														<u>A</u>	IRHANI	DLER U	NIT SCH	EDULE	(AHU)																	
				DE	SIGN PER	RFORMAN	ICE			VENT.	Н	EATING	PERFOR	MANCE						coo	LING PE	RFORMA	ICE							ELEC	TRICAL D	ATA				
TAC	DESCRIPTION	NOM.	AIRFLOW		FAN	FAN	FAN	TSP	ESP	MINIMUM		INPUT	OUTPU	EAT (F)	LAT (F)	TOTAL	SENSIBLE	EFFIC.				COIL			EA	T (F)	PRES.	LEV. AIR			MC	A MF		EIGHT	MANUFACTURER	NOTE
TAG	DESCRIPTION	SIZE	AIRFLOW	FAN TYPE / DRIVE	SPEED	MOTOF	POWER	138	ESP	OCCUPIED	TYPE	INPUT	Т	DB	DB	CAP.	CAP.	EFFIC.	TYPE	DOME	FPI	AREA	VEL.	TUBE	DB	WB	DROP	TEMP	VOLTS	PH	HZ	A   IVIF	3		& MODEL	NOTE
			CFM		RPM	HP	BHP	IN WC	IN WC	CFM		MBH	МВН	°F DB	°F DB	MBH	MBH	EER		ROWS	FPI	SQ FT	FPM	IN	°F DB	°F WB	IN WC	°F DB			AM	PS AMF	PS L	LBS	1	
AHU-B	ROOFTOP AIRHANDLER	12.0	3,300	ECM PLENUM FAN	1876	4.0	3.01	2.900	1.50	500	INDIRECT NG 439 SS W/ 10:		120	50	83.7	137.3	94	8.6	DIGITAL SCROLL 1ST CIRCUIT	4.0	12	10	330	5/16	80.0	67.0	0.290	56.7	208	3	60 84	.4 110	0 3	3,200	TRANE HORIZON OAGD144A3	ALL

I. UNIT IS A OUTDOOR VERTICAL DISCHARGE/ VERTICAL RETURN CONFIGURATION W/ 2 IN DOUBLE WALL CONSTRUCTION

2. PROVIDE WITH STAINLESS STEEL DRIP PAN DRAINED TO ROOF

3. PROVIDE WITH STANDARD 14" TALL KNOCKDOWN CURB

4. PROVIDE VENTILATION AIRFLOW MONITORING AND IFM

5. PROVIDE SINGLE POINT THRU-BASE ELECTRICAL CONNECTION AND NON-FUSED DISCONNECT SWITCH W/ CONVIENCE OUTLET

6. PROVIDE 2" FILTER RACK WITH MERV 8 AND 4" FILTER RACK WITH MERV 14.

. PROVIDE MODULATING AIR-SIDE ECONOMIZER W/ DRY-BULB CONTROL. PROVIDE BAROMETRIC RELIEF DAMPERS

8. PROVIDE BASIC FACTORY CONTROLS W/ BACNET COMMUNICATION TO BE INTEGRATED WITH SITE DDC SYSTEM

9. UNIT IS CAPABLE OF OPERATING IN A VAV W/ REHEAT SYSTEM

DUCTWORK INSULATION SCHEDULE														
	OPERATING	MEAN	NOMINA	SIZES	INSULATION	VAPOR								
PIPING SYSTEM	TEMPERATURE	TEMPERATURE	THICKNESS	R VALUE	MATERIAL	BARRIER								
	RANGE (DEG F)	RATING (DEG F)	INCH		WATERIAL	REQUIRE								
INTERIOR DUCT LINER (ACOUSTICAL) (PROVIDED WHERE NOTED)	0-150	75	1/2"	NA	CF	YES								
SUPPLY DUCT FROM FCU TO DIFFUSERS - NON EXPOSED (UNCONDITIONED SPACE)	0-150	75	1-1/2"	R-3.5	MF	YES								
SUPPLY DUCT FROM FCU TO DIFFUSERS - EXPOSED (CONDITIONED SPACE)	0-150	75	0"											
VENTILATION SUPPLY DUCT FROM ERV - NON-EXPOSED	0-150	75	1-1/2"	R-3.5	MF	YES								
EXHAUST DUCT TO ERV - NON-EXPOSED	0-150	75	0"											
RETURN DUCT FROM DIFFUSERS TO FCU (UNCONDITIONED SPACE)	0-150	75	0"											
RETURN DUCT FROM DIFFUSERS TO FCU (CONDITIONED SPACE)	0-150	75	0"											

1.THE TABLE ABOVE APPLIES TO DUCTWORK. THE BASIS OF THE ABOVE SCHEDULE IS ECONOMIC THICKNESS, PREVENTION OF CONDENSATION, AND COMPLIANCE WITH ASHRAE 90.1-2013 MINIMUM INSULATION THICKNESSES. BRANCH RUNOUTS LESS THAN 10FT CAN BE R-3.5.

