



PROJECT ARCHITECT
 332 E. 8th ST.
 Cincinnati, OH 45202-2217
 v 513.241.8700
 www.gbbn.com

HealthCare
 Renovate/Upgrade
 UK Healthcare
 Facilities
Pavilion A 5th Floor
 Project Number: 2402.9

OWNER
 University of Kentucky
 222 Peterson Service Building
 Lexington, Kentucky 40506

CONSTRUCTION MANAGER
 Turner Construction Company
 588 Leestown Road Suite 130-300
 Lexington, KY 40511
 859.421.4913

CONSULTANTS
MEP
 AEI Affiliated Engineers, Inc.
 10 South LaSalle Street, Suite 2700
 Chicago, IL 60603
 312.977.2800

MEDICAL EQUIPMENT
 BSA Life Structures
 9365 Counselors Row #300
 Indianapolis, IN 46240
 317.819.7878

DRAWING ISSUE

NO.	DATE	DESCRIPTION
1	09/08/20	AIR HANDLER RFP

DRAWING TITLE

**LEVEL 03
 MECHANICAL PLAN
 - AREA B**

SEAL

**PRELIMINARY
 NOT FOR
 CONSTRUCTION**

JOB NUMBER

JOB NUMBER

M203B

09/08/20

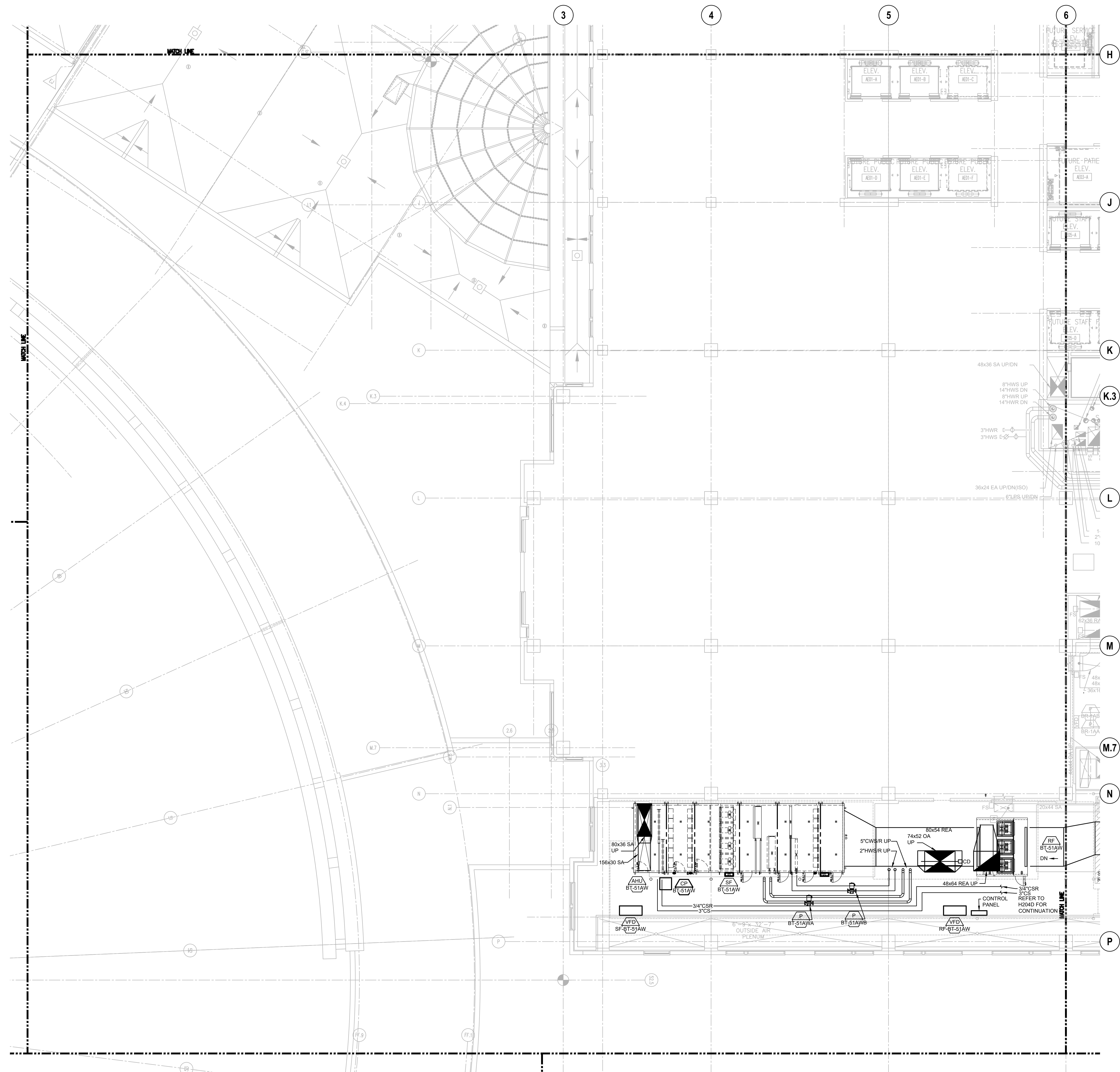


LEVEL 03 MECHANICAL PLAN - AREA B
 1/8"=1'-0"

- GENERAL NOTES**
- FIELD VERIFY ALL DUCT AND PIPE ROUTINGS. COORDINATE WITH OTHER TRADE CONTRACTORS FOR RELOCATION OF ANY PIPING, CONDUIT, CABLE TRAY, OR SUPPORTS AS NEEDED.
 - HAVE NEW POWER AND CONTROLS CONDUIT AND WIRE IN PLACE BEFORE REMOVING EXISTING. COORDINATE WITH OWNER BEFORE DISCONNECTING ANY POWER OR CONTROLS.
