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

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

MODULAR LINEAR DIFFUSER WITH PLENUM

BRANCH TAKEOFF TO CEILING DIFFUSER/REGISTER

MECHANICAL SYMBOLS - DUCTWORK (CONT.)			
+	SUPPLY CEILING DIFFUSER (4-WAY BLOW)		у— н/сv
	SOPPLI CEILING DIFFOSER (4-WAI BLOW)		⊱ H/CV

-	SUPPLY CEILING DIFFUSER (3-WAY BLOW)
	SUPPLY CEILING DIFFUSER (2-WAY BLOW)
·	SUPPLY CEILING DIFFUSER (1-WAY BLOW)

\(\begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	SUPPLY CEILING DIFFUSER (1-WAY BLOW)
CD-B(500)	DIFFUSER TYPE AND CFM (CUBIC FEET PER MINUTE). REFER TO SCHEDULE.
	RETURN CEILING GRILLE OR REGISTER
VAV-B(500)	TERMINAL BOX (CV, VAV, FP). DESIGNATION INDICATES TYPE, BOX SIZE, AND CFM. QUANTITY (REFER TO SCHEDULES).

+	SUPPLY CEILING DIFFUSER (1-WAY BLOW)						
CD-B(500)	DIFFUSER TYPE SCHEDULE.	DIFFUSER TYPE AND CFM (CUBIC FEET PER MINUTE). REFER TO SCHEDULE.					
	RETURN CEILIN	RETURN CEILING GRILLE OR REGISTER					
VAV-B(500)	TERMINAL BOX (CV, VAV, FP). DESIGNATION INDICATES TYPE, BOX SIZE, AND CFM. QUANTITY (REFER TO SCHEDULES).						
VAV-B(500)	TERMINAL BOX WITH REHEAT COIL (CV, VAV, FP). DESIGNATION INDICATES TYPE, BOX SIZE AND CFM. QUANTITY (REFER TO SCHEDULES).						
5 SA	SA	SUPPLY AIR DUCT					
5— RA — →	RA →	RETURN AIR DUCT					

- RA	RA	RETURN AIR DUCT
- OA	OA	OUTSIDE AIR INTAKE DUCT
-EXH	EXH	EXHAUST DUCT

MECHANICAL SYMBOL LIST - PIPING						
├	>	DIRECTION OF FLOW IN PIPE				
→		PITCH PIPE DOWN IN DIRECTION OF ARROW				
~		ELBOW TURNED UP				
⊱ ⇒		ELBOW TURNED DOWN				
₹ Î		BOTTOM PIPE CONNECTION				

			BOTTOM PIPE CONNECTION
			TOP PIPE CONNECTION
	├ ── ─	E[FLEXIBLE CONNECTION
Ξ)	├		BALL VALVE
-/	├		GATE VALVE
	├		GLOBE VALVE
		-	

				GATE VALVE
		├──		GLOBE VALVE
				CHECK VALVE (ARROW INDICATES FLOW DIRECTION
				AUTOMATIC THREE-WAY CONTROL VALVE
		⊱ —₩—		AUTOMATIC TWO-WAY CONTROL VALVE
DUCT	•	₩		PRESSURE REDUCING VALVE
		⊱ ⊢√	a	PLUG VALVE

	<u> </u>		BUTTERFLY VALVE (MANUAL)	-
	├	□	CIRCUIT SETTER/BALANCING VALVE	-
	<u> </u>	£3	PIPE GUIDE	-
	├		EXPANSION JOINT	
	├		CONCENTRIC REDUCER (ARROW INDICATES FLOW DIRECTION)	
\Box				Γ

	i l			- 1	_
		<u></u>	CAPPED PIPE		
		└── ├ ──~	UNION		
		₹	ECCENTRIC REDUCER (ARROW INDICATES FLOW DIRECTION)		
)R		├	DIRECTION)		

	'		
	├		CAPPED PIPE
	₹		"Y" TYPE STRAINER WITH BLOW DOWN VALVE
	<u></u>		PIPE SLEEVE
	11	DIDE ELANOE	

	V	
$\widetilde{}$		PIPE SLEEVE
	PIPE FLANGE	
~	VALVE IN VERT	ICAL PIPE
\sim	MANUAL AIR VE	ENT
~	AUTOMATIC AIR	VENT

—'€——~	VALVE IN VERTICAL PIPE
<u> </u>	MANUAL AIR VENT
^	AUTOMATIC AIR VENT
Ţ,	THERMOMETER
─ ∐ ─	PIPE SENSOR WELL
Ø ¥ ,	PRESSURE GAUGE WITH SHUT OFF VALVE

PUMP

MECHANICAL SYMBOLS - PIPING (CONT.)

