MECHANICAL SHEET LIST

SHEET NUMBER	SHEET NAME	BID
M000	MECHANICAL SHEET INDEX	•
M001	MECHANICAL SYMBOLS, ABBREVIATIONS & GENERAL NOTES	•
M060	MECHANICAL PHASING PLANS	•
MH210.00	MECHANICAL LEVEL 01 HVAC OVERALL PLAN	•
MH210.01	MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 01	•
MH210.02	MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 02	•
MH210.03	MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 03	•
MH210.04	MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 04	•
MH210.05	MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 05	•
MH210.06	MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 06	•
MH210.07	MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 07	•
MH210.08	MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 08	•
MH210.09	MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 09	•
MH210.10	MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 10	•
MH215.00	MECHANICAL LEVEL 01 CSH HVAC OVERALL PLAN	•
MH215.01	MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 01	•
MH215.02	MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 02	•
MH215.03	MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 03	•
MH215.04	MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 04	•
MH215.07	MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 07	•
MH215.08	MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 08	•
MH215.09	MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 09	•
MH215.10	MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 10	•
MH290.00	MECHANICAL ROOF HVAC OVERALL PLAN	•
MH290.01	MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 01	•
MH290.02	MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 02	•
MH290.03	MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 03	•
MH290.04	MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 04	•
MH290.05	MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 05	•
MH290.06	MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 06	•
MH290.07	MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 07	•
MH290.08	MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 08	•
MH290.09	MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 09	•
MH290.10	MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 10	•
MP210.00	MECHANICAL LEVEL 01 PIPING OVERALL PLAN	•
MP210.02	MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 02	•
MP210.04	MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 04	•
MP210.05	MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 05	•
MP210.06	MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 06	•
MP210.08	MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 08	•
MP210.10	MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 10	•
MB210.00	BMS EQUIPMENT - LEVEL 01 DATA HALL & ELECTRICAL ROOM OVERALL PLAN	•
MB210.1	BMS EQUIPMENT - LEVEL 01 DATA HALL & ELECTRICAL ROOM PARTIAL PLAN - DATA HALL 1	•
MB210.2	BMS EQUIPMENT - LEVEL 01 DATA HALL & ELECTRICAL ROOM PARTIAL PLAN - DATA HALL 2	•
MP300	MECHANICAL PIPING ENLARGED PLANS	•
MH400	MECHANICAL HVAC COMPOSITE ENLARGED PLANS, SECTIONS & 3D ISOMETRIC VIEW	•
MB400	BMS EQUIPMENT COMPOSITE ENLARGED PLANS AND SECTIONS	•
M500	MECHANICAL SECTIONS	•
M700	MECHANICAL DETAILS	•
M701	MECHANICAL DETAILS	•
M702	HOT AISLE CONTAINMENT DETAILS	•
M703	HOT AISLE CONTAINMENT DETAILS	•
M704	MECHANICAL DETAILS	•
M705	MECHANICAL DETAILS	•
M706	FUEL OIL DETAILS	•
M707	GLACIER SPACE HOT AISLE CONTAINMENT DETAILS	•
M708	GLACIER SPACE HOT AISLE CONTAINMENT DETAILS	•
M800	MECHANICAL CONTROLS DIAGRAMS	•
M801	VRF SYSTEM DIAGRAM	•
M802	FUEL OIL TOP-UP SYSTEM DIAGRAM	•
M803	FUEL OIL TOP-UP SYSTEM DISTRIBUTION DIAGRAM	•
M804	DECOMMISSIONING ROOM DIAGRAM	•
M900	MECHANICAL SCHEDULES	•
M901	MECHANICAL SCHEDULES	•
M902	MECHANICAL SCHEDULES	•
M903	MECHANICAL SCHEDULES	•
M904	MECHANICAL SCHEDULES	•
M905	MECHANICAL SCHEDULES	•
M910	CODE COMPLIANCE	•

GRAND TOTAL: 69

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DESIGNED: SWANSON RINK | ENGINEER: GO

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TITLE: MECHANICAL SHEET INDEX

DRAWING: M000

E1 | SCALE: | AGILE No: | REV: A

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MECHANICAL LEGEND

REFERENCE SYMBOLS

SYMBOL	DESCRIPTION
DET# / SHEET#	REFER TO DETAIL NO. ON DRAWING INDICATED NOT ALL DETAIL REFERENCES ARE SHOWN. ALL DETAILS APPLY TO ALL APPLICABLE SITUATIONS, UON.
ELV# / SHEET#	ELEVATION TAG: REFER TO ELEVATION NUMBER ON DRAWING INDICATED
SEC# / SHEET#	SECTION TAG: REFER TO SECTION NUMBER ON DRAWING INDICATED
EQUIP CLASS / EQUIP ID	MECHANICAL EQUIPMENT IDENTIFICATION TAG
	PROJECT NORTH REFERENCE
	PROJECT NORTH REFERENCE W/ TRUE NORTH REFERENCE
1 / SHEET# TITLE SCALE	DRAWING TITLE, NUMBER AND SCALE

AIR DISTRIBUTION

SYMBOL	DESCRIPTION
	SUPPLY DUCT SECTION
	RETURN DUCT SECTION
	EXHAUST DUCT SECTION
10x8	RECTANGULAR DUCTWORK (WIDTH X DEPTH)
8Ø	ROUND DUCTWORK (SIZE, DIAMETER)
	FLEXIBLE DUCTWORK (MAX. OVERALL LENGTH SHALL NOT EXCEED 5'-0")
	ACOUSTICALLY LINED DUCTWORK
	SQUARE-THROATED ELBOW W/TURNING VANES
	RADIUS ELBOW
NK=	RADIUS TEE
NK=	SQUARE-THROATED TEE (WITH TURNING VANES)
R/D	CHANGE IN ELEVATION (R=RISE, D=DROP), IN DIRECTION OF ARROW
	BALANCING DAMPER
	TRANSITION WITH FLAT SIDE
	TRANSITION ON CENTER
	RECTANGULAR-TO-ROUND TRANSITION
OA / A	AUTOMATIC FLOW DAMPER
	TAKE-OFF TAP TO RECTANGULAR DUCT
	CONICAL TAP TO RECTANGULAR DUCT
FD / SD / FD/SD	FIRE DAMPER (FD)/SMOKE DAMPER (SD) OR COMBINATION FIRE SMOKE DAMPER (FD/SD)
	EXISTING DUCTWORK
	EXISTING DUCTWORK TO BE REMOVED, UNLESS OTHERWISE NOTED
	SHEET METAL TRANSFER ASSEMBLY WITH ACOUSTIC LINING (REFER TO PLANS FOR SIZES) SIZES INDICATED ARE NET CLEAR INSIDE DIMENSIONS
	NON-MOTORIZED CONSTANT VOLUME DAMPER
	ACCESS DOOR
	SIDE WALL GRILLE
BDD	BACKDRAFT DAMPER
CD / 200	SUPPLY DIFFUSER WITH TAG (TAG INCLUDES CFM)
RG / 200	RETURN GRILLE OR EXHAUST GRILLE WITH TAG (TAG INCLUDES CFM)
UC	DOOR UNDERCUT. ARCHITECTURE SCOPE - COORDINATE WITH ARCHITECTURE

PIPING SPECIALTIES

SYMBOL	DESCRIPTION
AV	AUTOMATIC AIR VENT WITH PIPE TO DRAIN
MV	MANUAL AIR VENT
	ANCHOR
	EXPANSION JOINT
	FLEXIBLE CONNECTOR
	GUIDE
	VENTURI FLOWMETER
	CALIBRATED BALANCING VALVE
	PRESSURE GAUGE AND SHUT-OFF COCK
	STRAINER
	STRAINER WITH BLOW OFF VALVE W/CAP AND CHAIN
	TEMPERATURE AND PRESSURE TEST PORT
	THERMOMETER
	PUMP
	WATER HAMMER ARRESTOR

FITTINGS

SYMBOL	DESCRIPTION
	ELBOW TURNED UP
	ELBOW TURNED DOWN
	TEE TURNED UP
	TEE TURNED DOWN
	TEE (SIDE)
	CAP
	RISE OR DROP IN PIPE
	UNION
	FLANGE
	90 DEGREE ELBOW (SIDE)
	PIPE CONTINUES
	PIPE BRANCH BOTTOM TAKEOFF
	PIPE BRANCH TOP TAKEOFF

VALVES

SYMBOL	DESCRIPTION
	ANTISYPHON VALVE
	GATE VALVE OR BUTTERFLY VALVE, AS SPECIFIED
	BALL VALVE
	GLOBE VALVE
	CHECK VALVE
	FUSIBLE LINK VALVE
	RELIEF VALVE
	MOTORIZED CONTROL VALVE
S	SOLENOID VALVE

PIPING

SYMBOL	DESCRIPTION
D	DRAIN (INDIRECT)
	FLOW DIRECTION WITHIN PIPE
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION

CONTROLS

SYMBOL	DESCRIPTION
T	THERMOSTAT MOUNT 48" A.F.F. UNLESS OTHERWISE NOTED
TT	TEMPERATURE SENSOR
TT	TEMPERATURE TUBE SENSOR
DWP	DEWPOINT SENSOR
H	HYDROGEN DETECTOR
C	COMBINATION SENSOR TEMP / RELATIVE HUMIDITY OR WET/DRY BULB TEMP
MXC	MAX COOL TEMPERATURE SENSOR (CONNECTED TO MXCC)
MXC	MAX COOL TEMPERATURE SENSOR (CONNECTED TO MXCA)
MXP	MAX COOL DIFFERENTIAL PRESSURE SENSOR
DP	DIFFERENTIAL PRESSURE SENSOR
DP	COLD AISLE TO HOT AISLE DIFFERENTIAL PRESSURE SENSOR
RH	RELATIVE HUMIDITY SENSOR
CD	DAMPER ACTUATOR COMMAND
CD	DAMPER ACTUATOR FEEDBACK
H	HORN
S	STROBE
M	MOTORIZED DAMPER (WITH ACCESS DOOR)
M	MOTORIZED DAMPER
LD	SPOT LEAK DETECTOR
MS	MOTOR STARTER
DPT	DIFFERENTIAL PRESSURE TRANSDUCER
MCC	MAIN COORDINATING CONTROLLER
TS	TEMPERATURE SENSOR
VFD	VARIABLE FREQUENCY DRIVE
BMS	BMS (CONTROL) PANEL
AQ	AIR QUALITY SENSOR
DPS	DIFFERENTIAL PRESSURE SWITCH
EPO	EMERGENCY POWER OFF
PI	PRESSURE INDICATOR
LS	LEVEL SWITCH
M FM	FLOW METER
S	WALL SWITCH
S	DUCT MOUNTED SMOKE DETECTOR

GENERAL

SYMBOL	DESCRIPTION
	CONNECT TO EXISTING
	POINT OF DISCONNECTION

ABBREVIATIONS

AC	AREA CONTROLLER
ACU	AIR CONDITIONING UNIT
ACC	AIR-COOLED CONDENSER
ACCU	AIR-COOLED CONDENSING UNIT
AD	ACCESS DOOR
AFD	AUTO FLOW DAMPER
AFF	ABOVE FINISHED FLOOR
AFM	AIR FLOW METER
AHU	AIR HANDLING UNIT
APD	AIR PRESSURE DROP
APPROX.	APPROXIMATELY
ARDP	AREA REMOTE DISPLAY PANEL
AS	AIR SEPARATOR
ASV	ANTISYPHON VALVE
AVP	ANTI VORTEX PLATE
BAS	BUILDING AUTOMATION SYSTEM
BD	BALANCER DAMPER(MANUAL OPPOSED BLADE)
BDD	BACKDRAFT DAMPER
BF	BLIND FLANGE
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSE POWER
BMS	BUILDING MANAGEMENT SYSTEM
BTUH	BRITISH THERMAL UNITS PER HOUR
CD	CEILING DIFFUSER
CENT	CENTRIFUGAL
CFM	CUBIC FEET PER MINUTE
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
CL	CENTER LINE
CLG	CEILING
CM	CENTIMETER
CONT.,	CONTINUES
CSD	COLD AISLE SUPPLY DAMPER
CSH	COMMON SUPPLY HEADER
CU	CONDENSING UNIT, COPPER
CW	COLD WATER, CITY WATER
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
DB	DECIBELS
DBT	DRY BULB TEMPERATURE
DC	DRY COOLER
DDC	DIRECT DIGITAL CONTROL
DIA	DIAMETER
DN	DOWN
DOAS	DEDICATED OUTSIDE AIR SYSTEM
DPT	DIFFERENTIAL PRESSURE TRANSDUCER
DWG	DRAWING
DWP	DEW POINT
DX	DIRECT EXPANSION
DMO	DAMPER MOTOR OPERATOR
E	EXISTING
EA	EACH
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EFF	EFFICIENCY
EFT	ENTERING FLUID TEMPERATURE
EL	ELEVATION
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
ET	INDUSTRIAL WATER EXPANSION TANK
ETR	EXISTING TO REMAIN
EWT	ENTERING WATER TEMPERATURE
F	FUTURE
°F	DEGREES, FAHRENHEIT
FD	FIRE DAMPER, FLOOR DRAIN
FD/SD	COMBINATION FIRE/SMOKE DAMPER
FFL	FINISHED FLOOR LEVEL
FL	FLOOR
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET
FS	FLOW SWITCH
FV	FACE VELOCITY, FLOAT VALVE, FOOT VALVE
GAL	GALLONS
GPM	GALLONS PER MINUTE
GS	GLYCOL SOLUTION SUPPLY
GR	GLYCOL SOLUTION RETURN
H	HUMIDIFIER
HAC	HOT AISLE CONTAINMENT
HC	HEATING COIL
HD	HEAD
HG	REFRIGERANT HOT GAS
HGT	HEIGHT
HORIZ.	HORIZONTAL
HP	HORSEPOWER, HEAT PUMP
HW	HARDWARE
HX	HEAT EXCHANGER
HZ	HERTZ
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCHES
IN. W.G.	INCHES WATER GRADE
IW	INDUSTRIAL WATER
IWBMS	INDUSTRIAL WATER MECHANICAL ROOM BMS PANEL
IWW	INDUSTRIAL WASTE WATER
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LBS/HR	POUNDS PER HOUR
LD	LEAK DETECTOR
LF	LINEAR FOOT
LFT	LEAVING FLUID TEMPERATURE
LRA	LOCKED ROTOR AMPS
LS	LEVEL SWITCH
LSE	LEVEL SENSOR
MBH	ONE THOUSAND BTUH
MCA	MINIMUM CIRCUIT AMPACITY
MCC	MAIN COORDINATING CONTROLLER
MD	MOTORIZED DAMPER
MHP	MOTOR HORSE POWER
MIN	MINIMUM
MISC.	MISCELLANEOUS
MOP; MOCP	MAXIMUM OVERCURRENT PROTECTION
MSD	MANUAL SUPPLY DAMPER
MXCA	MAX COOL ANNUNCIATOR PANEL
MXCC	MAX COOL CONTROLLER
MXCOA	MAX COOL OFFICE ANNUNCIATOR PANEL
N	NEW
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
NPSHR	NET POSITIVE SUCTION HEAD REQUIRED
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAD	OUTSIDE AIR DAMPER
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIAMETER
OED	OPEN ENDED DUCT
OPV	OVERFLOW PREVENTION VALVE
ORSD	OVERHEAD ROW SUPPLY DAMPER
P	PUMP
PC	PUMPED CONDENSATE
PD	PRESSURE DROP
PDS	PRESSURE DIFFRENTIAL SWITCH
PH	PHASE
PHC	PREHEAT COIL
PHD	PREHEAT DAMPER
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PS	PRESSURE SWITCH
PSIG	POUNDS PER SQUARE INCH GAUGE
R	RISE
RA	RETURN AIR
RAD	RETURN AIR DAMPER
REFG	REFRIGERANT, REFRIGERATION
REQ'D	REQUIRED
RF	RETURN AIR FAN
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RLA	RATED LOAD AMPS
RL	REFRIGERANT LIQUID
RM	ROOM, REFRIGERATION MACHINE
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
RS	REFRIGERANT SUCTION
RSD	ROW SUPPLY DAMPER
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SD	SMOKE DAMPER
SF	SUPPLY AIR FAN
SHR	SENSIBLE HEAT RATIO
SG	SPECIFIC GRAVITY; SUPPLY GRILLE
SOW	SCOPE OF WORK
SP	STATIC PRESSURE
SPEC	SPECIFICATIONS
SR	SUPPLY REGISTER
SS	STAINLESS STEEL
SUCT	SUCTION
T	THERMOSTAT
TCP	TEMPERATURE CONTROL PANEL
TD	TEMPERATURE DIFFERENCE
TEMP	TEMPERATURE
TG	TOP GRILLE (WALL TYPE) HIGH
TO	TRANSFER OPENING
TR	TOP REGISTER (WALL TYPE) HIGH
TSP	TOTAL STATIC PRESSURE
TT	TEMPERATURE SENSOR / TEMPERATURE TUBE SENSOR
TWU	THRU-THE-WALL UNIT
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT, VALVE, VAV DIFFUSER
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
VRF	VARIABLE REFRIGERANT FLOW
VRV	VARIABLE REFRIGERANT VOLUME
VSD	VARIABLE SPEED DRIVE
W/	WITH
W	WATT
WB	WET BULB
WBT	WET BULB TEMPERATURE
WC	WATER COLUMN
WG	WATER GAUGE
WHA	WATER HAMMER ARRESTOR
WMS	WIRE MESH SCREEN
WPD	WATER PRESSURE DROP
XT	PLUMBING EXPANSION TANK

GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL THE LAWS, ORDINANCES, RULES AND REGULATIONS OF ALL LOCAL AND STATE GOVERNMENTAL AUTHORITIES, THE RULES OF THE NATIONAL FIRE PROTECTION ASSOCIATION AS INTERPRETED BY THE ENFORCING AUTHORITY HAVING JURISDICTION AND OF THE PUBLIC UTILITIES HAVING CONNECTION WITH ANY OF THE SYSTEMS HEREIN SPECIFIED.
2. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED BY ANY OF THE FOREGOING AUTHORITIES, AND PAY FOR ALL OTHER COSTS IN CONNECTION WITH THE WORK. ALL CERTIFICATES SHALL BE IN DUPLICATE AND SHALL BE DELIVERED TO THE OWNER.
3. THE SITE, LOCATION AND ROUTING OF SYSTEMS INDICATED TO HAVE NEW CONNECTIONS MADE TO THEM ARE SHOWN AS ACCURATELY AS FIELD CONDITIONS WOULD PERMIT. CONTRACTOR SHALL VISIT THE SITE AND THOROUGHLY EXAMINE THE CONTRACT DRAWINGS. ALL EXISTING CONDITIONS SHALL BE EXAMINED AND THEIR EXACT LOCATIONS VERIFIED. THE CONTRACTOR SHALL REPORT TO THE ENGINEER ANY CONDITIONS WHICH MIGHT MAKE INSTALLATION OF REQUIRED EQUIPMENT A PROBLEM. NO CONSIDERATION OR ALLOWANCE WILL BE GRANTED FOR FAILURE TO INVESTIGATE CONDITIONS OR MISUNDERSTANDINGS OF THE CONTRACTUAL REQUIREMENTS.
4. THE CONTRACTOR SHALL INSTALL AND CONNECT ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE BEST ENGINEERING PRACTICE AND, UNLESS OTHERWISE SHOWN OR SPECIFIED, FOLLOW THE MANUFACTURERS PRINTED INSTALLATION REQUIREMENTS AND RECOMMENDATIONS AND FURNISH AND INSTALL ALL REQUIRED AUXILIARY ITEMS COMPLETE.
5. THE CONTRACTOR SHALL REPAIR ALL WALLS, CEILING, FLOORS, ETC., THAT ARE REQUIRED TO BE PENETRATED, OR OTHERWISE DISTURBED. THE REPAIRS SHALL BE WITH MATERIALS AND FINISHES TO MATCH EXISTING. ALL FIRE WALL PENETRATIONS SHALL BE SEALED WITH SUITABLE MATERIALS TO PRESERVE FIRE WALL INTEGRITY.
6. DRAWINGS SHALL BE CONSIDERED DIAGRAMMATIC. WHILE THE DRAWINGS ARE GENERALLY TO SCALE AND ARE AS ACCURATE AS THE SCALE WILL PERMIT, ALL IMPORTANT DIMENSIONS SHALL BE DETERMINED IN THE FIELD.
7. THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT NOT INDICATED TO BE REUSED TO A DESIGNATED LOCATION AT THE PROJECT SITE. AFTER THE EQUIPMENT HAS BEEN ASSEMBLED FOR THE OWNER'S INSPECTION AND POSSIBLE RETENTION, ALL EQUIPMENT NOT TO BE RETAINED BY THE OWNER SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. ALL BUILDING SYSTEMS SHALL REMAIN IN SERVICE UNLESS INDICATED OTHERWISE. ALL OUTAGES OR INTERRUPTIONS SHALL BE KEPT TO MINIMUM DURATION. NOTIFY THE OWNER 48 HOURS IN ADVANCE OF ANY OUTAGE OR INTERRUPTION.
8. COORDINATE WITH ALL TRADES TO AVOID INTERFERENCE AMONG MECHANICAL, ELECTRICAL, ARCHITECTURAL AND STRUCTURAL ITEMS. PROVIDE ALL NECESSARY OFFSETS IN PIPING, FITTINGS, ETC., REQUIRED TO PROPERLY INSTALL THE WORK WITHOUT INTERFERENCES.
9. IF TEMPORARY CONNECTIONS ARE NECESSARY TO ASSURE THIS CONTINUITY OF SERVICES, THEY SHALL BE FURNISHED BY THE CONTRACTOR WITHOUT ANY ADDITIONAL CHARGE TO THE OWNER AND SHALL BE REMOVED WHEN NO LONGER NECESSARY.
10. THE CONTRACTOR SHALL SO ARRANGE AND PROSECUTE THEIR WORK THAT ANY CONNECTIONS BOTH TEMPORARY OR PERMANENT TO, OR REARRANGEMENT OF, PRESENT EQUIPMENT, PIPING, ETC., SHALL BE MADE IN SUCH A MANNER AS TO ASSURE FULL RESUMPTION OF SERVICE AT THE TIME DESIGNATED BY THE OWNER.
11. THE CONTRACTOR SHALL LOCATE ALL EQUIPMENT WHICH MUST BE SERVICED, OPERATED OR MAINTAINED IN FULL ACCESSIBLE POSITIONS. IF REQUIRED FOR BETTER ACCESSIBILITY, FURNISH ACCESS DOORS FOR THIS PURPOSE. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ALLOW FOR BETTER ACCESSIBILITY, BUT CHANGES OF MAGNITUDE WHICH INVOLVE EXTRA COSTS SHALL NOT BE MADE WITHOUT APPROVAL.
12. OPENINGS REMAINING IN EXISTING PIPING AS A RESULT OF DEMOLITION SHALL BE SEALED WITH AN AIRTIGHT/WATERTIGHT SHEET METAL CAP. WHERE EXISTING SYSTEMS ARE INSULATED, WORK SHALL INCLUDE REPAIR AND REPLACEMENT OF INSULATION EITHER DAMAGED OR REMOVED AS A RESULT OF DEMOLITION.
13. SEE ARCHITECTURAL DRAWINGS FOR BATHROOM SIGN AND MOUNTING INFORMATION, CONTRACTOR TO FOLLOW ARCHITECTURAL DIMENSIONS FOR PLACING ALL FIXTURES IN RESTROOMS AND OTHER AREAS.
14. SEE SPECIFICATIONS FOR PIPE IDENTIFICATION AND NAMING REQUIREMENTS. ALL PIPES SHALL BE IDENTIFIED CLEARLY AND CONSPICUOUSLY ABOVE CEILINGS AND IF CONCEALED BY OTHER EQUIPMENT AND STRUCTURES. COORDINATE WITH OTHER TRADES PRIOR TO CONSTRUCTION.
15. THE CONTRACTOR SHALL PROVIDE DELEGATED-DESIGN SUBMITTAL FOR VIBRATION ISOLATION AND EQUIPMENT SEISMIC RESTRAINTS. REFER TO MECHANICAL SPECIFICATION SECTION 230548 FOR MORE INFORMATION.
16. PROVIDE MANUAL BALANCING DAMPERS IN SUPPLY, RETURN, OUTSIDE AIR AND EXHAUST BRANCH DUCTS AS SHOWN ON DRAWINGS AND AS REQUIRED TO MEET AIR BALANCE REQUIREMENTS. FOR BALANCING DAMPERS ABOVE INACCESSIBLE CEILINGS, PROVIDE CABLE OPERATED DAMPERS AS REQUIRED FOR SYSTEM AIR BALANCING.

REFRIGERANT PIPING

1. FABRICATE AND LABEL REFRIGERATION SYSTEM TO COMPLY WITH ASHRAE 15, "SAFETY CODE FOR MECHANICAL REFRIGERATION."
2. ALL REFRIGERANT LINES BETWEEN OUTDOOR AND INDOOR UNITS SHALL BE OF ANNEALED, REFRIGERATION GRADE COPPER TUBING, ARC TYPE, MEETING ASTM B280 REQUIREMENTS.
3. REFRIGERANT PIPING SHALL BE INDIVIDUALLY INSULATED IN TWIN-TUBE, FLEXIBLE, CLOSED-CELL, CFC-FREE, ELASTOMERIC MATERIAL.
4. INSTALL REFRIGERANT PIPING PER MANUFACTURER'S REQUIREMENTS, AND TO MINIMIZE THE NUMBER OF BENDS.
5. TEST REFRIGERANT PIPING WITH COMPRESSED AIR AT 200 PSIG FOR 8 HOURS.

APPLICABLE CODES

2017 OHIO BUILDING CODE (BASED UPON 2015 IBC)

2017 OHIO MECHANICAL CODE (BASE UPON 2015 IBC)

2017 OHIO PLUMBING CODE (BASE UPON 2015 IBC)

2017 OHIO ENERGY CODE

ANSI/ASHRAE/IES STANDARD 90.1-2010

2015 INTERNATIONAL FUEL GAS CODE

2016 NFPA 13 (AUTOMATIC SPRINKLER SYSTEMS)

2016 NFPA 72 (NATIONAL FIRE ALARM AND SIGNALING CODE)

2017 OHIO FIRE CODE (BASED UPON 2015 IFC)

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CLK062 Shell-ROMP
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ISSUE DATE: 01SEP2023	PROJECT NO: 22-29863
DESIGNED: SWANSON RINK	ENGINEER: GO

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11 E MADISON ST. STE 300,
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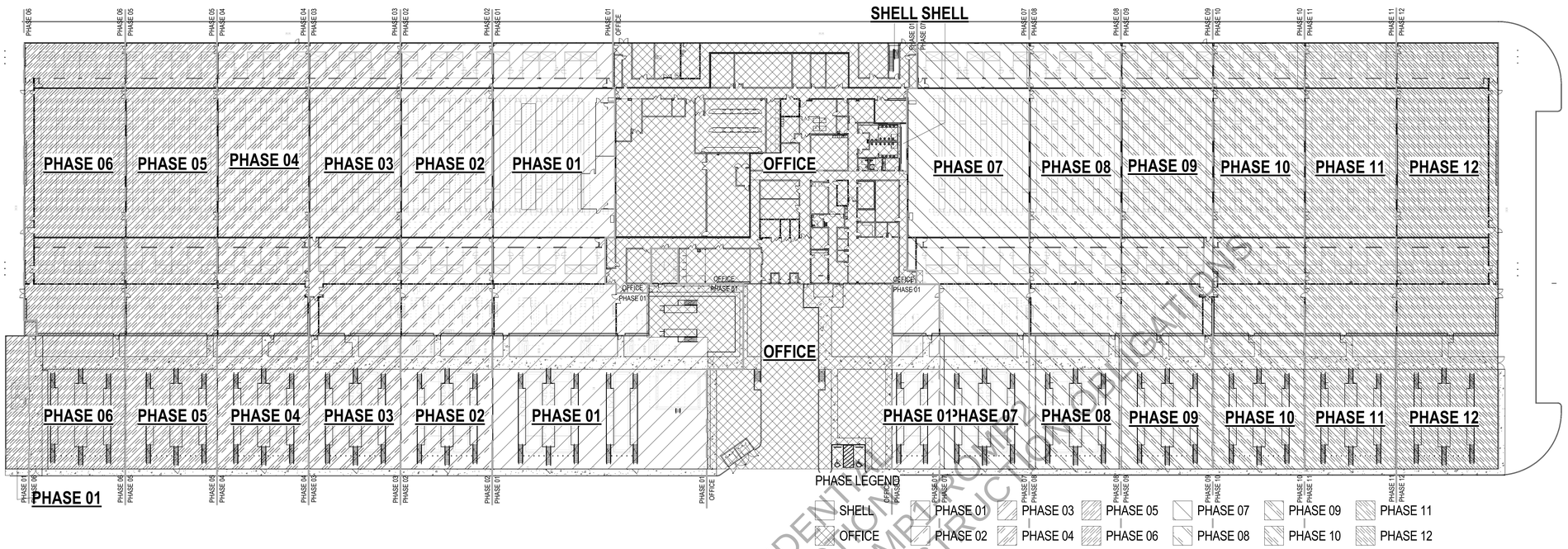
PROJECT: BUILDING B

TITLE: MECHANICAL SYMBOLS, ABBREVIATIONS & GENERAL NOTES

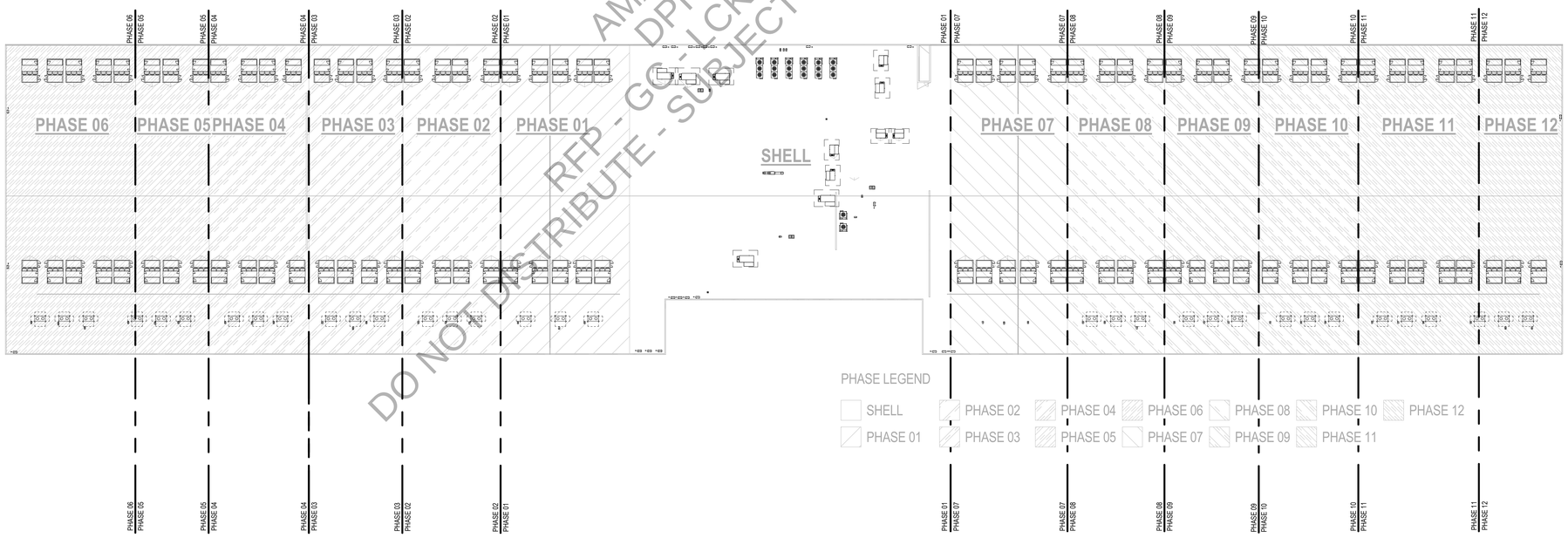
DRAWING: M001

E1	SCALE: NTS	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
PDF PRINT DATE: 8/31/2023 1:46:35 PM 002



1 MECHANICAL PHASING PLAN - LEVEL 01
M060 1" = 40'-0"



2 MECHANICAL PHASING PLAN - ROOF LEVEL
M060 1" = 40'-0"

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DPR CONSTRUCTION
RFP - GS - LCK062 Shell-ROM
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KEYPLAN

OVERALL

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DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL PHASING PLANS

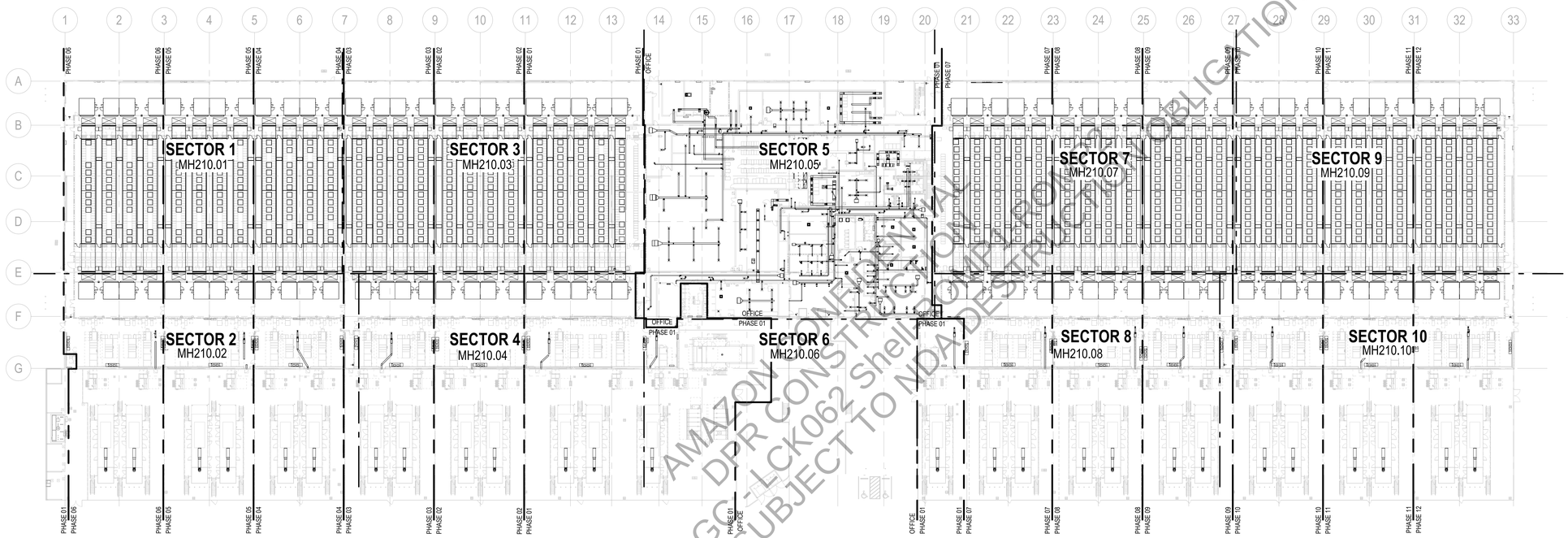
DRAWING: M060

E1 | SCALE: 1" = 40'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
PDF PRINT DATE: 8/31/2023 1:47:03 PM 003

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.



1 MECHANICAL LEVEL 01 HVAC OVERALL PLAN
MH210.00 1" = 40'-0"

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OVERALL

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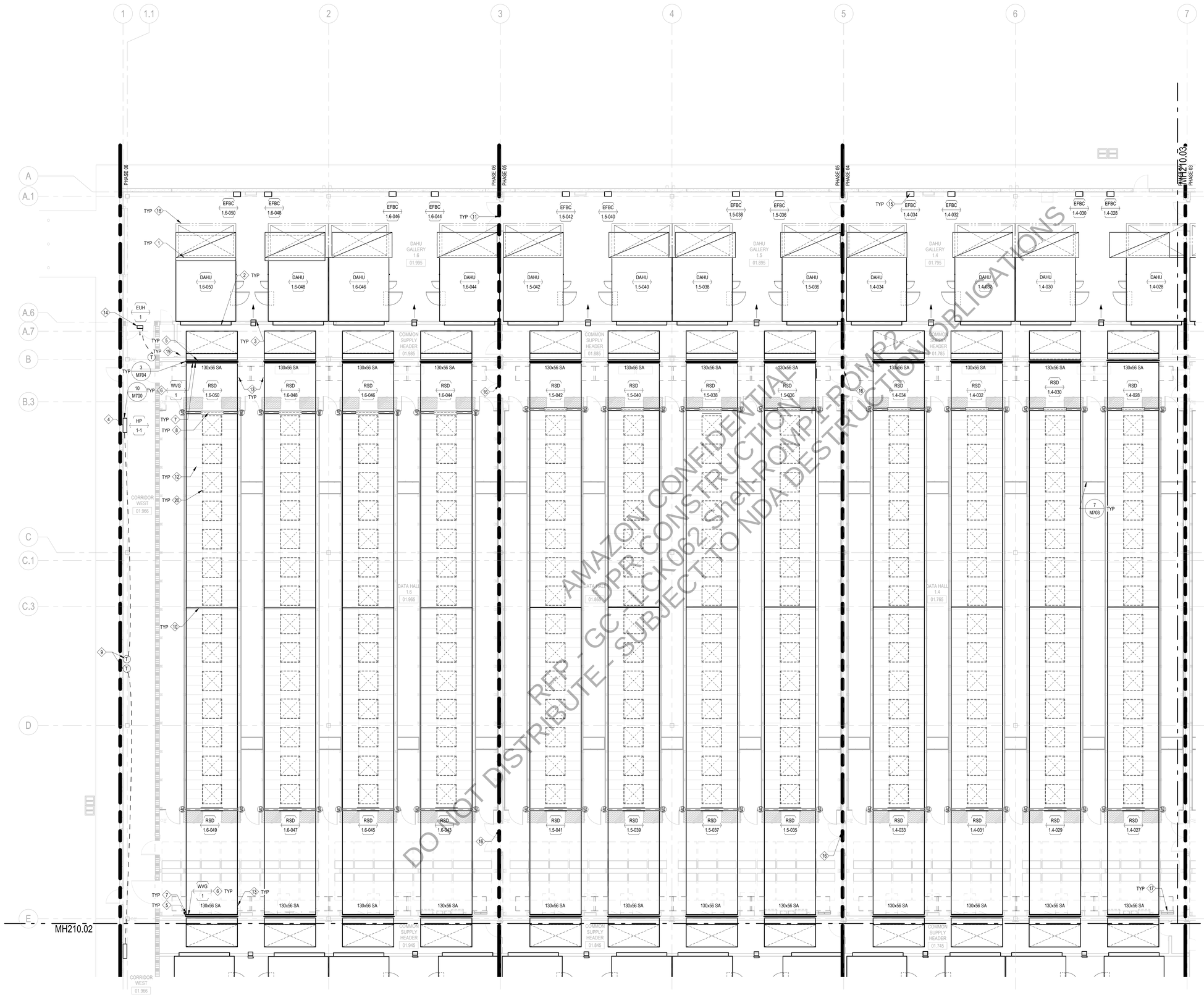
PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 HVAC OVERALL PLAN

DRAWING: MH210.00

E1	SCALE: 1" = 40'-0"	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
PDF PRINT DATE: 8/31/2023 1:51:03 PM 004



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RFP - GC - LCK062 Shell-ROMP2
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1 MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTION 01
MH210.01 1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. ALL INDICATED DUCT AND PIPE ELEVATIONS SHALL BE MEASURED FROM FINAL FINISHED FLOOR ELEVATIONS UNLESS OTHERWISE NOTED.

C. ALL DUCT TRANSITIONS SHALL BE FLAT ON BOTTOM UNLESS OTHERWISE INDICATED.

D. MECHANICAL CONTRACTOR SHALL PROVIDE ALL DAMPERS. CONTROL WIRING SHALL BE BY CONTROLS CONTRACTOR.

E. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL THERMOSTATS AND SENSORS FOR THE OFFICE AREA CONTROL SYSTEM, AND ALL DATA CENTER MECHANICAL EQUIPMENT THAT IS NOT CONTROLLED BY THE BMS.

F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

J. BOTTOM OF ALL DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITH CEILINGS SHALL BE NO MORE THAN 24" ABOVE TOP OF THE CEILING STRUCTURE. BOTTOM OF DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITHOUT CEILINGS SHALL BE NO MORE THAN 12 FT AFF, UNLESS OTHERWISE NOTED.

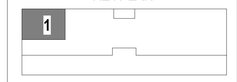
K. ALL TRANFER WALL OPENINGS/DUCTS (TA) SHALL BE INSTALLED MINIMUM 24" ABOVE ANY ADJACENT CEILING OR AT MINIMUM 12 FT AFF IN WALLS WITHOUT CEILINGS ON BOTH SIDES.

L. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

1 DATA HALL AIR HANDLING UNIT (DAHU), OWNER FURNISHED, CONTRACTOR INSTALLED.
2 120"WIN8TH DAHU DISCHARGE AIR OPENINGS. COORDINATE OPENINGS IN COMMON SUPPLY HEADER WALL.
3 MSD-1, MANUAL SUPPLY DAMPER (NORMALLY CLOSED). INSTALL AT 60" AFF FOR OPERATOR COMFORT WHILE SERVICING DATAHALL AIR HANDLING UNITS. PROVIDE DUCT EXTENSION THROUGH COMMON SUPPLY HEADER WALL. SEE DAMPER SCHEDULE FOR MSD, M901.
4 MOUNT HEAT PUMP AT AN ELEVATION OF 11'-0" FROM FINISHED FLOOR TO BOTTOM OF UNIT. PROVIDE REFRIGERANT PIPING AND POWER/CONTROL WIRING BETWEEN INDOOR UNIT AND OUTDOOR UNIT. SEE PLUMBING DRAWINGS FOR CONDENSATE DRAIN. INSTALL REMOTE WALL-MOUNTED THERMOSTAT IN THE VICINITY OF UNIT AT 48" AFF.
5 PROVIDE SECURITY BARS, 1/2" BARS AT 6" ON CENTERS AT SECURITY BOUNDARY.
6 PROVIDE WAVE GUIDE IN DUCT WITHIN 6' OF WALL. REFER TO THE WAVE GUIDE SCHEDULE FOR MORE DETAILS.
7 PROVIDE 2'-6" WIDE NON-CONDUCTIVE FLEXIBLE CANVAS CONNECTION ON THE REDZONE SIDE, WITHIN 6" OF THE WALL PENETRATION.
8 ROW SUPPLY DAMPER (CONTROL DAMPER). IN COLD AISLE SUPPLY DUCT. SEE DAMPER SCHEDULE FOR RSD, M901.
9 PROVIDE INSULATED SUB-BASE ON THERMOSTATS MOUNTED ON OUTSIDE WALL.
10 SHEET METAL BULKHEAD IN DUCT. BULKHEAD MATERIAL SHALL MATCH DUCT MATERIAL AND SHALL BE SEALED AIR TIGHT.
11 TEMPORARY WALL IN DAHU GALLERY, SEE ARCH.
12 INSULATE TOP OF SUPPLY DUCT AND ANY PORTION OF SIDES EXPOSED TO HOT AIR (RETURN) PLENUM.
13 PROVIDE ACCESS PANEL ON BOTH SIDES OF DUCT FOR WAVEGUIDE AND SECURITY BAR ACCESS. ACCESS PANEL SHALL BE ACCESSIBLE VIA MAN-LIFT THROUGH AN ACCESS HATCH IN THE CEILING. CONTRACTOR SHALL MAINTAIN CLEAR SPACE FROM FINISHED FLOOR TO TOP OF RETURN DUCTWORK FOR ACCESS TO DUCT ACCESS HATCHES. ACCESS HATCHES GREATER THAN 24" BEYOND CEILING OPENING SHALL BE CAPABLE OF BEING OPERATED WITH A REACH TOOL.
14 MOUNT UNIT HEATER AT AN ELEVATION OF 9'-0" FROM FINISHED FLOOR TO BOTTOM OF UNIT. INSTALL REMOTE WALL-MOUNTED THERMOSTATS IN THE VICINITY OF UNIT AT 48" AFF.
15 ROOF EXHAUST FAN BANK CONTROLLER. ONE PER EXHAUST UNIT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOW VOLTAGE WIRING AND CONDUIT TO EXHAUST FAN CONTROLLER.
16 REFERENCE ARCHITECTURAL DRAWINGS FOR LARGE KNOCKOUT OPENING ABOVE THE CEILING THROUGH THE PHASE WALL. MINIMUM FREE AREA OF 75 SF. OPENING TO BE IN PLACE ONCE ADJACENT PHASE IS OPERATIONAL.
17 MAX COOL ANNUNCIATOR PANEL LOCATION, SEE MB SERIES DRAWINGS.
18 PROTECT FOR THE FUTURE ADDITION OF AN 86" LONG MIXING BOX MODULE, WHICH MAY BE ATTACHED TO THE DAHU INLET AT SOME POINT IN THE FUTURE.
19 REFER TO ARCHITECTURAL DRAWINGS FOR PRESSURE EQUALIZATION SLIDER IN VESTIBULE FOR ACCESS INTO COMMON SUPPLY HEADER.
20 COLD AISLE SUPPLY DAMPER CSD-1 MOUNTED IN BOTTOM OF DUCT.

KEYPLAN



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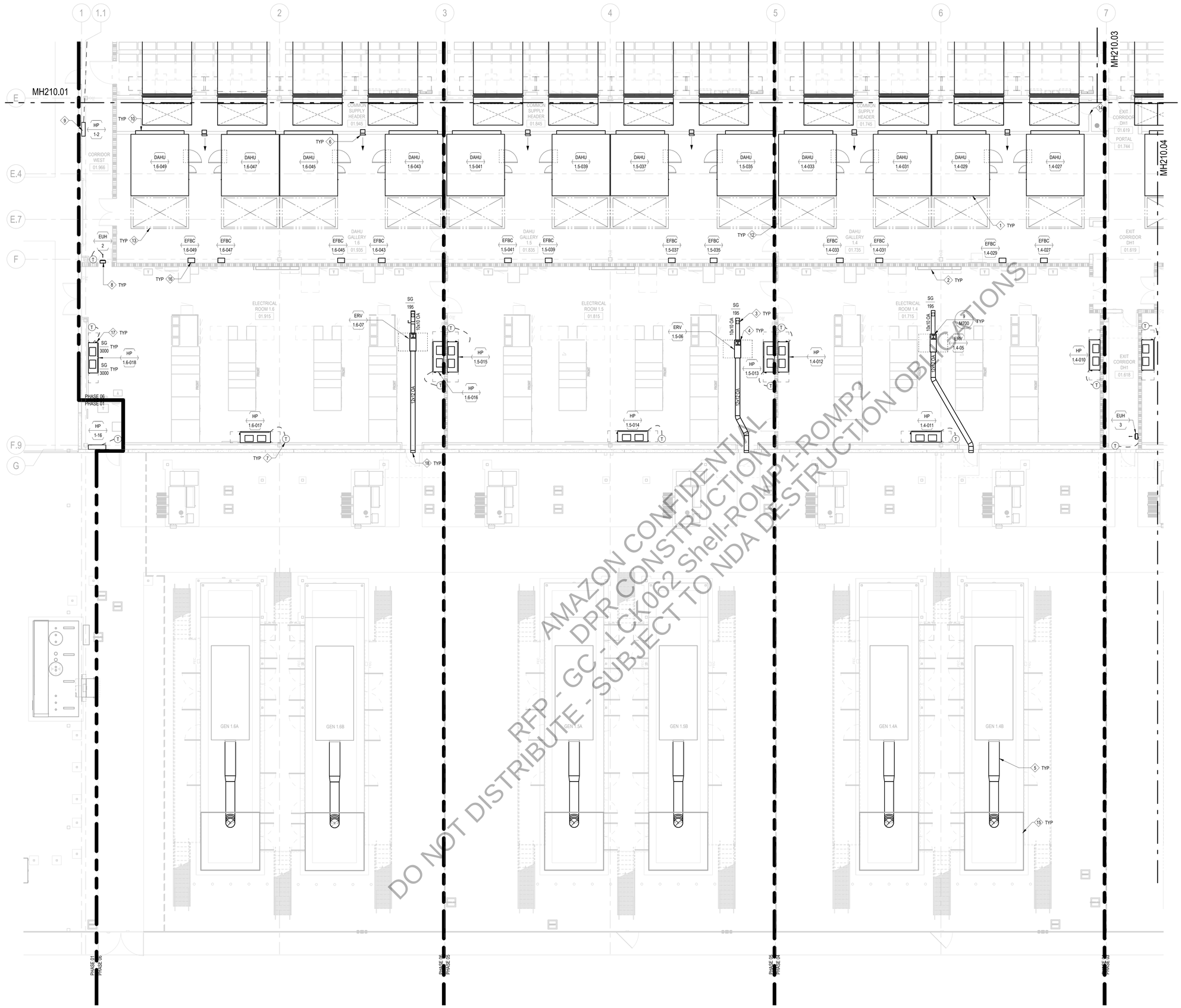
PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 01

DRAWING: MH210.01

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
PDF PRINT DATE: 9/1/2023 5:31:58 PM 005



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1 MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 02
MH210.02 1/8" = 1'-0"

GENERAL NOTES

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B. ALL INDICATED DUCT AND PIPE ELEVATIONS SHALL BE MEASURED FROM FINAL FINISHED FLOOR ELEVATIONS UNLESS OTHERWISE NOTED.

C. ALL DUCT TRANSITIONS SHALL BE FLAT ON BOTTOM UNLESS OTHERWISE INDICATED.

D. MECHANICAL CONTRACTOR SHALL PROVIDE ALL DAMPERS. CONTROL WIRING SHALL BE BY CONTROLS CONTRACTOR.

E. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL THERMOSTATS AND SENSORS FOR THE OFFICE AREA CONTROL SYSTEM, AND ALL DATA CENTER MECHANICAL EQUIPMENT THAT IS NOT CONTROLLED BY THE BMS.

F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

J. BOTTOM OF ALL DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITH CEILINGS SHALL BE NO MORE THAN 24" ABOVE TOP OF THE CEILING STRUCTURE. BOTTOM OF DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITHOUT CEILINGS SHALL BE NO MORE THAN 12 FT AFF, UNLESS OTHERWISE NOTED.

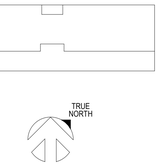
K. ALL TRANFER WALL OPENINGS/DUCTS (TA) SHALL BE INSTALLED MINIMUM 24" ABOVE ANY ADJACENT CEILING OR AT MINIMUM 12 FT AFF IN WALLS WITHOUT CEILINGS ON BOTH SIDES.

L. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

1 DATA HALL AIR HANDLING UNIT (DAHU), OWNER FURNISHED, CONTRACTOR INSTALLED.
2 MAX COOL ANNUNCIATOR PANEL LOCATION, SEE MB SERIES DRAWINGS.
3 ERV SUPPLY DIFFUSER, ADJUST FOR VERTICAL THROW.
4 ERV EXHAUST, FREE DISCHARGE TO ROOM.
5 GENERATOR EXHAUST FLUE FURNISHED BY GENERATOR MANUFACTURER AND INSTALLED BY CONTRACTOR. TERMINATE AT 44" ABOVE GENERATOR PAD. PROVIDE A DRAIN AT THE BOTTOM, IN ACCORDANCE WITH IPC AND LOCAL CODES. CONNECT FLUE TO GENERATOR ENGINE EXHAUST AT CONNECTION POINT.
6 MSD-1, MANUAL SUPPLY DAMPER (NORMALLY CLOSED), INSTALL AT 60" AFF FOR OPERATOR COMFORT WHILE SERVICING DATAHALL AIR HANDLING UNITS. PROVIDE DUCT EXTENSION THROUGH COMMON SUPPLY HEADER WALL. SEE DAMPER SCHEDULE FOR MSD, M901.
7 PROVIDE INSULATED SUB-BASE ON THERMOSTATS MOUNTED ON OUTSIDE WALL.
8 MOUNT UNIT HEATER AT AN ELEVATION OF 9'-0" FROM FINISHED FLOOR TO BOTTOM OF UNIT. INSTALL REMOTE WALL-MOUNTED THERMOSTATS IN THE VICINITY OF UNIT AT 48" AFF.
9 MOUNT HEAT PUMP AT AN ELEVATION OF 9'-0" FROM FINISHED FLOOR TO BOTTOM OF UNIT. INSTALL REMOTE WALL-MOUNTED THERMOSTATS IN THE VICINITY OF UNIT AT 48" AFF.
10 120"Wx80"H DAHU DISCHARGE AIR OPENINGS. COORDINATE OPENINGS IN COMMON SUPPLY HEADER WALL.
11 REFERENCE ARCHITECTURAL DRAWINGS FOR LARGE KNOCKOUT OPENING ABOVE THE CEILING THROUGH THE PHASE WALL, MINIMUM FREE AREA OF 75 SF. OPENING TO BE IN PLACE ONCE ADJACENT PHASE IS OPERATIONAL.
12 TEMPORARY WALL, SEE ARCHITECTURAL PLANS.
13 PROTECT FOR THE FUTURE ADDITION OF AN 86" LONG MIXING BOX MODULE, WHICH MAY BE ATTACHED TO THE DAHU INLET AT SOME POINT IN THE FUTURE.
14 REFER TO ARCHITECTURAL DRAWINGS FOR PRESSURE EQUALIZATION SLIDER IN VESTIBULE FOR ACCESS INTO COMMON SUPPLY HEADER.
15 RADIATOR EXHAUST SHROUD, FURNISHED BY GENERATOR MANUFACTURER AND INSTALLED BY CONTRACTOR. TERMINATE AT 2' ABOVE THE TOP OF THE HIGHEST INTAKE LOUVER OVER THE ELECTRICAL ROOM. THE SHROUD SHALL BE PAINTED BY PER ARCHITECT'S CHOICE OF COLOR FROM MANUFACTURER'S STANDARD COLOR CHART.
16 ROOF EXHAUST FAN BANK CONTROLLER. ONE PER EXHAUST UNIT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOW VOLTAGE WIRING AND CONDUIT TO EXHAUST FAN CONTROLLER.
17 PROVIDE 30" TALL FIELD FABRICATED TOP SUPPLY DISCHARGE PLENUM AT FLOOR MOUNTED HEAT PUMPS.
18 12"x12" INTAKE LOUVER FOR ELECTRICAL ROOM ERV. ALIGN WITH EDGE OF INTAKE LOUVER ABOVE. SEE ARCHITECTURAL DRAWINGS.

KEYPLAN



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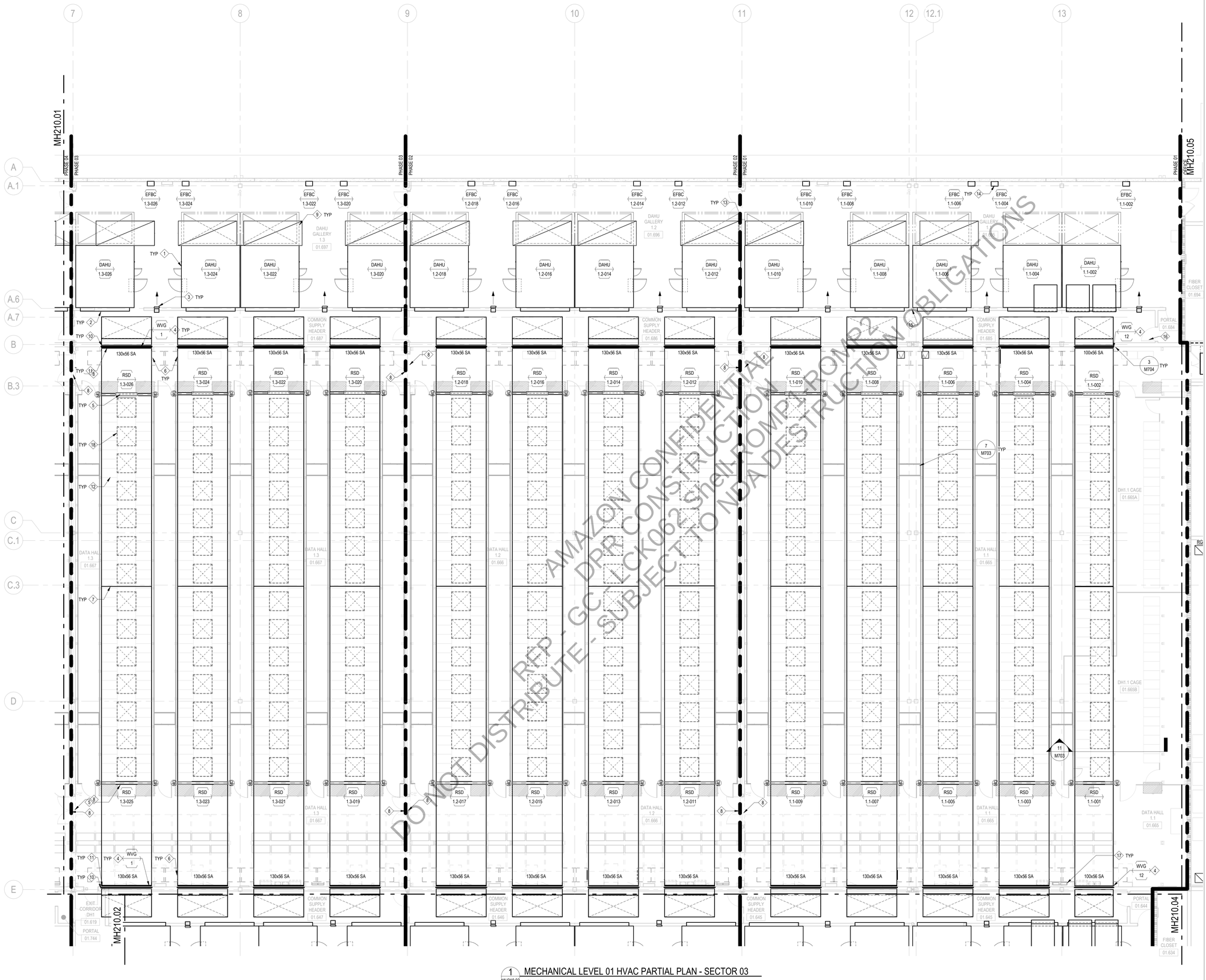
PROJECT: BUILDING B
TITLE: MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 02
DRAWING: MH210.02

E1 | SCALE: 1/8" = 1'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC-2.0
PDF PRINT DATE: 8/1/2023 1:51:32 PM 005



1 MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 03
MH210.03 1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. ALL INDICATED DUCT AND PIPE ELEVATIONS SHALL BE MEASURED FROM FINAL FINISHED FLOOR ELEVATIONS UNLESS OTHERWISE NOTED.

C. ALL DUCT TRANSITIONS SHALL BE FLAT ON BOTTOM UNLESS OTHERWISE INDICATED.

D. MECHANICAL CONTRACTOR SHALL PROVIDE ALL DAMPERS. CONTROL WIRING SHALL BE BY CONTROLS CONTRACTOR.

E. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL THERMOSTATS AND SENSORS FOR THE OFFICE AREA CONTROL SYSTEM, AND ALL DATA CENTER MECHANICAL EQUIPMENT THAT IS NOT CONTROLLED BY THE BMS.

F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

J. BOTTOM OF ALL DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITH CEILINGS SHALL BE NO MORE THAN 24" ABOVE TOP OF THE CEILING STRUCTURE. BOTTOM OF DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITHOUT CEILINGS SHALL BE NO MORE THAN 12 FT AFF, UNLESS OTHERWISE NOTED.

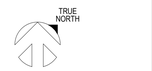
K. ALL TRANFER WALL OPENINGS/DUCTS (TA) SHALL BE INSTALLED MINIMUM 24" ABOVE ANY ADJACENT CEILING OR AT MINIMUM 12 FT AFF IN WALLS WITHOUT CEILINGS ON BOTH SIDES.

L. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

1. DATA HALL AIR HANDLING UNIT (DAHU), OWNER FURNISHED, CONTRACTOR INSTALLED.
2. 120"WX80"H DAHU DISCHARGE AIR OPENINGS. COORDINATE OPENINGS IN COMMON SUPPLY HEADER WALL.
3. MSD-1, MANUAL SUPPLY DAMPER (NORMALLY CLOSED). INSTALL AT 60" AFF FOR OPERATOR COMFORT WHILE SERVICING DATAHALL AIR HANDLING UNITS. PROVIDE DUCT EXTENSION THROUGH COMMON SUPPLY HEADER WALL. SEE DAMPER SCHEDULE FOR MSD, M901.
4. PROVIDE WAVE GUIDE IN DUCT WITHIN 6" OF WALL. REFER TO THE WAVE GUIDE SCHEDULE FOR MORE DETAILS.
5. ROW SUPPLY DAMPER (CONTROL DAMPER). IN COLD AISLE SUPPLY DUCT. SEE DAMPER SCHEDULE FOR RSD, M901.
6. PROVIDE ACCESS PANEL ON BOTH SIDES OF DUCT FOR WAVEGUIDE AND SECURITY BAR ACCESS. ACCESS PANEL SHALL BE ACCESSIBLE VIA MAN-LIFT THROUGH AN ACCESS HATCH IN THE CEILING. CONTRACTOR SHALL MAINTAIN CLEAR SPACE FROM FINISHED FLOOR TO TOP OF RETURN DUCTWORK FOR ACCESS TO DUCT ACCESS HATCHES. ACCESS HATCHES GREATER THAN 24" BEYOND CEILING OPENING SHALL BE CAPABLE OF BEING OPERATED WITH A REACH TOOL.
7. SHEET METAL BULKHEAD IN DUCT. BULKHEAD MATERIAL SHALL MATCH DUCT MATERIAL AND SHALL BE SEALED AIR TIGHT.
8. REFERENCE ARCHITECTURAL DRAWINGS FOR LARGE KNOCKOUT OPENING ABOVE THE CEILING THROUGH THE PHASE WALL. MINIMUM FREE AREA OF 75 SF. OPENING TO BE IN PLACE ONCE ADJACENT PHASE IS OPERATIONAL.
9. PROTECT FOR THE FUTURE ADDITION OF AN 86" LONG MIXING BOX MODULE. WHICH MAY BE ATTACHED TO THE DAHU INLET AT SOME POINT IN THE FUTURE.
10. PROVIDE SECURITY BARS, 1/2" BARS AT 6" ON CENTERS AT SECURITY BOUNDARY.
11. PROVIDE 2'-6" WIDE NON-CONDUCTIVE FLEXIBLE CANVAS CONNECTION ON THE REDZONE SIDE, WITHIN 6" OF THE WALL PENETRATION.
12. INSULATE TOP OF SUPPLY DUCT AND ANY PORTION OF SIDES EXPOSED TO HOT AIR (RETURN) PLENUM.
13. TEMPORARY WALL, SEE ARCHITECTURAL PLANS.
14. ROOF EXHAUST FAN BANK CONTROLLER. ONE PER EXHAUST UNIT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOW VOLTAGE WIRING AND CONDUIT TO EXHAUST FAN CONTROLLER.
15. COORDINATE EXACT POSITION OF DAHU OPENINGS WITH 4" EXPANSION JOINT IN THIS AREA.
16. REFER TO ARCHITECTURAL DRAWINGS FOR PRESSURE EQUALIZATION SLIDER IN VESTIBULE FOR ACCESS INTO COMMON SUPPLY HEADER.
17. MAX COOL ANNUNCIATOR PANEL LOCATION, SEE MB SERIES DRAWINGS.
18. COLD AISLE SUPPLY DAMPER CSD-1 MOUNTED IN BOTTOM OF DUCT.

KEYPLAN



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ISSUE DATE: 01SEP2023	PROJECT NO: 22-29863
DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 03

DRAWING: MH210.03

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

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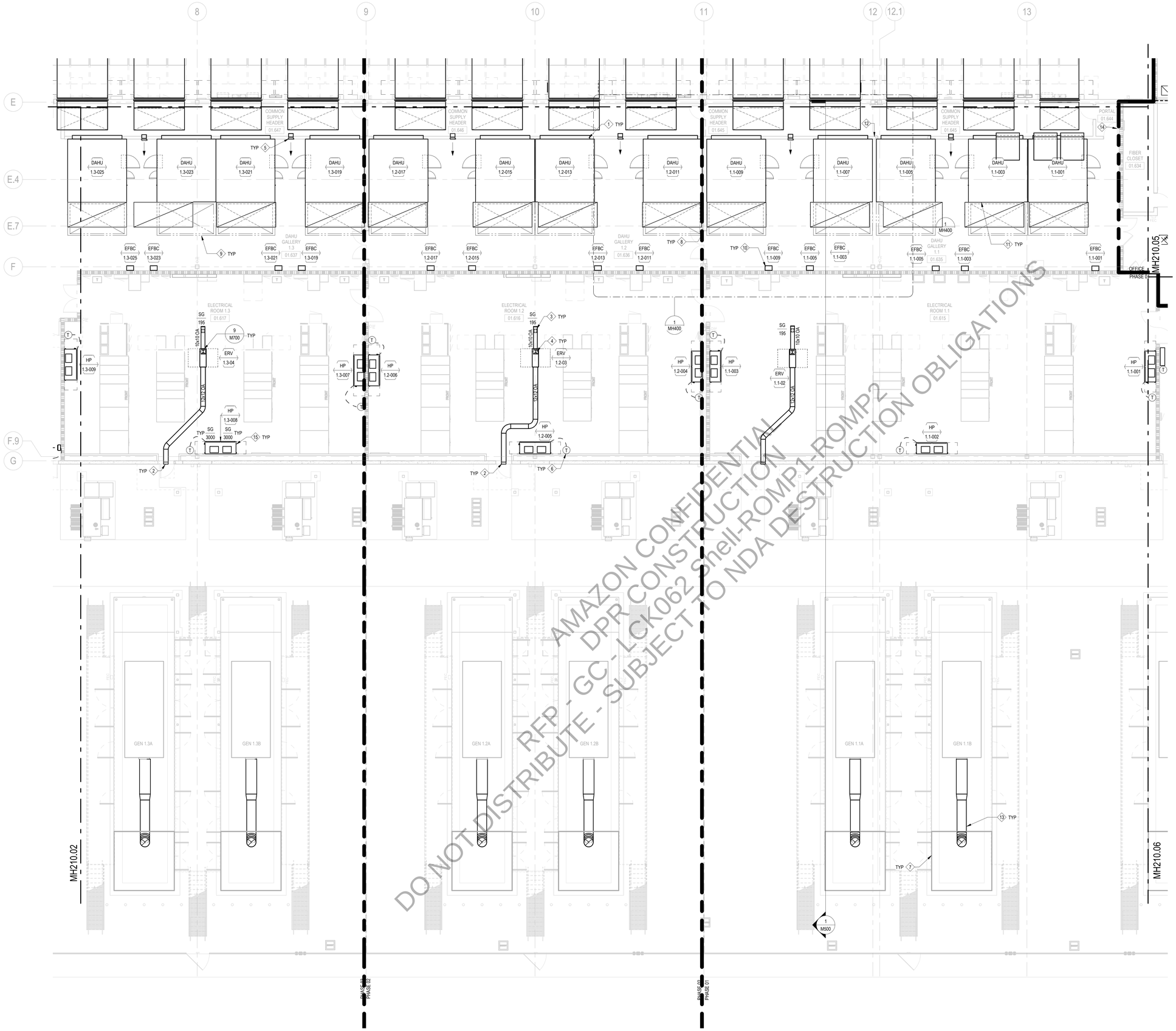

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RFP - GC - LCK062 Shell-ROMP1-ROMP2
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1 MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 04
MH210.04 1/8" = 1'-0"

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E. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL THERMOSTATS AND SENSORS FOR THE OFFICE AREA CONTROL SYSTEM, AND ALL DATA CENTER MECHANICAL EQUIPMENT THAT IS NOT CONTROLLED BY THE BMS.

F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

J. BOTTOM OF ALL DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITH CEILINGS SHALL BE NO MORE THAN 24" ABOVE TOP OF THE CEILING STRUCTURE. BOTTOM OF DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITHOUT CEILINGS SHALL BE NO MORE THAN 12'T AFF, UNLESS OTHERWISE NOTED.

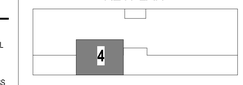
K. ALL TRANFER WALL OPENINGS/DUCTS (TA) SHALL BE INSTALLED MINIMUM 24" ABOVE ANY ADJACENT CEILING OR AT MINIMUM 12'T AFF IN WALLS WITHOUT CEILINGS ON BOTH SIDES.

L. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

1 120"W x80"H DAHU DISCHARGE AIR OPENINGS. COORDINATE OPENINGS IN COMMON SUPPLY HEADER WALL.
2 12"x12" INTAKE LOUVER FOR ELECTRICAL ROOM ERV. ALIGN WITH EDGE OF INTAKE LOUVER ABOVE. SEE ARCHITECTURAL DRAWINGS.
3 ERV SUPPLY DIFFUSER. ADJUST FOR VERTICAL THROW.
4 ERV EXHAUST, FREE DISCHARGE TO ROOM.
5 MSD-1, MANUAL SUPPLY DAMPER (NORMALLY CLOSED). INSTALL AT 60" AFF FOR OPERATOR COMFORT WHILE SERVICING DATAHALL AIR HANDLING UNITS. PROVIDE DUCT EXTENSION THROUGH COMMON SUPPLY HEADER WALL. SEE DAMPER SCHEDULE FOR MSD, M901.
6 PROVIDE INSULATED SUB-BASE ON THERMOSTATS MOUNTED ON OUTSIDE WALL.
7 RADIATOR EXHAUST SHROUD, FURNISHED AND INSTALLED BY CONTRACTOR. TERMINATE AT 2' ABOVE THE TOP OF THE HIGHEST INTAKE LOUVER OVER THE ELECTRIC ROOM. THE SHROUD SHALL BE PAINTED PER ARCHITECT'S CHOICE OF COLOR FROM MANUFACTURER'S STANDARD COLOR CHART.
8 TEMPORARY WALL, SEE ARCHITECTURAL PLANS.
9 PROTECT FOR THE FUTURE ADDITION OF AN 86' LONG MIXING BOX MODULE, WHICH MAY BE ATTACHED TO THE DAHU INLET AT SOME POINT IN THE FUTURE.
10 ROOF EXHAUST FAN BANK CONTROLLER. ONE PER EXHAUST UNIT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOW VOLTAGE WIRING AND CONDUIT TO EXHAUST FAN CONTROLLER.
11 DATA HALL AIR HANDLING UNIT (DAHU), OWNER FURNISHED, CONTRACTOR INSTALLED.
12 COORDINATE EXACT POSITION OF DAHU OPENINGS WITH 4" EXPANSION JOINT IN THIS AREA.
13 GENERATOR EXHAUST FLUE FURNISHED BY GENERATOR MANUFACTURER AND INSTALLED BY CONTRACTOR. TERMINATE AT 44' ABOVE GENERATOR PAD. PROVIDE A DRAIN AT THE BOTTOM, IN ACCORDANCE WITH IPC AND LOCAL CODES. CONNECT FLUE TO GENERATOR ENGINE EXHAUST AT CONNECTION POINT.
14 REFER TO ARCHITECTURAL DRAWINGS FOR PRESSURE EQUALIZATION SLIDER IN VESTIBULE FOR ACCESS INTO COMMON SUPPLY HEADER.
15 PROVIDE 30" TALL FIELD FABRICATED TOP SUPPLY DISCHARGE PLENUM AT FLOOR MOUNTED HEAT PUMPS.

