FAN COIL UNITS

UNIT NO.	SERVICE	SUPPLY FAN					COOLING COIL												HEATING COIL								FILTER SECTION			MIXING BOX WITH ANGLE FILTER	ELECTRIC DATA			NOMINAL OPERATING WEIGHT LBS	BASIS OF DESIGN		REMARKS
		CFM	RPM	ESP IN WG.	HP	TOTAL MBH	SENSIBLE MBH	EAT (DB) DEG. F	EAT (WB) DEG. F	LAT (DB) DEG. F	LAT (WB) DEG. F	PD AIR IN WG.	FACE AREA . SQ. FT	WATER GPM	PD WATER (FT)	EWT DEG. F	VALVE Cv	VALVE Cv	TOTAL MBH	FACE AREA SQ. FT.	EAT DEG. F	LAT DEG. F	EWT DEG. F	WATER GPM	DP WATER (FT)	FLAT FILTERS SURFACE AREA SQ.FT	TYPE	EFF.%		VOLTS	PH	HZ		MANUF.	MODEL NO.	
Egress Stair																																				
FC-CN-01	B1-6-48	1,400	1090	0.5	0.5	35	35	78	60	55	53	0.5	3.05	4	3	45	3.5	2.1	18	16x16 (2)	68	85	190	1	0.5			30%		115	1	60	350	YORK	36 CHW	
FC-CN-02	2-6-48	1,400	1090	0.5	0.5	35	35	78	60	55	53	0.5	3.05	4	3	45	3.5	2.1	18	16x16 (2)	68	85	190	1	0.5			30%		115	1	60	350	YORK	36 CHW	
Bridge																																				
FC-CN-03	1-6-14	820	1040	0.5	0.25	17	17	74	60	55	53	0.5	2.05	2.1	3	45	1.9	2.1	12	16x25	68	85	190	1	0.5			30%		115	1	60	300	YORK	24 CHW	
FC-CN-04	2-6-14	820	1040	0.5	0.25	17	17	74	60	55	53	0.5	2.05	2.1	3	45	1.9	2.1	12	16x25	68	85	190	1	0.5			30%		115	1	60	300	YORK	24 CHW	
FC-CN-05	3-6-14	820	1040	0.5	0.25	17	17	74	60	55	53	0.5	2.05	2.1	3	45	1.9	2.1	12	16x25	68	85	190	1	0.5			30%		115	1	60	300	YORK	24 CHW	

SCRUBBERS

UNIT No.	SERVICE	FAN DATA					FAN MOTOR DATA					WATERSIDE DATA							PACKING VOLUME CU. FT.	PACKING DEPTH FT.	pH RANGE	SUMP HEATER KW	BASIS OF DESIGN		SPEC SECTION	REMARKS
		CFM	S.P. IN. WG.	TYPE	RPM	BHP	HP	RPM	VOLTS	PH	HZ	TANK VOLUME GAL.	CIRC. PUMP HP	MIXER HP	VOLTS	PH	HZ	MAX. OVERFLOW GPM RATE					MANUF.	MODEL No.		
SC-CN-01	CLEANROOM	18000	REMARKS	REMARKS	–		SEE	REMARKS	480	3	60	454	5	N/A	480	3	60	4	180	5		6	HARRINGTON	ECH-66-5 LB	15755	SEE EF-CN-06 AND 07 FOR FAN DATA

