

AIR HANDLING UNIT SCHEDULE (ACA)														
MARK	LOCATION	AREA AND/OR BLDG SERVED	TYPE	AIRFLOW	AIRFLOW			SUPPLY FAN MARK	RETURN/RELIEF FAN MARK	PRE FILTER MARK	FINAL FILTER MARK	COOLING COIL MARK	REHEAT COIL MARK	REMARKS
					SUPPLY (CFM)	MIN OA (CFM)	RETURN (CFM)							
ACA-AHU-8	PENTHOUSE	ACA	PACKAGED OUTDOOR	22000	22000	7600	17000	SF-1, SF-2	RF-1, RF-2, RF-3, RF-4	PF-2	FF-2	CC-2	HC-2	1, 2, 3

NOTES:
 1. AHU SHALL BE COMPLIANT WITH ASHRAE 90.1-2007 FAN POWER LIMITATIONS. 2. SMOKE DAMPERS SHALL BE INSTALLED INSIDE AHU. 3. INTEGRAL PIPE CHASE/DOGHOUSE WITH 1500 W HEATER & INTEGRAL T-STAT.

CHILLED WATER COOLING COIL SCHEDULE (ACA)																	
MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	AIR FLOW	MAX FACE VELOCITY	APD	EAT				TOTAL CAPACITY	SENSIBLE CAPACITY	CHILLED WATER				REMARKS
							Db	Wb	Db	Wb			FLOW	EWT	LWT	WPD	
CC-2	PENTHOUSE	ACA	ACA-AHU-8	22000	500	1	84	68	53	53	1021	751	140	43	57.5	4.75	1

NOTE:
 1. THE COOLING COIL FIN SPACING SHALL NOT EXCEED 132 FINS PER FOOT.

HOT WATER HEATING COIL SCHEDULE (ACA)																
MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	APPLICATION	AIR FLOW	MAX FACE VELOCITY	APD	TEMPERATURES		TOTAL MIN CAPACITY	HOT WATER				% GLYCOL	REMARKS
								EAT	LAT		FLOW	EWT	LWT	WPD		
HC-2	PENTHOUSE	ACA	ACA-AHU-8	PREHEAT	14000	500	0.1	28	66	578	26	180	137	0.8	0	

AIR FILTER SCHEDULE (ACA)										
MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	MERV RATING	AIR FLOW	APD			HOUSING TYPE	REMARKS
						INITIAL	CHANGEOVER	IN		
PF-2	PENTHOUSE	ACA	ACA-AHU-8	9	22000	0.33	1	1	SIDE	
FF-2	PENTHOUSE	ACA	ACA-AHU-8	15	22000	0.41	2	2	SIDE	

AIR HANDLING UNIT FAN SCHEDULE (ACA)																
MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	AIR FLOW	ESP	FAN				MOTOR ELECTRICAL				REMARKS		
						CLASS	DIAMETER	DRIVE	FAN MAX RPM	NOMINAL POWER	PHASE	VOLTAGE	RPM		SPEED CONTROL	
SF-1	PENTHOUSE	ACA	ACA-AHU-8	11000	3.5	II	27	DIRECT	1959	15.42	20	3	480	1800	VARIABLE	1, 2, 3, 4, 5, 6, 7
SF-2	PENTHOUSE	ACA	ACA-AHU-8	11000	3.5	II	27	DIRECT	1959	15.42	20	3	480	1800	VARIABLE	1, 2, 3, 4, 5, 6, 7
RF-1	PENTHOUSE	ACA	ACA-AHU-8	4250	1.5	II	18.25	DIRECT	1788	2.31	3	3	480	1800	VARIABLE	1, 2, 3, 4, 5, 6, 7
RF-2	PENTHOUSE	ACA	ACA-AHU-8	4250	1.5	II	18.25	DIRECT	1788	2.31	3	3	480	1800	VARIABLE	1, 2, 3, 4, 5, 6, 7
RF-3	PENTHOUSE	ACA	ACA-AHU-8	4250	1.5	II	18.25	DIRECT	1788	2.31	3	3	480	1800	VARIABLE	1, 2, 3, 4, 5, 6, 7
RF-4	PENTHOUSE	ACA	ACA-AHU-8	4250	1.5	II	18.25	DIRECT	1788	2.31	3	3	480	1800	VARIABLE	1, 2, 3, 4, 5, 6, 7

NOTES:
 1. SELECTION BASED ON AN ALTITUDE OF 361 FT.
 2. TEFC, PREMIUM EFFICIENCY MOTOR
 3. IEEE 519 LINE REACTOR
 4. SHAFT GROUNDING RINGS

5. 1" VIBRATION ISOLATORS, RESTRAINED SPRING TYPE WITH NEOPRENE SNUBBERS
 6. CONTRACTOR TO PROVIDE 1 VFD WITH BYPASS OPTION FOR EACH FAN ARRAY. COORDINATE WITH ELECTRICAL.
 7. REFER TO AIRFLOW DIAGRAM FOR DAY 1 AIRFLOW BALANCE.

