No: MC-01

SUBMITTAL COVERSHEET
Nanuet UFSD –Phase 3 Projects

Architect:
KSQ Architects
215 W 40th Street,15th Floor
New York, NY 10018

Owner:
Nanuet Union Free School District
101 Church Street
Nanuet, NY 10954

Construction Manager:
Jacobs
One Penn Plaza, 54th floor
New York, NY 10019

Contractor: Joe Lombardo Plumbing & Heating of Rockland Inc

Contract: Ron Lombardo

Address: 321 Spook Rock Road Suite 109A
Suffern, New York 10901

Telephone: 845-357-6537

Fax: 845-357-8529

School Name: Nanuet Union Free School District Phase 3 Bond Projects @ Barr Middle School & Nanuet High School

Type of Submittal:

Re-submittal: [ ] No [ ] Yes

[ ] Shop Drawings **[ ]** Product Data **[ ]** Schedule **[ ]** Sample **[ ]** _____
[ ] Test Report **[ ]** Certificate **[ ]** Color Sample **[ ]** Warranty **[ ]** _____

Submittal Description:

Product Name: BMS WALLS SENSORS SHOP DWGS SIEMANS

Manufacturer: SIEMANS

Subcontractor/ Supplier: SIEMANS

References:

Spec. Section No.: 230923.1

Drawing No(s): _____

Paragraph: _____

Rm. or Detail No(s): _____

Architect's/ Engineer's Review Stamp	Contractor Review Statement: These documents have been checked for accuracy and coordinated with job conditions and Contract requirements by this office and have been found to comply with the provisions of the Contract Documents. Ronald J. Lombardo 12.14.23 Name: Date: Company Name: Joe Lombardo Plumbing & Heating of Rockland Inc.

Remarks:

SIEMENS **Smart Infrastructure**

Transmittal

To: JOE LOMBARDO PLUMBING & HEATING OF ROCKLAND INC 321 SPOOK ROCK RD SUFFERN, NY- 10901-5319 US. PHONE: (845) 357-6537	Date: 12/7/2023	Our Job No. 44OP-366733
	Job Name NANUET BOND PHASE 3 HIGH SCHOOL	
	Your Order No.	

WE ARE SENDING YOU

- ☒ HEREWITH
- ☐ UNDER SEPARATE COVER THE FOLLOWING ITEMS:
- ☐ SUBMITTALS FOR REVIEW/APPROVAL
- ☐ APPROVED SUBMITTALS
- ☐ SUBMITTALS FOR YOUR USE
- ☐ MARKED PLANS & SPECIFICATIONS
- ☒ THERMOSTAT LOCATION SUBMITTAL
- ☐ ENGINEERING COMMENTS
- ☐ ORIGINAL DRAWINGS
- ☐ SHOP DRAWINGS
- ☐ CHANGE ORDER(S)
- ☐

THESE ARE SUBMITTED

- ☒ FOR APPROVAL
- ☐ FOR CORRECTION
- ☐ FOR COMMENTS
- ☐ FOR YOUR USE
- ☒ PLEASE RETURN __1__ APPROVED COPY(S) FOR OUR USE

DESCRIPTION

ONE ELECTRONIC COPY OF THERMOSTAT LOCATION SUBMITTAL FOR THE ABOVE MENTIONED PROJECT.

IN ORDER TO PREPARE THE SUBMITTAL, WE HAVE FOLLOWED THE INFORMATION AS CHECKED BELOW

- ☐ ARCHITECTURAL PLANS
- ☒ MECHANICAL PLANS
- ☐ ELECTRICAL PLANS
- ☐ MECHANICAL SPECIFICATIONS
- ☐ ELECTRICAL SPECIFICATIONS
- ☐ EXISTING AS BUILTS
- ☐ CUTSHEETS
- ☐ ELECTRICAL HEATING COIL WIRING
- ☐ CHILLER WIRING
- ☐ TERMINAL UNIT CUT SHEETS
- ☐ HUMIDIFIER CUT SHEETS
- ☐ DX COIL WIRING
- ☐ COMPLETE SET(S) OF PLANS & SPECS.
- ☐

PLEASE BE ADVISED THAT WE MUST HAVE THIS INFORMATION BEFORE WORK CAN BEGIN ON YOUR SUBMITTAL

REMARKS

PLEASE ADDRESS YOUR REMARKS TO: **SIEMENS INDUSTRY, INC.** SMART INFRASTRUCTURE 412 MT KEMBLE AVE. MORRISTOWN, NJ 07960, USA	ATTENTION: OLIVER WRIGHT (PROJECT MANAGER) TELEPHONE NO: (973) 575-6300

SIEMENS

SIEMENS INDUSTRY, INC.
SMART INFRASTRUCTURE

412 MT KEMBLE AVE.
MORRISTOWN, NJ. 07960
USA

PHONE: (973) 575-6300
FAX: (973) 575-7968

12/7/23

FOR INFORMATION CONTACT
OLIVER WRIGHT (PROJECT MANAGER)

THERMOSTAT LOCATION SUBMITTAL FOR NANUET BOND PHASE3 HIGH SCHOOL

103 CHURCH ST
NANUET, NY 10954-3030
USA

44OP-366733

KSQ DESIGN
ARCHITECT

SAGE ENGINEERING ASSOCIATES, LLP
ENGINEER

JOE LOMBARDO PLUMBING & HEATING,ROCKLAND
CONTRACTOR

SIEMENS

Job Name: Nanuet Bond Phase 3 High School
JOB #: 44OP-366733
Siemens Industry Inc – Smart Infrastructure
Thermostat location Submittal

Submittal Notes
12/7/2023

1. BACnet thermostats are proposed for controlling the existing & new FTR's, Heating Radiation & Convector Units.

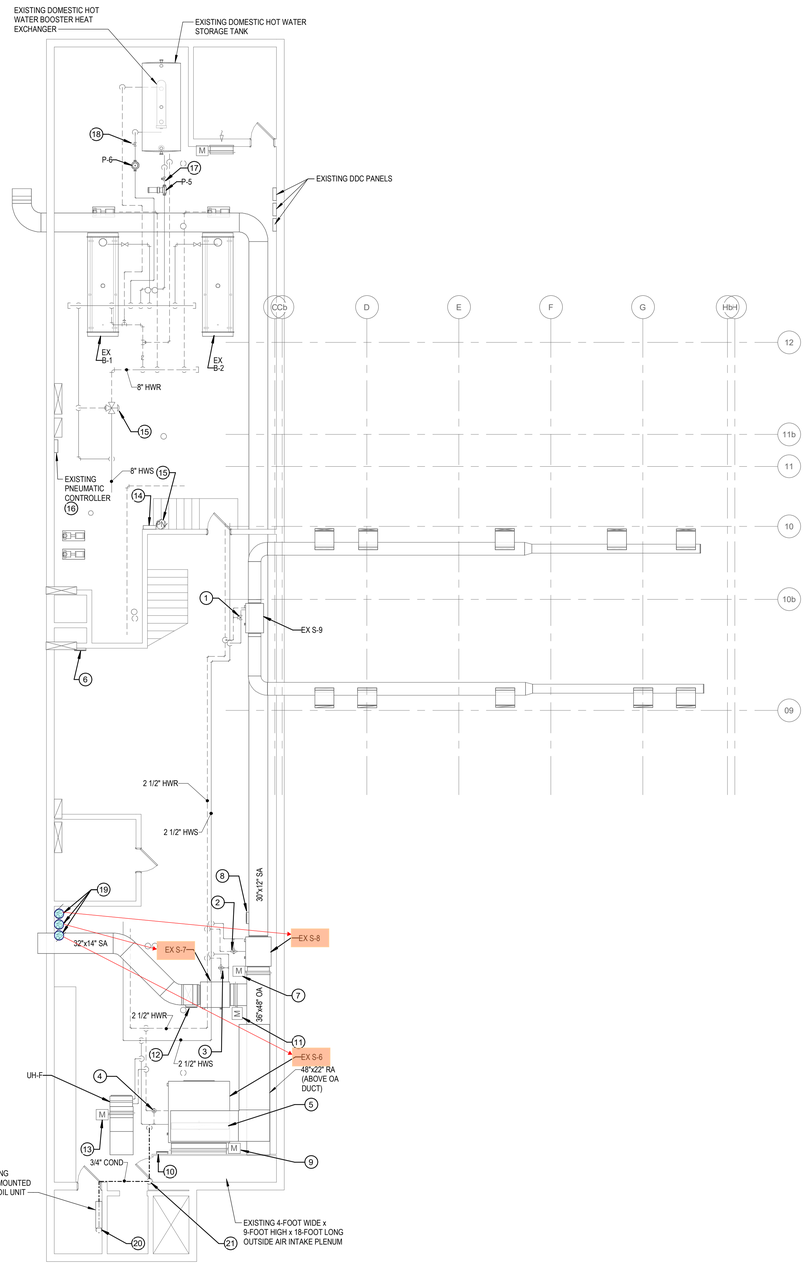
2. At the time of submission, as per DWG BM-M112, note-4 thermostat is connected to EX S-2. pHowever, as per note-28 the same thermostat is mentioned as it will be controlling the 2-way valve for EX FTR. Thereby new BACnet thermostat will be provided for EX FTR and temperature reading will be shared with EX S-2.

3. At the time of submission, as per DWG BM-M111, UV-MS-3 and FT-MS-1 serving classroom 102A are sharing a single thermostat. Siemens proposes a new BACnet thermostat which will be controlling the FTR valve. Space temperature reading from this thermostat will be shared with UV-MS-3. New separate thermostat is not considered for UV units.

4. At the time of submission, as per DWG HS-M109, RTU-HS-5, R-2-3 and R-2-4 serving cafeteria are sharing a single thermostat. Siemens proposes a new BACnet thermostat (1 qty) for heating floor radiation units (R-2-3, R-2-4) which will be controlling radiation units' valves. RTU-HS-5 will be provided with manufacturer supplied thermostat.

5. At the time of submission, as per DWG HS-M109, RTU-HS-4, R-2-1 and R-2-2 serving dining room 2 are sharing a single thermostat. Siemens proposes a new BACnet thermostat (1 qty) for heating floor radiation units (R-2-1, R-2-2) which will be controlling radiation units' valves. RTU-HS-4 will be provided with manufacturer supplied thermostat.

6. At the time of submission, as per DWG HS-M109, thermostats are not shown for Convector units. Siemens is proposing new BACnet thermostat for these units to control the valves and to monitor space temperature. CV-HS-1 & CV-HS-2, CV-HS-4 & CV-HS-5 are serving same areas so single thermostat for each pair is considered.



A18 OVERALL BASEMENT PLAN

1/8" = 1'-0"

KEYED NOTES:

1. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-9 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 4.9 GPM. DISCONNECT AND REMOVE ALL S-9 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-9 INTO THE EXISTING S-9 DDC SYSTEM CONTROLLER OUTLINED IN KEYED NOTE 6.
2. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-8 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 9.6 GPM. DISCONNECT AND REMOVE ALL S-8 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-8 INTO THE EXISTING S-9 DDC SYSTEM CONTROLLER OUTLINED IN KEYED NOTE 8.
3. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-7 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 9.6 GPM. DISCONNECT AND REMOVE ALL S-7 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-7 INTO THE EXISTING S-9 DDC SYSTEM CONTROLLER OUTLINED IN KEYED NOTE 12.
4. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-6 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 28.5 GPM. DISCONNECT AND REMOVE ALL S-6 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-6 INTO THE EXISTING S-6 DDC SYSTEM CONTROLLER OUTLINED IN KEYED NOTE 10.
5. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-6 PNEUMATIC MOTORIZED RETURN AIR DAMPER ACTUATOR AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR. TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM CONTROLLER SERVING S-3. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
6. LOCATION OF EXISTING AIR HANDLING UNIT S-9 DDC SYSTEM CONTROLLER. DISCONNECT AND REMOVE 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSDUCER INCLUDING ASSOCIATED PNEUMATIC TUBING AND PNEUMATIC DIAL OPERATOR. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. TIE ELECTRONIC CONTROL VALVE OUTLINED IN KEYED NOTE 1 INTO THE S-9 DDC CONTROLLER AS REQUIRED.
7. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-8 PNEUMATIC MOTORIZED OUTSIDE AIR DAMPER ACTUATOR AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR. TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM CONTROLLER SERVING S-8. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
8. LOCATION OF EXISTING AIR HANDLING UNIT S-8 DDC SYSTEM CONTROLLER. DISCONNECT AND REMOVE DAMPER ELECTRIC-TO-PNEUMATIC TRANSDUCER AND 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSDUCER INCLUDING ASSOCIATED PNEUMATIC TUBING AND PNEUMATIC DIAL OPERATORS. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. TIE ELECTRONIC CONTROL VALVE AND ELECTRONIC MOTORIZED DAMPER OUTLINED IN KEYED NOTES 2 AND 7 INTO THE S-8 DDC CONTROLLER AS REQUIRED.
9. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-6 PNEUMATIC MOTORIZED OUTSIDE AIR DAMPER ACTUATOR AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR . TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM CONTROLLER SERVING S-6. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
10. LOCATION OF EXISTING AIR HANDLING UNIT S-6 DDC SYSTEM CONTROLLER. DISCONNECT AND REMOVE DAMPER ELECTRIC-TO-PNEUMATIC TRANSDUCER AND 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSDUCER INCLUDING ASSOCIATED PNEUMATIC TUBING AND PNEUMATIC DIAL OPERATORS. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. TIE ELECTRONIC CONTROL VALVE AND ELECTRONIC MOTORIZED DAMPERS OUTLINED IN KEYED NOTES 4, 5 AND 9 INTO THE S-6 DDC CONTROLLER AS REQUIRED.
11. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-7 PNEUMATIC MOTORIZED OUTSIDE AIR DAMPER ACTUATOR AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR . TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM CONTROLLER SERVING S-7. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
12. LOCATION OF EXISTING AIR HANDLING UNIT S-7 DDC SYSTEM CONTROLLER. DISCONNECT AND REMOVE DAMPER ELECTRIC-TO-PNEUMATIC TRANSDUCER AND 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSDUCER INCLUDING ASSOCIATED PNEUMATIC TUBING AND PNEUMATIC DIAL OPERATORS. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. TIE ELECTRONIC CONTROL VALVE AND ELECTRONIC MOTORIZED DAMPER OUTLINED IN KEYED NOTES 3 AND 11 INTO THE S-8 DDC CONTROLLER AS REQUIRED.
13. DISCONNECT AND REMOVE EXISTING HYDRONIC UNIT HEATER UH-F DUAL PNEUMATIC FACE AND BAYPASS DAMPER AT LOCATION SHOWN AND REPLACE WITH MANUAL DAMPER OPERATOR LOCKED IN OPEN POSITION. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
14. LOCATION OF EXISTING BUILDING HEATING PLANT DDC SYSTEM CONTROLLER.
15. DISCONNECT AND REMOVE MAIN BUILDING HEATING LOOP 3-WAY PNEUMATIC MIXING CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. DISCONNECT AND REMOVE 3 -WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSDUCER INCLUDING ASSOCIATED PNEUMATIC TUBING AND PNEUMATIC DIAL OPERATOR LOCATED ADJACENT TO BUILDING HEATING PLANT DDC SYSTEM CONTROLLER. REMOVE ASSOCIATED WIRING BACK TO CONTROL PANEL AS REQUIRED. AT LOCATIONG OF REMOVED PNEUMATIC 3-WAY MIXING VALVE PROVIDE AN ELECTRONIC 3-WAY MIXING CONTROL VALVE RATED AT 550 GPM. TIE OPERATION OF MIXING VALVE INTO EXISTING BUILDING HEATING PLANT DDC SYSTEM CONTROLLER OUTLINED IN KEYED NOTE 14.
16. DISCONNECT AND REMOVE PNEUMATIC PIPING AND ASSOCIATED PRESSURE DIAL WITHIN THE PNEUMATIC CONTROL PANEL RELATED TO THE CONTROL PRESSURE ON THE MAIN HOT WATER SUPPLY 3-WAY VALVE OUTLINED IN KEYED NOTE 15. REMOVE PNEUMATIC PIPING BACK TO ASSOCIATED PIPING MAIN AND CAP.
17. DISCONNECT AND REMOVE EXISTING DOMESTIC HOT WATER STORAGE TANK 2-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 160 GPM. DISCONNECT AND REMOVE ALL STORAGE TANK PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM THE STORAGE TANK INTO THE EXISTING DDC SYSTEM CONTROLLER OUTLINED IN KEYED NOTE 14.
18. DISCONNECT AND REMOVE EXISTING DOMESTIC HOT WATER BOOSTER HEATER HEAT EXCHANGER 2-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 20 GPM. DISCONNECT AND REMOVE ALL HEAT EXCHANGER PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM THE HEAT EXCHANGER INTO THE EXISTING DDC SYSTEM CONTROLLER OUTLINED IN KEYED NOTE 14.
19. DISCONNECT AND REMOVE ALL EXISTING AIR HANDLING UNITS S-6, S-7 AND S-8 PNEUMATIC CONTROL FAN OPERATORS, SENSORS AND RELAY DEVICES. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. CONVERT ALL PNEUMATIC CONTROL DEVICES SERVING S-6, S-7 AND S-8 TO ELECTRONIC AND PROVIDE RELAYS FROM FAN START/STOP MOTOR STARTER TO EXISTING DDC CONTROL PANELS SERVING EACH UNIT TO ALLOW FOR ELECTRONIC FAN DIGITAL START/STOP OPERATION. DISCONNECT AND REMOVE PNEUMATIC TUBING BETWEEN PNEUMATIC CONTROL DEVICES AND EXISTING S-6, S-7 AND S-8 SPACE SENSORS. PROVIDE RELAYS FROM EXISTING S-6, S-7 AND S-8 SPACE SENSORS TO EXISTING DDC CONTROL PANELS SERVING EACH UNIT TO ALLOW FOR ELECTRONIC ANALOG INPUT OF EACH SPACE TEMPERATURE TO THE DDC SYSTEM.
20. DISCONNECT AND REMOVE OPEN-ENDED PVC HOSE FROM CONDENSATE DRAIN OUTLET CONNECTION ON EXISTING ELEVATOR MACHINE ROOM FAN COIL UNIT AND PROVIDE A 3/4" HARD PIPED CONNECTION TO THE CONDENSATE OUTLET. PROVIDE A P-TRAP BELOW FAN COIL UNIT, THEN ROUTE 3/4" CONDENSATE PIPING THROUGH ELEVATOR MACHINE ROOM TO MECHANICAL AREA OF BASEMENT AS SHOWN.
21. PROVIDE 3/4" CONDENSATE DROP DOWN AT LOCATION SHOWN TO FLOOR LEVEL. THEN ROUTE 3/4" CONDENSATE PIPING BELOW BOTTOM OF DOOR OPENING TO OA INTAKE PLENUM. THEN ROUTE 3/4" CONDENSATE PIPING ALONG FLOOR LEVEL TO NEW FLOOR DRAIN BEING PROVIDED ON PLUMBING DRAWINGS. TERMINATE CONDENSATE PIPING OPEN-ENDED ABOVE NEW FLOOR DRAIN.

