REPORT- SV-A System Design Parameters for  $\,$  P1B (B.N11) APT1 PTHP  $\,$ 

WEATHER FILE- SEATTLE BOEING FI WA

				(-							
		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	464.0	1.	0.1	101 9.1	.64	0.742	-8.247	0.266	0.271	-10.001
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I.		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	N FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	306.	1.00	0.092	0.93	0.9	0.34	0.62	2 DRAW-THR	U CONSTAN	г 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE 2	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) N	MULT
P1B North Perim Zn (B N11P	306.	0	0 000	0 740	31.	0 00	0 00	7 23	0.00	-8 62	1

KEFORI S		Design rara		(I	AF14				WEATH	SE	ATIDE BOEIN	, r.
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2465.0	3.	0.1	107 46.1	.38	0.742	-41.524	0.266	0.271	-50.356	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	H		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	ef E	F FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC	) PLACEMEN	T CONTRO	L (FRAC)	(FRAC)	
SUPPLY	1539.	1.00	0.461	0.93	1.2	0.48	0.62	2 DRAW-THR	U CONSTAN	T 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
		_									
P1B North Perim Zn (B.N13P	1539.	0.	0.000	0.733	165.	0.00	0.00	39.58	0.00	-42.97	1.

				(-								
		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX		AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	705.0	1.	0.1	102 13.8	93	0.742	-12.503	0.266	0.271	-15.162	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAI	ı FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	r control	L (FRAC)	(FRAC)	
SUPPLY	463.	1.00	0.139	0.93	1.0	0.40	0.62	2 DRAW-THRU	J CONSTANT	Γ 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) I	MULT
P1B NE Perim Zn (B.NE14) 1	463.	0.	0.000	0.740	47.	0.00	0.00	9.99	0.00	-13.08	1.

REPORT- SV-A	. System D	esign	Parameters	for	L1A	(G.E19)	APT2 PTHP
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WEATHER F	TLE- SE	ATTLE B	OFING	FΤ	WΑ

				(								
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1033.8	1.	0.1	131 15.8	14	0.742	-14.232	0.266	0.271	-17.259	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	' FAI	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	528.	1.00	0.158	0.93	1.0	0.40	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	MULT
L1A East Perim Zn (G.E19)T	528.	0.	0.000	0.700	69.	0.00	0.00	9.93	0.00	-14.06	1.

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

WEATHER FILE- SEATTLE BOEING FI WA

				(								
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I A	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	749.2	1.	0.1	161 9.2	187	0.742	-8.358	0.266	0.271	-10.136	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAI	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	r control	L (FRAC)	(FRAC)	
SUPPLY	310.	1.00	0.093	0.93	0.9	0.34	0.62	DRAW-THR	U CONSTANT	Γ 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1A NNE Perim Zn (G.NNE24P	310.	0.	0.000	0.658	50.	0.00	0.00	8.03	0.00	-7.76	1.

REPORT- SV-A System Design Parameters for  $\,$  L1A (G.WNW27) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

				,								
		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	493.5	1.	0.0	10.3	81	0.742	-9.343	0.266	0.271	-7.089	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAI	I FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	r control	L (FRAC)	(FRAC)	
SUPPLY	346.	1.00	0.104	0.94	1.0	0.37	0.62	DRAW-THRU	J CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1A WNW Perim Zn (G.WNW27P	346.	0.	0.000	0.419	33.	0.00	0.00	10.35	0.00	-5.51	1.

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

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	1326.0	2.	0.1	.07 24.6	80	0.742	-22.212	0.266	0.271	-14.826
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	' FA	N FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	823.	1.00	0.247	0.94	1.0	0.41	0.62	DRAW-THR	U CONSTANT	r 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1A North Perim Zn (G.N28P	823.	0.	0.000	0.336	89.	0.00	0.00	24.52	0.00	-10.51	1.

REPORT- SV-A System Design Parameters for L1B (G.N5) APT4 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	'IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2580.0	3.	0.1	.14 45.0	98	0.742	-40.588	0.266	0.271	-21.283	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	' FA	n fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	(FRAC)	(FRAC)	
SUPPLY	1504.	1.00	0.451	0.94	1.2	0.48	0.62	DRAW-THR	U CONSTANT	1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1B North Perim Zn (G.N5)T	1504.	0.	0.000	0.224	172.	0.00	0.00	44.46	0.00	-12.77	1.

REPORT-	SV-A	System	Design	Parameters	for	L1B	(G.E6)	APT1	PTHP
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WEATHER FILE- SEATTLE BOEING FI V	MEAIHER	WA
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			101								
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	668.0	1.	0.1	.13 11.8	19	0.742	-10.637	0.266	0.271	-8.179
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	an fan	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	394.	1.00	0.118	0.94	1.0	0.37	0.62	DRAW-THE	RU CONSTANT	г 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE :	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) I	MULT
L1B East Perim Zn (G.E6) 1	394.	0.	0.000	0.402	45.	0.00	0.00	11.53	0.00	-6.02	1.

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	765.0	1.	0.1	.14 13.4	01	0.742	-12.061	0.266	0.271	-14.626
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	, FA	n fai	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROI	(FRAC)	(FRAC)
SUPPLY	447.	1.00	0.134	0.93	1.0	0.40	0.62	DRAW-THR	U CONSTANT	1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1B West Perim Zn (G.W7) 1	447.	0.	0.000	0.722	51.	0.00	0.00	13.69	0.00	-12.29	1.

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

WEATHER FILE- SEATTLE BOEING FI WA

	,											
		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	654.5	1.	0.1	104 12.5	58	0.742	-11.302	0.266	0.271	-13.706	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	419.	1.00	0.126	0.93	1.0	0.37	0.62	DRAW-THE	RU CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	JLT
L1B West Perim Zn (G.W8) 1	419.	0.	0.000	0.736	44.	0.00	0.00	6.76	0.00	-11.73	1.

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	'IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	713.5	1.	0.1	13 12.5	83	0.742	-11.325	0.266	0.271	-13.734	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	' FAI	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	r control	(FRAC)	(FRAC)	
SUPPLY	420.	1.00	0.126	0.93	1.0	0.37	0.62	DRAW-THR	J CONSTANT	1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM)	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1B East Perim Zn (G.E9) 1	420.	0.	0.000	0.724	48.	0.00	0.00	7.36	0.00	-11.56	1.

KEFORI S				(	AFII				WEATH		ATTHE BOEING	
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	519.0	1.	0.0	12.4	38	0.742	-11.194	0.266	0.271	-13.575	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	415.	1.00	0.124	0.93	1.0	0.37	0.62	DRAW-THR	U CONSTAN	r 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	MULT
L1B East Perim Zn (G.E10)T	415.	0.	0.000	0.764	35.	0.00	0.00	7.62	0.00	-12.06	1.

REPORT- SV-A System Design Parameters for  $\,$  L1B (G.S11) APT5 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	1978.0	3.	0.1	101 39.1	76	0.742	-35.258	0.266	0.271	-42.757
		DIVERSITY	POWER	FAN	STATIC	TOTAL	L MECH	ī		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFE			N FAI		
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)					(FRAC)
SUPPLY	1307.	1.00	0.392	0.93	1.2	0.48	3 0.62	DRAW-THR	U CONSTANT	г 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1B South Perim Zn (G.S11P	1307.	0.	0.000	0.740	132.	0.00	0.00	27.91	0.00	-36.76	1.

REPORT- SV-A	. System De	esign	Parameters	for	L1B	(G.E29)	APT1	PTHP
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WEATHER FILE- SEATTLE BOE	ING I	ľΙ	WA
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		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	429.5	1.	0.0	196 8.9	78	0.742	-8.080	0.266	0.271	-6.447	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F.F.F	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	300.	1.00	0.090	0.94	0.9	0.34	0.62	DRAW-THE	RU CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	MULT
L1B East Perim Zn (G.E29)T	300.	0.	0.000	0.446	29.	0.00	0.00	8.97	0.00	-5.08	1.

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		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1947.8	2.	0.2	248 15.6	95	0.742	-14.126	0.266	0.271	-13.573	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	(FRAC)	(FRAC)	
SUPPLY	524.	1.00	0.157	0.94	1.0	0.40	0.62	DRAW-THE	RU CONSTANT	1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE 2	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) N	MULT
L2A East Perim Zn (G.E14)T	524.	0.	0.000	0.358	130.	0.00	0.00	12.95	0.00	-7.13	1.

