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2. REMOVE ALL EQUIPMENT, DUCTWORK AND PIPING AS INDICATED ON PLAN. REMOVALS SHALL INCLUDE ALL SUPPORTS AND HANGERS, HOUSEKEEPING PADS, DAMPERS, VALVES, FITTINGS, CONTROLS AND ASSOCIATED LOW VOLTAGE WIRING, AND ANY OTHER ASSOCIATED ACCESSORIES WHICH PERTAIN TO THE EQUIPMENT TO BE REMOVED.

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- 3. REMOVAL OF ALL POWER CONNECTIONS TO DEMOLITION ITEMS SHALL BE BY THE E.C.
- 4. ANY DISCREPANCIES BETWEEN THE DEMOLITION PLANS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER. ANY DEMOLITION WORK WHICH MAY BE QUESTIONABLE DUE TO UNFORESEEN FIELD CONDITIONS SHALL NOT BE REMOVED UNTIL REVIEWED BY THE ARCHITECT, ENGINEER OR BUILDING FACILITIES MANAGER.
- 5. DEMOLITION WORK SHALL INCLUDE THE PREPARATION OF EXISTING EQUIPMENT FOR CONNECTION TO NEW EQUIPMENT. COORDINATE DEMOLITION WORK WITH THE CONSTRUCTION
- 6. ALL EQUIPMENT REMOVALS SHALL BECOME THE PROPERTY OF THIS CONTRACTOR. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER REMOVAL AND DISPOSAL OF **DEMOLITION ITEMS OFF-SITE, UNLESS OTHERWISE**
- 7. ALL CUTTING AND PATCHING NECESSARY FOR THE DEMOLITION WORK SHALL BE THE RESPONSIBILITY OF THIS
- CONTRACTOR. 8. IT SHALL BE THE OWNER'S RESPONSIBILITY TO REMOVE ANY LOOSE EQUIPMENT, FURNITURE, SUPPLIES, ETC. THAT MAY BE LOCATED IN THE AREA OF WORK.
- 9. THE PLANS ARE INTENDED TO CONVEY THE EXTENT AND SCOPE OF THE DEMOLITION WORK. EVERY ITEM INTENDED FOR REMOVAL MAY NOT BE SHOWN. THE CONTRACTOR IS ADVISED TO SURVEY THE PROJECT SITE BEFORE SUBMITTING A BID FOR DEMOLITION

#### **GENERAL NOTES:**

- 1. THE DRAWINGS ON THESE PLANS ARE DIAGRAMMATIC. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL HVAC WORK WITH OTHER TRADES AND THE BUILDING STRUCTURE. NO EXTRA PAYMENTS WILL BE AUTHORIZED FOR REROUTING OR REMOVAL OF INSTALLED WORK DUE TO LACK OF COORDINATION WITH OTHER
- 2. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF WALLS, FLOORS AND CEILINGS AS REQUIRED FOR INSTALLATION OF HIS WORK.
- 3. ACCESS PANELS SHALL BE PROVIDED IN CEILINGS, WALLS, FLOORS, ETC., AS REQUIRED TO MAINTAIN ACCESSIBILITY TO VALVES, DAMPERS, TRAPS, COILS, ETC.
- 4. PROVIDE DUCT ACCESS DOORS AT ALL MOTORIZED DAMPERS, FIRE DAMPERS, AND SMOKE
- $|\mathsf{G}|$  5. ALL PENETRATIONS THROUGH FIRE RATED PARTITIONS SHALL BE SEALED FIRE AND SMOKE
- TIGHT WITH AN APPROPRIATE U.L. LISTED FIRESTOPPING MATERIAL AND OR SYSTEM. 6. ALL DUCTWORK PASSING THROUGH A FIRE RATED PARTITION SHALL BE PROVIDED WITH A FIRE
- DAMPER TO MAINTAIN THE FIRE RATING OF THE PARTITION.
- 7. LOCATIONS OF DIFFUSERS AND GRILLES ARE APPROXIMATE. REFER TO ARCHITECTURAL PLANS
- 8. ALL BRANCHES AND TAKE-OFFS SHALL BE EQUIPPED WITH VOLUME CONTROL DAMPERS. DAMPERS TO BE OPPOSED BLADE TYPE, 4" MAX. BLADE HEIGHT. VOLUME DAMPERS TO BE LOCATED AS NEAR TO THE POINT OF TAKE-OFF AS PRACTICAL.
- 9. FLEXIBLE DUCT CONNECTIONS SHALL BE LIMITED TO A MAXIMUM LENGTH OF FIVE (5) FEET AND SUPPORTED AT MID-POINT.
- 10. ALL SUPPLY & RETURN AIR DUCTWORK SHALL BE INSULATED.
- 11. PROVIDE SHUT-OFF VALVES AT ALL PIPING BRANCH TAKE-OFFS AND AT ALL CONNECTIONS TO
- 12. PROVIDE DRAINS WITH HOSE ADAPTERS AND CAPS ON PIPING AT ALL LOW POINTS. PROVIDE MANUAL VENTS ON PIPING AT ALL HIGH POINTS.
- 13. COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL MECHANICAL
- **EQUIPMENT WITH ELECTRICAL**

**HVAC CONTRACTOR.** 

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- 14. ALL MOTOR STARTERS SHALL BE FURNISHED BY THE HVAC CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
- 15. ALL REQUIRED CONTROL EQUIPMENT AND WIRING SHALL BE FURNISHED & INSTALLED BY THE
- 16. THE TERMS "PROVIDE" OR "FURNISH", AS USED ON THESE PLANS, INDICATE THAT THE CONTRACTOR IS TO FURNISH AND INSTALL THE REFERENCED EQUIPMENT OR SYSTEMS IN THEIR ENTIRETY AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
- 17. CONTRACTOR SHALL PROVIDE AND INSTALL ALL COMPONENTS INDICATED ON DETAIL SHEETS, PLANS. SPECIFICATIONS AND ALL PERTINENT EQUIPMENT REQUIRED FOR A COMPLETE AND **WORKABLE SYSTEM.**
- 18. CONTRACT CLOSE OUT: IN THE PRESENCE OF THE OWNER, ENGINEER OR ARCHITECT; DEMONSTRATING OPERATION OF SYSTEMS AND THAT ALL SPECIFICATIONS HAVE BEEN MET TO THE SATISFACTION OF ALL PARTIES.
- 19. IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS TO PROVIDE ALTERATIONS AND/OR NEW CONSTRUCTION AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS TO PROVIDE COMPLETE NEW SYSTEMS IN EVERY RESPECT, CAPABLE OF OPERATING AS DESIGNED. IT IS NOT INTENDED THAT EVERY FITTING, MINOR DETAIL OR FEATURE BE SHOWN ON DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DETAIL NECESSARY FOR COMPLETION OF THESE SYSTEMS IN ACCORDANCE WITH GOOD PRACTICE.

## **HVAC LINE TYPES**

EXISTING EQUIPMENT/DUCT TO BE REMOVED EXISTING EQUIPMENT/DUCT TO REMAIN **NEW EQUIPMENT / DUCT HEATING HOT WATER RETURN** HEATING HOT WATER SUPPLY

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### RTU, DUCT COIL, & AHU REFURBISHMENT NOTES:

FAN, RETURN FAN, POWER EXHAUST FAN).