LEGEND:

EX S-X	EXISTING AIR HANDLING UNIT
(T)	EX AHU-WALL SENSOR

SIEMENS WALL SENSOR LOCATION DRAWING

ARCHITECT

ksqdesign

NEW YORK OKLAHOMA

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STATE OF NEW YORK · JOHN VENDITTI · LICENSED PROFESSIONAL ENGINEER · 083994

REGISTRATION EXPIRES: 11/30/2023

NANUET

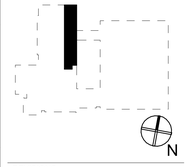
NUFSD BOND PROJECTS PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCHOOL)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

High School
103 Church St.
Nanuet, NY 10954

Barr Middle School
50 Blauvelt Rd #1
Nanuet, NY 10954

KEY PLAN



REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE

DATE: 06/06/2023

SCALE: 1/8" = 1'-0"

SHEET NAME:
BASEMENT PLANS

SHEET NUMBER:
BM-M110

ISSUE FOR BID SET

DRAWN BY: Author
CHECKED BY: Checker
Checker\Group\Documents\3686 NANUET BM-MECH_central2017.rvt
6/5/2023 3:15:50 PM

KEYED NOTES:

1. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-4 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 4 GPM. DISCONNECT AND REMOVE ALL S-4 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-4 INTO THE EXISTING SIEMENS DDC SYSTEM.
2. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-3 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 6.2 GPM. DISCONNECT AND REMOVE ALL S-3 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-3 INTO THE EXISTING SIEMENS DDC CONTROLLER SERVING S-3.
3. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-3 PNEUMATIC MOTORIZED RETURN AIR DAMPER ACTUATOR AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR. TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM CONTROLLER SERVING S-3. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
4. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-3 PNEUMATIC MOTORIZED OUTSIDE AIR DAMPER ACTUATOR AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR. TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM CONTROLLER SERVING S-3. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
5. LOCATION OF EXISTING AIR HANDLING UNIT S-3 DDC SYSTEM CONTROLLER. DISCONNECT AND REMOVE DAMPER ELECTRIC-TO-PNEUMATIC TRANSDUCER AND 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSDUCER INCLUDING ASSOCIATED PNEUMATIC TUBING AND PNEUMATIC DIAL OPERATORS. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. TIE ELECTRONIC CONTROL VALVE AND ELECTRONIC MOTORIZED DAMPERS OUTLINED IN KEYED NOTES 2, 3 AND 4 INTO THE S-3 DDC CONTROLLER AS REQUIRED.
6. PROVIDE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. PROVIDE UNIT VENTILATOR WITH FULLY CLOSED ADAPTER-BACK WITH REAR OUTDOOR AIR OPENING TO BE CUT IN FIELD TO MATCH EXISTING WALL OUTDOOR AIR OPENING SIZE. CONNECT TO EXISTING OA DUCT SLEEVE AS REQUIRED AND EXTEND INTO REAR OUTDOOR AIR OPENING ON THE UNIT VENTILATOR. CONNECT TO HWS/HWR PIPING ROUTED WITHIN UNIT VENTILATOR SHELVING SYSTEM PIPING TUNNEL AND PROVIDE 1" HWS/HWR BRANCH CONNECTIONS TO UV HEATING COIL CONNECTIONS AS REQUIRED.
7. PROVIDE REPLACEMENT TEMPERATURE SENSOR AT LOCATION SHOWN AND UTILIZE FOR SPACE TEMPERATURE CONTROL OF UNIT VENTILATOR LOCATED WITH SAME SPACE AS SENSOR AS REQUIRED. PROVIDE CONTROL WIRING BETWEEN SENSOR AND UNIT VENTILATOR DDC CONTROLLER AS REQUIRED.
8. PROVIDE 24" WIDE x 21-7/8" DEEP UTILITY COMPARTMENT AT LOCATION SHOWN FOR HOUSING DDC SYSTEM CONTROLLER AND VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS. THE UTILITY COMPARTMENT SHALL HOUSE THE FOLLOWING VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS: 1. WIRED NAVIGATION REMOTE CONTROLLER 2. VARIABLE REFRIGERANT VOLUME CONTROL BOX AND 3. VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT.
9. AT LOCATIONS CALLED OUT, PROVIDE 21-7/8" DEEP PERIMETER SHELVING CABINETS. THE CABINETS SHALL BE 30" HIGH THAT INCLUDE A BASE CABINET, ONE SHELF, A STEEL TOP WITH LOUVER OUTLET, A FRONT SKIRT WITH LOUVER INLET AND A BACK WALL ANGLE. THE SHELVING CABINETS SHALL INCLUDE A 5-7/8" DEEP PIPE SPACING CAVITY AT THE REAR OF THE CABINET SYSTEM. THE SHELF SHALL BE 10-1/2" DEEP AND THE SYSTEM SHALL INCLUDE A 3" HIGH OPENING AT THE BOTTOM (COVERED BY THE LOUVERED INLET FRONT SKIRT) THAT ALLOWS AIR MOVEMENT THROUGH THE BOTTOM-FRONT OF THE SYSTEM AND OUT THE TOP-REAR OF THE SYSTEM. PROVIDE PERIMETER SHELVING CABINET SYSTEM FILLER SECTIONS WHERE REQUIRED TO TERMINATE SHELVING SYSTEMS AT END POINTS SHOWN. THE FILLER SECTION SHALL BE FIELD CUT TO FIT BETWEEN THE END PANEL AND THE LAST SHELVING CABINET SYSTEM. THE FILLER SECTION SHALL INCLUDE A FLOOR ANGLE, FRONT PANEL, STEEL TOP, BACK WALL ANGLE. THE SYSTEM SHALL BE MANUFACTURED BY HVAC CUSTOM ENCLOSURE CO., LLC DRAWING NUMBER SC164-0028 OR EQUAL.
10. PROVIDE 12" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION PIPING DROPS AND THE 3/4" CONDENSATE RISER DROP FROM THE SECOND FLOOR UV DRAIN PAN. ROUTE VERTICAL SUCTION/LIQUID PIPING DOWN THROUGH TOP OF UNIT VENTILATOR SHELVING CABINET TOP AND CONNECT TO UV DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. ROUTE CONDENSATE DRAIN PIPING TO PIPING TUNNEL AND CONNECT TO HORIZONTAL CONDENSATE DRAIN PIPING FROM FIRST FLOOR UV DRAIN PAN OUTLET PRIOR TO EXITING THROUGH EXTERIOR WALL. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF SHELVING CABINET SYSTEM TO UNDERSIDE OF SUSPENDED CEILING SYSTEM.

KEYED NOTES (CONTINUED):

11. CONNECT TO EXISTING 1-1/4" HWR RISER AT FLOOR LEVEL AND ROUTE 1-1/4" HWR PIPING MAIN WITHIN SHELVING CABINET PIPING TUNNEL AS SHOWN.
12. ROUTE 1-1/4" COMBINED CONDENSATE DRAIN PIPING FROM FIRST FLOOR UV DRAIN PAN OUTLET AND CONDENSATE FROM SECOND FLOOR UV DRAIN PAN(S) OUT THROUGH EXTERIOR WALL. TERMINATE PIPING WITH MITER CUT ELBOW FACING GRADE LEVEL AND PITCH PIPING TOWARDS THE EXTERIOR WALL PENETRATION AS REQUIRED.
13. TYPICAL REFRIGERANT LIQUID BRANCH CONNECTOR 'Y' FITTING JOINT.
14. TYPICAL REFRIGERANT SUCTION BRANCH CONNECTOR 'Y' FITTING JOINT.
15. 3/4" CONDENSATE DRAIN RISER UP THROUGH FLOOR. ROUTE TO VERTICAL PIPING ENCLOSURE AND DROP DOWN INTO SHELVING SYSTEM PIPING TUNNEL.
16. PROVIDE UNIT VENTILATOR SYSTEM SHELVING/CABINET FILLER PIECE BETWEEN END OF UNIT VENTILATOR AND WALL AT LOCATIONS SHOWN.
17. PROVIDE 24" WIDE x 21-7/8" DEEP UTILITY COMPARTMENT AT LOCATION SHOWN FOR HOUSING DDC SYSTEM CONTROLLER AND VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS. THE UTILITY COMPARTMENT SHALL HOUSE THE FOLLOWING VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS: 1. WIRED NAVIGATION REMOTE CONTROLLER 2. VARIABLE REFRIGERANT VOLUME CONTROL BOX AND 3. VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT. PROVIDE UNIT VENTILATOR SYSTEM SHELVING/CABINET FILLER PIECE BETWEEN END OF UTILITY COMPARTMENT AND WALL TO FILL GAP BETWEEN UTILITY COMPARTMENT END AND WALL.
18. ROUTE HWS/HWR PIPING MAINS WITHIN PIPING TUNNELS AT REAR OF UNIT VENTILATORS AND UNIT VENTILATOR SHELVING CABINET SYSTEMS.
19. PROVIDE 1-1/4" EXPANSION COMPENSATORS ON THE HWS/HWR PIPING MAINS ROUTED WITHIN THE UNIT VENTILATOR PIPING TUNNEL AT LOCATION SHOWN. THE COMPENSATORS SHALL BE 13.812" LONG. PROVIDE ANCHORS ON EACH END OF BOTH THE HWS/R RUNS AND PROVIDE PIPE GUIDES WITHIN 14 PIPE DIAMETERS OF THE COMPENSATORS ON BOTH THE HWS AND HWR COMPENSATORS.
20. CONNECT TO BOTTOM OF EXISTING 1-1/2" HWS RISER AT CONNECTION POINT SHOWN AND ROUTE 1-1/2" HWS WITHIN UV-MS-38 AND ASSOCIATED SHELVING CABINET SYSTEM PIPING TUNNEL. RECONNECT HORIZONTAL 1-1/2" HWS PIPING TO EXISTING HWS AT CONNECTION POINT SHOWN AT WALL PENETRATION TO TECH CLASSROOM 108 AND ROUTE 1" HWR PIPING FROM UV-MS-38 HEATING COIL WITHIN PIPING TUNNEL SYSTEM AND RECONNECT TO HWR MAIN AT WALL PENETRATION AS SHOWN.
21. ROUTE 5/8" REFRIGERANT SUCTION-3/8" REFRIGERANT LIQUID DOWN TO UV UTILITY COMPARTMENT WITHIN VERTICAL CHASE WALL SYSTEM.
22. PROVIDE HORIZONTAL PIPING ENCLOSURE UNIT BETWEEN END OF UV-MS-41 AND END OF EXISTING PIPING ENCLOSURE AT LOCATION SHOWN. THE SIZE OF THE HORIZONTAL PIPING ENCLOSURE UNIT SHALL MATCH THE SIZE OF THE EXISTING ENCLOSURE INSTALLED ADJACENT TO THE NEW UNIT.
23. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-4 PNEUMATIC MOTORIZED OUTSIDE AIR DAMPER ACTUATOR AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR . TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
24. DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 1.5 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. PROVIDE SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM. PROVIDE CONTROL WIRING BETWEEN CONTROL VALVE AND REPLACEMENT SENSOR AS REQUIRED.
25. DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENCLOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 2.0 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. DISCONNECT AND REMOVE EXISTING SPACE TEMPERATURE SENSOR INCLUDING ASSOCIATED PNEUMATIC TUBING AND PROVIDE REPLACEMENT SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM. PROVIDE CONTROL WIRING BETWEEN CONTROL VALVE AND REPLACEMENT SENSOR AS REQUIRED.
26. DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENCLOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 2.4 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. DISCONNECT AND REMOVE EXISTING SPACE TEMPERATURE SENSOR INCLUDING ASSOCIATED PNEUMATIC TUBING AND PROVIDE REPLACEMENT SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM. PROVIDE CONTROL WIRING BETWEEN CONTROL VALVE AND REPLACEMENT SENSOR AS REQUIRED.

KEYED NOTES (CONTINUED):

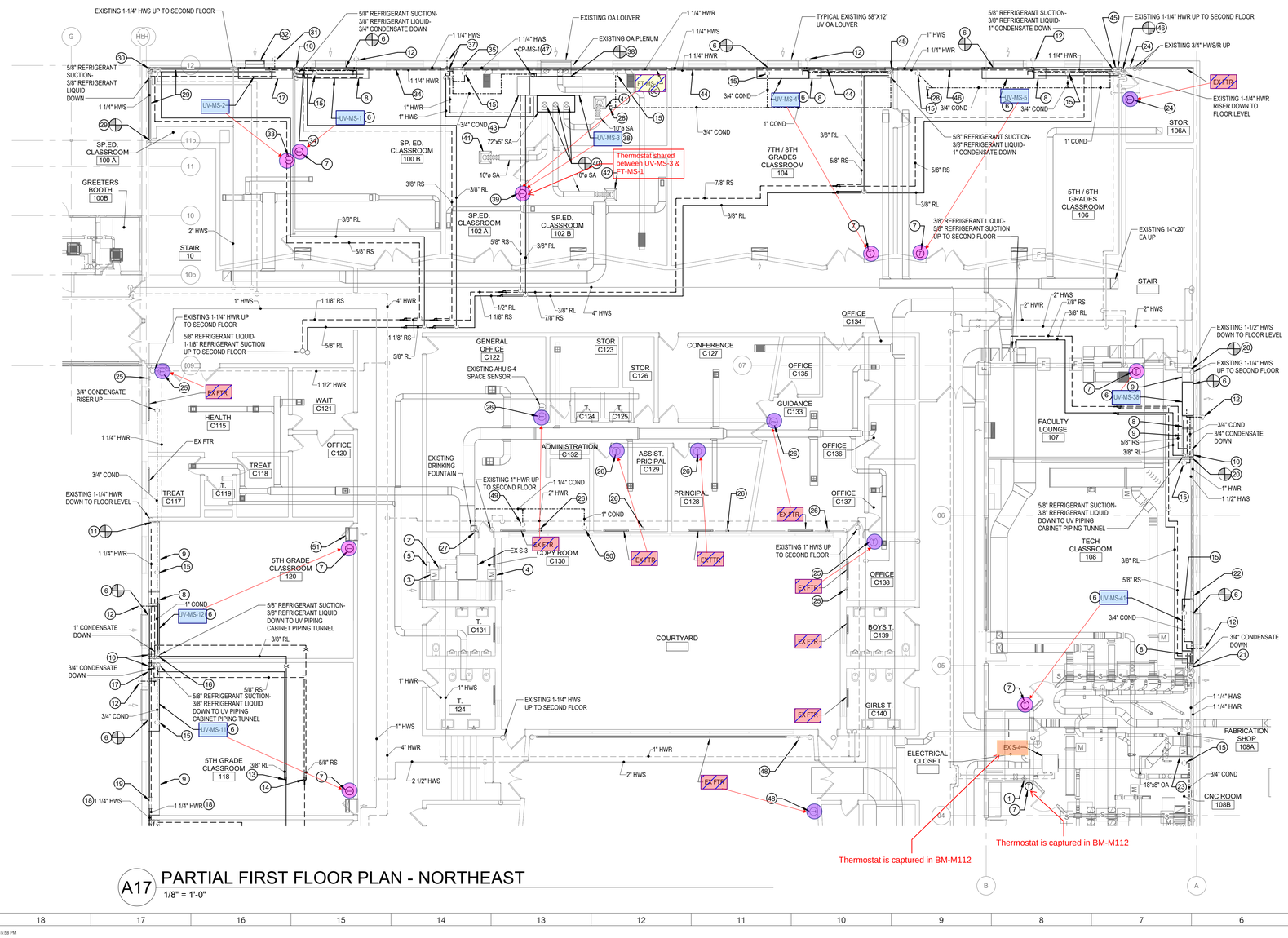
27. ROUTE 1-1/4" CONDENSATE DRAIN PIPING DOWN THROUGH CEILING ALONG WALL AND TERMINATE ABOVE FLOOD RIM OF EXISTING DRINKING FOUNTAIN AT LOCATION SHOWN WITH MITER CUT OPEN-ENDED OUTLET.
28. PROVIDE CLEANOUT PLUG AT LOCATION SHOWN WITHIN CONDENSATE DRAIN PIPING.
29. CONNECT TO EXISTING 1-1/4" HWS RISER AT BASE OF RISER AND ROUTE 1-1/4" HWS PIPING MAIN THROUGH 24" HIGH x 5" DEEP HORIZONTAL PIPING ENCLOSURE. PROVIDE PIPE ENCLOSURE UNITS AROUND PERIMETER OF SPACE AS SHOWN. TERMINATE HORIZONTAL ENCLOSURE AT SIDE OF UV-MS-2. MOUNT TOP OF ENCLOSURE EVEN WITH TOP OF UNIT VENTILATOR UV-MS-2. PROVIDE A 1" HWS BRANCH TO UV-MS-2 AND A 1" HWR CONNECTION TO UV-MS-2 HEATING COIL. CONTINUE 1-1/4" HWS AND 1" HWR THROUGH UV PIPING TUNNEL TO CLASSROOM 100B.
30. PROVIDE 8" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION PIPING DROPS. ROUTE VERTICAL SUCTION/LIQUID PIPING DOWN THROUGH TOP OF HORIZONTAL PIPING ENCLOSURE UNIT AND CONNECT TO UV-MS-2 DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF HORIZONTAL PIPING ENCLOSURE UNIT TO UNDERSIDE OF SUSPENDED CEILING SYSTEM.
31. ROUTE 3/4" CONDENSATE DRAIN PIPING FROM UV DRAIN PAN OUTLET OUT THROUGH EXTERIOR WALL. TERMINATE PIPING WITH MITER CUT ELBOW FACING GRADE LEVEL AND PITCH PIPING TOWARDS THE EXTERIOR WALL PENETRATION AS REQUIRED.
32. PROVIDE 36" WIDE x 10-3/8" HIGH OUTSIDE AIR LOUVER FURNISHED WITH UNIT VENTILATOR AT LOCATION SHOWN. PROVIDE A 36"x10" OUTSIDE AIR DUCT SLEEVE FROM THE INTERIOR OF THE LOUVER CONNECTION TO THE REAR OF UV-MS-2. PROVIDE AN OPENING IN THE REAR OF THE UV OUTSIDE AIR DUCT PLENUM THE SIZE OF THE DUCT SLEEVE.
33. PROVIDE WALL MOUNTED SPACE TEMPERATURE SENSOR AT LOCATION SHOWN SERVING UV-MS-2. PROVIDE CONTROL WIRING FROM NEAREST DDC CONTROLLER TO SENSOR AND UV DDC CONTROLLER AS REQUIRED.
34. PROVIDE 24" HIGH x 5" DEEP HORIZONTAL PIPING ENCLOSURE ON EITHER SIDE OF UV-MS-1. MOUNT TOP OF ENCLOSURE EVEN WITH TOP OF UNIT VENTILATOR UV-MS-1. PROVIDE 1" HWS/R BRANCHES TO UV-MS-1 HEATING COIL AND ROUTE 1-1/4" HWS/R MAINS THROUGH UV PIPING TUNNEL TO CLASSROOM 102A.
35. PROVIDE 1-1/4" EXPANSION COMPENSATORS ON THE HWS/HWR PIPING MAINS ROUTED WITHIN THE FIN TUBE ENCLOSURE SYSTEM AT LOCATION SHOWN. THE COMPENSATORS SHALL BE 13.812" LONG. PROVIDE ANCHORS ON EACH END OF BOTH THE HWS/R RUNS AND PROVIDE PIPE GUIDES WITHIN 14 PIPE DIAMETERS OF THE COMPENSATORS ON BOTH THE HWS AND HWR COMPENSATORS.
36. PROVIDE WALL-TO-WALL, 24" HIGH x 5-5/16" DEEP FIN TUBE ENCLOSURE WITHIN WITHIN CLASSROOM 102A. PROVIDE 20-FEET OF ACTIVE FIN TUBE FT-MS-1 WITHIN THE ENCLOSURE CENTERED IN THE CLASSROOM. PROVIDE 1" HWS/R BRANCH CONNECTIONS FROM THE 1-1/4" HWS/R MAINS TO THE ACTIVE FIN TUBE. ROUTE THE 1-1/4" HWS MAIN BELOW THE ACTIVE FIN TUBE AND THE 1-1/4" HWR MAIN ABOVE THE ACTIVE FIN TUBE AS REQUIRED. BALANCE FLOW THROUGH 20-FEET OF ACTIVE FIN TUBE TO 2.3 GPM.
37. PROVIDE A 16" DEEP x 8" WIDE VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM 102A TO CONCEAL 3/4" CONDENSATE DRAIN RISER AND 1" HWS/R RISERS. ROUTE 3/4" CONDENSATE FROM UV-MS-3 DRAIN PAN. COMBINE WITH 3/4" DRAIN RISER ROUTED UP THROUGH FLOOR TO A 1" CONDENSATE MAIN. DROP 1" CONDENSATE RISER DOWN THROUGH VERTICAL ENCLOSURE, THEN ROUTE 1" CONDENSATE DRAIN PIPING FROM UV DRAIN PAN OUTLET OUT THROUGH EXTERIOR WALL. TERMINATE PIPING WITH MITER CUT ELBOW FACING GRADE LEVEL AND PITCH PIPING TOWARDS THE EXTERIOR WALL PENETRATION AS REQUIRED. CONNECT TO 1-1/4" HWS/R MAINS WITHIN 18" HIGH HORIZONTAL PIPE ENCLOSURE WITHIN CLASSROOM 102A AND PROVIDE 1" HWS/R BRANCHES TO HORIZONTAL, SEMI-RECESSED UV-MS-3 HEATING COIL. ROUTE HWS/R RISERS TO ABOVE CEILING WITHIN VERTICAL PIPE ENCLOSURE. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF HORIZONTAL PIPING ENCLOSURE UNIT TO UNDERSIDE OF SUSPENDED CEILING SYSTEM.