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		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1270.5	2.	0.1	.09 23.2	98	0.742	-20.968	0.266	0.271	-14.660	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	n FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	777.	1.00	0.233	0.94	1.0	0.41	0.62	DRAW-THR	U CONSTAN	T 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2A WNW Perim Zn (G.WNW18P	777.	0.	0.000	0.357	85.	0.00	0.00	22.60	0.00	-10.53	1.

REPORT- SV-A System Design Parameters for L2A (G.N19) APT2 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1039.0	1.	0.1	17.0	158	0.742	-15.353	0.266	0.271	-8.948	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	eff.	FA FA	n FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	569.	1.00	0.171	0.94	1.0	0.40	0.62	DRAW-THR	U CONSTANT	r 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2A North Perim Zn (G.N19P	569.	0.	0.000	0.256	69.	0.00	0.00	16.87	0.00	-5.53	1.

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		FLOOR		OUTS	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2928.0	4.	0.1	129 45.3	129	0.742	-40.796	0.266	0.271	-22.210	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I.		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	1512.	1.00	0.453	0.94	1.2	0.48	0.62	2 DRAW-THE	RU CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2B North Perim Zn (G.N4)T	1512.	0.	0.000	0.218	195.	0.00	0.00	44.38	0.00	-12.52	1.

REPORT-	SV-A	System	Design	Parameters	for	L2B	(G.E5)	APT1	PTHP
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WEATHER FILE- SEATTLE BOEING FI V	MEAIHER	WA
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		FLOOR		OUTS	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	984.0	1.	0.1	119 16.4	84	0.742	-14.835	0.266	0.271	-11.724	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r F	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	550.	1.00	0.165	0.94	1.0	0.40	0.62	DRAW-TH	RU CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE 2	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) N	MULT
L2B East Perim Zn (G.E5) 1	550.	0.	0.000	0.409	66.	0.00	0.00	16.15	0.00	-8.53	1.

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	765.0	1.	0.1	.38 11.1	.29	0.742	-10.016	0.266	0.271	-8.498	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	371.	1.00	0.111	0.94	1.0	0.37	0.62	DRAW-THE	RU CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	MULT
L2B West Perim Zn (G.W6) 1	371.	0.	0.000	0.426	51.	0.00	0.00	10.86	0.00	-6.01	1.

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		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	654.5	1.	0.2	226 5.8	803	0.742	-5.223	0.266	0.271	-3.345	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	194.	1.00	0.058	0.94	0.8	0.30	0.62	DRAW-THR	.U CONSTAN	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	
I.2B West Perim Zn (G W7) 1	194	0	0 000	0 226	44	0 00	0 00	4 69	0 00	-1 17 1	

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		FLOOR		OUTS	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. 1	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	628.5	1.	0.2	222 5.6	60	0.742	-5.094	0.266	0.271	-3.124	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA	n fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	189.	1.00	0.057	0.94	0.8	0.30	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	
I.2B East Perim Zn (G E8) 1	189	0	0 000	0 222	42	0 00	0 00	4 64	0 00	-1 04 1	

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	558.0	1.	0.1	150 7.4	37	0.742	-6.693	0.266	0.271	-7.717
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF			N FAI		
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	248.	1.00	0.074	0.94	0.9	0.34	0.62	2 DRAW-THR	.U CONSTAN	г 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	ULT
L2B East Perim Zn (G E9) 1	248	0	0 000	0 629	37	0 00	0 00	6 34	0.00	-5 94	1

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		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2721.0	3.	0.1	151 36.0	21	0.742	-32.419	0.266	0.271	-21.296	
		DIVERSITY	POWER	FAN	STATIC	TOTAI	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	eff.	FA FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	1202.	1.00	0.360	0.94	1.2	0.47	0.62	DRAW-THR	U CONSTAN	r 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2B South Perim Zn (G.S10P	1202.	0.	0.000	0.270	182.	0.00	0.00	36.20	0.00	-12.30	1.

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		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	714.0	1.	0.1	12.1	23	0.742	-10.911	0.266	0.271	-10.072	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	n fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	404.	1.00	0.121	0.94	1.0	0.37	0.62	DRAW-THR	U CONSTAN	r 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE 2	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) N	MULT
L2B East Perim Zn (G.E23)T	404.	0.	0.000	0.507	48.	0.00	0.00	11.85	0.00	-7.79	1.

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

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2229.8	3.	0.2	248 17.9	87	0.742	-16.189	0.266	0.271	-11.800	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	eff.	FA FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	600.	1.00	0.180	0.94	1.0	0.40	0.62	DRAW-THR	U CONSTAN	r 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE 2	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) N	MULT
L3A East Perim Zn (G.E13)T	600.	0.	0.000	0.248	149.	0.00	0.00	14.52	0.00	-4.39	1.

REPORT- SV-A System Design Parameters for  $\,$  L3A (G.NW17) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. A	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	915.5	1.	0.1	.17 15.7	02	0.742	-14.132	0.266	0.271	-8.981
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA1	ı FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	r control	L (FRAC)	(FRAC)
SUPPLY	524.	1.00	0.157	0.94	1.0	0.40	0.62	DRAW-THRU	J CONSTANT	г 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	ſLΤ
L3A NW Perim Zn (G.NW17) 1	524.	0.	0.000	0.301	61.	0.00	0.00	14.18	0.00	-5.98	1.

REPORT- SV		Design Fara	IOI		.NIO/ API3				mraaw	SE	BOEIN	3 FI W
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1566.5	2.	0.1	.31 23.9	28	0.742	-21.535	0.266	0.271	-11.656	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAI	I FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	r controi	L (FRAC)	(FRAC)	
SUPPLY	798.	1.00	0.239	0.94	1.0	0.41	0.62	DRAW-THRU	J CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUI	LT
L3A North Perim Zn (G.N18P	798.	0.	0.000	0.214	105.	0.00	0.00	22.85	0.00	-6.47 1	1.

	Design Para	IOI	L3A (0	.WZI) AP14				WEAIH	SR FILE- SE	AIILE BUEIN	G FI WA
	FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
1.001	2478.2	3.	0.1	172 28.8	23	0.742	-25.941	0.266	0.271	-17.612	
							_				
	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ł		MAX FAN	MIN FAN	
CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	' EFF	FAI	N FAI	N RATIO	RATIO	
(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	r controi	L (FRAC)	(FRAC)	
962.	1.00	0.288	0.94	1.2	0.47	0.62	DRAW-THRU	J CONSTANT	г 1.00	0.30	
	ALTITUDE FACTOR 1.001 CAPACITY (CFM )	FLOOR ALTITUDE AREA FACTOR (SQFT )  1.001 2478.2  DIVERSITY CAPACITY FACTOR (CFM ) (FRAC)	FLOOR ALTITUDE AREA MAX FACTOR (SQFT ) PEOPLE  1.001 2478.2 3.  DIVERSITY POWER CAPACITY FACTOR DEMAND (CFM ) (FRAC) (KW)	FLOOR OUTSI ALTITUDE AREA MAX FACTOR (SQFT ) PEOPLE RAT  1.001 2478.2 3. 0.1  DIVERSITY POWER FAN CAPACITY FACTOR DEMAND DELTA-T (CFM ) (FRAC) (KW) (F)	FLOOR OUTSIDE COOLI ALTITUDE AREA MAX AIR CAPACI FACTOR (SQFT) PEOPLE RATIO (KBTU/H  1.001 2478.2 3. 0.172 28.8  DIVERSITY POWER FAN STATIC CAPACITY FACTOR DEMAND DELTA-T PRESSURE (CFM) (FRAC) (KW) (F) (IN-WATER)	ALTITUDE AREA MAX AIR CAPACITY SE FACTOR (SQFT) PEOPLE RATIO (KBTU/HR)  1.001 2478.2 3. 0.172 28.823  DIVERSITY POWER FAN STATIC TOTAL CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF (CFM) (FRAC) (KW) (F) (IN-WATER) (FRAC)	FLOOR OUTSIDE COOLING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR)  1.001 2478.2 3. 0.172 28.823 0.742  DIVERSITY POWER FAN STATIC TOTAL MECH CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC)	FLOOR OUTSIDE COOLING HEATING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR)  1.001 2478.2 3. 0.172 28.823 0.742 -25.941  DIVERSITY POWER FAN STATIC TOTAL MECH CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAI (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT	FLOOR OUTSIDE COOLING HEATING COOLING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU)  1.001 2478.2 3. 0.172 28.823 0.742 -25.941 0.266  DIVERSITY POWER FAN STATIC TOTAL MECH CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAI (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL	FLOOR OUTSIDE COOLING HEATING COOLING HEATING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU)  1.001 2478.2 3. 0.172 28.823 0.742 -25.941 0.266 0.271  DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC)	FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR)  1.001 2478.2 3. 0.172 28.823 0.742 -25.941 0.266 0.271 -17.612  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	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L3A West Perim Zn (G.W21)T	962.	0.	0.000	0.258	165.	0.00	0.00	25.70	0.00	-9.40	1.

