MAKE UP AIR HANDLING UNIT SCHEDULE - OWNER FURNISHED

EQUIPMENT NUMBER	LOCATION	AREA SERVED	MFR.	MODEL	OPER. WEIGHT LBS	DESIGN AIRFLOW (CFM)	DESIGN OUTSIDE AIR (CFM)	MAXIMUM OUTSIDE AIR (CFM)	DESIGN OA %	SUPPLY EXT. STATIC PRESSURE (IN WG)	SUPPLY FAN		ELECTRICAL					DX COOLING COIL					GAS HEATER				PRE FILTER		ACC.
											BRAKE HP EACH	MOTOR HP EACH	V/PH/HZ	MCA	MOCP	SCCR (kA)	VFD	GROSS TOTAL CAP. MBH	GROSS SENS. CAP. MBH	ENTERING AIR DB/WB DEG F	LEAVING AIR DB/WB DEG F	REFRIGERANT	INPUT BTUH	OUTPUT BTUH	EFFICIENCY %	GAS PRESSURE IN. W.C.	DEPTH (IN)	MERV RATING	
MAU-1	GRADE	ADDITIVE LAB	TRANE	OAND720F4	8467	8,375	8,375	9,000	100%	2.0	7.190	7.5	460/3/60	166.6	175	65	YES	831.2	432.6	95/78	49.4/48.9	R-454B	800,000	648,000	81%	7-14	2	8	1,2,3
MAU-2	GRADE	ADDITIVE LAB	TRANE	OAND720F4	8467	8,370	8,320	9,000	100%	2.0	7.190	7.5	460/3/60	166.6	175	65	YES	831.2	432.6	95/78	49.4/48.9	R-454B	800,000	648,000	81%	7-14	2	8	1,2,3

ACCESSORIES:

1. PROVIDE FREEZESTAT, OVERHEAT STAT, PIEZO RINGS, FACTORY MTD VFD, CLOGGED FILTER SWITCH, OCCUPIED SCHEDULING, CONNECT TO CURRENT CLIENT BAS.
2. BIRD SCREEN
3. PROVIDE ROOM THERMOSTAT TO BE FIELD MOUNTED.