 - PROVIDE CONCRETE HOUSEKEEPING PAD FOR AIR HANDLING UNITS. REFER TO ARCHITECTURAL SPECIFICATIONS FOR REQUIREMENTS.
 - SUPPORT DUCTWORK WITH NEW SUPPORTS FROM STRUCTURE OR STRUCTURAL PIPE RACK STEEL. REFER TO STRUCTURAL PLANS FOR DETAILS. CONSULT STRUCTURAL ENGINEER BEFORE USING ANY EXISTING SUPPORTS.

KEYED NOTES

Pavilion A 5th Floor | PAVILION A, 1000 S. LIMESTONE, LEXINGTON, KY 40536



- GENERAL NOTES**
1. FIELD VERIFY ALL DUCT AND PIPE ROUTINGS. COORDINATE WITH OTHER TRADE CONTRACTORS FOR RELOCATION OF ANY PIPING, CONDUIT, CABLE TRAY, OR SUPPORTS AS NEEDED.
 2. HAVE NEW POWER AND CONTROLS CONDUIT AND WIRE IN PLACE BEFORE REMOVING EXISTING. COORDINATE WITH OWNER BEFORE DISCONNECTING ANY POWER OR CONTROLS.
 3. PROVIDE CONCRETE HOUSEKEEPING PAD FOR AIR HANDLING UNITS. REFER TO ARCHITECTURAL SPECIFICATIONS FOR REQUIREMENTS.
 4. SUPPORT DUCTWORK WITH NEW SUPPORTS FROM STRUCTURE OR STRUCTURAL PIPE RACK STEEL. REFER TO STRUCTURAL PLANS FOR DETAILS. CONSULT STRUCTURAL ENGINEER BEFORE USING ANY EXISTING SUPPORTS.

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AHU RFP

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1	09/08/20	AIR HANDLER RFP

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**LEVEL 03
 MECHANICAL PLAN
 - AREA D**