- THE CONTRACTOR SHALL REFURBISH THE EXISTING AIR HANDLING UNIT(S). REFURBISHMENT SHALL CONSIST OF THE **FOLLOWING:**
- REPLACE ALL FILTERS.

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- VACUUM AND STEAM CLEAN THE HEATING COIL AND COOLING
- C. STRAIGHTEN ("COMB-OUT") THE FINS ON THE HEATING COIL AND THE COOLING
- D. COCLEAN AND LUBRICATE ALL DAMPERS, INCLUDING LINKAGES AND BEARINGS.
- E. REPLACE ALL FAN BELTS. **CLEAN AND LUBRICATE ALL FAN/MOTOR ASSEMBLIES (SUPPLY**
- BALANCE ALL FANS TO PROVIDE AIR FLOWS AS SHOWN ON PLANS. SECURE THE FREEZE-STAT TO THE COOLING COIL. VERIFY THAT ALL CONNECTIONS TO THE TEMPERATURE CONTROL SYSTEM ARE
- I. CHECK ALL AUTOMATIC DAMPERS AND VALVES FOR CORRECT OPERATION, AND ADJUST COMPONENTS WHERE NECESSARY.
- CHECK ALL CONTROL WIRING CONNECTIONS. REFASTEN ANY LOOSE CONNECTIONS AND REPLACE ANY DAMAGED WIRE.
- K. VERIFY CORRECT OPERATION OF ALL EXISTING UNIT CONTROLLERS (PRIMARY UNIT CONTROLLER, ECONOMIZER,
- 2. THE CONTRACTOR SHALL ADVISE THE ENGINEER AND OWNER OF ANY COMPONENTS THAT ARE DAMAGED AND REQUIRE REPLACEMENT.

## **SEQUENCE OF OPERATIONS:**

- - a. WHEN THE RTU IS OFF, THE OUTDOOR AIR MOTORIZED DAMPER SHALL CLOSE, THE FANS SHALL BE OFF, AND ALL HEATING AND COOLING SHALL BE DE-ENERGIZED.
- 2. OCCUPIED CYCLE: a. THE SUPPLY FAN IS COMMANDED ON AND RUNS CONTINUOUSLY.
- b. THE OUTDOOR AIR MOTORIZED DAMPER SHALL OPEN TO THE MINIMUM **OUTDOOR AIR INTAKE POSITION.**
- c. HEATING OPERATION:
- THE HEAT PUMP IS CYCLED TO MAINTAIN A MINIMUM RETURN DUCT TEMPERATURE OF 70°F (ADJUSTABLE) AND A MAXIMUM RETURN DUCT TEMPERATURE OF 72°F (ADJUSTABLE). IF THE SPACE TEMPERATURE IS NOT REACHING THE HEATING SETPOINT, THE ELECTRIC HEATER ENERGIES AND OPERATES IN CONJUNCTION WITH THE HEAT PUMP.
- ii. ON A RISE IN RETURN DUCT TEMPERATURE ABOVE 72.0°F (ADJUSTABLE) THE HEAT PUMP SHALL BE MODULATED TO OFF.
- d. COOLING OPERATION:
- MECHANICAL DX COOLING SHALL BE CONTROLLED AND SEQUENCED SO AS TO MAINTAIN A MAXIMUM RETURN DUCT TEMPERATURE CONDITION WITH A COOLING SETPOINT OF 78°F (ADJUSTABLE). ON A DROP IN RETURN DUCT TEMPERATURE TO 76.0°F (ADJUSTABLE), THE COMPRESSORS SHALL BE SEQUENTIALLY STAGED OFF.

## 3. UNOCCUPIED CYCLE:

a. THE SUPPLY FAN IS SET TO AUTO AND RUNS ONLY ON A CALL FOR HEATING (SPACE TEMPERATURE DROPS BELOW EMERGENCY LOW TEMPERATURE SETPOINT) OR COOLING (SPACE TEMPERATURE RISES ABOVE THE NIGHT SETUP TEMPERATURE SETPOINT) WHILE THE OUTDOOR DAMPERS REMAIN CLOSED.

# **DUCTWORK SYMBOLS**

**DUCTWORK DOUBLE LINE** REPRESENTATION: "A" INDICATES DUCT WIDTH; "B" INDICATES DUCT DEPTH. **DUCTWORK SINGLE LINE REPRESENTATION:** "A" INDICATES DUCT WIDTH; "B" INDICATES

**DUCT DEPTH.** 

**SUPPLY AIR DUCT UP SUPPLY AIR DUCT DOWN** 

**RETURN AIR DUCT UP** 

**RETURN AIR DUCT DOWN** 

FLEXIBLE DUCTWORK

**SUPPLY AIR FLOW** 

RETURN/EXHAUST AIR FLOW **VOLUME DAMPER** 

**MOTORIZED DAMPER w/ ACCESS DOOR** 

FIRE DAMPER W/ ACCESS DOOR

**SUPPLY AIR DIFFUSER** 

RETURN GRILLE

# **PIPING SYMBOLS**

DIRECTION OF FLOW TOP CONNECTION, 45° OR 90° **BOTTOM CONNECTION, 45° OR 90°** SIDE CONNECTION **CAPPED OUTLET** 

PIPE DOWN TURN

## $\longrightarrow$ **GATE VALVE WITH 3/4" HOSE ADAPTER GLOBE VALVE - THREADED/FLANGED CHECK VALVE STRAINER** WYE STRAINER (WITH BALL VALVE & HOSE CONNECTION) STRAINER WITH VALVED DRAIN AND **QUICK-COUPLE HOSE CONNECTOR FLEXIBLE CONNECTION ANGLE GLOBE VALVE BUTTERFLY VALVE** BALL VALVE **CONTROL VALVE (CV) - FLOAT-OPERATED** MODULATING CONTROL VALVE

**VALVE SYMBOLS** 

GATE VALVE - THREADED/FLANGED

## **GENERAL SYMBOLS**

MODULATING CONTROL BUTTERFLY VALVE

THREE-WAY MODULATING CONTROL VALVE

TWO POSITION CONTROL VALVE

POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK **POINT OF DISCONNECT INDICATES SECTION LETTER** XX 🛴 INDICATES DRAWING NUMBER WHERE LOCATED INDICATES TYPE OF AIR OUTLET  $\langle \mathsf{xxx} \rangle$ \XXX /~ - INDICATES AIR FLOW REQUIREMENTS **ADJUSTABLE ANGLE THERMOMETER** WALL MOUNT THERMOSTAT 'A' **DESIGNATES COMPONENT SERVED TEMPERATURE SENSOR** 