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	944.2	1.	0.1	129 14.6	26	0.742	-13.163	0.266	0.271	-8.607	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	' FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	488.	1.00	0.146	0.94	1.0	0.40	0.62	DRAW-THR	U CONSTANT	r 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE 2	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) N	MULT
L3A SW Perim Zn (G.SW22) 1	488.	0.	0.000	0.297	63.	0.00	0.00	14.42	0.00	-5.50	1.

REPORT- SV-A System Design Parameters for L3A (G.S24) APT3 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1832.5	2.	0.1	144 25.3	80	0.742	-22.842	0.266	0.271	-13.031	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	n fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	847.	1.00	0.254	0.94	1.0	0.41	0.62	DRAW-THR	U CONSTANT	T 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L3A South Perim Zn (G.S24P	847.	0.	0.000	0.217	122.	0.00	0.00	26.65	0.00	-6.95	1.

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

WEATHER FILE- SEATTLE BOEING FI WA

2	5									
	FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
ALTITUDE	AREA	MAX	I A	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
1.001	2928.0	4.	0.1	136 43.0	03	0.742	-38.703	0.266	0.271	-20.644
				ama m = a						
	DIVERSITY	POWER	F'AN	STATIC	TOTAL	MECH	l		MAX FAN	MIN FAN
CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	' EFF	' FAI	I FAI	N RATIO	RATIO
(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	L (FRAC)	(FRAC)
1435.	1.00	0.430	0.94	1.2	0.48	0.62	DRAW-THRU	J CONSTANT	r 1.00	0.30
	ALTITUDE FACTOR 1.001 CAPACITY (CFM )	FLOOR ALTITUDE AREA FACTOR (SQFT )  1.001 2928.0  DIVERSITY CAPACITY FACTOR (CFM ) (FRAC)	ALTITUDE AREA MAX FACTOR (SQFT) PEOPLE  1.001 2928.0 4.  DIVERSITY POWER CAPACITY FACTOR DEMAND (KW)	FLOOR OUTSI ALTITUDE AREA MAX F FACTOR (SQFT ) PEOPLE RAT  1.001 2928.0 4. 0.1  DIVERSITY POWER FAN CAPACITY FACTOR DEMAND DELTA-T (CFM ) (FRAC) (KW) (F)	FLOOR OUTSIDE COOLI ALTITUDE AREA MAX AIR CAPACI FACTOR (SQFT ) PEOPLE RATIO (KBTU/H  1.001 2928.0 4. 0.136 43.0  DIVERSITY POWER FAN STATIC CAPACITY FACTOR DEMAND DELTA-T PRESSURE (CFM ) (FRAC) (KW) (F) (IN-WATER)	FLOOR OUTSIDE COOLING ALTITUDE AREA MAX AIR CAPACITY SE FACTOR (SQFT) PEOPLE RATIO (KBTU/HR)  1.001 2928.0 4. 0.136 43.003  DIVERSITY POWER FAN STATIC TOTAL CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF (CFM) (FRAC) (KW) (F) (IN-WATER) (FRAC)	FLOOR OUTSIDE COOLING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR)  1.001 2928.0 4. 0.136 43.003 0.742  DIVERSITY POWER FAN STATIC TOTAL MECH CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF (CFM) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC)	FLOOR OUTSIDE COOLING HEATING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR)  1.001 2928.0 4. 0.136 43.003 0.742 -38.703  DIVERSITY POWER FAN STATIC TOTAL MECH CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT	FLOOR OUTSIDE COOLING HEATING COOLING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU)  1.001 2928.0 4. 0.136 43.003 0.742 -38.703 0.266  DIVERSITY POWER FAN STATIC TOTAL MECH CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAI (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL	FLOOR OUTSIDE COOLING HEATING COOLING HEATING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU)  1.001 2928.0 4. 0.136 43.003 0.742 -38.703 0.266 0.271  DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	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	1435.	0.	0.000	0.201	195.	0.00	0.00	40.78	0.00	-10.93	1.

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. A	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	984.0	1.	0.1	129 15.2	189	0.742	-13.760	0.266	0.271	-10.096	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	510.	1.00	0.153	0.94	1.0	0.40	0.62	DRAW-THE	RU CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	ULT
L3B East Perim Zn (G.E5) 1	510.	0.	0.000	0.356	66.	0.00	0.00	14.50	0.00	-6.88	1.

REPORT- S	SV-A	System	Design	Parameters	for	L3B	(G.W6)	APT1	PTHP
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MEATHER	FILE-	SEATTLE	BOETNG	$\Delta W$ TH

REPORT SV		Design Fara	IOI	D) GCI	wo; APII P				niasw		AIILE BOEIN	3 F1 V
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	765.0	1.	0.1	.36 11.2	89	0.742	-10.160	0.266	0.271	-7.680	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	Н		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC	) PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	377.	1.00	0.113	0.94	1.0	0.37	0.62	2 DRAW-THE	RU CONSTANT	r 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) I	MULT
L3B West Perim Zn (G.W6) 1	377.	0.	0.000	0.362	51.	0.00	0.00	10.52	0.00	-5.18	1.

REFORT BY	, i bybecu	Debign rara										
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	654.5	1.	0.2	222 5.9	03	0.742	-5.313	0.266	0.271	-3.738	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ł		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROI	(FRAC)	(FRAC)	
SUPPLY	197.	1.00	0.059	0.94	0.8	0.30	0.62	DRAW-THR	U CONSTANT	1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L3B West Perim Zn (G.W7) 1	197.	0.	0.000	0.222	44.	0.00	0.00	4.63	0.00	-1.56	1.

REPORT-	SV-A	System	Design	Parameters	for	L3B	(G.E8)	APT1	PTHP
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REPORT- SV	/-A System D	esign Parame	eters for	L3B (G.E8	) APT1 PTHP			WEATH	ER FILE- SE	ATTLE BOEING	FI WA
		FLOOR		OUTSIDE	COOLING		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	AIR	CAPACITY	SENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SOFT )	PEOPLE	RATTO	(KRTII/HR)	(SHR)	(KRTII/HR)	(BTII/BTII)	(BTII/BTII)	(KBTII/HR)	

SYSTEM	ALTITUDE	AREA	MAX	AIR	CAPACIT	TY SEN	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RATIO	(KBTU/HF	( )	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	628.5	1.	0.219	5.74	16	0.742	-5.172	0.266	0.271	-3.380	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	n fan	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F) (I	N-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	(FRAC)	(FRAC)	
SUPPLY	192.	1.00	0.057	0.94	0.8	0.30	0.62	DRAW-THR	U CONSTANT	1.00	0.30	
DOLLEI	1,2.	1.00	0.057	0.51	0.0	0.50	0.02	Diam III	0 0011011111	1.00	0.50	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L3B East Perim Zn (G.E8) 1	192.	0.	0.000	0.219	42.	0.00	0.00	4.62	0.00	-1.29	1.

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	789.0	1.	0.1	10.0	106	0.742	-9.006	0.266	0.271	-9.058	
		DIVERSITY	POWER	FAN	STATIC	TOTAI	MECH	H		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	ef E	F FA	n FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC	) PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	334.	1.00	0.100	0.94	1.0	0.37	0.62	2 DRAW-THR	U CONSTANT	T 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE :	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) I	MULT
L3B East Perim Zn (G.E9) 1	334.	0.	0.000	0.513	53.	0.00	0.00	9.59	0.00	-6.50	1.

REPORT- SV-F	System Des	ign Parameters	for L3B	(G.S10)	APT7 PTHP
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		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	3981.5	5.	0.1	.59 50.1	.20	0.742	-45.108	0.266	0.271	-27.900
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	eff.	FA FA	N FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	1672.	1.00	0.501	0.94	1.2	0.48	0.62	DRAW-THR	U CONSTAN	г 1.00	0.30

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L3B South Perim Zn (G.S10P	1672.	0.	0.000	0.232	266.	0.00	0.00	47.57	0.00	-14.69	1.

