TOWN OF GLASTONBURY

GIDEON WELLES ELEMENTARY SCHOOL

1029 NEIPSIC ROAD
GLASTONBURY, CONNECTICUT 06033

AIR CONDITIONING INSTALLATION

PROJECT # GL-2019-16

M/E/P ENGINEER
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LIST OF DRAWINGS

11/01/2018

MECHANICAL - DUCTWORK - GENERAL NOTES

1. ALL DUCT CONNECTIONS TO EQUIPMENT SHALL BE FLEX CONNECTION TYPE.
2. INSTALL UNITS WITH CLEARANCE FOR SERVICE.
3. SHOWN DUCT SIZES ARE CLEAR INSIDE DIMENSION, UNLESS OTHERWISE NOTED.
4. DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL INTENT OF WORK, NOT EXACT EQUIPMENT LOCATION. ALL CONTRACTORS MUST COORDINATE EQUIPMENT LOCATIONS WITH OTHER TRADES BEFORE WORK BEGINS. DUCT PENETRATIONS AND DUCTWORK LOCATIONS SHALL BE COORDINATED WITH ARCHITECTURAL AND STRUCTURAL PLANS.
5. TRANSFER DUCTWORK SHALL BE PURGED TO ENSURE ALL FOREIGN PARTICLES ARE REMOVED.
6. THE LOCATION OF ALL GRILLES SHALL BE COORDINATED WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.
7. ALL DUCTWORK ELBOWS ARE TO BE FULL RADIUS OR SQUARED WITH DOUBLE THICKNESS TURNING VANES.
8. ALL MATERIALS ABOVE CEILING SHALL BE PLENUM RATED.
9. REFER TO SPECIFICATION FOR THROUGH PENETRATION FIRE STOP SYSTEMS FOR SEALING PENETRATIONS THROUGH FIRE RATED CONSTRUCTION REQUIREMENTS
10. ALL ROOF MOUNTED EQUIPMENT THAT NEEDS SERVICING SHALL BE LOCATED A MINIMUM OF 10'–0" FROM THE EDGE OF THE ROOF.
11. ALL TRANSFER DUCTS SHALL BE 1" ACOUSTICALLY LINED, UNLESS INDICATED OTHERWISE ELSEWHERE.

PLUMBING - CONDENSING DRAIN - GENERAL NOTES

1. ALL CONDENSATE DRAIN PIPING ARE 1" SIZE.
2. DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL INTENT OF WORK, NOT EXACT EQUIPMENT LOCATIONS. CONTRACTOR MUST COORDINATE EQUIPMENT LOCATION BEFORE PROCEEDING WITH ANY WORK.
3. FIRE STOP AROUND PIPES PENETRATING FIRE RATED PARTITIONS. USE HILTI FIRE BARRIER PRODUCTS AS RECOMMENDED BY THE MANUFACTURER.
4. ALL CONDENSING DRAIN SHALL HAVE A PITCH OF 1/8"PER Ft UNLESS NOTED OTHERWISE.
5. CONDENSATE PIPING SHALL BE COPPER. PIPE SHALL BE INSULATED.
6. THIS CONTRACTOR SHALL PROVIDE CLEANOUTS WITH COVER (ACCESS DOORS) ON CHANGE OF DIRECTION, AND AS REQUIRED PER THE ADOPTED PLUMBING CODE.
7. THERE SHALL BE NO EXPOSED PIPING. PIPES SHALL RUN CONCEALED ABOVE CEILING. WHERE NOT POSSIBLE, THE CONTRACTOR SHALL PROVIDE PIPE CHASES.
8. A VISIT TO THE SITE AND EXAMINATION OF THE OTHER MECHANICAL TRADES SHOWING ALL DETAILS OF CONSTRUCTION IS A REQUIREMENT BEFORE SUBMITTING A PROPOSAL.
9. THE CONTRACTOR SHALL VISIT THE JOB SITE TO VERIFY ALL DIMENSIONS AND JOB CONDITIONS.
10. CERTAIN ITEMS SUCH AS ACCESS DOORS, CLEANOUTS, RISE & DROPS IN PIPING, ETC., ARE INDICATED ON THE DRAWINGS FOR CLARITY OR FOR A SPECIFIC LOCATION REQUIREMENT AND SHALL NOT BE INTERPRETED AS THE EXTENT OF THE REQUIREMENTS FOR THESE ITEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THESE ITEMS AS REQUIRED, PER THE PLUMBING CODE IN FORCE.
11. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ALL OFFSETS, FITTINGS, TRANSITIONS, CLEANOUTS, VALVES AND ACCESSORIES ARE NOT NECESSARILY SHOWN.
12. IT IS THE INTENT THAT ALL WORK SHALL BE COMPLETE IN EVERY RESPECT AND THAT THE MATERIAL OR WORK SPECIFICALLY NOT INDICATED ON THE DRAWINGS, BUT NECESSARY TO COMPLETE THE WORK, SHALL BE PROVIDED.