GENERAL NOTES:

1. REFRIGERANT PIPING NOTE: 90 DEGREE ELBOWS SHALL BE KEPT A MINIMUM OF 20" FROM CEILING UV DX COILS AND 20" FROM BRANCH CONNECTOR 'Y' JOINTS. IN ADDITION, BRANCH CONNECTOR 'Y' JOINTS SHALL BE A MINIMUM OF 40" FROM ANOTHER BRANCH 'Y' CONNECTOR JOINT.
2. REFRIGERANT PIPING NOTE: THE HEAT PUMP SYSTEM MANUFACTURER SHALL INSPECT ALL FIELD INSTALLED REFRIGERANT PIPING PRIOR TO INSULATION INSTALLATION.
3. THE EXISTING SUSPENDED CEILING SYSTEMS LOCATED WITHIN THE SCOPE OF WORK AREA OUTSIDE OF AREAS BEING RENOVATED BY THE GENERAL CONTRACTOR SHALL BE DISCONNECTED AND REMOVED TO ALLOW FOR THE INSTALLATION WORK AND REINSTALLED FOLLOWING COMPLETION OF THE WORK BY THE MECHANICAL CONTRACTOR. THE SUSPENDED CEILING GRID SYSTEMS SHALL BE REMOVED AND MODIFIED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF WORK. THE CEILING TILES SHALL BE REMOVED AS REQUIRED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF THE INSTALLATION WORK. ANY CEILING TILES DAMAGED DURING THE INSTALLATION WORK SHALL BE REPLACED BY THE MECHANICAL CONTRACTOR TO MATCH THE EXISTING CEILING TILES.
4. ALL CUTTING, PATCHING, AND FIREPROOFING ASSOCIATED WITH THE INSTALLATION WORK SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR. PATCHED AREAS SHALL MATCH EXISTING CONDITIONS. ALL REFRIGERANT PIPING AND CONDENSATE PIPING PENETRATIONS THROUGH CORRIDOR WALLS SHALL BE FIREPROOFED PER SPECIFICATION SECTION 078400.
5. ROUTE REFRIGERANT SUCTION AND LIQUID PIPING FROM THE UNIT VENTILATOR DX COIL CONNECTIONS TO THE HEAT PUMP UNITS. SIZE PIPING AND PROVIDE BRANCH CONNECTOR 'Y' JOINTS PER THE DRAWING. CONFIRM PIPING SIZES AND BRANCH CONNECTOR 'Y' JOINT LOCATIONS REQUIRED WITH HEAT PUMP SYSTEM MANUFACTURER.
6. THE SMALLEST VOLUME ROOM THAT THE REFRIGERANT PIPING SYSTEMS ROUTE THROUGH FOR EACH OF THE HEAT PUMP SYSTEMS IS BELOW THE ASHRAE STANDARD 15 REFRIGERANT CONCENTRATION LIMIT OF 26 POUNDS PER 1,000 CUBIC FEET OF ROOM VOLUME FOR OCCUPIED SPACES.
7. PROVIDE FIRESTOPPING PER SPECIFICATION SECTION 078400 AT ALL PIPING PENETRATIONS THROUGH CORRIDOR WALLS AND STORAGE ROOM WALLS.
8. THE UV UTILITY COMPARTMENT SHALL INCLUDE A REMOVABLE FRONT PANEL, STANDARD #14-20 HEX FASTENER, STEEL TOP AND BACK WALL F-CHANNEL.
9. ROUTE REFRIGERANT SUCTION-LIQUID PIPING WITHIN UNIT VENTILATOR PIPING TUNNELS AND UNIT VENTILATOR SHELVING SYSTEM TUNNELS TO DX COOLING COIL CONNECTIONS AND UV EXPANSION VALVE KITS PER THE MANUFACTURER'S RECOMMENDATIONS.

KEYED NOTES (CONTINUED):

39. PROVIDE SEMI-RECESSED HORIZONTAL UNIT VENTILATOR UV-MS-3 AT LOCATION SHOWN. PROVIDE UV WITH BOTTOM RETURN AIR INLET STAMPED REGISTER, REAR DUCTED OUTSIDE AIR INLET AND FRONT DISCHARGE DUCTED SA PLENUM TO REAR OUTSIDE AIR INLET ON UV AS REQUIRED.
40. PROVIDE WALL MOUNTED SPACE TEMPERATURE SENSOR AT LOCATION SHOWN SERVING UV-MS-3 AND FIN TUBE RADIATION FT-MS-1 CONTROL VALVE. PROVIDE CONTROL WIRING FROM NEAREST DDC CONTROLLER TO SENSOR AND UV DDC CONTROLLER AS REQUIRED.
40. PROVIDE 72"x5" SA PLENUM CONNECTED TO FRONT DISCHARGE OUTLET ON UV-MS-3. INSULATE THE SA PLENUM WITH 2" THICK FLEXIBLE GLASS FIBER DUCT WRAP INSULATION. CONNECT THE EXISTING, THREE 10" ROUND SA BRANCHES TO THE TOP OF THE 72"x5" SA PLENUM AS REQUIRED. INSTALL UV-MS-3 SO THAT THE THE BOTTOM OF THE SA PLENUM, WITH INSULATION, IS ABOVE THE TOP OF THE EXISTING SUSPENDED CEILING SYSTEM.
41. REBALANCE SUPPLY AIRFLOW THROUGH EXISTING LAY-IN SA DIFFUSERS UTILIZING EXISTING IN-DUCT VOLUME DAMPERS ON EACH SA BRANCH TO 430 CFM WITH UV-MS-3 OPERATING AT DESIGN SUPPLY AIRFLOW.
42. REBALANCE SUPPLY AIRFLOW THROUGH EXISTING LAY-IN SA DIFFUSER UTILIZING EXISTING IN-DUCT VOLUME DAMPERS ON EACH SA BRANCH TO 480 CFM WITH UV-MS-3 OPERATING AT DESIGN SUPPLY AIRFLOW.
43. PROVIDE EXTERNALLY MOUNTED WIRED NAVIGATION REMOTE CONTROLLER, VARIABLE REFRIGERANT VOLUME CONTROL BOX AND VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT SERVING HORIZONTAL UNIT VENTILATOR UV-MS-3 AT LOCATION SHOWN ABOVE EXISTING SUSPENDED CEILING SYSTEM. ROUTE LIQUID/SUCTION REFRIGERANT PIPING TO EXPANSION VALVE KIT AND UV DX COIL AS REQUIRED.
44. PROVIDE 24" HIGH x 5" DEEP HORIZONTAL PIPING ENCLOSURE ON EITHER SIDE OF UV-MS-4. MOUNT TOP OF ENCLOSURE EVEN WITH TOP OF UNIT VENTILATOR UV-MS-4. PROVIDE 1" HWS/R BRANCHES TO UV-MS-4 HEATING COIL AND ROUTE HWS/R MAINS THROUGH UV PIPING TUNNEL TO CLASSROOM 106.
45. PROVIDE 16" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION PIPING DROPS AND THE 3/4" CONDENSATE RISER DROP FROM THE TWO SECOND FLOOR CONDENSATE RISERS DROPS. ROUTE VERTICAL SUCTION/LIQUID PIPING DOWN THROUGH TOP OF HORIZONTAL PIPING ENCLOSURE AND CONNECT TO UV DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. ROUTE CONDENSATE DRAIN PIPING FROM VERTICAL DROP THROUGH HORIZONTAL PIPING ENCLOSURE AND CONNECT TO HORIZONTAL CONDENSATE DRAIN PIPING FROM FIRST FLOOR UV DRAIN PAN OUTLET PRIOR TO EXITING THROUGH EXTERIOR WALL. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF HORIZONTAL PIPING ENCLOSURE UNIT TO UNDERSIDE OF EXISTING SUSPENDED CEILING SYSTEM.
46. PROVIDE 24" HIGH x 5" DEEP HORIZONTAL PIPING ENCLOSURE ON EITHER SIDE OF UV-MS-5. MOUNT TOP OF ENCLOSURE EVEN WITH TOP OF UNIT VENTILATOR UV-MS-5. PROVIDE 1" HWS/R BRANCHES TO UV-MS-5 HEATING COIL AND ROUTE 1-1/4" HWR MAIN THROUGH UV PIPING TUNNEL PAST UV-MS-5, THROUGH THE HORIZONTAL PIPING ENCLOSURE AND CONNECT TO THE EXISTING 1-1/4" HWR RISER AT THE CONNECTION POINT SHOWN AT BOTTOM RISER.
47. PROVIDE MINI-CONDENSATE REMOVAL PUMP AT LOCATION SHOWN ATTACHED TO UV-MS-3. ROUTE CONDENSATE FROM HORIZONTAL UV DRAIN PAN OUTLET TO INLET OF PUMP, THEN ROUTE CONDENSATE DRAIN PIPING FROM OUTLET OF PUMP TO 3/4" CONDENSATE DRAIN PIPING LINE AS SHOWN.
48. DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 8.7 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. DISCONNECT AND REMOVE EXISTING SPACE TEMPERATURE SENSOR INCLUDING ASSOCIATED PNEUMATIC TUBING AND PROVIDE REPLACEMENT SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM. PROVIDE CONTROL WIRING BETWEEN CONTROL VALVE AND REPLACEMENT SENSOR AS REQUIRED.
49. 3/4" CONDENSATE DRAIN RISER UP THROUGH FLOOR. ROUTE CONDENSATE PIPING TO DRINKING FOUNTAIN TERMINATION OUTLET AS OUTLINED IN KEYED NOTE 27.
50. PROVIDE 1" CONDENSATE DRAIN RISER UP THROUGH FLOOR AT LOCATION SHOWN.
51. LOCATION OF TYPICAL CEILING MOUNTED RELIEF AIR REGISTER DUCTED THROUGH CORRIDOR WALL TO CORRIDOR CEILING PLENUM. TERMINATED OPEN-ENDED ABOVE CEILING PLENUM FOR RELIEF AIR OF CLASSROOMS.



A17 PARTIAL FIRST FLOOR PLAN - NORTHEAST
1/8" = 1'-0"

SIEMENS WALL SENSOR LOCATION DRAWING

LEGEND:

- UV-MS-XX — UNIT VENTILATOR
- FT-MS-1 — NEW FIN TUBE RADIATOR
- T — UV/NEW FTR-WALL SENSOR
- EX-FTR — EXISTING FIN TUBE RADIATOR
- T — EX FTR-WALL SENSOR
- EX S-X — EXISTING AIR HANDLING UNIT
- T — EX AHU-WALL SENSOR

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KEYED NOTES:

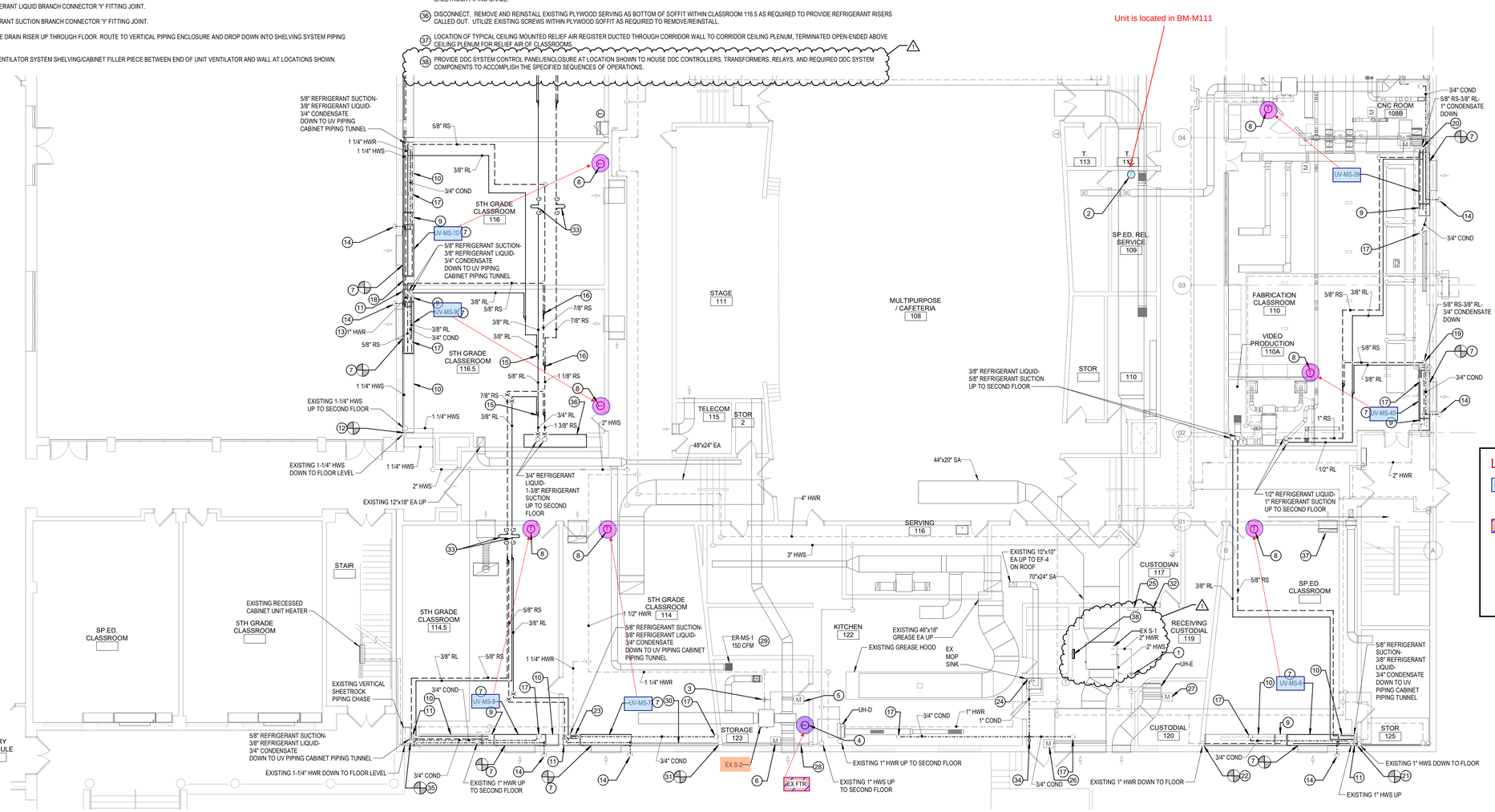
1. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-1 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 39 GPM. DISCONNECT AND REMOVE ALL S-1 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-1 INTO THE EXISTING SIEMENS DDC SYSTEM.
2. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-4 PNEUMATIC THERMOSTAT. CAP PNEUMATIC TUBING ABOVE CEILING SYSTEM. PROVIDE DDC SYSTEM SPACE SENSOR AT LOCATION OF REMOVED PNEUMATIC THERMOSTAT CONNECTED TO S-4 OPERATION.
3. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-2 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 39 GPM. DISCONNECT AND REMOVE ALL S-2 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-2 INTO THE EXISTING SIEMENS DDC SYSTEM.
4. PROVIDE DDC SYSTEM SPACE SENSOR AT LOCATION OF REMOVED PNEUMATIC THERMOSTAT CONNECTED TO EXISTING AHU S-2 OPERATION IN CONJUNCTION WITH REPLACEMENT 2-WAY CONTROL VALVE OUTLINED IN KEYED NOTE 28.
5. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-2 PNEUMATIC MOTORIZED RETURN AIR DAMPER AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER. TIE CONTROL OF DAMPER INTO DDC SYSTEM. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
6. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-2 PNEUMATIC MOTORIZED OUTSIDE AIR DAMPER AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER. TIE CONTROL OF DAMPER INTO DDC SYSTEM. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
7. PROVIDE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. PROVIDE UNIT VENTILATOR WITH FULLY CLOSED ADAPTER-BACK WITH REAR OUTDOOR AIR OPENING TO BE CUT IN FIELD TO MATCH EXISTING WALL OUTDOOR AIR OPENING SIZE. CONNECT TO EXISTING OA DUCT SLEEVE AS REQUIRED AND EXTEND INTO REAR OUTDOOR AIR OPENING ON THE UNIT VENTILATOR. CONNECT TO HWS/HWR PIPING ROUTED WITHIN UNIT VENTILATOR SHELVING SYSTEM PIPING TUNNEL AND PROVIDE 1" HWS/HWR BRANCH CONNECTIONS TO UV HEATING COIL CONNECTIONS AS REQUIRED.
8. PROVIDE REPLACEMENT TEMPERATURE SENSOR AT LOCATION SHOWN AND UTILIZE FOR SPACE TEMPERATURE CONTROL OF UNIT VENTILATOR LOCATED WITHIN SAME SPACE AS SENSOR AS REQUIRED. PROVIDE CONTROL WIRING BETWEEN SENSOR AND UNIT VENTILATOR DDC CONTROLLER AS REQUIRED.
9. PROVIDE 24" WIDE x 21-7/8" DEEP UTILITY COMPARTMENT AT LOCATION SHOWN FOR HOUSING DDC SYSTEM CONTROLLER AND VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS. THE UTILITY COMPARTMENT SHALL HOUSE THE FOLLOWING VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS: 1. WIRED NAVIGATION REMOTE CONTROLLER 2. VARIABLE REFRIGERANT VOLUME CONTROL BOX AND 3. VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT.
10. AT LOCATIONS CALLED OUT, PROVIDE 21-7/8" DEEP PERIMETER SHELVING CABINETS. THE CABINETS SHALL BE 30" HIGH THAT INCLUDE A BASE CABINET, ONE SHELF, A STEEL TOP WITH LOUVER OUTLET, A FRONT SKIRT WITH LOUVER INLET AND A BACK WALL ANGLE. THE SHELVING CABINETS SHALL INCLUDE A 5-7/8" DEEP PIPE SPACING CAVITY AT THE REAR OF THE CABINET SYSTEM. THE SHELF SHALL BE 10-1/2" DEEP AND THE SYSTEM SHALL INCLUDE A 3" HIGH OPENING AT THE BOTTOM (COVERED BY THE LOUVERED INLET FRONT SKIRT) THAT ALLOWS AIR MOVEMENT THROUGH THE BOTTOM FRONT OF THE SYSTEM AND OUT THE TOP-REAR OF THE SYSTEM. PROVIDE PERIMETER SHELVING CABINET SYSTEM FILLER SECTIONS WHERE REQUIRED TO TERMINATE SHELVING SYSTEMS AT END POINTS SHOWN. THE FILLER SECTION SHALL BE FIELD CUT TO FIT BETWEEN THE END PANEL AND THE LAST SHELVING CABINET SYSTEM. THE FILLER SECTION SHALL INCLUDE A FLOOR ANGLE, FRONT PANEL, STEEL TOP, BACK WALL ANGLE. THE SYSTEM SHALL BE MANUFACTURED BY HVAC CUSTOM ENCLOSURE CO., LLC DRAWING NUMBER SC164-0028 OR EQUAL.
11. PROVIDE 12" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION PIPING DROPS AND THE 3/4" CONDENSATE RISER DROP FROM THE SECOND FLOOR UV DRAIN PAN. ROUTE VERTICAL SUCTION/LIQUID PIPING DOWN THROUGH TOP OF UNIT VENTILATOR SHELVING CABINET TOP AND CONNECT TO UV DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. ROUTE CONDENSATE DRAIN PIPING FROM TO PIPING TUNNEL AND CONNECT TO HORIZONTAL CONDENSATE DRAIN PIPING FROM FIRST FLOOR UV DRAIN PAN OUTLET PRIOR TO EXITING THROUGH EXTERIOR WALL. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF SHELVING CABINET SYSTEM TO UNDERSIDE OF SUSPENDED CEILING SYSTEM.
12. CONNECT TO EXISTING 1-1/4" HWS RISER AT FLOOR LEVEL AND ROUTE 1-1/4" HWS PIPING MAIN WITHIN SHELVING CABINET PIPING TUNNEL AS SHOWN.
13. ROUTE 1" HWR FROM UV-MS-9 HEATING COIL WITHIN SHELVING CABINET PIPING TUNNEL TO CLASSROOM 116 PIPING TUNNEL.
14. ROUTE 1-1/4" COMBINED CONDENSATE DRAIN PIPING FROM FIRST FLOOR UV DRAIN PAN OUTLET AND CONDDENSATE FROM SECOND FLOOR UV DRAIN PAN OUT THROUGH EXTERIOR WALL. TERMINATE PIPING WITH MITER CUT ELBOW FACING GRADE LEVEL AND PITCH PIPING TOWARDS THE EXTERIOR WALL PENETRATION AS REQUIRED.
15. TYPICAL REFRIGERANT LIQUID BRANCH CONNECTOR 'Y' FITTING JOINT.
16. TYPICAL REFRIGERANT SUCTION BRANCH CONNECTOR 'Y' FITTING JOINT.
17. 3/4" CONDENSATE DRAIN RISER UP THROUGH FLOOR. ROUTE TO VERTICAL PIPING ENCLOSURE AND DROP DOWN INTO SHELVING SYSTEM PIPING TUNNEL.
18. PROVIDE UNIT VENTILATOR SYSTEM SHELVING/CABINET FILLER PIECE BETWEEN END OF UNIT VENTILATOR AND WALL AT LOCATIONS SHOWN.

