	MECHANICAL SYMBOLS - GENERAL
	NEW PIPING, DUCTWORK, OR EQUIPMENT
	EXISTING PIPING, DUCTWORK, OR EQUIPMENT TO REMAIN
	EXISTING PIPING, DUCTWORK, OR EQUIPMENT TO BE REMOVED
	NEW EQUIPMENT
ER	EXISTING EQUIPMENT TO BE REMOVED
	EXISTING EQUIPMENT TO REMAIN
[-] L_JERR	EXISTING EQUIPMENT TO BE REMOVED AND RELOCATED
RE	RELOCATED POSITION OF EXISTING EQUIPMENT
<u></u>	CONTINUATION FOR DUCTWORK OR PIPING
	TYPE OF EQUIPMENT (AIR HANDLING UNIT)
<u>AHU-1</u>	UNIT NUMBER
•	POINT OF CONNECTION (OF NEW WORK TO EXISTING WORK) OR POINT OF DISCONNECTION (TO REMOVE AND PATCH EXISTING WORK)
<b>#</b>	DRAWING NOTE TAG
$\triangle$	REVISION SYMBOL
	SECTION DESIGNATION ON DRAWING WHERE SECTION IS CUT
A B	A — SECTION DESIGNATION B — DRAWING NO.
T	THERMOSTAT (HAS DISPLAY, OCCUPANT ADJUSTMENT, OR BOTH) TO BE WALL MOUNTED. REFER TO PLANS FOR LOCATION.
(TS)	TEMPERATURE SENSOR (HAS NO DISPLAY OR OCCUPANT ADJUSTMENT) TO BE WALL OR DUCT MOUNTED. REFER TO PLANS FOR LOCATION.
SD SD	DUCT MOUNTED SMOKE DETECTOR

(TS)	TEMPERATURE   BE WALL OR D	SENSOR (HAS NO DISPLAY OR OCCUPANT ADJUSTMENT) TO DUCT MOUNTED. REFER TO PLANS FOR LOCATION.
\$90	DUCT MOUNTED	O SMOKE DETECTOR
M	ECHANIC	AL SYMBOLS - DUCTWORK
18X12	18X12	DUCT SIZE (FIRST FIGURE INDICATES HORIZONTAL SIZE)
, 18ø	18ø	ROUND DUCT DIAMETER
$\boxtimes \mapsto$		SUPPLY OR OUTSIDE AIR INTAKE DUCT UP
× <del>]</del>	×	SUPPLY OUTSIDE AIR INTAKE DUCT DOWN
		RETURN OR EXHAUST DUCT UP
		RETURN OR EXHAUST DUCT DOWN
<u> </u>	====	ACOUSTICAL LINING IN DUCT
$\leftarrow$		TRANSITION FROM RECTANGULAR TO ROUND OR OVAL DUC
<del>S</del> AD	<u>E2</u>	ACCESS DOOR IN DUCT
<u>, —▶R</u>	R	SLOPING RISE IN DUCT IN DIRECTION OF ARROW
<b>▶</b> D	₹ D	SLOPING DROP IN DUCT IN DIRECTION OF ARROW
<u>`</u>		MITERED ELBOW WITH TURNING VANES
<b>`</b>	<b>A</b>	RADIUS ELBOW (INNER RADIUS = WIDTH)
		DUCT SPLIT
5		90° BRANCH TAP (USE 45° BOOT, OR CONICAL TAP FOR BRANCH SERVING A SINGLE DIFFUSER/REGISTER ONLY)
<u></u>		45° BRANCH TAP
$\leftarrow$		SPLIT (SUPPLY) OR CONVERGENCE (RETURN/EXHAUST) RADIUS ELBOW TYPE
$\leftarrow$		SPLIT (SUPPLY) OR CONVERGENCE (RETURN/EXHAUST) MITERED ELBOW TYPE WITH TURNING VANES
<del></del>		SPLIT (SUPPLY) OR CONVERGENCE (RETURN/EXHAUST) BULLHEAD TYPE
5		OFFSET (WITH RADIUS ELBOWS)
<b>₩</b>		SUPPLY REGISTER
<b>├</b>	1	RETURN OR EXHAUST REGISTER
Ş- <mark>L</mark> VD	\_\VD	VOLUME DAMPER
<del>∫  </del> FD	FD	FIRE DAMPER W/DUCT ACCESS DOOR (FD/AD)
Ş— <mark>∐M</mark> Ş	<del> </del>	MOTORIZED DAMPER W/DUCT ACCESS DOOR
FXC ⊱-IIII}	FXC	FLEXIBLE CONNECTION
<b>^</b>		FLEXIBLE DUCT
	\ <u>\</u> \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	

MODULAR LINEAR DIFFUSER WITH PLENUM

BRANCH TAKEOFF TO CEILING DIFFUSER/REGISTER

MECH	ANICAL S	YMBOLS - DUCTWORK (CONT.)									
<b>→</b>	SUPPLY CEILING	G DIFFUSER (4-WAY BLOW)									
<b>-</b>	SUPPLY CEILING	G DIFFUSER (3-WAY BLOW)									
<b>-</b>	SUPPLY CEILING	G DIFFUSER (2-WAY BLOW)									
+	SUPPLY CEILING	PPLY CEILING DIFFUSER (1-WAY BLOW)									
CD-B(500)	DIFFUSER TYPE SCHEDULE.	FUSER TYPE AND CFM (CUBIC FEET PER MINUTE). REFER TO HEDULE.									
	RETURN CEILIN	G GRILLE OR REGISTER									
VAV-B(500)		(CV, VAV, FP). DESIGNATION INDICATES TYPE, BOX I. QUANTITY (REFER TO SCHEDULES).									
VAV-B(500)		WITH REHEAT COIL (CV, VAV, FP). DESIGNATION INDICATES E AND CFM. QUANTITY (REFER TO SCHEDULES).									
5 SA	SA	SUPPLY AIR DUCT									
5— RA —5	RA	RETURN AIR DUCT									
5— OA — →	OA	OUTSIDE AIR INTAKE DUCT									
(	J	EVHALIST DUCT									

| \( \subseteq \text{EXH} \rightarrow \text{EXH} \rightarrow \text{EXHAUST DUCT}

			AIC
N. A.		AL SYMBOL LIST - PIPING	BMS
IVII	ECHANIC	AL STIVIDUL LIST - PIPING	BTU CFM
<b>├</b>	<b>-</b>	DIRECTION OF FLOW IN PIPE	CV
<b>──</b>		PITCH PIPE DOWN IN DIRECTION OF ARROW	DX
<u></u>		ELBOW TURNED UP	EAT
			ER
<b>←</b> ⇒	S	ELBOW TURNED DOWN	ERR
<del>` ;</del>		BOTTOM PIPE CONNECTION	EWT
γ			FLA FPI
		TOP PIPE CONNECTION	FTR
	દ[‱]િક	FLEXIBLE CONNECTION	GPM
			НХ
<b>├</b>		BALL VALVE	HZ
<b>──</b> ₩ <b>─</b>		GATE VALVE	KW
			LAT
$\longleftarrow \bowtie \longleftarrow$		GLOBE VALVE	MBH MCA
		CHECK VALVE (ARROW INDICATES FLOW DIRECTION)	NC NC
			NIC
<b>₩</b>		AUTOMATIC THREE-WAY CONTROL VALVE	NK
Υ	<u> </u>		NO
<b>₩</b>		AUTOMATIC TWO-WAY CONTROL VALVE	NTS
			OED
		PRESSURE REDUCING VALVE	PH
<b>~</b>		PLUG VALVE	PSIA
1 1 (		1 200 1/12/2	PSIG
$\leftarrow$		BUTTERFLY VALVE (MANUAL)	RE
			RE:
<b>├</b>		CIRCUIT SETTER/BALANCING VALVE	TYP
<u> </u>	83	PIPE GUIDE	VN
			VFD
<b>├</b>		EXPANSION JOINT	WMS
<u> </u>		CONCENTRIC REDUCER (ARROW INDICATES FLOW	
		DIRECTION)	
<u> </u>		ECCENTRIC REDUCER (ARROW INDICATES FLOW DIRECTION)	
<b>├</b>		UNION	
<b>├</b>		CAPPED PIPE	
<u>₹</u>		"Y" TYPE STRAINER WITH BLOW DOWN VALVE	
<u></u> <u> </u> <u> </u>	<del>-</del>	PIPE SLEEVE	
⊩	PIPE FLANGE		ADDUGASES
<u> </u>	VALVE IN VERT	ICAL PIPE	APPLICABLE BELOW IS FO
M M	MANUAL AIR VE		
<del>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</del>	MULINOME WIK VE	=111	

AUTOMATIC AIR VENT

PRESSURE GAUGE WITH SHUT OFF VALVE

THERMOMETER

├──────────────── | PIPE SENSOR WELL

PUMP

## ├─ H/CWS ─ | DUAL-TEMPERATURE HOT/CHILLED WATER SUPPLY ├─ H/CWR ── │ DUAL—TEMPERATURE HOT/CHILLED WATER RETURN ├──CHWS ── | CHILLED WATER SUPPLY → CHWR → | CHILLED WATER RETURN

MECHANICAL SYMBOLS - PIPING (CONT.)

## ├──LPS── | LOW PRESSURE STEAM SUPPLY ├──LPR── | LOW PRESSURE STEAM CONDENSATE RETURN CD—— CONDENSATE DRAIN LINE (GRAVITY) → PD → PUMPED DRAIN LINE

ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
AHU	AIR HANDLING UNIT
ATC	AUTOMATIC TEMPERATURE CONTROL
BMS	BUILDING MANAGEMENT SYSTEM
BTU	BRITISH THERMAL UNIT
CFM	CUBIC FEET PER MINUTE
CV	CONSTANT VOLUME
DX	DIRECT EXPANSION
EAT	ENTERING AIR TEMPERATURE
ER	EXISTING EQUIPMENT TO REMOVED
ERR	EXISTING EQUIPMENT TO REMOVED AND RELOCATED
EWT	ENTER WATER TEMPERATURE
FLA	FULL LOAD AMPS
FPI	FIN PER INCH
FTR	FIN TUBE RADIATION
GPM	GALLONS PER MINUTE
НХ	HEAT EXCHANGER
HZ	HERTZ
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
мвн	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPS
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NK	NECK SIZE
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OED	OPEN END DUCT
PH	PHASE
PSI	POUND PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
RE	RELOCATED POSITION OF EXISTING EQUIPMENT
RE:	REFER TO
TYP	TYPICAL
VN	VENT
٧	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
WMS	WIRE MESH SCREEN

## NEW YORK STATE CODES & STANDARDS

- 2020 BUILDING CODE OF NEW YORK STATE
- 2020 FIRE CODE OF NEW YORK STATE 2020 PLUMBING CODE OF NEW YORK STATE
- 2020 MECHANICAL CODE OF NEW YORK STATE
- 2020 FUEL GAS CODE OF NEW YORK STATE 2020 NYS UNIFORM CODE SUPPLEMENT
- NYS EDUCATION DEPARTMENT 1998 MANUAL OF PLANNING STANDARDS

## NEW YORK STATE ENERGY CODES

 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE 2016 ASHRAE 90.1

## REFERENCED STANDARDS

REFERENCE STANDARDS SHALL BE AS REFERENCED BY ALL STATE CODES. THE LIST FOR QUICK REFERENCE AND DOES NOT INCLUDE ALL APPLICABLE REFERENCE STANDARDS.