LOCATION	VAV BOX NUMBER	CFM	MIN. CFM O.A.	TOTAL RISE	LAT	HEAT BTUH	GPM	Valve Cv	Valve ID	VAV Model number (TITUS)	REMARKS
B1-6-27	VAV-CN-001	2181	272	30	85	24963	1.2	1.9	CV-CN-001	16-PESV	1 ROW COIL
B1-6-41	VAV-CN-002	2063	300	30	85	26323	1.3	2.0	CV-CN-002	16-PESV	1 ROW COIL
B1-6-35	VAV-CN-003	758	60	30	85	7030	0.4	0.8	CV-CN-003	10-PESV	1 ROW COIL
B1-6-47	VAV-CN-004	582	240	30	85	11517	0.6	1.2	CV-CN-004	10-PESV	1 ROW COIL
B1-6-31	VAV-CN-005	885	315	30	85	5103	0.3	0.5	CV-CN-005	10-PESV	1 ROW COIL
B1-6-56	VAV-VN-006	1852	226	30	85	3661	0.2	0.4	CV-VN-006	16-PESV	1 ROW COIL
B1-6-30	VAV-CN-007	1531	646	30	85	10465	0.5	1.1	CV-CN-007	14-PESV	1 ROW COIL
B1-6-1	VAV-CN-021	1284	600	30	85	25888	1.3	1.8	CV-CN-021	14-PESV	1 ROW COIL
B1-6-2	VAV-CN-022	1200	600	30	85	21701	1.1	1.5	CV-CN-022	14-PESV	1 ROW COIL
B1-6-3	VAV-CN-023	1200	600	30	85	21701	1.1	1.5	CV-CN-023	14-PESV	1 ROW COIL
B1-6-4	VAV-CN-024	945	600	30	85	17570	0.9	1.2	CV-CN-024	14-PESV	1 ROW COIL
B1-6-5	VAV-CN-025	918	600	30	85	17133	0.9	1.2	CV-CN-025	14-PESV	1 ROW COIL
B1-6-6	VAV-CN-026	2376	600	30	85	40752	2.0	2.8	CV-CN-026	24x16-PESV	1 ROW COIL
B1-6-7	VAV-CN-027	2376	600	30	85	40752	2.0	2.8	CV-CN-027	24x16-PESV	1 ROW COIL
B1-6-8	VAV-CN-028	910	600	30	85	17003	0.9	1.2	CV-CN-028	10-PESV	1 ROW COIL
1-6-27	VAV-CN-101	1771	274	30	85	31000	1.6	2.4	CV-CN-101	16-PESV	1 ROW COIL
1-6-47	VAV-CN-102	1780	300	30	85	17561	0.9	1.3	CV-CN-102	16-PESV	1 ROW COIL
1-6-49	VAV-CN-103	1000	180	30	85	9082	0.5	1.0	CV-CN-103	12-PESV	1 ROW COIL
1-6-48	VAV-CN-104	508	240	30	85	6497	0.3	0.8	CV-CN-104	10-PESV	1 ROW COIL
1-6-55	VAV-CN-105	606	280	30	85	7209	0.4	0.9	CV-CN-105	12-PESV	1 ROW COIL
1-6-55	VAV-CN-106	399	120	30	85	4959	0.2	0.6	CV-CN-106	10-PESV	1 ROW COIL
1-6-31	VAV-CN-107	2815	333	30	85	6598	0.3	0.8	CV-CN-107	24x16-PESV	1 ROW COIL
1-6-30	VAV-CN-108	1575	668	30	85	10822	0.5	1.2	CV-CN-108	16-PESV	1 ROW COIL
1-6-1	VAV-CN-121	906	600	30	85	16293	0.8	1.1	CV-CN-121	14-PESV	1 ROW COIL
1-6-2	VAV-CN-122	900	600	30	85	15298	0.8	1.1	CV-CN-122	14-PESV	1 ROW COIL
1-6-3	VAV-CN-123	1200	600	30	85	20158	1.0	1.4	CV-CN-123	14-PESV	1 ROW COIL
1-6-4	VAV-CN-124	1200	600	30	85	20158	1.0	1.4	CV-CN-124	14-PESV	1 ROW COIL
1-6-5	VAV-CN-125	1200	600	30	85	20158	1.0	1.4	CV-CN-125	14-PESV	1 ROW COIL
1-6-6	VAV-CN-126	1200	600	30	85	20158	1.0	1.4	CV-CN-126	14-PESV	1 ROW COIL
1-6-7	VAV-CN-127	1200	600	30	85	20158	1.0	1.4	CV-CN-127	14-PESV	1 ROW COIL
1-6-8	VAV-CN-128	1200	600	30	85	20158	1.0	1.4	CV-CN-128	14-PESV	1 ROW COIL
2-6-27	VAV-CN-201	1771	274	30	85	44700	2.2	3.4	CV-CN-201	16-PESV	1 ROW COIL
2-6-41	VAV-CN-202	1793	320	30	85	17885	0.9	1.4	CV-CN-202	16-PESV	1 ROW COIL
2-6-49	VAV-CN-203	1332	164	30	85	15449	0.8	1.2	CV-CN-203	16-PESV	1 ROW COIL
2-6-48	VAV-CN-204	512	240	30	85	6695	0.3	0.7	CV-CN-204	10-PESV	1 ROW COIL
2-6-55	VAV-CN-205	594	80	30	85	7162	0.4	0.8	CV-CN-205	10-PESV	1 ROW COIL
2-6-31	VAV-CN-206	3102	411	30	85	9250	0.5	1.0	CV-CN-206	24x16-PESV	1 ROW COIL
2-6-30	VAV-CN-207	1577	668	30	85	10822	0.5	1.2	CV-CN-207	16-PESV	1 ROW COIL
2-6-1	VAV-CN-221	2376	600	30	85	40107	2.0	2.8	CV-CN-221	24x16-PESV	1 ROW COIL
2-6-2	VAV-CN-222	2376	600	30	85	39209	2.0	2.7	CV-CN-222	24x16-PESV	1 ROW COIL
2-6-3	VAV-CN-223	842	600	30	85	14432	0.7	1.0	CV-CN-223	12-PESV	1 ROW COIL
2-6-4	VAV-CN-224	868	600	30	85	14780	0.7	1.0	CV-CN-224	12-PESV	1 ROW COIL
2-6-5	VAV-CN-225	842	600	30	85	14342	0.7	1.0	CV-CN-225	12-PESV	1 ROW COIL
2-6-6	VAV-CN-226	841	600	30	85	14342	0.7	1.0	CV-CN-226	12-PESV	1 ROW COIL
2-6-7	VAV-CN-227	600	600	30	85	10438	0.5	0.7	CV-CN-227	9-PESV	1 ROW COIL
2-6-8	VAV-CN-228	2376	600	30	85	39209	2.0	2.7	CV-CN-228	24x16-PESV	1 ROW COIL
3-6-27	VAV-CN-301	1893	1274	30	85	37500	2.1	3.3	CV-CN-301	16-PESV	1 ROW COIL
3-6-41	VAV-CN-302	1902	320	30	85	20385	1.3	1.9	CV-CN-302	16-PESV	1 ROW COIL
3-6-49	VAV-CN-303	1514	154	30	85	22500	1.1	1.7	CV-CN-303	16-PESV	1 ROW COIL
3-6-48	VAV-CN-304	540	240	30	85	7299	0.4	0.8	CV-CN-304	10-PESV	1 ROW COIL
3-6-55	VAV-CN-305	645	80	30	85	8417	0.4	0.9	CV-CN-305	10-PESV	1 ROW COIL
3-6-31	VAV-CN-306	3262	441	30	85	12862	0.6	1.4	CV-CN-306	24x16-PESV	1 ROW COIL
3-6-30	VAV-CN-307	1753	683	30	85	14847	0.7	1.5	CV-CN-307	16-PESV	1 ROW COIL
3-6-1	VAV-CN-321	2376	600	30	85	41504	2.1	2.9	CV-CN-321	24x16-PESV	1 ROW COIL
3-6-2	VAV-CN-322	2376	600	30	85	40547	2.0	2.8	CV-CN-322	24x16-PESV	1 ROW COIL
3-6-3	VAV-CN-323	2376	600	30	85	39329	2.0	2.7	CV-CN-323	24x16-PESV	1 ROW COIL
3-6-4	VAV-CN-324	2376	600	30	85	39329	2.0	2.7	CV-CN-324	24x16-PESV	1 ROW COIL
3-6-5	VAV-CN-325	2376	600	30	85	39329	2.0	2.7	CV-CN-325	24x16-PESV	1 ROW COIL
3-6-6	VAV-CN-326	2376	600	30	85	39329	2.0	2.7	CV-CN-326	24x16-PESV	1 ROW COIL
3-6-7	VAV-CN-327	2376	600	30	85	39329	2.0	2.7	CV-CN-327	24x16-PESV	1 ROW COIL
3-6-8	VAV-CN-328	2376	600	30	85	39329	2.0	2.7	CV-CN-328	24x16-PESV	1 ROW COIL