KEYPLAN



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ISSUE DATE: 01SEP2023	PROJECT NO: 22-29863
DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 04

DRAWING: MH210.04

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

BIDD VERSION: OPTDC-2.0
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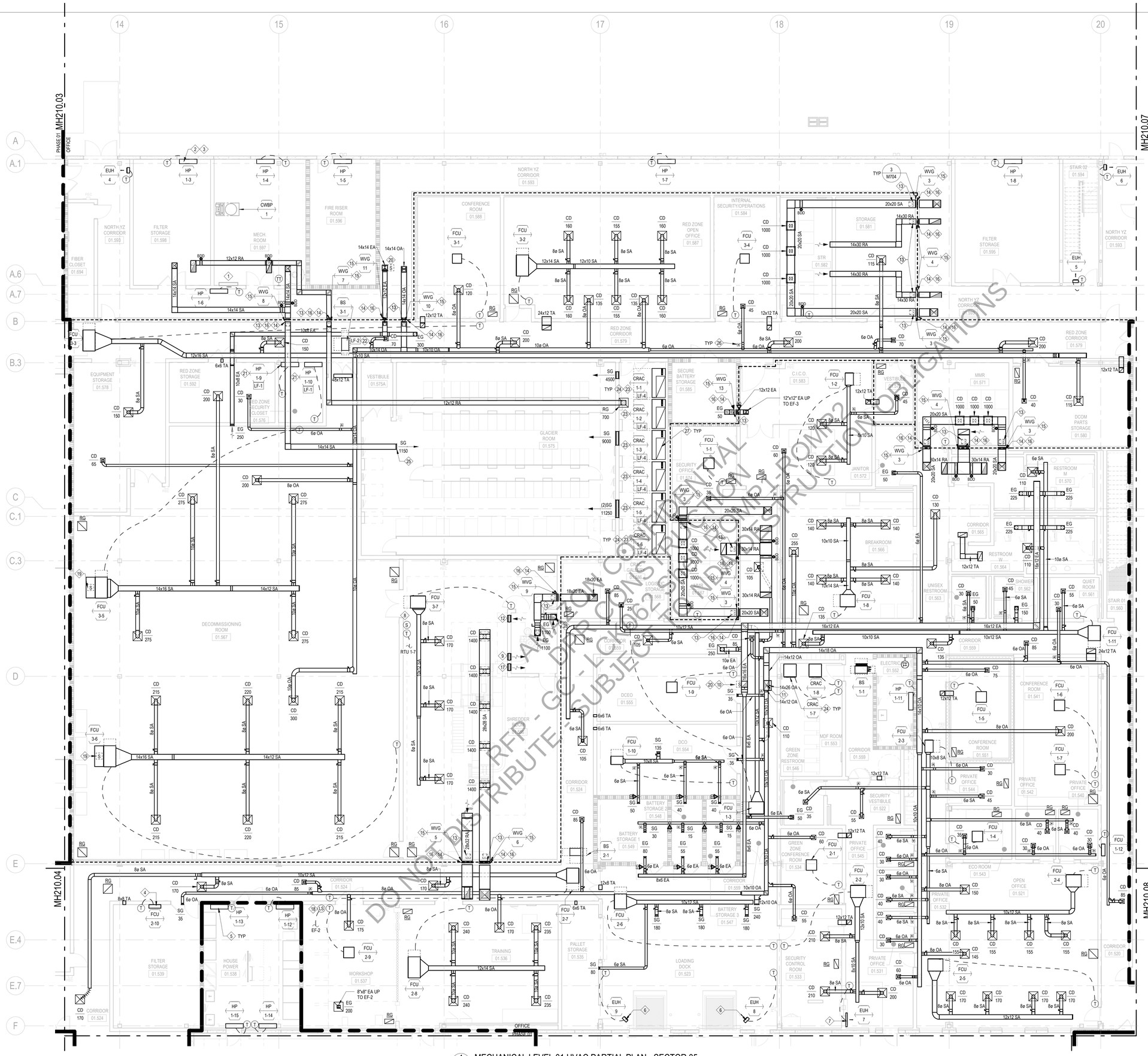

1 MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 05
MH210.05 1/8" = 1'-0"

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RFP - GC - LC1062 SUBJECT TO CHANGE
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RFP-1 - FOR GC CONSTRUCTION OBLIGATIONS

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F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

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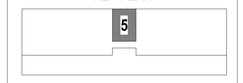
SHEET NOTES

1 IW MECH ROOM BMS PANEL. SEE MB400.
2 MOUNT HEAT PUMP AT AN ELEVATION OF 9'-0" FROM FINISHED FLOOR TO BOTTOM OF UNIT. INSTALL REMOTE WALL-MOUNTED THERMOSTATS IN THE VICINITY OF UNIT AT 48" AFF.
3 PROVIDE REFRIGERANT PIPING AND POWER/CONTROL WIRING BETWEEN INDOOR AND OUTDOOR UNITS. REFER TO PLUMBING DRAWINGS FOR CONDENSATE DRAIN SIZE, ROUTING AND DISCHARGE. SIZE REFRIGERANT PIPING AND INSULATION PER HEAT PUMP MANUFACTURER'S INSTRUCTIONS.
4 WALL MOUNTED FAN COIL UNIT TO BE INSTALLED AT 9'-0" AFF.
5 MOUNT HEAT PUMP AT AN ELEVATION OF 11'-0" FROM FINISHED FLOOR TO BOTTOM OF UNIT. PROVIDE REFRIGERANT PIPING AND POWER/CONTROL WIRING BETWEEN INDOOR UNIT AND OUTDOOR UNIT. SEE PLUMBING DRAWINGS FOR CONDENSATE DRAIN. INSTALL REMOTE WALL-MOUNTED THERMOSTAT IN THE VICINITY OF UNIT AT 48" AFF.
6 MOUNT UNIT HEATER AT AN ELEVATION OF 9'-0" FROM FINISHED FLOOR TO BOTTOM OF UNIT. INSTALL REMOTE WALL-MOUNTED THERMOSTATS IN THE VICINITY OF UNIT AT 48" AFF.
7 MOUNT WALL HEATER AT AN ELEVATION OF 1'-0" AFF TO BOTTOM OF UNIT.
8 PROVIDE PUSHBUTTON ON WALL FOR MANUAL START/STOP CONTROL OF RTU 7 AND EF 1. PROVIDE SIGN ADJACENT TO PUSHBUTTON THAT STATES "PUSH BUTTON TO START RTU 7 AND EF 1 PRIOR TO STARTING THE SHREDDER."
9 PROVIDE TRANSFER ASSEMBLY WITH BACKDRAFT DAMPER IN WALL LOCATED AT 12" AFF. PROVIDE TRANSFER GRILLE IN WALL ON BOTH SIDES OF THE ASSEMBLY.
10 EXHAUST DUCT UP TO DOAS 1.
11 SUPPLY DUCT UP TO DOAS 1.
12 PROVIDE TRANSFER ASSEMBLY WITH BACKDRAFT DAMPER IN WALL LOCATED AT 5' AFF. PROVIDE TRANSFER GRILLE IN WALL ON BOTH SIDES OF THE ASSEMBLY.
13 PROVIDE ACCESS PANEL FOR WAVEGUIDE AND SECURITY BAR ACCESS.
14 PROVIDE SECURITY BARS, 1/2" BARS AT 6" ON CENTERS AT SECURITY BOUNDARY.
15 PROVIDE WAVE GUIDE IN DUCT WITHIN 6" OF WALL. REFER TO THE WAVE GUIDE SCHEDULE FOR MORE DETAILS.
16 PROVIDE 2'-6" WIDE NON-CONDUCTIVE FLEXIBLE CANVAS CONNECTION ON THE REDZONE SIDE, WITHIN 6" OF THE WALL PENETRATION.
17 PROVIDE TRANSFER ASSEMBLY WITH BACKDRAFT DAMPER IN WALL LOCATED 6" BELOW THE CEILING. PROVIDE TRANSFER GRILLE IN WALL ON BOTH SIDES OF THE ASSEMBLY.
18 PROVIDE PUSHBUTTON ON WALL FOR MANUAL START/STOP CONTROL OF EF 2.
19 PROVIDE RETURN AIR DUCT PLENUM PER MANUFACTURER REQUIREMENTS. INSTALL SMOKE DETECTOR UPSTREAM OF FAN COIL UNIT FILTER IN FIELD FABRICATED PLENUM BOX AND INTERFACE WITH FIRE ALARM SYSTEM.
20 INSTALL SMOKE DETECTOR IN DOAS RETURN DUCT AND INTERFACE WITH FIRE ALARM SYSTEM.
21 CONTROL WIRING BETWEEN INTERIOR HEAT PUMP AND EXTERIOR SPLIT SYSTEM CONDENSING UNIT ROUTED THROUGH A REDZONE WALL SHALL BE ROUTED THROUGH A CONTROL SYSTEM FILTER. PROVIDE CONTROL SYSTEM FILTER PRODUCT FROM LINE FILTER SCHEDULE ON SHEET M902. GROUP CONTROL FILTER WIRING AT THE REDZONE SIDE OF THE WALL PENETRATION IN AN ACCESSIBLE LOCATION. THE CONTRACTOR SHALL COORDINATE THE EXACT REQUIRED FILTER PRODUCT WITH THE SELECTED EQUIPMENT VENDOR BASED ON WIRING TYPE AND QUANTITY. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.
22 CONTROL WIRING BETWEEN INTERIOR BRANCH SELECTOR BOX AND EXTERIOR AIR COOLED CONDENSING UNIT ROUTED THROUGH A REDZONE WALL SHALL BE ROUTED THROUGH A CONTROL SYSTEM FILTER. PROVIDE CONTROL SYSTEM FILTER PRODUCT FROM LINE FILTER SCHEDULE ON SHEET M902. GROUP CONTROL FILTER WIRING AT THE REDZONE SIDE OF THE WALL PENETRATION IN AN ACCESSIBLE LOCATION. THE CONTRACTOR SHALL COORDINATE THE EXACT REQUIRED FILTER PRODUCT WITH THE SELECTED EQUIPMENT VENDOR BASED ON WIRING TYPE AND QUANTITY. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.
23 CONTROL WIRING BETWEEN INTERIOR CRAC UNIT AND EXTERIOR AIR COOLED CONDENSING UNIT ROUTED THROUGH A REDZONE WALL SHALL BE ROUTED THROUGH A CONTROL SYSTEM FILTER. PROVIDE CONTROL SYSTEM FILTER PRODUCT FROM LINE FILTER SCHEDULE ON SHEET M902. GROUP CONTROL FILTER WIRING AT THE REDZONE SIDE OF THE WALL PENETRATION IN AN ACCESSIBLE LOCATION. THE CONTRACTOR SHALL COORDINATE THE EXACT REQUIRED FILTER PRODUCT WITH THE SELECTED EQUIPMENT VENDOR BASED ON WIRING TYPE AND QUANTITY. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.
24 PROVIDE ANGLE SPILL CONTAINMENT LIP AROUND PERIMETER OF CRAC UNIT SEALED TO FLOOR WITH FACTORY PROVIDED LEAK DETECTOR.
25 SUPPLY MAKE-UP AIR TO GLACIER SPACE INTO THE RETURN PLENUM ABOVE THE CEILING.
26 PROVIDE PRESSURE INDEPENDENT CONSTANT VOLUME FLOW CONTROL DAMPER.
27 PROVIDE 56"X24" DUCTED RETURN PLENUM EXTENSION UP THROUGH 18' CEILING.
28 MOUNT BOTTOM OF DUCT AT 12'-0" AFF.

KEYPLAN



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PROJECT ADDRESS
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PROJECT DELIVERY PACKAGE
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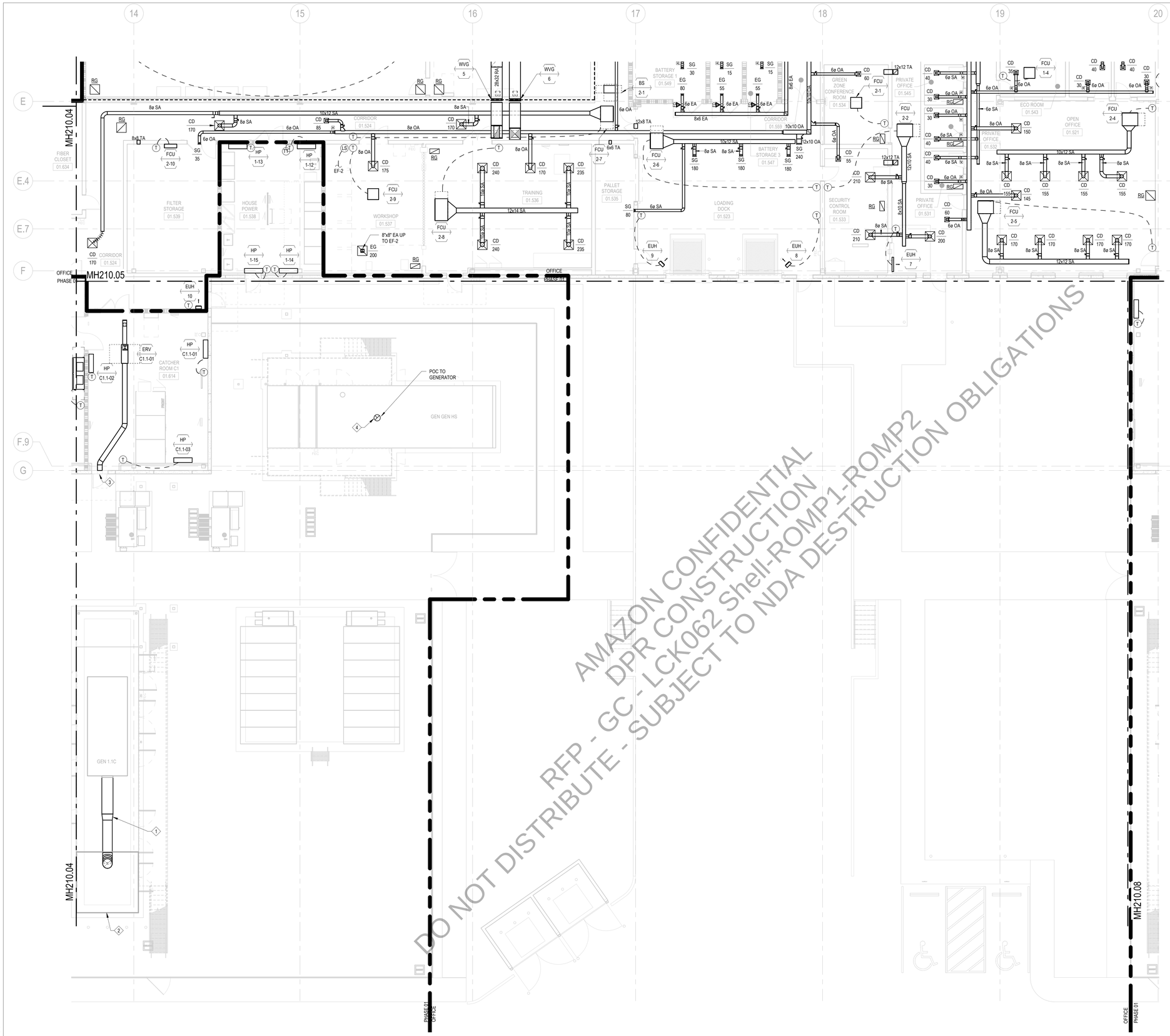
PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 05

DRAWING: MH210.05

E1 | SCALE: 1/8" = 1'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC.v2.0
PDF PRINT DATE: 8/31/2023 1:52:16 PM 009



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1 MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 06
MH210.06 1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. ALL INDICATED DUCT AND PIPE ELEVATIONS SHALL BE MEASURED FROM FINAL FINISHED FLOOR ELEVATIONS UNLESS OTHERWISE NOTED.

C. ALL DUCT TRANSITIONS SHALL BE FLAT ON BOTTOM UNLESS OTHERWISE INDICATED.

D. MECHANICAL CONTRACTOR SHALL PROVIDE ALL DAMPERS. CONTROL WIRING SHALL BE BY CONTROLS CONTRACTOR.

E. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL THERMOSTATS AND SENSORS FOR THE OFFICE AREA CONTROL SYSTEM, AND ALL DATA CENTER MECHANICAL EQUIPMENT THAT IS NOT CONTROLLED BY THE BMS.

F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

J. BOTTOM OF ALL DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITH CEILINGS SHALL BE NO MORE THAN 24" ABOVE TOP OF THE CEILING STRUCTURE. BOTTOM OF DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITHOUT CEILINGS SHALL BE NO MORE THAN 12' FT AFF, UNLESS OTHERWISE NOTED.

K. ALL TRANFER WALL OPENINGS/DUCTS (TA) SHALL BE INSTALLED MINIMUM 24" ABOVE ANY ADJACENT CEILING OR AT MINIMUM 12 FT AFF IN WALLS WITHOUT CEILINGS ON BOTH SIDES.

L. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

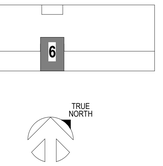
1 GENERATOR EXHAUST FLUE FURNISHED BY GENERATOR MANUFACTURER AND INSTALLED BY CONTRACTOR. TERMINATE AT 44' ABOVE GENERATOR PAD. PROVIDE A DRAIN AT THE BOTTOM, IN ACCORDANCE WITH IPC AND LOCAL CODES. CONNECT FLUE TO GENERATOR ENGINE EXHAUST AT CONNECTION POINT.

2 RADIATOR EXHAUST SHROUD, FURNISHED AND INSTALLED BY CONTRACTOR. TERMINATE AT 2' ABOVE THE TOP OF THE HIGHEST INTAKE LOUVER OVER THE ELECTRIC ROOM. THE SHROUD SHALL BE PAINTED PER ARCHITECT'S CHOICE OF COLOR FROM MANUFACTURER'S STANDARD COLOR CHART.

3 12'x12" INTAKE LOUVER FOR ELECTRICAL ROOM ERV. ALIGN WITH EDGE OF INTAKE LOUVER ABOVE. SEE ARCHITECTURAL DRAWINGS.

4 GENERATOR EXHAUST FLUE FURNISHED BY GENERATOR MANUFACTURER AND INSTALLED BY CONTRACTOR. TERMINATE AT 44' ABOVE GENERATOR PAD WITH NO-LOSS WEATHERHEAD. EXHAUST FLUE SHALL BE SUPPORTED BY GUIDEWIRES CONNECTED TO THE GENERATOR ENCLOSURE. PROVIDE A DRAIN AT THE BOTTOM, IN ACCORDANCE WITH IPC AND LOCAL CODES. CONNECT FLUE TO GENERATOR ENGINE EXHAUST AT CONNECTION POINT.

KEYPLAN



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ISSUE DATE: 01SEP2023	PROJECT NO: 22-29863
DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 06

DRAWING: MH210.06

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

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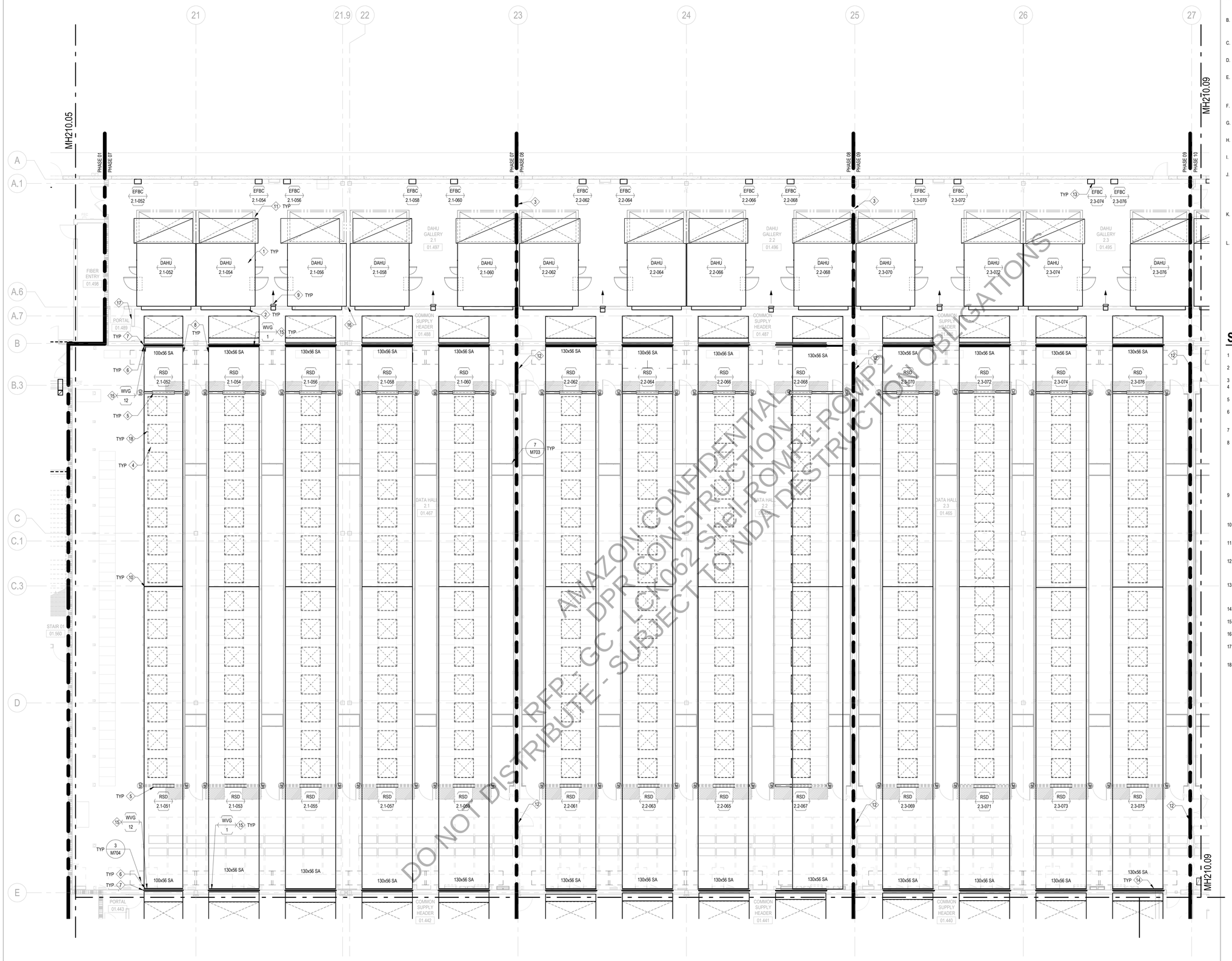

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1 MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 07
MH210.07 1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. ALL INDICATED DUCT AND PIPE ELEVATIONS SHALL BE MEASURED FROM FINAL FINISHED FLOOR ELEVATIONS UNLESS OTHERWISE NOTED.

C. ALL DUCT TRANSITIONS SHALL BE FLAT ON BOTTOM UNLESS OTHERWISE INDICATED.

D. MECHANICAL CONTRACTOR SHALL PROVIDE ALL DAMPERS. CONTROL WIRING SHALL BE BY CONTROLS CONTRACTOR.

E. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL THERMOSTATS AND SENSORS FOR THE OFFICE AREA CONTROL SYSTEM, AND ALL DATA CENTER MECHANICAL EQUIPMENT THAT IS NOT CONTROLLED BY THE BMS.

F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

J. BOTTOM OF ALL DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITH CEILINGS SHALL BE NO MORE THAN 24" ABOVE TOP OF THE CEILING STRUCTURE. BOTTOM OF DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITHOUT CEILINGS SHALL BE NO MORE THAN 12'T AFF, UNLESS OTHERWISE NOTED.

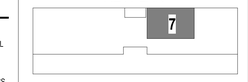
K. ALL TRANFER WALL OPENINGS/DUCTS (TA) SHALL BE INSTALLED MINIMUM 24" ABOVE ANY ADJACENT CEILING OR AT MINIMUM 12'T AFF IN WALLS WITHOUT CEILINGS ON BOTH SIDES.

L. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

1 DATA HALL AIR HANDLING UNIT (DAHU), OWNER FURNISHED, CONTRACTOR INSTALLED.
2 120"Wx80"H DAHU DISCHARGE AIR OPENINGS. COORDINATE OPENINGS IN COMMON SUPPLY HEADER WALL.
3 TEMPORARY WALL IN DAHU GALLERY. SEE ARCH.
4 INSULATE TOP OF SUPPLY DUCT AND ANY PORTION OF SIDES EXPOSED TO HOT AIR (RETURN) PLENUM.
5 ROW SUPPLY DAMPER (CONTROL DAMPER). IN COLD AISLE SUPPLY DUCT. SEE DAMPER SCHEDULE FOR RSD, M901.
6 PROVIDE 2'-6" WIDE NON-CONDUCTIVE FLEXIBLE CANVAS CONNECTION ON THE REDZONE SIDE, WITHIN 6" OF THE WALL PENETRATION.
7 PROVIDE SECURITY BARS, 1/2" BARS AT 6" ON CENTERS AT SECURITY BOUNDARY.
8 PROVIDE ACCESS PANEL ON BOTH SIDES OF DUCT FOR WAVEGUIDE AND SECURITY BAR ACCESS. ACCESS PANEL SHALL BE ACCESSIBLE VIA MAN-LIFT THROUGH AN ACCESS HATCH IN THE CEILING. CONTRACTOR SHALL MAINTAIN CLEAR SPACE FROM FINISHED FLOOR TO TOP OF RETURN DUCTWORK FOR ACCESS TO DUCT ACCESS HATCHES. ACCESS HATCHES GREATER THAN 24" BEYOND CEILING OPENING SHALL BE CAPABLE OF BEING OPERATED WITH A REACH TOOL.
9 MSD-1, MANUAL SUPPLY DAMPER (NORMALLY CLOSED). INSTALL AT 60" AFF FOR OPERATOR COMFORT WHILE SERVICING DATAHALL AIR HANDLING UNITS. PROVIDE DUCT EXTENSION THROUGH COMMON SUPPLY HEADER WALL. SEE DAMPER SCHEDULE FOR MSD, M901.
10 SHEET METAL BULKHEAD IN DUCT. BULKHEAD MATERIAL SHALL MATCH DUCT MATERIAL AND SHALL BE SEALED AIR TIGHT.
11 PROTECT FOR THE FUTURE ADDITION OF AN 86" LONG MIXING BOX MODULE, WHICH MAY BE ATTACHED TO THE DAHU INLET AT SOME POINT IN THE FUTURE.
12 REFERENCE ARCHITECTURAL DRAWINGS FOR LARGE KNOCKOUT OPENING ABOVE THE CEILING THROUGH THE PHASE WALL. MINIMUM FREE AREA OF 75 SF. OPENING TO BE IN PLACE ONCE ADJACENT PHASE IS OPERATIONAL.
13 ROOF EXHAUST FAN BANK CONTROLLER. ONE PER EXHAUST UNIT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOW VOLTAGE WIRING AND CONDUIT TO EXHAUST FAN CONTROLLER.
14 MAX COOL ANNUNCIATOR PANEL LOCATION, SEE MB SERIES DRAWINGS.
15 PROVIDE WAVE GUIDE IN DUCT WITHIN 6" OF WALL. REFER TO THE WAVE GUIDE SCHEDULE FOR MORE DETAILS.
16 COORDINATE EXACT POSITION OF DAHU OPENINGS WITH 4" EXPANSION JOINT IN THIS AREA.
17 REFER TO ARCHITECTURAL DRAWINGS FOR PRESSURE EQUALIZATION SLIDER IN VESTIBULE FOR ACCESS INTO COMMON SUPPLY HEADER.
18 COLD AISLE SUPPLY DAMPER CSD-1 MOUNTED IN BOTTOM OF DUCT.

KEYPLAN



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ISSUE DATE: 01SEP2023 | PROJECT NO: 22-29863
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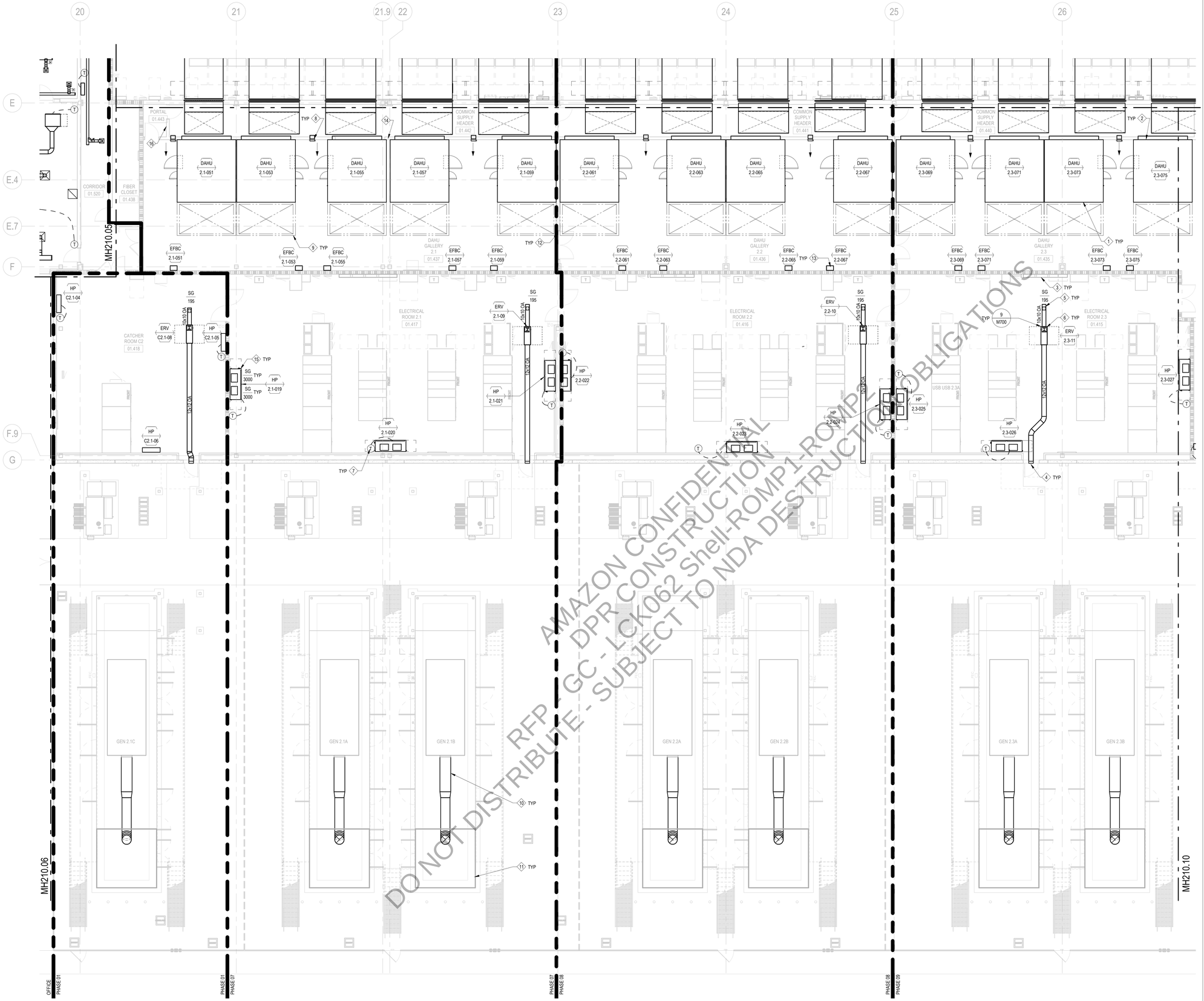
PROJECT: BUILDING B
TITLE: MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 07
DRAWING: MH210.07
E1 | SCALE: 1/8" = 1'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
PDF PRINT DATE: 9/1/2023 5:32:50 PM 011



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1 MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 08
MH210.08 1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. ALL INDICATED DUCT AND PIPE ELEVATIONS SHALL BE MEASURED FROM FINAL FINISHED FLOOR ELEVATIONS UNLESS OTHERWISE NOTED.

C. ALL DUCT TRANSITIONS SHALL BE FLAT ON BOTTOM UNLESS OTHERWISE INDICATED.

D. MECHANICAL CONTRACTOR SHALL PROVIDE ALL DAMPERS. CONTROL WIRING SHALL BE BY CONTROLS CONTRACTOR.

E. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL THERMOSTATS AND SENSORS FOR THE OFFICE AREA CONTROL SYSTEM, AND ALL DATA CENTER MECHANICAL EQUIPMENT THAT IS NOT CONTROLLED BY THE BMS.

F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

J. BOTTOM OF ALL DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITH CEILINGS SHALL BE NO MORE THAN 24" ABOVE TOP OF THE CEILING STRUCTURE. BOTTOM OF DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITHOUT CEILINGS SHALL BE NO MORE THAN 12' FT AFF, UNLESS OTHERWISE NOTED.

K. ALL TRANFER WALL OPENINGS/DUCTS (TA) SHALL BE INSTALLED MINIMUM 24" ABOVE ANY ADJACENT CEILING OR AT MINIMUM 12' FT AFF IN WALLS WITHOUT CEILINGS ON BOTH SIDES.

L. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

1 DATA HALL AIR HANDLING UNIT (DAHU), OWNER FURNISHED, CONTRACTOR INSTALLED.
2 120"Wx80"H DAHU DISCHARGE AIR OPENINGS. COORDINATE OPENINGS IN COMMON SUPPLY HEADER WALL.
3 MAX COOL ANNUNCIATOR PANEL LOCATION, SEE M8 SERIES DRAWINGS.
4 12"x12" INTAKE LOUVER FOR ELECTRICAL ROOM ERV. ALIGN WITH EDGE OF INTAKE LOUVER ABOVE. SEE ARCHITECTURAL DRAWINGS.
5 ERV SUPPLY DIFFUSER, ADJUST FOR VERTICAL THROW.
6 ERV EXHAUST, FREE DISCHARGE TO ROOM.
7 PROVIDE INSULATED SUB-BASE ON THERMOSTATS MOUNTED ON OUTSIDE WALL.
8 MSD-1, MANUAL SUPPLY DAMPER (NORMALLY CLOSED), INSTALL AT 60" AFF FOR OPERATOR COMFORT WHILE SERVICING DATAHALL AIR HANDLING UNITS. PROVIDE DUCT EXTENSION THROUGH COMMON SUPPLY HEADER WALL. SEE DAMPER SCHEDULE FOR MSD, M901.
9 PROTECT FOR THE FUTURE ADDITION OF AN 86' LONG MIXING BOX MODULE, WHICH MAY BE ATTACHED TO THE DAHU INLET AT SOME POINT IN THE FUTURE.
10 GENERATOR EXHAUST FLUE FURNISHED BY GENERATOR MANUFACTURER AND INSTALLED BY CONTRACTOR. TERMINATE AT 44' ABOVE GENERATOR PAD. PROVIDE A DRAIN AT THE BOTTOM, IN ACCORDANCE WITH IPC AND LOCAL CODES. CONNECT FLUE TO GENERATOR ENGINE EXHAUST AT CONNECTION POINT.
11 RADIATOR EXHAUST SHROUD, FURNISHED AND INSTALLED BY CONTRACTOR. TERMINATE AT 2' ABOVE THE TOP OF THE HIGHEST INTAKE LOUVER OVER THE ELECTRIC ROOM. THE SHROUD SHALL BE PAINTED PER ARCHITECT'S CHOICE OF COLOR FROM MANUFACTURER'S STANDARD COLOR CHART.
12 TEMPORARY WALL, SEE ARCHITECTURAL PLANS.
13 ROOF EXHAUST FAN BANK CONTROLLER. ONE PER EXHAUST UNIT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOW VOLTAGE WIRING AND CONDUIT TO EXHAUST FAN CONTROLLER.
14 COORDINATE EXACT POSITION OF DAHU OPENINGS WITH 4" EXPANSION JOINT IN THIS AREA.
15 PROVIDE 30" TALL FIELD FABRICATED TOP SUPPLY DISCHARGE PLENUM AT FLOOR MOUNTED HEAT PUMPS.
16 REFER TO ARCHITECTURAL DRAWINGS FOR PRESSURE EQUALIZATION SLIDER IN VESTIBULE FOR ACCESS INTO COMMON SUPPLY HEADER.

KEYPLAN

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ISSUE DATE: 01SEP2023	PROJECT NO: 22-29863
DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 08

DRAWING: MH210.08

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
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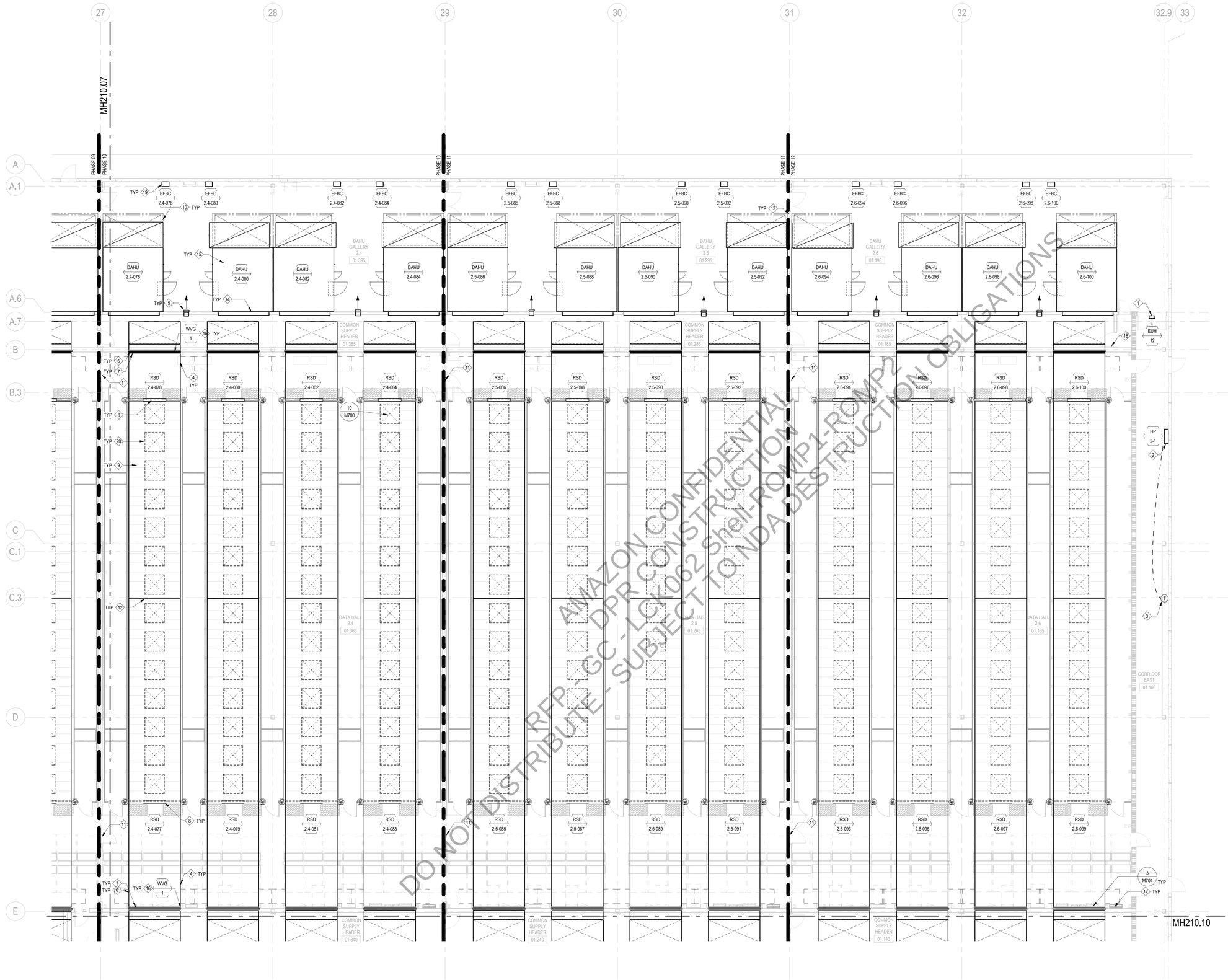

1 MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 09
MH210.09 1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. ALL INDICATED DUCT AND PIPE ELEVATIONS SHALL BE MEASURED FROM FINAL FINISHED FLOOR ELEVATIONS UNLESS OTHERWISE NOTED.

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F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

J. BOTTOM OF ALL DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITH CEILINGS SHALL BE NO MORE THAN 24" ABOVE TOP OF THE CEILING STRUCTURE. BOTTOM OF DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITHOUT CEILINGS SHALL BE NO MORE THAN 12 FT AFF, UNLESS OTHERWISE NOTED.

K. ALL TRANFER WALL OPENINGS/DUCTS (TA) SHALL BE INSTALLED MINIMUM 24" ABOVE ANY ADJACENT CEILING OR AT MINIMUM 12 FT AFF IN WALLS WITHOUT CEILINGS ON BOTH SIDES.

L. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

1 MOUNT UNIT HEATER AT AN ELEVATION OF 9'-0" FROM FINISHED FLOOR TO BOTTOM OF UNIT. INSTALL REMOTE WALL-MOUNTED THERMOSTATS IN THE VICINITY OF UNIT AT 48" AFF.

2 MOUNT HEAT PUMP AT AN ELEVATION OF 11'-0" FROM FINISHED FLOOR TO BOTTOM OF UNIT. PROVIDE REFRIGERANT PIPING AND POWER/CONTROL WIRING BETWEEN INDOOR UNIT AND OUTDOOR UNIT. SEE PLUMBING DRAWINGS FOR CONDENSATE DRAIN. INSTALL REMOTE WALL-MOUNTED THERMOSTAT IN THE VICINITY OF UNIT AT 48" AFF.

3 PROVIDE INSULATED SUB-BASE ON THERMOSTATS MOUNTED ON OUTSIDE WALL.

4 PROVIDE ACCESS PANEL ON BOTH SIDES OF DUCT FOR WAVEGUIDE AND SECURITY BAR ACCESS. ACCESS PANEL SHALL BE ACCESSIBLE VIA MAN-LIFT THROUGH AN ACCESS HATCH IN THE CEILING. CONTRACTOR SHALL MAINTAIN CLEAR SPACE FROM FINISHED FLOOR TO TOP OF RETURN DUCTWORK FOR ACCESS TO DUCT ACCESS HATCHES. ACCESS HATCHES GREATER THAN 24" BEYOND CEILING OPENING SHALL BE CAPABLE OF BEING OPERATED WITH A REACH TOOL.

5 MSD-1, MANUAL SUPPLY DAMPER (NORMALLY CLOSED). INSTALL AT 60" AFF FOR OPERATOR COMFORT WHILE SERVICING DATAHALL AIR HANDLING UNITS. PROVIDE DUCT EXTENSION THROUGH COMMON SUPPLY HEADER WALL. SEE DAMPER SCHEDULE FOR MSD, M901.

6 PROVIDE SECURITY BARS, 1/2" BARS AT 6" ON CENTERS AT SECURITY BOUNDARY.

7 PROVIDE 2"-6" WIDE NON-CONDUCTIVE FLEXIBLE CANVAS CONNECTION ON THE REDZONE SIDE, WITHIN 6" OF THE WALL PENETRATION.

8 ROW SUPPLY DAMPER (CONTROL DAMPER). IN COLD AISLE SUPPLY DUCT. SEE DAMPER SCHEDULE FOR RSD, M901.

9 INSULATE TOP OF SUPPLY DUCT AND ANY PORTION OF SIDES EXPOSED TO HOT AIR (RETURN) PLENUM.

10 PROTECT FOR THE FUTURE ADDITION OF AN 86" LONG MIXING BOX MODULE, WHICH MAY BE ATTACHED TO THE DAHU INLET AT SOME POINT IN THE FUTURE.

11 REFERENCE ARCHITECTURAL DRAWINGS FOR LARGE KNOCKOUT OPENING ABOVE THE CEILING THROUGH THE PHASE WALL. MINIMUM FREE AREA OF 75 SF. OPENING TO BE IN PLACE ONCE ADJACENT PHASE IS OPERATIONAL.

12 SHEET METAL BULKHEAD IN DUCT. BULKHEAD MATERIAL SHALL MATCH DUCT MATERIAL AND SHALL BE SEALED AIR TIGHT.

13 TEMPORARY WALL, SEE ARCHITECTURAL PLANS.

14 120"Wx80"H DAHU DISCHARGE AIR OPENINGS. COORDINATE OPENINGS IN COMMON SUPPLY HEADER WALL.

15 DATA HALL AIR HANDLING UNIT (DAHU), OWNER FURNISHED, CONTRACTOR INSTALLED.

16 PROVIDE WAVE GUIDE IN DUCT WITHIN 6" OF WALL. REFER TO THE WAVE GUIDE SCHEDULE FOR MORE DETAILS.

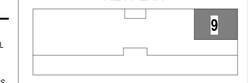
17 MAX COOL ANNUNCIATOR PANEL LOCATION, SEE MB SERIES DRAWINGS.

18 REFER TO ARCHITECTURAL DRAWINGS FOR PRESSURE EQUALIZATION SLIDER IN VESTIBULE FOR ACCESS INTO COMMON SUPPLY HEADER.

19 ROOF EXHAUST FAN BANK CONTROLLER. ONE PER EXHAUST UNIT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOW VOLTAGE WIRING AND CONDUIT TO EXHAUST FAN CONTROLLER.

20 COLD AISLE SUPPLY DAMPER CSD-1 MOUNTED IN BOTTOM OF DUCT.

KEYPLAN



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DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 09

DRAWING: MH210.09

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

BIDD VERSION: OPTDC-2.0
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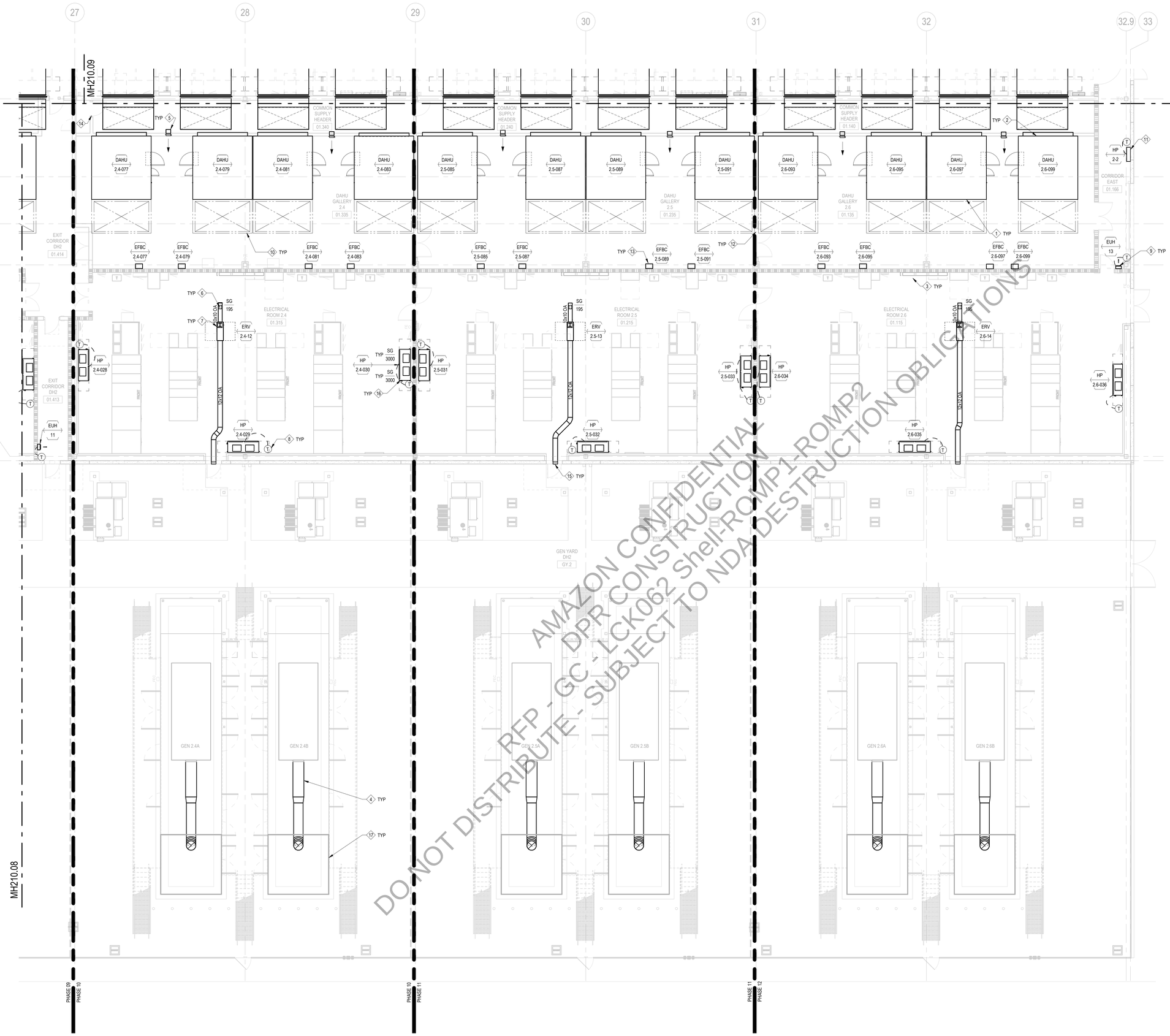

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1 MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 10
MH210.10 1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. ALL INDICATED DUCT AND PIPE ELEVATIONS SHALL BE MEASURED FROM FINAL FINISHED FLOOR ELEVATIONS UNLESS OTHERWISE NOTED.

C. ALL DUCT TRANSITIONS SHALL BE FLAT ON BOTTOM UNLESS OTHERWISE INDICATED.

D. MECHANICAL CONTRACTOR SHALL PROVIDE ALL DAMPERS. CONTROL WIRING SHALL BE BY CONTROLS CONTRACTOR.

E. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL THERMOSTATS AND SENSORS FOR THE OFFICE AREA CONTROL SYSTEM, AND ALL DATA CENTER MECHANICAL EQUIPMENT THAT IS NOT CONTROLLED BY THE BMS.

F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

J. BOTTOM OF ALL DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITH CEILINGS SHALL BE NO MORE THAN 24" ABOVE TOP OF THE CEILING STRUCTURE. BOTTOM OF DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITHOUT CEILINGS SHALL BE NO MORE THAN 12 FT AFF, UNLESS OTHERWISE NOTED.

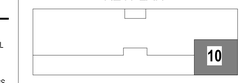
K. ALL TRANFER WALL OPENINGS/DUCTS (TA) SHALL BE INSTALLED MINIMUM 24" ABOVE ANY ADJACENT CEILING OR AT MINIMUM 12 FT AFF IN WALLS WITHOUT CEILINGS ON BOTH SIDES.

L. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

1 DATA HALL AIR HANDLING UNIT (DAHU), OWNER FURNISHED, CONTRACTOR INSTALLED.
2 120"Wx80"H DAHU DISCHARGE AIR OPENINGS. COORDINATE OPENINGS IN COMMON SUPPLY HEADER WALL.
3 MAX COOL ANNUNCIATOR PANEL LOCATION, SEE MB SERIES DRAWINGS.
4 GENERATOR EXHAUST FLUE FURNISHED BY GENERATOR MANUFACTURER AND INSTALLED BY CONTRACTOR. TERMINATE AT 44' ABOVE GENERATOR PAD. PROVIDE A DRAIN AT THE BOTTOM, IN ACCORDANCE WITH IPC AND LOCAL CODES. CONNECT FLUE TO GENERATOR ENGINE EXHAUST AT CONNECTION POINT.
5 MSD-1, MANUAL SUPPLY DAMPER (NORMALLY CLOSED), INSTALL AT 60" AFF FOR OPERATOR COMFORT WHILE SERVICING DATAHALL AIR HANDLING UNITS. PROVIDE DUCT EXTENSION THROUGH COMMON SUPPLY HEADER WALL. SEE DAMPER SCHEDULE FOR MSD, M901.
6 ERV SUPPLY DIFFUSER, ADJUST FOR VERTICAL THROW.
7 ERV EXHAUST, FREE DISCHARGE TO ROOM.
8 PROVIDE INSULATED SUB-BASE ON THERMOSTATS MOUNTED ON OUTSIDE WALL.
9 MOUNT UNIT HEATER AT AN ELEVATION OF 9'-0" FROM FINISHED FLOOR TO BOTTOM OF UNIT. INSTALL REMOTE WALL-MOUNTED THERMOSTATS IN THE VICINITY OF UNIT AT 48" AFF.
10 PROTECT FOR THE FUTURE ADDITION OF AN 86' LONG MIXING BOX MODULE, WHICH MAY BE ATTACHED TO THE DAHU INLET AT SOME POINT IN THE FUTURE.
11 MOUNT HEAT PUMP AT AN ELEVATION OF 11'-0" FROM FINISHED FLOOR TO BOTTOM OF UNIT. PROVIDE REFRIGERANT PIPING AND POWER/CONTROL WIRING BETWEEN INDOOR UNIT AND OUTDOOR UNIT. SEE PLUMBING DRAWINGS FOR CONDENSATE DRAIN. INSTALL REMOTE WALL-MOUNTED THERMOSTAT IN THE VICINITY OF UNIT AT 48" AFF.
12 TEMPORARY WALL, SEE ARCHITECTURAL PLANS.
13 ROOF EXHAUST FAN BANK CONTROLLER. ONE PER EXHAUST UNIT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOW VOLTAGE WIRING AND CONDUIT TO EXHAUST FAN CONTROLLER.
14 REFER TO ARCHITECTURAL DRAWINGS FOR PRESSURE EQUALIZATION SLIDER IN VESTIBULE FOR ACCESS INTO COMMON SUPPLY HEADER.
15 12"x12" INTAKE LOUVER FOR ELECTRICAL ROOM ERV. ALIGN WITH EDGE OF INTAKE LOUVER ABOVE. SEE ARCHITECTURAL DRAWINGS.
16 PROVIDE 30" TALL FIELD FABRICATED TOP SUPPLY DISCHARGE PLENUM AT FLOOR MOUNTED HEAT PUMPS.
17 RADIATOR EXHAUST SHROUD, FURNISHED AND INSTALLED BY CONTRACTOR. TERMINATE AT 2' ABOVE THE TOP OF THE HIGHEST INTAKE LOUVER OVER THE ELECTRIC ROOM. THE SHROUD SHALL BE PAINTED PER ARCHITECT'S CHOICE OF COLOR FROM MANUFACTURER'S STANDARD COLOR CHART.

KEYPLAN



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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 HVAC PARTIAL PLAN - SECTOR 10

DRAWING: MH210.10

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
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GENERAL NOTES

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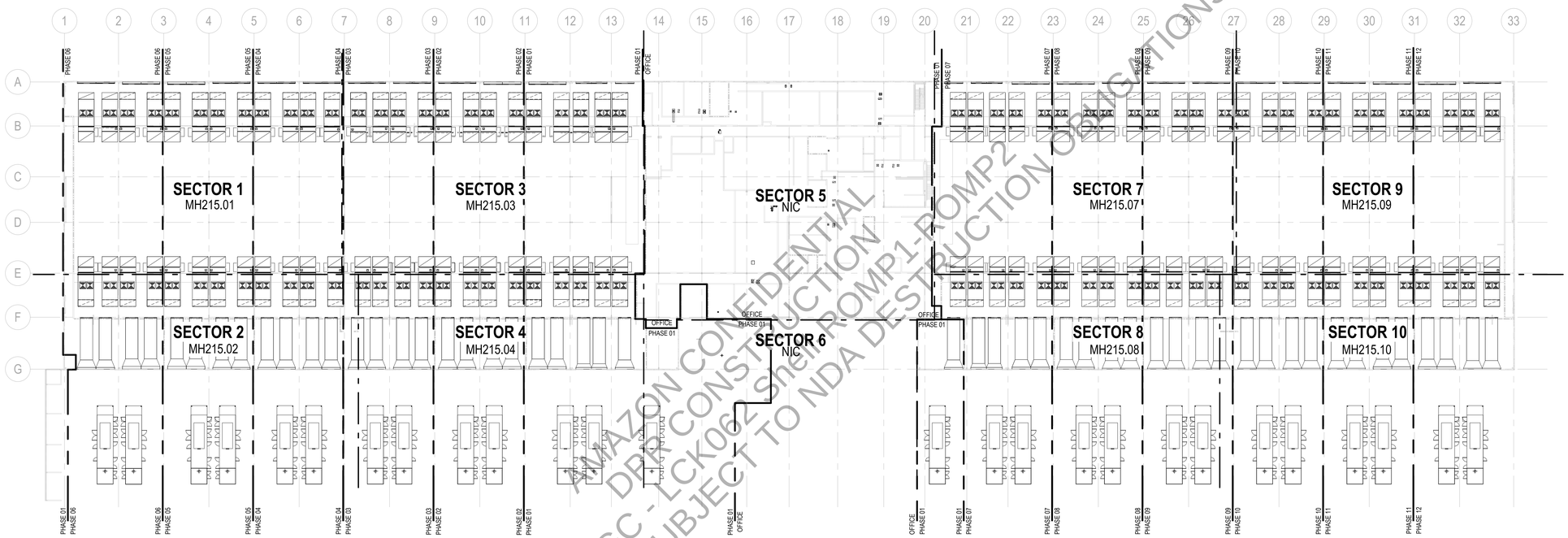
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MH215.01
SECTOR 2
MH215.02
SECTOR 3
MH215.03
SECTOR 4
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SECTOR 7
MH215.07
SECTOR 8
MH215.08
SECTOR 9
MH215.09
SECTOR 10
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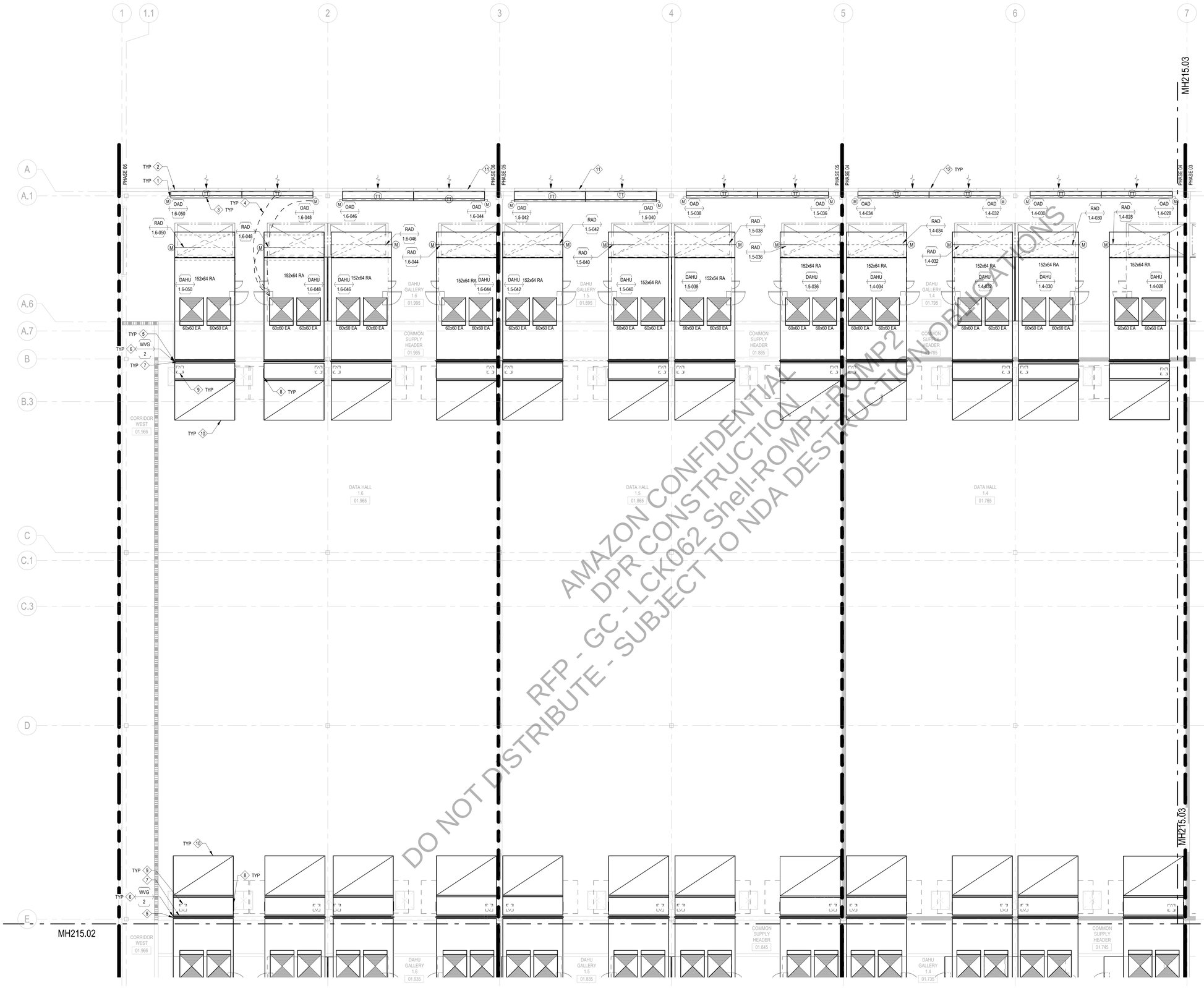

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1 MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 01
MH215.01 1/8" = 1'-0"

GENERAL NOTES

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C. ALL DUCT TRANSITIONS SHALL BE FLAT ON BOTTOM UNLESS OTHERWISE INDICATED.

D. MECHANICAL CONTRACTOR SHALL PROVIDE ALL DAMPERS. CONTROL WIRING SHALL BE BY CONTROLS CONTRACTOR.

E. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL THERMOSTATS AND SENSORS FOR THE OFFICE AREA CONTROL SYSTEM, AND ALL DATA CENTER MECHANICAL EQUIPMENT THAT IS NOT CONTROLLED BY THE BMS.

F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

J. BOTTOM OF ALL DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITH CEILINGS SHALL BE NO MORE THAN 24" ABOVE TOP OF THE CEILING STRUCTURE. BOTTOM OF DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITHOUT CEILINGS SHALL BE NO MORE THAN 12'T AFF, UNLESS OTHERWISE NOTED.

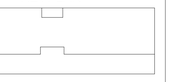
K. ALL TRANFER WALL OPENINGS/DUCTS (TA) SHALL BE INSTALLED MINIMUM 24" ABOVE ANY ADJACENT CEILING OR AT MINIMUM 12'T AFF IN WALLS WITHOUT CEILINGS ON BOTH SIDES.

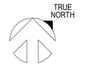
L. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

1 OUTSIDE AIR DAMPER, CONTROLLED BY DAHU CONTROLLER. PROVIDE DUCT CONNECTION BETWEEN LOUVER AND DAMPER. SEE DAMPER SCHEDULE FOR OAD, M901.
2 180"x120" OUTSIDE AIR INTAKE LOUVER ASSEMBLY WITH BIRDSCREEN FOR EACH DAHU UNLESS OTHERWISE NOTED. SEE ARCHITECTURAL DRAWINGS.
3 DAHU OUTSIDE AIR TEMPERATURE SENSOR. SHIPPED LOOSE WITH DAHU FOR FIELD INSTALLATION. INSTALL AT CENTER OF OUTSIDE AIR INTAKE DAMPER, BETWEEN THE LOUVER AND DAMPER, AND CONNECT TO DAHU CONTROLLER.
4 PROVIDE WIRING BETWEEN CONTROL DEVICES AND DAHU CONTROLLER.
5 PROVIDE SECURITY BARS, 1/2" BARS AT 6" ON CENTERS AT SECURITY BOUNDARY.
6 PROVIDE WAVE GUIDE IN DUCT WITHIN 6" OF WALL. REFER TO THE WAVE GUIDE SCHEDULE FOR MORE DETAILS.
7 PROVIDE 2'-6" WIDE NON-CONDUCTIVE FLEXIBLE CANVAS CONNECTION ON THE REDZONE SIDE, WITHIN 6" OF THE WALL PENETRATION.
8 PROVIDE ACCESS PANEL ON SIDE OF DUCT FOR WAVEGUIDE AND SECURITY BAR ACCESS. ACCESS PANEL SHALL BE ACCESSIBLE VIA MAN-LIFT THROUGH AN ACCESS HATCH IN THE CEILING. CONTRACTOR SHALL MAINTAIN CLEAR SPACE FROM FINISHED FLOOR TO TOP OF RETURN DUCTWORK FOR ACCESS TO DUCT ACCESS HATCHES. ACCESS HATCHES GREATER THAN 24" BEYOND CEILING OPENING SHALL BE CAPABLE OF BEING OPERATED WITH A REACH TOOL.
9 PROVIDE ACCESS PANEL ON BOTTOM OF DUCT FOR WAVEGUIDE AND SECURITY BAR ACCESS. ACCESS PANEL SHALL BE ACCESSIBLE THROUGH THE CEILING. ACCESS HATCHES GREATER THAN 24" BEYOND CEILING OPENING SHALL BE CAPABLE OF BEING OPERATED WITH A REACH TOOL.
10 PROVIDE 152"x64" RETURN DUCT WITH AN ELBOW WITH TURNING VANES AND UPTURNED INTAKE OPENING OF 152"x100" FOR LOW PRESSURE DROP RETURN FROM THE PLENUM.
11 WHERE BRACING PENETRATES DUCTWORK, FIELD VERIFY BRACING LOCATIONS, AND SEAL ALL BRACING PENETRATIONS THROUGH DUCTWORK AIR TIGHT.
12 OUTSIDE AIR DAMPERS SHALL BE INSTALLED TO PERFORM AT A LEAKAGE CLASS OF 1A (3CFM/FT2 AT 1" WG).

KEYPLAN





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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 01

DRAWING: MH215.01

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
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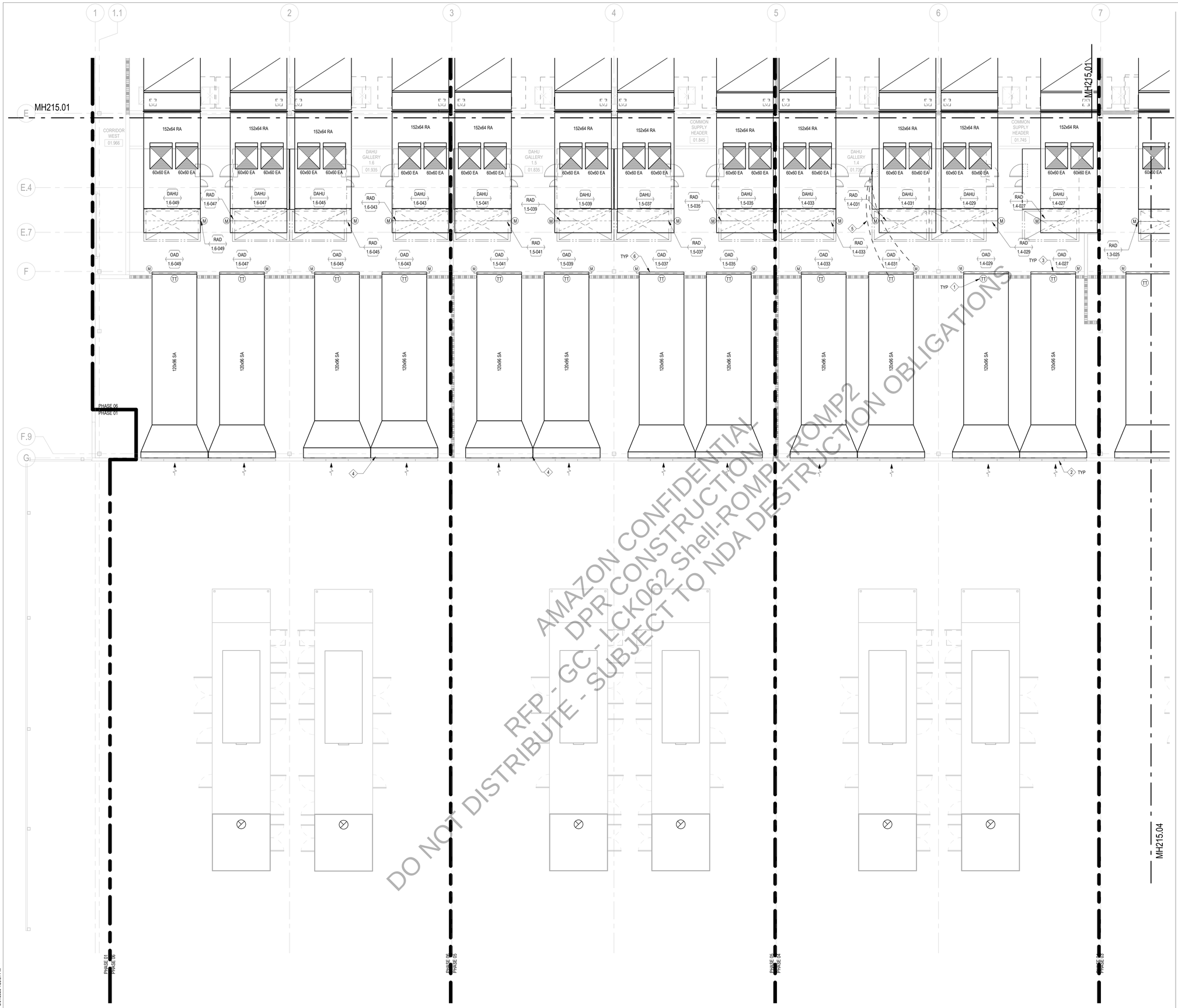

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1 MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 02
MH215.02 1/8" = 1'-0"

GENERAL NOTES

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C. ALL DUCT TRANSITIONS SHALL BE FLAT ON BOTTOM UNLESS OTHERWISE INDICATED.