EXHAUST FAN SCHEDULE - OWNER FURNISHED

EQUIPMENT NUMBER	AREA SERVED	MODEL NUMBER *or Approved Equivalent*	CAP. CFM	EXTERNAL STATIC PRESSURE (IN WG)	FAN TYPE	WHEEL TYPE	WHEEL DIA. (INCHES)	FAN BHP	FAN RPM	MAX FAN RPM	FAN CLASS	AMCA SPARK RESIST CONST	DRIVE TYPE	FAN ROTATION (DRIVE END)	FAN ORIENT.	FAN ARR.	FAN WEIGHT (LBS)	MOTOR								ACC.
																		HP	RPM	TYPE	VOLTS	Ph.	HZ	INVERTER DUTY	SCCR KAIC	
EF-10	THERMO FISHER SCIENTIFIC FURNACE	BCSW-FRP-6	200	0.39	CENT ROOF	BACKWARD CURVED	-	0.03	890	-	I	-	DIRECT	CW	UPBLAST	-	250	1/4	-	TEFC	115	1	60	NO	5	1,2,5
EF-11	PRINT CLEAN MANUAL CLEANING HOOD	IP-5	800	1.09	CENT UTILITY SET	BACKWARD INCLINED	-	0.94	3909	-	I	A	BELT	CW	UPBLAST	-	113	1	-	EXP. PROOF	115	1	60	NO	5	1,2,4,5
EF-12	PRINT CLEAN CLEANING HOOD	IP-5	800	1.09	CENT UTILITY SET	BACKWARD INCLINED	-	0.94	3909	-	I	A	BELT	CW	UPBLAST	-	113	1	-	EXP. PROOF	115	1	60	NO	5	1,2,4,5
EF-13	PRINT CLEAN HAZARDOUS FUME HOOD	IP-5	800	1.09	CENT UTILITY SET	BACKWARD INCLINED	-	0.94	3909	-	I	A	BELT	CW	UPBLAST	-	113	1	-	EXP. PROOF	115	1	60	NO	5	1,2,4,5
EF-14	MIX-RAW PROCESSING HAZ HOOD	USF-04-B7	600	0.99	CENT UTILITY SET	BACKWARD INCLINED	-	0.8	3500	-	I	B	DIRECT	CW	UPBLAST	-	157	1	-	TEFC	115	1	60	NO	5	1,2,5
EF-15	MIX-RAW PROCESSING HAZ HOOD	USF-04-B7	600	0.99	CENT UTILITY SET	BACKWARD INCLINED	-	0.8	3500	-	I	B	DIRECT	CW	UPBLAST	-	157	1	-	TEFC	115	1	60	NO	5	1,2,5
EF-16	MIX-RAW PROCESSING HAZ HOOD	USF-04-B7	600	0.99	CENT UTILITY SET	BACKWARD INCLINED	-	0.8	3500	-	I	B	DIRECT	CW	UPBLAST	-	157	1	-	TEFC	115	1	60	NO	5	1,2,5
EF-17	EPIC PRINT 12X12 FURNACE	USF-04-B7	525	0.22	CENT UTILITY SET	BACKWARD INCLINED	-	0.07	1236	-	I	-	BELT	CW	UPBLAST	-	153	1/4	-	TEFC	115	1	60	NO	5	1,2,4,5
EF-18	EPIC PRINT 24X24 FURNACE	IP-5	800	0.48	CENT UTILITY SET	BACKWARD INCLINED	-	0.81	3688	-	I	-	BELT	CW	UPBLAST	-	113	1	-	TEFC	115	1	60	NO	5	1,2,4,5
EF-19	EPIC PRINT OVEN	IP-5	800	0.85	CENT UTILITY SET	BACKWARD INCLINED	-	0.89	3825	-	I	-	BELT	CW	UPBLAST	-	113	1	-	TEFC	115	1	60	NO	5	1,2,4,5
EF-20	EPIC PRINT 24X24 FURNACE	IP-5	800	0.53	CENT UTILITY SET	BACKWARD INCLINED	-	0.81	3688	-	I	-	BELT	CW	UPBLAST	-	113	1	-	TEFC	115	1	60	NO	5	1,2,4,5
EF-21	FOUNDRY PREHEAT FURNACE	USF-04-B7	545	0.15	CENT UTILITY SET	BACKWARD INCLINED	-	0.07	1220	-	I	-	BELT	CW	UPBLAST	-	152	1/4	-	TEFC	115	1	60	NO	5	1,2,4,5
EF-22	FOUNDRY BOTTOM LOAD PREHEAT	USF-08-B7	1100	0.53	CENT UTILITY SET	BACKWARD INCLINED	-	0.28	1831	-	I	-	BELT	CW	UPBLAST	-	143	1/3	-	TEFC	115	1	60	NO	5	1,2,4,5
EF-23	PRINT CLEAN MANUAL CLEANING HOOD	IP-5	800	0.76	CENT UTILITY SET	BACKWARD INCLINED	-	0.87	3792	-	I	A	BELT	CW	UPBLAST	-	113	1	-	EXP. PROOF	115	1	60	NO	5	1,2,4,5
EF-24	MATERIAL STORAGE/PRINT CLEAN RM	USF-08-B7	1100	0.80	CENT UTILITY SET	BACKWARD INCLINED	-	0.34	1322	-	I	A	BELT	CW	UPBLAST	-	137	1/2	-	EXP. PROOF	115	1	60	NO	5	1,2,4,5
EF-25	MIX-RAW PROCESSING RM	USF-15-B6	2340	0.96	CENT UTILITY SET	BACKWARD INCLINED	-	0.76	1505	-	I	B	BELT	CW	UPBLAST	-	198	1	-	TEFC	115	1	60	NO	5	1,2,4,5
EF-26	EPIC PRINT 12X12 FURNACE	USF-04-B7	525	0.39	CENT UTILITY SET	BACKWARD INCLINED	-	0.09	1360	-	I	-	BELT	CW	UPBLAST	-	152	1/4	-	TEFC	115	1	60	NO	5	1,2,4,5
EF-27	MEZZANINE VENT	G-090-G	425	0.11	CENT ROOF	FORWARD CURVED	-	0.02	1041	-	I	-	DIRECT	-	DOWNBLAST	-	41	1/10	-	TEFC	115	1	60	NO	5	1,2,3,5

