.	1.00	0.161	0.93	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING RATE	ADDITION RATE	ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT	
L1A East Perim Zn (G.E19)T	538.	0.	0.000	0.703	69.	0.00	0.00	10.22	0.00	-14.42	1.

REPORT- SV-A System Design Parameters for L1A (G.NNE24) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	749.2	1.	0.158	9.484	0.742	-8.536	0.266	0.271	-10.351

DESIGN DATA										DESIGN DATA	
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	316.	1.00	0.095	0.93	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1A NNE Perim Zn (G.NNE24P	316.	0.	0.000	0.662	50.	0.00	0.00 8.30	0.00	-7.98	1.

REPORT- SV-A System Design Parameters for L1A (G.WNW27) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	493.5	1.	0.121	8.136	0.742	-7.322	0.266	0.271	-6.803

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	271.	1.00	0.081	0.94	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1A WNW Perim Zn (G.WNW27P	271.	0.	0.000	0.506	33.	0.00	0.00	8.25	0.00	-5.22	1.

REPORT- SV-A System Design Parameters for L1A (G.N28) APT3 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	1326.0	2.	0.134	19.829	0.742	-17.846	0.266	0.271	-14.704

DESIGN DATA										DESIGN DATA	
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	661.	1.00	0.198	0.94	1.0	0.41	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1A North Perim Zn (G.N28P	661.	0.	0.000	0.414	89.	0.00	0.00 20.11	0.00	-10.39	1.





REPORT- SV-A System Design Parameters for L1B (G.E6) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	668.0	1.	0.146	9.143	0.742	-8.229	0.266	0.271	-8.537

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	305.	1.00	0.091	0.94	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1B East Perim Zn (G.E6) 1	305.	0.	0.000	0.551	45.	0.00	0.00	9.54	0.00	-6.39	1.

REPORT- SV-A System Design Parameters forL1B (G.W7) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	765.0	1.	0.118	12.979	0.742	-11.681	0.266	0.271	-14.165

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	433.	1.00	0.130	0.93	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L1B West Perim Zn (G.W7) 1	433.	0.	0.000	0.717	51.	0.00	0.00	10.25	0.00	-11.81

1.

REPORT- SV-A System Design Parameters for L1B (G.W8) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	654.5	1.	0.106	12.384	0.742	-11.146	0.266	0.271	-13.516

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	413.	1.00	0.124	0.93	1.0	0.37	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1B West Perim Zn (G.W8) 1	413.	0.	0.000	0.734	44.	0.00	0.00	6.65	0.00	-11.54	1.

REPORT- SV-A System Design Parameters for L1B (G.E9) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	713.5	1.	0.112	12.781	0.742	-11.503	0.266	0.271	-13.949

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	426.	1.00	0.128	0.93	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L1B East Perim Zn (G.E9) 1	426.	0.	0.000	0.726	48.	0.00	0.00	7.54	0.00	-11.78

1.

REPORT- SV-A System Design Parameters for L1B (G.E10) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	519.0	1.	0.082	12.725	0.742	-11.452	0.266	0.271	-13.888

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	424.	1.00	0.127	0.93	1.0	0.37	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1B East Perim Zn (G.E10)T	424.	0.	0.000	0.766	35.	0.00	0.00	11.61	0.00	-12.38	1.



REPORT- SV-A System Design Parameters for L1B (G.E29) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	429.5	1.	0.105	8.162	0.742	-7.346	0.266	0.271	-6.717

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	FAN PLACEMENT	FAN CONTROL	MAX FAN RATIO (FRAC)	MIN FAN RATIO (FRAC)
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF				
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)				
SUPPLY	272.	1.00	0.082	0.94	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING CAPACITY	ADDITION		
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1B East Perim Zn (G.E29)T	272.	0.	0.000	0.518	29.	0.00	0.00	7.72	0.00	-5.36	1.

REPORT- SV-A System Design Parameters for L2A (G.E14) APT3 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	1947.8	2.	0.225	17.337	0.742	-15.604	0.266	0.271	-14.425

DESIGN DATA										DESIGN DATA	
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	578.	1.00	0.173	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT	
L2A East Perim Zn (G.E14)T	578.	0.	0.000	0.364	130.	0.00	0.00	16.00	0.00	-8.00	1.



REPORT- SV-A System Design Parameters for L2A (G.WNW18) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	1270.5	2.	0.142	17.881	0.742	-16.093	0.266	0.271	-14.235
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	596.	1.00	0.179	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L2A WNW Perim Zn (G.WNW18P	596.	0.	0.000	0.446	85.	0.00	0.00	17.56	0.00	-10.11

1.

REPORT- SV-A System Design Parameters for L2A (G.N19) APT2 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	1039.0	1.	0.148	14.059	0.742	-12.653	0.266	0.271	-8.854
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	469.	1.00	0.141	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L2A North Perim Zn (G.N19P	469.	0.	0.000	0.305	69.	0.00	0.00	13.84	0.00	-5.43

1.

REPORT- SV-A System Design Parameters for L2B (G.N4) APT4 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR AREA (SQFT )	MAX PEOPLE	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	HEAT PUMP SUPP-HEAT (KBTU/HR)
PVVT	1.001	2928.0	4.	0.155	37.693	0.742	-33.923	0.266	0.271	-21.957

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	1257.	1.00	0.377	0.94	1.2	0.47	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING RATE	ADDITION RATE	ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT	
L2B North Perim Zn (G.N4)T	1257.	0.	0.000	0.257	195.	0.00	0.00	36.87	0.00	-12.26	1.

REPORT- SV-A System Design Parameters for L2B (G.E5) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	984.0	1.	0.118	16.656	0.742	-14.990	0.266	0.271	-12.151

DESIGN DATA										DESIGN DATA	
FAN		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN		RATIO	RATIO
(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL		(FRAC)	(FRAC)
SUPPLY	556.	1.00	0.167	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2B East Perim Zn (G.E5) 1	556.	0.	0.000	0.425	66.	0.00	0.00 15.81	0.00	-8.97	1.