⊱ H/CWS →	DUAL-TEMPERATURE HOT/CHILLED WATER SUPPLY
⊱ H/CWR —	DUAL-TEMPERATURE HOT/CHILLED WATER RETURN
⊱—CHWS—	CHILLED WATER SUPPLY
⊱—CHWR—	CHILLED WATER RETURN
;—HWS—;	HOT WATER SUPPLY
5—HWR—5	HOT WATER RETURN
;LPS;	LOW PRESSURE STEAM SUPPLY
}LPR}	LOW PRESSURE STEAM CONDENSATE RETURN
├──CD──┤	CONDENSATE DRAIN LINE (GRAVITY)
5PD5	PUMPED DRAIN LINE

MECHANICAL ABBREVIATIONS

AIR CONDITIONING UNIT

ACU

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
V	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

2016 ASHRAE 90.1

GR M301 DETAILS

 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

REFERENCED STANDARDS

APPLICABLE REFERENCE STANDARDS SHALL BE AS REFERENCED BY ALL STATE CODES. THE LIST BELOW IS 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

NATIONAL DE ANAMAIO LIGH

	MECHANICAL DRAWING LIST
Sheet Number	Sheet Title
GR M001	COVER SHEET
GR M101	THIRD FLOOR VESTIBULE PARTIAL PLANS
GR M201	SCHEDULES

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.
- 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.
- . 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
- 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
- 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.

DURING CONSTRUCTION FOR TEMPORARY HEATING, COOLING, AND VENTILATION, ONLY

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.
- 2. 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.
- 3. 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**

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2022 CAPITAL BOND PROJECT PHASE 2

