

	MECHANICAL SHEET INDEX
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MECHANICAL SITE DEMOLITION PLAN 1" = 50'-0"



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DSA-147

UTILITY GAS METER

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CO

	HVAC EQUIPMENT COORDINATION &				N & MOTOR SCHEDULE					DULE		E.C. = ELECTRICAL CONTRACTOR P.C. = PLUMBING CONTRACTOR V.C. = VENTILATION CONTRACTOR T.C. = TEMPERATURE CONTRACTOR								
						POWE	R 60	STA	RTER	2	сол	VTRO	L	S	WITCH	0.11	D	ISCONNECT		
VT NUMBER		V ARM INTERLOCK REQUIRED	ATTAGE (KW) TIONAL (F)										ONTROL WIRING		ELECT SWITCH BY	OCK BY		PE/FUSE SIZE		
EQUIPME	USE	LOCATIO	HP OR W OR FRAC	МСА	FLA	VOLTAGE	PHASE	ТҮРЕ	SIZE	BY	BY	WIRING	TEMP. C		SPEED S	TIME CL	BY	SIZE / TY	NEMA	NOTES
CH-1	RELOCATED AIR COOLED CHILLER - AHU-100, AHU-200 & AHU-300	EXTERIOR	(123.5)	485.3		208	3			1	тс		тс				EC			BY BASE BID, VC RELOCATE FROM LINCOLN
AHU-100	HVAC - SOUTH AREA VAV'S SUPPLY FAN	MECH PENTHOUSE M300 Y	15	472	41.0	208	3	VFD		TC 1	тс		тс				EC			DUCT SMOKE DETECTOR SHUTDOWNS BY EC; CO2/HUMIDITY SENSORS IN RA DUCT; VFD'S PROVIDED BY TC, INSTALLED BY EC;
	HVAC - SOUTH AREA VAV'S RETURN FAN HVAC - CENTER AREA VAV'S SUPPLY FAN		7.5		41.0	208 208	3 3	VFD VFD	·	ד דC דC דC	тс тс		тс тс				EC EC			T.C. TO PROVIDE AND INSTALL AMFS IN OA AND RELIEF AIR DUCTS.
AHU-200	HVAC - CENTER AREA VAV'S RETURN FAN	MECH PENTHOUSE M300 Y	7.5		55.0	208 208	3	VFD	•	тс 1 тс 1	тс тс		тс тс				EC EC			CO2/HUMIDITY SENSORS IN RA DUCT; VFD'S PROVIDED BY TC, INSTALLED BY EC; T.C. TO PROVIDE AND INSTALL AMFS IN OA AND RELIEF AIR DUCTS.
AHU-300	HVAC -NORTH AREA VAV'S RETURN FAN	MECH PENTHOUSE M300 Y	10			208	3	VFD	•	TC 1	тс		тс				EC			CO2/HUMIDITY SENSORS IN RA DUCT; VFD'S PROVIDED BY TC, INSTALLED BY EC; T.C. TO PROVIDE AND INSTALL AMFS IN OA AND RELIEF AIR DUCTS.
DSA-115	DUCTLESS SPLIT SYSTEM HEAT PUMP - MDF 115	MDF 115	(F)			208	1			`	vc	vc	vc v	c			EC			PROVIDED WITH OPTIONAL CONDENSATE LIFT PUMP. PC TO INSTALL, EC TO WIRE TO INDOOR UNIT.
DSC-115	AIR COOLED CONDENSING UNIT FOR DSA-115	MECH PENTHOUSE M300		17.5		208	1					VC					EC			
DSA-147		MECH/ELEC 147	(F)			208	1			`	vc	VC	VC V	c			EC			VC TO PROVIDE AND INSTALL HARDWIRED REMOTE T-STAT
DSC-147		K/ACTIVE-STOR 161	2/4	17.5	0.5	208	1				TC	vc	тс				EC			NORMALLY CLOSED 120V MOTORIZED DAMPER BY VC TO OPEN WITH FAN
EF-1			5/4		0.5	120											VC			OPERATION, WIRED BY EC
EF-2	DRYER BOOSTER	MECH PENTHOUSE M300	(F)		0.8	120	1					EC					EC			FACTORY PROVIDED NOTIFICATION WALL PLATE NEAR DRYER
EF-3	DRYER BOOSTER	MECH PENTHOUSE M300	(F)		0.8	120	1					EC					EC			INTEGRAL CONTROLS; FACTORY INSTALLED POWER CORD; EC TO INSTALL FACTORY PROVIDED NOTIFICATION WALL PLATE NEAR DRYER
B-1	RELOCATED NATURAL GAS FIRED BOILER	MECH/ELEC 147	1.5		8.3	120	1			1	тс		тс				EC			LINCOLN
	NEW NATURAL GAS FIRED BOILER	MECH/ELEC 147	1.5		8.3	120	1			1	тс		тс				EC			BY ADD ALTERNATE PROVIDE NEW IN LIEU OF RELOCATING EXISTING EMERGENCY BOILER SHUTDOWN BY EC TC TO CONTROL BOILER & ASSOCIATED CIRCUIL ATOR
B-2		MECH/ELEC 147	1.5		8.3	120	1			1			тс				EC			BY ADD ALTERNATE PROVIDE NEW
CP 1			1.5		8.3	208	1						тс				EC			
CP-1 CP-2	BOILER B-2 CIRCULATOR	MECH/ELEC 147	1.5		10	208	1			1	тс		тс				EC			COMBINATION STARTER BY EC
CP-3 CP-4	PRIMARY PUMP HEATING LOOP	MECH/ELEC 147	7.5		24.5	208	3			TC TC	тс		TC TC				EC EC			VFD PROVIDED BY TC - INSTALLED BY EC
CP-5	PRIMARY PUMP CHILLED LOOP	MECH/ELEC 147	20		59.4	208	3	VFD		TC 1	тс		тс				EC			VFD PROVIDED BY TC - INSTALLED BY EC
CP-6	BACKUP PUMP CHILLED LOOP	MECH/ELEC 147	20		59.4	208	3	VFD		TC 1	тс		тс				EC			VFD PROVIDED BY TC - INSTALLED BY EC
CP-7	DOMESTIC HOT WATER RECIRC - 120 F	WATER ENTRY 160	(F)			120	1			1	TC		тс				EC			CORDED PLUG AND GFCI RECEPTACLE BY EC, ON/OFF BY TC
HUH-161		K/ACTIVE-STOR 161	(1/8)			120	1						тс				EC			SHARES I-STAT WITH VAV 161
WH-1	NATURAL GAS FIRED DOMESTIC WATER HEATER- 140 F	WATER ENTRY 160	(1/6) (F)			120	1			י ר	тс		тс				EC			
	DOMESTIC HOT DIGITAL WATER MIXING VALVE	WATER ENTRY 160				120	1			1	тс		тс				EC			CORDED PLUG AND GFCI RECEPTACLE BY EC; PC TO SET TO 120F OUTLET, TC TO MONITOR
CUH-100A	HEATING - VESTIBULE - WEST	VESTIBLE - 100A	(1/10)			120	1			1	тс		TC T	c c			EC EC			
CUH-114A	HEATING - VESTIBULE - SOUTH	VESTIBLE - 114A	(1/10)			120	1			1	тс		TC T	c			EC			
FTR-X	RADIANT HEAT - WEST COMMONS/STUDY SPACE 100-1	COMMONS/ STUDY SPACE 100-1	-			-	-			1	тс		тст	с						
RAD-XW	RADIANT HEAT - ACTIVE LEARNING 101		-			-	-			1	тс		TC T	c						
RAD-XW	RADIANT HEAT - ACTIVE LEARNING 102	DEAN'S SUP.	-			-	-				тс		тст	C						SHARES T-STAT W/ VAV
RAD-XW	RADIANT HEAT - OFC DEAN 103A	STAFF 103 OFC DEAN 103A	-			-	-				тс		тс							SHARES T-STAT W/ VAV
RAD-XW	RADIANT HEAT - HUDDLE 123	HUDDLE 123	-			-	-			1	тс		TC T	c						
RAD-XW	RADIANT HEAT - EAST CIRCULATION 200	CIRCULATION 200	-			-	-			ר ר	TC		TC T	c c						
RAD-XD	RADIANT HEAT - TIERED CLASSROOM 201	TIERED CLASSROOM 201	-			-	-			ſ	тс		тс т	с						
RAD-XW	RADIANT HEAT - CLASSROOM 202	CLASSROOM 202	-			-	-			1	тс		тст	с						
RAD-XP	RADIANT HEAT - INNOVATION CONFERENCE 203	CONFERENCE 203	-			-	-			1	тс		TC T	c						
FIK-X	AIR COMPRESSOR - LEVEL 2 SIM LAB COMPRESSED AIR &	MECH PENTHOUSE M300	7.5		24.2	- 208	-				10			-			EC			
	COMPRESSED AIR REFRIGERATED DRYER - LEVEL 2 SIM LAB	MECH PENTHOUSE M300	(F)		4	120	1										EC			CORD CONNECTED
SP-1	SUMP PUMP - ELEVATOR SUMP COMPARTMENT	ELEVATOR PIT	1		8	208	1					EC	тс				EC			SUMP ALARM PANEL IN CUST 204A, TC TO MONITOR ALARM PANEL
WATER METER #1	BUILDING DOMESTIC COLD WATER METER	WATER ENTRY 160											тс							TC TO INTERFACE WITH PC'S WATER METER
WATER METER #2	BUILDING DOMESTIC COLD WATER METER	WATER ENTRY 160											тс							TC TO INTERFACE WITH PC'S WATER METER
WATER METER #3	LAWN IRRIGATION WATER METER	WATER ENTRY 160											тс							TC TO INTERFACE WITH PC'S WATER METER
WATER METER #4	BUILDING DOMESTIC HOT WATER METER	WATER ENTRY 160											тс							TC TO INTERFACE WITH PC'S WATER METER
WATER METER #5	BUILDING FIXTURE DOMESTIC COLD WATER METER	WATER ENTRY 160											тс							TC TO INTERFACE WITH PC'S WATER METER
WATER METER #6	HEATING WATER HYDRONIC MAKE-UP WATER METER	MECH/ELEC 147											тс							TC TO INTERFACE WITH PC'S WATER METER
WATER METER #7	CHILLED WATER HYDRONIC MAKE-UP WATER METER	MECH/ELEC 147											тс							TC TO INTERFACE WITH PC'S WATER METER
UTILITY GAS METER	BUILDING NATURAL GAS METER	EXTERIOR											тс							TC TO INTERFACE WITH DIGITAL PULSE WIRE IN J-BOX PROVIDED BY UTILITY
ЕН	ELECTRIC BACKUP HEAT BY EC - WATER ENTRY 160	WATER ENTRY 160								E	EC		тс Е	c c			EC			ELECTRIC HANGING UNIT HEATER WITH INTEGRAL T-STAT ; DDC SPACE SENSOR FOR MONITORING
EH										E	EC		E	с			EC			
																	EU			JEE JPEUIFICA I IUNS
	EXTERIOR LIGHTING CONTROL	BY EC IN MECH/ELEC 147											тс				EC			SEE SPECIFICATIONS

SPECIAL NOTES:

- 1. IN AREAS WHERE EXISTING CEILINGS ARE TO REMAIN, EACH TRADE SHALL BE RESPONSIBLE FOR ANY DAMAGE OR REPAIR NEEDED TO EXISTING CEILINGS AS A RESULT OF THEIR WORK.
- 2. EACH TRADE SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING AS NECESSARY TO ALLOW FOR COMPLETION OF THEIR
- WORK. REFER TO ARCHITECTURAL PLANS FOR SELECTIVE DEMOLITION BY OTHERS. 3. ALL CONTRACTORS SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY
- THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- 4. ALL ROOFING WORK BY ROOFING CONTRACTOR, ALL TRADES TO COORDINATE.
- 5. THE EXISTING BUILDING WILL BE IN USE DURING THIS CONSTRUCTION. SCHEDULE AND CARRY OUT THE WORK IN SUCH A SHALL BE INSTALLED IF ONE PHASE OF CONSTRUCTION DISRUPTS SERVICE TO ANOTHER AREA OF THE BUILDING OR IF EQUIPMENT HAS TO BE RELOCATED TO ALLOW CONSTRUCTION TO PROGRESS. SERVICE INTERRUPTIONS SHALL BE CONFINED TO THE SMALLEST AREA POSSIBLE AT ANY ONE TIME AND INTERRUPTIONS SHALL BE SCHEDULE WITH THE OWNER'S SITE REPRESENTATIVE. AFTER SERVICE HAS BEEN RESTORED FOLLOWING AN INTERRUPTION, INSPECT AREAS AFFECTED BY THE INTERRUPTION AND BE RESPONSIBLE FOR RETURNING AUTOMATICALLY CONTROLLED EQUIPMENT TO THE SAME OPERATING CONDITION, WHICH EXISTED PRIOR TO THE INTERRUPTION.

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LENT NUMBER		REQUIRED				POWEI CYC	R 60 C.	s	TARTI	ER	С	ONTRO	DL	I	SI NFO
DV		REQU													Τ
EQUIPN		FIRE ALARM INTERLOCK	HP OR WATTAGE (KW) OR FRACTIONAL (F)	MCA	FLA	VOLTAGE	PHASE	ТҮРЕ	SIZE	BY	BY	WIRING	TEMP. CONTROL WIRING	THERMOSTAT BY	
VAV-S333 HVAC - SOUTH ATTIC SPACE MECH PENTHOUSE N	M300										тс		тс	тс	
U VAV-M300 HVAC - MECHANICAL PENTHOUSE M300 MECH PENTHOUSE M 0 ○ VAV-N333 HVAC - NORTH ATTIC SPACE MECH PENTHOUSE M	изоо Изоо										тс		тс	тс	-
O T VAV-200 HVAC - CIRCULATION 200 SEE PLAN - 2ND FLC	DOR		-			-	-				тс		тс	тс	
VAV-212A HVAC - CLASSROOM 212 (NORTH) SEE PLAN - 2ND FLO Q VAV-212B HVAC - CLASSROOM 212 (SOUTH) SEE PLAN - 2ND FLO	DOR		-			-	-				тс тс		тс тс	TC TC	
VAV-213 HVAC - SKILLS LAB 213 SEE PLAN - 2ND FLC	DOR		-			-	-				тс		тс	тс	
VAV-201 HVAC - TIERED CLASSROOM 201 SEE PLAN - 2ND FLC	DOR		-			-	-				тс		тс	тс	
VAV-202 HVAC - CLASSROOM 202 SEE PLAN - 2ND FLO VAV-203 HVAC - INNOVATION CONFERENCE 203 SEE PLAN - 2ND FLC	DOR		-			-	-				тс тс		тс тс	TC TC	
VAV-205 HVAC - DEAN SUPPORT 205 SEE PLAN - 2ND FLC	DOR		-			-	-				тс		тс	тс	
VAV-205A HVAC - OFC DEAN 205A SEE PLAN - 2ND FLO VAV-211 HVAC - BREAK 211 SEE PLAN - 2ND FLC	DOR		-			-	-				тс тс		тс тс	TC TC	-
VAV-215 HVAC - LOUNGE 215, CIRCULATION 204, RR 206, RR 208 SEE PLAN - 2ND FLC VAV 248 HVAC - EACHLITY OFFICE 248 SEE PLAN - 2ND FLC	DOR		-			-	-				тс		тс	TC	_
VAV-218 HVAC - FACULTY OFFICE 218 SEE PLAN - 2ND FLO VAV-219 HVAC - FACULTY OFFICE 219 SEE PLAN - 2ND FLO	DOR		-			-	-				тс		тс	тс	-
VAV-220 HVAC - FACULTY OFFICE 220 SEE PLAN - 2ND FLO VAV-221 HVAC - FACULTY OFFICE 221 SEE PLAN - 2ND FLO	DOR		-			-	-				тс		тс тс	тс	
VAV-222 HVAC - LAB TECH 222 SEE PLAN - 2ND FLC	DOR		-			-	-				тс		тс	тс	_
YAV-223 HVAC - ADVISOR 223 SEE PLAN - 2ND FLO VAV-224 HVAC - SIM COORDINATOR 224 SEE PLAN - 2ND FLC	DOR		-			-	-				тс тс		тс тс	TC TC	
VAV-225 HVAC - CLINIC COORDINATOR 225 SEE PLAN - 2ND FLC	DOR		-			-	-				тс		тс	тс	F
VAV-226 HVAC - FACULTY OFFICE 226 SEE PLAN - 2ND FLO U VAV-227 HVAC - CLINIC PREP 227, 216, 227A, 227B SEE PLAN - 2ND FLC	DOR		-			-	-				тс тс		тс тс	тс тс	
VAV-227C HVAC - DEBRIEF 227C SEE PLAN - 2ND FLC VAV-227D UVAC - SIM M.D. 227D SEE PLAN - 2ND FLC	DOR		-			-	-				тс		TC	TC	_
VAV-227D HVAC - SIM - M.P. 227D SEE PLAN - 2ND FLO VAV-227E HVAC - SIM LAB CONTROL 227E SEE PLAN - 2ND FLO	DOR		-			-	-				тс		тс	тс	
VAV-227F HVAC - SIM - M.P. 227F SEE PLAN - 2ND FLO VAV-227G HVAC - SIM - M.P. 227G SEE PLAN - 2ND FLO	DOR		-			-	-				тс		TC TC	TC TC	
VAV-227H HVAC - SIM LAB CONTROL 227H SEE PLAN - 2ND FLC	DOR		-			-	-				тс		тс	тс	
VAV-227I HVAC - SIM CLIN 227I SEE PLAN - 2ND FLO VAV-227J HVAC - SIM CLIN 227J SEE PLAN - 2ND FLC	DOR		-			-	-				тс тс		тс тс	TC TC	-
VAV-227K HVAC - SIM LAB CONTROL 227K SEE PLAN - 2ND FLC	DOR		-			-	-				тс		тс	тс	
VAV-227L HVAC - SIM - M.P. 227L SEE PLAN - 2ND FLO VAV-227M HVAC - DEBRIEF 227M SEE PLAN - 2ND FLC	DOR		-			-	-				тс тс		тс тс	тс тс	-
VAV-S201 HVAC - SOUTH STAIR S201 SEE PLAN - 2ND FLC	DOR		-			-	-				тс		тс	тс	
VAV-100 HVAC - COMMONS/STUDY SPACE 100, VESTIBULE 100A, VESITBULE 100B SEE PLAN - 1ST FLC	OOR		-			-	-				тс		тс	тс	Τ
VAV-101 HVAC - ACTIVE LEARNING 101 SEE PLAN - 1ST FLO VAV-402 LINAC - ACTIVE LEARNING 102 SEE PLAN - 1ST FLO	OR		-			-	-				тс		тс	TC	—
VAV-102 HVAC - ACHIVE LEARNING 102 SEE PLAN - 151 FLO VAV-103 HVAC - DEAN'S SUPPORT STAFF 103 SEE PLAN - 151 FLO	OR		-			-	-				тс		тс	тс	
VAV-103A HVAC - OFC DEAN 103A SEE PLAN - 1ST FLO VAV-104 HVAC - HUDDLE 104 SEE PLAN - 1ST FLC	OOR		-			-	-				тс		тс тс	тс	_
VAV-105 HVAC - N. INOVATION START-UP 105 SEE PLAN - 1ST FLO	OOR		-			-	-				тс		тс	тс	
VAV-106 HVAC - HUDDLE 106 SEE PLAN - 1ST FLO VAV-107 HVAC - HUDDLE 107 SEE PLAN - 1ST FLO	DOR		-			-	-				тс тс		тс тс	TC TC	┢
VAV-108 HVAC - WORK ROOM 108 SEE PLAN - 1ST FLO	OOR		-			-	-				тс		тс	тс	
VAV-110 HVAC - OFFICE 110 SEE PLAN - 1ST FLO VAV-111 HVAC - OFFICE 111 SEE PLAN - 1ST FLO	DOR		-			-	-				тс		тс	тс	┢
VAV-112 HVAC - OFFICE 112 SEE PLAN - 1ST FLO VAV-113 HVAC - OFFICE 113 SEE PLAN - 1ST FLO	OR		-			-	-				TC TC		TC TC	TC	_
VAV-115 HVAC - MDF 115/ELEC 116 SEE PLAN - 1ST FLO	OR		-			-	-				тс		тс	тс	
VAV-117 HVAC - PROF. ADVISOR 117 SEE PLAN - 1ST FLO VAV-118 HVAC - OFC FACULTY 118 SEE PLAN - 1ST FLC	DOR		-			-	-				тс тс		тс тс	TC TC	-
VAV-119 HVAC - OFC FACULTY 119 SEE PLAN - 1ST FLO	OOR		-			-	-				тс		тс	тс	+
VAV-120 HVAC - OFC FACULTY 120 SEE PLAN - 1ST FLO VAV-121 HVAC - OFC FACULTY 121 SEE PLAN - 1ST FLC	DOR	-	-			-	-				тс тс		тс тс	TC TC	+
VAV-122 HVAC - OFC FACULTY 122 SEE PLAN - 1ST FLO VAV-124 INVAC - OFC FACULTY 122 SEE PLAN - 1ST FLO	OR		-			-	-				тс		тс	TC	
VAV-124 HVAC - OFC FACULTY 124 SEE PLAN - 1ST FLO VAV-125 HVAC - OFC FACULTY 125 SEE PLAN - 1ST FLO	JOR JOR		-			-	-				тс тс		rC TC	IC TC	╞
Y VAV-126 HVAC - OFC FACULTY 126 SEE PLAN - 1ST FLO	OR		-			-	-				тс		тс	TC	
VAV-127 HVAC - OFC FACULTY 127 SEE PLAN - 1ST FLO L VAV-128 HVAC - OFC FACULTY 128 SEE PLAN - 1ST FLO	DOR		-			-	-				тс		тс	тс	
VAV-129 HVAC - OFC FACULTY 129 SEE PLAN - 1ST FLO L VAV-130 HVAC - OFC FACULTY 130 SEE PLAN - 1ST FLC	OOR		-			-	-				тс тс		тс тс	тс тс	
VAV-131 HVAC - OFC FACULTY 131 SEE PLAN - 1ST FLO	OOR		-			-	-				тс		тс	тс	
VAV-133 HVAC - HUDDLE 123, CIRCULATION 114, RR 134, RR 135, VENDING 140 SEE PLAN - 1ST FLO	OOR		-			-	-				тс		тс	тс	
VAV-137 HVAC - FACULTY BREAK 137 SEE PLAN - 1ST FLO VAV-138 HVAC - MOTHERS 138 SEE PLAN - 1ST FLO	DOR		-			-	-				тс тс		тс тс	TC TC	-
VAV-141 HVAC - HUDDLE 141 SEE PLAN - 1ST FLO	OOR		-			-	-				тс		тс	тс	
VAV-142 NAME LOUNCE 142, HODDLE/LOUNGE 132, HODDLE/LOUNGE 149 FURNITURE STORAGE 149A, STORAGE 149B SEE PLAN - 1ST FLO VAV-143 HVAC - HUDDLE 143 SEE PLAN - 1ST FLO	DOR		-			-	-				TC TC		тс тс	TC TC	$\left - \right $
VAV-144 HVAC - HUDDLE 144 SEE PLAN - 1ST FLO	OOR		-			-	-				тс		тс	тс	\downarrow
VAV-145 HVAC - HUDDLE 145 SEE PLAN - 1ST FLO VAV-146 HVAC - HUDDLE 146 SEE PLAN - 1ST FLC	DOR		-			-	-				тс тс		тс тс	TC TC	+
VAV-147 HVAC - MECHANICAL/ELECTRICAL 147 SEE PLAN - 1ST FLO)OR		-			-	-				тс		тс	тс	F
VAV-150 HVAC - ENTREP. IN-RES 150 SEE PLAN - 1ST FLO VAV-151 HVAC - OFC FACULTY 151 SEE PLAN - 1ST FLO	DOR		-	<u> </u>		-	-				тс тс		тс тс	тс тс	+
VAV-152 HVAC - OFC FACULTY 152 SEE PLAN - 1ST FLO VAV 153 INVAC - OFC FACULTY 152 SEE PLAN - 1ST FLO	OR		-			-	-				тс		тс	TC	F
VAV-153 HVAC - OFC FACULTY 153 SEE PLAN - 1ST FLO VAV-154 HVAC - OFC FACULTY 154 SEE PLAN - 1ST FLO)OR		-			-	-				тс		TC	TC	\vdash
VAV-155 HVAC - OFC FACULTY 155 SEE PLAN - 1ST FLO VAV-156 HVAC - OFC FACULTY 156 SEE PLAN - 4ST FLO	OOR		-			-	-				TC TC		тс	TC	F
VAV-157 HVAC - OFC FACULTY 157 SEE PLAN - 1ST FLO	OOR		-			-	-				тс		тс	тс	╞
VAV-158 HVAC - OFC FACULTY 158 SEE PLAN - 1ST FLO VAV-159 HVAC - OFC FACULTY 159, WATER ENTRY 160 SEE PLAN - 1ST FLC	OOR		-			-	-				тс тс		тс тс	тс тс	\vdash
VAV-161 HVAC - LOADING/RECEIVING/DOCK/ACTIVE STOR. 161 SEE PLAN - 1ST FLO	OOR		-			-	-				тс		тс	тс	

b. NEW CHILLED SYSTEM SOLUTION SHALL BE 35% DOWFROST HD PROPYLENE GLYCOL. c. CALCULATED PROPOSED HEATING SYSTEM VOLUME: 1,110 GALLONS. PLUMBING CONTRACTOR TO PROVIDE (1) SPARE HEATING GLYCOL SOLUTION 55 GALLON DRUM (SEE SPECIFICATIONS). d. CALCULATED PROPOSED CHILLED SYSTEM VOLUME: 1,395 GALLONS. PLUMBING CONTRACTOR TO PROVIDE (1) SPARE e. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND FLUSHING BOTH THE NEW HEATING SYSTEM PIPING & CHILLED SYSTEM PIPING PRIOR TO PUMPING IN NEW HEATING SOLU AFTER PROPOSED WORK IS COMPLETE, THE PLUMBING/HYDRONICS CONTRACTOR IS TO PROVIDE A COMPLETE ANALYSIS OF THE HEATING SYSTEM SOLUTION AND THE CHILLED SYSTEM SOLUTION TO CONFIRM PROPER GLYCOL % AND TREATMENT. SUBMIT ANALYSIS/RECOMMENDATIONS TO SICHMELLER ENGINEERING & OWNER. IF SOLUTION

8. DURING THE SHOP DRAWING PROCESS, ALL M&E CONTRACTORS TO BE RESPONSIBLE FOR MARKING UP ALL OPENINGS IN THE CONCRETE SLAB, PRECAST WALL, CORE FLOOR, OR STRUCTURAL STEEL FRAMING, AND STRUCTURAL STEEL ROOF JOIST SYSTEMS REQUIRED FOR THE INSTALLATION OF THEIR RESPECTIVE SYSTEMS IN NEW AND EXISTING STRUCTURAL SYSTEMS.

9. WHERE PEX PIPING IS USED, PIPING SHALL BE UPONOR PEX-A POTABLE WATER PIPING WITH UPONOR F1960 EXPANDABLE FITTINGS, NO CRIMP FITTINGS TO BE ACCEPTED, PROVIDED THE CONTRACTOR IS TRAINED AND FOLLOWING ALL MANUFACTURER'S RECOMMENDATIONS TO FULFILL ALL AVAILABLE UPONOR 25 YEAR WARRANTY COVERAGE.

10. ORIGINAL PLANS ARE AVAILABLE. PLEASE CONTACT THE ENGINEER'S OFFICE TO REQUEST. CONTACT ISAAC @ 605-225-4344. 11. REFER TO THE FRONT END BIDDING DOCUMENTS FOR DESCRIPTION OF ALTERNATES.

12. SEE MECHANICAL SITE DEMOLITION PLAN LOCATED ON LOWER LEFT CORNER OF THIS SHEET FOR LINCOLN MECHANICAL DEMOLITON WORK.



Date lssue 100% CONSTRUCTION DOCUMENTS 9 APRIL 2024

LINCOLN HALL

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D	UL	E				E.C. = ELECTRICAL CONTRACTOR P.C. = PLUMBING CONTRACTOR V.C. = VENTILATION CONTRACTOR T.C. = TEMPERATURE CONTROL CONTRACTOR
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Project Number: 211100748 Drawn By: SICHMELLER ENGINEERING Reviewed By: TS TS Approved By: **MECHANICAL SITE PLAN**









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A. FRESH AIR INTAKES TO BE MINIMUM 10' FROM ANY EXHAUST TERMINATION.

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C. ALL PENETRATIONS THROUGH DRAFT STOPS AND OTHER FIRE-RATED PARTITIONS SHALL BE FIRE STOPPED AS PER SPECIFICATIONS AND LOCAL CODES. D. ALL MECHANICAL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE

E. THE MECHANICAL DRAWINGS SHOW GENERAL ARRANGEMENT ONLY. EXACT LOCATION SHALL AVOID INTERFERENCE WITH ELECTRICAL EQUIPMENT & REQUIRED ELECTRICAL CLEARANCES. F. CONTRACTOR SHALL COORDINATE ALL PLUMBING WITH LIGHT FIXTURES, HVAC, FIRE SPRINKLER,

AND STRUCTURAL TO ACCOMMODATE LIMITED CEILING SPACE. G. FRESH AIR INTAKES TO BE MINIMUM 10' FROM ANY EXHAUST TERMINATION. H. ALL FLOOR EQUIPMENT SHALL BE SET ON 4" HIGH CONCRETE BASES FURNISHED BY THIS

CONTRACTOR. I. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE A/E IMMEDIATELY OF ANY DISCREPANCIES. J. COORDINATE NEW SERVICES WITH LOCAL UTILITIES.

K. PLUMBING CONTRACTOR TO PROVIDE VENTING FOR ALL FLOOR DRAINS, TRENCH DRAINS, AND FLOOR SINKS AS SHOWN OR AS REQUIRED BY CODE.



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- LOCAL, STATE, NATIONAL PLUMBING REGULATIONS, AND THE AUTHORITY HAVING JURISDICTION.

- VERIFY EXACT LOCATION, AND INVERT.
- 3. PLUMBING CONTRACTOR TO CONNECT NEW 6" FIRE PROTECTION WATER SERVICE TO NEW 6" FIRE PROTECTION WATER SERVICE INSTALLED BY SITE UTILITY AT THIS LOCATION 5' OUTSIDE OF BUILDING. PLUMBING CONTRACTOR TO EXTEND INTO BUILDING, FURNISH AND INSTALL THRUST BLOCKS AND/OR TIE-RODS IN ACCORDANCE WITH THE LOCAL WATER DEPARTMENT STANDARDS AND REGULATIONS, AND PROVIDE 6" FLANGED CONNECTION FOR SPRINKLER CONTRACTOR'S USE. AS-BUILTS AND REQUIRED UNDERGROUND FIRE PROTECTION PIPING TESTING/TEST CERTIFICATE SHALL BE SUBMITTED TO ENGINEER AND FIRE PROTECTION CONTRACTOR FROM THE PLUMBING CONTRACTOR.
- 4. PLUMBING CONTRACTOR TO CONNECT NEW 6" SANITARY SEWER TO NEW 6" SANITARY SEWER SERVICE INSTALLED BY SITE UTILITY CONTRACTOR AT THIS LOCATION 5' OUTSIDE OF BUILDING. PLUMBING CONTRACTOR SHALL VERIFY EXACT LOCATION, & INVERT.
- 5. PLUMBING CONTRACTOR TO COORDINATE WITH ALEXANDER MASLOSKI OF NWE AT 605-228-0571 TO PROVIDE & INSTALL UTILITY'S UNDERGROUND GAS SERVICE & METER FIT TO THIS LOCATION. GAS PRESSURE TO BE 2 PSI AFTER NWE METER FIT. PLUMBING CONTRACTOR TO PROVIDE & INSTALL COMPLETE GAS DISTRIBUTION SYSTEM FROM THE METERFIT AS SHOWN. PC TO PREPARE, PRIME, AND PAINT EXPOSED EXTERIOR GAS PIPING TO MATCH UTILITY METER FIT. 6. SEE SUMP BASIN AND PUMP PIPING DETAIL.
- 7. PLUMBING CONTRACTOR TO PROVIDE 2" COPPER STUB OUT WITH PVC SLEEVE FOR LAWN IRRIGATION CONTRACTOR AT THIS LOCATION 5' OUTSIDE OF BUILDING AT 18" DEEP. SEE WATER HEADER DIAGRAM.
- 8. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL 5" PREINSULATED BELOW GRADE CHILLED WATER SUPPLY AND RETURN. INSTALL MINIMUM 36" BELOW FINISHED GRADE, WITH LOCATE WIRE AND TAPE. TERMINATE PRE-FABRICAGED PIPE AT 12" ABOVE FINISHED GRADE NEAR CHILLER AND 12" ABOVE FINISHED FLOOR. UNDER STAIRS IN SOUTH STAIR S101.

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- C. ALL FLOOR CLEANOUTS TO BE LOCATED IN INCONSPICUOUS LOCATIONS. CLEANOUTS LOCATED IN DOORWAYS AND MIDDLE OF HALLWAYS WILL NOT BE ACCEPTABLE.



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GENERAL NOTES:

A. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER. B. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ANY OPENINGS LEFT IN FLOORS, WALLS, AND CEILINGS THAT WERE CAUSED BY HIS/HER ACTIONS. PATCHING SHALL MATCH EXISTING SURFACE IN COLOR, TEXTURE AND QUALITY SO THAT PATCH IS INDISTINGUISHABLE FROM ORIGINAL SURFACE.

C. ALL PENETRATIONS THROUGH DRAFT STOPS AND OTHER FIRE-RATED PARTITIONS SHALL BE FIRE STOPPED AS PER SPECIFICATIONS AND LOCAL CODES. D. ALL MECHANICAL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, NATIONAL PLUMBING REGULATIONS, AND THE AUTHORITY HAVING JURISDICTION.

E. THE MECHANICAL DRAWINGS SHOW GENERAL ARRANGEMENT ONLY. EXACT LOCATION SHALL AVOID INTERFERENCE WITH ELECTRICAL EQUIPMENT & REQUIRED ELECTRICAL CLEARANCES. F. CONTRACTOR SHALL COORDINATE ALL PLUMBING WITH LIGHT FIXTURES, HVAC, FIRE SPRINKLER, AND STRUCTURAL TO ACCOMMODATE LIMITED CEILING SPACE.

G. FRESH AIR INTAKES TO BE MINIMUM 10' FROM ANY EXHAUST TERMINATION. H. ALL FLOOR EQUIPMENT SHALL BE SET ON 4" HIGH CONCRETE BASES FURNISHED BY THIS CONTRACTOR.

I. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE A/E IMMEDIATELY OF ANY DISCREPANCIES. J. COORDINATE NEW SERVICES WITH LOCAL UTILITIES.

K. PLUMBING CONTRACTOR TO PROVIDE VENTING FOR ALL FLOOR DRAINS, TRENCH DRAINS, AND FLOOR SINKS AS SHOWN OR AS REQUIRED BY CODE.

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1. THIS SPACE IS RESERVED FOR ELECTRICAL GEAR. PIPING AND EQUIPMENT SHALL NOT BE LOCATED IN FRONT OF OR ROUTED ABOVE ELECTRICAL PANELS. COORDINATE WITH DIVISION 26.

2. TYPICAL - SEE VAV HEATING COIL PIPING DETAIL.

(REFER TO A430 & A501).

- 3. TYPICAL SEE PEDESTAL WALL-PANEL RADIATION PIPING DETAIL. 4. PROVIDE & INSTALL 1/2" COMPRESSED AIR AT THIS LOCATION AND DROP FOR "AIR" OF HEAD WALL, 1/2" COMPRESSED AIR AND COMPRESSED AIR VACUUM GENERATING FITTING IN ACCESSIBLE CEILING WITH DROP FOR "VAC" OF HEAD WALL, AND 1/2" COMPRESSED AIR AT THIS LOCATION FOR "SIMULATED OXYGEN" AT HEAD WALL. HEAD WALL AND OUTLETS NOT PROVIDED OR INSTALLED BY THIS CONTRACTOR
- 5. TO MEET GREEN GLOBE REQUIREMENTS FOR ALL INDIVIDUAL AND GROUPED LAVS L-1'S AND L-2'S - 1/2" DHWR TO BE CONNECTED BELOW LAV TO MINIMIZE WAIT TIME (BALANCING VALVES AS SHOWN). FOR ALL OTHER SINKS, SEE SPECIAL NOTES REGARDING DOM HW AND DOM HW RECIRC FOR GREEN GLOBE REQUIREMENTS.
- 6. TYPICAL SEE DHWR BALANCING VALVE PIPING DETAIL.

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SPECIAL NOTES

- A. TO MEET GREEN GLOBE REQUIREMENTS FOR ALL SINKS FOLLOW PLANS AS SHOWN FOR DHW & DHWR ROUTING TO MEET A TOTAL LENGTH OF NON-RECIRCULATED DOMESTIC HOT WATER (HORIZONTAL + VERTICAL) THAT IS LESS THAN 13', NO EXCEPTIONS, IF PLANS ARE FOUND TO HAVE MORE THAN 13' CONTACT THE ENGINEERS OFFICE PRIOR TO INSTALL.
- B. ALL MECHANICAL SYSTEMS, EXCLUDING DROPS, TO BE INSTALLED AS HIGH AS POSSIBLE TO PROVIDE MAXIMUM CLEARANCES FOR OWNER.
- C. THE MECHANICAL CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR COORDINATING HIS WORK WITH OTHER TRADES TO AVOID CONFLICTS IN SPACE REQUIREMENTS, CLEARANCES, ETC. PROBLEMS ARISING DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO RESOLVE. EXTRA WORK AND/OR EQUIPMENT AS A RESULT OF NOT COORDINATING SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND AT NO COST TO THE OWNER.
- D. ALL CONDENSATE & DRAIN PIPING TO BE BY PC.
- E. FLOOR DRAINS & SINK LOCATIONS SHALL BE INSTALLED IN LOCATIONS PROPER TO ACCEPT INDIRECT DRAIN PIPING FROM BOILERS, WATER HEATERS, RELIEFS, ETC. (TRIP HAZARDS FROM PIPING WILL NOT BE ACCEPTABLE)
- F. ALL FLOOR CLEANOUTS TO BE LOCATED IN INCONSPICUOUS LOCATIONS. CLEANOUTS LOCATED IN DOORWAYS AND MIDDLE OF HALLWAYS WILL NOT BE ACCEPTABLE.
- G. HYDRONICS CONTRACTOR TO PIPE ALL RUNOUTS FROM THE TOP OR SIDE OF THE HYDRONIC MAINS TO AVOID SEDIMENT. INSTALL HIGH CAPACITY AIR VENTS.

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J. COORDINATE NEW SERVICES WITH LOCAL UTILITIES.

K. PLUMBING CONTRACTOR TO PROVIDE VENTING FOR ALL FLOOR DRAINS, TRENCH DRAINS, AND FLOOR SINKS AS SHOWN OR AS REQUIRED BY CODE.

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SICHMELLER ENGINEERING

Project Number:

Drawn By:

Reviewed By:

SYM	POSITION	FINISH	TEMP	K	NPT	SIN	MFG.	MODEL#	ESCUTCHEON	NOTES
۲	PENDENT	WHITE	155°	5.6	1/2"	RA3415	RELIABLE	G5-56	CONCEALED	1, 2
$\overline{\mathbf{O}}$	PENDENT	WHITE	160°	11.2	3/4"	R7146	RELIABLE	G4XLO	CONCEALED	1, 2
Ĩ	DRY PENDENT	WHITE	200°	5.6	1"	RA5114	RELIABLE	G5-56	CONCEALED	2
۲	PENDENT	BLACK	155°	5.6	1/2"	TY3231	TYCO	TY-FRB	SHIELD	
\boxtimes	UPRIGHT	BRASS	200°	5.6	1/2"	RA1425	RELIABLE	F1FR56	NONE	
0	UPRIGHT	BRASS	155°	5.6	1/2"	RA1425	RELIABLE	F1FR56	NONE	
\bigtriangledown	SIDEWALL	BRASS	200°	5.6	1/2"	RA1435	RELIABLE	F1FR56	NONE	
NULES	D.									

1. STANDARD COVERAGE OR EXTENDED COVERAGE SPRINKLERS AT THE CONTRACTOR'S OPTION 2. VERIFY FLAT CONCEALER COVER PLATE FINISHES WITH ARCHITECT GENERAL NOTES (APPLIES TO ALL SPRINKLERS):

 SPRINKLERS MAY BE SUBSTITUTED FOR EQUAL MAKE AND MODEL • INTERMEDIATE TEMPERATURE RATED SPRINKLERS SHALL BE USED IN ALL MECHANICAL, IT AND ELECTRICAL ROOMS • ALL SPRINKLERS NEAR HEAT PRODUCING DEVICES SHALL BE PROVIDED WITH THE APPROPRIATE TEMPERATURE RATING PER THE **REQUIREMENTS OF NFPA 13** VERIFY SPRINKLER AND ESCUTCHEON FINISHES WITH ARCHITECT

• STANDARD RESPONSE SPRINKLERS MAY BE USED IN ORDINARY HAZARD AREAS • SPRINKLER GUARDS ARE TO BE INSTALLED ON ALL EXPOSED SPRINKLERS ELEVATED BELOW 7'-0" AND THROUGHOUT AREAS WHERE HEADS ARE EXPOSED TO INTERFERENCE DAMAGE

B SPRINKLER LEGEND - FIRE PROTECTION NO SCALE

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_____ LINCOLN HALL TO BE FULLY SPKR'D AS PART OF SCOPE OF WORK

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4" BULK MAIN CAPPED AT EACH END TO BE INSTALLED FROM NEAR EXISTING RISER IN STUDENT CENTER TO GRAHAM HALL FOR FUTURE USE IN PROVIDING SPRINKLER PROTECTION TO GRAHAM HALL. SEE SHEET M400A STUDENT CENTER - LOWER LEVEL MECHANICAL & FIRE PROTECTION DEMOLITION PROPOSED PLAN FOR MORE INFORMATION.