REPORT- SV-A System Design Parameters for L2B (G.W6) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	765.0	1.	0.180	8.525	0.742	-7.672	0.266	0.271	-8.002

DESIGN DATA										DESIGN DATA	
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	284.	1.00	0.085	0.94	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2B West Perim Zn (G.W6) 1	284.	0.	0.000	0.510	51.	0.00	0.00	8.13	0.00	-5.51 1.

REPORT- SV-A System Design Parameters for L2B (G.W7) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	654.5	1.	0.234	5.586	0.742	-5.028	0.266	0.271	-3.124

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	186.	1.00	0.056	0.94	0.8	0.30	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2B West Perim Zn (G.W7) 1	186.	0.	0.000	0.234	44.	0.00	0.00	4.52	0.00	-0.95	1.

REPORT- SV-A System Design Parameters for L2B (G.E8) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	628.5	1.	0.206	6.114	0.742	-5.503	0.266	0.271	-3.367

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	204.	1.00	0.061	0.94	0.8	0.30	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION		
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2B East Perim Zn (G.E8) 1	204.	0.	0.000	0.206	42.	0.00	0.00	5.62	0.00	-1.28	1.

REPORT- SV-A System Design Parameters for L2B (G.E9) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	558.0	1.	0.103	10.815	0.742	-9.733	0.266	0.271	-8.071

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	361.	1.00	0.108	0.94	1.0	0.37	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	EXTRACTION RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2B East Perim Zn (G.E9) 1	361.	0.	0.000	0.459	37.	0.00	0.00	10.46	0.00	-6.29	1.



REPORT- SV-A System Design Parameters for L2B (G.S10) APT6 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	2721.0	3.	0.124	43.941	0.742	-39.547	0.266	0.271	-21.589

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	1466.	1.00	0.439	0.94	1.2	0.48	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2B South Perim Zn (G.S10P	1466.	0.	0.000	0.227	182.	0.00	0.00	44.30	0.00	-12.60	1.

REPORT- SV-A System Design Parameters for L2B (G.E23) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	714.0	1.	0.107	13.347	0.742	-12.013	0.266	0.271	-10.504
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	445.	1.00	0.133	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L2B East Perim Zn (G.E23)T	445.	0.	0.000	0.486	48.	0.00	0.00	13.08	0.00	-8.23

1.

REPORT- SV-A System Design Parameters for L3A (G.E13) APT4 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	2229.8	3.	0.206	21.608	0.742	-19.447	0.266	0.271	-12.684

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	721.	1.00	0.216	0.94	1.0	0.41	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L3A East Perim Zn (G.E13)T	721.	0.	0.000	0.206	149.	0.00	0.00	18.53	0.00	-5.26	1.

REPORT- SV-A System Design Parameters for

L3A (G.NW17) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	915.5	1.	0.156	11.713	0.742	-10.542	0.266	0.271	-8.513
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	391.	1.00	0.117	0.94	1.0	0.37	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L3A NW Perim Zn (G.NW17) 1	391.	0.	0.000	0.372	61.	0.00	0.00	11.16	0.00	-5.51

1.

REPORT- SV-A System Design Parameters for L3A (G.N18) APT3 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	1566.5	2.	0.158	19.803	0.742	-17.823	0.266	0.271	-11.521
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	661.	1.00	0.198	0.94	1.0	0.41	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L3A North Perim Zn (G.N18P	661.	0.	0.000	0.253	105.	0.00	0.00	18.95	0.00	-6.33

1.



REPORT- SV-A System Design Parameters for L3A (G.SW22) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	944.2	1.	0.121	15.665	0.742	-14.098	0.266	0.271	-8.250

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	FAN PLACEMENT	FAN CONTROL	MAX FAN RATIO (FRAC)	MIN FAN RATIO (FRAC)
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF				
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)				
SUPPLY	523.	1.00	0.157	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	EXTRACTION RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L3A SW Perim Zn (G.SW22) 1	523.	0.	0.000	0.259	63.	0.00	0.00	15.22	0.00	-5.14	1.

REPORT- SV-A System Design Parameters for L3A (G.S24) APT3 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	1832.5	2.	0.121	30.324	0.742	-27.292	0.266	0.271	-13.646

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	1012.	1.00	0.303	0.94	1.2	0.47	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L3A South Perim Zn (G.S24P	1012.	0.	0.000	0.187	122.	0.00	0.00	29.29	0.00	-7.16	1.



REPORT- SV-A System Design Parameters for L3B (G.N4) APT4 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	2928.0	4.	0.164	35.827	0.742	-32.244	0.266	0.271	-20.391

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	1195.	1.00	0.358	0.94	1.2	0.47	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	EXTRACTION RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L3B North Perim Zn (G.N4)T	1195.	0.	0.000	0.236	195.	0.00	0.00	34.11	0.00	-10.68	1.

REPORT- SV-A System Design Parameters for L3B (G.E5) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR		OUTSIDE	COOLING		HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	MAX	AIR	CAPACITY	SENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )	PEOPLE	RATIO	(KBTU/HR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	984.0	1.	0.125	15.795	0.742	-14.215	0.266	0.271	-10.515

DESIGN DATA										MAX FAN		MIN FAN	
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH						
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO		
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)		
SUPPLY	527.	1.00	0.158	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30		

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L3B East Perim Zn (G.E5) 1	527.	0.	0.000	0.365	66.	0.00	0.00 14.78	0.00	-7.30	1.

WEATHER FILE- SEATTLE BOEING FI WA

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	FAN PLACEMENT	FAN CONTROL	MAX FAN RATIO (FRAC)	MIN FAN RATIO (FRAC)
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF				
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)				
SUPPLY	274.	1.00	0.082	0.94	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00	0.30

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING RATE	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT
L3B West Perim Zn (G.W6) 1	274.	0.	0.000	0.449	51.	0.00	0.00	7.68	0.00	-4.68 1.

REPORT- SV-A System Design Parameters for L3B (G.W7) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	654.5	1.	0.233	5.621	0.742	-5.059	0.266	0.271	-3.507

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	188.	1.00	0.056	0.94	0.8	0.30	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING RATE	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT
L3B West Perim Zn (G.W7) 1	188.	0.	0.000	0.233	44.	0.00	0.00	4.43	0.00	-1.33 1.