ACCESSORIES:

1. HAND/OFF/AUTO CONTROLLER.
2. PROVIDE WITH STARTER/DISCONNECTS.
3. PROVIDE 12" HIGH EQUIPMENT CURB.
4. PROVIDE WITH VARIABLE SHEAVES
5. PROVIDE WITH VARIGREEN MOTOR

AIR DEVICE SCHEDULE - CONTRACTOR FURNISHED

TAG NUMBER	MANUFACTURER	MODEL NUMBER	THROW PATTERN	NECK SIZE (IN.)	MODULE SIZE (IN.)	FRAME STYLE	MATERIAL	FINISH	ACCESSORIES	REMARKS
CD-1	TITUS	TMSA	NOTE 1	SEE PLAN	24x24	3	STEEL	#26 WHITE	1	1
CD-2	TITUS	TMR	-	SEE PLAN	-	-	STEEL	#26 WHITE		
EG-1	TITUS	50R	-	SEE PLAN	24x24	3	STEEL	#26 WHITE		2, 3
EG-2	TITUS	50R-SS	-	SEE PLAN	SEE PLAN	1	304 SS	#04 MILL	4	4
ER-1	TITUS	350RL	-	SEE PLAN	SEE PLAN	3	STEEL	#26 WHITE	2	2
ER-2	TITUS	350RL-SS	-	SEE PLAN	SEE PLAN	1	304 SS	#04 MILL	4	
RG-1	TITUS	50R	-	SEE PLAN	24x24	3	STEEL	#26 WHITE		2, 3
RG-2	TITUS	50R	-	SEE PLAN	24x12	3	STEEL	#26 WHITE		2, 3
RR-1	TITUS	50R	-	SEE PLAN	SEE PLAN	3	STEEL	#26 WHITE	2	2
SG-1	TITUS	300RL	ADJ.	SEE PLAN	SEE PLAN	3	STEEL	#26 WHITE	2	2
SR-1	TITUS	300RL	DBL. DEFL.	SEE PLAN	SEE PLAN	1	STEEL	#26 WHITE	2	
SR-2	TITUS	HCD	-	SEE PLAN	SEE PLAN	-	ALUMINUM	#26 WHITE		

NOTES:

1. ALL DIFFUSERS TO HAVE 4-WAY THROW PATTERN UNLESS INDICATED OTHERWISE ON PLAN.

ACCESSORIES:

1. AG-85 DAMPER WITH EQUALIZING GRID (EG)
2. AG-15 OPPOSED BLADE DAMPER
3. PF, STEEL PLASTER FRAME
4. PF-SS, 304 STAINLESS STEEL PLASTER FRAME

REMARKS:

1. PROVIDE SECTORIZING BAFFLES AS SHOWN ON PLAN DRAWINGS
2. PROVIDE FRAME WITHOUT SCREW HOLES FOR LAY-IN MOUNTING
3. 1/2" x 1/2" x 1" ALUMINUM EGGCRATE GRID
4. 1/2" x 1/2" x 1/2" SS EGGCRATE GRID