> 2016 NPFA 13 — STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS 2016 NFPA 14 — STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS 2016 NFPA 20 — STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION

• 2017 NFPA 70 - NATIONAL ELECTRICAL CODE 2016 NFPA 72 — NATIONAL FIRE ALARM AND SIGNALING CODE

## MECHANICAL DRAWING LIST

	MESTIANIOAE BIXWING EIGT
Sheet Number	Sheet Title
AH M001	COVER SHEET
AH M101	FIRST FLOOR VESTIBULE PARTIAL PLANS
AH M201	SCHEDULES
AH M301	DETAILS

#### MECHANICAL GENERAL NOTES

- THESE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF WORK AS WELL AS INDICATE GENERAL ARRANGEMENT OF EQUIPMENT. DUCTWORK AND PIPING. THE CONTRACTOR SHALL ADHERE TO THESE DRAWINGS AS CLOSELY AS POSSIBLE. HOWEVER, THE RIGHT IS RESERVED TO VARY THE RUNS OF DUCTWORK AND PIPING AND TO MAKE OFFSETS, WHERE NECESSARY, TO ACCOMMODATE CONDITIONS ARISING AT THE JOB SITE. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO WORK SHALL BE PERFORMED PRIOR TO RECEIPT OF EQUIPMENT, DUCTWORK, AND PIPING FABRICATION SHOP DRAWING APPROVAL.
- THE DRAWINGS AND SPECIFICATIONS SHALL BE INTERPRETED SO AS TO REQUIRE THE MOST SUBSTANTIAL AND COMPREHENSIVE PERFORMANCE OF THE WORK, CONSISTENT WITH THE INTENT AND REQUIREMENTS OF THE CONTRACT DOCUMENTS. AND SUCH WORK SHALL BE PERFORMED BY THE CONTRACTOR WITHOUT EXTRA COST TO THE OWNER. IN THE CASE OF A DISCREPANCY WITHIN THE CONTRACT DOCUMENTS, THE WORST CASE OR HIGHEST COST SHALL APPLY FOR BIDDING PURPOSES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCY VIA RFI PRIOR TO PERFORMING THE ASSOCIATED WORK.
- ANY MATERIAL, WORK, OR INCIDENTAL ACCESSORIES OR MINOR DETAILS NOT SHOWN BUT NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SHOWN ON THE DRAWINGS, SHALL BE
- PROVIDED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER. DUCT SIZES SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS. WHERE ACOUSTICALLY LINED DUCT IS SPECIFIED, OUTER DUCT DIMENSIONS SHALL BE
- WHERE WORK IS INDICATED TO BE BY OTHER CONTRACTORS, FOR EXAMPLE: "BY GENERAL CONSTRUCTION CONTRACTOR", THIS WORK IS NOT IN THE HVAC/MECHANICAL CONTRACT. EACH CONTRACTOR WILL BE RESPONSIBLE FOR CLOSE COORDINATION WITH OTHER CONTRACTORS' WORK.
- 6. REFER TO APPROPRIATE SPECIFICATION SECTION FOR EQUIPMENT SELECTION PARAMETERS WHERE DRAWINGS DO NOT CONTAIN EQUIPMENT SCHEDULES.

INCREASED TO ACCOMMODATE LINING.

- FOR AIR SYSTEMS, THE MECHANICAL CONTRACTOR SHALL INCLUDE IN BID PRICING SUPPLYING AND INSTALLING BRANCH VOLUME DAMPERS FOR ALL SUPPLY. RETURN. AND EXHAUST BRANCH DUCTWORK, REGARDLESS IF VOLUME DAMPERS ARE NOT SHOWN IN CONTRACT DOCUMENTS. ALL VOLUME DAMPERS SHALL BE ADJUSTABLE HANDLE TYPE FOR LAY-IN ACCESSIBLE CEILING OR CABLE OPERATED FOR CONCEALED TYPE OF CEILING. ALL BRANCH DUCT VOLUME DAMPERS SERVING DIFFUSERS IN GYPSUM BOARD CEILINGS (OR OTHERWISE INACCESSIBLE) SHALL BE REMOTELY (CORD OR CABLE) OPERABLE THROUGH THE FACE OF THE DIFFUSER.
- 8. INSTALL THERMOSTATS, FAN SPEED CONTROLLERS, AND OTHER ROOM OCCUPANT ADJUSTABLE CONTROLS WITH TOP OF DEVICE 4'-0" ABOVE FINISHED FLOOR OR AS DIRECTED OTHERWISE BY ARCHITECT. COORDINATE EXACT LOCATIONS WITH THE ARCHITECTURAL PLANS. DEVICE COLORS TO BE SELECTED BY THE ARCHITECT. MANUFACTURER'S LOGO SHALL NOT BE EXPOSED.
- WHERE PIPING CONNECTIONS FOR EQUIPMENT SUCH AS PUMPS, AC UNITS, COILS, ETC. DIFFER FROM THE LINE SIZE PIPING, IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO FURNISH AND INSTALL THE NECESSARY REDUCER/EXPANDER FITTINGS TO ENABLE CONNECTION BETWEEN THE PIPING SYSTEM AND THE EQUIPMENT.
- 10. PROVIDE UL LISTED AND LABELED FIRE DAMPERS AT ALL DUCT PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS, REGARDLESS IF FIRE DAMPERS ARE NOT SHOWN IN CONTRACT DOCUMENTS. PROVIDE 1-1/2 HOUR RATED FIRE DAMPERS AT WALLS/FLOORS WITH 2 HOUR OR LESS RATING. PROVIDE 3 HOUR RATED FIRE DAMPERS AT WALLS/FLOORS WITH 3 HOUR OR MORE RATING. ALL FIRE DAMPERS SHALL BE TYPE "B" WITH SHUTTER OUT OF AIRSTREAM, AND SHALL BE RATED FOR DYNAMIC AIRFLOW CONDITIONS 2,000 FT/MIN AND 4.0 IN-WC. PROVIDE ACCESS DOORS IN DUCTWORK, 18"x18" UNLESS OTHERWISE NOTED. COORDINATE WITH GENERAL CONTRACTOR FOR LOCATIONS AND SIZES OF ACCESS DOORS IN GENERAL CONSTRUCTION.
- . PROVIDE UL LISTED AND LABELED COMBINATION FIRE/SMOKE DAMPERS AT ALL DUCT PENETRATIONS THROUGH FIRE AND SMOKE RATED WALLS AND FLOORS, REGARDLESS IF FIRE DAMPERS ARE NOT SHOWN IN CONTRACT DOCUMENTS. ALL COMBINATION FIRE/SMOKE DAMPERS SHALL BE PROVIDED WITH AN END SWITCH FOR STATUS SIGNAL TO THE BMS AND FIRE SMOKE CONTROL PANEL. ALL COMBINATION FIRE/SMOKE DAMPERS SHALL BE RATED FOR DYNAMIC AIRFLOW CONDITIONS 2,000 FT/MIN AND 4.0 IN-WC. PROVIDE ACCESS DOORS IN DUCTWORK. 18"x18" UNLESS OTHERWISE NOTED. COORDINATE WITH GENERAL CONTRACTOR FOR LOCATIONS AND SIZES OF ACCESS DOORS IN GENERAL CONSTRUCTION.
- 12. PROVIDE FIRESTOPPING FOR ALL DUCT, PIPE, AND CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS.
- 13. WHERE DUCTS AND PIPES PENETRATE FIRE AND/OR SMOKE RATED WALLS, LEAVE A MINIMUM OF 2 INCHES CLEAR ABOVE THE DUCTS AND PIPES. SUCH THAT THE MECHANICAL CONTRACTOR CAN SEAL THE WALL ABOVE THE DUCTS. DO NOT INSTALL FLEXIBLE DUCTWORK THROUGH FIRE AND/OR SMOKE RATED WALLS.
- 14. PROVIDE ESCUTCHEON PLATES WHERE DUCTS OR PIPES PENETRATE CEILINGS, WALLS, OR FLOORS WHERE EXPOSED TO VIEW IN FINISHED AREAS. ESCUTCHEONS FOR DUCTS SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS DUCT. PIPE ESCUTCHEONS SHALL BE CHROME-PLATED BRASS.
- 15. THE MECHANICAL CONTRACTOR SHALL INCLUDE IN BID PRICING SUPPLYING AND INSTALLING THERMOSTATS FOR ANY EQUIPMENT THAT REQUIRES CONTROL, SUCH AS VAV BOXES, FCU, FANS, HEATERS, FINNED TUBE RADIATION, RTU'S, ETC., REGARDLESS IF THERMOSTATS ARE NOT SHOWN IN CONTRACT DOCUMENTS. ALL THERMOSTATS SHALL BE DIRECT DIGITAL PROGRAMMABLE TYPE, UNLESS OTHERWISE NOTED. PROVIDE ONE THERMOSTAT FOR EACH FAN COIL UNIT, FAN UNIT, VAV, FPB, ENTRANCE HEATER, BASEBOARD RADIATION, ETC. THERMOSTAT LOCATIONS SHALL BE AS SHOWN ON PLANS AND/OR WHERE DIRECTED AND APPROVED BY THE ARCHITECT AND
- 16. ALL DUCTWORK AND PIPING REQUIRING FIRE RATING AND WHERE SHOWN ON PLANS SHALL BE PROVIDED WITH UL LISTED FIRE—RATED DUCT WRAP WITH APPROPRIATE FIRE RATING (1-HOUR, 2-HOUR, ETC.), UNLESS A FIRE-RATED ARCHITECTURAL ENCLOSURE IN THAT LOCATION IS SPECIFIED WITHIN DRAWINGS AND SPECIFICATIONS FOR ANOTHER TRADE.
- 17. ALL LINEAR DIFFUSERS ARE TO BE COORDINATED WITH ARCHITECTURAL PLANS FOR EXACT LENGTHS AND LOCATIONS. ACTIVE PLENUM SECTIONS SHALL BE OF THE SIZES AS SHOWN ON PLANS. EACH BRANCH TAP SERVING THE LINEAR DIFFUSER SHALL BE PROVIDED WITH A VOLUME DAMPER WHICH SHALL BE OPERABLE THROUGH THE DIFFUSER FACE. ACTIVE SUPPLY SECTION OF LINEAR DIFFUSER SHALL BE PROVIDED WITH PATTERN CONTROL DEVICES AND EQUALIZING GRIDS. ACTIVE OR INACTIVE RETURN

SECTIONS SHALL NOT BE FURNISHED WITH PATTERN CONTROL OR EQUALIZING GRIDS.