GREENVALE ELEMENTARY

ARCHITECT $M = M \wedge S$

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MEP CONSULTANT STANTEC 30 OAK STREET, SUITE 400 STAMFORD, CT 06905

SECURITY CONSULTANT BUILDING TECHNOLOGY CONSULTING 992 BEDFORD STREET

BRIDGEWATER, MA 02324 HAZARDOUS MATERIALS CONSULTANT WSP ONE PENN PLAZA

250 W 34TH ST., 4TH FLOOR

NEW YORK, NY 10119

LIGHTING CONSULTANT **GOLDSTICK LIGHTING DESIGN** 629 FIFTH AVE, #204 PELHAM, NY 10803 914.693.0221

01/03/2023 KEY PLAN

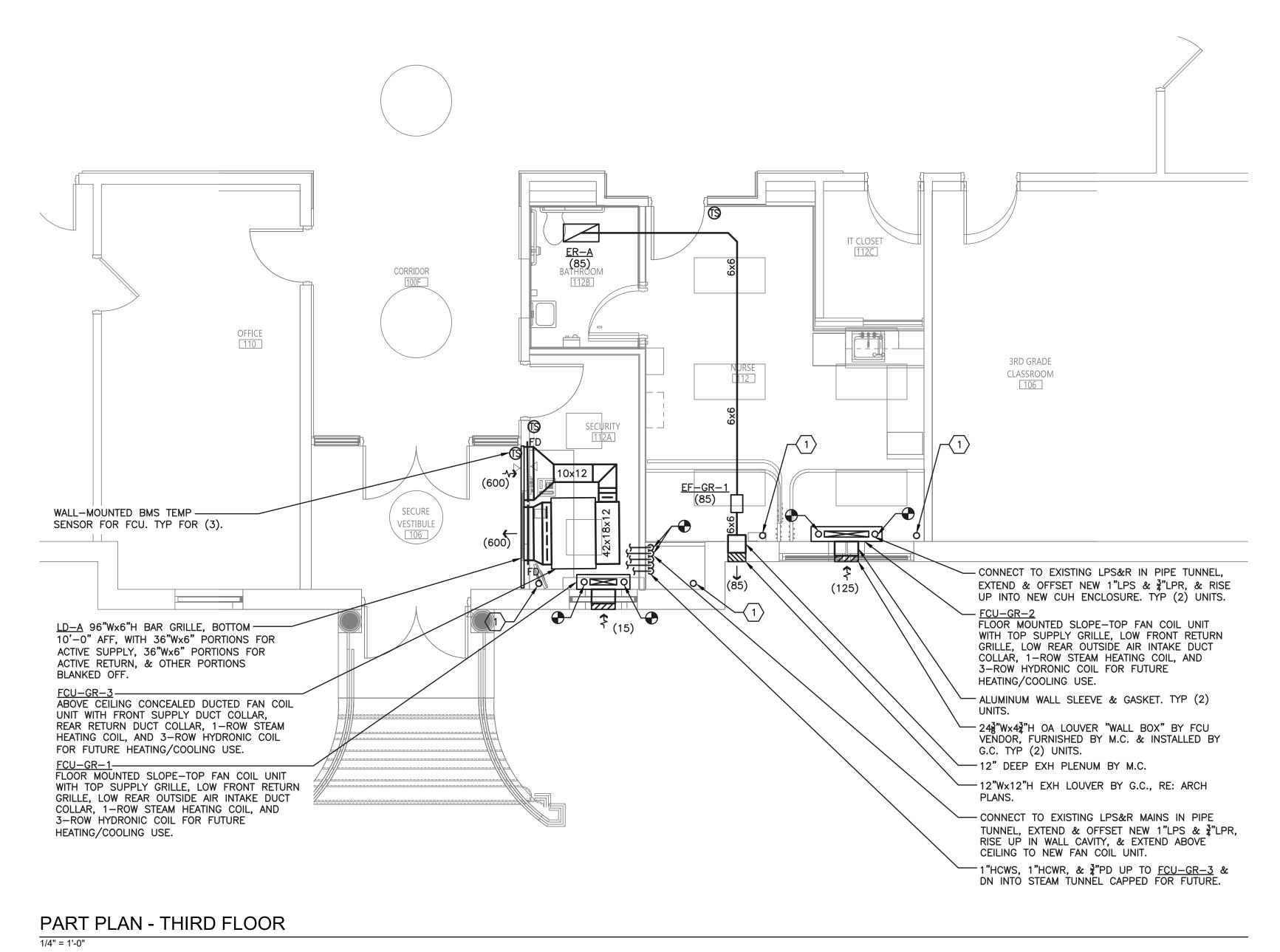
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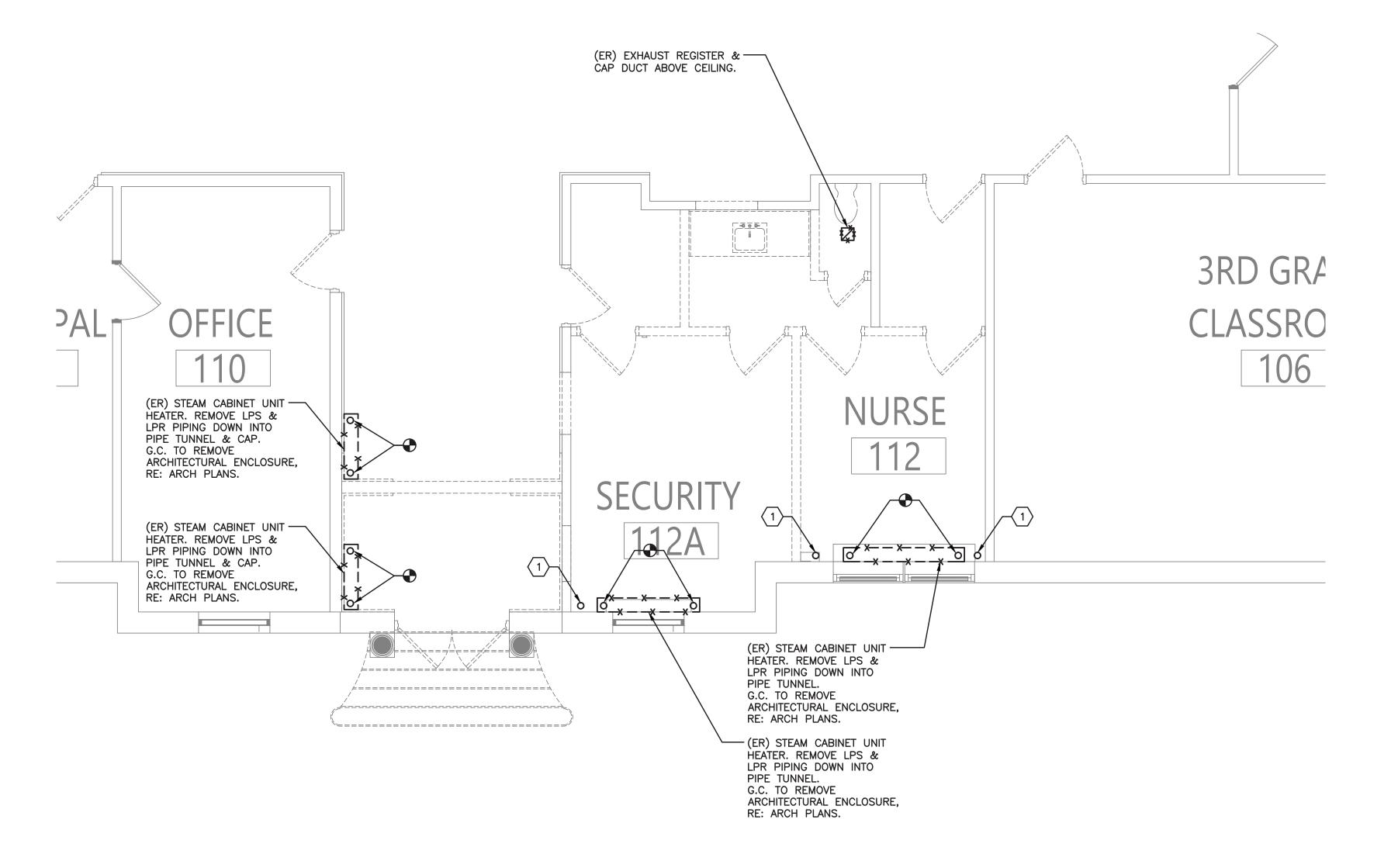
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GR M001

SED PROJECT NO.