FAN COIL UNIT SCHEDULE - CONTACTOR FURNISHED

EQUIP NUMBER	MFGR	MODEL NO. OUTDOOR	MODEL NO. INDOOR	DESCRIPTION STYLE	AREA SERVED	NOMINAL BTUH	COOLING CAPACITY				INDOOR		OUTDOOR	MOCP	MCA (INDOOR/OUTDOOR)	MAX POWER INPUT	RATED CURRENT	RATED INPUT	SEER2	EER2	COP	OUTDOOR WEIGHT LBS	INDOOR WEIGHT LBS	ACCESSORIES
							SA CFM	MBH TOTAL	MBH SENSIBLE	REFRIGERANT	V/PH/Z	SCCR	V DC	AMPS	AMPS	WATTS	AMPS	WATTS						
EVAP-1/ CU-1	MITSUBISHI	PUZ-AK42NLHZ	PCA-AK42NL	MINI-SPLIT	ELEC ROOM	42000	955	42	30.2	R454B	208/1/60	5	24	60	2/35	5260	40	5260	19.6	10.2	3	271	86	1,2,4
EVAP-2/ CU-2	MITSUBISHI	PUZ-AK42NLHZ	PEAD-AA42NL	MINI-SPLIT	MEZZ OFFICE	42000	1480	42	34.9	R454B	208/1/60	5	24	60	4.25/35	4655	40	4655	18.3	11	3.4	271	86	1,2,3,4

ACCESSORIES:

1. UNIT TO BE PROVIDED WITH ROOM THERMOSTAT CONTROLLER.
2. MINI CONDENSATE PUMP W/ RESERVOIR AND SENSOR
3. FILTER BOX WITH FILTER.
4. WIND BAFFLE AND 18" EQUIPMENT STAND

DUCT CLASSIFICATION SCHEDULE

EQUIPMENT NUMBER	SUPPLY AIR	RETURN AIR	EXHAUST AIR
MAU-1	GS-2-P-C-2		-
MAU-2	GS-2-P-C-2		-
RTU (EXISTING)	GS-2-P-C-2	GS-0.5-N-C-0	-
EF-1		-	GS-2-N-C-0
EF-2		-	GS-2-N-C-0
EF-3		-	GS-2-N-C-0
EF-4		-	GS-2-N-C-0
EF-5		-	GS-2-N-C-0
EF-6		-	GS-2-N-C-0
EF-7		-	GS-2-N-C-0
EF-8		-	GS-2-N-C-0
EF-9		-	GS-2-N-C-0
EF-10		-	GS-2-N-C-0
EF-11		-	GS-2-N-C-0
EF-12		-	GS-2-N-C-0
EF-13		-	GS-2-N-C-0
EF-14		-	GS-2-N-C-0
EF-15		-	GS-2-N-C-0

LEGEND:

GS-X-Y-Z-T

GS: GALVANIZED STEEL SS: 304 STAINLESS STEEL

X: INCHES WG

Y: P=POSITIVE, N=NEGATIVE

Z: DUCT SEAL CLASS (A, B, OR, C) W: WELDED

T: INSULATION THICKNESS

1. ALL CONCEALED SUPPLY DUCTWORK ABOVE CEILING SHALL BE INSULATED, IF NO CEILING, NO INSULATION IS REQUIRED.
2. OUTSIDE AIR DUCTWORK FROM INTAKE HOOD TO AIR COMPRESSOR.
3. DUCTWORK SHALL BE ALL WELDED STAINLESS STEEL, SLOPED 1/4" PER FOOT, ALL REDUCERS FLAT ON BOTTOM.

FILTER SCHEDULE (CONTRACTOR FURNISHED)

EQUIPMENT NO.	AREA	ROOM NO.	MFR.	MODEL	MATERIAL	WEIGHT (LBS)	DIMENSIONS (W"xD"xH")
F-1	EPIC PRINT	108	KROWNE ROYAL	RS1616	STAINLESS STEEL	5	16x16x2
F-2	EPIC PRINT	108	KROWNE ROYAL	RS1616	STAINLESS STEEL	5	16x16x2

FIRE DAMPER SCHEDULE (CONTRACTOR FURNISHED)

TAG NO.	MFR.	MODEL NO.	LOCATION / SERVICE	DAMPER SIZE	MAX VELOCITY (FPM)	MAX PRESSURE (IN WG)	REMARKS
FD-1	RUSKIN	DIDB2	WALL	SEE DWGS	4000	4"	1,2,3
FD-2	RUSKIN	DIDB2	DUCTWORK	SEE DWGS	4000	4"	1,2,3