**PRELIMINARY
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 CONSTRUCTION**

JOB NUMBER

JOB NUMBER

M203D

09/08/20

1 LEVEL 03 MECHANICAL PLAN - AREA D
 1/8"=1'-0"

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MECHANICAL
DETAILS

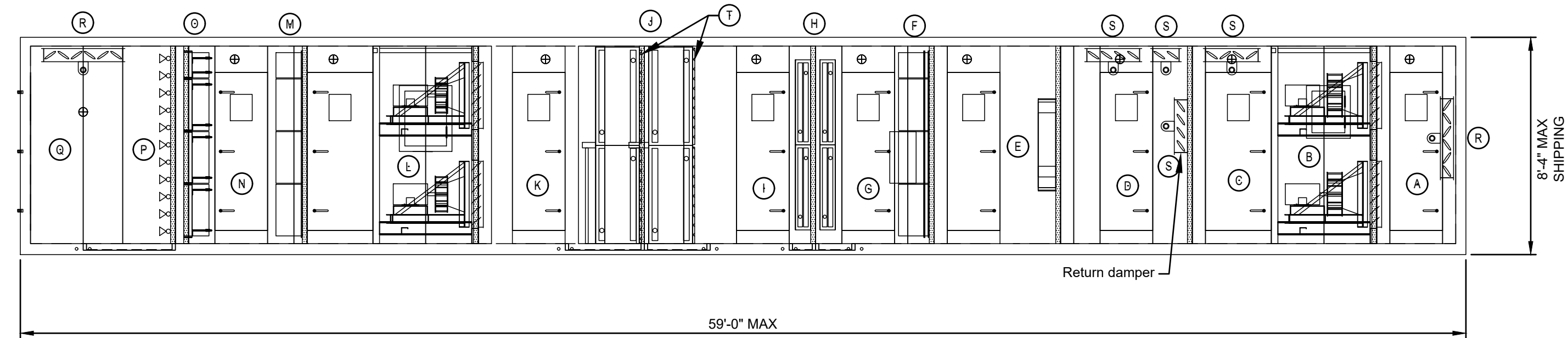
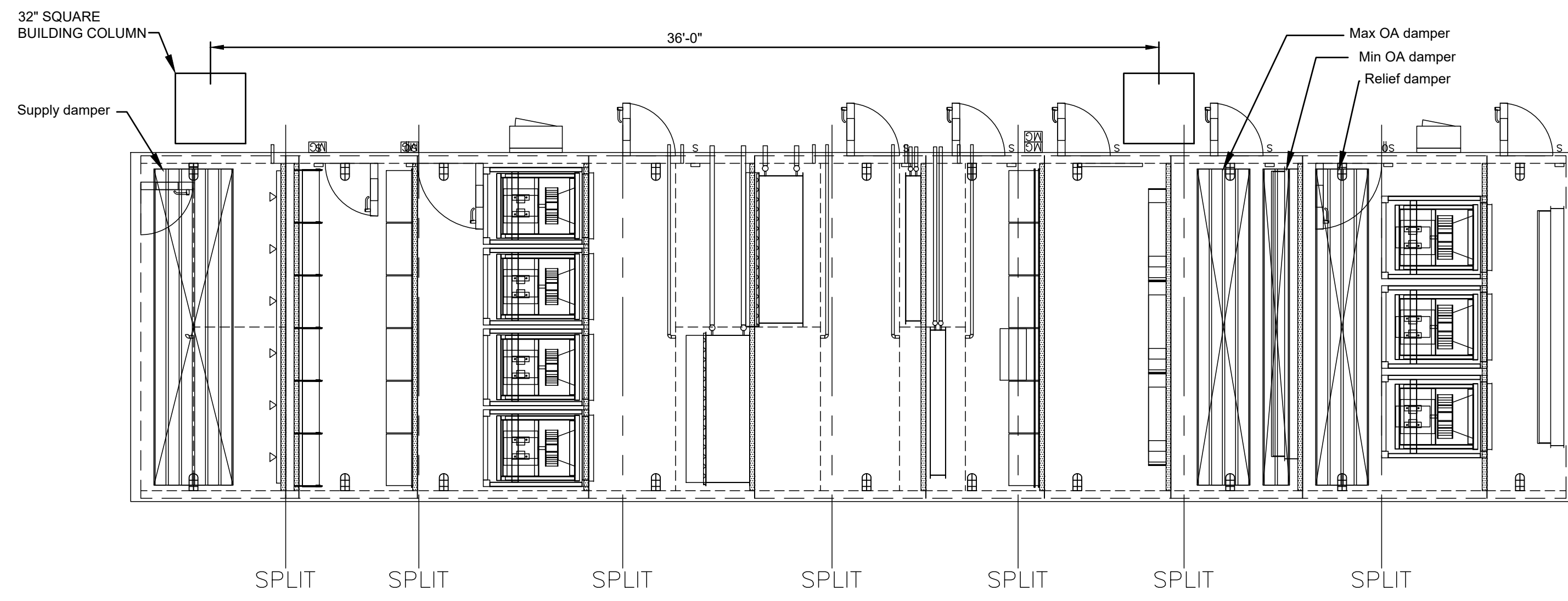
SEAL