REPORT- SV-A System Design Parameters for L3B (G.E8) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	628.5	1.	0.206	6.109	0.742	-5.498	0.266	0.271	-3.612
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	204.	1.00	0.061	0.94	0.8	0.30	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L3B East Perim Zn (G.E8) 1	204.	0.	0.000	0.206	42.	0.00	0.00	5.45	0.00	-1.52

1.

REPORT- SV-A System Design Parameters for L3B (G.E9) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	789.0	1.	0.111	14.221	0.742	-12.799	0.266	0.271	-9.505

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	474.	1.00	0.142	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L3B East Perim Zn (G.E9) 1	474.	0.	0.000	0.386	53.	0.00	0.00	12.93	0.00	-6.95

1.



REPORT- SV-A System Design Parameters for L3B (G.E19) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	714.0	1.	0.112	12.810	0.742	-11.529	0.266	0.271	-8.987

		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	427.	1.00	0.128	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L3B East Perim Zn (G.E19)T	427.	0.	0.000	0.412	48.	0.00	0.00 11.62	0.00	-6.68	1.



REPORT- SV-A System Design Parameters for L4A (G.E13) APT4 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	2229.8	3.	0.204	21.916	0.742	-19.725	0.266	0.271	-12.310

		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	731.	1.00	0.219	0.94	1.0	0.41	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION		HEATING	ADDITION	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	SENSIBLE (FRAC)	RATE (KBTU/HR)	CAPACITY (KBTU/HR)	RATE (KBTU/HR)	ZONE MULT
L4A East Perim Zn (G.E13)T	731.	0.	0.000	0.204	149.	0.00	0.00	18.87	0.00	-4.89	1.

REPORT- SV-A System Design Parameters for L4A (G.NW17) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	915.5	1.	0.157	11.682	0.742	-10.513	0.266	0.271	-7.916
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	390.	1.00	0.117	0.94	1.0	0.37	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L4A NW Perim Zn (G.NW17) 1	390.	0.	0.000	0.332	61.	0.00	0.00	11.44	0.00	-4.90

1.



REPORT- SV-A System Design Parameters for L4A (G.W21) APT4 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	2478.2	3.	0.217	22.824	0.742	-20.541	0.266	0.271	-14.614

DESIGN DATA										DESIGN DATA	
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	761.	1.00	0.228	0.94	1.0	0.41	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L4A West Perim Zn (G.W21)T	761.	0.	0.000	0.220	165.	0.00	0.00 18.82	0.00	-6.36	1.

REPORT- SV-A System Design Parameters for L4A (G.SW22) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	944.2	1.	0.120	15.755	0.742	-14.179	0.266	0.271	-7.841

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	526.	1.00	0.158	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L4A SW Perim Zn (G.SW22) 1	526.	0.	0.000	0.237	63.	0.00	0.00	15.35	0.00	-4.72	1.

REPORT- SV-A System Design Parameters for L4A (G.S24) APT3 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	1832.5	2.	0.123	29.711	0.742	-26.740	0.266	0.271	-13.370

		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	991.	1.00	0.297	0.94	1.2	0.47	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	EXTRACTION RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L4A South Perim Zn (G.S24P	991.	0.	0.000	0.155	122.	0.00	0.00	28.76	0.00	-5.80	1.

REPORT- SV-A System Design Parameters for L4B (G.N4) APT4 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	2928.0	4.	0.162	36.106	0.742	-32.495	0.266	0.271	-19.727
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	1204.	1.00	0.361	0.94	1.2	0.47	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L4B North Perim Zn (G.N4)T	1204.	0.	0.000	0.219	195.	0.00	0.00	34.43	0.00	-10.00

1.

REPORT- SV-A System Design Parameters for L4B (G.E5) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	984.0	1.	0.123	16.018	0.742	-14.416	0.266	0.271	-10.100

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	534.	1.00	0.160	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L4B East Perim Zn (G.E5) 1	534.	0.	0.000	0.340	66.	0.00	0.00	15.05	0.00	-6.88	1.



REPORT- SV-A System Design Parameters for L4B (G.W6) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	765.0	1.	0.183	8.351	0.742	-7.516	0.266	0.271	-6.831

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	279.	1.00	0.084	0.94	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L4B West Perim Zn (G.W6) 1	279.	0.	0.000	0.408	51.	0.00	0.00	7.83	0.00	-4.32	1.

REPORT- SV-A System Design Parameters for L4B (G.W7) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	654.5	1.	0.232	5.656	0.742	-5.091	0.266	0.271	-3.396
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	189.	1.00	0.057	0.94	0.8	0.30	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L4B West Perim Zn (G.W7) 1	189.	0.	0.000	0.232	44.	0.00	0.00	4.45	0.00	-1.22

1.

REPORT- SV-A System Design Parameters for L4B (G.E8) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	628.5	1.	0.202	6.225	0.742	-5.603	0.266	0.271	-3.499

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	208.	1.00	0.062	0.94	0.8	0.30	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING RATE	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT
L4B East Perim Zn (G.E8) 1	208.	0.	0.000	0.202	42.	0.00	0.00	5.57	0.00	-1.41 1.

REPORT- SV-A System Design Parameters for L4B (G.E9) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	789.0	1.	0.110	14.291	0.742	-12.862	0.266	0.271	-8.758

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	477.	1.00	0.143	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L4B East Perim Zn (G.E9) 1	477.	0.	0.000	0.342	53.	0.00	0.00 12.23	0.00	-6.19	1.

REPORT- SV-A System Design Parameters for L4B (G.S10) APT7 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	3981.5	5.	0.135	58.858	0.742	-52.972	0.266	0.271	-26.486
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	1963.	1.00	0.589	0.94	1.3	0.51	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L4B South Perim Zn (G.S10P	1963.	0.	0.000	0.169	266.	0.00	0.00	55.90	0.00	-12.55

1.