REMARKS

1. B STYLE
2. BLADES OUT OF AIRSTREAM
3. SLEEVE INCLUDED

VAV BOX WITH REHEAT COIL SCHEDULE - CONTRACTOR FURNISHED

EQUIPMENT NUMBER	ROOMS SERVED	ROOM NUMBERS	SYSTEM	MFR	MODEL NUMBER	BOX TYPE	BOX SIZE	MIN FLOW %	AIR FLOW		ELECTRIC REHEAT COIL						ACCESSORIES
									MIN (CFM)	MAX (CFM)	HEATING AIRFLOW (CFM)	ENTERING AIR (°F)	LEAVING AIR (°F)	Heating Load (kW)	FLA (AMPS)	VOLTS/PH/HZ	SCCR KAIC	
V29-63	OFFICES	204,205,206	RTU-29	TRANE	VCEF-5	VAV	5	50%	90	180	90	60	90	1	2.4	277/1/60	5.0	1,2
V29-64	CONFERENCE ROOM	42	RTU-29	TRANE	VCEF-8	VAV	8	50%	250	500	250	60	90	2	6.6	277/1/60	5.0	1,2

ACCESSORIES:

1. PROVIDE WITH ROOM THERMOSTAT CONTROLLER.
2. PROVIDE WITH UC210 DDC BASIC CONTROLS

CONTROL DAMPER SCHEDULE

TAG NUMBER	MANUFACTURER	MODEL NUMBER	TYPE	LOCATION	MAXIMUM AIRFLOW (CFM)	DAMPER SIZE	
						WIDTH (INCHES)	HEIGHT (INCHES)
BD-1	GREENHECK	BR-31	BAROMETRIC	MIX INSPECTION	330	10	10
BD-2	GREENHECK	BR-31	BAROMETRIC	PREP-DIP	1260	16	16
BD-3	GREENHECK	BR-31	BAROMETRIC	PREP-DIP	1260	16	16
BD-4	GREENHECK	BR-31	BAROMETRIC	I&M INSPECTION	2345	22	22
BD-5	GREENHECK	BR-31	BAROMETRIC	PRINT CLEAN	1515	22	22
BD-6	GREENHECK	BR-31	BAROMETRIC	MIX RAW PROCESSING	420	10	10

ISSUED FOR CONSTRUCTION

NO	DESCRIPTION	BY	APPROVED
1	ISSUED FOR CONSTRUCTION	08/22/25	
0	ISSUED FOR PERMIT	07/25/25	MJS/DLW

AE PROJ NO: 241127

STATE OF OHIO
NEIL GRIFFY
E-72071
12-31-26
REGISTERED
PROFESSIONAL ENGINEER

NO / D BY	08/22/25	08/22/25	08/22/25	08/22/25	08/22/25	08/22/25
DRAWN	P. AUFDERBECK					
QA/QC	P. AUFDERBECK					
REV. ENGR/ARCHITECT	N. GRIFFY					
AE PROJECT TEAM LEADER	E. WHITTINGTON					
QA/QC	J. ALLEN					
	DRAWING ISSUED					

GE Aerospace
8556 Trade Center Dr #100 West Chester, OH 45011

BSI ENGINEERING
(513) 291-7100
(513) 291-7090
300 E. BUSINESS WAY
SUITE 300
CINCINNATI, OH 45241
PHONE
FAX

DWG TYPE: MECHANICAL
COLIBRIUM ADDITIVE LAB
HVAC SCHEDULES

DWG. BAY LOCATION: COL. F20 / E23

DWG. NO.