- 18. BORDER TYPES AND METHOD OF ATTACHMENT FOR ALL DIFFUSERS, GRILLES, AND REGISTERS SHALL BE COORDINATED WITH THE ARCHITECTURAL CEILING DETAILS AND SPECIFICATIONS.
- 19. REFER TO SPECIFICATIONS FOR ACOUSTIC LINING REQUIREMENTS NOT SHOWN ON THE
- 20. FOR WATER SYSTEMS: THE MECHANICAL CONTRACTOR SHALL INCLUDE IN BID PRICING SUPPLYING AND INSTALLING BALL TYPE SHUT-OFF VALVES AND SEPARATE BALANCING VALVE FOR ALL BRANCH PIPING REGARDLESS IF VALVES ARE NOT SHOWN IN CONTRACT DOCUMENTS. ALL SHUT-OFF VALVES SHALL BE FULL PORT AND PRESSURE RATED FOR SYSTEM PRESSURE. THE BALANCING VALVE SHALL BE SIMILAR TO B&G CIRCUIT SETTER PLUS CALIBRATED BALANCE VALVE, UNLESS OTHERWISE
- 21. THE MECHANICAL CONTRACTOR SHALL INCLUDE IN BID PRICING SUPPLYING AND INSTALLING SECONDARY DRAIN PANS FOR ALL AIR CONDITIONING CEILING HUNG EQUIPMENT REGARDLESS IF DRAIN PANS ARE NOT SHOWN IN CONTRACT DOCUMENTS. REFER TO DETAIL FOR INSTALLATION OF DRAIN PANS, IF NO DETAIL IS SHOWN. CONTRACTOR MUST REQUEST DRAIN PAN DETAIL THRU RFI PROCESS DURING BIDDING.
- 22. THE MECHANICAL CONTRACTOR SHALL INCLUDE IN BID PRICING SUPPLYING AND INSTALLING CONDENSATE PIPING FOR ALL COOLING TYPE EQUIPMENT REGARDLESS IF CONDENSATE PIPING IS NOT SHOWN IN CONTRACT DOCUMENTS. ALL CONDENSATE PIPING SHALL BE INSULATED AND ROUTED TO NEAREST DRAIN OR JANITORS CLOSET. IF NO CONDENSATE PIPING IS SHOWN, CONTRACTOR MUST REQUEST CONDENSATE PIPING ROUTING THRU RFI PROCESS DURING BIDDING.
- 23. GENERAL NOTES, SYMBOLS, ABBREVIATIONS, AND DETAILS ARE APPLICABLE TO ALL HVAC/MECHANICAL DRAWINGS.
- 24. RELOCATE EXISTING WORK THAT INTERFERES WITH WORK OF THIS CONTRACT.
- 25. COORDINATE THIS WORK WITH THAT OF OTHER TRADES.
- 26. DIMENSIONS SHOWN ON PLAN ARE HORIZONTAL. DIMENSIONS SHOWN IN ELEVATION ARE VERTICAL, EXCEPT IN WAY OF STRUCTURAL STEEL, DIMENSIONS ARE MEASURED PERPENDICULAR TO FLANGE.
- 27. PRODUCT INSTALLATION SHALL ADHERE TO MANUFACTURERS' RECOMMENDATIONS.
- 28. PROVIDE ACCESS PANELS IN DUCTS AND CEILINGS/SOFFITS/WALLS/FLOORS IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS FOR ALL CONCEALED EQUIPMENT THAT REQUIRES PERIODIC SERVICE, INCLUDING AIR CONDITIONING UNITS, FANS, CONDENSATE PUMPS, FIRE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS, AND DUCT MOUNTED SMOKE DETECTORS. MATCH FIRE RATING OF CEILING/SOFFIT/WALL/FLOOR WHERE APPLICABLE.
- 29. PROVIDE HANGERS, INSERTS, ANCHORS, SUPPLEMENTAL STEEL & SUPPORTS AS REQUIRED TO SUPPORT DUCTWORK, PIPING AND EQUIPMENT FROM STRUCTURE.
- 30. SCHEDULE WORK OF THIS SECTION TO AVOID INTERFERING WITH EXISTING OPERATIONS IN THE FACILITY.
- 31. COORDINATE ALL ROOF PENETRATIONS WITH THE WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS. COORDINATE ALL ROOF PENETRATION LOCATIONS WITH

#### MECHANICAL GENERAL NOTES (CONT.)

- THE OWNER. NOTIFY THE OWNER PRIOR TO STARTING WORK AND VERIFY COMPLIANCE WITH BOND AND WARRANTY OF THE ROOF.
- 32. RUN DUCTS AND PIPING CONCEALED, UNLESS OTHERWISE SPECIFIED, AND CLEAR OF CEILING INSERTS.
- 33. PROVIDE CLEARANCE IN FRONT OF ALL ELECTRIC CONTROL PANELS PER N.E.C. AND
  - EQUIPMENT MANUFACTURERS' REQUIREMENTS.
- 34. PRIOR TO SUBMISSION OF SHOP DRAWINGS. COORDINATE WITH ELECTRICAL CONTRACTOR TO VERIFY VOLTAGES AVAILABLE FOR MECHANICAL EQUIPMENT.
- 35. MOTOR STARTERS AND VARIABLE FREQUENCY DRIVES FOR HVAC EQUIPMENT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED/WIRED BY THE ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED. COORDINATE AND VERIFY WITH ELECTRICAL CONTRACTOR PRIOR TO SHOP DRAWING SUBMISSION.
- 36. ALL DISCONNECT SWITCHES FOR HVAC EQUIPMENT SHALL BE FURNISHED, INSTALLED, AND WIRED BY THE ELECTRICAL CONTRACTOR, UNLESS INTEGRAL TO HVAC EQUIPMENT OR OTHERWISE NOTED. COORDINATE AND VERIFY WITH ELECTRICAL CONTRACTOR PRIOR TO SHOP DRAWING SUBMISSION.
- 37. USE FLAT TRANSVERSE SEAM FOR DUCTWORK WHERE SPACE AVAILABLE DICTATES.
- 38. BRANCH DUCTS TO INDIVIDUAL DIFFUSERS AND REGISTERS SHALL BE THE SAME SIZE AS THE DIFFUSER OR REGISTER NECK, UNLESS OTHERWISE NOTED.
- 39. ALL DUCTWORK AND PIPING SHALL BE INSTALLED TIGHT TO BOTTOM OF STRUCTURAL MEMBERS UNLESS OTHERWISE NOTED OR ABSOLUTELY REQUIRED BY FIELD CONDITIONS.
- 40. DO NOT INSTALL DUCTWORK OR PIPING DIRECTLY UNDER AND PARALLEL TO THE WEB OF STRUCTURAL MEMBERS. OFFSET IN ORDER TO ALLOW FUTURE DUCTWORK AND PIPING TO CROSS OVER IN BETWEEN STRUCTURAL MEMBERS.
- 41. BRANCH DUCTS TO INDIVIDUAL DIFFUSERS AND REGISTERS SHALL BE PROVIDED WITH VOLUME DAMPERS, WHETHER OR NOT THE VOLUME DAMPERS ARE SHOWN ON PLAN.
- 42. VOLUME DAMPERS LOCATED ABOVE INACCESSIBLE CEILINGS SHALL BE CABLE OPERATED TYPE. WITH CABLE OPERATORS LOCATED IN ACCESSIBLE LOCATIONS AND
- CLEARLY LABELED FOR DIFFUSER OR REGISTER SERVED. 43. UNLESS OTHERWISE NOTED, ALL EXPOSED DUCTWORK IN FINISHED SPACES SHALL BE SPIRAL ROUND OR FLAT OVAL TYPE, WITH SOLID OUTER WALL, PERFORATED INNER
- WALL, AND 1 INCH THICK INTERSTITIAL ACOUSTICAL LINING. 44. CONDENSATE DRAIN (CD) AND CONDENSATE PUMP DISCHARGE (PD) PIPING SHALL BE
- RIGID COPPER, TYPE L, MINIMUM 3/4" NOMINAL PIPE SIZE, BRAZED OR SOLDERED, WITH 1" INSULATION, UNLESS OTHERWISE NOTED ON DRAWINGS. 45. NEW AND EXISTING PERMANENT HVAC AIR EQUIPMENT MAY BE USED BY CONTRACTORS
- DURING CONSTRUCTION FOR TEMPORARY HEATING, COOLING, AND VENTILATION, ONLY UNDER THE FOLLOWING CONDITIONS: 45.1. CONTRACTOR TO PROVIDE TEMPORARY FILTERS IN EACH UNIT DURING
- CONSTRUCTION, WHICH SHALL BE REPLACED WITH NEW CLEAN FILTERS AFTER GENERAL CONSTRUCTION IS COMPLETED. 45.2. CONTRACTOR TO PROVIDE FILTER FABRIC AT ALL RETURN AND EXHAUST
- REGISTERS, GRILLES, AND OPENINGS DURING CONSTRUCTION. 45.3. THE WARRANTY PERIOD FOR ALL EQUIPMENT SHALL NOT BEGIN UNTIL CONSTRUCTION IS COMPLETED. IF THE EQUIPMENT MANUFACTURER'S WARRANTY PERIOD BEGINS WHILE THE UNIT USED DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH EXTENDING THE WARRANTY TO PROVIDE THE FULL PERIOD OF COVERAGE TO
- THE OWNER. 45.4. IF NEW PERMANENT HVAC AIR EQUIPMENT INSTALLED UNDER THIS PROJECT WILL NOT BE OPERATED BY THE CONTRACTOR DURING CONSTRUCTION, ALL OPEN OR INCOMPLETE DUCTWORK SHALL BE CAPPED AIRTIGHT WITH WITH HEAVY POLYETHYLENE PLASTIC. AFTER THE INSTALLATION OF DUCTWORK, REGISTERS, GRILLES, AND DIFFUSERS, THE CONTRACTOR SHALL BLANK OFF ALL REGISTERS, GRILLES, AND DIFFUSERS WITH HEAVY POLYETHYLENE PLASTIC AND TAPE AIR TIGHT, IN AREAS THAT ARE UNDER CONSTRUCTION, UNTIL WORK IS COMPLETE IN THOSE AREAS.
- 45.5. IF THE ABOVE CONDITIONS ARE NOT MET, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY NECESSARY TEMPORARY HEATING, COOLING, AND VENTILATION EQUIPMENT, DUCTWORK, CONTROLS, PIPING, AND POWER AT
- 45.6. IF PERMANENT HVAC EQUIPMENT IS USED DURING CONSTRUCTION BUT NOT PROPERLY PROTECTED AS DESCRIBED ABOVE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING OUT DUST AND DEBRIS FROM DUCTWORK AND EQUIPMENT, AS WELL AS ANY NECESSARY REPAIR OR REPLACEMENT OF
- DAMAGED EQUIPMENT AT HIS OWN EXPENSE. 45.7. WHEN GENERAL CONSTRUCTION IS COMPLETE. VACUUM CLEAN ALL DIFFUSERS. REGISTERS, GRILLES, AND HVAC EQUIPMENT IN THE PROJECT AREA OR SERVING THE PROJECT AREA. REMOVE ANY CONSTRUCTION DEBRIS.

