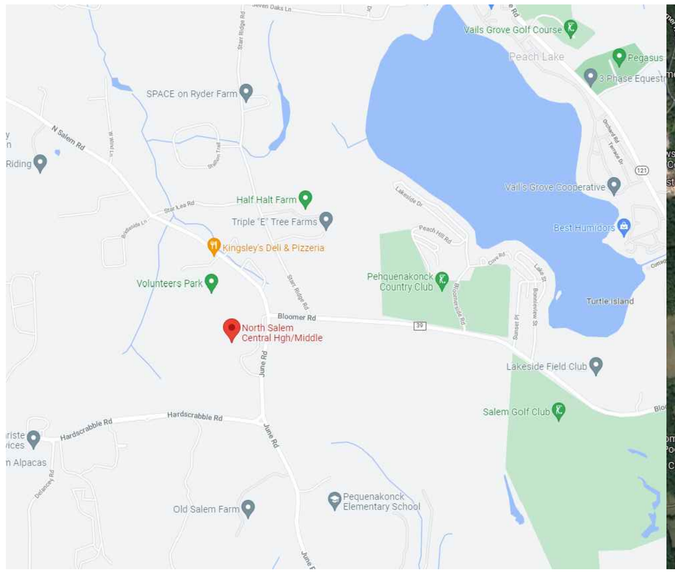
WORLD LANGUAGES UV REPLACEMENT

NORTH SALEM CENTRAL SCHOOL DISTRICT

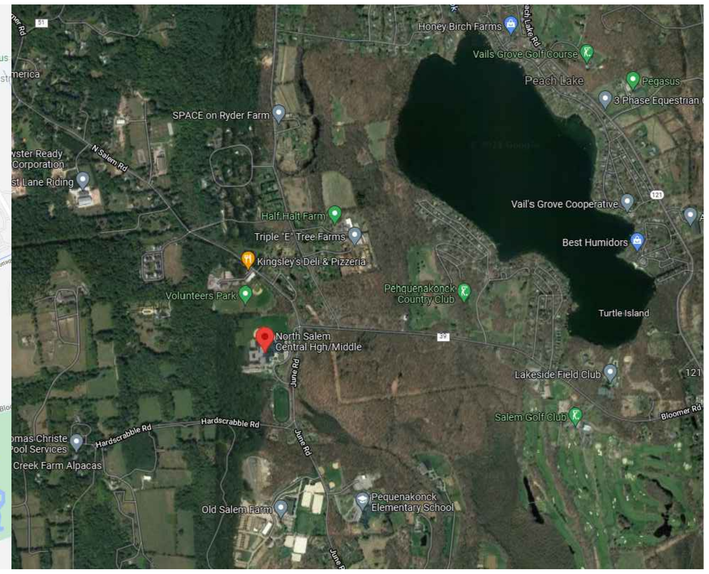
230 June Road
North Salem, NY 10560

NORTH SALEM HIGH SCHOOL

LOCATION MAP:



SATELITE VIEW:



SHEET INDEX

PROJECT SCOPE/SEQUENCE:

THE WORK INCLUDES, BUT IS NOT LIMITED TO:

1. THE PHASED REPLACEMENT OF 6 EXISTING FLOOR MOUNDED UV'S WITH HYDRONIC HEATING AND DX COOLING AND 3 CEILING SUSPENDED UV'S WITH HYDRONIC HEATING AND DX COOLING WITH REMOTE COMPRESSOR/CONDENSER:
   a. THE NEW UNITS BEING INSTALLED ARE 2-PIPE HEATING/COOLING UNITS.
   b. THE UNITS SHALL BE INSTALLED IMMEDIATELY UPON RECEIPT, AND INITIALLY CONNECTED TO THE EXISTING DTWS/DTWR IN ORDER TO PROVIDE COOLING TO THE CLASSROOMS.
   c. THE UNITS SHALL BE INSTALLED DURING THE APRIL BREAK, AT NIGHT OR ON WEEKENDS AS NEEDED.
2. ALL ELECTRICAL AND CONTROL REQUIREMENTS SHALL ALSO BE COMPLETED IMMEDIATELY TO ALLOW THE USE OF THE NEW UV'S AS SOON AS POSSIBLE UPON INSTALLATION.
3. AFTER THE END OF THE SCHOOL YEAR, THE EXISTING DTWS/DTWR SHALL BE REPLACED WITH NEW (LARGER) PIPING TO SUPPORT THE REQUIRED COOLING LOAD TO THE WING. UPON REPLACEMENT OF THE PIPING THE UNITS SHALL BE RECONNECTED TO THE NEW PIPING, BALANCED, TESTED AND CERTIFIED OPERABLE AND TURNED OVER TO THE OWNER.
4. ALL NEW SAFETIES, CONTROLS AND CONTROL VALVES ARE REQUIRED AS PART OF THE PROJECT SCOPE.
5. THE REPLACEMENT UNITS HAVE BEEN PRE-ORDERED BY THE OWNER FOR DELIVERY TO THE SITE. THE CONTRACTOR SHALL RECEIVE THE DELIVERY AND TAKE OWNERSHIP OF THE UNITS FOR STORAGE (ON SITE AS DIRECTED BY THE OWNER)
6. THE NEW (6 FLOOR MOUNTED AND 3 CEILING SUSPENDED) UNIT VENTILATORS SHALL PROVIDE HEATING AND COOLING THROUGH THE 2-PIPE (DTWS/DTWR) SYSTEM THE UNITS SHALL INCORPORATE FACE AND BY-PASS CONTROL AND SHALL BE LOCATED THE NSHS SECOND FLOOR WORLD LANGUAGES WING.
7. THE WORK, IN ADDITION TO THE REMOVAL OF THE EXISTING HW HEATING AND DX COOLING UV UNITS AND THE INSTALLATION OR HW/CHW UV HEATING AND COOLING UNITS, INCLUDES THE REMOVAL AND REPLACEMENT OF THE DUAL TEMPERATURE HW/CHW PIPING, FROM THE CEILING OF THE FIRST FLOOR, FOLLOWING THE SAME OR SIMILAR PATH OF THE REMOVALS, THE ELECTRICAL POWER ALTERATIONS AND THE HVAC CONTROL ADDITIONS AND ALTERATIONS
8. THE UV'S WILL BE REPLACED AS SOON AS POSSIBLY UPON RECEIPT BECAUSE THE COOLING SIDE OF THE EXISTING UNITS BEING REPLACED HAS FAILED. THE UNITS SHALL BE TIED INTO EXISTING BMS SYSTEM AND MADE OPERATIONAL IMMEDIATELY. EXISTING LOUVERS AND GRAVITY HOODS ARE TO REMAIN AND BE REUSED/RECONNECTED AS APPROPRIATE.
9. ALL MATERIALS, ASSEMBLIES, FORMS AND METHODS OF CONSTRUCTION AND SERVICE EQUIPMENT SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE NEW YORK STATE BUILDING CODE.
10. A COPY OF THE UV SUBMITTAL IS CONTAINED IN THE PROJECT DOCUMENT.

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DESIGN CONFORMS TO APPLICABLE PROVISIONS OF THE NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE, NEW YORK STATE ENERGY CONSERVATION AND CONSTRUCTION CODE AND THE NEW YORK STATE EDUCATION DEPARTMENT BUILDING STANDARDS.

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NY PROFESSIONAL ENGINEER NO. 089933-1

NORTH SALEM WORLD LANGUAGES UV REPLACEMENT

230 June Road
North Salem, NY 10560

REVISIONS

No.	Description	Date

ISSUED: BID ISSUANCE
DATE: February 23, 2022
SCALE: AS SHOWN
SHEET NAME: COVER SHEET
SHEET NUMBER: G000

MECHANICAL DEMOLITION NOTES:

1. COORDINATE WITH EXISTING CONDITIONS PLANS FOR EXACT AREAS TO BE DEMOLISHED.
2. REMOVE ALL EQUIPMENT, DUCTWORK AND PIPING AS INDICATED ON PLAN. REMOVALS SHALL INCLUDE ALL SUPPORTS AND HANGERS, HOUSEKEEPING PADS, DAMPERS, VALVES, FITTINGS, CONTROLS AND ASSOCIATED LOW VOLTAGE WIRING, AND ANY OTHER ASSOCIATED ACCESSORIES WHICH PERTAIN TO THE EQUIPMENT TO BE REMOVED.
3. REMOVAL OF ALL POWER CONNECTIONS TO DEMOLITION ITEMS SHALL BE BY THE E.C.
4. ANY DISCREPANCIES BETWEEN THE DEMOLITION PLANS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER. ANY DEMOLITION WORK WHICH MAY BE QUESTIONABLE DUE TO UNFORESEEN FIELD CONDITIONS SHALL NOT BE REMOVED UNTIL REVIEWED BY THE ARCHITECT, ENGINEER OR BUILDING FACILITIES MANAGER.
5. DEMOLITION WORK SHALL INCLUDE THE PREPARATION OF EXISTING EQUIPMENT FOR CONNECTION TO NEW EQUIPMENT. COORDINATE DEMOLITION WORK WITH THE CONSTRUCTION PLANS.
6. ALL EQUIPMENT REMOVALS SHALL BECOME THE PROPERTY OF THIS CONTRACTOR. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER REMOVAL AND DISPOSAL OF DEMOLITION ITEMS OFF-SITE, UNLESS OTHERWISE NOTED.
7. ALL CUTTING AND PATCHING NECESSARY FOR THE DEMOLITION WORK SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR.
8. IT SHALL BE THE OWNER'S RESPONSIBILITY TO REMOVE ANY LOOSE EQUIPMENT, FURNITURE, SUPPLIES, ETC. THAT MAY BE LOCATED IN THE AREA OF WORK.
9. THE PLANS ARE INTENDED TO CONVEY THE EXTENT AND SCOPE OF THE DEMOLITION WORK. EVERY ITEM INTENDED FOR REMOVAL MAY NOT BE SHOWN. THE CONTRACTOR IS ADVISED TO SURVEY THE PROJECT SITE BEFORE SUBMITTING A BID FOR DEMOLITION WORK.