**DUCT SMOKE DETECTOR** 

**FAN SWITCH WITH PILOT LIGHT** 

## **AUTOMATIC TEMPERATURE CONTROL POINTS SCHEDULE**

SYSTEM DESCRIPTION	INP			OUTPUTS						SYSTEM FEATURES							
	ANALOG DISCRETT			SCRETE	ANALOG DISCRETE			ALARMS			I	PROGRAMS					
ROOFTOP UNITS	TEMPERATURE/HUMIDITY	PRESSURE	% OPEN	ON/OFF STATUS	ALARM	PID MODULATION	OPENCLOSE OR ONOFF	SETPOINT	ENABLE/DISABLE	FIRE ALARM FAN SHUTDOWN ON/OFF	STATUS	SAFETIES	TEMPERATURE	OCCUPIED/UNOCCUPIED WITH OVERRIDE	WARM UP/PRE-COOL	LEAD/LAG STAGING	ECONOMIZER
SPACE TEMPERATURE/HUMIDITY	•							•					•				
FAN MOTOR				•			•			•	•			•	•		
R/A-O/A DAMPERS			•			•				•				•	•		•
OUTSIDE AIR TEMP./HUMIDITY	•					•	•	•					•	•	•		•
FILTER SENSORS								•			•	•					
DIFFERENTIAL ENTHALPY	•					•											•

# **ABBREVIATIONS**

ACOUSTIC CEILING TILE ACCESS DOOR AFTER FILTER ABOVE FINISHED FLOOR **AIR HANDLING UNIT ACCESS PANEL** BACK DRAFT DAMPER **BELOW FINISH CEILING** BRITISH THERMAL UNITS/HOUR COOLING COIL **CEILING DIFFUSER CUBIC FEET PER MINUTE CONDENSATE PUMP** CONDENSER WATER RETURN

DRY BULB TEMPERATURE, °F **DECIBELS DUCT SMOKE DETECTOR** DIRECT EXPANSION **EXHAUST AIR ENTERING AIR TEMP ELECTRICAL CONTRACTOR ENGINEERING CONTROL CENTER EXHAUST FAN EXISTING** EXISTING TO REMAIN

**BDD** 

**BFC** 

**BTUH** 

CFM

CLG

E.C.

**ECC** 

**EXIST** 

ETR

F.A.I.

FLR

**FPC** 

F/SD

G.C.

H.C.

**HCP** 

LPR

LPS

MER

MAX.

MBH

NOM.

**RHC** 

SPS

S.S.

TYP

UH

**ENERGY CODE STATEMENT:** 

**UNIFORM CODE STATEMENT:** 

WITH THE 2020 ENERGY CODE.

WITH THE 2020 UNIFORM CODE.

U.N.O.

FRESH AIR INTAKE FLEXIBLE CONNECTION FIRE DAMPER **FLOOR** 

FIRE PROTECTION CONTRACTOR **COMBINATION FIRE/SMOKE DAMPER GENERAL CONTRACTOR GRAVITY HOOD GALLONS PER MINUTE HVAC CONTRACTOR HEPA FILTER** HORSEPOWER

HEATING COIL PUMP LINEAR FEET LOW PRESSURE STEAM CONDENSATE LOW PRESSURE STEAM LBS/HF POUNDS PER HOUR **MIXING BOX** 

**MOTORIZED DAMPER MECHANICAL EQUIPMENT ROOM** MAXIMUM ONE THOUSAND BTUH

MANUAL VENT **OUTSIDE AIR** 

PLUMBING CONTRACTOR PRESSURE DROP (FEET OF WATER) PRE-FILTER PRESSURE REDUCING VALVE

POUNDS PER SQUARE IN. **RETURN AIR** REFRIGERANT DISCHARGE **RETURN FAN REHEAT COIL** REFRIGERANT LIQUID **SUPPLY AIR** 

**SMOKE DAMPER** STATIC PRESSURE STATIC PRESSURE SENSOR STAINLESS STEEL **TYPICAL UNIT HEATER UNLESS NOTED OTHERWISE** 

**VALVE VOLUME DAMPER VIBRATION ISOLATOR VERIFY IN FIELD WIRE MESH SCREEN** 

TO THE BEST OF THE REGISTERED DESIGN PROFESSIONAL'S KNOWLEDGE, BELIEF AND

TO THE BEST OF THE REGISTERED DESIGN PROFESSIONAL'S KNOWLEDGE, BELIEF AND

PROFESSIONAL JUDGMENT, THESE PLANS AND/OR SPECIFICATIONS ARE IN COMPLIANCE

PROFESSIONAL JUDGMENT, THESE PLANS AND/OR SPECIFICATIONS ARE IN COMPLIANCE

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**LICENSE EXPIRATION DATE - 9/25** 

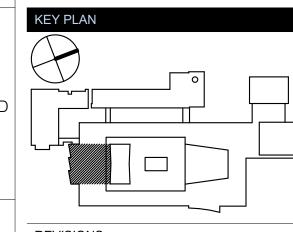


BYRAM HILLS HIGH SCHOOL LEARNING COMMONS RENOVATION

12 Tripp Ln,

SED# 66-12-01-06-0-007-01X

Armonk, NY 10504



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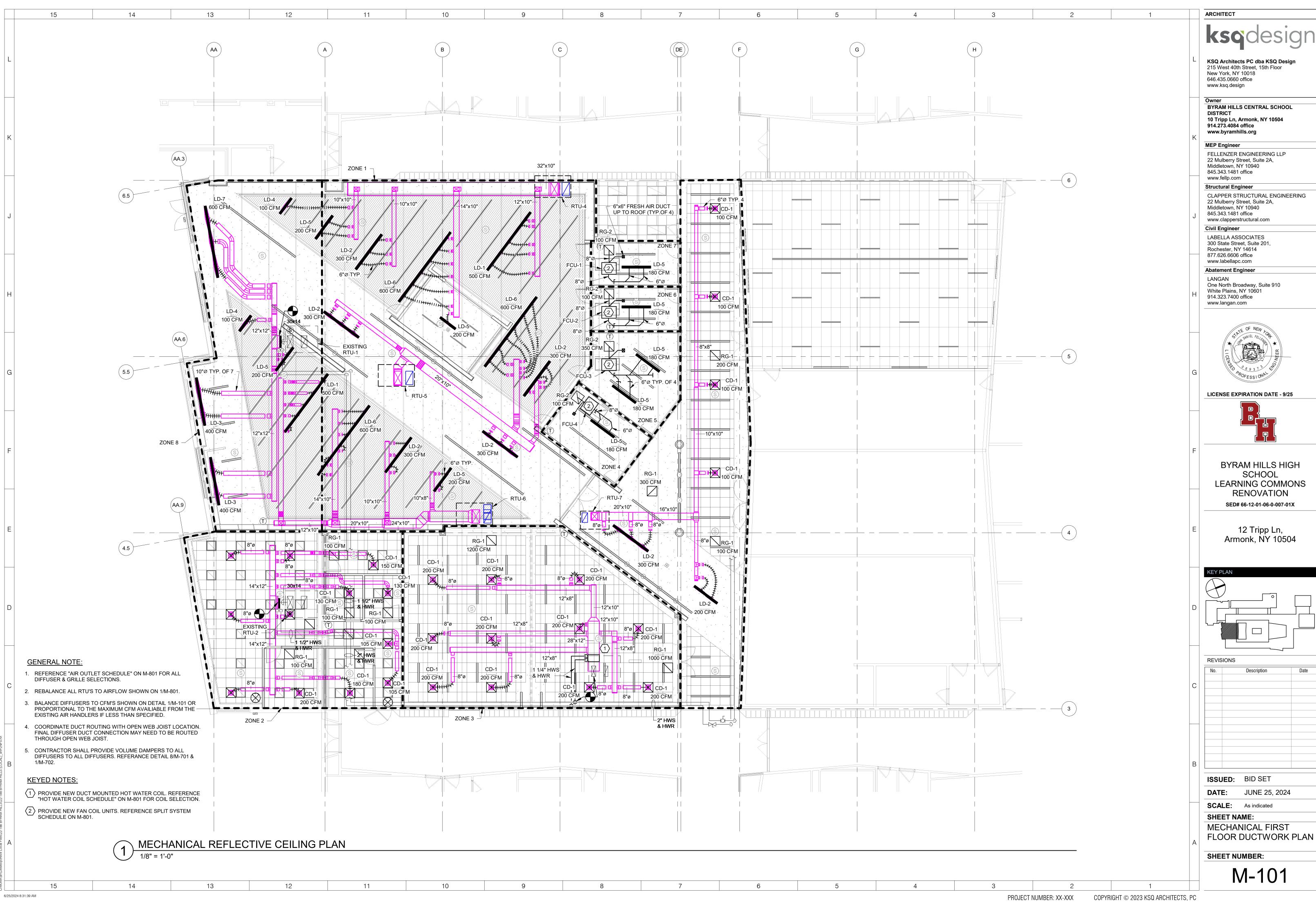
**DATE:** JUNE 25, 2024 **SCALE:** As indicated SHEET NAME: MECHANICAL SYMBOLS,