KEYED NOTES (CONTINUED):

19. ROUTE 3/4" CONDENSATE DRAIN FROM RISER UP THROUGH FLOOR AND THE 3/8" LIQUID-5/8" SUCTION PIPING DROPS DOWN THROUGH VERTICAL CHASE TO WITHIN UNIT VENTILATOR PIPING TUNNEL. ROUTE SUCTION/LIQUID PIPING TO EXPANSION VALVE KIT WITHIN UTILITY COMPARTMENT AND UV DX COIL AS REQUIRED. ROUTE CONDENSATE DRAIN PIPING TO UV-MS-40 CONDENSATE DRAIN LINE AS REQUIRED.
20. COMBINE TWO 3/4" CONDENSATE DRAINS FROM TWO RISER LOCATIONS UP THROUGH FLOOR TO ONE 1" CONDENSATE RISER DROP, AND THE 3/8" LIQUID-5/8" SUCTION PIPING DROPS DOWN THROUGH VERTICAL CHASE TO WITHIN UNIT VENTILATOR PIPING TUNNEL. ROUTE SUCTION/LIQUID PIPING TO EXPANSION VALVE KIT WITHIN UTILITY COMPARTMENT AND UV DX COIL AS REQUIRED. ROUTE 1" CONDENSATE DRAIN PIPING TO UV-MS-39 CONDENSATE DRAIN LINE AS REQUIRED.
21. CONNECT TO EXISTING 1" HWS DROP AT BASE OF RISER AND ROUTE 1" HWS TO UV-MS-6 HEATING COIL.
22. CONNECT TO EXISTING 1" HWR DROP AT BASE OF RISER AND ROUTE 1" HWR TO UV-MS-6 HEATING COIL.
23. PROVIDE 24" WIDE x 21-7/8" DEEP UTILITY COMPARTMENT AT LOCATION SHOWN FOR HOUSING DDC SYSTEM CONTROLLER AND VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS. THE UTILITY COMPARTMENT SHALL HOUSE THE FOLLOWING VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS: 1. WIRED NAVIGATION REMOTE CONTROLLER 2. VARIABLE REFRIGERANT VOLUME CONTROL BOX AND 3. VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT. PROVIDE UNIT VENTILATOR SYSTEM SHELVING/CABINET FILLER PIECE BETWEEN END OF UTILITY COMPARTMENT AND WALL TO FILL GAP BETWEEN UTILITY COMPARTMENT END AND WALL.
24. ROUTE 1" CONDENSATE DRAIN PIPING TO 6" ABOVE EXISTING SLOP SINK FLOOD RIM. TERMINATE OPEN-ENDED WITH MITER CUT OUTLET.
25. LOCATION OF EXISTING AIR HANDLING UNIT S-1 DDC SYSTEM CONTROLLER. DISCONNECT AND REMOVE DAMPER ELECTRIC-TO-PNEUMATIC TRANSDUCER AND 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSDUCER INCLUDING ASSOCIATED PNEUMATIC TUBING AND PNEUMATIC DIAL OPERATORS. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. TIE ELECTRONIC CONTROL VALVE AND ELECTRONIC MOTORIZED DAMPER OUTLINED IN KEYED NOTES 1 AND 26 INTO THE S-1 DDC CONTROLLER AS REQUIRED.
26. DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-1 PNEUMATIC MOTORIZED OUTSIDE AIR DAMPER AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER. TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
27. DISCONNECT AND REMOVE EXISTING HYDRONIC UNIT HEATER UH-E DUAL PNEUMATIC FACE AND BAYPASS DAMPER ACTUATORS AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATORS. TIE CONTROL OF DAMPERS INTO EXISTING DDC SYSTEM. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
28. DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 1.5 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. PROVIDE SPACE TEMPERATURE SENSOR AT LOCATION SHOWN OUTLINED IN KEYED NOTE 4 AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM.
29. PROVIDE EXHAUST REGISTER ER-MS-1 AT LOCATION SHOWN AT LOCATION OF MISSING REGISTER. CONNECT EXISTING 12"x12" EA DROP TO REGISTER AS REQUIRED. BALANCE AIRFLOW THROUGH REGISTER TO 150 CFM WITH EXISTING EXHAUST FAN EF-11 OPERATING.
30. PROVIDE 24" HIGH x 5" DEEP HORIZONTAL PIPING ENCLOSURE BETWEEN END OF UV-MS-7 AND WALL BETWEEN STORAGE 123 AND CLASSROOM 114. ROUTE HWS/R BRANCH PIPING ROUTED FROM STORAGE 123 INTO THE PIPING ENCLOSURE.
31. CONNECT TO EXISTING HWS/R ROUTED THROUGH STORAGE ROOM 123 WALL INTO CLASSROOM 114. ROUTE HWS/R THROUGH HORIZONTAL PIPE ENCLOSURE, PROVIDE 1" HWS/R BRANCHES TO UV-MS-7 HEATING COIL, THEN ROUTE 1" HWS TO UV-MS-8 WITHIN CLASSROOM 114.5 THROUGH THE UV PIPING TUNNELS, AND ROUTE 1-1/4" HWS THROUGH THE UV PIPING TUNNELS TO THE SECOND CONNECTION POINT SHOWN UPSTREAM OF THE HWR PENETRATION THROUGH THE EXISTING VERTICAL CHASE. PROVIDE A 1" HWR CONNECTION TO THE UV-MS-8 HEATING COIL AS REQUIRED.
32. PROVIDE DAIKIN MODEL DCM014A51 BACNET INTERFACE AT LOCATION SHOWN CAPABLE OF INTEGRATION WITH THE BUILDING'S EXISTING DIRECT DIGITAL CONTROL (DDC) SYSTEM. THE DDC SHALL PROVIDE A LOW VOLTAGE CONNECTION FROM THE NEAREST DDC CONTROL PANEL TO THE BACNET INTERFACE AS REQUIRED. THE BACNET INTERFACE DEVICE SHALL ALLOW THE DDC SYSTEM TO MONITOR AND CONTROL THE VARIABLE REFRIGERANT VOLUME INDOOR AND OUTDOOR UNITS INSTALLED. TWISTED PAIR COMMUNICATION WIRING SHALL BE PROVIDED FROM EACH ROOFTOP HEAT PUMP UNIT TO THE BACNET INTERFACE DEVICE, AND TWISTED PAIR COMMUNICATION WIRING SHALL BE PROVIDED FROM EACH HEAT PUMP UNIT TO EACH CONTROLLER KIT LOCATED WITHIN THE UTILITY COMPARTMENT OF EACH NEW UNIT VENTILATOR.
33. PROVIDE UL-207 LISTED EXPANSION LOOP FOR THE 3/8" REFRIGERANT LIQUID AND 7/8" REFRIGERANT SUCTION LINES AT LOCATION SHOWN. THE 3/8" LOOP SHALL BE 28-1/2" LONG x 17-1/2" HIGH. THE 7/8" LOOP SHALL BE 28-1/2" LONG x 19-3/4" WIDE. PROVIDE PIPE GUIDES ON EITHER SIDE OF LOOP AND PIPE ANCHORS AT END OF PIPING RUNS PER MANUFACTURER'S RECOMMENDATIONS. INSTALL REFRIGERANT MAINS AT DIFFERENT ELEVATIONS TO ALLOW LOOPS TO AVOID CONFLICT WITHIN CEILING PLENUM.
34. PROVIDE CLEANOUT PLUG AT LOCATION SHOWN WITHIN CONDENSATE DRAIN PIPING.
35. CONNECT TO EXISTING 3/4" HWS AND 1-1/4" HWR PIPING LINES AT CONNECTION POINT SHOWN UPSTREAM OF PIPING PENETRATIONS THROUGH EXISTING VERTICAL SHEETROCK PIPING CHASE.
36. DISCONNECT, REMOVE AND REINSTALL EXISTING PLYWOOD SERVING AS BOTTOM OF SOFFIT WITHIN CLASSROOM 116.5 AS REQUIRED TO PROVIDE REFRIGERANT RISERS CALLED OUT. UTILIZE EXISTING SCREWS WITHIN PLYWOOD SOFFIT AS REQUIRED TO REMOVE/REINSTALL.
37. LOCATION OF TYPICAL CEILING MOUNTED RELIEF AIR REGISTER DUCTED THROUGH CORRIDOR WALL TO CORRIDOR CEILING PLENUM, TERMINATED OPEN-ENDED ABOVE CEILING PLENUM FOR RELIEF AIR OF CLASSROOMS.
38. PROVIDE DDC SYSTEM CONTROL PANEL/ENCLOSURE AT LOCATION SHOWN TO HOUSE DDC CONTROLLERS, TRANSFORMERS, RELAYS, AND REQUIRED DDC SYSTEM COMPONENTS TO ACCOMPLISH THE SPECIFIED SEQUENCES OF OPERATIONS.

GENERAL NOTES:

1. REFRIGERANT PIPING NOTE: 90 DEGREE ELBOWS SHALL BE KEPT A MINIMUM OF 20" FROM BRANCH CONNECTOR 'Y' JOINTS. IN ADDITION, BRANCH CONNECTOR 'Y' JOINTS SHALL BE A MINIMUM OF 40" FROM ANOTHER BRANCH 'Y' CONNECTOR JOINT.
2. REFRIGERANT PIPING NOTE: THE HEAT PUMP SYSTEM MANUFACTURER SHALL INSPECT ALL FIELD INSTALLED REFRIGERANT PIPING PRIOR TO INSULATION INSTALLATION.
3. THE EXISTING SUSPENDED CEILING SYSTEMS LOCATED WITHIN THE SCOPE OF WORK AREA OUTSIDE OF AREAS BEING RENOVATED BY THE GENERAL CONTRACTOR SHALL BE DISCONNECTED AND REMOVED TO ALLOW FOR THE INSTALLATION WORK AND REINSTALLED FOLLOWING COMPLETION OF THE WORK BY THE MECHANICAL CONTRACTOR. THE SUSPENDED CEILING GRID SYSTEMS SHALL BE REMOVED AND MODIFIED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF WORK. THE CEILING TILES SHALL BE REMOVED AS REQUIRED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF THE INSTALLATION WORK. ANY CEILING TILES DAMAGED DURING THE INSTALLATION WORK SHALL BE REPLACED BY THE MECHANICAL CONTRACTOR TO MATCH THE EXISTING CEILING TILES.
4. ALL CUTTING, PATCHING, AND FIREPROOFING ASSOCIATED WITH THE INSTALLATION WORK SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR. PATCHED AREAS SHALL MATCH EXISTING CONDITIONS. ALL REFRIGERANT PIPING AND CONDENSATE PIPING PENETRATIONS THROUGH CORRIDOR WALLS SHALL BE FIREPROOFED PER SPECIFICATION SECTION 078400.
5. ROUTE REFRIGERANT SUCTION AND LIQUID PIPING FROM THE UNIT VENTILATOR DX COIL CONNECTIONS TO THE HEAT PUMP UNITS. SIZE PIPING AND PROVIDE BRANCH CONNECTOR 'Y' JOINTS PER THE DRAWING. CONFIRM PIPING SIZES AND BRANCH CONNECTOR 'Y' JOINT LOCATIONS REQUIRED WITH HEAT PUMP SYSTEM MANUFACTURER.
6. THE SMALLEST VOLUME ROOM THAT THE REFRIGERANT PIPING SYSTEMS ROUTE THROUGH FOR EACH OF THE HEAT PUMP SYSTEMS IS BELOW THE ASHRAE STANDARD 15 REFRIGERANT CONCENTRATION LIMIT OF 26 POUNDS PER 1,000 CUBIC FEET OF ROOM VOLUME FOR OCCUPIED SPACES.
7. PROVIDE FIRESTOPPING PER SPECIFICATION SECTION 078400 AT ALL PIPING PENETRATIONS THROUGH CORRIDOR WALLS AND STORAGE ROOM WALLS.
8. THE UV UTILITY COMPARTMENT SHALL INCLUDE A REMOVABLE FRONT PANEL, STANDARD #1/4-20 HEX FASTENER, STEEL TOP AND BACK WALL F-CHANNEL.
10. ROUTE REFRIGERANT SUCTION-LIQUID PIPING WITHIN UNIT VENTILATOR PIPING TUNNELS AND UNIT VENTILATOR SHELVING SYSTEM TUNNELS TO DX COOLING COIL CONNECTIONS AND UV EXPANSION VALVE KITS PER THE MANUFACTURER'S RECOMMENDATIONS.



SIEMENS WALL SENSOR LOCATION DRAWING

A18 PARTIAL FIRST FLOOR PLAN - SOUTHEAST
1/8" = 1'-0"

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REGISTRATION EXPIRES: 11/30/2023

NANUET

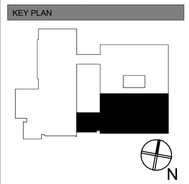
NUFSD BOND PROJECTS PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCHOOL)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

High School
103 Church St.
Nanuet, NY 10954

Barr Middle School
50 Blauvelt Rd #1
Nanuet, NY 10954

KEY PLAN



REVISIONS

No.	Description	Date
1	BID ADDENDUM #6	07/12/23

ISSUED: BID SET ISSUANCE
DATE: 06/06/2023
SCALE: 1/8" = 1'-0"
SHEET NAME: PARTIAL FIRST FLOOR PLAN - SOUTHEAST
SHEET NUMBER: BM-M112

ISSUE FOR BID SET

DRAWN BY: Author
Last Saved By: Author
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7/11/2023 3:23:17 PM

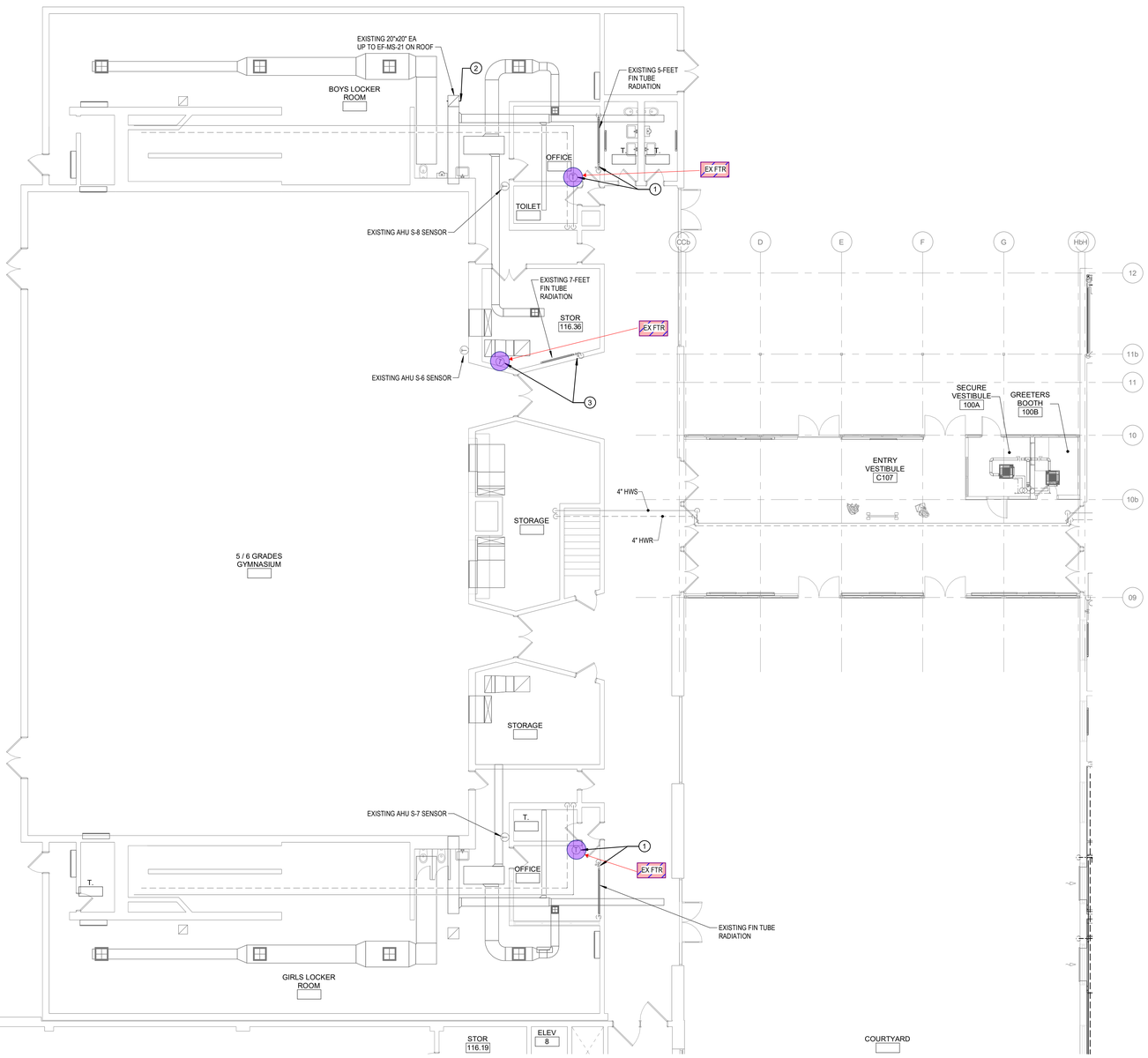
PROJECT NUMBER: 2111002.00

KEYED NOTES:

1. DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 0.5 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. DISCONNECT AND REMOVE EXISTING SPACE TEMPERATURE SENSOR INLCUDING ASSOCIATED PNEUMATIC TUBING AND PROVIDE REPLACEMENT SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM. PROVIDE CONTROL WIRING BETWEEN CONTROL VALVE AND REPLACEMENT SENSOR AS REQUIRED.