REPORT- SV-A System Design Parameters for L4B (G.E19) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR		OUTSIDE	COOLING		HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	MAX	AIR	CAPACITY	SENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )	PEOPLE	RATIO	(KBTU/HR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	714.0	1.	0.106	13.480	0.742	-12.132	0.266	0.271	-8.612

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	450.	1.00	0.135	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW (CFM )	EXHAUST FLOW (CFM )	FAN (KW)	MINIMUM FLOW (FRAC)	OUTSIDE AIR FLOW (CFM )	COOLING CAPACITY (KBTU/HR)	EXTRACTION SENSIBLE (FRAC)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	ZONE MULT
L4B East Perim Zn (G.E19)T	450.	0.	0.000	0.369	48.	0.00	0.00	12.05	0.00	-6.30	1.

REPORT- SV-A System Design Parameters for L5A (G.E13) APT4 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	2229.8	3.	0.200	22.325	0.742	-20.092	0.266	0.271	-12.314

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	745.	1.00	0.223	0.94	1.0	0.41	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5A East Perim Zn (G.E13)T	745.	0.	0.000	0.200	149.	0.00	0.00	19.31	0.00	-4.89	1.

REPORT- SV-A System Design Parameters for L5A (G.NW17) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	915.5	1.	0.152	12.044	0.742	-10.839	0.266	0.271	-8.298

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	402.	1.00	0.120	0.94	1.0	0.37	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5A NW Perim Zn (G.NW17) 1	402.	0.	0.000	0.347	61.	0.00	0.00 12.22	0.00	-5.29	1.



REPORT- SV-A System Design Parameters for L5A (G.N18) APT3 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	1566.5	2.	0.154	20.351	0.742	-18.316	0.266	0.271	-11.467

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	679.	1.00	0.204	0.94	1.0	0.41	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5A North Perim Zn (G.N18P	679.	0.	0.000	0.244	105.	0.00	0.00	19.95	0.00	-6.28	1.

REPORT- SV-A System Design Parameters for L5A (G.W21) APT4 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	2478.2	3.	0.217	22.893	0.742	-20.603	0.266	0.271	-14.614

		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	764.	1.00	0.229	0.94	1.0	0.41	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT	
L5A West Perim Zn (G.W21)T	764.	0.	0.000	0.220	165.	0.00	0.00	18.87	0.00	-6.36	1.

REPORT- SV-A System Design Parameters for L5A (G.SW22) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	944.2	1.	0.120	15.797	0.742	-14.217	0.266	0.271	-7.841

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	527.	1.00	0.158	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5A SW Perim Zn (G.SW22) 1	527.	0.	0.000	0.236	63.	0.00	0.00	15.39	0.00	-4.72	1.

REPORT- SV-A System Design Parameters for L5A (G.S24) APT3 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	1832.5	2.	0.123	29.751	0.742	-26.776	0.266	0.271	-13.388

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	992.	1.00	0.298	0.94	1.2	0.47	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	EXTRACTION RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5A South Perim Zn (G.S24P	992.	0.	0.000	0.154	122.	0.00	0.00	28.80	0.00	-5.80	1.

REPORT- SV-A System Design Parameters for L5B (G.N4) APT4 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	2928.0	4.	0.162	36.176	0.742	-32.558	0.266	0.271	-19.729
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	1207.	1.00	0.362	0.94	1.2	0.47	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L5B North Perim Zn (G.N4)T	1207.	0.	0.000	0.219	195.	0.00	0.00	34.50	0.00	-10.00

1.

REPORT- SV-A System Design Parameters for L5B (G.E5) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	984.0	1.	0.119	16.515	0.742	-14.863	0.266	0.271	-10.101

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	551.	1.00	0.165	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5B East Perim Zn (G.E5) 1	551.	0.	0.000	0.329	66.	0.00	0.00	15.22	0.00	-6.88	1.

REPORT- SV-A System Design Parameters for L5B (G.W6) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	765.0	1.	0.180	8.498	0.742	-7.648	0.266	0.271	-6.835
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	283.	1.00	0.085	0.94	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L5B West Perim Zn (G.W6) 1	283.	0.	0.000	0.402	51.	0.00	0.00	7.95	0.00	-4.32

1.

REPORT- SV-A System Design Parameters for L5B (G.W7) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	654.5	1.	0.230	5.694	0.742	-5.124	0.266	0.271	-3.396
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	190.	1.00	0.057	0.94	0.8	0.30	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L5B West Perim Zn (G.W7) 1	190.	0.	0.000	0.230	44.	0.00	0.00	4.48	0.00	-1.22

1.



REPORT- SV-A System Design Parameters for L5B (G.E8) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	628.5	1.	0.195	6.460	0.742	-5.814	0.266	0.271	-3.499

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	215.	1.00	0.065	0.94	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5B East Perim Zn (G.E8) 1	215.	0.	0.000	0.195	42.	0.00	0.00	5.89	0.00	-1.41	1.

REPORT- SV-A System Design Parameters for L5B (G.E9) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	789.0	1.	0.110	14.315	0.742	-12.883	0.266	0.271	-8.758

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	478.	1.00	0.143	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5B East Perim Zn (G.E9) 1	478.	0.	0.000	0.342	53.	0.00	0.00	12.26	0.00	-6.19	1.

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	3981.5	5.	0.135	58.901	0.742	-53.011	0.266	0.271	-26.506

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	1965.	1.00	0.589	0.94	1.3	0.51	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING RATE	ADDITION RATE	ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT	
L5B South Perim Zn (G.S10P	1965.	0.	0.000	0.169	266.	0.00	0.00	55.95	0.00	-12.55	1.

REPORT- SV-A System Design Parameters for L5B (G.E19) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	714.0	1.	0.104	13.775	0.742	-12.397	0.266	0.271	-8.734
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	460.	1.00	0.138	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L5B East Perim Zn (G.E19)T	460.	0.	0.000	0.368	48.	0.00	0.00	12.02	0.00	-6.42

1.



REPORT- SV-A System Design Parameters for L6A (G.NW17) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	731.2	1.	0.139	10.552	0.742	-9.497	0.266	0.271	-7.738

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	352.	1.00	0.106	0.94	1.0	0.37	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION		
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6A NW Perim Zn (G.NW17) 1	352.	0.	0.000	0.401	49.	0.00	0.00	10.99	0.00	-5.35	1.