D. MECHANICAL CONTRACTOR SHALL PROVIDE ALL DAMPERS. CONTROL WIRING SHALL BE BY CONTROLS CONTRACTOR.

E. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL THERMOSTATS AND SENSORS FOR THE OFFICE AREA CONTROL SYSTEM, AND ALL DATA CENTER MECHANICAL EQUIPMENT THAT IS NOT CONTROLLED BY THE BMS.

F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

J. BOTTOM OF ALL DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITH CEILINGS SHALL BE NO MORE THAN 24" ABOVE TOP OF THE CEILING STRUCTURE. BOTTOM OF DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITHOUT CEILINGS SHALL BE NO MORE THAN 12 FT AFF, UNLESS OTHERWISE NOTED.

K. ALL TRANFER WALL OPENINGS/DUCTS (TA) SHALL BE INSTALLED MINIMUM 24" ABOVE ANY ADJACENT CEILING OR AT MINIMUM 12 FT AFF IN WALLS WITHOUT CEILINGS ON BOTH SIDES.

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SHEET NOTES

1 DAHU OUTSIDE AIR TEMPERATURE SENSOR, SHIPPED LOOSE WITH DAHU FOR FIELD INSTALLATION. INSTALL AT CENTER OF OUTSIDE AIR INTAKE DAMPER, BETWEEN THE LOUVER AND DAMPER, AND CONNECT TO DAHU CONTROLLER.

2 180"x120" OUTSIDE AIR INTAKE LOUVER ASSEMBLY WITH BIRDSCREEN FOR EACH DAHU UNLESS OTHERWISE NOTED. SEE ARCHITECTURAL DRAWINGS.

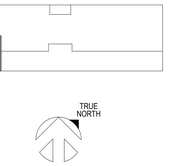
3 OUTSIDE AIR DAMPER, CONTROLLED BY DAHU CONTROLLER. PROVIDE DUCT CONNECTION BETWEEN LOUVER AND DAMPER. SEE DAMPER SCHEDULE FOR OAD, M901.

4 WHERE BRACING PENETRATES DUCTWORK, FIELD VERIFY BRACING LOCATIONS, AND SEAL ALL BRACING PENETRATIONS THROUGH DUCTWORK AIR TIGHT.

5 PROVIDE WIRING BETWEEN CONTROL DEVICES AND DAHU CONTROLLER.

6 OUTSIDE AIR DAMPERS SHALL BE INSTALLED TO PERFORM AT A LEAKAGE CLASS OF 1A (3CFM/FT2 AT 1" WG).

KEYPLAN



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PROJECT DELIVERY PACKAGE
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ISSUE DATE: 01SEP2023 | PROJECT NO: 22-29863
DESIGNED: SWANSON RINK | ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 02

DRAWING: MH215.02

E1 | SCALE: 1/8" = 1'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
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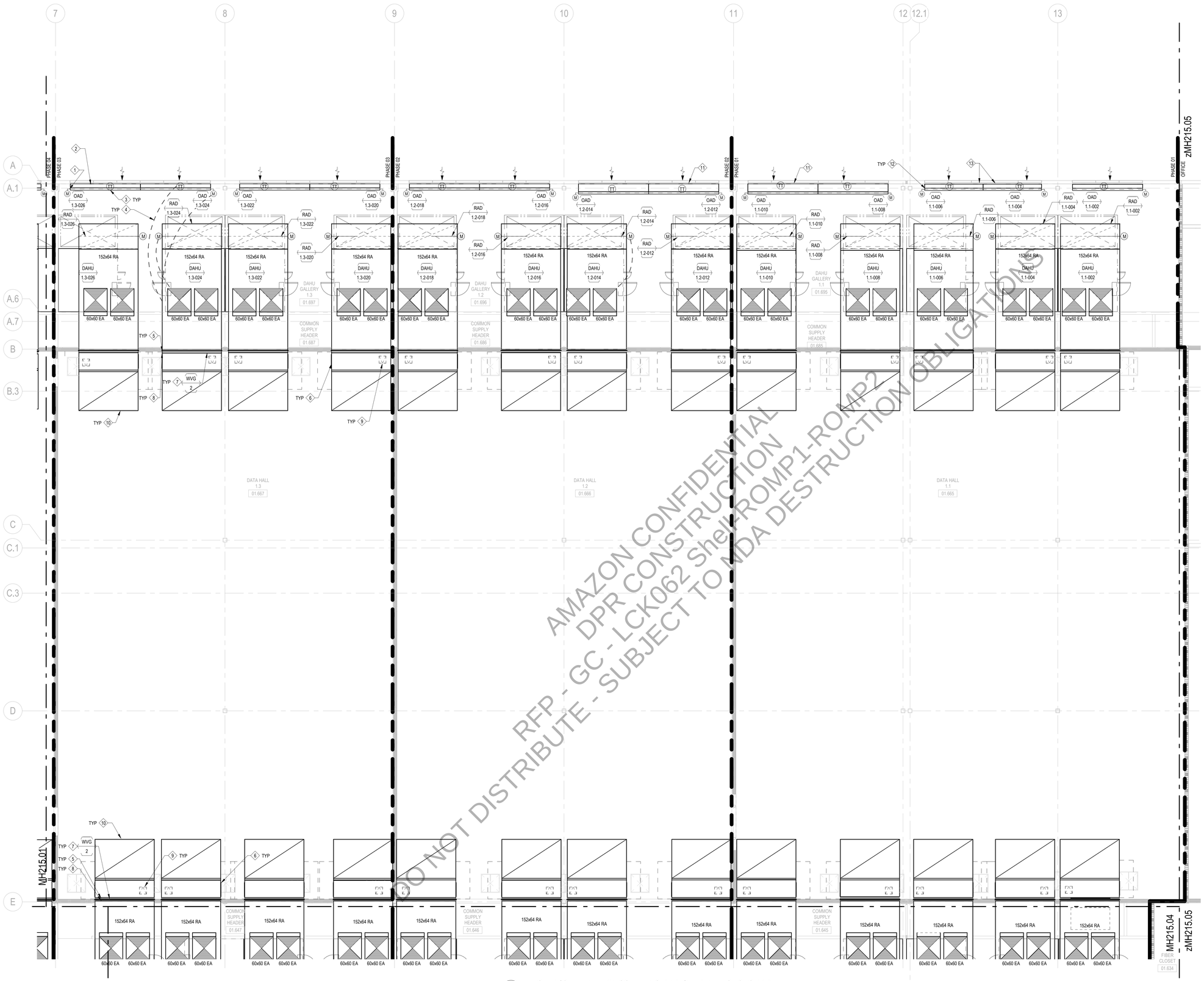

1 MH215.03 MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 03
1/8" = 1'-0"

AMAZON CONFIDENTIAL
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GENERAL NOTES

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D. MECHANICAL CONTRACTOR SHALL PROVIDE ALL DAMPERS. CONTROL WIRING SHALL BE BY CONTROLS CONTRACTOR.

E. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL THERMOSTATS AND SENSORS FOR THE OFFICE AREA CONTROL SYSTEM, AND ALL DATA CENTER MECHANICAL EQUIPMENT THAT IS NOT CONTROLLED BY THE BMS.

F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

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SHEET NOTES

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6 PROVIDE ACCESS PANEL ON SIDE OF DUCT FOR WAVEGUIDE AND SECURITY BAR ACCESS. ACCESS PANEL SHALL BE ACCESSIBLE VIA MAN-LIFT THROUGH AN ACCESS HATCH IN THE CEILING. CONTRACTOR SHALL MAINTAIN CLEAR SPACE FROM FINISHED FLOOR TO TOP OF RETURN DUCTWORK FOR ACCESS TO DUCT ACCESS HATCHES. ACCESS HATCHES GREATER THAN 24" BEYOND CEILING OPENING SHALL BE CAPABLE OF BEING OPERATED WITH A REACH TOOL.

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10 PROVIDE 152"x64" RETURN DUCT WITH AN ELBOW WITH TURNING VANES AND UPTURNED INTAKE OPENING OF 152"x100" FOR LOW PRESSURE DROP RETURN FROM THE PLENUM.

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KEYPLAN

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PROJECT DELIVERY PACKAGE
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ISSUE DATE: 01SEP2023	PROJECT NO: 22-29863
DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 03

DRAWING: MH215.03

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
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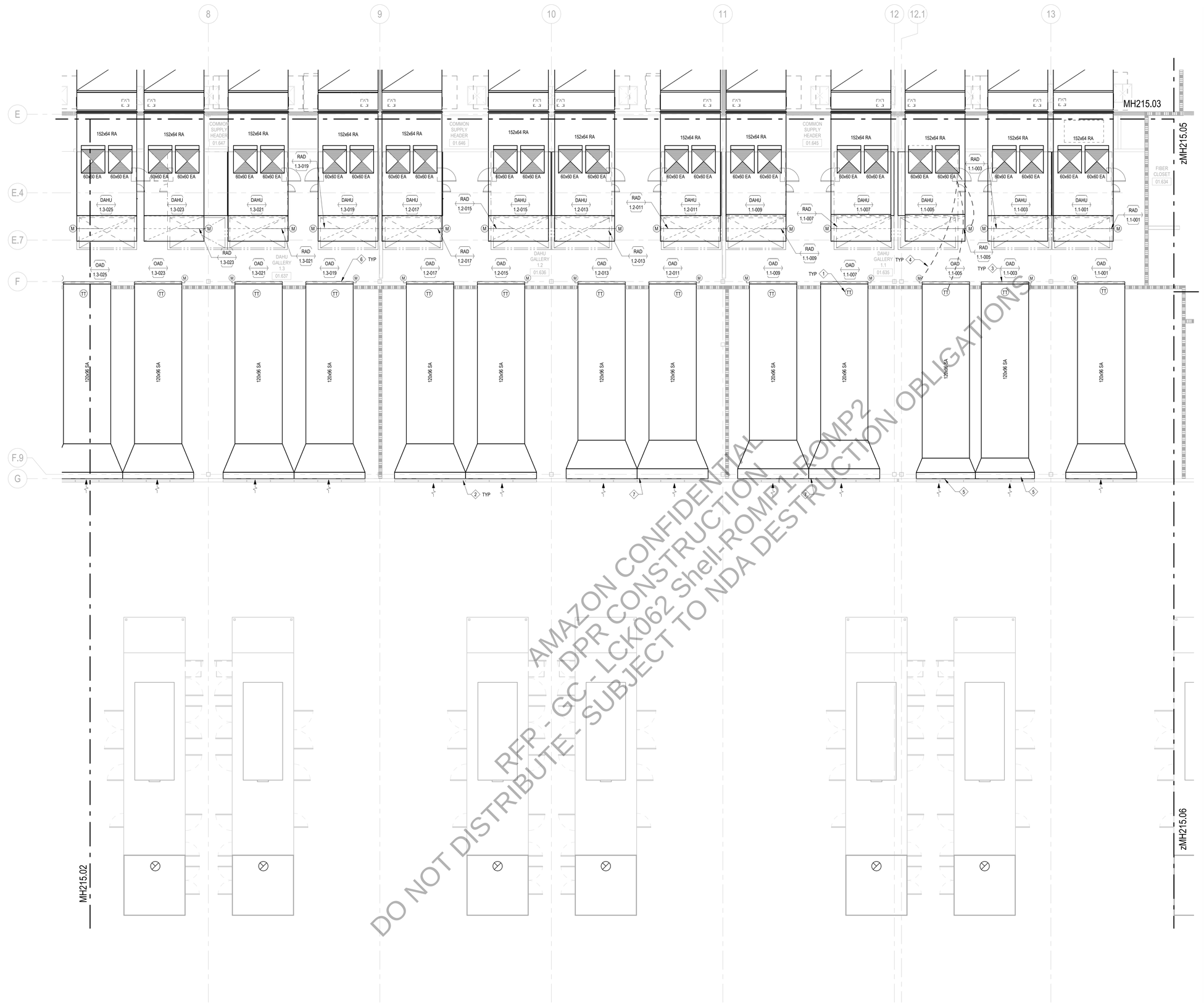

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1 MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 04
MH215.04 1/8" = 1'-0"

GENERAL NOTES

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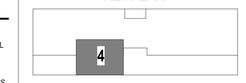
KEYPLAN



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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 04

DRAWING: MH215.04

E1 | SCALE: 1/8" = 1'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
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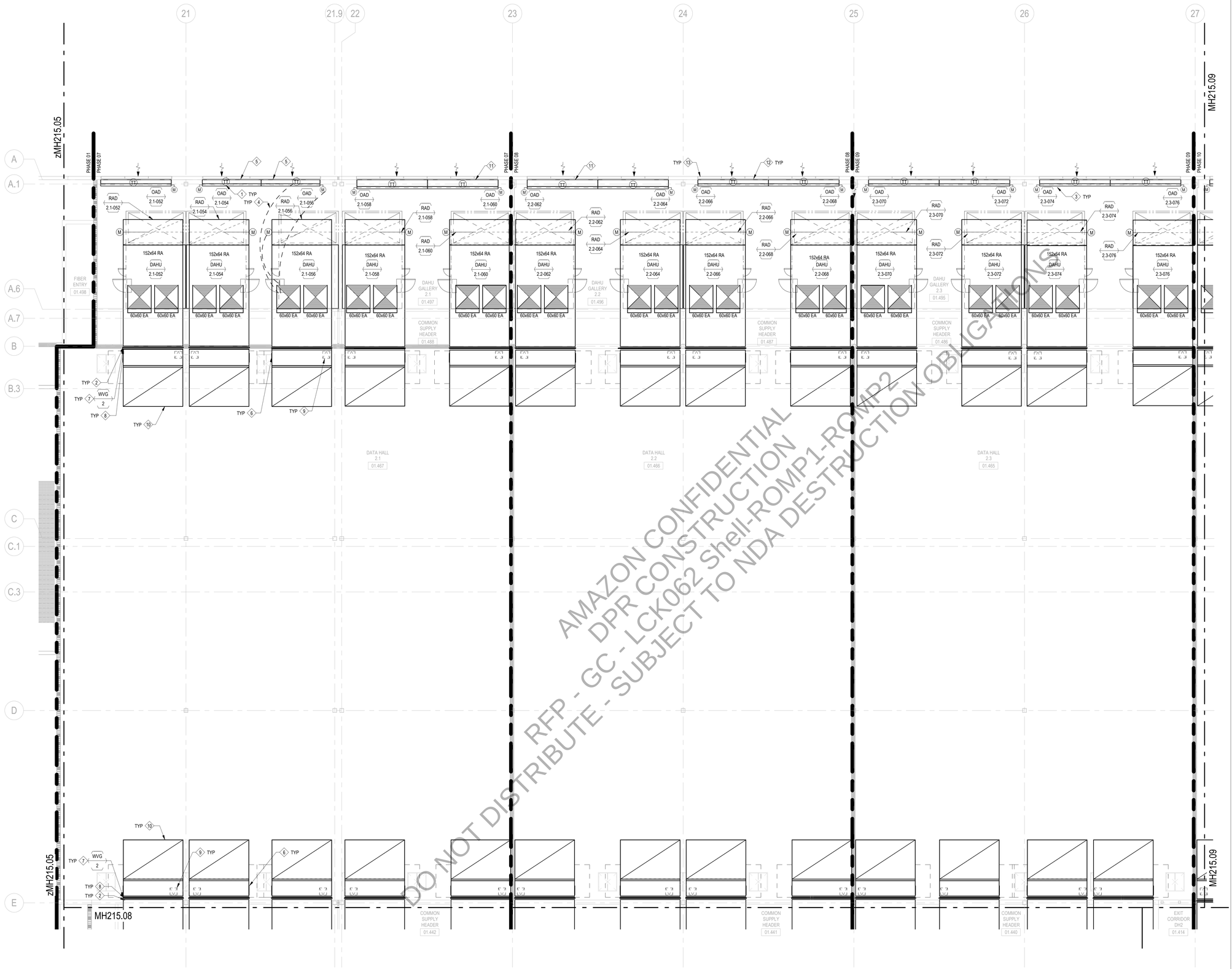

1 MH215.07 MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 07
1/8" = 1'-0"

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KEYPLAN

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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 07

DRAWING: MH215.07

E1 | SCALE: 1/8" = 1'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
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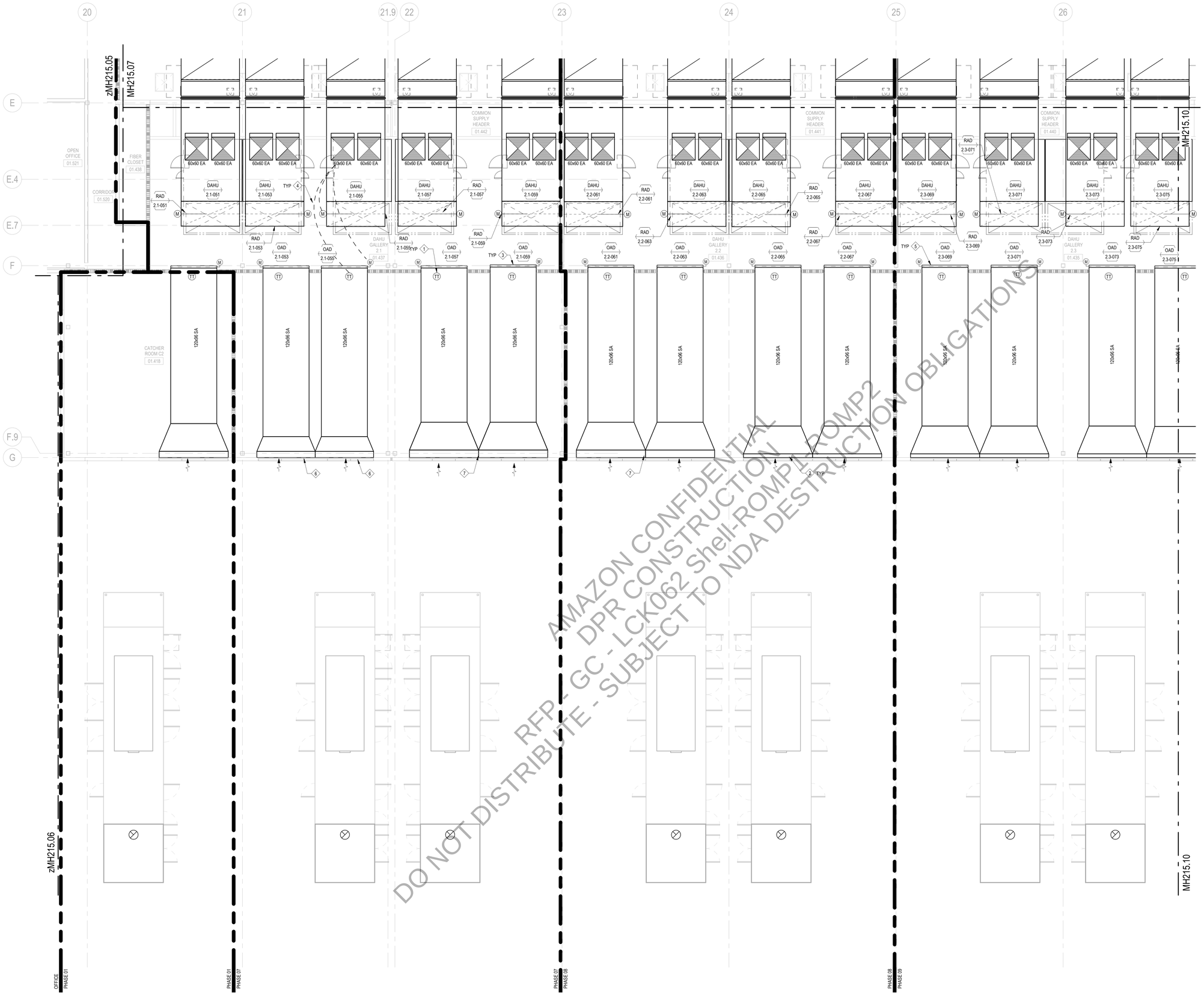

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1 MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 08
MH215.08 1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. ALL INDICATED DUCT AND PIPE ELEVATIONS SHALL BE MEASURED FROM FINAL FINISHED FLOOR ELEVATIONS UNLESS OTHERWISE NOTED.

C. ALL DUCT TRANSITIONS SHALL BE FLAT ON BOTTOM UNLESS OTHERWISE INDICATED.

D. MECHANICAL CONTRACTOR SHALL PROVIDE ALL DAMPERS. CONTROL WIRING SHALL BE BY CONTROLS CONTRACTOR.

E. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL THERMOSTATS AND SENSORS FOR THE OFFICE AREA CONTROL SYSTEM, AND ALL DATA CENTER MECHANICAL EQUIPMENT THAT IS NOT CONTROLLED BY THE BMS.

F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

J. BOTTOM OF ALL DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITH CEILINGS SHALL BE NO MORE THAN 24" ABOVE TOP OF THE CEILING STRUCTURE. BOTTOM OF DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITHOUT CEILINGS SHALL BE NO MORE THAN 12 FT AFF, UNLESS OTHERWISE NOTED.

K. ALL TRANFER WALL OPENINGS/DUCTS (TA) SHALL BE INSTALLED MINIMUM 24" ABOVE ANY ADJACENT CEILING OR AT MINIMUM 12 FT AFF IN WALLS WITHOUT CEILINGS ON BOTH SIDES.

L. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

1 DAHU OUTSIDE AIR TEMPERATURE SENSOR. SHIPPED LOOSE WITH DAHU FOR FIELD INSTALLATION. INSTALL AT CENTER OF OUTSIDE AIR INTAKE DAMPER, BETWEEN THE LOUVER AND DAMPER, AND CONNECT TO DAHU CONTROLLER.

2 180"x120" OUTSIDE AIR INTAKE LOUVER ASSEMBLY WITH BIRDSCREEN FOR EACH DAHU UNLESS OTHERWISE NOTED. SEE ARCHITECTURAL DRAWINGS.

3 OUTSIDE AIR DAMPER. CONTROLLED BY DAHU CONTROLLER. PROVIDE DUCT CONNECTION BETWEEN LOUVER AND DAMPER. SEE DAMPER SCHEDULE FOR OAD, M901.

4 PROVIDE WIRING BETWEEN CONTROL DEVICES AND DAHU CONTROLLER.

5 OUTSIDE AIR DAMPERS SHALL BE INSTALLED TO PERFORM AT A LEAKAGE CLASS OF 1A (3CFM/FT2 AT 1" WG).

6 150"x120" OUTSIDE AIR INTAKE LOUVER ASSEMBLY WITH BIRDSCREEN FOR DAHU AT BUILDING EXPANSION JOINT. SEE ARCHITECTURAL DRAWINGS.

7 WHERE BRACING PENETRATES DUCTWORK, FIELD VERIFY BRACING LOCATIONS, AND SEAL ALL BRACING PENETRATIONS THROUGH DUCTWORK AIR TIGHT.

KEYPLAN

TRUE NORTH

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PROJECT DELIVERY PACKAGE
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ISSUE DATE: 01SEP2023	PROJECT NO: 22-29863
DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 08

DRAWING: MH215.08

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

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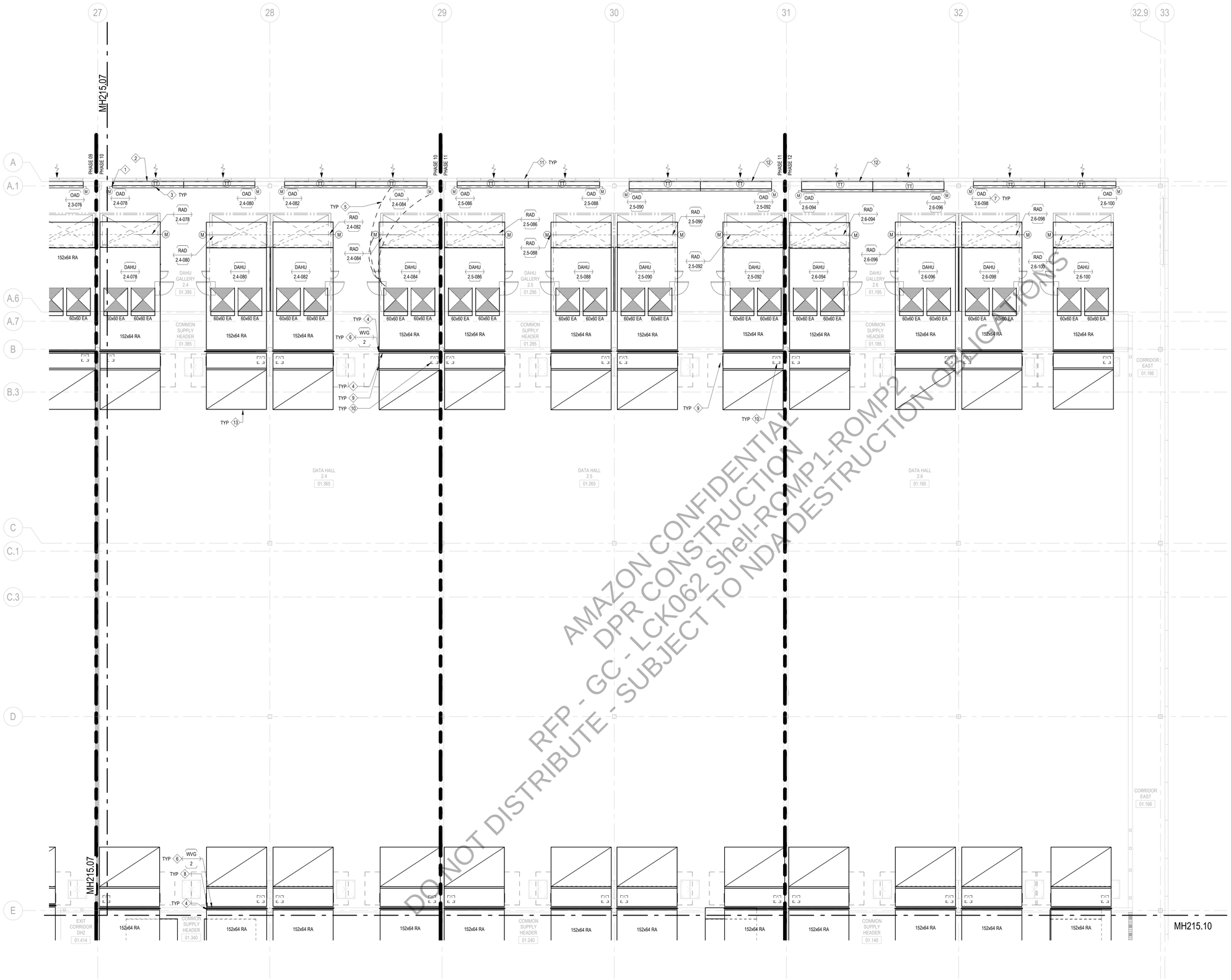

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1 MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 09
MH215.09 1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. ALL INDICATED DUCT AND PIPE ELEVATIONS SHALL BE MEASURED FROM FINAL FINISHED FLOOR ELEVATIONS UNLESS OTHERWISE NOTED.

C. ALL DUCT TRANSITIONS SHALL BE FLAT ON BOTTOM UNLESS OTHERWISE INDICATED.

D. MECHANICAL CONTRACTOR SHALL PROVIDE ALL DAMPERS. CONTROL WIRING SHALL BE BY CONTROLS CONTRACTOR.

E. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL THERMOSTATS AND SENSORS FOR THE OFFICE AREA CONTROL SYSTEM, AND ALL DATA CENTER MECHANICAL EQUIPMENT THAT IS NOT CONTROLLED BY THE BMS.

F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

J. BOTTOM OF ALL DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITH CEILINGS SHALL BE NO MORE THAN 24" ABOVE TOP OF THE CEILING STRUCTURE. BOTTOM OF DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITHOUT CEILINGS SHALL BE NO MORE THAN 12 FT AFF, UNLESS OTHERWISE NOTED.

K. ALL TRANFER WALL OPENINGS/DUCTS (TA) SHALL BE INSTALLED MINIMUM 24" ABOVE ANY ADJACENT CEILING OR AT MINIMUM 12 FT AFF IN WALLS WITHOUT CEILINGS ON BOTH SIDES.

L. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

1 OUTSIDE AIR DAMPER, CONTROLLED BY DAHU CONTROLLER. PROVIDE DUCT CONNECTION BETWEEN LOUVER AND DAMPER. SEE DAMPER SCHEDULE FOR OAD, M901.

2 180"x120" OUTSIDE AIR INTAKE LOUVER ASSEMBLY WITH BIRDSCREEN FOR EACH DAHU UNLESS OTHERWISE NOTED. SEE ARCHITECTURAL DRAWINGS.

3 DAHU OUTSIDE AIR TEMPERATURE SENSOR, SHIPPED LOOSE WITH DAHU FOR FIELD INSTALLATION. INSTALL AT CENTER OF OUTSIDE AIR INTAKE DAMPER, BETWEEN THE LOUVER AND DAMPER, AND CONNECT TO DAHU CONTROLLER.

4 PROVIDE SECURITY BARS, 1/2" BARS AT 6" ON CENTERS AT SECURITY BOUNDARY.

5 PROVIDE WIRING BETWEEN CONTROL DEVICES AND DAHU CONTROLLER.

6 PROVIDE WAVE GUIDE IN DUCT WITHIN 6" OF WALL. REFER TO THE WAVE GUIDE SCHEDULE FOR MORE DETAILS.

7 OUTSIDE AIR DAMPERS SHALL BE INSTALLED TO PERFORM AT A LEAKAGE CLASS OF 1A (3CFM/FT2 AT 1" WG).

8 PROVIDE 2"-6" WIDE NON-CONDUCTIVE FLEXIBLE CANVAS CONNECTION ON THE REDZONE SIDE, WITHIN 6" OF THE WALL PENETRATION.

9 PROVIDE ACCESS PANEL ON SIDE OF DUCT FOR WAVEGUIDE AND SECURITY BAR ACCESS. ACCESS PANEL SHALL BE ACCESSIBLE VIA MAN-LIFT THROUGH AN ACCESS HATCH IN THE CEILING. CONTRACTOR SHALL MAINTAIN CLEAR SPACE FROM FINISHED FLOOR TO TOP OF RETURN DUCTWORK FOR ACCESS TO DUCT ACCESS HATCHES. ACCESS HATCHES GREATER THAN 24" BEYOND CEILING OPENING SHALL BE CAPABLE OF BEING OPERATED WITH A REACH TOOL.

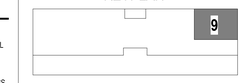
10 PROVIDE ACCESS PANEL ON BOTTOM OF DUCT FOR WAVEGUIDE AND SECURITY BAR ACCESS. ACCESS PANEL SHALL BE ACCESSIBLE THROUGH THE CEILING. ACCESS HATCHES GREATER THAN 24" BEYOND CEILING OPENING SHALL BE CAPABLE OF BEING OPERATED WITH A REACH TOOL.

11 OUTSIDE AIR DAMPERS SHALL BE INSTALLED TO PERFORM AT A LEAKAGE CLASS OF 1A (3CFM/FT2 AT 1" WG).

12 WHERE BRACING PENETRATES DUCTWORK, FIELD VERIFY BRACING LOCATIONS, AND SEAL ALL BRACING PENETRATIONS THROUGH DUCTWORK AIR TIGHT.

13 PROVIDE 152"x54" RETURN DUCT WITH AN ELBOW WITH TURNING VANES AND UPTURNED INTAKE OPENING OF 152"x100" FOR LOW PRESSURE DROP RETURN FROM THE PLENUM.

KEYPLAN



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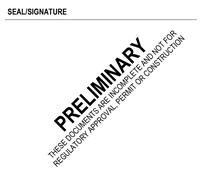

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DESIGNED: SWANSON RINK | ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 09

DRAWING: MH215.09

E1 | SCALE: 1/8" = 1'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
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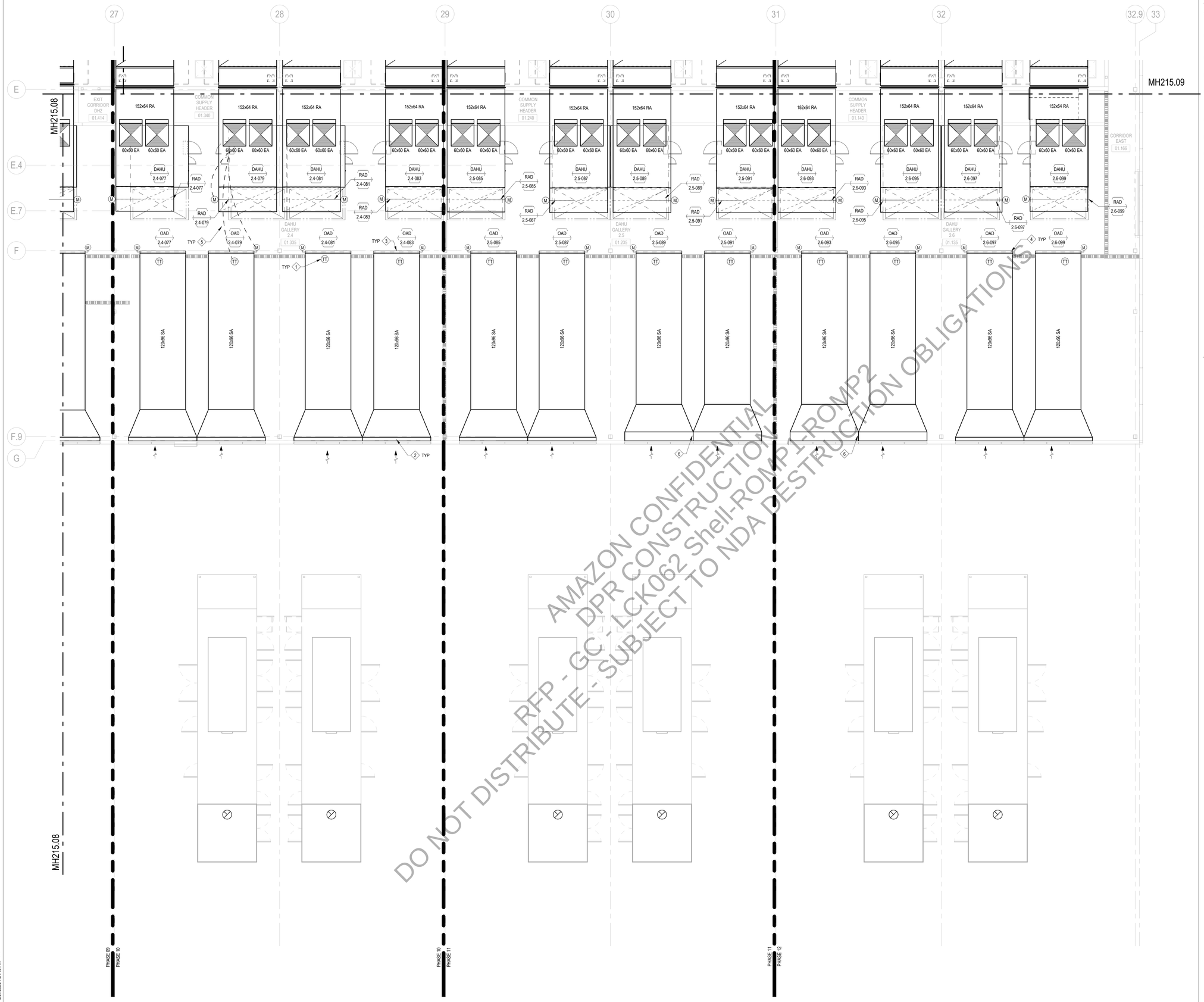

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1 MH215.10 MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 10
1/8" = 1'-0"

GENERAL NOTES

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F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

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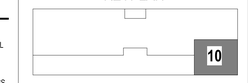
SHEET NOTES

1. DAHU OUTSIDE AIR TEMPERATURE SENSOR. SHIPPED LOOSE WITH DAHU FOR FIELD INSTALLATION. INSTALL AT CENTER OF OUTSIDE AIR INTAKE DAMPER, BETWEEN THE LOUVER AND DAMPER, AND CONNECT TO DAHU CONTROLLER.
2. 180"x120" OUTSIDE AIR INTAKE LOUVER ASSEMBLY WITH BIRDSCREEN FOR EACH DAHU UNLESS OTHERWISE NOTED. SEE ARCHITECTURAL DRAWINGS.
3. OUTSIDE AIR DAMPER, CONTROLLED BY DAHU CONTROLLER. PROVIDE DUCT CONNECTION BETWEEN LOUVER AND DAMPER. SEE DAMPER SCHEDULE FOR OAD, M901.
4. OUTSIDE AIR DAMPERS SHALL BE INSTALLED TO PERFORM AT A LEAKAGE CLASS OF 1A (3CFM/FT2 AT 1" WG).
5. PROVIDE WIRING BETWEEN CONTROL DEVICES AND DAHU CONTROLLER.
6. WHERE BRACING PENETRATES DUCTWORK, FIELD VERIFY BRACING LOCATIONS, AND SEAL ALL BRACING PENETRATIONS THROUGH DUCTWORK AIR TIGHT.

KEYPLAN



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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 CSH HVAC PARTIAL PLAN - SECTOR 10

DRAWING: MH215.10

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

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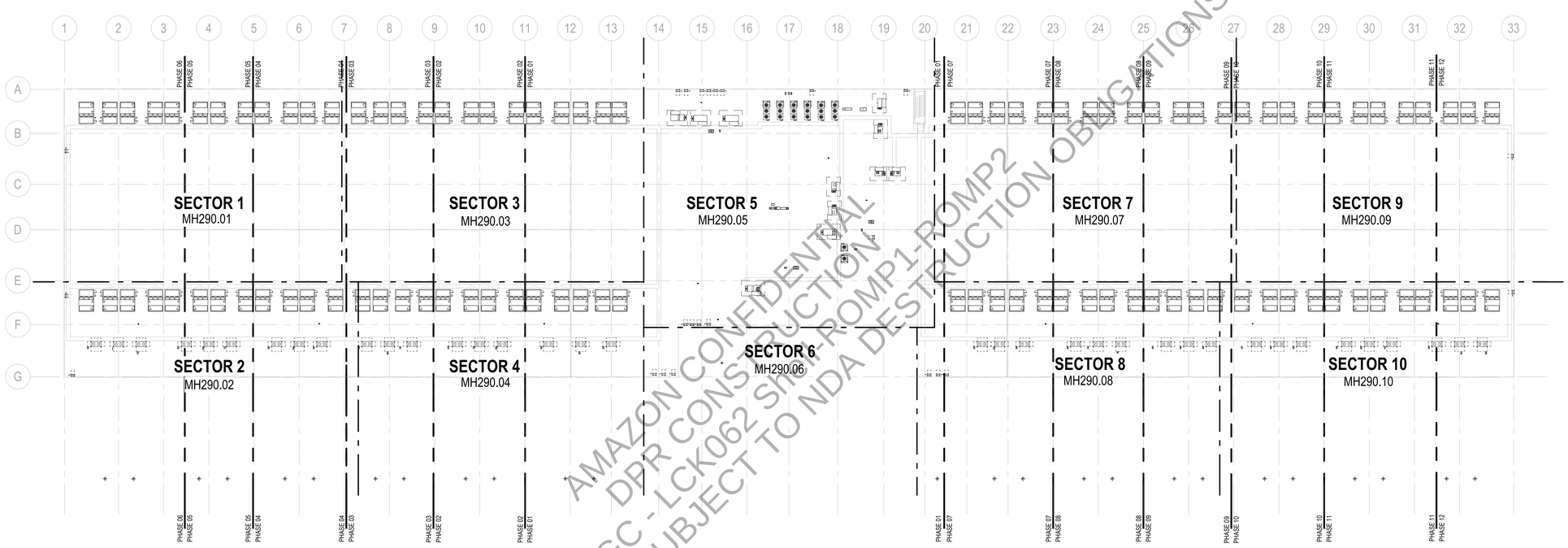

1 MECHANICAL ROOF HVAC OVERALL PLAN
MH290.00 1" = 40'-0"

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KEYPLAN

OVERALL

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CHICAGO, IL 60602

PROJECT: BUILDING B

TITLE: MECHANICAL ROOF HVAC OVERALL PLAN

DRAWING: MH290.00

E1 | SCALE: 1" = 40'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
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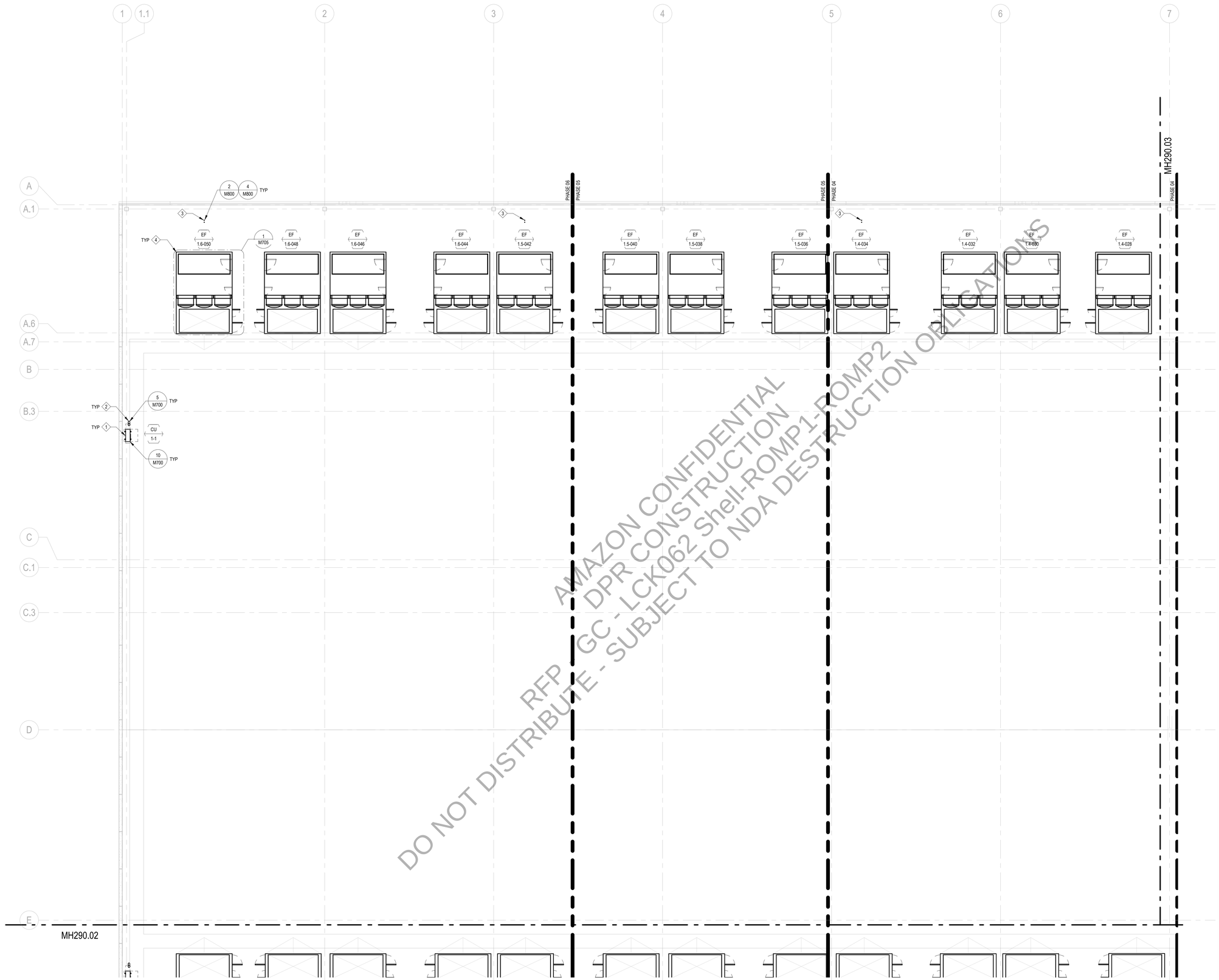

1 MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 01
MH290.01 1/8" = 1'-0"

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SHEET NOTES

1. OUTDOOR HEAT PUMP/CONDENSING UNIT. INSTALL ON WALL BRACKET AND ANCHOR TO PARAPET ABOVE MEMBRANE TERMINATION, AT A MINIMUM OF 12" ABOVE ROOF LEVEL, AND AT A CONSISTENT ELEVATION. PROVIDE MANUFACTURER'S RECOMMENDED REFRIGERANT LINE SET AND INSULATION AS SPECIFIED BETWEEN OUTDOOR UNIT AND INDOOR UNIT. ROUTE POWER/CONTROL CONDUIT WITH REFRIGERANT PIPING.
2. REFRIGERANT PIPE LINE BOOT, INSTALLED AS PART OF SHELL CONSTRUCTION. REFER DETAIL ON SHEET M700.
3. CONTROLS PRESSURE REFERENCE.
4. DURING SHELL CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A ROOF CURB WITH A TWO-PIECE INSULATED CURB CAP WITH R-8 INSULATION FOR LATER PHASE INSTALLATION OF ROOFTOP EXHAUST FANS. WHEN ITS TIME TO INSTALL THE FAN IN THE FUTURE, A SMALL PORTION OF THE ROOF CAP SHALL BE REMOVED TO ALLOW DUCT CONNECTION, AND THE REMAINING PORTION OF THE ROOF CAP SHALL REMAIN IN PLACE TO OPERATE AS A PROTECTIVE DRIP PAN BENEATH THE FAN. VERIFY LOCATION AND CONDITION OF ROOF CURBS PRIOR TO INSTALLATION. REMOVE AND DISPOSE OF INSULATION AND CURB OPENING CAP WHEN FANS ARE INSTALLED. TYPICAL ALL ROOFTOP EXHAUST FANS.

KEYPLAN

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PROJECT: BUILDING B

TITLE: MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 01

DRAWING: MH290.01

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
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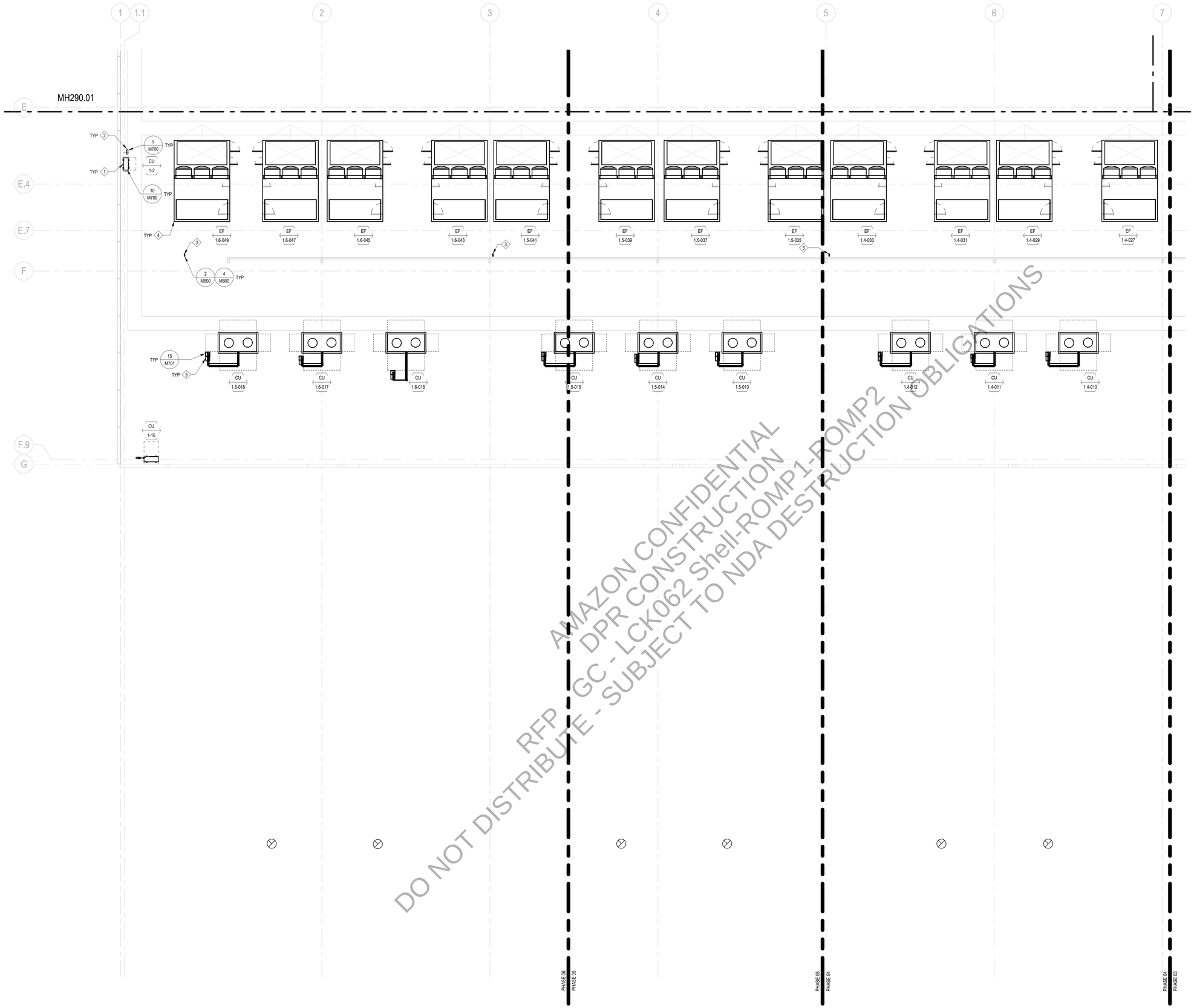

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DPR CONSTRUCTION
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1 MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 02
MH290.02 1/8" = 1'-0"

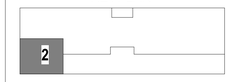
GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

SHEET NOTES

1. OUTDOOR HEAT PUMP/CONDENSING UNIT. INSTALL ON WALL BRACKET AND ANCHOR TO PARAPET ABOVE MEMBRANE TERMINATION, AT A MINIMUM OF 12" ABOVE ROOF LEVEL, AND AT A CONSISTENT ELEVATION. PROVIDE MANUFACTURER'S RECOMMENDED REFRIGERANT LINE SET AND INSULATION AS SPECIFIED BETWEEN OUTDOOR UNIT AND INDOOR UNIT. ROUTE POWER/CONTROL CONDUIT WITH REFRIGERANT PIPING.
2. REFRIGERANT PIPE LINE BOOT, INSTALLED AS PART OF SHELL CONSTRUCTION. REFER DETAIL ON SHEET M700.
3. CONTROLS PRESSURE REFERENCE.
4. DURING SHELL CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A ROOF CURB WITH A TWO-PIECE INSULATED CURB CAP WITH R-8 INSULATION FOR LATER PHASE INSTALLATION OF ROOFTOP EXHAUST FANS. WHEN ITS TIME TO INSTALL THE FAN IN THE FUTURE, A SMALL PORTION OF THE ROOF CAP SHALL BE REMOVED TO ALLOW DUCT CONNECTION, AND THE REMAINING PORTION OF THE ROOF CAP SHALL REMAIN IN PLACE TO OPERATE AS A PROTECTIVE DRIP PAN BENEATH THE FAN. VERIFY LOCATION AND CONDITION OF ROOF CURBS PRIOR TO INSTALLATION. REMOVE AND DISPOSE OF INSULATION AND CURB OPENING CAP WHEN FANS ARE INSTALLED. TYPICAL ALL ROOFTOP EXHAUST FANS.
5. PRE-FABRICATED ROOF CHASE FOR REFRIGERANT PIPING AND CONDUIT WITH CURB INSTALLED AS PART OF THE SHELL CONSTRUCTION. REFER TO DETAIL ON SHEET M701 FOR PRE-FABRICATED ROOF CHASE DETAIL.

KEYPLAN



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DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 02

DRAWING: MH290.02

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

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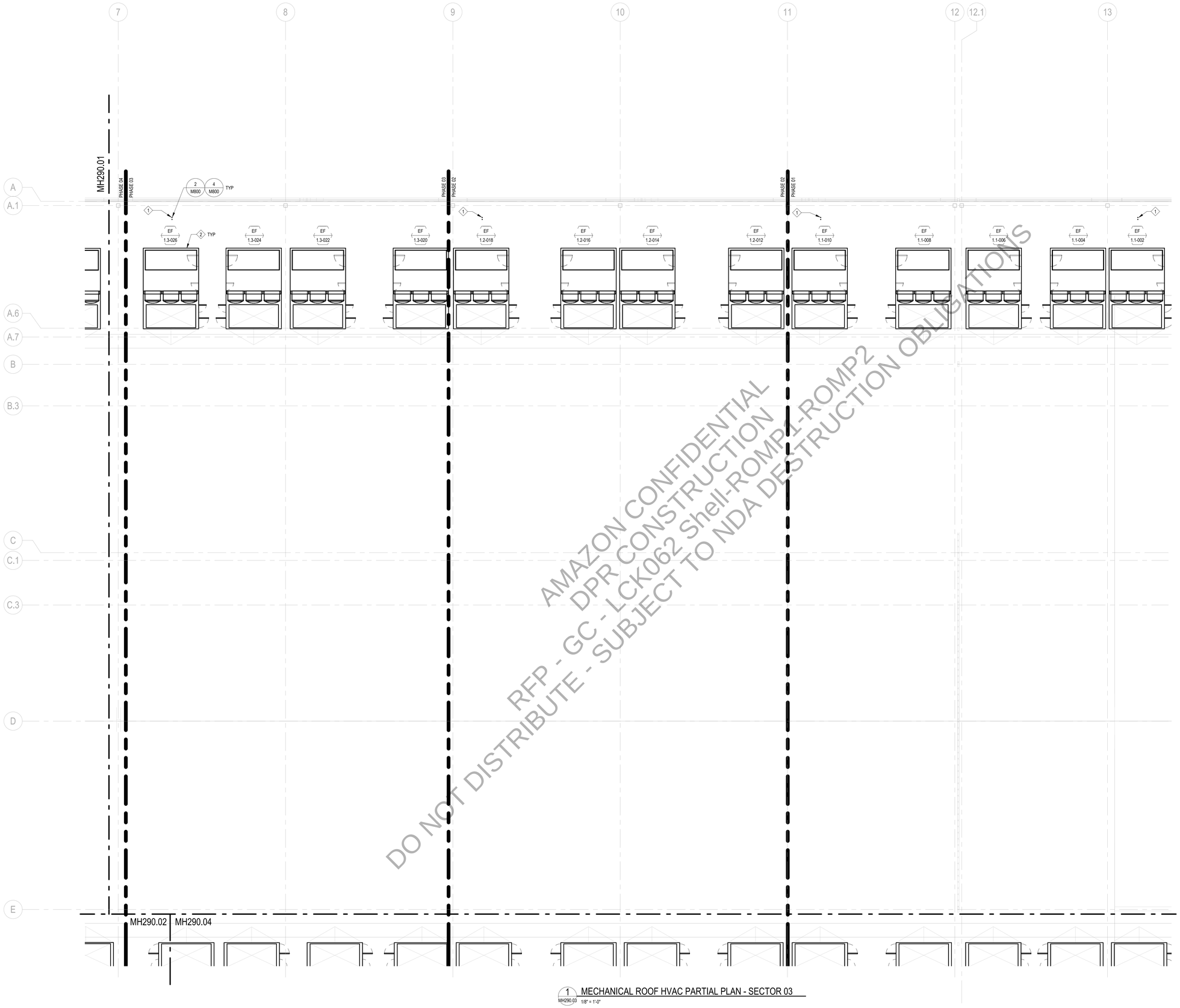

1 MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 03
MH290.03 1/8" = 1'-0"

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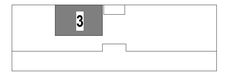
GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

SHEET NOTES

1 CONTROLS PRESSURE REFERENCE.
2 DURING SHELL CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A ROOF CURB WITH A TWO-PIECE INSULATED CURB CAP WITH R-8 INSULATION FOR LATER PHASE INSTALLATION OF ROOFTOP EXHAUST FANS. WHEN ITS TIME TO INSTALL THE FAN IN THE FUTURE, A SMALL PORTION OF THE ROOF CAP SHALL BE REMOVED TO ALLOW DUCT CONNECTION, AND THE REMAINING PORTION OF THE ROOF CAP SHALL REMAIN IN PLACE TO OPERATE AS A PROTECTIVE DRIP PAN BENEATH THE FAN. VERIFY LOCATION AND CONDITION OF ROOF CURBS PRIOR TO INSTALLATION. REMOVE AND DISPOSE OF INSULATION AND CURB OPENING CAP WHEN FANS ARE INSTALLED. TYPICAL ALL ROOFTOP EXHAUST FANS.

KEYPLAN



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ISSUE DATE: 01SEP2023	PROJECT NO: 22-29863
DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 03

DRAWING: MH290.03

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

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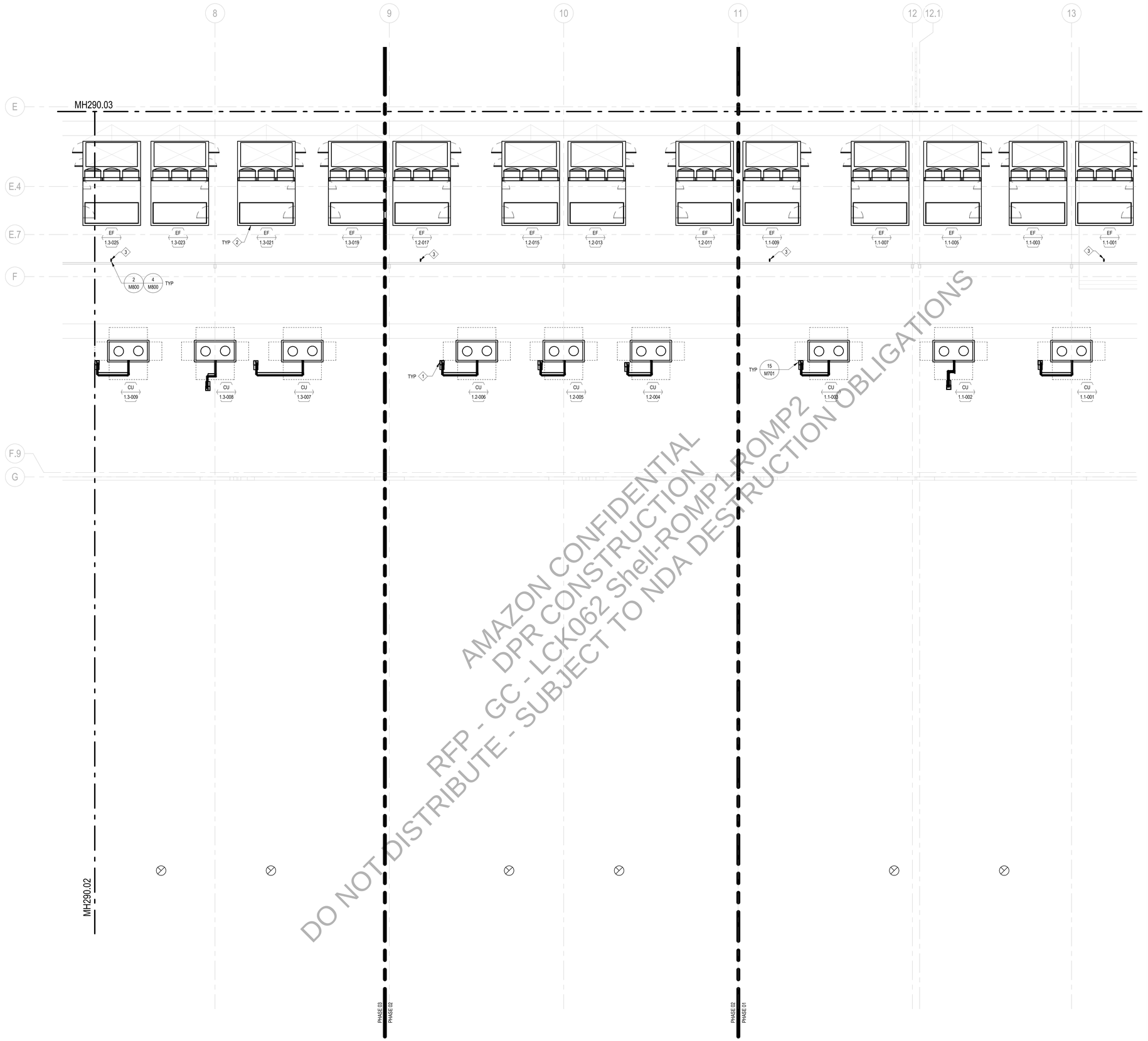

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1 MH290.04 MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 04
1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

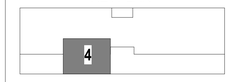
SHEET NOTES

1 PRE-FABRICATED ROOF CHASE FOR REFRIGERANT PIPING AND CONDUIT WITH CURB INSTALLED AS PART OF THE SHELL CONSTRUCTION. REFER TO DETAIL ON SHEET M701 FOR PRE-FABRICATED ROOF CHASE DETAIL.

2 DURING SHELL CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A ROOF CURB WITH A TWO-PIECE INSULATED CURB CAP WITH R-8 INSULATION FOR LATER PHASE INSTALLATION OF ROOFTOP EXHAUST FANS. WHEN ITS TIME TO INSTALL THE FAN IN THE FUTURE, A SMALL PORTION OF THE ROOF CAP SHALL BE REMOVED TO ALLOW DUCT CONNECTION, AND THE REMAINING PORTION OF THE ROOF CAP SHALL REMAIN IN PLACE TO OPERATE AS A PROTECTIVE DRIP PAN BENEATH THE FAN. VERIFY LOCATION AND CONDITION OF ROOF CURBS PRIOR TO INSTALLATION. REMOVE AND DISPOSE OF INSULATION AND CURB OPENING CAP WHEN FANS ARE INSTALLED. TYPICAL ALL ROOFTOP EXHAUST FANS.

3 CONTROLS PRESSURE REFERENCE.

KEYPLAN



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PROJECT: BUILDING B

TITLE: MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 04

DRAWING: MH290.04

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

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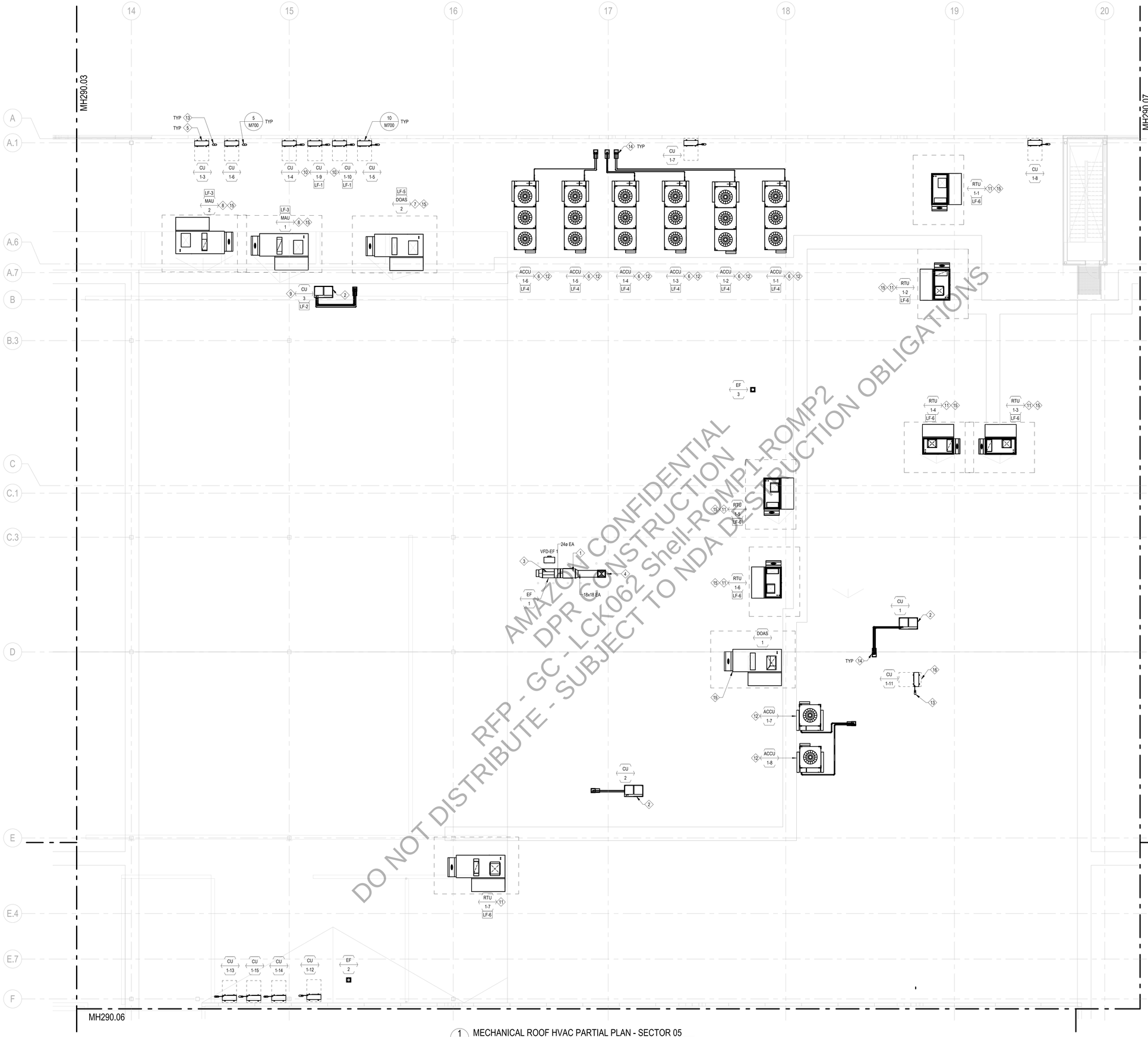

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DPR CONSTRUCTION
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1 MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 05
MH290.05 1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

SHEET NOTES

1 PROVIDE ROOF MOUNTED FILTER BOX BASIS OF DESIGN IS CAMFIL FARR CAMCARB CARBON FILTER.

2 VRF CONDENSING UNITS SHALL BE MOUNTED ON A STEEL BASE. HEIGHT TO BOTTOM OF UNITS SHALL BE MIN 18" ABOVE TOP ROOF INSULATION. REFER TO STRUCTURAL DRAWINGS.

3 PROVIDE BIRD SCREEN ON EXHAUST DUCT EXIT.

4 PROVIDE BACKDRAFT DAMPER IN VERTICAL PORTION OF DUCTWORK, JUST BEFORE PENETRATION INTO ROOF.

5 OUTDOOR HEAT PUMP/CONDENSING UNIT. INSTALL ON WALL BRACKET AND ANCHOR TO PARAPET ABOVE MEMBRANE TERMINATION, AT A MINIMUM OF 12" ABOVE ROOF LEVEL, AND AT A CONSISTENT ELEVATION. PROVIDE MANUFACTURER'S RECOMMENDED REFRIGERANT LINE SET AND INSULATION AS SPECIFIED BETWEEN OUTDOOR UNIT AND INDOOR UNIT. ROUTE POWER/CONTROL CONDUIT WITH REFRIGERANT PIPING.