JOB NUMBER

JOB NUMBER

M804

09/08/20

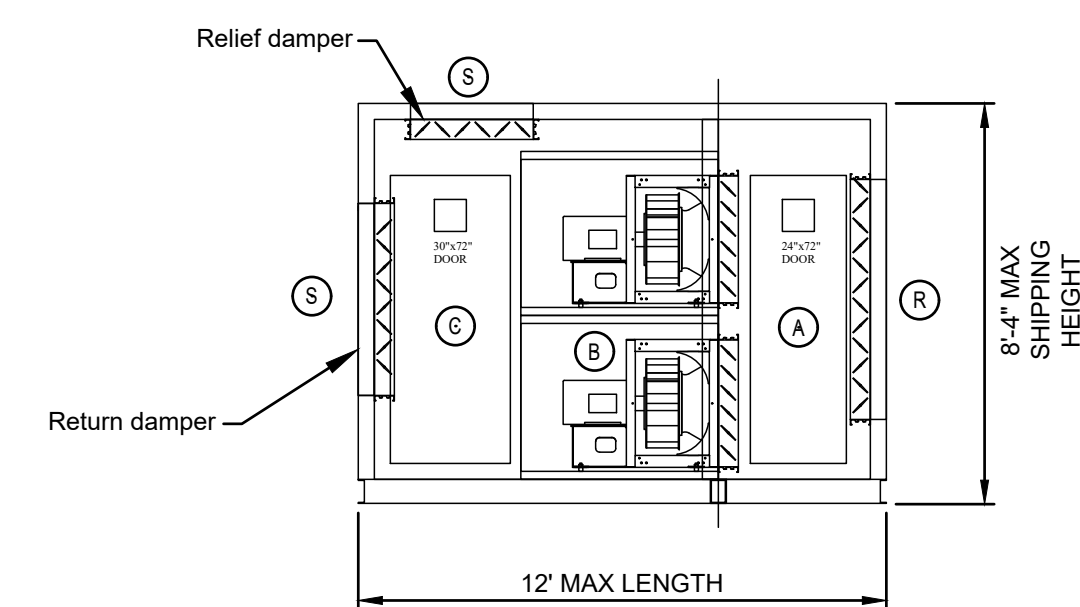
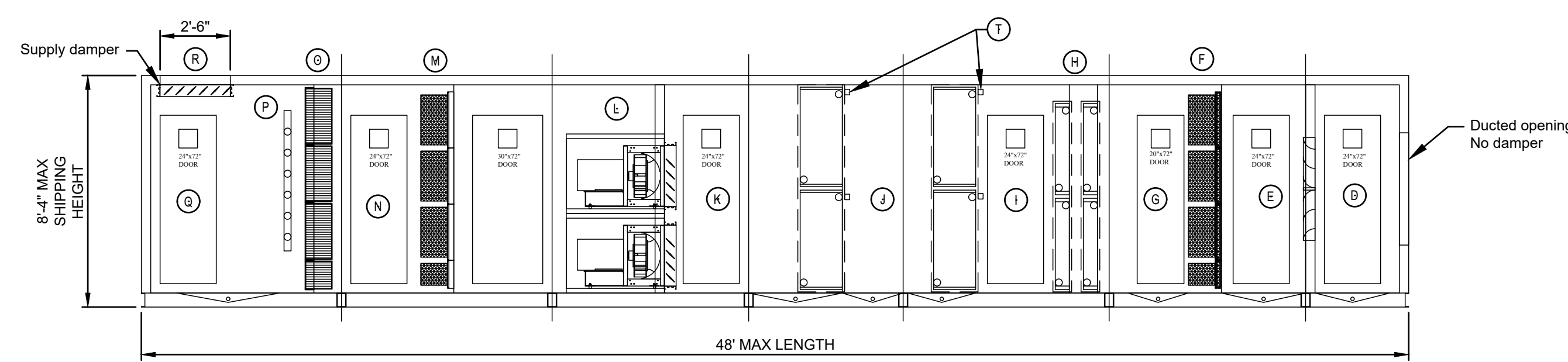