REPORT- SV-A System Design Parameters for L6A (G.N18) APT3 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	1404.0	2.	0.137	20.521	0.742	-18.469	0.266	0.271	-11.768

DESIGN DATA										DESIGN DATA	
FAN		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN		RATIO	RATIO
(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL		(FRAC)	(FRAC)
SUPPLY	685.	1.00	0.205	0.94	1.0	0.41	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT	
L6A North Perim Zn (G.N18P	685.	0.	0.000	0.275	94.	0.00	0.00	20.23	0.00	-7.14	1.

REPORT- SV-A System Design Parameters for L6A (G.W21) APT4 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	2478.2	3.	0.192	25.858	0.742	-23.272	0.266	0.271	-16.194

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	863.	1.00	0.259	0.94	1.2	0.47	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6A West Perim Zn (G.W21)T	863.	0.	0.000	0.243	165.	0.00	0.00 21.77	0.00	-7.96	1.



REPORT- SV-A System Design Parameters for L6A (G.SW22) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	944.2	1.	0.118	16.020	0.742	-14.418	0.266	0.271	-7.954

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	FAN PLACEMENT	FAN CONTROL	MAX FAN RATIO (FRAC)	MIN FAN RATIO (FRAC)
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF				
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)				
SUPPLY	534.	1.00	0.160	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6A SW Perim Zn (G.SW22) 1	534.	0.	0.000	0.239	63.	0.00	0.00 15.61	0.00	-4.84	1.

REPORT- SV-A System Design Parameters for L6A (G.S24) APT3 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	1832.5	2.	0.117	31.252	0.742	-28.127	0.266	0.271	-14.063

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	1043.	1.00	0.313	0.94	1.2	0.47	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	EXTRACTION RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6A South Perim Zn (G.S24P	1043.	0.	0.000	0.177	122.	0.00	0.00	30.41	0.00	-6.99	1.

REPORT- SV-A System Design Parameters for L6B (G.N4) APT4 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	2928.0	4.	0.159	36.897	0.742	-33.207	0.266	0.271	-20.295

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	1231.	1.00	0.369	0.94	1.2	0.47	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6B North Perim Zn (G.N4)T	1231.	0.	0.000	0.227	195.	0.00	0.00	35.72	0.00	-10.58	1.

REPORT- SV-A System Design Parameters for L6B (G.E5) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	984.0	1.	0.115	17.071	0.742	-15.364	0.266	0.271	-10.244

		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	569.	1.00	0.171	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING RATE	ADDITION RATE	ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT	
L6B East Perim Zn (G.E5) 1	569.	0.	0.000	0.325	66.	0.00	0.00	15.31	0.00	-7.03	1.

REPORT- SV-A System Design Parameters for L6B (G.W6) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	765.0	1.	0.170	8.979	0.742	-8.081	0.266	0.271	-6.844

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	300.	1.00	0.090	0.94	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING RATE	ADDITION CAPACITY	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT
L6B West Perim Zn (G.W6) 1	300.	0.	0.000	0.381	51.	0.00	0.00	8.34	0.00	-4.33 1.

REPORT- SV-A System Design Parameters for L6B (G.W7) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	654.5	1.	0.227	5.781	0.742	-5.203	0.266	0.271	-3.399

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	193.	1.00	0.058	0.94	0.8	0.30	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION		
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6B West Perim Zn (G.W7) 1	193.	0.	0.000	0.227	44.	0.00	0.00	4.55	0.00	-1.22	1.

REPORT- SV-A System Design Parameters for L6B (G.E8) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	628.5	1.	0.187	6.722	0.742	-6.050	0.266	0.271	-3.501

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	224.	1.00	0.067	0.94	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING RATE	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT
L6B East Perim Zn (G.E8) 1	224.	0.	0.000	0.187	42.	0.00	0.00	5.73	0.00	-1.41 1.

REPORT- SV-A System Design Parameters for L6B (G.E9) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	789.0	1.	0.108	14.569	0.742	-13.112	0.266	0.271	-8.760

DESIGN DATA										DESIGN DATA	
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	486.	1.00	0.146	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6B East Perim Zn (G.E9) 1	486.	0.	0.000	0.336	53.	0.00	0.00 12.66	0.00	-6.19	1.



REPORT- SV-A System Design Parameters for L6B (G.S10) APT7 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	3981.5	5.	0.135	58.981	0.742	-53.083	0.266	0.271	-26.542

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	1968.	1.00	0.590	0.94	1.3	0.51	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6B South Perim Zn (G.S10P	1968.	0.	0.000	0.168	266.	0.00	0.00	56.03	0.00	-12.55	1.

REPORT- SV-A System Design Parameters for L6B (G.E19) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	659.0	1.	0.088	15.021	0.742	-13.519	0.266	0.271	-9.256

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	501.	1.00	0.150	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6B East Perim Zn (G.E19)T	501.	0.	0.000	0.376	44.	0.00	0.00 13.92	0.00	-7.14	1.

REPORT- SV-A System Design Parameters for L7A (G.E13) APT2 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	956.8	1.	0.180	10.641	0.742	-9.577	0.266	0.271	-6.167

DESIGN DATA										DESIGN DATA							
FAN		DIVERSITY		POWER		FAN		STATIC		TOTAL		MECH		MAX FAN		MIN FAN	
CAPACITY		FACTOR		DEMAND		DELTA-T		PRESSURE		EFF		EFF		FAN		FAN	
(CFM )		(FRAC)		(KW)		(F)		(IN-WATER)		(FRAC)		(FRAC)		PLACEMENT		CONTROL	
TYPE																(FRAC)	
SUPPLY		355.	1.00	0.106	0.94	1.0	0.37	0.62	DRAW-THRU	CONSTANT	1.00	0.30					

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7A East Perim Zn (G.E13)T	355.	0.	0.000	0.222	64.	0.00	0.00 (9.44)	0.00	-2.98	1.