EXHAUST FAN SCHEDULE (ACA)																	
MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM	MAX AIRFLOW	ESP	FAN				MOTOR ELECTRICAL				REMARKS			
						ARRANGEMENT, ROTATION, & DISCHARGE	MIN NOZZLE VELOCITY (FT/MIN)	DRIVE	FAN MAX RPM	NOMINAL POWER	PHASE	VOLTAGE	SPEED CONTROL				
EF-CHEMO	ROOFTOP	EXISTING HOSPITAL	CHEMO	600	2.25			FUME EXHAUST	3000	BELT	4050	0.85	1	3	480	VARIABLE	1, 2, 3, 4, 5, 6, 7, 10
EF-GI SCOPE WASH	ROOFTOP	EXISTING HOSPITAL	GI SCOPE WASH	600	1.25			CENTRIFUGAL VENT SET	-	BELT	2801	0.32	0.5	1	120	VARIABLE	1, 2, 5, 6, 7, 10
EF-1	ROOFTOP	EXISTING HOSPITAL	TOILET ROOMS	3775	1.4			CENTRIFUGAL VENT SET	-	BELT	1358	1.49	1.5	3	480	VARIABLE	1, 2, 5, 6, 7, 10
EF-8	ROOFTOP	EXISTING HOSPITAL	GENERAL	7185	2.25			FUME EXHAUST	3000	BELT	1425	6.8	7.5	3	480	VARIABLE	1, 2, 3, 4, 5, 6, 7, 10
EF-12/13	ROOFTOP	EXISTING HOSPITAL	LAB	15000	4			FUME EXHAUST	3000	DIRECT	1800	17.6	20	3	480	VARIABLE	1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14
EF-14/15	ROOFTOP	EXISTING HOSPITAL	LAB	1000	4.25			FUME EXHAUST	3000	DIRECT	1170	1.82	3	3	480	VARIABLE	1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14
EF-20	ROOFTOP	ACA	GENERAL EXHAUST	1345	0.75			CENTRIFUGAL UP BLAST	-	DIRECT	1300	0.31	0.5	1	120	VARIABLE	2, 5, 6, 7, 8
EF-21	ROOFTOP	ACA	GENERAL EXHAUST	480	0.25			CENTRIFUGAL UP BLAST	-	DIRECT	1725	0.05	0.17	1	120	VARIABLE	2, 5, 6, 7, 8
EF-22	ROOFTOP	ACA	IV PREP/ANTE ROOM	985	1.75			FUME EXHAUST	3000	BELT	3995	1.07	3	3	480	VARIABLE	1, 2, 3, 4, 5, 6, 7, 10
EF-23	ROOFTOP	ACA	TOILET ROOMS	525	0.4			CENTRIFUGAL UP BLAST	-	DIRECT	1725	0.08	0.17	1	120	VARIABLE	2, 5, 6, 7, 8
EF-24	ROOFTOP	ACA	IV PREP/ANTE ROOM HOODS	2400	2			FUME EXHAUST	3000	BELT	2099	2.1	3	3	480	VARIABLE	1, 2, 3, 4, 5, 6, 7, 10, 13

NOTES:
 1. 1.5 MINIMUM BELT DRIVE SERVICE FACTOR. 5. DISCONNECT, NEMA 3R. 9. 1 FAN RUNNING, 1 FAN ON STANDBY. 13. REBALANCE EXHAUST FAN AT NEW ESP.
 2. SHAFT GROUND RING. 6. TEFC MOTOR. 10. EQUIPMENT RAILS AND RESTRAINED SPRING VIBRATION ISOLATORS WITH NEOPRENE SNUBBERS SIZED PER SPECIFICATIONS. 14. RELOCATE AND REINSTALL INSTRUMENTATIONS AND CONTROLS.
 3. BYPASS AIR DAMPER, 24V. 7. VFD WITH BYPASS AND IEEE LINE REACTOR. 11. EXISTING RELOCATED EXHAUST FAN. USE EXISTING EXHAUST PLENUM. 15. EF-24 SHALL BE SELECTED TO OPERATE STABLY AT 1000 CFM AND BE CAPABLE OF INCREASING TO 2400 CFM IN THE FUTURE. REFER TO AIRFLOW DIAGRAM.
 4. ISOLATION DAMPER WITH 24V LIMIT SWITCH. 8. 14" ROOF CURB. 12. CONTRACTOR TO PROVIDE NEW VFDs FOR EACH EXHAUST FAN. COORDINATE WITH ELECTRICAL.