MEMASI PROJECT NO.





DEMOLITION PART PLAN - THIRD FLOOR

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.

NEW CONSTRUCTION KEY NOTES:

DEMOLISH EXISTING 1½"LPS RISER DOWN INTO STEAM TUNNEL & UP WITHIN 6" OF DECK ABOVE. OFFSET IN STEAM TUNNEL, RISE UP IN NEW PIPE CHASE, AND OFFSET ABOVE CEILING TO RECONNECT TO EXISTING UP THRU SLAB ABOVE.

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ITHACA, NY 14850

STRUCTURAL CONSULTANT REILLY TARANTINO ENGINEERING 1000 PARK BLVD., SUITE 209 MASSAPEQUA PARK, NY 11762

MEP CONSULTANT STANTEC 30 OAK STREET, SUITE 400 STAMFORD, CT 06905

SECURITY CONSULTANT BUILDING TECHNOLOGY CONSULTING 992 BEDFORD STREET BRIDGEWATER, MA 02324

HAZARDOUS MATERIALS CONSULTANT WSP ONE PENN PLAZA 250 W 34TH ST., 4TH FLOOR

NEW YORK, NY 10119

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01/03/2023 KEY PLAN SED PROJECT NO. 66-03-01-03-0-006-015

THIRD FLOOR VESTIBULE PARTIAL PLANS

MEMASI PROJECT NO.

GR M101

										VENTIL	ATION SC	HEDULE						
	AIR HAND	LING SYST	EM DATA			ROOM	DATA				OUTSIDE VEN	TILATION AIRFLO	W REQUIRED P	ER THE	OUTSIDE VE	NTILATION AIRF	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	MANUA	L OF PLANNING	STANDARDS - S	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-GR-1	200	15	112A	SECURITY OFFICE	81	1	200	15	5	0.06	0.8	12	YES	15	0.00	15	YES
	FCU-GR-2	600	125	112	NURSE	305	6	600	125	10	0.12	0.8	121	YES	15	0.00	90	YES

																				FAN	COI	L UNI	Т SCH	IEDUL	E.																				
DESIGNATION	CONFIGUR-	Al	IR CONNECTIO	NS					SUPPLY FA	N DATA					COILS	(HILLED	WATER (OF	R DUAL TEMP)	COIL COOL	ING DATA	Ά	НО	T WATER (0	R DUAL TE	MP) COIL HE	EATING DAT	A	STEAM C	IL HEATING	G DATA			EL	ECTRICAL	DATA			FILTER	UNIT OV	VERALL		MANUFAC-	MODEL REMAR	RKS
	ATION	SUPPLY	RETURN	OUTSIDE	SUPPLY	MIN.	ESP	NO.	HP				RTER STA	RTER STE	M DUAL	FLUID TOT	. SENS.	GPM E.W	/.T. L.W.T. E.A	.T. E.A.T.	L.A.T. L.	.A.T. W.P.	D. FLUID	MBH GP	M E.W.T. I	L.W.T. E.A.T.	. L.A.T. V	I.P.D. HEAT	ING STEAL	M STEAN	/ E.A.T.	L.A.T. VOLTS	PH Hz MC	A MOP		DISCONNECT		EMER.	PRE-	DIMEN	ISIONS	(LBS)	TURER		
				AIR	AIRFLOW	OUTSIDE	(IN WC)	OF	(PER	(PER	TYPE	TYPE T	YPE LOC	TION	TEMP	МВІ	H MBH	(°F	F)	B WB	DB \	WB (FT-W	IC)		(°F)	(°F) (°F)	(°F) (F	T-WC) MB	H PRESU	RE FLOW	/ (°F)	(°F)		E	BY E.C LO	CATION TYPE	E ENCL.	PWR.	FILTER W	DTH HEIC	HT LENGTH	ч			
					(CFM)	AIRFLOW		MOTORS	MOTOR) M	MOTOR)					HOT &				(°	F) (°F)	(°F) ((°F)							(PSIG	(LBS/HF	R)				OR		TYPE	(Y/N)	((IN) (IN)) OR				
						(CFM)									CHILLED																			M	ANUF.						DEPTH	4			
																																									(IN)				
FCU-GR-1	VERTICAL SLOPE TOP	TOP GRILLE	LOW FRONT GRILLE	REAR DUCT COLLAR	200	15	0.09	1	0.13		ENTRI- FUGAL	DIRECT E	CM AT M	OTOR 1-RO	W 3-ROW	WATER 5.5	4.6	0.9 44	4 56 8	0 67	59	57 1.8	WATER	9.2 0.	9 140	120 55	97	1.8 10.	8 2	9.4	55	105 120	1 60 2.8	15 M	ANUF. UN	IIT MTD. NON	NEMA 1	1 N 1	1" MERV-13	33 25	5 10	81	TRANE	FC-C-J-020 SEE NO BELO	TES
FCU-GR-2	VERTICAL SLOPE TOP	TOP GRILLE	LOW FRONT GRILLE	REAR DUCT COLLAR	600	125	0.09	1	0.22		ENTRI- FUGAL	DIRECT E	CM AT M	OTOR 1-RO	W 3-ROW	WATER 16.4	14.0	2.7 44	4 56 8	0 67	58	56 3.8	WATER	27.3 2.	7 140	120 55	97	3.8 26.	9 2	23.3	55	96 120	1 60 3.9	15 M	ANUF. UN	IIT MTD. NON	NEMA 1	1 N 1	1" MERV-13	48 29	10	155	TRANE	FC-J-B-060 SEE NO BELO	TES
FCU-GR-3	HORIZONTAL CONCEALED	FRONT DUCT COLLAR	REAR DUCT COLLAR	-	600	-	0.30	1	0.22		ENTRI- FUGAL	DIRECT E	CM AT M	OTOR 1-RO	W 3-ROW	WATER 16.4	14.0	2.7 44	4 56 8	0 67	58	56 3.8	WATER	27.3 2.	7 140	120 55	97	3.8 26.	9 2	23.3	55	96 120	1 60 3.9	15 M	ANUF. UN	IIT MTD. NON FUSE	D NEMA 1	1 N 1	1" MERV-13	47 25	5 10	139	TRANE	FC-C-B-060 SEE NO BELC	