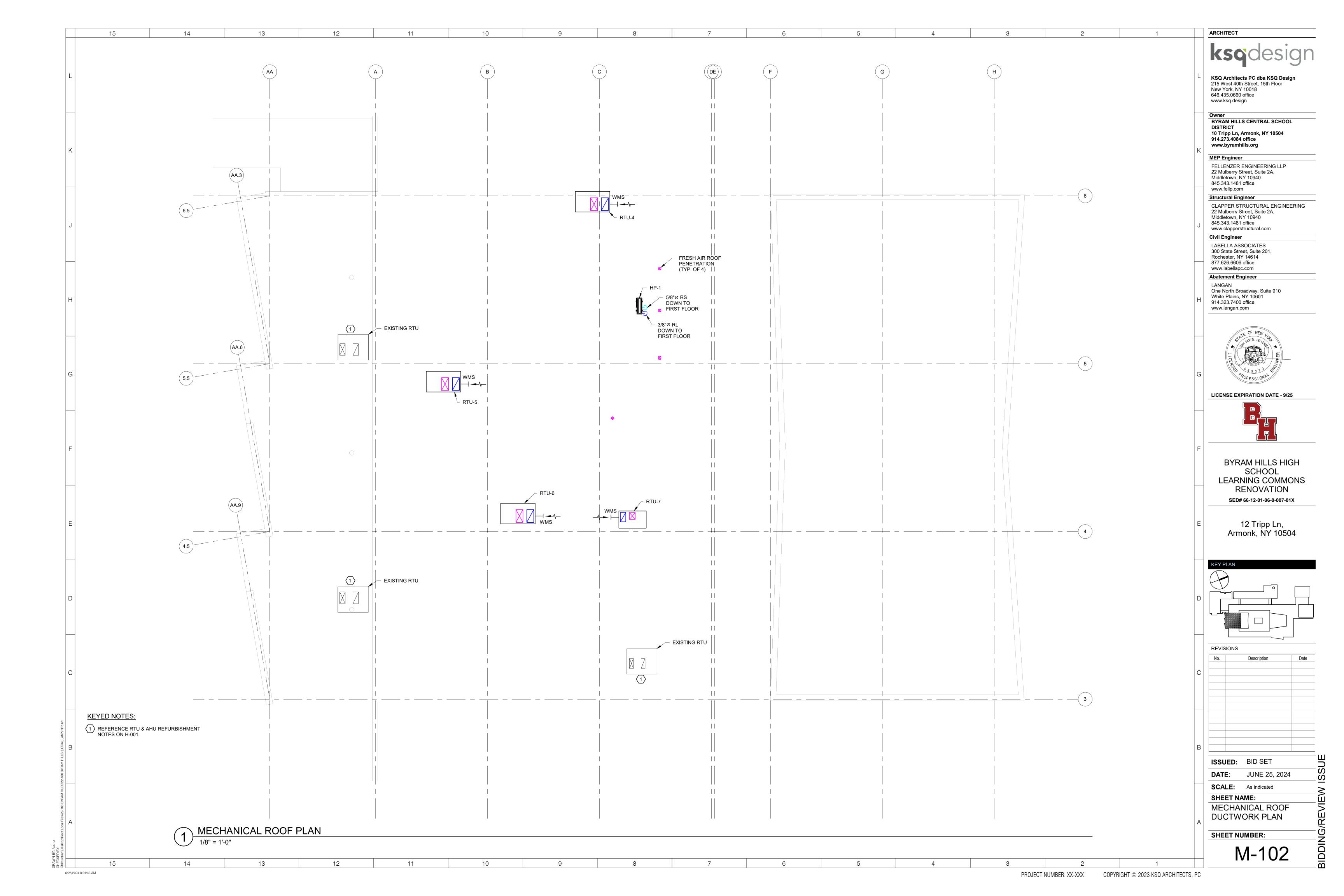
ABBREVIATIONS &

NOTES

SHEET NUMBER:

15 14 13 12 PROJECT NUMBER: XX-XXX COPYRIGHT © 2023 KSQ ARCHITECTS, PC





**MAIN DUCT MAIN DUCT** RETURN **AIR FLOW AIR FLOW** SPLITTER DAMPER -CASTING (GALVANIZED) ADJUSTABLE ROD — BRASS HINGE ----WITH POSITION MARKS (GALVANIZED) WITH **BRANCH DUCT** SET SCREW FOR LOCKING IN POSITION. BRANCH DUCT -ىلى & RETURN كىل **EXHAUST** QUADRANT (GALVANIZED) —

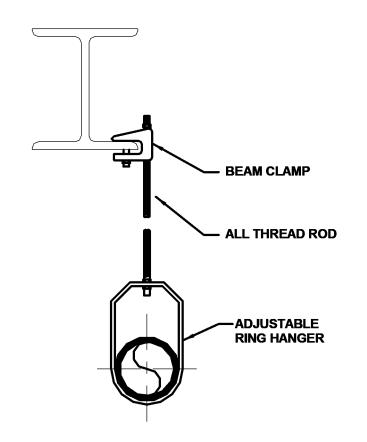
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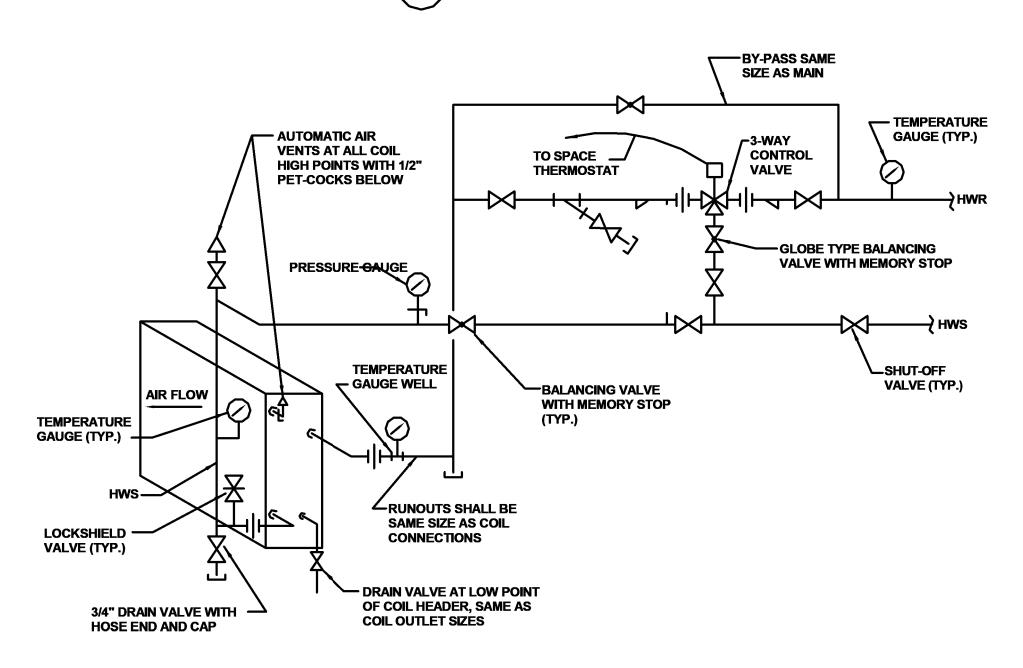
# **TYPICAL LOW PRESSURE BRANCH TAKE-OFF DETAIL**