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Seal

THIS PROJECT INCLUDES THE DESIGN AND INSTALLATION OF A SINGLE ZONE WEY ZONE FIRE SPIRINKLER SYSTEMS FOR PROTECTION OF THE ENTIRE LINCOLN HALL BUILDING PER NFPA 13 (2016 ed.). ALSO, A 4 PULK MAIN WILL BE REQUIRED DID BE INSTALLED THRU THE STUDENT CENTER INTO GRAHAM HALL. FOR FUTURE USE IN PROVIDING SPRINKLER PROTECTION TO GRAHAM HALL. FINAL IPIE SIZING AND LOCATION IS TO BE DETEMINED BY THE FIRE SPRINKLER CONTRACTOR AND IS SUBJECT TO APPROVAL BY THE ENGINEER. NOT ALL REQUIRED PIPING IS SHOWN. REFER TO SPECIFICATION DIVISIONS 211009 OCR ADDITIONAL FIRE SPRINKLERS IN LIGH HAZARD OCCUPANCIES INCLUDING PUBLIC AREAS ARE TO BE OF THE QUICK RESPONSE TYPE. SPRINKLERS NI LIGH HAZARD OCCUPANCIES INCLUDING PUBLIC AREAS ARE TO BE OF THE QUICK RESPONSE TYPE. SPRINKLERS ARE REQUIRED TO BE INFOLTECTED DURING PAINTING. SPRINKLERS AND ALLOWDE TO BE IN THE COLARTER AND/OR CENTER POINTS OF RECTANGULAR CELLING PARELS. SPRINKLERS SHALL BE LOCATED IN THE CENTER POINT OF SOUARE CELLING TILES AND ALLOWDE TO BE IN THE UNATION AND/OR CENTER POINTS OF RECTANGULAR CELLING PARELS. SPRINKLER CONTRACTOR PER NFPA 25. NOT ALL REMOVING COMPLEX THE REQUIREMENTS OF NFPA 13. REDUIRED SYSTEM TESTING IS THE RESPONSIBILITY OF THE FIRE SPRINKLER CONTRACTOR PER NFPA 25. NOT ALL REQUIRED SYNTEMICERS AND IPING ARE SHOWN. CONSIDERATION OF ADDITIONAL SPRINKLERS, PIPING, NDE FITTINGS DUE ONTREFERENCE WITH OTHER TRADES. OBSTRUCTIONS, IMPROVED ASSTEMTES, OR OWNER/AHJ REQUESTS SHALL BE MADE PRIOR TO BID BY THE FIRE SPRINKLER CONTRACTOR. FIRE SPRINKLER CONTRACTOR, SOSTINUCTIONS, MARDAVED ASSTEMTES, OR OWNER/AHJ REQUESTS SHALL BE MADE PRIOR TO BID BY THE FIRE SPRINKLER CONTRACTOR. FIRE SPRINKLER CONTRACTOR SID DID COLMENTS SHALL BE MADE PRIOR TO BID. UNTRACT, AND YADALL CLARIFICATIONS TO BID DOLMENTS SHALL BE MADE PRIOR TO BID. UNTRACT, AND YADAL CLARIFICATIONS TO BID DOLMENTS SHALL BE MADE PRIOR TO BID. UNTRACT, AND YADAL CLARIFICATIONS TO BID DOLMENTS SHALL BE MADE PRIOR TO BID. UNTRACT, AND YADAL CLARIFICATIONS TO BID CONTRACT, AND YADAL CLARIFICATIONS TO BID		GENERAL NOTES
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HOSE ALLOWANCE	-	THAN THAT WHICH IS AVAILABLE AT SPRINKLER SYSTEM DEMAND PLUS
		HOSE ALLOWANCE

Project Number: 211100748 SDG Drawn By: CRT Reviewed By: CRT Approved By: FIRE PROTECTION - LEGENDS & DETAILS

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	L		N <u>LEVEL 1 - FIRE</u> 1/8" = 1'-0"	PROTECTION PLAN	

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Fire Protection Engineer Fire Engineering Inc P.O. Box 386 Sioux Falls, SD, 57101 Telephone: 605-543-5170 E-mail: ctaschner@fire-engr.com

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100% CONSTRUCTION DOCUMENTS 9 APRIL 2024

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Fire Protection Engineer Fire Engineering Inc P.O. Box 386 Sioux Falls, SD, 57101 Telephone: 605-543-5170 E-mail: ctaschner@fire-engr.com

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PENTHOUSE LEVEL - FIRE PROTECTION PLAN

Project Number: Drawn By: Reviewed By: Approved By: 211100748 SDG CRT CRT

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Telephone: 605-225-4344 E-mail: traviss@siceng.biz

Project Number: 211100748 Drawn By: SICHMELLER ENGINEERING Reviewed By: TS Approved By: TS LEVEL 1 - HVAC PLAN

B. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ANY OPENINGS LEFT IN FLOORS, WALLS, AND CEILINGS THAT WERE CAUSED BY HIS/HER ACTIONS. PATCHING SHALL MATCH EXISTING SURFACE IN COLOR, TEXTURE AND QUALITY SO THAT PATCH IS INDISTINGUISHABLE FROM ORIGINAL SURFACE. C. ALL PENETRATIONS THROUGH DRAFT STOPS AND OTHER FIRE-RATED PARTITIONS SHALL BE FIRE STOPPED AS PER SPECIFICATIONS AND LOCAL CODES. D. ALL MECHANICAL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, NATIONAL PLUMBING REGULATIONS, AND THE AUTHORITY HAVING JURISDICTION. E. THE MECHANICAL DRAWINGS SHOW GENERAL ARRANGEMENT ONLY. EXACT LOCATION SHALL AVOID INTERFERENCE WITH ELECTRICAL EQUIPMENT & REQUIRED ELECTRICAL CLEARANCES. F. COORDINATE INSTALLATION OF ALL HVAC WITH PLUMBING, FIRE SPRINKLER, LIGHT FIXTURES, AND STRUCTURE TO ACCOMMODATE LIMITED CEILING SPACE. G. FOR SIMPLICITY DUCT INSULATION NOT SHOWN, DUCT SIZES INDICATED ON DRAWING ARE INTERNAL DIMENSIONS. AS NEEDED ADJUST ACTUAL SIZE FOR INSULATION THICKNESS AS SPECIFIED. H. ALL FLEXIBLE DUCTWORK AND CONNECTORS BETWEEN THE LOW PRESSURE DUCTWORK AND THE DIFFUSERS SHALL BE THE SIZE OF THE DIFFUSER INLET. I. PROVIDE & INSTALL VIBRATION ISOLATION ON ALL HANGING EQUIPMENT. PROVIDE & INSTALL VIBRATION ABSORPTION MOUNTING PADS ON ALL EQUIPMENT MOUNTED ON FLOOR. J. PROVIDE AND INSTALL DURODINE FLEX DUCT CONNECTORS AT ALL EQUIPMENT CONNECTIONS. K. ALL DUCTWORK TO BE SEALED AIRTIGHT. H. FRESH AIR INTAKES TO BE MINIMUM 10' FROM ANY EXHAUST TERMINATION.

I. ALL FLOOR EQUIPMENT SHALL BE SET ON 4" HIGH CONCRETE BASES FURNISHED BY THIS CONTRACTOR.

SICHMELLER ENGINEERING

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AndersonMasonDale Architects

- COORDINATE WITH DIVISION 26.
- 2. SEE HVAC SHEET METAL DUCTWORK CONSTRUCTION AND INSULATION SCHEDULE AND SPECIFICATIONS.
- 3. SEE TYPICAL DIFFUSER CONNECTION DETAIL.
- 4. TYPICAL SEE INSULATED RETURN ELBOW DETAIL.
- 5. TYPICAL SEE VAV BOX DUCT CONNECTION DETAIL.
- 6. TYPICAL VOLUME DAMPERS ON RETURN TO BE SET 100% OPEN AND ARE TO BE USED FOR AIR NOISE ISSUES IF NECESSARY.
- 7. REFRIGERANT LIQUID & SUCTION LINE SETS BY VENTILATION CONTRACTOR SHALL BE SECURED UNIFORMLY ON UNISTRUT & SHALL BE NEAT IN APPEARANCE. (GENERAL ARRANGEMENT OF LINE SETS ROUTING SHOWN).

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THE OWNER.

- B. THE MECHANICAL CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR COORDINATING HIS WORK WITH OTHER TRADES TO AVOID CONFLICTS IN SPACE REQUIREMENTS, CLEARANCES, ETC. PROBLEMS ARISING DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO RESOLVE. EXTRA WORK AND/OR EQUIPMENT AS A RESULT OF NOT COORDINATING SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND AT NO COST TO

C. ALL CONDENSATE & DRAIN PIPING TO BE BY PC.

D. ALL TRANSFER AIR SLEEVES TO BE 10" X 10" UNLESS OTHERWISE SPECIFIED.

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Project Number: 211100748 Drawn By: SICHMELLER ENGINEERING Reviewed By: TS TS Approved By: LEVEL 2 - HVAC PLAN

GENERAL NOTES:

A. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER. B. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ANY OPENINGS LEFT IN FLOORS, WALLS, AND CEILINGS THAT WERE CAUSED BY HIS/HER ACTIONS. PATCHING SHALL MATCH EXISTING SURFACE IN COLOR, TEXTURE AND QUALITY SO THAT PATCH IS INDISTINGUISHABLE FROM ORIGINAL SURFACE.

C. ALL PENETRATIONS THROUGH DRAFT STOPS AND OTHER FIRE-RATED PARTITIONS SHALL BE FIRE STOPPED AS PER SPECIFICATIONS AND LOCAL CODES.

D. ALL MECHANICAL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, NATIONAL PLUMBING REGULATIONS, AND THE AUTHORITY HAVING JURISDICTION.

E. THE MECHANICAL DRAWINGS SHOW GENERAL ARRANGEMENT ONLY. EXACT LOCATION SHALL AVOID INTERFERENCE WITH ELECTRICAL EQUIPMENT & REQUIRED ELECTRICAL CLEARANCES. F. COORDINATE INSTALLATION OF ALL HVAC WITH PLUMBING, FIRE SPRINKLER, LIGHT FIXTURES, AND

STRUCTURE TO ACCOMMODATE LIMITED CEILING SPACE. G. FOR SIMPLICITY DUCT INSULATION NOT SHOWN, DUCT SIZES INDICATED ON DRAWING ARE INTERNAL DIMENSIONS. AS NEEDED ADJUST ACTUAL SIZE FOR INSULATION THICKNESS AS SPECIFIED.

H. ALL FLEXIBLE DUCTWORK AND CONNECTORS BETWEEN THE LOW PRESSURE DUCTWORK AND THE DIFFUSERS SHALL BE THE SIZE OF THE DIFFUSER INLET. I. PROVIDE & INSTALL VIBRATION ISOLATION ON ALL HANGING EQUIPMENT. PROVIDE & INSTALL

VIBRATION ABSORPTION MOUNTING PADS ON ALL EQUIPMENT MOUNTED ON FLOOR. J. PROVIDE AND INSTALL DURODINE FLEX DUCT CONNECTORS AT ALL EQUIPMENT CONNECTIONS.

K. ALL DUCTWORK TO BE SEALED AIRTIGHT.

H. FRESH AIR INTAKES TO BE MINIMUM 10' FROM ANY EXHAUST TERMINATION.

I. ALL FLOOR EQUIPMENT SHALL BE SET ON 4" HIGH CONCRETE BASES FURNISHED BY THIS CONTRACTOR.

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AndersonMasonDale Architects

- 1. THIS SPACE IS RESERVED FOR ELECTRICAL GEAR. PIPING AND EQUIPMENT SHALL NOT BE LOCATED IN FRONT OF OR ROUTED ABOVE ELECTRICAL PANELS. COORDINATE WITH DIVISION 26.
- 2. SEE HVAC SHEET METAL DUCTWORK CONSTRUCTION AND INSULATION SCHEDULE AND SPECIFICATIONS. 3. VC TO PROVIDE AND INSTALL DRYER VENT. ALL PIPING TO BE 4" DIAMETER RIGID WITH SEALED JOINTS WITHOUT ANY FASTENERS PROTRUDING TO THE INTERIOR OF THE
- PIPE AND SHALL TERMINATE AT POWDER COATED WALL CAP WITH DAMPER. VERIFY WITH OWNER DRYER LOCATION.
- 4. TYPICAL SEE VAV BOX DUCT CONNECTION DETAIL. 5. TYPICAL - VOLUME DAMPERS ON RETURN TO BE SET 100% OPEN AND ARE TO BE USED
- FOR AIR NOISE ISSUES IF NECESSARY.
- 6. REFRIGERANT LIQUID & SUCTION LINE SETS BY VENTILATION CONTRACTOR SHALL BE SECURED UNIFORMLY ON UNISTRUT & SHALL BE NEAT IN APPEARANCE. (GENERAL ARRANGEMENT OF LINE SETS ROUTING SHOWN).

SPECIAL NOTES

- B. THE MECHANICAL CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR
- THE OWNER.

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Electrical Engineer IMEG Corporation 3314 Milwauke Ave. NE Aberdeen, SD, 57401 Telephone: 605-225-1349 E-mail: thomas.j.heinz@imegcorp.com A. ALL MECHANICAL SYSTEMS, EXCLUDING DROPS, TO BE INSTALLED AS HIGH AS POSSIBLE TO PROVIDE MAXIMUM CLEARANCES FOR OWNER.

COORDINATING HIS WORK WITH OTHER TRADES TO AVOID CONFLICTS IN SPACE REQUIREMENTS, CLEARANCES, ETC. PROBLEMS ARISING DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO RESOLVE. EXTRA WORK AND/OR EQUIPMENT AS A RESULT OF NOT COORDINATING SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND AT NO COST TO

C. ALL CONDENSATE & DRAIN PIPING TO BE BY PC.

Issue 100% CONSTRUCTION DOCUMENTS 9 APRIL 2024

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Project Number: 211100748 Drawn By: SICHMELLER ENGINEERING Reviewed By: TS TS Approved By: PENTHOUSE LEVEL - HVAC PLAN

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PVC SLEEVE PIPE (STUB 2" OUTSIDE 5' FOR LAWN - IRRIGATION CONTRACTOR'S USE - WITH LOCATE WIRE)

FOR CONTINUATION

NOT TO SCALE

Domestic Hot Water Control Diagram NOT TO SCALE

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NATUAL GAS METER READING AI NOTE: UTILITY COMPANY TO PROVIDE METER WITH CONNECTION TO DIGITAL PULSE WIRES.

Not TO SCALE

Sump Pump (SP-1) Controls Diagram

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Water Meter #4 (Hot Water) Control Diagram NOT TO SCALE

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CH-1 ENABLE CH-1 SETPOINT CH-1 ALARM

Project Number: 211100748 Drawn By: SICHMELLER ENGINEERING Reviewed By: TS TS Approved By: MECHANICAL DETAILS (3 OF 4)

Typical VAV Control Diagram

SEQUENCE OF OPERATION FOR HVAC CONTROLS - CONTINUED

Typical CUH Control Diagram (CUH-100A,100B,114A) NOT TO SCALE

SUP AIR

Typical HUH Control Diagram (HUH-161, M300) NOT TO SCALE

Lighting Control Interface Controls Diagram

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EXTERIOR LIGHTING - SCHEDULE FROM BAS.

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Project Number: 211100748 SICHMELLER ENGINEERING Drawn By: Reviewed By: TS TS Approved By: **MECHANICAL SECTIONS**

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11 MECHANICAL SECTION #11 M801 SCALE: 1/4" = 1'-0"

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Reviewed By:	TS
Approved By:	TS
MECHANICAI CONTINUED	SECTIONS

M801

AHU SCHEDULE	AHU	NATURAL GAS BOILER SCHEDULE
		$ \frac{1}{10000000000000000000000000000000000$
5. PROVIDE UNIT CONFIGURED FOR FIELD INSTALLED CONTROLS. 6. PROVIDE ANGLED FILTER BANK WITH 2" MERV 13 PLEATED FILTERS. VC TO PROVIDE 1 EXTRA SET OF FILTERS FOR THE OWNER. UNIT SHALL BE CONFIGURED TO USE A COMBINATION OF 24"X24" FILTERS ONLY. 7. TC TO PROVIDE & INSTALL EBTRON AIR FLOW MEASURING STATIONS IN OUTSIDE AIR DUCT AND IN RELIEF AIR DUCT SERVING AIR HANDLER.		 NOTES: 1. UNDER BASE BID, RELOCATE EXISTING BOILER FROM EXISTING LINCOLN HALL. 2. UNITS SHALL BE COMPLETE WITH ALL NECESSARY SAFETIES AND CONTROLS TO MEET OR EXCEED U.L. AND SOUTH DAKOTA CODE REQUIREMENTS. 3. VC TO PROVIDE & INSTALL 9" AL29-4C DOUBLE WALL WITH 1" CENAMIC INSULATION THROUGH ROOF, SEE SECTIONS FOR VENT LENGTH. TERMINATE WITH RAIN CAP SEE PLANS FOR HEIGHT OF TERMINATION ABOVE TOP OF FAUX CHIMNEY PER MANUFACTURER'S RECOMMENDATIONS. INSTALL GUY WIRES IF REQUIRED BY VENTING MANUFACTURER. 4. PC TO PROVIDE AND INSTALL 8" PVC COMBUSTION AIR INTAKE TO INTAKE PLENUM ON LV-21.
CHILLER SCHEDULE		 ALL ROOFING WORK TO BE BY ROOFING CONTRACTOR, VC & PC TO COORDINATE. UNIT PERFORMANCE SHALL BE BASED ON 30% PROPYLENE GLYCOL. PROVIDE AND INSTALL 4" CONCRETE HOUSEKEEPING PAD AND BOILER BLOWDOWN PIT, SEE PLANS. PROVIDE WITH FACTORY INSTALLED LOW WATER CUT-OFF AND FACTORY AUTHORIZED STARTUP. PROVIDE & INSTALL BOILER DRAIN VALVE AND EXTEND DRAIN PIPING TO FLOOR SINK. DRAIN PIPING TO BE SUPPORTED APPROXIMATELY 6" AFF WITH SPLIT RING PROVIDE & INSTALL BOILER DRAIN VALVE AND EXTEND DRAIN PIPING TO FLOOR SINK. DRAIN PIPING TO BE SUPPORTED APPROXIMATELY 6" AFF WITH SPLIT RING
EQUIP. NO. NOM. NOME Description NIN FLOW (GPM) NIN FLOW (GPM) EWT ($^{\circ}F$) EWT ($^{\circ}F$) Composition Compact of the compac	EQUIP. NO. MANUFACTURER & MODEL INLET SIZE MAX CFM MAX CFM MAX TERM APD MAX NC MAX DISCH NC MAX CFM MAX DISCH MAX DISCH MAX CFM MAX DISCH MAX CFM MAX DISCH MAX CFM MAX DISCH MAX DISCH MAX CFM MAX DISCH MAX DISCH MIN CFM EAT CFM LAT (°F) COIL (F) COIL CONN CFM COIL CONN SIZE MUOUT SIZE WEIGHT (LBS.) NOTES VAV-125 PBICE SDV 6 200 80 0.11	STANDOFFS WITH ELBOW DOWN TO FLOOR SINK SUCH THAT CONDENSATE DOES NOT POOL ON FLOOR OR TOP LEDGE OF FLOOR SINK. ROUTE TO MINIMIZE TRIPPING HAZARDS. 10. VC TO PROVIDE & INSTALL VENTING DRAIN T SECTION INTO BOILER. CONDENSATE DRAIN PIPING FROM BOILER FLUE TO BE ROUTED TO FLOOR DRAIN BEHIND BOILERS WITH TRAP PER MANUFACTURE'S RECOMMENDATIONS. 11. UNIT TO BE INSTALLED WITH MANUFACTURER'S RECOMMENDED MINIMUM CLEARANCES. 12. PROVIDE & INSTALL TEMPERATURE & PRESSURE GAUGES TO TROUBLESHOOT PUMP & BOILERS, SEE HEATING WATER SYSTEM PIPING DIAGRAM.
$\frac{\text{AG2100DHSNN-ER10}}{\text{DAIKIN AG2006F}} \begin{array}{ c c c c c c c c c c c c c c c c c c c$	VAV-126 PRICE SDV 6 200 80 0.11 20 150 8.0 55.0 103.8 1.5 148.4 0.5 2 7/8° 3/4° 19 1,2,3,4,5 VAV-126 PRICE SDV 6 200 80 0.11 20 150 8.0 55.0 103.8 1.5 148.4 0.5 2 7/8° 3/4° 19 1,2,3,4,5 VAV-127 PRICE SDV 6 200 80 0.11 20 150 8.0 55.0 103.8 1.5 148.4 0.5 2 7/8° 3/4° 19 1,2,3,4,5 VAV-128 PRICE SDV 6 200 80 0.11 20 150 8.0 55.0 103.8 1.5 148.4 0.5 2 7/8° 3/4° 19 1,2,3,4,5 VAV-128 PRICE SDV 6 200 80 0.11 20 150 8.0 55.0 103.8 1.5 148.4 0.5 2 7/8° 3/4° 19	13. PROVIDE & INSTALL UNDER ADD ALTERNATE IN LIEU OF RELOCATING EXISTING BOILER. SEE PLANS FOR ADDITIONAL INFORMATION. 14. POST STATE OF SOUTH DAKOTA BOILER INSPECTION REPORT IN MECH/ELEC 147.
NOTES: 1. UNDER BASE BLD, EXISTING CHILLER TO BE RELOCATED FROM EXISTING LINCOLD HALL. 2. PROVIDE WITH SINGLE POINT POWER CONNECTION WITH FACTORY INSTALLED NON-FUSED DISCONNECT SWITCH. FIELD INSTALLED 115V RECEPTACLE BY EC. 3. PROVIDE WITH BACNET INTERFACE, CONTROL PANEL, CONTROL TRANSFORMER, SUCTION & DISCHARGE PRESSURE TRANSDUCER AND READOUT CAPABILITY. 4. PROVIDE WITH PHASE & BROWNOUT PROTECTION, FACTORY INSTALLED LIQUID AND DISCHARGE ISOLATION VALVES, FACTORY INSTALLED LIECTRONIC EXPANSION VALVES, FACTORY INSTALLED THERMAL DISPERSION FLOW SWITCH, CRANKCASE HEATERS, FLANGES (VICTAULIC TYPE), LOUVERED UPPER COLL GUARDS, LOWER WIRE ENCLOSURE, SOUND REDUCTION COMPRESSOR BLANKETS, 1" SPRING VIBRATION ISOLATORS, COMPRESSOR SERVICE ISOLATION VALVES AND HIGH AMBIENT COOLING UP TO 125°F.	VAV-129 PRICE SDV 6 200 80 0.11 20 150 8.0 55.0 103.8 1.5 148.4 0.5 2 7/8* 3/4* 19 1,2,3,4,5 VAV-130 PRICE SDV 6 200 80 0.11 20 150 8.0 55.0 103.8 1.5 148.4 0.5 2 7/8* 3/4* 19 1,2,3,4,5 VAV-130 PRICE SDV 6 200 80 0.11 20 150 8.0 55.0 103.8 1.5 148.4 0.5 2 7/8* 3/4* 19 1,2,3,4,5 VAV-131 PRICE SDV 5 160 65 0.07 160 11.7 55.0 12.9 1.5 143.1 0.9 3 7/8* 3/4* 26 1,2,3,4,5,6 VAV-142 PRICE SDV 24x16 2690 1435 0.28 21 2690 79.5	PUMP SCHEDULE
5. PROVIDE WITH STREED, MINIMUM THT BERK. STRATER WITH BLOWDOWN VALVE FOR FIELD INSTALLATION BY PC. SEE CHILLER CONNECTION FIFING BETAIL. 6. PERFORMANCE BASED ON 35% PROPYLENE GLYCOL ON CHILLED WATER. 7. UNIT MUST MEET SCHEDULED EER/IPLV VALUES. 8. PROVIDE COMPREHENSIVE SOUND PACKAGE TO MEET SPECIFIED SOUND LEVELS. 9. PROVIDE FACTORY AUTHORIZED STARTUP	VAV-143 PRICE SDV 5 140 140 0.05 140 6.0 55.0 93.8 0.5 134.1 0.1 2 7/8* 3/4* 20 1,2,3,4,5 VAV-144 PRICE SDV 5 140 140 0.05 140 6.0 55.0 93.8 0.5 134.1 0.1 2 7/8* 3/4* 20 1,2,3,4,5 VAV-144 PRICE SDV 5 140 140 0.05 140 6.0 55.0 93.8 0.5 134.1 0.1 2 7/8* 3/4* 20 1,2,3,4,5 VAV-145 PRICE SDV 5 140 0.05 140 6.0 55.0 93.8 0.5 134.1 0.1 2 7/8* 3/4* 20 1,2,3,4,5 VAV-145 PRICE SDV 5 140 0.05 140 6.0 55.0 93.8 0.5 134.1 0.1 2	EQUIP. NO. MANUFACTURER & MODEL SERVING LOCATION GPM HEAD (FEET) TYPE ELECTRICAL NOTES NO. NO. SERVING LOCATION GPM HEAD (FEET) TYPE HP (W) RPM V./PH./CY. FLA WEIGHT (LBS)
10. INSTALL ON 6° CONCRETE EQUIPMENT PAD WITH REBAR REINFORCEMENT BY OTHERS. COORDINATE EXACT SIZE OF PAD NEEDED. 11. SEE CHILLER CONNECTION PIPING DETAIL AND CHILLED WATER SYSTEM PIPING DIAGRAM. 12. PROVIDE & INSTALL UNDER ADD ALTERNATE IN LIEU OF RELOCATING EXISTING CHILLER. SEE PLANS FOR ADDITIONAL INFORMATION.	VAV-146 PRICE SDV 5 140 140 0.05 140 0.0 55.0 93.8 0.5 134.1 0.1 2 7/8° 3/4° 20 1,2,3,4,5 VAV-147 PRICE SDV 10 950 380 0.40 600 21.6 55.0 88.2 2.0 136.6 1.3 2 7/8° 3/4° 29 1,2,3,4,5 VAV-154 PRICE SDV 6 210 85 0.12 21 135 8.1 55.0 109.5 2.0 151.3 0.8 2 7/8° 3/4° 29 1,2,3,4,5 VAV-155 PRICE SDV 6 210 85 0.12 21 135 8.1 55.0 109.5 2.0 151.3 0.8 2 7/8° 3/4° 19 1,2,3,4,5 VAV-155 PRICE SDV 6 210 85 0.12 21 135 8.1 55.0<	CP-1 E-90 2AAB CIRCULATOR FOR B-1 147 125 20 IN-LINE 1-1/2 1800 208/1/60 10 67 1,2,11 CP-2 BELL & GOSSETT E-90 2AAB BOILER CIRCULATOR FOR B-2 MECH/ELEC 147 125 20 IN-LINE 1-1/2 1800 208/1/60 10 67 1,2,11
FAN SCHEDULE	VAV-156 PRICE SDV 6 210 85 0.12 21 135 8.1 55.0 109.5 2.0 151.3 0.8 2 7/8* 3/4* 19 1,2,3,4,5 VAV-157 PRICE SDV 6 210 85 0.12 21 135 8.1 55.0 109.5 2.0 151.3 0.8 2 7/8* 3/4* 19 1,2,3,4,5 VAV-157 PRICE SDV 6 210 85 0.12 21 135 8.1 55.0 109.5 2.0 151.3 0.8 2 7/8* 3/4* 19 1,2,3,4,5 VAV-158 PRICE SDV 6 210 85 0.12 21 135 8.1 55.0 109.5 2.0 151.3 0.8 2 7/8* 3/4* 19 1,2,3,4,5 VAV-159 PRICE SDV 6 310 125 0.27 22 250 18.9 <td>CP-3 BELL & GOSSETT E-1510 3BD PRIMARY HEATING WATER LOOP MECH/ELEC 147 290 50 BASE MOUNTED END SUCTION 7.5 1800 208/3/60 24.2 377 1,2,4,5,6,7,8,10,1 CP-4 BELL & GOSSETT F-1510, 38D BACKUP HEATING MECH/ELEC 147 290 50 BASE MOUNTED END SUCTION 7.5 1800 208/3/60 24.2 377 1,2,4,5,6,7,8,10,1</td>	CP-3 BELL & GOSSETT E-1510 3BD PRIMARY HEATING WATER LOOP MECH/ELEC 147 290 50 BASE MOUNTED END SUCTION 7.5 1800 208/3/60 24.2 377 1,2,4,5,6,7,8,10,1 CP-4 BELL & GOSSETT F-1510, 38D BACKUP HEATING MECH/ELEC 147 290 50 BASE MOUNTED END SUCTION 7.5 1800 208/3/60 24.2 377 1,2,4,5,6,7,8,10,1
EQUIP. NO. MANUFACTURER & MODEL SERVING LLOCATION TYPE $TYPE$ CFM ESP (IN W.G.) $SONES$ $WITTS$ HP $FRPM$ $VOLT./PH./CY.$ FLA $FLGAT$ NOTES EF-1 LOREN COOK SON-D VF (JOSON/29D. (VE)) BUILDING EXHAUST MECH PENTHOUSE M300 IN-LINE 1300 1.1 14.3 - 3/4 1871 120/1/60 8.5 96 1,2,3,4,5	VAV-161 PRICE SDV 5 150 75 0.06 150 11.8 55.0 127.0 2.0 144 3 7/8* 3/4* 26 1,2,3,4,5,6 VAV-220 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5 0.8 2 7/8* 3/4* 19 1,2,3,4,5,6 VAV-221 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5 0.8 2 7/8* 3/4* 19 1,2,3,4,5,6 VAV-221 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5 0.8 2 7/8* 3/4* 19 1,2,3,4,5,6 VAV-220 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 <td< td=""><td>CP-5 BELL & GOSSETT E-1510 3EB PRIMARY CHILLED WATER LOOP MECH/ELEC 147 280 105 BASE MOUNTED END SUCTION 20 1800 208/3/60 59.4 582 1,3,4,5,6,7,8,9,10, DBLL & GOSSETT PRIMARY WATER LOOP MECH/ELEC 147 280 105 BASE MOUNTED END SUCTION 20 1800 208/3/60 59.4 582 1,3,4,5,6,7,8,9,10,</td></td<>	CP-5 BELL & GOSSETT E-1510 3EB PRIMARY CHILLED WATER LOOP MECH/ELEC 147 280 105 BASE MOUNTED END SUCTION 20 1800 208/3/60 59.4 582 1,3,4,5,6,7,8,9,10, DBLL & GOSSETT PRIMARY WATER LOOP MECH/ELEC 147 280 105 BASE MOUNTED END SUCTION 20 1800 208/3/60 59.4 582 1,3,4,5,6,7,8,9,10,
Image: Rest and r	VAX-222 PRICE SOV 6 200 60 0.11 20 130 7.9 53.0 110.3 2.0 151.5 0.8 2 7/8 5/4 19 1,2,3,4,5 VAV-223 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5 0.8 2 7/8 3/4 19 1,2,3,4,5 VAV-224 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5 0.8 2 7/8 3/4* 19 1,2,3,4,5 VAV-224 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5 0.8 2 7/8* 3/4* 19 1,2,3,4,5 VAV-225 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5 0.8 2 7/8* 3/4* 19	CP-6 E-1510 3EB CHILLED WATER LOOP 147 280 105 END SUCTION 20 1800 208/3/60 59.4 582 1,3,4,5,6,7,8,9,10, CP-7 BELL & GOSSETT ECOCIRC+ 20-18 DOMESTIC HOT WATER RECIRC WATER ENTRY 160 5.0 15 IN-LINE (70) 4518 120/1/60 1.02 10 1,13,14
 PROVIDE WITH FACTORY INSTALLED DISCONNECT. PROVIDE WITH EC MOTOR WITH FACTORY INSTALLED FAN MOUNTED SPEED CONTROLLER FOR FAN BALANCING. PROVIDE & INSTALL FLEXIBLE DUCT CONNECTION OR SHORT PIECE OF FLEXIBLE DUCT AT FAN. TC TO ENABLE FAN WITH BUILDING OCCUPANCY. UNIT BUILDING OCCUPANCY. 	VAV-226 PRICE SDV 5 160 65 0.09 160 11.3 55.0 119.5 2.0 147.8 1.1 3 7/8" 3/4" 22 1,2,3,4,5 VAV-227 PRICE SDV 14 1470 590 0.28 1005 33.3 55.0 85.5 2.0 124.0 0.7 2 7/8" 3/4" 47 1,2,3,4,5 VAV-227C PRICE SDV 8 430 0.20 430 14.5 55.0 85.9 1.5 139.1 0.6 2 7/8" 3/4" 42 1,2,3,4,5 VAV-227C PRICE SDV 8 430 0.20 430 14.5 55.0 85.9 1.5 139.1 0.6 2 7/8" 3/4" 22 1,2,3,4,5 VAV-227D PRICE SDV 8 380 345 0.26 345 22.5 55.0 115.1	NOTES: 1. PC TO PROVIDE & INSTALL PRESSURE GAUGE WITH ISOLATION VALVES ACROSS PUMP SUCTIONS & DISCHARGE FOR BALANCING PURPOSES. PROVIDE FACTORY AUTHORIZED START-UP. 2. PERFORMANCE BASED ON 30% PROPYLENE GLYCOL. 3. PERFORMANCE BASED ON 35% PROPYLENE GLYCOL. 4. T.C. TO PROVIDE VFD, E.C. TO INSTALL. 5. PROVIDE & INSTALL TRIPLE DUTY VALVE.
6. UNIT SHALL HAVE FACTORY MOUNTED CONTROLS, FACTORY WIRED POWER CORD, & FIELD INSTALLED LED NOTFICATION WALL PLATE. TO BE INSTALLED & WIRED BY EC, ON WALL NEAR DRIER.	VAV-227E PRICE SDV 5 110 70 0.04 70 4.3 55.0 110.8 0.5 141.3 0.1 2 7/8" 3/4" 20 1,2,3,4,5 VAV-227F PRICE SDV 8 350 350 0.22 350 22.2 55.0 113.2 3.5 146.3 3.9 3 7/8" 3/4" 26 1,2,3,4,5 VAV-2276 PRICE SDV 8 480 345 0.25 20 345 17.8 55.0 102.5 4.5 151.4 4.2 2 7/8" 3/4" 26 1,2,3,4,5 VAV-2276 PRICE SDV 8 480 345 0.25 20 345 17.8 55.0 102.5 4.5 151.4 4.2 2 7/8" 1" 22 1,2,3,4,5	 PROVIDE & INSTALL SUCTION DIFFUSER. PROVIDE WITH SHAFT GROUNDING KITS. PC TO PROVIDE LASER ALIGNMENT IN FIELD. PC TO PROVIDE AND INSTALL MASON INERTIA BASE ON TOP OF 4" CONCRETE HOUSEKEEPING PAD. PC TO PROVIDE 4" CONCRETE HOUSEKEEPING PAD (PAD IN MECH 112 TO ACCOMMODATE ALL PUMPS, EXPANSION TANK, AND BYPASS FILTER FEEDER).
EQUIP. NO. MANUFACTURER & MODEL NOMINAL SIZE THROAT SIZE MAX CFM MAX APD THROW (50 FPM) NC FRAME FINISH NOTES	VAV-227H PRICE SDV 5 100 65 0.03 65 4.2 55.0 112.6 0.5 142.0 0.1 2 7/8* 3/4* 20 1,2,3,4,5 VAV-2271 PRICE SDV 6 270 225 0.19 25 225 11.9 55.0 103.5 3.5 152.6 2.1 2 7/8* 3/4* 19 1,2,3,4,5 VAV-227J PRICE SDV 6 270 225 0.19 25 225 11.9 55.0 103.5 3.5 152.6 2.1 2 7/8* 3/4* 19 1,2,3,4,5 VAV-227K PRICE SDV 6 270 225 0.19 25 225 11.9 55.0 103.5 3.5 152.6 2.1 2 7/8* 3/4* 19 1,2,3,4,5 VAV-227K PRICE SDV 5 100 65 0.03 65 4.2 <t< td=""><td> SEE HEATING WATER SYSTEM PIPING DIAGRAM. SEE CHILLED WATER SYSTEM PIPING DIAGRAM. SEE NATURAL GAS WATER HEATER PIPING DIAGRAM. SEE NATURAL GAS WATER HEATER PIPING DIAGRAM. PUMP SHALL BE STAINLESS STEEL CONSTRUCTION AND PROVIDED WITH SHUT-OFF FLANGES. PUMP SHALL ACCEPT 0-10VDC INPUT FROM TC FOR SPEED CONTROL. TIMER & AQUASTAT CONTROL BY TC. </td></t<>	 SEE HEATING WATER SYSTEM PIPING DIAGRAM. SEE CHILLED WATER SYSTEM PIPING DIAGRAM. SEE NATURAL GAS WATER HEATER PIPING DIAGRAM. SEE NATURAL GAS WATER HEATER PIPING DIAGRAM. PUMP SHALL BE STAINLESS STEEL CONSTRUCTION AND PROVIDED WITH SHUT-OFF FLANGES. PUMP SHALL ACCEPT 0-10VDC INPUT FROM TC FOR SPEED CONTROL. TIMER & AQUASTAT CONTROL BY TC.
Number PRICE SCD 24X24 6*Ø 110 0.03 5 <15 LAY-IN WHITE 1 S-1P PRICE SCD 24X24 6*Ø 110 0.03 5 <15	VAV-227L PRICE SDV 8 490 360 0.26 20 360 18.9 55.0 103.3 5.5 152.6 6.0 2 7/8* 1* 22 1,2,3,4,5 VAV-227M PRICE SDV 8 430 430 0.20 430 14.5 55.0 85.9 1.5 139.1 0.6 2 7/8* 3/4* 22 1,2,3,4,5 VAV-3201 PRICE SDV 10 690 280 0.24 430 10.5 55.0 80.0 0.5 114.5 0.1 2 7/8* 3/4* 22 1,2,3,4,5 VAV-3201 PRICE SDV 10 690 280 0.24 385 10.5 55.0 80.0 0.5 114.5 0.1 2 7/8* 3/4* 29 1,2,3,4,5 VAV-3020 DEDE ON 40 0.0 0.0 0.0 0.0 0.5 114.5	EXPANSION TANK SCHEDULE
S-2P PRICE SCD 24X24 8*Ø 230 0.05 8 < 15 LAY-IN WHITE 1,2 S-3 PRICE SCD 24X24 10*Ø 420 0.07 11 20 LAY-IN WHITE 1 S-3P PRICE SCD 24X24 10*Ø 420 0.07 11 20 LAY-IN WHITE 1,2	VAV-S333 PRICE SDV 10 820 820 0.32 820 33.7 55.0 92.9 5.5 14b.7 7.6 2 7/8" 1" 29 1,2,3,4,5 VAV-5333 PRICE SDV 6 210 115 0.12 21 150 6.2 55.0 92.2 0.5 133.4 0.1 2 7/8" 3/4" 19 1,2,3,4,5 VAV-105 PRICE SDV 10 840 670 0.33 670 17.3 55.0 78.7 1.0 122.5 0.4 2 7/8" 3/4" 29 1,2,3,4,5	EQUIP. NO. MANUFACTURER & MODEL SERVING LOCATION SYSTEM VOLUME (GAL) CALCULATED SYSTEM VOLUME (GAL) FACTOR (GAL) TANK MIN MAX MIN MAX MIN MAX MIN MAX MIN MAX MIN (GAL) CEPTANCE VOLUME (GAL) CALCULATED SYSTEM VOLUME (G
S-4 PRICE SCD 24X24 12"Ø 650 0.10 13 25 LAY-IN WHITE 1 S-5 PRICE SDS100 1-SLOT 72" X 3-3/4" 72" X 2-1/2" 150 0.04 16 <15	VAV-106 PRICE SDV 5 120 100 0.02 100 3.3 55.0 84.1 0.5 145.9 0.3 1 1/2* 3/4* 18 1,2,3,4,5 VAV-107 PRICE SDV 5 120 100 0.02 100 3.3 55.0 84.1 0.5 145.9 0.3 1 1/2* 3/4* 18 1,2,3,4,5 VAV-107 PRICE SDV 6 200 130 0.11 20 145 6.1 55.0 84.1 0.5 145.9 0.3 1 1/2* 3/4* 18 1,2,3,4,5 VAV-108 PRICE SDV 6 200 130 0.11 20 145 6.1 55.0 101.1 1.0 143.6 0.2 2 7/8* 3/4* 19 1,2,3,4,5 VAV-110 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 </td <td>ET-1 BELL & GOSSETT B500 NEW HEATING WATER LOOP MECH/ELEC 147 740 1110 160 40 33.5 21.7 125.7 30.8 132.0 33.5 1,2, WATER ET-2 BELL & GOSSETT B130 NEW CHILLED WATER LOOP MECH/ELEC 147 930 1395 60 40 33.5 21.7 31.14 7.67 34.0 34.0 125.7 1,3, WATER 1,4, WATER <td< td=""></td<></td>	ET-1 BELL & GOSSETT B500 NEW HEATING WATER LOOP MECH/ELEC 147 740 1110 160 40 33.5 21.7 125.7 30.8 132.0 33.5 1,2, WATER ET-2 BELL & GOSSETT B130 NEW CHILLED WATER LOOP MECH/ELEC 147 930 1395 60 40 33.5 21.7 31.14 7.67 34.0 34.0 125.7 1,3, WATER 1,4, WATER <td< td=""></td<>
S-7 PRICE SDS100 3-SLOT 48" X 7-1/4" 48" X 6" 330 0.05 27 18 SURFACE WHITE 1,3 S-8 PRICE 520 10X8 8X6 150 0.05 17 <15	VAV-111 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 0.2 2 7/8" 3/4" 19 1,2,3,4,5 VAV-112 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 0.2 2 7/8" 3/4" 19 1,2,3,4,5 VAV-112 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 0.2 2 7/8" 3/4" 19 1,2,3,4,5 VAV-113 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 0.2 2 7/8" 3/4" 19 1,2,3,4,5	EI-3 BDT-009 WATER SYSTEM ENTRY 160 - - 140 150 60 2.8 1.3 9.0 9.0 WATER 100 NOTES: 1. UNIT TO BE FLOOR MOUNTED VERTICAL ASME PRE-CHARGED BLADDER STYLE EXPANSION TANK. . </td
S+10 PRICE SDS100 2-SLOT 36* X 5-1/2* 36* X 4-1/4* 200 0.07 22 19 LAY-IN WHITE 1,3 R-1 PRICE 530 24X12 22X10 700 0.08 21 LAY-IN WHITE 1,3 R-2 PRICE 530 24X24 22X22 1600 0.08 23 LAY-IN WHITE 1,5	VAV-115 PRICE SDV 8 490 200 0.25 20 320 8.8 55.0 80.1 0.5 121.9 0.1 2 7/8* 3/4* 22 1,2,3,4,5 VAV-117 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1 0.2 2 7/8* 3/4* 19 1,2,3,4,5 VAV-118 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1 0.2 2 7/8* 3/4* 19 1,2,3,4,5 VAV-118 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1 0.2 2 7/8* 3/4* 19 1,2,3,4,5 VAV-119 PRICE SDV 6 200 80 0.11 20 140 7.3	 SEE HEATING WATER SYSTEM PIPING DIAGRAM. PROVIDE & INSTALL B&G R-4 4" AIR SEPARATOR WITH STRAINER WITH PROPER SERVICE CLEARANCE AND PROPER PIPING TO FLOOR MOUNTED BLADDER STYLE EXPANSION TANK PER MANUFACTURER'S REQUIREMENTS. THE HEATING EXPANSION TANK HAS BEEN SIZED FOR 1110 GALLONS, WHICH IS 1.5 TIMES THE CALCULATED VOLUME OF 740 GALLONS. THE CHILLED EXPANSION TANK HAS BEEN SIZED FOR 1395 GALLONS, WHICH IS 1.5 TIMES THE CALCULATED VOLUME OF 930 GALLONS. SEE CHILLED WATER SYSTEM PIPING DIAGRAM. PROVIDE & INSTALL B&G R-5 5" AIR SEPARATOR WITH STRAINER WITH PROPER SERVICE CLEARANCE AND PROPER PIPING TO FLOOR MOUNTED BLADDER STYLE EXPANSION TANK PER MANUFACTURER'S REQUIREMENTS.
R-3 PRICE 530 26X14 24X12 900 0.08 20 SURFACE WHITE 1,5 E-1 PRICE 530 10X10 8X8 100 0.02 <1	VAV-120 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1 0.2 2 7/8* 3/4* 19 1,2,3,4,5 VAV-121 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1 0.2 2 7/8* 3/4* 19 1,2,3,4,5 VAV-121 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1 0.2 2 7/8* 3/4* 19 1,2,3,4,5 VAV-124 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1 0.2 2 7/8* 3/4* 19 1,2,3,4,5 VAV-124 PRICE SDV 6 200 80 0.11 20 140 7.3	10. PC TO PROVIDE & INSTALL IN-LINE, ASME PRE-CHARGED FULL ACCEPTANCE BLADDER STYLE EXPANSION TANK.
T-1 PRICE 530 12X12 10X10 200 0.04 < 15 SURFACE WHITE 1,5 T-2 PRICE 530 36X12 34X10 950 0.06 18 SURFACE WHITE 1,5 T-3 PRICE LBP 38X5 36X3 210 SILL WHITE 1,6	VAV-133 PRICE SDV 10 750 435 0.27 640 17.1 55.0 79.5 1.0 123.0 0.4 2 7/8" 3/4" 29 1,2,3,4,5 VAV-133 PRICE SDV 6 240 100 0.15 22 170 6.4 55.0 89.4 0.5 132.1 0.1 2 7/8" 3/4" 19 1,2,3,4,5 VAV-138 PRICE SDV 5 90 65 0.02 75 2.9 55.0 88.9 0.5 147.6 0.3 1 1/2" 3/4" 18 1,2,3,4,5	EQUIP. NO. MANUFACTURER & MODEL LOCATION CFM MBH GPM LAT EWT LWT WPD ELECTRICAL RUNOUT UNIT WIT NOTES
NOTES: 1. V.C. SHALL COORDINATE MOUNTING AND SURFACE CONSTRUCTION PRIOR TO FURNISHING MATERIAL. V.C. SHALL ALSO COORDINATE EXACT LOCATION OF EQUIPMENT. 2. PROVIDE WITH PLASTER FRAME FOR MOUNTING IN GYPSUM BOARD CEILING. 3. PROVIDE WITH LINED PLENUM BOX FOR FIELD CUT DUCT CONNECTION. 4. PERFORMANCE BASED ON 22.5 DEGREE DEFLECTION. 5. 45 DEGREE DEFLECTION.	VAV-141 PRICE SDV 5 140 90 0.03 100 3.3 55.0 84.1 0.5 145.9 0.3 1 1/2* 3/4* 18 1,2,3,4,5 VAV-150 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 0.2 2 7/8* 3/4* 19 1,2,3,4,5 VAV-151 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 0.2 2 7/8* 3/4* 19 1,2,3,4,5 VAV-151 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 0.2 2 7/8* 3/4* 19 1,2,3,4,5 VAV-152 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 <td>CUH-100A SIGMA SFF-A-06-SRI VEST 100A 400 26.4 2.5 123.3 160.0 135.0 1.05 1/10 120/1/60 1075 1.7 1" 125 + WATER 1,2,3,4,5,6,7 CUH-100B SIGMA SFF-A-06-SRI VEST 100B 600 42.8 3.5 128.4 160.0 131.0 0.94 1/10 120/1/60 1075 1.7 1" 125 + WATER 1,2,3,4,5,6,7</td>	CUH-100A SIGMA SFF-A-06-SRI VEST 100A 400 26.4 2.5 123.3 160.0 135.0 1.05 1/10 120/1/60 1075 1.7 1" 125 + WATER 1,2,3,4,5,6,7 CUH-100B SIGMA SFF-A-06-SRI VEST 100B 600 42.8 3.5 128.4 160.0 131.0 0.94 1/10 120/1/60 1075 1.7 1" 125 + WATER 1,2,3,4,5,6,7
6. PROVIDE WITH PENCIL PROOF BLADE CONFIGURATION AND 0 °DEFLECTION.	VAV-153 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 0.2 2 7/8* 3/4* 19 1,2,3,4,5 VAV-205 PRICE SDV 8 420 170 0.20 295 13.7 55.0 97.5 2.0 145.2 1.0 2 7/8* 3/4* 22 1,2,3,4,5 VAV-205A PRICE SDV 8 400 160 0.18 280 12.2 55.0 95.0 1.5 142.3 0.6 2 7/8* 3/4* 22 1,2,3,4,5 VAV-211 PRICE SDV 8 440 300 0.21 390 15.4 55.0 91.4 2.0 143.3 1.0 2 7/8* 3/4* 22 1,2,3,4,5	CUH-114A SIGMA SFF-A-06-SRI STAIR 114A 600 42.8 3.5 128.4 160.0 131.0 0.94 1/10 120/1/60 1075 1.7 1" 125 + WATER 1,2,3,4,5,6,7 NOTES: 1. UNIT SHALL BE SEMI RECESSED, INVERTED AIR FLOW WALL MOUNTED TYPE AND SHALL BE MOUNTED AT 8" A.F.F. ARRANTEMENT 101 - FRONT TOP IN, FRONT BOTTOM OUT. 2. PERFORMANCE BASED ON 30% PROPYLENE GLYCOL.
EQUIP.	VAV-212A PRICE SDV 10 965 480 0.41 965 25.3 55.0 79.1 2.0 132.6 1.3 2 7/8" 3/4" 29 1,2,3,4,5 VAV-212B PRICE SDV 12 1445 720 0.49 1445 39.5 55.0 80.2 3.0 131.5 3.3 2 7/8" 3/4" 36 1,2,3,4,5 VAV-213 PRICE SDV 12 1320 995 0.42 995 29.3 55.0 80.2 3.0 131.5 3.3 2 7/8" 3/4" 36 1,2,3,4,5 VAV-213 PRICE SDV 12 1320 995 0.42 995 29.3 55.0 80.2 3.0 131.5 3.3 2 7/8" 3/4" 36 1,2,3,4,5 VAV-213 PRICE SDV 12 1320 995 0.42 995 29.3 55.0 82.1 2.0 128.2 1.6 2 7/8" 3/4" 36<	 ONIT MOUNTED 3 SPEED SWITCH. UNIT TO BE CONTRIGUED FOR FIELD INSTALLED DDC CONTROLS. CUSTOM COLOR BAKED ENAMEL, STANDARD COLOR NOT ACCEPTABLE. CUSTOM COLOR TO BE SELECTED BY ARCHITECT. SEE CABINET UNIT HEATER PIPING DETAIL. PROVIDE WITH (1) ADDITIONAL SET OF DISPOSABLE FILTERS. PROVIDE UNIT WITH FACTORY INSTALLED MANUAL STARTER DISCONNECT (NO OVERLOADS).
NO.MANDFACTORER & MODELFUNCTIONSIZE (W°XH°XD°)CFM(IN W.G.)(S0. FT.)(BIRD/INSECT)(BIRD/INSECT)NOTESLV-11RUSKIN ELF6375DXAHU-1 INTAKE90°X144°X6°39,3000.0854.39723YES/NO1,2,3LV-18RUSKIN ELF6375DXAHU-1 RELIEF90°X144°X6°39,3000.0754.39723YES/NO1,2,3	VAV-215 PRICE SDV 10 910 730 0.37 730 17.7 55.0 77.3 1.0 121.7 0.4 2 7/8* 3/4* 29 1,2,3,4,5 VAV-218 PRICE SDV 6 200 80 0.08 20 140 6.3 55.0 96.1 3.0 155.4 5.8 1 1/2* 3/4* 17 1,2,3,4,5 VAV-219 PRICE SDV 6 200 80 0.08 20 140 6.3 55.0 96.1 3.0 155.4 5.8 1 1/2* 3/4* 17 1,2,3,4,5 VAV-219 PRICE SDV 6 200 80 0.08 20 140 6.3 55.0 96.1 3.0 155.4 5.8 1 1/2* 3/4* 17 1,2,3,4,5 VAV-1800 PRICE SDV 12 1320 530 0.41 - 730 19.8 55.0	
LV-21 RUSKIN ELF6375DX COMBUSTION AIR INTAKE 30°X20°X6° 500 0.01 1.93 259 YES/NO 1,2,3,4 LV-3R RUSKIN ELF6375DX EF-1 RELIEF 30°X20°X6° 1,300 0.06 1.93 674 YES/NO 1,2,3,4 NOTES: 1. PROVIDE & INSTALL LOUVER WITH BAKE/ ENAMEL FINISH, ARCHITECT TO SELECT COLOR: 2. YES/NO 1,2,3 NOTES: 2. PROVIDE WITH EXTENDED SILL AND BIN SCREEN. YES/NO 1,2,3	VAV-N333 PRICE SDV 8 380 380 0.17 380 12.5 55.0 85.2 1.0 132.9 0.3 2 7/8* 3/4* 22 1,2,3,4,5 VAV-N333 PRICE SDV 24x16 4810 1925 0.43 26 2550 69.2 55.0 80.0 7.0 138.6 12.5 1 7/8* 1/2,3,4,5 VAV-100 PRICE SDV 24x16 4810 1925 0.43 26 2550 69.2 55.0 80.0 7.0 138.6 12.5 1 7/8* 1/2 1,2,3,4,5	EQUIP. NO. MANUFACTURER & MODEL LOCATION CFM MBH GPM LAT EWT LWT WPD ELECTRICAL RUNOUT SIZE WEIGHT NOTES
3. SEE STATIONARY LOUVER DETAIL. SLOPE FINAL 6" OF ADJACENT DUCT TO LOUVER AND SEAL BOTTOM 3" OF DUCT WATERTIGHT. 4. COORDINATE PLENUM CONSTRUCTION WITH PC FOR CONNECTION OF 10" COMBUSTION AIR.	VAV-101 PRICE SDV 14 1560 1230 0.31 1230 35.3 55.0 81.4 2.0 121.8 0.7 2 7/8* 3/4* 47 1,2,3,4,5 VAV-102 PRICE SDV 14 1550 1550 0.30 1550 40.8 55.0 79.2 2.5 124.7 1.1 2 7/8* 3/4* 47 1,2,3,4,5 VAV-102 PRICE SDV 14 1550 1550 0.30 1550 40.8 55.0 79.2 2.5 124.7 1.1 2 7/8* 3/4* 47 1,2,3,4,5 VAV-103 PRICE SDV 6 310 125 0.24 22 205 11.6 55.0 106.6 4.0 153.7 2.6 2 7/8* 1* 19 1,2,3,4,5 VAV-103A PRICE SDV 6 230 95 0.19 22 175 13.0	HUH-161 SIGMA CORP 058-H LOADING/RECEIVING /DOCK/ACTIVE STOR 161 590 34.0 3.4 86.7 160 136 0.39 1/8 120/1/60 1550 1.4 3/4" 48 + WATER 1,2,3,4,5,6
HVAC SHEET METAL DUCTWORK CONSTRUCTION & INSULATION SCHEDULE DUCTWORK INSULATION THICKNESS (EXTERIOR WRAP UNLESS OTHERWISE NOTED)	VAV-200 PRICE SDV 24x16 2970 1215 0.33 24 21 2075 78.0 55.0 89.7 4.5 122.4 3.9 2 7/8" 1" 93 1,2,3,4,5 VAV-201 PRICE SDV 14 1590 1540 0.32 1540 47.9 55.0 83.7 3.5 130.4 2.0 2 7/8" 47 1,2,3,4,5 VAV-202 PRICE SDV 12 1260 1260 1260 31.4 55.0 77.9 2.0 126.0 1.6 2 7/8" 3/4" 47 1,2,3,4,5 VAV-202 PRICE SDV 12 1260 0.39 1260 31.4 55.0 77.9 2.0 126.0 1.6 2 7/8" 3/4" 47 1,2,3,4,5 VAV-203 PRICE SDV 14 1580 635 0.31 1050 29,5 55.0 80.9<	HUH-M300 SIGMA CORP 084-H MECH PENTHOUSE M300 970 53.5 6.3 91.9 160 140 1.78 1/6 120/1/60 1625 1.8 1" 76 + WATER 1,2,3,4,5,6 NOTES: 1. UNIT SHALL BE HORIZONTAL, PROPELLER UNIT HEATER. 2. PERFORMANCE BASED ON 30% PROPYLENE GLYCOL. 50.00000000000000000000000000000000000
MAX DIMENSION OF RECTANGULAR DUCTS OR DIAMETER OF ROUND DUCTS Galvanized Sheet metalpressure rating construction Rectangular Supply air Before vav Round Supply air Before vav Rectangular Supply air After vav Return air After vav Exhaust air Duct Transfer Air Plenum transfer Sleeves outside air Relief air	NOTES: 1. SOUND DATA SHALL BE TAKEN FROM ARI STANDARD 880 (LATEST EDITION) PUBLISHED DATA. 2. INLET STATIC PRESSURE FOR TERMINAL SELECTION IS 1.0". TERMINAL S.P. INCLUDES COIL APD. 3. PERFORMANCE BASED ON 30% PROPYLENE GLYCOL 4. LH OR RH CONNECTION ON COIL PIPING VARIES, SEE PLAN. 5. SEE VAV HEATING COIL PIPING DETAIL. 6. PROVIDE UNIT WITH OVERSIZED CASING.	 PROVIDE WITH UNIT MOUNTED 3 SPEED SWITCH. UNIT TO BE CONFIGURED FOR FIELD INSTALLED DDC CONTROLS. SEE HANGING UNIT HEATER PIPING DETAIL. STANDARD GRAY BAKED ENAMEL FINISH. PROVIDE UNIT WITH FACTORY INSTALLED MANUAL MOTOR STARTER DISCONNECT (NO OVERLOADS).
UP THRU 12* 26 WHEN LONGEST SIDE IS 36* OR GREATER, SHALL BE WHEN LONGEST OR GREATER, SHALL BE A LON LINE LON LINE LON LINE LON LINE LON LINE LON LINE	DUCTLESS SPLIT SYSTEM INDOOR UNIT SCHEDULE	RADIATION HEATER SCHEDULE SEE PLANS FOR LENGTH OF ELEMENT, "X" RAD RAD RAD KAD
DUCTWORK OVER 54" THRU 84" 20 USING - - 1/2 LINER 1/2 LINER 1/2 LINER 1/2 LINER 2 2 3,4,5,6 OVER 54" 18 TDF FLANGE -	EQUIP. NO. MANUFACTURER & MODEL SERVING COOLING CAPACITY (BTU/HR.) HEATING CAPACITY (BTU/HR.P) REFRIGERANT PIPING ELECTRICAL DIMENSIONS UNIT WEIGHT NOTES DATI/TH ETYCOAL/UM DATI/TH ETYCOAL/UM COOLING CAPACITY (BTU/HR.P) HEATING CAPACITY (BTU/HR.P) REFRIGERANT PIPING ELECTRICAL DIMENSIONS UNIT WEIGHT NOTES	NO. INVERSE
UP THRU 18" 24 SHALL BE CONSTRUCTED MEDIUM PRESSURE DUCTWORK OVER 19" THRU 48" 22 SHALL BE CONSTRUCTED NG. SHALL BE CONSTRUCTED 1-1/2" 1-1/2" 1-1/2" NG. SHALL BE CONSTRUCTED 1-1/2" 1-1/2" 1-1/2" NG. SHALL BE CONSTRUCTED 1-1/2" 1-1/2" 1-1/2"	DSA-115 OWALL MOUNT) MDF 115 21,500 25,400 1/4" 5/8" 208/1/60 N/A 13-3/8" 41-5/16" 9-3/4" 31.0 1,2,3,4,5 DSA-147 DAIKIN FTXS24LVJU (WALL MOUNT) MECH/ELEC 147 21,500 25,400 1/4" 5/8" 208/1/60 N/A N/A 13-3/8" 41-5/16" 9-3/4" 31.0 1,2,3,4,5 DSA-147 DAIKIN FTXS24LVJU (WALL MOUNT) MECH/ELEC 147 21,500 25,400 1/4" 5/8" 208/1/60 N/A N/A 13-3/8" 41-5/16" 9-3/4" 31.0 1,2,3,4,5 NOTES: 1. VC TO PROVIDE & INSTALL OPTIONAL HARDWIRED REMOTE T-STAT. 208/1/60 N/A N/A 13-3/8" 41-5/16" 9-3/4" 31.0 1,2,3,4	RAD-XW RUNTAL RF-2 SINGLE PANEL / FLDISTAL VARIES LOCATIONS 150 0.1 3/4 N/A 32 411 PLAN 2 N/A PLAN 35/4 15/3 15/2,5,4,3,9 RAD-XW RUNTAL RF-2 SINGLE PANEL / WALL MOUNT VARIES MULTIPLE LOCATIONS 150 0.1 3/4" N/A 32 411 SEE PLAN 2 N/A SEE PLAN 5-3/4" 1-5/8" 1,3,5,8,9 FTR-X SIGMA WALLFIN-44C075 CU-AL / STYLE "S" SLOPE TOP VARIES STUDY 150 0.1 3/4" 4" S0. 48 822 SEH 1 - - - 1,4,6,7
OVER 73" THRU 96" 18 ON SYSTEMS, TDF FLANGE NOTES: 1. FOLLOW ALL SMACNA STANDARDS, SEE SPECIFICATIONS. 2. ALL DUCTWORK 18" AND GREATER IN WIDTH SHALL BE CROSS-BROKEN. 3. ALL SYSTEME TO BE CONDICTED VIDUATED INNEES OTHERWISE NOTED	 ONIT POWER 15 TED FROM AND IN INCLUDED IN SOLECULE FOR OWNER'S USE. PROVIDE WITH (1) ADDITIONAL REPLACEABLE FILTER FOR OWNER'S USE. PC TO PROVIDE AND INSTALL 1-1/4" INSULATED SCH 40 PVC CONDENSATE PIPING AND ROUTE AS SHOWN ON PLANS. PROVIDE WITH OPTIONAL CONDENSATE LIFT PUMP. PC TO INSTALL, EC TO WIRE TO INDOOR UNIT. 	NOTES: 1. PERFORMACE BASED ON 30% PROPYLENE GLYCOL. 2. RADIATION SHALL BE INDICATED ON PLAN & MOUNTED AT 3" AFF ON FACTORY PEDESTALS PER MANUFACTURER'S RECOMMENDATIONS, SEE PANEL RADIATION PIPING DETAIL. 3. PROVIDE PIPING COVERS, CORNERS, ACCESS TO VALVES. 4. PROVIDE PEDESTALS TO SUPPORT PIPING.
 Ale officient to be owner the light indicated oncess of the light of t	DUCTLESS SPLIT SYSTEM OUTDOOR UNIT SCHEDULE	5. COLOR SHALL BE CUSTOM COLOR SELECTED BY ARCHITECT. STANDARD COLOR WILL NOT BE ACCEPTABLE. 6. BARE ELEMENT, NO ENCLOSURE. 7. RADIATION SHALL BE INDICATED ON PLAN & MOUNTED PER MANUFACTURER'S RECOMMENDATIONS. SEE UNDER-BENCH RADIATION PIPING DETAIL. 8. RADIATION SHALL BE INDICATED ON PLAN & MOUNTED WITH FACTORY WALL MOUNTING ABOVE FLOOR TRIM (4* AFF) PER MANUFACTURER'S RECOMMENDATIONS, SEE PANEL RADIATION PIPING DETAIL. 9. COORDINATE PEDESTAL MOUNTING HEIGHT IN ROOMS WITH BOTH WALL MOUNTED AND PEDESTAL MOUNTED RADIATION SUCH THAT ALL RADIATION IS MOUNTED AT THE SAME HEIGHT.
DOMESTIC & HYDRONIC PIPING MATERIAL & INSULATION SCHEDULE	$ \frac{EQUIP.}{NO.} \xrightarrow{NANUFACTURER & MODEL} \xrightarrow{SERVING} COOLING CAPACITY (BTU/HR) (BTU/$	SUMP PUMP SCHEDULE
PIPING INSULATION THICKNES SYSTEM TYPE/MATERIAL FITTINGS PIPE SIZES 1" 0R SWALED PIPE SIZES 1-1/4" PIPE SIZES 2-1/2" AND SWALED PIPE SIZES 0.2"	DSC-147 DAIKIN RXS24LVJU DSA-147 7,800- 21,500 1/4" 5/8" 208/1/60 17.5 20 30-5/16" 35-7/16" 12-5/8" 159.0 1,2,3 NOTES: 1. PROVIDE & INSTALL PRE-INSULATED REFRIGERANT LINESETS. LINESETS AND INSULATION TO BE INSTALLED NEATLY IN CEILING. IN MECH PENTHOUSE M300 (DSC-115) AND LOADING/RECEIVING 161 (DSC-147).	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$
DOMESTIC COLD, HOT, AND HOT RECIRC TYPE L COPPER SOLDER, PRO-PRESS 1/2" 1" 1-1/2" BELOW GRADE SANITARY SEE SPECIFICATIONS (SCH 40 PVC SEE SPECIFICATIONS (SCH 40 DWC SOLVENT IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	3. DISCONNECT PROVIDED & INSTALLED BY EC.	NOTES: 1. PROVIDE 20' CORD WITH 3 PRONG PLUG. 2. PROVIDE AND INSTALL 2" PVC TRI-CHECK COMBINATION CHECK VALVE, BALL VALVE, AND UNION. 3. PROVIDE SUE-RHOMBUS TANK ALERT AB, HIGH WATER ALARM WITH PANEL, LIGHT, HORN, TEST AND SILENCE SWITCHES, BATTERY BACK-UP, FLOAT SWITCH, 6' POWER CORD, 30' FLOAT SWITCH CORD. 4. PROVIDE & INSTALL TOPP #FR2M2036F 2#%36" DEEP FIRERGLASS BASIN WITH ANTI-FLOTATION FLANGE. TOPP #C24SSL SIMPLEX STEFL COVER
NABLE & VENU PPIPING WHERE PERMITIED) WELD WHERE PERMITIED) ABOVE GRADE SANITARY WASTE & VENT PIPING SEE SPECIFICATIONS (SCH 40 PVC WHERE PERMITTED) SEE SPECIFICATIONS (SCH 40 DWC SOLVENT WELD WHERE PERMITTED) NONE CONDENSATE DRAIN TYPE M COPPER, SCH 40 PVC OR SOLDED DRO DRESS SOLVENT WELD 1/0**	EQUIP: HANNEAGTURED & MODEL COMPRESSOR COMPRESSOR COMPRESSOR COMPRESSOR ELECTRICAL	WITH 2" VENT & 2" DISCHARGE, TOPP #0400 PIPE GROMMET. 5. DRAIN TILE BY STRUCTURAL CONTRACTOR. 6. INSTALL PANEL IN CUST 204A. 7. SEE SUMP BASIN & PUMP PIPING DETAIL.
PIPING/VENTING ABS WHERE PERMITTED OUDER, PRO-PRESS, SOLVENT NELD I/2 I/2 HOT WATER SUPPLY, HOT WATER RETURN TYPE L COPPER, SCH 40 BLACK STEEL SOLDER, PRO-PRESS, SEE SPECS FOR STEEL FITTINGS 1/2 1* 1-1/2* BELOW GRADE Enter Steel	NO. INGROVACIONER & MOUBL SERVING LUGAIIUN ACFM PRESSURE (PSIG) TYPE RPM TANK TYPE TANK SIZE HP (W) RPM V./PH./CY. FLA WEIGHT (LBS) NOTES AC-1 INGERSOLL RAND MODEL 2545 SIM LAB MECH PENTHOUSE 300 26.6 175 TWO-STAGE SIMPLEX 825 VERTICAL 80 GAL 7-1/2 1800 208/3/60 24.2 611 1,2,3,4,5,6,7	WATER HEATER SCHEDULE
CHILLED WATER SUPPLY, CHILLED WATER RETURN PRE-INSULATED PIPE SYSTEM, SEE SPECIFICATIONS 1,6 ABOVE GRADE CHILLED WATER SUPPLY, CHILLED WATER SUPPLY, CHILLED WATER SUPPLYN TYPE L COPPER, SCH 40 BLACK STEEL SOLDER, PRO-PRESS, SEE SPECS FOR STEEL FITTINGS 1/2" 1" 1-1/2"	 START-UP. PROVIDE UNIT WITH CONTROL PANEL WITH MAGNETIC MOTOR STARTER. PROVIDE UNIT WITH CONTROL PANEL WITH MAGNETIC MOTOR STARTER. PROVIDE INGERSOLL RAND D54IN NON-CYCLING, AIR-COOLED, 115V/1/60, 370W, REFRIGERATED AIR DRYER. PROVIDE ONE MODEL F71IG 3/4" NPT GENERAL PURPOSE FILTER AND ONE MODEL F71IH 3/4" NPT HIGH EFFICIENCY FILTER. PROVIDE ONE MODEL F71IG 3/4" NPT GENERAL PURPOSE FILTER AND ONE MODEL F71IH 3/4" NPT HIGH EFFICIENCY FILTER. 	$\frac{1}{1} = \frac{1}{1} = \frac{1}$
COMPRESSED AIR SCH 40 BLACK STEEL SEE SPECS FOR STEEL FITTINGS NONE 1	 6. PC TO PROVIDE ADJUGIADE PRESSURE REQUERING 0-120 PSIG. 6. PC TO PROVIDE 4" CONCRETE HOUSEKEEPING PAD. 7. SEE AIR DROP TO COMPRESSOR DETAIL. 	WH-1 A.O. SMITH CYCLONE BTH-199 DOMESTIC HOT WATER NAT. GAS WATER ENTRY 160 100 235 199.9 97 120/1/60 5 1 1/2" 1 1/2" 76.5" 27.75" 523 + WATER 1,2,3,4,5 NOTES: 1. P.C. TO PROVIDE & INSTALL 4" POURD CONCRETE HOUSEKEEPING PAD. 2. SEE NATURAL GAS WATER HEATER PIPING DETAIL.
 IF USING UPONOR PEX-A PIPING, NO CRIMP FITTINGS SHALL BE ACCEPTED. CONTRACTOR MUST BE TRAINED AND FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS AND MUST FULFILL ALL AVAILABLE UPONOR 25 YEAR FITTING AND PIPE SYSTEM WARRANTY COVERAGE. NO PVC PIPING ALLOWED IN RETURN AIR PLENUMS. WHERE CHILLED WATER PIPING IS RUN ON THE EXTERIOR OF THE BUILDING ABOVE GRADE, INSULATION SHALL BE 1-1/2" EXTRUDED POLYSTYRENE, WITH UV RESISTANT PVC 0.020" JACKETING. 		 PROVIDE & INSTALL WATTS LAWLER EMX075 DIGITAL WATER TEMPERING SYSTEM WITH DIGITAL MIXED OUTLET TEMPERATURE CONTROL & MONITORING. 120V POWER & PLUG PROVIDED & INSTALLED BY EC. DOMESTIC HOT WATER TO BE STORED AT 140'F AND TEMPERED TO 120'F. PROVIDE & INSTALL CONDENSATE DRAIN PIPING WITH CONDENSATE NEUTRALIZER TO FLOOR SINK PER MANUFACTURER'S RECOMMENDATIONS. CONDENSATE DRAIN PIPING TO BE SUPPORTED APPROXIMATELY 6" ABOVE FINISHED FLOOR WITH SPLIT RING STANDOFFS WITH ELBOW DOWN INTO OPEN QUARTER OF FLOOR SINK GRATE. PROVIDE UNIT WITH EXTENDED 15 YEAR WARRANTY.
5. NO INSULATION ON SUMP PUMP DISCHARGE PIPING. 6. ALL UNDERGROUND CHILLED WATER LINES TO BE XTRU-THERM PREMIER ENGINEERED SERIES PRE-INSULATED PIPE SYSTEM WITH ASTM A53 GR. B. ERW CARBON STEEL SERVICE PIPE, ANTI-CORROSION COATING, CLOSED CELL POLYURETHANE FOAM INSULATION, ALUMINUM DIFFUSION BARRIER, AND HDPE OUTER JACKET. SEE SPECIFICATIONS. 7. INSULATE CHILLED WATER & HEATING WATER PUMP BODIES AND ASSOCIATED PIPING. INSULATE FACH HIGH FLOW FILTER FEEDER AND ASSOCIATED PIPING. ASSOCIATED PIPING		
INSULATE CHILLED WATER EXPANSION TANK AND ASSOCIATED PIPING. INSULATE PIPING TO HEATING WATER EXPANSION TANK, HEATING WATER EXPANSION TANK TO BE UNINSULATED.		