FOUR PIPE FAN COIL UNIT SCHEDULE (ACA)																								
MARK	LOCATION	AREA SERVED	TYPE	SUPPLY AIRFLOW	COOLING COIL				HEATING COIL				FILTER (MERV)	HP	VOLTAGE	SPEED CONTROL	REMARKS							
					APD	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EAT DB (F)	EAT WB (F)	FLOW (GPM)	EWT (F)	LWT (F)						WPD	MIN CAPACITY (MBH)	EAT DB (F)	EAT WB (F)	FLOW (GPM)	EWT (F)	LWT (F)
FCU-6	INTERSTITIAL	ACA INTERSTITIAL	HORIZONTAL	1850	1"	60	58	80	63	9	43	58	3.1"	48	65	2.3	180	137	0.1"	8	1	208/160	CONSTANT	1

NOTES:
 1. PROVIDE CD PUMP KIT

CHILLED WATER COOLING ONLY FAN COIL UNIT SCHEDULE (ACA)																		
MARK	LOCATION	AREA SERVED	TYPE	SUPPLY AIRFLOW	APD	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EAT				FILTER (MERV)	HP	VOLTAGE	SPEED CONTROL	REMARKS		
								DB (F)	WB (F)	FLOW (GPM)	EWT (F)						LWT (F)	WPD
FCU-5	F396 ELECTRICAL	ACA	HORIZONTAL	1200	1"	37	30	75	53	5	43	58	6"	8	0.5	208/160	CONSTANT	1

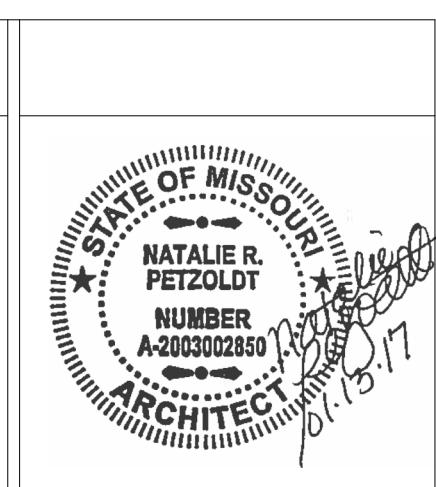
NOTES:
 1. PROVIDE CD PUMP KIT

DX COOLING ONLY FAN COIL UNIT SCHEDULE (ACA)																			
MARK	LOCATION	AREA SERVED	REFRIGERANT TYPE	OUTDOOR UNIT				INDOOR UNIT				FILTER (MERV)	HP	VOLTAGE	SPEED CONTROL	REMARKS			
				MARK	V/PHHZ	MCA	AMBIENT TEMP (F)	TYPE	SUPPLY AIRFLOW	APD	TOTAL CAPACITY (MBH)						SENSIBLE CAPACITY (MBH)	EAT DB (F)	EAT WB (F)
FCU-7	E304 ELEC ROOM	ACA	R410A	CU-1	208/160	12	95	HORIZONTAL	575	1"	18	18	75	63	8	0.5	208/160	CONSTANT	1, 2

NOTES:
 1. PROVIDE CD PUMP KIT 2. PROVIDE LOW AMBIENT KIT FOR CONDENSING UNIT

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1	06/01/17
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LABORATORY SUPPLY VALVE SCHEDULE																	
MARK	AREA SERVED	SYSTEM	SIZE	HEAT SOURCE	AIRFLOW			REHEAT (MBH)	AIR TEMPERATURE (F)		WATER TEMPERATURE (F)		MAX APD	MAX WPD	ACTUATORS VOLTAGE	CONTROL TYPE	REMARKS
					MAX (CFM)	MIN (CFM)	EAT		MAX LAT	EWT	LWT						
SV-1	F361	ACA-AHU-8	14	WATER	1050	1050	42	53	90	180	140	0.5"	6"	24	CONSTANT VOLUME	1	
SV-2	F362	ACA-AHU-8	8	WATER	325	325	12.4	53	90	180	140	0.5"	6"	24	CONSTANT VOLUME	1	
SV-3	F359	ACA-AHU-8	8	WATER	660	660	26	53	90	180	140	0.5"	6"	24	CONSTANT VOLUME	1	
SV-4	F358	ACA-AHU-8	6	WATER	85	85	3.4	53	90	180	140	0.5"	6"	24	CONSTANT VOLUME	1	

NOTES:
 1. LABORATORY GRADE PRESSURE INDEPENDENT AIRFLOW TRACKING VALVES WITH HIGH SPEED ACTUATORS, SINGLE BLADE DAMPER, AND AIRFLOW MEASURING.