## **BEAM CLAMP HANGER DETAIL**

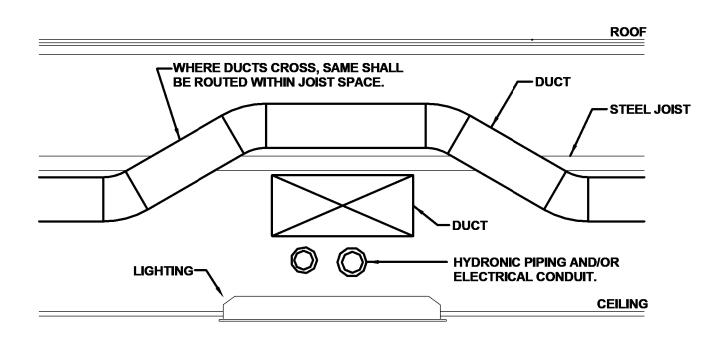
HANGER RODS AN ISOLATORS SCHEE		MASON INDUSTRIES AS				
PIPE SIZE	ROD SIZE	VIBRATION ISOLATOR S WATER				
3/4" THRU 1 1/4" DIA.	3/8"	HS-A-45				
1 1/2" through 2" DIA.	3/8"	HS-A-75				
2 1/2" DIA.	1/2"	HS-A-125				
3" DIA.	1/2"	HS-A-200				
4" DIA.	5/8"	HS-A-200				

# PIPE HANGER DETAIL



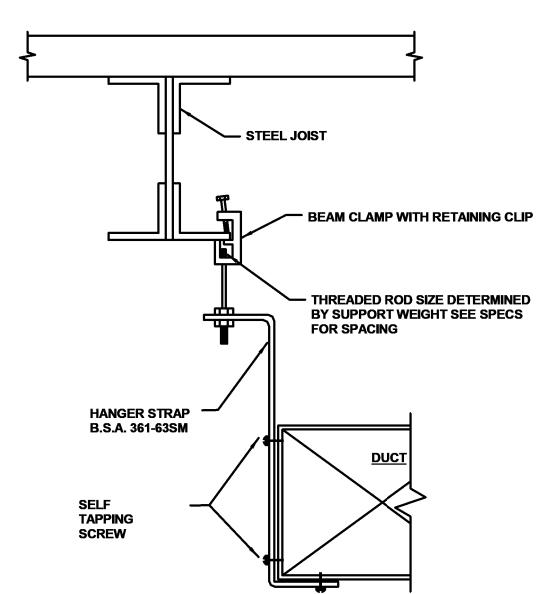
**HOT WATER HEATING COIL CONNECTION DETAIL** 

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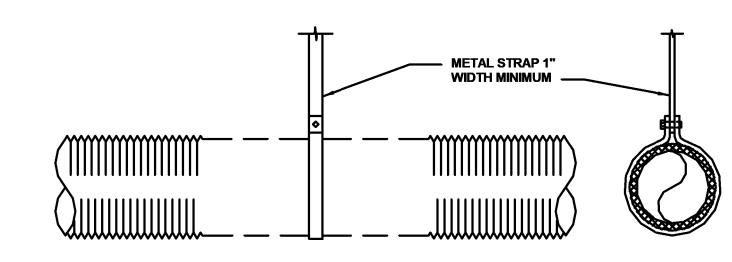
- 1. THIS DETAIL IS SHOWN FOR COORDINATION PURPOSES. SHOP DRAWINGS SHALL REFLECT THIS COORDINATION EFFORT WHERE LIGHTING, DUCT AND PIPING CROSS. CONTRACTORS SHALL REFER TO OTHER TRADE DRAWINGS FOR COORDINATION PURPOSES. WHERE DUCT, PIPE OR CONDUIT DO NOT CROSS SAME SHALL BE INSTALLED AS TIGHT TO STEEL AS PRACTICAL.
- 2. THE FOLLOWING PRIORITIES SHALL BE MAINTAINED IF A ROUTING CONFLICT ARISES: LIGHTING, DUCT WORK, PIPING (INCLUDING WATER, ELECTRICAL AND SPRINKLER). THIS, HOWEVER DOES NOT ALLEVIATE THE CONTRACTOR FROM PROPER COORDINATION WITH OTHER TRADES.
- 3. WHERE THE ABOVE CONFLICTS WITH CODE, CODE REQUIREMENTS SHALL PREVAIL. ROUTE DUCT UNDER EXISTING MEMBERS OR THROUGH TRUSSES.
- MECHANICAL. 4. STRUCTURAL CONTRACTOR SHALL NOT PIERCE, CUT OR ALTER EXISTING STRUCTURAL MEMBERS.

# **PLENUM COORDINATION DETAIL**

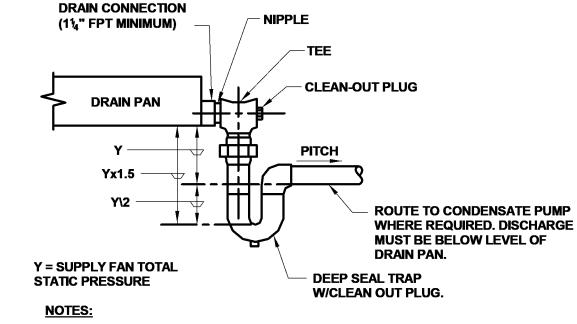


- 1. DUCTS SHALL NOT BE HUNG FROM OR SUPPORTED BY HUNG CEILING. FOR DUCTS NOT EXCEEDING 2 SQ. FT. IN CROSS-SECTIONAL AREA, HANGERS.
- 2. SHALL BE OF METAL NOT LESS THAN 1/16".
- 3. FOR DUCTS LARGER THAN 2 SQ. FT. IN CROSS-SECTIONAL AREA, HANGERS SHALL BE OF METAL NOT LESS THAN 1" BY 1/8". FOR ALL DUCTS. HANGERS SHALL BE TURNED UNDER AND FASTENED TO THE.
- 4. BOTTOM OF DUCT AS SHOWN ABOVE. WHERE CROSS-SECTIONAL AREA OF DUCT EXCEEDS 8 SQ. FT., HANGERS 5. SHALL BE NOT MORE THAN 4 FT. ON CENTER.