2. DISCONNECT AND REMOVE EXISTING GRAVITY ACTUATED DAMPER WITHIN EXISTING 20"x20" EA RISER AND PROVIDE A MOTORIZED DAMPER TO REPLACE THE GRAVITY ACTUATED DAMPER TIED TO THE OPERATION OF REPLACEMENT ROOFTOP EXHAUST FAN EF-MS-21. DISCONNECT, REMOVE AND REINSTALL EXISTING SUSPENDED CEILING SYSTEM AS REQUIRED TO REPLACE THE DAMPER.

3. DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 0.4 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. DISCONNECT AND REMOVE EXISTING SPACE TEMPERATURE SENSOR INLCUDING ASSOCIATED PNEUMATIC TUBING AND PROVIDE REPLACEMENT SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM. PROVIDE CONTROL WIRING BETWEEN CONTROL VALVE AND REPLACEMENT SENSOR AS REQUIRED.



LEGEND:

EX FTR — EXISTING FIN TUBE RADIATOR

T — EX FTR-WALL SENSOR

SIEMENS WALL SENSOR LOCATION DRAWING

A18 PARTIAL FIRST FLOOR PLAN - NORTHWEST

1/8" = 1'-0"

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REGISTRATION EXPIRES: 11/30/2023

NANUET

NUFSD BOND PROJECTS PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCHOOL)
☐ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

High School
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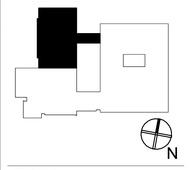
KEY PLAN



REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE

DATE: 06/06/2023

SCALE: 1/8" = 1'-0"

SHEET NAME:
PARTIAL FIRST FLOOR PLAN - NORTHWEST

SHEET NUMBER:

BM-M113

ISSUE FOR BID SET

DRAWN BY: Author
CHECKED BY: Checker
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6/5/2023 3:16:06 PM

KEYED NOTES:

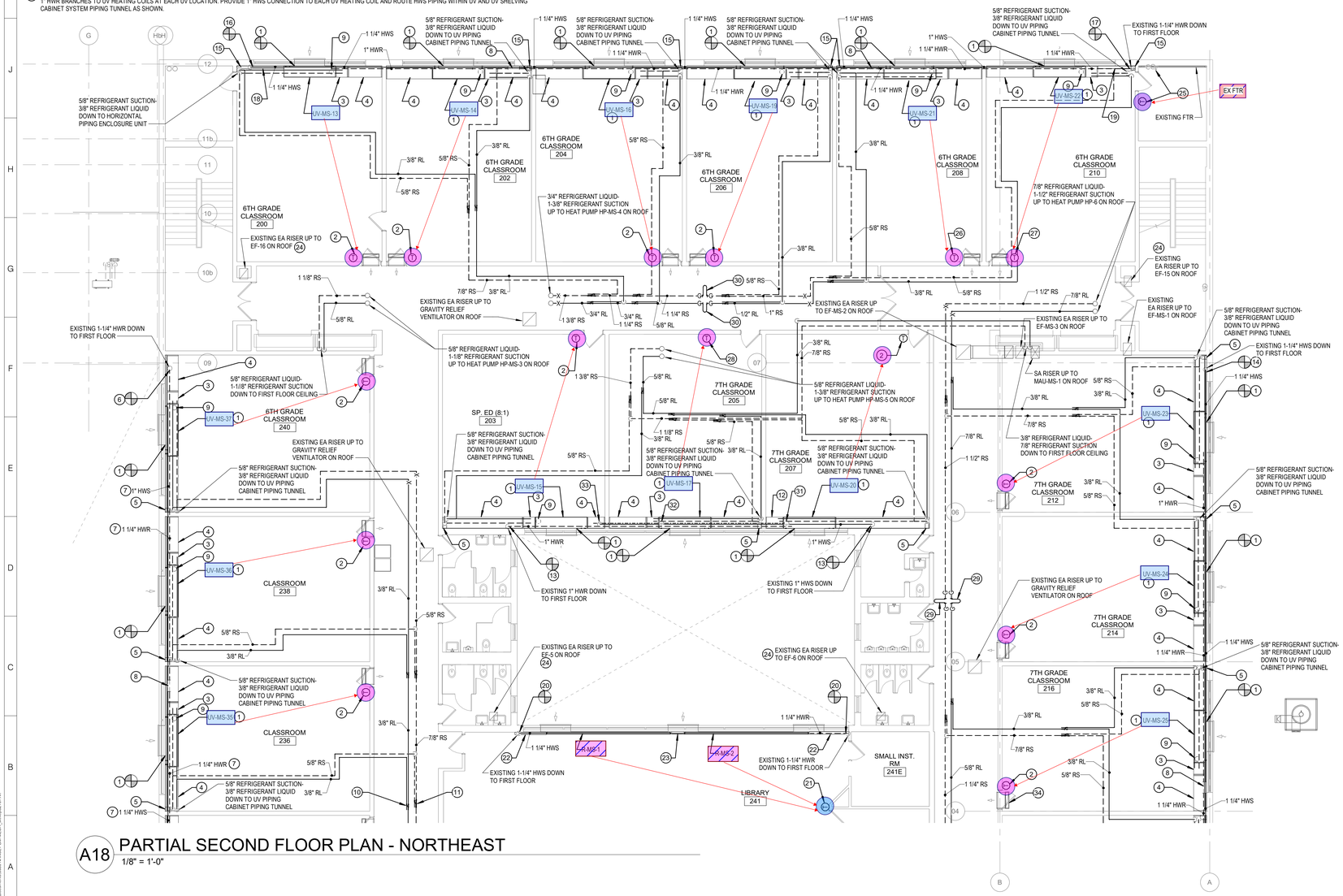
1. PROVIDE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. PROVIDE UNIT VENTILATOR WITH FULLY CLOSED ADAPTER-BACK WITH REAR OUTDOOR AIR OPENING TO BE CUT IN FIELD TO MATCH EXISTING WALL OUTDOOR AIR OPENING SIZE. CONNECT TO EXISTING OA DUCT SLEEVE AS REQUIRED AND EXTEND INTO REAR OUTDOOR AIR OPENING ON THE UNIT VENTILATOR. CONNECT TO HWS/HWR PIPING ROUTED WITHIN UNIT VENTILATOR SHELVING SYSTEM PIPING TUNNEL AND PROVIDE 1" HWS/HWR BRANCH CONNECTIONS TO UV HEATING COIL CONNECTIONS AS REQUIRED.
2. PROVIDE REPLACEMENT TEMPERATURE SENSOR AT LOCATION SHOWN AND UTILIZE FOR SPACE TEMPERATURE CONTROL OF UNIT VENTILATOR AS REQUIRED. PROVIDE CONTROL WIRING BETWEEN SENSOR AND UNIT VENTILATOR DDC CONTROLLER AS REQUIRED.
3. PROVIDE 24" WIDE x 21-7/8" DEEP UTILITY COMPARTMENT AT LOCATION SHOWN FOR HOUSING DDC SYSTEM CONTROLLER AND VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS. THE UTILITY COMPARTMENT SHALL HOUSE THE FOLLOWING VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS: 1. WIRED NAVIGATION REMOTE CONTROLLER 2. VARIABLE REFRIGERANT VOLUME CONTROL BOX AND 3. VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT.
4. AT LOCATIONS CALLED OUT, PROVIDE 21-7/8" DEEP PERIMETER SHELVING CABINETS. THE CABINETS SHALL BE 30" HIGH THAT INCLUDE A BASE CABINET, ONE SHELF, A STEEL TOP WITH LOUVER OUTLET, A FRONT SKIRT WITH LOUVER INLET AND A BACK WALL ANGLE. THE SHELVING CABINETS SHALL INCLUDE A 5-7/8" DEEP PIPE SPACING CAVITY AT THE REAR OF THE CABINET SYSTEM. THE SHELF SHALL BE 10-1/2" DEEP AND THE SYSTEM SHALL INCLUDE A 3" HIGH OPENING AT THE BOTTOM (COVERED BY THE LOUVERED INLET FRONT SKIRT) THAT ALLOWS AIR MOVEMENT THROUGH THE BOTTOM-FRONT OF THE SYSTEM AND OUT THE TOP-REAR OF THE SYSTEM. PROVIDE PERIMETER SHELVING CABINET SYSTEM FILLER SECTIONS WHERE REQUIRED TO TERMINATE SHELVING SYSTEMS AT END POINTS SHOWN. THE FILLER SECTION SHALL BE FIELD CUT TO FIT BETWEEN THE END PANEL AND THE LAST SHELVING CABINET SYSTEM. THE FILLER SECTION SHALL INCLUDE A FLOOR ANGLE, FRONT PANEL, STEEL TOP, BACK WALL ANGLE. THE SYSTEM SHALL BE MANUFACTURED BY HVAC CUSTOM ENCLOSURE CO.; LLC DRAWING NUMBER SC164-0028 OR EQUAL.
5. PROVIDE 12" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION PIPING DROPS. ROUTE VERTICAL PIPING DOWN THROUGH TOP OF UNIT VENTILATOR SHELVING CABINET TOP AND CONNECT TO UV DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF SHELVING CABINET SYSTEM TO UNDERSIDE OF SUSPENDED CEILING SYSTEM.
6. CONNECT TO EXISTING 1-1/4" HWR RISER ABOVE FLOOR PENETRATION LOCATION AND ROUTE 1-1/4" HWR PIPING MAIN WITHIN SHELVING CABINET PIPING TUNNEL AS SHOWN.
7. ROUTE HWS/HWR PIPING MAINS WITHIN PIPING TUNNELS AT REAR OF UNIT VENTILATORS AND UNIT VENTILATOR SHELVING CABINET SYSTEMS.
8. PROVIDE 1-1/4" EXPANSION COMPENSATORS ON THE HWS/HWR PIPING MAINS ROUTED WITHIN THE UNIT VENTILATOR PIPING TUNNEL AT LOCATION SHOWN. THE COMPENSATORS SHALL BE 13.812" LONG. PROVIDE ANCHORS ON EACH END OF BOTH THE HWS/R RUNS AND PROVIDE PIPE GUIDES WITHIN 14 PIPE DIAMETERS OF THE COMPENSATORS ON BOTH THE HWS AND HWR COMPENSATORS.
9. ROUTE 3/4" CONDENSATE DRAIN PIPING FROM UV DRAIN PAN OUTLET DOWN THROUGH FLOOR TO FIRST FLOOR CEILING PLENUM.
10. TYPICAL REFRIGERANT LIQUID BRANCH CONNECTOR 'Y' FITTING JOINT.
11. TYPICAL RERIGERANT SUCTION BRANCH CONNECTOR 'Y' FITTING JOINT.
12. PROVIDE 24" WIDE x 21-7/8" DEEP UTILITY COMPARTMENT AT LOCATION SHOWN FOR HOUSING DDC SYSTEM CONTROLLER AND VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS. THE UTILITY COMPARTMENT SHALL HOUSE THE FOLLOWING VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS: 1. WIRED NAVIGATION REMOTE CONTROLLER 2. VARIABLE REFRIGERANT VOLUME CONTROL BOX AND 3. VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT. PROVIDE UNIT VENTILATOR SYSTEM SHELVING/CABINET FILLER PIECE BETWEEN END OF UTILITY COMPARTMENT AND WALL TO FILL GAP BETWEEN UTILITY COMPARTMENT END AND WALL.
13. CONNECT TO EXISTING 1" HWS/HWR RISERS JUST ABOVE FLOOR PENETRATION AT CONNECTION POINT SHOWN AND ROUTE 1" HWS/R PIPING WITHIN UV AND SHELVING CABINET SYSTEM PIPING TUNNELS TO UV HEATING COILS AS REQUIRED.
14. CONNECT TO EXISTING 1-1/4" HWS RISER ABOVE FLOOR PENETRATION AND ROUTE 1-1/4" HWS PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNEL. PROVIDE 1" HWS BRANCHES TO UV HEATING COILS AT EACH UV LOCATION. PROVIDE 1" HWR CONNECTION TO UV-MS-23 HEATING COIL AND ROUTE HWR PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNEL AS SHOWN.
15. PROVIDE 8" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION PIPING DROPS. ROUTE VERTICAL PIPING DOWN THROUGH TOP OF UNIT VENTILATOR SHELVING CABINET TOP AND CONNECT TO UV DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF SHELVING CABINET SYSTEM TO UNDERSIDE OF SUSPENDED CEILING SYSTEM.
16. CONNECT TO EXISTING 1-1/4" HWS RISER ABOVE FLOOR PENETRATION AND ROUTE 1-1/4" HWS PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNEL. PROVIDE 1" HWS BRANCHES TO UV HEATING COILS AT EACH UV LOCATION. PROVIDE 1" HWR CONNECTION TO UV-MS-13 HEATING COIL AND ROUTE HWR PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNEL AS SHOWN.
17. CONNECT TO EXISTING 1-1/4" HWR RISER ABOVE FLOOR PENETRATION AND ROUTE 1-1/4" HWR PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNELS. PROVIDE 1" HWR BRANCHES TO UV HEATING COILS AT EACH UV LOCATION. PROVIDE 1" HWS CONNECTION TO EACH UV HEATING COIL AND ROUTE HWS PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNEL AS SHOWN.

KEYED NOTES (CONTINUED):

18. PROVIDE 18" HIGH x 5" DEEP HORIZONTAL PIPING ENCLOSURE UNIT BETWEEN WALL AND END OF UNIT VENTILATOR AT LOCATION SHOWN. ROUTE HWS PIPING AND SUCTION/LIQUID REFRIGERANT PIPING WITHIN HORIZONTAL ENCLOSURE TO UV PIPING TUNNEL.
19. PROVIDE 18" HIGH x 5" DEEP HORIZONTAL PIPING ENCLOSURE UNIT BETWEEN WALL AND END OF UV UTILITY COMPARTMENT AT LOCATION SHOWN. ROUTE HWR PIPING AND SUCTION/LIQUID REFRIGERANT PIPING WITHIN HORIZONTAL ENCLOSURE TO UV PIPING TUNNEL.
20. CONNECT TO EXISTING 1-1/4" HWS/R RISERS ABOVE FLOOR PENETRATIONS AT CONNECTION POINTS SHOWN AND ROUTE HWS/R TO RADIATOR UNITS AS REQUIRED.
21. PROVIDE SPACE TEMPERATURE SENSOR AT LOCATION SHOWN. PROVIDE CONTROL WIRING FROM SENSOR TO CONTROL VALVE SERVING RADIATOR UNITS R-MS-1/R-MS-2 AS REQUIRED.
22. PROVIDE HORIZONTAL AND VERTICAL TRIM COVERS AT LOCATIONS SHOWN TO CONCEAL THE HWS/HWR PIPNG SERVING R-MS-1/R-MS-2 FURNISHED BY THE RADIATOR MANUFACTURER, WITH HEIGHT AND DEPTH OF TRIM COVER TO MATCH THE RADIATOR HEIGHT AND DEPTH.
23. PROVIDE 3/4" EXPANSION COMPENSATOR FLEXIBLE CONNECTOR AT LOCATION SHOWN BETWEEN TWO RADIATOR UNITS R-MS-1 AND R-MS-2. INSTALL THE FLEXIBLE CONNECTOR IN A U-BEND FORMAT WITH THE U FACING DOWN. CONNECT THE OUTLET PIPING FROM R-MS-1 TO THE INLET OF R-MS-2. PROVIDE A HORIZONTAL WALL TRIM COVER OVER THE PIPING AND FLEXIBLE CONNECTOR BETWEEN THE TWO RADIATOR UNITS FURNISHED BY THE RADIATOR MANUFACTURER, WITH HEIGHT AND DEPTH OF TRIM COVER TO MATCH THE RADIATOR HEIGHT AND DEPTH.
24. PROVIDE MOTORIZED DAMPER WITHIN EXISTING EA DUCT RISER. MODIFY EA RISER AS REQUIRED FOR DAMPER INSTALLATION. TIE CONTROL OF DAMPER TO OPERATION OF ROOFTOP EXHAUST FAN CONNECTED TO EA RISER. PROVIDE CONTROL RELAY TO EXISTING EXHAUST FAN AND TIE OPERATION OF EXHAUST FAN TO DDC SYSTEM.
25. DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 1.5 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. PROVIDE SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM.
26. DISCONNECT AND REMOVE DAMAGED SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND PROVIDE REPLACEMENT SPACE TEMPERATURE SENSOR TIED TO UV-MS-21 DDC CONTROLLER. PROVIDE CONTROL WIRING FROM REPLACEMENT SENSOR TO UV CONTROLLER AS REQUIRED.
27. PROVIDE REPLACEMENT SPACE TEMPERATURE SENSOR TIED TO UV-MS-22 DDC CONTROLLER. PROVIDE CONTROL WIRING FROM REPLACEMENT SENSOR TO UV CONTROLLER AS REQUIRED.
28. PROVIDE REPLACEMENT TEMPERATURE SENSOR AT LOCATION SHOWN AND UTILIZE FOR SPACE TEMPERATURE CONTROL OF UNIT VENTILATOR AS REQUIRED. PROVIDE CONTROL WIRING BETWEEN SENSOR AND UNIT VENTILATOR UV-MS-17 DDC CONTROLLER AS REQUIRED.
29. PROVIDE UL-207 LISTED EXPANSION LOOP FOR THE 7/8" REFRIGERANT LIQUID AND 1-1/2" REFRIGERANT SUCTION LINES AT LOCATION SHOWN. THE 7/8" LOOP SHALL BE 28-3/4" LONG x 21" HIGH. THE 1-1/2" LOOP SHALL BE 31" LONG x 25" WIDE. PROVIDE PIPE GUIDES ON EITHER SIDE OF LOOP AND PIPE ANCHORS AT END OF PIPING RUNS PER MANUFACTURER'S RECOMMENDATIONS.
30. PROVIDE UL-207 LISTED EXPANSION LOOP FOR THE 5/8" REFRIGERANT LIQUID AND 1-1/4" REFRIGERANT SUCTION LINES AT LOCATION SHOWN. THE 5/8" LOOP SHALL BE 28-1/2" LONG x 193/4" HIGH. THE 1-1/4" LOOP SHALL BE 30" LONG x 23" WIDE. PROVIDE PIPE GUIDES ON EITHER SIDE OF LOOP AND PIPE ANCHORS AT END OF PIPING RUNS PER MANUFACTURER'S RECOMMENDATIONS.
31. ROUTE 3/4" CONDENSATE DRAIN PIPING FROM DRAIN PAN OUTLET OF UV-MS-20 WITHIN UV PIPING TUNNEL SYSTEM AND CONNECT TO HORIZONTAL DRAIN PIPING WITHIN PIPING TUNNEL SYSTEM OF UV-MS-17.
32. ROUTE 3/4" CONDENSATE DRAIN PIPING FROM DRAIN PAN OUTLET OF UV-MS-17 WITHIN UV PIPING TUNNEL SYSTEM AND CONNECT TO 3/4" HORIZONTAL DRAIN PIPING ROUTED FROM UV-MS-17. AT POINT OF COMBINING TWO UV CONDENSATE DRAINS, INCREASE HORIZONTAL CONDENSATE DRAIN PIPING TO 1", THEN ROUTE THROUGH UV PIPING TUNNEL SYSTEMS TO POINT OF DROP DOWN TO FIRST FLOOR AS OUTLINED ON KEYED NOTE 33.
33. PROVIDE 1" CONDENSATE DRAIN PIPING DROP DOWN TO FIRST FLOOR AT LOCATION SHOWN FROM WITHIN UV PIPING TUNNEL SYSTEM.
34. LOCATION OF TYPICAL CEILING MOUNTED RELIEF AIR REGISTER DUCTED THROUGH CORRIDOR WALL TO CORRIDOR CEILING PLENUM, TERMINATED OPEN-ENDED ABOVE CEILING PLENUM FOR RELIEF AIR OF CLASSROOMS.