## MECHANICAL DEMOLITION GENERAL NOTES

- DEMOLITION NOTES, SYMBOL LIST, AND DETAILS ARE APPLICABLE TO ALL HVAC/MECHANICAL DRAWINGS.
- . ALL PIPING IN WALLS AND FLOORS NOT TO BE REUSED WILL BE PLUGGED OR CAPPED, AND CUTTING AND PATCHING WILL BE PERFORMED TO RESTORE SURFACE TO ORIGINAL CONDITION BY THIS CONTRACTOR.
- AFTER REMOVING PIPE THROUGH THE FLOOR SLABS, PACK OPENING WITH APPROVED FIRE-RATED PACKING.
- THE CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF HVAC WORK AS DESCRIBED ON THE DRAWINGS AND IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT IN CERTAIN CASES CONSIDERED JUSTIFIABLE BY THE OWNER/ENGINEER.
- THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING HVAC SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
- DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR, OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION.
- THE CONTRACTOR SHALL REMOVE ALL DUCT AND PIPING SUPPORTS, ETC. FROM PARTITIONS THAT ARE TO BE REMOVED. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING PIPING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL AND PROVIDE BYPASS CONNECTIONS NECESSARY.
- B. ALL PIPING WHICH BECOMES EXPOSED DURING THE ALTERATION WORK SHALL BE REAVED AND REROUTED CONCEALED BEHIND FINISHED SURFACES.
- 9. PORTIONS OF PIPING AND DUCTWORK TO BE REMOVED OR ABANDONED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ACTIVE, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED, AND RECONNECTED.
- 10. THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE, SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS.
- 11. ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACT, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF BY THE HVAC CONTRACTOR, AS DIRECTED BY THE
- 2. ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVER TIME, IF REQUIRED, TO ASSURE THAT SYSTEMS WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTIONS TO THE EXISTING SYSTEMS.
- 13. THE SHUTDOWN OF EXISTING BUILDING HVAC SERVICES SHALL BE COORDINATED WITH WITH THE OWNER. MAKE ARRANGEMENTS AT LEAST FIVE (5) BUSINESS DAYS PRIOR TO A SHUTDOWN.
- CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
- 15. WHERE THE DEMOLITION OF EXISTING PNEUMATIC CONTROL EQUIPMENT, THERMOSTATS, OR TUBING IS INDICATED IN THE PLANS, THE CONTRACTOR SHALL CAP THE ENDS OF ALL EXISTING TO REMAIN PNEUMATIC LINES AIRTIGHT UNLESS OTHERWISE NOTED. IF ADDITIONAL PNEUMATIC LINES OR DEVICES ARE DISCOVERED BY THE CONTRACTOR INSIDE WALLS OR ABOVE CEILINGS DURING DEMOLITION, THE CONTRACTOR SHALL INFORM THE DESIGN TEAM PRIOR TO REMOVAL OF THESE LINES OR DEVICES.

## EASTCHESTER **UNION FREE** SCHOOL DISTRICT

2022 CAPITAL BOND PROJECT PHASE 2

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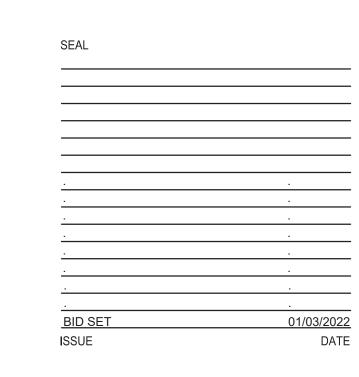
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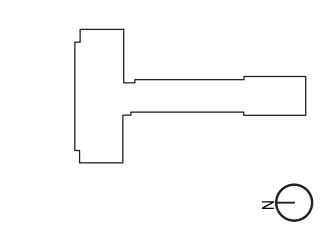
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STAMFORD, CT 06905 SECURITY CONSULTANT BUILDING TECHNOLOGY CONSULTING 992 BEDFORD STREET

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KEY PLAN

66-03-01-03-0-001-022

SED PROJECT NO.

MEMASI PROJECT NO.

**COVER SHEET** 

**AH M001** 

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#### NEW CONSTRUCTION NOTES - DUCTWORK:

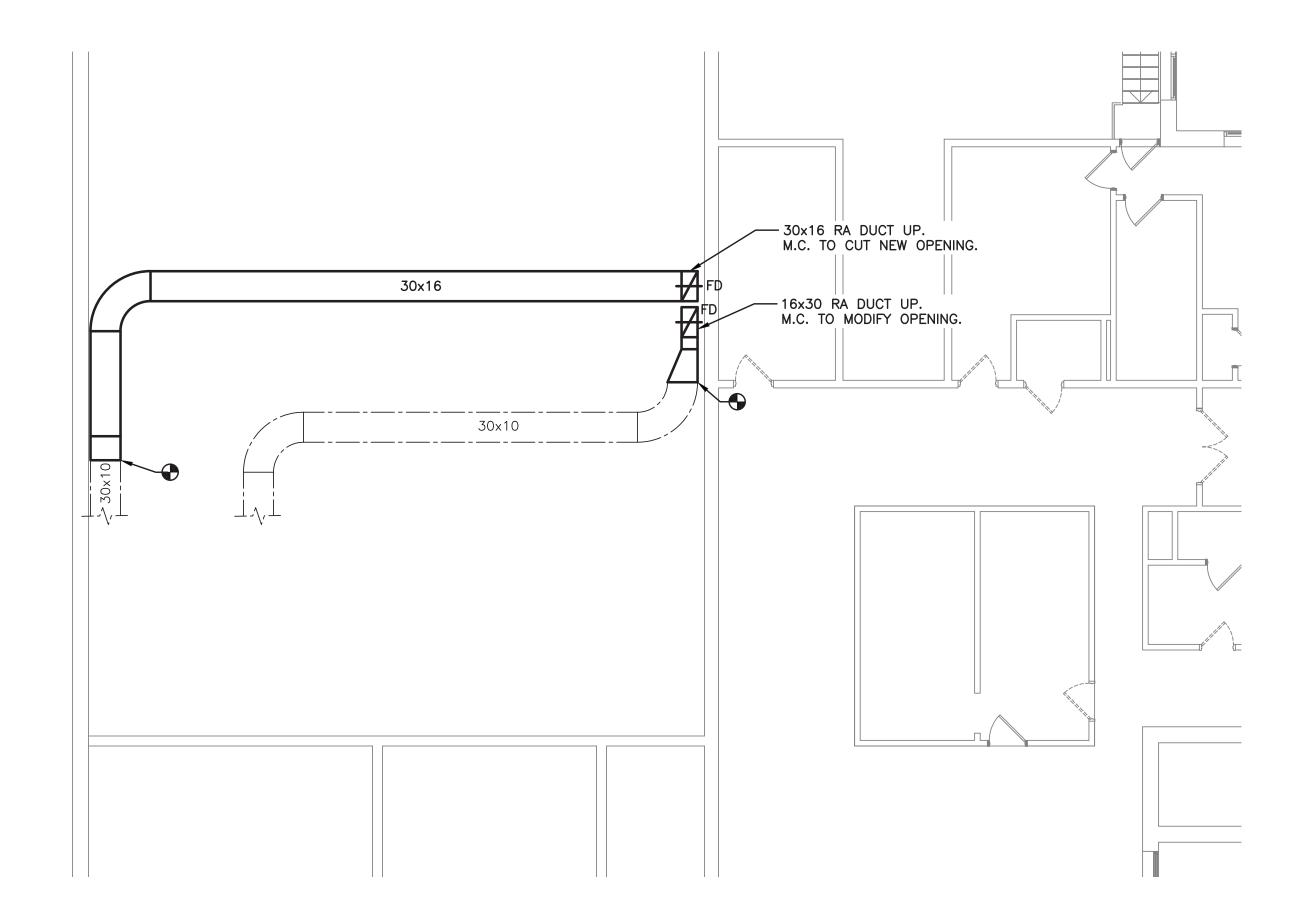
- 1. BRANCH DUCTS TO INDIVIDUAL DIFFUSERS AND REGISTERS SHALL BE THE SAME SIZE AS THE DIFFUSER OR REGISTER NECK, UNLESS OTHERWISE NOTED.
- 2. ALL DUCTWORK SHALL BE INSTALLED TIGHT TO BOTTOM OF STRUCTURAL MEMBERS UNLESS OTHERWISE NOTED OR ABSOLUTELY REQUIRED BY FIELD CONDITIONS.
- 3. DO NOT INSTALL DUCTWORK DIRECTLY UNDER AND PARALLEL TO THE WEB OF STRUCTURAL MEMBERS. OFFSET IN ORDER TO ALLOW FUTURE DUCTWORK AND

PIPING TO CROSS OVER IN BETWEEN STRUCTURAL MEMBERS.