REPORT SV		Design Para	meters for	L3B (G.E19) APII PIHP						WEATHER FILE- SEATTLE BOEING FI WA			
		FLOOR		OUTSI	OUTSIDE COOLING			HEATING	COOLING	HEATING	HEAT PUMP		
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT		
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)		
PVVT	1.001	714.0	1.	0.1	11.2	80	0.742	-10.152	0.266	0.271	-8.565		
								_					
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	1		MAX FAN	MIN FAN		
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	' EFF	FA1	I FAI	N RATIO	RATIO		
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	L (FRAC)	(FRAC)		
SUPPLY	376.	1.00	0.113	0.94	1.0	0.37	0.62	DRAW-THRU	J CONSTANT	r 1.00	0.30		

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	
I.3B East Perim Zn (G E19)T	376	0	0 000	0 438	48	0 00	0 00	10 69	0 00	-6 25 1	

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

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		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2229.8	3.	0.2	246 18.0	99	0.742	-16.289	0.266	0.271	-11.413	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I.		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROI	(FRAC)	(FRAC)	
SUPPLY	604.	1.00	0.181	0.94	1.0	0.40	0.62	2 DRAW-THR	U CONSTANT	1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUI	LT
L4A East Perim Zn (G.E13)T	604.	0.	0.000	0.246	149.	0.00	0.00	14.64	0.00	-4.00 1	1.

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		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	915.5	1.	0.1	.15 15.8	64	0.742	-14.278	0.266	0.271	-8.395	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROI	(FRAC)	(FRAC)	
SUPPLY	529.	1.00	0.159	0.94	1.0	0.40	0.62	DRAW-THR	U CONSTANT	1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	IULT
L4A NW Perim Zn (G.NW17) 1	529.	0.	0.000	0.268	61.	0.00	0.00	14.58	0.00	-5.38	1.

REPORT- SV-	A System	Design	Parameters	for	L4A	(G.N18)	APT3	PTHP
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WEATHER	FILE-	SEATTLE	BOEING	FΙ	WA
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		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	1566.5	2.	0.1	130 24.1	76	0.742	-21.758	0.266	0.271	-11.246
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	eff.	FA	N FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	806.	1.00	0.242	0.94	1.0	0.41	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L4A North Perim Zn (G.N18P	806.	0.	0.000	0.198	105.	0.00	0.00	23.13	0.00	-6.05	1.

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		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	P	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	2478.2	3.	0.1	173 28.6	61	0.742	-25.795	0.266	0.271	-15.678
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	N FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	956.	1.00	0.287	0.94	1.2	0.47	0.62	DRAW-THR	U CONSTAN	г 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	MULT
L4A West Perim Zn (G.W21)T	956.	0.	0.000	0.205	165.	0.00	0.00	24.46	0.00	-7.43	1.

REPORT- SV-A System Design Parameters for  $\,$  L4A (G.SW22) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	944.2	1.	0.1	14.7	87	0.742	-13.308	0.266	0.271	-8.213	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA	n FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	493.	1.00	0.148	0.94	1.0	0.40	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE :	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) i	MULT
L4A SW Perim Zn (G.SW22) 1	493.	0.	0.000	0.273	63.	0.00	0.00	14.99	0.00	-5.10	1.

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

WEATHER FILE- SEATTLE BOEING FI WA

		5			,						
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX		IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	1832.5	2.	0.1	48 24.8	48	0.742	-22.363	0.266	0.271	-11.694
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		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	' EFF	' FA	n fai	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	829.	1.00	0.248	0.94	1.0	0.41	0.62	DRAW-THR	U CONSTAN	r 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L4A South Perim Zn (G.S24P	829.	0.	0.000	0.178	122.	0.00	0.00	23.98	0.00	-5.60	1.

REPORT- SV-A System Design Parameters for  $\,$  L4B (G.N4) APT4 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2928.0	4.	0.1	.35 43.3	884	0.742	-39.045	0.266	0.271	-19.969	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	1447.	1.00	0.434	0.94	1.2	0.48	0.62	DRAW-THE	RU CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L4B North Perim Zn (G.N4)T	1447.	0.	0.000	0.187	195.	0.00	0.00	41.23	0.00	-10.24	1.

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WEATHER	FILE-	SEATTLE	BOEING	FI	WA	

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	984.0	1.	0.1	127 15.5	25	0.742	-13.973	0.266	0.271	-9.668	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	, FA	n FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	518.	1.00	0.155	0.94	1.0	0.40	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30	

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	
L4R East Perim Zn (G E5) 1	518	0	0 000	0 328	66	0 00	0 00	14 76	0 00	-6 44 1	

REFORT BY	, i bybecu	Debign rara									ATTED DOBIN	
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	765.0	1.	0.1	12.1	.13	0.742	-10.901	0.266	0.271	-7.332	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F1	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	404.	1.00	0.121	0.94	1.0	0.37	0.62	2 DRAW-THE	RU CONSTANT	Γ 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE 2	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) N	MULT
L4B West Perim Zn (G.W6) 1	404.	0.	0.000	0.315	51.	0.00	0.00	11.14	0.00	-4.82	1.

REFORT BY	n bybeem											
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	654.5	1.	0.2	219 5.9	79	0.742	-5.381	0.266	0.271	-3.629	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	199.	1.00	0.060	0.94	0.8	0.30	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L4B West Perim Zn (G.W7) 1	199.	0.	0.000	0.219	44.	0.00	0.00	4.69	0.00	-1.45	1.

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

WEATHER FILE- SEATTLE BOEING FI WA

REFORT BY	, i bybecu	Debign rara										
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	628.5	1.	0.2	217 5.7	98	0.742	-5.218	0.266	0.271	-3.263	
		DIVERSITY	POWER	FAN	STATIC	TOTAI	MECH	H		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	ef E	F FA	n FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC	) PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	193.	1.00	0.058	0.94	0.8	0.30	0.62	2 DRAW-THR	U CONSTANT	T 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) I	MULT
L4B East Perim Zn (G.E8) 1	193.	0.	0.000	0.217	42.	0.00	0.00	4.68	0.00	-1.17	1.

	, i bybecu	Debign rara										
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	789.0	1.	0.1	10.0	147	0.742	-9.042	0.266	0.271	-8.296	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA:	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	335.	1.00	0.100	0.94	1.0	0.37	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE :	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) I	MULT
L4B East Perim Zn (G.E9) 1	335.	0.	0.000	0.450	53.	0.00	0.00	10.40	0.00	-5.72	1.

REPORT- SV		Design Fara	IOI	) dru	API/				WEAIRI	SE	AIILE BOEING	W
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. P	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	3981.5	5.	0.1	162 49.2	79	0.742	-44.351	0.266	0.271	-25.591	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAI	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	r controi	L (FRAC)	(FRAC)	
SUPPLY	1644.	1.00	0.493	0.94	1.2	0.48	0.62	DRAW-THRU	J CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L4B South Perim Zn (G.S10P	1644.	0.	0.000	0.198	266.	0.00	0.00	47.04	0.00	-12.35	1.

KEPORI- SV		Design Para			, APII				WEAIN	SE	AIILE BOEING	, r.
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	714.0	1.	0.1	.23 11.6	43	0.742	-10.479	0.266	0.271	-8.179	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	388.	1.00	0.116	0.94	1.0	0.37	0.62	DRAW-THR	U CONSTAN	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	JLT
L4B East Perim Zn (G.E19)T	388.	0.	0.000	0.398	48.	0.00	0.00	11.06	0.00	-5.86	1.

KEFORI DV		Design Fara	IOI		) API4				WEAIRI	SE	AIILE BOEIN	9 FI W.
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2229.8	3.	0.2	244 18.2	73	0.742	-16.445	0.266	0.271	-11.417	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAI	n FAi	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	r controi	L (FRAC)	(FRAC)	
SUPPLY	610.	1.00	0.183	0.94	1.0	0.40	0.62	DRAW-THRU	J CONSTANT	Γ 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5A East Perim Zn (G.E13)T	610.	0.	0.000	0.244	149.	0.00	0.00	14.88	0.00	-4.01	1.

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	915.5	1.	0.1	111 16.4	180	0.742	-14.832	0.266	0.271	-8.778	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	550.	1.00	0.165	0.94	1.0	0.40	0.62	DRAW-THR	U CONSTAN	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	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	550.	0.	0.000	0.277	61.	0.00	0.00	15.13	0.00	-5.77	1.

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		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	P	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	1566.5	2.	0.1	.26 24.8	42	0.742	-22.358	0.266	0.271	-11.596
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	an fai	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	829.	1.00	0.248	0.94	1.0	0.41	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5A North Perim Zn (G.N18P	829.	0.	0.000	0.204	105.	0.00	0.00	23.80	0.00	-6.40	1.