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EQUIP. NO.	MANUFACTURER & MODEL	SERVING	LOCATION	TYPE	CFM	ESP (IN W.G.)	SONES	WATTS	HP
EF-1	LOREN COOK SQN-D VF 120SQN28D (VF)	BUILDING EXHAUST	MECH PENTHOUSE M300	IN-LINE	1300	1.1	14.3	-	3/4
EF-2	TJERNLUND PRODUCTS LB2XL	DRYER BOOSTER - PENTHOUSE	MECH PENTHOUSE M300	IN-LINE	160	1.5	-	105	-
EF-3	TJERNLUND PRODUCTS LB2XL	DRYER BOOSTER - LAUNDRY 214	MECH PENTHOUSE M300	IN-LINE	160	1.5	-	105	-
NOTES:	1. PROVIDE AND INSTALL MOTO 2. PROVIDE WITH FACTORY INS 3. PROVIDE WITH EC MOTOR WI 4. PROVIDE & INSTALL FLEXI 5. TC TO ENABLE FAN WITH E	RIZED BACKDRAFT DAMPER (MATC TALLED DISCONNECT. TH FACTORY INSTALLED FAN MOU BLE DUCT CONNECTION OR SHORT WILDING OCCUPANCY.	H ASSOCIATED FAN VOLTAGE), NTED SPEED CONTROLLER FOR F PIECE OF FLEXIBLE DUCT AT	FAIL TO CLOSE AN BALANCING. FAN.	D POSITION	, EC TO OPEN	WITH FAN (PERATION	1.

QUIP. NO.	MANUFACTURER & MODEL	NOMINAL SIZE	THROAT SIZE	MAX CFM	MAX APD	THROW (50 FPM)	NC	FRAME	FINISH	NOTES
S-1	PRICE SCD	24X24	6 "Ø	110	0.03	5	< 15	LAY-IN	WHITE	1
S-1P	PRICE SCD	24X24	6 "Ø	110	0.03	5	< 15	LAY-IN	WHITE	1,2
S-2	PRICE SCD	24X24	8"Ø	230	0.05	8	< 15	LAY-IN	WHITE	1
S-2P	PRICE SCD	24X24	8"Ø	230	0.05	8	< 15	LAY-IN	WHITE	1,2
S-3	PRICE SCD	24X24	10"Ø	420	0.07	11	20	LAY-IN	WHITE	1
S-3P	PRICE SCD	24X24	10"Ø	420	0.07	11	20	LAY-IN	WHITE	1,2
S-4	PRICE SCD	24X24	12"Ø	650	0.10	13	25	LAY-IN	WHITE	1
S-5	PRICE SDS100 1-SLOT	72" X 3-3/4"	72" X 2-1/2"	150	0.04	16	< 15	SURFACE	WHITE	1,3
S-6	PRICE SDS100 2-SLOT	48" X 5-1/2"	48" X 4-1/4"	230	0.05	22	16	SURFACE	WHITE	1,3
S-7	PRICE SDS100 3-SLOT	48" X 7-1/4"	48" X 6"	330	0.05	27	18	SURFACE	WHITE	1,3
S-8	PRICE 520	10X8	8X6	150	0.05	17	< 15	SURFACE	WHITE	1,4
S-9	PRICE 520	16X12	14X10	450	0.05	30	< 15	SURFACE	WHITE	1,4
S-10	PRICE SDS100 2-SLOT	36" X 5-1/2"	36" X 4-1/4"	200	0.07	22	19	LAY-IN	WHITE	1,3
R-1	PRICE 530	24X12	22X10	700	0.08		21	LAY-IN	WHITE	1,5
R-2	PRICE 530	24X24	22X22	1600	0.08		23	LAY-IN	WHITE	1,5
R-3	PRICE 530	26X14	24X12	900	0.08		20	SURFACE	WHITE	1,5
E-1	PRICE 530	10X10	8X8	100	0.02		< 15	SURFACE	WHITE	1,5
E-2	PRICE 530	12X12	10X10	200	0.04		< 15	SURFACE	WHITE	1,5
T-1	PRICE 530	12X12	10X10	200	0.04		< 15	SURFACE	WHITE	1,5
T-2	PRICE 530	36X12	34X10	950	0.06		18	SURFACE	WHITE	1,5
T-3	PRICE LBP	38X5	36X3	210				SILL	WHITE	1,6

			LOUV	ER SCH	EDULE				$\left\langle \right\rangle$
EQUIP. NO.	MANUFACTURER & MODEL	FUNCTION	SIZE (W"XH"XD")	CFM	S.P. (IN W.G.)	FREE AREA (SQ. FT.)	FREE AREA Velocity (FPM)	SCREEN (BIRD/INSECT)	NOTES
LV-1I	RUSKIN ELF6375DX	AHU-1 INTAKE	90"X144"X6"	39,300	0.08	54.39	723	YES/N0	1,2,3
LV-1R	RUSKIN ELF6375DX	AHU-1 RELIEF	90"X144"X6"	39,300	0.07	54.39	723	YES/N0	1,2,3
LV-2I	RUSKIN ELF6375DX	COMBUSTION AIR INTAKE	30"X20"X6"	500	0.01	1.93	259	YES/N0	1,2,3,4
LV-3R	RUSKIN ELF6375DX	EF-1 RELIEF	30"X20"X6"	1,300	0.06	1.93	674	YES/NO	1,2,3

HVAC SHEET METAL DUCTWORK CONSTRUCTION & INSULATION SCHEDULE															
	DI	UCTWORK					INSULA	TION THICKNE	SS (EXTERIOR	WRAP UNLESS OTI	HERWISE NOTED)			
SYSTEM	MAX DIMENSION OF Rectangular ducts or Diameter of round ducts	GALVANIZED SHEET METALPR GAUGE NUMBER	ESSURE RATI)	G CONSTRUCTION	RECTANGULAR Supply Air Before Vav	ROUND Supply Air Before VAV	RECTANGULAR Supply Air After Vav	ROUND SUPPLY AIR After Vav	RETURN AIR	EXHAUST AIR Duct	TRANSFER AIR	PLENUM TO Plenum Transfer Sleeves	OUTSIDE AIR	RELIEF AIR	NOTES
	UP THRU 12"	26		WHEN LONGEST SIDE IS 36"											
	OVER 12" THRU 30"	24		OR GREATER, SHALL BE											
PRESSURE	OVER 30" THRU 54"	22	2" W.G.	CONSTRUCTED USING	-	-	1/2" LINER	1-1/2"	1/2" LINER	1-1/2", SEE NOTE 6	1/2" LINER	1/2" LINER	2 "	2"	1,2, 3,4,5,6
DUCTWORK	OVER 54" THRU 84"	20		DUCTMATE 35/25 SLIDE											
	OVER 84"	18		ON SYSTEM, TDF FLANGE											
	UP THRU 18"	24		SHALL BE											
MEDIUM	OVER 19" THRU 48"	22		USING	1.1/0	1.1/0									1,2,
DUCTWORK	OVER 48" THRU 72"	20	- 3 w.u.	35/25 SLIDE	1-1/2	1-1/2	-	-	-	-	-	-	-	-	3,4
	OVER 73" THRU 96"	18		TDF FLANGE											
NOTES: 1. 2. 3. 4.	FOLLOW ALL SMACNA STAI ALL DUCTWORK 18" AND (ALL SYSTEMS TO BE COMI CONCEALED DUCTS MAY BI DUCTS ABOVE SLOTTED (NDARDS, SEE SF GREATER IN WID PLETELY INSULA E INSULATED WI	ECIFICATIO TH SHALL B TED UNLESS TH RIGID B	NS. E CROSS-BROKEN. OTHERWISE NOTE OARD OR FLEXIBL	D. E FIBERGLASS	INSULATION. I	EXPOSED DUCTS	SHALL BE IN	SULATED WITH	RIGID BOARD FI	BERGLASS INSU	LATION ONLY.			·

	0		

	DOMESTIC	& HYDRONIC PIPING	MATE	RIAL	& INS	SULATION SCHEDULE
	PIPING		INSU	LATION THICK	NESS	
SYSTEM	TYPE/MATERIAL	FITTINGS	PIPE SIZES 1" OR SMALLER	PIPE SIZES 1-1/4" TO 2"	PIPE SIZES 2-1/2" AND LARGER	NOTES
DOMESTIC COLD, HOT, AND HOT RECIRC	TYPE L COPPER	SOLDER, PRO-PRESS	1/2"	1"	1-1/2"	1,2
BELOW GRADE SANITARY WASTE & VENT PIPING	SEE SPECIFICATIONS (SCH 40 PVC WHERE PERMITTED)	SEE SPECIFICATIONS (SCH 40 DWV SOLVENT WELD WHERE PERMITTED)		NONE		1
ABOVE GRADE SANITARY WASTE & VENT PIPING	SEE SPECIFICATIONS (SCH 40 PVC WHERE PERMITTED)	SEE SPECIFICATIONS (SCH 40 DWV SOLVENT WELD WHERE PERMITTED)		NONE		1,3,5
CONDENSATE DRAIN PIPING/VENTING	TYPE M COPPER, SCH 40 PVC OR ABS WHERE PERMITTED	SOLDER, PRO-PRESS, SOLVENT WELD		1/2"		1
HOT WATER SUPPLY, HOT WATER RETURN	TYPE L COPPER, SCH 40 BLACK STEEL	SOLDER, PRO-PRESS, SEE SPECS FOR STEEL FITTINGS	1/2"	1"	1-1/2"	1,2,4,7
BELOW GRADE CHILLED WATER SUPPLY, CHILLED WATER RETURN		PRE-INSULATED PIPE SYSTEM, SEE SPECIFICATIONS				1,6
ABOVE GRADE CHILLED WATER SUPPLY, CHILLED WATER RETURN	TYPE L COPPER, SCH 40 BLACK STEEL	SOLDER, PRO-PRESS, SEE SPECS FOR STEEL FITTINGS	1/2"	1"	1-1/2"	1,2,4,7
COMPRESSED AIR	SCH 40 BLACK STEEL	SEE SPECS FOR STEEL FITTINGS		NONE		1
NOTES: 1. SEE SPECIFICAT 2. IF USING UPONO RECOMMENDATION 3. NO PVC PIPING 4. WHERE CHILLED EXTRUDED POLYS 5. NO INSULATION 6. ALL UNDERGROUM	IONS. R PEX-A PIPING, NO CRIMP FITTINGS S S AND MUST FULFILL ALL AVAILABLE UP ALLOWED IN RETURN AIR PLENUMS. WATER PIPING IS RUN ON THE EXTERIOR TYRENE, WITH UV RESISTANT PVC 0.020 ON SUMP PUMP DISCHARGE PIPING. D CHILLED WATER LINES TO BE XTRU-TH	HALL BE ACCEPTED. CONTRACTOR MUST BE TRAINED DNOR 25 YEAR FITTING AND PIPE SYSTEM WARRANTY OF THE BUILDING ABOVE GRADE, INSULATION SHAL " JACKETING.	AND FOLLOW AU COVERAGE. L BE 1-1/2"	L MANUFACTUR	GR. B. ERW	1