REPORT- SV-A System Design Parameters for L7A (G.W18) APT2 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	999.0	1.	0.217	9.201	0.742	-8.281	0.266	0.271	-6.581

		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	307.	1.00	0.092	0.94	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING RATE	ADDITION RATE	ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT	
L7A West Perim Zn (G.W18)T	307.	0.	0.000	0.281	67.	0.00	0.00	7.73	0.00	-3.26	1.

REPORT- SV-A System Design Parameters for L7A (G.SW19) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	891.8	1.	0.119	14.933	0.742	-13.440	0.266	0.271	-7.668

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	498.	1.00	0.149	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION		
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7A SW Perim Zn (G.SW19) 1	498.	0.	0.000	0.250	60.	0.00	0.00	14.45	0.00	-4.73	1.

REPORT- SV-A System Design Parameters for L7A (G.SSE23) APT2 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	1282.5	2.	0.111	23.091	0.742	-20.782	0.266	0.271	-10.946

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	770.	1.00	0.231	0.94	1.0	0.41	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7A SSE Perim Zn (G.SSE23P	770.	0.	0.000	0.230	86.	0.00	0.00	22.37	0.00	-6.72	1.



REPORT- SV-A System Design Parameters for L7B (G.E5) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	919.0	1.	0.096	19.224	0.742	-17.302	0.266	0.271	-11.478

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	641.	1.00	0.192	0.94	1.0	0.41	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L7B East Perim Zn (G.E5) 1	641.	0.	0.000	0.350	61.	0.00	0.00	17.62	0.00	-8.50

1.



REPORT- SV-A System Design Parameters for L7B (G.W6) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	765.0	1.	0.144	10.638	0.742	-9.574	0.266	0.271	-8.703

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	FAN	FAN	MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	PLACEMENT	CONTROL	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)			(FRAC)	(FRAC)
SUPPLY	355.	1.00	0.106	0.94	1.0	0.37	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST	FAN	MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	ZONE	
NAME	FLOW	FLOW		FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	MULT
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	
L7B West Perim Zn (G.W6) 1	355.	0.	0.000	0.462	51.	0.00	0.00	11.58	0.00	-6.22	1.

REPORT- SV-A System Design Parameters for L7B (G.W7) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	654.5	1.	0.162	8.063	0.742	-7.256	0.266	0.271	-5.606

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	269.	1.00	0.081	0.94	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7B West Perim Zn (G.W7) 1	269.	0.	0.000	0.338	44.	0.00	0.00	6.92	0.00	-3.45	1.

REPORT- SV-A System Design Parameters for L7B (G.E8) APT1 PTHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	628.5	1.	0.141	8.925	0.742	-8.032	0.266	0.271	-5.621
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	298.	1.00	0.089	0.94	0.9	0.34	0.62	DRAW-THRU	CONSTANT	1.00

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L7B East Perim Zn (G.E8) 1	298.	0.	0.000	0.315	42.	0.00	0.00	8.52	0.00	-3.55

1.

REPORT- SV-A System Design Parameters for L7B (G.E9) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	789.0	1.	0.090	17.626	0.742	-15.864	0.266	0.271	-10.619

DESIGN DATA										DESIGN DATA	
FAN		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN		RATIO	RATIO
(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL		(FRAC)	(FRAC)
SUPPLY	588.	1.00	0.176	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING RATE	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT
L7B East Perim Zn (G.E9) 1	588.	0.	0.000	0.362	53.	0.00	0.00	16.80	0.00	-8.07 1.

REPORT- SV-A System Design Parameters for L7B (G.SSW10) APT7 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	3981.5	5.	0.110	72.158	0.742	-64.942	0.266	0.271	-37.188

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	2407.	1.00	0.722	0.94	1.3	0.51	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7B SSW Perim Zn (G.SSW10P	2407.	0.	0.000	0.264	266.	0.00	0.00 70.19	0.00	-24.10	1.

REPORT- SV-A System Design Parameters for L8A (G.E3) APT2 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	956.8	1.	0.147	13.024	0.742	-11.722	0.266	0.271	-8.177

DESIGN DATA										DESIGN DATA	
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	434.	1.00	0.130	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING CAPACITY	ADDITION	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L8A East Perim Zn (G.E3) 2	434.	0.	0.000	0.305	64.	0.00	0.00	11.54	0.00	-5.02

REPORT- SV-A System Design Parameters for L8A (G.W8) APT2 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	891.0	1.	0.167	10.681	0.742	-9.613	0.266	0.271	-7.686

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	FAN PLACEMENT	FAN CONTROL	MAX FAN RATIO (FRAC)	MIN FAN RATIO (FRAC)
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF				
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)				
SUPPLY	356.	1.00	0.107	0.94	1.0	0.37	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING CAPACITY	ADDITION	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)
L8A West Perim Zn (G.W8) 2	356.	0.	0.000	0.352	59.	0.00	0.00	9.24	0.00	-4.75

REPORT- SV-A System Design Parameters for L8A (G.SW9) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	688.5	1.	0.101	13.663	0.742	-12.297	0.266	0.271	-7.440

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	456.	1.00	0.137	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L8A SW Perim Zn (G.SW9) A	456.	0.	0.000	0.300	46.	0.00	0.00	13.39	0.00	-5.19	1.



REPORT- SV-A System Design Parameters for L8A (G.NW11) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	776.5	1.	0.117	13.241	0.742	-11.917	0.266	0.271	-8.957

DESIGN DATA										DESIGN DATA	
FAN		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN		RATIO	RATIO
(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL		(FRAC)	(FRAC)
SUPPLY	442.	1.00	0.132	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE RATE	HEATING CAPACITY	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC) (KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L8A NW Perim Zn (G.NW11) 1	442.	0.	0.000	0.384	52.	0.00	0.00 13.10	0.00	-6.43	1.

REPORT- SV-A System Design Parameters for L8A (G.NE12) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	948.8	1.	0.120	15.809	0.742	-14.228	0.266	0.271	-10.080

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	527.	1.00	0.158	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING RATE	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT
L8A NE Perim Zn (G.NE12) 1	527.	0.	0.000	0.349	63.	0.00	0.00	17.12	0.00	-6.98 1.