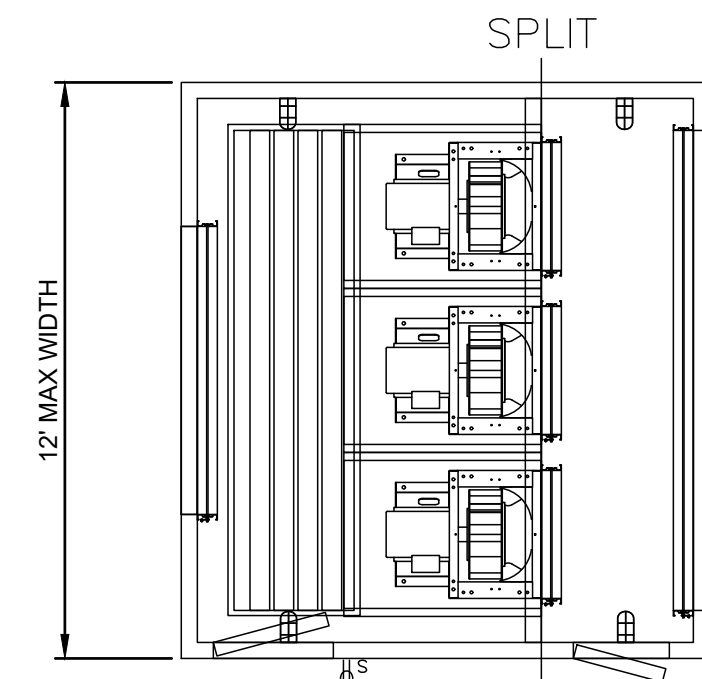
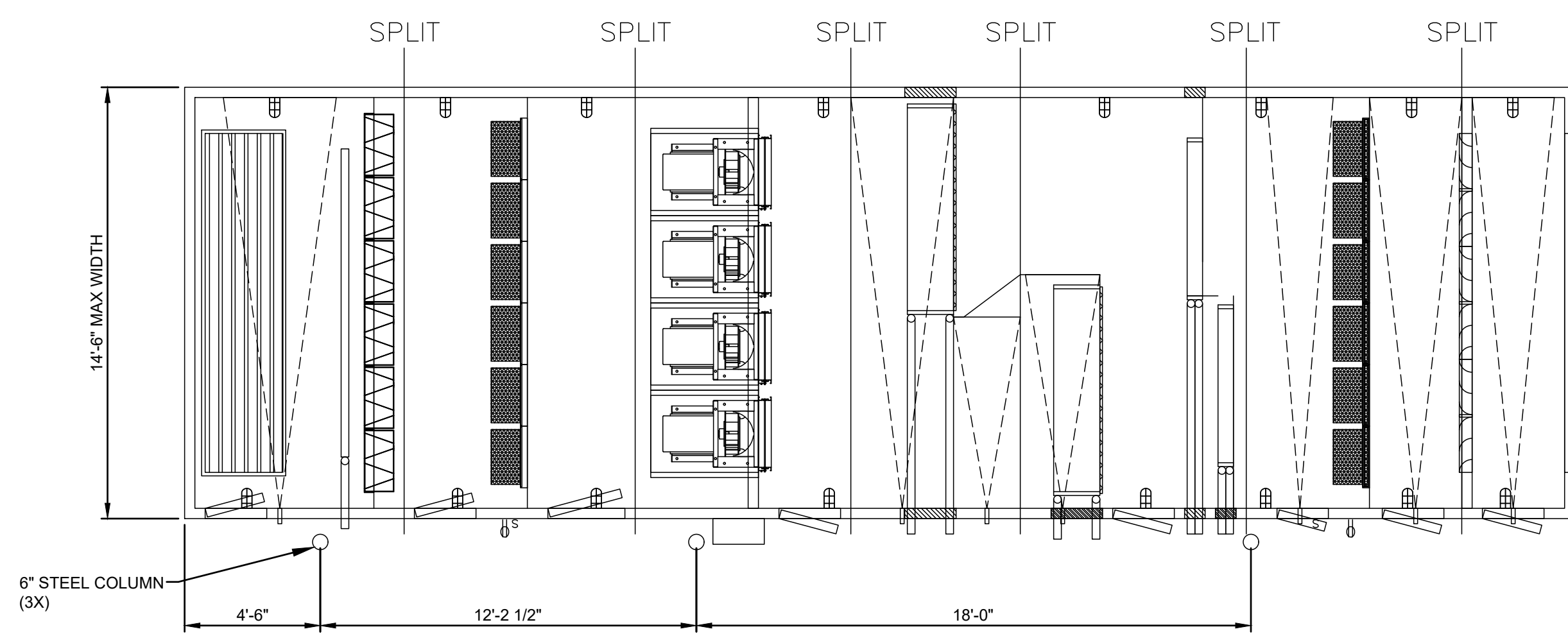