LOCATION	HEV BOX NUMBER	CFM	MIN CFM	HEV Model number (SIEMENS)	REMARKS
B1-6-1	HEV-CN-001	1200	216	FHET-12	
B1-6-2	HEV-CN-002	1200	216	FHET-12	
B1-6-3	HEV-CN-003	1200	216	FHET-12	
B1-6-4	HEV-CN-004	600	108	SIEMENS	
B1-6-5	HEV-CN-005	600	108	FHET-11	
B1-6-6	HEV-CN-006	1200	216	FHET-12	
B1-6-6	HEV-CN-007	1200	216	FHET-12	
B1-6-6	HEV-CN-008	1200	216	FHET-12	
B1-6-7	HEV-CN-009	1200	216	FHET-12	
B1-6-7	HEV-CN-010	1200	216	FHET-12	
B1-6-7	HEV-CN-011	1200	216	FHET-12	
B1-6-8	HEV-CN-012	900	162	FHET-11	
1-6-1	HEV-CN-101	900	162	FHET-11	
1-6-2	HEV-CN-102	900	162	FHET-11	
1-6-3	HEV-CN-103	1200	216	FHET-12	
1-6-4	HEV-CN-104	1200	216	FHET-12	
1-6-5	HEV-CN-105	1200	216	FHET-12	
1-6-6	HEV-CN-106	1200	216	FHET-12	
1-6-7	HEV-CN-107	1200	216	FHET-12	
1-6-8	HEV-CN-108	1200	216	FHET-12	
2-6-1	HEV-CN-201	1200	216	FHET-12	
2-6-1	HEV-CN-202	1200	216	FHET-12	
2-6-1	HEV-CN-203	1200	216	FHET-12	
2-6-2	HEV-CN-204	1200	216	FHET-12	
2-6-2	HEV-CN-205	1200	216	FHET-12	
2-6-2	HEV-CN-206	1200	216	FHET-12	
2-6-3	HEV-CN-207	600	108	FHET-11	
2-6-4	HEV-CN-208	600	108	FHET-11	
2-6-5	HEV-CN-209	600	108	FHET-11	
2-6-6	HEV-CN-210	600	108	FHET-11	
2-6-7	HEV-CN-211	600	108	FHET-11	
2-6-8	HEV-CN-212	1200	216	FHET-12	
2-6-8	HEV-CN-213	1200	216	FHET-12	
2-6-8	HEV-CN-214	1200	216	FHET-12	
3-6-1	HEV-CN-301	1200	216	FHET-12	
3-6-1	HEV-CN-302	1200	216	FHET-12	
3-6-1	HEV-CN-303	1200	216	FHET-12	
3-6-2	HEV-CN-304	1200	216	FHET-12	
3-6-2	HEV-CN-305	1200	216	FHET-12	
3-6-2	HEV-CN-306	1200	216	FHET-12	
3-6-3	HEV-CN-307	1200	216	FHET-12	
3-6-3	HEV-CN-308	1200	216	FHET-12	
3-6-3	HEV-CN-309	1200	216	FHET-12	
3-6-4	HEV-CN-310	1200	216	FHET-12	
3-6-4	HEV-CN-311	1200	216	FHET-12	
3-6-4	HEV-CN-312	1200	216	FHET-12	
3-6-5	HEV-CN-313	1200	216	FHET-12	
3-6-5	HEV-CN-314	1200	216	FHET-12	
3-6-5	HEV-CN-315	1200	216	FHET-12	
3-6-6	HEV-CN-316	1200	216	FHET-12	
3-6-6	HEV-CN-317	1200	216	FHET-12	
3-6-6	HEV-CN-318	1200	216	FHET-12	
3-6-7	HEV-CN-319	1200	216	FHET-12	
3-6-7	HEV-CN-320	1200	216	FHET-12	
3-6-7	HEV-CN-321	1200	216	FHET-12	
3-6-8	HEV-CN-322	1200	216	FHET-12	
3-6-8	HEV-CN-323	1200	216	FHET-12	
3-6-8	HEV-CN-324	1200	216	FHET-12	