DUCT INSULATION SPECIFICATIONS:

FLEXIBLE ELASTOMERIC INSLATION (FC): CLOSED-CELL, FIBER-FREE, ELASTOMERIC FOAM INSULATION, ARMSTRONG AP ARMAFLEX, OR APPROVED EQUAL. COMPLY WITH ASTM E 84 AT 25/50 FOR USE IN AIR PLENUMS. INSTALL INSULATION PER THE MANUFACTURER'S RECOMMENDATIONS.

MINERAL-FIBER DUCT-WRAP INSULATION (MF): FORMELDEHYDE-FREE, TYPE 1, MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN. COMPLY WITH ASTM C 1290, TYPE 1, GRADE A. INSULATION SHALL HAVE A FACTORY-APPLIED FSK (FOIL-SCRIM-KRAFT). FOIL WILL BE 0.02 PERMS; COMPLY WITH ASTM E 84 AT 25/50 FOR USE IN AIR PLENUMS. INSTALL INSULATION PER THE MAUFACTURER'S RECOMMENDATIONS

TAG	SERVES	DESCRIPTION	CFM	ESP	FAN RPM	POWER	V/PH	WEIGHT	MANUF.	MODEL	NOTES
EF-1	PENTHOUSE EXHAUST	INLINE EXHAUST FAN	500	0.5"	2,418	123 W	120 / 1	15	FANTECH	FG 12M EC	1,3,4,5

1. PROVIDE WITH SPRING BACKDRAFT DAMPER IN DUCT AT BUILDING EXIT.

3. PROVIDE WITH VIBRATION ISOLATION W/ MOUNTING BRACKETS

4. PROVIDE WITH FAN MOUNTED SPEED SWITCH FOR BALANCING

5. EQUIPMENT IS UL-705

							HEAT-	EXCHAN	GER S	CHEDU	JLE (H	<u>IX)</u>									
		CAPACITY					SOURCE S	SIDE			***************************************		LOAD	SIDE			SIZE	:			
TAG	DESCRIPTION	CAPACITI	PLATES	PASSES	FLOW	TYPE	WPD	CONN.	EWT (F)	I W/T /E\	FLOW	TYPE	WPD	CONN.	EWT (F) LWT	(E)	SIZE	-	INSTALLED WEIGHT (LBS)	MANUFACTURER & MODEL	NOTES
		МВН			(GPM)	1166	(PSI / FTHD)	CONN.			(GPM)	ITE	(PSI / FTHD)	CONN.		(1)	L W	Н			
HX-SM1	SNOWMELT SYSTEM - 1ST FLR MECH ROOM		ALLOW 316/CU	1 - COUNTERCURRENT	10	HEATING WATER	2.0 PSI / 4.6 FT	1-1/4" / 1-1/4"	160	120	10.0	SNOWMELT 40% P.GLY	2.0 PSI / 4.6 FT	1-1/4" / 1-1/4"	85 11	0	7.9 7.5	24.3	80	ALFA LAVAL CB-110-54H	
NOTES:																•	•				