REPORT- SV-A System Design Parameters for L8A (G.S13) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR	MAX PEOPLE	OUTSIDE	COOLING	SENSIBLE (SHR)	HEATING	COOLING	HEATING	HEAT PUMP
		AREA (SQFT )		AIR RATIO	CAPACITY (KBTU/HR)		CAPACITY (KBTU/HR)	EIR (BTU/BTU)	EIR (BTU/BTU)	SUPP-HEAT (KBTU/HR)
PVVT	1.001	540.0	1.	0.095	11.349	0.742	-10.214	0.266	0.271	-5.107

DESIGN DATA										DESIGN DATA	
FAN TYPE	CAPACITY (CFM )	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	FAN PLACEMENT	FAN CONTROL	MAX FAN RATIO (FRAC)	MIN FAN RATIO (FRAC)
		FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF				
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)				
SUPPLY	379.	1.00	0.113	0.94	1.0	0.37	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN FLOW	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	EXTRACTION SENSIBLE	HEATING RATE	ADDITION RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	MULT
L8A South Perim Zn (G.S13P	379.	0.	0.000	0.225	36.	0.00	0.00	11.26	0.00	-3.22 1.

REPORT- SV-A System Design Parameters for L8A (G.SE14) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	540.0	1.	0.085	12.747	0.742	-11.472	0.266	0.271	-6.738

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	425.	1.00	0.127	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L8A SE Perim Zn (G.SE14) 1	425.	0.	0.000	0.309	36.	0.00	0.00	12.34	0.00	-4.99	1.

REPORT- SV-A System Design Parameters for Freeze Protect

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR AREA (SQFT )	MAX PEOPLE	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	HEAT PUMP SUPP-HEAT (KBTU/HR)
UHT	1.001	55590.5	0.	0.000	0.000	0.000	0.000	0.000	0.000	0.000

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE NAME	SUPPLY FLOW (CFM )	EXHAUST FLOW (CFM )	FAN (KW)	MINIMUM FLOW (FRAC)	OUTSIDE AIR FLOW (CFM )	COOLING CAPACITY (KBTU/HR)	SENSIBLE (FRAC)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)	ADDITION RATE (KBTU/HR)	ZONE MULT
L2B South Perim Zn (G.S27E	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
L6A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
P1A West Perim Zn (B.W7) H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
L2A Core Zn (G.C16) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
L3A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
L4A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
L5A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
L6A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
L7A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
L8A Core Zn (G.C5) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
P2A NNW Perim Zn (B.NNW13K	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-15.61 (BASEBOARDS)	
P2B NW Perim Zn (B.NW6) X	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
P2B South Perim Zn (B.S10K	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-161.07 (BASEBOARDS)	
P2B NNE Perim Zn (B.NNE12K	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-26.08 (BASEBOARDS)	
P1B South Perim Zn (B.S6)G	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-55.54 (BASEBOARDS)	
P1B NNE Perim Zn (B.NNE9)G	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-40.45 (BASEBOARDS)	
L1A East Perim Zn (G.E18)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.80 (BASEBOARDS)	
L1A Core Zn (G.C20) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.43 (BASEBOARDS)	
L2A East Perim Zn (G.E13)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.70 (BASEBOARDS)	
L2A Core Zn (G.C15) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.16 (BASEBOARDS)	
L3A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.76 (BASEBOARDS)	
L3A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.27 (BASEBOARDS)	
L4A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.74 (BASEBOARDS)	
L4A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.27 (BASEBOARDS)	
L5A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.74 (BASEBOARDS)	
L5A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.27 (BASEBOARDS)	
L6A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.74 (BASEBOARDS)	
L6A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.27 (BASEBOARDS)	
L7A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.77 (BASEBOARDS)	
L7A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.26 (BASEBOARDS)	
L8A East Perim Zn (G.E2) F	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.83 (BASEBOARDS)	
L8A Core Zn (G.C4) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										-0.34 (BASEBOARDS)	

P2A Core Zn (B.C1) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
P2A Core Zn (B.C2) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
P2B Core Zn (B.C4) MECH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
P2B Core Zn (B.C5) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
P2B SE Perim Zn (B.SE8) M	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
P1A Core Zn (B.C1) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
P1A Core Zn (B.C2) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
P1A NNW Perim Zn (B.NNW8)C	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
P1B Core Zn (B.C4) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
P1B SE Perim Zn (B.SE5) M	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
P1B ENE Perim Zn (B.ENE10E	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
L1A Core Zn (G.C1) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	
L1A Core Zn (G.C2) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	1.
										0.00 (BASEBOARDS)	

REPORT- SV-A System Design Parameters for Freeze Protect

WEATHER FILE- SEATTLE BOEING FI WA

											(CONTINUED)		
L1B Core Zn (G.C3) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L2A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L2A NNW Perim Zn (G.NNW24T	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L2B Core Zn (G.C2) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L3A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L3A Core Zn (G.C20) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L3B Core Zn (G.C2) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L4A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L4A Core Zn (G.C20) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L4B Core Zn (G.C2) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L5A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L5A Core Zn (G.C20) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L5B Core Zn (G.C2) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L6A Core Zn (G.C20) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L6B Core Zn (G.C2) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L7A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L7A Core Zn (G.C17) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L7B Core Zn (G.C2) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L8A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L8A Core Zn (G.C7) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
P2B NNE Perim Zn (B.NNE11L	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L1A Core Zn (G.C23) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L1A SW Perim Zn (G.SW26) C	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
L1B Core Zn (G.C12) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L2A Core Zn (G.C17) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L2B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L3A Core Zn (G.C16) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L3B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L4A Core Zn (G.C16) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L4B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L5A Core Zn (G.C16) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L5B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L6A Core Zn (G.C16) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L6B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L7A Core Zn (G.C16) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L7B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L8A Core Zn (G.C6) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
P2A Core Zn (B.C7) STO	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
P2B NE Perim Zn (B.NE9) S	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L1A Core Zn (G.C16) RR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L1A WNW Perim Zn (G.WNW25T	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			
L2A West Perim Zn (G.W25)O	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00	0.00	1.	
										0.00 (BASEBOARDS)			

REPORT- SV-A System Design Parameters for L2A (G.SW20) RST PSZHP WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PSZ	1.001	2287.5	76.	0.045	380.826	0.742	-342.744	0.251	0.274	-415.638

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	12704.	1.00	9.635	2.36	3.5	0.55	0.62	DRAW-THRU	CONSTANT	1.00	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2A SW Perim Zn (G.SW20)	12704.	12704.	3.725	1.000	572.	0.00	0.00	74.78	0.00	-31.32	1.