GENERAL NOTES:

1. REFRIGERANT PIPING NOTE: 90 DEGREE ELBOWS SHALL BE KEPT A MINIMUM OF 20" FROM BRANCH CONNECTOR 'Y' JOINTS. IN ADDITION, BRANCH CONNECTOR 'Y' JOINTS SHALL BE A MINIMUM OF 40" FROM ANOTHER BRANCH 'Y' CONNECTOR JOINT.
2. REFRIGERANT PIPING NOTE: THE HEAT PUMP SYSTEM MANUFACTURER SHALL INSPECT ALL FIELD INSTALLED REFRIGERANT PIPING PRIOR TO INSULATION INSTALLATION.
3. THE EXISTING SUSPENDED CEILING SYSTEMS LOCATED WITHIN THE SCOPE OF WORK AREA OUTSIDE OF AREAS BEING RENOVATED BY THE GENERAL CONTRACTOR SHALL BE DISCONNECTED AND REMOVED TO ALLOW FOR THE INSTALLATION WORK AND REINSTALLED FOLLOWING COMPLETION OF THE WORK BY THE MECHANICAL CONTRACTOR. THE SUSPENDED CEILING GRID SYSTEMS SHALL BE REMOVED AND MODIFIED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF WORK. THE CEILING TILES SHALL BE REMOVED AS REQUIRED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF THE INSTALLATION WORK. ANY CEILING TILES DAMAGED DURING THE INSTALLATION WORK SHALL BE REPLACED BY THE MECHANICAL CONTRACTOR TO MATCH THE EXISTING CEILING TILES.
4. ALL CUTTING, PATCHING, AND FIREPROOFING ASSOCIATED WITH THE INSTALLATION WORK SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR. PATCHED AREAS SHALL MATCH EXISTING CONDITIONS. ALL REFRIGERANT PIPING AND CONDENSATE PIPING PENETRATIONS THROUGH CORRIDOR WALLS SHALL BE FIREPROOFED PER SPECIFICATION SECTION 078400.
5. ROUTE REFRIGERANT SUCTION AND LIQUID PIPING FROM THE UNIT VENTILATOR DX COIL CONNECTIONS TO THE HEAT PUMP UNITS. SIZE PIPING AND PROVIDE BRANCH CONNECTOR 'Y' JOINTS PER THE DRAWING. CONFIRM PIPING SIZES AND BRANCH CONNECTOR 'Y' JOINT LOCATIONS REQUIRED WITH HEAT PUMP SYSTEM MANUFACTURER.
6. ROUTE REFRIGERANT PIPING THROUGH THE ROOF TO THE ROOF MOUNTED HEAT PUMP SYSTEMS. PROVIDE A PIPE CURB AND SIDE REFRIGERANT PIPIPING OUTLET PORTAL AT THE ROOF PENETRATION OF EACH HEAT PUMP SYSTEM.
7. THE SMALLEST VOLUME ROOM THAT THE REFRIGERANT PIPING SYSTEMS ROUTE THROUGH FOR EACH OF THE HEAT PUMP SYSTEMS IS BELOW THE ASHRAE STANDARD 15 REFRIGERANT CONCENTRATION LIMIT OF 26 POUNDS PER 1,000 CUBIC FEET OF ROOM VOLUME FOR OCCUPIED SPACES.
8. PROVIDE FIRESTOPPING PER SPECIFICATION SECTION 078400 AT ALL PIPING PENETRATIONS THROUGH CORRIDOR WALLS AND STORAGE ROOM WALLS.
9. THE UV UTILITY COMPARTMENT SHALL INCLUDE A REMOVABLE FRONT PANEL, STANDARD #1/4-20 HEX FASTENER, STEEL TOP AND BACK WALL F-CHANNEL.
10. ROUTE REFRIGERANT SUCTION-LIQUID PIPING WITHIN UNIT VENTILATOR PIPING TUNNELS AND UNIT VENTILATOR SHELVING SYSTEM TUNNELS TO DX COOLING COIL CONNECTIONS AND UV EXPANSION VALVE KITS PER THE MANUFACTURER'S RECOMMENDATIONS.



A18 PARTIAL SECOND FLOOR PLAN - NORTHEAST
1/8" = 1'-0"

LEGEND:

UV-MS-XX	UNIT VENTILATOR
T	UV-WALL SENSOR
EX FTR	EXISTING FIN TUBE RADIATOR
T	EX FTR-WALL SENSOR
R-MS-X	HEATING WATER RADIATION
T	RAD-WALL SENSOR

SIEMENS WALL SENSOR LOCATION DRAWING

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REGISTRATION EXPIRES: 11/30/2023

NANUET

NUFSD BOND PROJECTS PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCHOOL)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

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Barr Middle School
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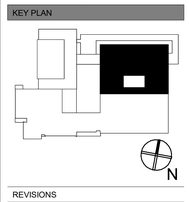
KEY PLAN



REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE
DATE: 06/06/2023
SCALE: 1/8" = 1'-0"
SHEET NAME: PARTIAL SECOND FLOOR PLAN - NORTHEAST
SHEET NUMBER: BM-M114

ISSUE FOR BID SET

DRAWN BY: Author
CHECKED BY: Checker
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6/5/2023 3:16:11 PM

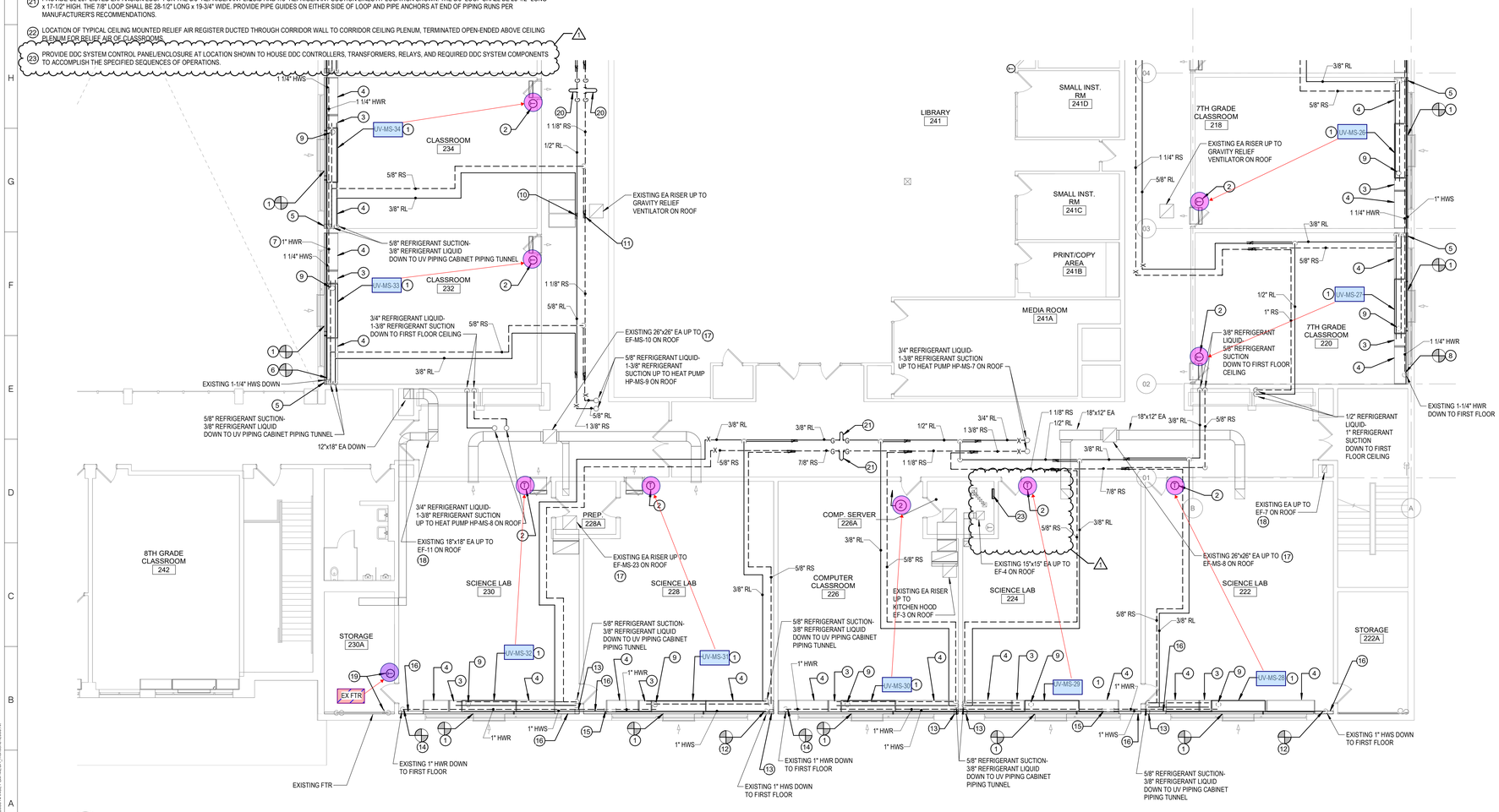
PROJECT NUMBER: 21111002.00

KEYED NOTES:

1. PROVIDE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. PROVIDE UNIT VENTILATOR WITH FULLY CLOSED ADAPTER-BACK WITH REAR OUTDOOR AIR OPENING TO BE CUT IN FIELD TO MATCH EXISTING WALL OUTDOOR AIR OPENING SIZE. CONNECT TO EXISTING OA DUCT SLEEVE AS REQUIRED AND EXTEND INTO REAR OUTDOOR AIR OPENING ON THE UNIT VENTILATOR. CONNECT TO HWS/HWR PIPING ROUTED WITHIN UNIT VENTILATOR SHELVING SYSTEM PIPING TUNNEL AND PROVIDE 1" HWS/HWR BRANCH CONNECTIONS TO UV HEATING COIL CONNECTIONS AS REQUIRED.
2. PROVIDE REPLACEMENT TEMPERATURE SENSOR AT LOCATION SHOWN AND UTILIZE FOR SPACE TEMPERATURE CONTROL OF UNIT VENTILATOR AS REQUIRED. PROVIDE CONTROL WIRING BETWEEN SENSOR AND UNIT VENTILATOR DDC CONTROLLER AS REQUIRED.
3. PROVIDE 24" WIDE x 21-7/8" DEEP UTILITY COMPARTMENT AT LOCATION SHOWN FOR HOUSING DDC SYSTEM CONTROLLER AND VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS. THE UTILITY COMPARTMENT SHALL HOUSE THE FOLLOWING VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS: 1. WIRED NAVIGATION REMOTE CONTROLLER 2. VARIABLE REFRIGERANT VOLUME CONTROL BOX AND 3. VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT.
4. AT LOCATIONS CALLED OUT, PROVIDE 21-7/8" DEEP PERIMETER SHELVING CABINETS. THE CABINETS SHALL BE 30" HIGH THAT INCLUDE A BASE CABINET, ONE SHELF, A STEEL TOP WITH LOUVER OUTLET, A FRONT SKIRT WITH LOUVER INLET AND A BACK WALL ANGLE. THE SHELVING CABINETS SHALL INCLUDE A 5-7/8" DEEP PIPE SPACING CAVITY AT THE REAR OF THE CABINET SYSTEM. THE SHELF SHALL BE 10-1/2" DEEP AND THE SYSTEM SHALL INCLUDE A 3" HIGH OPENING AT THE BOTTOM (COVERED BY THE LOUVERED INLET FRONT SKIRT) THAT ALLOWS AIR MOVEMENT THROUGH THE BOTTOM-FRONT OF THE SYSTEM AND OUT THE TOP-REAR OF THE SYSTEM. PROVIDE PERIMETER SHELVING CABINET SYSTEM FILLER SECTIONS WHERE REQUIRED TO TERMINATE SHELVING SYSTEMS AT END POINTS SHOWN. THE FILLER SECTION SHALL BE FIELD CUT TO FIT BETWEEN THE END PANEL AND THE LAST SHELVING CABINET SYSTEM. THE FILLER SECTION SHALL INCLUDE A FLOOR ANGLE, FRONT PANEL, STEEL TOP, BACK WALL ANGLE. THE SYSTEM SHALL BE MANUFACTURED BY HVAC CUSTOM ENCLOSURE CO.; LLC DRAWING NUMBER SC164-0028 OR EQUAL. PROVIDE END CAPS ON SHELVING CABINETS WHERE SYSTEMS TERMINATE SHORT OF A WALL SYSTEM AND CONNECT TO A HORIZONTAL PIPING ENCLOSURE SYSTEM.
5. PROVIDE 12" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION PIPING DROPS. ROUTE VERTICAL PIPING DOWN THROUGH TOP OF UNIT VENTILATOR SHELVING CABINET TOP AND CONNECT TO UV DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF SHELVING CABINET SYSTEM TO UNDERSIDE OF SUSPENDED CEILING SYSTEM.
6. CONNECT TO EXISTING 1-1/4" HWS RISER ABOVE FLOOR PENETRATION LOCATION AND ROUTE 1-1/4" HWS PIPING MAIN WITHIN SHELVING CABINET PIPING TUNNEL AS SHOWN.
7. ROUTE 1" HWR FROM UV-MS-33 HEATING COIL WITHIN SHELVING CABINET PIPING TUNNEL TO CLASSROOM 234 PIPING TUNNEL.
8. CONNECT TO EXISTING 1-1/4" HWR RISER ABOVE FLOOR PENETRATION AND ROUTE 1-1/4" HWR PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNELS. PROVIDE 1" HWR BRANCHES TO UV HEATING COILS AT EACH UV LOCATION. PROVIDE 1" HWS CONNECTION TO EACH UV HEATING COIL AND ROUTE HWS PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNEL AS SHOWN.
9. ROUTE 3/4" CONDENSATE DRAIN PIPING FROM UV DRAIN PAN OUTLET DOWN THROUGH FLOOR TO FIRST FLOOR CEILING PLENUM.
10. TYPICAL REFRIGERANT LIQUID BRANCH CONNECTOR 'Y' FITTING JOINT.
11. TYPICAL RERIGERANT SUCTION BRANCH CONNECTOR 'Y' FITTING JOINT.
12. CONNECT TO EXISTING 1" HWS RISER ABOVE FLOOR PENETRATION LOCATION AND ROUTE 1" HWS PIPING MAIN WITHIN SHELVING CABINET PIPING TUNNEL AS SHOWN.
13. PROVIDE 8" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION PIPING DROPS. ROUTE VERTICAL PIPING DOWN THROUGH TOP OF UNIT VENTILATOR SHELVING CABINET TOP AND CONNECT TO UV DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF SHELVING CABINET SYSTEM TO UNDERSIDE OF SUSPENDED CEILING SYSTEM.
14. CONNECT TO EXISTING 1" HWR RISER ABOVE FLOOR PENETRATION AND ROUTE 1" HWR PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNELS. PROVIDE 1" HWR BRANCHES TO UV HEATING COILS AT EACH UV LOCATION. PROVIDE 1" HWS CONNECTION TO EACH UV HEATING COIL AND ROUTE HWS PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNEL AS SHOWN.
15. PROVIDE 1" EXPANSION COMPENSATORS ON THE HWS/HWR PIPING MAINS ROUTED WITHIN THE UNIT VENTILATOR PIPING TUNNEL AT LOCATION SHOWN. THE COMPENSATORS SHALL BE 12.5" LONG. PROVIDE ANCHORS ON EACH END OF BOTH THE HWS/R RUNS AND PROVIDE PIPE GUIDES WITHIN 14 PIPE DIAMETERS OF THE COMPENSATORS ON BOTH THE HWS AND HWR COMPENSATORS.
16. PROVIDE 5" DEEP x 24" HIGH HORIZONTAL PIPING ENCLOSURE UNITS AT LOCATIONS SHOWN TO CONCEAL PIPING ROUTED TO UNIT VENTILATORS. ALIGN TOP OF ENCLOSURE UNITS WITH TOP OF UNIT VENTILATOR CABINETS.
17. PROVIDE MOTORIZED DAMPER WITHIN EXISTING EA DUCT RISER. MODIFY EA RISER AS REQUIRED FOR DAMPER INSTALLATION. TIE CONTROL OF DAMPER TO OPERATION OF REPLACEMENT ROOFTOP EXHAUST FAN CONNECTED TO EA RISER.
18. PROVIDE MOTORIZED DAMPER WITHIN EXISTING EA DUCT RISER. MODIFY EA RISER AS REQUIRED FOR DAMPER INSTALLATION. TIE CONTROL OF DAMPER TO OPERATION OF ROOFTOP EXHAUST FAN CONNECTED TO EA RISER. PROVIDE CONTROL RELAY TO EXISTING EXHAUST FAN AND TIE OPERATION OF EXHAUST FAN TO DDC SYSTEM.
19. DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 1.5 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. PROVIDE SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM.
20. PROVIDE UL-207 LISTED EXPANSION LOOP FOR THE 1/2" REFRIGERANT LIQUID AND 1-1/8" REFRIGERANT SUCTION LINES AT LOCATION SHOWN. THE 1/2" LOOP SHALL BE 28-1/2" LONG x 17-1/2" HIGH. THE 1-1/8" LOOP SHALL BE 30" LONG x 23" WIDE. PROVIDE PIPE GUIDES ON EITHER SIDE OF LOOP AND PIPE ANCHORS AT END OF PIPING RUNS PER MANUFACTURER'S RECOMMENDATIONS.
21. PROVIDE UL-207 LISTED EXPANSION LOOP FOR THE 3/8" REFRIGERANT LIQUID AND 7/8" REFRIGERANT SUCTION LINES AT LOCATION SHOWN. THE 3/8" LOOP SHALL BE 28-1/2" LONG x 17-1/2" HIGH. THE 7/8" LOOP SHALL BE 28-1/2" LONG x 19-3/4" WIDE. PROVIDE PIPE GUIDES ON EITHER SIDE OF LOOP AND PIPE ANCHORS AT END OF PIPING RUNS PER MANUFACTURER'S RECOMMENDATIONS.
22. LOCATION OF TYPICAL CEILING MOUNTED RELIEF AIR REGISTER DUCTED THROUGH CORRIDOR WALL TO CORRIDOR CEILING PLENUM, TERMINATED OPEN-ENDED ABOVE CEILING PLENUM FOR RELIEF AIR OF CLASSROOMS.
23. PROVIDE DDC SYSTEM CONTROL PANEL/ENCLOSURE AT LOCATION SHOWN TO HOUSE DDC CONTROLLERS, TRANSFORMERS, RELAYS, AND REQUIRED DDC SYSTEM COMPONENTS TO ACCOMPLISH THE SPECIFIED SEQUENCES OF OPERATIONS.