GENERAL NOTES:

1. THE DRAWINGS ON THESE PLANS ARE DIAGRAMMATIC. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL HVAC WORK WITH OTHER TRADES AND THE BUILDING STRUCTURE. NO EXTRA PAYMENTS WILL BE AUTHORIZED FOR REROUTING OR REMOVAL OF INSTALLED WORK DUE TO LACK OF COORDINATION WITH OTHER SYSTEMS.
2. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF WALLS, FLOORS AND CEILINGS AS REQUIRED FOR INSTALLATION OF HIS WORK.
3. ACCESS PANELS SHALL BE PROVIDED IN CEILINGS, WALLS, FLOORS, ETC., AS REQUIRED TO MAINTAIN ACCESSIBILITY TO VALVES, DAMPERS, TRAPS, COILS, ETC.
4. ALL PENETRATIONS THROUGH FIRE RATED PARTITIONS SHALL BE SEALED FIRE AND SMOKE TIGHT WITH AN APPROPRIATE U.L. LISTED FIRESTOPPING MATERIAL AND OR SYSTEM.
5. PROVIDE SHUT-OFF VALVES AT ALL PIPING BRANCH TAKE-OFFS AND AT ALL CONNECTIONS TO EQUIPMENT.
6. PROVIDE DRAINS WITH HOSE ADAPTERS AND CAPS ON PIPING AT ALL LOW POINTS. PROVIDE AUTOMATIC AIR VENTS ON PIPING AT ALL HIGH POINTS.
7. COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL SUB CONTRACTOR.
8. ALL MOTOR STARTERS SHALL BE FURNISHED BY THE HVAC CONTRACTOR AND INSTALLED BY THE ELECTRICAL SUB CONTRACTOR.
9. ALL REQUIRED CONTROL EQUIPMENT AND WIRING SHALL BE FURNISHED & INSTALLED BY THE HVAC CONTRACTOR.
10. IN THIS PLAN SET, M.C. AND H.C. REFER TO MECHANICAL CONTRACTOR.
11. THE TERMS "PROVIDE" OR "FURNISH", AS USED ON THESE PLANS, INDICATE THAT THE CONTRACTOR IS TO FURNISH AND INSTALL THE REFERENCED EQUIPMENT OR SYSTEMS IN THEIR ENTIRETY AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
12. CONTRACTOR SHALL PROVIDE AND INSTALL ALL COMPONENTS INDICATED ON DETAIL SHEETS, PLANS, SPECIFICATIONS AND ALL PERTINENT EQUIPMENT REQUIRED FOR A COMPLETE AND WORKABLE SYSTEM.
13. CONTRACT CLOSE OUT: IN THE PRESENCE OF THE OWNER, ENGINEER OR ARCHITECT; DEMONSTRATING OPERATION OF SYSTEMS AND THAT ALL SPECIFICATIONS HAVE BEEN MET TO THE SATISFACTION OF ALL PARTIES.
14. IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS TO PROVIDE ALTERATIONS AND/OR NEW CONSTRUCTION AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS TO PROVIDE COMPLETE NEW SYSTEMS IN EVERY RESPECT, CAPABLE OF OPERATING AS DESIGNED. IT IS NOT INTENDED THAT EVERY FITTING, MINOR DETAIL OR FEATURE BE SHOWN ON DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DETAIL NECESSARY FOR COMPLETION OF THESE SYSTEMS IN ACCORDANCE WITH GOOD PRACTICE.

MECHANICAL CONTRACTOR SCOPE ITEMS:

1. REMOVE & REPLACE SPECIFIED UNIT VENTILATORS.
2. INSTALLATION OF NEW HYDRONIC PIPING.
3. CONNECTION TO EXISTING CONDENSATE DRAIN PIPING.
4. ALL CEILINGS TO BE REMOVED AND REINSTALLED BY M.C. TO COMPLETE MECHANICAL SCOPE. ANY ADDITIONAL COST FOR ELECTRICAL REMOVAL AND REINSTALLATION BORNE BY M.C.
5. CUTTING, PATCHING, AND PAINTING:
   UNLESS OTHERWISE NOTED, ALL CUTTING, PATCHING, AND PAINTING IS THE RESPONSIBILITY OF THIS CONTRACTOR FOR ALL HIS WORK INCLUDING:
   - –NEW OPENINGS FOR NEW WORK.
   - –REPAIR ALL EXISTING OPENINGS FOR REMOVAL OR ABANDON WORK.
   - –FILLING ALL OPENINGS, INCLUDING FUR PAINT.
   - –PAINTING OF ALL SURFACES AFTER REMOVAL OF UNIT VENTILATORS, BASEBOARD ELEMENTS AND ENCLOSURES, UNIT HEATERS, CABINET HEATERS, ETC.
6. SUBMIT PIPING LAYOUT SHOP DRAWINGS PRIOR TO SUBMITTALS. PROVIDE COMPETENT PERSON FOR FIELD INVESTIGATION.
7. ALL WORK INDICATED AS MECHANICAL, HVAC, PLUMBING, AND CONTROLS SHALL BE PERFORMED BY M.C.
8. PROVIDE CONSTRUCTION BARRIERS AT EACH END OF CORRIDOR THROUGH THE DURATION OF THE PROJECT.
9. PROVIDE CONSTRUCTION BARRIERS IN FIRST FLOOR CORRIDOR AND CLASS ROOM TO SEPARATE AREA OF WORK FROM OCCUPANTS. PERFORM TIE-IN TO DUAL-TEMP LINES AFTER HOURS TO MINIMIZE SHUT-DOWN OF OTHER HVAC EQUIPMENT. PROVIDE NEW ISOLATION VALVES TO CONTINUE NEW PIPING & INSTALLATION IN SECOND FLOOR WHILE LEAVING ALL OTHER SYSTEMS FULLY OPERATIONAL.

HVAC LINE TYPES

- EXISTING EQUIPMENT/DUCT TO BE REMOVED
- EXISTING EQUIPMENT/DUCT TO REMAIN
- NEW EQUIPMENT / DUCT
- ATV — ATMOSPHERIC VENT
- FILL — FILL LINE
- HWR — LOW TEMPERATURE HOT WATER RETURN
- HWS — LOW TEMPERATURE HOT WATER SUPPLY
- MU — MAKEUP WATER
- G — NATURAL GAS LINE
- PC — PUMPED CONDENSATE
- RD — REFRIGERANT DISCHARGE
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- VAC — VACUUM LINE
- VPD — VACUUM PUMP DISCHARGE
- VR — VACUUM RETURN

GENERAL SYMBOLS

- POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
- POINT OF DISCONNECT
- INDICATES SECTION LETTER
- INDICATES DRAWING NUMBER WHERE LOCATED
- INDICATES TYPE OF AIR OUTLET
- INDICATES AIR FLOW REQUIREMENTS
- TEMPERATURE SENSOR (FLAT PLATE)
- DUCT SMOKE DETECTOR
- CARBON DIOXIDE SENSOR

PIPING SYMBOLS

- DIRECTION OF FLOW
- ANCHOR
- PIPE GUIDE
- REDUCER OR INCREASER
- ECCENTRIC REDUCER
- TOP CONNECTION, 45° OR 90°
- BOTTOM CONNECTION, 45° OR 90°
- SIDE CONNECTION
- CAPPED OUTLET
- PIPE DOWN TURN
- PIPE RISE
- UNION
- DIRECTION OF PIPE PITCH (DOWN)

DUCTWORK SYMBOLS

- DUCTWORK DOUBLE LINE REPRESENTATION: "A" INDICATES DUCT WIDTH; "B" INDICATES DUCT DEPTH.
- DUCTWORK SINGLE LINE REPRESENTATION: "A" INDICATES DUCT WIDTH; "B" INDICATES DUCT DEPTH.
- SUPPLY AIR DUCT UP
- SUPPLY AIR DUCT DOWN
- RETURN AIR DUCT UP
- RETURN AIR DUCT DOWN
- EXHAUST AIR DUCT UP
- EXHAUST AIR DUCT DOWN
- FLEXIBLE DUCTWORK
- SUPPLY AIR FLOW
- RETURN/EXHAUST AIR FLOW
- VOLUME DAMPER
- MOTORIZED DAMPER w/ ACCESS DOOR
- FIRE DAMPER W/ ACCESS DOOR
- SUPPLY AIR TERMINAL
- RETURN/EXHAUST AIR TERMINAL
- EXHAUST AIR TERMINAL

VALVE SYMBOLS

- GATE VALVE – THREADED/FLANGED
- GATE VALVE WITH 3/4" HOSE ADAPTER
- GLOBE VALVE – THREADED/FLANGED
- CHECK VALVE
- STRAINER
- WYE STRAINER (WITH BALL VALVE & HOSE CONNECTION)
- STRAINER WITH VALVED DRAIN AND QUICK-COUPLE HOSE CONNECTOR
- FLEXIBLE CONNECTION
- ANGLE GLOBE VALVE
- BUTTERFLY VALVE
- BALL VALVE
- CONTROL VALVE (CV) – FLOAT-OPERATED
- STEAM MODULATING CONTROL VALVE
- DDC MODULATING CONTROL VALVE/ PRESSURE SENSOR
- TEMPERATURE & PRESSURE RELIEF VALVE
- SAFETY OR PRESSURE RELIEF VALVE
- AUTOMATIC BALANCING CONTROL VALVE
- CIRCUIT SETTER VALVE
- COMBINATION BALANCING AND SHUT-OFF VALVE
- MANUAL AIR VENT

ABBREVIATIONS

AC	AIR CONDITIONING UNIT
ACT	ACOUSTIC CEILING TILE
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
AF	AFTER FILTER
AFF	ABOVE FINISHED FLOOR
AFM	AIR FLOW MEASURING DEVICE
AHU	AIR HANDLING UNIT
A.L.D.	AUTOMATIC LOUVER DAMPER (PNEUMATIC)
AP	ACCESS PANEL
BDD	BACK DRAFT DAMPER
BG	BOTTOM GRILLE (WALL TYPE)
BR	BOTTOM REGISTER (WALL TYPE)
BTUH	BRITISH THERMAL UNITS/HOUR
CC	COOLING COIL
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CLG	CEILING
CO	CLEAN OUT
CP	CONDENSATE PUMP
CR	CEILING REGISTER
CUH	CABINET UNIT HEATER
CW	COLD WATER
D	DRAIN
Db	DRY BULB TEMPERATURE, °F
dB	DECIBELS
DCV	DEMAND CONTROL VENTILATION
DN	DOWN
DP	DIFFERENTIAL PRESSURE
Dp	DEW POINT TEMPERATURE, °F
DS	DUCT SMOKE DETECTOR
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMP
E.C.	ELECTRICAL CONTRACTOR
ECC	ENGINEERING CONTROL CENTER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EGW	ETHYLENE GLYCOL-WATER SOLUTION
EMD	END OF MAIN DRIP (STEAM)
ERC	ENERGY RECOVERY COIL
ERP	ELECTRIC RADIANT CEILING PANEL
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EXIST	EXISTING
F.A.I.	FRESH AIR INTAKE
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FLR	FLOOR
FPC	FIRE PROTECTION CONTRACTOR
F/SD	COMBINATION FIRE/SMOKE DAMPER
FTR	FIN TUBE RADIATION
G.C.	GENERAL CONTRACTOR
GH	GRAVITY HOOD
GPM	GALLONS PER MINUTE
H.C.	HVAC CONTRACTOR
HF	HEPA FILTER
HP	HORSEPOWER
HRP	HYDRONIC RADIANT CEILING PANEL
HV	HEATING AND VENTILATING UNIT
IV	INLET VANES
LCD	LINEAR CEILING DIFFUSER
LFD	LAMINAR FLOW DIFFUSER
LF	LINEAR FEET
LBS/HR	POUNDS PER HOUR
MB	MIXING BOX
MD	MOTORIZED DAMPER
MER	MECHANICAL EQUIPMENT ROOM
MAX.	MAXIMUM
MBH	ONE THOUSAND BTUH
MIN.	MINIMUM
NOM.	NOMINAL
OA	OUTSIDE AIR
P	PUMP
P.C.	PLUMBING CONTRACTOR
PD	PRESSURE DROP (FEET OF WATER)
PF	PRE-FILTER
PGW	PROPYLENE GLYCOL-WATER SOLUTION
PH	PREHEAT
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE IN.
RA	RETURN AIR
RF	RETURN FAN
RHC	REHEAT COIL
Rh	RELATIVE HUMIDITY
RPZ	REDUCED PRESSURE ZONE
SA	SUPPLY AIR
SD	SMOKE DAMPER
Sp. Gr.	SPECIFIC GRAVITY
SH	STEAM HUMIDIFIER
SP	STATIC PRESSURE
SPD	SPLITTER DAMPER
SPS	STATIC PRESSURE SENSOR
S.S.	STAINLESS STEEL
TG	TOP GRILLE (WALL TYPE)
TR	TOP REGISTER (WALL TYPE)
TWU	THRU WALL UNIT
UH	UNIT HEATER
U.N.O.	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
UVH	UNIT VENTILATOR (HORIZONTAL)
V	VALVE
VD	VOLUME DAMPER
VE	VOLUME EXTRACTOR
VI	VIBRATION ISOLATOR
VIF	VERIFY IN FIELD
Wb	WET BULB TEMPERATURE, °F
WFM	WATER FLOW MEASURING DEVICE
WMS	WIRE MESH SCREEN