SHEET H6100

OUTDOOR AIR SCHEDULE PER ASHRAE 62.1-2019
SYSTEM: 1ST FLOOR MAU-2 AND RTU-6

ROOM NO.	ROOM NAME	OCCUPANCY CATEGORY	Az ROOM AREA (SQ FT)	Vps SUPPLY AIRFLOW (CFM)	MIN SUPPLY AIRFLOW...	Pz OCCUPANCY (# OF PEOPLE)	Rp	Rp*Pz	Ra	Ra*Az	Vbz	Ez	Voz	AIR CLASS
103	CORRIDOR	CORRIDORS	2,210	670	670	0	0.0	0	0.06	133	133	1.0	133	1
104	FOUNDRY	GENERAL MANUFACTURING	3,920	3190	3,190	27	10.0	274	0.18	706	980	1.0	980	2 OR 3
105	I&M INSPECTION ROOM	GENERAL MANUFACTURING	1,010	2345	2,345	7	10.0	71	0.18	182	253	1.0	253	2 OR 3
108	EPIC PRINT	GENERAL MANUFACTURING	2,989	4375	4,375	21	10.0	209	0.18	538	747	1.0	747	2 OR 3
101	PRINT CLEAN	GENERAL MANUFACTURING	1,100	2785	2,785	8	10.0	77	0.18	198	275	1.0	275	2 OR 3
TOTALS			**11,229**	**13365**	**13365**	**63**		**631**		**1756**	**2387**		**2387**	

Ps (SYSTEM POPULATION)=	60
Ev (SYSTEM VENTILATION EFFICIENCY)=	0.75
D (OCCUPANT DIVERSITY)=	0.95
Vou (UNCORRECTED OA INTAKE)=	2,356 CFM
Vot (MIN OUTDOOR AIR INTAKE)=	**3,141 CFM**
SAFETY FACTOR=	10 %
MIN OUTDOOR AIR FLOW=	3,455 CFM
ACTUAL OUTDOOR AIRFLOW=	**8320 CFM**

OUTDOOR AIR SCHEDULE PER ASHRAE 62.1-2019
SYSTEM: MAU-1

ROOM NO.	ROOM NAME	OCCUPANCY CATEGORY	Az ROOM AREA (SQ FT)	Vps SUPPLY AIRFLOW (CFM)	MIN SUPPLY AIRFLOW...	Pz OCCUPANCY (# OF PEOPLE)	Rp	Rp*Pz	Ra	Ra*Az	Vbz	Ez	Voz	AIR CLASS
113	MIXED RAW PROCESSING	GENERAL MANUFACTURING	1,300	3720	3,720	9	10.0	91	0.18	234	325	1.0	325	2 OR 3
111	MIX INSPECTION	GENERAL MANUFACTURING	473	330	330	3	10.0	33	0.18	85	118	1.0	118	2 OR 3
104	PREP DIP	GENERAL MANUFACTURING	1,150	2520	2,520	8	10.0	81	0.18	207	288	1.0	288	2 OR 3
TOTALS			**2,923**	**6570**	**6570**	**20**		**205**		**526**	**731**		**731**	

Ps (SYSTEM POPULATION)=	30
Ev (SYSTEM VENTILATION EFFICIENCY)=	0.75
D (OCCUPANT DIVERSITY)=	1.47
Vou (UNCORRECTED OA INTAKE)=	826 CFM
Vot (MIN OUTDOOR AIR INTAKE)=	**1,102 CFM**
SAFETY FACTOR=	10 %
MIN OUTDOOR AIR FLOW=	1,212 CFM
ACTUAL OUTDOOR AIRFLOW=	**6570 CFM**

OUTDOOR AIR SCHEDULE PER ASHRAE 62.1-2019
SYSTEM: 2ND FLOOR OFFICE (RTU-28 AND RTU-29)