METHOD OF HANGING DUCTWORK

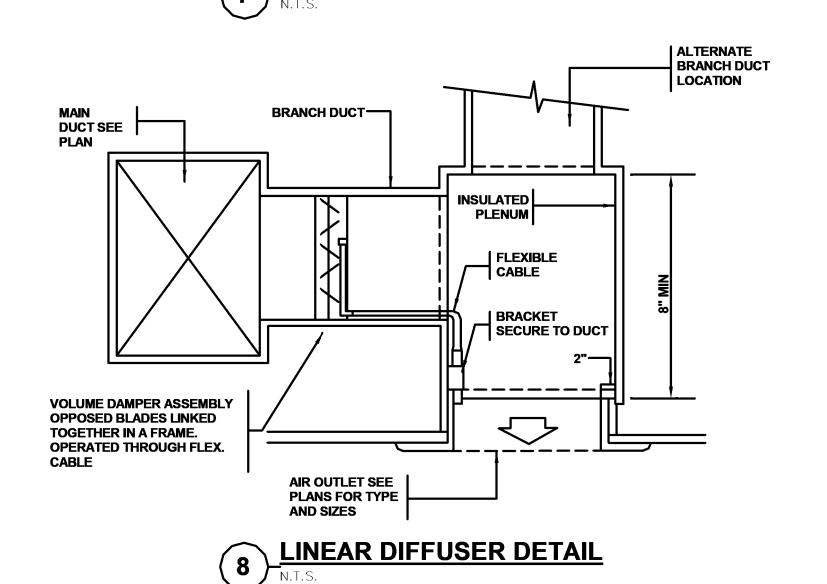


- 1. DUCT SHOULD EXTEND STRAIGHT FOR A MINIMUM OF 3 DUCT DIAMETERS BEFORE BENDING.
- 2. SUPPORT SYSTEM MUST NOT BEND DUCT OR CAUSE OUT OF ROUND
- 3. MAXIMUM SAG 1/2" PER FOOT OR SUPPORT SPACING.
- 4. 5'-0" MAXIMUM FLEX DUCT LENGTH.
- **FLEX DUCT SUPPORT**



- 1. ALLOW SUFFICIENT SPACE BELOW DRAIN PAN FOR TRAP.
- 2. PITCH DRAIN FOR PROPER RUN-OFF.
- 3. MANUALLY PRIME FILL TRAP BEFORE START-UP TO FORM INITIAL DRAIN SEAL.
- 4. SUPPORT LENGTHY DRAIN LINES TO PREVENT SAG AND CONDENSATE

# **CONDENSATE DRAIN DETAIL**



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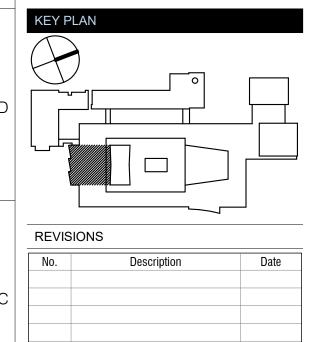
**LICENSE EXPIRATION DATE - 9/25** 



BYRAM HILLS HIGH SCHOOL **LEARNING COMMONS** RENOVATION

SED# 66-12-01-06-0-007-01X

12 Tripp Ln, Armonk, NY 10504



No.	Description	Date
ISSUED:	BID SET	
DATE:	JUNE 25, 202	4

**SCALE:** As indicated SHEET NAME:

SHEET NUMBER:

M-701

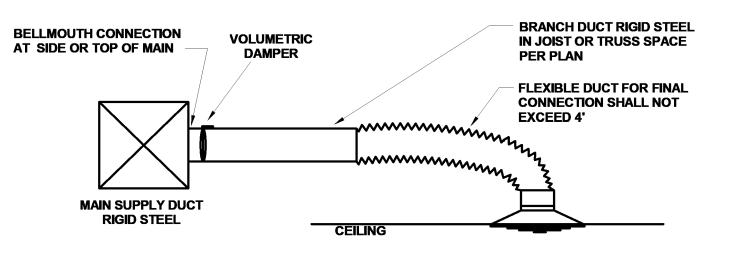
MECHANICAL DETAILS

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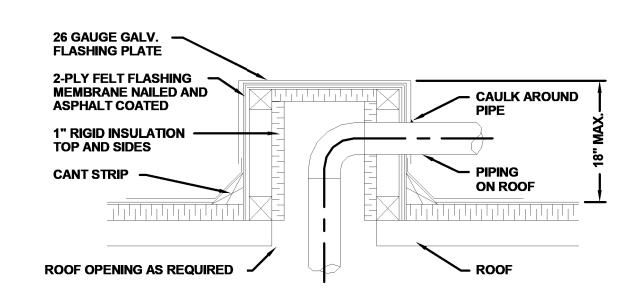
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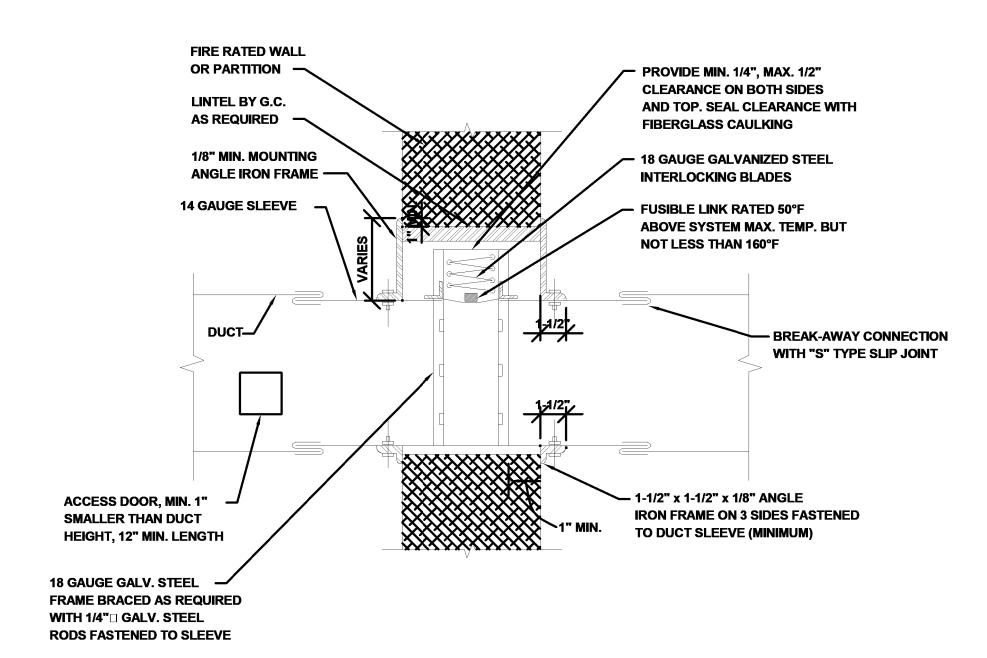
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# 1 DUCT DIFFUSER DETAIL N.T.S.