NOTES:

- THIS UNIT SHOULD BE SHIPPED IN MODULES MAX 8'-0" IN LENGTH.
- THIS UNIT WILL BE INSTALLED ON A 3.5" CONCRETE HOUSEKEEPING PAD. MANUFACTURER TO PROVIDE ADDITIONAL BASE RAILS AS NEEDED FOR CONDENSATE TRAPPING HEIGHT.
- THE CABINET DESIGN PRESSURE IS 10" S.P.

- DESCRIPTION
- RETURN AIR PLENUM SECTION
 - RETURN FAN SECTION
 - EXHAUST AIR ECONOMIZER SECTION
 - FRESH AIR ECONOMIZER SECTION
 - AIR BLENDER SECTION
 - PRE/CARBON FILTER SECTION
 - ACCESS SECTION
 - HEATING COIL SECTION
 - ACCESS SECTION
 - COOLING COIL SECTION
 - ACCESS SECTION
 - SUPPLY FAN SECTION
 - FINAL FILTER SECTION
 - ACCESS SECTION
 - HEPA FILTER SECTION
 - HUMIDIFIER
 - DISCHARGE AIR PLENUM SECTION
 - SMOKE / ISOLATION DAMPER
 - CONTROL DAMPER. (ACTUATOR PROVIDED BY CONTROLS CONTRACTOR)
 - BIPOLAR IONIZATION

1 AHU BT-51AE DETAILS (TOP & ELEVATION)
SCALE: 1/4" = 1'-0"



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 - SMOKE / ISOLATION DAMPER
 - CONTROL DAMPER. (ACTUATOR PROVIDED BY CONTROLS CONTRACTOR)
 - BIPOLAR IONIZATION

A SUPPLY SECTION (TOP & ELEVATION)
SCALE: 1/4" = 1'-0"

B RETURN SECTION (TOP & ELEVATION)
SCALE: 1/4" = 1'-0"

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- THE CABINET DESIGN PRESSURE IS 10" S.P.

2 AHU BT-51AW DETAILS (TOP & ELEVATION)
SCALE: 1/4" = 1'-0"

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NO	DATE	DESCRIPTION
1	09/08/20	AIR HANDLER RFP

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TITLE

MECHANICAL SCHEDULES

SEAL

JOB NUMBER

13703.01

M902

09/08/20

AIR HANDLING UNITS

MARK AHU	LOCATION	SERVICE	CFM (1)	MIN OA (%)	SUPPLY FAN	RETURN FAN	HEATING COIL	COOLING COIL	ENERGY RECOVERY COIL	AIR MIXING DEVICE	HUMIDIFIER	FILTERS (2)	BIPOLAR IONIZATION	REMARKS
BT-51AW	3RD FLOOR MER	BED TOWER 5TH WEST	40,000	30	SF-BT-51AW	RF-BT-51AW	HC-BT-51AW	CC-BT-51AW	-	AMD-BT-51AW	H-BT-51AW	F-BT-51AWA, B.	YES	
BT-51AE	3RD FLOOR MER	BED TOWER 5TH EAST	40,000	30	SF-BT-51AE	RF-BT-51AE	HC-BT-51AE	CC-BT-51AE	-	AMD-BT-51AE	H-BT-51AE	F-BT-51AEA, B.	YES	

- NOTES:
(1) TOTAL UNIT CFM. UNIT SHALL CONTAIN THE NUMBER OF SUPPLY AND RETURN FANS AS INDICATED IN FAN SCHEDULES.
(2) PROVIDE SPACE, FRAMING AND ACCESSORIES TO ALLOW FOR INSTALLATION OF PREFILTERS, CARBON FILTERS, FINAL FILTERS AND HEPA FILTERS WITHOUT UNIT MODIFICATIONS. REFER TO FILTER SCHEDULES FOR FILTERS TO BE PROVIDED.