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378.6	321.4 77.3/64.0 312.8 78.4/64.7	54.7/54.2 52	0 54.6	83.4 6.5 82.6 6.2	QTY 4	SIZE 2 1/2"	11505 1	59.9 53.	1 65.8	479 13	38.6 15.	.9 1.7	QTY 4	SIZE 1 1/2" 5	5726 1	2,3,4,5,	,7 B-	1	SOLUTIONS FVS-1500 THERMAL SOLUTIONS	147 CH/ELEC	GLYCOL	DP 3	0 0	75 75	GAS	500- 41 1500 1,3 500- 41 1500 1	7- 251 87% 7- 87%	135°F	F 17.4	1-1/2 1-1/2	120/1/60 120/1/60	8.3 + 8.3 1 8.3 1	,327 FLUID ,327 2,3	1
0 473.4	380.9 78.6/64.9	54.2/53.8 51	7 55.0	100.2 9.6	4	2 1/2"	13875 2	93.2 46.	2 65.5	520 1	39.4 30.	.3 3.3	4	1 1/2" 6	6162 1	,2,3,4,5,	,7 B-	2 —	EVS-1500 IHERMAL SOLUTIONS EVS-1500 IHERMAL ME	CH/ELEC	30% PRC GLYCOL	DP 3	0	75	NAT GAS	1500 1,3 500- 41 1500 1,3 500- 41	7- 251 87%	135°F	F 17.4	1-1/2	120/1/60	8.3 1	,327 -LUID	1
																	NOT	ES: 1	SOLUTIONS EVS-1500 I. UNDER BASE BID, F 2. UNITS SHALL BE CC	147 RELOCATE E	GLYCOL XISTING TH ALL N	BOILER FINECESSARY	0 ROM EXIST SAFETIES	75 ING LIN AND CO	GAS COLN HALL	1500 1,3 	251 87%	. AND SOL	F 17.4	1-1/2	120/1/60 QUIREMENTS.	8.3 +	-LUID 9,10	,11,12,13
																		3 4 5	 VC TO PROVIDE & I SEE PLANS FOR HEI PC TO PROVIDE AND ALL BOOFING WORK 	INSTALL 9' GHT OF TE INSTALL	AL29-4C RMINATIO 8" PVC C BOOFING	C DOUBLE N ON ABOVE COMBUSTIO	VALL WITH TOP OF FA N AIR INT OB VC &	1" CER JX CHIM AKE TO 3 PC TO C	AMIC INSU NEY PER M INTAKE PL	JLATION THR MANUFACTURE LENUM ON LV	OUGH ROOF R'S RECOMM '-2I.	, SEE SEC MENDATION	CTIONS FO NS. INST	OR VENT LEN TALL GUY WI	IGTH. TERMIN RES IF REQU	ATE WITH RAIN [RED BY VENT]	I CAP NG MANUFACTUR	IER.
				VA	V TE	RMIN	IAL (3CHE	DULE									6 7 8	 UNIT PERFORMANCE PROVIDE AND INSTA PROVIDE WITH FACT PROVIDE & INSTALL 	SHALL BE ALL 4" CON TORY INSTA	BASED ON ICRETE HO	N 30% PRO DUSEKEEPI V WATER C	PYLENE GL NG PAD AN JT-OFF AN	YCOL. D BOILE D FACTO IN PIPI	R BLOWDOW RY AUTHOP	VN PIT, SEE RIZED START	E PLANS. UP.	ING TO BE	F SUPPORT		ΜΔΤΕΙΥ 6" Δ	F WITH SPI T	BING	
EQUIP. NO.	MANUFACTURER & MODEL	INLET MAX SIZE CFM	MIN CFM	MAX I TERM I APD	MAX MA RAD DIS NC NO	X CH CFM	MIN MBH	EAT (°F)	ING COIL (LAT (°F)	WT =160°F GPM () .WT WI °F) (F	PD ROWS	COIL CONN. SIZE	RUNOUT SIZE	WEIGHT (LBS.)	NOTE		1	STANDOFFS WITH EL 10. VC TO PROVIDE & I TRAP PER MANUFACT	BOW DOWN	TO FLOOR INTING DR	AIN T SE	CH THAT C CTION INT	ONDENSA D BOILE	TE DOES M R. CONDE	NOT POOL ON ENSATE DRAI	I FLOOR OR	TOP LEDG	GE OF FLC LER FLUE	DOR SINK. TO BE ROUT	ROUTE TO MI ED TO FLOOR	NIMIZE TRIPPI DRAIN BEHIND	NG HAZARDS. 0 BOILERS WITH	I
VAV-125 VAV-126	PRICE SDV PRICE SDV	6 200 6 200	80	0.11	20	0 150 0 150	0 8.0 0 8.0	55.0 55.0	103.8 103.8	1.5 14 1.5 14	8.4 0	.5 2 .5 2	7/8"	3/4"	19 19	1,2,3,	,5	1 1 1	2. PROVIDE & INSTALL 3. PROVIDE & INSTALL 4. POST STATE OF SOU	TEMPERAT UNDER AD	URE & PR D ALTERN BOILER	RESSURE G	AUGES TO IEU OF RE DN REPORT	TROUBLES	SHOOT PUN G EXISTIN H/ELEC 14	NP & BOILER NG BOILER. 17.	IS, SEE HEA SEE PLANS	ATING WAT FOR ADDI	TER SYSTE ITIONAL I	EM PIPING D INFORMATION	DIAGRAM. I.			
VAV-127 VAV-128 VAV-129	PRICE SDV PRICE SDV PRICE SDV PRICE SDV	6 200 6 200 6 200 6 200	80 80 80	0.11 0.11 0.11	20 20 20	0 150 0 150 0 150 0 150	J 8.0 0 8.0 0 8.0 0 8.0	55.0 55.0 55.0	103.8 103.8 103.8	1.5 14 1.5 14 1.5 14 1.5 14	8.4 0 8.4 0 8.4 0 8.4 0	.5 2 .5 2 .5 2	7/8" 7/8" 7/8"	3/4" 3/4" 3/4"	19 19 19	1,2,3, 1,2,3, 1,2,3,	,5 ,5 ,5																	
VAV-130 VAV-131 VAV-142	PRICE SDV PRICE SDV PRICE SDV PRICE SDV	6 200 5 160 24x16 2690	80 65 0 1435	0.11 0.07 0.28	20 23 2'	0 150 - 160 1 2690) 8.0 0 11.7 90 79.5	55.0 55.0 55.0	103.8 121.9 82.3	1.5 14 1.5 14 4.0 11	8.4 0 3.1 0 7.0 3	.5 2 .9 3 .3 2	7/8" 7/8" 7/8"	3/4" 3/4" 1"	19 26 93	1,2,3, 1,2,3,4 1,2,3,	,5 5,6 ,5								PUM	P SC	HEDU	JLE	ELECTR	TCAL				
VAV-143 VAV-144 VAV-145	PRICE SDV PRICE SDV PRICE SDV	5 140 5 140 5 140	140 140 140	0.05 0.05 0.05	 	- 140 - 140 - 140) 6.0 0 6.0 0 6.0 0 6.0	55.0 55.0 55.0	93.8 93.8 93.8	0.5 13 0.5 13 0.5 13	4.1 0 4.1 0 4.1 0	.1 2 .1 2 .1 2	7/8" 7/8" 7/8"	3/4" 3/4" 3/4"	20 20 20	1,2,3, 1,2,3, 1,2,3,	,5 ,5 ,5	JIP. 0.	MANUFACTURER & MODEL	SERV	ER ER	LOCATION	GPN	HE/ (FEI	AD ET)	TYPE	HP (W)	RPM	M V./	PH./CY.	FLA	WEIGHT (LBS)	NC	TES
VAV-146 VAV-147 VAV-154	PRICE SDV PRICE SDV PRICE SDV	5 140 10 950 6 210	140 380 85	0.05 0.40 0.12	2'	- 140 - 600 1 135) 6.0 0 21.6 5 8.1	55.0 55.0 55.0	93.8 88.2 109.5	0.5 13 2.0 13 2.0 15	4.1 0 6.6 1	.1 2 .3 2 .8 2	7/8" 7/8" 7/8"	3/4" 3/4" 3/4"	20 29 19	1,2,3, 1,2,3, 1,2,3,	,5 Cl	P-1	BELL & GOSSETT E-90 2AAB	CIRCUL FOR BOIL	ATOR B-1 ER	MECH/ELE 147 MECH/ELE	2 125	20	0	IN-LINE	1-1/2	1800	00 20	08/1/60	10	67	1,	2,11
VAV-155 VAV-156 VAV-157	PRICE SDV PRICE SDV PRICE SDV	6 210 6 210 6 210	85 85 85	0.12	2 ⁻ 2 ⁻	1 135 1 135 1 135	5 8.1 5 8.1	55.0 55.0	109.5 109.5	2.0 15 2.0 15 2.0 15	1.3 0 1.3 0	.8 2 .8 2	7/8" 7/8" 7/8"	3/4" 3/4" 3/4"	19 19 19	1,2,3, 1,2,3,	,5 ,5 ,5 ,5 CI	P-2 P-3	E-90 2AAB BELL & GOSSETT	CIRCUL FOR PRIM HEAT	ATOR 3-2 ARY ING	147 MECH/ELE	2 125 2 290	50	0 0 B/	IN-LINE	7.5	1800	00 20	08/1/60	24.2	67 377	1,	2,11 6,7,8,10,1
VAV-158 VAV-159	PRICE SDV PRICE SDV PRICE SDV	6 210 6 310	85	0.12	2 ⁻ 2 ⁻	1 135 2 250	5 8.1 0 18.9 0 11.8	55.0	109.5 124.6	2.0 15 5.0 15 2.0 14	1.3 0. 1.8 7.	.8 2 .3 3	7/8"	3/4" 1"	19 26	1,2,3,	,5 5,6 5,6 5,6	P-4	BELL & GOSSETT E-1510 3BD	WATER BACH HEAT WATER	LOOP UP ING LOOP	MECH/ELE 147	290	50	0 B/	ASE MOUNTED ND SUCTION	7.5	180	00 20	08/3/60	24.2	377	1,2,4,5,6	5,7,8,10,1
VAV-161 VAV-220 VAV-221	PRICE SDV PRICE SDV PRICE SDV PRICE SDV	5 130 6 200 6 200	80	0.11 0.11	20	130 130 130 130 130 130	$\frac{11.8}{0}$	55.0	127.0 110.3 110.3	2.0 14 2.0 15 2.0 15	1.5 0	.4 3 .8 2 .8 2	7/8	3/4 3/4" 3/4"	19 19	1,2,3,4	,5 Cl	P-5	BELL & GOSSETT E-1510 3EB BELL & GOSSETT	PRIM CHIL WATER PRIM	ARY LED LOOP ARY	MECH/ELE 147 MECH/ELE	280	10	¹⁵ B/ E	ASE MOUNTED ND SUCTION	20	1800	00 20	08/3/60	59.4	582	1,3,4,5,6	,7,8,9,10,
VAV-222 VAV-223 VAV-224	PRICE SDV PRICE SDV PRICE SDV PRICE SDV	6 200 6 200 6 200 6 200	80	0.11 0.11 0.11	20 20	0 130 0 130 0 130 0 130	0 7.9 0 7.9	55.0	110.3 110.3 110.3	2.0 15 2.0 15 2.0 15	1.5 0 1.5 0	.8 2 .8 2 .8 2	7/8"	3/4" 3/4" 3/4"	19 19 19	1,2,3, 1,2,3, 1,2,3,	,5 ,5 ,5 Cl	P-6 P-7	E-1510 3EB BELL & GOSSETT ECOCIBC+ 20-18	CHIL WATER DOMES HOT W	LED LOOP TIC ATER	147 WATER ENT	280 RY 5.0	10	¹⁵ E	ND SUCTION	(70)	4518	8 12	20/1/60	1.02	10	1,3,4,5,6	13,14
VAV-225 VAV-226 VAV-227	PRICE SDV PRICE SDV PRICE SDV	6 200 5 160 14 1470	80 65 0 590	0.11 0.09 0.28	20	0 130 - 160 - 1005) 7.9 0 11.3 05 33.3	55.0 55.0 55.0	110.3 119.5 85.5	2.0 15 2.0 14 2.0 12	1.5 0 7.8 1 4.0 0	.8 2 .1 3 .7 2	7/8" 7/8" 7/8"	3/4" 3/4" 3/4"	19 22 47	1,2,3, 1,2,3, 1,2,3,	,5 ,5 ,5	ES: 1 2 3	PC TO PROVIDE & INS PERFORMANCE BASED (PERFORMANCE BASED (RECI STALL PRES ON 30% PRO ON 35% PRO	RC SURE GAUG PYLENE GL PYLENE GL	GE WITH IS	OLATION V	ALVES AC	ROSS PUMF	SUCTIONS 8	& DISCHARGE	FOR BALA	ANCING PU	RPOSES. PR	OVIDE FACTOR	Y AUTHORIZED	START-UP.	
VAV-227C VAV-227D VAV-227E	PRICE SDV PRICE SDV PRICE SDV PRICE SDV	8 430 8 380 5 110	430 345 70	0.20 0.26 0.04		- 430 - 345 - 70) 14.5 5 22.5 0 4.3	55.0 55.0 55.0	85.9 115.1 110.8	1.5 13 4.0 14 0.5 14	9.1 0 7.8 4 1.3 0	.6 2 .9 3 .1 2	7/8" 7/8" 7/8"	3/4" 1" 3/4"	22 26 20	1,2,3, 1,2,3, 1,2,3,	,5 ,5 ,5	4 5 6 7	 T.C. TO PROVIDE VFE PROVIDE & INSTALL S PROVIDE & INSTALL S PROVIDE WITH SHAFT 	O, E.C. TO TRIPLE DUT SUCTION DI	INSTALL. Y VALVE. FFUSER.													
VAV-227F VAV-227G VAV-227H	PRICE SDV PRICE SDV PRICE SDV	8 350 8 480 5 100	350 345 65	0.22 0.25 0.03	20	- 350 0 345 - 65) 22.2 5 17.8 5 4.2	55.0 55.0 55.0	113.2 102.5 112.6	3.5 14 4.5 15 0.5 14	6.3 3 1.4 4 2.0 0	.9 3 .2 2 .1 2	7/8" 7/8" 7/8"	3/4" 1" 3/4"	26 22 20	1,2,3, 1,2,3, 1,2,3,	,5 ,5	8 9 10	PC TO PROVIDE LASEF PC TO PROVIDE AND J O. PC TO PROVIDE AND J O. PC TO PROVIDE 4" CC 1. SFE HEATING WATER S	ALIGNMEN INSTALL MA NCRETE HO	T IN FIEL SON INERT USEKEEPIN ING DIAGR	LD. FIA BASE C NG PAD (PA BAM.	N TOP OF D IN MECH	112 TO	RETE HOUSE ACCOMMODA	KEEPING PAD). PS, EXPANSI	ON TANK,	AND BYPA	SS FILTER F	EEDER).			
VAV-227I VAV-227J VAV-227K	PRICE SDV PRICE SDV PRICE SDV	6 270 6 270 5 100	225 225 65	0.19 0.19 0.03	2! 2!	5 225 5 225 - 65	5 11.9 5 11.9 5 4.2	55.0 55.0 55.0	103.5 103.5 112.6	3.5 15 3.5 15 0.5 14	2.6 2 2.6 2 2.0 0	.1 2 .1 2 .1 2	7/8" 7/8" 7/8"	3/4" 3/4" 3/4"	19 19 20	1,2,3, 1,2,3, 1,2,3,	,5 ,5	1: 1: 1: 1-	2. SEE CHILLED WATER S 3. SEE NATURAL GAS WAT 4. PUMP SHALL BE STAIN	SYSTEM PIP TER HEATER NLESS STEE	ING DIAGR PIPING D L CONSTRU	RAM. DIAGRAM. JCTION AND	PROVIDED	WITH SH	IUT-OFF FL	ANGES. PUMF	P SHALL ACC	EPT 0-10	VDC INPUT	FROM TC FC	OR SPEED CONT	ROL. TIMER & .	AQUASTAT CONTR	OL BY TC.
VAV-227L VAV-227M VAV-S201	PRICE SDV PRICE SDV PRICE SDV	8 490 8 430 10 690	360 430 280	0.26	20) 360 - 430 - 385	J 18.9 0 14.5 55 10.5	55.0 55.0 55.0	103.3 85.9 80.0	5.5 15 1.5 13 0.5 11	2.6 6 9.1 0 4.5 0	.0 2 .6 2 .1 2	7/8" 7/8" 7/8"	1" 3/4" 3/4"	22 22 29	1,2,3, 1,2,3, 1,2,3,	,5 ,5						E			М ТА	NK C	VUEL		•				ET
VAV-\$333	PRICE SDV	10 820	820	0.32		- 820 SERVED) 33.7) FROM AHU-2	55.0	92.9	5.5 14	6.7 7	.6 2	7/8"	1"	29	1,2,3,	,5 EQUI	P.	MANUFACTURER & MODEL	SERVING	LOC	ATTON			TEM VOLUME		NN J Be (°F) PI	CAEL	NGE (PSIG)	REQ'D TANK	REQ'D Acceptance	ACTUAL AC Tank acce	TUAL PTANCE SHIPPIN WEIGHT	
VAV - 104 VAV - 105 VAV - 106	PRICE SDV PRICE SDV PRICE SDV	6 210 10 840 5 120	670 100	0.33 0.02		- 670 - 100	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	55.0	92.2 78.7 84.1	0.5 13 1.0 12 0.5 14 0.5 14	2.5 0 5.9 0	.1 2 .4 2 .3 1	7/8	3/4 3/4" 3/4"	29 18	1,2,3,	,5 KT	.1	BELL & GOSSETT B500	NEW HEATIN WATER LOO	IG MECH P 1	H/ELEC 147	(GAL) 740	FAC	CTOR (GAL)	MAX 160	MIN 40	MAX 33.5	MIN 21.7	VOLUME (GAL) 125.7	GAL) 30.8	VOLUME VO (GAL) (0 132.0 1:	LUME SAL) (LBS) 32.0 335 + WATER	1,2,,
VAV - 107 VAV - 108 VAV - 110	PRICE SDV PRICE SDV PRICE SDV	5 120 6 200 6 210	100 130 85	0.02 0.11 0.12	20 2	- 100 D 145 I 150	5 6.1 0 7.6	55.0 55.0 55.0	93.0 101.1	0.5 14 0.5 13 1.0 14	3.7 0. 3.6 0.	.3 1 .1 2 .2 2	7/8"	3/4" 3/4" 3/4"	18 19 19	1,2,3, 1,2,3, 1,2,3,	,5 ,5 ,5 ET-	·2 ·3	BELL & GOSSETT B130 AMERICAN WHEATLEY BDT-009	NEW CHILLE WATER LOO DOMESTIC WATER SYST	ED MECH P 1 ; WA ; WA	H/ELEC 147 ATER RY 160	930		1395	60 140	40	33.5 150	21.7 60	31.14 2.8	7.67	34.0 3 9.0 9	4.0 125 + WATER 9.0 28 + WATER	1,3,4 7,8, 10
VAV-111 VAV-112 VAV-113	PRICE SDV PRICE SDV PRICE SDV	6 210 6 210 6 210 6 210	85 85 85	0.12 0.12 0.12	2 ⁻ 2 ⁻ 2 ⁻	1 150 1 150 1 150) 7.6 0 7.6 .0 7.6	55.0 55.0 55.0	101.1 101.1 101.1	1.0 14 1.0 14 1.0 14 1.0 14	3.6 0 3.6 0 3.6 0	.2 2 .2 2 .2 2	7/8" 7/8" 7/8"	3/4" 3/4" 3/4"	19 19 19	1,2,3, 1,2,3, 1,2,3,	,5 ,5 ,5	S: 1. 2. 3. 4.	UNIT TO BE FLOOR MOUNTED EXPANSION TANK SIZING SHA EXPANSION TANK SIZING SHA PC TO PROVIDE & INSTALL 4	VERTICAL AS ALL BE BASED ALL BE BASED 4" HIGH POUR	ME PRE-CHAP ON 30% PRO ON 35% PRO ED CONCRETE	RGED BLADDE OPYLENE GLY OPYLENE GLY E HOUSEKEEP	R STYLE EXP COL. COL. ING PAD.	ANSION TAP	NK.						I			
VAV-115 VAV-117 VAV-118	PRICE SDV PRICE SDV PRICE SDV	8 490 6 200 6 200	200 80 80	0.25 0.11 0.11	20 20 20	320 0 140 0 140) 8.8 0 7.3 0 7.3	55.0 55.0 55.0	80.1 102.7 102.7	0.5 12 1.0 14 1.0 14	1.9 0 4.1 0 4.1 0	.1 2 .2 2 .2 2	7/8" 7/8" 7/8"	3/4" 3/4" 3/4"	22 19 19	1,2,3, 1,2,3, 1,2,3,	,5 ,5 ,5	5. 6. 7.	SEE HEATING WATER SYSTEM PROVIDE & INSTALL B&G R-4 THE HEATING EXPANSION TAN WHICH IS 1.5 TIMES THE CA SEE CHILED WATER SYSTEM	PIPING DIAG 4 4" AIR SEP NK HAS BEEN ALCULATED VO	RAM. ARATOR WITH SIZED FOR 1 LUME OF 930	H STRAINER 1110 GALLON 0 GALLONS.	WITH PROPER S, WHICH IS	SERVICE (1.5 TIMES	CLEARANCE A S THE CALCU	ND PROPER PIP LATED VOLUME	ING TO FLOOR OF 740 GALLO	MOUNTED BL NS. THE CHI	LADDER STYL ILLED EXPAN	E EXPANSION T ISION TANK HAS	TANK PER MANUFA 3 BEEN SIZED FO	CTURER'S REQUIRE 1395 GALLONS,	MENTS.	
VAV-119 VAV-120 VAV-121	PRICE SDV PRICE SDV PRICE SDV	6 200 6 200 6 200 6 200	80 80 80	0.11 0.11 0.11	20 20 20	D 140 D 140 D 140 D 140	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	55.0 55.0 55.0	102.7 102.7 102.7	1.0 14 1.0 14 1.0 14	4.1 0 4.1 0 4.1 0	.2 2 .2 2 .2 2	7/8" 7/8" 7/8"	3/4" 3/4" 3/4"	19 19 19	1,2,3, 1,2,3, 1,2,3,	,5 ,5 ,5	9. 10.	PROVIDE & INSTALL B&G R-5 PC TO PROVIDE & INSTALL 1	5 5" AIR SEP IN-LINE, ASM	ARATOR WITH E PRE-CHARC	H STRAINER GED FULL AC	WITH PROPER CEPTANCE BL	SERVICE (ADDER STYL	CLEARANCE A LE EXPANSIO	ND PROPER PIP N TANK.	ING TO FLOOR	MOUNTED BL	LADDER STYL	E EXPANSION 1	TANK PER MANUFA	CTURER'S REQUIRE	MENTS.	
VAV-122 VAV-124 VAV-133	PRICE SDV PRICE SDV PRICE SDV	6 200 6 200 10 750	80 80 435	0.11 0.11 0.27	20 20	0 140 0 140 - 640) 7.3 0 7.3 0 17.1	55.0 55.0 55.0	102.7 102.7 79.5	1.0 14 1.0 14 1.0 12	4.1 0. 4.1 0. 3.0 0.	.2 2 .2 2 .4 2	7/8" 7/8" 7/8"	3/4" 3/4" 3/4"	19 19 29	1,2,3, 1,2,3, 1,2,3,	,5 ,5 ,5					Н	от и	/ATE	ER C	ABIN	ET U	NIT	HE/	TER				CU
VAV-137 VAV-138 VAV-141	PRICE SDV PRICE SDV PRICE SDV	6 240 5 90 5 140	100 65 90	0.15 0.02 0.03	22	2 170 - 75 - 100) 6.4 5 2.9 0 3.3	55.0 55.0 55.0	89.4 88.9 84.1	0.5 13 0.5 14 0.5 14	2.1 0 7.6 0	.1 2 .3 1 .3 1	7/8" 1/2" 1/2"	3/4" 3/4" 3/4"	19 18 18	1,2,3, 1,2,3, 1,2,3,	,5 ,5 ,5	UIP. NO.	MANUFACTURER & MO	DEL	LOCATION	CFM	MBH GPI	I LAT	EWT	LWT (FT)	HP	ELE(V/PH/C	CTRICAL	PM FLA	RUNOUT	UNIT WEIGHT (LBS)	N	DTES
VAV-150 VAV-151 VAV-152	PRICE SDV PRICE SDV PRICE SDV	6 210 6 210 6 210	85 85 85	0.12 0.12 0.12	2 ⁻ 2 ⁻	1 150 1 150 1 150		55.0 55.0 55.0	101.1 101.1 101.1	1.0 14 1.0 14 1.0 14 1.0 14	3.6 0 3.6 0	.2 2 .2 2 .2 2	7/8" 7/8" 7/8"	3/4" 3/4" 3/4"	19 19 19	1,2,3, 1,2,3, 1,2,3,	,5 ,5 ,5 CUH	-100A -100B	SIGMA SFF-A-04-S SIGMA SFF-A-06-S	RI V	'EST 100A 'EST 100B	400 600	26.4 2.5 42.8 3.5	5 123.3 5 128.4	3 160.0 4 160.0	135.0 1.05 131.0 0.94	1/10	120/1/6	60 10 60 10	75 1.7 75 1.7	1"	125 + WATER 125 + WATER	1,2,3	,4,5,6,7 ,4,5,6,7
VAV-153 VAV-205	PRICE SDV PRICE SDV PRICE SDV	6 210 8 420	85 170	0.12	2'	1 150 - 295	J 7.6 5 13.7 80 12.2	55.0 55.0	101.1 97.5	1.0 14 2.0 14 1.5 14	3.6 0. 5.2 1.	.2 2 .0 2	7/8"	3/4" 3/4" 3/4"	19 22 22	1,2,3,	,5 ,5 5 NOTE	-114A ES: 1	SIGMA SFF-A-06-S	RI S	TAIR 114A INVERTED	A 600 D AIR FLOW	42.8 3.5 / WALL MOU	5 128.4	4 160.0	131.0 0.94 ALL BE MOUN	1/10 TED AT 8" A	120/1/6	60 10 RANTEMENT	75 1.7	1" NT TOP IN, FF	+ WATER 125 + WATER ONT BOTTOM OU	1,2,3 T.	,4,5,6,7
VAV-211 VAV-212A	PRICE SDV PRICE SDV PRICE SDV	0 400 8 440 10 965 12 1445	300 480	0.21		- 390 - 965	J 15.4 5 25.3 45 20.5	55.0 55.0	91.4 79.1	2.0 14 2.0 13 2.0 13	3.3 1. 2.6 1.	.0 2 .3 2	7/8"	3/4" 3/4"	22 29 26	1,2,3,	,5 ,5	2 3 4 5	. PERFORMANCE BASED (. UNIT MOUNTED 3 SPEE . CUSTOM COLOR BAKED . SEE CABINET UNIT HE	DN 30% PRO ED SWITCH. ENAMEL, S EATER PIPI	PYLENE GL UNIT TO TANDARD C NG DETAIL	LYCOL. BE CONFIG COLOR NOT L.	URED FOR ACCEPTABL	FIELD IN E. CUST	NSTALLED I FOM COLOR	DDC CONTROLS	S. CTED BY ARC	CHITECT.			·			
VAV-212B VAV-213 VAV-215	PRICE SDV PRICE SDV PRICE SDV	12 1144 12 1320 10 910	9995 730	0.49		- 995 - 730		55.0	82.1 77.3	2.0 12 1.0 12	8.2 1. 1.7 0.	.6 2 .4 2	7/8"	3/4 3/4 3/4	36	1,2,3,	,5	6 7	. PROVIDE WITH (1) AU . PROVIDE UNIT WITH F	DDITIONAL FACTORY IN	SET OF DI STALLED N	ISPOSABLE MANUAL STA	FILTERS. RTER DISC	ONNECT ((NO OVERLO	DADS).								
VAV-218 VAV-219 VAV-M300	PRICE SDV PRICE SDV PRICE SDV	0 200 6 200 12 1320	80 80 530	0.08	20	- 730	J 0.3 J 6.3 O 19.8	55.0	96.1 80.0	3.0 15 1.0 11	5.4 5. 7.0 0	.8 1 .5 2	1/2"	3/4"	17 17 36	1,2,3,	,5					н	от и		ER H	ANGI	NG U	NIT	HE/	TER				
VAV-N333 VAV-100	PRICE SDV PRICE SDV	8 380 24x16 4810	380) 1925	0.17	30 26	- 380 SERVED 6 2550) 12.5 FROM AHU-3 50 69.2	55.0	85.2	1.0 13 7.0 13	8.6 12	.3 2 2.5 1	7/8"	3/4"	83	1,2,3,	,5 ,5 ,5 E	QUIP.	MANUFACTURER & I	MODEL	LOCAT	TION	CFM	МВН	GPM L/	AT EWT	LWT WPD)	EL	ECTRICAL			UNIT EIGHT	NOTES
VAV-101 VAV-102 VAV-103	PRICE SDV PRICE SDV PRICE SDV	14 1560 14 1550 6 310	0 1230 0 1550 125	0.31 0.30 0.24	22	- 1230 - 1550 2 205	0 35.3 30 40.8 5 11.6	55.0 55.0 55.0	81.4 79.2 106.6	2.0 12 2.5 12 4.0 15	1.8 0 4.7 1 3.7 2	.7 2 .1 2 .6 2	7/8" 7/8" 7/8"	3/4" 3/4" 1"	47 47 19	1,2,3, 1,2,3, 1,2,3,	,5 ,5 HU	NU. IH-161	SIGMA CORP 05	8-H	ADING/R /DOCK/A	ECEIVING	590	34.0	3.4 86	.7 160	136 0.3	HP 39 1/8	V/PH/	/CY RPM /60 1550	FLA 0 1.4	3/4" v	(LBS) 48 + /ATEB 1,	,2,3,4,5,
VAV-103A VAV-200 VAV-201	PRICE SDV PRICE SDV PRICE SDV	6 230 24x16 2970 14 1590	95) 1215) 1540	0.19 0.33 0.32	22 24 2 ⁻	2 175 1 2075 - 1540	5 13.0 75 78.0 40 47.9	55.0 55.0 55.0	123.2 89.7 83.7	3.5 15 4.5 12 3.5 13	1.9 3 2.4 3 0.4 2	.0 3 .9 2 .0 2	7/8" 7/8" 7/8"	3/4" 1" 3/4"	21 93 47	1,2,3, 1,2,3, 1,2,3,	,5 ,5 ,5	H-M30(0 SIGMA CORP 08	4 - H	STOR MECH PEN M3C	161 NTHOUSE DO	970	53.5	6.3 91	.9 160	140 1.3	78 1/6	120/1	/60 1625	5 1.8	1" V	76 + 1, IATER 1,	,2,3,4,5,
VAV-202 VAV-203 NOTES: 1.	PRICE SDV PRICE SDV SOUND DATA SHALL BE TAKEN	12 1260 14 1580 FROM ARI STANDARD	0 1260 0 635 880 (LATES	0.39 0.31 ST EDITION) PUB	 	- 1260 - 1050	0 31.4 50 29.5	55.0 55.0	77.9 80.9	2.0 12 1.5 11	7.4 0	.6 2 .5 2	7/8"	3/4" 3/4"	36 47	1,2,3, 1,2,3,	,5 ,5	ES:	1. UNIT SHALL BE HO 2. PERFORMANCE BASE 3. PROVIDE WITH UNI 4. SEE HANGING UNIT	DRIZONTAL ED ON 30% IT MOUNTE	, PROPELI PROPYLE 3 SPEE PTPTNG D	LER UNIT NE GLYCO D SWITCH	HEATER. . UNIT TO	BE CON	IFIGURED	FOR FIELD	INSTALLED	DDC CON	NTROLS.					
2. 3. 4. 5.	INLET STATIC PRESSURE FOR PERFORMANCE BASED ON 30% F LH OR RH CONNECTION ON COI SEE VAV HEATING COIL PIPIN	TERMINAL SELECTION ROPYLENE GLYCOL L PIPING VARIES, S G DETAIL.	I IS 1.0". SEE PLAN.	TERMINAL S.P.	INCLUDES C	OIL APD.													5. STANDARD GRAY BA 6. PROVIDE UNIT WIT	KED ENAM	EL FINIS	LED MANU	AL MOTOR	STARTER	DISCONN	IECT (NO OV	(ERLOADS).							
0.																							RAD		FION	HEA	TER	SCH	EDUL	.E	SEE PLANS FO OF ELEMENT,	R LENGTH		
		DUCTLE	SS	SPLI	r sy	STE	MIN	IDOO	RU	NIT	SC	HEDU	ILE			DSA	EQUI	P. M	ANUFACTURER & MODEL	TYPE AND	/OR MOUNTI		APACITY BTU/HR)	OCATIONS	AVG WATER TEMP.	FLOW GPM/ FOOT	FIN	ELEME FINS/FT	ENT BTU/FT L	ENGTH ROW	IS GAUGE L	ENCLOSURE		NOTES
EQUIP. NO.	MANUFACTURER & MODEL	SERVING	CO CAI (BT	OLING PACITY (U/HR.) (BT	HEATING CAPACITY U/HR @47F)	REFRIGE	ERANT PIPI	NG ON V./PH	ELECTRIC	AL A MOCP	HEIGHT	DIMENSIO	DNS	UNIT WEIGH TH (LBS	T HT S)	NOTES	RAD	- XD	RUNTAL R2F-2	DOUBLE P	NEL / PED	DESTAL	VARIES	MULTIPLE OCATIONS	(°F) 150 150	0.1 3/4	N/A	32	754	SEE 2 PLAN 2 SEE 2	N/A	SEE PLAN 5-3/4" SEE 5-3/4"	3-3/8" 1	,2,3,4,5,9
DSA-115 DSA-147 NOTES: 1.	(WALL MOUNT) DAIKIN FTXS24LVJU (WALL MOUNT) VC TO PROVIDE & INSTALL OPT	MDF 115 MECH/ELEC 147 ONAL HARDWIRED REM	7 2 ⁻ 0TE T-STAT	1,500	25,400	1/4"	5/8"	208/	(1/60 N)	A N/A	13-3/8"	41-5/16	5" 9-3/ 6" 9-3/	4" 31.0	0	1,2,3,4,5	RAD	- XW	RUNTAL RF-2	SINGLE PA	IEL / WALL	. MOUNT	VARIES	MULTIPLE OCATIONS COMMONS/	3 3 150	0.1 3/4"	N/A	32	411	PLAN SEE 2 PLAN 2	N/A	SEE PLAN 5-3/4"	1-5/8"	1,3,5,8,9
2. 3. 4.	UNIT POWER IS FED FROM AND PROVIDE WITH (1) ADDITIONAL PC TO PROVIDE AND INSTALL 1 PC TO PROVIDE AND INSTALL 1	S INCLUDED IN SCHE REPLACEABLE FILTER 1/4" INSULATED SCH	DULED ELEC FOR OWNER 40 PVC COI	TRICAL DATA FOR 'S USE. NDENSATE PIPING	ASSOCIATED	OUTDOOR UNI	IT. I PLANS.										FTR	S: 1. 2.	SIGMA WALLFIN-44C075 PERFORMANCE BASED ON 30 RADIATION SHALL BE IND	CU-AL / ST D% PROPYLEN ICATED ON P	'LE "S" SL' E GLYCOL. LAN & MOUM	OPE TOP	AFF ON FAC	STUDY SPACE 100	DESTALS PER	0.1 3/4	4" SQ.	48 ENDATIONS,	822 SEE PANEL	PLAN 1	- PIPING DETAIL.		-	1,4,6,7
5.				, to to write t														3. 4. 5. 6. 7.	PROVIDE PIPING COVERS, PROVIDE PEDESTALS TO SU COLOR SHALL BE CUSTOM (BARE ELEMENT, NO ENCLOS RADIATION SHALL BE IND)	CORNERS, A JPPORT PIPI COLOR SELEC SURE. ICATED ON P	CCESS TO N NG. TED BY ARC	VALVES. CHITECT. S NTED PER M	TANDARD COL	OR WILL	NOT BE ACC	CEPTABLE.	BENCH BADIA	TION PIPI	NG DETATL					
	[UCTLE	ss s	SPLIT	SYS	STEM	I OU	TDO(ORU	INIT	SC	HED	ULE					9. 9.	RADIATION SHALL BE INDI COORDINATE PEDESTAL MOL	ICATED ON P ICATED ON P JNTING HEIG	LAN & MOUN HT IN ROOM	NTED WITH N MS WITH BO	FACTORY WAL	L MOUNTI	NG ABOVE F	LOOR TRIM (4 MOUNTED RAD	4" AFF) PER ATION SUCH	MANUFACTU	JRER'S RECO RADIATION	DMMENDATIONS	, SEE PANEL RA AT THE SAME HE	DIATION PIPING IGHT.	DETAIL.	
EQUIP. NO.	MANUFACTURER & MODEL	SERVING	COOLING CAPACITY (BTU/HR)	HEATING CAPACIT (BTU/HR @4	REFRI Y 17F) LIQU	GERANT PI	TION V./	ELECTI PH./CY.	MCA M	ICP HE	IGHT	DIMENSIONS WIDTH	DEPTH	UNIT WEIGHT (LBS)	т	NOTES							,	SUN	1P P	UMP	SCH	EDU	ILE					SP
DSC-115 DSC-147	DAIKIN RXS24LVJU DAIKIN RXS24LVJU	DSA-115 DSA-147	7,800- 21,500 7,800- 21,500	7,800- 25,400 7,800- 25,400	1/4	F. 5/8	8" 20	8/1/60	17.5 17.5	20 30- 20 30-	5/16" 5/16"	35-7/16" 35-7/16"	12-5/8	" 159.0 " 159.0)	1,2,3	EQU	IP.	MANUFACTURER & MODEL		OCATION		GPM		HEAD	SI	ZE	HP	R	MOTOR PM V	./PH./CY.	FLA	NOTE	 :S
NOTES: 1. 2. 3.	PROVIDE & INSTALL PRE-I PROVIDE & INSTALL POWDER CO DISCONNECT PROVIDED & I	ISULATED REFRIGER TED WALL MOUNT BRA ISTALLED BY EC.	CKET WITH	ETS. LINESETS VIBRATION ISOLA	AND INSULA TION FOR INS	ATION TO B TALLATION	3E INSTALLE	ED NEATLY IN MECH PE	IN CEILIN ENTHOUSE M	G. 300 (DSC-1	115) AND	LOADING/RE	CEIVING 1	61 (DSC-14	7).		SP NOTE	-1 S:	ZOELLER #H165	ELE	VATOR E100 PIT PLUG.			BALL V		2" DIS	CHARGE	1	34	150	208/1/60	8	1,2,3,4,	5,6,7
				A T D	<u>сомг</u>			<u> </u>								AC			 PROVIDE AND INSTALL PROVIDE SJE-RHOMBUS 6' POWER CORD, 30' PROVIDE & INSTALL T WITH 2" VENT & 2" D 	TANK ALERT FLOAT SWI OPP #FB24X	AB, HIGH TCH CORD. 036F 24"X3 TOPP #G400	WATER ALAF 36" DEEP FI	BERGLASS B	, BALL V EL, LIGH ASIN WIT	H ANTI-FLC	EST AND SILE	NCE SWITCHES GE, TOPP #C2	S, BATTERY 24SSL SIMPI	Y BACK-UP, PLEX STEEL	FLOAT SWITCH COVER	Н,			
EQUIP.	IANUFACTURER & MODEL	SERVING .	OCATTON			neð compress					E	ELECT	RICAL		WETOW				5. DRAIN TILE BY STRUC 6. INSTALL PANEL IN CU 7. SEE SUMP BASIN & PU	TURAL CONTI ST 204A. JMP PIPING	DETAIL.													
NO	INGERSOLL RAND MODEL 2545	SIM LAB SYSTEMS PEN	MECH THOUSE 300	26.6	(PSIG)	TYPE TWO-STAC SIMPLE	AGE EX	PM 1/	VERTICAL	80 GAL	E HP (W)) RPM 2 1800	V./PH./CY. 208/3/60	FLA 24.2	WEIGHT (LBS) 611 1	,2,3,4,5	6,7							WA	TER	HEATE	R SCH	IEDUL	-E					WH
NOTES: 1.	PROVIDE WITH SPRING VIB START-UP. PROVIDE UNIT WITH CONTR PROVIDE INGERSOLL RAND	ATION ISOLATORS, DL PANEL WITH MAG D54IN NON-CYCLING	INGERSOL INETIC MOT	L RAND PREMIU	M PACKAGE, 0, 370W. RF	LOW OIL P	RESSURE SW	ITCH, EXTI	ENDED 2 YF	AR WARRAN	TY KIT, (ONE SPARE E	BELT, AND	FACTORY AU	JTHORIZED	_	EQUIP	. m	ANUFACTURER & SERVI	NG FU	EL LO	DCATION	STORAGE	RECOVERY	Y@NUM SE	IBER ELEMEI		AFUE %	ELE	CTRICAL	PIPING	DIMENSION	S OPERATING WEIGHT	NOTES
4. 5. 6. 7.	PROVIDE ONE MODEL F71IG PC TO PROVIDE ADJUSTABL PC TO PROVIDE 4" CONCRE SEE AIR DROP TO COMPRES	3/4" NPT GENERAL PRESSURE REGULA E HOUSEKEEPING P GOR DETAIL.	. PURPOSE TOR 0-125 AD.	FILTER AND ON PSIG.	E MODEL F71	IH 3/4" N	PT HIGH EF	FICIENCY F	FILTER.								WH-1	1 A.0	. SMITH CYCLONE DOMESTIC BTH-199 WATF	HOT NAT.	GAS EN	WATER TRY 160	(GAL) 100	235	ELEM	ENTS (EACH) (^{mbn}) 199.9	97	V./PH./CY.	KW AMPS	C.W. H.W	HEIGHT (IN) DI (I ** 76.5" 27.	A. (LBS) N) 75" 523 + WATER	1,2,3,4,
																	NOTE	S: 1. 2. 3.	P.C. TO PROVIDE & INSTAL SEE NATURAL GAS WATER HE PROVIDE & INSTALL WATTS DOMESTIC HOT WATER TO BE	L 4" POURED ATER PIPING LAWLER EMXO STORED AT	CONCRETE DETAIL. 75 DIGITAL 140°F AND	HOUSEKEEPIN . WATER TEMP TEMPERED TO	IG PAD. PERING SYSTE	M WITH D	IGITAL MIXE	D OUTLET TEMP	PERATURE CONT	TROL & MONI	ITORING. 1	20V POWER &	PLUG PROVIDED 8	INSTALLED BY E	c.	
																		4. 5. 6.	PROVIDE & INSTALL CONDEN CONDENSATE DRAIN PIPING PROVIDE UNIT WITH EXTEND	ISATE DRAIN TO BE SUPPO DED 15 YEAR	PIPING WIT RTED APPRO WARRANTY.	TH CONDENSAT	E NEUTRALIZ ABOVE FINI	ER TO FLO SHED FLOO	DOR SINK PE DR WITH SPL	R MANUFACTURE IT RING STANE	ER'S RECOMMEN DOFFS WITH EL	NDATIONS. LBOW DOWN I	INTO OPEN G	QUARTER OF FL	OOR SINK GRATE			