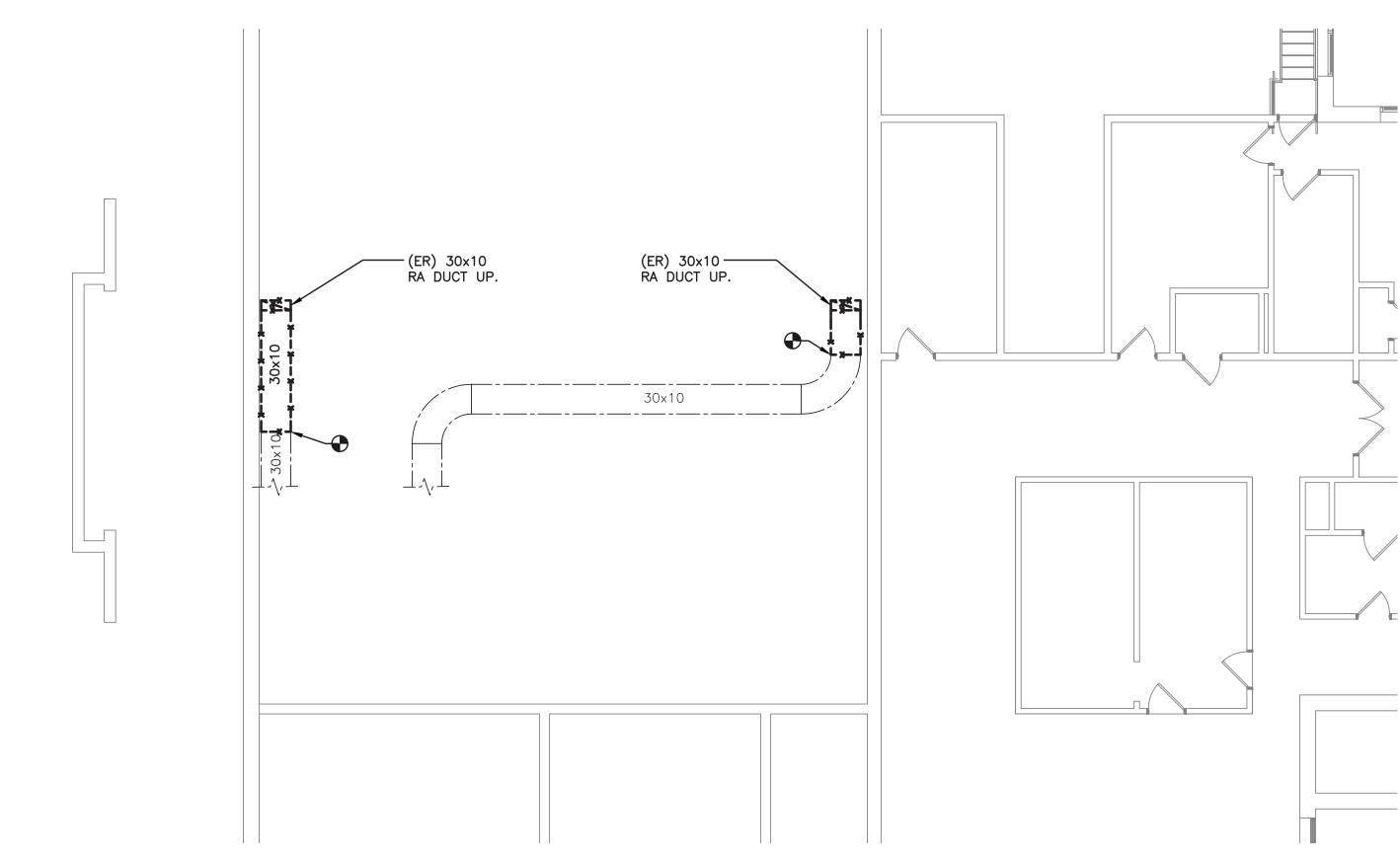
- 4. BRANCH DUCTS TO INDIVIDUAL DIFFUSERS AND REGISTERS SHALL BE PROVIDED WITH VOLUME DAMPERS, WHETHER OR NOT THE VOLUME DAMPERS ARE SHOWN ON PLAN.
- 5. VOLUME DAMPERS LOCATED ABOVE INACCESSIBLE CEILINGS SHALL BE CABLE OPERATED TYPE, WITH CABLE OPERATORS LOCATED IN ACCESSIBLE LOCATIONS AND CLEARLY LABELED FOR DIFFUSER OR REGISTER SERVED.
- 6. UNLESS OTHERWISE NOTED, ALL EXPOSED DUCTWORK IN FINISHED SPACES SHALL BE SPIRAL ROUND OR FLAT OVAL TYPE, WITH SOLID OUTER WALL, PERFORATED INNER WALL, AND 1 INCH THICK INTERSTITIAL ACOUSTICAL LINING.

#### NEW CONSTRUCTION NOTES - PIPING:

- 1. ALL PIPING SHALL BE INSTALLED TIGHT TO BOTTOM OF STRUCTURAL MEMBERS UNLESS OTHERWISE NOTED OR ABSOLUTELY REQUIRED BY FIELD CONDITIONS.
- 2. DO NOT INSTALL PIPING DIRECTLY UNDER AND PARALLEL TO THE WEB OF STRUCTURAL MEMBERS. OFFSET IN ORDER TO ALLOW FUTURE DUCTWORK AND PIPING TO CROSS OVER IN BETWEEN STRUCTURAL MEMBERS.
- 3. CONDENSATE DRAIN (CD) AND CONDENSATE PUMP DISCHARGE (PD) PIPING SHALL BE RIGID COPPER, TYPE L, MINIMUM 3/4" NOMINAL PIPE SIZE, BRAZED OR SOLDERED, WITH 1" INSULATION, UNLESS OTHERWISE NOTED ON DRAWINGS.