OWNER SUPPLIED EQUIPMENT: DAIKIN - UNIT VENTILATOR SCHEDULE

UNIT SYMBOL	SUPPLY CFM	NUMBER OF ROWS	COOLING DATA					HEATING DATA					ELECTRICAL DATA (ECM MOTOR)			MODEL	STYLE
			SENSIBLE (MBH)	TOTAL (MBH)	EWT/LWT (°F)	GPM	W.P.D. (FT H_2O)	TOTAL (MBH)	EWT/LWT (°F)	GPM	W.P.D. (FT H_2O)	PIPE SIZE (IN)	MCA	MOCP	VOLT/PH		
UV-1	700	4	16.8	27.5	45/54.2	6	4.33	46.2	180/160	4.6	3.5	7/8	6.5	15	120/1ø	UAHF9H10	CEILING
UV-2	1150	4	31.2	50.4	45/54.2	11	7.94	74.0	180/160	7.4	5.3	7/8	6.5	15	120/1ø	UAVS9H15	FLOOR
UV-3	1475	4	37.4	56	45/55.2	11	7.94	90.0	180/160	9.0	6.0	7/8	6.5	15	120/1ø	UAVS9H15	FLOOR
UV-4	600	3	11.1	17.2	45/53.6	4	2.58	20.0	180/160	2.0	.64	7/8	6.5	15	120/1ø	UAVS9H07	CEILING

NOTES:

1. ALL CONTROLS BY TBS. UNIT VENTILATORS SHALL NOT BE PROVIDED WITH INTEGRAL MANUFACTURER STAND ALONE DDC CONTROLS OPTION.
2. TEMPERATURE SENSORS TIED TO BMS.
3. PROVIDE TWO-WAY MODULATING CONTROL VALVE.
4. PROVIDE 1" MERV 8 FILTER.
5. PROVIDE ALL UV's WITH TWO (2) ADDITIONAL SETS OF MERV 8 FILTERS TO BE USED AS ATTIC STOCK.
6. UNIT VENTILATORS SHALL BE SWITCHED TO OCCUPIED MODE BY THE BMS SCHEDULING.
7. COLOR BY ARCHITECT.
8. SEE "UNIT VENTILATOR SIZING SCHEDULE" FOR DIMENSIONAL INFORMATION.
9. PROVIDE WITH FACTORY ECM, 3-SPEED MOTORS.
10. PROVIDE WITH FACE & BYPASS DAMPERS.
11. PROVIDE UV-1 WITH BOTTOM RETURN GRILLE, TOP MOUNT OA CONNECTION AND FRONT MOUNT DUCT COLLAR.
12. PROVIDE UV WITH REAR PIPING ENCLOSURE WHERE REQUIRED FOR EXISTING BASEBOARD.
13. PROVIDE WITH FACTORY 6" DEEP END PANELS TO MATCH EXISTING UV INSTALLATION.

North Salem MS/HS School Ventilation Table

Unit No.	Occupancy Classification	Square Footage	Occupancy Density	# of Occupants	OA (CFM/person)	OA (CFM/ft²)	Uncorrected OA (CFM)	Air Distribution Effectiveness	Zone Outdoor Airflow (CFM)	Unit Designation
Office F-204	Office	223	5	2	5	0.06	23.38	0.8	30	UV-4
Classroom F-205	Classroom (age 9 plus)	791	35	28	10	0.12	374.92	0.9	417	UV-3
Classroom F-206	Classroom (age 9 plus)	805	35	29	10	0.12	386.6	0.9	430	UV-2
Classroom F-207	Classroom (age 9 plus)	792	35	28	10	0.12	375.04	0.9	417	UV-3
Classroom F-208	Classroom (age 9 plus)	805	35	29	10	0.12	386.6	0.9	430	UV-2
Classroom F-209	Classroom (age 9 plus)	805	35	29	10	0.12	386.6	0.9	430	UV-3
Clasroom F-210	Classroom (age 9 plus)	805	35	29	10	0.12	386.6	0.9	430	N/A
Resource Room F-211	Classroom (age 9 plus)	364	35	13	10	0.12	173.68	0.8	218	UV-1
Clasroom F-212	Classroom (age 9 plus)	805	35	29	10	0.12	386.6	0.9	430	UV-2
Sp. Ed. F-213	Classroom (age 9 plus)	456	35	16	10	0.12	214.72	0.8	269	UV-1

NOTE:

1. BALANCE EACH UV AND GRAVITY RELIEF WITH CORRESPONDING ROOMS OUTDOOR AIR REQUIREMENTS.

UNIT VENTILATOR SIZING SCHEDULE

"DAIKIN" AS STANDARD

UNIT NO.	CFM	LENGTH (IN.)	OA OPENING (IN.)	WEIGHT (LBS)
UV-1	700	74	48	445
UV-2	1150	98	62	600
UV-3	1475	98	62	600

2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NYS TABLE C403.11.3 MINIMUM PIPE INSULATION THICKNESS (IN INCHES) [a,c]

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)		
	CONDUCTIVITY (BTUxIN)/(HxFT²x°F) [b]	MEAN RATING TEMPERATURE °F	<1"	1 TO <1½"	1½" TO <4"
> 350	0.32–0.34	250	4.5	5.0	5.0
251–350	0.29–0.32	200	3.0	4.0	4.5
201–250	0.27–0.30	150	2.5	2.5	2.5
141–200	0.25–0.29	125	1.5	1.5	2.0
105–140	0.21–0.28	100	1.0	1.0	1.5
40–60	0.21–0.27	75	0.5	0.5	1.0
< 40	0.20–0.26	50	0.5	1.0	1.0

FOR SI: 1" = 25.4mm, °C = [(°)–32]/1.8

a. FOR PIPING SMALLER THAN 1½" AND LOCATED IN PARTITIONS WITHIN CONDITIONED SPACES, REDUCTION OF THESE THICKNESSES BY 1" SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN FOOTNOTE B) BUT NOT TO A THICKNESS LESS THAN 1".

b. FOR INSULATION OUTSIDE THE STATED CONDUCTIVITY RANGE, THE MINIMUM THICKNESS (T) SHALL BE DETERMINED AS FOLLOWS:

$$T = r\left[\left(1 + \frac{t}{r}\right)^{\frac{K}{k}} - 1\right]$$

WHERE:
T = MINIMUM INSULATION THICKNESS
r = ACTUAL OUTSIDE RADIUS OF PIPE
t = INSULATION THICKNESS LISTED IN THE TABLE APPLICABLE FLUID TEMPERATURE AND PIPE SIZE
K = CONDUCTIVITY OF ALTERNATE MATERIAL AT MEAN RATING TEMPERATURE INDICATED FOR THE APPLICABLE FLUID TEMPERATURE [(BTUxIN)/HxFT²x°F)]
k = THE UPPER VALUE OF THE CONDUCTIVITY RANGE LISTED IN THE TABLE FOR THE APPLICABLE FLUID TEMPERATURE

c. FOR DIRECT-BURIED HEATING AND HOT WATER SYSTEM PIPING, REDUCTION OF THESE THICKNESSES BY 1½" (38mm) SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN FOOTNOTE B BUT NOT TO THICKNESSES LESS THAN 1".

ARCHITECT

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FE Job #: 21-295

SED #66-13-01-04-0-006-028

JOHN D. FELLENZER, P.E.

STATE OF NEW YORK · JOHN DANIEL FELLENZER · 092933 · LICENSED PROFESSIONAL ENGINEER

NY PROFESSIONAL ENGINEER NO. 092933-1

NORTH SALEM WORLD LANGUAGES UV REPLACEMENT

230 June Road
North Salem, NY 10560

REVISIONS

No.	Description	Date

ISSUED: BID ISSUANCE

DATE: February 23, 2022

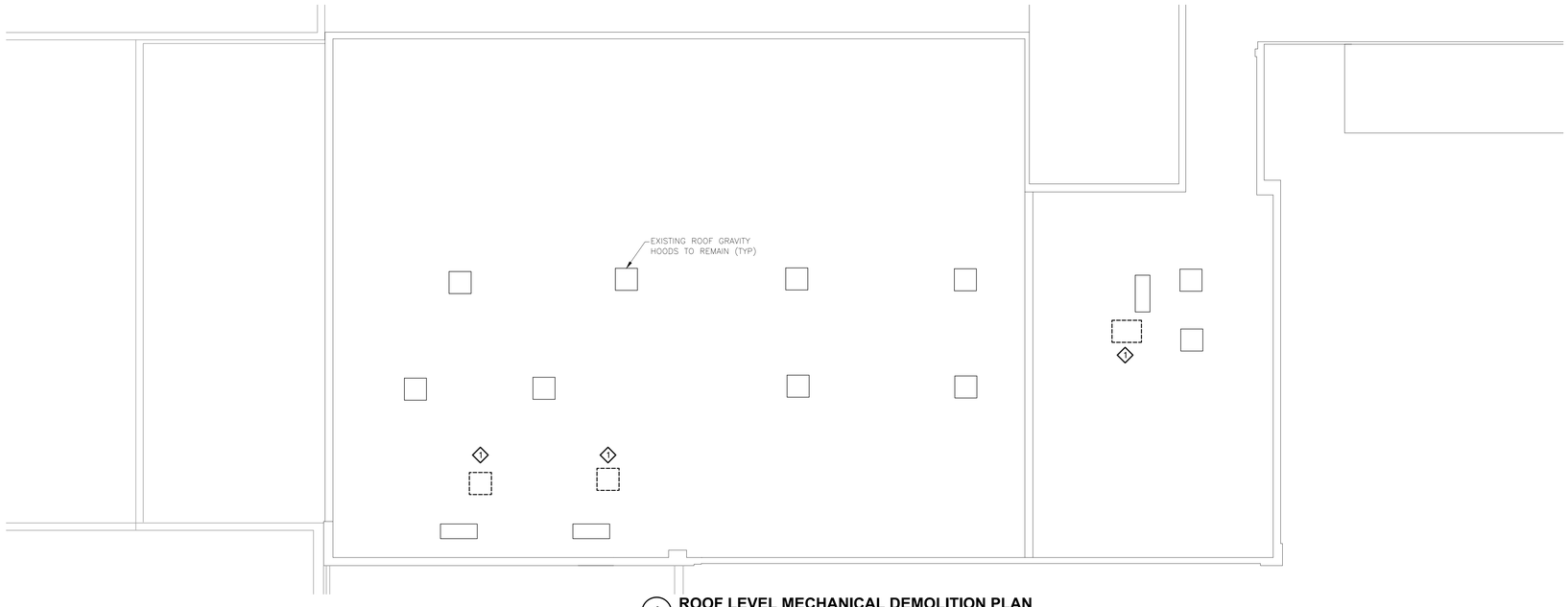
SCALE: AS SHOWN

SHEET NAME:
HVAC: SYMBOLS, NOTES, ABBREVIATIONS, & SCHEDULES

SHEET NUMBER:
H001

DEMO KEYED NOTES:

1. DEMO EXISTING (UNIT VENTILATOR) CONDENSING UNIT. PATCH AND SEAL EXISTING PENETRATION AS REQUIRED. MAINTAIN ROOF WARRANTY.