															EN	IERGY	RECOVE	RY VE	NTILATOR	SCHEDULE (	ERV)												
				SUPPLY/	VENTILAT	ION AIR			EXHAU	ST/RETU	RN AIR					CO	OLING					HEATING			EFFEC <sup>-</sup>	TIVENESS		EL	ECTRICA	_ DATA			
Т	TAG DESCRIPTION	ESCRIPTION	AIRFLOW	l l	SPEED	ESP	TSP (IN	AIRFLOW	1	SPEED	E .	TSP (IN	TYPE		SENSIBLE CAPACITY		EWT / LWT	WPD	EAT LA	T ROWS TYPE	INPU CAPAC		EAT	SUM CONDI		WINTER CO	ONDITIONS		PH HZ	MCA MO	INSTALLED WEIGHT (LBS)	MANUFACTURER & MODEL	NOTES
			(CFIVI)	HP		(IN WC)	VVC)	(CFM)	HP		(IN WC)	WC)		МВН	MBH	GPM	DEG F	FT HD	DB/WB DE	/ FPI	МВН	МВН	DB/WB	SENSIBLE	LATENT	SENSIBLE	LATENT	1			(250)		
EF		ÆS PLAN WEST TLATION STACK	9,600	7.57	2,113	1.25	3.49	8,345	5.47	1,991	1	1.94	CHILLED WATER	294.5	200.7	82	44 / 52.1	6.2	79.2 / 68.1 60.	7 6 / 12 NG INDIRE		280	45.1 / 72.1	1 102.61	71.89	526.97	214.72	460	3 60	25.3 30	7,600	TRANE HORIZON N360	ALL
EF		VES PLAN EAST TILATION STACK	6,500	5.04	1,891	1.25	3.32	6,630	3.7	1,715	1.00	2.09	CHILLED WATER	236.00	148.30	82.00	44 / 50.4	14.30	78.2 / 67.6 57.	9 6 / 12 NG	CT 250.0	200.00	50.6 / 79.1	1 77.62	53.22	398.26	157.67	460	3 60	19.1 25	5,700	TRANE HORIZON K210	ALL

1. PROVIDE WHEEL TYPE HEAT & HUMIDITY TRANSFER MEDIA. WHEEL PROVIDED WITH VFD.

2. UNIT HAS DUAL MOTORS, DUAL VFD DRIVES.

3. PROVIDE WITH CONTROL SYSTEM NETWORK COMMUNICATION CARD (TYPE TBD)

4. PROVIDE WITH MOTORIZED DAMPERS FOR BOTH AIRSTREAMS

5. PROVIDE STANDARD 2" MERV 8 FILTERS WITH UNIT.

6. SIZED WITH 30% PROPYLENE GLYCOL

														<u>EN</u>	IERGY	RECOVE	RY VE	NTILAT	OR SCHED	ULE (EF	RV)												
			SUPPLY/	VENTILAT	ION AIR			EXHAU	ST/RETU	RN AIR					СО	OLING					HEA	TING			EFFECT	IVENESS		ELE	CTRICAL DATA				
TAG	DESCRIPTION	AIRFLOW	1	SPEED	1	,		1	SPEED	ESP	TSP (IN	TYPE	TOTAL CAPACITY	SENSIBLE CAPACITY	I ( ) V/V	EWT / LWT	WPD	EAT	LAT ROWS	TYPE	INPUT CAPACITY	OUTPUT CAPACITY	EAT	SUMN CONDIT		WINTER CONDIT		OLTS	PH HZ MCA		INSTALLED WEIGHT (LBS)	MANUFACTURER & MODEL	NOTES
		(CFM)	HP		(IN WC)	WC)	(CFM)	HP		(IN WC)	WC)		МВН	MBH	GPM	DEG F	FT HD	DB/WB	DB / FPI		МВН	МВН	DB/WB	SENSIBLE	LATENT	SENSIBLE LAT	ENT				(LDO)		
	SERVES PLAN WEST VENTILATION STACK		7.57	2,113	1.25	3.49	8,345	5.47	1,991	1	1.94	CHILLED WATER	294.5	200.7	82	44 / 52.1	6.2	79.2 / 68.1	60.7 6 / 12	NG INDIRECT	350	280	45.1 / 72.1	102.61	71.89	526.97 214	1.72	460	3 60 25.3	30	7,600	TRANE HORIZON N360	ALL
ERV-2	SERVES PLAN EAST VENTILATION STACK	6,500	5.04	1,891	1.25	3.32	6,630	3.7	1,715	1.00	2.09	CHILLED WATER	236.00	148.30	82.00	44 / 50.4	14.30	78.2 / 67.6	57.9 6 / 12	NG INDIRECT	250.00	200.00	50.6 / 79.1	77.62	53.22	398.26 15	7.67	460	3 60 19.1	25	5,700	TRANE HORIZON K210	ALL

S Project: 0 HANCOCK

ISSUED FOR PERMIT

Date: Oct. 10 2017