i0 378.	6 321.4 77.3/64.0	54.7/54.2	520	54.6 83	3.4 6.	QTY 5 4	SIZE 2 1/2"	11505 15	59.9 53. ⁻	1 65.8	479 138.	6 15.9	QTY 1.7 4	SIZE 1 1/2"	5726	1,2,3,4,	,7 B-	1 -	SOLUTIONS MECH/ELEC 30% 75 NAT 500- GAS 417- 1,251 87% 135°F 17.4 1-1/2 120/1/60 8.3 1,327 +FLUID 1 HERMAL SOULUTIONS MECH/ELEC 30% PROP 30 75 NAT 500- 417- 417- 87% 135°F 17.4 1-1/2 120/1/60 8.3 1,327 2,3,4,5,6	6,7,
i0 377. i0 473.	1 312.8 78.4/64.7 4 380.9 78.6/64.5	54.6/54.2 54.2/53.8	507 517	54.7 82 55.0 10	2.6 6. 0.2 9.	2 4 6 4	2 1/2" 2 1/2"	10960 22 13875 29	.1.7 46.5 33.2 46.2	65.0 2 65.5	484 140. 520 139.	0 23.6 4 30.3	3.3 4 3.3 4	1 1/2" 1 1/2"	5486 6162	1,2,3,4, 1,2,3,4,	,7 ,7 B-:	2 —	EVS1500 147 GLYCOL 00 70 GAS 1500 1,251 070 100 T 17.4 17.2 120/1700 0.0 +FLUID 9,10,11,12 INERMAL SOLUTIONS MECH/ELEC 147 30% PROP GLYCOL 30 75 MAT GAS 500- 1500 417- 1,251 87% 135°F 17.4 1-1/2 120/1/60 8.3 1,327 +FLUID 1 IMERMAL FVS1500 MOVELED 300 75 MAT GAS 500- 1500 417- 1,251 87% 135°F 17.4 1-1/2 120/1/60 8.3 1,327 +FLUID 1	2,13
																	NOTE	S: 1 2	SOLUTIONS MECH/ELEC 30% PHOP 30 75 NAI 500- GAS 41/- 1,251 87% 135°F 17.4 1-1/2 120/1/60 8.3 1,327 2,3,4,5,5 : 1. UNDER BASE BID, RELOCATE EXISTING BOILER FROM EXISTING LINCOLN HALL. 2. UNITS SHALL BE COMPLETE WITH ALL NECESSARY SAFETIES AND CONTROLS TO MEET OR EXCEED U.L. AND SOUTH DAKOTA CODE REQUIREMENTS.	2,13
																		3 4 5	 VC TO PROVIDE & INSTALL 9" AL29-4C DOUBLE WALL WITH 1" CERAMIC INSULATION THROUGH ROOF, SEE SECTIONS FOR VENT LENGTH. TERMINATE WITH RAIN CAP SEE PLANS FOR HEIGHT OF TERMINATION ABOVE TOP OF FAUX CHIMNEY PER MANUFACTURER'S RECOMMENDATIONS. INSTALL GUY WIRES IF REQUIRED BY VENTING MANUFACTURER. PC TO PROVIDE AND INSTALL 8" PVC COMBUSTION AIR INTAKE TO INTAKE PLENUM ON LV-2I. ALL ROOFING WORK TO BE BY ROOFING CONTRACTOR. VC & PC TO COORDINATE. 	
					V	AV TE	RMIN	AL S	SCHE!	DULE								6 7 8 9	 UNIT PERFORMANCE SHALL BE BASED ON 30% PROPYLENE GLYCOL. PROVIDE AND INSTALL 4" CONCRETE HOUSEKEEPING PAD AND BOILER BLOWDOWN PIT, SEE PLANS. PROVIDE WITH FACTORY INSTALLED LOW WATER CUT-OFF AND FACTORY AUTHORIZED STARTUP. PROVIDE & INSTALL BOILER DRAIN VALVE AND EXTEND DRAIN PIPING TO FLOOR SINK. DRAIN PIPING TO BE SUPPORTED APPROXIMATELY 6" AFF WITH SPLIT RING 	
EQUIP. NO.	MANUFACTURER & MODEL	INLET SIZE	MAX CFM	MIN CFM	MAX TERM APD	MAX M. RAD DI: NC N	AX SCH C CFM Served	MIN MBH FROM AHU-1	EAT (°F)	LAT (°F)	T =160°F) SPM LWT (°F)	WPD (FT)	CO: CON ROWS SI	IL RUNO IN. SIZ ZE	UT WEIG E (LB	IGHT NO		1(1 ⁻	STANDOFFS WITH ELBOW DOWN TO FLOOR SINK SUCH THAT CONDENSATE DOES NOT POOL ON FLOOR OR TOP LEDGE OF FLOOR SINK. ROUTE TO MINIMIZE TRIPPING HAZARDS. 10. VC TO PROVIDE & INSTALL VENTING DRAIN T SECTION INTO BOILER. CONDENSATE DRAIN PIPING FROM BOILER FLUE TO BE ROUTED TO FLOOR DRAIN BEHIND BOILERS WITH TRAP PER MANUFACTURE'S RECOMMENDATIONS. 11. UNIT TO BE INSTALLED WITH MANUFACTURER'S RECOMMENDED MINIMUM CLEARANCES.	
VAV-125 VAV-126	PRICE SDV PRICE SDV PRICE SDV	6 6	200 200 200	80 80 80	0.11	2 2	0 150 0 150 0 150	8.0	55.0 55.0	103.8 1 103.8	1.5 148.4 1.5 148.4 1.5 148.4	4 0.5 4 0.5	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	• 19 • 19	19 1,2 19 1,2 19 1,2 19 1,2	,5 ,5	12 13 14	12. PROVIDE & INSTALL TEMPERATURE & PRESSURE GAUGES TO TROUBLESHOOT PUMP & BOILERS, SEE HEATING WATER SYSTEM PIPING DIAGRAM. 13. PROVIDE & INSTALL UNDER ADD ALTERNATE IN LIEU OF RELOCATING EXISTING BOILER. SEE PLANS FOR ADDITIONAL INFORMATION. 14. POST STATE OF SOUTH DAKOTA BOILER INSPECTION REPORT IN MECH/ELEC 147.	
VAV-128 VAV-129	PRICE SDV PRICE SDV PRICE SDV	6 6 6	200 200 200	80 80 80	0.11	2	0 150 0 150 0 150	8.0 8.0	55.0 55.0	103.8 1 103.8 1	1.5 148.4 1.5 148.4 1.5 148.4	4 0.5 4 0.5	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	• 19 • 19	19 1,2 19 1,2 19 1,2 19 1,2	,5 ,5			CP
VAV-130 VAV-131 VAV-142	PRICE SDV PRICE SDV PRICE SDV	5 24x16	160 2690	65 1435	0.07	23 22	- 160 1 2690	11.7 79.5	55.0 55.0	121.9 1 82.3	1.5 148.7 1.5 143.7 1.0 117.0	0.9 0 3.3	2 7/8 3 7/8 2 7/8	8" 3/4 8" 1"	9	19 1,2 26 1,2,3 93 1,2 00 1,0	,5 5,6 ,5			
VAV-143 VAV-144 VAV-145	PRICE SDV PRICE SDV PRICE SDV	5 5 5	140 140 140	140 140 140	0.05 0.05 0.05	··· ··	- 140 - 140 - 140	6.0 6.0	55.0 55.0 55.0	93.8 (0.5 134.1 0.5 134.1 0.5 134.1 0.5 134.1	1 0.1 1 0.1 1 0.1	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	- 21 - 21 - 21	20 1,2 20 1,2 20 1,2	,5 EQU ,5 N1 ,5	IP. D.	Price NANUFACTURER & MODEL SERVING LOCATION GPM HEAD (FEET) TYPE HP (W) RPM V./PH./CY. FLA WEIGHT (LBS)	
VAV-146 VAV-147 VAV-154	PRICE SDV PRICE SDV PRICE SDV PRICE SDV	5 10 6	140 950 210	140 380 85	0.05 0.40 0.12	··· ·	- 140 - 600 1 135	6.0 21.6 8.1	55.0 55.0 55.0	93.8 0 88.2 2 109.5	0.5 134. 2.0 136.0 2.0 151.3	0.1 5 1.3 3 0.8	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	21 21 21	20 1,2 29 1,2 19 1,2	,5 CF	P-1	1 BELL & GOSSETT CIRCULATOR FOR B-1 MECH/FLEC 147 125 20 IN-LINE 1-1/2 1800 208/1/60 10 67 1,2,11 2 BELL & GOSSETT BOILER CIRCULATOR MECH/FLEC 125 20 IN-LINE 1-1/2 1800 208/1/60 10 67 1,2,11	
VAV-155 VAV-156 VAV-157	PRICE SDV PRICE SDV PRICE SDV	6 6 6	210 210 210	85 85 85	0.12 0.12 0.12	22 22 22	1 135 1 135 1 135	8.1 8.1 8.1	55.0 55.0 55.0	109.5 2 109.5 2 109.5	2.0 151.3 2.0 151.3 2.0 151.3 2.0 151.3	3 0.8 3 0.8 3 0.8	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	" 19 " 19 " 19	19 1,2 19 1,2 19 1,2 19 1,2	,5 ,5 ,5 CF	2 9-3	E - 90 2AAB FOR B-2 147 160 160 177 160 177 160 177 160 177 160 177 160 177 160 177 160 177 160 177 177 160 177 177 177 170	10,1
VAV-158 VAV-159 VAV-161	PRICE SDV PRICE SDV PRICE SDV	6 6 5	210 310 150	85 125 75	0.12 0.27 0.06	2 2	1 135 2 250 - 150	8.1 18.9 11.8	55.0 55.0 55.0	109.5 2 124.6 1 127.0	2.0 151.3 5.0 151.3 2.0 147.3	3 0.8 3 7.3 2 1.4	2 7/8 3 7/8 3 7/8	8" 3/4 8" 1" 8" 3/4	" 19 20 " 20	19 1,2 26 1,2,3 26 1,2,3	,5 5,6 CF 5,6	9-4	4 BELL & GOSSETT E-1510 3BD HEATING WATER LOOP 147 290 50 BASE MOUNTED END SUCTION 7.5 1800 208/3/60 24.2 377 1,2,4,5,6,7,8,1	10,1
VAV-220 VAV-221 VAV-222	PRICE SDV PRICE SDV PRICE SDV	6 6 6	200 200 200	80 80 80	0.11	2 2	0 130 0 130 0 130	7.9 7.9 7.9	55.0 55.0 55.0	110.3 2 110.3 2 110.3	2.0 151.4 2.0 151.4 2.0 151.4 2.0 151.4	5 0.8 5 0.8 5 0.8	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	" 19 " 19	19 1,2 19 1,2 19 1,2 19 1,2	,5 ,5 ,5	P-5	5 BELL & GOSSETT E-1510 3EB Indiana CHILLED WATER LOOP MECH/ELEC 147 280 105 BASE MOUNTED END SUCTION 20 1800 208/3/60 59.4 582 1,3,4,5,6,7,8,9,9,9,9,9,9,9,9,9,9,9,9,9,9,9,9,9,9	,10,
VAV-223 VAV-224	PRICE SDV PRICE SDV PRICE SDV	6 6	200 200	80 80	0.11	22	0 130 0 130	7.9	55.0 55.0	110.3 2 110.3 2	2.0 151.3 2.0 151.3 2.0 151.3	5 0.8 5 0.8	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4	" 19 " 19	19 1,2 19 1,2 19 1,2 10 1,2	,5 ,5 ,5 ,5 CF		6 E-1510 3EB 000000000000000000000000000000000000	, 10,
VAV-225 VAV-226 VAV-227	PRICE SDV PRICE SDV PRICE SDV	5 14	160 1470	65 590	0.09 0.28	··· 2	- 160 - 1005	7.9 11.3 5 33.3	55.0 55.0 55.0	119.5 2 85.5	2.0 151.3 2.0 147.8 2.0 124.0	0.8 3 0 0.7	2 7/8 3 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	- 2: - 2:	19 1,2 22 1,2 47 1,2	,5 ,5 ,5	S: 1. 2. 3.	RECIRC	
VAV-227C VAV-227D VAV-227E	PRICE SDV PRICE SDV PRICE SDV PRICE SDV	8 8 5	430 380 110	430 345 70	0.20 0.26 0.04	·· ·	- 430 - 345 - 70	14.5 22.5 4.3	55.0 55.0 55.0	85.9 1 115.1 4 110.8	1.5 139.7 4.0 147.8 0.5 141.3	1 0.6 3 4.9 3 0.1	2 7/8 3 7/8 2 7/8	8" 3/4 8" 1" 8" 3/4	22 20 20	22 1,2 26 1,2 20 1,2	,5 ,5	4. 5. 6. 7.	 T.C. TO PROVIDE VFD, E.C. TO INSTALL. PROVIDE & INSTALL TRIPLE DUTY VALVE. PROVIDE & INSTALL SUCTION DIFFUSER. PROVIDE WITH SHAFT GROUNDING KITS. 	
VAV-227F VAV-227G VAV-227H	PRICE SDV PRICE SDV PRICE SDV PRICE SDV	8 8 5	350 480 100	350 345 65	0.22 0.25 0.03	·· · · · · · · · · · · · · · · · · · ·	- 350 0 345 - 65	22.2 17.8 4.2	55.0 55.0 55.0	113.2 3 102.5 4 112.6	3.5 146.3 1.5 151.4 0.5 142.0	3 3.9 4 4.2 0 0.1	3 7/8 2 7/8 2 7/8 2 7/8	8" 3/4 8" 1" 8" 3/4	20 22 • 20	26 1,2 22 1,2 20 1,2	,5 ,5 ,5	8. 9. 10 11	 PC TO PROVIDE LASER ALIGNMENT IN FIELD. PC TO PROVIDE AND INSTALL MASON INERTIA BASE ON TOP OF 4" CONCRETE HOUSEKEEPING PAD. PC TO PROVIDE 4" CONCRETE HOUSEKEEPING PAD (PAD IN MECH 112 TO ACCOMMODATE ALL PUMPS, EXPANSION TANK, AND BYPASS FILTER FEEDER). SEE HEATING WATER SYSTEM PIPING DIAGRAM. 	
VAV-227I VAV-227J VAV-227K	PRICE SDV PRICE SDV PRICE SDV	6 6 5	270 270 100	225 225 65	0.19 0.19 0.03	22 22	5 225 5 225 - 65	11.9 11.9 4.2	55.0 55.0 55.0	103.5 3 103.5 3 112.6	3.5 152.0 3.5 152.0 0.5 142.0	5 2.1 5 2.1 0 0.1	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	19 19 19	19 1,2 19 1,2 20 1,2	,5 ,5 ,5	12 13 14	12. SEE CHILLED WATER SYSTEM PIPING DIAGRAM. 13. SEE NATURAL GAS WATER HEATER PIPING DIAGRAM. 14. PUMP SHALL BE STAINLESS STEEL CONSTRUCTION AND PROVIDED WITH SHUT-OFF FLANGES. PUMP SHALL ACCEPT 0-10VDC INPUT FROM TC FOR SPEED CONTROL. TIMER & AQUASTAT CONTROL BY	TC.
VAV-227L VAV-227M VAV-S201	PRICE SDV PRICE SDV PRICE SDV	8 8 10	490 430 690	360 430 280	0.26 0.20 0.24	··· 22	0 360 - 430 - 385	18.9 14.5 10.5	55.0 55.0 55.0	103.3 5 85.9 80.0	5.5 152.0 1.5 139.1 0.5 114.3	6 6.0 1 0.6 5 0.1	2 7/8 2 7/8 2 7/8	8" 1" 8" 3/4 8" 3/4	2: 2: 2:	22 1,2 22 1,2 29 1,2	,5 ,5 ,5		EXPANSION TANK SCHEDULE	ET
VAV-S333	PRICE SDV	10	820	820	0.32		- 820 SERVED	33.7 FROM AHU-2	55.0	92.9 5	5.5 146.	7 7.6	2 7/8	8" 1"	29	29 1,2	,5 EQUIF	. ,	MANUFACTURER & MODEL SERVING LOCATION CALCULATED SYSTEM VOLUME SYSTEM VOLUME WITH SAFETY TEMP RANGE (°F) PRESSURE RANGE (PSIG) REQ'D TANK ACTUAL ACCEPTANCE ACTUAL ACCEPTANCE SHIPPING WEIGHT	
VAV-104 VAV-105 VAV-106	PRICE SDV PRICE SDV PRICE SDV	10 5	840 120	670 100	0.33		- 670 - 100	17.3	55.0 55.0	78.7 84.1	1.0 122.4 0.5 145.4	5 0.4 9 0.3	2 7/8 2 7/8 1 1/2	8" 3/4 2" 3/4	29	19 1,2 29 1,2 18 1,2 10 1,0	,5 ,5 ,5	1	Image: Constraint of the second sec	1,2, 5,6
VAV-107 VAV-108 VAV-110	PRICE SDV PRICE SDV PRICE SDV	6 6	120 200 210	100 130 85	0.02 0.11 0.12	22 22	- 100 0 145 1 150	6.1 7.6	55.0 55.0 55.0	93.0 (101.1	0.5 145.3 0.5 133.3 1.0 143.0	0.3 7 0.1 6 0.2	1 1/2 2 7/8 2 7/8	2" 3/4 8" 3/4 8" 3/4	- 14 - 19 - 19	18 1,2 19 1,2 19 1,2	,5 ,5 ,5 ET-	2	BELL & GOSSETT B130 NEW CHILLED WATER LOOP MECH/ELEC 147 930 1395 60 40 33.5 21.7 31.14 7.67 34.0 34.0 125 + WATER 125 + WATER AMERICAN WHEATLEY BDT-009 DOMESTIC WATER SYSTEM WATER ENTRY 160 - - 140 40 150 60 2.8 1.5 9.0 9.0 28 + WATER AMERICAN WHEATLEY BDT-009 WATER SYSTEM ENTRY 160 - - 140 40 150 60 2.8 1.5 9.0 9.0 28 + WATER	1,3,4 7,8, 10
VAV-111 VAV-112 VAV-113	PRICE SDV PRICE SDV PRICE SDV PRICE SDV	6 6 6	210 210 210	85 85 85	0.12 0.12 0.12	22 22 22	1 150 1 150 1 150 1 150	7.6 7.6 7.6	55.0 55.0 55.0	101.1 1 101.1 1 101.1	1.0 143.0 1.0 143.0 1.0 143.0 1.0 143.0	6 0.2 6 0.2 6 0.2 6 0.2	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	" 1! " 1! " 1!	19 1,2 19 1,2 19 1,2 19 1,2	,5 ,5 ,5	5: 1. 2. 3. 4.	1. UNIT TO BE FLOOR MOUNTED VERTICAL ASME PRE-CHARGED BLADDER STYLE EXPANSION TANK. 2. EXPANSION TANK SIZING SHALL BE BASED ON 30% PROPYLENE GLYCOL. 3. EXPANSION TANK SIZING SHALL BE BASED ON 35% PROPYLENE GLYCOL. 4. PC TO PROVIDE & INSTALL 4* HIGH POURED CONCRETE HOUSEKEEPING PAD.	
VAV-115 VAV-117 VAV-118	PRICE SDV PRICE SDV PRICE SDV	8 6 6	490 200 200	200 80 80	0.25 0.11 0.11	2 2 2	0 320 0 140 0 140	8.8 7.3 7.3	55.0 55.0 55.0	80.1 0 102.7 102.7	0.5 121.9 1.0 144.7 1.0 144.7	0.1 1 0.2 1 0.2	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	2: 19 19	22 1,2 19 1,2 19 1,2	,5 ,5 ,5	5. 6. 7.	 SEE HEATING WATER SYSTEM PIPING DIAGRAM. PROVIDE & INSTALL B&G R-4 4* AIR SEPARATOR WITH STRAINER WITH PROPER SERVICE CLEARANCE AND PROPER PIPING TO FLOOR MOUNTED BLADDER STYLE EXPANSION TANK PER MANUFACTURER'S REQUIREMENTS. THE HEATING EXPANSION TANK HAS BEEN SIZED FOR 1110 GALLONS, WHICH IS 1.5 TIMES THE CALCULATED VOLUME OF 740 GALLONS. THE CHILLED EXPANSION TANK HAS BEEN SIZED FOR 1395 GALLONS, WHICH IS 1.5 TIMES THE CALCULATED VOLUME OF 930 GALLONS. 	
VAV-119 VAV-120 VAV-121	PRICE SDV PRICE SDV PRICE SDV	6 6 6	200 200 200	80 80 80	0.11 0.11 0.11	22 22 22	0 140 0 140 0 140	7.3 7.3 7.3	55.0 55.0 55.0	102.7 1 102.7 102.7	1.0 144. 1.0 144. 1.0 144. 1.0 144.	1 0.2 1 0.2 1 0.2	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	" 19 " 19 " 19	19 1,2 19 1,2 19 1,2	,5 ,5 ,5	9. 10.	9. PROVIDE & INSTALL B&G R-5 * AIR SEPARATOR WITH STRAINER WITH PROPER SERVICE CLEARANCE AND PROPER PIPING TO FLOOR MOUNTED BLADDER STYLE EXPANSION TANK PER MANUFACTURER'S REQUIREMENTS. 10. PC TO PROVIDE & INSTALL IN-LINE, ASME PRE-CHARGED FULL ACCEPTANCE BLADDER STYLE EXPANSION TANK.	
VAV-122 VAV-124 VAV-133	PRICE SDV PRICE SDV PRICE SDV	6 6 10	200 200 750	80 80 435	0.11 0.11 0.27	··· 22 ··· 22	0 140 0 140 - 640	7.3 7.3 17.1	55.0 55.0 55.0	102.7 1 102.7 79.5	1.0 144. 1.0 144. 1.0 144. 1.0 123.	1 0.2 1 0.2 0 0.4	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	" 1! " 1! " 2!	19 1,2 19 1,2 29 1,2	,5 ,5 ,5		HOT WATER CABINET UNIT HEATER	
VAV-137 VAV-138 VAV-141	PRICE SDV PRICE SDV PRICE SDV	6 5 5	240 90 140	100 65 90	0.15 0.02 0.03	··· 2	2 170 - 75 - 100	6.4 2.9 3.3	55.0 55.0 55.0	89.4 (88.9 (84.1	0.5 132. 0.5 147.0 0.5 147.0	1 0.1 6 0.3 9 0.3	2 7/8 1 1/2 1 1/2	8" 3/4 2" 3/4 2" 3/4	• 19 • 18	19 1,2 18 1,2 18 1,2	,5 ,5 ,5	JIP. O.	P. MANUFACTURER & MODEL LOCATION CFM MBH GPM LAT EWT LWT WPD (FT) HP V/PH/CY RPM FLA SIZE (LBS)	
VAV-150 VAV-151 VAV-152	PRICE SDV PRICE SDV PRICE SDV	6 6 6	210 210 210	85 85 85	0.12 0.12 0.12	·· 22	1 150 1 150 1 150	7.6	55.0 55.0	101.1 1 101.1	1.0 143.0 1.0 143.0 1.0 143.0	5 0.2 5 0.2 5 0.2	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	" 19 " 19	19 1,2 19 1,2 19 1,2	,5 ,5 ,5 ,5	- 100A - 100B	OOA SIGMA SFF-A-04-SRI VEST 100A 400 26.4 2.5 123.3 160.0 135.0 1.05 1/10 120/1/60 1075 1.7 1" 125 + WATER 1,2,3,4,5,6,9 00B SIGMA SFF-A-06-SRI VEST 100B 600 42.8 3.5 128.4 160.0 131.0 0.94 1/10 120/1/60 1075 1.7 1" 125 + WATER 1,2,3,4,5,6,9	,7 ,7
VAV-153 VAV-205	PRICE SDV PRICE SDV PRICE SDV	6	210 420	85 170	0.12	2	1 150 - 295	7.6	55.0 55.0	101.1 1 97.5	1.0 143.0 2.0 145.2 1.5 142.2	5 0.2 2 1.0	2 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	11	19 1,2 22 1,2 23 1,2	,5 ,5 ,5 NOTE	-114A S: 1.	14A SIGMA SFF-A-06-SRI STAIR 114A 600 42.8 3.5 128.4 160.0 131.0 0.94 1/10 120/1/60 1075 1.7 1" 125 1,2,3,4,5,6,9 : 1. UNIT SHALL BE SEMI RECESSED. INVERTED AIR FLOW WALL MOUNTED TYPE AND SHALL BE MOUNTED AT 8" A.F.F. ARBANTEMENT 101 - FRONT TOP IN. FRONT BOTTOM OUT.	,7
VAV-211 VAV-212A	PRICE SDV PRICE SDV PRICE SDV	8 10	440 965	300 480	0.21		- 390 - 965	15.4	55.0 55.0	91.4 2 79.1	2.0 143.3 2.0 132.0 132.0 132.0	3 1.0 3 1.3	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4	2	1,2 1,2 29 1,2 26	,5 ,5	2. 3. 4. 5.	 PERFORMANCE BASED ON 30% PROPYLENE GLYCOL. UNIT MOUNTED 3 SPEED SWITCH. UNIT TO BE CONFIGURED FOR FIELD INSTALLED DDC CONTROLS. CUSTOM COLOR BAKED ENAMEL, STANDARD COLOR NOT ACCEPTABLE. CUSTOM COLOR TO BE SELECTED BY ARCHITECT. SEE CABINET UNIT HEATER PIPING DETAIL. 	
VAV-212B VAV-213 VAV-215	PRICE SDV PRICE SDV PRICE SDV	12 12 10	1320 910	995 730	0.49		- 1443 - 995 - 730	29.3 17.7	55.0 55.0	82.1 (77.3	2.0 128.1 1.0 121.1	2 1.6 7 0.4	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4 8" 3/4	30 30 29	36 1,2 36 1,2 29 1,2	,5 ,5	6. 7.	 PROVIDE WITH (1) ADDITIONAL SET OF DISPOSABLE FILTERS. PROVIDE UNIT WITH FACTORY INSTALLED MANUAL STARTER DISCONNECT (NO OVERLOADS). 	
VAV-218 VAV-219 VAV-M300	PRICE SDV PRICE SDV PRICE SDV	6 12	200 200 1320	80 80 530	0.08 0.41	··· 2 ··· 2	0 140 0 140 - 730	6.3 6.3 19.8	55.0 55.0 55.0	96.1 (96.1 (80.0	3.0 155.4 3.0 155.4 1.0 117.0	4 5.8 4 5.8 0 0.5	1 1/2 1 1/2 2 7/8	2" 3/4 2" 3/4 8" 3/4	" 11 " 31	17 1,2 17 1,2 36 1,2	,5 ,5		HOT WATER HANGING UNIT HEATER	HU
VAV-N333 VAV-100	PRICE SDV PRICE SDV	8 24x16	380 4810	380 1925	0.17	30 2	- 380 SERVED 6 2550	12.5 FROM AHU-3 0 69.2	55.0	85.2 1	7.0 138.0	0.3 0 12.5	2 7/8	8" 3/4	8	22 1,2 83 1,2	,5 ,5 EC	QUIP.	IP. MANUFACTURER & MODEL LOCATION CFM MBH GPM LAT EWT LWT WPD ELECTRICAL RUNOUT UNIT WEIGHT NOTE:	
VAV-101 VAV-102 VAV-103	PRICE SDV PRICE SDV PRICE SDV	14 14 6	1560 1550 310	1230 1550 125	0.31 0.30 0.24	2	- 1230 - 1550 2 205	0 35.3 0 40.8 11.6	55.0 55.0 55.0	81.4 2 79.2 2 106.6	2.0 121.8 2.5 124.7 4.0 153.7	3 0.7 7 1.1 7 2.6	2 7/8 2 7/8 2 7/8	8" 3/4 8" 3/4 8" 1"	* 41 * 41	47 1,2 47 1,2 19 1,2	,5 ,5 ,5 HU	NU. H-161	J. LOADING/RECEIVING /DOCK/ACTIVE 590 34.0 3.4 86.7 160 136 0.39 1/8 120/1/60 1550 1.4 3/4" 48 + WATED 1,2,3,4	,5,
VAV-103A VAV-200 VAV-201	PRICE SDV PRICE SDV PRICE SDV	6 24x16 14	230 2970 1590	95 1215 1540	0.19 0.33 0.32	2 24 2 	2 175 1 2075 - 1540	13.0 5 78.0 0 47.9	55.0 55.0 55.0	123.2 3 89.7 4 83.7	3.5 151.9 4.5 122.4 3.5 130.4	3.0 4 3.9 4 2.0	3 7/8 2 7/8 2 7/8	8" 3/4 8" 1" 8" 3/4	" 2 93	21 1,2 93 1,2 47 1,2	,5 ,5 ,5	1-M300	STOR 161 M300 SIGMA CORP 084-H MECH PENTHOUSE M300 970 53.5 6.3 91.9 160 140 1.78 1/6 120/1/60 1625 1.8 1" 76 + WATER 1,2,3,4	.,5,
VAV-202 VAV-203 NOTES: 1.	PRICE SDV PRICE SDV SOUND DATA SHALL BE TAKEN	12 14 FROM ARI STAND	1260 1580)ARD 880	1260 635 (LATEST ED	0.39 0.31 DITION) P		- 1260 - 1050) 31.4) 29.5	55.0 55.0	77.9 2	2.0 126.0 1.5 117.4	0 1.6 4 0.5	2 7/8 2 7/8	8" 3/4 8" 3/4	- 30 - 41	36 1,2 47 1,2	,5 ,5	ES: 1 2 3	 UNIT SHALL BE HORIZONTAL, PROPELLER UNIT HEATER. PERFORMANCE BASED ON 30% PROPYLENE GLYCOL. PROVIDE WITH UNIT MOUNTED 3 SPEED SWITCH. UNIT TO BE CONFIGURED FOR FIELD INSTALLED DDC CONTROLS. 	
2. 3. 4. 5.	INLET STATIC PRESSURE FOR PERFORMANCE BASED ON 30% F LH OR RH CONNECTION ON CO SEE VAV HEATING COIL PIPIN	TERMINAL SELEC ROPYLENE GLYCO L PIPING VARIE G DETAIL.	CTION IS DL ES, SEE	1.0". TER PLAN.	RMINAL'S.	P. INCLUDES	COIL APD.											5	5. STANDARD GRAY BARED ENAMEL FINISH. 6. PROVIDE UNIT WITH FACTORY INSTALLED MANUAL MOTOR STARTER DISCONNECT (NO OVERLOADS).	
6.	PROVIDE UNIT WITH OVERSIZE	D CASING.																		FTR
		DUCTL	_ES	S SI	PLI	T SY	STEN	/ IN	DOO	R UN	IIT	SCHE	DULE				EQUIP	. _{ма}	MANUFACTURER & MODEL TYPE AND/OR MOUNTING CAPACITY LOCATIONS WATER TEMP GPM/ TIME FIN NOTES	 s
EQUIP. NO.	MANUFACTURER & MODEL	SERVIN	IG	COOLIN Capaci (BTU/HR	IG TY 1.) (HEATING Capacity Btu/hr @47f)	REFRIGE	RANT PIPIN SUCTIO	IG DN V./PH.	ELECTRICAL	MOCP	DIM	MENSIONS WIDTH D	U WE EPTH (L	NIT IGHT .BS)	NOTES	RAD	XD	D RUNTAL R2F-2 DOUBLE PANEL / PEDESTAL VARIES MULTIPLE LOCATIONS 150 0.1 3/4* N/A 32 754 SEE PLAN 2 N/A SEE PLAN 5-3/4* 3-3/8* 1,2,3,4	,5,9
DSA-115 DSA-147	DAIKIN FTXS24LVJU (WALL MOUNT) DAIKIN FTXS24LVJU (WALL MOUNT)	MDF 11 MECH/ELEC	5 : 147	21,50	0 0	25,400 25,400	1/4"	5/8" 5/8"	208/1	1/60 N/A 1/60 N/A	N/A 1 N/A 1	3-3/8" 41 3-3/8" 41	1-5/16" 9- 1-5/16" 9-	-3/4" 3 -3/4" 3	1.0	1,2,3,4	RAD - RAD -	XP XW	P RUNTAL RF-2 SINGLE PANEL / PEDESTAL VARIES MOLIFICE LOCATIONS 150 0.1 3/4* N/A 32 411 PLAN 2 N/A 9LL 5-3/4* 1-5/8* 1,2,3,4,5 N RUNTAL RF-2 SINGLE PANEL / WALL MOUNT VARIES MULTIPLE LOCATIONS 150 0.1 3/4* N/A 32 411 SEE PLAN 2 N/A SEE PLAN 5-3/4* 1-5/8* 1,2,3,4,5 N RUNTAL RF-2 SINGLE PANEL / WALL MOUNT VARIES MULTIPLE LOCATIONS 150 0.1 3/4* N/A 32 411 SEE PLAN 2 N/A SEE PLAN 5-3/4* 1-5/8* 1,3,5,6	,5,9 8,9
NOTES: 1. 2. 3. 4.	VC TO PROVIDE & INSTALL OPT UNIT POWER IS FED FROM AND PROVIDE WITH (1) ADDITIONAL PC TO PROVIDE AND INSTALL 1	IONAL HARDWIRED IS INCLUDED IN REPLACEABLE FI -1/4" INSULATED	REMOTE SCHEDULI LTER FOI	T-STAT. ED ELECTRICA R OWNER'S US PVC CONDENS	AL DATA F SE. SATE PIPI	OR ASSOCIATED	OUTDOOR UNI AS SHOWN ON	T. PLANS.									FTR	-X S S: 1.	SIGMA WALLFIN-44C075 CU-AL / STYLE "S" SLOPE TOP VARIES COMMONS/ SPACE 100 150 0.1 3/4" 4" SQ. 48 822 SEE 1 1 1,4,6, 1. PERFORMANCE BASED ON 30% PROPYLENE GLYCOL.	,7
5.	PROVIDE WITH OPTIONAL CONDE	NSATE LIFT PUMP	P. PC TO	INSTALL, EC	C TO WIRE	TO INDOOR UN	IT.											2. 3. 4. 5.	 PROVIDE PIPING COVERS, CONRENS, ACCESS TO VALVES. PROVIDE PIPING COVERS, CONRENS, ACCESS TO VALVES. PROVIDE PEDESTALS TO SUPPORT PIPING. COLOR SHALL BE CUSTOM COLOR SELECTED BY ARCHITECT. STANDARD COLOR WILL NOT BE ACCEPTABLE. PROVIDE FIFING FUENTIAL 	
	[DUCTL	ES	S SP	LI.	r sys	STEM	0 U1	TDOC)R U	NIT	SCHE	EDULE			DSC		0. 7. 8. 9.	 ADDIC LELEMENT, NO ENDEDONE. RADIATION SHALL BE INDICATED ON PLAN & MOUNTED PER MANUFACTURER'S RECOMMENDATIONS. SEE UNDER-BENCH RADIATION PIPING DETAIL. RADIATION SHALL BE INDICATED ON PLAN & MOUNTED WITH FACTORY WALL MOUNTING ABOVE FLOOR TRIM (4" AFF) PER MANUFACTURER'S RECOMMENDATIONS, SEE PANEL RADIATION PIPING DETAIL. RADIATION SHALL BE INDICATED ON PLAN & MOUNTED WITH FACTORY WALL MOUNTING ABOVE FLOOR TRIM (4" AFF) PER MANUFACTURER'S RECOMMENDATIONS, SEE PANEL RADIATION PIPING DETAIL. COORDINATE PEDESTAL MOUNTING HEIGHT IN ROOMS WITH BOTH WALL MOUNTED AND PEDESTAL MOUNTED RADIATION SUCH THAT ALL RADIATION IS MOUNTED AT THE SAME HEIGHT. 	
EQUIP. NO.	MANUFACTURER & MODEL	SERVING	C00 CAP/ (BTI	LING ACITY J/HR)	HEATI Capac (btu/hr	NG ITY @47F) LIQ	IGERANT PIF	PING ION V./P	ELECTF	ICAL	P HEIG	DIMENS	SIONS OTH DEP	UN WEIG	IT GHT IS)	NOTES				SP
DSC-115	DAIKIN RXS24LVJU	DSA-115	7,8	300 - ,500 300 -	7,80 25,4 7,80	0- 00 1/ 0-	4" 5/8	3" 208	3/1/60	17.5 20	30-5/	16" 35-7/	/16" 12-5	/8" 159	.0	1,2,3	EQUI	:P.	MANUFACTURER & MODEL LOCATION GPM HEAD SIZE MOTOR NOTES	
NOTES: 1.	PROVIDE & INSTALL PRE-I PROVIDE & INSTALL POWDER CO	NSULATED REFR	21 IGERANT BRACKE	,500 LINESETS. F WITH VIBRA	25,4 LINESE ATION ISO	DO TS AND INSUL LATION FOR IN	ATION TO BI	E INSTALLE	D NEATLY	IN CEILING NTHOUSE M3	.00 (DSC-115	i) AND LOADI	ING/RECEIVING	G 161 (DSC-	147).	1,2,3		-1	Image: Constant and	
	DISCONNECT PROVIDED & I	NOTALLED DT EV															NOTE	S: 1 2 3	 PROVIDE 20' CORD WITH 3 PRONG PLUG. PROVIDE AND INSTALL 2" PVC TRI-CHECK COMBINATION CHECK VALVE, BALL VALVE, AND UNION. PROVIDE SJE-RHOMBUS TANK ALERT AB, HIGH WATER ALARM WITH PANEL, LIGHT, HORN, TEST AND SILENCE SWITCHES, BATTERY BACK-UP, FLOAT SWITCH, 6' POWER CORD, 30' FLOAT SWITCH CORD. 	
ļ				A	IR	COMI	PRES	SOR	SCH	IEDU	LE				1			4 5 6	 *** FROUTURE & INSTALL TOPE #FB24AU30F 24-A30- DEEP FIBEHGLASS BASIN WITH ANTI-FLUTATION FLANGE, TOPP #C24SSL SIMPLEX STEEL COVER WITH 2" VENT & 2" DISCHARGE, TOPP #G400 PIPE GROMMET. 5. DRAIN TILE BY STRUCTURAL CONTRACTOR. 6. INSTALL PANEL IN CUST 204A. 7. SEE SUMP BASIN & PUMP PIPING DETATION 	
EQUIP. NO.	MANUFACTURER & MODEL	SERVING	LOCA		ACFM	STORAGE PRESSURE (PSIG)	COMPRESS TYPE	OR COMPR	ESSOR T/	ANK TYPE	TANK SIZE	HP (W) F	ELECTRICAL RPM V./PH./O	CY. FLA	WEIGHT (LBS)	r NOTI			/. SEE SUMF DASIN & FUMP FIFING DETAIL.	
AC-1 NOTES: 1	PROVIDE WITH SPRING VIE START-UP.	SIM LAB SYSTEMS RATION ISOLAT	ME PENTHO ORS, IN	USE 300	26.6	175 IUM PACKAGE,	SIMPLEX	RESSURE SWI	25 V ITCH, EXTE	ERTICAL	80 GAL R WARRANTY	7-1/2 1 KIT, ONE SI	800 208/3/ PARE BELT, AM	0 24.2 ND FACTORY	611 AUTHORIZ	1,2,3,4 ZED	ô,7		WATER HEATER SCHEDULE	
2 3 4 5	 PROVIDE UNIT WITH CONTR PROVIDE INGERSOLL RAND PROVIDE ONE MODEL F711G PC TO PROVIDE ADJUSTABL 	UL PANEL WITH D54IN NON-CYCI 3/4" NPT GENI E PRESSURE REC	MAGNET LING, A ERAL PU GULATOR	IC MOTOR S IR-COOLED, RPOSE FILT 0-125 PSI	IARTER. 115V/1 ER AND (G.	/60, 370W, R DNE MODEL F7	EFRIGERATED 1IH 3/4" NF	D AIR DRYEF PT HIGH EFF	R. FICIENCY f	'ILTER.							EQUIP. No.	. MA	$\frac{MANUFACTURER \&}{MODEL} \ \frac{FUEL}{SOURCE} \ \frac{FUEL}{SOURCE} \ \frac{LOCATION}{CAPACITY} \ \frac{STORAGE}{(GAL)} \ \frac{RECOVERY @}{90F RISE} \ \frac{OF}{90F RISE} \ \frac{OF}{CELEMENTS} \ \frac{LEMENT}{(MBH)} \ \frac{INPUT}{(MBH)} \ \frac{AFUE &}{MBH} \ \frac{ELEMENT}{(MBH)} \ \frac{LECTRICAL}{MBH} \ \frac{ELEMENT}{V./PH./CY.} \ \frac{RU}{KW} \ \frac{AMPS}{KW} \ \frac{C.W.}{KW} \ \frac{HW}{KW} \ \frac{HEIGHT}{(IN)} \ \frac{DIMENSIONS}{(IN)} \ \frac{OPERATING}{WEIGHT} \ \frac{MEIGHT}{(IN)} \ $	OTES
6.7	. PC IO PROVIDE 4" CONCRE . SEE AIR DROP TO COMPRES	IE HOUSEKEEPII SOR DETAIL.	NG PAD.														WH-1	A.0.	A.O. SMITH CYCLONE BTH-199 DOMESTIC HOT WATER NAT. GAS WATER ENTRY 160 100 235 199.9 97 120/1/60 5 1 1/2" 1 1/2" 76.5" 27.75" 523 + WATER 1,2,7 1. P.C. TO PROVIDE & INSTALL 4" POURED CONCRETE HOUSEKEEPING PAD. 2. SEE NATURAL GAS WATER HEATER PIPING DETAIL. 199.9 97 120/1/60 5 1 1/2" 1 1/2" 76.5" 27.75" 523 + WATER 1,2,7	3,4,
																		2. 3. 4. 5.	 PROVIDE & INSTALL WATTS LAWLER EMX075 DIGITAL WATER TEMPERING SYSTEM WITH DIGITAL MIXED OUTLET TEMPERATURE CONTROL & MONITORING. 120V POWER & PLUG PROVIDED & INSTALLED BY EC. DOMESTIC HOT WATER TO BE STORED AT 140°F AND TEMPERED TO 120°F. PROVIDE & INSTALL CONDENSATE DRAIN PIPING WITH CONDENSATE NEUTRALIZER TO FLOOR SINK PER MANUFACTURER'S RECOMMENDATIONS. CONDENSATE DRAIN PIPING TO BE SUPPORTED APPROXIMATELY 6° ABOVE FINISHED FLOOR WITH SPLIT RING STANDOFFS WITH ELBOW DOWN INTO OPEN QUARTER OF FLOOR SINK GRATE. PROVIDE UNIT WITH EXTENDED 15 YEAR WARARATY. 	
																		б.		