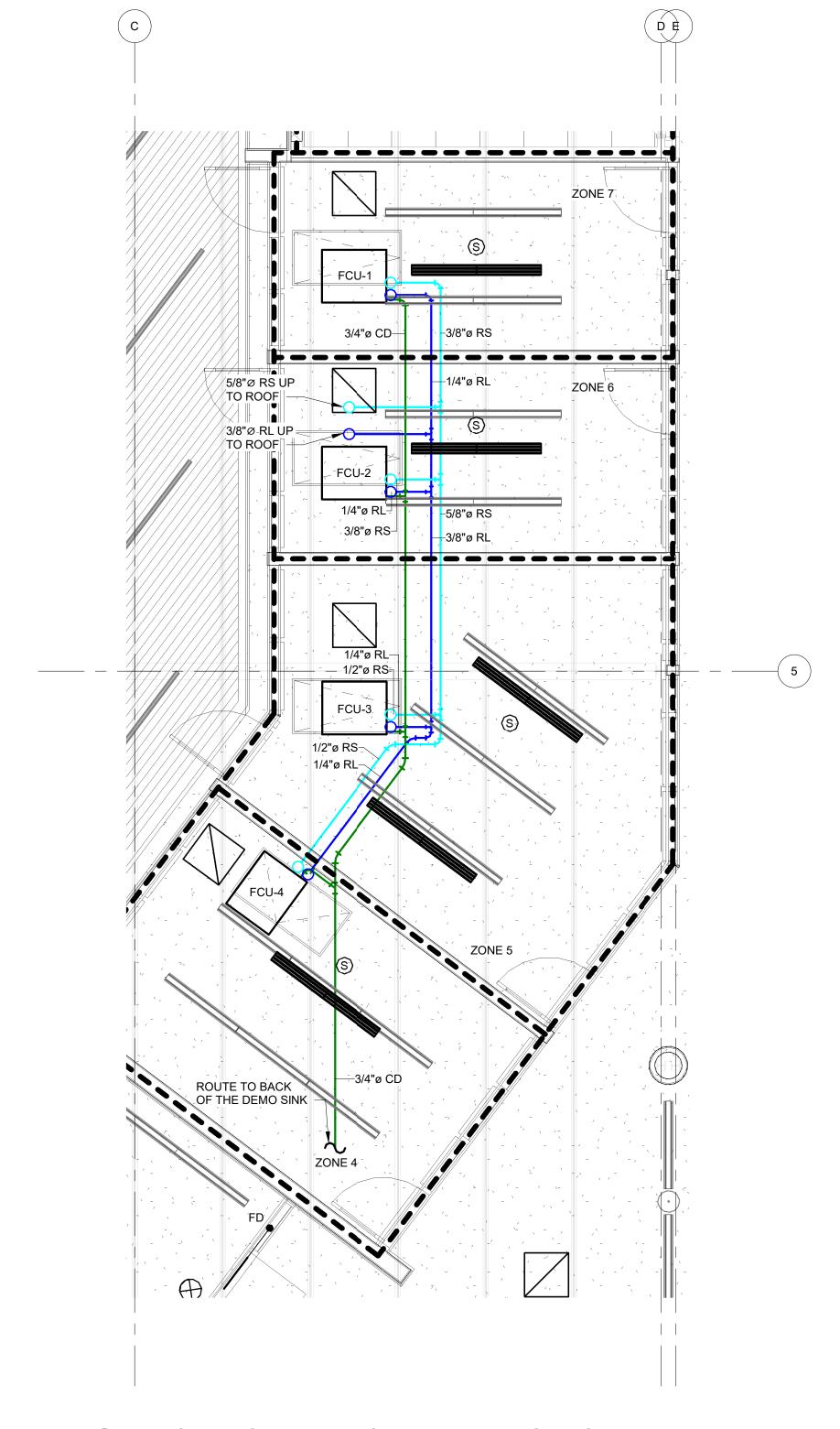
# PIPING THROUGH ROOF N.T.S.



**SHUTTER TYPE FIRE DAMPER FOR** FOR LOW PRESSURE SYSTEMS DETAIL

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MECHANICAL REFRIGERENT PIPING BLOWUP VIEW

1/4" = 1'-0"

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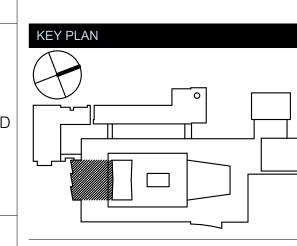
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REVISIONS Description

ISSUED: BID SET **DATE:** JUNE 25, 2024 **SCALE:** As indicated

SHEET NAME: MECHANICAL DETAILS

SHEET NUMBER:

M-702

15

	DUCTED SPLIT-SYSTEM UNIT SCHEDULE											
UNIT NO.	LOCATION	ТҮРЕ	MANUFACTURER	MODEL NO.	NET COOLING/HEATING CAPACITY (BTU/HR)	MOUNTING LOCATION	SEER	HSPF	FAN CFM	VOLT/PHASE	MCA	МОСР
FCU-1,2	OFFICE SPACE	CONCEALED DUCTED	MITSUBISHI	PEAD-A09AA8	9,000	CEILING			250	208/1		
FCU-3	CONFERENCE ROOM	CONCEALED DUCTED	MITSUBISHI	PEAD-A18AA8	18,000	CEILING			500	208/1		
FCU-4	BREAKROOM	CONCEALED DUCTED	MITSUBISHI	PEAD-A12AA8	12,000	CEILING			350	208/1		
HP-1	ROOF	HEAT PUMP	MITSUBISHI	MXZ-SM48NAMHZ2-U1	48000/48,000		16	9.5		208/1	42	50

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#### NOTES:

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1. PROVIDE CONDENSATION PUMPS FOR ALL INDOOR EQUIPMENT PIPE TO NEAREST SANITARY CONNECTION WITH FUNNEL DRAIN.

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- 2. INSTALL HP-1 WITH ACCESSORY BASE PAN HEATER.
- 3. SIZE REFRIGERANT PIPING AS RECOMMENDED BY MANUFACTURER.
- 4. PROVIDE HP-1 WITH WIND BAFFLES.

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5. EC SHALL PROVIDE POWER TO INDOOR UNITS THROUGH OUTDOOR UNIT.

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		HOT WATER/HEATING COIL SCHEDULE															
	UNIT	SERVICE	LOCATION	MANUF. & MODEL#	CAPACITY AIR FLOW (CFM)		FACE AREA (SQ. FT)		ROWS	FIN/FT	SIZE (WxH)	FLOW (GPM)	WATER DAT	A     L.W.T. (°F)	E.A.T. (°F)	L.A.T. (°F)	REMARKS
ſ	HC-1	RTU-3	DUCT MOUNTED	GREENHECK	2200	105	2.33	800	2	108	30" X 12"	10.5	180	160	51	95	SEE NOTES

### NOT

- 1. PRVOIDE HC-1 WITH 3-WAY MODULATING CONTROL VALVES.
- 2. REFERENCE HEATING COIL CONNECTON DETAIL ON M-701.