REPORT- SV		Design Para	IOI	LDA (0	.WZI) AP14				WEALUI	ER FILE- SE	AIILE BUEIN	
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2478.2	3.	0.1	173 28.6	97	0.742	-25.827	0.266	0.271	-15.679	
								_				
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ł		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAI	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	r controi	L (FRAC)	(FRAC)	
SUPPLY	957.	1.00	0.287	0.94	1.2	0.47	0.62	DRAW-THRU	J CONSTANT	r 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5A West Perim Zn (G.W21)T	957.	0.	0.000	0.205	165.	0.00	0.00	24.50	0.00	-7.43	1.

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

WEATHER	FILE-	SEATTLE	BOEING	FΙ	WA

KEFORT SV				) ACE	AF11						ATIDE BOEIN	, r.
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	944.2	1.	0.1	14.9	06	0.742	-13.416	0.266	0.271	-8.213	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA	n FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	497.	1.00	0.149	0.94	1.0	0.40	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZOI	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUI	LT
L5A SW Perim Zn (G.SW22) 1	497.	0.	0.000	0.271	63.	0.00	0.00	15.43	0.00	-5.10	1.

KEFORI S		Design rara			AF13				WEATH	SE	ATTHE BORING	
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1832.5	2.	0.1	.47 24.8	65	0.742	-22.378	0.266	0.271	-11.694	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	1		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF			N FAI			
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTRO	L (FRAC)	(FRAC)	
SUPPLY	829.	1.00	0.249	0.94	1.0	0.41	0.62	2 DRAW-THR	U CONSTAN	T 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	MULT
L5A South Perim Zn (G.S24P	829.	0.	0.000	0.178	122.	0.00	0.00	24.00	0.00	-5.59	1.

REFORT BY	, i bybecu	Debign rara									ATTED DOBIN	J I I 1121
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2928.0	4.	0.1	.35 43.5	20	0.742	-39.168	0.266	0.271	-19.970	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	an fan	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	(FRAC)	(FRAC)	
SUPPLY	1452.	1.00	0.435	0.94	1.2	0.48	0.62	DRAW-THR	U CONSTANT	1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5B North Perim Zn (G.N4)T	1452.	0.	0.000	0.186	195.	0.00	0.00	41.36	0.00	-10.24	1.

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

WEATHER FILE- SEATTLE BOEING FI WA

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		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	984.0	1.	0.1	.26 15.6	03	0.742	-14.043	0.266	0.271	-9.669	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	521.	1.00	0.156	0.94	1.0	0.40	0.62	DRAW-THE	RU CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	MULT
L5B East Perim Zn (G.E5) 1	521.	0.	0.000	0.326	66.	0.00	0.00	14.84	0.00	-6.44	1.

	,			( -							
		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	765.0	1.	0.1	125 12.2	275	0.742	-11.047	0.266	0.271	-7.335
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA	N FA	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTRO	L (FRAC)	(FRAC)
SUPPLY	409.	1.00	0.123	0.94	1.0	0.37	0.62	DRAW-THR	U CONSTAN	т 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5B West Perim Zn (G.W6) 1	409.	0.	0.000	0.311	51.	0.00	0.00	11.26	0.00	-4.83	1.

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		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. A	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	654.5	1.	0.2	216 6.0	69	0.742	-5.462	0.266	0.271	-3.629	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	202.	1.00	0.061	0.94	0.8	0.30	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	ULT
L5B West Perim Zn (G.W7) 1	202.	0.	0.000	0.216	44.	0.00	0.00	4.75	0.00	-1.45	1.

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	628.5	1.	0.2	216 5.8	24	0.742	-5.241	0.266	0.271	-3.263	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA:	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROI	L (FRAC)	(FRAC)	
SUPPLY	194.	1.00	0.058	0.94	0.8	0.30	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5B East Perim Zn (G.E8) 1	194.	0.	0.000	0.216	42.	0.00	0.00	4.70	0.00	-1.17	1.

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

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	789.0	1.	0.1	149 10.6	04	0.742	-9.543	0.266	0.271	-8.296
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	n fai	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	354.	1.00	0.106	0.94	1.0	0.37	0.62	DRAW-THR	.U CONSTAN	г 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	
I.5B East Perim Zn (G E9) 1	354	0	0 000	0 426	53	0 00	0 00	11 54	0 00	-5 72 1	

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			(-									
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	P	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	3981.5	5.	0.1	162 49.3	00	0.742	-44.370	0.266	0.271	-25.591	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	N FAI	RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	(FRAC)	(FRAC)	
SUPPLY	1645.	1.00	0.493	0.94	1.2	0.48	0.62	DRAW-THR	U CONSTANT	1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5B South Perim Zn (G.S10P	1645.	0.	0.000	0.198	266.	0.00	0.00	47.06	0.00	-12.35	1.

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX		AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	714.0	1.	0.1	12.0	49	0.742	-10.844	0.266	0.271	-8.301
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	AN FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)
SUPPLY	402.	1.00	0.120	0.94	1.0	0.37	0.62	DRAW-THE	RU CONSTAN	r 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	E
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	Т
L5B East Perim Zn (G.E19)T	402.	0.	0.000	0.392	48.	0.00	0.00	11.45	0.00	-5.98 1	

REPORT- SV-A System Design Parameters for  $\,$  L6A (G.E13) APT4 PTHP

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2229.8	3.	0.2	230 19.3	89	0.742	-17.450	0.266	0.271	-12.200	
								_				
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	' FAI	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	r controi	L (FRAC)	(FRAC)	
SUPPLY	647.	1.00	0.194	0.94	1.0	0.41	0.62	DRAW-THR	J CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6A East Perim Zn (G.E13)T	647.	0.	0.000	0.230	149.	0.00	0.00	16.08	0.00	-4.78	1.

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP		
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT		
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	R)	(SHR)	(KBTU/HR) (	BTU/BTU)	(BTU/BTU)	(KBTU/HR)		
PVVT	1.001	731.2	1.	0.0	95 15.3	30	0.742	-13.797	0.266	0.271	-8.225		
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN		
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	N RATIO	RATIO		
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)		
SUPPLY	511.	1.00	0.153	0.94	1.0	0.40	0.62	DRAW-THRU	CONSTANT	1.00	0.30		

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	ULT
L6A NW Perim Zn (G.NW17) 1	511.	0.	0.000	0.301	49.	0.00	0.00	14.33	0.00	-5.84	1.

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

WEATHER FILE- SEATTLE BOEING FI WA

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		FLOOR		OUTS	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP			
SYSTEM	ALTITUDE	AREA	MAX	. 1	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT			
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)			
PVVT	1.001	1404.0	2.	0.1	104 26.9	28	0.742	-24.235	0.266	0.271	-12.118			
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN			
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA	N FAI	N RATIO	RATIO			
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROI	L (FRAC)	(FRAC)			
SUPPLY	898.	1.00	0.269	0.94	1.2	0.47	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30			

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6A North Perim Zn (G.N18P	898.	0.	0.000	0.213	94.	0.00	0.00	26.51	0.00	-7.26	1.

SUPPLY

(FRAC) (FRAC)

1.00 0.30

REPORT- SV-	A System	Design	Parameters	for	L6A	(G.W21)	APT4	PTHP
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REPORT- SV	V-A System	L6A (G.W	21) APT4 PT	.HP			WEATH.	ER FILE- SE.	ATTLE BOEIN	G FI WA		
		FLOOR		OUTSIDE	COOLING	3		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	AIR	CAPACITY	Z SEN	SIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RATIO	(KBTU/HR)	)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2478.2	3.	0.158	31.314	1	0.742	-28.182	0.266	0.271	-17.255	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	' F.	AN FAI	N RATIO	RATIO	

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	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	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	1045.	0.	0.000	0.228	165.	0.00	0.00	27.45	0.00	-9.03	1.

TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL

1045. 1.00 0.313 0.94 1.2 0.47 0.62 DRAW-THRU CONSTANT

	,											
		FLOOR		OUTS	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	944.2	1.	0.1	125 15.0	71	0.742	-13.564	0.266	0.271	-8.326	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r F	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	503.	1.00	0.151	0.94	1.0	0.40	0.62	DRAW-TH	RU CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	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	503.	0.	0.000	0.274	63.	0.00	0.00	15.83	0.00	-5.22	1.