SUPPLY FANS

MARK SF	LOCATION	SERVICE	CFM (1)	TSP (T)(WG) (2)	ESP (T)(WG)	FAN QTY	TYPE	DRIVE	WHEEL TYPE	MINIMUM DIAMETER	MAXIMUM RPM	FAN CLASS	DAMPER	INTERLOCK	MOTOR HP	PH	VOLT	VFD (4)	REMARKS
BT-51AW	3RD FLOOR MER	AHU-BT-51AW	40,000	10.0	4.0	8	PLENUM	DIRECT	AF	18"	3,775	III	BACKDRAFT	RF-BT-51AW	15	3	460	YES	
BT-51AE	3RD FLOOR MER	AHU-BT-51AE	40,000	10.0	4.0	8	PLENUM	DIRECT	AF	18"	3,775	III	BACKDRAFT	RF-BT-51AE	15	3	460	YES	

- (1) TOTAL CFM. THE NUMBER OF SUPPLY FANS SHOWN SHALL BE PROVIDED.
(2) AHU MANUFACTURER TO VERIFY SYSTEM EFFECT AND INTERNAL COMPONENTS PRESSURE DROP, AND PROVIDE FAN TO SUFFICIENTLY HANDLE THE UNIT FINAL TOTAL STATIC PRESSURE UPON VERIFICATION.
(3) SOUND POWER LEVELS ARE TOTAL OF ALL FANS
(4) VFD PROVIDED BY MECHANICAL CONTRACTOR

RETURN FANS

MARK RF	LOCATION	SERVICE	CFM (1)	TSP (T)(WG)	FAN QTY	TYPE	DRIVE	WHEEL TYPE	MINIMUM DIAMETER	MAXIMUM RPM	FAN CLASS	DAMPER	INTERLOCK	MOTOR HP	PH	VOLT	VFD (3)	REMARKS
BT-51AW	3RD FLOOR MER	AHU-BT-51AW	32,000	4.50	6	PLENUM	DIRECT	AF	22"	3600	II	BACKDRAFT	SF-BT-51AW	7.5	3	460	YES	
BT-51AE	3RD FLOOR MER	AHU-BT-51AE	32,000	4.50	6	PLENUM	DIRECT	AF	22"	3600	II	BACKDRAFT	SF-BT-51AE	7.5	3	460	YES	

- (1) TOTAL CFM. THE NUMBER OF RETURN FANS SHOWN SHALL BE PROVIDED.
(2) SOUND POWER LEVELS ARE TOTAL FOR ALL FANS
(3) VFD PROVIDED BY MECHANICAL CONTRACTOR

COOLING COILS

MARK CC	LOCATION	SYSTEM	TOTAL CAPACITY		NOMINAL SIZE			AIR SIDE				WATER SIDE			REMARKS		
			MBH	CFM	FACE DIM (IN)		MAX. FACE VELOCITY (FPM)	MAX. PD (INWG)	EAT (°F)	LAT (°F)		GPM	MAX. PD (FT)	EWT (°F)			
					H	L				DB	WB						
BT-51AW	3RD FLOOR MER	AHU-BT-51AW	2,500	40,000	(1)	(1)	(1)	450	1.3	80	69	49	48	285	12	42	
BT-51AE	3RD FLOOR MER	AHU-BT-51AE	2,500	40,000	(1)	(1)	(1)	450	1.3	80	69	49	48	285	12	42	

- (1) DETERMINED BY AHU MANUFACTURER BASED ON FACE AREA AND COIL SPLITS NECESSARY TO ALLOW COIL REMOVAL.

HUMIDIFIERS

MARK H	SYSTEM	LOCATION	CFM	TOTAL CAPACITY (LBS/HR) (1)	STEAM PRESSURE AT INLET OF CONTROL VALVE (PSIG)	ENTERING AIR TEMPERATURE DB(°F)/WB(°F)	LEAVING AIR TEMPERATURE DB(°F)/WB(°F)	MAX. ABSORPTION DISTANCE (IN)	FRAME WxH (IN)	REMARKS
BT-51AW	AHU-BT-51AW	3RD FLOOR MER	25,000	275	10	52 / 38	52 / 48	18	(2)	NORTEC; NOTES (3) (4)
BT-51AE	AHU-BT-51AE	3RD FLOOR MER	25,000	275	10	52 / 38	52 / 48	18	(2)	NORTEC; NOTES (3) (4)

- (1) TOTAL CAPACITY SCHEDULED IS BASED ON WINTER REDUCED AIRFLOW. HOWEVER, FACE VELOCITY AND AIR PRESSURE DROP SHOULD BE BASED ON MAXIMUM AIRFLOW PER AHU SCHEDULE.
(2) DETERMINED BY AHU MANUFACTURER TO ACHIEVE SCHEDULED PERFORMANCE.
(3) DRAIN OULET FROM CONDENSATE HEADER SHALL BE MINIMUM 2' ABOVE AHU INSIDE FINISHED FLOOR.
(4) PROVIDE STAINLESS STEEL VALVES AND SPECIALTIES