				ROOFT	OP UNIT SO	CHEDU	ILE			
	ADEA		SUPPLY FAN DATA		COOLING COIL	ELEC	CTRICAL DATA	NAANUIFACTURER		
UNIT	UNIT AREA TOTAL SERVED (C		MINIMUM O.A. (CFM)	E.S.P (IN. WG)	TOTAL CAPACITY (MBH)	MCA	VOLTAGE/PHASE	MANUFACTURER (MODEL)	WEIGHT (LBS)	REMARKS
EXISTING RTU-1	ZONE 8	2000	SEE VENTILATION TABLE	1.2	60	32	208/3ø	CARRIER		SEE NOTES
EXISTING RTU-2	ZONE 2	2000	SEE VENTILATION TABLE	1.2	60	32	208/3ø	CARRIER		SEE NOTES
EXISTING RTU-3	ZONE 3	2200	SEE VENTILATION TABLE	1	60	32	208/3ø	CARRIER		SEE NOTES
RTU-4,5,6	ZONE 1	2000	400	0.8	60	90	208/3ø	TRANE (WHC050H3RGA)	1100	SEE NOTES
RTU-7	CORRIDOR	1200	200	0.6	60	80	208/3ø	TRANE (WHC036H3REB)	800	SEE NOTES

## NOTES

- 1. REBALANCE RTU-1,2, & 3 TO THE AIRFLOWS STATED ABOVE.
- 2. REFERENCE REFURBISH NOTES ON M-001.
- 3. ENSURE ALL ROOFTOP UNITS HAVE DUCT SMOKE DETECTORS. PROVIDED BY MC AND WIRED BY EC AS NECESSARY.
- 4. RTU-4, 5,6, & 7 SHALL BE TIED TO THE EXISTING BMS.
- 5. PROVIDE RTU-4,5,6 WITH A 18KW ELECTRIC STRIP HEATER TO OPERATE IN CONJUNCTION WITH THE HEAT PUMP DURING LOW ABIMENT CONDITIONS.

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- 6. PROVIDE RTU-7 WITH A 12KW ELECTRIC STRIP HEATER TO OPERATE IN CONJUNCTION WITH THE HEAT PUMP DURING LOW ABIMENT CONDITIONS.
- 7. PROVIDE RTU-4,5,6 & 7 WITH A 7-DAY PROGRAMMABLE THERMOSTAT.

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			All	R OUTL	ET SCHED	ULE				
DESIGNATION AND SYMBOL	AIRFLOW (CFM)	OVERALL LENGTH (FEET)	INLET/NECK SIZE (INCHES)	FACE SIZE (INCHES)	APPLICATION	MANUF. & MODEL	ACCESSORIES	MAX S.P.	FINISH	REMARKS
LD-1	500	15'	6" Ø		2-SLOT LINEAR DIFFUSER	PRICE (SDS100)	PROVIDE SDB PLENUM	0.08	COORDIANTE WITH ARCHITECT	SEE NOTES
LD-2	300	9'	6" Ø		3-SLOT LINEAR DIFFUSER	PRICE (SDS100)	PROVIDE SDB PLENUM	0.08	COORDIANTE WITH ARCHITECT	SEE NOTES
LD-3	400	10'	10" Ø		2-SLOT LINEAR DIFFUSER	PRICE (SDS100)	PROVIDE SDB PLENUM	0.08	COORDIANTE WITH ARCHITECT	SEE NOTES
LD-4	100	4'	7" Ø		2-SLOT LINEAR DIFFUSER	PRICE (SDS100)	PROVIDE SDB PLENUM	0.08	COORDIANTE WITH ARCHITECT	SEE NOTES
LD-5	200	6'	6" Ø		2-SLOT LINEAR DIFFUSER	PRICE (SDS100)	PROVIDE SDB PLENUM	0.08	COORDIANTE WITH ARCHITECT	SEE NOTES
LD-6	600	18'	6" Ø		2-SLOT LINEAR DIFFUSER	PRICE (SDS100)	PROVIDE SDB PLENUM	0.08	COORDIANTE WITH ARCHITECT	SEE NOTES
LD-7	600	15'	10" Ø		3-SLOT LINEAR DIFFUSER	PRICE (SDS100)	PROVIDE SDB PLENUM	0.08	COORDIANTE WITH ARCHITECT	SEE NOTES
LD-8	300	9'	6" Ø		2-SLOT LINEAR DIFFUSER	PRICE (SDS100)	PROVIDE SDB PLENUM	0.08	COORDIANTE WITH ARCHITECT	SEE NOTES
CD-1	150-200 201 250		8" Ø 10" Ø	24" X 24"	CEILING DIFFUSER	PRICE (SPD)		0.08	COORDIANTE WITH ARCHITECT	SEE NOTES
RG-1	100-1200			24" X 24"	PLENUM RETURN GRILLE	PRICE (PDR)		0.03	COORDIANTE WITH ARCHITECT	SEE NOTES

1. ALL LINEAR DIFFUSERS INSTALLED WITHIN THE SLATTED CEILING WILL REQUIRE CUSTOM PLENUMS DUE TO THE HEGIHT OF THE SLATS. CONTRACTOR SHALL INCORPARTE COST OF CUSTOM PLENUMS IN BASE BID.

	VENTILATION	I TABLE P	ER 2020 N	ICNYS Ch	apter 4	
Space (Room #)	Occupancy Classification	Area (sqft)	Space Ventilation (CFM/ft",	Number of Occupants	Occupant Ventilation (CFM/person)	Total Ventilation Airflow (CFM)
FSP SUITE (100)	OFFICES	880	0.06	4	5	78
FSP ADMIN (100C)	OFFICES	128	0.06	2	5	20
FSP CR (100D)	CLASSROOM	67	0.12	1	10	21
FSP CR (100E)	CLASSROOM	67	0.12	1	10	21
FSP OFF (100F)	OFFICES	149	0.06	2	5	21
FSP OFF (100G)	OFFICES	117	0.06	2	5	20
LIBRARY (L01)	MULTIUSE ASSEMBLY	5,190	0.06	100	7.5	1,249
LIBRARIAN OFFICE (L02)	OFFICES	205	0.06	1	5	19
MEETING ROOM (L03)	CONFERENCE ROOMS	151	0.06	3	5	28
MEETING ROOM (L04)	CONFERENCE ROOMS	151	0.06	3	5	28
MEETING ROOM (L05)	CONFERENCE ROOMS	299	0.06	16	5	118
MEETING ROOM (L06)	CONFERENCE ROOMS	216	0.06	10	5	75
SNACK KIOSK	BREAKROOM	300	0.06	16	5	118

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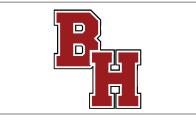
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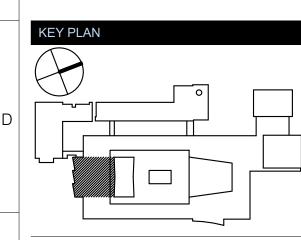
LICENSE EXPIRATION DATE - 9/25



BYRAM HILLS HIGH SCHOOL LEARNING COMMONS RENOVATION

SED# 66-12-01-06-0-007-01X

12 Tripp Ln, Armonk, NY 10504



No.	Description	Dat		
INU.	Description	Date		

ISSUED: BID SET

DATE: JUNE 25, 2024

SCALE: As indicated

SHEET NAME:

MECHANICAL

SHEET NUMBER:

SCHEDULES

M-801

6/25/2024 8:32:20 AM

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