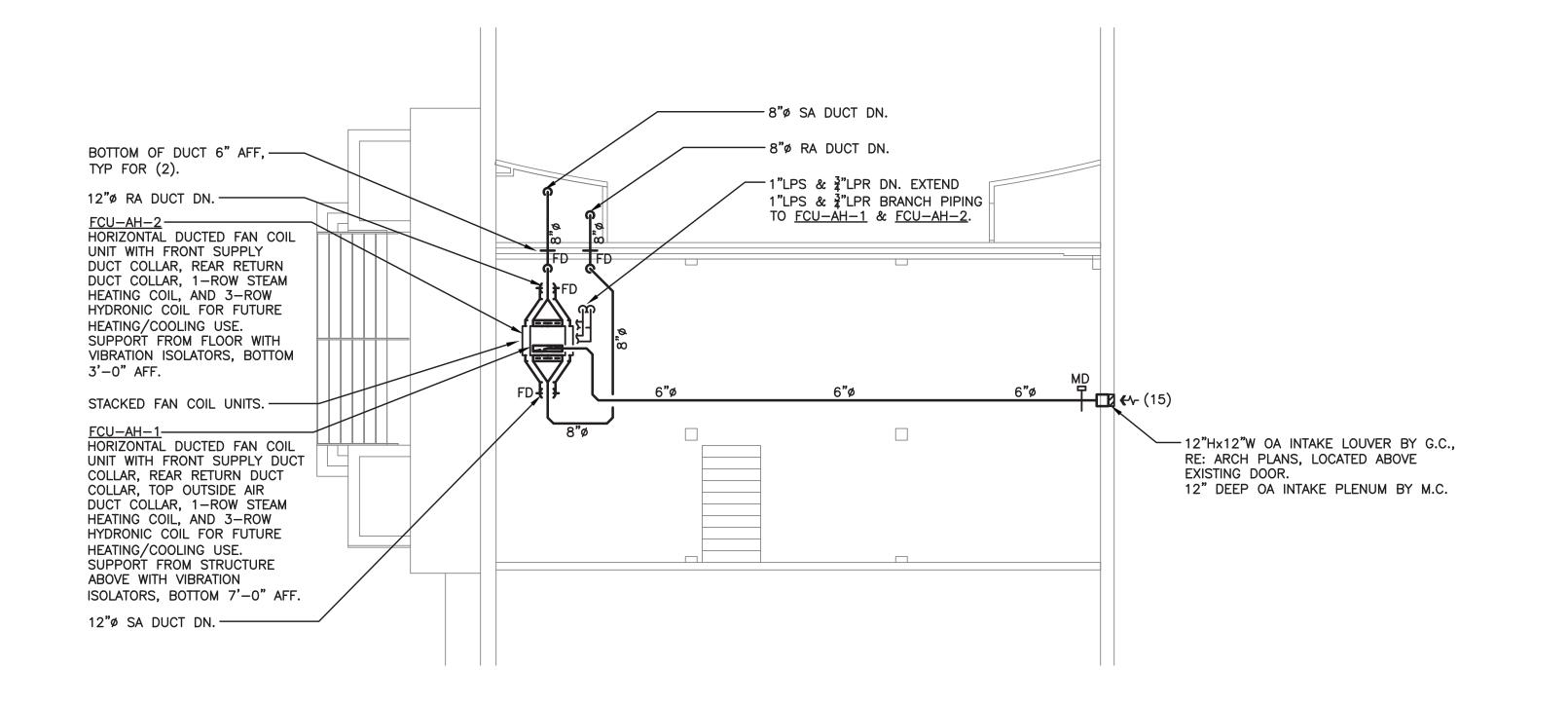


## PART PLAN - GROUND FLOOR

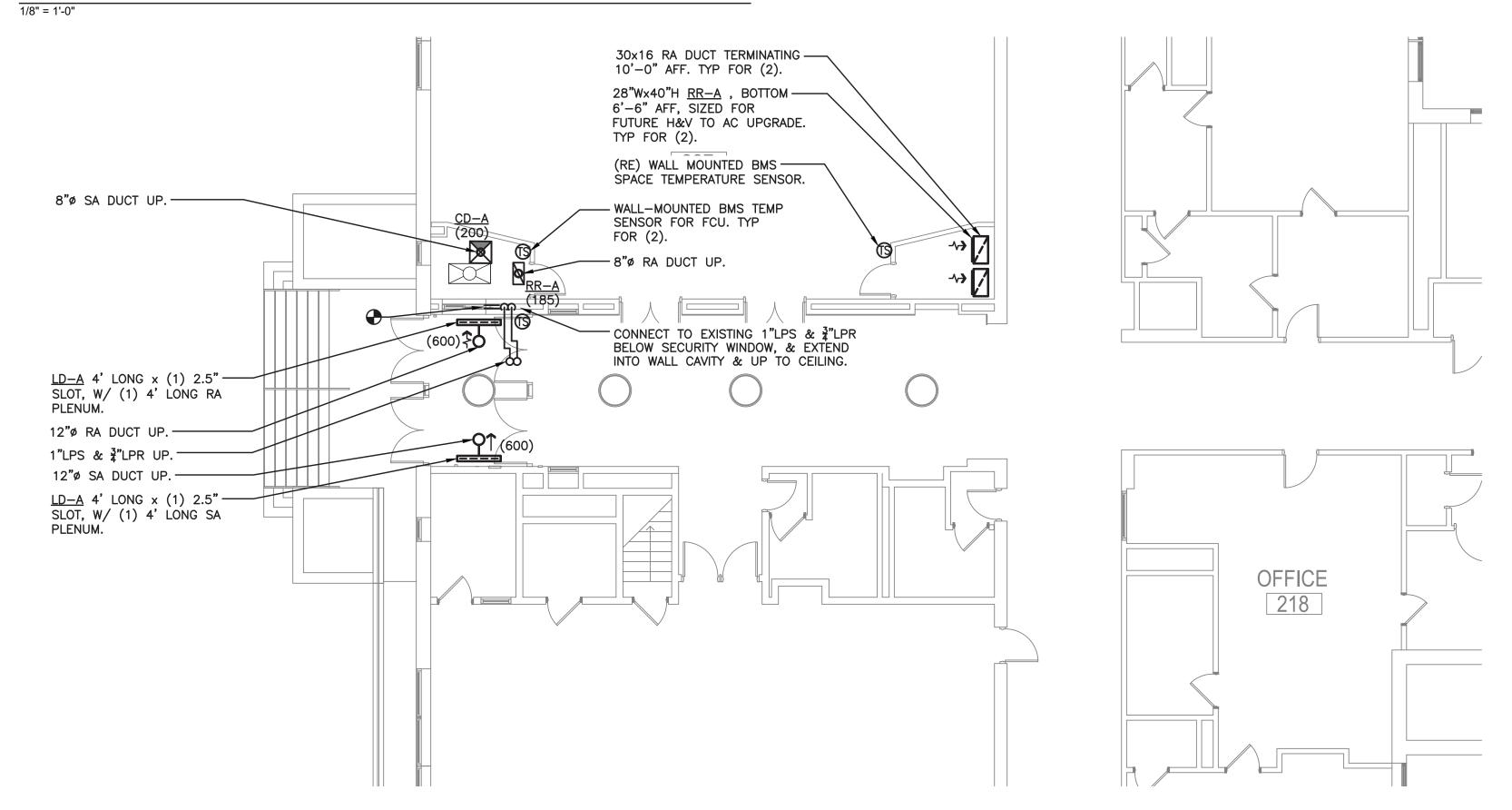


DEMOLITION PART PLAN - GROUND FLOOR

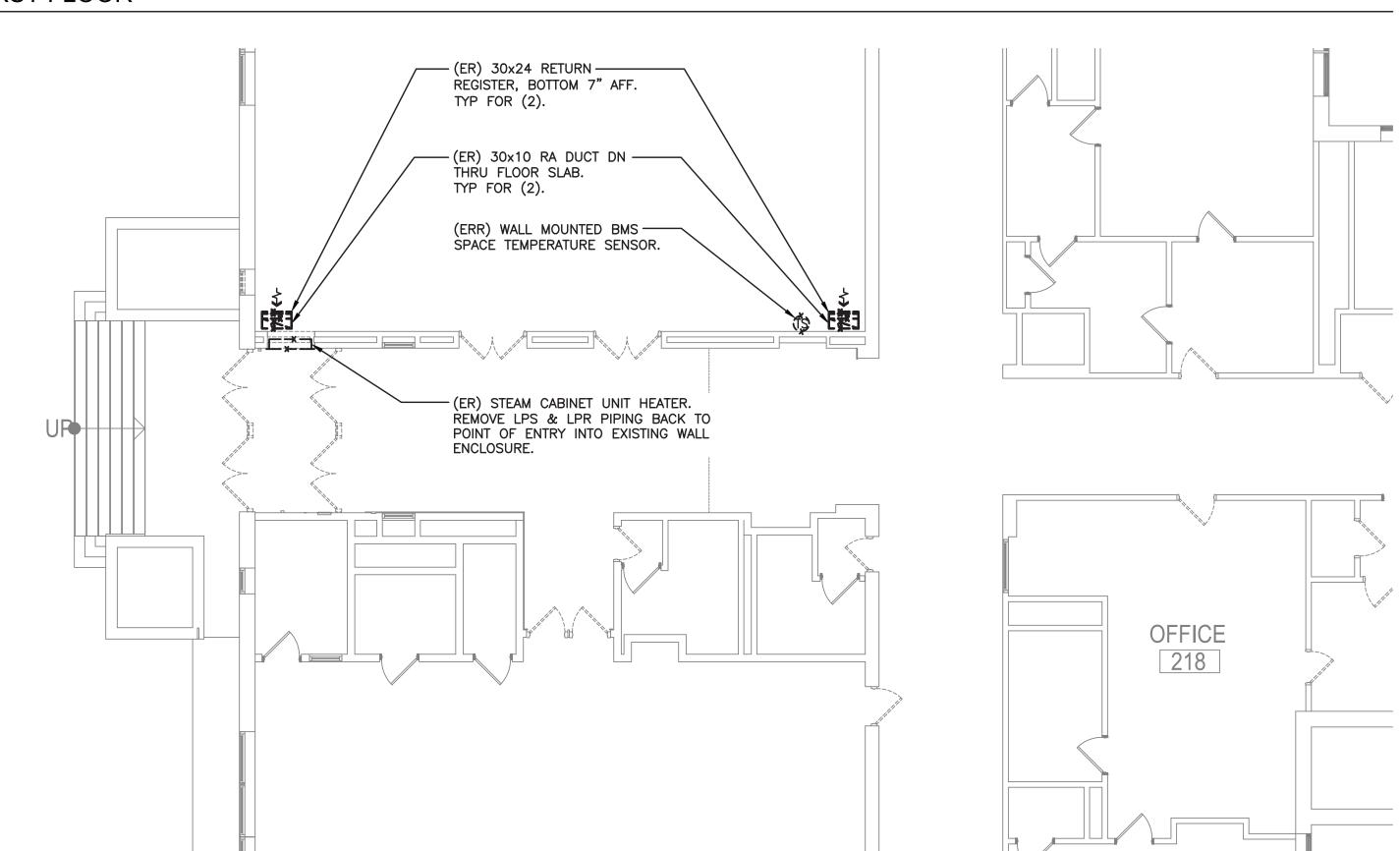
1/8" = 1'-0"



#### PART PLAN - MECHANICAL PENTHOUSE



### PART PLAN - FIRST FLOOR



## DEMOLITION PART PLAN - FIRST FLOOR

1/8" = 1'-0"

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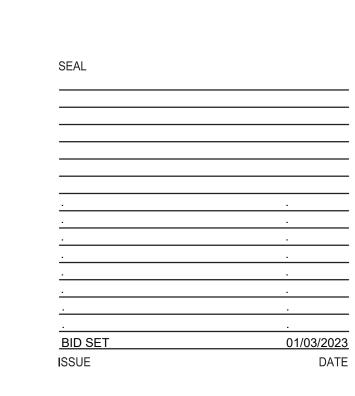
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NEW YORK, NY 10119



KEY PLAN

 SED PROJECT NO.
 66-03-01-03-0-001-022

 MEMASI PROJECT NO.
 102-2202

FIRST FLOOR VESTIBULE PARTIAL PLANS

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									VENTILA	ATION SC	HEDULE										
HANDLING SUPPLY OUTSID SYSTEM AIRFLOW VENTILAT DESIGNATION (CFM) AIRFLO					ROOM	DATA				OUTSIDE VEN	TILATION AIRFLO	W REQUIRED P	ER THE	OUTSIDE VE	NTILATION AIRFI	LOW REQUIRED	PER THE NYSED 1998				
AIR	DESIGN	DESIGN	ROOM	ROOM	FLOOR	NUMBER	DESIGN	DESIGN	]	2020 NEW YORK	STATE MECHANIC	CAL CODE - SEC	CTION 403	MANUAL OF PLANNING STANDARDS - SECTION S606-3-A							
HANDLING	SUPPLY	OUTSIDE	NUMBER	NAME	AREA	OF	SUPPLY	MINIMUM	OUTSIDE	OUTSIDE	ZONE AIR	ROOM	ROOM DESIGN OUTSIDE	OUTSIDE	OUTSIDE	ROOM	ROOM DESIGN OUTSIDE				
SYSTEM	AIRFLOW	VENTILATION				PEOPLE	AIRFLOW	OUTSIDE	VENTILATION	VENTILATION	DISTRIBUTION	OUTSIDE	VENTILATION AIRFLOW	VENTILATION	VENTILATION	OUTSIDE	VENTILATION AIRFLOW				
DESIGNATION	(CFM)	AIRFLOW					(CFM)	VENTILATION	AIRFLOW	AIRFLOW PER	EFFECTIVENESS	VENTILATION	MEETS OR EXCEEDS	AIRFLOW	AIRFLOW PER	VENTILATION	MEETS OR EXCEEDS				
		(CFM)						AIRFLOW	PER PERSON	SQUARE FOOT		AIRFLOW	CODE REQUIREMENT	PER PERSON	SQUARE FOOT	AIRFLOW	NYSED REQUIREMENT				
								(CFM)	(CFM / PERSON)	(CFM / SF)		(CFM)	(YES/NO)	(CFM / PERSON)	(CFM / SF)	(CFM)	(YES / NO)				
FCU-AH-1	200	15	221A	SECURITY OFFICE	51	1	200	15	5	0.06	0.8	10	YES	15	0.00	15	YES				

																		F	AN C	OIL	JNIT SC	HED	ULE																			
DESIGNATION CO	ONFIGUR-	AIF	R CONNECTIO	NS				SUPPL	Y FAN DATA	\				COILS		CHILL	ED WATER (O	R DUAL TE	MP) COIL	COOLI	IG DATA	H	HOT WATER (	OR DU	JAL TEMP) COI	L HEATING	DATA	STEA	M COIL HEA	TING DATA			ELECT	RICAL DATA		FILTER	UNIT OVE	ERALL	WEIGHT	MANUFAC-	MODEL REMA	RKS
	ATION	SUPPLY	RETURN	OUTSIDE	SUPPLY	MIN.	ESP	NO. HP	ВНР	FAN DI	RIVE STARTE	R STARTER ST	EAM CHIL	LED HOT	DUAL	FLUID TOT. SE	NS. GPM E.	N.T. L.W.T.	E.A.T. E.	A.T. L.A	.T. L.A.T. W.	P.D. FL	UID MBH G	PM E.V	.W.T.   L.W.T.   E.	A.T. L.A.T.	W.P.D.	HEATING S	STEAM ST	EAM E.A.T. L	A.T. VOLTS	PH Hz N	MCA MOP	DISCONNECT	EMI	R. PRE-	DIMENS	IONS	(LBS)	TURER		
				AIR	AIRFLOW	OUTSIDE	(IN WC)	OF (PER	(PER	TYPE T	YPE TYPE	LOCATION	WA <sup>-</sup>	TER WATER	R TEMP	MBH  M	BH (	°F) (°F)	DB '	WB D	B WB (FT	-WC)		(4	(°F) (°F) (	(°F) (°F)	(FT-WC)	мвн рі	RESURE FL	.OW (°F)	(∘F)		BY E.	C LOCATION TYPE	ENCL. PW	R. FILTER	WIDTH HEIGH	IT LENGTH	1			
					(CFM)	AIRFLOW	мс	TORS MOTO	R) MOTOR)						нот &				(°F) (	[°F)	F)								(PSIG) (LB	S/HR)			OR		TYPE (Y/	N)	(IN) (IN)	OR				
						(CFM)									CHILLED																		MANU	F.				DEPTH				
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FCU-AH-1	RIZONTAL	FRONT DUCT	REAR DUCT	TOP DUCT	200	15	0.20	1 0.12	0.05	CENTRI-	RECT ECM	AT MOTOR 1-F	2014		2 DOW 1	NATER 5.5	16 00	14 56	90	67 5	57 1	0 10/0	ATER 9.2	00 1	140 120	55 07	10	10.0	2 (	. 4 55	105 120	1 60	20 45 MANU	F. UNIT MTD. NON-	NEMA 1 N	4" MEDV	12 22 25	10	04	TDANE E	SEE N	TES
CO-An-1	NCEALED	COLLAR	COLLAR	COLLAR	200	15	0.30	1 0.13	0.05	FUGAL DIF	KECI ECIVI	AIWOTOR	KOW .	•   •	J-ROW N	WATER   5.5   4	1.0   0.9	14   30	00	01   3	9   31   1	.o VVA	ATEK   9.2   1	0.9   1	140   120   3	55   91	1.0	10.0	2   3	9.4   55	105   120		2.6   15   WANU	FUSED	NEWAI	1" MERV-	13 33 25	10	01	IRANE	BEL	Wر
FOLLAND HO	RIZONTAL	FRONT DUCT	REAR DUCT		600		0.20	4 0.22	0.24	CENTRI-	DECT FOM	AT MOTOD 4.	2014		2 DOW 1	NATED 16.1 1	40 27	14 56	00	67 5	56 2	0 14/4	TED 27.2	27 4	140 120	55 07	2.0	26.0	, ,	2 2 55	06 420	1 60	20 45 MANU	NON-	NIEMA 4 A	4" MEDV	12 47 25	10	120	TDANE E	SEE N	<b>TES</b>
FCU-AH-2 CO	NCEALED	COLLAR	COLLAR	•	600	-	0.30	1 0.22	0.21	FUGAL	KECI ECIM	AT MOTOR 1-F	KOW .	-   -	3-KOW  \	NATER   16.4   1	4.0   2.7	14   56	80	כן זס	5   36   3	0.8   WA	ATER   27.3   2	2.1   1	140   120   3	55   97	3.8	20.9	2   2	3.3   33	90   120	1   60	3.9   15   MANU	F. UNIT MTD. FUSED	NEMA 1 N	1" MERV-	13 41 25	10	139	IKANE  F	BEL	Wر