GENERAL NOTES:

1. REFRIGERANT PIPING NOTE: 90 DEGREE ELBOWS SHALL BE KEPT A MINIMUM OF 20" FROM BRANCH CONNECTOR 'Y' JOINTS. IN ADDITION, BRANCH CONNECTOR 'Y' JOINTS SHALL BE A MINIMUM OF 40" FROM ANOTHER BRANCH 'Y' CONNECTOR JOINT.
2. REFRIGERANT PIPING NOTE: THE HEAT PUMP SYSTEM MANUFACTURER SHALL INSPECT ALL FIELD INSTALLED REFRIGERANT PIPING PRIOR TO INSULATION INSTALLATION.
3. THE EXISTING SUSPENDED CEILING SYSTEMS LOCATED WITHIN THE SCOPE OF WORK AREA OUTSIDE OF AREAS BEING RENOVATED BY THE GENERAL CONTRACTOR SHALL BE DISCONNECTED AND REMOVED TO ALLOW FOR THE INSTALLATION WORK AND REINSTALLED FOLLOWING COMPLETION OF THE WORK BY THE MECHANICAL CONTRACTOR. THE SUSPENDED CEILING GRID SYSTEMS SHALL BE REMOVED AND MODIFIED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF WORK. THE CEILING TILES SHALL BE REMOVED AS REQUIRED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF THE INSTALLATION WORK. ANY CEILING TILES DAMAGED DURING THE INSTALLATION WORK SHALL BE REPLACED BY THE MECHANICAL CONTRACTOR TO MATCH THE EXISTING CEILING TILES.
4. ALL CUTTING, PATCHING, AND FIREPROOFING ASSOCIATED WITH THE INSTALLATION WORK SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR. PATCHED AREAS SHALL MATCH EXISTING CONDITIONS. ALL REFRIGERANT PIPING AND CONDENSATE PIPING PENETRATIONS THROUGH CORRIDOR WALLS SHALL BE FIREPROOFED PER SPECIFICATION SECTION 078400.
5. ROUTE REFRIGERANT SUCTION AND LIQUID PIPING FROM THE UNIT VENTILATOR DX COIL CONNECTIONS TO THE HEAT PUMP UNITS. SIZE PIPING AND PROVIDE BRANCH CONNECTOR 'Y' JOINTS PER THE DRAWING. CONFIRM PIPING SIZES AND BRANCH CONNECTOR 'Y' JOINT LOCATIONS REQUIRED WITH HEAT PUMP SYSTEM MANUFACTURER.
6. ROUTE REFRIGERANT PIPING THROUGH THE ROOF TO THE ROOF MOUNTED HEAT PUMP SYSTEMS. PROVIDE A PIPE CURB AND SIDE REFRIGERANT PIPIPNG OUTLET PORTAL AT THE ROOF PENETRATION OF EACH HEAT PUMP SYSTEM.
7. THE SMALLEST VOLUME ROOM THAT THE REFRIGERANT PIPING SYSTEMS ROUTE THROUGH FOR EACH OF THE HEAT PUMP SYSTEMS IS BELOW THE ASHRAE STANDARD 15 REFRIGERANT CONCENTRATION LIMIT OF 26 POUNDS PER 1,000 CUBIC FEET OF ROOM VOLUME FOR OCCUPIED SPACES.
8. PROVIDE FIRESTOPPING PER SPECIFICATION SECTION 078400 AT ALL PIPING PENETRATIONS THROUGH CORRIDOR WALLS AND STORAGE ROOM WALLS.
9. THE UV UTILITY COMPARTMENT SHALL INCLUDE A REMOVABLE FRONT PANEL, STANDARD #1/4-20 HEX FASTENER, STEEL TOP AND BACK WALL F-CHANNEL.
10. ROUTE REFRIGERANT SUCTION-LIQUID PIPING WITHIN UNIT VENTILATOR PIPING TUNNELS AND UNIT VENTILATOR SHELVING SYSTEM TUNNELS TO DX COOLING COIL CONNECTIONS AND UV EXPANSION VALVE KITS PER THE MANUFACTURER'S RECOMMENDATIONS.



A18 PARTIAL SECOND FLOOR PLAN - SOUTHEAST
1/8" = 1'-0"

LEGEND:

UV-MS-XX	UNIT VENTILATOR
T	UV-WALL SENSOR
EX FTR	EXISTING FIN TUBE RADIATOR
T	EX FTR-WALL SENSOR

SIEMENS WALL SENSOR LOCATION DRAWING

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REGISTRATION EXPIRES: 11/30/2023

NANUET

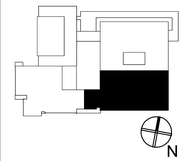
NUFSD BOND PROJECTS PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCHOOL)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

High School
103 Church St.
Nanuet, NY 10954

Barr Middle School
50 Blauvelt Rd #1
Nanuet, NY 10954

KEY PLAN



REVISIONS

No.	Description	Date
1	BID ADDENDUM #6	07/12/23

ISSUED: BID SET ISSUANCE
DATE: 06/06/2023
SCALE: 1/8" = 1'-0"
SHEET NAME: PARTIAL SECOND FLOOR PLAN - SOUTHEAST
SHEET NUMBER: BM-M115

ISSUE FOR BID SET

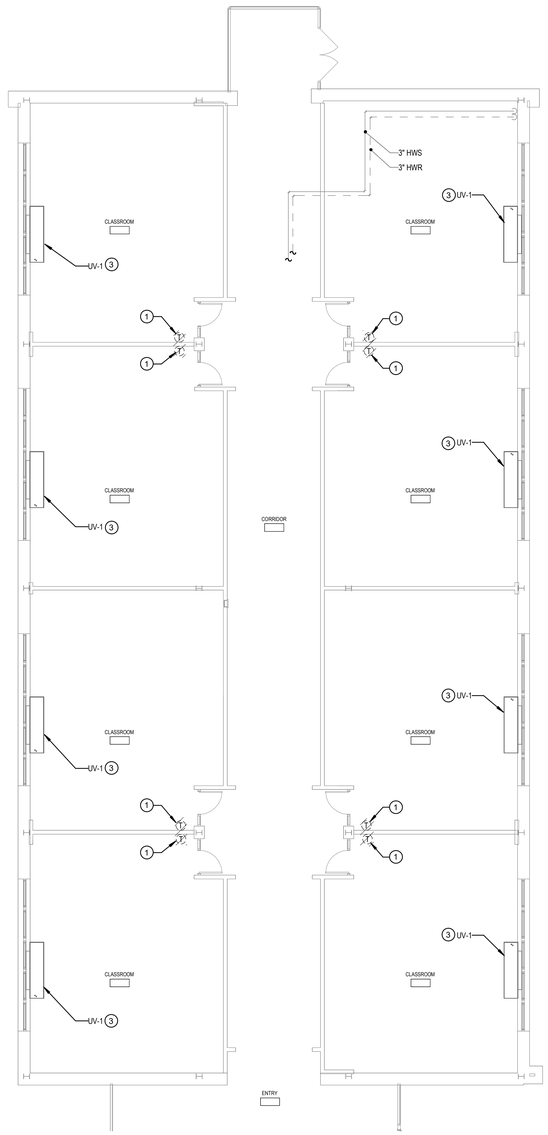
KEYED NOTES:

1. DISCONNECT AND REMOVE REMOTE SPACE TEMPERATURE SENSOR FOR THE EXISTING UNIT VENTILATOR.
2. PROVIDE REPLACEMENT SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND UTILIZE FOR SPACE TEMPERATURE CONTROL OF THE UNIT VENTILATOR AS REQUIRED. PROVIDE CONTROL WIRING BETWEEN SENSOR AND UNIT VENTILATOR DDC CONTROLLER AS REQUIRED.
3. DISCONNECT AND REMOVE FLOOR MOUNTED UNIT VENTILATOR INTREGRAL MICROTECH II CONTROLLER LOCATED WITHIN THE UNIT VENTILATOR ACCESS ENCLOSURE. DISCONNECT AND REMOVE ALL ASSOCIATED CONTROL WIRING BETWEEN CONTROLLER AND REMOVED SPACE THERMOSTAT AND BETWEEN CONTROLLER AND UNIT VENTILATOR SENSORS, RELAYS, DAMPER ACTUATORS, AND CONTROL VALVE AS REQUIRED. MAINTAIN UNIT VENTILATOR CONTROL VALVE, OA/RA DAMPER AND ACTUATOR, FACE&BYPASS DAMPER AND ACTUATOR.
4. PROVIDE DDC SYSTEM EQUIPMENT CONTROLLER WITHIN THE EXISTING ACCESS ENCLOSURE AREA OF EXISTING FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. PROVIDE DDC CONTROL POINTS PER CONTROL DRAWING LOCATED ON A10/HS-M602. PROVIDE CONTROL WIRING FROM DDC CONTROLLER TO WALL MOUNTED SPACE TEMPERATURE SENSOR. PROVIDE CONTROL WIRING BETWEEN DDC CONTROLLER AND EXISTING UNIT VENTILATOR HEATING WATER CONTROL VALVE AS REQUIRED. PROVIDE CONTROL WIRING BETWEEN DDC CONTROLLER AND EXISTING UNIT VENTILATOR OA/RA DAMPER ACTUATOR AND FACE&BYPASS DAMPER ACTUATOR. PROVIDE SENSORS AS OUTLINED AND PROVIDE CONTROL WIRING TO ALLOW START/STOP OPERATION OF EXISTING UNIT VENTILATOR MECHANICAL COOLING SYSTEM.

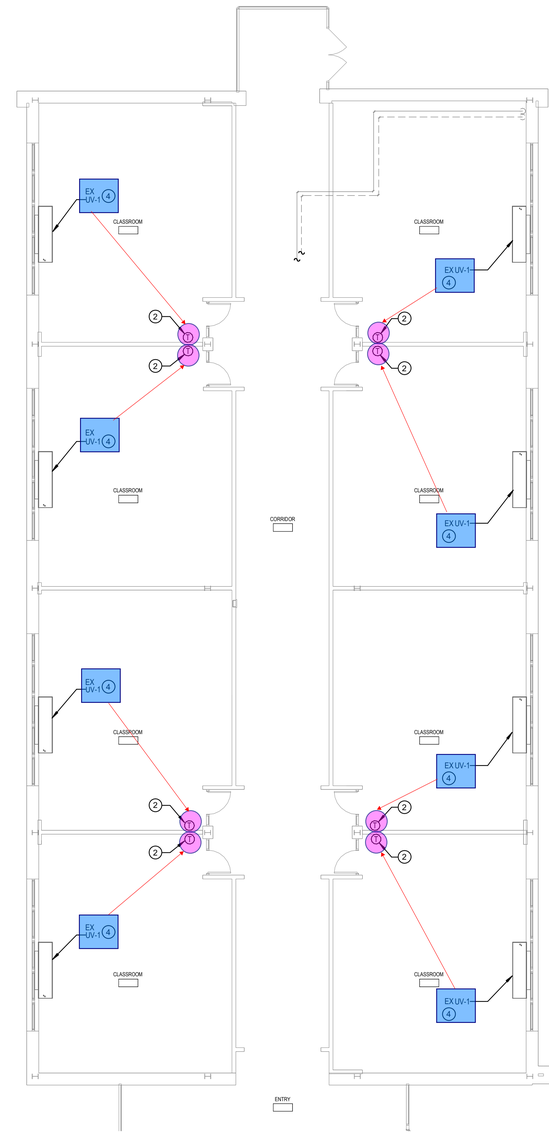
SIEMENS WALL SENSOR LOCATION DRAWING

LEGEND:

- EX UV-1 — EXISTING UNIT VENTILATOR
- (T) — EX UV-WALL SENSOR



A12 FIRST FLOOR REMOVALS - 2004 ADDITION
1/8" = 1'-0"



A6 FIRST FLOOR PLAN - 2004 ADDITION
1/8" = 1'-0"

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REGISTRATION EXPIRES: 11/30/2023

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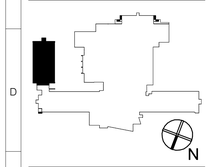
■ SED#50-01-08-03-0-003-035 (HIGH SCHOOL)
□ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

High School
103 Church St.
Nanuet, NY 10954

Barr Middle School
50 Blauvelt Rd #1
Nanuet, NY 10954

KEY PLAN



REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE

DATE: 06/06/2023

SCALE: 1/8" = 1'-0"

SHEET NAME:
2004 ADDITION HVAC REMOVAL AND INSTALL PLANS

SHEET NUMBER:

HS-M106

ISSUE FOR BID SET

DRAWN BY: Author
CHECKED BY: Check
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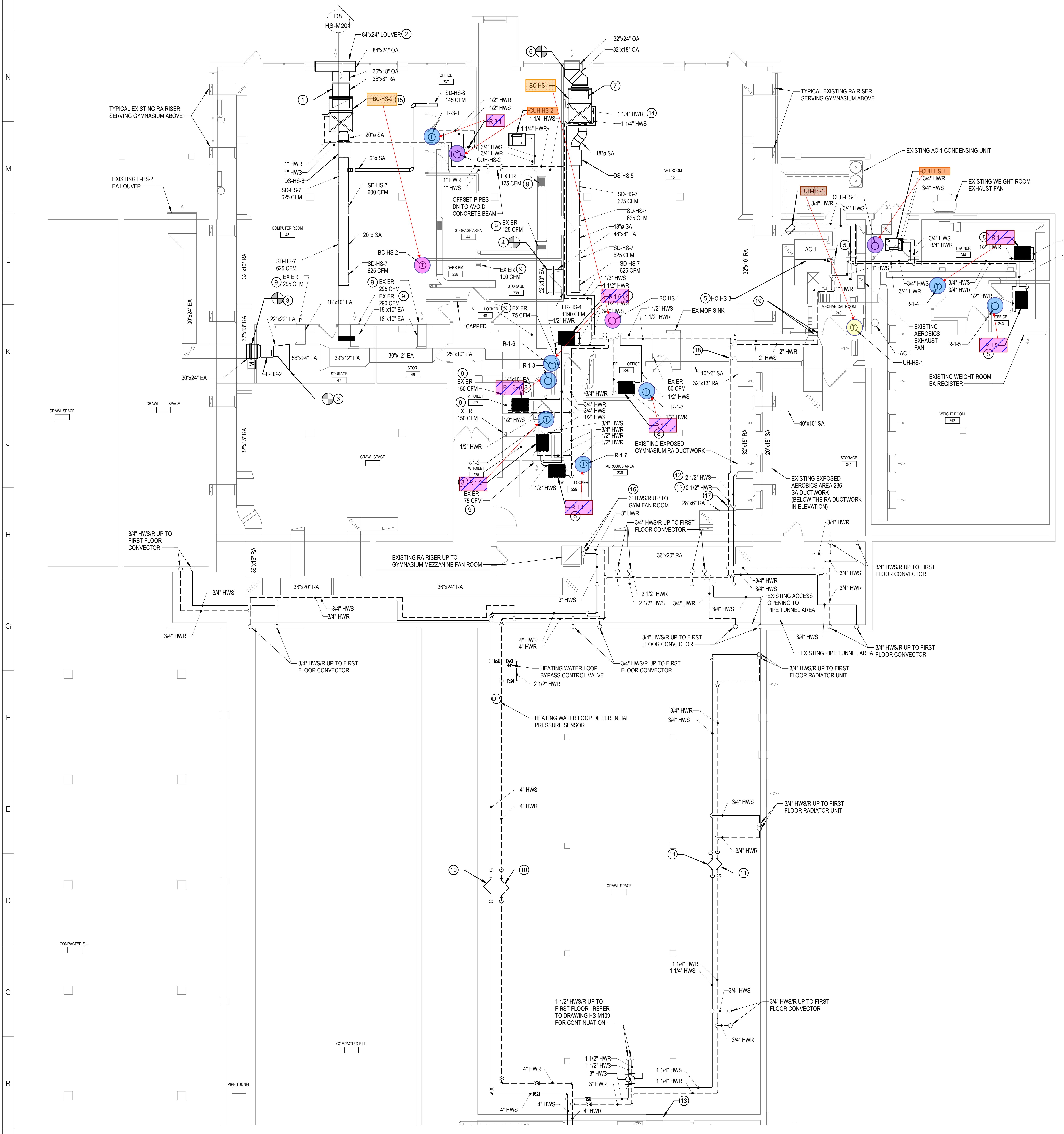

A18 BASEMENT FLOOR PLAN

1/8" = 1'-0"

KEYED NOTES:

① PROVIDE 36"x18" OUTSIDE AIR DUCTWORK TO REAR INLET OPENING ON BLOWER COIL BC-HS-2 MIXING BOX. PROVIDE 36"x18" RISER OUT OF TOP RA INLET ON BC-HS-2 MIXING BOX, THEN PROVIDE A TRANSITION ELBOW TO 36"x8" RA DUCTWORK. ROUTE 36"x8" RETURN AIR DUCT STACKED ABOVE 36"x18" OUTSIDE AIR DUCT AND TERMINATE OPEN-ENDED WITH 1/4" GALVANIZED WIRE MESH SCREEN.

② PROVIDE 84"x24" OUTSIDE AIR PLENUM CONNECTED TO 84"x24" LOUVER MOUNTED IN TOP OF EXISTING GLAZING SYSTEM PANEL AS OUTLINED ON THE ARCHITECTURAL DRAWINGS. ROUTE OA DUCTWORK FROM OA PLENUM TO REAR INLET MIXING BOX ON BC-HS-2 AS REQUIRED.

③ PROVIDE INLINE FAN F-HS-2 AT LOCATION SHOWN ABOVE SUSPENDED CEILING SYSTEM IN STORAGE ROOM 47. PROVIDE TRANSITIOINS FROM EXISTING EXHAUST AIR DUCTWORK TO INLET AND OUTLET CONNECTIONS ON F-HS-2 AS REQUIRED. CONNECT 30"x24" EXHAUST AIR DUCT TO EXISTING 30"x24" EXHAUST AIR DUCT AT OUTLET OF FAN. CONNECT 22"x22" TO 56"x24" TRANSITION DUCT FITTING TO EXISTING 56"x24" EXHAUST AIR DUCT AT INLET OF FAN AS REQUIRED. PROVIDE A MOTORIZED DAMPER AT OUTLET OF FAN IN EA DUCTWORK. DISCONNECT/REMOVE/REINSTALL SUSPENDED CEILING SYSTEM IN STORAGE 47 AS REQUIRED TO INSTALL FAN AND ASSOCIATED INLET AND OUTLET EA DUCTWORK.

④ CONNECT 48"x8" EXHAUST AIR DUCT TO EXISTING 22"x10" EXHAUST AIR DUCT MAIN AT CONNECTION POINT SHOWN AND PROVIDE A WALL MOUNTED EA REGISTER WITHIN ART ROOM 45, MOUNTED ABOVE THE DOORWAY TO STORAGE ROOM 239.