6 CONTROL WIRING BETWEEN INTERIOR CRAC UNIT AND EXTERIOR AIR COOLED CONDENSING UNIT ROUTED THROUGH A REDZONE WALL SHALL BE ROUTED THROUGH A CONTROL SYSTEM FILTER. PROVIDE CONTROL SYSTEM FILTER PRODUCT FROM LINE FILTER SCHEDULE ON SHEET M902. GROUP CONTROL FILTER WIRING AT THE REDZONE SIDE OF THE WALL PENETRATION IN AN ACCESSIBLE LOCATION. THE CONTRACTOR SHALL COORDINATE THE EXACT REQUIRED FILTER PRODUCT WITH THE SELECTED EQUIPMENT VENDOR BASED ON WIRING TYPE AND QUANTITY. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

7 CONTROL WIRING BETWEEN INTERIOR CONTROLS AND EXTERIOR DOAS UNIT ROUTED THROUGH A REDZONE WALL SHALL BE ROUTED THROUGH A CONTROL SYSTEM FILTER. PROVIDE CONTROL SYSTEM FILTER PRODUCT FROM LINE FILTER SCHEDULE ON SHEET M902. GROUP CONTROL FILTER WIRING AT THE REDZONE SIDE OF THE WALL PENETRATION IN AN ACCESSIBLE LOCATION. THE CONTRACTOR SHALL COORDINATE THE EXACT REQUIRED FILTER PRODUCT WITH THE SELECTED EQUIPMENT VENDOR BASED ON WIRING TYPE AND QUANTITY. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

8 CONTROL WIRING BETWEEN INTERIOR CONTROLS AND EXTERIOR MAKEUP AIR UNIT ROUTED THROUGH A REDZONE WALL SHALL BE ROUTED THROUGH A CONTROL SYSTEM FILTER. PROVIDE CONTROL SYSTEM FILTER PRODUCT FROM LINE FILTER SCHEDULE ON SHEET M902. GROUP CONTROL FILTER WIRING AT THE REDZONE SIDE OF THE WALL PENETRATION IN AN ACCESSIBLE LOCATION. THE CONTRACTOR SHALL COORDINATE THE EXACT REQUIRED FILTER PRODUCT WITH THE SELECTED EQUIPMENT VENDOR BASED ON WIRING TYPE AND QUANTITY. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

9 CONTROL WIRING BETWEEN INTERIOR BRANCH SELECTOR BOX AND EXTERIOR AIR COOLED CONDENSING UNIT ROUTED THROUGH A REDZONE WALL SHALL BE ROUTED THROUGH A CONTROL SYSTEM FILTER. PROVIDE CONTROL SYSTEM FILTER PRODUCT FROM LINE FILTER SCHEDULE ON SHEET M902. GROUP CONTROL FILTER WIRING AT THE REDZONE SIDE OF THE WALL PENETRATION IN AN ACCESSIBLE LOCATION. THE CONTRACTOR SHALL COORDINATE THE EXACT REQUIRED FILTER PRODUCT WITH THE SELECTED EQUIPMENT VENDOR BASED ON WIRING TYPE AND QUANTITY. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

10 CONTROL WIRING BETWEEN INTERIOR HEAT PUMP AND EXTERIOR SPLIT SYSTEM CONDENSING UNIT ROUTED THROUGH A REDZONE WALL SHALL BE ROUTED THROUGH A CONTROL SYSTEM FILTER. PROVIDE CONTROL SYSTEM FILTER PRODUCT FROM LINE FILTER SCHEDULE ON SHEET M902. GROUP CONTROL FILTER WIRING AT THE REDZONE SIDE OF THE WALL PENETRATION IN AN ACCESSIBLE LOCATION. THE CONTRACTOR SHALL COORDINATE THE EXACT REQUIRED FILTER PRODUCT WITH THE SELECTED EQUIPMENT VENDOR BASED ON WIRING TYPE AND QUANTITY. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

11 CONTROL WIRING BETWEEN INTERIOR CONTROLS AND EXTERIOR ROOFTOP UNIT ROUTED THROUGH A REDZONE WALL SHALL BE ROUTED THROUGH A CONTROL SYSTEM FILTER. PROVIDE CONTROL SYSTEM FILTER PRODUCT FROM LINE FILTER SCHEDULE ON SHEET M902. GROUP CONTROL FILTER WIRING AT THE REDZONE SIDE OF THE WALL PENETRATION IN AN ACCESSIBLE LOCATION. THE CONTRACTOR SHALL COORDINATE THE EXACT REQUIRED FILTER PRODUCT WITH THE SELECTED EQUIPMENT VENDOR BASED ON WIRING TYPE AND QUANTITY. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

12 OUTDOOR CONDENSING UNIT TO SERVE INDOOR CRAC UNIT. REFER TO STRUCTURAL DRAWINGS FOR MOUNTING ON ROOF FRAME ABOVE THE ROOF. PROVIDE ALL REFRIGERANT PIPING AND INSULATION AS REQUIRED BETWEEN INDOOR UNIT AND OUTDOOR UNIT. PROVIDE SHEET METAL JACKET FOR EXTERIOR REFRIGERANT LINESET.

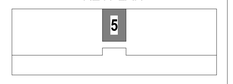
13 REFRIGERANT PIPE LINE BOOT, INSTALLED AS PART OF SHELL CONSTRUCTION. REFER DETAIL ON SHEET M700.

14 PRE-FABRICATED ROOF CHASE FOR REFRIGERANT PIPING AND CONDUIT WITH CURB INSTALLED AS PART OF THE SHELL CONSTRUCTION. REFER TO DETAIL ON SHEET M701 FOR PRE-FABRICATED ROOF CHASE DETAIL.

15 DURING SHELL CONSTRUCTION, ROOF CURBS SHALL BE INSTALLED FOR LATER INSTALLATION OF ROOFTOP DOAS UNIT. VERIFY LOCATION AND CONDITION OF ROOF CURBS PRIOR TO INSTALLATION. CURB SIZES TO BE BASED ON APPROVED SUBMITTALS. MIN. 18 GAUGE, HEIGHT TO BE MIN 18" ABOVE TOP ROOF INSULATION.

16 PROVIDE MANUFACTURER STAND TO MOUNT CONDENSING UNIT ON ROOF.

KEYPLAN



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11 E MADISON ST. STE 300,
CHICAGO, IL 60602

PROJECT: BUILDING B

TITLE: MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 05

DRAWING: MH290.05

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

BOD VERSION: OPTDC-2.0
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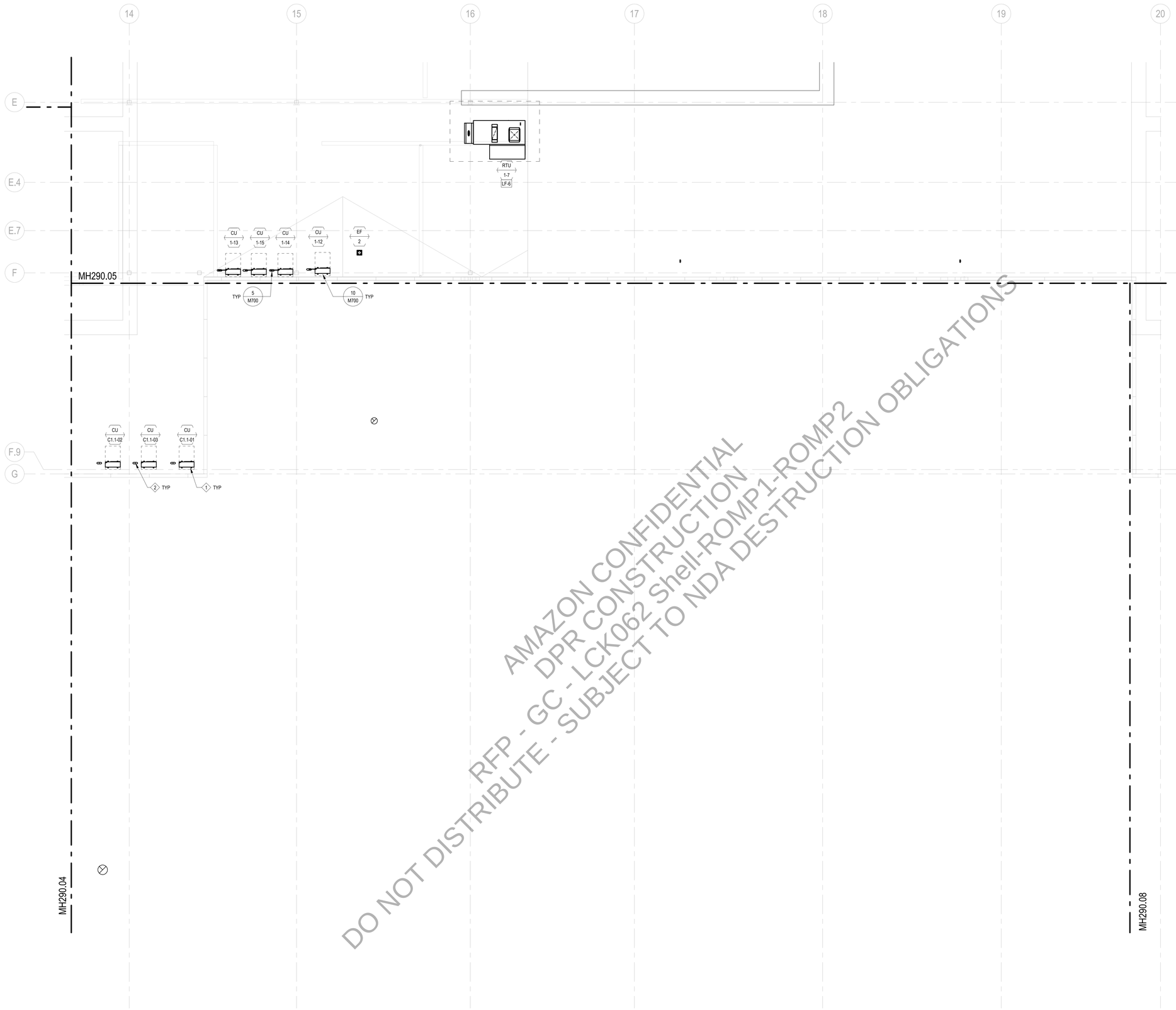

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1 MH290.06 MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 06
1/8" = 1'-0"

GENERAL NOTES

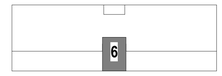
A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

SHEET NOTES

1 OUTDOOR HEAT PUMP/CONDENSING UNIT. INSTALL ON WALL BRACKET AND ANCHOR TO PARAPET ABOVE MEMBRANE TERMINATION, AT A MINIMUM OF 12" ABOVE ROOF LEVEL, AND AT A CONSISTENT ELEVATION. PROVIDE MANUFACTURER'S RECOMMENDED REFRIGERANT LINE SET AND INSULATION AS SPECIFIED BETWEEN OUTDOOR UNIT AND INDOOR UNIT. ROUTE POWER/CONTROL CONDUIT WITH REFRIGERANT PIPING.

2 REFRIGERANT PIPE LINE BOOT, INSTALLED AS PART OF SHELL CONSTRUCTION. REFER DETAIL ON SHEET M700.

KEYPLAN



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DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 06

DRAWING: MH290.06

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
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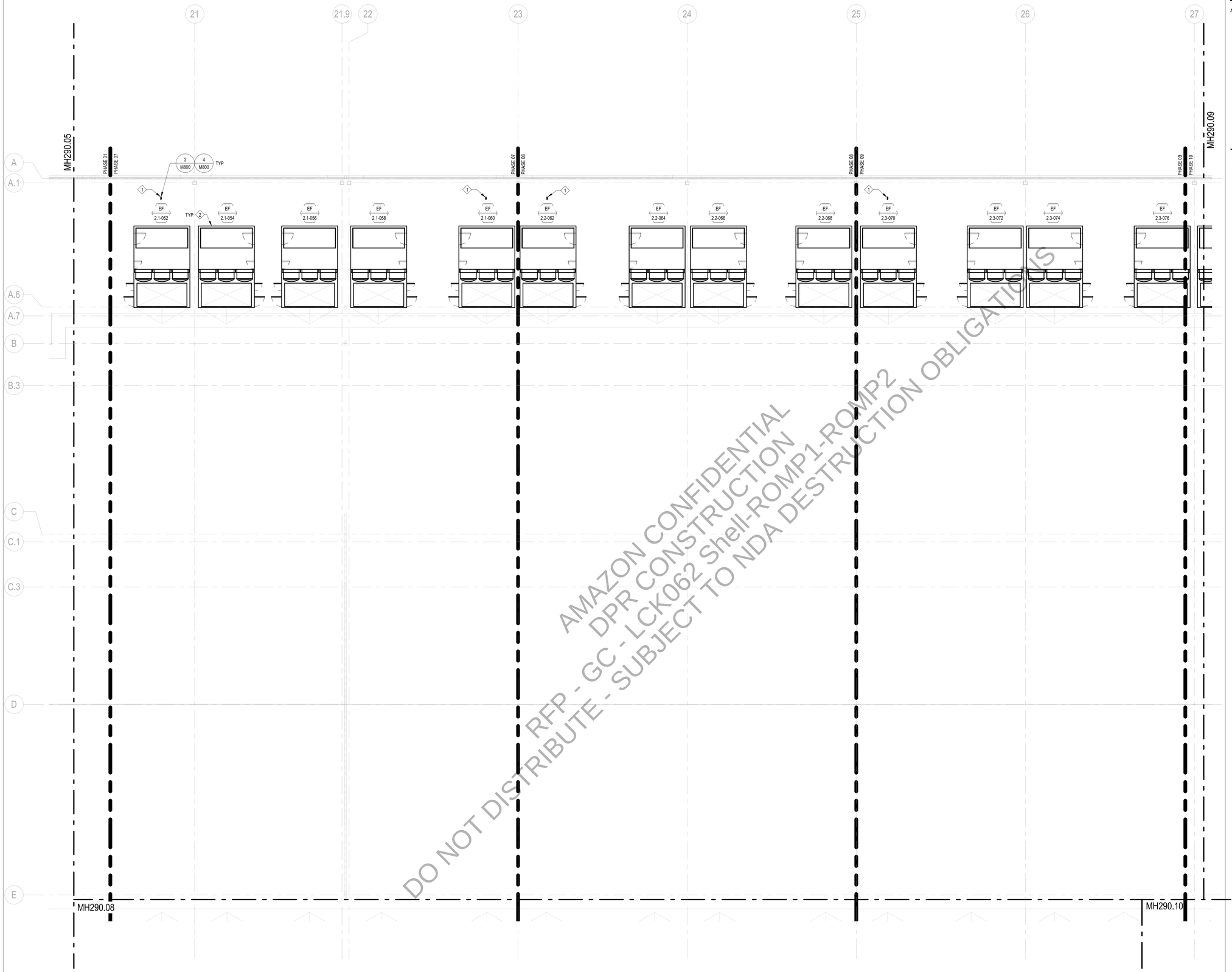

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1 MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 07
MH290.07 1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

SHEET NOTES

1 CONTROLS PRESSURE REFERENCE.
2 DURING SHELL CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A ROOF CURB WITH A TWO-PIECE INSULATED CURB CAP WITH R-8 INSULATION FOR LATER PHASE INSTALLATION OF ROOFTOP EXHAUST FANS. WHEN ITS TIME TO INSTALL THE FAN IN THE FUTURE, A SMALL PORTION OF THE ROOF CAP SHALL BE REMOVED TO ALLOW DUCT CONNECTION, AND THE REMAINING PORTION OF THE ROOF CAP SHALL REMAIN IN PLACE TO OPERATE AS A PROTECTIVE DRIP PAN BENEATH THE FAN. VERIFY LOCATION AND CONDITION OF ROOF CURBS PRIOR TO INSTALLATION. REMOVE AND DISPOSE OF INSULATION AND CURB OPENING CAP WHEN FANS ARE INSTALLED. TYPICAL ALL ROOFTOP EXHAUST FANS.

KEYPLAN

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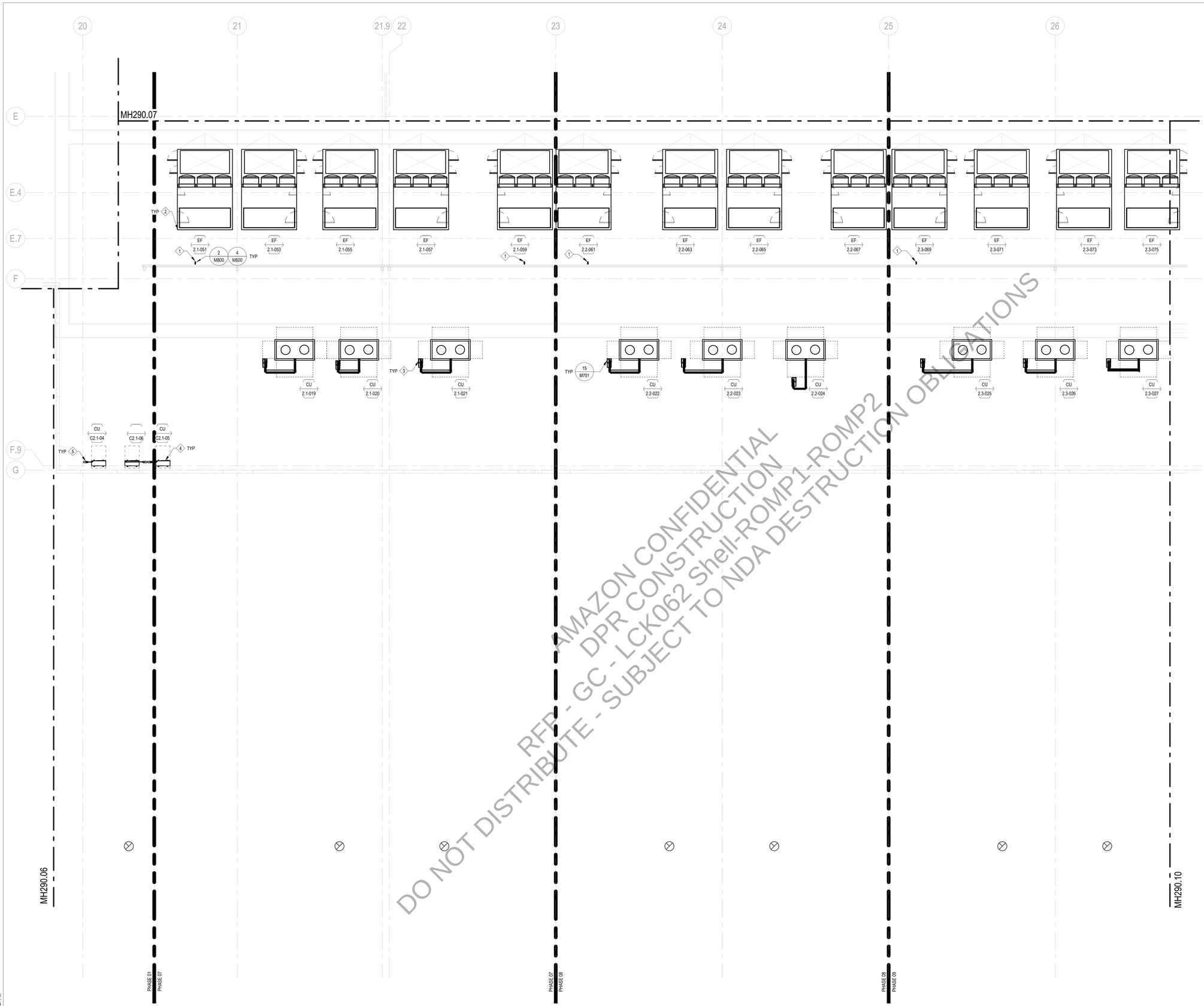
PROJECT: BUILDING B

TITLE: MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 07

DRAWING: MH290.07

E1 | SCALE: 1/8" = 1'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
PDF PRINT DATE: 8/31/2023 1:54:53 PM 031



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1 MH290.08 MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 08
1/8" = 1'-0"

GENERAL NOTES

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SHEET NOTES

1. CONTROLS PRESSURE REFERENCE.
2. DURING SHELL CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A ROOF CURB WITH A TWO-PIECE INSULATED CURB CAP WITH R-8 INSULATION FOR LATER PHASE INSTALLATION OF ROOFTOP EXHAUST FANS. WHEN ITS TIME TO INSTALL THE FAN IN THE FUTURE, A SMALL PORTION OF THE ROOF CAP SHALL BE REMOVED TO ALLOW DUCT CONNECTION, AND THE REMAINING PORTION OF THE ROOF CAP SHALL REMAIN IN PLACE TO OPERATE AS A PROTECTIVE DRIP PAN BENEATH THE FAN. VERIFY LOCATION AND CONDITION OF ROOF CURBS PRIOR TO INSTALLATION. REMOVE AND DISPOSE OF INSULATION AND CURB OPENING CAP WHEN FANS ARE INSTALLED. TYPICAL ALL ROOFTOP EXHAUST FANS.
3. PRE-FABRICATED ROOF CHASE FOR REFRIGERANT PIPING AND CONDUIT WITH CURB INSTALLED AS PART OF THE SHELL CONSTRUCTION. REFER TO DETAIL ON SHEET M701 FOR PRE-FABRICATED ROOF CHASE DETAIL.
4. OUTDOOR HEAT PUMP/CONDENSING UNIT. INSTALL ON WALL BRACKET AND ANCHOR TO PARAPET ABOVE MEMBRANE TERMINATION, AT A MINIMUM OF 12" ABOVE ROOF LEVEL, AND AT A CONSISTENT ELEVATION. PROVIDE MANUFACTURER'S RECOMMENDED REFRIGERANT LINE SET AND INSULATION AS SPECIFIED BETWEEN OUTDOOR UNIT AND INDOOR UNIT. ROUTE POWER/CONTROL CONDUIT WITH REFRIGERANT PIPING.
5. REFRIGERANT PIPE LINE BOOT, INSTALLED AS PART OF SHELL CONSTRUCTION. REFER DETAIL ON SHEET M700.

KEYPLAN

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DESIGNED: SWANSON RINK | ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 08

DRAWING: MH290.08

E1 | SCALE: 1/8" = 1'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
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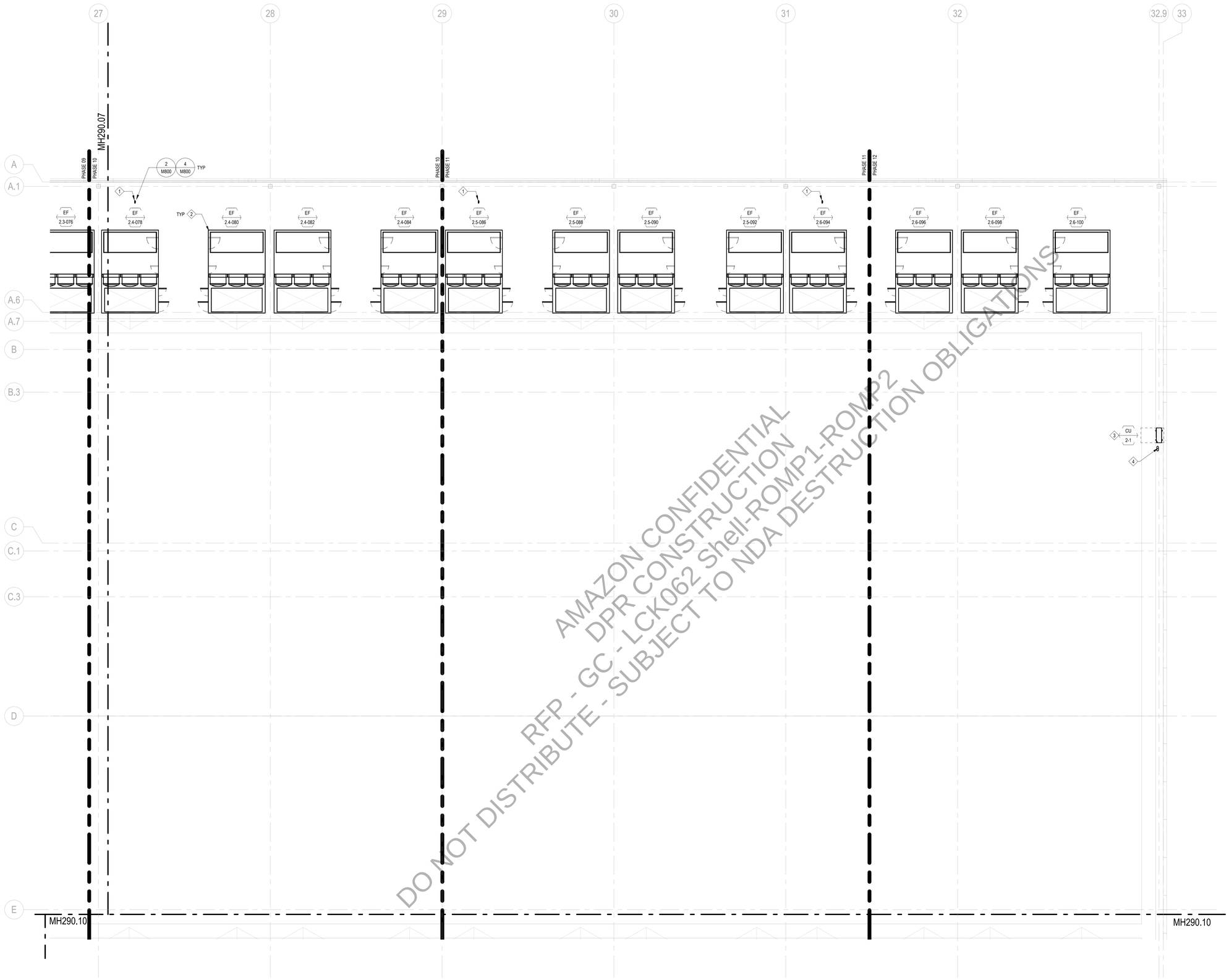

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1 MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 09
MH290.09 1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

SHEET NOTES

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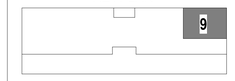
4 REFRIGERANT PIPE LINE BOOT, INSTALLED AS PART OF SHELL CONSTRUCTION. REFER DETAIL ON SHEET M700.

KEYPLAN



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DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 09

DRAWING: MH290.09

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

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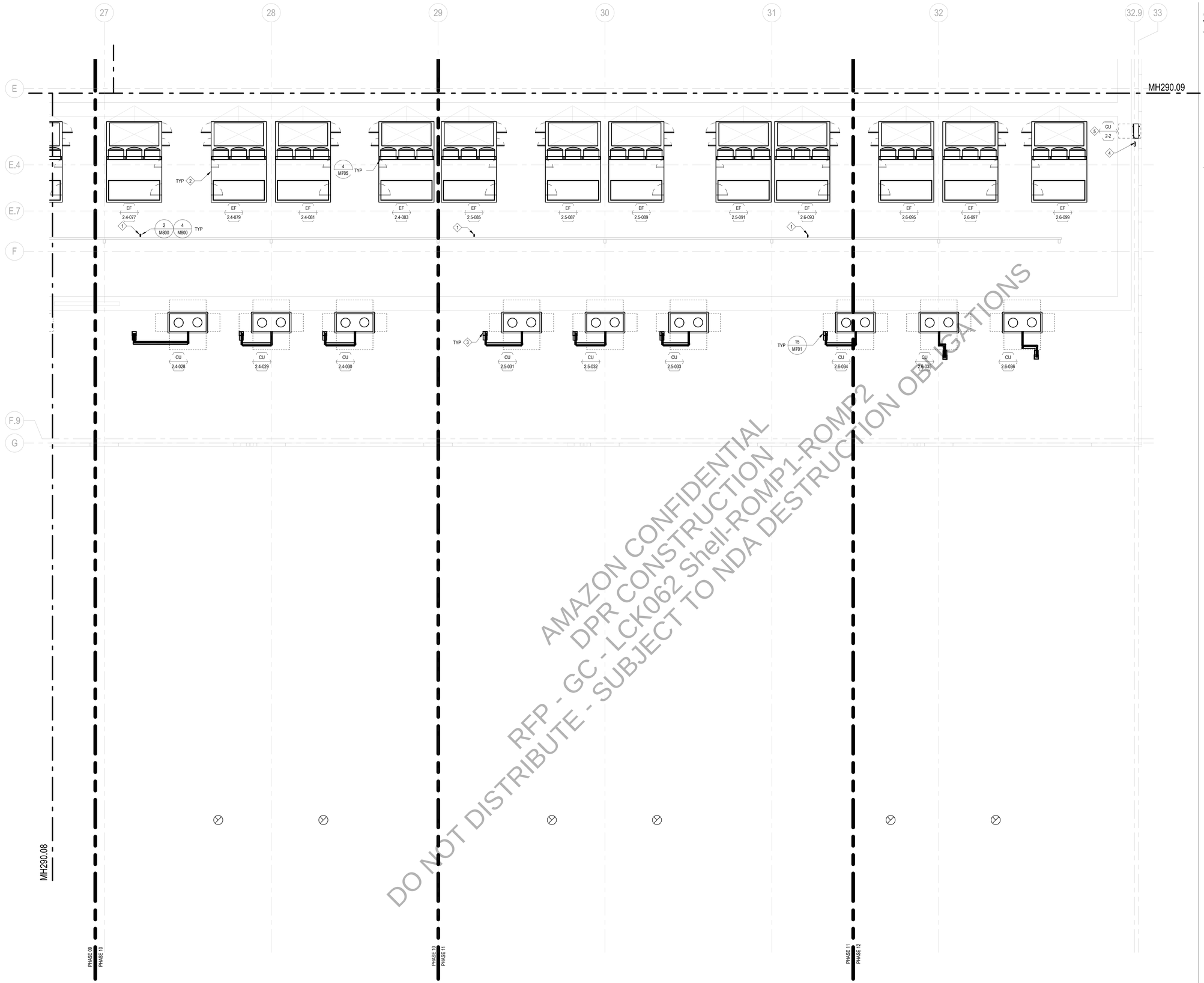

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1 MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 10
MH290.10 1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

SHEET NOTES

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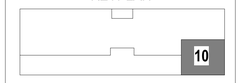
2 DURING SHELL CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A ROOF CURB WITH A TWO-PIECE INSULATED CURB CAP WITH R-8 INSULATION FOR LATER PHASE INSTALLATION OF ROOFTOP EXHAUST FANS. WHEN ITS TIME TO INSTALL THE FAN IN THE FUTURE, A SMALL PORTION OF THE ROOF CAP SHALL BE REMOVED TO ALLOW DUCT CONNECTION, AND THE REMAINING PORTION OF THE ROOF CAP SHALL REMAIN IN PLACE TO OPERATE AS A PROTECTIVE DRIP PAN BENEATH THE FAN. VERIFY LOCATION AND CONDITION OF ROOF CURBS PRIOR TO INSTALLATION. REMOVE AND DISPOSE OF INSULATION AND CURB OPENING CAP WHEN FANS ARE INSTALLED. TYPICAL ALL ROOFTOP EXHAUST FANS.
3 PRE-FABRICATED ROOF CHASE FOR REFRIGERANT PIPING AND CONDUIT WITH CURB INSTALLED AS PART OF THE SHELL CONSTRUCTION. REFER TO DETAIL ON SHEET M701 FOR PRE-FABRICATED ROOF CHASE DETAIL.
4 REFRIGERANT PIPE LINE BOOT, INSTALLED AS PART OF SHELL CONSTRUCTION. REFER DETAIL ON SHEET M700.
5 OUTDOOR HEAT PUMP/CONDENSING UNIT. INSTALL ON WALL BRACKET AND ANCHOR TO PARAPET ABOVE MEMBRANE TERMINATION, AT A MINIMUM OF 12" ABOVE ROOF LEVEL, AND AT A CONSISTENT ELEVATION. PROVIDE MANUFACTURER'S RECOMMENDED REFRIGERANT LINE SET AND INSULATION AS SPECIFIED BETWEEN OUTDOOR UNIT AND INDOOR UNIT. ROUTE POWER/CONTROL CONDUIT WITH REFRIGERANT PIPING.

KEYPLAN



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DESIGNED: SWANSON RINK | ENGINEER: GO

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11 E MADISON ST. STE 300,
CHICAGO, IL 60602

PROJECT: BUILDING B

TITLE: MECHANICAL ROOF HVAC PARTIAL PLAN - SECTOR 10

DRAWING: MH290.10

E1 | SCALE: 1/8" = 1'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
PDF PRINT DATE: 8/31/2023 1:55:07 PM 034

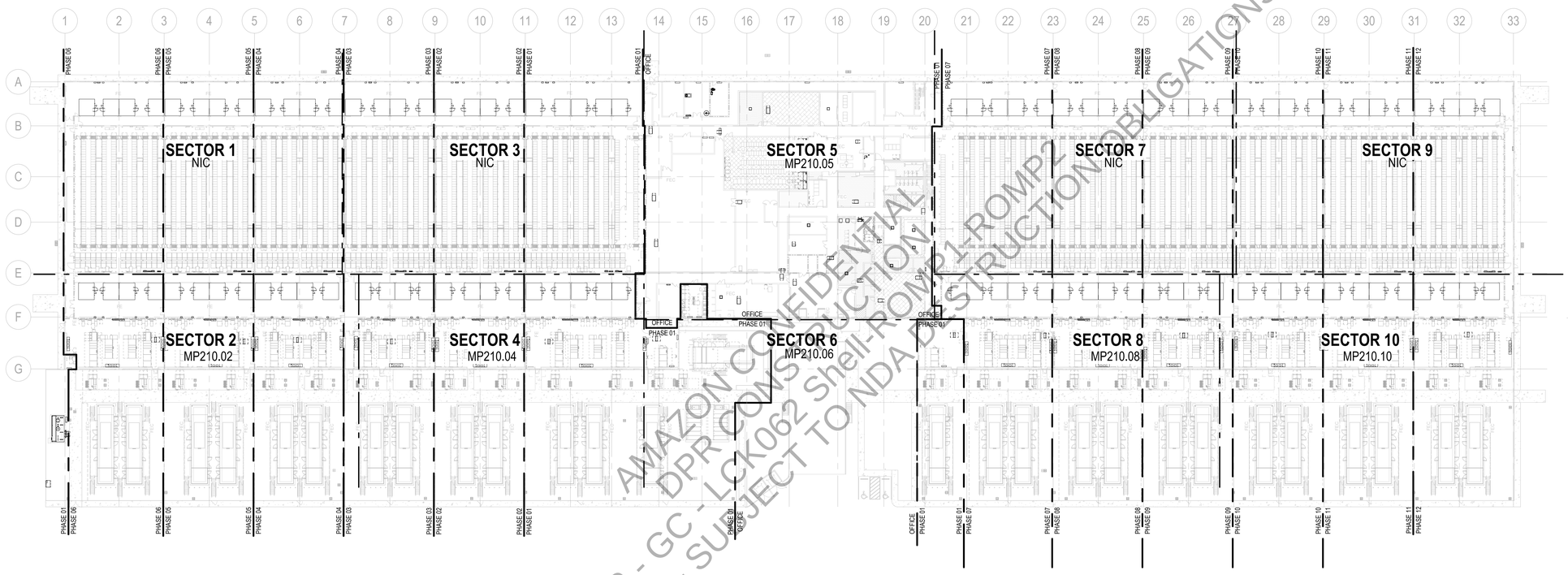
GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. SEE FUEL OIL PIPING DIAGRAMS FOR PHASING.

C. THE GENERAL/MECHANICAL CONTRACTOR SHALL PROVIDE A COMPLETE GENERATOR FUEL OIL FILL SYSTEM SO THAT THE FINAL WORK PRODUCT IS COMPLETE AND USABLE TO THE OWNER. SYSTEM COMPONENTS PROVIDED BY CONTRACTOR SHALL INCLUDE AND NOT BE LIMITED TO: FUEL OIL PIPING, FUEL OIL TOP-UP TANK, AND ALL SUPPORTING EQUIPMENT AND CONTROLS.

D. FOR STRUCTURAL PIPE SUPPORTS SEE STRUCTURAL DRAWINGS.



1 MECHANICAL LEVEL 01 PIPING OVERALL PLAN
MP210.00 1" = 40'-0"

AMAZON CONFIDENTIAL
DPR CONSTRUCTION
RFP - GC - LCK062 Shell-ROMP1-ROMP2
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KEYPLAN

OVERALL

TRUE NORTH

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CHICAGO, IL 60602

PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 PIPING OVERALL PLAN

DRAWING: MP210.00

E1 | SCALE: 1" = 40'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
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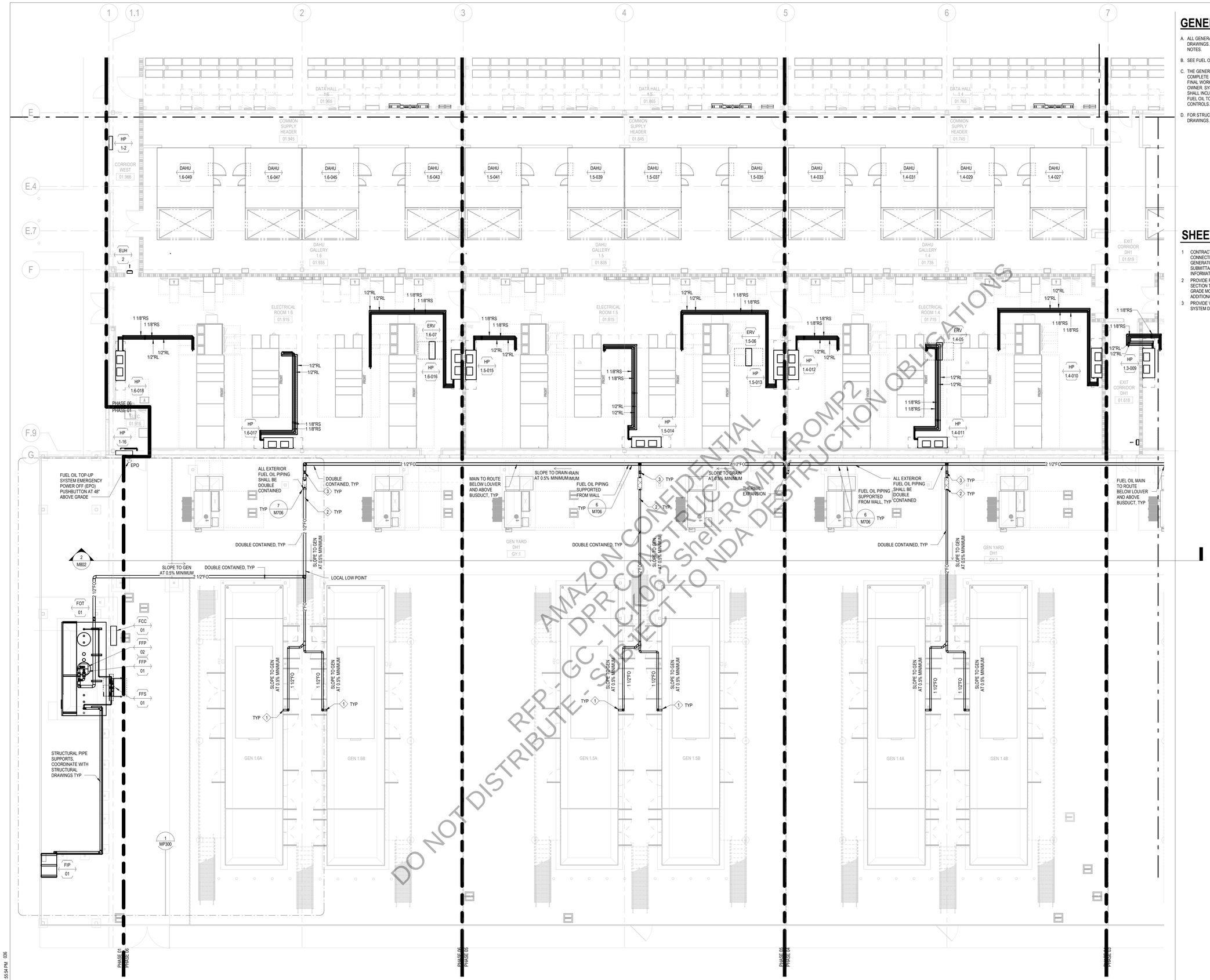

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GENERAL NOTES

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B. SEE FUEL OIL PIPING DIAGRAMS FOR PHASING.

C. THE GENERAL/MECHANICAL CONTRACTOR SHALL PROVIDE A COMPLETE GENERATOR FUEL OIL FILL SYSTEM SO THAT THE FINAL WORK PRODUCT IS COMPLETE AND USABLE TO THE OWNER. SYSTEM COMPONENTS PROVIDED BY CONTRACTOR SHALL INCLUDE AND NOT BE LIMITED TO: FUEL OIL PIPING, FUEL OIL TOP-UP TANK, AND ALL SUPPORTING EQUIPMENT AND CONTROLS.

D. FOR STRUCTURAL PIPE SUPPORTS SEE STRUCTURAL DRAWINGS.

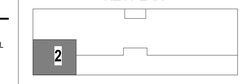
SHEET NOTES

1 CONTRACTOR SHALL COORDINATE FUEL OIL PIPING POINT OF CONNECTION TO REMOTE FILL INLET AT GENERATOR WITH GENERATOR MANUFACTURER BASED UPON FINAL APPROVED SUBMITTALS. SEE M802 AND M803 FOR ADDITIONAL INFORMATION.

2 PROVIDE FLEXIBLE CONNECTOR FOR FUEL OIL PIPING SECTION THAT SPANS FROM BUILDING EXTERIOR WALL TO GRADE MOUNTED STRUCTURAL FRAMING. SEE DETAIL FOR ADDITIONAL INFORMATION.

3 PROVIDE VALVING AND APPURTENANCES AS REQUIRED PER SYSTEM DIAGRAMS AND PROJECT SPECIFICATIONS.

KEYPLAN



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DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 02

DRAWING: MP210.02

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

1 MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 02
MP210.02 1/8" = 1'-0"

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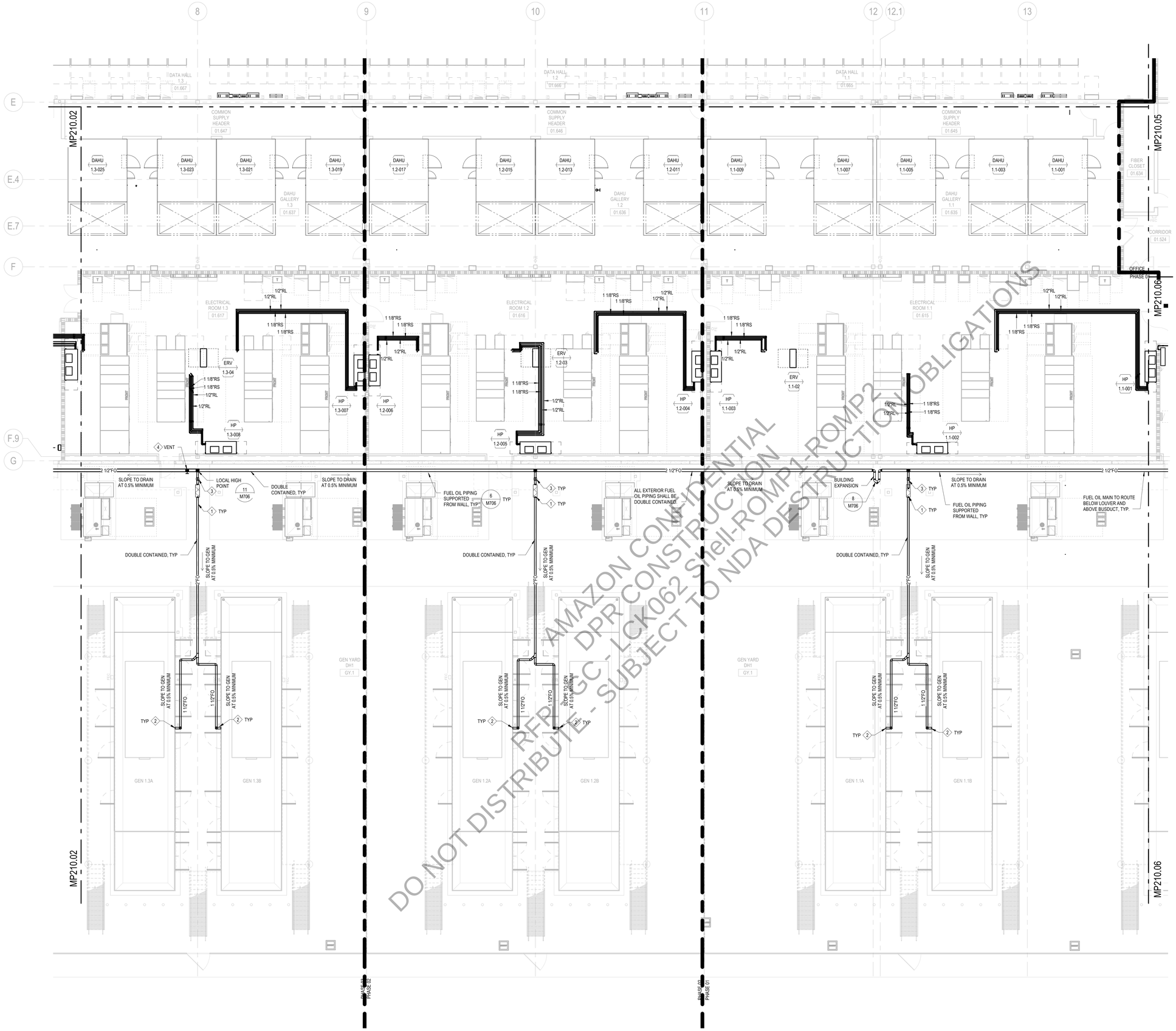

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1 MP210.04 MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 04
1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. SEE FUEL OIL PIPING DIAGRAMS FOR PHASING.

C. THE GENERAL/MECHANICAL CONTRACTOR SHALL PROVIDE A COMPLETE GENERATOR FUEL OIL FILL SYSTEM SO THAT THE FINAL WORK PRODUCT IS COMPLETE AND USABLE TO THE OWNER. SYSTEM COMPONENTS PROVIDED BY CONTRACTOR SHALL INCLUDE AND NOT BE LIMITED TO: FUEL OIL PIPING, FUEL OIL TOP-UP TANK, AND ALL SUPPORTING EQUIPMENT AND CONTROLS.

D. FOR STRUCTURAL PIPE SUPPORTS SEE STRUCTURAL DRAWINGS.

SHEET NOTES (#)

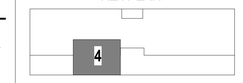
1 PROVIDE FLEXIBLE CONNECTOR FOR FUEL OIL PIPING SECTION THAT SPANS FROM BUILDING EXTERIOR WALL TO GRADE MOUNTED STRUCTURAL FRAMING. SEE DETAIL FOR ADDITIONAL INFORMATION.

2 CONTRACTOR SHALL COORDINATE FUEL OIL PIPING POINT OF CONNECTION TO REMOTE FILL INLET AT GENERATOR WITH GENERATOR MANUFACTURER BASED UPON FINAL APPROVED SUBMITTALS. SEE M602 AND M603 FOR ADDITIONAL INFORMATION.

3 PROVIDE VALVING AND APPURTENANCES AS REQUIRED PER SYSTEM DIAGRAMS AND PROJECT SPECIFICATIONS.

4 ROUTE VENT PIPING VERTICALLY AT BUILDING EXTERIOR AND TERMINATE WITH MINIMUM 10 FEET CLEARANCE ABOVE OUTSIDE AIR INTAKE. DO NOT OBSTRUCT LOUVER AIRFLOW. PROVIDE PIPE OFFSETS AS REQUIRED.

KEYPLAN



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DESIGNED: SWANSON RINK | ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 04

DRAWING: MP210.04

E1 | SCALE: 1/8" = 1'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
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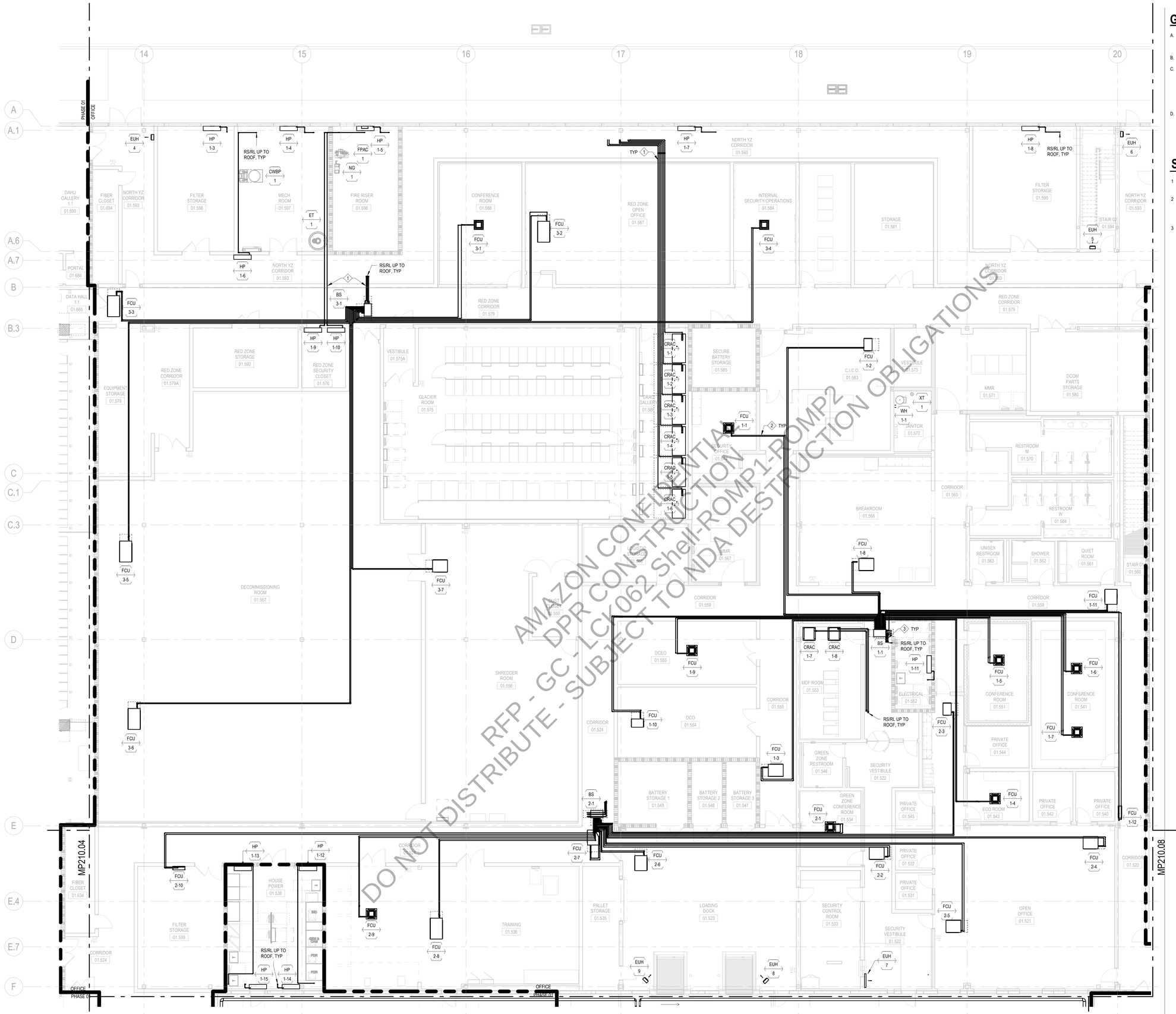


1 MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 05
MP210.05 1/8" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. SEE FUEL OIL PIPING DIAGRAMS FOR PHASING.

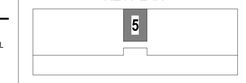
C. THE GENERAL/MECHANICAL CONTRACTOR SHALL PROVIDE A COMPLETE GENERATOR FUEL OIL FILL SYSTEM SO THAT THE FINAL WORK PRODUCT IS COMPLETE AND USABLE TO THE OWNER. SYSTEM COMPONENTS PROVIDED BY CONTRACTOR SHALL INCLUDE AND NOT BE LIMITED TO: FUEL OIL PIPING, FUEL OIL TOP-UP TANK, AND ALL SUPPORTING EQUIPMENT AND CONTROLS.

D. FOR STRUCTURAL PIPE SUPPORTS SEE STRUCTURAL DRAWINGS.

SHEET NOTES

1. REFRIGERANT PIPING PENETRATION OF REDZONE WALL. REFER TO DETAIL 4 ON SHEET M704 FOR GROUNDING REQUIREMENTS AT PENETRATION.
2. PRELIMINARY ROUTING OF VRF REFRIGERANT PIPING IS SHOWN FOR BIDDING PURPOSES ONLY. FINAL ROUTING SHALL BE DETERMINED BY THE CONTRACTOR BASED ON FIELD CONDITIONS AND APPROVAL BY THE ENGINEER AND EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
3. BOTTOM OF BRANCH SELECTORS SHALL BE NO MORE THAN 12" ABOVE THE TOP OF CEILING.

KEYPLAN



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DESIGNED: SWANSON RINK | ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 05

DRAWING: MP210.05

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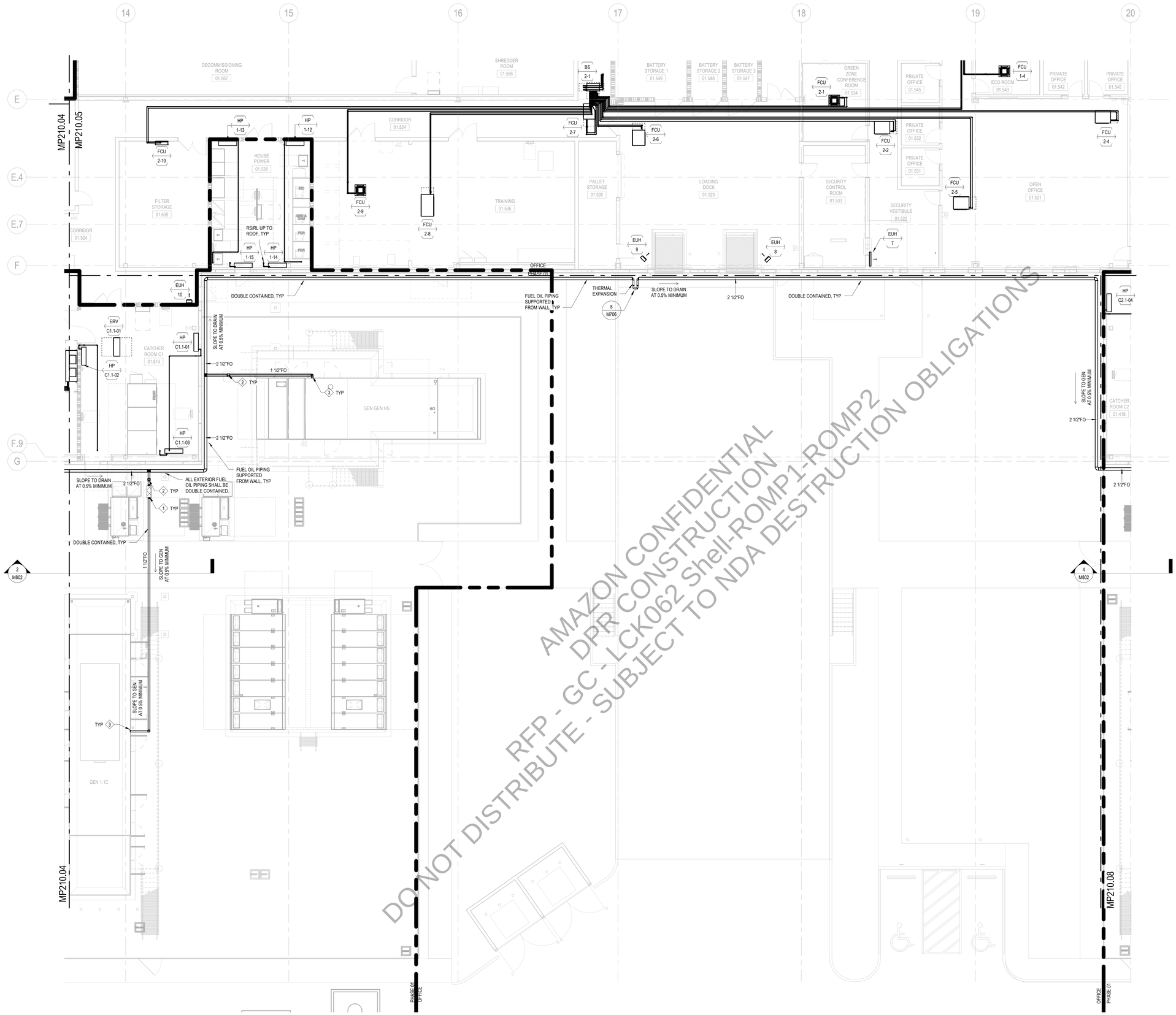

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1 MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 06
MP210.06 1/8" = 1'-0"

GENERAL NOTES

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SHEET NOTES

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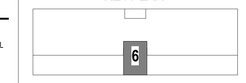
KEYPLAN



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DESIGNED: SWANSON RINK | ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 06

DRAWING: MP210.06

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
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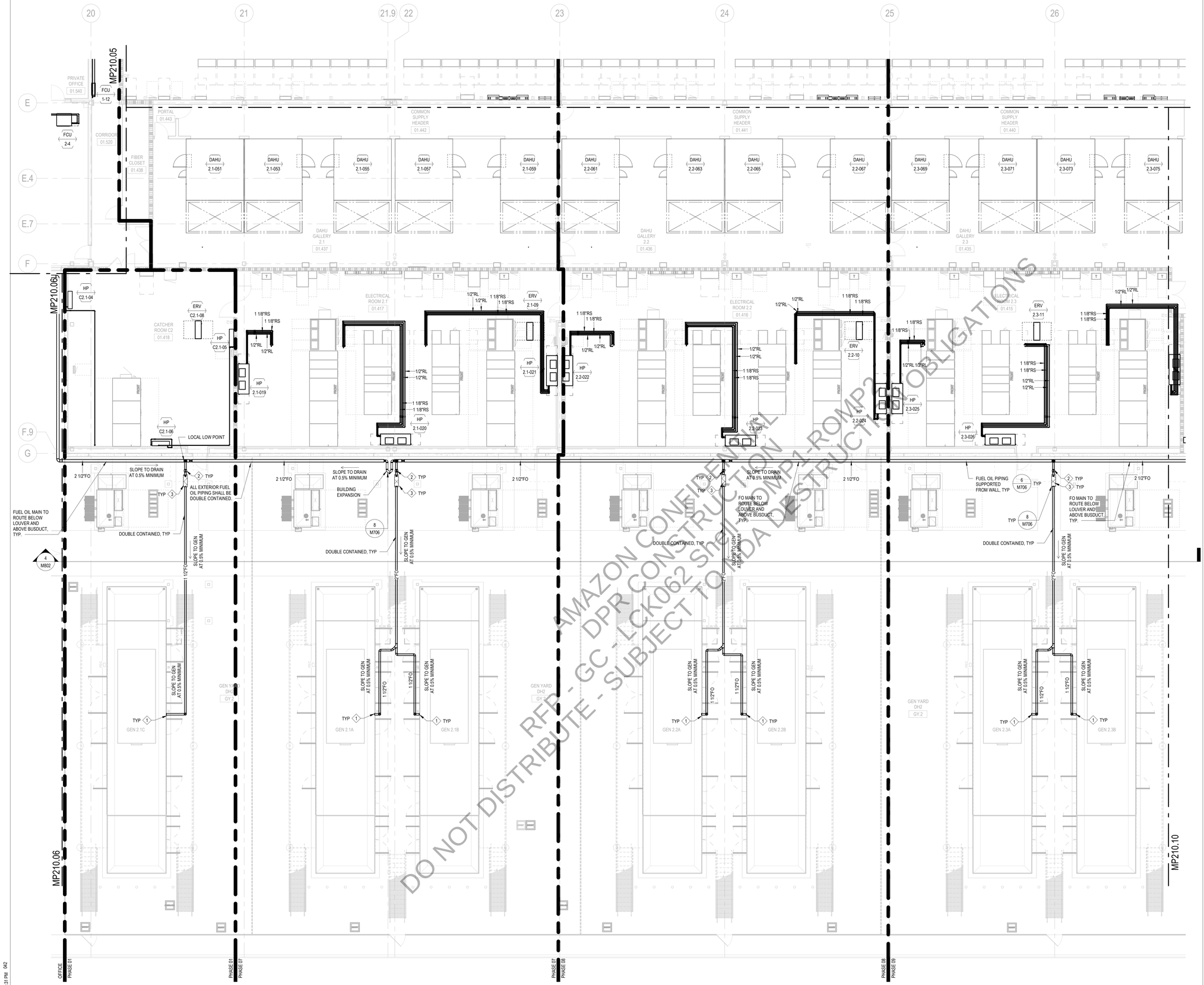

1 MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 08
MP210.08 1/8" = 1'-0"

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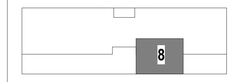
3. PROVIDE FLEXIBLE CONNECTOR FOR FUEL OIL PIPING SECTION THAT SPANS FROM BUILDING EXTERIOR WALL TO GRADE MOUNTED STRUCTURAL FRAMING. SEE DETAIL FOR ADDITIONAL INFORMATION.

KEYPLAN



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DESIGNED: SWANSON RINK	ENGINEER: GO

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CHICAGO, IL 60602

PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 08

DRAWING: MP210.08

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
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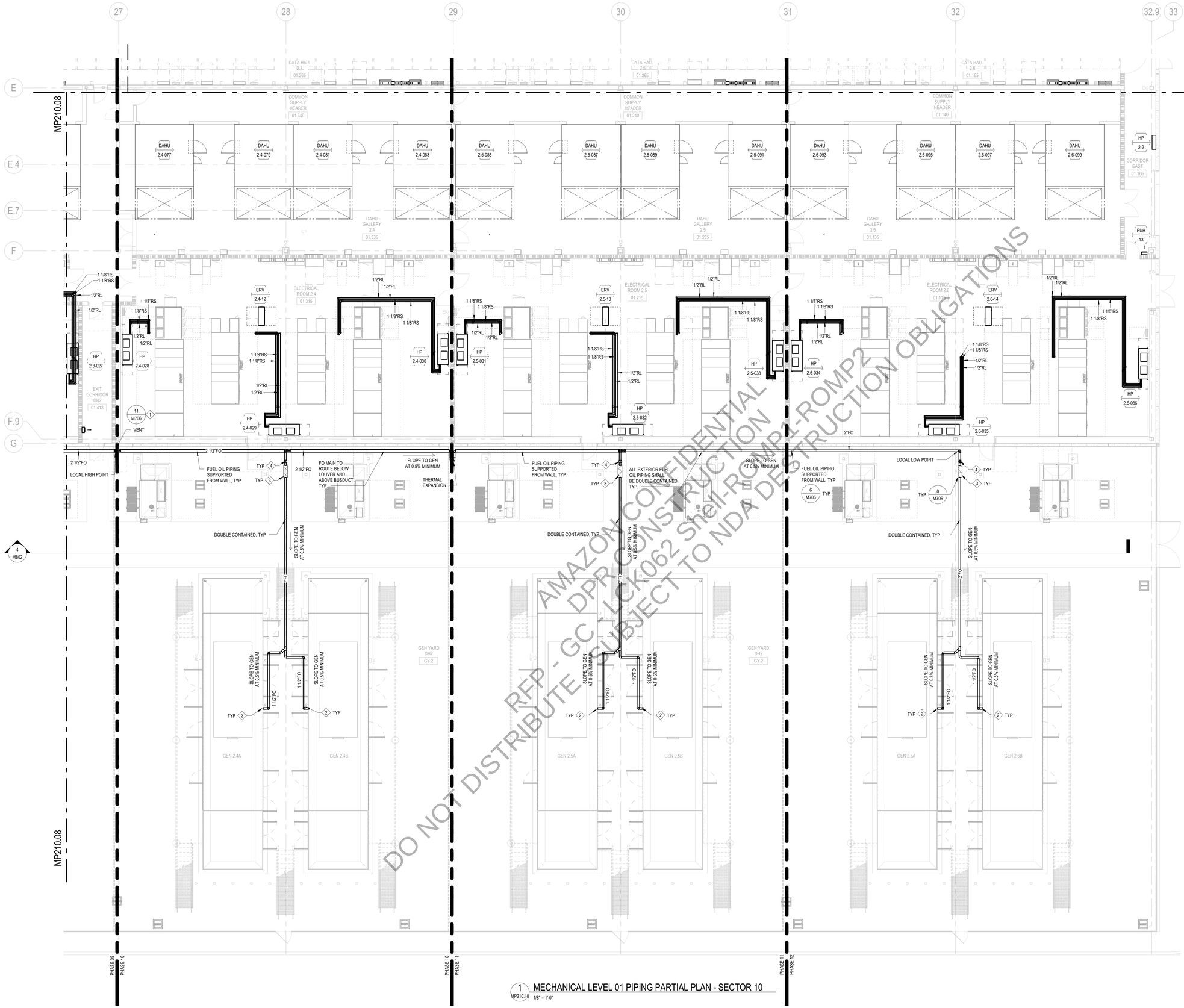

1 MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 10
MP210.10 1/8" = 1'-0"

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GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. SEE FUEL OIL PIPING DIAGRAMS FOR PHASING.

C. THE GENERAL/MECHANICAL CONTRACTOR SHALL PROVIDE A COMPLETE GENERATOR FUEL OIL FILL SYSTEM SO THAT THE FINAL WORK PRODUCT IS COMPLETE AND USABLE TO THE OWNER. SYSTEM COMPONENTS PROVIDED BY CONTRACTOR SHALL INCLUDE AND NOT BE LIMITED TO: FUEL OIL PIPING, FUEL OIL TOP-UP TANK, AND ALL SUPPORTING EQUIPMENT AND CONTROLS.

D. FOR STRUCTURAL PIPE SUPPORTS SEE STRUCTURAL DRAWINGS.

SHEET NOTES

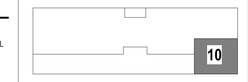
1 ROUTE VENT PIPING VERTICALLY AT BUILDING EXTERIOR AND TERMINATE WITH MINIMUM 10 FEET CLEARANCE ABOVE OUTSIDE AIR INTAKE. DO NOT OBSTRUCT LOUVER AIRFLOW. PROVIDE PIPE OFFSETS AS REQUIRED.

2 CONTRACTOR SHALL COORDINATE FUEL OIL PIPING POINT OF CONNECTION TO REMOTE FILL INLET AT GENERATOR WITH GENERATOR MANUFACTURER BASED UPON FINAL APPROVED SUBMITTALS. SEE M802 AND M803 FOR ADDITIONAL INFORMATION.

3 PROVIDE FLEXIBLE CONNECTOR FOR FUEL OIL PIPING SECTION THAT SPANS FROM BUILDING EXTERIOR WALL TO GRADE MOUNTED STRUCTURAL FRAMING. SEE DETAIL FOR ADDITIONAL INFORMATION.

4 PROVIDE VALVING AND APPURTENANCES AS REQUIRED PER SYSTEM DIAGRAMS AND PROJECT SPECIFICATIONS.

KEYPLAN



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11 E MADISON ST. STE 300,
CHICAGO, IL 60602

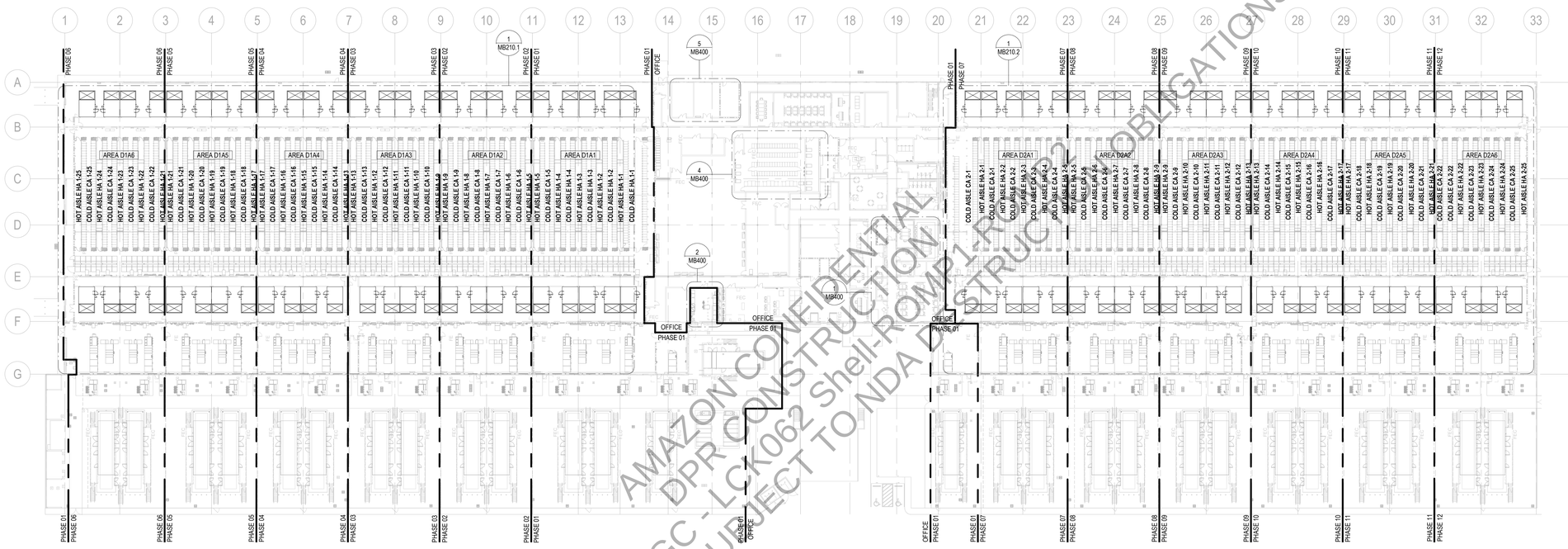
PROJECT: BUILDING B

TITLE: MECHANICAL LEVEL 01 PIPING PARTIAL PLAN - SECTOR 10

DRAWING: MP210.10

E1	SCALE: 1/8" = 1'-0"	AGILE No:	REV: A

BOD VERSION: OPTDC-2.0
PDF PRINT DATE: 8/17/2023 1:56:40 PM 043



1 MB210.00 MECHANICAL LEVEL 01 BMS EQUIPMENT DATA HALL & ELECTRICAL ROOM OVERALL PLAN

1" = 40'-0"

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DPR CONSTRUCTION
RFP - GC - LCK062 Shell-ROMP1-FOR CONSTRUCTION OBLIGATIONS
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KEYPLAN

OVERALL

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DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: BMS EQUIPMENT - LEVEL 01 DATA HALL & ELECTRICAL ROOM OVERALL PLAN

DRAWING: MB210.00

E1	SCALE: 1" = 40'-0"	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
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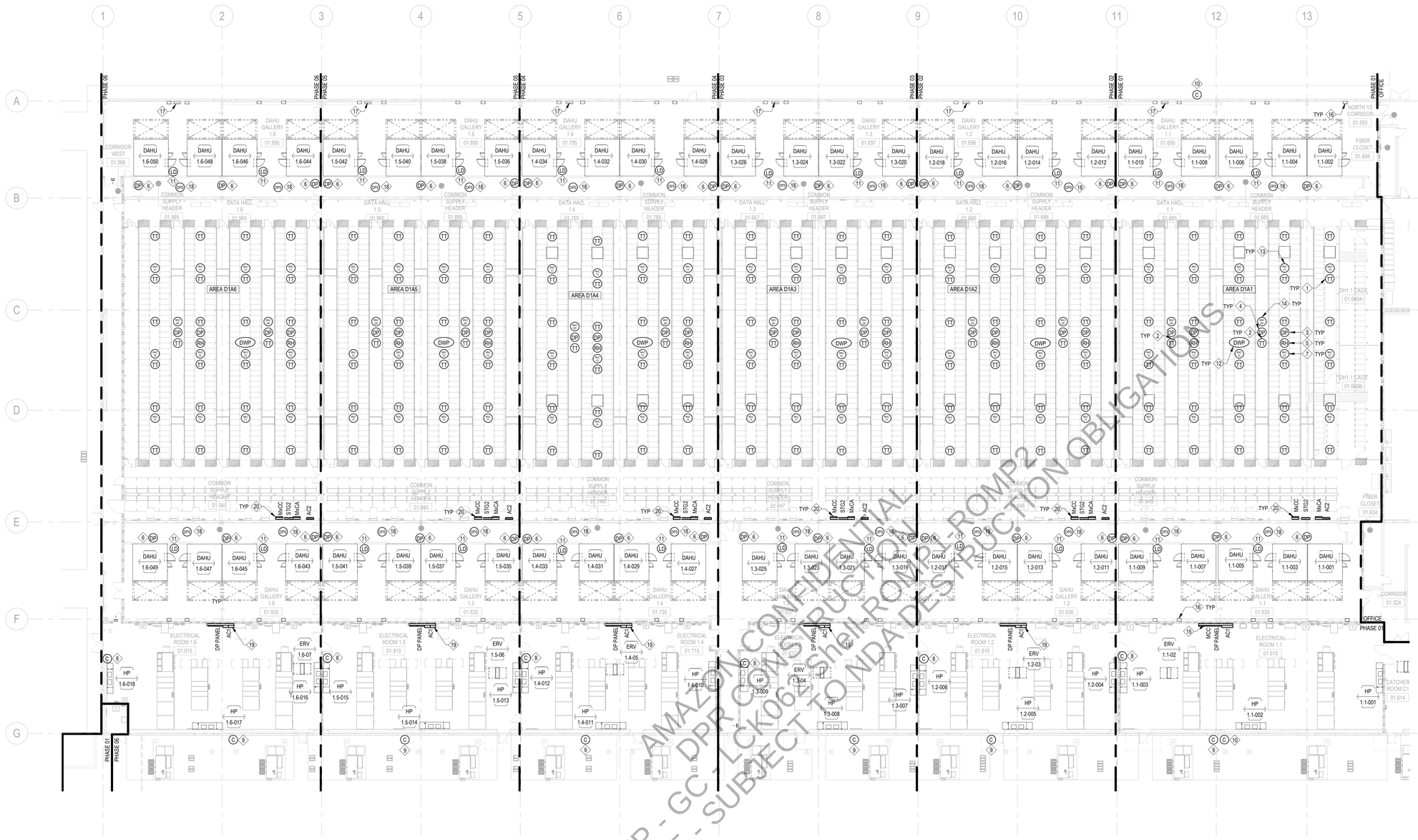

1 MECHANICAL LEVEL 01 BMS EQUIPMENT DATA HALL & ELECTRICAL ROOM PARTIAL PLAN - DATA HALL 1
MB210.1 1/16" = 1'-0"

AMAZON CONFIDENTIAL
DPR CONSTRUCTION
RFP - GC - LCK06 - SHELL ROMP2
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GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. ALL CONTROL PANELS TO BE MOUNTED 72" AFF TO TOP OF ENCLOSURE UNLESS OTHERWISE NOTED.