1 **ROOF LEVEL MECHANICAL DEMOLITION PLAN**
SCALE: 1/8"=1'-0"

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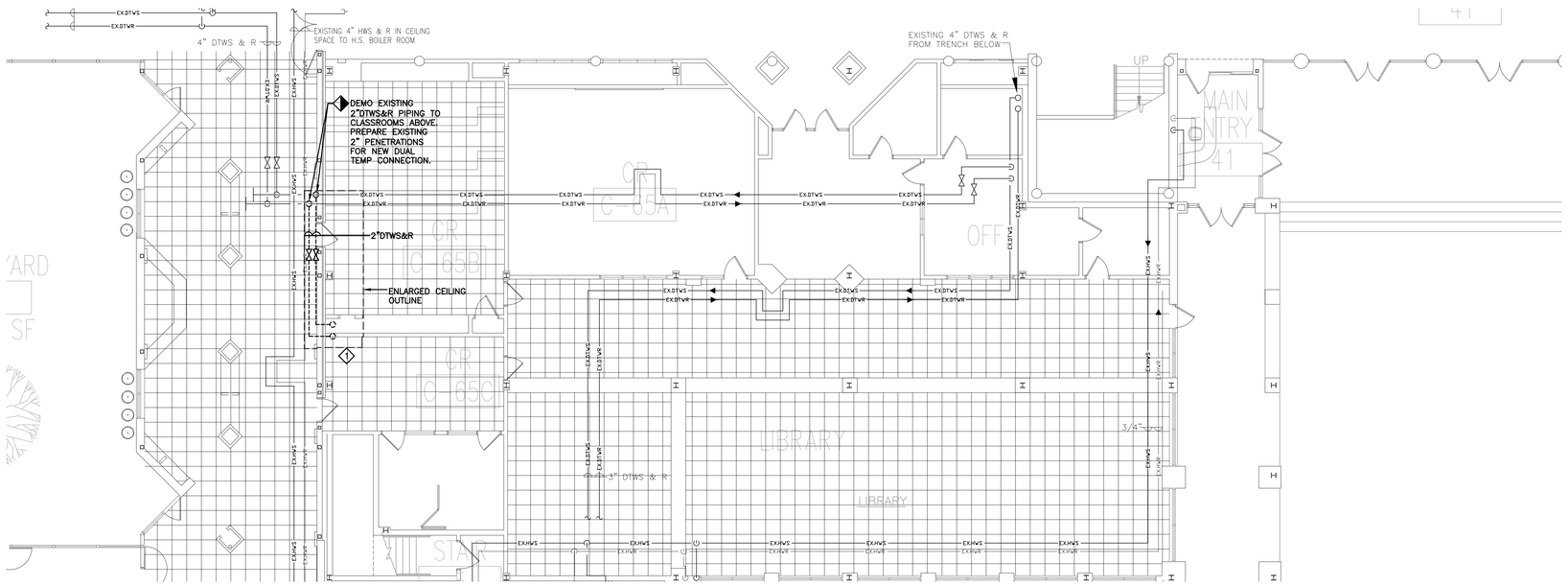
REVISIONS

No.	Description	Date

ISSUED: BID ISSUANCE
DATE: February 23, 2022
SCALE: AS SHOWN
SHEET NAME:
HVAC: DEMOLITION ROOF LEVEL PLAN

SHEET NUMBER:

HD102



1 FIRST LEVEL DEMOLITION MECHANICAL PLAN

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

NOTE:

1. PATCH AND PAINT ALL FLOOR, CEILING, AND WALL OPENINGS RESULTING FROM HVAC DEMOLITION PER DIVISION 1 SPECIFICATIONS.

DEMOLITION KEYED NOTE:

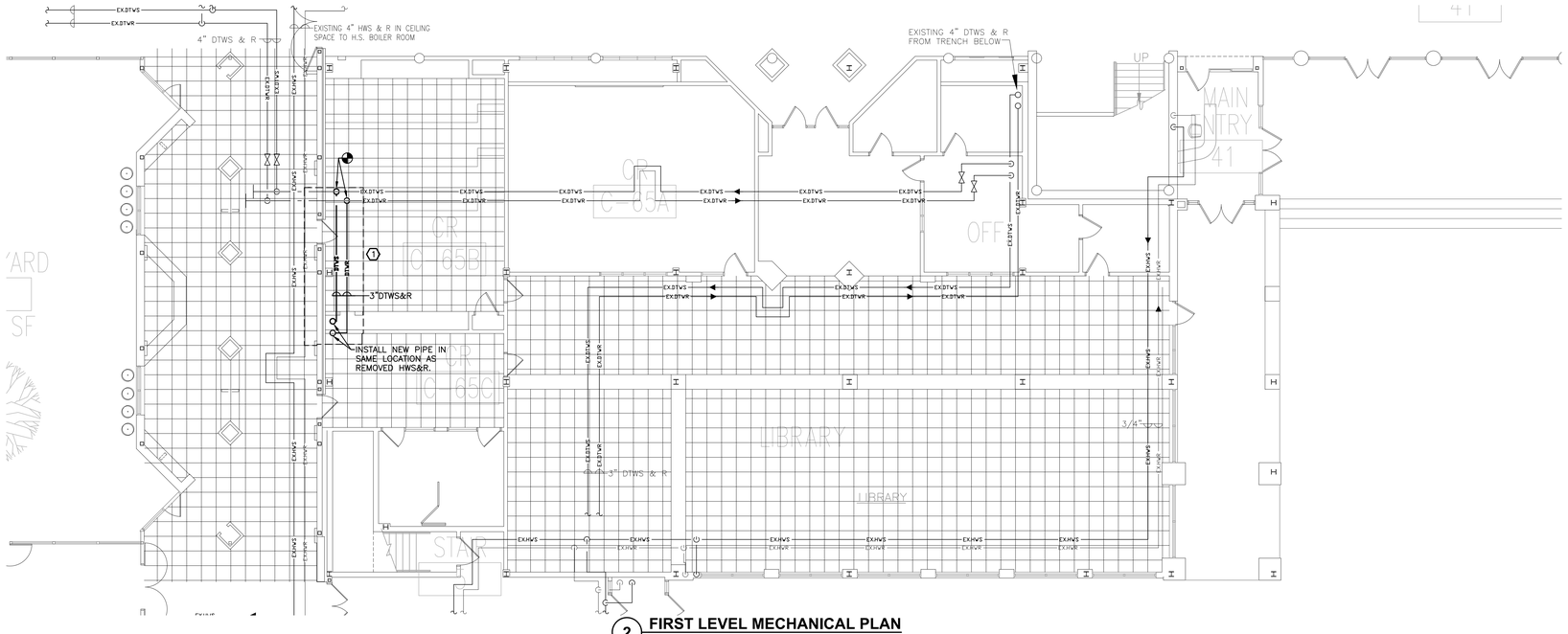
1. MECHANICAL CONTRACTOR TO REMOVE CEILING & HIRE ELECTRICAL SUB CONTRACTOR TO REMOVE CEILING ELECTRICAL DEVICES AS NECESSARY FOR HIS OWN WORK AND TO ALLOW THE THE DEMOLITION AND INSTALLATION OF PIPING. ALL REMOVAL WORK SHALL BE REPLACED AFTER PIPING INSTALLATION IS COMPLETED. APPROXIMATES ARE SHOWN.

NEW WORK KEYED NOTE:

1. MECHANICAL CONTRACTOR TO REINSTALL CEILING & HIRE ELECTRICAL SUB CONTRACTOR TO REINSTALL ALL CEILING ELECTRICAL DEVICES UPON COMPLETION OF PIPING INSTALLATION.

GENERAL NOTE:

1. ALL PIPING SHOWN IS IN CEILING SPACE.



2 FIRST LEVEL MECHANICAL PLAN

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

ARCHITECT

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REVISIONS

No.	Description	Date

ISSUED: BID ISSUANCE

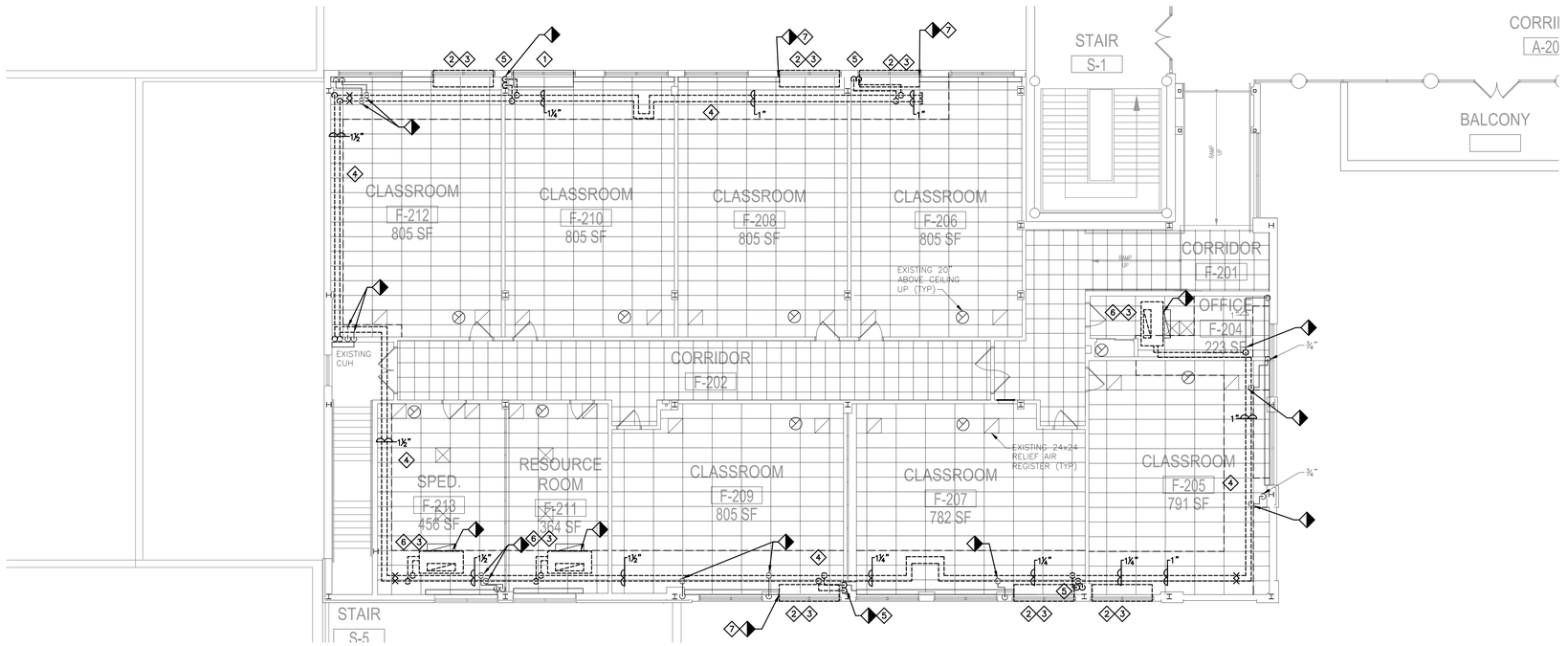
DATE: February 23, 2022

SCALE: AS SHOWN

SHEET NAME:
HVAC: DEMOLITION AND NEW CONSTRUCTION FIRST LEVEL PLANS

SHEET NUMBER:

H100



1 SECOND LEVEL DEMOLITION MECHANICAL PLAN

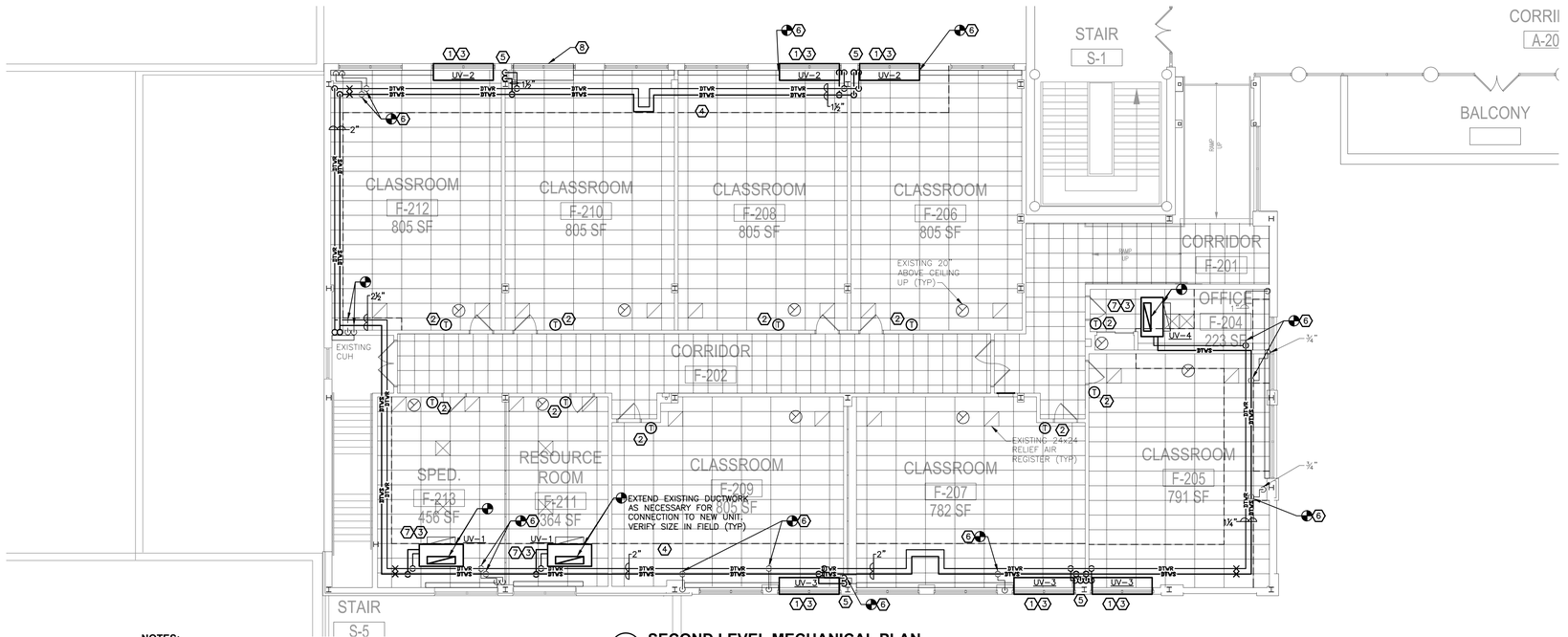
SCALE: 1/8"=1'-0"

NOTES:

1. DEMO ALL EXISTING UNIT VENTILATOR CONTROL, BALANCING VALVES, ETC.
2. REMOVE ALL HYDRONIC PIPING. PATCH AND PAINT ALL FLOOR, CEILING, AND WALL OPENINGS RESULTING FROM HVAC DEMOLITION PER DIVISION 1 SPECIFICATIONS. PREPARE FOR NEW UV'S.
3. ALL EXISTING BASEBOARDS TO REMAIN. PREPARE EXISTING PIPES FOR NEW CONNECTION.

DEMOLITION KEYED NOTES:

1. EXISTING UV TO REMAIN. DEMO EXISTING 1" PIPING UP TO CONTROL VALVES AND PREPARE FOR NEW CONNECTION.
2. KEEP EXISTING LOUVERS. REMOVE UV, CONTROL PIPING, & RUNOUTS. PREPARE FOR NEW UV WITH DUAL TEMP HW/CHILLED WATER CONNECTIONS.
3. REMOVE EXISTING CONTROLS & SENSORS.
4. MECHANICAL CONTRACTOR TO REMOVE CEILING & HIRE ELECTRICAL SUB CONTRACTOR TO REMOVE CEILING ELECTRICAL DEVICES AS NECESSARY FOR HIS OWN WORK AND TO ALLOW THE THE DEMOLITION AND INSTALLATION OF PIPING. ALL REMOVAL WORK SHALL BE REPLACED AFTER PIPING INSTALLATION IS COMPLETED. APPROXIMATES ARE SHOWN.
5. DEMO EXISTING VERTICAL PIPING IN GYPSUM WALL ENCLOSURE. PREPARE FOR NEW PIPING AND REPAIR WALL ENCLOSURE.
6. REMOVE EXISTING CEILING UV, CONTROL PIPING, & RUNOUTS. DISCONNECT FROM EXISTING OA & SA DUCTS AND PREPARE FOR RECONNECTION TO NEW UV, PREPARE FOR NEW UV WITH DUAL TEMP HW/CHILLED WATER CONNECTIONS.
7. DISCONNECT BASEBOARD FROM PIPING BEHIND UV. PREPARE FOR RECONNECTION.



2 SECOND LEVEL MECHANICAL PLAN

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

NOTES:

1. UPON COMPLETION OF NEW WORK, REFILL, TEST, ENERGIZE AND BALANCE HYDRONIC PIPING.
2. CONTRACTOR TO VERIFY IN FIELD EACH AND EVERY LOUVER OPENING PRIOR TO SUBMITTAL PACKAGE.

NEW WORK KEYED NOTES:

1. NEW UV (UNIT VENTILATOR) FURNISHED BY OWNER, INSTALLED BY CONTRACTOR. CONTRACTOR TO CONNECT TO NEW DUAL TEMP HYDRONIC PIPING AND EXISTING CONDENSATE DRAIN. PROVIDE ALL NEW VALVES AS NECESSARY. COORDINATE WITH EXISTING LOUVER.
2. INSTALL NEW TEMPERATURE SENSOR (FIELD VERIFY LOCATION).
3. PROVIDE NEW DDC CONTROLS.
4. MECHANICAL CONTRACTOR TO REINSTALL CEILING & HIRE ELECTRICAL SUB CONTRACTOR TO REINSTALL ALL CEILING ELECTRICAL DEVICES UPON COMPLETION OF PIPING INSTALLATION. PROVIDE NEW TILES AS REQUIRED.
5. INSTALL NEW VERTICAL PIPING DROP TO NEW UV'S IN EXISTING WALL CHASE. PATCH AND PAINT EXISTING WALLS AS REQUIRED. PROVIDE 1½" DTWS&R SPLIT TO EACH UV.
6. RECONNECT EXISTING BASEBOARD BRANCHES TO NEW PIPING IN CEILING OR BEHIND NEW UV.
7. NEW CEILING UV (UNIT VENTILATOR) FURNISHED BY OWNER, INSTALLED BY CONTRACTOR. CONTRACTOR TO CONNECT TO NEW DUAL TEMP HYDRONIC PIPING, EXISTING CONDENSATE DRAIN, AND OA/SA DUCTS. PROVIDE ALL NEW VALVES AS NECESSARY.
8. EXISTING UV. CONNECT TO NEW PIPING DROP.

GENERAL NOTE:

1. PIPING SHOWN IS IN CEILING SPACE WITH DROPS ALONG WALL TO UV'S AND BASEBOARD.
2. BASEBOARD SHALL REMAIN AND OPERATE IN HEATING ONLY.
3. MAKE APPROPRIATE PIPING CONNECTIONS AND INSTALL APPROVED CONTROL VALVE TO SEPARATE BASEBOARD PIPING FROM DTWS/DTWR DURING THE COOLING SEASON.

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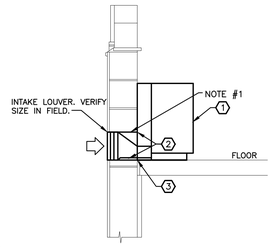
REVISIONS

No.	Description	Date

ISSUED: BID ISSUANCE
DATE: February 23, 2022
SCALE: AS SHOWN
SHEET NAME: HVAC: DEMOLITION AND NEW CONSTRUCTION SECOND LEVEL PLANS
SHEET NUMBER: H101



KEYED NOTES:

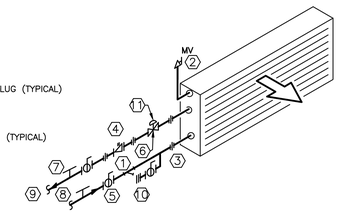
1. NEW UNIT VENTILATOR FURNISHED BY THE OWNER AND INSTALLED BY THE HVAC CONTRACTOR. UNIT MUST BE INSTALLED FLUSH WITH THE EXTERIOR WALL CONSTRUCTION FOR AN AIRTIGHT FIT.
2. REPLACE EXISTING SLEEVE WITH CONTINUOUS 20 GA. STAINLESS STEEL SHEET METAL SLEEVE (BY H.C.) CAULKED AND SCREWED TO LOUVER. SLOPE TOWARDS EXTERIOR. H.C. SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING. EXISTING WALL LINTEL TO REMAIN. COORDINATE WITH ARCHITECT. MEASURE EXISTING LOUVER AND EXISTING OPENING AND COORDINATE WITH NEW O/A OPENING IN UV. PROVIDE TRANSITION SLEEVE AS REQUIRED.
3. SEAL BETWEEN UNIT AND EXTERIOR CONSTRUCTION WITH MANUFACTURER'S APPROVED 1" WIDE COMPRESSIBLE GASKET. GASKET TO FORM AN AIRTIGHT SEAL BETWEEN THE WALL AND THE UNIT.
4. REFER TO UV COIL PIPING SCHEMATIC. SEE DETAIL 2/H701.
5. DISCONNECT ELECTRIC AND CONTROLS FROM EXISTING UV. PROVIDE NEW CONTROLS TO EXISTING BMS & POWER AS SHOWN ON E101.
6. FIELD VERIFY PIPING, ELECTRICAL, CONTROLS, AND ACCESS. COORDINATE WITH NEW EQUIPMENT CHASSIS AND ORDER CORRECT COMPONENTS TO MINIMIZE FIELD CHANGES.

NOTES:

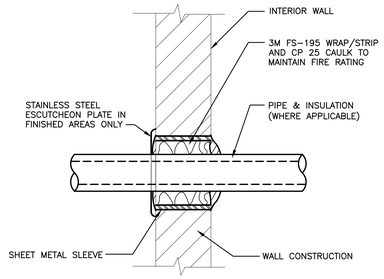
1. PROVIDE ¼" THICK STRUCTURAL STEEL SLEEVE WITH VERTICAL STEEL STIFFENERS.