NOTES:

1. PROVIDE THE FOLLOWING FACTORY SUPPLIED FEATURES AND OPTIONS FOR ALL UNITS WITH OUTSIDE AIR INTAKE CONNECTIONS:

1.1. 2-POSITION OUTSIDE AIR MOTORIZED DAMPER AND ACTUATOR, "OPEN" POSITION FIELD ADJUSTIBLE FROM 0-50%.
2. PROVIDE THE FOLLOWING FACTORY SUPPLIED FEATURES AND OPTIONS FOR ALL FLOOR-MOUNTED UNITS:

2.2. SUB-BASE, 4" HIGH.

3. PROVIDE THE FOLLOWING FIELD SUPPLIED OPTIONS FOR ALL UNITS:

3.1. AUTOMATIC TEMPERATURE CONTROLS SUB-CONTRACTOR TO FURNISH AND FIELD-INSTALL BMS CONTROLS, CONTROL VALVES, AND CONTROL WIRING.

						REGISTER, GRILLE, AND	DIFFUSER SCHEDULE								
DESIGNATIO	N SERVICE	TYPE	NOMINAL	NECK	CFM	CONFIGURATION	BORDER	MATERIAL OF	EQUALIZING	OPPOSED	FILTER	FINISH	MANUFACTURE	R MODEL	REMARKS
			OVERALL	SIZE	RANGE		TYPE	CONSTRUCTION	GRID IN NECK	BLADE	RACK	COLOR			
			DIMENSION	(IN)						DAMPER					
			(IN)							IN NECK					
				6"DIA	0-100										
CD-A	SUPPLY	CEILING DIFFUSER	24x24	8"DIA	101-175	PLAQUE-STYLE, 4-WAY THROW	LAY-IN	STEEL	YES	NO	NO	WHITE	TITUS	OMNI	SEE NOTES BELOW
OD-A	OD A   OOI 1 E1	OLILINO DII I OOLIK	27727	10"DIA	176-350	TEAGOE OF TEE, 4 WAT THROW	EATTIN	OTELL	120			********	11100		OLL NOTES BLEST
				12"DIA	351-550										
			24x12,	24x12 W/ ADAPTER TO 6"DIA	0-100		LAY-IN OR SURFACE MOUNTED					WHITE			
		CEILING OR	24x24,	24x12 W/ ADAPTER TO 8"DIA	101-175			STEEL		ONLY IF REGISTER IS			TITUS		
RR-A	RETURN	SIDEWALL	OR AS	24x12 W/ ADAPTER TO 10"DIA	176-350	LOUVERED FACE, 1/2" BLADE			NO	MOUNTED TO EXPOSED				355RI	SEE NOTES BELOV
IXIX-7A	KETOKIY	REGISTER	NOTED	24x12 W/ ADAPTER TO 12"DIA	351-550	SPACING, 35° FIXED DEFLECTION				SPIRAL DUCT			11100	JOSINE	
		KESIOTEK	ON PLAN	24x12	551-1000		MODITED			OI INAL DOOT					
			ONTEAN	24x24	1001-2000										
				6"DIA (CONNECTION TO FACTORY PLENUM)	0-100	CONTINUOUS SLOT LINEAR DIFFUSER	LAY-IN BORDER,					WHITE FLANGES, BLACK			
LD-A	SUPPLY	SUPPLY LINEAR DIFFUSER	(1) 2.5" WIDE SLOT, LENGTHS	8"DIA (CONNECTION TO FACTORY PLENUM)	101-175	WITH "JET-THROW" PATTERN CONTROLLER	TITUS "TYPE 11" BORDER WITH 3/4" FLANGE,	ALUMINUM	NO	NO	NO	PATTERN CONTROLLER	TITUS	EL IT 25	SEE NOTES BELOW
LD-A		LINEARDIIIOOLK	AS NOTED ON PLAN	10"DIA (CONNECTION TO FACTORY PLENUM)	176-350	FOR DISCHARGE PERPENDICULAR	"UHC" UPPER HANGER CLIP	ALOMINOM				& VISIBLE INTERNAL	11100	1 2 31 23	
				12"DIA (CONNECTION TO FACTORY PLENUM)	351-600	TO MOUNTING SURFACE	ONO ON ENTIANOENCE					SURFACES, WHITE PLENUMS			

NOTES:

1. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS.

2. ALL FINISH COLORS ARE SUBJECT TO APPROVAL BY THE ARCHITECT. SUBMIT COLOR CHART FOR REVIEW.
3. COORDINATE BORDER TYPES WITH ARCHITECTURAL CEILING SPECIFICATIONS.

4. RR-A:

4.1. PROVIDE FACTORY FURNISHED SQUARE-TO-ROUND ADAPTER FOR EACH REGISTER, MATTE BLACK FINISH FOR INTERNAL SURFACES.

4.1. PROVIDE 5. LD-A, LD-B:

5.1. ALL ACTIVE SUPPLY, EXHAUST, AND RETURN (DUCTED) SECTIONS SHALL BE PROVIDED WITH FACTORY FURNISHED ACOUSTICALLY LINED 2', 3',

OR 4' LONG "FPBI" PLENUMS WITHSIDE INLET CONNECTIONS.

5.2. ALL ACTIVE RETURN (CEILING PLENUM) SECTIONS SHALL BE PROVIDED WITH RETURN HOOD LIGHT SHIELDS, LENGTHS AS SHOWN ON PLANS.
5.3. INACTIVE PORTIONS WITHOUT PLENUMS OR LIGHT SHIELDS SHALL BE BLANKED OFF, MATTE BLACK FINISH FOR VISIBLE SURFACES.
5.4. PROVIDE "FMBC" MITERED CORNERS, FACTORY BLANKED, 6"x6".