C. COORDINATE LOCATION OF BMS PANELS WITH EPMS PANELS AND OTHER EQUIPMENT AFFIXED TO WALLS IN ELECTRICAL ROOMS AND DATA HALL PRIOR TO CONSTRUCTION.

D. REFERENCE 2/MB400 FOR COLD AISLE SENSOR MOUNTING HEIGHTS AND METHODS.

E. HOT & COLD AISLE AND SUPPLY HEADER PRESSURE SENSORS TO BE MOUNTED IN THE BMS ENCLOSURE.

F. ALL WALL-MOUNTED SENSORS TO BE 5' AFF UNLESS OTHERWISE NOTED.

G. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

1 COLD AISLE TEMPERATURE SENSOR - SIX PER COLD AISLE.
2 HOT AISLE TEMPERATURE SENSOR - TWO PER AREA LOCATED IN THE PLENUM AREA ABOVE THE HOT AISLE.
3 COLD AISLE TO OA DIFFERENTIAL PRESSURE SENSOR - TWO PER AREA.
4 HOT AISLE TO OA DIFFERENTIAL PRESSURE SENSOR - TWO PER AREA. INSTALL 2'-0" ABOVE SUPPLY DUCT, 1'-0" FROM HOT AISLE.
5 COLD AISLE RELATIVE HUMIDITY SENSOR - TWO PER AREA
6 SUPPLY AIR HEADER TO OUTSIDE DIFFERENTIAL PRESSURE SENSOR - SIX PER AREA (THREE PER SIDE). INSTALL ON DAHU SIDE OF THE HEADER BETWEEN DAHU SUPPLY AIR DAMPERS AT 60" AFF.
7 MXCA MAX COOL TEMPERATURE SENSOR - FOUR PER AREA, CENTERED IN THE AISLE.
8 WALL-MOUNTED COMBINATION TEMPERATURE/RELATIVE HUMIDITY SENSOR.
9 COMBINATION OUTSIDE AIR DRY BULB/WET BULB TEMPERATURE SENSOR - ONE PER AREA CONTROLLER LOCATED INSIDE OF THE OUTSIDE AIR INTAKE LOUVER.
10 COMBINATION OUTSIDE AIR DRY BULB/WET BULB TEMPERATURE SENSOR - TWO PER MASTER COORDINATING CONTROLLER, ONE ON EACH SIDE OF THE BUILDING, 6-12" BELOW AND IN CENTER OF THE OUTSIDE AIR INTAKE LOUVER.
11 DAHU GALLERY SPOT LEAK DETECTOR - TWO PER PHASE.
12 DEWPOINT SENSOR - ONE PER AREA.
13 MXCC MAX COOL TEMPERATURE SENSOR - EIGHT PER 4-AISLE AREA, ELEVEN PER 5-AISLE AREA, AND CENTERED IN THE AISLE.
14 MAX COOL HOT AISLE TO OA DIFFERENTIAL PRESSURE SENSOR. LOCATE INSIDE OF THE OUTSIDE AIR INTAKE LOUVER.
15 ELECTRIC ROOM BMS CONTROL PANELS - 84"H X 150"W X 18"D. INCLUDES AREA CONTROLLER (AC1), MAIN COORDINATING CONTROLLER (MCC) - FIRST PHASE IN EACH DATA HALL ONLY, AND DP PANEL FOR PLAN SOUTH SUPPLY HEADER (IF DPS DO NOT FIT INTO AC1 ENCLOSURE). ALL PANELS ARE FURNISHED BY BMS CONTRACTOR.
16 ROOF EXHAUST FAN BANK CONTROLLER. ONE PER EXHAUST UNIT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOW VOLTAGE WIRING AND CONDUIT TO EXHAUST FAN CONTROLLER.
17 TROUGH FOR PLAN NORTH DAHU CONTROL WIRING, ROUTED FROM AC1 VIA UNDERGROUND CONDUIT (SHOWN ON EP100 DRAWINGS), AND DP PANEL FOR PLAN NORTH SUPPLY HEADER. DPs INSTALLED IN DP PANEL AND WIRED BACK TO AC1 VIA UNDERGROUND CONDUIT. SEE M800/2 FOR LOW SIDE OA REFERENCE CONNECTION.
18 HIGH LIMIT DIFFERENTIAL PRESSURE SWITCH, WIRED IN SERIES WITH RSDs. DPS/RSD INTERLOCK FOR EACH SUPPLY HEADER IS WIRED INDEPENDENTLY. DPS INSTALLED IN AC1, LOW SIDE PRESSURE REFERENCE OPEN TO FREE-AIR WITHIN BMS ENCLOSURE. HIGH SIDE PRESSURE REFERENCE SHALL BE PIPED INTO THE SUPPLY AIR HEADER THROUGH THE REDZONE WALL USING NON-CONDUCTIVE PNEUMATIC TUBING. RSDs WILL FAIL OPEN UPON PRESSURE INCREASE ABOVE HIGH LIMIT SETPOINT. SEE DATA HALL SEQUENCE OF OPERATION FOR FURTHER DETAIL AND SETPOINT.
19 ELECTRICAL ROOM BMS CONTROL PANEL - 84"H X 150"W X 18"D. INCLUDES AREA CONTROLLER (AC1) AND DP PANEL FOR PLAN NORTH SUPPLY HEADER. DP SWITCHES SHALL BE INSTALLED IN DP PANEL AND WIRED BACK TO AC1 VIA UNDERGROUND CONDUIT. SEE M800/2 FOR LOW SIDE OA REFERENCE CONNECTION.
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KEYPLAN

DATA HALL

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PROJECT: BUILDING B

TITLE: BMS EQUIPMENT - LEVEL 01 DATA HALL & ELECTRICAL ROOM PARTIAL PLAN - DATA HALL 1

DRAWING: MB210.1

E1 | SCALE: 1/16" = 1'-0" | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
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1 MECHANICAL LEVEL 01 BMS EQUIPMENT DATA HALL & ELECTRICAL ROOM PARTIAL PLAN - DATA HALL 2
MB210.2 1/16" = 1'-0"

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PROJECT: BUILDING B

TITLE: BMS EQUIPMENT - LEVEL 01 DATA HALL & ELECTRICAL ROOM PARTIAL PLAN - DATA HALL 2

DRAWING: MB210.2

E1	SCALE: 1/16" = 1'-0"	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
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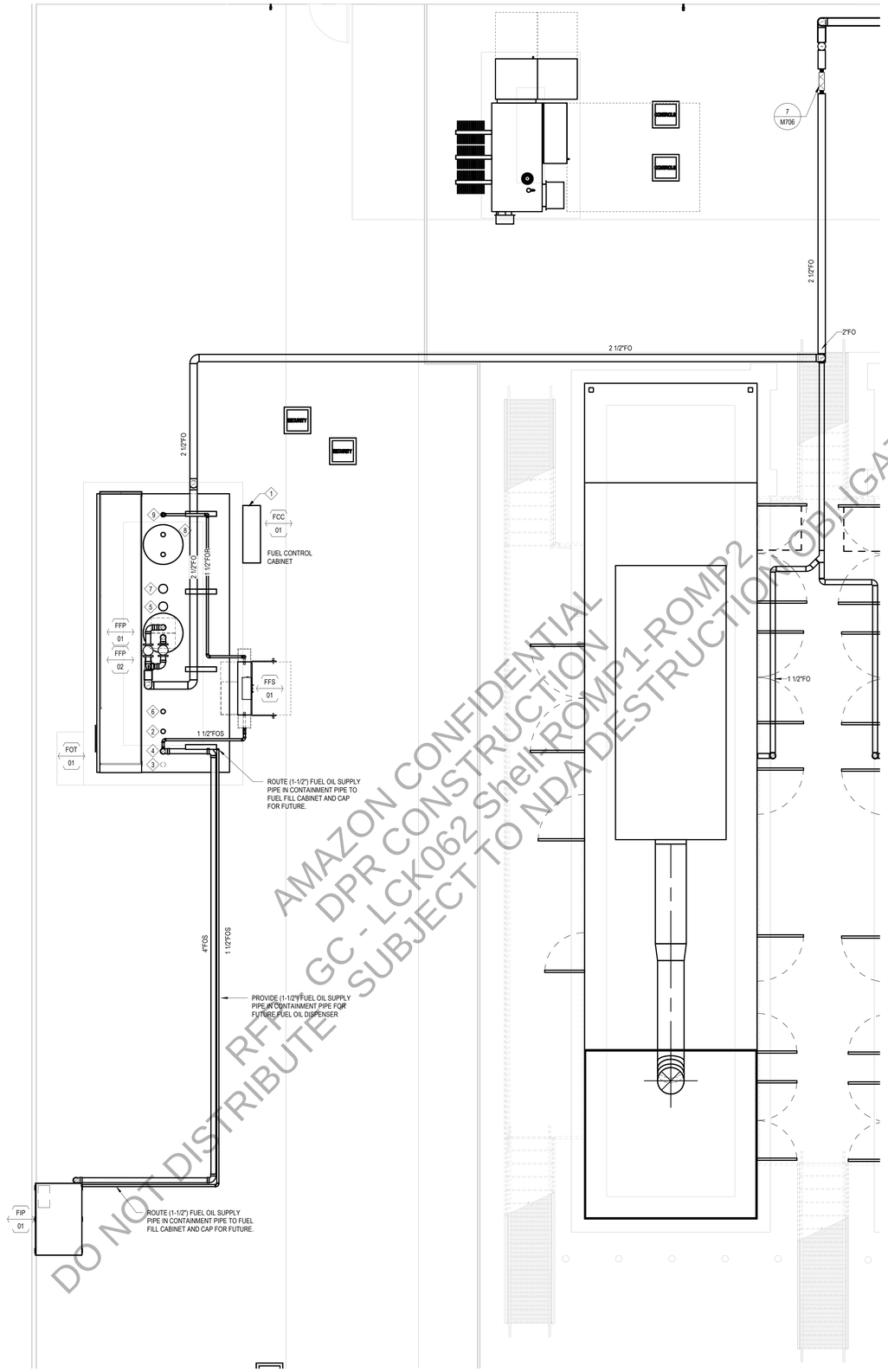

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DPR CONSTRUCTION
GC - LCK062 Shell/ROMP1-ROMP2
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RFP
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1 FUEL TOP-UP SYSTEM ENLARGED PLAN
MP300 1/4" = 1'-0"

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

SHEET NOTES

1 FUEL CONTROL CABINET TO CONTAIN DUPLEX PUMP MOTOR STARTERS, MASTER FUEL SYSTEM CONTROL PANEL, HEATER, LEAK DETECTION CONTROL PANEL, SINGLE POINT POWER SUPPLY, DISTRIBUTION POWER PANEL.
2 SPARE PORT FOR FUTURE.
3 INTERSTITIAL TANK LEAK DETECTOR.
4 FILL PORT WITH CAPPED MANUAL FILL PORT.
5 OUTER TANK EMERGENCY VENT.
6 VENT PIPING TERMINATED WITH FLAME ARRESTER. FLAME ARRESTER SHALL BE MANUFACTURER PROTOSEAL MODEL SERIES 670 OR EQUAL.
7 INNER TANK EMERGENCY VENT.
8 MANWAY WITH INTERIOR LADDER.
9 FUEL POLISHING PORT.

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PROJECT ADDRESS
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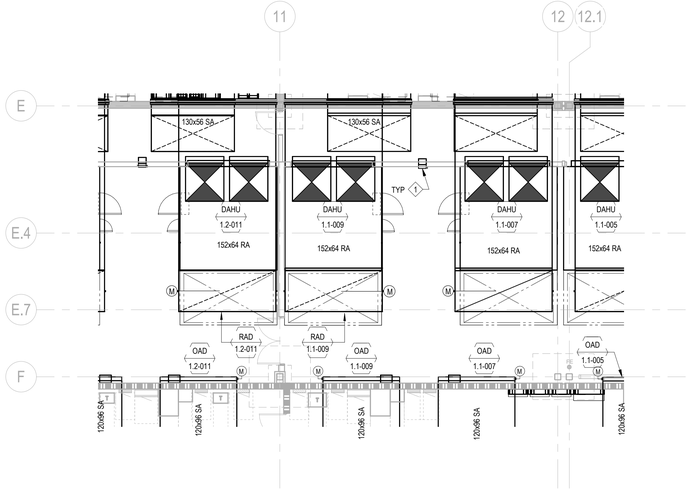
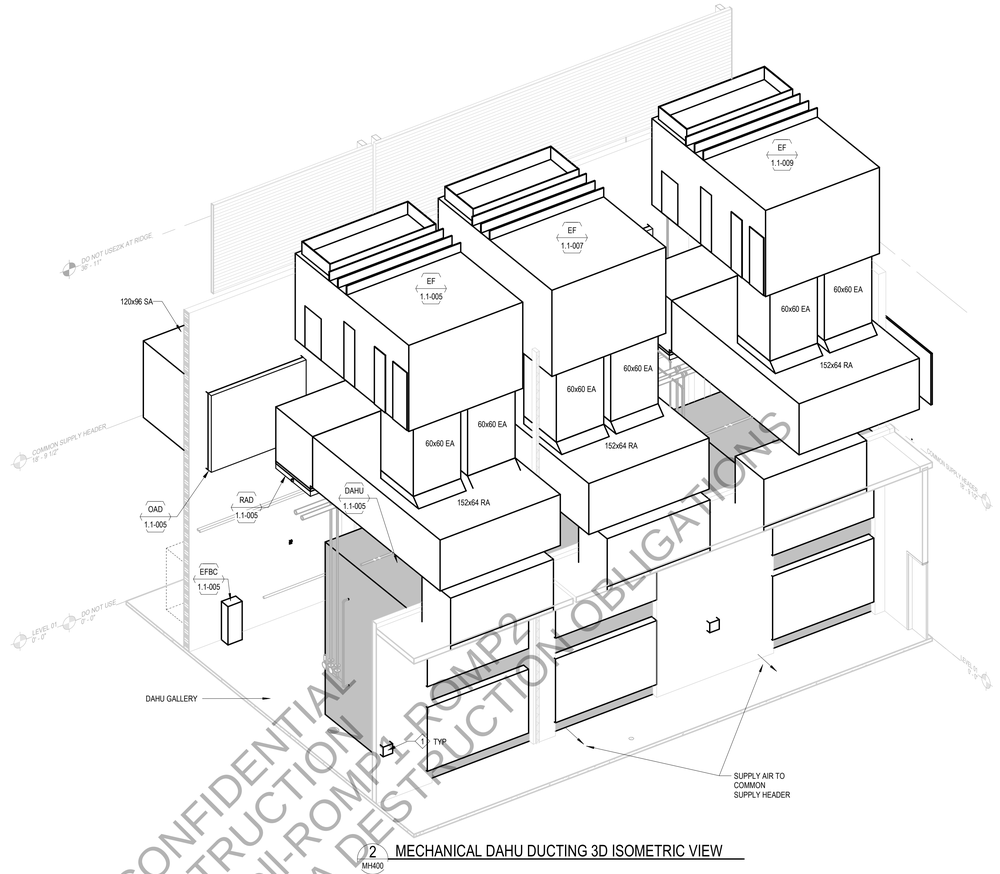
PROJECT: BUILDING B
TITLE: MECHANICAL PIPING ENLARGED PLANS
DRAWING: MP300

E1 | SCALE: 1/4" = 1'-0" | AGILE No: | REV: A

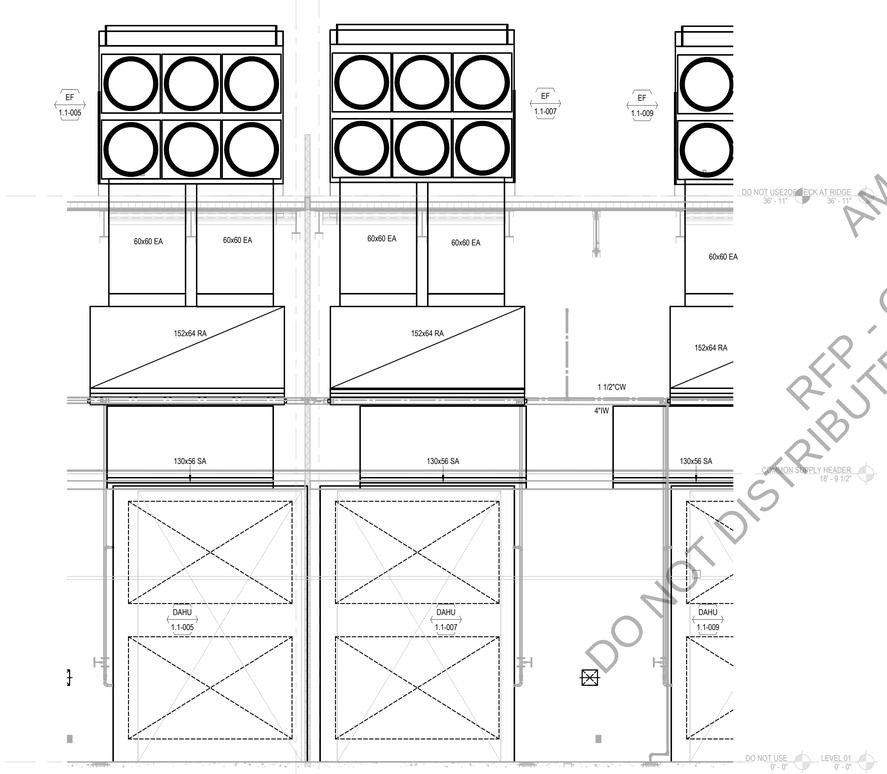
BOD VERSION: OPTDC-2.0
PDF PRINT DATE: 8/1/2023 1:56:47 PM 047



1 MECHANICAL LEVEL 01 HVAC ENLARGED DAHU PLAN
MH400 1/8" = 1'-0"



2 MECHANICAL DAHU DUCTING 3D ISOMETRIC VIEW
MH400



3 MECHANICAL EAST-WEST SECTION LOOKING SOUTH
MH400 1/4" = 1'-0"

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DPR CONSTRUCTION
RFP - GC - LCK062 Shell-ROMP2
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GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

SHEET NOTES

1 MSD-1, MANUAL SUPPLY DAMPER (NORMALLY CLOSED) INSTALL AT 60" AFF FOR OPERATOR COMFORT WHILE SERVICING DATAHALL AIR HANDLING UNITS. PROVIDE DUCT EXTENSION THROUGH COMMON SUPPLY HEADER WALL. SEE DAMPER SCHEDULE FOR MSD, M901.

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PROJECT ADDRESS
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ISSUE DATE: 01SEP2023	PROJECT NO: 22-29863
DESIGNED: SWANSON RINK	ENGINEER: GO

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CHICAGO, IL 60602

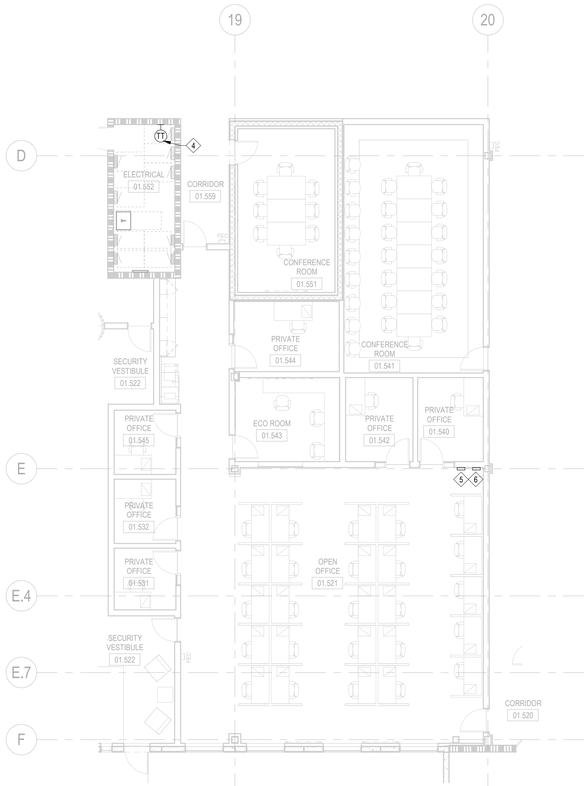
PROJECT:
BUILDING B

TITLE:
MECHANICAL HVAC COMPOSITE ENLARGED PLANS, SECTIONS & 3D ISOMETRIC VIEW

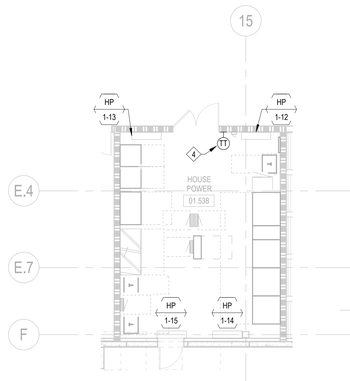
DRAWING:
MH400

E1	SCALE: As indicated	AGILE No:	REV: A

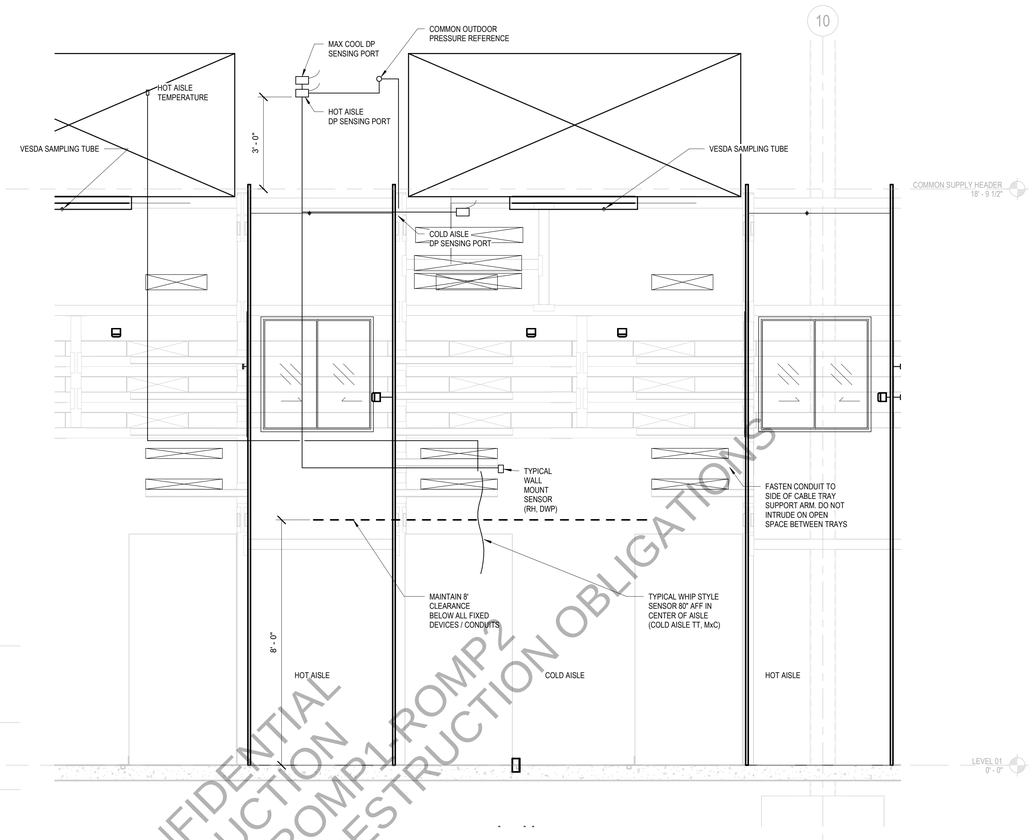
BOD VERSION: OPTDC-v2.0
PDF PRINT DATE: 8/31/2023 1:55:16 PM 048



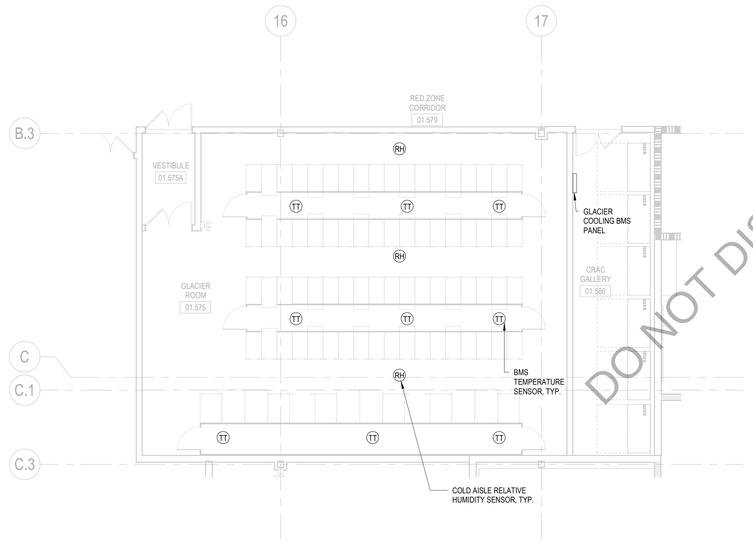
1 ANNUNCIATOR PANEL OFFICE ENLARGED PLAN
MB400 1/8" = 1'-0"



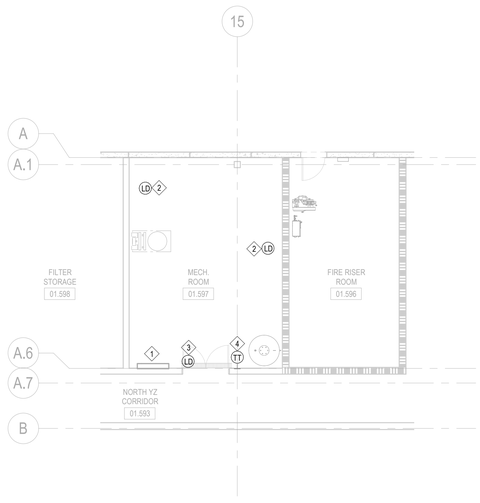
2 HOUSE POWER ENLARGED PLAN
MB400 1/8" = 1'-0"



3 HOT AND COLD AISLE SECTION
MB400 1/2" = 1'-0"



4 GLACIER SPACE ENLARGED PLAN
MB400 1/8" = 1'-0"



5 MECHANICAL ROOM
MB400 1/8" = 1'-0"

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GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. ALL CONTROL PANELS TO BE MOUNTED 72" AFF TO TOP OF ENCLOSURE UNLESS OTHERWISE NOTED.

C. COORDINATE LOCATION OF BMS PANELS WITH EPMS PANELS AND OTHER EQUIPMENT AFFIXED TO WALLS IN ELECTRICAL ROOMS AND DATA HALL PRIOR TO CONSTRUCTION.

D. REFERENCE 2/MB400 FOR COLD AISLE SENSOR MOUNTING HEIGHTS AND METHODS.

E. HOT & COLD AISLE AND SUPPLY HEADER PRESSURE SENSORS TO BE MOUNTED IN THE BMS ENCLOSURE.

F. ALL WALL-MOUNTED SENSORS TO BE 5' AFF UNLESS OTHERWISE NOTED.

G. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

1 IW MECH ROOM BMS PANEL, IWBMS 1 - 42"H x 48"W x 12"D.
2 IW MECH ROOM SPOT LEAK DETECTOR. MOUNT NEAR FLOOR DRAIN.
3 IW MECH ROOM SPOT LEAK DETECTOR IN TRENCH DRAIN.
4 WALL-MOUNTED TEMPERATURE SENSOR.
5 MAX COOL OFFICE ANNUNCIATOR PANEL, 12"H x 12"W x 4"D FLUSH MOUNT.
6 VRF/DOAS CONTROLS NOT TIED INTO BMS. VRF/DOAS CONTROLS BY MECHANICAL CONTRACTOR. MOUNT 48" AFF.

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DESIGNED: SWANSON RINK | ENGINEER: GO

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PROJECT: BUILDING B

TITLE: BMS EQUIPMENT COMPOSITE ENLARGED PLANS AND SECTIONS

DRAWING: MB400

E1 | SCALE: As indicated | AGILE No: | REV: A

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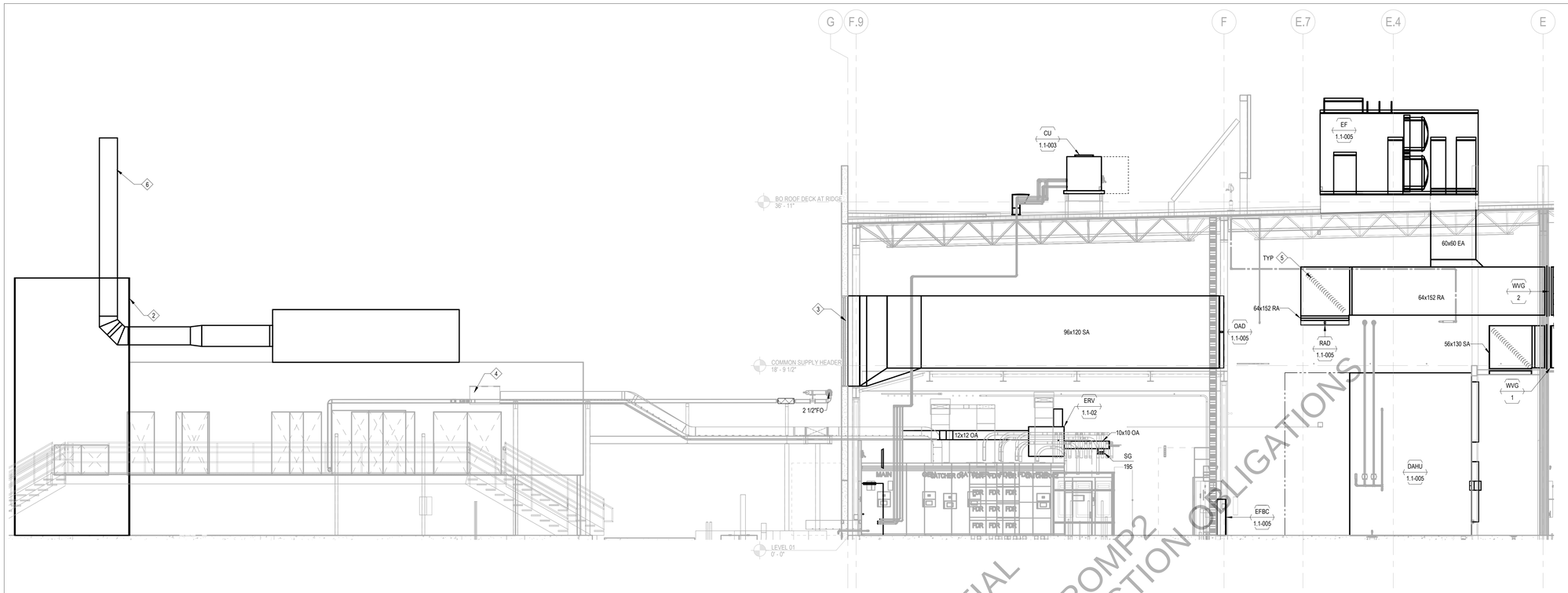
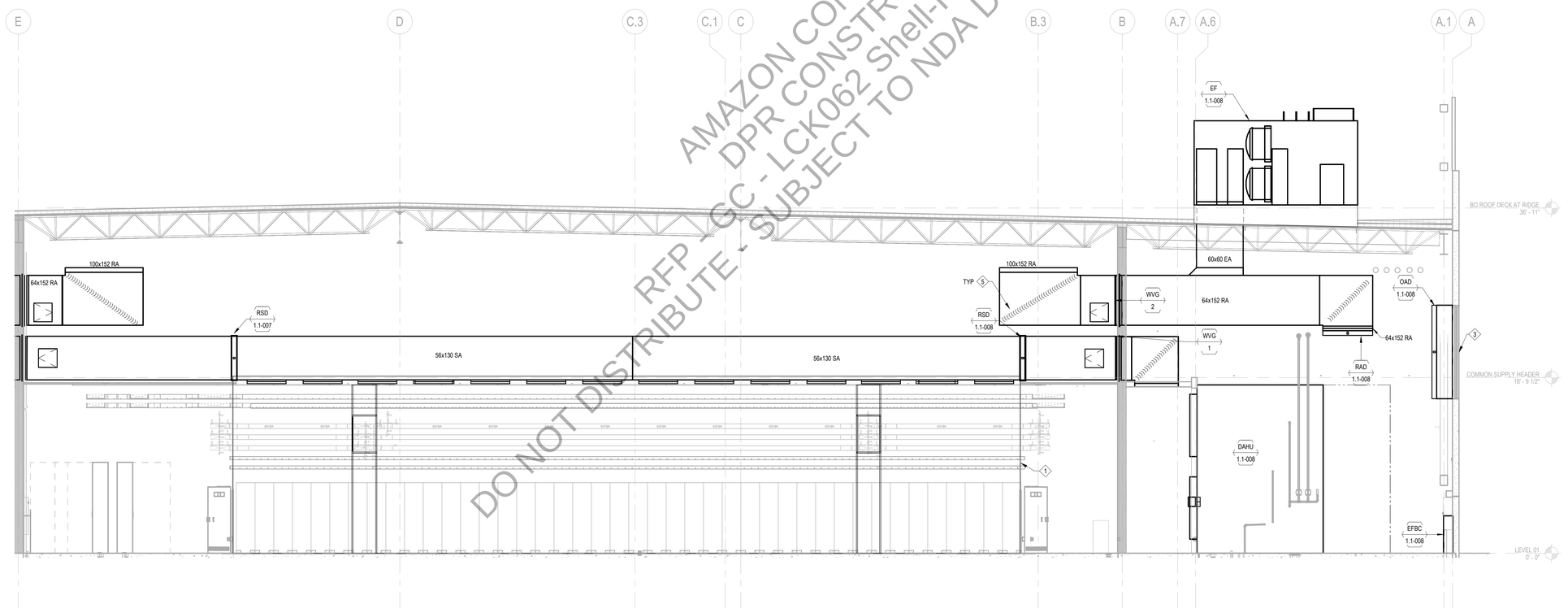


1 M500 MECHANICAL NORTH-SOUTH SECTION LOOKING EAST
3/16" = 1'-0"



2 M500 MECHANICAL NORTH -SOUTH SECTION LOOKING EAST
3/16" = 1'-0"

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GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. ALL INDICATED DUCT AND PIPE ELEVATIONS SHALL BE MEASURED FROM FINAL FINISHED FLOOR ELEVATIONS UNLESS OTHERWISE NOTED.

C. ALL DUCT TRANSITIONS SHALL BE FLAT ON BOTTOM UNLESS OTHERWISE INDICATED.

D. MECHANICAL CONTRACTOR SHALL PROVIDE ALL DAMPERS. CONTROL WIRING SHALL BE BY CONTROLS CONTRACTOR.

E. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL ALL THERMOSTATS AND SENSORS FOR THE OFFICE AREA CONTROL SYSTEM, AND ALL DATA CENTER MECHANICAL EQUIPMENT THAT IS NOT CONTROLLED BY THE BMS.

F. SEE MECHANICAL PIPING DRAWINGS FOR BRANCH SELECTOR BOX AND REFRIGERANT PIPING.

G. REFER TO ARCHITECTURAL FOR DOOR UNDERCUTS IN OFFICE AREA.

H. ALL PENETRATIONS THROUGH THE CONCRETE SLAB AT THE CSH LEVEL SHALL BE FIRE STOPPED. SEE ARCHITECTURAL.

I. THERMOSTATS INSTALLED ON THE PERIMETER EXTERIOR WALLS SHALL BE EQUIPPED WITH AN INSULATED SUB-BASE.

J. BOTTOM OF ALL DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITH CEILINGS SHALL BE NO MORE THAN 24" ABOVE TOP OF THE CEILING STRUCTURE. BOTTOM OF DUCTED FAN COIL UNITS AND BRANCH SELECTORS LOCATED IN ROOMS WITHOUT CEILINGS SHALL BE NO MORE THAN 12 FT AFF, UNLESS OTHERWISE NOTED.

K. ALL TRANFER WALL OPENINGS/DUCTS (TA) SHALL BE INSTALLED MINIMUM 24" ABOVE ANY ADJACENT CEILING OR AT MINIMUM 12 FT AFF IN WALLS WITHOUT CEILINGS ON BOTH SIDES.

L. ALL METALLIC CABLES (POWER, CONTROL, AND COMMUNICATIONS) ENTERING THE REDZONE BOUNDARY SHALL BE FILTERED. FILTERS SHALL BE INSTALLED AT THE REDZONE SIDE OF THE WALL. COORDINATE WIRING AND FILTER REQUIREMENTS WITH ELECTRICIAN.

SHEET NOTES

1 HOT AISLE CONTAINMENT, SEE M702 AND M703 FOR DETAILS.
2 RADIATOR EXHAUST SHROUD, FURNISHED BY GENERATOR MANUFACTURER AND INSTALLED BY CONTRACTOR. TERMINATE AT 2' ABOVE THE TOP OF THE HIGHEST INTAKE LOUVER OVER THE ELECTRICAL ROOM. THE SHROUD SHALL BE PAINTED BY PER ARCHITECT'S CHOICE OF COLOR FROM MANUFACTURER'S STANDARD COLOR CHART.
3 OA INTAKE LOUVER, SEE ARCHITECTURAL.
4 GENERATOR, SEE ELECTRICAL.
5 PROVIDE SINGLE THICKNESS 4.5" RADIUS, SPACING 3-1/4", 22 GAUGE, TURNING VANES FOR DATA HALL SUPPLY AND RETURN DUCTWORK ELBOWS.
6 GENERATOR EXHAUST FLUE FURNISHED BY GENERATOR MANUFACTURER AND INSTALLED BY CONTRACTOR. TERMINATE AT 44' ABOVE GENERATOR PAD. PROVIDE A DRAIN AT THE BOTTOM, IN ACCORDANCE WITH IPC AND LOCAL CODES. CONNECT FLUE TO GENERATOR ENGINE EXHAUST AT CONNECTION POINT.

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PROJECT: BUILDING B
TITLE: MECHANICAL SECTIONS
DRAWING: M500

E1 | SCALE: 3/16" = 1'-0" | AGILE No: | REV: A

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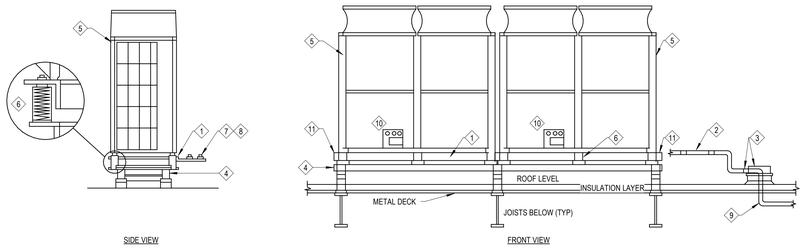
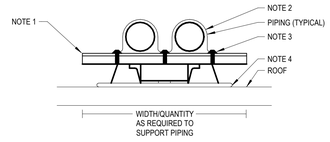


CODED NOTES:

1. PROVIDE STRUCTURAL INTERSTITIAL ANGLE IRON MOUNTING MEMBER OR SIMILAR ATTACHED DIRECTLY TO BOTTOM OF UNIT MOUNTING FLANGE AND PROVIDE CROSS BRACING FOR RIGIDITY. ENSURE IT CARRIES FULL MOUNTING FOOT WIDTH ON UNIT. CONTRACTOR SHALL PROVIDE STRUCTURAL CALCULATIONS BY A PROFESSIONAL ENGINEER VERIFYING THAT INTERSTITIAL FRAME AND EQUIPMENT CONNECTIONS TO FIXED STEEL BASE WILL MEET PROJECT'S WIND AND SEISMIC REQUIREMENTS.
2. PROVIDE BRAIDED COPPER FLEXIBLE CONNECTOR, R410A RATED, 650PSI MAX WORKING PRESSURE. PACKLESS INDUSTRIES OR EQUAL ON ALL MAIN PIPING DOWNSTREAM OF CONVERGING FITTINGS PRIOR TO PENETRATION THROUGH ROOF.
3. PIPE ROOF CURB, FLASHED AND SEALED WATER TIGHT, PROVIDE FLEXIBLE WATER TIGHT COLLAR TO ALLOW FOR MOVEMENT WHERE PIPE ENTERS CURB. DO NOT ENTER PIPE CURB FROM VERTICAL DIRECTION.
4. STEEL BASE PROVIDED AS PART OF SHELL CONSTRUCTION.
5. VRF CONDENSING UNIT MODULE, REFER TO FLOOR PLANS AND SCHEDULES FOR QUANTITIES AND SIZES.
6. VIBRATION SPRING SLR TYPE ISOLATORS (MASON INDUSTRIES OR EQUIV.) WITH RUBBER BASE PADS, SECURELY FASTENED TO STRUCTURAL BASE AND TO VRF UNIT INTERSTITIAL SUPPORT STEEL. SPRING ISOLATOR TO PROVIDE MINIMUM 1" DEFLECTION. AT A MINIMUM, PROVIDE SPRING ISOLATORS AT EACH EQUIPMENT BASE MOUNTING HOLE LOCATION.
7. IF REQUIRED, ONLY SUPPORT LATERAL PIPE EMANATING FROM VRF UNIT CONNECTIONS BY CROSS MEMBER SUPPORT THAT IS ATTACHED DIRECTLY TO VRF UNIT MOUNTING ANGLE IRON FRAME ABOVE SPRING ISOLATORS. DO NOT ATTACH ANY PIPING TO LOWER FIXED SUPPORT BASE.
8. USE NEOPRENE ISOLATION COLLARS ON PIPE CLAMS WHEN FASTENING PIPING TO SUPPORTS.
9. USE LONG RADIUS SWEEPING COPPER ACR TUBE PIPE BENDS WHERE PIPE ENTERS BUILDING AT FIRST ELBOW INTO CEILING SPACE TO MINIMIZE REFRIGERANT FLOW NOISE AND VIBRATION.
10. ALL ELECTRICAL CONNECTIONS TO UNITS TO BE VIA FLEXIBLE CONDUIT, PROVIDE SUFFICIENT SLACK TO ALLOW FOR UNIT MOVEMENT ON SPRING ISOLATORS.
11. ENSURE CROSS MEMBERS OF INTERSTITIAL FRAME AND BOTTOM SUPPORT FRAME ARE NOT DIRECTLY BELOW ENDS OF MODULES IN ALL LOCATIONS AND DO NOT BLOCK DRAINAGE WEEP HOLES IN BOTTOM OF UNIT CASING.

1 VRF CONDENSING UNIT DETAIL
M700 NTS

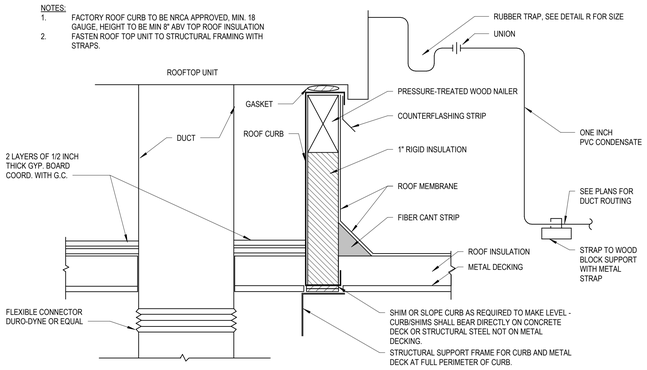


NOTES:

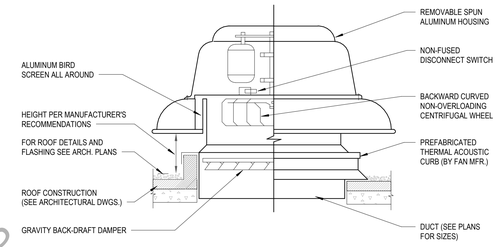
- FOR USE WITH PIPING AND CONDUIT WITH INSIDE DIAMETER SIZES 2-1/2" AND SMALLER.
- PIPESTAND ASSEMBLY SHALL BE A FACTORY MANUFACTURED PRODUCT. MIRO PILLOW BLOCK PIPESTAND OR APPROVED EQUAL.

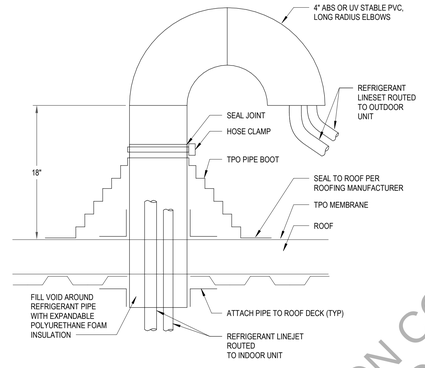
1. POLYCARBONATE RESIN PIPESTAND ASSEMBLY WITH GALVANIZED INTEGRAL STRUT. LOCATE SUPPORTS A MAXIMUM OF 6 FEET IN CENTER AND WITHIN ONE FOOT OF ANY CHANGE IN DIRECTION OF PIPING.
2. GALVANIZED STEEL PIPE STRAP (TYP). USE GALVANIZED SADDLES FOR INSULATED PIPING. USE COPPER COATED PIPING CLAMPS FOR UNINSULATED COPPER PIPING.
3. SECURE TO SUPPORT WITH 1-1/2" STAINLESS STEEL SCREWS. USE BRASS SCREWS FOR COPPER PIPING.
4. PROVIDE 1/4" EPDM RUBBER PAD BETWEEN SUPPORT AND ROOF MEMBRANE.

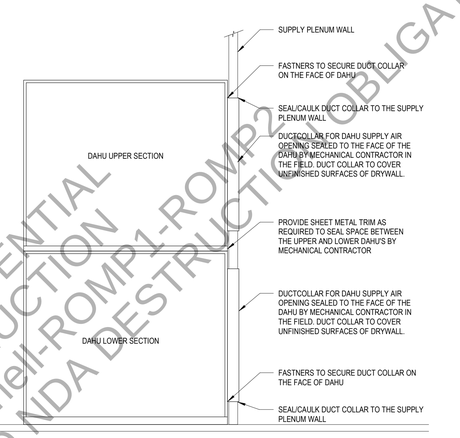
2 ROOF TOP UNIT DETAIL
M700 NTS

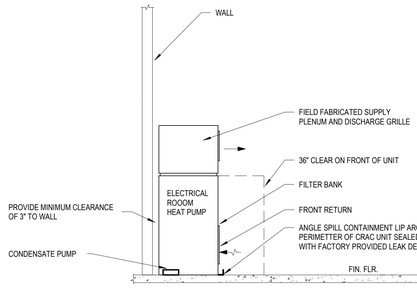


3 ROOF TOP EXHAUST FAN
M700 NTS





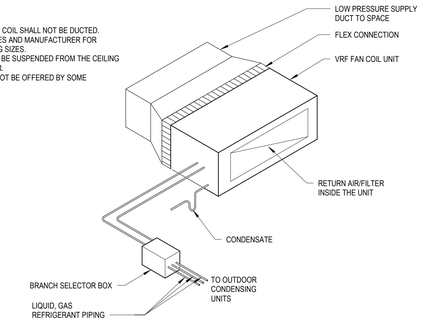




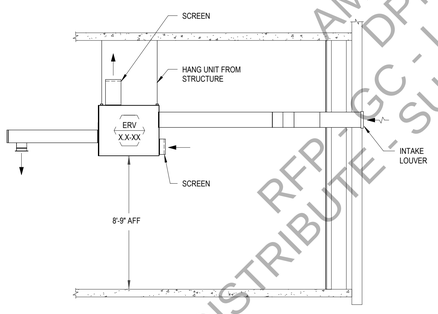
4 ROOF MOUNTED SMALL PIPING SUPPORT DETAIL
M700 NTS

NOTES:

1. CASSETTE TYPE FAN COIL SHALL NOT BE DUCTED.
2. REFER TO SCHEDULES AND MANUFACTURER FOR REFRIGERANT PIPING SIZES.
3. THE FAN COIL SHALL BE SUSPENDED FROM THE CEILING PER MANUFACTURER.
4. GAS-MIXTURE MAY NOT BE OFFERED BY SOME MANUFACTURERS.

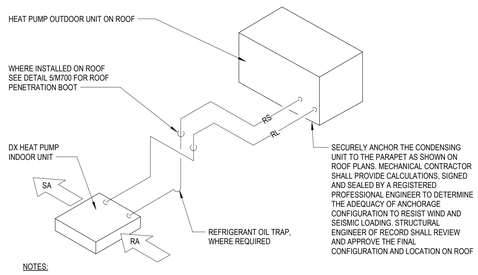


5 REFRIGERATION LINE BOOT DETAIL
M700 NTS



ELEVATION VIEW

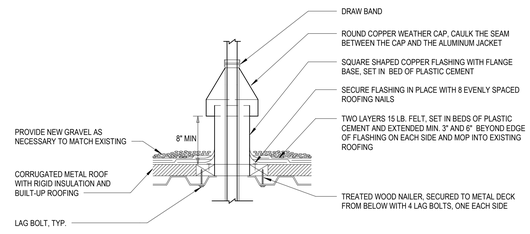
6 DAHU INSTALLATION DETAIL
M700 NTS



NOTES:

1. ALL REFRIGERANT PIPING SHALL BE SIZED AS PER UNIT MANUFACTURER'S RECOMMENDATIONS.

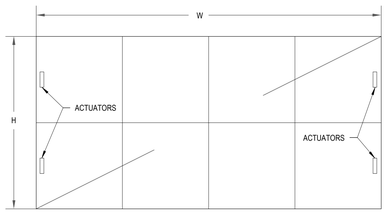
7 ELECTRICAL ROOM FLOOR MOUNTED HEAT PUMP
M700 1/4" = 1'-0"



NOTE:

ACTUAL ROOF PENETRATION MATERIALS WILL VARY PENDING ROOF STRUCTURAL REQUIREMENTS. CONTRACTOR SHALL MODIFY THE ABOVE ROOF PENETRATION INSTALLATION MATERIALS BASED ON THE ACTUAL ROOF CONSTRUCTION TYPE.

8 VRF FAN COIL DETAIL
M700 NTS



NOTE:

1. REFER TO DAMPER SCHEDULE ON SHEET M901 FOR "W" AND "H" DIMENSIONS.
2. ACTUATORS TO BE PLACED IN THE AIRSTREAM FOR NON-DUCTED OUTSIDE AIR DAMPER APPLICATIONS.
3. ACTUATORS TO BE PLACED OUTSIDE OF THE AIRSTREAM FOR DUCTED OUTSIDE AIR DAMPER APPLICATIONS.

9 TYPICAL ERV DETAIL
M700 NTS

10 SPLIT SYSTEM DETAIL
M700 NTS

11 ROOF PENETRATION DETAIL
M700 NTS

12 OUTSIDE AIR DAMPER DETAIL
M700 NTS

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DPR CONSTRUCTION
RFP 2 - GC - LCK062 Shell-ROMP1-ROMP2
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DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: MECHANICAL DETAILS

DRAWING: M700

E1	SCALE: As indicated	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
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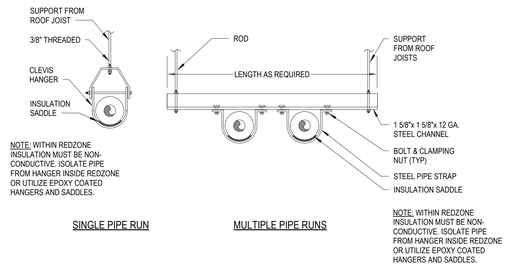
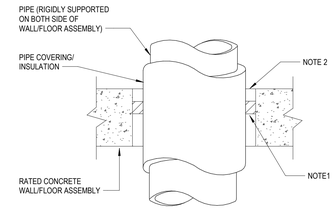


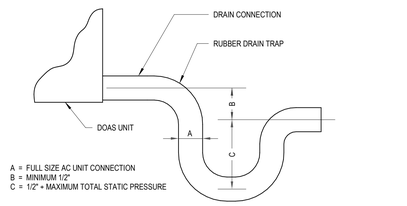
1 SUSPENDED PIPE SUPPORT DETAIL
M701 NTS



NOTES:

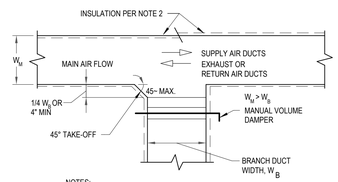
1. PACK VOID OR CAVITY WITH A MINIMUM 1" THICKNESS OF FIRMLY PLACED MINERAL WOOL BATT INSULATION. RECESS PACKING MATERIAL TO ACCOMMODATE REQUIRED THICKNESS OF FIRESTOP SEALANT (REFER TO NOTE 2).
2. FILL VOID OR CAVITY FLUSH WITH THE TOP OF BOTH SURFACES OF THE WALL/FLOOR ASSEMBLY WITH FIRESTOP SEALANT. FIRESTOP SEALANT SHALL BE 3M FB-3000 WT OR APPROVED EQUAL. MINIMUM THICKNESS OF FIRESTOP SEALANT SHALL BE 1" FOR PIPE CONVERINGS/INSULATION 1-1/2" THICK OR LESS. MINIMUM THICKNESS OF FIRESTOP SEALANT SHALL BE 2" FOR PIPE COVERINGS/INSULATION GREATER THAN 1-1/2" THICK.

2 RATED PIPE PENETRATION - CONCRETE
M701 NTS



A = FULL SIZE AC UNIT CONNECTION
B = MINIMUM 1/2"
C = 1/2" + MAXIMUM TOTAL STATIC PRESSURE

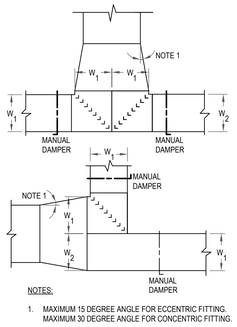
3 DOAS CONDENSATE DRAIN DETAIL
M701 NTS



NOTES:

1. FABRICATE PER SMACNA DUCT CONSTRUCTION STANDARDS FIGURE #2-8.
2. SEE SPECIFICATIONS FOR INSULATION REQUIREMENTS. FABRICATE LINED. DUCT CONNECTIONS SO THAT THERE ARE NO EXPOSED LINER EDGES.

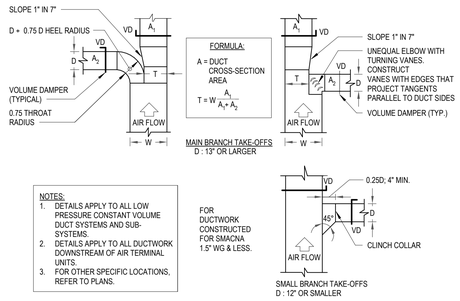
4 DUCT BRANCH TAKE OFF
M701 NTS



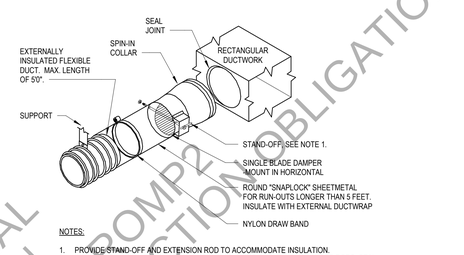
NOTES:

1. MAXIMUM 15 DEGREE ANGLE FOR ECCENTRIC FITTING. MAXIMUM 30 DEGREE ANGLE FOR CONCENTRIC FITTING.

5 DUCT SPLIT DETAIL
M701 NTS



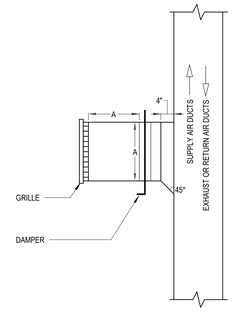
6 BRANCH DUCTING DETAIL
M701 NTS



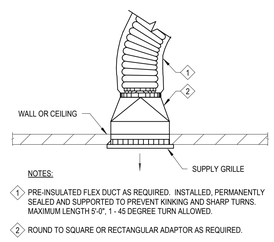
NOTES:

1. PROVIDE STAND-OFF AND EXTENSION ROD TO ACCOMMODATE INSULATION.
2. INSULATE SPIN-IN WITH EXTERNAL DUCT WRAP. SLIT INSULATION AT DAMPER RODS. SEAL JOINTS VAPOR TIGHT WITH MASTIC.
3. SEAL ALL JOINTS TO PREVENT LEAKAGE.

7 FLEX DUCT CONNECTION
M701 NTS



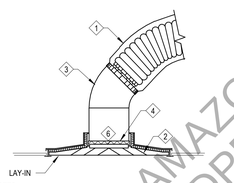
8 DUCT MOUNTED GRILLE
M701 NTS



NOTES:

1. PRE-INSULATED FLEX DUCT AS REQUIRED. INSTALLED, PERMANENTLY SEALED AND SUPPORTED TO PREVENT KINKING AND SHARP TURNS. MAXIMUM LENGTH 5'-0", 1 - 45 DEGREE TURN ALLOWED.
2. ROUND TO SQUARE OR RECTANGULAR ADAPTOR AS REQUIRED.

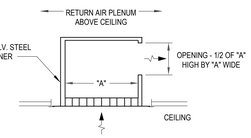
9 SUPPLY GRILLE DETAIL
M701 NTS



NOTES:

1. PRE-INSULATED FLEX DUCT AS REQUIRED. INSTALLED, PERMANENTLY SEALED AND SUPPORTED TO PREVENT KINKING AND SHARP TURNS. MAXIMUM LENGTH 5'-0", 1 - 45 DEGREE TURN ALLOWED.
2. LAY-IN CEILING DIFFUSER WITH ROUND NECK. SEE ARCHITECTS REFLECTED CEILING PLAN FOR CEILING TYPE.
3. HARD ROUND 45 DEGREE OR 90 DEGREE ELBOW - INSULATED WITH EXTERNAL DUCTWRAP.
4. WHERE SCHEDULED, PROVIDE OBD W/ OPERATOR ACCESSIBLE FROM FACE OF DIFFUSER.
5. INSTALL AND SUPPORT DIFFUSER AND RADIATION DAMPER PER MANUFACTURER'S INSTRUCTIONS.
6. DAMPER SHALL BE U.L. LISTED AND SHALL MEET NFPA 90A REQUIREMENTS. DIFFUSER SHALL BE CONSTRUCTED ENTIRELY OF STEEL.

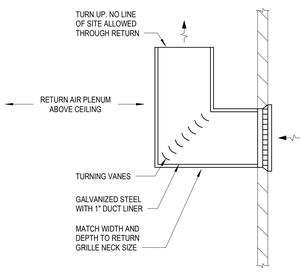
10 DIFFUSER DETAIL - ROUND NECK
M701 NTS



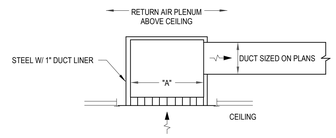
NOTES:

1. LOCATE OPENINGS IN ADJACENT BOOTS AT RIGHT ANGLES TO EACH OTHER.
2. PAINT DUCTBOARD LINER BLACK.

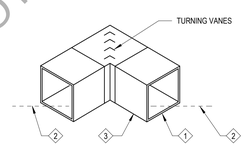
11 RETURN BOOT IN CEILING (WHERE SPECIFIED)
M701 NTS



12 WALL MOUNTED RETURN GRILLE (WHERE SPECIFIED)
M701 NTS



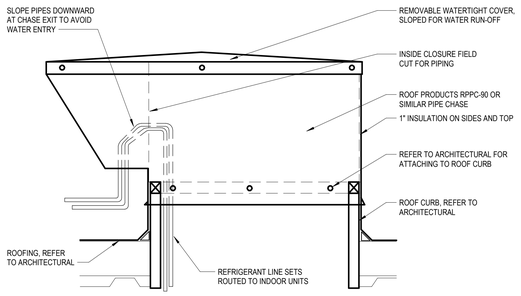
13 CEILING MOUNTED TRANSFER GRILLE
M701 NTS



NOTES:

1. ONE INCH THICK ACOUSTICAL DUCT LINER.
2. NO LINE OF SIGHT ALLOWED THROUGH TRANSFER.
3. WIDTH AND DEPTH AS SHOWN ON PLANS.

14 TRANSFER DUCT DETAIL (WHERE SPECIFIED)
M701 NTS



NOTES:
1. BUILD ROOF CURB IN SHELL PHASE. INSTALL TEMPORARY SHEET METAL CAP FOR WEATHER PROTECTION.
2. COORDINATE WITH ELECTRICAL TO MINIMIZE ROOF PENETRATIONS.

15 REFRIGERATION LINE CURB DETAIL
M701 NTS

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LCK062 Shell-RP2
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DRAWING: M701
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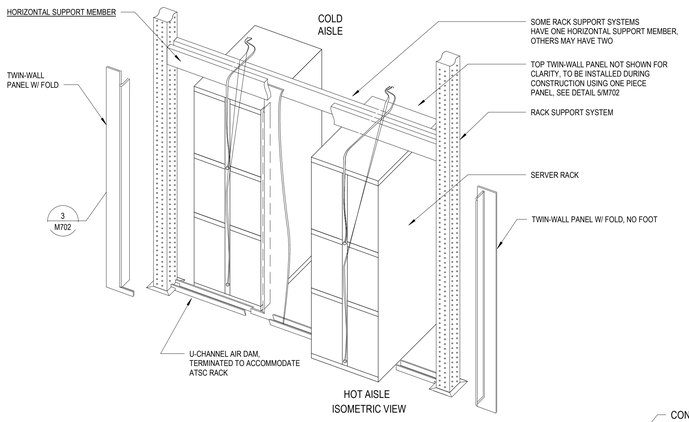
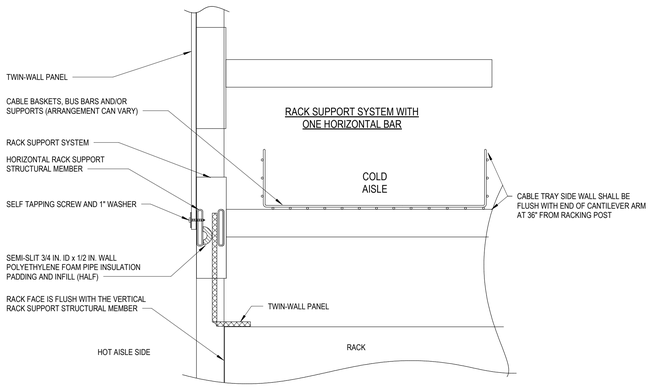
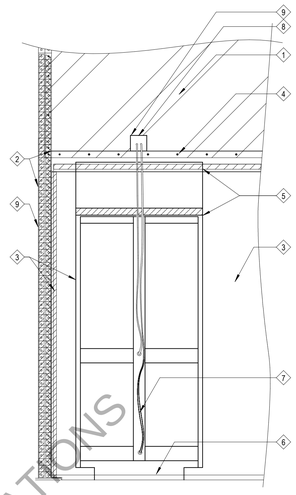




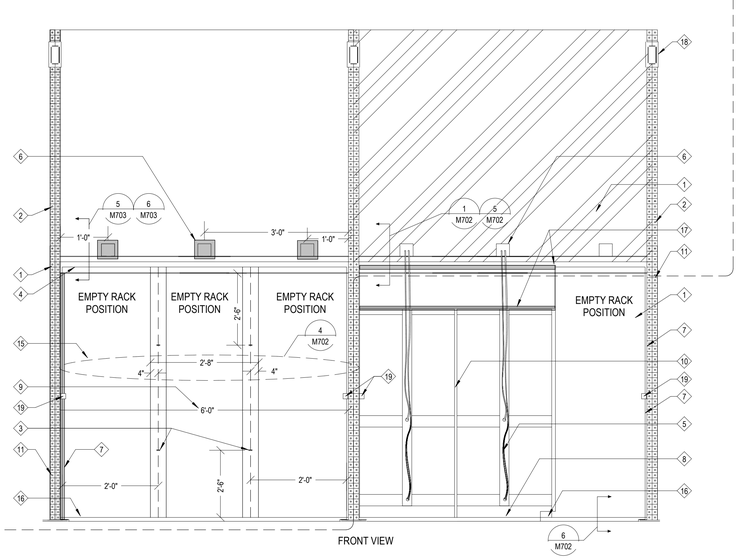
1 M702 ABOVE RACK TWIN-WALL INSTALLATION
NTS

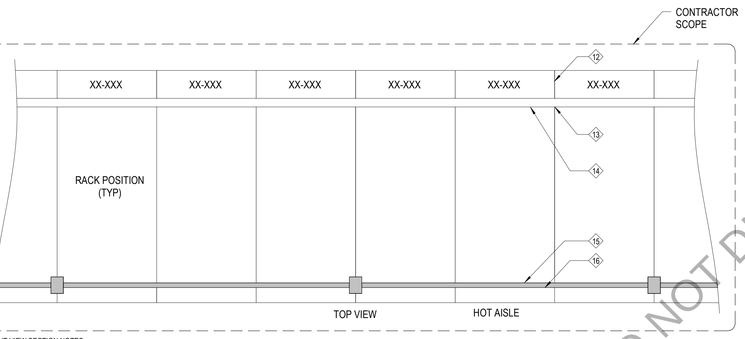


NOTES: (THIS DETAIL ONLY)

1. TWIN-WALL PANEL PER SPECIFICATION 23 16 13.
2. RACK STRUCTURAL SUPPORT SYSTEM.
3. TWIN-WALL PANEL W/FOLD, SEE DETAIL 3/M702. TAPE SEAMS BETWEEN TWIN-WALL PANEL, STRUCTURAL SUPPORT SYSTEM AND RACK ON THE COLD AISLE.
4. SELF TAPPING SCREW AND 1" WASHER (12"OC).
5. SEE DETAIL 1/M702 OR 5/M702 FOR PANEL INSTALLATION ABOVE RACK
6. U-CHANNEL/AIR DAM.
7. POWER SUPPLY TO BE ROUTED CENTERED ON THE RACK.
8. CUTOUT OPENING, 1.5" DIAMETER OF WHIP CONNECTORS TO ALLOW WHIPS/POWER CABLES TO PASS THROUGH. APPLY TAPE TO ELIMNATE GAPS AFTER CABLES ARE ROUTED. SEAL OPENING WITH TAPE WHEN THERE ARE NOT CABLES COMING THROUGH (TYP OF ALL).
9. TAPE OR MANUFACTURER PROVIDED COVER PLATE TO BE APPLIED TO VERTICAL RACK SUPPORT STRUCTURAL MEMBER HOLES DURING CONSTRUCTION ON COLD AISLE SIDE BEFORE RACK INSTALLATION.