REPORT- SV-A System Design Parameters for Sys 8 - VAV+PFP L1 WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PIU	1.001	2105.5	17.	0.602	11.126	0.742	0.000	0.000	0.000	0.000
FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH		MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)
SUPPLY	287.	1.00	0.325	3.53	5.3	0.55	0.72	DRAW-THRU	SPEED	1.10

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1B SSW Perim Zn (G.SSW130	303.	0.	0.080	0.699	73.	0.00	0.00	2.33	-12.82	-11.41	1.
L1B Core Zn (G.C14) OFF	170.	0.	0.052	0.210	22.	0.00	0.00	2.39	-8.27	-7.82	1.
L1A SSW Perim Zn (G.SSW15I	675.	0.	0.209	1.000	78.	0.00	0.00	1.27	-33.33	-31.64	1.

REPORT- SV-A System Design Parameters for Sys 8 - VAV+PFP Corr (L1-L8)

WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PIU	1.001	20700.8	102.	0.668	85.562	0.742	0.000	0.000	0.000	0.000

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	2300.	0.97	2.599	3.53	6.0	0.62	0.72	DRAW-THRU	SPEED	1.10	0.30

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L8A Core Zn (G.C10) COR	56.	0.	0.004	1.000	45.	0.00	0.00	1.44	-0.61	-0.03	1.
L1A Core Zn (G.C21) COR	5.	0.	0.001	1.000	3.	0.00	0.00	0.09	-0.12	-0.10	1.
P1B Core Zn (B.C12) COR	72.	0.	0.016	1.000	28.	0.00	0.00	0.55	-2.49	-2.60	1.
L1A Core Zn (G.C22) COR	36.	0.	0.007	1.000	15.	0.00	0.00	0.36	-1.16	-1.20	1.
L1B Core Zn (G.C4) COR	65.	0.	0.005	1.000	52.	0.00	0.00	1.25	-0.70	-0.25	1.
L2A Core Zn (G.C26) COR	77.	0.	0.005	1.000	61.	0.00	0.00	1.47	-0.83	0.00	1.
L2B Core Zn (G.C3) COR	86.	0.	0.006	1.000	69.	0.00	0.00	1.77	-0.93	0.00	1.
L3A Core Zn (G.C23) COR	51.	0.	0.004	1.000	41.	0.00	0.00	1.08	-0.55	0.00	1.
L3B North Perim Zn (G.N3)R	131.	0.	0.009	1.000	105.	0.00	0.00	2.96	-1.42	0.00	1.
L4A Core Zn (G.C23) COR	51.	0.	0.004	1.000	41.	0.00	0.00	1.08	-0.55	0.00	1.
L4B North Perim Zn (G.N3)R	131.	0.	0.009	1.000	105.	0.00	0.00	3.00	-1.42	0.00	1.
L5A Core Zn (G.C23) COR	51.	0.	0.004	1.000	41.	0.00	0.00	1.08	-0.55	0.00	1.
L5B North Perim Zn (G.N3)R	131.	0.	0.009	1.000	105.	0.00	0.00	3.06	-1.42	0.00	1.
L6A Core Zn (G.C23) COR	51.	0.	0.004	1.000	41.	0.00	0.00	1.11	-0.55	0.00	1.
L6B North Perim Zn (G.N3)R	131.	0.	0.009	1.000	105.	0.00	0.00	3.15	-1.42	0.00	1.
L7A Core Zn (G.C20) COR	58.	0.	0.005	0.648	37.	0.00	0.00	1.90	-0.78	-0.19	1.
L7B North Perim Zn (G.N3)R	178.	0.	0.016	0.590	105.	0.00	0.00	5.82	-2.40	-1.57	1.
P2A Core Zn (B.C3) COR	60.	0.	0.005	0.238	14.	0.00	0.00	0.77	-0.81	-0.81	1.
P1A Core Zn (B.C3) COR	22.	0.	0.003	1.000	14.	0.00	0.00	0.41	-0.45	-0.38	1.
L1A South Perim Zn (G.S170	815.	0.	0.195	1.000	257.	0.00	0.00	5.22	-31.11	-24.66	1.
L2B SSW Perim Zn (G.SSW120	866.	0.	0.106	0.292	252.	0.00	0.00	20.40	-16.89	-11.07	1.
L2A Core Zn (G.C21) MAIL	64.	0.	0.006	0.010	0.	0.00	0.00	1.32	-0.86	-0.81	1.
L2A Core Zn (G.C22) MAIL	13.	0.	0.002	0.010	0.	0.00	0.00	0.29	-0.38	-0.37	1.

REPORT- SV-A System Design Parameters for Sys 4 -PSZ-HP Amenities WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM	ALTITUDE	FLOOR	MAX	OUTSIDE	COOLING	SENSIBLE	HEATING	COOLING	HEATING	HEAT PUMP
TYPE	FACTOR	AREA	PEOPLE	AIR	CAPACITY	(SHR)	CAPACITY	EIR	EIR	SUPP-HEAT
		(SQFT )		RATIO	(KBTU/HR)		(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PIU	1.001	1607.5	0.	0.099	29.815	0.742	-26.834	0.360	0.370	-13.417

FAN	CAPACITY	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
TYPE	(CFM )	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
		(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	972.	1.00	0.787	2.53	4.2	0.60	0.72	DRAW-THRU	CONSTANT	1.10	0.30

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ZONE	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING		EXTRACTION	HEATING	ADDITION	
NAME	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7A NW Perim Zn (G.NW21)	779.	0.	0.116	1.000	47.	0.00	0.00	11.41	-20.29	-11.13	1.
L7A NE Perim Zn (G.NE22)	873.	0.	0.122	1.000	50.	0.00	0.00	13.13	-21.73	-10.99	1.