REPORT- SV-	A System	Design	Parameters	for	L6A	(G.S24)	APT3 PTHP
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		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1832.5	2.	0.1	.45 25.3	52	0.742	-22.817	0.266	0.271	-12.869	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	[		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	' FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROI	L (FRAC)	(FRAC)	
SUPPLY	846.	1.00	0.254	0.94	1.0	0.41	0.62	DRAW-THE	U CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6A South Perim Zn (G.S24P	846.	0.	0.000	0.212	122.	0.00	0.00	24.55	0.00	-6.79	1.

REPORT- SV-A System Design Parameters for					N4) API4 P	1nr 			WEAIHE	ER FILE- SE	AIILE BUEIN	3 F1 1
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	P	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2928.0	4.	0.1	.31 44.6	29	0.742	-40.166	0.266	0.271	-20.535	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	· FAI	N FAN	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	r control	(FRAC)	(FRAC)	
SUPPLY	1489.	1.00	0.446	0.94	1.2	0.48	0.62	DRAW-THR	J CONSTANT	1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6B North Perim Zn (G.N4)T	1489.	0.	0.000	0.192	195.	0.00	0.00	42.50	0.00	-10.81	1.
LOB NOICH PELIN ZH (G.N4)1	1409.	0.	0.000	0.192	195.	0.00	0.00	42.50	0.00	-10.61	1

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

WEATHER	FILE-	SEATTLE	BOEING	FΙ	WA	
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		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	'IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	984.0	1.	0.1	.23 16.0	66	0.742	-14.460	0.266	0.271	-9.812
								_			
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F.F.F	AN FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)
SUPPLY	536.	1.00	0.161	0.94	1.0	0.40	0.62	DRAW-THE	RU CONSTAN	r 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	JLT
L6B East Perim Zn (G.E5) 1	536.	0.	0.000	0.324	66.	0.00	0.00	15.29	0.00	-6.59	1.

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

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	765.0	1.	0.1	23 12.4	84	0.742	-11.236	0.266	0.271	-7.343
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA	AN FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	416.	1.00	0.125	0.94	1.0	0.37	0.62	DRAW-THE	U CONSTANT	г 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6B West Perim Zn (G.W6) 1	416.	0.	0.000	0.306	51.	0.00	0.00	11.48	0.00	-4.83	1.

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	654.5	1.	0.2	206 6.3	51	0.742	-5.716	0.266	0.271	-3.631
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	e EFF	FA FA	N FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	212.	1.00	0.064	0.94	0.9	0.34	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE 2	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) N	MULT
L6B West Perim Zn (G.W7) 1	212.	0.	0.000	0.206	44.	0.00	0.00	5.08	0.00	-1.45	1.

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

WEATHER FILE- SEATTLE BOEING FI WA

		(-	,									
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	628.5	1.	0.2	214 5.8	83	0.742	-5.295	0.266	0.271	-3.265	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I.		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	196.	1.00	0.059	0.94	0.8	0.30	0.62	2 DRAW-THE	RU CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6B East Perim Zn (G.E8) 1	196.	0.	0.000	0.214	42.	0.00	0.00	4.76	0.00	-1.18	1.

REFORT BY	, H Dybeem										ATTED DOBIN	
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	789.0	1.	0.1	134 11.7	50	0.742	-10.575	0.266	0.271	-8.298	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	392.	1.00	0.118	0.94	1.0	0.37	0.62	2 DRAW-THE	RU CONSTANT	Γ 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	ΛE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	LΤ
L6B East Perim Zn (G.E9) 1	392.	0.	0.000	0.385	53.	0.00	0.00	10.96	0.00	-5.72 1	1.

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

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	3981.5	5.	0.1	161 49.3	54	0.742	-44.419	0.266	0.271	-25.593
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA	N FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	1646.	1.00	0.494	0.94	1.2	0.48	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE :	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) I	MULT
L6B South Perim Zn (G.S10P	1646.	0.	0.000	0.198	266.	0.00	0.00	47.12	0.00	-12.35	1.

REPORT- SV	/-A System	Design Para	meters for		.EI9) APII	PIHP			WEAIH	EK FILE- SE	AIILE BUEIN	G F1 W
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. A	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	659.0	1.	0.1	.00 13.1	.70	0.742	-11.853	0.266	0.271	-8.815	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	, FA	n FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	439.	1.00	0.132	0.94	1.0	0.40	0.62	DRAW-THR	U CONSTAN	r 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	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	439.	0.	0.000	0.401	44.	0.00	0.00	12.76	0.00	-6.69	1.

REPORT- SV-A System Design Parameter	rs for	L7A	(G.E13)	APT2 PTHP
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	WEATHER	FILE-	SEA	ATTLE	BOEING	FI	WA	
,	COOLING	HEATIN	1G	HEAT	PUMP			

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR AREA (SQFT )	MAX PEOPLE		AIR CAPACI	TY SE	NSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	HEAT PUMP SUPP-HEAT (KBTU/HR)	
PVVT	1.001	956.8	1.	0.2	225 8.5	08	0.742	-7.657	0.266	0.271	-5.771	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	I FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	r control	L (FRAC)	(FRAC)	
SUPPLY	284.	1.00	0.085	0.94	0.9	0.34	0.62	DRAW-THRU	J CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE 2	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) N	MULT
L7A East Perim Zn (G.E13)T	284.	0.	0.000	0.241	64.	0.00	0.00	7.31	0.00	-2.58	1.

REPORT- SV-A System Design Par	meters for L7A (G.W18) APT2 PTHP
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WEATHER	FILE-	SEATTLE	BOEING	FΙ	WA
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		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	999.0	1.	0.1	164 12.1	.55	0.742	-10.940	0.266	0.271	-7.086	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	H		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	an fan	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	) PLACEMEN	IT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	405.	1.00	0.122	0.94	1.0	0.37	0.62	2 DRAW-THE	U CONSTANT	r 1.00	0.30	

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7A West Perim Zn (G.W18)T	405.	0.	0.000	0.246	67.	0.00	0.00	11.15	0.00	-3.77	1.

REPORT- SV-A System Design Parameters for L7A (G.SW19) APT1 PTHP

WEATHER FILE- SEATTLE BOEING FI WA

	,										
		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX		AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	891.8	1.	0.1	122 14.6	808	0.742	-13.147	0.266	0.271	-8.062
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	N FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTRO	L (FRAC)	(FRAC)
SUPPLY	487.	1.00	0.146	0.94	1.0	0.40	0.62	2 DRAW-THR	U CONSTAN	r 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	ULT
L7A SW Perim Zn (G.SW19) 1	487.	0.	0.000	0.278	60.	0.00	0.00	14.19	0.00	-5.13	1.

SUPPLY

1.00 0.30

DEDODT_	217_7	System	Decian	Parameters	for	T.77	(C CCE23)	APT2 PTHE	

REPORT- SV	/-A System	Design Para	meters for	L7A (G.SS	/A (G.SSE23) APT2 PTHP					WEATHER FILE- SEATTLE BOEING FI WA			
		FLOOR		OUTSIDE	COOLIN	IG		HEATING	COOLING	HEATING	HEAT PUMP		
SYSTEM	ALTITUDE	AREA	MAX	AIR	CAPACIT	Y SEN	ISIBLE	CAPACITY	EIR	EIR	SUPP-HEAT		
TYPE	FACTOR	(SQFT )	PEOPLE	RATIO	(KBTU/HR	2)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)		
PVVT	1.001	1282.5	2.	0.142	18.01	.1	0.742	-16.210	0.266	0.271	-10.459		
FAN TYPE	CAPACITY (CFM )	DIVERSITY FACTOR (FRAC)	POWER DEMAND (KW)		STATIC PRESSURE N-WATER)	TOTAL EFF (FRAC)	MECH EFF (FRAC)	F F	AN FAI NT CONTROI		MIN FAN RATIO (FRAC)		

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

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE 2	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) N	MULT
L7A SSE Perim Zn (G.SSE23P	601.	0.	0.000	0.273	86.	0.00	0.00	17.54	0.00	-6.22	1.

601. 1.00 0.180 0.94 1.0 0.40 0.62 DRAW-THRU CONSTANT

REPORT-	SV-A	System	Design	Parameters	for	L7B	(G.N4)	APT4	PTHP
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		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2668.0	3.	0.1	.06 50.2	132	0.742	-45.209	0.266	0.271	-23.194	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	1676.	1.00	0.502	0.94	1.2	0.48	0.62	DRAW-THR	U CONSTAN	г 1.00	0.30	

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7B North Perim Zn (G.N4)T	1676.	0.	0.000	0.227	178.	0.00	0.00	49.44	0.00	-14.40	1.