50 378.6 321.4 77.3/64.0 54.7/54.2 520 54.6 83.4 6.5 4 2 1/2" 11505 159.9 53.1 65.8 479 138.6 5	QTY SIZE 5.9 1.7 4 1 1/2" 5726 1,2,3,4,5,6,7	B-1 SOLUTIONS MECH/FLEC 30% PROP 30 75 GAS 1500 417- FVS-4500 147 GLYCOL 30 75 GAS 1500 1,251 87% 135°F 17.4 1-1/2 120/1/60 8.3 +FLUID 1 THEMMAL MECH/FLEC 30% PROP 1477- THEMMAL MECH/FLEC 30% PROP 1477-
50 377.1 312.8 78.4/64.7 54.6/54.2 507 54.7 82.6 6.2 4 2 1/2" 10960 221.7 46.5 65.0 484 140.0 2 50 473.4 380.9 78.6/64.9 54.2/53.8 517 55.0 100.2 9.6 4 2 1/2" 13875 293.2 46.2 65.5 520 139.4 4	3.6 3.3 4 1 1/2" 5486 1,2,3,4,5,6,7 0.3 3.3 4 1 1/2" 6162 1,2,3,4,5,6,7	SOLUTIONS 147 GLYCOL 30 75 GAS 1500 1,251 87% 135°F 17.4 1-1/2 120/1/60 8.3 +FLUID 9,10,11,12,1 HERMAL SOLUTIONS MECH/ELEC 147 30% 75 NAT GLYCOL 500- 30 417- GAS 87% 135°F 17.4 1-1/2 120/1/60 8.3 +FLUID 9,10,11,12,1 HERMAL SOLUTIONS MECH/ELEC 147 30% 75 NAT GAS 500- 1,251 417- 87% 135°F 17.4 1-1/2 120/1/60 8.3 1,327 +FLUID 1
		D-2 IHERMAL SOLUTIONS FVS-1500 MECH/ELEC 147 30% PROP GLYCOL 30 75 NAT GAS 500- 1500 417- 1,251 87% 135°F 17.4 1-1/2 120/1/60 8.3 1,327 +FLUID 2,3,4,5,6,7 NOTES: 1. UNDER BASE BID, RELOCATE EXISTING BOILER FROM EXISTING LINCOLN HALL. Solution
		 UNITS SHALL BE COMPLETE WITH ALL NECESSARY SAFETIES AND CONTROLS TO MEET ON EXCEED U.L. AND SOUTH DAKOTA CODE REQUIREMENTS. VC TO PROVIDE & INSTALL 9" AL29-4C DOUBLE WALL WITH 1" CERAMIC INSULATION THROUGH ROOF, SEE SECTIONS FOR VENT LENGTH. TERMINATE WITH RAIN CAP SEE PLANS FOR HEIGHT OF TERMINATION ABOVE TOP OF FAUX CHIMNEY PER MANUFACTURER'S RECOMMENDATIONS. INSTALL GUY WIRES IF REQUIRED BY VENTING MANUFACTURER. PC TO PROVIDE AND INSTALL 8" PVC COMBUSTION AIR INTAKE TO INTAKE PLENUM ON LV-21.
VAV TERMINAL SCHEDULE	VAV	 ALL ROOFING WORK TO BE BY ROOFING CONTRACTOR, VC & PC TO COORDINATE. UNIT PERFORMANCE SHALL BE BASED ON 30% PROPYLENE GLYCOL. PROVIDE AND INSTALL 4" CONCRETE HOUSEKEEPING PAD AND BOILER BLOWDOWN PIT, SEE PLANS. PROVIDE WITH FACTORY INSTALLED LOW WATER CUT-OFF AND FACTORY AUTHORIZED STARTUP.
EQUIP. NO. MANUFACTURER & MODEL INLET SIZE CFM MAX SIZE CFM MIN CFM MAX CFM MAX CFM MAX TERM APD NC NC NC CFM MIN NC NC CFM MIN CFM MIN CFM MIN CFM MIN CFM MIN MAX CFM MIN CFM MIN CF	COIL RUNOUT WEIGHT CONN. SIZE SIZE (LBS.) NOTES	 PROVIDE & INSTALL BOILER DRAIN VALVE AND EXTEND DRAIN PIPING TO FLOOR SINK. DRAIN PIPING TO BE SUPPORTED APPROXIMATELY 6" AFF WITH SPLIT RING STANDOFFS WITH ELBOW DOWN TO FLOOR SINK SUCH THAT CONDENSATE DOES NOT POOL ON FLOOR OR TOP LEDGE OF FLOOR SINK. ROUTE TO MINIMIZE TRIPPING HAZARDS. VC TO PROVIDE & INSTALL VENTING DRAIN T SECTION INTO BOILER. CONDENSATE DRAIN PIPING FROM BOILER FLUE TO BE ROUTED TO FLOOR DRAIN BEHIND BOILERS WITH TRAP PER MANUFACTURE'S RECOMMENDATIONS.
SERVED FROM AHU-1 VAV-125 PRICE SDV 6 200 80 0.11 20 150 8.0 55.0 103.8 1.5 148.4 VAV-126 PRICE SDV 6 200 80 0.11 20 150 8.0 55.0 103.8 1.5 148.4	0.5 2 7/8" 3/4" 19 1,2,3,4,5 0.5 2 7/8" 3/4" 19 1,2,3,4,5	11. UNIT TO BE INSTALLED WITH MANUFACTURER'S RECOMMENDED MINIMUM CLEARANCES. 12. PROVIDE & INSTALLE TEMPERATURE & PRESSURE GAUGES TO TROUBLESHOOT PUMP & BOILERS, SEE HEATING WATER SYSTEM PIPING DIAGRAM. 13. PROVIDE & INSTALL UNDER ADD ALTERNATE IN LIEU OF RELOCATING EXISTING BOILER. SEE PLANS FOR ADDITIONAL INFORMATION.
VAV-127 PRICE SDV 6 200 80 0.11 20 150 8.0 55.0 103.8 1.5 148.4 VAV-128 PRICE SDV 6 200 80 0.11 20 150 8.0 55.0 103.8 1.5 148.4 VAV-128 PRICE SDV 6 200 80 0.11 20 150 8.0 55.0 103.8 1.5 148.4	0.5 2 7/8" 3/4" 19 1,2,3,4,5 0.5 2 7/8" 3/4" 19 1,2,3,4,5 0.5 2 7/8" 3/4" 19 1,2,3,4,5	14. POST STATE OF SOUTH DAKOTA BOILER INSPECTION REPORT IN MECH/ELEC 147.
VAV-129 PRICE SDV 6 200 80 0.11 20 150 6.0 35.0 105.8 1.5 146.4 VAV-130 PRICE SDV 6 200 80 0.11 20 150 8.0 55.0 103.8 1.5 148.4 VAV-131 PRICE SDV 5 160 65 0.07 160 11.7 55.0 121.9 1.5 143.1	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	PUMP SCHEDULE
VAV-142 PRICE SDV 24x16 2690 1435 0.28 23 21 2690 79.5 55.0 82.3 4.0 117.0 VAV-143 PRICE SDV 5 140 140 0.05 140 6.0 55.0 93.8 0.5 134.1 VAV-144 PRICE SDV 5 140 140 0.05 140 6.0 55.0 93.8 0.5 134.1	3.3 2 7/8" 1" 93 1,2,3,4,5 0.1 2 7/8" 3/4" 20 1,2,3,4,5 0.1 2 7/8" 3/4" 20 1,2,3,4,5 0.1 2 7/8" 3/4" 20 1,2,3,4,5	EQUIP. NO. MANUFACTURER & MODEL SERVING LOCATION GPM HEAD (FEET) TYPE ELECTRICAL Image: Mail of the second se
VAV-145 PRICE SDV 5 140 140 0.05 140 6.0 55.0 93.8 0.5 134.1 VAV-146 PRICE SDV 5 140 140 0.05 140 6.0 55.0 93.8 0.5 134.1 VAV-146 PRICE SDV 5 140 140 0.05 140 6.0 55.0 93.8 0.5 134.1 VAV-147 PRICE SDV 10 950 380 0.40 600 21.6 55.0 88.2 2.0 136.6	0.1 2 7/8" 3/4" 20 1,2,3,4,5 0.1 2 7/8" 3/4" 20 1,2,3,4,5 1.3 2 7/8" 3/4" 20 1,2,3,4,5	CP-1 BELL & GOSSETT E-90 2AAB BOILER CIRCULATOR FOR B-1 MECH/ELEC 147 125 20 IN-LINE 1-1/2 1800 208/1/60 10 67 1,2,11
VAV-154 PRICE SDV 6 210 85 0.12 21 135 8.1 55.0 109.5 2.0 151.3 VAV-155 PRICE SDV 6 210 85 0.12 21 135 8.1 55.0 109.5 2.0 151.3 VAV-155 PRICE SDV 6 210 85 0.12 21 135 8.1 55.0 109.5 2.0 151.3 VAV-156 PRICE SDV 6 210 85 0.12 21 135 8.1 55.0 109.5 2.0 151.3	0.8 2 7/8" 3/4" 19 1,2,3,4,5 0.8 2 7/8" 3/4" 19 1,2,3,4,5 0.8 2 7/8" 3/4" 19 1,2,3,4,5 0.8 2 7/8" 3/4" 19 1,2,3,4,5	CP-2 BELL & GOSSETT E-90 2AAB BOILER CIRCULATOR FOR B-2 MECH/ELEC 147 125 20 IN-LINE 1-1/2 1800 208/1/60 10 67 1,2,11
VAV-157 PRICE SDV 6 210 85 0.12 21 135 8.1 55.0 109.5 2.0 151.3 VAV-158 PRICE SDV 6 210 85 0.12 21 135 8.1 55.0 109.5 2.0 151.3 VAV-158 PRICE SDV 6 210 85 0.12 21 135 8.1 55.0 109.5 2.0 151.3 VAV-159 PRICE SDV 6 310 125 0.27 22 250 18.9 55.0 124.6 5.0 151.8	0.8 2 7/8" 3/4" 19 1,2,3,4,5 0.8 2 7/8" 3/4" 19 1,2,3,4,5 7.3 3 7/8" 1" 26 1,2,3,4,5	CP-3 BELL & GOSSETT E-1510 3BD HEATING WATER LOOP MECH/ELEC 147 290 50 BASE MOUNTED END SUCTION 7.5 1800 208/3/60 24.2 377 1,2,4,5,6,7,8,10, CP-4 BELL & GOSSETT BACKUP HATING MECH/ELEC MECH/ELEC 290 50 BASE MOUNTED END SUCTION 7.5 1800 208/3/60 24.2 377 1,2,4,5,6,7,8,10,
VAV-161 PRICE SDV 5 150 75 0.06 150 11.8 55.0 127.0 2.0 147.2 VAV-200 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5 VAV-200 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	CP-5 BELL & GOSSETT E-1510 3EB PRIMARY WATER LOOP MECH/ELEC 147 280 105 BASE MOUNTED END SUCTION 20 1800 208/3/60 59.4 582 1,3,4,5,6,7,8,9,10
VAV-221 PHILE SUV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5 VAV-222 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5 VAV-223 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5	0.8 2 7/8* 3/4* 19 1,2,3,4,5 0.8 2 7/8* 3/4* 19 1,2,3,4,5 0.8 2 7/8* 3/4* 19 1,2,3,4,5 0.8 2 7/8* 3/4* 19 1,2,3,4,5	CP-6 BELL & GOSSETT E-1510 3EB PRIMARY CHILLED WATER LOOP MECH/ELEC 147 280 105 BASE MOUNTED END SUCTION 20 1800 208/3/60 59.4 582 1,3,4,5,6,7,8,9,10
VAV-224 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5 VAV-225 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5 VAV-225 PRICE SDV 6 200 80 0.11 20 130 7.9 55.0 110.3 2.0 151.5 VAV-226 PRICE SDV 5 160 65 0.09 160 11.3 55.0 119.5 2.0 147.8	0.8 2 7/8" 3/4" 19 1,2,3,4,5 0.8 2 7/8" 3/4" 19 1,2,3,4,5 1.1 3 7/8" 3/4" 22 1,2,3,4,5	CP-7 BELL & GOSSETT ECOCIRC+ 20-18 DOMLOTION HOT WATER RECIRC WATER ENTRY 160 5.0 15 IN-LINE (70) 4518 120/1/60 1.02 10 1,13,14 NOTES: 1. PC TO PROVIDE & INSTALL PRESSURE GAUGE WITH ISOLATION VALVES ACROSS PUMP SUCTIONS & DISCHARGE FOR BALANCING PURPOSES. PROVIDE FACTORY AUTHORIZED START-UP.
VAV-227 PRICE SDV 14 1470 590 0.28 1005 33.3 55.0 85.5 2.0 124.0 VAV-227C PRICE SDV 8 430 0.20 430 14.5 55.0 85.9 1.5 139.1 VAV-227D PRICE SDV 8 380 345 0.26 345 22.5 55.0 115.1 4.0 147.8	0.7 2 7/8" 3/4" 47 1,2,3,4,5 0.6 2 7/8" 3/4" 22 1,2,3,4,5 4.9 3 7/8" 1" 26 1,2,3,4,5	 PERFORMANCE BASED ON 30% PROPYLENE GLYCOL. PERFORMANCE BASED ON 35% PROPYLENE GLYCOL. T.C. TO PROVIDE VFD, E.C. TO INSTALL. PROVIDE & INSTALL TRIPLE DUTY VALVE.
VAV-227E PRICE SDV 5 110 70 0.04 70 4.3 55.0 110.8 0.5 141.3 VAV-227F PRICE SDV 8 350 350 0.22 350 22.2 55.0 113.2 3.5 146.3 VAV-227C PRICE SDV 8 480 345 0.25 20 345 17.8 55.0 112.5 4 5 14 5 14 5 14 5 5 14 5 <td< td=""><td>0.1 2 7/8" 3/4" 20 1,2,3,4,5 3.9 3 7/8" 3/4" 26 1,2,3,4,5 4.2 2 7/8" 1" 22 1,2,3,4,5</td><td> PROVIDE & INSTALL SUCTION DIFFUSER. PROVIDE WITH SHAFT GROUNDING KITS. PC TO PROVIDE LASER ALIGNMENT IN FIELD. PC TO PROVIDE AND INSTALL MASON INERTIA BASE ON TOP OF 4" CONCRETE HOUSEKEEPING PAD. </td></td<>	0.1 2 7/8" 3/4" 20 1,2,3,4,5 3.9 3 7/8" 3/4" 26 1,2,3,4,5 4.2 2 7/8" 1" 22 1,2,3,4,5	 PROVIDE & INSTALL SUCTION DIFFUSER. PROVIDE WITH SHAFT GROUNDING KITS. PC TO PROVIDE LASER ALIGNMENT IN FIELD. PC TO PROVIDE AND INSTALL MASON INERTIA BASE ON TOP OF 4" CONCRETE HOUSEKEEPING PAD.
VAV-227H PRICE SDV 5 100 65 0.19 65 4.2 55.0 112.6 0.5 142.0 VAV-227H PRICE SDV 5 100 65 0.33 65 4.2 55.0 112.6 0.5 142.0 VAV-227I PRICE SDV 6 270 225 0.19 25 225 11.9 55.0 103.5 3.5 152.6	1 2 7/8 3/4 20 1,2,3,4,5 2.1 2 7/8 3/4 19 1,2,3,4,5	10. PC TO PROVIDE 4" CONCRETE HOUSEKEEPING PAD (PAD IN MECH 112 TO ACCOMMODATE ALL PUMPS, EXPANSION TANK, AND BYPASS FILTER FEEDER). 11. SEE HEATING WATER SYSTEM PIPING DIAGRAM. 12. SEE CHILLED WATER SYSTEM PIPING DIAGRAM. 13. SEE NATURAL GAS WATER HEATER PIPING DIAGRAM.
VAX-227J PRICE SDV 6 270 225 0.19 25 225 11.9 55.0 103.5 3.5 152.6 VAV-227K PRICE SDV 5 100 65 0.03 65 4.2 55.0 112.6 0.5 142.0 VAV-227L PRICE SDV 8 490 360 0.26 20 360 18.9 55.0 103.3 5.5 152.6	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	14. PUMP SHALL BE STAINLESS STEEL CONSTRUCTION AND PROVIDED WITH SHUT-OFF FLANGES. PUMP SHALL ACCEPT 0-10VDC INPUT FROM TC FOR SPEED CONTROL. TIMER & AQUASTAT CONTROL BY TC.
VAV-227M PRICE SDV 8 430 430 0.20 430 14.5 55.0 85.9 1.5 139.1 VAV-2201 PRICE SDV 10 690 280 0.24 385 10.5 55.0 80.0 0.5 114.5 VAV-S201 PRICE SDV 10 820 820 0.32 820 33.7 55.0 92.9 5.5 146.7	0.6 2 7/8" 3/4" 22 1,2,3,4,5 0.1 2 7/8" 3/4" 29 1,2,3,4,5 7.6 2 7/8" 1" 29 1,2,3,4,5	EXPANSION TANK SCHEDULE
SERVED FROM AHU-2 VAV-104 PRICE SDV 6 210 115 0.12 21 150 6.2 55.0 92.2 0.5 133.4 VAV-105 PRICE SDV 10 840 670 0.33 670 17.3 55.0 78.7 1.0 122.5	0.1 2 7/8" 3/4" 19 1,2,3,4,5 0.4 2 7/8" 3/4" 29 1,2,3,4,5	$\frac{1}{1} \\ \frac{1}{1} \\ \frac{1}$
VAV-106 PRICE SDV 5 120 100 0.02 100 3.3 55.0 84.1 0.5 145.9 VAV-107 PRICE SDV 5 120 100 0.02 100 3.3 55.0 84.1 0.5 145.9 VAV-107 PRICE SDV 5 120 100 0.02 100 3.3 55.0 84.1 0.5 145.9 VAV-108 PRICE SDV 5 200 111 200 115 6.1 55.0 84.0 0.5 145.9	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	ET-1 BELL & GOSSETT B500 NEW HEATING WATER LOOP MECH/ELEC 147 740 1110 160 40 33.5 21.7 125.7 30.8 132.0 132.0 335 + WATER 1,2 5,6 ET-2 BELL & GOSSETT B130 NEW CHILLED WATER LOOP MECH/ELEC 147 930 1395 60 40 33.5 21.7 31.14 7.67 34.0 125 + 34.0 137.7
VAV-108 PRICE SDV 6 200 130 0.11 20 145 6.1 55.0 95.0 0.5 133.7 VAV-110 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 VAV-111 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	ET-3 AMERICAN WHEATLEY BDT-009 DOMESTIC WATER WATER ENTRY 160 - 140 40 150 60 2.8 1.5 9.0 9.0 28 + WATER NOTES: 1. UNIT TO BE FLOOR MOUNTED VERTICAL ASME PRE-CHARGED BLADDER STYLE EXPANSION TANK.
VAV-112 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 VAV-113 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 VAV-113 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 VAV-115 PRICE SDV 8 490 200 0.25 20 320 8.8 55.0 80.1 0.5 121.9	0.2 2 7/8" 3/4" 19 1,2,3,4,5 0.2 2 7/8" 3/4" 19 1,2,3,4,5 0.1 2 7/8" 3/4" 22 1,2,3,4,5	 EXPANSION TANK SIZING SHALL BE BASED ON 30% PROPYLENE GLYCOL. EXPANSION TANK SIZING SHALL BE BASED ON 35% PROPYLENE GLYCOL. PC TO PROVIDE & INSTALL 4" HIGH POURED CONCRETE HOUSEKEEPING PAD. SEE HEATING WATER SYSTEM PIPING DIAGRAM.
VAV-117 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1 VAV-118 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1 VAV-118 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1 VAV-119 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1	0.2 2 7/8" 3/4" 19 1,2,3,4,5 0.2 2 7/8" 3/4" 19 1,2,3,4,5 0.2 2 7/8" 3/4" 19 1,2,3,4,5 0.2 2 7/8" 3/4" 19 1,2,3,4,5	 FROVIDE & INSIALE B&G R-4 & ALR SEPARATOR WITH STRAINER WITH PROPER SERVICE CLEARANCE AND PROPER PIPING TO FLOOR MOUNTED BLADDER SITLE EXPANSION TANK HAS BEEN SIZED FOR 1395 GALLONS, The HEATING EXPANSION TANK HAS BEEN SIZED FOR 1110 GALLONS, WHICH IS 1.5 TIMES THE CALCULATED VOLUME OF 740 GALLONS. THE CHILLED EXPANSION TANK HAS BEEN SIZED FOR 1395 GALLONS, WHICH IS 1.5 TIMES THE CALCULATED VOLUME OF 930 GALLONS. SEE CHILLED WATER SYSTEM PIPING DIAGRAM. PROVIDE & INSTALL B&G R-5 5" AIR SEPARATOR WITH STRAINER WITH PROPER SERVICE CLEARANCE AND PROPER PIPING TO FLOOR MOUNTED BLADDER STYLE EXPANSION TANK HAS MEADED.
VAV-120 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1 VAV-121 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1 VAV-121 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1 VAV-122 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1	0.2 2 7/8" 3/4" 19 1,2,3,4,5 0.2 2 7/8" 3/4" 19 1,2,3,4,5 0.2 2 7/8" 3/4" 19 1,2,3,4,5 0.2 2 7/8" 3/4" 19 1,2,3,4,5	10. PC TO PROVIDE & INSTALL IN-LINE, ASME PRE-CHARGED FULL ACCEPTANCE BLADDER STYLE EXPANSION TANK.
VAV-124 PRICE SDV 6 200 80 0.11 20 140 7.3 55.0 102.7 1.0 144.1 VAV-133 PRICE SDV 10 750 435 0.27 640 17.1 55.0 79.5 1.0 123.0 VAV-137 PRICE SDV 6 240 100 0.15 22 170 6.4 55.0 89.4 0.5 132.1	0.2 2 7/8" 3/4" 19 1,2,3,4,5 0.4 2 7/8" 3/4" 29 1,2,3,4,5 0.1 2 7/8" 3/4" 19 1,2,3,4,5	HOT WATER CABINET UNIT HEATER
VAV-138 PRICE SDV 5 90 65 0.02 75 2.9 55.0 88.9 0.5 147.6 VAV-141 PRICE SDV 5 140 90 0.03 -100 3.3 55.0 84.1 0.5 145.9 VAU-141 PRICE SDV 5 140 90 0.03 100 3.3 55.0 84.1 0.5 145.9 VAU-141 PRICE SDV 5 0.10 100 3.3 55.0 84.1 0.5 145.9	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	EQUIP. NO. MANUFACTURER & MODEL LOCATION CFM MBH GPM LAT EWT LWT WPD (FT) ELECTRICAL RUNOUT RUNOUT UNIT WEIGHT (LBS)
VAV-150 PHILE SUV b 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 VAV-151 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 VAV-151 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 VAV-152 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	CUH-100A SIGMA SFF-A-04-SRI VEST 100A 400 26.4 2.5 123.3 160.0 135.0 1.05 1/10 120/1/60 1075 1.7 1* + WATER 1,2,3,4,5,6,7 CUH-100B SIGMA SFF-A-06-SRI VEST 100B 600 42.8 3.5 128.4 160.0 131.0 0.94 1/10 120/1/60 1075 1.7 1* + WATER 1,2,3,4,5,6,7 CUH-100B SIGMA SFF-A-06-SRI VEST 100B 600 42.8 3.5 128.4 160.0 131.0 0.94 1/10 120/1/60 1075 1.7 1* + WATER 1,2,3,4,5,6,7
VAV-153 PRICE SDV 6 210 85 0.12 21 150 7.6 55.0 101.1 1.0 143.6 VAV-205 PRICE SDV 8 420 170 0.20 295 13.7 55.0 97.5 2.0 145.2 VAV-205A PRICE SDV 8 400 160 0.18 280 12.2 55.0 95.0 1.5 142.3	0.2 2 7/8" 3/4" 19 1,2,3,4,5 1.0 2 7/8" 3/4" 22 1,2,3,4,5 0.6 2 7/8" 3/4" 22 1,2,3,4,5	CUH-114A SIGMA SFF-A-06-SRI STAIR 114A 600 42.8 3.5 128.4 160.0 131.0 0.94 1/10 120/1/60 1075 1.7 1" 125 + WATER 1,2,3,4,5,6,7 NOTES: 1. UNIT SHALL BE SEMI RECESSED, INVERTED AIR FLOW WALL MOUNTED TYPE AND SHALL BE MOUNTED AT 8" A.F.F. ARRANTEMENT 101 - FRONT BOTTOM OUT. 1.0 1.0 1.0 1.0 1.7 1" 125 + WATER 1,2,3,4,5,6,7
VAV-211 PRICE SDV 8 440 300 0.21 390 15.4 55.0 91.4 2.0 143.3 VAV-212A PRICE SDV 10 965 480 0.41 965 25.3 55.0 79.1 2.0 132.6 VAV-212B PRICE SDV 12 1445 720 0.49 1445 39.5 55.0 80.2 3.0 131.5	1.0 2 7/8" 3/4" 22 1,2,3,4,5 1.3 2 7/8" 3/4" 29 1,2,3,4,5 3.3 2 7/8" 3/4" 36 1,2,3,4,5	 PERFORMANCE DASED ON SOF PROFILENE GLICOLT. UNIT MOUNTED 3 SPEED SWITCH. UNIT TO BE CONFIGURED FOR FIELD INSTALLED DDC CONTROLS. CUSTOM COLOR BAKED ENAMEL, STANDARD COLOR NOT ACCEPTABLE. CUSTOM COLOR TO BE SELECTED BY ARCHITECT. SEE CABINET UNIT HEATER PIPING DETAIL. CUSTOM COLOR BAKED ADDITIONAL OFT OF DEPERDENT OF THE DEPERDENT.
VAV-213 PRICE SDV 12 1320 995 0.42 995 29.3 55.0 82.1 2.0 128.2 VAV-215 PRICE SDV 10 910 730 0.37 730 17.7 55.0 77.3 1.0 121.7 VAV-218 PRICE SDV 6 200 80 0.08 20 140 6.3 55.0 96.1 3.0 155.4	1.6 2 7/8" 3/4" 36 1,2,3,4,5 0.4 2 7/8" 3/4" 29 1,2,3,4,5 5.8 1 1/2" 3/4" 17 1,2,3,4,5	 PROVIDE WITH (1) ADDITIONAL SET OF DISPOSABLE FILTERS. PROVIDE UNIT WITH FACTORY INSTALLED MANUAL STARTER DISCONNECT (NO OVERLOADS).
VAV-219 PRICE SDV 6 200 80 0.08 20 140 6.3 55.0 96.1 3.0 155.4 VAV-M300 PRICE SDV 12 1320 530 0.41 730 19.8 55.0 80.0 1.0 117.0	5.8 1 1/2" 3/4" 17 1,2,3,4,5 0.5 2 7/8" 3/4" 36 1,2,3,4,5	HOT WATER HANGING UNIT HEATER
VAV-NOSS PRICE SUV 6 560 360 0.17 360 12.5 55.0 65.2 1.0 132.9 SERVED FROM AHU-3 VAV-100 PRICE SDV 24x16 4810 1925 0.43 30 26 2550 69.2 55.0 80.0 7.0 138.6	0.3 2 7/8 5/4 22 1,2,3,4,5 12.5 1 7/8" 1" 83 1,2,3,4,5	EQUIP. NO. MANUFACTURER & MODEL LOCATION CFM MBH GPM LAT EWT LWT WPD ELECTRICAL RUNOUT WNIT WPD SIZE WIGHT NOTES
VAV-101 PRICE SDV 14 1560 1230 0.31 1230 35.3 55.0 81.4 2.0 121.8 VAV-102 PRICE SDV 14 1550 1550 0.30 1550 40.8 55.0 79.2 2.5 124.7 VAV-103 PRICE SDV 6 310 125 0.24 22 205 11.6 55.0 106.6 4.0 153.7	0.7 2 7/8" 3/4" 47 1,2,3,4,5 1.1 2 7/8" 3/4" 47 1,2,3,4,5 2.6 2 7/8" 1" 19 1,2,3,4,5	HUH-161 SIGMA CORP 058-H LOADING/RECEIVING /DOCK/ACTIVE 590 34.0 3.4 86.7 160 136 0.39 1/8 120/1/60 1550 1.4 3/4" 48 + WATER 1,2,3,4,5,5
VAV-103A PRICE SDV 6 230 95 0.19 22 175 13.0 55.0 123.2 3.5 151.9 VAV-200 PRICE SDV 24x16 2970 1215 0.33 24 21 2075 78.0 55.0 89.7 4.5 122.4 VAV-201 PRICE SDV 14 1590 1540 0.32 1540 47.9 55.0 83.7 3.5 130.4	3.0 3 7/8" 3/4" 21 1,2,3,4,5 3.9 2 7/8" 1" 93 1,2,3,4,5 2.0 2 7/8" 3/4" 47 1,2,3,4,5	HUH-M300 SIGMA CORP 084-H MECH PENTHOUSE M300 970 53.5 6.3 91.9 160 140 1.78 1/6 120/1/60 1625 1.8 1" 76 + WATER 1,2,3,4,5,5
VAV-202 PRICE SDV 12 1260 1260 0.39 1260 31.4 55.0 77.9 2.0 126.0 VAV-203 PRICE SDV 14 1580 635 0.31 1050 29.5 55.0 80.9 1.5 117.4 NOTES: 1. SOUND DATA SHALL BE TAKEN FROM ARI STANDARD 880 (LATEST EDITION) PUBLISHED DATA.	1.6 2 7/8" 3/4" 36 1,2,3,4,5 0.5 2 7/8" 3/4" 47 1,2,3,4,5	NOTES: 1. UNIT SHALL BE HORIZONTAL, PROPELLER UNIT HEATER. 2. PERFORMANCE BASED ON 30% PROPYLENE GLYCOL. 3. PROVIDE WITH UNIT MOUNTED 3 SPEED SWITCH. UNIT TO BE CONFIGURED FOR FIELD INSTALLED DDC CONTROLS.
 INLET STATIC PRESSURE FOR TERMINAL SELECTION IS 1.0". TERMINAL S.P. INCLUDES COIL APD. PERFORMANCE BASED ON 30% PROPYLENE GLYCOL LH OR RH CONNECTION ON COIL PIPING VARIES, SEE PLAN. SEE VAV HEATING COIL PIPING DETAIL. 		 STANDARD GRAV BAKED ENAMEL FINISH. PROVIDE UNIT WITH FACTORY INSTALLED MANUAL MOTOR STARTER DISCONNECT (NO OVERLOADS).
6. PROVIDE UNIT WITH OVERSIZED CASING.		RADIATION HEATER SCHEDULE SEE PLANS FOR LENGTH RAD RAD FTR
DUCTLESS SPLIT SYSTEM INDOOR UNIT SC		EQUIP. MANUFACTURER & MODEL TYPE AND/OR MOUNTING CAPACITY LOCATIONS WATER FLOW ELEMENT ENCLOSURE NOTES
EQUIP. NO. MANUFACTURER & MODEL SERVING COLING CAPACITY (BTU/HR.) (BTU/HR @47F) REFRIGERANT PIPING ELECTRICAL (BTU/HR @47F) LIQUID SUCTION V./PH./CY. FLA MOCP HEIG	DIMENSIONS UNIT WEIGHT NOTES (LBS)	NU. Item: Item: <t< td=""></t<>
DSA-115 DAIKIN FTXS24LVJU (WALL MOUNT) MDF 115 21,500 25,400 1/4" 5/8" 208/1/60 N/A N/A 13-3/ DSA-147 DAIKIN FTXS24LVJU (WALL MOUNT) MECH/ELEC 147 21,500 25,400 1/4" 5/8" 208/1/60 N/A N/A 13-3/	B" 41-5/16" 9-3/4" 31.0 1,2,3,4,5 B" 41-5/16" 9-3/4" 31.0 1,2,3,4	RAD-XP RUNTAL RF-2 SINGLE PANEL / PEDESTAL VARIES MULTIPLE LOCATIONS 150 0.1 3/4" N/A 32 411 SEE PLAN 2 N/A SEE PLAN 5-3/4" 1-5/8" 1,2,3,4,5,4 RAD-XW RUNTAL RF-2 SINGLE PANEL / WALL MOUNT VARIES MULTIPLE LOCATIONS 150 0.1 3/4" N/A 32 411 SEE PLAN 2 N/A SEE PLAN 5-3/4" 1-5/8" 1,2,3,4,5,4
NOTES: 1. VC TO PROVIDE & INSTALL OPTIONAL HARDWIRED REMOTE T-STAT. 2. UNIT POWER IS FED FROM AND IS INCLUDED IN SCHEDULED ELECTRICAL DATA FOR ASSOCIATED OUTDOOR UNIT. 3. PROVIDE WITH (1) ADDITIONAL REPLACEABLE FILTER FOR OWNER'S USE.		FTR-X SIGMA WALLFIN-44C075 CU-AL / STYLE "S" SLOPE TOP VARIES COMMONS/ STUDY SPACE 100 150 0.1 3/4" 4" S0. 48 822 SEE PLAN 1 - - - 1,4,6,7
 PC TO PROVIDE AND INSTALL 1-1/4' INSULATED SCH 40 PVC CONDENSATE PIPING AND ROUTE AS SHOWN ON PLANS. PROVIDE WITH OPTIONAL CONDENSATE LIFT PUMP. PC TO INSTALL, EC TO WIRE TO INDOOR UNIT. 		 Relation Shall be INDICATED IN DATE OF LONE GUIDALED AT 3" AFF ON FACTORY PEDESTALS PER MANUFACTURER'S RECOMMENDATIONS, SEE PANEL RADIATION PIPING DETAIL. ROVIDE PIPING COVERS, CORNERS, ACCESS TO VALVES. PROVIDE PEDESTALS TO SUPPORT PIPING. COLOR SHALL BE CUSTOM COLOR SELECTED BY ARCHITECT. STANDARD COLOR WILL NOT BE ACCEPTABLE.
DUCTLESS SPLIT SYSTEM OUTDOOR UNIT S		6. BARE ELEMENT, NO ENCLOSURE. 7. RADIATION SHALL BE INDICATED ON PLAN & MOUNTED PER MANUFACTURER'S RECOMMENDATIONS. SEE UNDER-BENCH RADIATION PIPING DETAIL. 8. RADIATION SHALL BE INDICATED ON PLAN & MOUNTED WITH FACTORY WALL MOUNTING ABOVE FLOOR THIM (4° AFF) PER MANUFACTURER'S RECOMMENDATIONS, SEE PANEL RADIATION PIPING DETAIL. 9. COORDINATE PEDESTAL MOUNTING HEIGHT IN ROOMS WITH BOTH WALL MOUNTED AND PEDESTAL MOUNTED RADIATION SUCH THAT ALL RADIATION IS MOUNTED AT THE SAME HEIGHT.
EQUIP. MANUFACTURER & MODEL SERVING CAPACITY CAPACITY CAPACITY EFRIGERANT PIPING ELECTRICAL	DIMENSIONS UNIT WEIGHT NOTES	
Instruction (BTU/HR) (BTU/HR @47F) LIQUID SUCTION V./PH./CY. MCA MOCP HEIGHT DSC-115 DAIKIN RXS24LVJU DSA-115 7,800- 21,500 7,800- 25,400 1/4" 5/8" 208/1/60 17.5 20 30-5/16"	WIDTH DEPTH (LBS) 35-7/16" 12-5/8" 159.0 1,2,3	
DSC-147 DAIKIN RXS24LVJU DSA-147 7,800- 21,500 7,800- 25,400 1/4" 5/8" 208/1/60 17.5 20 30-5/16" NOTES: 1. PROVIDE & INSTALL PRE-INSULATED REFRIGERANT LINESETS. LINESETS AND INSULATION TO BE INSTALLED NEATLY IN CEILING. 2. PROVIDE & INSTALL POWDER COATED WALL MOUNT BRACKET WITH VIBRATION ISOLATION FOR INSTALLATION IN MECH PENTHOUSE M300 (DSC-115) AF	35-7/16" 12-5/8" 159.0 1,2,3 D LOADING/RECEIVING 161 (DSC-147).	HULP: NO. MANUFACTURER & MODEL LOCATION GPM HEAD SIZE HP RPM V./PH./GY. FLA SP-1 ZOELLER #H165 ELEVATOR E100 PIT 50 40' 2" DISCHARGE 1 3450 208/1/60 8 1,2,3,4,5,6,7
3. DISCONNECT PROVIDED & INSTALLED BY EC.		NOTES: 1. PROVIDE 20' CORD WITH 3 PRONG PLUG. 2. PROVIDE AND INSTALL 2" PVC TRI-CHECK COMBINATION CHECK VALVE, BALL VALVE, AND UNION. 3. PROVIDE SJE-RHOMBUS TANK ALERT AB, HIGH WATER ALARM WITH PANEL, LIGHT, HORN, TEST AND SILENCE SWITCHES, BATTERY BACK-UP, FLOAT SWITCH,
AIR COMPRESSOR SCHEDULE		 OF COND. SO FLOAT SWITCH COND. PROVIDE & INSTALL TOPP #FB24X036F 24*X36* DEEP FIBERGLASS BASIN WITH ANTI-FLOTATION FLANGE, TOPP #C24SSL SIMPLEX STEEL COVER WITH 2* VENT & 2* DISCHARGE, TOPP #G400 PIPE GROMMET. DRAIN TILE BY STRUCTURAL CONTRACTOR. INSTALL PANEL IN CLIST 204A.
EQUIP. NO. MANUFACTURER & MODEL SERVING LOCATION ACFM ACFM COMPRESSOR COMPRESSOR TYPE RPM TANK TYPE TANK SIZE HP	ELECTRICAL NOTES	7. SEE SUMP BASIN & PUMP PIPING DETAIL.
AC-1 INGERSOLL RAND MODEL 2545 SIM LAB SYSTEMS MECH PENTHOUSE 300 26.6 175 TWO-STAGE SIMPLEX 825 VERTICAL 80 GAL 7- NOTES: 1. PROVIDE WITH SPRING VIBRATION ISOLATORS, INGERSOLL RAND PREMIUM PACKAGE, LOW OIL PRESSURE SWITCH. EXTENDED 2 YEAR WARRANTY KIT	/2 1800 208/3/60 24.2 611 1,2,3,4,5,6,7 ONE SPARE BELT, AND FACTORY AUTHORIZED	WATER HEATER SCHEDULE
START-UP. 2. PROVIDE UNIT WITH CONTROL PANEL WITH MAGNETIC MOTOR STARTER. 3. PROVIDE INGERSOLL RAND D54IN NON-CYCLING, AIR-COOLED, 115V/1/60, 370W, REFRIGERATED AIR DRYER. 4. PROVIDE ONE MODEL F71IG 3/4" NPT GENERAL PURPOSE FILTER AND ONE MODEL F71IH 3/4" NPT HIGH EFFICIENCY FILTER.		EQUIP. MANUFACTURER & SERVING FUEL LOCATION STORAGE RECOVERY @ NUMBER ELEMENT INPUT AFUE % ELECTRICAL PIPING DIMENSIONS DIMENSIONS OPERATING WEIGHT NOTE NO. MODEL SERVING FUEL LOCATION STORAGE RECOVERY @ OF RECOVERY @ INPUT (EACH) V. /PH. /CV. KW AMPS C.W. H.W. HEIGHT DIA. (LBS)
5. PC TO PROVIDE ADJUSTABLE PRESSURE REGULATOR 0-125 PSIG. 6. PC TO PROVIDE 4* CONCRETE HOUSEKEEPING PAD. 7. SEE AIR DROP TO COMPRESSOR DETAIL.		WH-1 A.O. SMITH CYCLONE DOMESTIC HOT WATER NAT. GAS WATER ENTRY 160 100 235 199.9 97 120/1/60 5 1 1/2" 1 1/2" 76.5" 523 + WATER 1,2,3,4
		NUTES: 1. P.C. TO PROVIDE & INSTALL 4" POURED CONCRETE HOUSEKEEPING PAD. 2. SEE NATURAL GAS WATER HEATER PIPING DETAIL. 3. PROVIDE & INSTALL WATER HEATER PIPING AND TEMPERING SYSTEM WITH DIGITAL MIXED OUTLET TEMPERATURE CONTROL & MONITORING. 120V POWER & PLUG PROVIDED & INSTALLED BY EC. DOMESTIC HOT WATER TO BE STORED AT 140°F AND TEMPERED TO 120°F. 4. PROVIDE & INSTALL CONDENSATE DRAIN PIPING WITH CONDENSATE NEUTRALIZER TO FLOOR SINK PER MANUFACTURER'S RECOMMENDATIONS.
		5. CONDENSATE DRAIN PIPING TO BE SUPPORTED APPROXIMATELY 6" ABOVE FINISHED FLOOR WITH SPLIT RING STANDOFFS WITH ELBOW DOWN INTO OPEN QUARTER OF FLOOR SINK GRATE. 6. PROVIDE UNIT WITH EXTENDED 15 YEAR WARRANTY.

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Date Issue 100% CONSTRUCTION DOCUMENTS 9 APRIL 2024

LINCOLN HALL

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MECHANICAL SCHEDULES

211100748

TS

TS

SICHMELLER ENGINEERING

Project Number:

Drawn By:

Reviewed By:

Approved By:

		MECH	IANICAL LI
EXHAUST GRILLE	ROOF VENTILATOR EXHAUST	EQUIPMENT TAG EQUIPMENT NO.	# OF DET # OF SHE WHERE APPEAR
SUPPLY AIR REGISTER	POWER ROOF VENTILATOR (PRV)	TRENCH DRAIN (TD) FLOOR DRAIN (<u>FD)</u> CLEAN OUT (<u>CO</u>)	# OF SEC # OF SHE WHERE APPEAR
FLEX DU	СТ	FLOOR SINK (FS)	TEMPER GAUGE
T THERMOSTAT S SENSOR	Z ZONE STAT H HUMIDISTAT	Image: Roof drain (RD) Image: Overflow roof drain (ORD)	EXISTING CONNEC EXISTING CAST IRC
ELBOW UP	ELBOW DN RECT. DUCT NEG. PRESSURE	BALL VALVE OR ISO VALVE - (I.V.) ZONE VOLUME DAMPER DAMPER	(C.I.P.) COMBINA MOTORIZED & DAMPER DA
ELBOW UP	RECT. DUCT POS. PRESSURE ELBOW DN	BD S BACKDRAFT SMOKE DAMPER DAMPER	F F F F R DAMPER

SPECIAL NOTES:

- 1. IN AREAS WHERE EXISTING CEILINGS ARE TO REMAIN, EACH TRADE SHALL BE RESPONSIBLE FOR ANY DAMAGE OR REPAIR NEEDED TO EXISTING CEILINGS AS A RESULT OF THEIR WORK. 2. EACH TRADE SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING AS NECESSARY TO ALLOW FOR COMPLETION OF THEIR WORK. REFER TO ARCHITECTURAL PLANS FOR SELECTIVE DEMOLITION BY
- OTHERS. 3. ALL CONTRACTORS SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES. 4. THE EXISTING BUILDING WILL BE IN USE DURING THIS CONSTRUCTION. SCHEDULE AND CARRY OUT THE WORK IN SUCH A MANNER AS TO CAUSE THE OWNER A MINIMUM OF INCONVENIENCE DUE TO SERVICE INTERRUPTIONS. TEMPORARY SERVICES SHALL BE INSTALLED IF ONE PHASE OF CONSTRUCTION
- DISRUPTS SERVICE TO ANOTHER AREA OF THE BUILDING OR IF EQUIPMENT HAS TO BE RELOCATED TO ALLOW CONSTRUCTION TO PROGRESS. SERVICE INTERRUPTIONS SHALL BE CONFINED TO THE SMALLEST AREA POSSIBLE AT ANY ONE TIME AND INTERRUPTIONS SHALL BE SCHEDULE WITH THE OWNER'S SITE REPRESENTATIVE. AFTER SERVICE HAS BEEN RESTORED FOLLOWING AN INTERRUPTION, INSPECT AREAS AFFECTED BY THE INTERRUPTION AND BE RESPONSIBLE FOR RETURNING AUTOMATICALLY CONTROLLED EQUIPMENT TO THE SAME OPERATING CONDITION, WHICH EXISTED PRIOR TO THE INTERRUPTION. 5. ALL DDC TEMPERATURE CONTROL WORK IN GRAHAM HALL TO BE COMPLETED BY JOHNSON CONTROLS (CONTACT GREG HINTGEN 605-362-5315).
- ALL DDC TEMPERATURE CONTROL WORK IN STUDENT CENTER TO BE COMPLETED BY G&R CONTROLS (CONTACT PAUL DOOHEN 605-336-0333) 6. GLYCOL SOLUTION: A. EXISTING GRAHAM HALL (CURRENTLY SERVED FROM LINCOLN) HEATING SYSTEM:
 - a. EXISTING HYDRONIC SYSTEM SOLUTION TO BE COMPLETELY DRAINED AND NOT SALVAGED, PC TO DISPOSE OF EXISTING SOLUTION. b. EXISTING SYSTEM VOLUME THAT REMAINS: APPROXIMATELY 100 GALLONS
 - ADDITION TO SYSTEM VOLUME FOR PROPOSED WORK: 120 GALLONS TOTAL EXG + PROPOSED VOLUME: 220 GALLONS
 - c. THE PC SHALL BE RESPONSIBLE FOR CLEANING & FLUSHING THE NEW HOT WATER SYSTEM PIPING. EXISTING HOT WATER HEATING SYSTEM PIPING TO BE DRAINED & REFILLED, NO CLEANING. d. AFTER PROPOSED WORK IS COMPLETE, THE PLUMBING/HYDRONICS CONTRACTOR IS TO PROVIDE A COMPLETE ANALYSIS OF THE HYDRONIC SYSTEM TO CONFIRM PROPER GLYCOL % AND TREATMENT. SUBMIT ANALYSIS/RECOMMENDATIONS TO SICHMELLER ENGINEERING & OWNER. IF SOLUTION ANALYSIS INDICATES SOLUTION IS NOT SATISFACTORY, THIS CONTRACTOR TO MAKE ADJUSTMENTS AS RECOMMENDED BY GLYCOL SUPPLER & RETEST UNTIL ANALYSIS IS SATISFACTORY.
- B. EXISTING STUDENT CENTER (WILL SERVE GRAHAM HALL) HEATING SYSTEM TO BE SALVAGED: a. EXISTING HYDRONIC SYSTEM SOLUTION IS 40% PROPYLENE GLYCOL. ANY NEW GLYCOL SOLUTION REQUIRED TO BE ADDED TO THE SYSTEM FOR PROPOSED WORK TO BE THE SAME MANUFACTURER, TYPE, AND CONCENTRATION. b. EXISTING SYSTEM VOLUME: APPROXIMATELY 1240 GALLONS
- c. PRIOR TO ANY PROPOSED WORK, THE PLUMBING/HYDRONICS CONTRACTOR SHALL PROVIDE A COMPLETE ANALYSIS OF THE EXISTING HYDRONIC SYSTEM TO DETERMINE EXACT GLYCOL AND COMPOSITION, ETC. SUBMIT ANALYSIS/RECOMMENDATIONS TO SICHMELLER ENGINEERING & OWNER. OWNER TO PROVIDE ANY RECOMMENDED ADJUSTMENTS TO EXISTING. THE PLUMBING/HYDRONICS CONTRACTOR SHALL BE RESPONSIBLE TO PUMP IN THESE ADJUSTMENTS.
- RETEST UNTIL EXISTING SOLUTION ANALYSIS IS SATISFACTORY. d. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR DRAINING AND STORING THE EXISTING GLYCOL SOLUTION AS REQUIRED FOR COMPLETION OF THEIR WORK. e. THE EXISTING SYSTEM SHALL BE DRAINED AS NECESSARY FOR PROPOSED DEMOLITION, NO CLEANING AND FLUSHING ON EXISTING PIPING.
- f. UPON COMPLETION OF THE PROPOSED WORK, THE EXISTING GLYCOL SOLUTION SHALL BE PUMPED BACK IN ALONG WITH THE OWNER PROVIDED ADJUSTMENTS AND PROPOSED SYSTEM SOLUTION. g. AFTER PROPOSED WORK IS COMPLETE, THE PLUMBING/HYDRONICS CONTRACTOR IS TO PROVIDE A COMPLETE ANALYSIS OF THE HYDRONIC SYSTEM TO CONFIRM PROPER GLYCOL % AND TREATMENT. SUBMIT ANALYSIS/RECOMMENDATIONS TO SICHMELLER ENGINEERING & OWNER. IF SOLUTION ANALYSIS INDICATES SOLUTION IS NOT SATISFACTORY, THIS CONTRACTOR TO MAKE
- ADJUSTMENTS AS RECOMMENDED BY GLYCOL SUPPLER & RETEST UNTIL ANALYSIS IS SATISFACTORY. 7. DURING THE SHOP DRAWING PROCESS, ALL M&E CONTRACTORS TO BE RESPONSIBLE FOR MARKING UP ALL OPENINGS IN THE CONCRETE SLAB, WALL, CORE FLOOR, OR STRUCTURAL FRAMING, AND ROOF JOIST
- SYSTEMS REQUIRED FOR THE INSTALLATION OF THEIR RESPECTIVE SYSTEMS IN NEW AND EXISTING STRUCTURAL SYSTEMS. 8. WHERE PEX PIPING IS USED, PIPING SHALL BE UPONOR PEX-A POTABLE WATER PIPING WITH UPONOR F1960 EXPANDABLE FITTINGS, NO CRIMP FITTINGS TO BE ACCEPTED, PROVIDED THE CONTRACTOR IS
- TRAINED AND FOLLOWING ALL MANUFACTURER'S RECOMMENDATIONS TO FULFILL ALL AVAILABLE UPONOR 25 YEAR WARRANTY COVERAGE. 9. ORIGINAL PLANS ARE AVAILABLE. PLEASE CONTACT THE ENGINEER'S OFFICE TO REQUEST. CONTACT ISAAC @ 605-225-4344. 10. REFER TO LINCOLN HALL PLANS REGARDING ANY SITE WORK.
- 11. EQUIPMENT LISTED AS PROVIDED BY OWNER FOR THIS PROJECT WILL BE PROVIDED BY THE OWNER THROUGH O'CONNOR COMPANY. A LIST OF THIS EQUIPMENT WILL BE PROVIDED TO THE BIDDERS BY THE O'CONNOR COMPANY WITH AN ASSOCIATED VALUE. THE BIDDING CONTRACTOR SHALL PROVIDE WARRANTY LABOR FOR ALL EQUIPMENT IN THEIR BID AND THE EQUIPMENT PROVIDED THROUGH THE O'CONNOR COMPANY. CONTACT MICHAEL HEENEY, 605-336-0333, HYPERLINK mailto:michael.heeney@oconnorco.com"<u>MICHAEL.HEENEY@OCONNORCO.COM</u> FOR LIST OF EQUIPMENT AND ASSOCIATED VALUE.