⑤ PROVIDE A 59" WIDE x 33" HIGH HOT WATER HEATING COIL HC-HS-3 WITHIN EXISTING AIR HANDLER AC-1 HEATING COIL SECTION. AC-1 IS A TRANE MODEL LPCAC14D HORIZONTAL AIR HANDLING UNIT. COORDINATE INSTALLATION OF THE HEATING COIL WITHIN THE EXISTING AIR HANDLING UNIT HEATING COIL SECTION WITH THE LOCAL TRANE REPRESENTATIVE. PROVIDE 2" HWS/R DROPS DOWN TO THE HEATING COIL INLET AND OUTLET CONNECTION POINTS.

⑥ CONNECT 32"x18" OUTSIDE AIR INTAKE DUCT TO EXISTING 32"x24" OUTSIDE AIR INTAKE DUCT AT CONNECTION POINT SHOWN. ROUTE 32"x18" OUTSIDE AIR DUCT TO REAR INLET ON BLOWER COIL BC-HS-1 MIXING BOX.

⑦ PROVIDE TOP INLET RA OPENING ON BC-HS-1 MIXING BOX.

⑧ PROVIDE EXPOSED CEILING MOUNTED RADIATOR UNITS AT LOCATIONS SHOWN SUPPORTED FROM FLOOR DECK ABOVE.

⑨ BALANCE EXISTING EA REGISTER TO AIRLFOW AMOUNTS SHOWN WITH INLINE EXHAUST FAN F-HS-2 OPERATING AT FULL AIRFLOW CAPACITY.

⑩ PROVIDE 43.75" LONG x 18.875" WIDE V-TYPE, FLANGED EXPANSION LOOP AT LOCATIONS SHOWN ON THE 4" HWS/R MAINS. CAPABLE OF 3" +/- MOVEMENT. PROVIDE PIPE GUIDES AND ANCHORS AS SHOWN INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. SUPPORT THE RETURN BEND OF THE LOOP PER THE MANUFACTURER'S INSTRUCTIONS.

⑪ PROVIDE 26.25" LONG x 12" WIDE V-TYPE, SWEAT CONNECTION EXPANSION LOOP AT LOCATIONS SHOWN ON THE 1-1/4" HWS/R MAINS. CAPABLE OF 3" +/- MOVEMENT. PROVIDE PIPE GUIDES AND ANCHORS AS SHOWN INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. SUPPORT THE RETURN BEND OF THE LOOP PER THE MANUFACTURER'S INSTRUCTIONS.

⑫ ROUTE 2-1/2" HWS/R PIPING MAINS EXPOSED WITHIN AEROBICS AREA 236 PARALLEL IN HEIGHT WITH EXISTING EXPOSED RETURN DUCTWORK ROUTED NORTH-SOUTH THROUGH THE AERBOICS AREA, AND ABOVE THE EXPOSED SUPPLY AIR DUCTWORK SERVING THE AEROBICS AREA. PROVIDE PVC JACKETING OVER THE INSULATED 2-1/2" HWS/R PIPING MAINS.

⑬ LOCATION OF EXISTING 3-FOOT WIDE x 4-FOOT HIGH ACCESS DOOR OPENING TO CRAWLSPACE AREA FROM BOILER ROOM. ROUTE HWS/R PIPING BETWEEN BOILER ROOM AND AEROBICS AREA 236 WITHIN CRAWLSPACE AREA AS SHOWN. PROVIDE PVC JACKETING OVER THE INSULATED HWS/R PIPING LINESS WITHIN THE CRAWLSPACE.

⑭ ROUTE HWS/R PIPING MAINS EXPOSED WITHIN ART ROOM 45 ALONG EAST WALL OF ART ROOM. PROVIDE 1-1/4" HWS/R BRANCHES TO BLOWER COIL BC-HS-1 HEATING COIL AS REQUIRED. PROVIDE HEATING COIL ON LEFT HAND SIDE OF BLOWER COIL TO ALLOW COIL PULL TO WEST SIDE OF ART ROOM 45. PROVIDE PVC JACKETING OVER ALL EXPOSED INSULATED HWS/R PIPING. MOUNT BLOWER COIL EXPOSED IN ART ROOM 45 BELOW EXISTING NORTH-SOUTH CONCRETE BEAM. PROVIDE EXPOSED SPIRAL SA DUCTWORK OUT OF FRONT DISCHARGE OUTLET LOCATION ON BLOWER COIL.

⑮ MOUNT BLOWER COIL BC-HS-2 EXPOSED WITHIN WOODSHOP 43. PROVIDE EXPOSED SPIRAL SA DUCTWORK OUT OF FRONT DISCHARGE OUTLET LOCATION ON BLOWER COIL.

⑯ ROUTE 3" HWS/R PIPING APPROXIMATELY 22-FEET VERTICALLY FROM PIPING TUNNEL UP TO GYMNASIUM MEZZANINE FAN ROOM. ROUTE PIPING VERTICALLY THROUGH EXISTING VERTICAL CHASE OPENING.

⑰ ROUTE HWS/R PIPING MAINS BELOW EXISTING 28"x6" RA BRANCH AT LOCATION SHOWN, THEN PROVIDE A RISE UP AND ROUTE THE HWS/R PIPING MAINS WITH TOP OF PIPING EVEN WITH TOP OF EXISTING 32"X15" RA MAIN.

⑱ PROVIDE DROP IN ELEVATION ON THE HWS/R PIPING MAINS AT LOCATION SHOWN ONCE PAST THE EXISTING 10"X6" SA BRANCH.

⑲ ROUTE 2" HWS/R PIPING BRANCHES BELOW EXISTING SA DUCTWORK CONNECTED TO EXISTING AC-1 AND PENETRATE MECHANICAL ROOM 240 WALL BELOW AC-1 SA DUCTWORK AS SHOWN.

LEGEND:

BC-HS-X	BLOWER COIL
Ⓣ	BC-WALL SENSOR
CUH-HS-X	CABINET UNIT HEATER
Ⓣ	CUH-WALL SENSOR
R-1-X	HEATING WATER RADIATION
Ⓣ	RAD-WALL SENSOR
▨	UNIT HEATER
Ⓣ	UH-WALL SENSOR

SIEMENS WALL SENSOR LOCATION DRAWING

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REGISTRATION EXPIRES:
11/30/2023

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■ SED#50-01-08-03-0-003-035 (HIGH SCHOOL)
☐ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

High School
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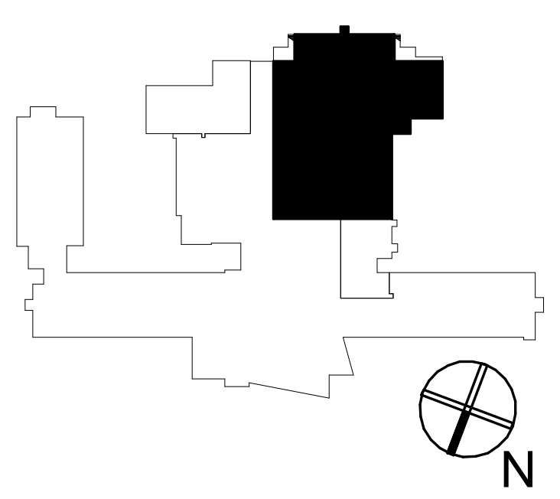
Nanuet, NY 10954

Barr Middle School
50 Blauvelt Rd #1
Nanuet, NY 10954

KEY PLAN



REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE

DATE: 06/06/2023

SCALE: 1/8" = 1'-0"

SHEET NAME:
BASEMENT HVAC PLAN

SHEET NUMBER:
HS-M107

ISSUE FOR BID SET

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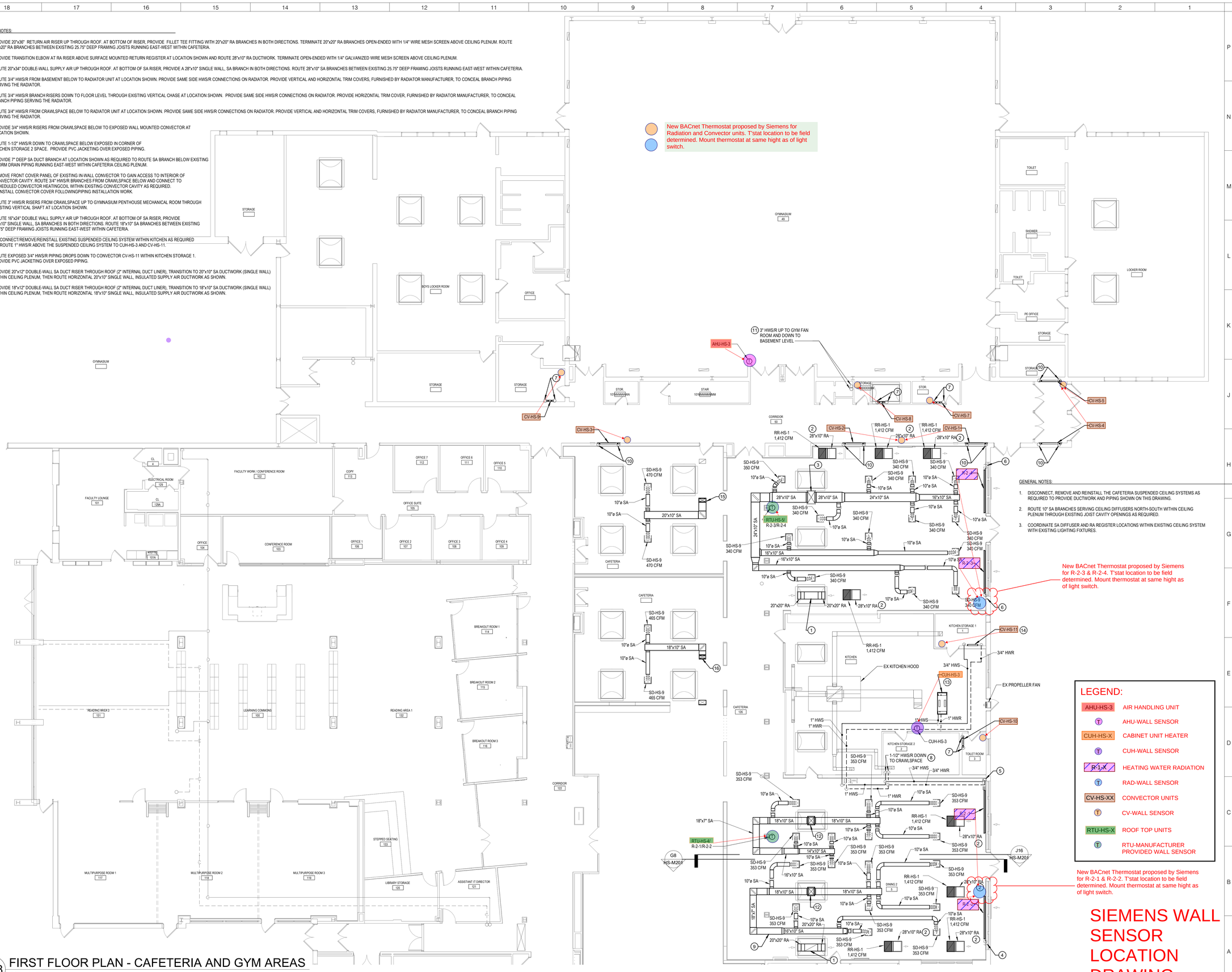
PROJECT NUMBER: 2111002.00

KEYED NOTES:

1. PROVIDE 20"x36" RETURN AIR RISER UP THROUGH ROOF. AT BOTTOM OF RISER, PROVIDE FILLET TEE FITTING WITH 20"x20" RA BRANCHES IN BOTH DIRECTIONS. TERMINATE 20"x20" RA BRANCHES OPEN-ENDED WITH 1/4" WIRE MESH SCREEN ABOVE CEILING PLENUM. ROUTE 20"x20" RA BRANCHES BETWEEN EXISTING 25.75" DEEP FRAMING JOISTS RUNNING EAST-WEST WITHIN CAFETERIA.
2. PROVIDE TRANSITION ELBOW AT RA RISER ABOVE SURFACE MOUNTED RETURN REGISTER AT LOCATION SHOWN AND ROUTE 28"x10" RA DUCTWORK. TERMINATE OPEN-ENDED WITH 1/4" GALVANIZED WIRE MESH SCREEN ABOVE CEILING PLENUM.
3. ROUTE 20"x34" DOUBLE-WALL SUPPLY AIR UP THROUGH ROOF. AT BOTTOM OF SA RISER, PROVIDE A 28"x10" SINGLE WALL, SA BRANCH IN BOTH DIRECTIONS. ROUTE 28"x10" SA BRANCHES BETWEEN EXISTING 25.75" DEEP FRAMING JOISTS RUNNING EAST-WEST WITHIN CAFETERIA.
4. ROUTE 3/4" HWS/R FROM BASEMENT BELOW TO RADIATOR UNIT AT LOCATION SHOWN. PROVIDE SAME SIDE HWS/R CONNECTIONS ON RADIATOR. PROVIDE VERTICAL AND HORIZONTAL TRIM COVERS, FURNISHED BY RADIATOR MANUFACTURER, TO CONCEAL BRANCH PIPING SERVING THE RADIATOR.
5. ROUTE 3/4" HWS/R BRANCH RISERS DOWN TO FLOOR LEVEL THROUGH EXISTING VERTICAL CHASE AT LOCATION SHOWN. PROVIDE SAME SIDE HWS/R CONNECTIONS ON RADIATOR. PROVIDE HORIZONTAL TRIM COVER, FURNISHED BY RADIATOR MANUFACTURER, TO CONCEAL BRANCH PIPING SERVING THE RADIATOR.
6. ROUTE 3/4" HWS/R FROM CRAWLSPACE BELOW TO RADIATOR UNIT AT LOCATION SHOWN. PROVIDE SAME SIDE HWS/R CONNECTIONS ON RADIATOR. PROVIDE VERTICAL AND HORIZONTAL TRIM COVERS, FURNISHED BY RADIATOR MANUFACTURER, TO CONCEAL BRANCH PIPING SERVING THE RADIATOR.
7. PROVIDE 3/4" HWS/R RISERS FROM CRAWLSPACE BELOW TO EXPOSED WALL MOUNTED CONVECTOR AT LOCATION SHOWN.
8. ROUTE 1-1/2" HWS/R DOWN TO CRAWLSPACE BELOW EXPOSED IN CORNER OF KITCHEN STORAGE 2 SPACE. PROVIDE PVC JACKETING OVER EXPOSED PIPING.
9. PROVIDE 7" DEEP SA DUCT BRANCH AT LOCATION SHOWN AS REQUIRED TO ROUTE SA BRANCH BELOW EXISTING STORM DRAIN PIPING RUNNING EAST-WEST WITHIN CAFETERIA CEILING PLENUM.
10. REMOVE FRONT COVER PANEL OF EXISTING IN-WALL CONVECTOR TO GAIN ACCESS TO INTERIOR OF CONVECTOR CAVITY. ROUTE 3/4" HWS/R BRANCHES FROM CRAWLSPACE BELOW AND CONNECT TO SCHEDULED CONVECTOR HEATINGCOIL WITHIN EXISTING CONVECTOR CAVITY AS REQUIRED. REINSTALL CONVECTOR COVER FOLLOWINGPIPING INSTALLATION WORK.
11. ROUTE 3" HWS/R RISERS FROM CRAWLSPACE UP TO GYMNASIUM PENTHOUSE MECHANICAL ROOM THROUGH EXISTING VERTICAL SHAFT AT LOCATION SHOWN.
12. ROUTE 16"x24" DOUBLE WALL SUPPLY AIR UP THROUGH ROOF. AT BOTTOM OF SA RISER, PROVIDE 18"x10" SINGLE WALL, SA BRANCHES IN BOTH DIRECTIONS. ROUTE 18"x10" SA BRANCHES BETWEEN EXISTING 25.75" DEEP FRAMING JOISTS RUNNING EAST-WEST WITHIN CAFETERIA.
13. DISCONNECT/REMOVE/REINSTALL EXISTING SUSPENDED CEILING SYSTEM WITHIN KITCHEN AS REQUIRED TO ROUTE 1" HWS/R ABOVE THE SUSPENDED CEILING SYSTEM TO CUH-HS-3 AND CV-HS-11.
14. ROUTE EXPOSED 3/4" HWS/R PIPING DROPS DOWN TO CONVECTOR CV-HS-11 WITHIN KITCHEN STORAGE 1. PROVIDE PVC JACKETING OVER EXPOSED PIPING.
15. PROVIDE 20"x12" DOUBLE-WALL SA DUCT RISER THROUGH ROOF (2" INTERNAL DUCT LINER), TRANSITION TO 20"x10" SA DUCTWORK (SINGLE WALL) WITHIN CEILING PLENUM, THEN ROUTE HORIZONTAL 20"x10" SINGLE WALL, INSULATED SUPPLY AIR DUCTWORK AS SHOWN.
16. PROVIDE 18"x12" DOUBLE-WALL SA DUCT RISER THROUGH ROOF (2" INTERNAL DUCT LINER), TRANSITION TO 18"x10" SA DUCTWORK (SINGLE WALL) WITHIN CEILING PLENUM, THEN ROUTE HORIZONTAL 18"x10" SINGLE WALL, INSULATED SUPPLY AIR DUCTWORK AS SHOWN.

New BACnet Thermostat proposed by Siemens for Radiation and Convector units. T'stat location to be field determined. Mount thermostat at same hight as of light switch.



New BACnet Thermostat proposed by Siemens for R-2-3 & R-2-4. T'stat location to be field determined. Mount thermostat at same hight as of light switch.

New BACnet Thermostat proposed by Siemens for R-2-1 & R-2-2. T'stat location to be field determined. Mount thermostat at same hight as of light switch.

GENERAL NOTES:

1. DISCONNECT, REMOVE AND REINSTALL THE CAFETERIA SUSPENDED CEILING SYSTEMS AS REQUIRED TO PROVIDE DUCTWORK AND PIPING SHOWN ON THIS DRAWING.
2. ROUTE 10" SA BRANCHES SERVING CEILING DIFFUSERS NORTH-SOUTH WITHIN CEILING PLENUM THROUGH EXISTING JOIST CAVITY OPENINGS AS REQUIRED.
3. COORDINATE SA DIFFUSER AND RA REGISTER LOCATIONS WITHIN EXISTING CEILING SYSTEM WITH EXISTING LIGHTING FIXTURES.

LEGEND:

AHU-HS-3	AIR HANDLING UNIT
T	AHU-WALL SENSOR
CUH-HS-X	CABINET UNIT HEATER
T	CUH-WALL SENSOR
R-1-X	HEATING WATER RADIATION
T	RAD-WALL SENSOR
CV-HS-XX	CONVECTOR UNITS
T	CV-WALL SENSOR
RTU-HS-X	ROOF TOP UNITS
T	RTU-MANUFACTURER PROVIDED WALL SENSOR

SIEMENS WALL SENSOR LOCATION DRAWING

A18 FIRST FLOOR PLAN - CAFETERIA AND GYM AREAS
1/8" = 1'-0"

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NUFSD BOND PROJECTS PH3

■ SED#50-01-08-03-0-003-035 (HIGH SCHOOL)
□ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

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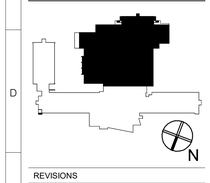
KEY PLAN



REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE
DATE: 06/06/2023
SCALE: 1/8" = 1'-0"
SHEET NAME: FIRST FLOOR PLAN - CAFETERIA AND GYM AREAS
SHEET NUMBER: HS-M109

ISSUE FOR BID SET