1 UNIT VENTILATOR DETAIL
N.T.S.

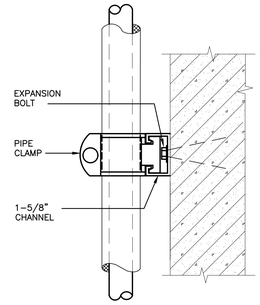
1. STRAINER
2. MANUAL AIR VENT (TYPICAL)
3. UNION (TYPICAL)
4. AUTOMATIC BALANCING VALVE
5. BALL VALVE (TYPICAL)
6. TWO WAY CONTROL VALVE
7. TEMPERATURE / PRESSURE CONNECTOR PLUG (TYPICAL)
8. DTWS
9. DTWR
10. DRAIN VALVE W/HOSE END,CAP AND CHAIN (TYPICAL)
11. END OF CYCLE (SPRING RETURN) CONTROL VALVE SHALL BE USED FOR UNIT VENTILATORS WITH HOT WATER COILS, STEAM COILS OR DUAL TEMPERATURE COILS AND FACE & BYPASS DAMPERS.



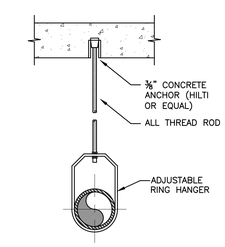
2 UNIT VENTILATOR HYDRONIC PIPING
N.T.S.



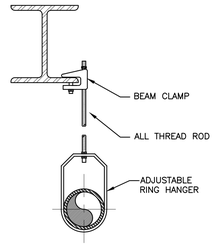
3 RATED WALL PENETRATION DETAIL
N.T.S.



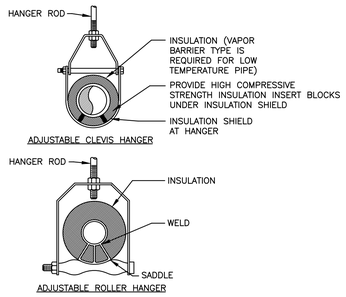
4 PIPE SUPPORT AT WALL
N.T.S.

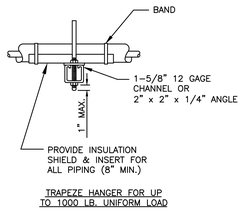


HANGER DETAIL - CONCRETE DECK



BEAM CLAMP HANGER DETAIL



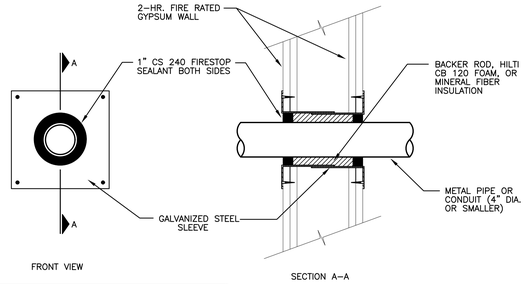


INDIVIDUAL PIPE HANGER ROD & SPACING SCHEDULE

NOMINAL PIPE DIAMETER (IN.)	3/4	1	1 1/2	2	2 1/2	3	4	5	6	–
HANGER ROD SIZE (IN.)	3/8	3/8	3/8	3/8	1/2	1/2	5/8	5/8	7/8	–
MAXIMUM SUPPORT SPACING (FT.)										
STEEL PIPE	6	7	9	10	11	12	14	16	17	–
COPPER TUBE	6	6	8	9	10	10	12	14	14	–

NOTE: TRAPEZE HANGER SPACING SHALL BE BASED ON SPACING OF SMALLEST PIPE ON TRAPEZE. TRAPEZE SHALL BE DESIGNED WITH A FACTOR OF SAFETY OF 5 FOR CENTER OF SPAN CONCENTRATED LOAD

5 TYPICAL PIPE HANGERS
N.T.S.



NOTE: IF MINERAL FIBER INSULATION IS USED AS THE BACKING MATERIAL, SEALANT DEPTH MAY BE REDUCED TO 1/2".

ALL SURFACES SHOULD BE CLEANED, SOUND AND DRY PRIOR TO APPLICATION OF FIRESTOPPING MATERIALS. IF THE OPENING IS NOT SLEEVED, INSTALL A GALVANIZED STEEL SLEEVE AROUND THE PIPE AND ANCHOR IT IN PLACE.

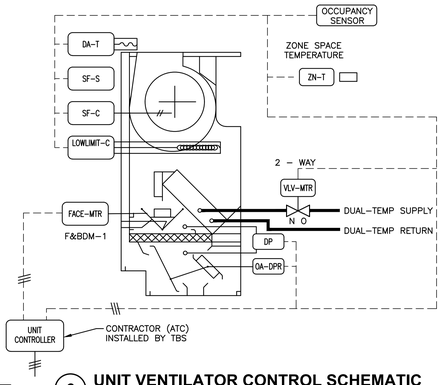
INSTALL BACKER ROD, CB 120 FOAM, OR PACK MINERAL WOOL BETWEEN THE PIPE SLEEVE, LEAVING APPROPRIATE SPACE ON EACH SIDE OF THE WALL FOR THE FIRESTOP SEALANT.

APPLY THE REQUIRED DEPTH OF CS 240 FIRESTOP SEALANT TO BOTH SIDES OF THE WALL AND TOOL IT WITH A PUTTY KNIFE UNTIL FLUSH WITH THE SURFACE. LEAVE COMPLETE SEAL UNDISTURBED FOR 48 HOURS.

7 FIREWALL PENETRATION DETAIL
N.T.S.

CONTROL LEGEND

SYMBOL	DESCRIPTION
R	RELAY
T	DUCT TEMPERATURE SENSOR
H	DUCT HUMIDITY SENSOR
C	CURRENT SENSOR
M	MOTOR STARTER OR VFD
DP	DIFFERENTIAL PRESSURE SWITCH
SD	DUCT SMOKE DETECTOR
M	MOTORIZED DAMPER
FS	FREEZE STAT
DA-T	DISCHARGE AIR SENSOR
SF-S	SUPPLY FAN STATUS
SF-C	SUPPLY FAN CURRENT SENSOR



6 UNIT VENTILATOR CONTROL SCHEMATIC
N.T.S.

DDC SEQUENCE OF OPERATION

A: GENERAL

1. THE DDC PROGRAMS ARE TO BE PROVIDED TO MEET THE CONTROL STRATEGIES SPECIFIED BELOW AND SHALL BE FULLY INTEGRATED WITH THE FACILITIES EXISTING TEMPERATURE CONTROL SYSTEM, TYPICAL OF TBS CONTROLS. THE DDC SYSTEM SHALL HAVE RESIDENT IN ITS MEMORY AND AVAILABLE TO THE PROGRAMS A FULL LIBRARY OF DDC ALGORITHMS, INTRINSIC CONTROL OPERATORS, ARITHMETIC, LOGIC, AND RELATIONAL OPERATORS FOR IMPLEMENTATION OF CONTROL SEQUENCES. REFER TO THE WRITTEN SPECIFICATIONS FOR FURTHER REQUIREMENTS AND OTHER SYSTEMS.
2. ALL DDC SETPOINTS, GAINS, AND TIME CONSTANTS ASSOCIATED WITH THE PROGRAMS SHALL BE AVAILABLE TO THE OPERATOR FOR DISPLAY AND MODIFICATION VIA THE DDC SYSTEM BUILT-IN KEYPAD DISPLAY. PANEL SHALL HAVE PROVISIONS FOR CONNECTIONS TO AN EXTERNAL COMPUTER, PRINTER, INTERNAL NETWORK CARDS AND MODEMS REQUIRED FOR THE INTERNET.
3. PROVIDE INTERCONNECTION TO THE WORKSTATION AS DESCRIBED BELOW AND MORE FULLY ELSEWHERE IN THE WRITTEN SPECIFICATIONS WITH GRAPHICS FOR OPERATOR INTERFACE IDENTICAL FOR ALL SCHOOLS OF ALL EQUIPMENT CONTROL FUNCTIONS.

B: UNIT VENTILATOR CONTROL:

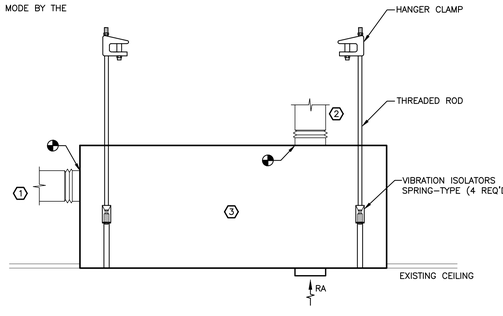
1. OCCUPIED HEATING/COOLING: DURING OCCUPIED MODE THE DAMPERS SHALL BE POSITIONED FOR INTRODUCTION OF MINIMUM DESIGN OUTSIDE AIR. THE FAN SHALL RUN CONTINUOUSLY. MODULATE THE 2-WAY CONTROL VALVE TO MAINTAIN THE REQUIRED SUPPLY AIR TEMPERATURE TO SATISFY THE ROOM AIR SETPOINT. DAMPERS SHALL MODULATE PER ASHRAE CYCLE II CONTROL.
2. TYPICAL CLASSROOM UNIT VENTILATORS WITH ASSOCIATED DRAFT STOP SYSTEM SHALL HAVE TIGHT SEAL MOTORIZED DAMPERS.
3. IN HEATING OPERATION, FREEZE PROTECTION SENSOR SHALL OPEN THE HEATING VALVE, OPEN THE FACE & BYPASS DAMPER, AND ALARM TO THE BMS.
4. UNIT VENTILATOR SHALL BE SWITCH FROM UNOCCUPIED TO OCCUPIED MODE BY THE EXISTING BMS SCHEDULING.

C: BASEBOARD CONTROL:

1. OCCUPIED HEATING: DURING OCCUPIED MODE, THE CONTROL VALVE SHALL MODULATE TO HELP MAINTAIN ROOM SETPOINT.
2. OCCUPIED COOLING: DURING COOLING, THE CONTROL VALVE SHALL REMAIN COMPLETELY CLOSED.

AUTOMATIC TEMPERATURE CONTROL POINTS SCHEDULE

SYSTEM DESCRIPTION	INPUTS					OUTPUTS					SYSTEM FEATURES					
	ANALOG		DISCRETE			ANALOG		DISCRETE			ALARMS		PROGRAMS			
UNIT VENTILATORS	TEMPERATURE/HUMIDITY	PRESSURE	% OPEN	ON/OFF STATUS	ALARM	PID MODULATION		OPEN/CLOSE OR ON/OFF	SETPOINT	ENABLE/DISABLE	STATUS	SAFETIES	TEMPERATURE	OCCUPIED/UNOCCUPIED WITH OVERRIDE	WARM UP/PRE-COOL	LEAD/LAG STAGING
SPACE TEMPERATURE	●								●				●			
FAN MOTOR				●				●			●			●	●	●
2 WAY MODULATING VALVE			●	●		●		●		●				●	●	●
R/A-O/A DAMPERS			●			●		●						●	●	●
OUTSIDE AIR TEMP.	●		●			●		●	●			●	●	●	●	●
FACE & BYPASS	●		●			●						●		●	●	●
FREEZE STAT/FREEZE PUMP	●			●	●									●	●	●
FILTER SENSORS									●		●	●	●			
SMOKE DETECTORS				●							●	●				
BB, CUH, WUH & CONVECTORS	●					●							●	●	●	
DIFFERENTIAL ENTHALPY	●															



KEYED NOTES:

1. RECONNECT NEW FLEX COLLAR/UV TO EXISTING SUPPLY DUCT.
2. RECONNECT NEW FLEX COLLAR/UV TO EXISTING O/A DUCT.
3. NEW UNIT VENTILATOR FURNISHED BY THE OWNER AND INSTALLED BY THE HVAC CONTRACTOR. UNIT MUST BE INSTALLED FLUSH WITH THE EXTERIOR WALL CONSTRUCTION FOR AN AIRTIGHT FIT.
4. REFER TO UV COIL PIPING SCHEMATIC. SEE DETAIL 2/H701.
5. DISCONNECT ELECTRIC AND CONTROLS FROM EXISTING UV. PROVIDE NEW CONTROLS TO EXISTING BMS & POWER AS SHOWN ON E101.
6. FIELD VERIFY PIPING, ELECTRICAL, CONTROLS, AND ACCESS. COORDINATE WITH NEW EQUIPMENT CHASSIS AND ORDER CORRECT COMPONENTS TO MINIMIZE FIELD CHANGES.