	, i bybecu	Debign rara										
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	919.0	1.	0.1	18.3	80	0.742	-16.542	0.266	0.271	-11.039	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	n FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	613.	1.00	0.184	0.94	1.0	0.40	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7B East Perim Zn (G.E5) 1	613.	0.	0.000	0.346	61.	0.00	0.00	17.92	0.00	-8.05	1.

KEPORI- 3		Design Para		e) طالط 	.WO) APII P				WEAIRI	SK FILE- SE	AIILE BOEING	, LT
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. A	IR CAPACI	TY SEI	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	765.0	1.	0.1	02 15.0	62	0.742	-13.556	0.266	0.271	-9.205	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAI	N FAN	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	r CONTROI	L (FRAC)	(FRAC)	
SUPPLY	502.	1.00	0.151	0.94	1.0	0.40	0.62	DRAW-THR	U CONSTANT	Γ 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7B West Perim Zn (G.W6) 1	502.	0.	0.000	0.353	51.	0.00	0.00	14.09	0.00	-6.72	1.

REFORT BY	, H Dybeem											
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	654.5	1.	0.1	.49 8.7	79	0.742	-7.901	0.266	0.271	-5.819	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ī		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF			an fan			
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	IT CONTROI	L (FRAC)	(FRAC)	
SUPPLY	293.	1.00	0.088	0.94	0.9	0.34	0.62	DRAW-THE	U CONSTANT	r 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	MULT
L7B West Perim Zn (G.W7) 1	293.	0.	0.000	0.330	44.	0.00	0.00	7.62	0.00	-3.67	1.

REFORT BY	, H Dybecm				ALII I							J I I 112
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	628.5	1.	0.1	.59 7.9	12	0.742	-7.120	0.266	0.271	-5.388	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAI	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	r controi	L (FRAC)	(FRAC)	
SUPPLY	264.	1.00	0.079	0.94	0.9	0.34	0.62	DRAW-THR	U CONSTANT	Γ 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7B East Perim Zn (G.E8) 1	264.	0.	0.000	0.332	42.	0.00	0.00	6.85	0.00	-3.32	1,.

CEFORI SV		Design rara							WEATH			, F.
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	789.0	1.	0.0	)98 16.1	14	0.742	-14.502	0.266	0.271	-10.144	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	IT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	538.	1.00	0.161	0.94	1.0	0.40	0.62	DRAW-THE	U CONSTANT	r 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	MULT
L7B East Perim Zn (G.E9) 1	538.	0.	0.000	0.372	53.	0.00	0.00	15.68	0.00	-7.59	1.

CEFORI SV	A System							WEATHER FIDE SEATTHE DOEING FI WA				
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	3981.5	5.	0.1	40 57.0	42	0.742	-51.337	0.266	0.271	-37.305	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F.F.F	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	(FRAC)	(FRAC)	
SUPPLY	1903.	1.00	0.570	0.94	1.2	0.48	0.62	DRAW-THE	RU CONSTANT	1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7B SSW Perim Zn (G.SSW10P	1903.	0.	0.000	0.336	266.	0.00	0.00	57.58	0.00	-24.24	1.

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		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	956.8	1.	0.1	173 11.0	52	0.742	-9.947	0.266	0.271	-7.759	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	H		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	an fan	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	) PLACEMEN	IT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	369.	1.00	0.111	0.94	1.0	0.37	0.62	2 DRAW-THE	U CONSTANT	Γ 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	JLT
L8A East Perim Zn (G.E3) 2	369.	0.	0.000	0.329	64.	0.00	0.00	9.62	0.00	-4.60	1.

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		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	891.0	1.	0.1	13.5	58	0.742	-12.202	0.266	0.271	-8.171
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ī		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF			n FAI		
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)					(FRAC)
SUPPLY	452.	1.00	0.136	0.94	1.0	0.40	0.62	DRAW-THR	U CONSTANT	г 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	1
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	
I.8A West Perim Zn (G W8) 2	452	0	0 000	0 306	59	0 00	0 00	13 07	0 00	-5 24 1	

REPORT- SV-A	System	Design	Parameters	for	L8A	(G.SW9)	APT1	PTHP
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	WEATHER	FILE-	SEA	ATTLE	BOEING	FI	WA	
3	COOLING	HEATIN	1G	HEAT	PUMP			
,	DID	77.7	- D	OTTED	TTDAM			

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR AREA (SQFT )	MAX PEOPLE		IR CAPACI	TY SEI	NSIBLE (SHR)	HEATING CAPACITY (KBTU/HR) (	COOLING EIR BTU/BTU)	HEATING EIR (BTU/BTU)	HEAT PUMP SUPP-HEAT (KBTU/HR)	
PVVT	1.001	688.5	1.	0.1	.05 13.0	62	0.742	-11.756	0.266	0.271	-7.779	
FAN	CAPACITY	DIVERSITY FACTOR	POWER DEMAND	FAN DELTA-T	STATIC PRESSURE	TOTAL	MECH EFF	FAN			MIN FAN RATIO	
TYPE	(CFM ) 436.	(FRAC) 1.00	(KW)	(F) 0.94	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT DRAW-THRU		, -,	(FRAC)	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING			HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L8A SW Perim Zn (G.SW9) A	436.	0.	0.000	0.335	46.	0.00	0.00	12.20	0.00	-5.54	1.

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

WEATHER FILE- SEATTLE BOEING FI WA

	2	5			,							
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I A	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	776.5	1.	0.0	18.8	21	0.742	-16.939	0.266	0.271	-9.454	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	' FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROI	L (FRAC)	(FRAC)	
SUPPLY	628.	1.00	0.188	0.94	1.0	0.40	0.62	DRAW-THR	U CONSTANT	1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	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	628.	0.	0.000	0.291	52.	0.00	0.00	18.32	0.00	-6.93	1.

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		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX		AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	948.8	1.	0.1	102 18.6	53	0.742	-16.788	0.266	0.271	-9.789
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	AN FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)
SUPPLY	622.	1.00	0.187	0.94	1.0	0.40	0.62	DRAW-THE	RU CONSTAN	r 1.00	0.30

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	LT
L8A NE Perim Zn (G.NE12) 1	622.	0.	0.000	0.283	63.	0.00	0.00	18.37	0.00	-6.68	1.

REPORT SV		Design Fara	IOI		APII				WEAIRI		BOEIN	3 F1 W
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. P	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	540.0	1.	0.1	.25 8.6	13	0.742	-7.752	0.266	0.271	-4.938	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFI	FAI	n FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	r control	L (FRAC)	(FRAC)	
SUPPLY	287.	1.00	0.086	0.94	0.9	0.34	0.62	DRAW-THR	U CONSTANT	r 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L8A South Perim Zn (G.S13P	287.	0.	0.000	0.290	36.	0.00	0.00	8.49	0.00	-3.16	1.

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	540.0	1.	0.1	122 8.8	84	0.742	-7.996	0.266	0.271	-6.356	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	H		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	ef E	F FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC	) PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	296.	1.00	0.089	0.94	0.9	0.34	0.62	2 DRAW-THR	U CONSTAN	г 1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	LT
L8A SE Perim Zn (G.SE14) 1	296.	0.	0.000	0.409	36.	0.00	0.00	8.86	0.00	-4.60	1.