SICHMELLER ENGINEERING

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AndersonMasonDale Architects

EGEN	1D		
	GREASE	GREASE - SANITARY SEWER (W)	_
AIL	W		
ET		- UNDERGROUND NATURAL GAS (UG)	
ETAIL	G	— NATURAL GAS (G)	
	ULP	- UNDERGROUND LIQUID PROPANE (ULP)	
ΓΙΟΝ		— LIQUID PROPANE (LP)	
==	V	- VENT PIPING (V)	
ECTION	LPS	- LOW PRESSURE STEAM (LPS)	
		- STEAM CONDENSATE (LPC)	
TUDE		— DOMESTIC COLD WATER (CW)	
TURE		— DOMESTIC HOT WATER (HW)	
		— DOMESTIC HOT WATER RECIRC (DHWR)	
(EXG)	CD	- CONDENSATE DRAIN (CD)	
то	RO-CW	- REVERSE OSMOSIS (RO-CW)	
(EXG)	SOFT-CW	— SOFTENED CW (SOFT-CW)	
	ST	— STORM DRAIN (ST)	
	ST	 BELOW GRADE STORM DRAIN (ST) 	
	OST	 OVERFLOW STORM DRAIN (OST) 	
		 REFRIGERANT SUCTION PIPE (RS) 	
ION SMOKE	RL	REFRIGERANT LIQUID (RL)	
IPER	— — — — HWR — — —	 HEATING WATER RETURN (HWR) 	
\sim	HWS	— HEATING WATER SUPPLY (HWS)	
	GTR	 — GEOTHERMAL RETURN (GTR) 	
	GTS	— GEOTHERMAL SUPPLY (GTS)	
	CWR	 CHILLED WATER RETURN (CWR) 	
<u></u>	CWS	— CHILLED WATER SUPPLY (CWS)	
	CHR	 CHILLED & HEATING WATER RETURN (CHR) 	
AMPER $ ightarrow$	CHS	— CHILLED & HEATING WATER SUPPLY (CHS)	
	PD	— PUMP DISCHARGE (PD)	
	CA	— COMPRESSED AIR (CA)	

	GRAHAM/STUDENT CENTER MECHANICAL SHEET INDEX
Sheet	
Number	Sheet Name
M100A	GRAHAM/STUDENT CENTER MOTOR SCHEDULE, LEGEND & SHEET INDEX
M200A	GRAHAM HALL - BASEMENT MECHANICAL DEMOLITION PLAN
M300A	GRAHAM HALL - BASEMENT MECHANICAL PROPOSED PLAN
M301A	GRAHAM HALL - LEVEL 1 MECHANICAL PROPOSED PLAN
M302A	GRAHAM HALL - LEVEL 2 MECHANICAL PROPOSED PLAN
M400A	STUDENT CENTER - LOWER LEVEL MECHANICAL & FIRE PROTECTION DEMOLITION & PROPOSED PLAN
M500A	GRAHAM/STUDENT CENTER MECHANICAL DETAILS
M501A	GRAHAM/STUDENT CENTER MECHANICAL SECTIONS
M502A	GRAHAM/STUDENT CENTER MECHANICAL SCHEDULES

WATER METER #1G

OWNER PROVIDED AHU-1G

OWNER PROVIDED CU-1G

WH-1G

CP-1G

VAV-V200G

CUH-V100G

RAD-25G

SP-1G

HEATING

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			HV	AC I	EQU	IPMI	ENT	G CO	iRA ORI	HAI	/ H/ ATI	ALL ON	&	мот	OR	SC	HE	DULE		E.C. = ELECTRICAL CONTRACTOR P.C. = PLUMBING CONTRACTOR V.C. = VENTILATION CONTRACTOR T.C. = TEMPERATURE CONTROL CONTRACTOR
		9				POWE CY	R 60 C.	STA	RTE	R	CONT	ROL	I	SW1 NFOR	TCH MATIC	DN .	D	ISCONNECT	,	
ΩSE	LOCATION	FIRE ALARM INTERLOCK REQUIRE	HP OR WATTAGE (KW) OR FRACTIONAL (F)	MCA	FLA	VOLTAGE	PHASE	ТҮРЕ	SIZE	BY	BY WTRING	TEMP. CONTROL WIRING	THERMOSTAT BY	AQUASTAT BY	SPEED SELECT SWITCH BY	TIME CLOCK BY	BY	SIZE/TYPE/FUSE SIZE	NEMA	NOTES
HVAC - GRAHAM HALL VAV'S SUPPLY FAN (OWNER PROVIDED)	GRAHAM HALL	Y	15		41.0	208	3	VFD		тс		тс					EC			DUCT SMOKE DETECTOR SHUTDOWNS BY EC;
HVAC - GRAHAM HALL VAV'S RETURN FAN (OWNER PROVIDED)	NEW MECH ROOM 13	Y	7.5		23.3	208	3	VFD		тс		тс					EC			CO2/HUMIDITY SENSORS IN RA DUCT; VFD'S PROVIDED BY TC, INSTALL T.C. TO PROVIDE AND INSTALL AMFS IN OA AND RELIEF AIR DUC
AIR COOLED CONDENSING UNIT - AHU-1G (OWNER PROVIDED)	GRAHAM HALL EXTERIOR			143	131	208	3					тс					vc			SEE PLANS FOR TEMPORARY LOCATION AND PERMENANT LOCA
DOMESTIC HOT WATER HEATER - GRAHAM HALL	GRAHAM HALL NEW MECH ROOM 13		(4.5)		21.6	208	1					тс	:				EC			REPLACES EXISTING AND SEE PLANS FOR NEW LOCATION; TC TO MONITOR TEMPERED DHW SUPPLY TEMP
DOMESTIC HOT WATER RECIRC PUMP - GRAHAM HALL	GRAHAM HALL NEW MECH ROOM 13		(F)			120	1							PC			EC			REPLACES EXISTING AND SEE PLANS FOR NEW LOCATION; GFCI RECEPTACLE BY EC, AQUASTAT/TEMP SENSOR BY PC
			BY A		ERNATE	E (NEW	NORTH	ADDITIC	ON TO	GRAH	AM HAL	L)								
HVAC - SOUTH CONNECTOR LEVEL 2 - VESTIBULE V100	VESTIBULE V200											тс	тс							
HEATING - SOUTH CONNECTOR LEVEL 1 - VESTIBULE V100	VESTIBULE V100		(F)		1.7	120	1					тс	тс				EC			
HEATING - VESTIBULE V100	VESTIBULE V100											тс								SHARES T-STAT WITH CABINET UNIT HEATER
SUMP PUMP - ELEVATOR SUMP COMPARTMENT	ELEVATOR PIT		(F)		6.0	120	1				EC	тс					EC			GFCI OUTLET BY EC, CORD CONNECTED; SUMP ALARM PANEL IN GRAHAM MECH 113; TC TO MONITOR

HVAC EQUIPMENT												CENT TION	FEF N 8	R & M(ото	DR	SCHE	DULE		E.C. = ELECTRICAL CONTRACTOR P.C. = PLUMBING CONTRACTOR V.C. = VENTILATION CONTRACTOR T.C. = TEMPERATURE CONTROL CONTRACTOR
		Q.				POWE CY	R 60 C.	STA	ARTE	ĒR	со	ONTROL		INF	SWITO ORMA	CH \TIO	N	DISCONNE	ст	
USE	LOCATION	FIRE ALARM INTERLOCK REQUIRE	HP OR WATTAGE (KW) OR FRACTIONAL (F)	МСА	FLA	VOL TAGE	PHASE	TYPE	SIZE	BY	BY	WIRING	TEMP. CONTROL WIRING	THERMOSTAT BY	AQUASTAT BY	SPEED SELECT SWITCH BY	TIME CLOCK BY By	SIZE/TYPE/FUSE SIZE	NEMA	NOTES
EXISTING NATURAL GAS FIRED BOILER	STUDENT CENTER EXG MECH 112		(F)			EXG	EXG					E	XG				EXG			
EXISTING NATURAL GAS FIRED BOILER	STUDENT CENTER EXG MECH 112		(F)			EXG	EXG					E	XG				EXG			EXISTING EMERGENCY BOILER SHUTDOWN TO REMAIN
EXISTING NATURAL GAS FIRED BOILER	STUDENT CENTER EXG MECH 112		(F)			EXG	EXG					E	XG				EXG			
EXISTING BOILER B-1 CIRCULATOR	STUDENT CENTER EXG MECH 112		EXG 1.5			EXG	EXG					E	XG				EXG			EXG POWER & CONTROL FROM EXG BOILER
EXISTING BOILER B-2 CIRCULATOR	STUDENT CENTER EXG MECH 112		EXG 1.5			EXG	EXG					E	XG				EXG			EXG POWER & CONTROL FROM EXG BOILER
EXISTING BOILER B-3 CIRCULATOR	STUDENT CENTER EXG MECH 112		EXG (F)			EXG	EXG					E	XG				EXG			EXG POWER & CONTROL FROM EXG BOILER
PRIMARY PUMP - HEATING WATER SYSTEM	STUDENT CENTER EXG MECH 112		20			208	3	VFD		тс	тс	T	rc				EC			REPLACES EXISTING 15HP PUMP; EXISTING COMBINATION STARTER (TO BE REPLACED WITH VFD BY TC; INSTALLED BY EC)
TANDBY PUMP - HEATING WATER SYSTEM	STUDENT CENTER EXG MECH 112		20			208	3	VFD		тс	тс	1	rc				EC			REPLACES EXISTING 15HP PUMP; EXISTING COMBINATION STARTER (TO BE REPLACED WITH VFD BY TC; INSTALLED BY EC)
BTU METER - GRAHAM HALL	STUDENT CENTER SERVERY 118											1	rc							TC TO PROVIDE, PC TO INSTALL
DOMESTIC COLD WATER METER #1G	STUDENT CENTER SERVERY 118											1	rc							TC TO INTERFACE WITH PC'S WATER METER

Date Issue 100% CONSTRUCTION DOCUMENTS 9 APRIL 2024

LINCOLN HALL

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Seal

Project Number: Drawn By: Reviewed By: Approved By:

211100748 SICHMELLER ENGINEERING TS TS

HEATER ECTED; ; TC TO MONITOR

S BY EC: BY TC, INSTALLED BY EC; RELIEF AIR DUCTS. RMENANT LOCATION

NEW LOCATION; SENSOR BY PC

NEW LOCATION; PLY TEMP

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EXISTING STUDENT CENTER

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GRAHAM HALL - BASEMENT

M200A

MECHANICAL DEMOLITION PLAN

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E-mail:

M300A

211100748

TS

SICHMELLER ENGINEERING

Project Number:

Drawn By:

Reviewed By

IN FLOORS, WALLS, AND CEILINGS THAT WERE CAUSED BY HIS/HER ACTIONS. PATCHING SHALI

<u>12"x8" (12"x8")</u>

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211100748 SICHMELLER ENGINEERING TS TS **GRAHAM HALL - LEVEL 1** MECHANICAL PROPOSED PLAN **M301A**

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Electrical Engineer IMEG Corporation 3314 Milwauke Ave. NE Aberdeen, SD, 57401 Telephone: 605-225-1349 E-mail: thomas.j.heinz@imegcorp.com

GENERAL NOTES:

- B. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ANY
- QUALITY SO THAT PATCH IS INDISTINGUISHABLE FROM ORIGINAL SURFACE.
- HAVING JURISDICTION.
- ELECTRICAL CLEARANCES.
- SPACE.
- THICKNESS AS SPECIFIED. H. ALL FLEXIBLE DUCTWORK AND CONNECTORS BETWEEN THE LOW PRESSURE DUCTWORK AND THE DIFFUSERS SHALL BE THE SIZE OF THE DIFFUSER INLET.
- J. PROVIDE & INSTALL DURODINE FLEX DUCT CONNECTORS AT ALL EQUIPMENT CONNECTIONS.
- K. ALL DUCTWORK TO BE SEALED AIRTIGHT. L. FRESH AIR INTAKES TO BE MINIMUM 10' FROM ANY EXHAUST TERMINATION. THIS CONTRACTOR.
- DIMENSIONS. NOTIFY THE A/E IMMEDIATELY OF ANY DISCREPANCIES. O. COORDINATE NEW SERVICES WITH LOCAL UTILITIES.
- DRAINS, AND FLOOR SINKS AS SHOWN OR AS REQUIRED BY CODE.

O KEYNOTES

1. THIS SPACE IS RESERVED FOR ELECTRICAL GEAR. PIPING AND EQUIPMENT SHALL NOT BE LOCATED IN FRONT OF OR ROUTED ABOVE ELECTRICAL PANELS. COORDINATE WITH DIVISION 26.

<u>KEYPLAN</u>

Date 100% CONSTRUCTION DOCUMENTS 9 APRIL 2024 LINCOLN HALL

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A. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER. OPENINGS LEFT IN FLOORS, WALLS, AND CEILINGS THAT WERE CAUSED BY HIS/HER ACTIONS. PATCHING SHALL MATCH EXISTING SURFACE IN COLOR, TEXTURE AND C. ALL PENETRATIONS THROUGH DRAFT STOPS AND OTHER FIRE-RATED PARTITIONS SHALL BE FIRE STOPPED AS PER SPECIFICATIONS AND LOCAL CODES. D. ALL MECHANICAL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, NATIONAL PLUMBING REGULATIONS, AND THE AUTHORITY E. THE MECHANICAL DRAWINGS SHOW GENERAL ARRANGEMENT ONLY. EXACT LOCATION SHALL AVOID INTERFERENCE WITH ELECTRICAL EQUIPMENT & REQUIRED F. PLUMBING CONTRACTOR & VENTILATION CONTRACTOR SHALL COORDINATE ALL PROPOSED WORK WITH ALL OTHER TRADES TO ACCOMMODATE LIMITED CEILING G. FOR SIMPLICITY DUCT INSULATION NOT SHOWN, DUCT SIZES INDICATED ON DRAWING ARE INTERNAL DIMENSIONS. AS NEEDED ADJUST ACTUAL SIZE FOR INSULATION I. PROVIDE & INSTALL VIBRATION ISOLATION ON ALL HANGING EQUIPMENT. PROVIDE & INSTALL VIBRATION ABSORPTION MOUNTING PADS ON ALL EQUIPMENT MOUNTED ON FLOOR. M. ALL FLOOR EQUIPMENT SHALL BE SET ON 4" HIGH CONCRETE BASES FURNISHED BY

N. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND P. PLUMBING CONTRACTOR TO PROVIDE VENTING FOR ALL FLOOR DRAINS, TRENCH

Project Number: 211100748 Drawn By: SICHMELLER ENGINEERING Reviewed By: TS TS Approved By: GRAHAM HALL - LEVEL 2 MECHANICAL PROPOSED PLAN

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GENERAL NOTES:

MANNER.

LOCATION. CONTRACTOR TO VERIFY SIZE AND LOCATION.

 \frown

- 3. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL 3" FLOW
- LISTED IN FLOW BALANCING VALVE SCHEDULE.
- REQUIREMENTS WITH ELECTRICAL CONTRACTOR. SEE
- TO EXISTING PUMPS P-1 AND P-2. TC TO PROVIDE & INSTALL NEW AND P-2), EC TO INSTALL VFD'S.
- OTHER TRADES & EXISTING CONDITIONS.
- HWR PIPING AT THIS LOCATION.
- SPECIAL NOTES
- OFFICE.

GRAHAM ADDITION -(BY ADD ALTERNATE)

Date lssue 100% CONSTRUCTION DOCUMENTS 9 APRIL 2024 LINCOLN HALL

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SICHMELLER ENGINEERING

/CENTER/

Project Number:

Drawn By:

Reviewed By:

A. ALL MECHANICAL SYSTEMS, EXCLUDING DROPS, TO BE INSTALLED AS HIGH AS POSSIBLE TO PROVIDE MAXIMUM CLEARANCES FOR OWNER. B. BALANCING CONTRACTOR TAKE READINGS FROM GRAHAM & STUDENT CENTER EXISTING MANUAL FLOW BALANCING VALVES PRIOR TO BEGINNING WORK ON EXISTING HEATING SYSTEM. EXISTING PLANS

9. PLUMBING CONTRACTOR TO INSTALL BTU METER PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR. TC TO PROVIDE & INSTALL ANY REQUIRED TEMPERATURE PROBES FOR BTU METER IN HWS &

8. PLUMBING CONTRACTOR TO PROVIDED AND INSTALL 2" WATER METER. TC TO INTERFACE. COORDINATE SIGNAL REQUIREMENTS WITH

FUTURE PROJECT. COORDINATE INSTALLATION & ROUTING WITH

CONTROLS, AND PROVIDE NEW VFD'S FOR PROPOSED PUMPS (P-1 7. FIRE SPRINKLER CONTRACTOR TO INSTALL FIRE SPRINKLER MAIN FOR

MODIFY EXISTING PIPING AS NECESSARY. COORDINATE ELECTRICAL MODIFICATIONS TO EXISTING HEATING PUMPS PIPING DIAGRAM. 6. TEMPERATURE CONTROLS CONTRACTOR TO DISCONNECT CONTROLS

4. EXISTING FLOW BALANCING VALVE FB#3 TO BE REBALANCED TO VALUE LISTED IN FLOW BALANCING VALVE SCHEDULE. 5. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL PROPOSED P-1 AND P-2 TO REPLACE EXISTING PUMPS (P-1 AND P-2). CONTRACTOR TO

BALANCING VALVE IN 3" HWR FROM GRAHAM. BALANCE TO VALUE

2. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL 3" HWS & HWR PIPING WITH ISOLATION VALVES TO GRAHAM HALL. CONNECT TO EXISTING 5" HWS & HWR PIPING MAINS IN THIS APPROXIMATE LOCATION. CONTRACTOR TO VERIFY EXACT SIZE AND LOCATION.

1. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL 2" DOMESTIC WATER MAIN WITH ISOLATION VALVE TO GRAHAM HALL. CONNECT TO EXISTING 2-1/2" DOMESTIC COLD WATER PIPE AT THIS APPROXIMATE

P. PLUMBING CONTRACTOR TO PROVIDE VENTING FOR ALL FLOOR DRAINS, TRENCH DRAINS, AND FLOOR SINKS AS SHOWN OR AS

L. FRESH AIR INTAKES TO BE MINIMUM 10' FROM ANY EXHAUST M. ALL FLOOR EQUIPMENT SHALL BE SET ON 4" HIGH CONCRETE BASES N. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE A/E IMMEDIATELY OF ANY

I. PROVIDE & INSTALL VIBRATION ISOLATION ON ALL HANGING EQUIPMENT. PROVIDE & INSTALL VIBRATION ABSORPTION MOUNTING J. PROVIDE & INSTALL DURODINE FLEX DUCT CONNECTORS AT ALL

COORDINATE ALL PROPOSED WORK WITH ALL OTHER TRADES TO G. FOR SIMPLICITY DUCT INSULATION NOT SHOWN, DUCT SIZES INDICATED ON DRAWING ARE INTERNAL DIMENSIONS. AS NEEDED ADJUST ACTUAL SIZE FOR INSULATION THICKNESS AS SPECIFIED. H. ALL FLEXIBLE DUCTWORK AND CONNECTORS BETWEEN THE LOW PRESSURE DUCTWORK AND THE DIFFUSERS SHALL BE THE SIZE OF

C. ALL PENETRATIONS THROUGH DRAFT STOPS AND OTHER FIRE-RATED PARTITIONS SHALL BE FIRE STOPPED AS PER SPECIFICATIONS AND D. ALL MECHANICAL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, NATIONAL PLUMBING REGULATIONS, AND THE AUTHORITY HAVING JURISDICTION. E. THE MECHANICAL DRAWINGS SHOW GENERAL ARRANGEMENT ONLY. EXACT LOCATION SHALL AVOID INTERFERENCE WITH ELECTRICAL

A. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE B. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ANY OPENINGS LEFT IN FLOORS, WALLS, AND CEILINGS THAT WERE CAUSED BY HIS/HER ACTIONS. PATCHING SHALL MATCH EXISTING SURFACE IN COLOR, TEXTURE AND QUALITY SO THAT PATCH

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3 SEE TEMPERATURE CONTROL ZONE PLAN FOR EQUIPMENT CONTROLLED BY SPARE INPUTS AND OUTPUTS.

5 TEMPERATURE SENSORS SHALL BE INSTALLED WITHIN 12" OF CORRESPONDING THERMOMETER.

SF ENABL AO SF SPEED SUPPLY AIR SF STATUS DUCT PRESSURE BI AI AHU DISCHARGE AIR TEMP (AI) 000 > SUP AIR SUPPLY AIR RELATIVE HUMIDITY (AI)

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TRAVIS J SICHMELER	THER HUMAN

Date Issue 100% CONSTRUCTION DOCUMENTS 9 APRIL 2024

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SICHMELLER ENGINEERING

Project Number:

Drawn By:

Reviewed By:

Approved By:

GRAHAM HALL

									SUPPLY	FAN/MOTOR		
EQUIP. NO.	MANUFACTURER & MODEL	SERVES	LOCATION	MIN O/A CFM	MAX CFM	MIN CFM	ESP (IN W.G.)	MHP	ВНР	SIZE/TYPE	V./PH./CY.	FI
AHU-1G	DAIKIN CAH024GDGM	GRAHAM HALL VAV'S	BASEMENT MECH ROOM	2915	10470	4375	2.85	15	10.56	24.5"/PLENUM	208/3/60	41
2 3 4 5 6 7 8	 UNIT SHALL BE A HORIZON OWNER PROVIDED UNIT CON CONTRACTOR TO COORDINAT HEATING COIL PERFORMANC NOT USED. T.C. TO PROVIDE & INS OWNER PROVIDED WITH DAM 	NTAL, FLOOR MOUNTED, VA NFIGURED FOR FIELD INST TE & VERIFY HOW UNITS W CE BASED ON 40% PROPYLE STALL EBTRON AIR FLOW W MPERS TO BE FIELD INSTA	RIABLE VOLUME UNIT AND TALLED CONTROLS. T.C. TV /ILL FIT INTO BUILDING// ENE GLYCOL. MEASURING STATIONS IN OU ALLED BY V.C IN INTERNAL	SHALL INC O PROVIDE ROOM. UTSIDE AIF L RETURN A	CLUDE RET VFD'S FO DUCT AN	URN FAN, R ALL FAN D IN RELI NG AND TO	ECONOMIZER/FI IS, E.C. TO IN EF AIR DUCT SI P EXHAUST AIR	TER/MIXI STALL. ERVING AI OPENING	NG BOX, M R HANDLER OF THE EC	ERV 13 FILTERS, D DNOMIZER SECTION.	COOLING COIL,	НОТ
							ΕΝΟΤΝ	<u>с п</u>		COUEDI		
			AIR UU		ט ע אדר/	עאט ה:	CUNTE CUDTU	0 U 0 A C I			I EN \	
					TDC	COOLING	UUNII					

						/					
					C001	ING			ELECTR:	ICAL	
EQUIP NO.	MANUFACTURER & MODEL	SERVICE	LOCATION	AMB. TEMP	BTU/HR	REFRIGERANT	EER	V./PH./CY.	MCA	MOCP	MIN SCCR (KAIC)
CU-1G	AAON CFA-030-C-A-8-LA00K	AHU-1G	EXTERIOR	95.0	329,100	R-410A	11.5	208/3/60	143.0	175	65
NOTES:	1. UNIT SHALL BE PROVIDE BY	THE BUILDING OWNE	R AND INSTALLED BY	THE V.C. SEE S	PECIFICATIONS	OR OBTAINING EG	UIPMENT VALU	Ε.			
	2. OWNER PROVIDED WITH FACTO	RY-INSTALLED NON-	FUSED DISCONNECT A	ND 115V 20AMP S	ERVICE OUTLET (CONNECTION, FIEL	D POWERED BY	EC.			
	3. OWNER PROVIDED WITH FACTO	RY-INSTALLED PHAS	SE MONITOR KIT AND	HAIL PROTECTION							
	4. OWNER PROVIDED WITH LOW A	MBIENT CONTROL TO) 45°F.								
	5. RATINGS BASED ON 45.9°F S	UCTION TEMPERATUR	RE AND 95°F ENTERIN	G-AIR TEMPERATU	RE AND AHRI STA	ANDARD 340/360.					
	OWNER PROVIDED WITH DIGIT.	AL SCROLL ON LEAD) COMPRESSOR FOR CA	PACITY MODULATI	ON WITH SOUND B	BLANKETS FOR ALL	COMPRESSORS	. DIGITAL SCROLL	MUST BE CAPA	BLE OF MODUL	ATING TO 10%
	7. OWNER PROVIDED WITH 1ST Y	EAR PARTS ONLY WA	ARRANTY AND 2ND - 5	TH YEAR COMPRES	SOR PARTS ONLY	WARRANTY. VC TC	RECEIVE EQU	IPMENT AND PROVID	E 1ST YEAR L	ABOR WARRANT	Υ.
	8. TEMPORARY LANDSCAPING WOR	K FOR TEMPORARY L	OCATION BY OTHERS.	6" CONCRETE EC	UIPMENT PAD BY	OTHERS AT PERMA	NENT LOCATIO	N. COORDINATE EXA	CT PAD SIZE	& LOCATIONS	AT TEMPORARY
	9. VC TO VERIFY SIZE AND DES	IGN OF THE TEMPOF	RARY & PERMANENT RE	FRIGERANT PIPIN	G DIAGRAM INCLU	JDING ALL REFRIG	ERATION SPEC	IALTIES WITH THE	EQUIPMENT MA	NUFACTURER A	ND INCLUDE W
	LINE SIZING CALCULATIONS	DOCUMENTING SUCTI	ION RISER VELOCITY.								
		THAD THED AT ADTIN									

10. OWNER PROVIDED FACTORY AUTHORIZED STARTUP. PROVIDE NAME AND LOCATION OF STARTUP TECHNICIAN WITH THE SUBMITTAL. 11. VC TO PROVIDE & INSTALL UV RESISTANT REFRIGERANT PIPING INSULATION FOR PERMANENT LOCATION.

LOUVER SCHEDULE													
EQUIP. NO.	MANUFACTURER & MODEL	FUNCTION	SIZE (W"XH"XD")	CFM	S.P. (IN W.G.)	FREE AREA (SQ. FT.)	FREE AREA Velocity (FPM)						
LV-1GI	RUSKIN ELF6375DX	AHU-1G INTAKE	50"X64"X6"	10,470	0.10	12.96	808						
LV-1GR	RUSKIN ELF6375DX	AHU-1G RELIEF	50"X64"X6"	10,470	0.09	12.96	808						
NOTES:	 PROVIDE & INSTALL LOUVER WITH BAKI PROVIDE WITH EXTENDED SILL. SEE STATIONARY LOUVER DETAIL. VC 	ED ENAMEL FINISH, ARCHITECT TO TO SLOPE FINAL 6" OF ADJACENT	SELECT COLOR. DUCT TO LOUVER AND SEAL BOT	TOM 3" OF DUCT WAT	ERTIGHT.								

GRILLE - REGISTER - DIFFUSER SCHEDULE

EQUIP. NO.	MANUFACTURER & MODEL	NOMINAL SIZE	THROAT SIZE	MAX CFM	MAX APD	THROW (50 FPM)	NC	FRAME	FINISH	NOTES				
S-1G	PRICE SCD	24X24	10"Ø	420	0.07	11	20	LAY-IN	WHITE	1				
S-2G	PRICE 520	12X10	10X8	150	0.02	17	< 15	SURFACE	WHITE	1,2				
R-1G	PRICE 530	24X12	22X10	700	0.08		21	LAY-IN	WHITE	1,3				
R-1G	PRICE 530	12X10	10X8	150	0.03		< 15	SURFACE	WHITE	1,3				
NOTES:	Interformation Interformation Interformation Interformation Interformation 1. V.C. SHALL COORDINATE MOUNTING AND SURFACE CONSTRUCTION PRIOR TO FURNISHING MATERIAL. V.C. SHALL ALSO COORDINATE EXACT LOCATION OF EQUIPMENT. 2. PERFORMANCE BASED ON 22.5 DEGREE DEFLECTION. 3. 45 DEGREE DEFLECTION.													

	VAV TERMINAL SCHEDULE															VAV			
FOUTD			MAY	мты	MAY	MAX	MAX			HEA	TING COIL	(EWT =160)°F)			COIL	DUNQUT	WETCHT	
NO.	MANUFACTURER & MODEL	SIZE	CFM	CFM	TERM APD	RAD NC	DISCH NC	CFM	MIN MBH	EAT (°F)	LAT (°F)	GPM	LWT (°F)	WPD (FT)	ROWS	CONN. Size	SIZE	(LBS.)	NOTES
VAV - V200G	PRICE SDV	8	670	270	0.42"		22	350	18.7	55.0	104.2	7.0	154.1	8.56	2	7/8"	1"	22.0	1,2,3,4,5,6
NOTES: 1. 2. 3. 4.	SOUND DATA SHALL BE TAKE INLET STATIC PRESSURE FO PERFORMANCE BASED ON 40% LH OR RH CONNECTION ON C	N FROM ARI R TERMINAL PROPYLENE OIL PIPING	STANDARD 88 SELECTION 1 GLYCOL VARIES, SEE	30 (LATEST IS 1.0". E PLAN.	EDITION) PU FERMINAL S.P	BLISHED D. . INCLUDE	ATA. S COIL APD.				·								

SEE VAV HEATING COIL PIPING DETAIL.
 PROVIDE & INSTALL UNDER ADD ALTERNATE. SEE PLANS FOR ADDITIONAL INFORMATION.

					нот	WA ⁻	ΓER	CAB	INE	T UN]	T HEA	TER				
EQUIP.		LOCATION	0.EM	MDU	CDM	LAT	EWT	I WT	LWT WPD ELECTRICAL							
NO.	MANUFACIURER & MUDEL	LUCATION	UTM	МОП	GFM		EWI	LWI	(FT)	HP	V/PH/CY	RPM	FLA	RUN		
CUH-V100G	SIGMA SFF-A-06-SRI	STAIR 114A	600	36.3	5.0	115.7	160.0	145.5	4.3	1/10	120/1/60	1075	1.7			
NOTES: 1.	UNIT SHALL BE SEMI RECESSE	D, INVERTED AIF	R FLOW WAL	L MOUNTED	TYPE AND	SHALL BE	MOUNTED A	T 8" A.F.F	. ARRANTE	MENT 101 - F	RONT TOP IN, FRO	ONT BOTTOM OU	r.			
2.	PERFORMANCE BASED ON 40% F	PROPYLENE GLYCOL														
3.	UNIT MOUNTED 3 SPEED SWITC	CH. UNIT TO BE (CONFIGURED	FOR FIEL) INSTALLE	D DDC CON	TROLS.									
4.	4. CUSTOM COLOR BAKED ENAMEL. STANDARD COLOR NOT ACCEPTABLE. CUSTOM COLOR TO BE SELECTED BY ARCHITECT.															
5. SEE CABINET UNIT HEATER PIPING DETAIL.																
6.	PROVIDE WITH (1) ADDITIONA	AL SET OF DISPOS	SABLE FILT	ERS.												

7. PROVIDE UNIT WITH FACTORY INSTALLED MANUAL STARTER DISCONNECT (NO OVERLOADS). 8. PROVIDE & INSTALL UNDER ADD ALTERNATE. SEE PLANS FOR ADDITIONAL INFORMATION.

	RADIATION HEATER SCHEDULE																
EQUIP.			CABACTTV		AVG	FLOW			ELEM	ENT				ENCLO	OSURE		
NO.	MANUFACTURER & MODEL	TYPE AND/OR MOUNTING	(BTU/HR)	LOCATIONS	TEMP. (°F)	GPM/ FOOT	TUBE SIZE	FIN SIZE	FINS/FT	BTU/FT	LENGTH	ROWS	GAUGE	LENGTH	HEIGHT	DEPTH	NOTES
RAD - XD	RUNTAL R2F-2	DOUBLE PANEL / PEDESTAL	VARIES	VESTIBULE V100	150	0.1	3/4"	N/A	32	754	SEE PLAN	2	N/A	SEE PLAN	5-3/4"	3-3/8"	1,2,3,4,5,6
NOTES:	1. PERFORMANCE BASED 2. RADIATION SHALL BE 3. PROVIDE PIPING COV 4. PROVIDE PEDESTALS	ON 40% PROPYLENE GLYCOL. INDICATED ON PLAN & MOUNTE ERS, CORNERS, ACCESS TO VAL TO SUPPORT PIPING.	ED AT 3" AFF LVES.	ON FACTORY PE	DESTALS PI	ER MANUFAC	TURER'S RE	ECOMMENDATIC	NS, SEE PAN	EL RADIATI	ON PIPING D	ETAIL.					

5. COLOR SHALL BE CUSTOM COLOR SELECTED BY ARCHITECT. STANDARD COLOR WILL NOT BE ACCEPTABLE. 6. PROVIDE & INSTALL UNDER ADD ALTERNATE. SEE PLANS FOR ADDITIONAL INFORMATION.

			EL	ECTRIC	WATE	R HEAT	ER S	CHED	ULE					WH
EQUIP.	MANUFACTURER & MODEL	SERVING	LOCATION	STORAGE	RECOVERY @	E	ELECTRICAL		PIPING CO	ONNECTIONS	DIME	NSIONS	WEIGHT	NOTES
NO.				CAPACITY	907 NISE	V./PH./CY.	WATTS	AMPS	C.W.	H.W.	HEIGHT	DIAMETER	(LD3.)	
WH-1G	AO SMITH ENS-40	DOMESTIC HOT WATER	GRAHAM MECH 13	37 GAL.	21 GAL/HR	208/1/60	4500 @ 208	21.6 @ 208	3/4"	3/4"	49-3/4"	20-1/2"	109 +WATER	1,2,3,4
NOTES: 1. PROVIDE & INSTALL AMTROL ST-12 EXPANSION TANK. 2. P.C. TO PROVIDE & INSTALL 4" POURED CONCRETE HOUSEKEEPING PAD.														

SEE ELECTRIC WATER HEATER PIPING DETAIL.
 PROVIDE & INSTALL HONEYWELL AMX300TLF THERMOSTATIC MIXING VALVE KIT.

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AHU					HU	SCH	EDULE											
	OWI	NER	PR	OVIDE	Ð,	CON	TRACTO	R INS ⁻	TAL	LE.	D)							
						RETURN	/EXHAUST FAN/MOTOF	ł						DX COOLI	ING COIL CA	Ρ.		
	MCA	моср	CFM	ESP (IN W.G.)	MHP	BHP	SIZE/TYPE	V./PH./CY.	FLA	MCA	МОСР	TOTAL MBH	SENSIBLE MBH	EAT DB/WB	LAT DB/WB	FACE Vel.	SUCTION TEMP	REFRIG. Type

I./CY.	FLA	MCA	MOCP	CFM	ESP (IN W.G.)	МНР	BHP	SIZE/TYPE	V./PH./CY.	FLA	MCA	MOCP	TOTAL MBH	SENSIBLE MBH	
3/60	41.0	51.3	90	10470	2.18	7.5	5.97	24.5"/PLENUM	208/3/60	23.3	29.1	50	329.6	233.6	8
G COIL,	HOT WA	ter he <i>i</i>	ATING C	OIL AND S	UPPLY FAN.										

.

NOTES

1516 1,2,3,4,5,6,7,8,9,10,11

			PUM	P SC	HEDUL	E	
EQUIP. NO.	MANUFACTURER & MODEL	SERVING	LOCATION	GPM	HEAD	ТҮРЕ	HP/(W)
CP-16	BELL & GOSSETT NBE-33	DOM. HW BECIBC - WH-1	GRAHAM MECH 13	1.0	7'	TN-I TNF	(125)

ING TO 10% OF THE COMPRESSOR'S CAPACITY.

TEMPORARY & PERMANENT LOCATIONS.) INCLUDE WITH THE UNIT SUBMITTAL. INCLUDE

WEIGHT

(LBS.)

SCREEN (BIRD/INSEC	T) NOTES
YES/NO	1,2,3
YES/NO	1,2,3
FINISH	NOTES
WHITE	1

		CUH
OUT SIZE	UNIT WEIGHT (LBS)	NOTES
1"	150 + WATER	1,2,3,4,5,6,7,8
•	•	

			SUMP	PUM	P S	CHE	DUL	.Ε	

CFM | MBH | EAT | LAT

- EQUIP. NO. MANUFACTURER & MODEL GPM HEAD SIZE LOCATION HP RPM 30 18' 1-1/2" DISCHARGE SP-1G ZOELLER #N151 GRAHAM ELEVATOR PIT 1/3 3450 . PROVIDE 20' CORD WITH 3 PRONG PLUG. NOTES: 2. PROVIDE AND INSTALL 2" PVC TRI-CHECK COMBINATION CHECK VALVE, BALL VALVE, AND UNION.
 - 3. PROVIDE SJE-RHOMBUS TANK ALERT AB, HIGH WATER ALARM WITH PANEL, LIGHT, HORN, TEST AND SILENCE SWITCHES, BATTERY BACK-UP, FLOAT SWITCH, 6' POWER CORD, 30' FLOAT SWITCH CORD. 4. PROVIDE & INSTALL TOPP #FB24X036F 24"X36" DEEP FIBERGLASS BASIN WITH ANTI-FLOTATION FLANGE, TOPP #C24SSL SIMPLEX STEEL COVER WITH 2" VENT & 2" DISCHARGE, TOPP #G400 PIPE GROMMET. 5. DRAIN TILE BY STRUCTURAL CONTRACTOR. 6. INSTALL PANEL IN GRAHAM HALL MECH ROOM 13.
 - 7. SEE SUMP BASIN & PUMP PIPING DETAIL. 8. PROVIDE & INSTALL UNDER ADD ALTERNATE. SEE PLANS FOR ADDITIONAL INFORMATION.

	DI	JCTWORK			I	NSULATION TH	ICKNESS (EXTE	RIOR WRAP UN	LESS OTHERWIS	E NOTED)		
SYSTEM	MAX DIMENSION OF Rectangular ducts or Diameter of round ducts	GALVANIZED Sheet Metalpre Gauge Number	SSURE RATIN	G CONSTRUCTION	RECTANGULAR Supply Air Before Vav	ROUND Supply Air Before Vav	RECTANGULAR Supply Air After Vav	ROUND Supply Air After Vav	RETURN AIR	OUTSIDE AIR	RELIEF AIR	NOTES
	UP THRU 12"	26		WHEN LONGEST SIDE IS 36"								
	OVER 12" THRU 30"	24		OR GREATER, SHALL BE								
V ESSURE	OVER 30" THRU 54"	22	2" W.G.	CONSTRUCTED	-	-	1/2" LINER	1-1/2"	1/2" LINER	2"	2"	1,2, 3,4
TWORK	OVER 54" THRU 84"	20		DUCTMATE 35/25 SLIDE								-,.
	OVER 84"	18		ON SYSTEM,								
	UP THRU 18"	24		SHALL BE								
IUM	OVER 19" THRU 48"	22		USING								1.2.
PRESSURE DUCTWORK	OVER 48" THRU 72"	20	3" W.G.	35/25 SLIDE	1-1/2"	1-1/2"	-	-	-	-	-	3,4
	OVER 73" THRU 96"	18		ON SYSTEMS, TDF FLANGE								

4. CONCEALED DUCTS MAY BE INSULATED WITH RIGID BOARD OR FLEXIBLE FIBERGLASS INSULATION. EXPOSED DUCTS SHALL BE INSULATED WITH RIGID BOARD FIBERGLASS INSULATION ONLY.