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.

										F	AN SC	HEDUL	E								
DESIGNATIO	N SERVICE	CONFIGURATION	DRIVE	AIRFLOW	EXTERNAL	MHP						ELECTRIC	AL DATA					WEIGHT	MANUFACTURER	MODEL	REMARKS
			TYPE	(CFM)	STATIC		VOLTS	PH Hz		DISC	ONNECT			STARTER			EMER.	(LBS)			
					PRESSURE				BY E.C. OR	LOCATION	TYPE	ENCLOSURE	BY M.C. OR	LOCATION	TYPE	ENCLOSURE	POWER				
					(IN WC)				MANUF.			TYPE	MANUF.			TYPE	(Y/N)				
EF-GR-1	EXHAUST	IN-LINE	DIRECT	85	0.50	1/4	115	1 60	E.C.	UNIT MTD.	NON-FUSED	NEMA-1	MANUF.	INTEGRAL TO MOTOR	ECM	NEMA 1	N	12	GREENHECK	CSP-VG	SEE NOTES BELO

1. PROVIDE THE FOLLOWING FOR EF-GR-1:

1.1. BUILT-IN BAROMETRIC BACKDRAFT DAMPER.

1.2. ECM MOTOR CONTROLLER INTEGRAL TO FAN MOTOR, WITH CONTACTS SUITABLE FOR BMS TIE-IN, GREENHECK "VARI-GREEN" OR EQUAL.

					REGISTI	ER, GRILLE, AND DIFF	USER SC	HEDULE					
DESIGNATION	SERVICE TYPE	NOMINAL	NECK	CFM	CONFIGURATION	BORDER	MATERIAL OF	EQUALIZING	OPPOSED	FILTER	FINISH	MANUFACTURER MODEL	REMARKS
		OVERALL	SIZE	RANGE		TYPE	CONSTRUCTION	GRID IN NECK	BLADE	RACK	COLOR		
		DIMENSION	(IN)						DAMPER				
		(IN)							IN NECK				
LD-A	SUPPLY LINEAR DIFFUSER	RE: PLAN	RE: PLAN		EXTRUDED ALUMINUM BAR GRILLE WITH 1/8" BARS, 1/2" SPACING, 0° DEFLECTION	SURFACE MOUNTED WITH CONCEALED SCREW FASTENING	ALUMINUM	NO	NO	NO	WHITE FLANGES, BLACK PATTERN CONTROLLER & VISIBLE INTERNAL SURFACES		SEE NOTES BELO
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.