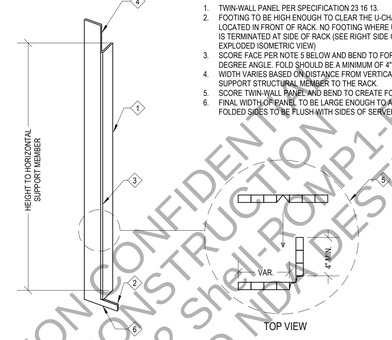
2 M702 SINGLE RACK INSTALLATION DETAIL
NTS





FRONT VIEW SECTION NOTES:

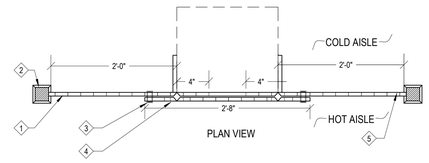
1. TWIN-WALL PANEL PER SPECIFICATION 23 16 13.
2. RACK SUPPORT STRUCTURAL SYSTEM.
3. OVERLAP PANELS MIN. OF 4" AND SECURE TOGETHER USING NYLON CABLE TIES AND APPLY TAPE WHERE PANELS OVERLAP
4. INSTALL PIPE INSULATION BETWEEN HORIZONTAL BAR AND TWIN-WALL PANEL, PER DETAILS 5/M703 AND 6/M703.
5. WHIPS/POWER SUPPLY TO BE ROUTED SUCH THAT THEY ARE CENTERED ON THE RACK.
6. CUTOUT OPENING, 1.25 X DIAMETER OF WHIP CONNECTORS TO ALLOW WHIPS/POWER CABLES TO PASS THROUGH. APPLY TAPE TO ELIMINATE GAPS AFTER CABLES ARE ROUTED. SEAL OPENING WITH TAPE WHEN THERE ARE NOT CABLES COMING THROUGH (TYP OF ALL).
7. SEAL GAP BETWEEN TWIN-WALL PANEL AND VERTICAL RACK SUPPORT STRUCTURAL MEMBER, ON COLD AISLE, WITH TAPE.
8. ENSURE BACK OF SERVER RACK IS PUSHED AGAINST U-CHANNEL/AIR DAM. IF LARGE GAP IS PRESENT INSERT FOAM OR USE TWIN-WALL PANELS TO COVER.
9. VERTICAL RACK SUPPORT STRUCTURAL MEMBER SPACING MAY VARY.
10. ENSURE RACKS ARE PLACED NEXT TO EACH OTHER TO MINIMIZE GAPS. FOR SMALL GAPS USE TAPE TO COVER. FOR LARGE GAPS USE TWIN-WALL PANEL.
11. TAPE OR MANUFACTURER PROVIDED COVER PLATE TO BE APPLIED TO VERTICAL RACK SUPPORT STRUCTURAL MEMBER HOLES DURING CONSTRUCTION ON COLD AISLE SIDE BEFORE RACK INSTALLATION.
12. PRINT/MARK RACK POSITION AND NUMBER ON THE FLOOR IN THE COLD AISLE PRIOR TO RACKS INSTALLATION. SEE "PERFECT POSITION" INITIATIVE IN BOD 0363.GLOB - DATA HALL POSITION.
13. INSTALL RACKS SUCH THAT POSITION/NUMBER MARKER IN THE COLD AISLE IS VISIBLE.
14. FRONT OF RACK
15. SEE DETAIL 4/M702.
16. U-CHANNEL SECURED TO FLOOR USING REMOVABLE DOUBLE SIDED TAPE. IN CERTAIN REGIONS SEISMIC SUPPORTS INTERFERE WITH U-CHANNEL. TERMINATE U-CHANNEL WHERE INTERFERENCE OCCURS AND SEAL ANY GAPS WITH TAPE OR PIPE INSULATION. SEE DETAIL 6/M702 FOR INSTALLATION.
17. INSTALL PIPE INSULATION BETWEEN HORIZONTAL RACK SUPPORT SYSTEM BAR AND TWIN-WALL PANEL, PER DETAILS 1/M702 AND 5M702.
18. WHERE APPLICABLE "CONTRACTOR POSITION" INITIATIVE IN BOD 0363.GLOB - DATA HALL POSITION.
19. INSTALL 2X2" L-BRACKETS ON EACH SIDE OF CONTAINMENT TO CREATE A CHANNEL THAT RESISTS BENDING DURING HIGHER PRESSURE.



NOTES: (THIS DETAIL ONLY)

1. TWIN-WALL PANEL PER SPECIFICATION 23 16 13.
2. FOOTING TO BE HIGH ENOUGH TO CLEAR THE U-CHANNEL LOCATED IN FRONT OF RACK. NO FOOTING WHERE U-CHANNEL IS TERMINATED AT SIDE OF RACK (SEE RIGHT SIDE OF EXPLODED ISOMETRIC VIEW)
3. SCORE FACE PER NOTE 5 BELOW AND BEND TO FORM 90 DEGREE ANGLE. FOLD SHOULD BE A MINIMUM OF 4".
4. WIDTH VARIES BASED ON DISTANCE FROM VERTICAL RACK SUPPORT STRUCTURAL MEMBER TO THE RACK.
5. SCORE TWIN-WALL PANEL AND BEND TO CREATE FOLD.
6. FINAL WIDTH OF PANEL TO BE LARGE ENOUGH TO ALLOW FOLDED SIDES TO BE FLUSH WITH SIDES OF SERVER.

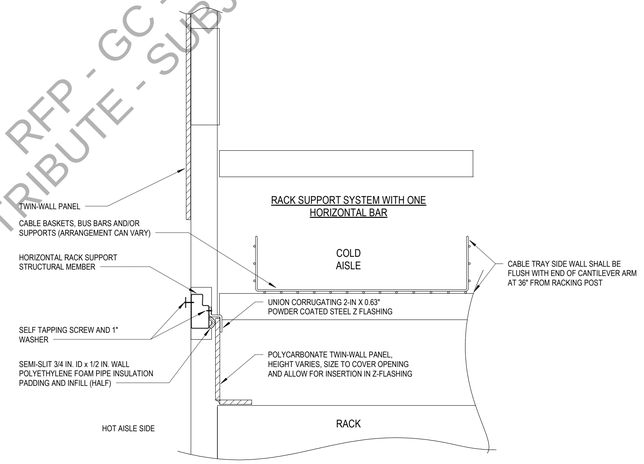
3 M702 TWIN-WALL PANEL WITH FOLD
NTS



EMPTY POSITIONS CONTAINMENT NOTES:

1. TWIN-WALL PANEL PER SPECIFICATION 23 16 13.
2. RACK SUPPORT SYSTEM.
3. OVERLAP PANELS MIN. OF 4" AND SECURE TOGETHER USING NYLON CABLE TIES.
4. TWIN-WALL PANELS ARE PRE-CUT ON SIDE SHOWN PRIOR TO INSTALLATION AND SIT IN THE U-CHANNEL (NOT SHOWN).
5. TWIN-WALL SIDES RESTS FLAT WITH VERTICAL SUPPORT MEMBER, AND IS TAPED ON THE COLD AISLE SIDE, TWIN-WALL IS SLOTTED AT THE BASE TO REST ON TOP OF THE VERTICAL SUPPORT MEMBER FOOTING.

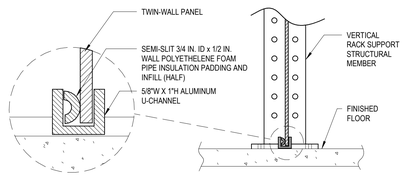
4 M702 TWIN-WALL PANEL - EMPTY POSITIONS
NTS



NOTE: (THIS DETAIL ONLY)

1. DETAIL APPLICABLE TO RACKING SYSTEM WITH ONE HORIZONTAL RACK SUPPORT SYSTEM MEMBER.

5 M702 ABOVE RACK TWIN-WALL PANEL INSTALLATION
NTS



6 M702 TWIN-WALL FLOOR DETAIL
NTS

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GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. MATERIALS USED FOR CONTAINMENT TO MEET REQUIREMENTS LISTED IN SPECIFICATION 23 16 13.

C. CONTRACTOR SCOPE IS OUTLINED. CONTRACTOR SCOPE INCLUDES, BUT NOT LIMITED TO, PROVIDING MATERIALS AND INSTALLING THE FOLLOWING ITEMS:
   a. CONTAINMENT AND U-CHANNELS WHERE THERE ARE EMPTY RACK POSITIONS.
   b. CONTRACTOR IS ALSO RESPONSIBLE FOR THE INSTALLATION OF HOT AISLE CONTAINMENT ABOVE HORIZONTAL RACK SUPPORT STRUCTURAL MEMBER IN ALL LOCATIONS (SEE EXPLODED ISOMETRIC VIEW FOR HORIZONTAL RACK SUPPORT STRUCTURAL MEMBER CALL-OUT).
   c. CONTRACTOR TO PRE-CUT OPENINGS NEEDED FOR CABLING ROUTING AND THEN SEAL OPENINGS WITH TAPE (SEE NOTE 6 UNDER TOP VIEW DETAIL ON M702).
   d. 4" TAPE OR MANUFACTURER PROVIDED COVER PLATE TO BE APPLIED ON THE COLD AISLE SIDE DURING CONSTRUCTION PHASE TO COVER HOLES ON THE VERTICAL RACK SUPPORT STRUCTURAL MEMBER HOLES.

D. CONTAINMENT PANELS NOT SHOWN IN FINAL SIZE OR POSITION. THE WIDTH WILL NEED TO BE MODIFIED TO ALLOW FOLDED SIDES TO BE FLUSH WITH SIDE OF RACKS. SEE DETAIL 3/M702.

E. TAPE NOT SHOWN IN ALL INDICATED LOCATIONS FOR CLARITY. ENSURE TAPE IS APPLIED TO ALL SEAMS SHOWN IN DETAILS WHERE RACK SUPPORT STRUCTURAL MEMBERS, TWIN-WALL PANEL AND RACKS MEET.

F. TWIN-WALL PANEL SHALL BE 8 MM THICK AND MEET SPECIFICATION 23 16 13 REQUIREMENTS.

G. CONTRACTOR TO COORDINATE WITH COMMISSIONING TEAM TO KEEP EMPTY RACK POSITIONS WHERE NECESSARY FOR TAB TESTING.

H. THESE DETAILS CAN BE APPLIED TO MULTIPLE RACK TYPES AND CONFIGURATIONS. ADJUST ABOVE RACK TWIN-WALL PANELS HEIGHTS AS NECESSARY.

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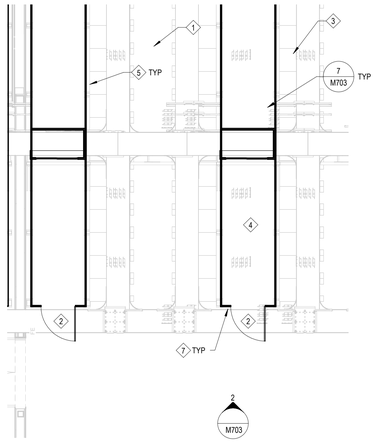
PROJECT: BUILDING B

TITLE: HOT AISLE CONTAINMENT DETAILS

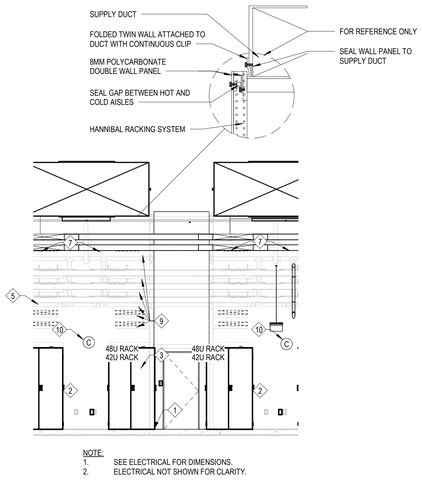
DRAWING: M702

E1	SCALE: As indicated	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
PDF PRINT DATE: 8/31/2023 1:47:27 PM 053

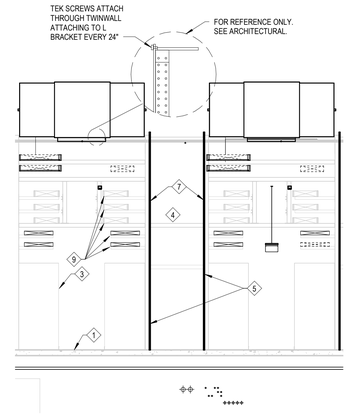


1 TYPICAL HOT AISLE CONTAINMENT PLAN
M703 3/16" = 1'-0"

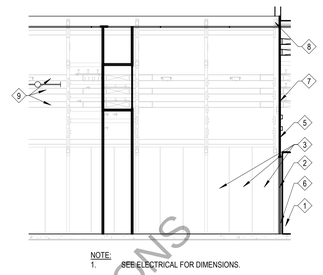


NOTE:
1. SEE ELECTRICAL FOR DIMENSIONS.
2. ELECTRICAL NOT SHOWN FOR CLARITY.

2 ELEVATION
M703 3/16" = 1'-0"

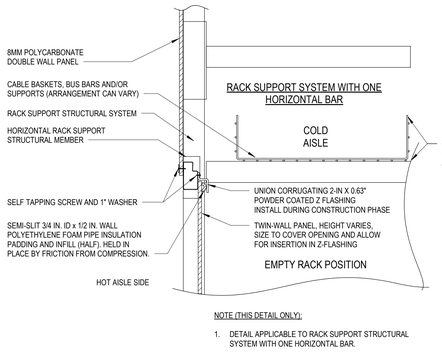


3 SECTION
M703 3/16" = 1'-0"



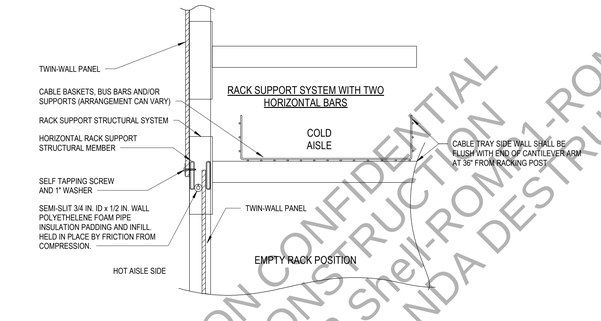
NOTE:
1. SEE ELECTRICAL FOR DIMENSIONS.

4 SECTION
M703 3/16" = 1'-0"

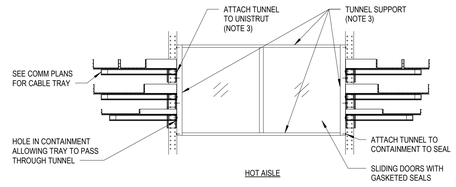


NOTE (THIS DETAIL ONLY):
1. DETAIL APPLICABLE TO RACK SUPPORT STRUCTURAL SYSTEM WITH ONE HORIZONTAL BAR.

5 TWIN-WALL INSTALLATION - EMPTY RACK POSITION
M703 NTS

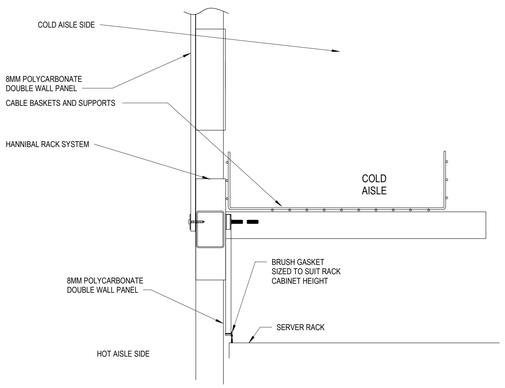


6 TWIN-WALL INSTALLATION - EMPTY RACK POSITION
M703 NTS

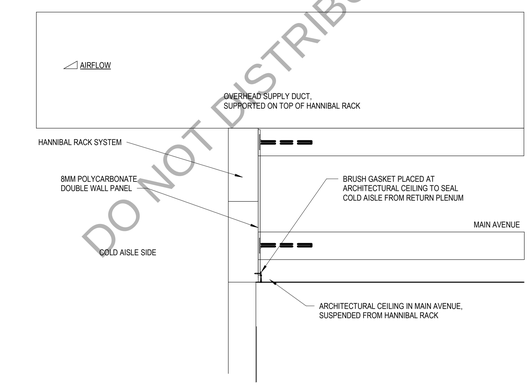


NOTES:
1. TUNNEL PRODUCT BY TATE OR APPROVE EQUAL.
2. SEAL SIDE, TOP, BOTTOM TO CONTAINMENT.
3. SUPPORT AND ATTACHMENT OF TUNNEL TO BE PROVIDED BY CONTRACTOR. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.

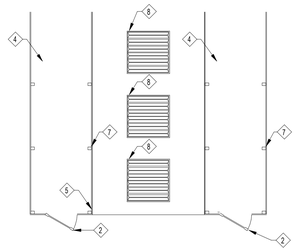
7 HOT AISLE TUNNEL
M703 NTS



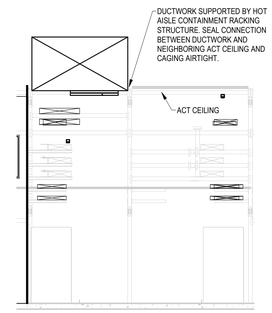
8 ABOVE RACK TWIN-WALL INSTALLATION -BRUSH GASKET
M703 1 1/2" = 1'-0"



9 BETWEEN DUCT AND CEILING TWIN-WALL INSTALLATION - BRUSH GASKET
M703 1 1/2" = 1'-0"



10 HVAC RCP PLAN
M703 1/2" = 1'-0"



11 FIRST COLD AISLE INSTALLATION DETAIL
M703 3/16" = 1'-0"

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GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING ELEVATIONS AND FLOOR FINISHES IN DATA HALL. V.I.F CONDITIONS PRIOR TO CONSTRUCTION

C. SEE ARCHITECTURAL SHEETS FOR DIMENSIONS OF SUPPORT STRUCTURE. VERIFY IN FIELD PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES IN WRITING UPON DISCOVERY

D. REFER TO EC201.00 FOR CABLE TRAY LAYOUT AND DIMENSIONS AND DETAILS. COORDINATE HOT AISLE CONTAINMENT LAYOUT WITH CABLE TRAY DETAILS PRIOR TO CONSTRUCTION.

E. REFER TO EL201.00 FOR LIGHTING AND CONTROLS IN THE HOT AISLE CONTAINMENT AREA, COORDINATE PRIOR TO CONSTRUCTION.

F. REFER TO EF201 FIRE ALARM (LIFE SAFETY DEVICES) DEPLOYED IN THE HOT AISLE CONTAINMENT AREA, COORDINATE PRIOR TO CONSTRUCTION.

G. MODULAR RACKING IS OWNER FURNISHED, INSTALLED BY OTHERS, EACH DISCIPLINE TO COORDINATE WITH GENERAL CONTRACTOR AND OTHER DISCIPLINES PRIOR TO CONSTRUCTION

H. MATERIALS USED FOR CONTAINMENT TO MEET REQUIREMENTS LISTED IN SPECIFICATION 23 16 13.

I. CONTRACTOR SCOPE IS NOTED ON M702. CONTRACTOR SCOPE INCLUDES PROVIDING MATERIALS AND INSTALLING THE FOLLOWING ITEMS:
   a. CONTAINMENT AND U-CHANNELS WHERE THERE ARE EMPTY RACK POSITIONS.
   b. CONTRACTOR TO INSTALL CONTAINMENT ABOVE HORIZONTAL RACK SUPPORT STRUCTURAL MEMBER IN ALL LOCATIONS (SEE EXPLODED ISOMETRIC VIEW FOR HORIZONTAL RACK SUPPORT STRUCTURAL MEMBER CALL-OUT).
   c. CONTRACTOR TO PRE-CUT OPENINGS NEEDED FOR CABLING ROUTING AND THEN SEAL OPENINGS WITH TAPE (SEE NOTE 6 UNDER TOP VIEW DETAIL ON M702).
   d. 4" TAPE OR MANUFACTURER PROVIDED COVER PLATE TO BE APPLIED ON THE COLD AISLE SIDE DURING CONSTRUCTION PHASE TO COVER HOLES ON THE VERTICAL RACK SUPPORT STRUCTURAL MEMBER HOLES.

J. CONTAINMENT PANELS NOT SHOWN IN FINAL SIZE OR POSITION. THE WIDTH WILL NEED TO BE MODIFIED TO ALLOW FOLDED SIDES TO BE FLUSH WITH SIDE OF RACKS. SEE DETAIL 3/M702.

K. TAPE NOT SHOWN IN ALL INDICATED LOCATIONS FOR CLARITY. ENSURE TAPE IS APPLIED TO ALL SEAMS SHOWN IN DETAILS WHERE RACK SUPPORT STRUCTURAL MEMBERS, TWIN-WALL PANEL AND RACKS MEET.

L. TWIN-WALL PANEL SHALL BE 8 MM THICK AND MEET SPECIFICATION 23 16 13 REQUIREMENTS.

M. CONTRACTOR TO COORDINATE WITH COMMISSIONING TEAM TO KEEP EMPTY RACK POSITIONS WHERE NECESSARY FOR TAB TESTING.

SHEET NOTES

1. SLAB FLOOR.
2. SWINGING DOORS WITH MAGNETIC LATCH ABLE TO WITHSTAND 0.25" DIFFERENTIAL PRESSURE (SEE SPECIFICATIONS).
3. SERVER CABINETS.
4. HOT AISLE ZONE.
5. HOT AISLE CONTAINMENT STRUCTURE, MODULAR RACKING SYSTEM.
6. BRACKETS TO ATTACH TO FLOOR (TYP ALL POSTS).
7. 8MM TWIN-WALL POLYCARBONATE PANELS.
8. COLD AISLE SUPPLY DAMPER.
9. CABLE TRAY, SEE ELECTRICAL.
10. HYGROTHERMOMETER MOUNTED ON OUTSIDE OF HOT AISLE WITH REMOTE BULB MOUNTED INSIDE HOT AISLE. MOUNT CENTERLINE ELEVATION 96 IN AFF.

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PROJECT: BUILDING B

TITLE: HOT AISLE CONTAINMENT DETAILS

DRAWING: M703

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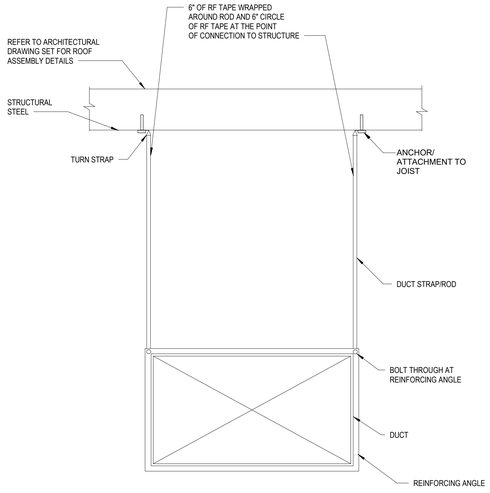
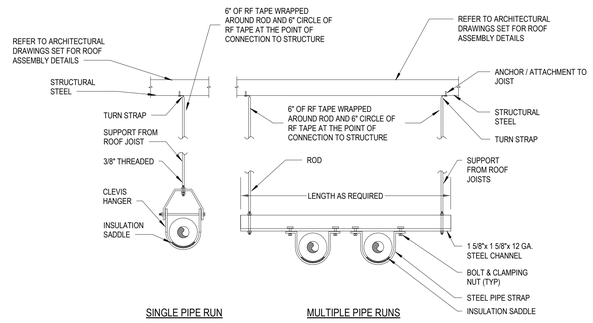


NOTE:

1. DUCT BRACING SHALL BE PROVIDED IN ACCORDANCE WITH SMACNA REQUIREMENTS.
2. REQUIRED WHERE THERE IS AN UN-INSULATED DUCT OR A HANGER THAT IS ATTACHED DIRECTLY TO THE DUCTWORK STEEL.
3. PROVIDE HANGER ISOLATOR WITH A NEOPRENE/RUBBER INSERT AND PROJECTING BUSHING TO PREVENT STEEL TO STEEL CONTACT. REFERENCE MASON INDUSTRIES NEOPRENE HANGERS TYPE HD OR WHR.

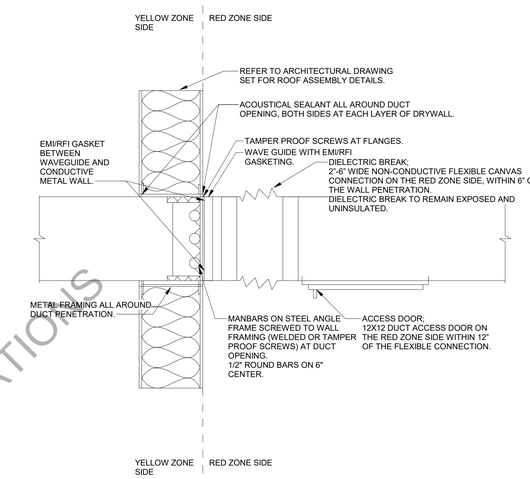
1 M704 RED ZONE DUCT SUPPORT DETAIL

NTS



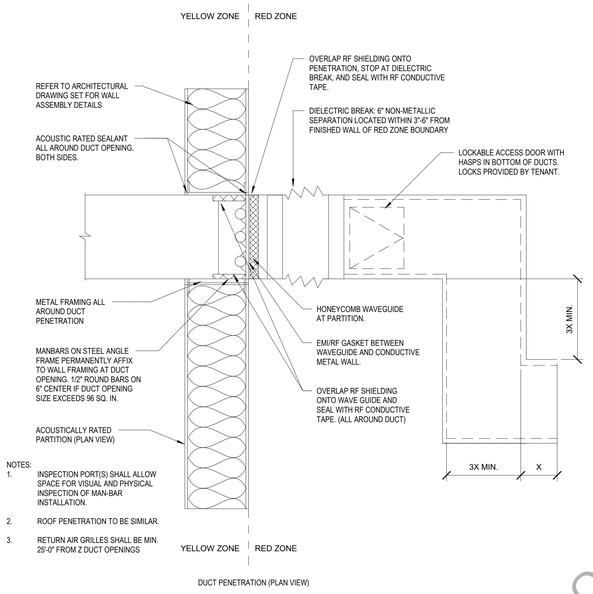
2 M704 SUSPENDED PIPE SUPPORT DETAIL REDZONE

1/8" = 1'-0"



3 M704 RED ZONE DATA HALL WALL DUCT PENETRATION

NTS

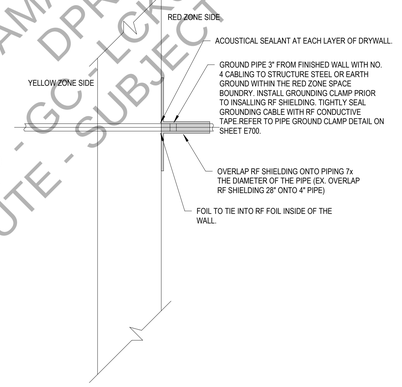


NOTES:
1. INSPECTION PORT(S) SHALL ALLOW SPACE FOR VISUAL AND PHYSICAL INSPECTION OF MAN-BAR INSTALLATION.
2. ROOF PENETRATION TO BE SIMILAR.
3. RETURN AIR GRILLES SHALL BE MIN. 25'-0" FROM Z DUCT OPENINGS

DUCT PENETRATION (PLAN VIEW)

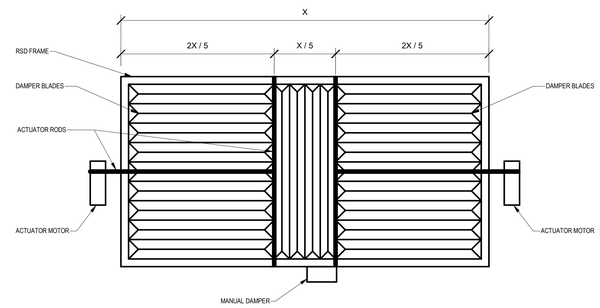
4 M704 OFFICE AREA RED ZONE DUCT PENETRATION WITH Z DUCT

NTS



5 M704 RED ZONE WALL REFRIGERANT PIPE PENETRATION

NTS



6 M704 ROW SUPPLY DAMPER DETAIL

NTS

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ISSUE DATE: 01SEP2023 | PROJECT NO: 22-29863

DESIGNED: SWANSON RINK | ENGINEER: GO

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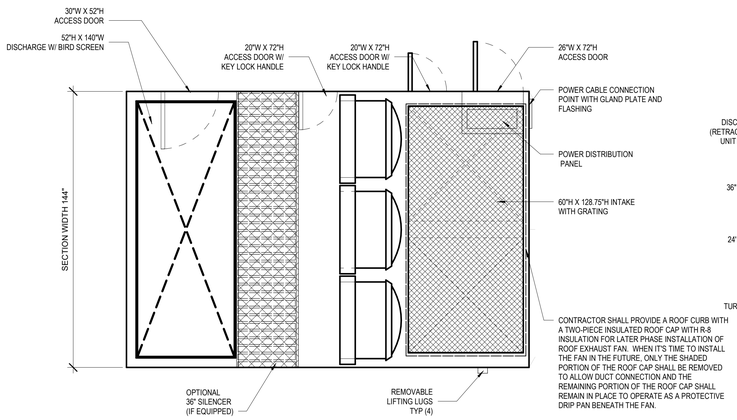
PROJECT: BUILDING B

TITLE: MECHANICAL DETAILS

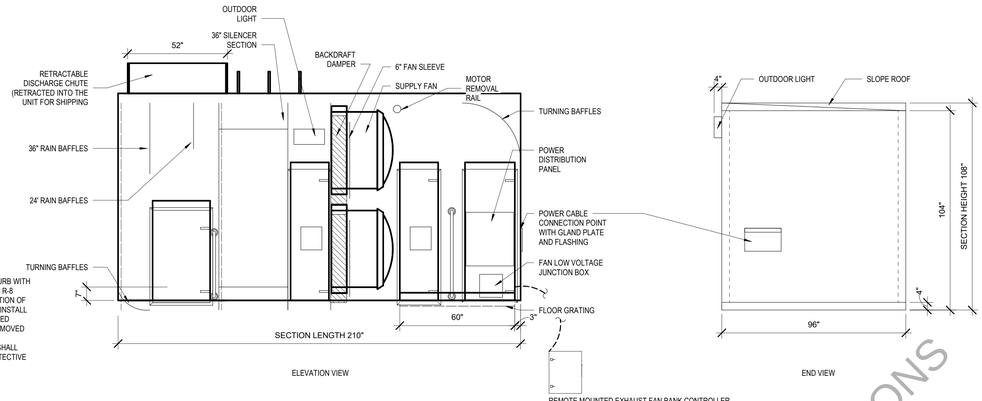
DRAWING: M704

E1 | SCALE: As indicated | AGILE No: | REV: A



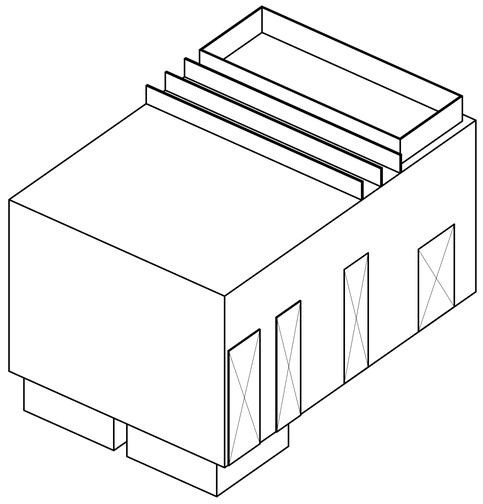
1 M705 DATA HALL EXHAUST FAN PLAN VIEW

3/8" = 1'-0"

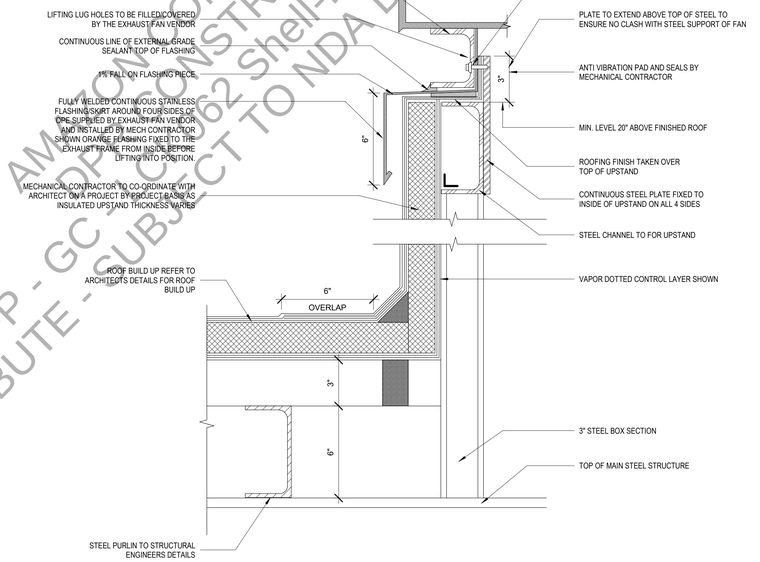


2 M705 DATA HALL EXHAUST FAN ELEVATION

3/8" = 1'-0"



3 M705 DATA HALL EXHAUST FAN ISO



4 M705 FLASHING DETAIL

NTS

AMENDED RFP - GC - CONFIDENTIAL
ADP - CONSTRUCTION
RFP - GC - ROMP1-ROMP2
DO NOT DISTRIBUTE - SUBJECT TO NDA
Shell-ROMP2
C62
DESTRUCTION OBLIGATIONS

GENERAL NOTES

A. THE ILLUSTRATIONS ARE DIRECTIONS TO ENSURE THE SCHEME CONTINUES TO PROVIDE THE EXPECTED HIGH LEVELS OF PERFORMANCE.

B. THE SPECIFICATIONS MUST BE STRICTLY FOLLOWED. WHERE THE REFERENCE STANDARD HAS BEEN SUPERSEDED THE CONTRACTOR SHALL USE REPLACEMENT STANDARD(S) IN ALL. IF IN DOUBT CONTACT RESPONSIBLE ENGINEER FOR APPROVAL BEFORE INSTALLATION COMMENCES.

C. DAMPER ACTUATORS TO BE TESTED TO ENSURE CORRECT FAIL POSITION IS OBSERVED THROUGHOUT ALL DAMPERS. REFER TO SPECIFICATION AND SEQUENCE OF OPERATION FOR DETAILS.

CONFIDENTIAL

PROJECT ADDRESS

2890-2970 Beech Road NW, City of New Albany County, Ohio

PROJECT DELIVERY PACKAGE

BID

SEAL/SIGNATURE

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ISSUE DATE: 01SEP2023	PROJECT NO: 22-29863
DESIGNED:	ENGINEER:

MARK	DATE	DESCRIPTION
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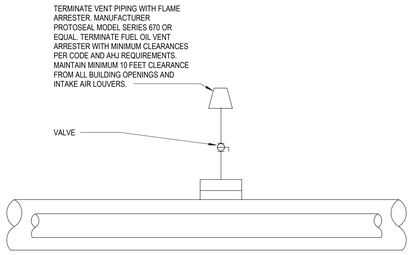
PROJECT: BUILDING B

TITLE: MECHANICAL DETAILS

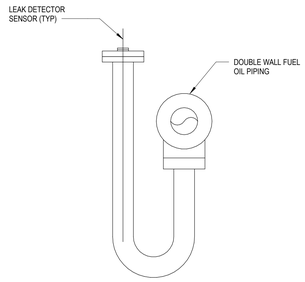
DRAWING: M705

E1	SCALE: As indicated	AGILE No:	REV: A

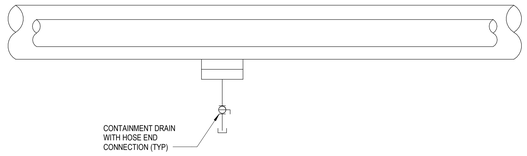
BOD VERSION: OPTDC-v2.0
PDF PRINT DATE: 8/31/2023 1:47:52 PM



1 OUTER TANK VENT DETAIL
M706 NTS

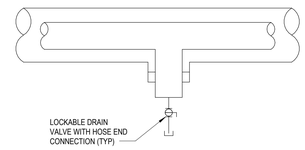


2 CONTAINMENT PIPING DRAIN DETAIL
M706 12" = 1'-0"



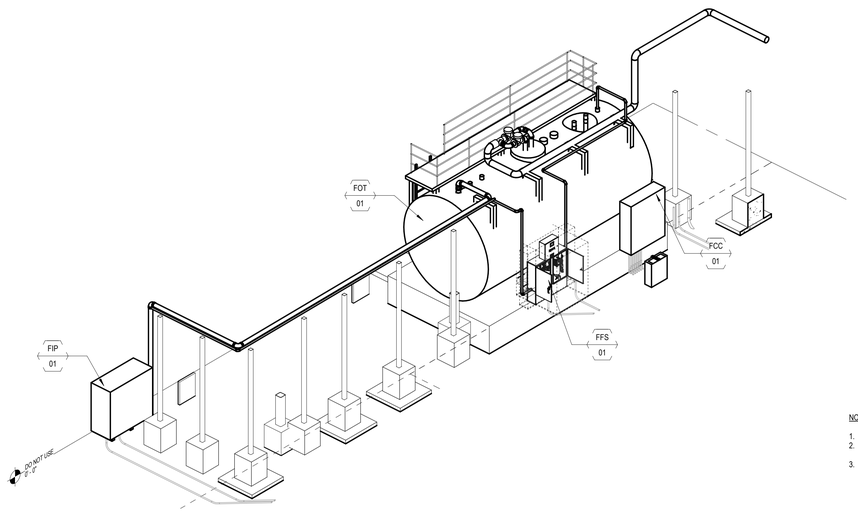
NOTES:
1. INSTALL AT ALL LOW POINTS OF FUEL SUPPLY PIPE.
2. DO NOT LOCATE DIRECTLY ABOVE EQUIPMENT OR GRAVEL.

3 CONTAINMENT PIPING DRAIN DETAIL
M706 NTS

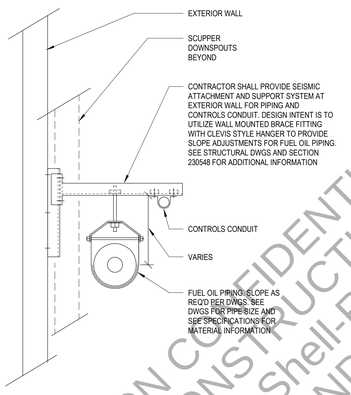


NOTES:
1. INSTALL AT ALL LOW POINTS OF FUEL SUPPLY PIPE.
2. DO NOT LOCATE DIRECTLY ABOVE EQUIPMENT OR GRAVEL.

4 DISTRIBUTION PIPE DRAIN DETAIL
M706 12" = 1'-0"

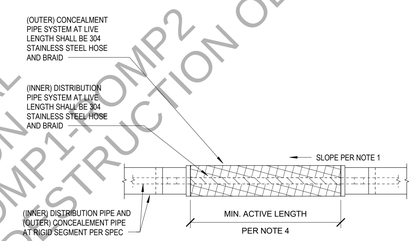


5 DOUBLE WALL FUEL OIL TANK
M706 NTS



NOTES:
1. ALL STEEL HOT DIPPED GALVANIZED.
2. PIPE SUPPORT SPACING AS REQUIRED BY CONTRACTOR. SPACING NOT TO EXCEED 10'-0" O.C.
3. WHERE APPROVED BY ENGINEER, FUEL OIL PIPING MAY BE SUPPORTED FROM ELECTRICAL DUCT BANK SUPPORT.

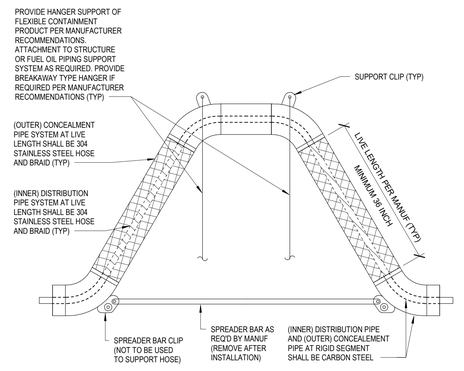
6 FUEL OIL PIPING SUPPORT DETAIL
M706 NTS



SECTION

NOTES:
1. DESIGN INTENT IS TO SLOPE FLEXIBLE CONNECTOR AT MINIMUM 0.5% SLOPE DOWN TO ALLOW COMPLETE FLUID DRAIN DOWN TO GENERATOR BRANCH RUNOUTS.
2. PROVIDE ANCHORS AND ALIGNMENT GUIDES TO RESIST FORCES DEVELOPED BY THE FLEXIBLE CONNECTOR.
3. SEE DRAWINGS FOR WHERE DETAIL APPLIES.
4. PROVIDE INNER AND OUTER FLEXIBLE CONNECTORS WITH MINIMUM ACTIVE LENGTH OF 24 INCHES.

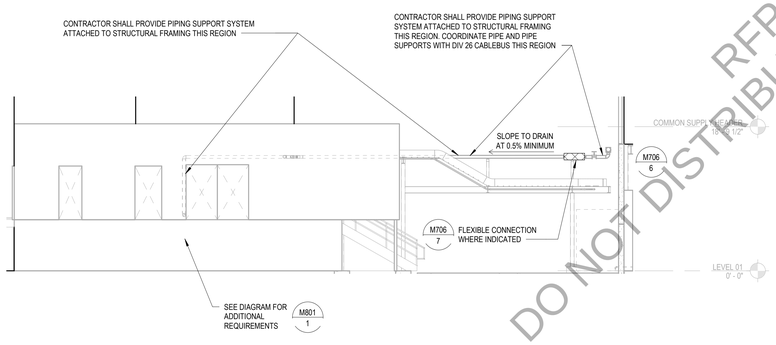
7 FLEXIBLE CONNECTOR FOR CONTAINMENT PIPING
M706 12" = 1'-0"



PLAN VIEW

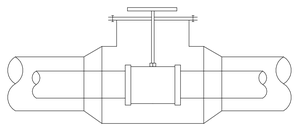
NOTES:
1. PROVIDE PRODUCT APPLICATION AS INDICATED ON DRAWINGS:
   A. SEISMIC LOOP APPLICATION: DESIGN FOR CATEGORY AND SEISMIC JOINT PERFORMANCE AS NOTED IN STRUCTURAL DRAWINGS AND SPECIFICATIONS. SEE STRUCTURAL DRAWINGS FOR PERFORMANCE REQUIREMENTS.
   B. THERMAL (EXPANSION) LOOP APPLICATION: DESIGN FOR THERMAL EXPANSION PERFORMANCE AS REQUIRED TO ACCOMMODATE THERMAL EXPANSION OF PIPING AND STRUCTURAL SYSTEMS. SEE STRUCTURAL AND SPECIFICATIONS FOR PERFORMANCE REQUIREMENTS.
2. FLEXIBLE CONTAINMENT PRODUCT SHALL BE A COMPLETE MANUFACTURER ENGINEERED SYSTEM.
3. DESIGN INTENT IS TO ORIENT FLEXIBLE CONTAINMENT PRODUCT IN HORIZONTAL CONFIGURATION AT MINIMUM 0.5% SLOPE DOWN TO ALLOW COMPLETE FLUID DRAIN DOWN TO GENERATOR BRANCH RUNOUTS.
4. PROVIDE ANCHORS AND ALIGNMENT GUIDES TO RESIST FORCES DEVELOPED BY THE FLEXIBLE CONTAINMENT PRODUCT AS REQUIRED BY MANUFACTURER.
5. SEE DRAWINGS FOR WHERE DETAIL APPLIES.

8 THERMAL/SEISMIC FLEXIBLE CONTAINMENT PIPING
M706 NTS



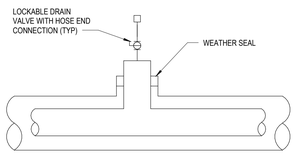
NOTES:
1. DETAIL IS DIAGRAMMATIC. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF REMOTE FILL INLET CONNECTION WITH GENERATOR MANUFACTURER.
2. ROUTE HORIZONTALLY SLOPED FO PIPING RUNOUT AS TO MAINTAIN 7'-0" MINIMUM ABOVE GENERATOR PLATFORM WALKWAY. VERTICAL FO PIPING TO FUEL FILL INLET CONNECTION SHALL BE HELD TIGHT TO EXTERIOR OF WEATHERPROOF ENCLOSURE. COORDINATE ROUTING TO COMPLY WITH GENERATOR AND PLATFORM WALKWAY ACCESS REQUIREMENTS.
3. CONTRACTOR IS ENTIRELY RESPONSIBLE FOR SEISMIC ATTACHEMENT OF PIPING TO STRUCTURAL FRAMING PER SECTION 230548.
4. SEE MECHANICAL PLANS, DETAILS, DIAGRAMS AND SCHEMATICS FOR ADDITIONAL INFORMATION.

9 TYPICAL FUEL OIL PIPE RUNOUT TO GENERATOR DETAIL
M706 1/8" = 1'-0"



NOTES:
1. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

10 DISTRIBUTION PIPE INLINE VALVE DETAIL
M706 NTS



11 AIR INGRESS AT HIGH POINT DETAIL
M706 NTS

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DPR CONSTRUCTION-ROMP1-ROMP2
CK002 Shell-
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DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: FUEL OIL DETAILS

DRAWING: M706

E1	SCALE: As indicated	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
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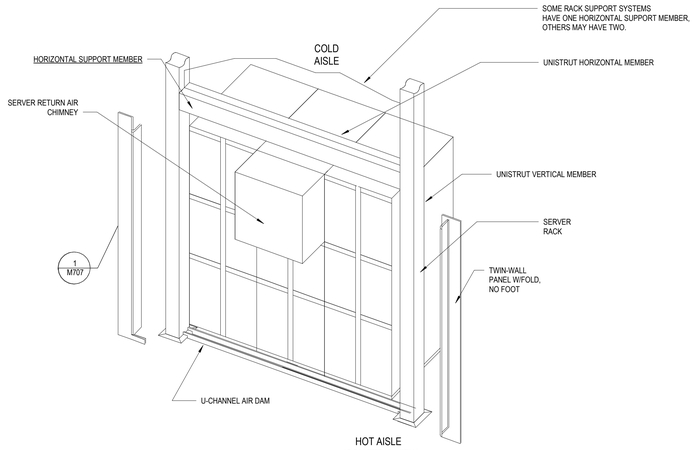
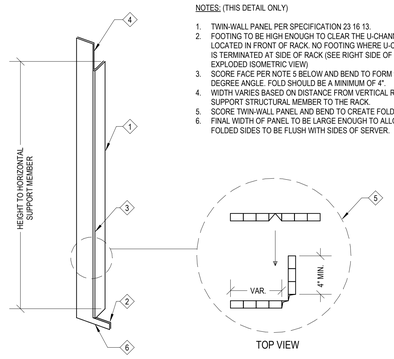
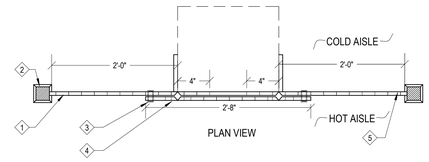


ISOMETRIC VIEW



1 M707 TWIN-WALL PANEL WITH FOLD

12" = 1'-0"



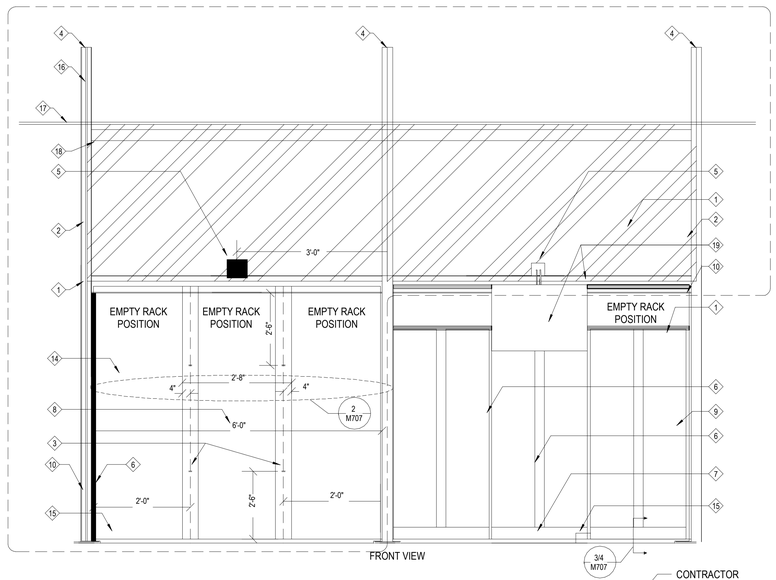
EMPTY POSITIONS CONTAINMENT NOTES:

1. TWIN-WALL PANEL PER SPECIFICATION 23 16 13.
2. RACK SUPPORT SYSTEM.
3. OVERLAP PANELS MIN. OF 4" AND SECURE TOGETHER USING NYLON CABLE TIES.
4. TWIN-WALL PANELS ARE PRE-CUT ON SIDE SHOWN PRIOR TO INSTALLATION AND SIT IN THE U-CHANNEL (NOT SHOWN).
5. TWIN-WALL SIDES RESTS FLAT WITH VERTICAL SUPPORT MEMBER, AND IS TAPED ON THE COLD AISLE SIDE. TWIN-WALL IS SLOTTED AT THE BASE TO REST ON TOP OF THE VERTICAL SUPPORT MEMBER FOOTING.

2 M707 TWIN-WALL PANEL - EMPTY POSITIONS

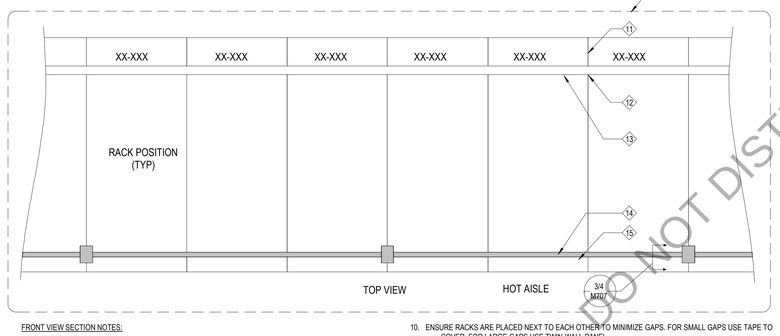
12" = 1'-0"

CONTRACTOR SCOPE



FRONT VIEW

CONTRACTOR SCOPE



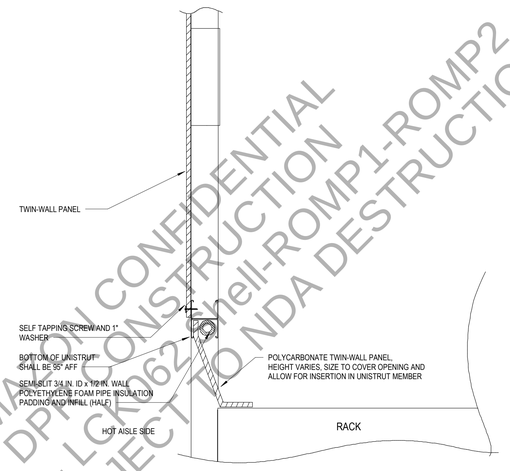
TOP VIEW HOT AISLE

FRONT VIEW SECTION NOTES:

1. TWIN-WALL PANEL PER SPECIFICATION 23 16 13.
2. RACK SUPPORT STRUCTURAL SYSTEM.
3. OVERLAP PANELS MIN. OF 4" AND SECURE TOGETHER USING NYLON CABLE TIES AND APPLY TAPE WHERE PANELS OVERLAP.
4. INSTALL PIPE INSULATION BETWEEN HORIZONTAL BAR AND TWIN-WALL PANEL, PER DETAIL 7 AND 8.
5. WHIPS/POWER SUPPLY TO BE ROUTED SUCH THAT THEY ARE CENTERED ON THE RACK
6. CUTOUT OPENING, 1.5" DIAMETER OF WHIP CONNECTORS TO ALLOW WHIPS/POWER CABLES TO PASS THROUGH. APPLY TAPE TO ELIMINATE GAPS AFTER CABLES ARE ROUTED. SEAL OPENING WITH TAPE WHEN THERE ARE NOT CABLES COMING THROUGH (TYP OF ALL).
7. SEAL GAP BETWEEN TWIN-WALL PANEL AND VERTICAL RACK SUPPORT STRUCTURAL MEMBER, ON COLD AISLE, WITH TAPE.
8. ENSURE BACK OF SERVER RACK IS PUSHED AGAINST U-CHANNEL/AIR DAM. IF LARGE GAP IS PRESENT INSERT FOAM OR USE TWIN-WALL PANELS TO COVER.
9. VERTICAL RACK SUPPORT STRUCTURAL MEMBER SPACING MAY VARY.
10. ENSURE RACKS ARE PLACED NEXT TO EACH OTHER TO MINIMIZE GAPS. FOR SMALL GAPS USE TAPE TO COVER. FOR LARGE GAPS USE TWIN-WALL PANEL.
11. TAPE VERTICAL RACK SUPPORT STRUCTURAL MEMBER HOLES DURING CONSTRUCTION ON COLD AISLE SIDE BEFORE RACK INSTALLATION.
12. PRINT/MARK RACK POSITION AND NUMBER ON THE FLOOR IN THE COLD AISLE PRIOR TO RACKS INSTALLATION. SEE "PERFECT POSITION" INITIATIVE IN BOD 0363.GLOB - DATA HALL POSITION.
13. INSTALL RACKS SUCH THAT POSITION/NUMBER MARKER IN THE COLD AISLE IS VISIBLE.
14. FRONT OF RACK
15. SEE DETAIL 4
16. U-CHANNEL SECURED TO FLOOR USING REMOVABLE DOUBLE SIDED TAPE. IN CERTAIN REGIONS SEISMIC SUPPORTS INTERFERE WITH U-CHANNEL. TERMINATE U-CHANNEL WHERE INTERFERENCE OCCURS AND SEAL ANY GAPS WITH TAPE OR PIPE INSULATION. SEE DETAIL 6 FOR INSTALLATION.
17. INSTALL PIPE INSULATION BETWEEN HORIZONTAL RACK SUPPORT SYSTEM BAR AND TWIN-WALL PANEL, PER DETAILS 1 AND 5.
18. WHERE APPLICABLE CONTRACTOR TO CUT TWIN-WALL PANELS SUCH THAT THEY FIT AROUND THE PERPENDICULAR SUPPORT MEMBERS.

5 M707 M707- HOT AISLE CONTAINMENT

12" = 1'-0"

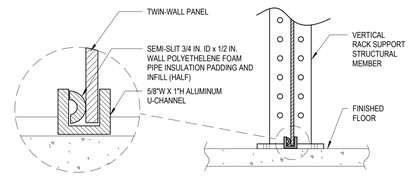


NOTE: (THIS DETAIL ONLY)

1. DETAIL APPLICABLE TO RACKING SYSTEM WITH ONE HORIZONTAL RACK SUPPORT SYSTEM MEMBER.

3 M707 ABOVE RACK TWIN-WALL PANEL INSTALLATION

1 1/2" = 1'-0"



4 M707 TWIN-WALL FLOOR DETAIL

12" = 1'-0"

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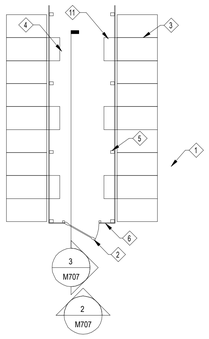
PROJECT:
BUILDING B

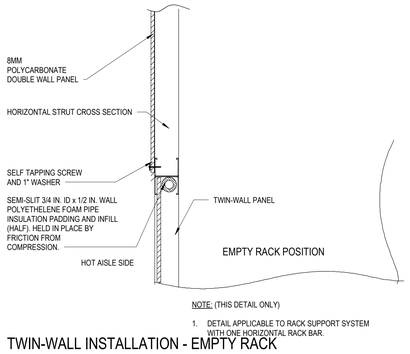
TITLE:
GLACIER SPACE HOT AISLE CONTAINMENT DETAILS

DRAWING:
M707

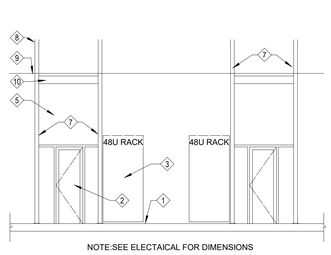
E1	SCALE: As indicated	AGILE No:	REV: A



5 TYPICAL HOT AISLE CONTAINMENT PLAN
M708 1/2" = 1'-0"

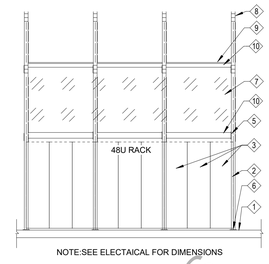


6 TWIN-WALL INSTALLATION - EMPTY RACK POSITION
M708 1 1/2" = 1'-0"



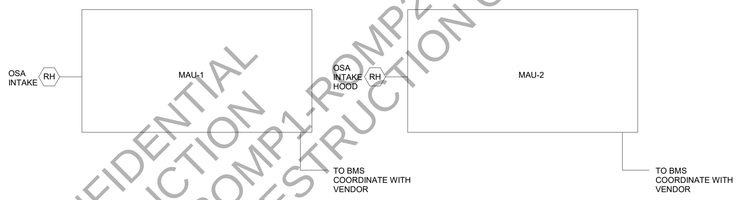
NOTE:SEE ELECTAICAL FOR DIMENSIONS

3 ELEVATION
M708 1/2" = 1'-0"

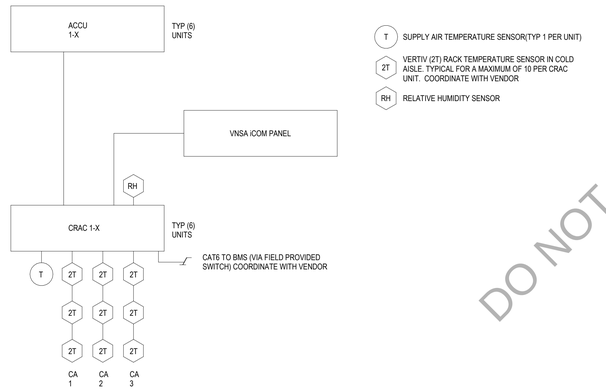


NOTE:SEE ELECTAICAL FOR DIMENSIONS

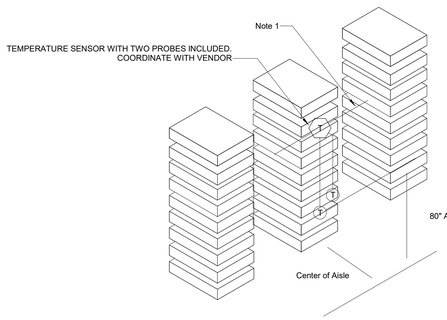
4 SECTION
M708 1/2" = 1'-0"



2 GLACIER MAU NETWORK DIAGRAM
M708 12" = 1'-0"



1 GLACIER BMS NETWORK OVERVIEW
M708 12" = 1'-0"



NOTES:
1. VERTIV - 'DAISY CHAIN' ALL VERTIV "2T" RACK TEMPERATURE / HUMIDITY SENSORS TOGETHER USING FIELD-SUPPLIED CANBUS CABLE. CONNECT THE 'FIRST' T / HSENSOR IN THE 'DAISY CHAIN' TO ITS ASSOCIATED VERTIV CRAC UNIT. COORDINATE ACTUAL TEMPERATURE SENSING SYSTEM WITH VENDOR AND PROVIDE CABLING/INFRASTRUCTURE AS RECOMMENDED. ALL VERTIV "2T" RACK TEMPERATURE / HUMIDITY SENSORS TO BE AVAILABLE TO BMS FOR ALARMING.

7 GLACIER AREA WIRED SENSOR LOCATION
M708 12" = 1'-0"

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RFP - GC - LCK062 SHELL-ROMP2
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DESTRUCTION

GENERAL NOTES

A. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING ELEVATIONS AND FLOOR FINISHES IN DATA HALL. V.I.F CONDITIONS PRIOR TO CONSTRUCTION.
B. REFER TO EC201.00 FOR CABLE TRAY LAYOUT AND DIMENSIONS AND DETAILS. COORDINATE HOT AISLE CONTAINMENT LAYOUT WITH CABLE TRAY DETAILS PRIOR TO CONSTRUCTION.
C. REFER TO EL201.00 FOR LIGHTING AND CONTROLS IN THE HOT AISLE CONTAINMENT AREA, COORDINATE PRIOR TO CONSTRUCTION.
D. REFER TO EF201 FIRE ALARM (LIFE SAFETY DEVICES) DEPLOYED IN THE HOT AISLE CONTAINMENT AREA, COORDINATE PRIOR TO CONSTRUCTION.
E. MATERIALS USED FOR CONTAINMENT TO MEET REQUIREMENTS LISTED IN SPECIFICATION 23 16 13.
F. CONTAINMENT PANELS NOT SHOWN IN FINAL SIZE OR POSITION. THE WIDTH WILL NEED TO BE MODIFIED TO ALLOW FOLDED SIDES TO BE FLUSH WITH SIDE OF RACKS. SEE DETAIL 3.
G. TAPE NOT SHOWN IN ALL INDICATED LOCATIONS FOR CLARITY. ENSURE TAPE IS APPLIED TO ALL SEAMS SHOWN IN DETAILS WHERE RACK SUPPORT STRUCTURAL MEMBERS, TWIN-WALL PANEL AND RACKS MEET.
H. TWIN-WALL PANEL SHALL BE 8 MM THICK AND MEET SPECIFICATION 23 16 13 REQUIREMENTS.
I. CONTRACTOR TO COORDINATE WITH COMMISSIONING TEAM TO KEEP EMPTY RACK POSITIONS WHERE NECESSARY FOR TAB TESTING.

SHEET NOTES

1. SLAB FLOOR.
2. SWINGING DOORS WITH MAGNETIC LATCH ABLE TO WITHSTAND 0.25" DIFFERENTIAL PRESSURE (SEE SPECIFICATIONS).
3. SERVER CABINETS.
4. HOT AISLE ZONE.
5. HOT AISLE CONTAINMENT STRUCTURE, MODULAR RACKING SYSTEM.
6. BRACKETS TO ATTACH TO FLOOR (TYP ALL POSTS).
7. 8MM TWIN-WALL POLYCARBONATE PANELS.
8. COLD AISLE SUPPLY DAMPER.
9. CABLE TRAY, SEE ELECTRICAL.
10. HYGROTHERMOMETER MOUNTED ON OUTSIDE OF HOT AISLE WITH REMOTE BULB MOUNTED INSIDE HOT AISLE. MOUNT CENTERLINE ELEVATION 96 IN AFF.

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DESIGNED: SWANSON RINK	ENGINEER: GO

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CHICAGO, IL 60602

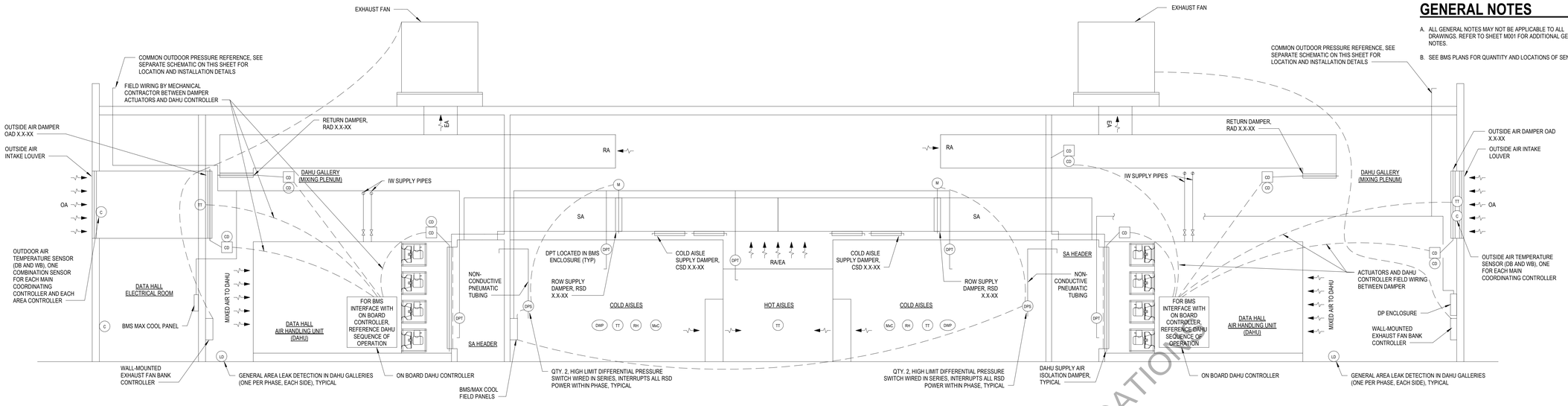
PROJECT: BUILDING B

TITLE: GLACIER SPACE HOT AISLE CONTAINMENT DETAILS

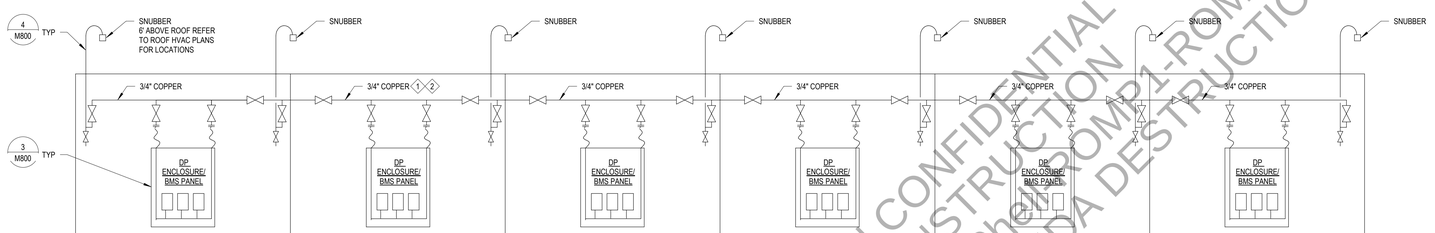
DRAWING: M708

E1	SCALE: As indicated	AGILE No:	REV: A

BOD VERSION: OPTDC-v2.0
PDF PRINT DATE: 9/1/2023 2:55:13 PM



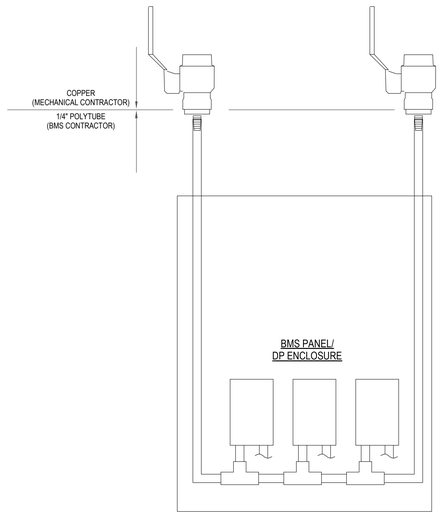
1 M800 CONTROL-DIAGRAM
NTS



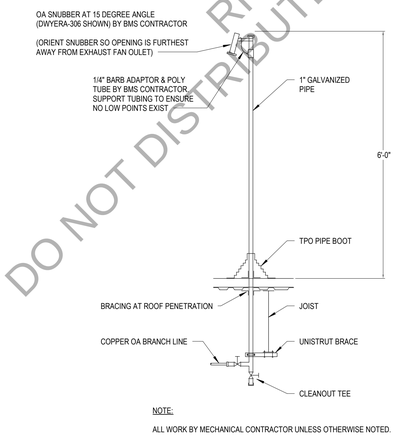
DATA HALL 1:	DAHU GALLERY 1.1 01.695	DAHU GALLERY 1.2 01.696	DAHU GALLERY 1.3 01.697	DAHU GALLERY 1.4 01.795	DAHU GALLERY 1.5 01.895	DAHU GALLERY 1.6 01.995
DATA HALL 1:	ELECTRICAL ROOM 1.1	ELECTRICAL ROOM 1.2	ELECTRICAL ROOM 1.3	ELECTRICAL ROOM 1.4	ELECTRICAL ROOM 1.5	ELECTRICAL ROOM 1.6
DATA HALL 2:	DAHU GALLERY 2.1 01.497	DAHU GALLERY 2.2 01.496	DAHU GALLERY 2.3 01.495	DAHU GALLERY 2.4 01.395	DAHU GALLERY 2.5 01.295	DAHU GALLERY 2.6 01.195
DATA HALL 2:	ELECTRICAL ROOM 2.1	ELECTRICAL ROOM 2.2	ELECTRICAL ROOM 2.3	ELECTRICAL ROOM 2.4	ELECTRICAL ROOM 2.5	ELECTRICAL ROOM 2.6

NOTES:
1. WHERE COPPER PIPING IS INDICATED, USE ONLY SODERED OR BRAZED JOINTS.
2. PRESSURE TEST EACH NEW PHASE @ 10PSI FOR 24 HRS, PHYSICALLY ISOLATED FROM THE LIVE TRUNK, PRIOR TO FINAL CONNECTION TO THE LIVE SYSTEM.

2 M800 COMMON OUTSIDE AIR PRESSURE REFERENCE
NTS



3 M800 BMS PANEL - DP ENCLOSURE
NTS



NOTE:
ALL WORK BY MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.

4 M800 OUTSIDE AIR PRESSURE REFERENCE DETAIL
NTS

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RFP - GC - LCK1062 Shell_ROMP2
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GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.
B. SEE BMS PLANS FOR QUANTITY AND LOCATIONS OF SENSORS.