PUMP SCHEDULE (ACA)															
MARK	LOCATION	AREA SERVED	SYSTEM	TYPE	FLUID TYPE	GPM	HEAD FT	NPSH AVAILABLE	TEMPERATURE °F	MIN % EFFICIENCY	HP	V/PHHZ	SPEED CONTROL	VSD	REMARKS
HWP-2	DOG HOUSE	ACA-AHU-8	PREHEAT COIL CIRCULATOR PUMP	INLINE	WATER	26	1	-	180	-	0.5	208/160	CONSTANT	NO	

NATURAL GAS STEAM HUMIDIFIER SCHEDULE (ACA)												
MARK	LOCATION	AREA SERVED	SYSTEM	MANIFOLD TYPE	MAX AIRFLOW	MANIFOLDS	TOTAL CAPACITY (LBS/HR)	MAX ABSORPTION DISTANCE (IN)	FUEL SOURCE	CONTROL TYPE	V/PHHZ	REMARKS
NOTES: 1. SHORT ABSORPTION DISTANCE MANIFOLD 4. VENT KIT 7. CONNECT HUMIDIFIER TO BAS BY CONTROLS CONTRACTOR 10. PROVIDE NEMA 4 ENCLOSURE 2. SINGLE MODULATING DEMAND STAT BY CONTROLS CONTRACTOR. 5. BACKNET CARD 8. 5 MICRON INLINE FILTER 11. PROVIDE 14" ROOF CURB 3. HIGH HUMIDITY ALARM WITH HIGH LIMIT DUCT STAT 6. AIR PROOVING SWITCH 9. INTEGRAL DRAIN COOLER 12. EXTERIOR RATED UNIT CONSTRUCTION												

LABORATORY EXHAUST/RETURN VALVE SCHEDULE												
MARK	AREA SERVED	SYSTEM	SIZE	MAX (CFM)	MIN (CFM)	ACTUATORS VOLTAGE	CONTROL TYPE	REMARKS				
									EVL-5	IV PREP	EF-21	4
EVL-6	GLOVE BOX	EF-21	10	400	100	24	CONSTANT VOLUME	1				
EVL-7	GLOVE BOX	EF-21	10	600	100	24	CONSTANT VOLUME	1				
EVL-8	HSK	EF-21	4	100	100	24	CONSTANT VOLUME	1				
EVL-9	DRUG STORAGE	EF-21	6	325	325	24	CONSTANT VOLUME	1				
EVL-10	ANTE	EF-21	6	360	360	24	CONSTANT VOLUME	1				
RVL-11	WORK ROOM	ACA-AHU-8	6	285	285	24	CONSTANT VOLUME	1				

NOTES:
 1. LABORATORY GRADE PRESSURE INDEPENDENT AIRFLOW TRACKING VALVES WITH HIGH SPEED ACTUATORS, SINGLE BLADE DAMPER, AND AIRFLOW MEASURING.

SMOKE AND FIRE DAMPER SCHEDULE (ACA)												
MARK	LOCATION	FAN SYSTEM	SYSTEM AND/OR SERVICE	DUCT SIZE (IN)	DUCT PRESSURE CLASS	ACTUATORS VOLTAGE	REMARKS					
FD-5	INTERSTITIAL	EF-8	GENERAL EXHAUST	28x28	4	24	1, 2					
FD-6	INTERSTITIAL	EF-1	TOILET ROOMS	24x24	4	24	1, 2					
FSD-7	RETURN DUCTWORK	RF-1, 2, 3, & 4	ACA	34x14	4	24	1, 2					
FSD-8	SUPPLY DUCTWORK	SF-1 & 2	ACA	10x10	4	24	1, 2					
FSD-9	SUPPLY DUCTWORK	SF-1 & 2	ACA	32x24	4	24	1, 2					
FSD-10	SUPPLY DUCTWORK	SF-1 & 2	ACA	10x8	4	24	1, 2					
FSD-11	RETURN DUCTWORK	RF-1, 2, 3, & 4	ACA	24x16	4	24	1, 2					
FSD-12	SUPPLY DUCTWORK	SF-1 & 2	ACA	26x20	4	24	1, 2					
FSD-13	SUPPLY DUCTWORK	SF-1 & 2	ACA	8x8	4	24	1, 2					
FSD-14	SUPPLY DUCT											