EASTCHESTER **UNION FREE** SCHOOL DISTRICT

2022 CAPITAL BOND PROJECT PHASE 2

GREENVALE ELEMENTARY SCHOOL

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914.915.9519

WHITE PLAINS, NY 10601

STRUCTURAL CONSULTANT REILLY TARANTINO ENGINEERING 1000 PARK BLVD., SUITE 209 MASSAPEQUA PARK, NY 11762

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SECURITY CONSULTANT

STAMFORD, CT 06905

BUILDING TECHNOLOGY CONSULTING 992 BEDFORD STREET BRIDGEWATER, MA 02324

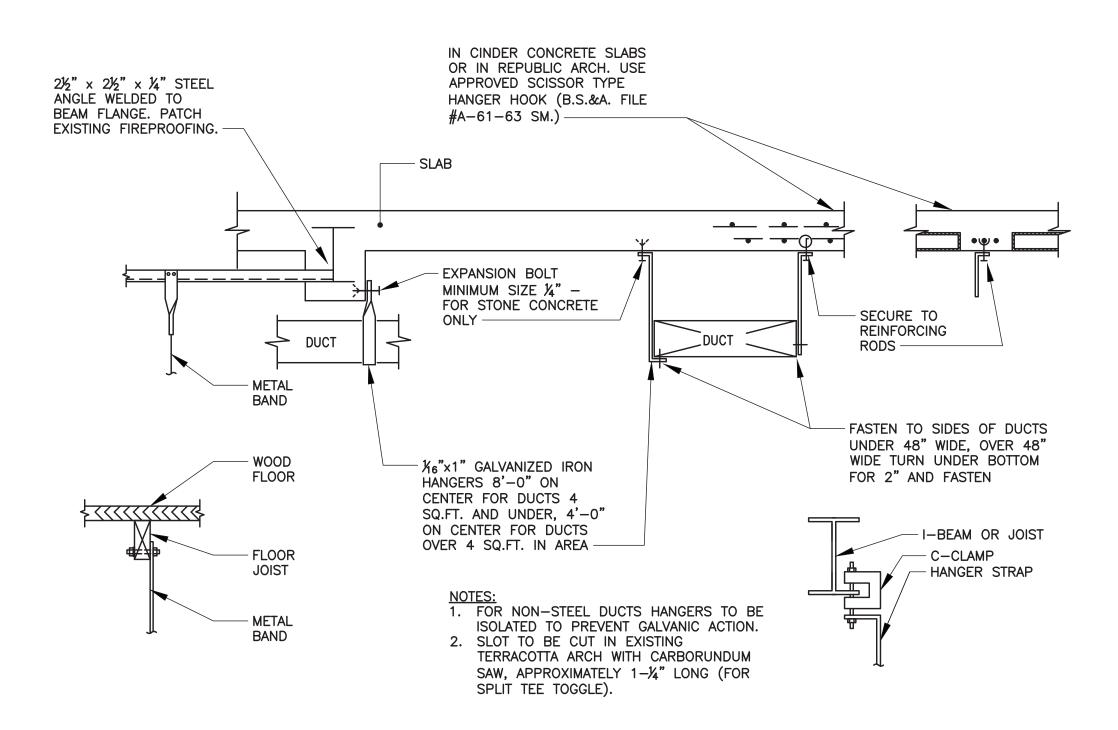
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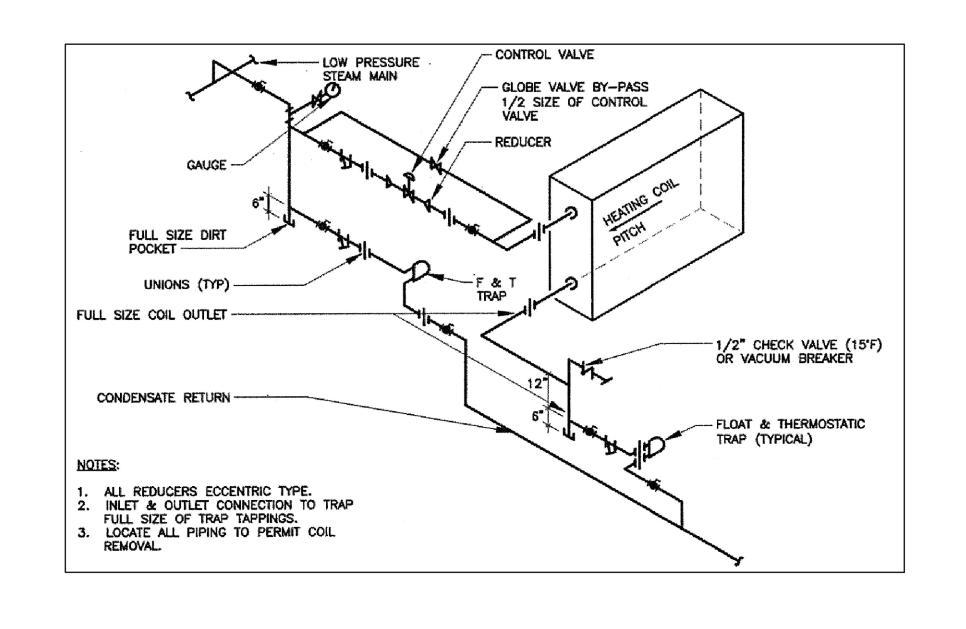
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SCHEDULES