LOCATION	REV BOX NUMBER	CFM	REV Model number (SIEMENS)	REMARKS
B1-6-1	REV-CN-001	1000	FHET-12	
B1-6-2	REV-CN-002	1000	FHET-12	
B1-6-3	REV-CN-003	1000	FHET-12	
B1-6-4	REV-CN-004	1000	FHET-11	
B1-6-5	REV-CN-005	1000	FHET-11	
B1-6-6	REV-CN-006	1000	FHET-12	
B1-6-7	REV-CN-007	1000	FHET-12	
B1-6-8	REV-CN-008	1000	FHET-11	
1-6-1	REV-CN-101	1000	FHET-11	
1-6-2	REV-CN-102	1000	FHET-11	
1-6-3	REV-CN-103	1000	FHET-12	
1-6-4	REV-CN-104	1000	FHET-12	
1-6-5	REV-CN-105	1000	FHET-12	
1-6-6	REV-CN-106	1000	FHET-12	
1-6-7	REV-CN-107	1000	FHET-12	
1-6-8	REV-CN-108	1000	FHET-12	
2-6-1	REV-CN-201	1000	FHET-12	
2-6-2	REV-CN-202	1000	FHET-12	
2-6-3	REV-CN-203	1000	FHET-11	
2-6-4	REV-CN-204	1000	FHET-11	
2-6-5	REV-CN-205	1000	FHET-11	
2-6-6	REV-CN-206	1000	FHET-11	
2-6-7	REV-CN-207	1000	FHET-11	
2-6-8	REV-CN-208	1000	FHET-12	
3-6-1	REV-CN-301	1000	FHET-12	
3-6-2	REV-CN-302	1000	FHET-12	
3-6-3	REV-CN-303	1000	FHET-12	
3-6-4	REV-CN-304	1000	FHET-12	
3-6-5	REV-CN-305	1000	FHET-12	
3-6-6	REV-CN-306	1000	FHET-12	
3-6-7	REV-CN-307	1000	FHET-12	
3-6-8	REV-CN-308	1000	FHET-12	
Note: The REVs can be modulated to 0 minimum flow CFM.				