8 CEILING SUPPORTED UV
N.T.S.

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SED #66-13-01-04-0-006-028

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NORTH SALEM WORLD LANGUAGES UV REPLACEMENT

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REVISIONS

No.	Description	Date

ISSUED: BID ISSUANCE
DATE: February 23, 2022
SCALE: AS SHOWN
SHEET NAME: HVAC: DETAILS & CONTROLS
SHEET NUMBER: H701

GENERAL NOTES:

1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY. EXACT RUNS SHALL BE DETERMINED IN FIELD EXCEPT WHERE SPECIFICALLY DIMENSIONED ON CONDUIT LAYOUTS. CONTRACTOR SHALL FOLLOW MINIMUM SPACING REQUIREMENTS TO REDUCE ELECTROMAGNETIC INTERFERENCE. COORDINATE CONDUIT ROUTING WITH ALL OTHER TRADES.
2. DEFLECTION/EXPANSION FITTINGS SHALL BE PROVIDED WHERE RIGID METAL CONDUIT CROSSES STRUCTURAL EXPANSION JOINTS.
3. ALL SPARE CONDUITS SHALL BE TERMINATED AS SHOWN ON CONDUIT LAYOUTS AND SHALL BE CAPPED 3" ABOVE FINISHED FLOOR.
4. NO CONDUIT SHALL BE SMALLER THAN ¾" UNLESS NOTED OTHERWISE ON PLANS.
5. EQUIPMENT FURNISHED BY OTHERS SHALL BE INSTALLED & ENERGIZED BY THE ELECTRICAL CONTRACTOR.
6. THE ELECTRICAL SUB CONTRACTOR SHALL NOT ENDANGER THE STABILITY OF THE STRUCTURE OR ANY PART THEREOF BY CUTTING, DRILLING OR OTHERWISE, AND SHALL NOT IN ANY WAY CUT OR ALTER THE WORK OF ANY OTHER CONTRACTOR, EXCEPT WITH THE WRITTEN CONSENT OF AND UNDER THE DIRECTION OF THE ARCHITECT.
7. THE ELECTRICAL SUB CONTRACTOR SHALL SECURE ALL APPROVALS AND CERTIFICATES AND PAY ALL FEES FOR ALL THE WORK INSTALLED. CERTIFICATES SHALL BE DELIVERED TO THE OWNER BEFORE FINAL PAYMENT WILL BE MADE.
8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST APPLICABLE VERSION OF THE NEC AS WELL AS ALL STATE AND LOCAL CODES.
9. THE DRAWINGS INDICATE AND THE SPECIFICATIONS DESCRIBE THE GENERAL ARRANGEMENTS AND LOCATION OF OUTLET BOXES, ETC. THE CONTRACTOR SHALL, WITHOUT EXTRA COST TO THE OWNER, MAKE ALL REASONABLE MODIFICATIONS IN THE WORK AS MAY BE REQUIRED TO PREVENT CONFLICT WITH EXISTING CONDITIONS, THE WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF THE WORK.
10. ALL NEW BREAKERS INSTALLED IN EXISTING PANELS SHALL MATCH THE PANEL AIC RATING.
11. CLAIMS FOR ADDITIONAL COMPENSATION ARISING DUE TO THE FAILURE OF THE CONTRACTOR TO FULLY UNDERSTAND THE SITE CONDITIONS SHALL NOT BE PAID FOR BY ANY OTHER PARTY.
12. CONNECTIONS TO EXISTING WORK:
    - A. INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES.
    - B. TEMPORARY SHUTDOWNS OF EXISTING SERVICES:
        - a. AT NO ADDITIONAL CHARGES.
        - b. AT TIMES NOT TO INTERFERE WITH NORMAL OPERATION OF EXISTING SERVICES.
        - c. ONLY WITH WRITTEN CONSENT OF THE GENERAL CONTRACTOR AND/OR BUILDING OWNERS REPRESENTATIVE.
    - C. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES AS REQUIRED WITH NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK.
    - D. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND ACCEPTABLE MANNER. RESTORE EXISTING DISTURBED WORK TO ORIGINAL CONDITION, INCLUDING MAINTENANCE OF WIRING CONTINUITY AS REQUIRED.
13. SUB CONTRACTOR SHALL PROVIDE AND INSTALL ALL COMPONENTS INDICATED ON DETAILS SHEETS, PLANS, SPECIFICATIONS AND ALL PERTINENT EQUIPMENT REQUIRED FOR A COMPLETE WORKABLE SYSTEM.
14. ALL EQUIPMENT DEVICES, WIRING, ETC. SHOWN ON THE DRAWINGS IS NEW UNLESS OTHERWISE NOTED.
15. ELECTRICAL CONTRACTOR SHALL BECOME FAMILIAR AND COMPLY WITH OWNERS BUILDING STANDARDS FOR CONSTRUCTION.
16. ALL NEW CIRCUIT BREAKERS SHALL MEET THE AIC RATING AND BE LABELED/LISTED FOR THE EXISTING PANELBOARD.
17. THE TERMS "PROVIDE" OR "FURNISH", AS USED ON THESE PLANS, INDICATE THAT THE CONTRACTOR IS TO FURNISH AND INSTALL THE REFERENCED EQUIPMENT OR SYSTEMS IN THEIR ENTIRETY AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
18. CONTRACT CLOSE OUT: IN THE PRESENCE OF THE OWNER, ENGINEER OR ARCHITECT; DEMONSTRATING OPERATION OF SYSTEMS AND THAT ALL SPECIFICATIONS HAVE BEEN MET TO THE SATISFACTION OF ALL PARTIES.
19. IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS TO PROVIDE ALTERATIONS AND/OR NEW CONSTRUCTION AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS TO PROVIDE COMPLETE NEW SYSTEMS IN EVERY RESPECT, CAPABLE OF OPERATING AS DESIGNED. IT IS NOT INTENDED THAT EVERY FITTING, MINOR DETAIL OR FEATURE BE SHOWN ON DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DETAIL NECESSARY FOR COMPLETION OF THESE SYSTEMS IN ACCORDANCE WITH GOOD PRACTICE.
20. ELECTRICAL DEVICES, MATERIALS, AND PACKAGED EQUIPMENT SHALL BE LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL) SUCH AS UNDERWRITERS LABORATORY INC. (UL), FOR THE INTENDED USE, AND SHALL BEAR IT'S NAME, NOTE THAT NRTL APPROVAL OF INDIVIDUAL COMPONENTS OF PACKAGED EQUIPMENT DOES NOT CONSTITUTE APPROVAL OF ENTIRE PACKAGE.

ELECTRICAL DEMOLITION NOTES:

1. COORDINATE WITH MECHANICAL PLANS FOR EXACT AREAS TO BE DEMOLISHED.
2. ALL EXISTING DEVICES SCHEDULED TO REMAIN SHALL BE EXTENDED/RE-CIRCUITED TO MAINTAIN CONTINUITY OF CIRCUIT/DEVICES.
3. REMOVALS SHALL INCLUDE, BUT NOT BE LIMITED TO DEVICES, FIXTURES, FIRE ALARM DEVICES, DATA/TEL. OUTLETS, POWER CONNECTIONS TO HVAC EQUIPMENT AND DISCONNECT SWITCHES, CONDUIT & WIRING.
4. ELECTRICAL SUB CONTRACTOR TO PROVIDE ALL NECESSARY TEMPORARY WORK AND/OR MATERIALS TO RENDER EXISTING SYSTEM OPERATIONAL DURING ALL PHASES OF CONSTRUCTION IN ALL OCCUPIED SPACES. INCLUDING BUT NOT LIMITED TO, POWER, DATA, LIGHTING, EMERGENCY COMPONENTS & ALARMS. COORDINATE WITH ALL TRADES, OWNER AND OVERALL CONSTRUCTION PHASING SCHEDULE.
5. ALL CUTTING AND PATCHING NECESSARY FOR THE DEMOLITION WORK SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR.
6. IT SHALL BE THE OWNER'S RESPONSIBILITY TO REMOVE ANY LOOSE EQUIPMENT, FURNITURE, SUPPLIES, ETC. THAT MAY BE LOCATED IN THE AREA OF WORK.
7. THE PLANS ARE INTENDED TO CONVEY THE EXTENT AND SCOPE OF THE DEMOLITION WORK. EVERY ITEM INTENDED FOR REMOVAL MAY NOT BE SHOWN. THE CONTRACTOR IS ADVISED TO SURVEY THE PROJECT SITE BEFORE SUBMITTING A BID FOR DEMOLITION WORK.

SCOPE OF ELECTRICAL WORK:

ELECTRICAL SCOPE INCLUDES RE-USE OF EXISTING CIRCUITS (CURRENTLY FEEDING EXISTING CUV'S) TO FEED NEW REPLACEMENT UV'S (BY M.C.). CONTRACTOR SHALL DISCONNECT EXISTING UNITS AND EXTEND CIRCUITS AS NECESSARY TO RECONNECT TO NEW UNITS. EXISTING 3-PHASE CIRCUITS SHALL BE USED TO SUPPLY NEW 1-PHASE UNITS. 3P CIRCUIT BREAKERS SHALL BE REPLACED WITH 1P CIRCUIT BREAKERS AND PANEL WIRING REWORKED TO SUPPORT NEW UNITS' VOLTAGE REQUIREMENTS.

POWER SYMBOLS

	120V, OR 208V, 1P, MOTOR STARTER WITH OVERLOADS TO SERVE AS DISCONNECTING MEANS. COORDINATE WITH OTHER TRADES.