DOMESTIC & HYDRONIC PIPING MATERIAL & INSULATION SCHEDULE

	PIPING		INSU	LATION THICK	NESS	
SYSTEM	TYPE/MATERIAL	FITTINGS	PIPE SIZES 1" OR SMALLER	PIPE SIZES 1-1/4" TO 2"	PIPE SIZES 2-1/2" AND LARGER	NOTES
DOMESTIC COLD, HOT, AND HOT RECIRC	TYPE L COPPER	SOLDER, PRO-PRESS	1/2"	1"	1-1/2"	1,2
BELOW GRADE SANITARY WASTE & VENT PIPING	SEE SPECIFICATIONS (SCH 40 PVC WHERE PERMITTED)	SEE SPECIFICATIONS (SCH 40 DWV SOLVENT WELD WHERE PERMITTED)		NONE		
ABOVE GRADE SANITARY WASTE & VENT PIPING	SEE SPECIFICATIONS (SCH 40 PVC WHERE PERMITTED)	SEE SPECIFICATIONS (SCH 40 DWV SOLVENT WELD WHERE PERMITTED)		NONE		1,3
CONDENSATE DRAIN PIPING/VENTING	TYPE M COPPER, SCH 40 PVC OR ABS WHERE PERMITTED	SOLDER, PRO-PRESS, SOLVENT WELD		NONE		1
HOT WATER SUPPLY, HOT WATER RETURN	TYPE L COPPER, SCH 40 BLACK STEEL	SOLDER, PRO-PRESS, SEE SPECS FOR STEEL FITTINGS	1/2"	1"	1-1/2"	1,2,4
NOTES: 1. SEE SPECIFICAT	IONS.		·			

2. IF USING UPONOR PEX-A PIPING, NO CRIMP FITTINGS SHALL BE ACCEPTED. CONTRACTOR MUST BE TRAINED AND FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS AND MUST FULFILL ALL AVAILABLE UPONOR 25 YEAR FITTING AND PIPE SYSTEM WARRANTY COVERAGE.

3. NO PVC PIPING ALLOWED IN RETURN AIR PLENUMS. 4. EXPOSED PIPING INSULATION SHALL BE PVC JACKETED. SEE PLANS.

	GRAHAM FL	OW BALANCER SCHEDUL	E	
NO.	LOCATION	SERVING	FLOW (GPM)	NOTES
EXG FB-2	MECH 13	WEST LOWER LEVEL	20.1	2,4
FB-3	JAMES RIVER ROOM 09	EAST LOWER LEVEL & EAST LEVEL 1	12.5	3
EXG FB-8	LEVEL 1 COORIDOR	EAST LEVEL 2	6.0	1,4
EXG FB-9	LEVEL 1 COORIDOR	WEST LEVEL 2	5.6	1,4
OTES	1 EXISTING BALANCE TO EXISTING	FLOW		

NOTES: 1. EXISTING, BALANCE TO EXISTING FLOW 2. RELOCATE EXISTING FLOW BALANCING VALVE & REBALANCE.

3. PROPOSED FLOW BALANCING VALVE. 4. PRIOR TO BEGINNING WORK, BALANCING CONTRACTOR TO RECORD EXISTING FLOW THROUGH EXISTING FLOW BALANCING VALVE.

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STUDENT CENTER

					PUMI	P SC	HEDI	JLE				P
FOUTP					HEAD			E	LECTRICAL			
NO.	MANUFACTURER & MODEL	SERVING	LOCATION	GPM	(FEET)	TYPE	HP (W)	RPM	V./PH./CY.	FLA	WEIGHT (LBS)	NOTES
P-1	ARMSTRONG 4380 4X4X11.5	PRIMARY HEATING WATER LOOP	STUDENT CENTER EXG MECH 112	422	100	IN-LINE	20	1800	208/3/60	59.4	636	1,2,3,4,5,6,7
P-2	ARMSTRONG 4380 4X4X11.5	BACKUP HEATING WATER LOOP	STUDENT CENTER EXG MECH 112	422	100	IN-LINE	20	1800	208/3/60	59.4	636	1,2,3,4,5,6,7
NOTES: 1	. PC TO PROVIDE & INST P. PERFORMANCE BASED ON	ALL PRESSURE G	AUGE WITH ISOLA	TION VALVES	S ACROSS PU	MP SUCTIONS	& DISCHA	RGE FOR BA	LANCING PURPOSE	S. PROVIDE	FACTORY AUTHORIZ	ZED START-UP.

3. T.C. TO PROVIDE VFD, E.C. TO INSTALL. 4. PROVIDE & INSTALL TRIPLE DUTY VALVE.

5. PROVIDE WITH SHAFT GROUNDING KITS. 6. SEE MODIFICATIONS TO EXISTING HEATING PUMPS PIPING DIAGRAM. 7. BY BASE BID, PUMP TO BE BALANCED TO 409 GPM.

			EXIS	STING	EXPANSION TANK SCHEDULE							EXG ET-X				
JIP. NO	. MANUFACTURER & MODEL	SERVING	LOCATION	CALCULATED SYSTEM VOLUME (GAL)	SYSTEM VOLUME WITH SAFETY	TEMP RAN	NGE (°F)	PRESSUR (PS	E RANGE IG)	REQ'D TANK VOLUME	REQ'D ACCEPTANCE VOLUME	ACTUAL TANK VOLUME	ACTUAL ACCEPTANCE VOLUME	SHIPPING WEIGHT (LBS)	NOTES	
					FACTOR (GAL)	IMAA	141 T 14	MAA	IN T IN	(GAL)	(GAL)	(GAL)	(GAL)	· · /		
EXG ET - 1	ARMSTRONG AET 30X105	HEATING WATER LOOP	STUDENT CENTER EXG MECH 112	975	1463	180	40	50	12	-	-	305	-	486 + WATER	1,2	
EXG ET-2	ARMSTRONG AET 14X63	REHEAT WATER LOOP	STUDENT CENTER EXG MECH 112	-	-	140	40	30	12	-	-	40	-	92 + WATER	1	
EXG ET-3	AMTROL ST-25V	DOMESTIC WATER SYSTEM	STUDENT CENTER EXG MECH 112	-	-	200	40	150	40	-	-	10.3	10.3	23 + WATER	1	
NOTES:	1. EXISTING FOR REFER	ENCE ONLY.														

2. PROPOSED CALCULATED SYSTEM VOLUME WITH GRAHAM HALL VOLUME ADDED TO STUDENT CENTER VOLUME.

	STUDENT CENTE	R FLOW BALANCER S	CHEDULE	
NO.	LOCATION	SERVING	FLOW (GPM) NO	OTES
EXG FB-2	MECH 112	NORTH & WEST RADIATION	21.3	1,4
EXG FB-3	MECH 112	MAIN HEATING LOOP	363.1 2	2,4
EXG FB-7	SERVERY 118	SOUTH & EAST RADIATION + INFLOOR	54.8	1,4
EXG FB-8	SERVERY 118	NORTH EAST UPPER FLOOR RADIATION	4.5	1,4
EXG FB-9	CONFERENCE 298B	RMAHU 4 HC	15.3	1,4
FB-G	SERVERY 118	GRAHAM HALL	82	3
NOTES:	 EXISTING, BALANCE TO EXISTING REBALANCE EXISTING FLOW BALANC PROPOSED FLOW BALANCING VALVE. PRIOR TO BEGINNING WORK, BALAN BALANCING VALVE. 	FLOW. FLOW. ING VALVE TO PROPOSED FLOW. BY BASE BID, BY BASE BID, BALANCE TO 70 GPM. ICING CONTRACTOR TO RECORD EXISTING FLOW T	REBALANCE TO 350 GPM. HROUGH EXISTING FLOW	

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EXG	В	-)

R		OPERATING	NOTEC					
CY.	FLA	(LBS)	NULES					
60	21	902 + WATER	1,2					
60	21	902 + WATER	1,2					
60	3.3	91 + WATER	1,2					

		_	
EXG	ET	-	

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Approved By:

GRAHAM/STUDENT CENTER

MECHANICAL SCHEDULES

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<u>SH</u>	EET NOTES:
1.	ALL THE LOW VOLTAGE DEVICES ON THIS FLOOR WILL BE SERVED FROM THE MDF. REFER TO SHEET T100 FOR MDF LOCATION.
2.	AV1 FLAT PANEL DISPLAY BACKBOX TO HAVE QUANTITY TWO (2) 1-1/14" CONDUIT TO ACCESSIBLE CEILING ABOVE DISPLAY OR LEVEL 01 CABLE TRAY.
KE	YNOTES: #
1.	MOUNT CAMERA BELOW FLAT PANEL DISPLAY.
2.	PROVIDE QTY ONE (1) 1-1/2" CONDUIT FROM FLOOR BOX TO ACCESSIBLE CEILING AND
	PROVIDE QTY ONE (1) 1-1/2" CONDUIT FROM
3.	QUANTITY TWO (2) VIDEO PROJECTION
	SCREEN CONTROL KEYPADS. LOCATE
4.	FUTURE dvLED WALL TO BE INSTALLED ON
	OPPOSITE SIDE OF WALL. PRE-WIRE AV
	BOX WITH 4 GANG PLASTER RING. INSTALL
	METAL COVER PLATE.
5.	REFER TO 2/T403 FOR AV CONNECTIVITY RISER
6.	REFERENCE AV RISER DIAGRAMS FOR AV
	OVER IP NETWORK CABLING QUANTITY AND
	NETWORK CABLING AND THERE IS AV OVER IP
	NETWORK CABLING THAT RUNS BETWEEN THE
	ROOM AND THE AV-MPP-1 LOCATED IN AV-ER-2

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LEVEL 02 PLAN - TECHNOLOGY

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KEYNOTES: # . INSTALL WIRE FOR FUTURE CARD READER. DO NOT INSTALL CARD READER.

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LEVEL 02 PLAN - PATHWAY AND SECURITY

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TECHNOLOGY ENLARGEMENT

1. REFER TO 2/T300 FOR PATHWAY ROOM LAYOUT - MDF KEYNOTE: #

1. REFER TO 1/T400 FOR BONDING BUS BAR DETAIL.

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TECHNOLOGY ENLARGEMENT

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1. WHERE SUPPORTS ATTACH TO METAL ROOF DECKING, EXCLUDING CONCRETE ON METAL DECKING, DO NOT EXCEED 25 LBS. PER HANGAR AND A MINIMUM SPACING OF 2'-0" ON CENTER. THIS 25 LB. LOAD AND 2'-0" SPACING INCLUDE ELECTRICAL AND MECHANICAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, THE ADDITION OF SUPPLEMENTAL FRAMING OFF STEEL FRAMING WILL BE REQUIRED.

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BONDING CONDUCTOR SIZING SCHEDULE MINIMUM ACCEPTABLE CONDUCTOR LENGTH IN FEET SIZE - AWG 4/0 250 kcmil 300 kcmil 350 kcmil 500 kcmil 600 kcmil **GREATER THAN 301'** 750 kcmil

LESS THAN 13

14' - 20'

21' - 26'

27' - 33'

34' - 41'

42' - 52'

53' - 66'

67' - 84'

85' 105'

106' - 125'

126' - 150'

151' - 175'

176' - 250'

251' - 300'

- KEYNOTES: # REFER TO TELECOM ROOM REFERENCES SCHEDULE FOR TELECOMMUNICATIONS ROOM NUMBER AND LOCATION INFORMATION. . INCLUDES HORIZONTAL AND VERTICAL CONDUIT SLEEVES FOR TECHNOLOGY CABLING. . TELECOMMUNICATIONS BONDING BACKBONE (TBB). REFER TO TELECOMMUNICATIONS BONDING RISER DIAGRAM. 4. TELECOMMUNICATIONS BONDING CONDUCTOR (TBC), TO EXISTING ELECTRICAL ENTRANCE INTERSYSTEM BONDING TERMINATION. REFER TO TELECOMMUNICATIONS BONDING RISER DIAGRAM FOR CONTINUATION AND ADDITIONAL INFORMATION AND REQUIREMENTS. THIS CONNECTION OCCURS IN MC-1 ONLY.
- 5. REFER TO THE ELECTRICAL DRAWINGS FOR LOCATION. 6. PROVIDE <u>SC-GND-2</u> RACK MOUNT TELECOMMUNICATIONS BONDING BUSBAR AT EACH EQUIPMENT RACK AND CABINET. 7. BACKBONE BONDING CONDUCTOR (BBC) REFER TO TELECOMMUNICATIONS BONDING RISER DIAGRAM FOR CONTINUATION AND ADDITIONAL INFORMATION AND REQUIREMENTS ON TELECOMMUNICATIONS ROOMS THAT REQUIRE CONNECTIONS.

- 1. 23 GAUGE, 4-PAIR, CATEGORY 6, UNSHIELDED TWISTED PAIR CABLE, SEE SPECIFICATIONS. 2. REFER TO INFORMATION OUTLET SCHEDULE ON T600 AND THE FLOOR PLANS FOR QUANTITY OF CABLES AND JACKS TO BE INSTALLED AT EACH INFORMATION OUTLET.
- 3. RJ-45 TO RJ-45 CATEGORY CAT 6 UTP PATCH CORD. SEE SPECIFICATIONS. 4. FIBER PATCH CORD. SEE SPECIFICATIONS.
- 5. 23 GAUGE, 4 PAIR, CATEGORY 6A, UNSHIELDED TWISTED PAIR CABLE, SEE SPECIFICATIONS.

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T B	ELECOMMUNICA ONDING JUMPER CABLE TRAY (CONTINUOUS BOND)	ΓΙΟΝS (TBJ)
	EQUIPMENT RACK(S)	6
	EQUIPMENT CABINET(S)	6

SHALL NOT BE USED TO CONNECT COMMUNICATIONS BONDING CONDUCTORS TO EQUIPMENT. WHERE NECESSARY, REMOVE PAINT AND/OR USE PAINT-PIERCING WASHERS TO PROVIDE PROPER ELECTRICAL BOND AT ALL CONNECTIONS.

1. ELECTRONIC 2. REFER TO TH	DOOF	r hari Chnol	owar Ogy e	e suc Equipi	H AS E	ELECT	RIC S	TRIKES FOR C	s, ele Rede		IC LAT		ROL ETRAC TYPE		DS , etc.	SEC SHALL DN.	UR BE P	ROVIE	Y S Ded A		EM stall	IE (CS:	S) 7 Ers.	ΓΥF	PE (SC	HE	DU	LE	
		CRE RE	DEN EADE	TIAL ER		INTEGRATION					RE	REQUEST TO EXIT DOOR HARDWARE / MONITORING						IG	OTHER (REFER TO NOTES)												
DOOR #	ROUGH-IN ONLY	CREDENTIAL READER TYPE	MULTIPLE CREDENTIAL READERS OPERATES SINGLE DOOR	OPERATES MULTIPLE DOORS	AUTOMATIC DOOR OPERATOR	ELEVATOR	LOCKED BY EMERGENCY DURESS SEQUENCE	INFANT PROTECTION	REMOTE UNLOCK VIA INTERCOM MASTER	REMOTE UNLOCK VIA PUSHBUTTON	INTRUSION DETECTION	REMOTE UNLOCK VIA FIRE COMMAND CENTER	VIDEO SURVEILLANCE	WANDER PREVENTION SYSTEM	MOTION DETECTOR	LOCAL PUSHBUTTON DOOR HARDWARE OVERRIDE	INTERNAL ELECTRIFIED HARDWARE CONNECTION (BY OTHERS	ELECTRONIC LOCKING HARDWARE (BY OTHERS)	MAG LOCK	LATCH STATUS DETECTION (BY OTHERS)	LOCAL ALARM HORN	MONITOR LATCH BOLT (BY OTHERS)	MONITOR DOOR POSITION SWITCH SPDT	MONITOR DOOR POSITION SWITCH DPDT	MONITOR DOOR POSITION SWITCH - OVERHEAD DOOR	MONITOR DOOR POSITION SWITCH - ROOF HATCH	DELAYED EGRESS (BY OTHERS)	LOCAL 120VAC POWER SUPPLY	SCHEDULE BASED LOCKING	VISUAL STROBE/AUDIBLE ALARM	NOTES
100A		R1																•					•								
114A		R1																•		+	<u> </u>		•								[
115		R1											1					•		++	<u> </u>		•								
200																															
203		R1																•					•						-		
204		R1																•					•								
204		R1											-					•		<u> </u>	<u> </u>		•								
204		R1																•		<u> </u>	<u> </u>		•								
227E		R1											-					•		<u> </u>	<u> </u>		•								<u> </u>
227H		R1				-												•		ļ!	 		•								<u> </u>
227K		R1				1	1						1		1			•		1	1		•								

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ACCESS CONTROL RISER DIAGRAM NO SCALE NOTES:

- 1. THIS DIAGRAM IS DIAGRAMMATIC AND MAY NOT SHOW ACTUAL DEVICE QUANTITIES OR LOCATIONS. ALL DEVICES SHOWN ARE TYPICAL AND MAY NOT REFLECT EVERY WIRE OR CONNECTION THAT MUST BE MADE. WIRING SHOWN ON THIS DIAGRAM REFLECTS THE REQUIREMENTS FOR THE BASIS OF DESIGN MANUFACTURER. ANY CHANGES REQUIRED DUE TO THE T.C.'S SELECTION OF AN ALTERNATE MANUFACTURER, INCLUDING ANY POWER REQUIRED FOR FIELD LOCATED SECURITY CONTROLLERS, SHALL BE INCLUDED IN THE T.C.'S BID.
- ALL CONDUCTOR SIZES ARE LISTED A MINIMUM SIZES. ALL WORKSTATIONS AND SERVERS REQUIRE A KEYBOARD AND MOUSE. 4. MULTICONDUCTOR COMPOSITE CABLES ARE ACCEPTABLE.
- KEYNOTES: #

OWNER FURNISHED

ADDITIONAL INFORMATION

1. CATEGORY 6 RJ-45 TO RJ-45 PATCH CABLE. 2. CONNECT TO FIRE ALARM PANEL, REFER TO ELECTRICAL DRAWINGS FOR PANEL LOCATION.

1. THIS RISER IS DIAGRAMMATIC AND NOT INTENDED TO SHOW ACTUAL ROUTING OR QUANTITIES OF MATERIALS SHOWN. THIS RISER IS SHOWN FOR CLARIFICATION OF CONNECTION LOCATIONS AND CABLE TYPE. ALL INFORMATION OUTLETS ARE TYPICAL OF THE OUTLETS IN THE AREA SHOWN. REFER TO PLANS FOR MORE SPECIFIC ROUTING INFORMATION. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

<u>KEYNOTES:</u> #

- REFER TO FLOOR PLANS FOR QUANTITIES AND LOCATIONS. 2. CATEGORY 6 DATA PATCH CORD.
- 3. ONE (1) 2/16 AWG FOR REMOTE MONITORING OF THE AREA OF REFUGE MASTER
- STATION. 4. 110V POWER CONNECTION. COORDINATE LOCATION WITH E.C. PRIOR TO INSTALLATION.

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	TECHNOLOGY EQUIPMENT SCHEDULE			TECHNOLOGY EQUIPMENT SCHEDULE	
THE EQUIPMENT LIS SHALL BE RESPONS	T ABBREVIATIONS AND THE GENERAL TECHNOLOGY EQUIPMENT SCHEDULE ARE FOR THE CONVENIENCE OF THE CONT IBLE FOR VERIFICATION OF QUANTITIES AND SHALL FURNISH ALL MATERIAL REQUIRED, WHETHER SPECIFIED OR NOT, T	RACTOR. EACH CONTRACTOR O PRODUCE A SATISFACTORY	THE EQUIPMENT LIS SHALL BE RESPONS	T ABBREVIATIONS AND THE GENERAL TECHNOLOGY EQUIPMENT SCHEDULE ARE FOR THE CONVENIENCE OF THE CONT IBLE FOR VERIFICATION OF QUANTITIES AND SHALL FURNISH ALL MATERIAL REQUIRED, WHETHER SPECIFIED OR NOT, 1	RACTOR. EACH CONTRACTOR TO PRODUCE A SATISFACTORY
CATALOG NUMBERS ORDERED BY MANU DRAWINGS AND SPE ADDITIONAL CHARG	ARE NOT TO BE CONSIDERED COMPLETE BUT ARE GIVEN ONLY TO AID THE CONTRACTOR IN THE SEARCH FOR MATERIA FACTURER AND CATALOG NUMBER ONLY. EACH CONTRACTOR SHALL FIRST READ THE COMPLETE DESCRIPTION OF THE ECIFICATIONS. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN. "STANDARD COLOR" INDICATES FACTORY F E.	AL. NO MATERIAL SHALL BE MATERIAL ON THESE INISH AVAILABLE AT NO	CATALOG NUMBERS ORDERED BY MANU DRAWINGS AND SPE ADDITIONAL CHARG	ARE NOT TO BE CONSIDERED COMPLETE BUT ARE GIVEN ONLY TO AID THE CONTRACTOR IN THE SEARCH FOR MATERI FACTURER AND CATALOG NUMBER ONLY. EACH CONTRACTOR SHALL FIRST READ THE COMPLETE DESCRIPTION OF TH ECIFICATIONS. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN. "STANDARD COLOR" INDICATES FACTORY I E.	AL. NO MATERIAL SHALL BE E MATERIAL ON THESE FINISH AVAILABLE AT NO
EQUIPMENT LIST ABBREVIATION	EQUIPMENT LIST DESCRIPTION	MANUFACTURER AND MODEL	EQUIPMENT LIST ABBREVIATION	EQUIPMENT LIST DESCRIPTION	MANUFACTURER AND MODEL
AC-PSP-1 AC-R1-W	OWNER FURNISHED.ACCESS CONTROL POWER SUPPLY. CREDENTIAL READER, PROVIDED AS INTEGRAL PART OF SECURITY MANAGEMENT SYSTEM, REFER TO ACCESS CONTROL SYSTEM DOOR SCHEDULE FOR COMPLETE INFORMATION. CARD READERS SHOWN ON PLANS TO IDENTIFY	* OFCI	AV-SWUSB-1 AV-TP1-S	2 PORT USB SWITCHER THAT ALLOW SWITCHING BETWEEN MULTIPLE HOST DEVICES AND MULTIPLE USB PERIPHERALS. 7" AV TOUCH PANEL, SURFACE/TABLETOP, COLOR: BLACK (AVAILABLE IN WHITE)	EXTRON SW2 USB CRESTRON
	INTENDED MOUNTING LOCATION, REFER TO SPECIFICATION SECTION 28 13 00 FOR COMPLETE INFORMATION.	NO SUBSTITUTIONS	AV-TP1-W	7" AV TOUCH PANEL. WALL MOUNT. COLOR: BLACK (AVAILABLE IN WHITE)	TS-770-B-S CRESTRON
AC-SCP-1	SECURITY MANAGEMENT SYSTEM CONTROLLER, FOR USE WITH INTEGRATED SECURITY MANAGEMENT SYSTEM, REFER TO SPECIFICATION SECTION 28 13 00 FOR COMPLETE INFORMATION.	LENEL S2	AV-TP3-W AV-VPS-1	VIDEO PROJECTION SCREEN. ELECTRONIC CEILING MOUNT. BLACK-BACKED. 16:10 ASPECT RATIO. 123" SCREEN	DALITE
AR-AA1-W	AREA OF RESCUE ASSISTANCE CALL STATION WILL INITATE A CALL TO THE MASTER CONTROL STATION WHEN BUTTON IS PRESSED. FACEPLATE SHALL BE SATIN-FINISH STAINELSS STEEL WITH SILK-SCREEN DESIGNATION.ACTIVATION BUTTON SHALL BE VIA A 1.5" MUSHROOM PUSH BUTTON.	CORNELL 4800V SERIES		SIZE. PROVIDE WITH 1.0 GAIN MATTE WHITE PROJECTION SURFACE. PROVIDE WITH STANDARD LOW VOLTAGE CONTROL MODULE. PROJECTION SCREEN SHALL BE MOUNTED PLUMB AND LEVEL TO ENSURE PROPER HANG OF PROJECTION SCREEN SURFACE.	TENSIONED ADVANTAGE ELECTROL
	PROVIDE AND INSTALL REQUIRED SIGNAGE TO MEET CODE. PROVIDE CORNELL BACK BOX AND (1) 1" CONDUIT TO MASTER CONTROL STATION.	OR PRE-APPROVED EQUAL		CONTRACTOR SHALL PROVIDE SINGLE GANG BACKBOX WITH (1) 3/4" CONDUIT TO SCREEN CASING FOR UP/DOWN/STOP SCREEN CONTROL MODULE.COORDINATE MOUNTING OF RAISE/LOWER SWITCH WITH ROOM	ACCESSORY SCREEN CONTROLLER WITH P₀E INJECTOR
AR-AMS-W	AREA OF RESCUE MASTER CALL STATION. PROVIDE FULLY SUPERVISED, TWO-WAY VOICE COMMUNICATION, BETWEEN EACH CALL STATION AND UP TO FIVE CONTROL PANELS. A SINGLE STATION CAN SUPPORT 1-8 CALL STATIONS.	CORNELL 4800M SERIES		LIGHT SWITCH(ES).	(NOT INCLUDED WITH SCREEN)
	OFF SITE NOTIFICATION IF LOCAL STATION GOES UNANSWERED.	OR PRE-APPROVED EQUAL	AV-WP1-W	DANTE/AES67 NETWORK AUDIO WALLPLATE. 2 BALANCED MIC/LINE INPUTS, 2 BALANCED XLR LINE OUTPUTS, AND 2	OR PRE-APPROVED EQUAL
AV-AMP-1	POWER AUDIO AMPLIFIER, 2-CHANNELS, 60 WATTS PER CHANNEL @ 4 OHMS/80HMS AND UP TO 250 WATTS INTO 70V; CLASS D RATED; SNR: 90 dB. DIMENSIONS: 1.7"H X 8.7"W X 9.5"D; WEIGHT 3.5LBS.	QSC SPA2-60	AV-WP2-W	HDMI AND USB PASS THROUGH WALL PLATE - WHITE. DECORA-STYLE INSERT. ALUMINUM CONSTRUCTION.	C2G CG39702
AV-AVOIPENC-1 AV-BYOD-1	NETWORK VIDEO ENDPOINT ENCODER. WIRELESS PRESENTATION AND CONFERENCE SYSTEM.	Q-SYS NV-32-H MERSIVE		HDMI PASS THROUGH WALL PLATE - WHITE. DECORA-STYLE INSERT. STEEL CONSTRUCTION. AVAILABLE IN BLACK AND ALUMINUM FINISH.	C2G CG410043 CRESTRON
AV-CAM-1	12x OPTICALZOOM, 80 DEGREE FIELD OF VIEW (FOV), PTZ-IP CONFERENCING CAMERA.	SOLSTICE POD QSC PT712X80	PW-CPW-1	STI EZ PATH SERIES 44 FIRE RATED DESIGNED FOR NEW OR EXISTING CABLE INSTALLATIONS THROUGH UPTO 10"	DM-NVX-E20-2G-W-T
AV-CAM-2	PROVIDE A 4"DEEPSQUARE BOX WITH A 1-GANG RING. INSTALL (1) 1"CONDUIT TO THE ACCESSIBLE CEILING.NATIVE 4K UHD (30fps) VISUALIZER. 12X ZOOM (6X OPTICAL). 1080p STREAMING AND RECORDING.	WOLFVISION		THICK WALLS OR FLOORS. THE EZ PATH SERIES 44 PATHWAY HOLDS UP TO 210 CAT 6 CABLES.	OR PRE-APPROVED EQUAL
AV-ENC-1	PROVIDE A 4"DEEP SQUARE BOX WITH A 1-GANG RING. INSTALL (1) 1"CONDUIT TO THE ACCESSIBLE CEILING. 6"WX6"HX4"D WALL BOX WITH SCREW COVER AND KNOCKOUTS. PROVIDE TWO (2) 1-1/4" CONDUIT TO ACCESSIBLE	WIEGMANN	PW-HH-1	HANDHOLE COMPOSITE POLYMER CONCRETE BODY AND COVER. STAINLESS STEEL HARDWARE BOLTED NON-SKID COVER RATED FOR 15,000LB. DESIGN LOAD OCCASIONAL NON-DELIBERATE VEHICULAR TRAFFIC. STACK UNITS TO ACIEVE DEPTH SHOWN ON PLANS. UNITS IN LANDSCAPED AREAS SHALL BE GREEN IN COLOR. "COMMUNICATIONS"	HUBBELL/QUAZITE PG2424BB24 PG2424HA00
AV-FR-2	CEILING.	OR PRE-APPROVED EQUAL		LOGO ON HANHOLE COVER. CONTRACTOR SHALL FIELD VERIFY QUANTITY AND LOCATIONS. REFER TO X/XXXX FOR DETAIL. PW-HH-1 = 24"WX24"L.	CARSON INDUSTRIES ARMORCAST HIGHLINE PRODUCTS
	FRONT AND REAR ADJUSTABLE 10-32 THREADED RACKRAIL WITH NUMBER SPACES. INCLUDES REAR DOOR.	WRK-44-27	SC-CT-1	CABLE TRAY, WIRE MESH TYPE, 4" LOADING DEPTH, 24' WIDTH, COMPLETE WITH ALL FITTINGS AND MOUNTING HARDWARE, PROVIDE TRAPEZE SUPPORT WITH PLASTIC RETAINER, CUTTING OF THE MESH CABLE TRAY SHALL BE	SYNERTECH PANDUIT WG24BL10
AV-ER-3	ADA COMPLIANT ELECTRIC HEIGHT-ADJUSTABLE DESK WITH 10RU RACK COMPARTMENT.	EXACT FURNITURE DS-740 (OWNER-FURNISHED)		DONE WITH OFFSET BOLT CUTTERS ONLY. 10' MAXIMUM SUPPORT SPAN. EITHER SPLICE WASHERS OR TERMINAL GROUND SUPPORT AND JUMPER WIRE SHALL BE USED TO ATTAIN GROUNDING CONTINUITY THROUGHOUT. Z-BRACKETS SHALL BE USED FOR WALL MOUNTED APPLICATIONS. REFER TO MANIFERCITIERES INSTALLATION	
AV-HDMISW-1 AV-HWM-1	8X2 MULII-FORMAT MATRIX SWITCHER WITH DUAL, MIRRORED HDMI/HDBASET OUTPUTS HORIZONTAL WIRE MANAGEMENT, 3" X 3" RIGID FRONT FINGERS WITH FLEXIBLE RETENTION TABS. 2" X 5" FLEXIBLE	AT-UHD-CLSO-824 PANDUIT		INSTRUCTIONS AND SPECIFICATION SECTION 27 05 28 FOR ADDITIONAL INFORMATION. PROVIDE CABLE PATHWAY SEPARATOR AT 5' INTERVALS TO PROVIDE SEPARATE PATHWAYS FOR VOICE/DATA AND NURSE CALL VS. SECURITY AND PAGING.	
	REAR FINGERS. REMOVABLE FRONT COVER HINGES 180 UP OR DOWN. INTEGRAL BEND RADIUS CONTROL. PASS THROUGH HOLES ALLOW FRONT TO REAR CABLING. REQUIRES (2) 1.75" MOUNTING SPACES.	NMF1 OR PRE-APPROVED EQUAL	SC-ER-1	STANDARD 19" EQUIPMENT RACK, 84"H X 19"W PROVIDES (45) 19" X 1.75" MOUNTING SPACES.	PANDUIT R2P
AV-KP1-W	WALL MOUNTED KEYPAD. USES STANDARD ELECTRICAL GANG BOXES AND DECORA-STYLE FACEPLATES. INTERCHANGEABLE ENGRAVED BUTTONS.	CRESTRON BPC-8		PROVIDE WITH TOP CENTER WATERFALL, TOP CHANNEL PATHWAY FOR LADDER RACK, AND ANY ADDITIONAL HARDWARE FOR COMPLETE INSTALLATION. REFER TO SPECIFICATIONS SECTION 27 11 00 FOR ADDITIONAL INFORMATION.	
AV-KP3-W	PROVIDE A 4"DEEPSQUARE BOX WITH A 1-GANG RING. INSTALL (1) 1"CONDUIT TO THE ACCESSIBLE CEILING.DA-LITE PROJECTION SCREEN NETWORK CONTROL INTERFACE WITH PoE.	DA-LITE	SC-FDC-1	FIBER OPTIC DISTRIBUTION CABINET, RACK MOUNT. ACCOMMODATES A MIN. OF (6) MODULAR ADAPTER PANELS OR MODULES. WELDED STEEL CONSTRUCTION, BLACK POWDER-COAT FINISH, INTEGRATED FRONT CABLE MANAGEMENT TROUGH, LOCKABLE. REQUIRES TWO (2) 1.75" MOUNTING SPACES.	PANDUIT FLEX2U06
AV-LED-1	DIRECT VIEW LED VIDEO WALL. 1.8 PIXEL PITCH. DIMENSION: 9.84' X 5.5' HIGH.	SAMSUNG LH015IACCHS/ZA 130"	SC-GND-1	WALL MOUNT GROUND BAR. 4"H X 12"L X 1/4" D COPPER, ELECTRICALLY ISOLATED BY INSULATORS INTEGRAL TO MOUNTING BRACKERS. PROVIDE UNIT CONFIGURATED WITH SIXTEEN (16) SETS OF 5/16" HOLES SPACED 5/8" ON CENTER TO ACCOMMODATE "A" SPACED TWO-HOLE COMPRESSION LUGS AND THREE (3) SETS OF 7/16" HOLES	CHATSWORTH PRODUCTS 40153-012
AV-MNT-1	TILTING WALL MOUNT. TILTS: +2 TO -12. FITS SCREEN SIZE 37" TO 85". 17.4 ADJUSTABLE LATERAL SHIFT. MANUAL	OR PRE-APPROVED EQUAL		SPACED 1" ON CENTER TO ACCOMMODATE "C" SPACED TWO-HOLE COMPRESSION LUGS. ANSI/EIA/TIA-607 AND BICSI COMPLIANT. UL LISTED	
	HEIGHT ADJUSTMENT 1", MAXIMUM WWIGHT: 200 LBS. DIMENSION 18.25"H X 34.75"W X 2"D.	ST650 OR PRE-APPROVED EQUAL	SC-GND-2 SC-HWM-1	RACK MOUNT GROUNDBAR. HORIZONTAL WIRE MANAGEMENT, 3" X 3" RIGID FRONT FINGERS WITH FLEXIBLE RETENTION TABS, 2" X 5" FLEXIBLE	PANDUIT
AV-MON-1	50" LED FLAT PANEL DISPLAY, 4K RESOLUTION, 3 X HDMI INPUTS, ETHERNET PORT, USB PORT, BUILT IN TUNER, OPTICAL OUTPUT, CEC CONTROL, BUILT IN SPEAKERS, POWER REQUIREMENTS: 110-120 VAC, DIMENSIONS:	LG 50UR340C9		REAR FINGERS. REMOVABLE FRONT COVER HINGES 180 UP OR DOWN. INTEGRAL BEND RADIUS CONTROL. PASS THROUGH HOLES ALLOW FRONT TO REAR CABLING. REQUIRES (2) 1.75" MOUNTING SPACES.	NMF1 OR PRE-APPROVED EQUAL
AV-MON-2	55" LED FLAT PANEL DISPLAY, 4K RESOLUTION, 3 X HDMI INPUTS, ETHERNET PORT, USB PORT, BUILT IN TUNER,	SHARP/NEC LG 55UR340C9	SC-IO-C	INFORMATION OUTLET, CEILING MOUNT, 1 OR 2-PORT SURFACE BOX AS INDICATED ON DRAWINGS, "#"INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION AS INDICATED ON THE PLANS. REFER TO	PANDUIT CBX2WH-AY
	48.6"Wx28.1"Hx2.3"D, WEIGHT: 30.9lbs.	SAMSUNG SHARP/NEC		INFORMATION OUTLET SCHEDULE FOR PIN CONFIGURATION.	CAT6 (CAMERA) CJ688TP SERIES
AV-MON-3	65" LED FLAT PANEL DISPLAY, 4K RESOLUTION, 3 X HDMI INPUTS, ETHERNET PORT, USB PORT, BUILT IN TUNER, OPTICAL OUTPUT, CEC CONTROL, BUILT IN SPEAKERS, POWER REQUIREMENTS: 110-120 VAC, DIMENSIONS: 57.2"Wx33.0"Hx2.3"D, WEIGHT: 47.4lbs.	LG 65UR340C9 SAMSUNG		CONDUIT 6" BEYOND BOX AND TERMINATE WITH A NYLON BUSHING. PROVIDE REMOVABLE BLANK INSERTS FOR UNUSED PORTS.	CAT6A: (WAP) CJ6X88TGWH
AV-MON-4	75" LED FLAT PANEL DISPLAY, 4K RESOLUTION, 3 X HDMI INPUTS, ETHERNET PORT, USB PORT, BUILT IN TUNER, OPTICAL OUTPUT, CEC CONTROL, BUILT IN SPEAKERS, POWER REQUIREMENTS: 110-120 VAC, DIMENSIONS:	SHARP/NEC LG 75UR340C9			
	66.1"Wx38.0"Hx2.4"D, WEIGHT: 69.2lbs.	SAMSUNG SHARP/NEC			
	OPTICAL OUTPUT, CEC CONTROL, BUILT IN SPEAKERS, POWER REQUIREMENTS: 110-120 VAC, DIMENSIONS: 75.9"WX43.5"HX2.4"D, WEIGHT: 99.6lbs.	SAMSUNG			
AV-MP1-C	CEILING ARRAY MICROPHONE.	SHURE MXA920W-US			
AV-MP1-W AV-MP2-S	WIRELESS MICROPHONE SYSTEM. DANTE AND AES67 DIGITAL AUDIO NETWORKING. SURFACE MOUNT GOOSENECK MICROPHONE.	SHURE MICROFLEX WIRELESS SHURE			
AV-MPP-1	MODULAR PATCH PANEL, 24 MODULAR RJ-45 TERMINATIONS, MOUNTS DIRECTLY TO EIA/TIA STANDARD 19" RELAY	MX-SERIES PANDUIT CAT 6:DP24688TGY			
AV-NET-C	LISTED.REQUIRES (1) 1.75" MOUNTING SPACES. INFORMATION OUTLET, CEILING MOUNT. 2 PORT COVERPLATE AS INDICATED ON DRAWINGS AND INFORMATION OUTLE	CAT 6A:DP246081G1 CAT 6A:DP246X88TGY			
	"#" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION AS INDICATED ON THE PLANS.	CAT6A JACK			
	INSTALL INFORMATION OUTLET IN A 4" SQUARE BACKBOX WITH A SINGLE GANG PLASTER RING. INSTALL A 1" EMT CONDUIT TO NEAREST CABLE TRAY OR UNLESS OTHERWISE NOTED. PROVIDE REMOVABLE BLANK INSERTS FOR	CJOX88TGYL			
AV-NET-F	AV FLOOR BOX OPENING.	<varies></varies>			
	INSTALL PASSTHROUGH OPENING IN EC PROVIDED FLOORBOX. PROVIDE WITH BLANK FACE PLATE WITH 2" GROMMET. PROVIDE (2) 1.5" CONDUIT TO ACCESSIBLE CEILING FROM E.C PROVIDED FLOOR BOX. COORDINATE ADDITIONAL MOUNTING REQUIREMENTS WITH E.C. PROVIDE REMOVABLE BLANK INSERTS FOR UNUSED PORTS.				
AV-NET-W AV-OFE-PC	<pre><varies> SMALL FORM-FACTOR PC. ELAT PANEL DISPLAY BACK BOX_SINGLE CANCE KNOCKOUTS_KNOCKOUTS_EOD 4/0"_4" AND 4 4/4" CONDUITS. </varies></pre>	<varies></varies>			
	FOUR POWER RECEPTACLES SURGE AND FILTER. EXISTING AND NEW CONSTRUCTION MOUNTING OPTIONS. INTEGRATED ZIP TIE ANCHOR POINTS. N-G; 800V L-G MAXIMUM CONTINUOUS OPERATING VOLTAGE (MCOV): 240V NOMINAL DISCHARGE CURRENT (IN): 3KA SHORT CIRCUIT CURRENT RATING (SCCR): 5KA AMBIENT	PAC526FBP4			
	TEMPERATURE MAX: 40 DEGREES C POWER CONSUMPTION: >0.5 WATT TYPE 3 SURGE PROTECTIVE DEVICE (SPD) VOLTAGE PROTECTION RATING (VPR): 600V L-N; DIMENSIONS: 15.51" X 15.4" X 3.88".				
	REFER TO FLAT PANEL ROUGH-IN DETAIL FOR MORE INFORMATION. REFER TO FLOORPLANS FOR MOUNTING ELEVATIONS. COORDINATE POWER WITH E.C. PRIOR TO INSTALLATION.				
AV-PRO-1	VIDEO PROJECTOR, 4000 LUMENS WITH DUAL LAMPS, FULL HD WUXGA (1920X1200) RESOLUTION, 2000:1 CONTRAST RATIO, 16:10 ASPECT RATIO, 4000 HOURS LIFE. (1) HDMI IN, (1) DVI-D IN, (1) SDI IN, (1) S-VIDEO IN, (2) RGB IN, (3) AUDIO IN (1) SERIAL IN AND (1) SERIAL OUT. DIMENSIONS (WXHXD) : 13-1/16" × 6-5/8" ^4 × 19-1/16".	EPSON V11HA27020			
AV-PRO-MNT-1	VIDEO PROJECTOR MOUNT (CEILING) PROVIDE WITH SUPPLEMENTARY SUPPORTS AND TIE WIRES AS REQUIRED.	PEERLESS PRGS-UNV *			
	PROVIDE A 4" SQUARE BACKBOX WITH A SINGLE GANG PLASTER RING. 1-1/4"EMT CONDUIT TO THE NEAREST				
AV-RI-C		*			
AV-RKPLT-1	ACCESSIBLE CEILING. TERMINATE CONDUIT WITH A NYLON BUSHING. 1 RU RACK PANEL WITH 3 DECORA-STYLE CUTOUTS. ADD QTY ONE (1) Q-SYS unDX2IO+ (BLACK) AND QTY ONE (1)				
	C2G410043 HDMI PASS THROUGH.	DECP-1X3 Q-SYS			
		unDX2IO+ C2G			
AV-SHLF-1	1 RU RACK SHELF. 11.5" DEEP. UNIVERSAL MOUNTING PATTERN HOLDS SMALL ITEMS IN FRONT OR REAR OF RACK.	MIDDLE ATLANTIC UMS1-11.5			
AV-SP1-C	6.5" TWO-WAY LOW-PROFILE CEILING SPEAKER.	QSC AD-C6T-LP			
AV-SP1-W	WALL WOUNTED SPEARER WAL-MOUNTED COLUMN SPEAKER. 8 DRIVERS. FULL RANGE. 70V/100V OR 8 OHM.	AD-S802T			
AV-SRG-1	SURGE SUPPRESSOR. 12 OUTLETS, 15 FOOT CORD WITH NEMA5-20P STRAIGHT-IN PLUG CONNECTION, SWITCH GUARD, 20 AMP CAPACITY WITH CIRCUIT BREAKER, 120V AC 50/60 Hz COMPATIBLE.	TRIPP LITE IBAR12-20ULTRA			
AV-SWC-1	AV OVER IP NETWORK SWITHCH. 1 Gbps SWITCH PORTS (PoE+/PoE++). 26 PORT PoE+ AND 24 PORT PoE++.	OR PRE-APPROVED EQUAL Q-SYS NS26-1440++			

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TECHNOLOGY SCHEDULE