SENSIBLE COOLING COILS

UNIT No.	SERVICE	COIL LENGTH INCH	COIL HEIGHT INCH	MIN. ROWS	MAX. FINS/INCH	SENSIBLE CAPACITY MBH	MAX. FACE VELOCITY FPM	AIRSIDE				WATERSIDE				VALVE Cv	REMARKS
								CFM	EAT (DB) DEG. F	LAT (DB) DEG. F	MAX. P.D. IN. WG.	GPM	EWT DEG. F	LWT DEG. F	MAX. P.D. FT. WTR.		
SCC-CN-01	E-BEAM LITHO	108	24	2	10	10305	100	1468	68	61.5	0.4	2	55	65	3	1.8	SEE NOTE 1
SCC-CN-02	E-BEAM LITHO	108	24	2	10	10305	100	1468	68	61.5	0.4	2	55	65	3	1.8	SEE NOTE 1
SCC-CN-03	E-BEAM LITHO	108	24	2	10	10305	100	1468	68	61.5	0.4	2	55	65	3	1.8	SEE NOTE 1
SCC-CN-04	E-BEAM LITHO	108	24	2	10	10305	100	1468	68	61.5	0.4	2	55	65	3	1.8	SEE NOTE 1
SCC-CN-05	SEM MET	108	24	2	10	10030	110	1884	68	63	0.4	2	55	65	3	1.8	SEE NOTE 1
SCC-CN-06	SEM FIB	96	24	2	10	10030	100	1656	68	63	0.4	2	55	65	3	1.8	SEE NOTE 1
SCC-CN-07	SEM FIB	96	24	2	10	10030	100	1656	68	63	0.4	2	55	65	3	1.8	SEE NOTE 1
SCC-CN-08	TEM / STEM	72	24	2	10	10333	100	1196	68	60.5	0.4	3	55	65	3	2.6	SEE NOTE 1
SCC-CN-09	TEM / STEM	72	24	2	10	10333	100	1196	68	60.5	0.4	3	55	65	3	2.6	SEE NOTE 1
SCC-CN-10	SEM EDX	72	24	2	10	4700	100	617	68	61	0.4	1.5	55	65	3	1.3	SEE NOTE 1
SCC-CN-11	SEM EDX	72	24	2	10	4700	100	617	68	61	0.4	1.5	55	65	3	1.3	SEE NOTE 1