5.5. PROVIDE FACTORY END CAPS.

EASTCHESTER
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SCHEDULES

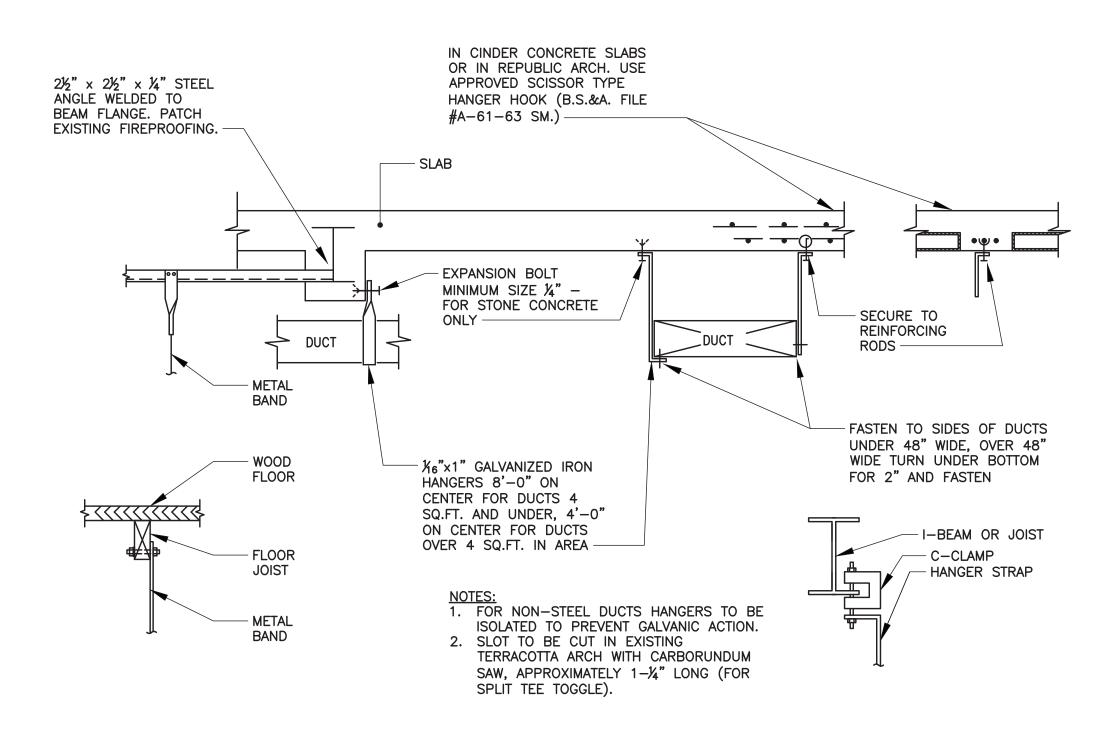
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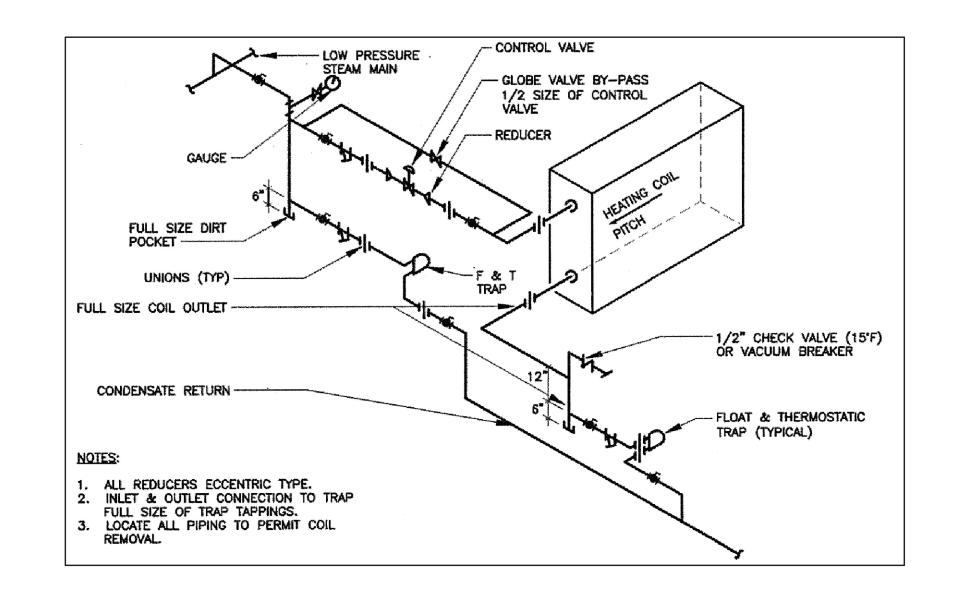
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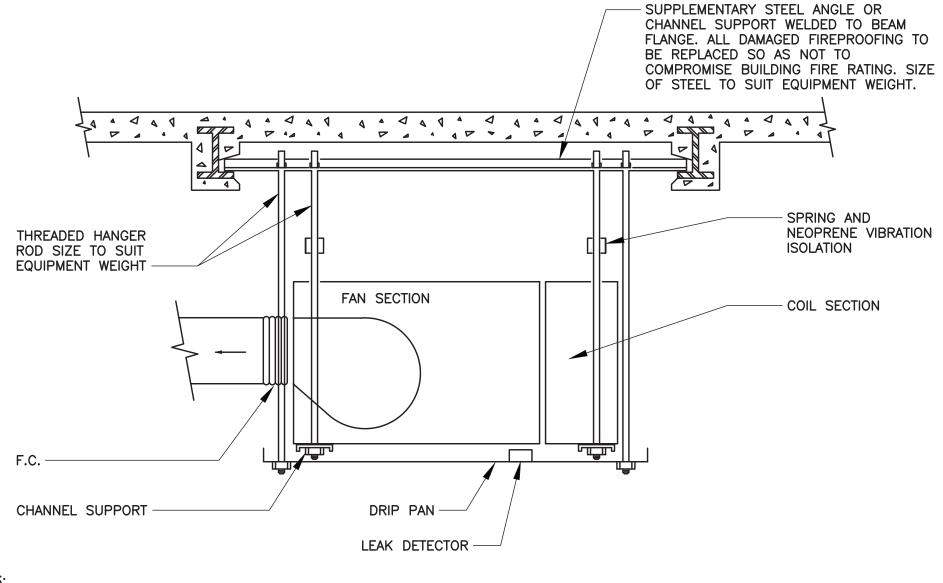
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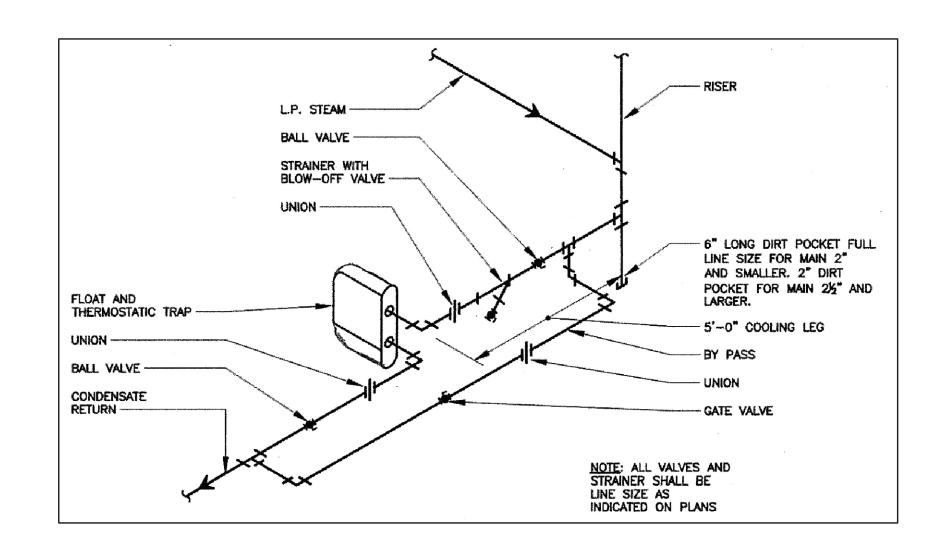


STEAM COIL PIPING DETAIL

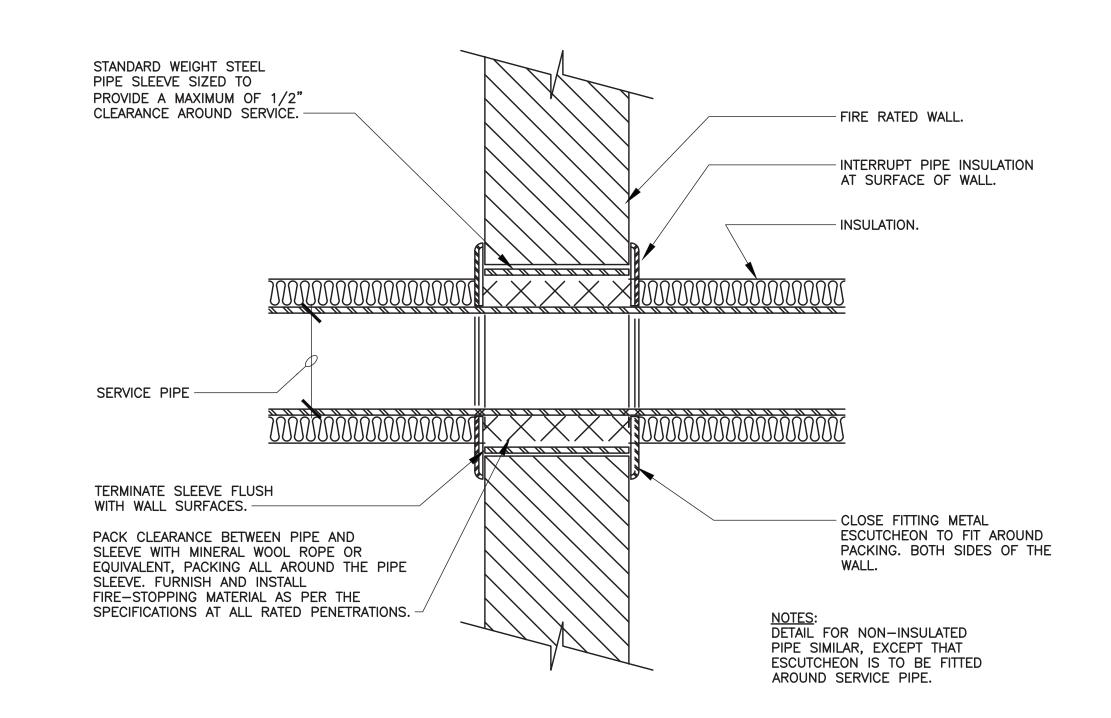


1. INCLUDE DRIP PAN AND LEAK DETECTOR FOR ALL CONCEALED HVAC UNITS WITH COOLING COILS (4-PIPE FAN COIL UNIT WITH HOT AND CHILLED WATER COILS, 2-PIPE FAN COIL UNIT WITH A DUAL-TEMPERATURE HOT/CHILLED WATER COIL, ETC.). 2. INCLUDE DRIP PAN AND LEAK DETECTOR FOR ALL CONCEALED HVAC UNITS WHICH ARE INTENDED FOR HEATING ONLY SERVICE, BUT WILL BE CONNECTED TO DUAL-TEMPERATURE HOT/CHILLED WATER PIPING (2-PIPE CABINET UNIT HEATERS WITH HOT WATER COIL, ETC.). THE DRIP PAN AND LEAK DETECTOR WILL BE UTILIZED AS A BACKUP TO BMS CONTROLS PROGRAMMED TO CLOSE THE CONTROL VALVE WHENEVER CHILLED WATER IS BEING CIRCULATED.

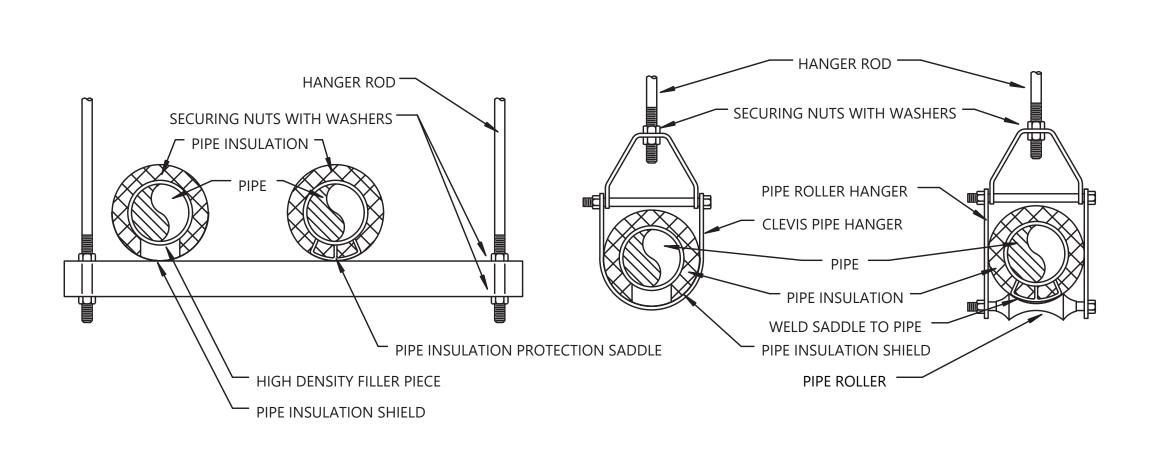
#### HVAC EQUIPMENT HANGING DETAIL



STEAM TRAP PIPING DETAIL



## DETAIL OF PIPE THROUGH RATED PARTITION OR FLOOR



PIPE HANGING DETAIL

## EASTCHESTER **UNION FREE** SCHOOL DISTRICT

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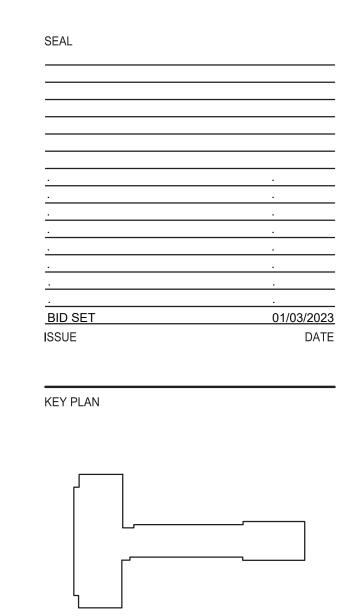
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**DETAILS** 

SED PROJECT NO.

MEMASI PROJECT NO.

**AH M301** 

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