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DESIGNED: SWANSON RINK | ENGINEER: GO

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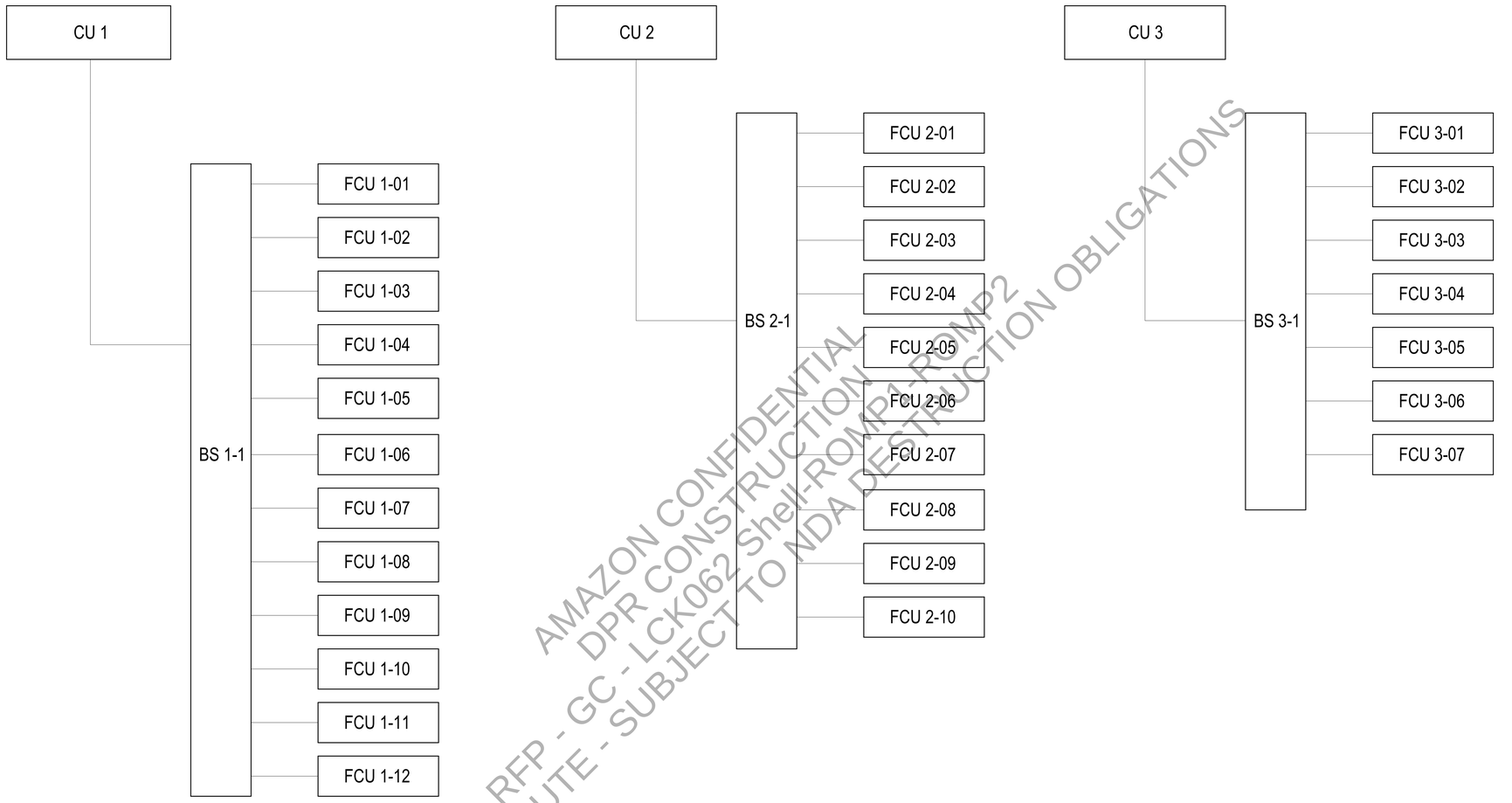
CHICAGO, IL 60602

PROJECT: BUILDING B
TITLE: MECHANICAL CONTROLS DIAGRAMS
DRAWING: M800

E1 | SCALE: As indicated | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
PDF PRINT DATE: 8/31/2023 1:48:07 PM 055

NOTE:
REFRIGERANT PIPE SIZES ARE SHOWN FOR BIDDING PURPOSES ONLY. FINAL LENGTHS AND SIZES SHALL BE DETERMINED BY THE CONTRACTOR BASED ON FIELD CONDITIONS AND APPROVAL BY THE ENGINEER AND EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.



1 M801 VRF SYSTEM DIAGRAM
NTS

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RFP - GC - LCK062 Shell-ROMP1-ROMP2
SUBJECT TO NDA DESTRUCTION OBLIGATIONS
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DESIGNED: SWANSON RINK | ENGINEER: GO

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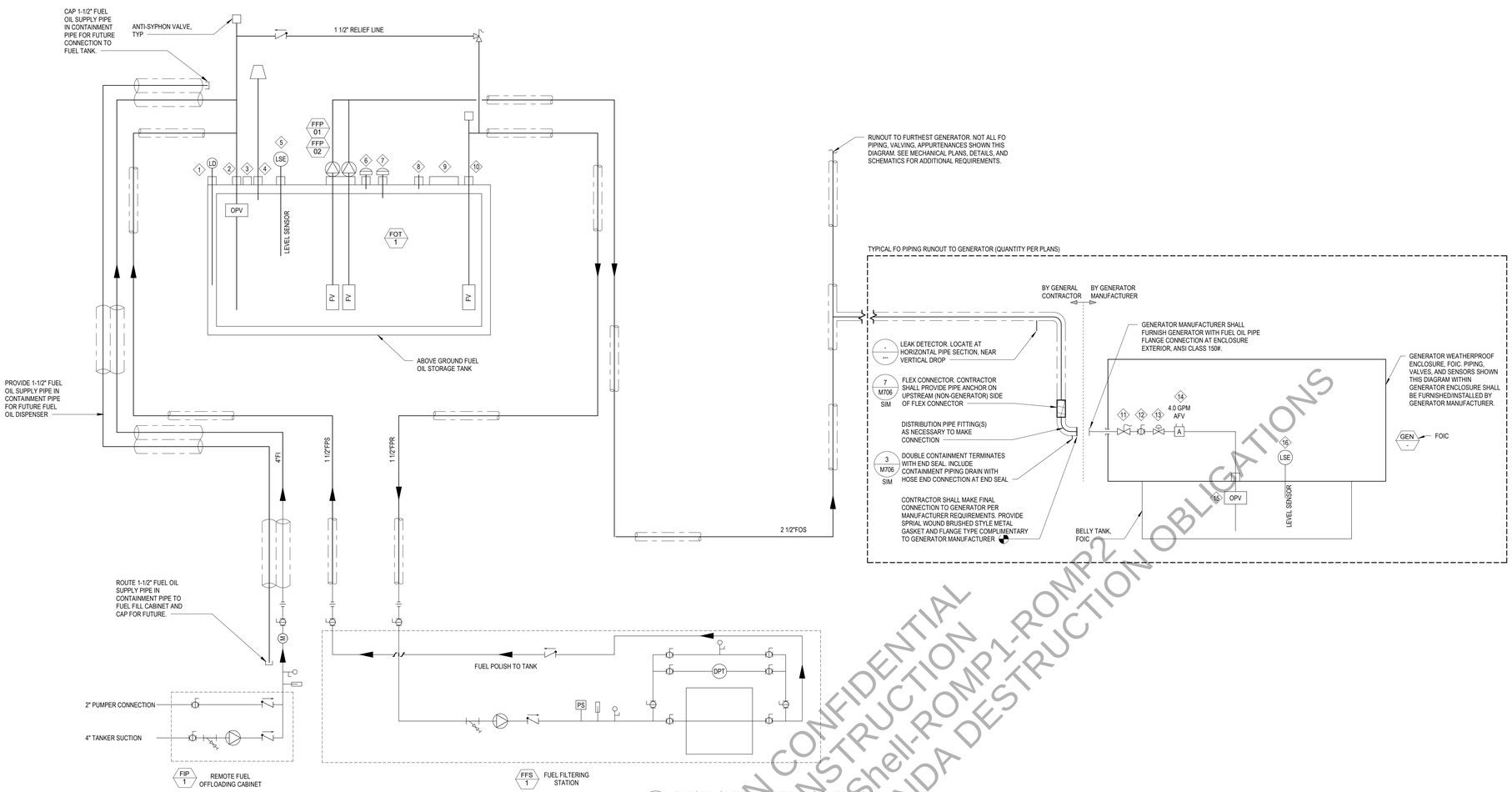
CHICAGO, IL 60602

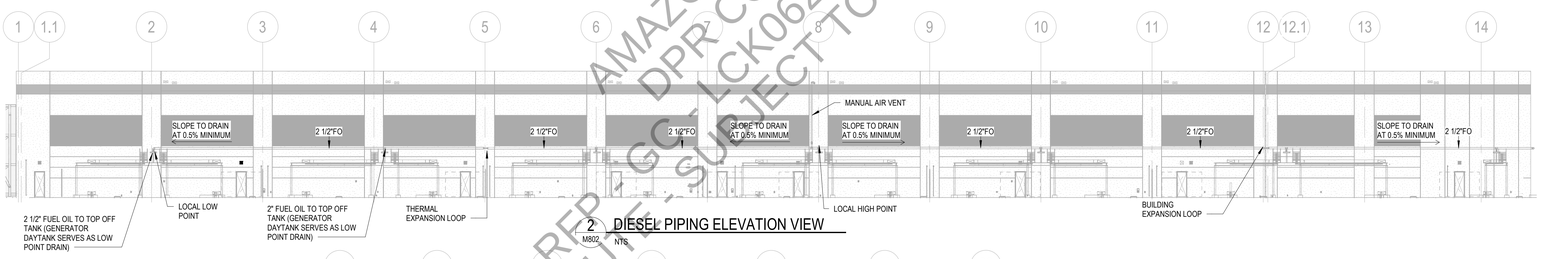
PROJECT: BUILDING B
TITLE: VRF SYSTEM DIAGRAM
DRAWING: M801

E1 | SCALE: As indicated | AGILE No: | REV: A

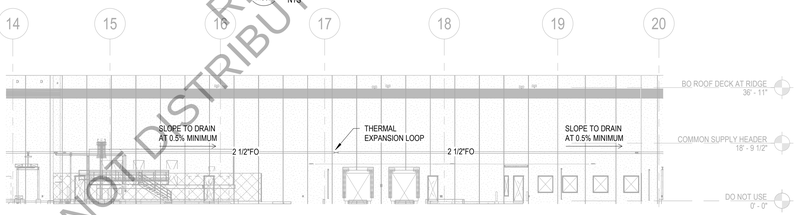
BOD VERSION: OPTDC-v2.0
PDF PRINT DATE: 8/31/2023 1:48:08 PM 057



1 DIESEL OVERALL PIPING SCHEMATIC
M802 NTS



2 DIESEL PIPING ELEVATION VIEW
M802 NTS



3 DIESEL PIPING ELEVATION VIEW
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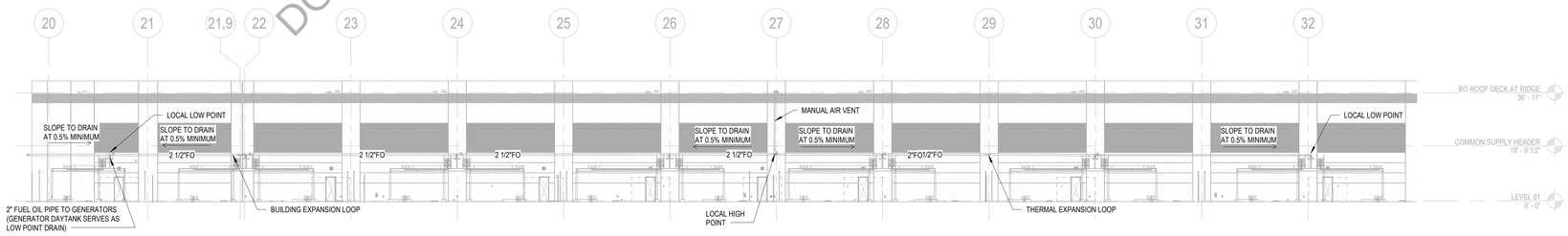

4 DIESEL PIPING ELEVATION VIEW
M802 NTS

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REP - GC - LCK062 - Shell-ROMP1-ROMP2
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GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. ISOLATION VALVE LOCATED ON THE INLET TO THE GENERATOR ENCLOSURE TO BE POSITIONED AT A HEIGHT OF 1.4M ABOVE FINISHED PLATFORM LEVEL FINAL LEVEL TO BE COORDINATED ON SITE.

C. FIXED SUPPORT TO BE APPLIED TO THE FUEL OIL PIPEWORK AT THE MIDDLE OF THE PIPEWORK RUN. ALL OTHER PIPEWORK TO BE SUSPENDED AT LEAST 300MM FROM THE CABLE RACKING.

D. HARDWIRED STATUS CABLING ROUTE FROM FUEL COMPOUND TO BE INSTALLED ON CABLE RACKING. TO BE COORDINATED BY GC ON SITE.

E. HYDROSTATIC PRESSURE TESTING TO BE CARRIED OUT FOR ALL FUEL OIL PIPEWORK. GC TO COORDINATE NECESSARY HEALTH AND SAFETY REQUIREMENTS PER LOCAL REQUIREMENTS.

F. THE GENERAL/MECHANICAL CONTRACTOR SHALL PROVIDE A COMPLETE GENERATOR FUEL OIL FILL SYSTEM SO THAT THE FINAL WORK PRODUCT IS COMPLETE AND USABLE TO THE OWNER. SYSTEM COMPONENTS PROVIDED BY CONTRACTOR SHALL INCLUDE AND NOT BE LIMITED TO: FUEL OIL PIPING, SKID, FUEL OIL TOP-UP TANK, AND ALL SUPPORTING EQUIPMENT AND CONTROLS.

G. PIPING IS SHOWN DIAGRAMMATIC, SEE FLOOR PLANS FOR PIPE LAYOUT AND ROUTING.

SHEET NOTES

1. INTERSTITIAL TANK LEAK DETECTOR.
2. FILL PORT WITH CAPPED MANUAL FILL PORT.
3. SPARE PORT FOR FUTURE.
4. VENT PIPING TERMINATED WITH FLAME ARRESTER. FLAME ARRESTER SHALL BE MANUFACTURER PROTOSEAL MODEL SERIES 670 OR EQUAL.
5. LEVEL SENSOR.
6. OUTER TANK EMERGENCY VENT.
7. INNER TANK EMERGENCY VENT.
8. MANUAL FUEL GAUGE (DIP STICK WITH STRIKER PLATE).
9. MANWAY WITH INTERIOR LADDER.
10. FUEL POLISHING PORT.
11. FUSIBLE LINK VALVE PROVIDED BY GENERATOR MANUFACTURER. SIMILAR TO MORRISON BROS MODEL 346DI EMERGENCY VALVE.
12. FULL PORT BALL VALVE PROVIDED BY GENERATOR MANUFACTURER. SIMILAR TO ASSURED AUTOMATION MODEL 150F.
13. FULL PORT BALL VALVE PROVIDED BY GENERATOR MANUFACTURER. SIMILAR TO ASSURED AUTOMATION MODEL 150F WITH ASSURED AUTOMATION ACTUATOR MODEL K4 SERIES.
14. AUTOMATIC FLOW CONTROL VALVE PROVIDED BY GENERATOR MANUFACTURER. WIRING BY CONTRACTOR. SIMILAR TO GRISWOLD CONTROLS WITH VITON O-RINGS RATED FOR FUEL OIL.
15. OVERFILL PREVENTION VALVE PROVIDED BY GENERATOR MANUFACTURER. SIMILAR TO MORRISON BROS MODEL 9095DC WITH VALVE ADAPTER AND 2" SHUTOFF HEIGHT.
16. LEVEL SENSOR PROVIDED BY GENERATOR MANUFACTURER. WIRING BY CONTRACTOR. SIMILAR TO MADISON MODEL M5602.

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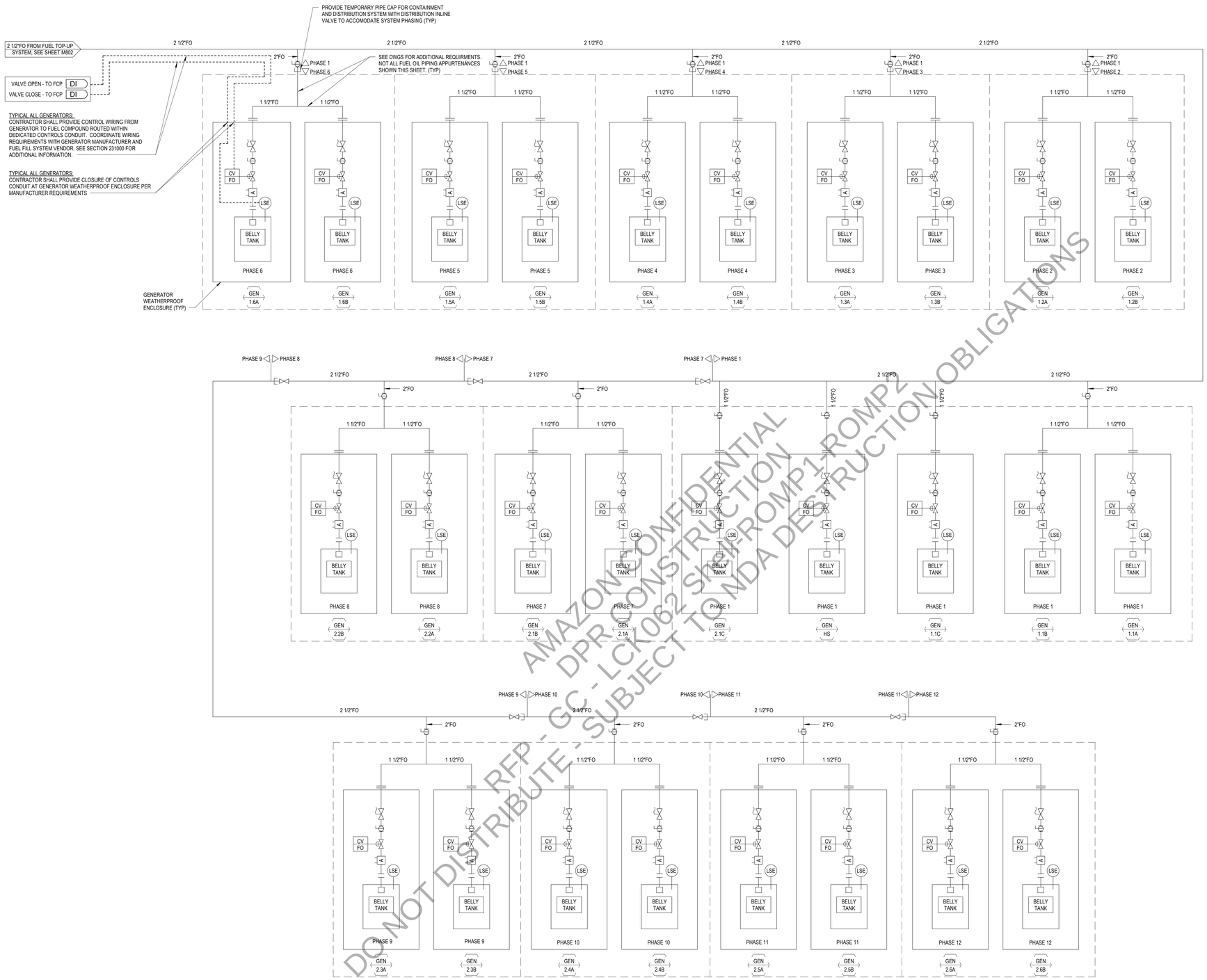
CHICAGO, IL 60602

PROJECT: BUILDING B
TITLE: FUEL OIL TOP-UP SYSTEM DIAGRAM
DRAWING: M802
E1 | SCALE: As indicated | AGILE No: | REV: A

BOD VERSION: OPTDC-2.0
PDF PRINT DATE: 8/31/2023 1:48:24 PM 058



1 M803 DIESEL FUEL DISTRIBUTION AND CONTROL DIAGRAM

NTS

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AMAZON CONFIDENTIAL
DPR CONSTRUCTION
RFP - GC - LCK062 SHELL
DO NOT DISTRIBUTE - SUBJECT TO NDA DESTRUCTION OBLIGATIONS

GENERAL NOTES

A. ALL GENERAL NOTES MAY NOT BE APPLICABLE TO ALL DRAWINGS. REFER TO SHEET M001 FOR ADDITIONAL GENERAL NOTES.

B. ISOLATION VALVE LOCATED ON THE INLET TO THE GENERATOR ENCLOSURE TO BE POSITIONED AT A HEIGHT OF 1.4M ABOVE FINISHED PLATFORM LEVEL FINAL LEVEL TO BE COORDINATED ON SITE.

C. FIXED SUPPORT TO BE APPLIED TO THE FUEL OIL PIPEWORK AT THE MIDDLE OF THE PIPEWORK RUN. ALL OTHER PIPEWORK TO BE SUSPENDED AT LEAST 300MM FROM THE CABLE RACKING.

D. CONTROLS/EPMS CABLING ROUTE FROM FUEL COMPOUND TO BE INSTALLED ON CABLE RACKING. TO BE COORDINATED BY GC ON SITE.

E. HYDROSTATIC PRESSURE TESTING TO BE CARRIED OUT FOR ALL FUEL OIL PIPEWORK. GC TO COORDINATE NECESSARY HEALTH AND SAFETY REQUIREMENTS PER LOCAL REQUIREMENTS.

F. THE GENERAL/MECHANICAL CONTRACTOR SHALL PROVIDE A COMPLETE GENERATOR FUEL OIL FILL SYSTEM SO THAT THE FINAL WORK PRODUCT IS COMPLETE AND USABLE TO THE OWNER. SYSTEM COMPONENTS PROVIDED BY CONTRACTOR SHALL INCLUDE AND NOT BE LIMITED TO: FUEL OIL PIPING, SKID, FUEL OIL TOP-UP TANK, AND ALL SUPPORTING EQUIPMENT AND CONTROLS.

G. PIPING IS SHOWN DIAGRAMMATIC, SEE FLOOR PLANS FOR PIPE LAYOUT AND ROUTING.

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PROJECT ADDRESS

2890-2970 Beech Road NW, City of New Albany County, Ohio

PROJECT DELIVERY PACKAGE

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ISSUE DATE: 01SEP2023 | PROJECT NO: 22-29863

DESIGNED: SWANSON RINK | ENGINEER: GO

MARK	DATE	DESCRIPTION
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CHICAGO, IL 60602

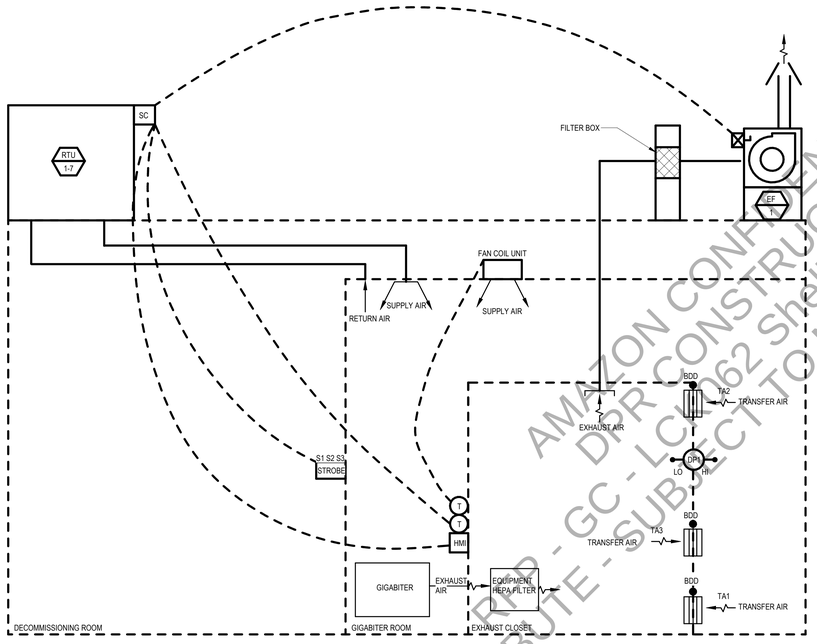
PROJECT: BUILDING B

TITLE: FUEL OIL TOP-UP SYSTEM DISTRIBUTION DIAGRAM

DRAWING: M803

E1 | SCALE: As Indicated | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
PDF PRINT DATE: 8/31/2023 1:48:28 PM 059



1 M804 DECOMMISSIONING ROOM HVAC SCHEMATIC

SCALE: AS SPECIFIED

COMPONENT KEY

- HMI: LOCAL HMI
- SC: SYSTEM CONTROLLER
- S1: RED STROBE (ALARM)
- S2: GREEN STROBE (MAU/EF RUNNING)
- S3: BLUE STROBE (MAU/EF OFF)
- TA1: LOW TRANSFER AIR BACK-DRAFT DAMPER
- TA2: HIGH TRANSFER AIR BACK-DRAFT DAMPER
- TA3: TRANSFER AIR BACK-DRAFT DAMPER
- DP1: BALL IN THE WALL DIFFERENTIAL PRESSURE INDICATOR

MAU/EF SEQUENCE OF OPERATION:

A. UNITS

1. RTU
2. EF

B. RUN CONDITION

1. THE SYSTEM (RTU/EF) SHALL RUN ON/OFF BASED ON OPERATOR MANUAL START-UP FROM A LOCAL WALL MOUNTED HMI.

C. ON MODE

1. UPON START-UP BOTH THE RTU AND EF SHALL BE STARTED AND OPERATED IN CONSTANT AIRFLOW AND SPACE TEMPERATURE CONTROL MODES.
2. AIRFLOWS TO BE IN ACCORDANCE WITH SCHEDULED VALUES AND COORDINATED WITH TESTING AND BALANCING CONTRACTOR TO ACHIEVE DESIGNED SPACE DIFFERENTIAL PRESSURE REQUIREMENTS.
3. SYSTEM SHALL CONTROL SPACE TEMPERATURE TO THE SPACE TEMPERATURE SET-POINT SET TO 75F (ADJ.) DURING OPERATION OF RTU/EF.
4. RTU/EF RUNNING STROBE S2 SHALL BE INITIATED DURING RTU/EF OPERATION.

D. OFF MODE

1. UPON MANUAL OPERATOR SHUTDOWN FROM LOCAL HMI. THE SYSTEM SHALL CONTINUE TO OPERATE FOR 5 MINUTES (ADJ.).
2. ONCE THE (ADJ.) 5 MINUTES HAS ELAPSED THE SYSTEM SHALL SHUTDOWN.
3. STROBE S3 SHALL BE INITIATED WHEN THE RTU/EF IS NOT IN OPERATION.

SETPOINTS

- SPACE TEMPERATURE SETPOINT: 80 DEG F COOLING (ADJ) 60 DEG F HEATING.
- SPACE TEMPERATURE HIGH LIMIT: 95 DEG F (ADJ)
- RTU AIRFLOW SETPOINT: 6000 CFM
- EF AIRFLOW SETPOINT: 2200 CFM
- OUTSIDE AIRFLOW SETPOINT: 2000 CFM
- MANUAL SHUTDOWN DELAY: 5 MINUTES (ADJ)

FAN COIL UNIT SEQUENCE OF OPERATION:

A. FCU:

1. FCU:

B. RUN CONDITIONS

1. THE SYSTEM SHALL OPERATE ON/OFF BASED ON SPACE TEMPERATURE SETPOINT CONTROL.

C. ON MODE-COOLING

1. IN A CONDITION WHERE THE SPACE TEMPERATURE EXCEEDS THE SPACE TEMPERATURE SETPOINT THE FAN COIL UNIT SHALL CYCLE ON AND MODULATE TO MEET THE SPACE TEMPERATURE SETPOINT.

D. ON MODE-HEATING

1. IN A CONDITION WHERE THE SPACE TEMPERATURE DROPS BELOW THE SPACE TEMPERATURE SETPOINT THE FAN COIL UNIT SHALL CYCLE ON AND MODULATE TO MEET THE SPACE TEMPERATURE SETPOINT.

E. OFF MODE

1. FAN COIL UNIT ARE IN OFF POSTION AT THERMOSTAT.

F. HARD-WIRED SAFETIES

1. IN A HIGH CONDENSATE CONDITION THE INDOOR FAN COIL UNIT SHALL AUTOMATICALLY CYCLE OFF.
2. THE INDOOR FAN COIL UNIT SHALL BE UNABLE TO RESTART UNTIL THE HIGH CONDENSATE CONDITION HAS BEEN MANUALLY RECTIFIED.

SETPOINT

1. SPACE TEMPERATURE SET POINT:
   FCU 80 DEG F (ADJ) COOLING, 60 DEG F (ADJ) HEATING.

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ISSUE DATE: 01SEP2023	PROJECT NO: 22-29863
DESIGNED: SWANSON RINK	ENGINEER: GO

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PROJECT: BUILDING B

TITLE: DECOMMISSIONING ROOM DIAGRAM

DRAWING: M804

E1	SCALE: AS SPECIFIED	AGILE No:	REV: A

BOD VERSION: OPTDC-2.0
PDF PRINT DATE: 8/17/2023 1:48:28 PM 060

DATAHALL AIR HANDLING UNIT SCHEDULE (OWNER FURNISHED/CONTRACTOR INSTALLED)

					FAN DATA						EVAPORATIVE COOLER PERFORMANCE										AIR FILTRATION						ELECTRICAL INFORMATION				
											DESIGN DAY PERFORMANCE				EVAPORATIVE PAD						PREFILTER			FINAL FILTER			PRIMARY POWER		OTHER POWER		
UNIT TAG	PHASE	MANUFACTURER	LOCATION	SERVES	CFM	TSP (IN WC)	ESP (IN WC)	QTY. OF FANS	MAX TOTAL FAN INPUT POWER (KW)	MAX RATED INPUT POWER PER FAN (KW)	EAT DB	EAT WB	LAT DB	LAT WB	EVAPORATION RATE (GPM)	MAX FACE VELOCITY (FPM)	MIN. THICKNESS (IN)	COOLING STAGES (TOTAL)	END-OF-LIFE EVAPORATIVE EFFICIENCY	CONDUCTIVITY METER SET POINT LOW/HIGH (MICRO SIEMENS/CM)	THICKNESS (IN)	FILTER RATING	FILTER LOADING (IN. WC)	THICKNESS (IN)	FILTER RATING	FILTER LOADING (IN. WC)	VOLTS/PH	MAX REQ'D MCA	MAX REQ'D MOP	CONTROL POWER VOLTS/PH/AMPS	INTERNAL LIGHTS/RECEPTACLES VOLTS/PH/AMPS	NOTES
DAHU 1.1-001	PHASE 01	ALLIANCE	DAHU GALLERY 1.1	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.1-002	PHASE 01	ALLIANCE	DAHU GALLERY 1.1	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.1-003	PHASE 01	ALLIANCE	DAHU GALLERY 1.1	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.1-004	PHASE 01	ALLIANCE	DAHU GALLERY 1.1	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.1-005	PHASE 01	ALLIANCE	DAHU GALLERY 1.1	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.1-006	PHASE 01	ALLIANCE	DAHU GALLERY 1.1	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.1-007	PHASE 01	ALLIANCE	DAHU GALLERY 1.1	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.1-008	PHASE 01	ALLIANCE	DAHU GALLERY 1.1	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.1-009	PHASE 01	ALLIANCE	DAHU GALLERY 1.1	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.1-010	PHASE 01	ALLIANCE	DAHU GALLERY 1.1	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.2-011	PHASE 02	ALLIANCE	DAHU GALLERY 1.2	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.2-012	PHASE 02	ALLIANCE	DAHU GALLERY 1.2	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.2-013	PHASE 02	ALLIANCE	DAHU GALLERY 1.2	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.2-014	PHASE 02	ALLIANCE	DAHU GALLERY 1.2	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.2-015	PHASE 02	ALLIANCE	DAHU GALLERY 1.2	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.2-016	PHASE 02	ALLIANCE	DAHU GALLERY 1.2	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.2-017	PHASE 02	ALLIANCE	DAHU GALLERY 1.2	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.2-018	PHASE 02	ALLIANCE	DAHU GALLERY 1.2	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.3-019	PHASE 03	ALLIANCE	DAHU GALLERY 1.3	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.3-020	PHASE 03	ALLIANCE	DAHU GALLERY 1.3	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.3-021	PHASE 03	ALLIANCE	DAHU GALLERY 1.3	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.3-022	PHASE 03	ALLIANCE	DAHU GALLERY 1.3	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.3-023	PHASE 03	ALLIANCE	DAHU GALLERY 1.3	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.3-024	PHASE 03	ALLIANCE	DAHU GALLERY 1.3	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.3-025	PHASE 03	ALLIANCE	DAHU GALLERY 1.3	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.3-026	PHASE 03	ALLIANCE	DAHU GALLERY 1.3	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.4-027	PHASE 04	ALLIANCE	DAHU GALLERY 1.4	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.4-028	PHASE 04	ALLIANCE	DAHU GALLERY 1.4	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.4-029	PHASE 04	ALLIANCE	DAHU GALLERY 1.4	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.4-030	PHASE 04	ALLIANCE	DAHU GALLERY 1.4	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.4-031	PHASE 04	ALLIANCE	DAHU GALLERY 1.4	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.4-032	PHASE 04	ALLIANCE	DAHU GALLERY 1.4	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.4-033	PHASE 04	ALLIANCE	DAHU GALLERY 1.4	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.4-034	PHASE 04	ALLIANCE	DAHU GALLERY 1.4	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.5-035	PHASE 05	ALLIANCE	DAHU GALLERY 1.5	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.5-036	PHASE 05	ALLIANCE	DAHU GALLERY 1.5	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.5-037	PHASE 05	ALLIANCE	DAHU GALLERY 1.5	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.5-038	PHASE 05	ALLIANCE	DAHU GALLERY 1.5	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.5-039	PHASE 05	ALLIANCE	DAHU GALLERY 1.5	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.5-040	PHASE 05	ALLIANCE	DAHU GALLERY 1.5	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.5-041	PHASE 05	ALLIANCE	DAHU GALLERY 1.5	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.5-042	PHASE 05	ALLIANCE	DAHU GALLERY 1.5	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.6-043	PHASE 06	ALLIANCE	DAHU GALLERY 1.6	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.6-044	PHASE 06	ALLIANCE	DAHU GALLERY 1.6	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.6-045	PHASE 06	ALLIANCE	DAHU GALLERY 1.6	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.6-046	PHASE 06	ALLIANCE	DAHU GALLERY 1.6	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.6-047	PHASE 06	ALLIANCE	DAHU GALLERY 1.6	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.6-048	PHASE 06	ALLIANCE	DAHU GALLERY 1.6	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.6-049	PHASE 06	ALLIANCE	DAHU GALLERY 1.6	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 1.6-050	PHASE 06	ALLIANCE	DAHU GALLERY 1.6	DATA HALL 1	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.1-051	PHASE 07	ALLIANCE	DAHU GALLERY 2.1	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.1-052	PHASE 07	ALLIANCE	DAHU GALLERY 2.1	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.1-053	PHASE 07	ALLIANCE	DAHU GALLERY 2.1	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.1-054	PHASE 07	ALLIANCE	DAHU GALLERY 2.1	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.1-055	PHASE 07	ALLIANCE	DAHU GALLERY 2.1	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.1-056	PHASE 07	ALLIANCE	DAHU GALLERY 2.1	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.1-057	PHASE 07	ALLIANCE	DAHU GALLERY 2.1	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.1-058	PHASE 07	ALLIANCE	DAHU GALLERY 2.1	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.1-059	PHASE 07	ALLIANCE	DAHU GALLERY 2.1	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.1-060	PHASE 07	ALLIANCE	DAHU GALLERY 2.1	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.2-061	PHASE 08	ALLIANCE	DAHU GALLERY 2.2	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.2-062	PHASE 08	ALLIANCE	DAHU GALLERY 2.2	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.2-063	PHASE 08	ALLIANCE	DAHU GALLERY 2.2	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.2-064	PHASE 08	ALLIANCE	DAHU GALLERY 2.2	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.2-065	PHASE 08	ALLIANCE	DAHU GALLERY 2.2	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.2-066	PHASE 08	ALLIANCE	DAHU GALLERY 2.2	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.2-067	PHASE 08	ALLIANCE	DAHU GALLERY 2.2	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.2-068	PHASE 08	ALLIANCE	DAHU GALLERY 2.2	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.3-069	PHASE 09	ALLIANCE	DAHU GALLERY 2.3	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.3-070	PHASE 09	ALLIANCE	DAHU GALLERY 2.3	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV 8	0.31	22	MERV 13	0.49	460/3	98 A	100	120/1/120	120/1/15	1 - 15
DAHU 2.3-071	PHASE 09	ALLIANCE	DAHU GALLERY 2.3	DATA HALL 2	93,500	3.45	1.2	12	54.4	5.2	99.3	82.1	84.4	82	2.75	730	10	8	0.78	1250/1350	2	MERV

EXHAUST FAN SCHEDULE - OFFICE

UNIT TAG	PHASE	MANUFACTURER	MODEL	LOCATION	SERVES	DESIGN AIR FLOW (CFM)	STATIC PRESSURE (IN WG)	RPM	DRIVE TYPE	BHP	MOTOR DATA		WEIGHT (LBS)	NOTES
											VOLTS	PHASE		
EF 1	PHASE 01	GREENHECK	QEI-15	ROOF	SHREDDER	2200	0.75	1341	DIRECT	0.75	208	3	357	1,2,3,4,5,6
EF 2	PHASE 01	GREENHECK	G-097-VG	ROOF	WORKSHOP 01.537	200	0.5	1408	DIRECT	0.07	115	1	38	1,2
EF 3	PHASE 01	GREENHECK	G-097-VG	ROOF	BATTERY STORAGE 01.585	100	0.5	1136	DIRECT	0.07	115	1	38	1,2

NOTES:
1. PROVIDE WITH MANUFACTURERS ROOF CURB.
2. PROVIDE WITH BACKDRAFT DAMPER AND BIRDSCREEN.
3. PROVIDE WITH FACTORY BELT TUBE.
4. PROVIDE WITH DISCONNECT SWITCH SUITABLE FOR EXHAUST FAN.
5. UNIT START/STOP CONTROL SHALL BE BY A MANUAL PUSH BUTTON IN THE FIRST FLOOR SHREDDER ROOM. REFER TO DRAWING MH210.05.
6. CONTRACTOR TO PROVIDE SEPARATE VARIABLE FREQUENCY DRIVE, SEE VFD SCHEDULE FOR MORE DETAIL.

ELECTRIC UNIT HEATER SCHEDULE

UNIT TAG	PHASE	MANUFACTURER	MODEL	DESCRIPTION	MOUNTING	SERVES	CFM	TEMP RISE (DEG F)	HEATER KW	ELECTRICAL DATA			AIR THROW (FT)	THROW DIRECTION	NOTES
										VOLTS	PH	HZ			
EUH 1	PHASE 06	MARKEL	5100	UNIT HEATER	HORIZONTAL	DH1 PERIMETER HALL	400	40	5	480	3	60	12	HORIZONTAL	1
EUH 2	PHASE 06	MARKEL	5100	UNIT HEATER	HORIZONTAL	DH1 PERIMETER HALL	400	40	5	480	3	60	12	HORIZONTAL	1
EUH 3	PHASE 03	MARKEL	3320	SURFACE MOUNTED	HORIZONTAL	DH 1 EGRESS CORRIDOR	175	-	3	277	1	60	-	HORIZONTAL	3
EUH 4	PHASE 01	MARKEL	3320	SURFACE MOUNTED	HORIZONTAL	DH1 CORRIDOR	175	-	3	277	1	60	-	HORIZONTAL	3
EUH 5	PHASE 01	MARKEL	3320	SURFACE MOUNTED	HORIZONTAL	STAIR 1	175	-	3	277	1	60	-	HORIZONTAL	3
EUH 6	PHASE 01	MARKEL	3320	SURFACE MOUNTED	HORIZONTAL	DH2 CORRIDOR	175	-	3	277	1	60	-	HORIZONTAL	3
EUH 7	PHASE 01	MARKEL	4125	WALL, RECESSED	HORIZONTAL	SERVICE VESTIBULE	N/A	-	1	277	1	60	-	HORIZONTAL	2
EUH 8	PHASE 01	MARKEL	5100	UNIT HEATER	HORIZONTAL	LOADING DOCK	1100	57	20	480	3	60	56	HORIZONTAL	1
EUH 9	PHASE 01	MARKEL	5100	UNIT HEATER	HORIZONTAL	LOADING DOCK	1100	57	20	480	3	60	56	HORIZONTAL	1
EUH 10	PHASE 01	MARKEL	3320	SURFACE MOUNTED	HORIZONTAL	CORRIDOR	175	-	3	277	1	60	-	HORIZONTAL	3
EUH 11	PHASE 09	MARKEL	3320	SURFACE MOUNTED	HORIZONTAL	DH 2 EGRESS CORRIDOR	175	-	3	277	1	60	-	HORIZONTAL	3
EUH 12	PHASE 12	MARKEL	5100	SURFACE MOUNTED	HORIZONTAL	DH2 PERIMETER CORRIDOR	1	40	5	480	3	60	12	HORIZONTAL	1
EUH 13	PHASE 12	MARKEL	5100	SURFACE MOUNTED	HORIZONTAL	DH2 PERIMETER CORRIDOR	1	40	5	480	3	60	12	HORIZONTAL	1

NOTES:
1. HORIZONTAL FAN FORCED UNIT HEATER. PROVIDE WALL MOUNT THERMOSTAT, MAGNETIC CONTACTOR, SUB CIRCUIT FUSING, FAN DELAY ON SHUT DOWN, HEATING DELAY ON START UP, CONTROL TRANSFORMER, DISCONNECT SWITCH, MOUNTING BRACKETS, AND THERMAL CIRCUIT SWITCH FOR EACH ELEMENT.
2. RECESSED CONVECTOR-TYPE ELECTRIC HEATER WITH INTEGRAL THERMOSTAT AND DISCONNECT, PROVIDE HARDWARE FOR RECESSED INSTALLATION IN WALL.
3. SURFACE MOUNTED FAN FORCED WALL HEATER WITH INTEGRAL THERMOSTAT AND DISCONNECT, PROVIDE HARDWARE FOR SURFACE MOUNTED INSTALLATION.

DIFFUSER AND GRILLE SCHEDULE

UNIT TAG	CFM RANGE (CFM)	MANUFACTURER	MODEL	TYPE	DUTY	MATERIAL	DIMENSIONS			NOTES
							FACE	NECK	BRANCH DUCT	
CD	10-45	TITUS	TMSA	DIFFUSER	SUPPLY	STEEL	12" x 12"	4" DIA	4" DIA	1
CD	50-100	TITUS	TMSA	DIFFUSER	SUPPLY	STEEL	12" x 12"	6" DIA	6" DIA	1
CD	105-230	TITUS	TMSA	DIFFUSER	SUPPLY	STEEL	24" x 24"	8" DIA	8" DIA	1
CD	235-420	TITUS	TMSA	DIFFUSER	SUPPLY	STEEL	24" x 24"	10" DIA	10" DIA	
(2)SG	355-1200	TITUS	300RS	GRILLE	SUPPLY	STEEL	-	48" x 18"	22" x 10"	
SG	10-45	TITUS	300RS	GRILLE	SUPPLY	STEEL	-	6" x 6"	4" DIA	
SG	50-100	TITUS	300RS	GRILLE	SUPPLY	STEEL	-	6" x 6"	6" DIA	
SG	100-1200	TITUS	300RS	GRILLE	SUPPLY	STEEL	-	14" x 14"	14" x 14"	
SG	105-200	TITUS	300RS	GRILLE	SUPPLY	STEEL	-	8" x 6"	8" x 6"	
SG	205-350	TITUS	300RS	GRILLE	SUPPLY	STEEL	-	12" x 10"	10" x 8"	
SG	355-1200	TITUS	300RS	GRILLE	SUPPLY	STEEL	-	48" x 18"	22" x 10"	
SG	3000	TITUS	300RS	GRILLE	SUPPLY	STEEL	36" x 24"	36" x 24"	36" x 24"	
SG	11250	TITUS	300RS	GRILLE	SUPPLY	STEEL	-	48" x 36"	10" x 8"	
RG	0-500	TITUS	PAR/PXP	GRILLE	RETURN	STEEL	24" x 12"	22" x 10"	N/A	2
RG	0-1000	TITUS	PAR/PXP	GRILLE	RETURN	STEEL	24" x 24"	22" x 22"	N/A	2
EG	10-100	TITUS	350RL	GRILLE	EXHAUST	STEEL	-	6" x 6"	4" DIA	5
EG	50-100	TITUS	350RL	GRILLE	EXHAUST	STEEL	-	6" x 6"	6" DIA	5
EG	105-200	TITUS	350RL	GRILLE	EXHAUST	STEEL	-	8" x 8"	8" DIA	5
EG	205-400	TITUS	350RL	GRILLE	EXHAUST	STEEL	-	10" x 10"	10" x 8"	5
EG	1100	TITUS	350RL	GRILLE	EXHAUST	STEEL	-	14" x 14"	14"x14"	3
TG	N/A	TITUS	350ZRL	GRILLE	TRANSFER	STEEL	-	PLANS	PLANS	4

NOTES:
1. ALL CEILING DIFFUSERS INSTALLED IN 24"x24" CEILING LAY-IN PANEL, EXCEPT WHERE NOTED. DIFFUSERS LOCATED IN RESTROOMS SHALL BE ALUMINUM (TITUS TMSA-AA).
2. PROVIDE SOUND ATTENUATING BOOT ON RETURN GRILLES IN CONFERENCE ROOMS, PRIVATE OFFICES, SECURITY CONTROL ROOM, AND QUIET ROOM. RETURN GRILLES WITH SOUND BOOT SHALL BE TITUS PAR. RETURN GRILLES WITHOUT SOUND BOOT SHALL BE TITUS PXP.
3. CEILING MOUNTED GRILLES.
4. WALL/DUCT MOUNTED GRILLES.
5. EXHAUST GRILLES LOCATED IN RESTROOMS AND JANITOR ROOMS SHALL BE ALUMINUM (TITUS 350FL).

DAMPER SCHEDULE

UNIT TAG	MANUFACTURER	MODEL	SERVES	DUTY	NOM. DIMENSIONS			AREA (SQ FT)	VELOCITY	BLADE TYPE	DAMPER TYPE	BLADE & EDGE SEALS	ACTUATOR CONTROL	MIN. TORQUE LOADING IN-LB/SQ.FT	DESIGN MIN TORQUE IN-LB	FAIL TYPE	CONTROL SIGNAL	NOTES
					HEIGHT (IN.)	WIDTH (IN.)	DEPTH (IN.)											
CSD X.X-XX	GREENHECK	VCD-23	COLD AISLE SUPPLY	SUPPLY	48	48	5	16 SF	1000	AIRFOIL	OPPOSED	BLADE	NO	N/A	N/A	N/A	N/A	1, 2, 5, 18
MSD X.X-XX	GREENHECK	VCD-18	DAHU GALLERIES	SUPPLY	12	12	5	1 SF	600	AIRFOIL	PARALLEL	YES	NO	N/A	N/A	N/A	N/A	1, 2, 4, 6, 10, 17
RSD X.X-XX	GREENHECK	VCD-33	COLD AISLE	SUPPLY	56	130	5	51 SF	1850	AIRFOIL	OPPOSED	YES	YES	7.5	120	SPRING OPEN	2-10 VDC	1, 2, 3, 5, 6, 7, 8, 11, 12, 13, 14, 15
RAD X.X-XX	GREENHECK	VCD-33	DAHU INTAKE	RETURN	64	152	5	68 SF	1375	AIRFOIL	NOTE 7	YES	YES	5	450	SPRING CLOSED	2-10 VDC	1, 2, 5, 6, 11, 12, 13, 14, 16, 17, 19, 21
OAD 004 / 006 / 054 / 056	GREENHECK	VCD-33	DAHU INTAKE	OUTSIDE AIR	120	150	5	125 SF	567	AIRFOIL	OPPOSED	YES	YES	5	750	SPRING OPEN	2-10 VDC	1, 2, 5, 6, 11, 12, 13, 14, 16, 19, 20, 22, 23
OAD X.X-X(EVEN X)	GREENHECK	VCD-33	DAHU INTAKE	OUTSIDE AIR	120	180	5	150 SF	1169	AIRFOIL	OPPOSED	YES	YES	5	750	SPRING OPEN	2-10 VDC	1, 2, 5, 6, 11, 12, 13, 14, 16, 19, 20, 22, 23
OAD X.X-X(ODD X)	GREENHECK	VCD-33	DAHU INTAKE	OUTSIDE AIR	96	120	5	80 SF	1063	AIRFOIL	OPPOSED	YES	YES	5	750	SPRING OPEN	2-10 VDC	1, 2, 5, 6, 11, 12, 13, 14, 16, 19, 20, 22, 23

NOTES:
1. CONTRACTOR TO VERIFY QUANTITY WITH CONTRACT DRAWINGS.
2. MECHANICAL CONTRACTOR TO FURNISH AND INSTALL DAMPER.
3. TYPICAL FOR ALL SUPPLY DAMPERS IN DATA HALL SUPPY AIR HEADER.
4. TYPICAL FOR ALL SUPPLY DAMPERS SERVING DAHU GALLERIES.
5. VERIFY FRAMING AND SUPPORT REQUIREMENTS WITH GENERAL CONTRACTOR.
6. GALVANIZED FINISH.
7. SEE MECHANICAL DETAILS FOR DAMPER CONFIGURATION.
8. MECHANICAL CONTRACTOR TO PROVIDE WITH MODULATING ACTUATOR. 24V POWER FROM BMS PANEL.
9. TYPICAL OF ALL COLD AISLE SUPPLY DAMPERS.
10. PROVIDE WITH MANUAL QUADRANT KIT FOR BALANCING.
11. SEE MINIMUM TORQUE LOADING REFERENCE CHART.
12. TORQUE REQUIREMENT PROVIDED IS INDICATIVE. CONTRACTOR MUST VERIFY.
13. IF TWO ACTUATORS,TORQUE REQUIREMENT PER ACTUATOR IS HALF OF DESIGN MINIMUM TORQUE.
14. "X.X-XX" TO BE REPLACED WITH CONTROL AREA NUMBER (X.X) AND SEQUENTIAL IDENTIFIER CORRESPONDING TO THE DAHU NUMBER.
15. PROVIDE WITH JACK SHAFT TO ALLOW ACTUATOR INSTALLATION WITHOUT EXTENDING BEYOND FACE OF WALL.
16. WITH ACTUATOR AND FIELD WIRING TO DAHU CONTROLLER.
17. COORDINATE INSTALLATION OF 1"x1"x12-GAGE (0.105" DIA) MESH SECURITY SCREEN ON RED-ZONE SIDE OF DAMPER.
18. PROVIDE WITH ADJUSTABLE PRESSURE CONTROLLER (APC), AND INSTALL IN CENTER OF EACH COLD AISLE. SET ADJUSTABLE PRESSURE CONTROLLER (APC) TO OPEN AT 0.18" WG.
19. MECHANICAL CONTRACTOR TO PROVIDE WITH MODULATING ACTUATOR. 24V ACTUATOR POWER FROM DAHU. ALL ACTUATORS POWERED IN PARALLEL, NOT IN SERIES.
20. MOUNT ON STANDOFF 6" FROM FACE OF DAMPER, 60° ABOVE BOTTOM OF DAMPER.
21. RETURN AIR DAMPERS SHALL INCLUDE 4 DAMPER SECTIONS CONTROLLED BY TWO BELIMO MODEL GKB24-SR ACTUATORS IN A LEAD/FOLLOW ARRANGEMENT ON SEPARATE SHAFTS.
22. OUTSIDE AIR DAMPERS SHALL INCLUDE 8 DAMPER SECTIONS CONTROLLED BY FOUR BELIMO MODEL EFB24-SR N4 ACTUATORS IN A LEAD/FOLLOW ARRANGEMENT ON SEPARATE SHAFTS.
23. OUTSIDE AIR DAMPERS SHALL BE INSTALLED TO PERFORM AT A LEAKAGE CLASS OF 1A (3CFM/FT2 AT 1" WG)

MINIMUM TORQUE LOADING REFERENCE CHART

DAMPER BLADE TYPE	TORQUE LOADING IN-LBS/SQ-FT		
	<1000 FPM	1000-2500 FPM	2500-3500 FPM
PARALLEL BLADE W/ EDGE SEALS	7	10.5	14
OPPOSED BLADE W/ EDGE SEALS	5	7.5	10
PARALLEL BLADE W/O EDGE SEALS	4	6	8
OPPOSED BLADE W/O EDGE SEALS	3	4.5	6

VARIABLE FREQUENCY DRIVE SCHEDULE

UNIT TAG	PHASE	MANUFACTURER	MODEL	LOCATION	VFD/EQUIPMENT SERVED	CABINET SIZE H" x W" x D"	MOTOR HP	AMBIENT °F SUMMER/WINTER	MOTOR FLA	DRIVE RATING (A)	VOLTS/PH	BYPASS	ENCLOSURE RATING	WEIGHT LB	NOTES
VFD-EF 1&3	1	ABB	ACH580	ROOF	EF 1	-	3/4	125 / -6.3	-	-	208/3	NO		-	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15

NOTES:
1. VFD PROVIDED AND MOUNTED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR.
2. DRIVES SHALL BE PROVIDED WITH NEMA-4X VENTILATED ENCLOSURE.
3. DRIVES SHALL BE PROVIDED WITH A MAIN INPUT DISCONNECT SWITCH, CLASS J INPUT LINE FUSES FOR MOTORS AS APPROVED BY VFD MANUFACTURER.
4. PROVIDE AUXILIARY LOCKABLE DISCONNECT WITH ALL REQUIRED INTERLOCK CONTROLS AS REQUIRED TO TURN OFF THE VFD.
5. SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
6. PROVIDE VFD WITH COMMUNICATIONS CARDS TO MATCH CONTROLS SYSTEM. COORDINATE REQUIREMENTS WITH CONTROLS CONTRACTOR.
7. SIZE OF VFD FOR EACH MOTOR IS BASED ON MOTOR AMPS VALUES SHOWN ON PLANS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING CORRECT VFD SIZE WITH MOTOR PROVIDED.
8. ALL VARIABLE FREQUENCY DRIVES ON THE PROJECT SHALL BE FROM THE SAME MANUFACTURER.
9. VARIABLE FREQUENCY DRIVES SHALL SERVE SINGLE MOTORS.
10. REFER VFD SPECIFICATION DOCUMENT FOR CRITICAL PARAMETERS SETTING INFORMATION.
11. MINIMUM 5 KAIC SCCR RATING.
12. PROVIDE A/C AND HEATERS WITHIN VFD ENCLOSURE AS APPLICABLE FOR AMBIENT CONDITIONS @ SITE.
13. SITE ELEVATION IS 150 ASL.
14. VFD SHALL BE ULTRA-LOW HARMONIC.
15. PROVIDE SHEET METAL SHIELD/COVER TO LIMIT UV EXPOSURE TO VFD DISPLAY SCREEN.

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RFP - GC - LCK062 Shell-ROMP1-ROMP2
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PROJECT ADDRESS
2890-2970 Beech Road NW, City of New Albany County, Ohio

PROJECT DELIVERY PACKAGE
BID

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ISSUE DATE: 01SEP2023 | PROJECT NO: 22-29863
DESIGNED: SWANSON RINK | ENGINEER: GO

MARK	DATE	DESCRIPTION
A	01SEP2023	BID

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PROJECT: BUILDING B
TITLE: MECHANICAL SCHEDULES
DRAWING: M901

E1 | SCALE: | AGILE No: | REV: A

BOD VERSION: OPTDC-v2.0
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EXHAUST FAN SCHEDULE - DATA HALL (OWNER FURNISHED/CONTRACTOR INSTALLED)

UNIT TAG	CONTROLLER TAG	PHASE	MANUFACTURER	MODEL	LOCATION	SERVES	DESIGN AIR FLOW (CFM)	EXTERNAL STATIC PRESSURE (IN WG)	MAX RPM	DRIVE TYPE	MOTOR DATA					ECM	MAXIMUM WEIGHT (LBS)	NOTES
											MCA HP	FLA HP	MOP	VOLTS	PHASE			
EF 1.1-001	EFBC 1.1-001	PHASE 01	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.1-002	EFBC 1.1-002	PHASE 01	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.1-003	EFBC 1.1-003	PHASE 01	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.1-004	EFBC 1.1-004	PHASE 01	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.1-005	EFBC 1.1-005	PHASE 01	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.1-006	EFBC 1.1-006	PHASE 01	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.1-007	EFBC 1.1-007	PHASE 01	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.1-008	EFBC 1.1-008	PHASE 01	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.1-009	EFBC 1.1-009	PHASE 01	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.1-010	EFBC 1.1-010	PHASE 01	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.2-011	EFBC 1.2-011	PHASE 02	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.2-012	EFBC 1.2-012	PHASE 02	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.2-013	EFBC 1.2-013	PHASE 02	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.2-014	EFBC 1.2-014	PHASE 02	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.2-015	EFBC 1.2-015	PHASE 02	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.2-016	EFBC 1.2-016	PHASE 02	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.2-017	EFBC 1.2-017	PHASE 02	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.2-018	EFBC 1.2-018	PHASE 02	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.3-019	EFBC 1.3-019	PHASE 03	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.3-020	EFBC 1.3-020	PHASE 03	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.3-021	EFBC 1.3-021	PHASE 03	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.3-022	EFBC 1.3-022	PHASE 03	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.3-023	EFBC 1.3-023	PHASE 03	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.3-024	EFBC 1.3-024	PHASE 03	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.3-025	EFBC 1.3-025	PHASE 03	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.3-026	EFBC 1.3-026	PHASE 03	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.4-027	EFBC 1.4-027	PHASE 04	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.4-028	EFBC 1.4-028	PHASE 04	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.4-029	EFBC 1.4-029	PHASE 04	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.4-030	EFBC 1.4-030	PHASE 04	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.4-031	EFBC 1.4-031	PHASE 04	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.4-032	EFBC 1.4-032	PHASE 04	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.4-033	EFBC 1.4-033	PHASE 04	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.4-034	EFBC 1.4-034	PHASE 04	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.5-035	EFBC 1.5-035	PHASE 05	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.5-036	EFBC 1.5-036	PHASE 05	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.5-037	EFBC 1.5-037	PHASE 05	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.5-038	EFBC 1.5-038	PHASE 05	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.5-039	EFBC 1.5-039	PHASE 05	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.5-040	EFBC 1.5-040	PHASE 05	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.5-041	EFBC 1.5-041	PHASE 05	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.5-042	EFBC 1.5-042	PHASE 05	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.6-043	EFBC 1.6-043	PHASE 06	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.6-044	EFBC 1.6-044	PHASE 06	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.6-045	EFBC 1.6-045	PHASE 06	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.6-046	EFBC 1.6-046	PHASE 06	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.6-047	EFBC 1.6-047	PHASE 06	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.6-048	EFBC 1.6-048	PHASE 06	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.6-049	EFBC 1.6-049	PHASE 06	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 1.6-050	EFBC 1.6-050	PHASE 06	ACI	AW-A	ROOF	DATA HALL 1	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.1-051	EFBC 2.1-051	PHASE 07	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.1-052	EFBC 2.1-052	PHASE 07	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.1-053	EFBC 2.1-053	PHASE 07	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.1-054	EFBC 2.1-054	PHASE 07	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.1-055	EFBC 2.1-055	PHASE 07	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.1-056	EFBC 2.1-056	PHASE 07	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.1-057	EFBC 2.1-057	PHASE 07	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.1-058	EFBC 2.1-058	PHASE 07	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.1-059	EFBC 2.1-059	PHASE 07	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.1-060	EFBC 2.1-060	PHASE 07	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.2-061	EFBC 2.2-061	PHASE 08	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.2-062	EFBC 2.2-062	PHASE 08	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.2-063	EFBC 2.2-063	PHASE 08	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.2-064	EFBC 2.2-064	PHASE 08	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.2-065	EFBC 2.2-065	PHASE 08	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.2-066	EFBC 2.2-066	PHASE 08	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.2-067	EFBC 2.2-067	PHASE 08	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.2-068	EFBC 2.2-068	PHASE 08	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.3-069	EFBC 2.3-069	PHASE 09	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.3-070	EFBC 2.3-070	PHASE 09	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.3-071	EFBC 2.3-071	PHASE 09	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.3-072	EFBC 2.3-072	PHASE 09	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.3-073	EFBC 2.3-073	PHASE 09	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.3-074	EFBC 2.3-074	PHASE 09	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.3-075	EFBC 2.3-075	PHASE 09	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.3-076	EFBC 2.3-076	PHASE 09	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.4-077	EFBC 2.4-077	PHASE 10	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.4-078	EFBC 2.4-078	PHASE 10	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.4-079	EFBC 2.4-079	PHASE 10	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.4-080	EFBC 2.4-080	PHASE 10	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.4-081	EFBC 2.4-081	PHASE 10	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.4-082	EFBC 2.4-082	PHASE 10	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.4-083	EFBC 2.4-083	PHASE 10	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.4-084	EFBC 2.4-084	PHASE 10	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.5-085	EFBC 2.5-085	PHASE 11	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.5-086	EFBC 2.5-086	PHASE 11	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.5-087	EFBC 2.5-087	PHASE 11	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.5-088	EFBC 2.5-088	PHASE 11	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.5-089	EFBC 2.5-089	PHASE 11	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.5-090	EFBC 2.5-090	PHASE 11	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.5-091	EFBC 2.5-091	PHASE 11	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.5-092	EFBC 2.5-092	PHASE 11	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.6-093	EFBC 2.6-093	PHASE 12	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.6-094	EFBC 2.6-094	PHASE 12	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.6-095	EFBC 2.6-095	PHASE 12	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.6-096	EFBC 2.6-096	PHASE 12	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.6-097	EFBC 2.6-097	PHASE 12	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.6-098	EFBC 2.6-098	PHASE 12	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.6-099	EFBC 2.6-099	PHASE 12	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12
EF 2.6-100	EFBC 2.6-100	PHASE 12	ACI	AW-A	ROOF	DATA HALL 2	93,500	0.5	1190	DIRECT	45.1	43.4	55	460	3	Y	14,500	1-12

NOTES:

1. VENDOR TO COMPLY TO ALL CLIENT SPECIFICATION AND DRAWINGS
2. INSTALL UNITS IN STRICT ACCORDANCE TO MANUFACTURERS GUIDELINES AND REQUIREMENTS. ALL FANS TO BE MOUNTED HORIZONTALLY
3. REFER TO SPECIFICATIONS AND DRAWNGS FOR ADDITIONAL DESIGN CRITERIA AND CONTROL SEQUENCE
4. VENDOR TO PROVIDE COMPLETED DATA SHEET WITH QUOTATION INCLUDING ALL DIMENSIONS AND MOTOR SIZE
5. PROVIDE WITH FACTORY SUPPLIED OUTDOOR WEATHERED ENCLOSURE. FAN MOTORS, FAN MOTOR COVER AND MOTORISED ALUMINUM FAN SUCTION ISOLATION DAMPER
6. PROVIDE FAN WITH DISCONNECT SWITCH - SINGLE POWER CONNECTION
7. MECHANICAL CONTRACTOR IS TO PROVIDE ALL INTERCONNECTING LOW-VOLTAGE POWER AND CONTROL WIRING BETWEEN EXHAUST FAN AND BANK CONTROLLER.
8. PROVIDE ALL DAMPERS AND ACTUATORS. ALL CONTROL CABLING TO BE ROUTED BACK TO BMS CONTROL PANEL AND FULLY COORDINATED WITH CONTROLS CONTRACTOR
9. PROVIDE GRAVITY BACKDRAFT DAMPER
10. PROVIDE DISCHARGE GUARDS
11. VENDOR TO INCLUDE SAFE MEANS OF MAN ACCESS TO EXTRACT FANS MOUNTED ON SUPPORT STEEL AT ROOF LEVEL
12. VENDOR TO PROVIDE FAN BANK CONTROLLER FOR REMOTE MOUNTING INSIDE DATA HALL. REFER TO SPECIFICATIONS.

CONTROL LINE FILTERS

	MANUFACTURER	MODEL	QUANTITY OF WIRES	EQUIPMENT SERVED	NOTES
LF-1	ETS-LINDGREN	LTC-X640	4	SPLIT SYSTEM (HP 1-9, 1-10 & CU 1-9, 1-10)	1,2,3
LF-2	ETS-LINDGREN	LTC-X640	2	VRF SYSTEM (BS 3-1, CU-3)	1,2,4
LF-3	ETS-LINDGREN	LTC-X640	4	MAKEUP AIR UNIT (MAU 1-1, 1-2)	1,2,5
LF-4	ETS-LINDGREN	LTC-X640	5	CRAC SPLIT SYSTEMS (CRAC 1-1, 1-2, 1-3, 1-4, 1-5, 1-6 & ACCU 1-1, 1-2, 1-3, 1-4, 1-5, 1-6)	1,2,6
LF-5	ETS-LINDGREN	LTC-X640	2	DOAS PACKAGED UNIT (DOAS-2)	1,2,7
LF-6	ETS-LINDGREN	LTC-X640	2	ROOFTOP UNIT (RTU 1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7, 1-8, 1-9)	1,2,8

NOTES:

1. VERIFY WIRE QUANTITY WITH ACTUAL PRODUCT SUBMITTED FOR INSTALLATION.
2. PROVIDE WITH OPTIONAL PENTRATION ASSEMBLY KIT.
3. WIRES 1 AND 2 (208/230V), WIRE 3 (24VDC), WIRE 4 (GROUND WIRE FROM INDOOR UNIT).
4. CONTROL WIRE BETWEEN CONDENSING UNIT AND BRANCH SELECTOR BOX REQUIRES SHIELDED STRANDED (1) AWG 16-2 WIRES.
5. CONTROL WIRE FROM CONTROLLER TO MAU REQUIRES (1) AWG 18-2 WIRES, (1) (4-20MA) DISCHARGE AIR TEMPERATURE WIRE AND (1) SWITCHED WIRE FOR ON/OFF.
6. CONTROL WIRING BETWEEN CRAC ICOM CONTROLLER AND CONDENSING UNIT REQUIRES (1) AWG 18-3 WIRE (1) BELDEN 89207 CANBUS AWG 20-2 WIRES.
7. CONTROL WIRING BETWEEN THERMOSTAT TO ROOF MOUNTED DOAS PACKAGED UNIT REQUIRES (2) AWG 18-2 WIRES.
8. CONTROL WIRING BETWEEN THERMOSTAT TO ROOFTOP UNIT REQUIRES (2) AWG 18-2 WIRES.
9. CONTROL WIRE FROM INTERIOR SPACE EXHAUST FAN SWITCH TO ROOF MOUNTED EXHAUST FAN (24V).