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

ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	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 South Perim Zn (G.S27E	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L6A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
P1A West Perim Zn (B.W7) H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
L2A Core Zn (G.C16) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
L3A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
L4A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
L5A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
L6A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
L7A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
L8A Core Zn (G.C5) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
P2A NNW Perim Zn (B.NNW13K	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) -15.62 1.
P2B NW Perim Zn (B.NW6) X	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
P2B South Perim Zn (B.S10K	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) -161.07 1. (BASEBOARDS)
P2B NNE Perim Zn (B.NNE12K	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-26.08 1. (BASEBOARDS)
P1B South Perim Zn (B.S6)G	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-55.54 1. (BASEBOARDS)
P1B NNE Perim Zn (B.NNE9)G	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-40.45 1. (BASEBOARDS)
L1A East Perim Zn (G.E18)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.80 1. (BASEBOARDS)
L1A Core Zn (G.C20) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.43 1. (BASEBOARDS)
L2A East Perim Zn (G.E13)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.70 1. (BASEBOARDS)
L2A Core Zn (G.C15) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.16 1. (BASEBOARDS)
L3A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.76 1. (BASEBOARDS)
L3A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.27 1. (BASEBOARDS)
L4A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.74 1. (BASEBOARDS)
L4A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 -0.27	-0.27 1. (BASEBOARDS)
L5A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.74 1. (BASEBOARDS)
L5A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.27 1. (BASEBOARDS)
L6A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.74 1. (BASEBOARDS)
L6A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.27 1. (BASEBOARDS)
L7A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.77 1. (BASEBOARDS)
L7A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.26 1. (BASEBOARDS)
L8A East Perim Zn (G.E2) F	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.83 1. (BASEBOARDS)
L8A Core Zn (G.C4) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.33 1. (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)
PlA 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.
PlA 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 Pa	rameters for	Free	ze Protect					FILE- SEA		ING FI WA
L1B Core Zn (G.C3) STR	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.C1) ELV	0.	0.	0.000	0.000	0.	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 1
L2B Core Zn (G.C2) STR	0.	0.	0.000	0.000	0.	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 1
L3A Core Zn (G.C20) STR	0.	0.	0.000	0.000	0.	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 1
L4A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	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 1
L4B Core Zn (G.C2) STR	0.	0.	0.000	0.000	0.	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 1
L5A Core Zn (G.C20) STR	0.	0.	0.000	0.000	0.	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 1
L6A Core Zn (G.C20) STR	0.	0.	0.000	0.000	0.	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 1
L7A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	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 1
L7B Core Zn (G.C2) STR	0.	0.	0.000	0.000	0.	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 1
L8A Core Zn (G.C7) STR	0.	0.	0.000	0.000	0.	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 1
L1A Core Zn (G.C23) ELEC	0.	0.	0.000	0.000	0.	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 1
L1B Core Zn (G.C12) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1 (BASEBOARDS)
									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 1 (BASEBOARDS)
L2B Core Zn (G.C11) ELEC	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.C16) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1
										(BASEBOARDS)
L3B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1 (BASEBOARDS)
L4A Core Zn (G.C16) ELEC	0.	0.	0.000	0.000	0.	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 1
L5A Core Zn (G.C16) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1
LOA COTE ZII (G.CTO) ELEC	0.	٥.	0.000	0.000	0.	0.00	0.00	0.00		0.00 1 (BASEBOARDS)
L5B Core Zn (G.C11) ELEC	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.C16) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1 (BASEBOARDS)
L6B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1
Bob core an (d.err) Babe	٠.	٥.	0.000	0.000	٠.	0.00	0.00	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 1
	_									(BASEBOARDS)
L7B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1 (BASEBOARDS)
L8A Core Zn (G.C6) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1
										(BASEBOARDS)
P2A Core Zn (B.C7) STO	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1
DOD NE Dorin Zn /D NEO) C	0	0	0 000	0.000	0	0.00	0.00	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 1 (BASEBOARDS)
L1A Core Zn (G.C16) RR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1
0010 En (0.010) NA	٠.	٠.	0.000	5.000	٠.	5.00	3.00	3.00		(BASEBOARDS)
L1A WNW Perim Zn (G.WNW25T	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1
									0.00	(BASEBOARDS)
L2A West Perim Zn (G.W25)0	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1 (BASEBOARDS)

REPORT- SV-A System Design Parameters for  $\,$  L2A (G.SW20) RST PSZHP

WEATHER FILE- SEATTLE BOEING FI WA

				,								
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PSZ	1.001	2287.5	76.	0.0	380.1	97	0.742	-342.177	0.251	0.274	-414.952	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF			ı FAN			
r AIN	CAPACITI	FACTOR	DEMAND	DELIA-I	PRESSURE	Err	EFF	r Ar	N PAI	N RAIIO	RAIIU	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	r controi	L (FRAC)	(FRAC)	
SUPPLY	12683.	1.00	9.619	2.36	3.5	0.55	0.62	DRAW-THRU	J CONSTANT	г 1.00	0.30	
SOFFEI	12005.	1.00	J. 01J	2.50	٥.٥	0.55	0.02	DIGM TIME	COMPITATION	1.00	0.50	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2A SW Perim Zn (G.SW20)	12683.	12683.	3.719	1.000	572.	0.00	0.00	70.74	0.00	-30.66	1.

REPORT- SV	/-A System	Design Para	meters for						WEAIRI	SR FILE- SE	AIILE BUEIN	3 F1 WA
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PIU	1.001	2105.5	17.	0.6	505 11.0	96	0.742	0.000	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	286.	1.00	0.324	3.53	5.3	0.55	0.72	2 DRAW-THR	U SPEEI	1.10	0.30	

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(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	0.212	22.	0.00	0.00	2.37	-8.27	-7.82	1.
L1A SSW Perim Zn (G.SSW15I	675.	0.	0.209	1.000	78.	0.00	0.00	1.28	-33.33	-31.65	1.

SUPPLY

2219.

1.10 0.30

SPEED

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

REPORT- SV	7-A System	Design Para	meters for	Sys 8 - V	AV+PFP Cor	r (L1-L8)		WEATHER FILE- SEATTLE BOEING FI WA				
SYSTEM TYPE	ALTITUDE FACTOR	FLOOR AREA (SQFT )	MAX PEOPLE	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	HEAT PUMP SUPP-HEAT (KBTU/HR)		
PIU	1.001	20700.8	102.	0.693	81.831	0.742	0.000	0.000	0.000	0.000		
FAN TYPE	CAPACITY (CFM )	DIVERSITY FACTOR (FRAC)	POWER DEMAND (KW)		PRESSURE	TOTAL MEC EFF EF (FRAC) (FRAC	F F	AN FAI NT CONTROI		MIN FAN RATIO (FRAC)		

0.98 2.507 3.53 6.0 0.62 0.72 DRAW-THRU

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

ZONE NAME	SUPPLY FLOW (CFM )	EXHAUST FLOW (CFM )	FAN	MINIMUM FLOW (FRAC)	OUTSIDE AIR FLOW (CFM )	COOLING CAPACITY (KBTU/HR)	SENSIBLE (FRAC)	EXTRACTION RATE (KBTU/HR)	HEATING CAPACITY (KBTU/HR)		ZONE MULT
L8A Core Zn (G.C10) COR	56.	0.	0.004	1.000	45.	0.00	0.00	1.40	-0.61	-0.00	1.
L1A Core Zn (G.C21) COR	5.	0.	0.001	1.000	3.	0.00	0.00	0.09	-0.12	-0.11	1.
P1B Core Zn (B.C12) COR	72.	0.	0.016	1.000	28.	0.00	0.00	0.56	-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	-1.19	1.
L1B Core Zn (G.C4) COR	65.	0.	0.005	1.000	52.	0.00	0.00	1.27	-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	3.02	-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	3.05	-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	3.07	-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	3.13	-1.42	0.00	1.
L7A Core Zn (G.C20) COR	54.	0.	0.005	0.691	37.	0.00	0.00	1.73	-0.73	-0.14	1.
L7B North Perim Zn (G.N3)R	232.	0.	0.020	0.453	105.	0.00	0.00	7.55	-3.13	-2.43	1.
P2A Core Zn (B.C3) COR	60.	0.	0.005	0.238	14.	0.00	0.00	0.78	-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	819.	0.	0.197	1.000	257.	0.00	0.00	5.37	-31.34	-24.87	1.
L2B SSW Perim Zn (G.SSW120	719.	0.	0.106	0.351	252.	0.00	0.00	17.02	-16.80	-10.97	1.
L2A Core Zn (G.C21) MAIL	64.	0.	0.006	0.010	0.	0.00	0.00	1.33	-0.86	-0.81	1.
L2A Core Zn (G.C22) MAIL	14.	0.	0.002	0.010	0.	0.00	0.00	0.31	-0.38	-0.37	1.

REPORT-	SV-A	System	Design	Parameters	for	Sys	4	-PSZ-HP	Amenities
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WEATHER FILE- SEATTLE BOEING FI WA	WEA	ATHER	FILE-	SEATTLE	BOEING	FΙ	WA
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		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SEI	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PIU	1.001	1607.5	0.	0.0	067 44.3	50	0.742	-39.915	0.360	0.370	-19.958	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	IT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	1445.	1.00	1.171	2.53	4.2	0.60	0.72	2 DRAW-THE	U CONSTANT	г 1.10	0.30	

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7A NW Perim Zn (G.NW21)	1162.	0.	0.145	1.000	47.	0.00	0.00	16.55	-26.48	-11.01	1.
L7A NE Perim Zn (G.NE22)	1105.	0.	0.142	1.000	50.	0.00	0.00	15.13	-25.71	-11.24	1.