HEATING COILS

MARK HC	LOCATION	SYSTEM	TOTAL CAPACITY		NOMINAL SIZE			AIR SIDE				WATER SIDE			REMARKS
			MBH	CFM	FACE DIM (IN)		MAX. FACE VELOCITY (FPM)	MAX. PD (INWG)	EAT (°F)	LAT (°F)		GPM	MAX. PD (FT)	EWT (°F)	
					H	L				DB	WB				
BT-51AW	3RD FLOOR MER	AHU-BT-51AW	450	25,000	(2)	(2)	(2)	600	0.1	41	55	23	10	180	
BT-51AE	3RD FLOOR MER	AHU-BT-51AE	450	25,000	(2)	(2)	(2)	600	0.1	41	55	23	10	180	

- (1) TOTAL CAPACITY SCHEDULED IS BASED ON WINTER REDUCED AIRFLOW WHILE THE FACE VELOCITY AND PRESSURE DROP SCHEDULED ARE BASED ON MAXIMUM SUMMER AIRFLOW.
(2) DETERMINED BY AHU MANUFACTURER BASED ON FACE AREA AND COIL SPLITS NECESSARY TO ALLOW COIL REMOVAL.

FILTERS AND FILTER HOUSINGS

MARK F	SYSTEM	LOCATION	TYPE	CFM	MIN. FACE AREA (FT²)	INITIAL PRESS. DROP (INWG)	FINAL PRESS. DROP (INWG)	PD FOR FAN TSP AND AIR BALANCE	MFR. EFF. (%)	MIN. MERV RATING	MEDIA LENGTH (IN)	REMARKS
BT-51AWA	AHU-BT-51AW	3RD FLOOR MER	PLEATED	40,000	(1)	0.33	1	1	40	8	2	PRE FILTER
BT-51AWB	AHU-BT-51AW	3RD FLOOR MER	CARTRIDGE	40,000	(1)	0.36	1.5	0.93	95	14	12	FINAL
BT-51AWC	AHU-BT-51AW	3RD FLOOR MER	(2)	40,000	(1)	0.43	1.5	0.97	45	9	12	FUTURE CARBON
BT-51AWD	AHU-BT-51AW	3RD FLOOR MER	(2)	40,000	(1)	1.4	3	2.2	99.97	17	12	FUTURE HEPA
BT-51AEA	AHU-BT-51AE	3RD FLOOR MER	PLEATED	40,000	(1)	0.33	1	1	40	8	2	PRE FILTER
BT-51AEB	AHU-BT-51AE	3RD FLOOR MER	CARTRIDGE	40,000	(1)	0.36	1.5	0.93	95	14	12	FINAL
BT-51AEC	AHU-BT-51AE	3RD FLOOR MER	(2)	40,000	(1)	0.43	1.5	0.97	45	9	12	FUTURE CARBON
BT-51AED	AHU-BT-51AE	3RD FLOOR MER	(2)	40,000	(1)	1.4	3	2.2	99.97	17	12	FUTURE HEPA

- (1) DETERMINED BY AHU MANUFACTURER TO ACHIEVE SCHEDULED PRESSURE DROP (MAX)
(2) FUTURE FILTER TO BE INSTALLED LATER. PROVIDE FILTER HOUSING AND CLIPS.

AIR MIXING DEVICES

MARK AMD	SYSTEM	LOCATION	MAXIMUM FLOW RATE (CFM)	PD (INWG)	MINIMUM FLOW RATE (CFM)	PD (INWG)	UNIT AREA (SF)	OVERALL DIMENSION (IN)	H	L	D	REMARKS
BT-51AW	AHU-BT-51AW	3RD FLOOR MER	40,000	0.2	25,000	0.2	(1)	(1)	(1)	(1)	(1)	(2)
BT-51AE	AHU-BT-51AE	3RD FLOOR MER	40,000	0.2	25,000	0.2	(1)	(1)	(1)	(1)	(1)	(2)

- (1) BY AHU MANUFACTURER
(2) AIR MIXING DEVICES CONFIGURATION SHALL BE ARRANGED TO PROVIDE BEST MIXING BASED ON OUTSIDE AIR AND RETURN AIR ENTERING CONDITIONS AND LOCATIONS.

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