ABBREVIATIONS

A	AMPERE
ACT	ACOUSTIC CEILING TILE
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AUTO	AUTOMATIC
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CAT	CATALOG
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
CU	COPPER
DWG	DRAWING
EA	EACH
E.C.	ELECTRICAL CONTRACTOR
ELEC.	ELECTRICAL
ELEV	ELEVATOR
EQUIP.	EQUIPMENT
EMT	ELECTRICAL METALLIC TUBING
FL	FLOOR
FLEX	FLEXIBLE
FT	FEET OR FOOT
F.W.E.	FURNISHED WITH EQUIPMENT
G, GND	GROUND
G.C.	GENERAL CONTRACTOR
HVAC	HEATING, VENTILATING & AIR CONDITIONING
HZ	HERTZ
IC	INTERRUPTING CAPACITY
IMC	INTERMEDIATE METAL CONDUIT
KV	KILO VOLT
KVA	KILO VOLT AMP
KW	KILO WATT
LP	LIGHTING PANEL
LTG	LIGHTING
M.C.	MECHANICAL CONTRACTOR
MCM	THOUSAND CIRCULAR MILS
MCB	MAIN CIRCUIT BREAKER
MECH	MECHANICAL
MTD	MOUNTED
MTG	MOUNTING
N	NEUTRAL
NIC	NOT IN CONTRACT
NEC	NATIONAL ELECTRIC CODE
NTS	NOT TO SCALE
NM	NON-METALLIC CONDUIT
P	POLE
ø	PHASE
PWR	POWER
RECEPT.	RECEPTACLE
REQ.	REQUIRED
RM	ROOM
RR	REMOVE AND RELOCATE
SCHED.	SCHEDULE
SECT.	SECTION
SPEC.	SPECIFICATION
SW	SWITCH
SYS	SYSTEM
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
VIF	VERIFY IN FIELD
W	WATT

GENERAL SYMBOLS

- POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
- POINT OF DISCONNECT
- X / XX — INDICATES SECTION LETTER / INDICATES DRAWING NUMBER WHERE LOCATED

ELECTRICAL LINE TYPES

- EXISTING TO BE REMOVED
- EXISTING TO REMAIN
- NEW DEVICE/WIRING

EXISTING POWER PANEL SCHEDULE - (PP-2F)

RATING: 400A, 208/120, 3ø, 4W
MAINS: 400A MCB
BRACING: 22,000
POLES: 42

LOAD	CONDUCTORS	C.B.		C.B.	CONDUCTORS	LOAD
CUV-C ROOM 205	EXISTING CONDUCTORS	40	1 2	40	EXISTING CONDUCTORS	CUV-A ROOM 206
			3 4			
			5 6			
CUV-C ROOM 207		40	7 8	40		CUV-A ROOM 208
			9 10			
			11 12			
CUV-C ROOM 209		40	13 14	20		CUV-C ROOM 210
			15 16			
			17 18	--	---	SPACE
CUV-C		30	19 20	40	EXISTING CONDUCTORS	CUV-C ROOM 212
			21 22			
			23 24			
CUV-A		30	25 26	30		CUV-C
			27 28			
			29 30			
SPARE	---	20	31 32	20	---	SPARE
			33 34			
			35 36			
			37 38	35	EXISTING CONDUCTORS	CONFERENCE A/C UNIT
			39 40			
SPACE		--	41 42			

REVISED POWER PANEL SCHEDULE - (PP-2F)

RATING: 400A, 208/120, 3ø, 4W
MAINS: 400A MCB
BRACING: 22,000
POLES: 42

LOAD	CONDUCTORS	C.B.		C.B.	CONDUCTORS	LOAD
UV-3 ROOM 205	EXISTING CONDUCTORS	15	1 2	15	EXISTING CONDUCTORS	UV-2 ROOM 206
SPACE	---	--	3 4	--	---	SPACE
			5 6			
UV-3 ROOM 207	EXISTING CONDUCTORS	15	7 8	15	EXISTING CONDUCTORS	UV-2 ROOM 208
SPACE	---	--	9 10	--	---	SPACE
			11 12			
UV-3 ROOM 209	EXISTING CONDUCTORS	15	13 14	20	EXISTING CONDUCTORS	CUV-C ROOM 210
SPACE	---	--	15 16			
			17 18	--	---	SPACE
UV-1 ROOM 213	EXISTING CONDUCTORS	15	19 20	15	EXISTING CONDUCTORS	UV-2 ROOM 212
SPACE	---	--	21 22	--	---	SPACE
			23 24			
UV-1 ROOM 204	EXISTING CONDUCTORS	15	25 26	15	EXISTING CONDUCTORS	UV-1 ROOM 211
SPACE	---	--	27 28	--	---	SPACE
			29 30			
SPARE	---	20	31 32	20	---	SPARE
			33 34			
			35 36			
			37 38	35	EXISTING CONDUCTORS	CONFERENCE A/C UNIT
			39 40			
SPACE		--	41 42			

NOTES:
1. REMOVE 3 POLE CIRCUIT BREAKERS FEEDING EXISTING CUV'S AND REPLACE WITH 15A, 1-POLE CIRCUIT BREAKER. PROVIDE BLANK COVER PLATES FOR SPACES. SAFE OFF EXISTING UNUSED WIRES.

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SED #66-13-01-04-0-006-028

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NORTH SALEM WORLD LANGUAGES UV REPLACEMENT

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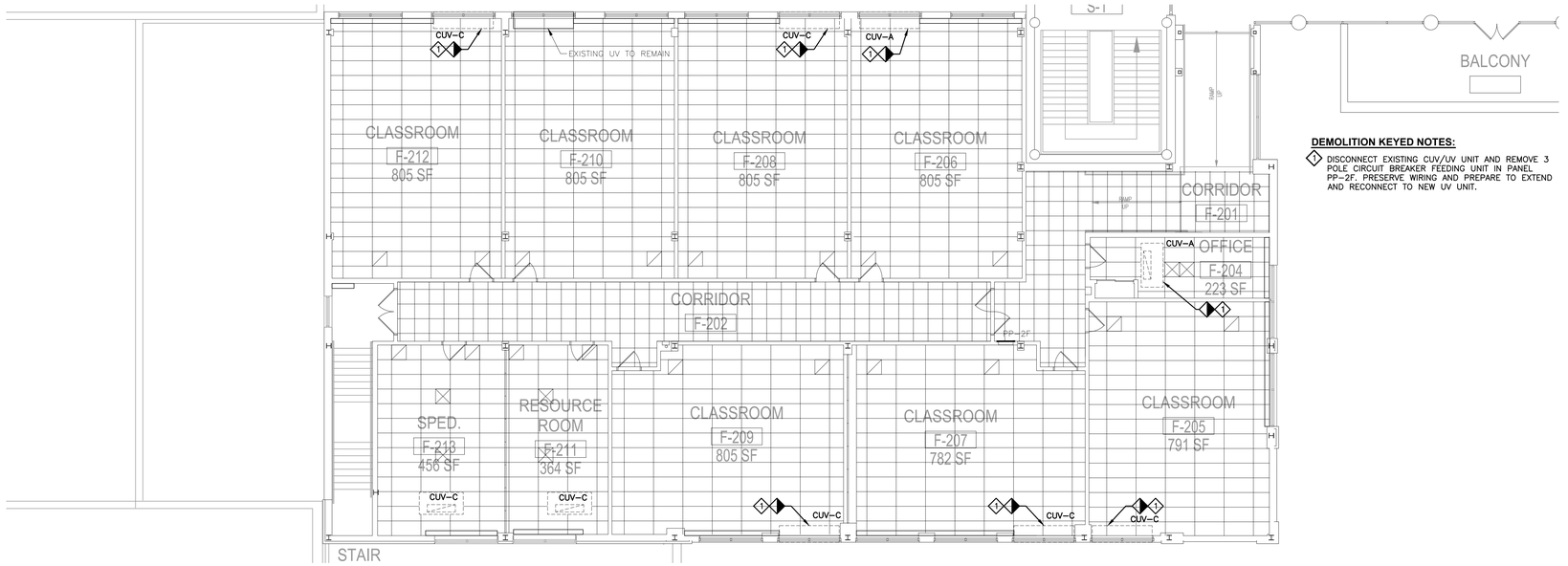
REVISIONS

No.	Description	Date

ISSUED: BID ISSUANCE
DATE: February 23, 2022
SCALE: AS SHOWN
SHEET NAME: ELECTRICAL: SYMBOLS, NOTES, ABBREVIATIONS, & SCHEDULES
SHEET NUMBER: E001



DEMOLITION KEYED NOTES:

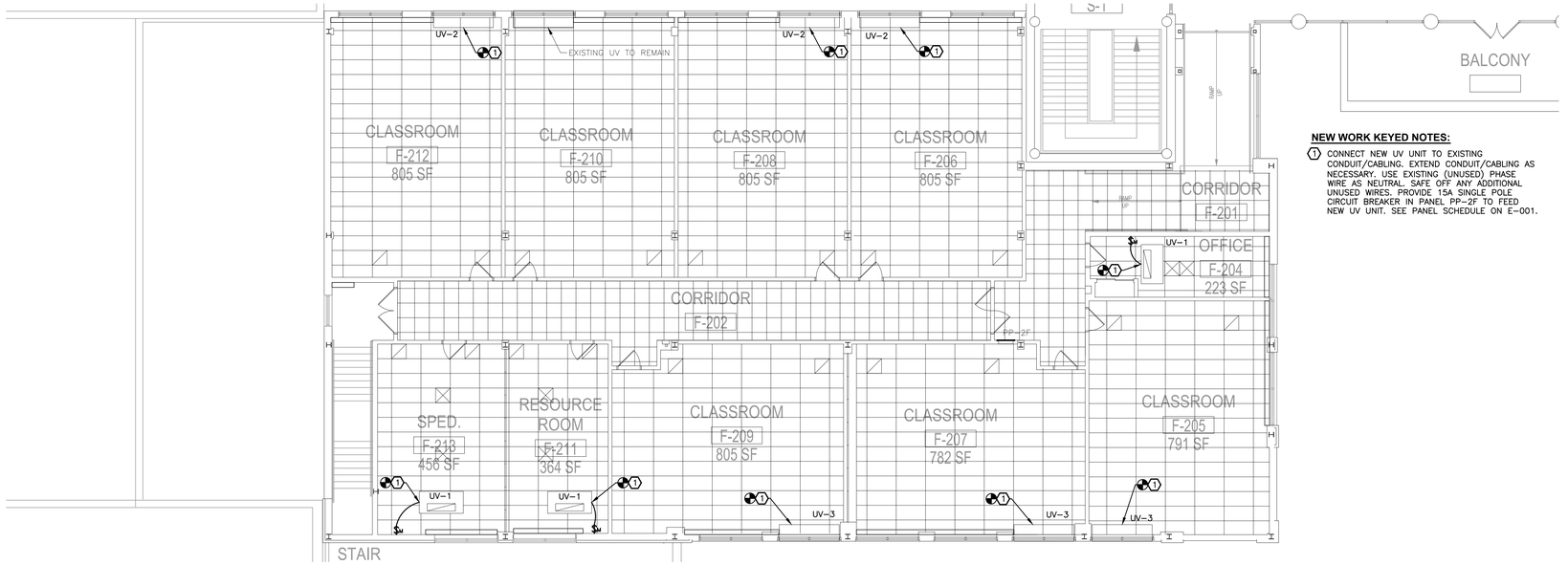
1. DISCONNECT EXISTING CUV/UV UNIT AND REMOVE 3 POLE CIRCUIT BREAKER FEEDING UNIT IN PANEL PP-2F. PRESERVE WIRING AND PREPARE TO EXTEND AND RECONNECT TO NEW UV UNIT.

1 SECOND LEVEL DEMOLITION ELECTRICAL PLAN

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

NOTES:

1. SEE H100 & H101 FOR CEILING REMOVALS.



NEW WORK KEYED NOTES:

1. CONNECT NEW UV UNIT TO EXISTING CONDUIT/CABLING. EXTEND CONDUIT/CABLING AS NECESSARY. USE EXISTING (UNUSED) PHASE WIRE AS NEUTRAL. SAFE OFF ANY ADDITIONAL UNUSED WIRES. PROVIDE 15A SINGLE POLE CIRCUIT BREAKER IN PANEL PP-2F TO FEED NEW UV UNIT. SEE PANEL SCHEDULE ON E-001.

2 SECOND LEVEL ELECTRICAL PLAN

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

NOTES:

1. SEE H100 & H101 FOR CEILING REMOVALS.
2. EXTEND EXISTING WIRING AS NECESSARY TO ACCOMMODATE NEW UV'S.

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REVISIONS

No.	Description	Date

ISSUED: BID ISSUANCE

DATE: February 23, 2022

SCALE: AS SHOWN

SHEET NAME:
ELECTRICAL: DEMOLITION AND NEW CONSTRUCTION SECOND & ROOF LEVEL PLANS

SHEET NUMBER:

E101