ROOM NO.	ROOM NAME	OCCUPANCY CATEGORY	Az ROOM AREA (SQ FT)	Vps SUPPLY AIRFLOW (CFM)	MIN SUPPLY AIRFLOW...	Pz OCCUPANCY (# OF PEOPLE)	Rp	Rp*Pz	Ra	Ra*Az	Vbz	Ez	Voz	AIR CLASS	REQ'D EXHST
101	VAULTED LOBBY	MAIN ENTRY LOBBIES	817	900	900	8	5.0	41	0.06	49	90	3.0	30	1	
127	STAIRS	CORRIDORS	226	140	62	0	0.0	0	0.06	14	14	3.0	5	1	
207	CONFERENCE	CONFERENCE/MEETING	156	190	84	8	5.0	39	0.06	9	48	1.0	48	1	
208	CONFERENCE	CONFERENCE/MEETING	220	270	81	8	5.0	40	0.06	13	53	1.0	53	1	
210	OFFICE	OFFICE SPACE	181	320	96	1	5.0	5	0.06	11	15	1.0	15	1	
206/212	OPEN AREA	OFFICE SPACE	6,773	2550	2,000	78	5.0	390	0.06	406	796	1.0	796	1	
213	HUDDLE	OFFICE SPACE	91	110	55	2	5.0	10	0.06	5	15	1.0	15	2	
214	HUDDLE	OFFICE SPACE	91	130	69	2	5.0	10	0.06	5	15	1.0	15	3	
216	KITCHENETTE	BREAK ROOM (OFFICE BLDG)	236	300	132	12	5.0	59	0.12	28	87	1.0	87	1	
218	HALLWAY	CORRIDORS	101	0	0	0	0.0	0	0.06	6	6	4.0	2	1	
219	JANITORS CLOSET	JANITORS CLOSETS, TRASH ROOM, RECYCLING	22	0	0	0	0.0	0	0.00	0	0	8.0	0	3	30
220	MEN'S RESTROOM	TOILET (PUBLIC)	279	140	140	0	0.0	0	0.00	0	0	2.0	0	2	350
221	WOMEN'S RESTROOM	TOILET (PUBLIC)	282	140	140	0	0.0	0	0.00	0	0	3.0	0	2	350
222	HALLWAY	CORRIDORS	264	110	33	0	0.0	0	0.06	16	16	4.0	4	1	
223	CONFERENCE	CONFERENCE/MEETING	256	500	150	13	5.0	64	0.06	15	79	5.0	16	1	
224	CONFERENCE	CONFERENCE/MEETING	360	460	156	18	5.0	90	0.06	22	112	6.0	19	1	
225	CONFERENCE	CONFERENCE/MEETING	324	390	140	16	5.0	81	0.06	19	100	7.0	14	1	
260	CONFERENCE (NEW)	CONFERENCE/MEETING	292	500	300	15	5.0	73	0.06	18	91	2.0	45	1	
261	OFFICE (NEW)	OFFICE SPACE	91	60	30	1	5.0	5	0.06	5	10	1.0	10	1	
262	OFFICE (NEW)	OFFICE SPACE	91	60	30	1	5.0	5	0.06	5	10	1.0	10	1	
263	OFFICE (NEW)	OFFICE SPACE	124	60	30	1	5.0	3	0.06	7	11	1.0	11	1	
264	OFFICE (NEW)	OFFICE SPACE	96	100	50	1	5.0	5	0.06	6	11	1.0	11	1	
265	OFFICE (NEW)	OFFICE SPACE	96	100	50	1	5.0	5	0.06	6	11	1.0	11	1	
266	OFFICE (NEW)	OFFICE SPACE	118	100	70	1	5.0	3	0.06	7	10	1.0	10	1	
267	OFFICE (NEW)	OFFICE SPACE	139	130	49	1	5.0	5	0.06	8	13	1.0	13	1	
268	HUDDLE (NEW)	CONFERENCE/MEETING	153	150	70	4	5.0	20	0.06	9	29	1.0	29	1	
TOTALS			**11,879**	**7910**	**4917**	**190**		**952**		**692**	**1644**		**1271**		**730**

1

Ps (SYSTEM POPULATION)=	192
Ev (SYSTEM VENTILATION EFFICIENCY)=	0.75
D (OCCUPANT DIVERSITY)=	1.01
Vou (UNCORRECTED OA INTAKE)=	1,652 CFM
Vot (MIN OUTDOOR AIR INTAKE)=	**2,203 CFM**
SAFETY FACTOR=	10 %
MIN OUTDOOR AIR FLOW=	2,423 CFM
REQ'D EXHAUST=	730 CFM
ACTUAL OUTDOOR AIRFLOW=	**2468 CFM**

SEQUENCE OF OPERATION: 1

MAKE-UP AIR UNIT:

GENERAL DESCRIPTION:

THE MAKE UP AIR UNITS ARE EQUIPPED WITH DX COOLING WITH HOT GAS REHEAT AS WELL AS INDIRECT FIRED GAS HEAT FOR WINTER OPERATION. UPON START-UP THE UNIT SHALL RECEIVE SIGNAL FOR AIR CONDITIONS IN THE ROOM. ONCE IT IS DETERMINED IF HEATING OR COOLING IS REQUIRED THE UNIT SHALL EXECUTE THE FOLLOWING:

FAN OPERATION:

UPON STARTUP, THE SUPPLY FAN SHALL RUN CONTINUOUSLY PROVIDING 100% OUTDOOR AIR TO THE SPACE. THE FAN SHALL INCREASE, AND DECREASE BASED ON THE PRESSURE REQUIREMENTS IN THE SPACE. A ROOM MOUNTED PRESSURE SENSOR SHALL BE CONNECTED TO THE UNIT FOR CONTROL.

COOLING MODE:

THE UNIT SHALL ACTIVATE THE COMPRESSOR(S) TO INITIATE THE COOLING SEQUENCE. THE DISCHARGE AIR TEMPERATURE SENSOR SHALL CONTROL THE COOLING RATE AND INITIATE HOT GAS REHEAT IS THE SPACE IS OVERCOOLED. ONCE THE SPACE TEMPERATURE IS SATISFIED THE UNIT SHALL MODULATE TO A DISCHARGE AIR TEMPERATURE CAPABLE OF MAINTAINING SPACE CONDITIONS.

HEATING MODE:

THE UNIT SHALL ACTIVATE THE GAS HEATING SYSTEM AND MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT FOR BUILDING HEAT. ONCE THE SPACE TEMPERATURE IS SATISFIED THE UNIT SHALL MODULATE TO A DISCHARGE AIR TEMPERATURE CAPABLE OF MAINTAINING SPACE CONDITIONS.

DEHUMIDIFICATION:

THE UNIT SHALL ACTIVATE THE COOLING COIL TO REMOVE HUMIDITY FROM THE SPACE. THE HOT GAS REHEAT SHALL BE MODULATED TO MAINTAIN DISCHARGE AIR TEMPERATURE, WHILE REMOVING HUMIDITY FROM THE SPACE.

HUMIDIFIERS:

THE HUMIDIFIERS SHALL BE ACTIVATED THROUGH THE BAS WHEN THE MAKE-UP AIR UNITS ARE IN HEATING MODE. UPONG ACTIVATION, THE STEAM GENERATOR SHALL MAINTAIN A SUPPLY TO THE HUMIDIFIER GRIDS. A ROOM MOUNTED HUMIDISTAT SHALL ACTIVE THE INDIVIDUAL STEAM GRIDS. ONCE THE HUMIDITY SETPOINT IS REACHED, THE UNITS SHALL DEACTIVATE.

EXHAUST FANS:

EXHAUST FANS SHALL BE INDIVIDUALLY SWITCHED AND DESIGNED TO RUN CONTINUOUSLY.

LEL SENSORS:

WHERE LOWER EXPLOSIVE LIMIT (LEL) SENSORS ARE LOCATED IN SPACES, THEY SHALL BE CONNECTED TO THE BUILDING FIRE ALARM CONTROL PANEL. UPON SENSING A RISE IN LEL TO 25% OR HIGHER, THE SENSOR SHALL SEND A SIGNAL TO THE FIRE ALARM CONTROL PANEL.

ISSUED FOR CONSTRUCTION

NO.	REVISION DESCRIPTION	MM/DD/YR
1	ISSUED FOR CONSTRUCTION	08/22/25
0	ISSUED FOR PERMIT	07/25/25

AE PROJ NO: 241127

STATE OF OHIO — NEIL GRIFFY — E-72871 — REGISTERED — PROFESSIONAL ENGINEER

GE Aerospace

BSI ENGINEERING

DWG. TYPE: MECHANICAL

COLIBRIUM ADDITIVE LAB
HVAC SCHEDULES

DWG. BAY LOCATION: COL. F20 / E23

DWG. NO.

SHEET H6101