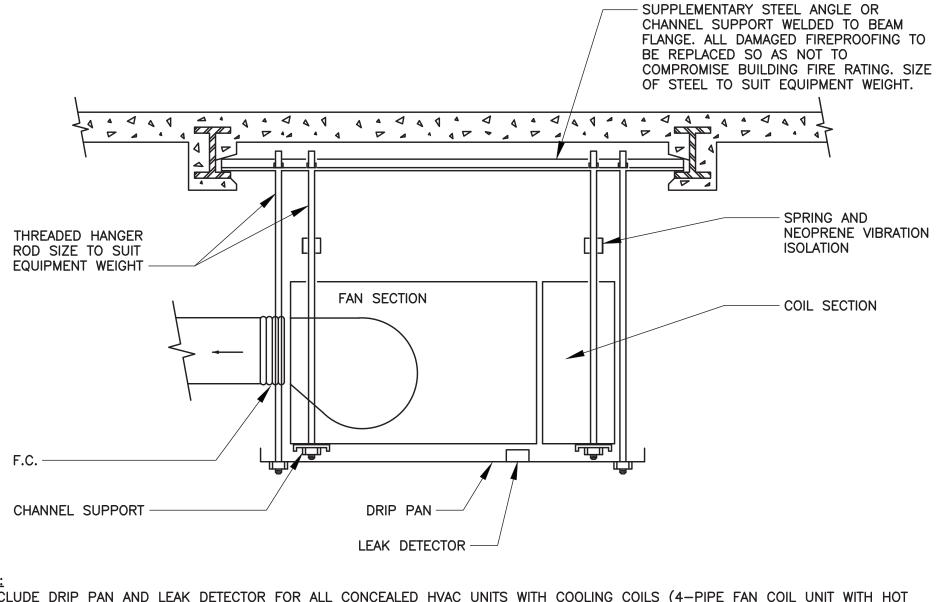
GR M201



TYPICAL DUCT HANGING DETAIL



STEAM COIL PIPING DETAIL

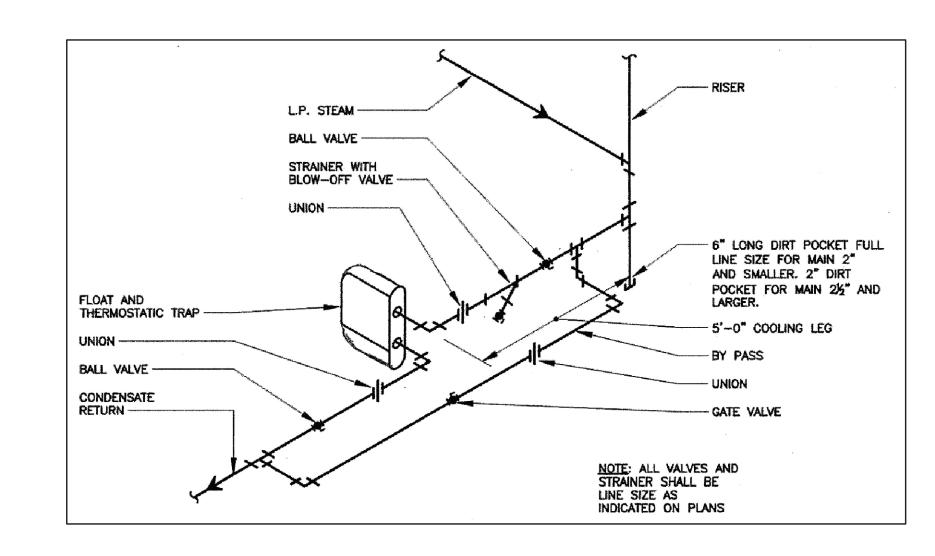


NOTES:

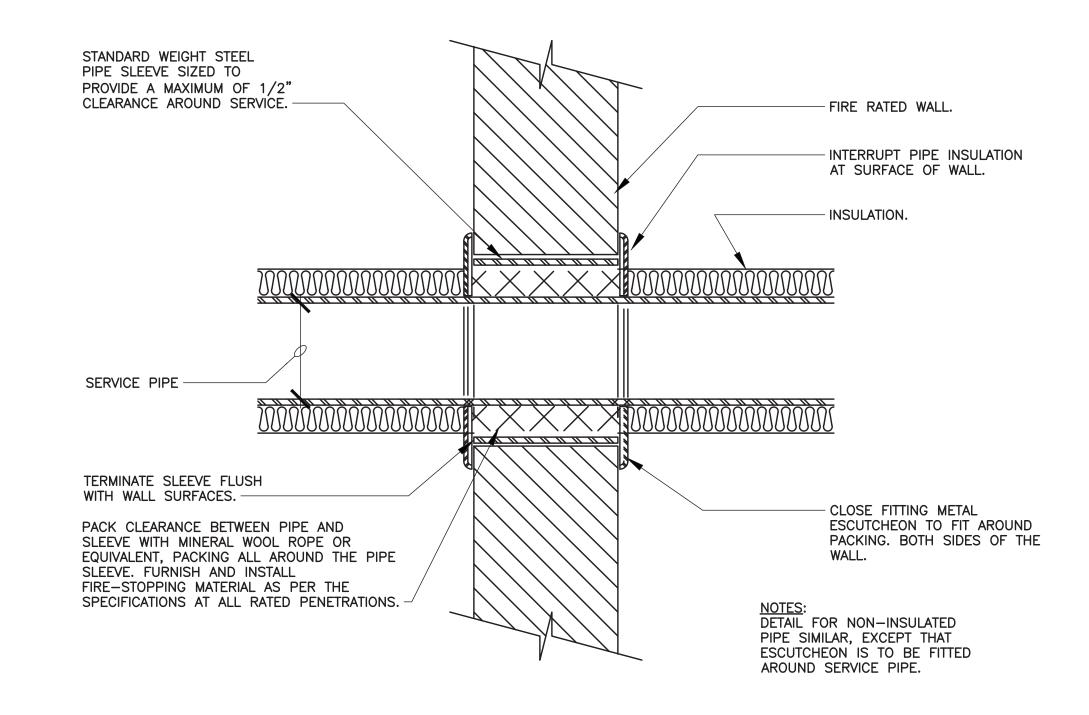
1. INCLUDE DRIP PAN AND LEAK DETECTOR FOR ALL CONCEALED HVAC UNITS WITH COOLING COILS (4-PIPE FAN COIL UNIT WITH HOT AND CHILLED WATER COILS, 2-PIPE FAN COIL UNIT WITH A DUAL-TEMPERATURE HOT/CHILLED WATER COIL, ETC.).

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.

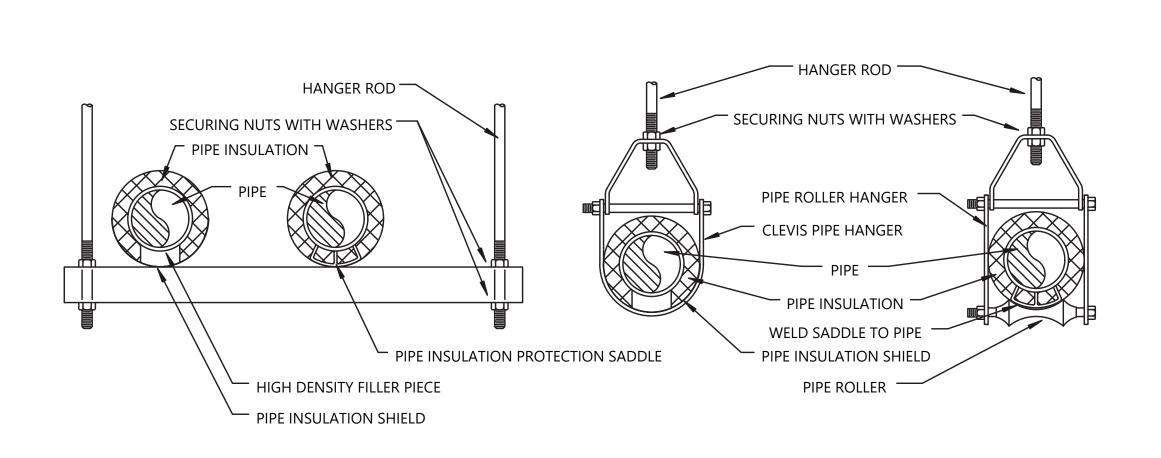
HVAC EQUIPMENT HANGING DETAIL



STEAM TRAP PIPING DETAIL



DETAIL OF PIPE THROUGH RATED PARTITION OR FLOOR



PIPE HANGING DETAIL

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2022 CAPITAL BOND PROJECT PHASE 2

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THE LA GROUP
179 GRAHAM ROAD

ITHACA, NY 14850

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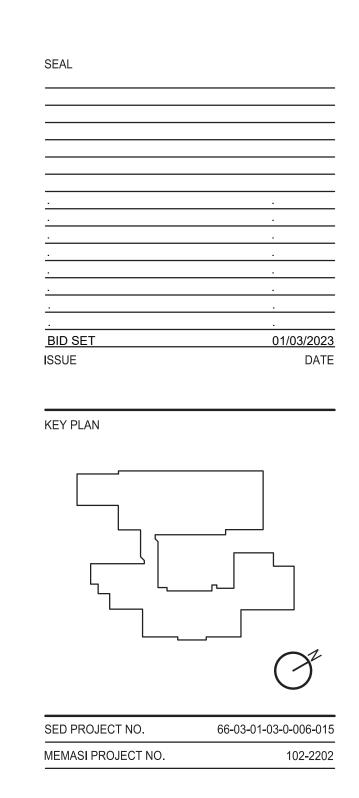
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GOLDSTICK LIGHTING DESIGN
629 FIFTH AVE, #204
PELHAM, NY 10803
914.693.0221



DETAILS

GR M301