DOAS 1 OSA CALCULATION USING SUM OF OA METHOD FOR DEDICATED OUTSIDE AIR UNIT (DOAS)

	ROOM NUMBER	ROOM NAME	SPACE TYPE	AREA (SQ. FT.)	Area Outdoor Air Rate Ra	Area Outdoor Air RaAz	Occupancy Pz	Occupant Outdoor Air Rate Rp	Occupant Outdoor Air RpPz	Minimum Outdoor Air RaAz+RpPz	Provided Outdoor Air
DOAS 1	01.520	CORRIDOR	CORRIDOR	4330	0.06	260	0	0	0	260	340
DOAS 1	01.521	OPEN OFFICE	OFFICE	1645	0.06	99	26	5	130	229	295
DOAS 1	01.522	SECURITY VESTIBULE	LOBBY	565	0.06	34	2	5	10	44	60
DOAS 1	01.523	LOADING DOCK	WAREHOUSE	1360	0.12	163	2	10	20	184	240
DOAS 1	01.531/532/545	PRIVATE OFFICE	OFFICE	200	0.06	12	3	5	15	27	90
DOAS 1	01.533	SECURITY CONTROL ROOM	OFFICE	340	0.06	20	4	5	20	41	55
DOAS 1	01.534	GREEN ZONE CONFERENCE...	CONFERENCE	220	0.06	13	6	5	30	44	60
DOAS 1	01.536	TRAINING	CLASSROOM	905	0.06	54	11	7.5	82.5	137	170
DOAS 1	01.537	WORKSHOP	WORKSHOP	545	0.18	98	4	10	40	139	175
DOAS 1	01.539	FILTER STORAGE	STORAGE	510	0.06	31	0	5	0	31	35
DOAS 1	01.540/542	PRIVATE OFFICE	OFFICE	190	0.12	11	2	5	10	22	60
DOAS 1	01.541	CONFERENCE ROOM	CONFERENCE	590	0.06	35	25	5	125	161	210
DOAS 1	01.543	ECO ROOM	OFFICE	150	0.06	9	3	5	15	24	35
DOAS 1	01.544	PRIVATE OFFICE	OFFICE	125	0.12	8	1	5	5	13	30
DOAS 1	01.547/548/549	BATTERY STORAGE 1/2/3	STORAGE	410	0.06	25	0	5	0	25	60
DOAS 1	01.551	CONFERENCE ROOM	CONFERENCE	270	0.06	16	8	5	40	57	75
DOAS 1	01.554	DCO	STORAGE	470	0.06	28	0	5	0	29	35
DOAS 1	01.555	DCEO	STORAGE	425	0.06	26	0	5	0	26	35
DOAS 1	01.561	QUIET ROOM	OFFICE	115	0.06	7	1	5	5	12	30
DOAS 1	01.566	BREAKROOM	BREAKROOM	795	0.12	95	20	5	100	196	255
DOAS 1	01.574	SECURITY OFFICE	OFFICE	255	0.18	15	2	5	10	26	35
DOAS 1	01.583	CICO	CORRIDOR	755	0.06	45	1	0	0	46	60
Ez = 1 (Typical of all spaces. Air is discharged directly to each space at a constant discharge air temperature of 70°F)											
MINIMUM OA REQUIRED		1773			CFM						
OA PROVIDED BY DOAS UNIT		2440			CFM						
EXCEEDS MIN. CODE REQUIREMENTS BY		38%									

DOAS 2 OSA CALCULATION USING SUM OF OA

SPLIT SYSTEM HEAT PUMP SCHEDULE-INDOOR UNITS - ELECTRICAL ROOMS

UNIT TAG	PHASE	MANUFACTURER	MODEL	SERVES	WEIGHT (LBS)	REFRIGERANT TYPE	FAN SECTION CFM (WET)	FAN RPM	FLA	MCA	UNIT VOLTS	PHASE	HZ	COOLING CAPACITY MAX DESIGN CAPACITY (MBH)	MIN SENSIBLE DESIGN CAPACITY (MBH)	EAT F DB/WB	LAT F DB/WB	EER	NOTES
HP 1.1-001	PHASE 01	TRANE	TWE18044B	ELECTRICAL ROOM 1.1	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-10
HP 1.1-002	PHASE 01	TRANE	TWE18044B	ELECTRICAL ROOM 1.1	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 11
HP 1.1-003	PHASE 01	TRANE	TWE18044B	ELECTRICAL ROOM 1.1	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 12
HP 1.2-004	PHASE 02	TRANE	TWE18044B	ELECTRICAL ROOM 1.2	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-10
HP 1.2-005	PHASE 02	TRANE	TWE18044B	ELECTRICAL ROOM 1.2	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 11
HP 1.2-006	PHASE 02	TRANE	TWE18044B	ELECTRICAL ROOM 1.2	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 12
HP 1.3-007	PHASE 03	TRANE	TWE18044B	ELECTRICAL ROOM 1.3	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-10
HP 1.3-008	PHASE 03	TRANE	TWE18044B	ELECTRICAL ROOM 1.3	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 11
HP 1.3-009	PHASE 03	TRANE	TWE18044B	ELECTRICAL ROOM 1.3	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 12
HP 1.4-010	PHASE 04	TRANE	TWE18044B	ELECTRICAL ROOM 1.4	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-10
HP 1.4-011	PHASE 04	TRANE	TWE18044B	ELECTRICAL ROOM 1.4	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 11
HP 1.4-012	PHASE 04	TRANE	TWE18044B	ELECTRICAL ROOM 1.4	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 12
HP 1.5-013	PHASE 05	TRANE	TWE18044B	ELECTRICAL ROOM 1.5	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-10
HP 1.5-014	PHASE 05	TRANE	TWE18044B	ELECTRICAL ROOM 1.5	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 11
HP 1.5-015	PHASE 05	TRANE	TWE18044B	ELECTRICAL ROOM 1.5	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 12
HP 1.6-016	PHASE 06	TRANE	TWE18044B	ELECTRICAL ROOM 1.6	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-10
HP 1.6-017	PHASE 06	TRANE	TWE18044B	ELECTRICAL ROOM 1.6	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 11
HP 1.6-018	PHASE 06	TRANE	TWE18044B	ELECTRICAL ROOM 1.6	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 12
HP 2.1-019	PHASE 07	TRANE	TWE18044B	ELECTRICAL ROOM 2.1	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-10
HP 2.1-020	PHASE 07	TRANE	TWE18044B	ELECTRICAL ROOM 2.1	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 11
HP 2.1-021	PHASE 07	TRANE	TWE18044B	ELECTRICAL ROOM 2.1	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 12
HP 2.2-022	PHASE 08	TRANE	TWE18044B	ELECTRICAL ROOM 2.2	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-10
HP 2.2-023	PHASE 08	TRANE	TWE18044B	ELECTRICAL ROOM 2.2	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 11
HP 2.2-024	PHASE 08	TRANE	TWE18044B	ELECTRICAL ROOM 2.2	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 12
HP 2.3-025	PHASE 09	TRANE	TWE18044B	ELECTRICAL ROOM 2.3	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-10
HP 2.3-026	PHASE 09	TRANE	TWE18044B	ELECTRICAL ROOM 2.3	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 11
HP 2.3-027	PHASE 09	TRANE	TWE18044B	ELECTRICAL ROOM 2.3	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 12
HP 2.4-028	PHASE 10	TRANE	TWE18044B	ELECTRICAL ROOM 2.4	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-10
HP 2.4-029	PHASE 10	TRANE	TWE18044B	ELECTRICAL ROOM 2.4	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 11
HP 2.4-030	PHASE 10	TRANE	TWE18044B	ELECTRICAL ROOM 2.4	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 12
HP 2.5-031	PHASE 11	TRANE	TWE18044B	ELECTRICAL ROOM 2.5	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-10
HP 2.5-032	PHASE 11	TRANE	TWE18044B	ELECTRICAL ROOM 2.5	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 11
HP 2.5-033	PHASE 11	TRANE	TWE18044B	ELECTRICAL ROOM 2.5	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 12
HP 2.6-034	PHASE 12	TRANE	TWE18044B	ELECTRICAL ROOM 2.6	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-10
HP 2.6-035	PHASE 12	TRANE	TWE18044B	ELECTRICAL ROOM 2.6	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 11
HP 2.6-036	PHASE 12	TRANE	TWE18044B	ELECTRICAL ROOM 2.6	745	R410A	6000	816	4.9	6.0	480	3	60	165.2	136.5	80/67	59/58	11.9	1-9, 12

NOTES:
1. DISCONNECT BY ELECTRICAL CONTRACTOR.
2. EQUIPMENT COOLING CAPACITY IS BASED ON SCHEDULED DESIGN ENTERING AIR TEMPERATURES AND AHRI STANDARD OUTSIDE AMBIENT CONDITIONS.
3. SIZE REFRIGERANT LINES AND INSULATION PER THE MANUFACTURER'S RECOMMENDATION.
4. PROVIDE SPLIT SYSTEM WITH COMMUNICATIONS CARD TO MATCH BUILDING BMS COMMUNICATIONS PROTOCOL. FOR ALARM MONITORING, COORDINATE REQUIREMENTS WITH CONTROLS CONTRACTOR.
5. PROVIDE CONDENSATE PUMP WITH INTEGRAL CHECK VALVE AND OVERFLOW DETECTION SWITCH WHERE INDICATED WITH PIPE ROUTING. SIMILAR TO LITTLE GIANT MODEL VCMA-20ULST.
6. PROVIDE A WIRED ELECTRONIC PROGRAMMABLE THERMOSTAT WITH THE FOLLOWING CHARACTERISTICS: LCD DISPLAY, MINIMUM 10-HR BATTERY BACKUP AND MANUAL/AUTO CHANGEOVER.
7. PROVIDE INDOOR UNIT WITH MERV-8 PLEATED THROW-AWAY FILTERS.
8. PROVIDE INDOOR UNIT WITH UL508 RATED CONDENSATE DRAIN OVERFLOW CUT-OFF SWITCH SIMILAR TO RECTORSEAL "SAFE-T-SWITCH".
9. VERTICAL DISCHARGE. MECHANICAL CONTRACTOR TO FABRICATE DISCHARGE PLENUM AND INSTALL GRILLES.
10. UNIT COOLING TEMPERATURE SET POINT SHALL BE AT 80 DEF. F., HEATING TEMPERATURE SET POINT TO BE 60 DEG. F.
11. UNIT COOLING TEMPERATURE SET POINT SHALL BE AT 82 DEF. F., HEATING TEMPERATURE SET POINT TO BE 60 DEG. F.
12. UNIT COOLING TEMPERATURE SET POINT SHALL BE AT 84 DEF. F., HEATING TEMPERATURE SET POINT TO BE 60 DEG. F.

SPLIT SYSTEM HEAT PUMP SCHEDULE-OUTDOOR UNIT - ELECTRICAL ROOMS

UNIT TAG	PHASE	MANUFACTURER	MODEL	SERVES	WEIGHT (LBS)	COMPRESSORS QTY	COMPRESSORS RLA	FANS QTY	FANS FLA (EA)	UNIT MCA	UNIT MOCP	UNIT VOLTS	UNIT PHASE	UNIT HZ	OUTSIDE AMBIENT AIR TEMPERATURE (°F)	NOTES
CU 1.1-001	PHASE 01	TRANE	TWA18044D	ELECTRICAL ROOM 1.1	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.1-002	PHASE 01	TRANE	TWA18044D	ELECTRICAL ROOM 1.1	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.1-003	PHASE 01	TRANE	TWA18044D	ELECTRICAL ROOM 1.1	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.2-004	PHASE 02	TRANE	TWA18044D	ELECTRICAL ROOM 1.2	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.2-005	PHASE 02	TRANE	TWA18044D	ELECTRICAL ROOM 1.2	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.2-006	PHASE 02	TRANE	TWA18044D	ELECTRICAL ROOM 1.2	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.3-007	PHASE 03	TRANE	TWA18044D	ELECTRICAL ROOM 1.3	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.3-008	PHASE 03	TRANE	TWA18044D	ELECTRICAL ROOM 1.3	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.3-009	PHASE 03	TRANE	TWA18044D	ELECTRICAL ROOM 1.3	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.4-010	PHASE 04	TRANE	TWA18044D	ELECTRICAL ROOM 1.4	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.4-011	PHASE 04	TRANE	TWA18044D	ELECTRICAL ROOM 1.4	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.4-012	PHASE 04	TRANE	TWA18044D	ELECTRICAL ROOM 1.4	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.5-013	PHASE 05	TRANE	TWA18044D	ELECTRICAL ROOM 1.5	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.5-014	PHASE 05	TRANE	TWA18044D	ELECTRICAL ROOM 1.5	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.5-015	PHASE 05	TRANE	TWA18044D	ELECTRICAL ROOM 1.5	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.6-016	PHASE 06	TRANE	TWA18044D	ELECTRICAL ROOM 1.6	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.6-017	PHASE 06	TRANE	TWA18044D	ELECTRICAL ROOM 1.6	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 1.6-018	PHASE 06	TRANE	TWA18044D	ELECTRICAL ROOM 1.6	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.1-019	PHASE 07	TRANE	TWA18044D	ELECTRICAL ROOM 2.1	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.1-020	PHASE 07	TRANE	TWA18044D	ELECTRICAL ROOM 2.1	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.1-021	PHASE 07	TRANE	TWA18044D	ELECTRICAL ROOM 2.1	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.2-022	PHASE 08	TRANE	TWA18044D	ELECTRICAL ROOM 2.2	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.2-023	PHASE 08	TRANE	TWA18044D	ELECTRICAL ROOM 2.2	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.2-024	PHASE 08	TRANE	TWA18044D	ELECTRICAL ROOM 2.2	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.3-025	PHASE 09	TRANE	TWA18044D	ELECTRICAL ROOM 2.3	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.3-026	PHASE 09	TRANE	TWA18044D	ELECTRICAL ROOM 2.3	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.3-027	PHASE 09	TRANE	TWA18044D	ELECTRICAL ROOM 2.3	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.4-028	PHASE 10	TRANE	TWA18044D	ELECTRICAL ROOM 2.4	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.4-029	PHASE 10	TRANE	TWA18044D	ELECTRICAL ROOM 2.4	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.4-030	PHASE 10	TRANE	TWA18044D	ELECTRICAL ROOM 2.4	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.5-031	PHASE 11	TRANE	TWA18044D	ELECTRICAL ROOM 2.5	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.5-032	PHASE 11	TRANE	TWA18044D	ELECTRICAL ROOM 2.5	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.5-033	PHASE 11	TRANE	TWA18044D	ELECTRICAL ROOM 2.5	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.6-034	PHASE 12	TRANE	TWA18044D	ELECTRICAL ROOM 2.6	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.6-035	PHASE 12	TRANE	TWA18044D	ELECTRICAL ROOM 2.6	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4
CU 2.6-036	PHASE 12	TRANE	TWA18044D	ELECTRICAL ROOM 2.6	775	2	(2) 12.2	2	2.2	32 A	40 A	480	3	60	120	1,2,3,4

NOTES:
1. ALL REFRIGERANT PIPING SHALL BE SIZED PER UNIT MANUFACTURER'S RECOMMENDATIONS.
2. EQUIPMENT COOLING CAPACITY IS BASED ON SCHEDULED OUTSIDE AMBIENT CONDITIONS.
3. SPLIT SYSTEM SHALL BE CAPABLE OF COOLING OPERATION DOWN TO 0 DEG.F. OUTSIDE AMBIENT TEMPERATURE.
4. DISCONNECT SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR.

SPLIT SYSTEM HEAT PUMP SCHEDULE INDOOR UNIT - TPK SERIES

UNIT TAG	PHASE	MANUFACTURER	MODEL	SERVES	WEIGHT (LBS)	REFRIGERANT TYPE	FAN SECTION CFM (WET)	FAN RPM	FLA	MCA	COOLING CAPACITY MAX DESIGN CAPACITY (MBH)	MIN SENSIBLE DESIGN CAPACITY (MBH)	EAT F DB/WB	LAT F DB/WB	SEER/EER @ AHRI	HEATING CAPACITY (MBH) RATED MBH 47F	RATED MBH 17F	EFFICIENCY AT 47F (COP)	NOTES
HP 1-1	PHASE 06	MITSUBISHI	TPKA0A0361KA170A	DH1 PERIMETER HALL N	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP 1-2	PHASE 06	MITSUBISHI	TPKA0A0361KA170A	DH1 PERIMETER HALL S	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP 1-3	PHASE 01	MITSUBISHI	TPKA0A0121LA00A	FILTER STORAGE 01.598	28	R410A	375	HIGH	0.19	1.0	12.0	9.8	81/59	56.7	21.0/13.3	18.0	10.6	3.9	1-2, 4-8
HP 1-4	PHASE 01	MITSUBISHI	TPKA0A0121LA00A	MECH. ROOM 01.597	28	R410A	375	HIGH	0.19	1.0	12.0	9.8	81/59	56.7	21.0/13.3	18.0	10.6	3.9	1-2, 4-8
HP 1-5	PHASE 01	MITSUBISHI	TPKA0A0121LA00A	FIRE RISER 01.596	28	R410A	375	HIGH	0.19	1.0	12.0	9.8	81/59	56.7	21.0/13.3	18.0	10.6	3.9	1-2, 4-8
HP 1-6	PHASE 01	MITSUBISHI	TPKA0A0121LA00A	NORTH YZ CORRIDOR 01.593	28	R410A	375	HIGH	0.19	1.0	12.0	9.8	81/59	56.7	21.0/13.3	18.0	10.6	3.9	1-2, 4-8
HP 1-7	PHASE 01	MITSUBISHI	TPKA0A0121LA00A	NORTH YZ CORRIDOR 01.593	28	R410A	375	HIGH	0.19	1.0	12.0	9.8	81/59	56.7	21.0/13.3	18.0	10.6	3.9	1-2, 4-8
HP 1-8	PHASE 01	MITSUBISHI	TPKA0A0121LA00A	FILTER STORAGE 01.595	28	R410A	375	HIGH	0.19	1.0	12.0	9.8	81/59	56.7	21.0/13.3	18.0	10.6	3.9	1-2, 4-8
HP 1-9	PHASE 01	MITSUBISHI	TPKA0A0361KA170A	RED ZONE SECURITY CLOSET 01.576	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP 1-10	PHASE 01	MITSUBISHI	TPKA0A0361KA170A	RED ZONE SECURITY CLOSET 01.576	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP 1-11	PHASE 01	MITSUBISHI	TPKA0A0361KA170A	ELECTRICAL 01.552	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP 1-12	PHASE 01	MITSUBISHI	TPKA0A0361KA170A	HOUSE POWER 01.538	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP 1-13	PHASE 01	MITSUBISHI	TPKA0A0361KA170A	HOUSE POWER 01.538	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP 1-14	PHASE 01	MITSUBISHI	TPKA0A0361KA170A	HOUSE POWER 01.538	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP 1-15	PHASE 01	MITSUBISHI	TPKA0A0361KA170A	HOUSE POWER 01.538	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP 1-16	PHASE 01	MITSUBISHI	TPKA0A0361KA170A	ELECTRICAL CLOSET	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP 2-1	PHASE 12	MITSUBISHI	TPKA0A0361KA170A	DH2 PERIMETER HALL N	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP 2-2	PHASE 12	MITSUBISHI	TPKA0A0361KA170A	DH2 PERIMETER HALL S	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP C1.1-01	PHASE 01	MITSUBISHI	TPKA0A0361KA170A	CATCHER ROOM C1 01.614	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP C1.1-02	PHASE 01	MITSUBISHI	TPKA0A0361KA170A	CATCHER ROOM C1 01.614	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP C1.1-03	PHASE 01	MITSUBISHI	TPKA0A0361KA170A	CATCHER ROOM C1 01.614	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP C2.1-04	PHASE 01	MITSUBISHI	TPKA0A0361KA170A	CATCHER ROOM C2 01.418	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP C2.1-05	PHASE 01	MITSUBISHI	TPKA0A0361KA170A	CATCHER ROOM C2 01.418	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8
HP C2.1-06	PHASE 01	MITSUBISHI	TPKA0A0361KA170A	CATCHER ROOM C2 01.418	46	R410A	830	HIGH	0.57	1.0	36.0	29.3	81/59	56.7	18.8/10.8	40.0	25.9	4.52	1-2, 4-8

NOTES:
1. PROVIDE WITH WALL MOUNTED CONTROLLER.
2. PROVIDE GOBI II CONDENSATE PUMP POWERED FROM INDOOR UNIT, WHERE REQUIRED.
3. WHERE SINGLE UNIT SERVES A ROOM, TEMPERATURE SETPOINT SHALL BE SET AT 80 DEG. F, HEATING TEMPERATURE SET POINT TO BE 60 DEG. F.
4. WHERE TWO UNITS SERVE A ROOM, TEMPERATURE SETPOINT SHALL BE SET AT 80 DEG. F. FOR FIRST UNIT, AND 82 DEG. F FOR SECOND UNIT. HEATING TEMPERATURE SET POINT TO BE 60 DEG. F.
5. WHERE THREE UNITS SERVE A ROOM, TEMPERATURE SETPOINT SHALL BE SET AT 80 DEG. F. FOR FIRST UNIT, 82 DEG. F FOR SECOND UNIT, AND 84 DEG. F FOR THIRD UNIT. HEATING TEMPERATURE SET POINT TO BE 60 DEG. F.
6. PROVIDE PAC-UKPRC001-CN-1 BACNET MSTP INTERFACE FOR ALARM MONITORING VIA BMS.
7. EQUIPMENT COOLING CAPACITY IS BASED ON SCHEDULED DESIGN ENTERING AIR TEMPERATURES.
8. REFRIGERANT LINES TO THE ROOF. SIZE LINES AND INSULATION PER MANUFACTURER'S RECOMMEDATIONS.
9. PROVIDE TRAPS EVERY 25' OF RISE ON THE GAS LINE, OR PER MANUFACTURER'S RECOMMENDATIONS.

SPLIT SYSTEM HEAT PUMP SCHEDULE-OUTDOOR UNIT - TRU SERIES

UNIT TAG	PHASE	MANUFACTURER	MODEL	WEIGHT (LBS)	SERVES	COMPRESSORS QTY	COMPRESSORS RLA	FANS FAN QTY	FANS FLA (EA)	UNIT MCA	UNIT MOCP	UNIT VOLTS	UNIT PHASE	UNIT HZ	OUTSIDE AMBIENT AIR TEMPERATURE (°F)	NOTES
CU 1-1	PHASE 06	MITSUBISHI	TRUZA361KA70NA	214	DH1 PERIMETER HALL N	1	7	2	0.5	25	31	208	1	60	99.3	1
CU 1-2	PHASE 06	MITSUBISHI	TRUZA361KA70NA	214	DH1 PERIMETER HALL S	1	7	2	0.5	25	31	208	1	60	99.3	1
CU 1-3	PHASE 01	MITSUBISHI	TRUZA0121KA70NA	93	FILTER STORAGE 01.598	1	7	1	0.5	11	28	208	1	60	99.3	1
CU 1-4	PHASE 01	MITSUBISHI	TRUZA0121KA70NA	93	MECH. ROOM 01.595	1	7	1	0.5	11	28	208	1	60	99.3	1
CU 1-5	PHASE 01	MITSUBISHI	TRUZA0121KA70NA	93	FIRE RISER 01.596	1	7	1	0.5	11	28	208	1	60	99.3	1
CU 1-6	PHASE 01	MITSUBISHI	TRUZA0121KA70NA	93	NORTH YZ CORRIDOR 01.593	1	7	1	0.5	11	28	208	1	60	99.3	1
CU 1-7	PHASE 01	MITSUBISHI	TRUZA0121KA70NA	93	NORTH YZ CORRIDOR 01.593	1	7	1	0.5	11	28	208	1	60	99.3	1
CU 1-8	PHAS

WAVE GUIDE SCHEDULE

PLAN CODE	MANUFACTURER	MODEL	LOCATION	SERVES	SIZE		PERFORMANCE			ATTENUATION			MATERIAL	STYLE	NOTES
					HEIGHT IN.	WIDTH IN.	CFM	VELOCITY (FPM)	PRESSURE DROP (IN. H20)	dB	FREQUENCY RANGE MINIMUM	FREQUENCY RANGE MAXIMUM			
WVG-1	MAJR	SERIES 3000	DATA HALL	DATA HALL	56	130	93,500	1,849	0.080	50	30 MHZ	6 GHZ	TIN PLATED ALUMINUM	HONEYCOMB	1
WVG-2	MAJR	SERIES 3000	DATA HALL	DATA HALL	64	152	93,500	1,384	0.080	50	30 MHZ	6 GHZ	TIN PLATED ALUMINUM	HONEYCOMB	1
WVG-2	MAJR	SERIES 3000	DATA HALL	DATA HALL	64	152	93,500	1,384	0.080	50	30 MHZ	6 GHZ	TIN PLATED ALUMINUM	HONEYCOMB	1
WVG-3	MAJR	SERIES 3000	OFFICE	STR/MMR	20	20	3,000	1,080	0.050	50	30 MHZ	6 GHZ	TIN PLATED ALUMINUM	HONEYCOMB	1
WVG-4	MAJR	SERIES 3000	OFFICE	STR/MMR	14	30	3,000	1,029	0.045	50	30 MHZ	6 GHZ	TIN PLATED ALUMINUM	HONEYCOMB	1
WVG-5	MAJR	SERIES 3000	OFFICE	SHREDDER ROOM 01.556	28	28	7,000	1,286	0.065	50	30 MHZ	6 GHZ	TIN PLATED ALUMINUM	HONEYCOMB	1
WVG-6	MAJR	SERIES 3000	OFFICE	SHREDDER ROOM 01.556	28	32	7,000	1,125	0.060	50	30 MHZ	6 GHZ	TIN PLATED ALUMINUM	HONEYCOMB	1
WVG-7	MAJR	SERIES 3000	OFFICE	GLACIER ROOM 01.575	12	12	700	700	< 0.020	50	30 MHZ	6 GHZ	TIN PLATED ALUMINUM	HONEYCOMB	1
WVG-8	MAJR	SERIES 3000	OFFICE	GLACIER ROOM 01.575	14	14	1,150	845	0.030	50	30 MHZ	6 GHZ	TIN PLATED ALUMINUM	HONEYCOMB	1
WVG-9	MAJR	SERIES 3000	OFFICE	DUST CLOSET	18	20	2,200	880	0.030	50	30 MHZ	6 GHZ	TIN PLATED ALUMINUM	HONEYCOMB	1
WVG-10	MAJR	SERIES 3000	OFFICE	OFFICE	14	14	1210	889	0.030	50	30 MHZ	6 GHZ	TIN PLATED ALUMINUM	HONEYCOMB	1
WVG-11	MAJR	SERIES 3000	OFFICE	OFFICE	12	12	550	550	< 0.020	50	30 MHZ	6 GHZ	TIN PLATED ALUMINUM	HONEYCOMB	1
WVG-12	MAJR	SERIES 3000	DATA HALL	DATA HALL	56	100	93,500	2,404	0.090	50	30 MHZ	6 GHZ	TIN PLATED ALUMINUM	HONEYCOMB	1
WVG-13	MAJR	SERIES 3000	OFFICE	SECURE BATTERY STORAGE 01.585	12	12	100	100	< 0.020	50	30 MHZ	6 GHZ	TIN PLATED ALUMINUM	HONEYCOMB	1

NOTES:
1. PROVIDE WITH INTEGRAL MOUNTING FRAME AND SHIPPED LOOSE EMI SHIELD SEAL GASKETING

OUTDOOR CONDENSING UNIT SCHEDULE - VRF SYSTEM

TAG	BASIS OF DESIGN TYPE	MODEL	COOLING NOMINAL CAPACITY (TR)	COOLING TOTAL CAPACITY (TR)	COOLING DESIGN AMBIENT (°F)	HEATING TOTAL CAPACITY (BTUH)	HEATING AMBIENT DESIGN °F DB	HEATING AMBIENT DESIGN °F WB	EER (DUCTED)	IEER (DUCTED)	COP (47°F) (DUCTED)	CONNECTION RATIO (%)	ELECTRICAL VOLAGE PHASE	ELECTRICAL MCA (AMPS)	ELECTRICAL MOCP (AMPS)	ELECTRICAL RLA (AMPS)	DIMENSIONS W X H X D (INCHES)	REFRIGERANT TYPE	REFRIGERANT FACTORY CHARGE (LBS)	WEIGHT (LBS)	NOTES
CU 1	AIR COOLED HEAT RECOVERY	DAIKIN - REYQ120AAYDA	10	11.1	91.1	93,305	9.8	8.4	12.4	23.5	3.48	118.4	460V 3PH	16.6	20	9.6	48.8 x 65.4 x 30.1	R410A	25.8	727.5	1-15
CU 2	AIR COOLED HEAT RECOVERY	DAIKIN - REYQ192AAYDA	16	17.2	91.1	148,441	9.8	8.4	11.5	21.0	3.45	104.4	460V 3PH	28.3	30	15.1	68.9 x 65.4 x 30.1	R410A	25.8	972.2	1-15
CU 3	AIR COOLED HEAT RECOVERY	DAIKIN - REYQ144AAYDA	12	13.5	91.1	120,101	9.8	8.4	12.0	22.5	3.35	128.0	460V 3PH	21.7	25	11.7	48.8 x 65.4 x 30.1	R410A	25.8	800.3	1-15

NOTES:
1. NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67 DEG.F. (DB/WB), OUTDOOR OF 95 DEG.F. (DB).
2. NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70 DEG.F. (DB), OUTDOOR OF 43 DEG.F. (WB).
3. EFFICIENCY VALUES FOR EER, IEER, COP ARE BASED ON AHRI 1230 TEST METHOD FOR MIXTURE OF DUCTED AND NON-DUCTED INDOOR UNITS.
4. FOR SYSTEMS WITH MULTIPLE MODULES, REFRIGERANT PIPE DIMENSIONS INDICATE TOTAL SYSTEM COMBINED PIPING DOWNSTREAM OF MODULE TWINNING.
5. ADDED FIELD CHARGE LISTED IS IN ADDITION TO FACTORY CHARGE. THIS MUST BE UPDATED BASED UPON FINAL AS-BUILT PIPING LAYOUT.
6. CONDENSING UNIT RATED FOR 122°F DB AMBIENT IN COOLING MODE AND -13°F WB IN HEATING MODE.
7. CONTRACTOR TO FURNISH AND INSTALL ALL REFRIGERANT PIPING AND INSULATION PER MANUFACTURER'S INSTRUCTIONS.
8. CONDENSING UNIT MUST BE EQUIPPED WITH FULLY MODULATING INVERTER COMPRESSORS.
9. SUBMITTED PERFORMANCE DATA MUST BE FULLY DE-RATED FOR ALL COMPONENTS AND ACCESSORIES, INCLUDING BUT NOT LIMITED TO, LINE LENGTH, VERTICAL SEPARATION, CONNECTION RATIO, DESIGN CONDITIONS, CONDENSER COIL COATING.
10. MANUFACTURERS SUBMITTAL MUST INCLUDE REFRIGERANT PIPING DIAGRAM WITH PIPE DIAMETERS, LENGTHS, AND REFRIGERANT VOLUME.
11. FINAL PIPE LENGTHS AND SIZES SHALL BE DETERMINED BY THE CONTRACTOR BASED ON FIELD CONDITIONS AND APPROVAL BY THE ENGINEER AND EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
12. INSTALLATION OF THIS SYSTEM REQUIRES VENDOR ASSISTANCE.
13. SYSTEM SHALL BE PROVIDED WITH i-TOUCH MANAGER CONTROLLER WITH SOFTWARE FOR DISPLAYING UP TO 8 DIII-NET SYSTEMS WITH 128 INDOOR UNITS PER SYSTEM.
14. AUTO CHANGEOVER FUNCTIONS REQUIRED.
15. DEMAND LIMITING RELAY CONTACT TO BE PROVIDED.

FAN COIL UNIT SCHEDULE - VRF SYSTEM

NAME	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN TYPE	Model-SP	CONDENSING UNIT	BRANCH SELECTOR BOX	DESIGN SUPPLY AIR FLOW (CFM)	COOLING NOMINAL CAPACITY (TR)	COOLING TOTAL CAPACITY (TR)	COOLING SENSIBLE CAPACITY (TR)	ENTERING AIR °F DB	ENTERING AIR °F WB	HEATING CAPACITY (BTUH)	HEATING ENTERING AIR (°F DB)	ELECTRICAL VOLTAGE	ELECTRICAL MCA	ELECTRICAL MOP (AMPS)	DIMENSIONS (WXHXD) (INCHES)	WEIGHT (LBS)	NOTES
FCU 1-1	DAIKIN	4-WAY DISCHARGE CEILING CASSETTE (2' x 2')	DAIKIN - FXZQ07TAVJU	CU 1	BS-1-1	265	0.6	0.7	0.3	78.8	73.7	8,500	68	208V 1PH	0.8 A	15	22.6 X 10.2 X 22.6	34.2	1-8
FCU 1-2	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ12TAVJU	CU 1	BS-1-1	265	1.0	1.0	0.5	78.8	73.7	13,500	68	208V 1PH	0.8 A	15	21.7 X 9.6 X 31.5	55	1-8
FCU 1-3	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ18TAVJU	CU 1	BS-1-1	510	1.5	1.3	0.6	78.8	73.7	20,000	68	208V 1PH	1.6 A	15	39.4 X 9.6 X 31.5	77	1-8
FCU 1-4	DAIKIN	4-WAY DISCHARGE CEILING CASSETTE (2' x 2')	DAIKIN - FXSQ12TAVJU	CU 1	BS-1-1	245	0.5	0.5	0.2	78.8	73.7	6,500	68	208V 1PH	0.8 A	15	22.6 X 10.2 X 22.6	34.2	1-8
FCU 1-5	DAIKIN	4-WAY DISCHARGE CEILING CASSETTE (2' x 2')	DAIKIN - FXZQ07TAVJU	CU 1	BS-1-1	265	0.6	0.7	0.3	78.8	73.7	8,500	68	208V 1PH	0.8 A	15	22.6 X 10.2 X 22.6	34.2	1-8
FCU 1-6	DAIKIN	4-WAY DISCHARGE CEILING CASSETTE (2' x 2')	DAIKIN - FXZQ09TAVJU	CU 1	BS-1-1	280	0.8	0.7	0.3	78.8	73.7	10,500	68	208V 1PH	0.8 A	15	22.6 X 10.2 X 22.6	36.4	1-8
FCU 1-7	DAIKIN	4-WAY DISCHARGE CEILING CASSETTE (2' x 2')	DAIKIN - FXZQ09TAVJU	CU 1	BS-1-1	280	0.8	0.7	0.3	78.8	73.7	10,500	68	208V 1PH	0.8 A	15	22.6 X 10.2 X 22.6	36.4	1-8
FCU 1-8	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ30TAVJU	CU 1	BS-1-1	690	2.5	2.5	1.1	78.8	73.7	34,000	68	208V 1PH	1.8 A	15	39.4 X 9.6 X 31.5	82	1-8
FCU 1-9	DAIKIN	4-WAY DISCHARGE CEILING CASSETTE (2' x 2')	DAIKIN - FXSQ05TAVJU	CU 1	BS-1-1	245	0.5	0.5	0.2	78.8	73.7	6,500	68	208V 1PH	0.8 A	15	22.6 X 10.2 X 22.6	34.2	1-8
FCU 1-10	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXZQ09TAVJU	CU 1	BS-1-1	265	0.8	0.6	0.3	78.8	73.7	10,500	68	208V 1PH	0.8 A	15	21.7 X 9.6 X 31.5	55	1-8
FCU 1-11	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ24TAVJU	CU 1	BS-1-1	740	2.0	2.0	0.9	78.8	73.7	20,000	68	208V 1PH	1.8 A	15	39.4 X 9.6 X 31.5	77	1-8
FCU 1-12	DAIKIN	WALL MOUNTED	DAIKIN - FXAQ07PVJU	CU 1	BS-1-1	260	0.6	0.8	0.3	78.8	73.7	8,500	68	208V 1PH	0.4 A	15	31.3 X 11.4 X 9.3	26	1-8
FCU 2-1	DAIKIN	4-WAY DISCHARGE CEILING CASSETTE (2' x 2')	DAIKIN - FXZQ07TAVJU	CU 2	BS-1-2	265	0.6	0.7	0.3	78.8	73.7	8,500	68	208V 1PH	0.8 A	15	22.6 X 10.2 X 22.6	34.2	1-8
FCU 2-2	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ24TAVJU	CU 2	BS-1-2	620	2.0	2.0	0.9	78.8	73.7	20,000	68	208V 1PH	1.8 A	15	39.4 X 9.6 X 31.5	77	1-8
FCU 2-3	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ12TAVJU	CU 2	BS-1-2	285	1.0	1.0	0.5	78.8	73.7	13,500	68	208V 1PH	0.8 A	15	21.7 X 9.6 X 31.5	55	1-8
FCU 2-4	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ24TAVJU	CU 2	BS-1-2	620	2.0	1.5	0.7	78.8	73.7	27,000	68	208V 1PH	1.8 A	15	39.4 X 9.6 X 31.5	77	1-8
FCU 2-5	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ30TAVJU	CU 2	BS-1-2	690	2.5	2.5	1.1	78.8	73.7	34,000	68	208V 1PH	1.8 A	15	39.4 X 9.6 X 31.5	82	1-8
FCU 2-6	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ24TAVJU	CU 2	BS-1-2	620	2.0	2.0	0.9	78.8	73.7	27,000	68	208V 1PH	1.8 A	15	39.4 X 9.6 X 31.5	77	1-8
FCU 2-7	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ18TAVJU	CU 2	BS-1-2	510	1.5	1.3	0.6	78.8	73.7	20,000	68	208V 1PH	1.8 A	15	39.4 X 9.6 X 31.5	77	1-8
FCU 2-8	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ36TAVJU	CU 2	BS-1-2	950	3.0	2.5	1.1	78.8	73.7	40,000	68	208V 1PH	2.5 A	15	55.1 X 9.6 X 31.5	101	1-8
FCU 2-9	DAIKIN	4-WAY DISCHARGE CEILING CASSETTE (2' x 2')	DAIKIN - FXZQ12TAVJU	CU 2	BS-1-2	300	1.0	0.8	0.3	78.8	73.7	13,500	68	208V 1PH	0.8 A	15	22.6 X 10.2 X 22.6	36	1-8
FCU 2-10	DAIKIN	WALL MOUNTED	DAIKIN - FXAQ07PVJU	CU 2	BS-1-2	260	0.6	0.7	0.3	78.8	73.7	6,500	68	208V 1PH	0.4 A	15	31.3 X 11.4 X 9.3	26	1-8
FCU 3-1	DAIKIN	4-WAY DISCHARGE CEILING CASSETTE (2' x 2')	DAIKIN - FXZQ12TAVJU	CU 3	BS-1-3	300	1.0	0.8	0.3	78.8	73.7	13,500	68	208V 1PH	0.3 A	15	22.6 X 10.2 X 22.6	36.4	1-8
FCU 3-2	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ36TAVJU	CU 3	BS-1-3	950	3.0	3.0	1.3	78.8	73.7	40,000	68	208V 1PH	2.5 A	15	55.1 X 9.6 X 31.5	101	1-8
FCU 3-3	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ36TAVJU	CU 3	BS-1-3	1150	3.0	3.0	1.3	78.8	73.7	40,000	68	208V 1PH	2.5 A	15	55.1 X 9.6 X 31.5	101	1-8
FCU 3-4	DAIKIN	4-WAY DISCHARGE CEILING CASSETTE (2' x 2')	DAIKIN - FXZQ09TAVJU	CU 3	BS-1-3	285	0.8	0.7	0.3	78.8	73.7	10,500	68	208V 1PH	0.3 A	15	22.6 X 10.2 X 22.6	36.4	1-8
FCU 3-5	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ48TAVJU	CU 3	BS-1-3	1130	4.0	3.0	1.3	78.8	73.7	54,000	68	208V 1PH	2.8 A	15	55.1 X 9.6 X 31.5	104	1-9
FCU 3-6	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ48TAVJU	CU 3	BS-1-3	1130	4.0	3.0	1.3	78.8	73.7	54,000	68	208V 1PH	2.8 A	15	55.1 X 9.6 X 31.5	104	1-9
FCU 3-7	DAIKIN	MSP CONCEALED DUCTED UNIT	DAIKIN - FXSQ18TAVJU	CU 3	BS-1-3	510	1.5	1.3	0.6	78.8	73.7	20,000	68	208V 1PH	1.6 A	15	39.4 X 9.6 X 31.5	77	1-8

NOTES:
1. NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67 DEG.F. (DB/WB), OUTDOOR OF 95 DEG.F. (DB).
2. NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70 DEG.F. (DB), OUTDOOR OF 43 DEG.F. (DB).
3. SEE OUTDOOR UNIT SCHEDULE FOR OUTDOOR AMBIENT CONDITIONS, CONNECTED CAPACITY, AND OTHER FACTORS ASSOCIATED WITH CORRECTED CAPACITIES.
4. SEE SCHEMATIC PIPING DIAGRAM FOR INDICATION OF REQUIRED PIPING SIZES, LENGTHS, AND SYSTEM COMPONENTS.
5. PROVIDE WITH INTEGRAL CONDENSATE PUMP AND RESERVOIR, WITH CONDENSATE SAFETY SHUTOFF AND ALARMING CAPABILITIES.
6. CONTRACTOR TO FURNISH AND INSTALL ALL REFRIGERANT PIPING AND INSULATION PER MANUFACTURERS INSTRUCTIONS.
7. SCHEDULE CAPACITIES TAKE INTO ACCOUNT ACTUAL CONDITIONS, ESTIMATED AMOUNT OF PIPE, AND TOTAL OPERATING REFRIGERANT CHARGE.
8. THERMOSTATS MUST PROVIDE +/- 1°F DEAD-BAND SET-POINT AND CONTROL CAPABILITY.
9. MECHANICAL CONTRACTOR TO PROVIDE SMOKE DETECTOR ON THE RETURN SIDE OF FAN COIL UNIT. REFER TO FLOOR PLAN KEYNOTES FOR FURTHER INSTALLATION INFO. COORDINATE LOCATIONS AND INTERFACE WITH FIRE ALARM SYSTEM CONTRACTOR.

BRANCH SELECTOR BOX SCHEDULE - VRF SYSTEM

UNIT TAG	MANUFACTURER	MODEL	CONDENSING UNIT SERVED	NUMBER OF BRANCH PORTS	MAX CAPACITY (PER PORT) (TR)	VOLTAGE	PHASE	MCA	MOP	DIMENSIONS (WXHXD) (INCHES)	WEIGHT (LBS)	NOTES
BS 1-1	DAIKIN	BS12Q54TAVJ	CU 1	12	4.5	208/230 V	1	1.2 A	15 A	32.3 X 11.7 X 18.9	106 LB	1,2
BS 2-1	DAIKIN	BS102Q54TAVJ	CU 2	10	4.5	208/230 V	1	1.0 A	15 A	32.3 X 11.7 X 18.9	101 LB	1,2
BS 3-1	DAIKIN	BS8Q54TVJ	CU 3	8	4.5	208/230 V	1	0.8 A	15 A	22.8 X 11.7 X 18.9	73 LB	1,2

NOTES:
1. INCLUDE DIAMONDBACK BALL VALVES BV-SERIES, 700 PSIG WORKING PRESSURE, FULL PORT, 410A RATED.
2. ALL BRANCH SELECTORS REFRIGERANT CONTROLS SHALL BE VIA ELECTRONIC EXPANSION VALVES (EEVS).

ENERGY RECOVERY VENTILATOR SCHEDULE

UNIT TAG	PHASE	MANUFACTURER	MODEL	LOCATION	SERVES	SUPPLY SECTION CFM	SUPPLY SECTION ESP IN WG	SUPPLY SECTION MOTOR HP	SUPPLY SECTION FILTER	EXHAUST SECTION CFM	EXHAUST SECTION ESP IN WG	EXHAUST SECTION MOTOR HP	EXHAUST SECTION FILTER	HEAT EXCHANGER (SUMMER) OA EAT FDB	OA EAT FWB	EA EAT FDB	EA EAT FWB	SUPPLY LAT FDB	SUPPLY LAT FWB	HEAT EXCHANGER (WINTER) OA EAT FDB	OA EAT FWB	EA EAT FDB	EA EAT FWB	SUPPLY LAT FDB	SUPPLY LAT FWB	MCA	MOCP	VOLTAGE	PHASE	HZ	MAX WEIGHT (LBS)	NOTES
ERV C1.1-01	PHASE 01	GREENHECK	MINICORE-5-VG-FM	ELEC ROOM	CATCHER ROOM C1	195	0.5	1/4	MERV-8	180	0.5	1/4	MERV-8	98.8	67.1	80	66.6	85.9	65.5	24.5	20.5	60	46.9	48.3	38.1	4 A	15	208	1	60	250	1, 2
ERV 1.1-02	PHASE 01	GREENHECK	MINICORE-5-VG-FM	ELEC ROOM	ELECTRICAL ROOM 1.1	195	0.5	1/4	MERV-8	180	0.5	1/4	MERV-8	98.8	67.1	80	66.6	85.9	65.5	24.5	20.5	60	46.9	48.3	38.1	4 A	15	208	1	60	250	1, 2
ERV 1.2-03	PHASE 02	GREENHECK	MINICORE-5-VG-FM	ELEC ROOM	ELECTRICAL ROOM 1.2	195	0.5	1/4	MERV-8	180	0.5	1/4	MERV-8	98.8	67.1	80	66.6	85.9	65.5	24.5	20.5	60	46.9	48.3	38.1	4 A	15	208	1	60	250	1, 2
ERV 1.3-04	PHASE 03	GREENHECK	MINICORE-5-VG-FM	ELEC ROOM	ELECTRICAL ROOM 1.3	195	0.5	1/4	MERV-8	180	0.5	1/4	MERV-8	98.8	67.1	80	66.6	85.9	65.5	24.5	20.5	60	46.9	48.3	38.1	4 A	15	208	1	60	250	1, 2
ERV 1.4-05	PHASE 04	GREENHECK	MINICORE-5-VG-FM	ELEC ROOM	ELECTRICAL ROOM 1.4	195	0.5	1/4	MERV-8	180	0.5	1/4	MERV-8	98.8	67.1	80	66.6	85.9	65.5	24.5	20.5	60	46.9	48.3	38.1	4 A	15	208	1	60	250	1, 2
ERV 1.5-06	PHASE 05	GREENHECK	MINICORE-5-VG-FM	ELEC ROOM	ELECTRICAL ROOM 1.5	195	0.5	1/4	MERV-8	180	0.5	1/4	MERV-8	98.8	67.1	80	66.6	85.9	65.5	24.5	20.5	60	46.9	48.3	38.1	4 A	15	208	1	60	250	1, 2
ERV 1.6-07	PHASE 06	GREENHECK	MINICORE-5-VG-FM	ELEC ROOM	ELECTRICAL ROOM 1.6	195	0.5	1/4	MERV-8	180	0.5	1/4	MERV-8	98.8	67.1	80	66.6	85.9	65.5	24.5	20.5	60	46.9	48.3	38.1	4 A	15	208	1	60	250	1, 2
ERV C2.1-08	PHASE 01	GREENHECK	MINICORE-5-VG-FM	ELEC ROOM	CATCHER ROOM C2	195	0.5	1/4	MERV-8	180	0.5	1/4	MERV-8	98.8	67.1	80	66.6	85.9	65.5	24.5	20.5	60	46.9	48.3	38.1	4 A	15	208	1	60	250	1, 2
ERV 2.1-09	PHASE 07	GREENHECK	MINICORE-5-VG-FM	ELEC ROOM	ELECTRICAL ROOM 2.1	195	0.5	1/4	MERV-8	180	0.5	1/4	MERV-8	98.8	67.1	80	66.6	85.9	65.5	24.5	20.5	60	46.9	48.3	38.1	4 A	15	208	1	60	250	1, 2
ERV 2.2-10	PHASE 08	GREENHECK	MINICORE-5-VG-FM	ELEC ROOM	ELECTRICAL ROOM 2.2	195	0.5	1/4	MERV-8	180	0.5	1/4	MERV-8	98.8	67.1	80	66.6	85.9	65.5	24.5	20.5	60	46.9	48.3	38.1	4 A	15	208	1	60	250	1, 2
ERV 2.3-11	PHASE 09	GREENHECK	MINICORE-5-VG-FM	ELEC ROOM	ELECTRICAL ROOM 2.3	195	0.5	1/4	MERV-8	180	0.5	1/4	MERV-8	98.8	67.1	80	66.6	85.9	65.5	24.5	20.5	60	46.9	48.3	38.1	4 A	15	208	1	60	250	1, 2
ERV 2.4-12	PHASE 10	GREENHECK	MINICORE-5-VG-FM	ELEC ROOM	ELECTRICAL ROOM 2.4	195	0.5	1/4	MERV-8	180	0.5	1/4	MERV-8	98.8	67.1	80	66.6	85.9	65.5	24.5	20.5	60	46.9	48.3	38.1	4 A	15	208	1	60	250	1, 2
ERV 2.5-13	PHASE 11	GREENHECK	MINICORE-5-VG-FM	ELEC ROOM	ELECTRICAL ROOM 2.4	195	0.5	1/4	MERV-8	180	0.5	1/4	MERV-8	98.8	67.1	80	66.6	85.9	65.5	24.5	20.5	60	46.9	48.3	38.1	4 A	15	208	1	60	250	1, 2
ERV 2.6-14	PHASE 12	GREENHECK	MINICORE-5-VG-FM	ELEC ROOM	ELECTRICAL ROOM 2.6	195	0.5	1/4	MERV-8	180	0.5	1/4	MERV-8	98.8	67.1	80	66.6	85.9	65.5	24.5	20.5	60	46.9	48.3	38.1	4 A	15	208	1	60	250	1, 2

NOTES:
1. INSTALL UNIT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. SINGLE-POINT POWER CONNECTION WITH UNIT MOUNTED DISCONNECT SWITCH.

FUEL OIL FILTERING STATION SCHEDULE

PLAN CODE	PHASE	MANUFACTURER	MODEL	PUMP INFORMATION RPM	PUMP INFORMATION TYPE	PUMP INFORMATION GPH	PUMP INFORMATION FLUID	DIMENSIONS LXWXH IN	DIMENSIONS INLET / OUTLET IN	ELECTRICAL VOLTS / PHASE	NOTES
FFS 01	PHASE 01	PREFERRED UTILITIES	PF-505	1725	POSITIVE DISPLACEMENT	1200	FUEL OIL #2	48"X48"X12"	1-1/2" / 1-1/2"	120/1	1,2,3,4

1. PROVIDE WITH 1-1/2" STRAINER WITH 100 MESH BASKET.
2. PROVIDE WITH SINGLE POINT POWER CONNECTION.
3. PROVIDE WITH PREFERRED UTILITIES FILTRATION CONTROL CABINET WITH INTEGRAL MAIN POWER DISCONNECT AND MOTOR STARTERS AND INTEGRAL FUEL SYSTEM CONTROLLER (FSC).
4. PROVIDE WITH WEATHER PROOF NEMA-4 ENCLOSURE.

FUEL OIL TOP-UP SYSTEM PUMPS

UNIT TAG	PHASE	MANUFACTURER	MODEL	LOCATION	SERVES	TYPE	FLUID	GPM	HEAD (PSI)	INTERNAL RELIEF PRESSURE (PSI)	PUMP RPM	DESIGN TEMP. (DEG F)	CONNECTIONS (IN) SUCTION	CONNECTIONS (IN) DISCHARGE	ELECTRICAL DATA VOLTS/PHASE/HERTZ	ELECTRICAL DATA MOTOR HP, EA	NOTES
FFP 01	PHASE 01	FRANKLIN FUELING	STP	FUEL ENCLOSURE SKID	FUEL FORWARDING	SUBMERSIBLE TURBINE PUMP	DIESEL FUEL OIL	112	40	65	AS REQUIRED	130 MAX	2 1/2	2 1/2	208/3/60	5	1-5
FFP 02	PHASE 01	FRANKLIN FUELING	STP	FUEL ENCLOSURE SKID	FUEL FORWARDING	SUBMERSIBLE TURBINE PUMP	DIESEL FUEL OIL	112	40	65	AS REQUIRED	130 MAX	2 1/2	2 1/2	208/3/60	5	1-5

NOTES:
1. INSTALL UNIT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. COORDINATE LENGTH REQUIREMENTS OF PUMP WITH APPROVED TANK MANUFACTURER, BOTTOM OF PUMP INLET TO BE 5" OFF BOTTOM OF TANK.
3. CONTROL FOR THE FUEL OIL SUPPLY PUMP IS PROVIDED VIA THE FUEL CONTROL CABINET. REFER TO FUEL CONTROL CABINET SCHEDULE.
4. ALL DESIGN FLOW RATES IN THE TABLE ABOVE ARE PER PUMP.
5. PUMPS SHALL BE PROVIDED WITH INTERNAL PRESSURE RELIEF VALVE.

FUEL INTAKE PUMP REMOTE FUEL OFFLOAD SCHEDULE

UNIT TAG	PHASE	MANUFACTURER	MODEL	PUMP INFORMATION GPM	PUMP INFORMATION HP	PUMP INFORMATION RPM	PUMP INFORMATION TYPE	PUMP INFORMATION FLUID	LXWXH IN	ELECTRICAL INLET / OUTLET IN	ELECTRICAL SCCR	ELECTRICAL VOLTS / PHASE	NOTES
FIP 01	PHASE 01	PREFERRED UTILITIES	FLEX FILL	300	10	1750	CENTRIGUAL	FUEL OIL #2	158"X68"X66"	4" / 4"	10 KA	208/3	1-6

NOTES:
1. PROVIDE WITH FLEX FILL CONTROL CABINET & WIRING W-16950-1 WITH INTEGRAL POWER DISCONNECT AND MOTOR STARTERS.
2. PROVIDE WITH FLEX FILL WEATHERPROOF NEMA-4 RATED LOCKABLE STAINLESS STEEL

MAKE UP AIR UNIT SCHEDULE

TAG	PHASE	UNIT OVERVIEW											OA/SUPPLY FAN					MOTOR		COIL AIR TEMPERATURE				DX COOLING COIL													SUPPLEMENTAL ELECTRIC HEAT						FILTER SECTION						BASIS OF DESIGN		REMARKS
				DIMENSIONS				ELECTRICAL												ENTERING		LEAVING		CAPACITY			FACE																									
		CLG. CAP MBH	EER @ AHRI	LENGTH IN.	HEIGHT IN.	WIDTH IN.	WEIGHT (LBS)	VOLTS/PH	FLA AMPS	MCA AMPS	MOCP AMPS	SCCR KAIC	AIRFLOW CFM	TOTAL SP IN WC	FAN SPEED RPM	BHP	HP	FLA	DB	WB	DB	WB	TOTAL MBH	SENSIBLE MBH	FINS PER INCH	ROWS	AREA FT	VELOCITY FT/MIN	AIR PD IN W.G	REGRIGERANT	COIL MATERIAL TUBE/FIN	CONDENSATE CONNECTION (IN)	AIRFLOW CFM	CAPACITY KW	EAT °F	LAT °F	AIR PD IN WC	FLA A	CONTROL	PRE-FILTER THICKNESS (IN.)	PRE-FILTER EFFICIENCY	THICKNESS IN.	EFFICIENCY	FILTER FACE AREA (SQ.FT.)	FILTER FACE VELOCITY (FT./MIN.)	MANUFACTURER	MODEL	
MAU 1	SHELL	72.8	9	128	50	95	1220	460 / 3	26	33	35	5	1150	0.25	1120	0.37	1	2.1	79.6	66.7	42.7	42.4	72.8	43.4	14	3	8.5	135.2	0.07	R410A	COPPER	1	1150	20	35.1	91.9	0.02	2	SCR	2	MERV 8	4	MERV 13	13.9	129.4	AAON	RN-008 -3	1,2,3,4,5
MAU 2	SHELL	72.8	9	128	50	95	1220	460 / 3	26	33	35	5	1150	0.25	1120	0.37	1	2.1	79.6	66.7	42.7	42.4	72.8	43.4	14	3	8.5	135.2	0.07	R410A	COPPER	1	1150	20	35.1	91.9	0.02	2	SCR	2	MERV 8	4	MERV 13	13.9	129.4	AAON	RN-008 -3	1,2,3,4,5

NOTES:
1. SITE ELEVATION IS 940 FEET ASL.
2. PROVIDE WITH MANUFACTURER'S UNIT MOUNTED DISCONNECT SWITCH.
3. PROVIDE WITH MODULATING GAS REHEAT COIL.
4. PROVIDE WITH MANUFACTURER'S 18" ROOF CURB.
5. PROVIDE WITH BACNET MSTP INTERFACE FOR ALARM MONITORING VIA BMS.

AIR COOLED COMPUTER ROOM AIR CONDITIONING UNIT SCHEDULE (OWNER FURNISHED/CONTRACTOR INSTALLED)

PLAN CODE	PHASE	MANUFACTURER	MODEL	LOCATION	FAN DATA				COOLING COIL DATA										HUMIDIFIER DATA		ELECTRICAL			FILTER DATA		NOTES
					TOTAL CFM @ ALT.	FAN QTY.	ESP IN. W.C. @ ALT	HP EA.	FACE AREA FT.²	EAT		LAT		TOTAL KW	SENS. KW	FPI	ROWS	NO. CIRCUITS	TYPE	RATING LB/HR	VOLTS / Ø	FLA	OPD	TYPE	DEPTH (IN)	
										DB °F	WB °F	DB °F	WB °F													
CRAC 1-1	PHASE 01	VERTIV	LIEBERT DA050	GLACIER 01.575	6934	1	0.2	5	17.0	84.0	67.0	64.0	60.2	44.1	43.2	12	6	2	INFRARED	11	460 / 3	36.5	60	MERV 8	4	1-7
CRAC 1-2	PHASE 01	VERTIV	LIEBERT DA050	GLACIER 01.575	6934	1	0.2	5	17.0	84.0	67.0	64.0	60.2	44.1	43.2	12	6	2	N/A	N/A	460 / 3	30.7	60	MERV 8	4	2-7
CRAC 1-3	PHASE 01	VERTIV	LIEBERT DA050	GLACIER 01.575	6934	1	0.2	5	17.0	84.0	67.0	64.0	60.2	44.1	43.2	12	6	2	INFRARED	11	460 / 3	36.5	60	MERV 8	4	1-7
CRAC 1-4	PHASE 01	VERTIV	LIEBERT DA050	GLACIER 01.575	6934	1	0.2	5	17.0	84.0	67.0	64.0	60.2	44.1	43.2	12	6	2	N/A	N/A	460 / 3	30.7	60	MERV 8	4	2-7
CRAC 1-5	PHASE 01	VERTIV	LIEBERT DA050	GLACIER 01.575	6934	1	0.2	5	17.0	84.0	67.0	64.0	60.2	44.1	43.2	12	6	2	INFRARED	11	460 / 3	36.5	60	MERV 8	4	1-7
CRAC 1-6	PHASE 01	VERTIV	LIEBERT DA050	GLACIER 01.575	6934	1	0.2	5	17.0	84.0	67.0	64.0	60.2	44.1	43.2	12	6	2	N/A	N/A	460 / 3	30.7	60	MERV 8	4	2-7
CRAC 1-7	PHASE 01	VERTIV	LIEBERT PX029	MDF ROOM 01.553	2968	1	0.2	5	10.0	81.0	61.0	58.0	52.0	21.4	21.4	12	4	1	N/A	N/A	460 / 3	21.6	40	MERV 8	2	2-5
CRAC 1-8	PHASE 01	VERTIV	LIEBERT PX029	MDF ROOM 01.553	2968	1	0.2	5	10.0	81.0	61.0	58.0	52.0	21.4	21.4	12	4	1	N/A	N/A	460 / 3	21.6	40	MERV 8	2	2-5

NOTES:
1. PROVIDE WITH INTEGRAL INFRARED HUMIDIFIER.
2. UNIT SHALL BE DOWNFLOW, FRONT DISCHARGE.
3. PROVIDE WITH INTEGRAL DISCONNECT SWITCH.
4. PROVIDE WITH CONDENSATE PUMP.
5. PROVIDE WITH BACNET MSTP INTERFACE FOR ALARM MONITORING VIA BMS.
6. PROVIDE WITH REMOTE I-COM CONTROLLER, LEAVING AIR DEWPOINT CONTROL, AND VERTIV 2T RACK TEMPERATURE SENSORS (MAX OF 10 PER CRAC).
7. PROVIDE WITH RETURN AIR DUCT EXTENSION FROM TOP OF CRAC UP TO THE CEILING OPENING AT 18' AFF.

CRAC CONDENSING UNIT SCHEDULE (OWNER FURNISHED/CONTRACTOR INSTALLED)

UNIT TAG	PHASE	UNIT OVERVIEW										BASIS OF DESIGN		NOTES
		CLG. CAP MBH	AMBIENT TEMP DB	SCOP	DIMENSIONS			WEIGHT (LBS)	ELECTRICAL						
					LENGTH IN.	HEIGHT IN.	WIDTH IN.		FLA AMPS	OPD AMPS	VOLT/PH	SCCR KAIC	MANUFACTURER	MODEL	
ACCU 1-1	PHASE 01	150.5	120	1.89	180	44	56	1136	8.4	15	460	65	VERTIV	LIEBERT MCL165	1,2
ACCU 1-2	PHASE 01	150.5	120	1.89	180	44	56	1136	8.4	15	460	65	VERTIV	LIEBERT MCL165	1,2
ACCU 1-3	PHASE 01	150.5	120	1.89	180	44	56	1136	8.4	15	460	65	VERTIV	LIEBERT MCL165	1,2
ACCU 1-4	PHASE 01	150.5	120	1.89	180	44	56	1136	8.4	15	460	65	VERTIV	LIEBERT MCL165	1,2
ACCU 1-5	PHASE 01	150.5	120	1.89	180	44	56	1136	8.4	15	460	65	VERTIV	LIEBERT MCL165	1,2
ACCU 1-6	PHASE 01	150.5	120	1.89	180	44	56	1136	8.4	15	460	65	VERTIV	LIEBERT MCL165	1,2
ACCU 1-7	PHASE 01	75.0	120	1.89	77	64	37	486	2.8	15	460	65	VERTIV	LIEBERT MCL055	1,2
ACCU 1-8	PHASE 01	75.0	120	1.89	77	64	37	486	2.8	15	460	65	VERTIV	LIEBERT MCL055	1,2

NOTES:
1. CONTRACTOR TO FURNISH AND INSTALL ALL REFRIGERANT PIPING AND INSULATION PER MANUFACTURER'S INSTRUCTIONS.
2. PROVIDE WITH INTEGRAL DISCONNECT SWITCH.

LCK062 TABLE 1103.1 REFRIGERANT WORKSHEET - VRF

SYSTEM	SPACE	PRIMARY ROOM DIMENSIONS			INTERCONNECTED SPACE/PLENUM			VRF SYSTEM REFRIGERANT TYPE	TOTAL VRF SYSTEM REFRIGERANT CHARGE (LB)	POUNDS OF CHARGE PER 1000 CUBIC FEET	MAXIMUM ALLOWED CHARGE PER 1000 CUBIC FEET (1)	EXCEPTIONS TAKEN (2)	IN COMPLIANCE WITH IMC 2015 TABLE 1103.1 (Y/N)
		AREA (SF)	HEIGHT (FT)	VOLUME (CU FT)	AREA (SF)	HEIGHT (FT)	VOLUME (CU FT)						
CU 1	SECURITY OFFICE 01.574	255	9	2295	0	0	0	R-410A	52	22.7	26	N	Y
CU 1	CICO 01.583	755	10	7550	755	26	19630	R-410A	52	1.9	26	N	Y
CU 1	VESTIBULE 01.573	105	10	1050	105	26	2730	R-410A	52	13.8	26	N	Y
CU 1	CORRIDOR 01.520	1750	9	15750	1750	27	47250	R-410A	52	0.8	26	N	Y
CU 1	LOGISTIC STORAGE 01.568	300	9	2700	300	27	8100	R-410A	52	4.8	26	N	Y
CU 1	ECO ROOM 01.543	150	10	1500	150	26	3900	R-410A	52	9.6	26	N	Y
CU 1	CONFERENCE ROOM 01.551	270	10	2700	0	0	0	R-410A	52	19.3	26	N	Y
CU 1	CONFERENCE ROOM 01541	590	10	5900	0	0	0	R-410A	52	8.8	26	N	Y
CU 1	BREAKROOM 01.566	795	9	7155	795	27	21465	R-410A	52	1.8	26	N	Y
CU 1	CORRIDOR 01.524	1270	9	11430	1270	27	34290	R-410A	52	1.1	26	N	Y
CU 1	DCEO 01.555	425	36	15300	0	0	0	R-410A	52	3.4	26	N	Y
CU 1	DCO 01.554	470	36	16920	0	0	0	R-410A	52	3.1	26	N	Y
CU 1	BATTERY STORAGE 1 01.549	210	36	7560	0	0	0	R-410A	52	6.9	26	N	Y
CU 1	BATTERY STORAGE 2 01.548	90	36	3240	0	0	0	R-410A	52	16.0	26	N	Y
CU 1	BATTERY STORAGE 3 01.547	90	36	3240	0	0	0	R-410A	52	16.0	26	N	Y
CU 1	RESTROOM W 01.564	315	9	2835	315	27	8505	R-410A	52	4.6	26	N	Y
CU 1	RESTROOM M 01.570	315	9	2835	315	27	8505	R-410A	52	4.6	26	N	Y
CU 1	QUIET ROOM 01.561	115	9	1035	115	27	3105	R-410A	52	12.6	26	N	Y
CU 1	SHOWER 01.562	90	9	810	90	27	2430	R-410A	52	16.0	26	N	Y
CU 1	UNISEX RESTROOM 01.563	70	9	630	70	27	1890	R-410A	52	20.6	26	N	Y
CU 2	GREEN ZONE CONFERENCE ROOM 01.534	220	10	2200	220	26	5720	R-410A	93.1	11.8	26	N	Y
CU 2	SECURITY CONTROL ROOM 01.533	345	10	3450	345	26	8970	R-410A	93.1	7.5	26	N	Y
CU 2	SECURITY VESTIBULE 01.522	565	10	5650	565	26	14690	R-410A	93.1	4.6	26	N	Y
CU 2	PRIVATE OFFICE 01.544	125	10	1250	125	26	3250	R-410A	93.1	20.7	26	N	Y
CU 2	PRIVATE OFFICE 01.542	95	10	950	190	26	4940	R-410A	93.1	15.8	26	Y	Y
CU 2	PRIVATE OFFICE 01.540	95	10	950	190	26	4940	R-410A	93.1	15.8	26	Y	Y
CU 2	GREEN ZONE RESTROOM 01.546	85	8	680	240	28	6720	R-410A	93.1	12.6	26	Y	Y
CU 2	PRIVATE OFFICE 01.531	65	10	650	195	26	5070	R-410A	93.1	16.3	26	Y	Y
CU 2	PRIVATE OFFICE 01.532	65	10	650	195	26	5070	R-410A	93.1	16.3	26	Y	Y
CU 2	PRIVATE OFFICE 01.545	65	10	650	195	26	5070	R-410A	93.1	16.3	26	Y	Y
CU 2	OPEN OFFICE 01.521	1645	9	14805	1645	27	44415	R-410A	145.1	2.5	26	N	Y
CU 2	LOADING DOCK 01.523	1360	36	48960	0	0	0	R-410A	93.1	1.9	26	N	Y
CU 2	PALLET STORAGE 01.535	220	36	7920	0	0	0	R-410A	93.1	11.8	26	N	Y
CU 2	CORRIDOR 01.524	1350	9	12150	1350	27	36450	R-410A	93.1	1.9	26	N	Y
CU 2	TRAINING 01.536	930	12	11160	0	0	0	R-410A	93.1	8.3	26	N	Y
CU 2	WORKSHOP 01.537	545	12	6540	0	0	0	R-410A	93.1	14.2	26	N	Y
CU 2	FILTER STORAGE 01.539	505	36	18180	0	0	0	R-410A	93.1	5.1	26	N	Y
CU 3	CONFERENCE ROOM 01.588	480	10	4800	0	0	0	R-410A	57.6	12.0	26	N	Y
CU 3	RED ZONE OPEN OFFICE 01.587	1175	10	11750	1175	26	30550	R-410A	57.6	1.4	26	N	Y
CU 3	EQUIPMENT STORAGE 01.578	600	12	7200	0	0	0	R-410A	57.6	8.0	26	N	Y
CU 3	RED ZONE CORRIDOR 01.579	1870	36	67320	0	0	0	R-410A	57.6	0.9	26	N	Y
CU 3	INTERNAL SECURITY / OPERATIONS 01.584	360	10	3600	0	0	0	R-410A	57.6	16.0	26	N	Y
CU 3	RED ZONE STORAGE 01.592	300	36	10800	0	0	0	R-410A	57.6	5.3	26	N	Y
CU 3	DECOMMISSIONING ROOM 01.567	6150	12	73800	6150	24	147600	R-410A	57.6	0.3	26	N	Y
CU 3	SHREDDER ROOM 01.556	2030	18	36540	2030	18	36540	R-410A	57.6	0.8	26	N	Y
CU 3	DCOM PARTS STORAGE 01.580	440	10	4400	440	26	11440	R-410A	57.6	3.6	26	N	Y
CU 3	STORAGE 01.581	460	36	16560	460	0	0	R-410A	57.6	3.5	26	N	Y

NOTE:
1. VALUE REFERENCED FROM TABLE 1103.1 IN THE 2015 IMC.
2. INCREASED SPACE VOLUME USED IN CALCULATIONS, INTERCONNECTED SPACE/PLENUM.

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DESIGNED: DS/DE | ENGINEER: PE

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PROJECT: BUILDING B

TITLE: MECHANICAL SCHEDULES

DRAWING: M905

E1 | SCALE: | AGILE No: | REV: A

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Energy Cost Budget / PRM Summary

By SWANSON RINK

Project Name:	Date: June 29, 2023
City:	Weather Data: Columbus, Ohio

Note: The percentage displayed for the "Proposed/ Base %" column of the base case is actually the percentage of the total energy consumption.

* Denotes the base alternative for the ECB study.

		* Alt-2 ASHRAE Baseline 90.1-1			Alt-1 LCK 62		
		Energy 10^6 Btu/yr	Proposed / Base %	Peak kBtuh	Energy 10^6 Btu/yr	Proposed / Base %	Peak kBtuh
Lighting - Conditioned	Electricity	4,293.9	0	536	4,293.7	100	536
Lighting - Unconditioned	Electricity	1,970.5	0	225	1,970.6	100	225
Space Heating	Electricity	5.3	0	2	76.4	1,442	53
	Gas	44.2	0	53	0.0	0	0
Space Cooling	Electricity	150,944.2	10	19,714	13,580.6	9	30,544
Pumps	Electricity	1,046.0	0	120	0.2	0	2
Heat Rejection	Electricity	25,829.6	2	3,229	1,938.9	8	258
Fans - Conditioned	Electricity	233,865.3	15	29,124	98,862.4	42	11,388
Receptacles - Conditioned	Electricity	1,098,167.8	72	125,381	1,098,168.5	100	125,381
Stand-alone Base Utilities	Electricity	0.0	0	0	826.3	0	240
Total Building Consumption		**1,516,166.**			**1,219,717.**		

		* Alt-2 ASHRAE Baseline 90.1-1	Alt-1 LCK 62
Total	**Number of hours heating load not met**	0	0
	Number of hours cooling load not met	0	0

	* Alt-2 ASHRAE Baseline 90.1-1		Alt-1 LCK 62	
	Energy 10^6 Btu/yr	Cost/yr $/yr	Energy 10^6 Btu/yr	Cost/yr $/yr
Electricity	1,516,122.4	43,311,452	1,219,717.5	34,843,963
Gas	44.2	0	0.0	0
Total	**1,516,167**	**43,311,452**	**1,219,718**	**34,843,963**

Project Name:
Dataset Name: LCK62.TRC

TRACE® 700 v6.3.5 calculated at 08:35 AM on 06/29/2023
Energy Cost Budget Report Page 1 of 1

THE TRADE-OFF METHOD IS BEING USED TO DEMONSTRATE COMPLIANCE OF THE PROPOSED BUILDING DESIGN. IECC 2018 ACCEPTS THE REQUIREMENTS OF ASHRAE 90.1 AS AN ACCEPTABLE COMPLIANCE PATHWAY WHICH WAS USED IN THIS ENERGY MODEL.

THIS PROJECT IS COMPRISED OF A SINGLE STORY DATA CENTER LOCATED IN NORTH AMERICA, CLIMATE ZONE 5A. THE BUILDING INCLUDES 12 DATA HALLS AND ELECTRICAL ROOMS ALONG WITH AN ADMINISTRATION WING CONTAINING OFFICES, AND MEETING ROOMS.

BASELINE BUILDING INCLUDES INSULATION VALUES FOR ROOF AND WALLS THAT ARE CURRENTLY INSULATED TO MEET THE ASHRAE 90.1 PRESCRIPTIVE METHOD. PROPOSED BUILDING INCLUDES ADJUSTMENTS TO INSULATION VALUES FOR THE ROOF AND WALLS AS OUTLINED BELOW.

A. ROOF = R-20 C
B. WALL = NO INSULATION FOR WALLS AROUND THE PLAN NORTH DAHU GALLERIES AND PLAN SOUTH ELECTRICAL ROOMS. EXTERIOR WALLS AROUND THE ADMIN AREA WILL HAVE FULL HEIGHT R-13 INSULATION AS WELL AS THE EXTERIOR WALLS IN EACH STAIRWELL AND THE PLAN EAST CORRIDOR.
C.UNHEATED SLAB = R-10 FOR 24" BELOW.

THE ENERGY MODEL WAS PERFORMED USING TRANE TRACE 700 IN COMPLIANCE WITH ASHRAE 90.1 APPENDIX G. PROPOSED BUILDING UTILIZES MECHANICAL SYSTEMS SHOWN DESIGN DOCUMENTS. BASELINE BUILDING UTILIZES SYSTEM 11 FOR DATA HALL SPACES AND SYSTEM 7 FOR THE OFFICE AREA SPACES PER ASHRAE 90.1 APPENDIX G.

COMPLIANCE BASED ON THE TOTAL BUILDING PERFORMANCE REQUIRES THAT A PROPOSED BUILDING (PROPOSED DESIGN) BE SHOWN TO HAVE AN ANNUAL ENERGY COST THAT IS LESS THAN OR EQUAL TO THE ANNUAL ENERGY COST OF THE STANDARD REFERENCE DESIGN. THE ENERGY MODEL RESULTS INDICATE A TOTAL ENERGY SAVINGS OF 19.55% AND A TOTAL ENERGY COST SAVINGS OF 19.55%

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DESIGNED: SWANSON RINK | ENGINEER: GO

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PROJECT: BUILDING B

TITLE: CODE COMPLIANCE

DRAWING: M910

E1 | SCALE: NTS | AGILE No: | REV: A