NOTE 1 ; CONTRACTOR TO CONFIRM COIL SIZE AND LENGTH OF COIL WITH RETURN AIR REGISTER SIZE, COILS TO BE LOCATED BEHIND RETURN AIR REGISTERS

NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, IS MADE AS TO THE ACCURACY, COMPLETENESS OR USEFULNESS OF THE INFORMATION OR STATEMENTS CONTAINED IN THESE DRAWINGS, OR THAT THE USE OR DISCLOSURE OF ANY INFORMATION, APPARATUS, METHOD, OR PROCESS DISCLOSED IN THESE DRAWINGS MAY NOT INFRINGE PRIVATE RIGHTS OF OTHERS. NO LIABILITY IS ASSUMED WITH RESPECT TO THE USE OF, OR FOR DAMAGES RESULTING FROM THE USE OF ANY INFORMATION, APPARATUS, METHOD, OR PROCESS DISCLOSED IN THESE DRAWINGS. DRAWINGS MADE AVAILABLE FOR INFORMATION TO BIDDER ARE NOT TO BE USED FOR OTHER PURPOSES AND ARE TO BE RETURNED UPON REQUEST OF THE FORWARDING CONTRACTOR.

SECTION AND DETAIL KEY: NUMBER OF SECTION OR DETAIL — DRAWING ON WHICH SECTION OR DETAIL IS SHOWN OR TAKEN

THIS DOCUMENT CONTROLLED BY
CHANGE CONTROL SYSTEM ________
ENGINEERING PROCEDURE ________

REV	CHANGE TYPE	CHANGE CONTROL SYSTEM	CHANGE REQUEST NUMBER	DESCRIPTION	DSN	CHK	DEPT	DATE	PE	DATE	PJ	DATE	REQ	DATE	UTB	DATE	RPE	RPE NO	DATE	ST	CV	EC	EE	EM	IE	M	PD	SE	AR
0				CERTIFIED FOR CONSTRUCTION – 12/9/02	JG	BWJ			[signature]	1/03	[signature]	1/03	[signature]	1/03			BWJ	105869	12/9/02	BZ	AW	BWJ	AK	IM	DM	–	BWJ	–	TW

REVISION OR ISSUE PURPOSE — REVISION APPROVALS — SQUAD CHECK

RPE: BRUCE W. JOHNSON, REGISTERED ENGINEER, No. 00105869, STATE OF TENNESSEE

DSN / DRW / CHK / DEPT
PE CLG [signature] 1/24/03
PJ JS [signature] 1/23/03
REQ [signature] 1/24/03
REV. 0 DATE 12/9/02 UTB JRL
DRAWING APPROVALS

ORNL DRAWING NUMBER:

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UT-BATTELLE
Oak Ridge National Laboratory
managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725
UT-BATTELLE, LLC, Oak Ridge, Tennessee

PROJECT NAME:
CENTER FOR NANOPHASE MATERIALS SCIENCES

HVAC SCHEDULES

1	48	49	50	PLANT	BLDG	FL	SH.	OF	TYPE	CLASS
3	H	X	X	8	8610		1	1	D	U
51	52		53	A/E DRAWING NUMBER:	H9.11.41				REV	0
NC	NA									

NEXT ASS'Y: FINAL ASS'Y:

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