EQUIPMENT IDENTIFICATION

ACCU-VRV-xx UNIT # VARIABLE REFRIGERANT VOLUME SYSTEM AIR COOLED CONDENSING UNIT	**ACCU-AHU-xx** AHU # AIR HANDLING UNIT AIR COOLED CONDENSING UNIT	**ACCU-Xxxx-xx** UNIT # ROOM # AIR COOLED CONDENSING UNIT	**BBR-xx** UNIT # BASE BOARD RADIATOR
AF-xx UNIT # EXHAUST AIR FAN	**DX-CIU-xx** UNIT # CONCEALED INDOOR UNIT DIRECT EXPANSION	**DX-WIU-xx** UNIT # WALL MOUNTED INDOOR UNIT DIRECT EXPANSION	**OAI-xx** UNIT # OUTSIDE AIR INTAKE
DXC-AHU-XX AHU # AIR HANDLING UNIT DIRECT EXPANSION COIL	**UVx-Axxx-xx** UNIT # ROOM # ACCU # UNIT VENTILATOR	**FCU-Axxx-xx** UNIT # ROOM # FAN COIL UNIT	

MECHANICAL - REFRIGERANT PIPING - GENERAL NOTES

1. REFRIGERANT PIPING SHALL BE DEOXIDIZED PHOSPHOROUS SEAMLESS COPPER PIPE OR EQUIVALENT.
2. BOTH GAS AND LIQUID PIPING MUST BE INSULATED WITH GLASS FIBER OR HEAT RESISTANCE POLYETHYLENE FOAM, $\frac{1}{2}$ INCH OR MORE, MIN. 250°F HEAT RESISTANCE FOR THE GAS PIPE AND MIN. 160°F HEAT RESISTANCE FOR THE LIQUID PIPE.
3. MAKE SURE THAT ALL Y–TYPE MANIFOLD ARE FITTED SO THAT THEY BRANCH EITHER HORIZONTALLY OR VERTICALLY
4. MAKE SURE THAT ALL HEADERS ARE LAID IN A HORIZONTAL PLAN.
5. BRANCH PIPES SHALL BE INSULATED IN ACCORDANCE WITH THE INSTRUCTIONS OF THE MANUFACTURER.
6. THE LENGTH OF A STRAIGHT PIPE BEFORE THE MAIN PIPE PORT OF THE MANIFOLD CANNOT BE LESS THAN 3 FEET.
7. THE LENGTH OF A STRAIGHT PIPE BETWEEN THE BRANCH OF THE MANIFOLD AND THE INDOOR UNIT CANNOT BE LESS THAN 3 FEET.
8. THE LENGTH OF A STRAIGHT PIPE BETWEEN THE MANIFOLD AND AN UPWARD OR DOWNWARD ELBOW FITTING CANNOT BE LESS THAN 3 FEET.
9. THERE SHALL BE THREE FIXING POINT FOR Y–TYPE MANIFOLD.
10. THE LIQUID PIPE AND GAS PIPE SHALL HAVE THE SAME LENGTH AND BE LAID IN THE SAME ROUTE.
11. THE CONDENSATE PIPE CANNOT BE TIED WITH THE REFRIGERANT PIPE.
12. EXPANSION JOINT SHALL BE ADDED EVERY 40FT OF STRAIGHT PIPING RUN.
13. DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL INTENT OF WORK. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES BEFORE WORK BEGINS.
14. THERE SHALL BE NO EXPOSED PIPING. PIPES SHALL RUN CONCEALED ABOVE CEILING OR IN WALLS. WHERE NOT POSSIBLE, THE CONTRACTOR SHALL PROVIDE PIPE CHASES. ON EXTERIOR WALLS, PIPES SHALL RUN ON WARM SIDE OF THE INSULATION AND HAVE 2" INSULATION.
15. REFER TO SPECIFICATION FOR THROUGH PENETRATION FIRE STOP SYSTEMS FOR SEALING PENETRATIONS THROUGH FIRE RATED CONSTRUCTION REQUIREMENTS.
16. CONTRACTOR SHALL PROVIDE REFRIGERANT PIPING LAYOUT WITH PIPE SIZES FOR ALL THE REFRIGERANT SYSTEMS, CONFIRMED BY THE MANUFACTURER PRIOR TO INSTALLATION.

MECHANICAL - DEMOLITION - GENERAL NOTES

1. PRIOR TO SUBMITTING BID, VISIT THE SITE AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK TO BE PERFORMED. NO COMPENSATION WILL BE GRANTED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY CONSTRUED BY EXPERIENCED OBSERVERS. INCLUDE IN THE BID ALL DEMOLITION WORK REQUIRED.
2. THE DEMOLITION DRAWINGS ARE INTENDED ONLY TO DEFINE THE GENERAL SCOPE OF DEMOLITION WORK AND TO ASSIST THE CONTRACTOR DURING BIDDING. THE DEMOLITION DRAWINGS MAY NOT SHOW EVERY ITEM WHICH MUST BE DISCONNECTED, REMOVED, OR RELOCATED IN ORDER TO FACILITATE NEW WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION WORK REQUIRED WHETHER OR NOT SHOWN ON THE PLANS.
3. REMOVE ALL EXISTING MECHANICAL WORK AS NECESSARY FOR THE PERFORMANCE OF THE WORK OF THIS CONTRACT.
4. REMOVE ALL DEMOLITION MATERIAL FROM THE JOB SITE NOT RETAINED BY THE OWNER.
5. ANY EQUIPMENT REMOVED DURING DEMOLITION WORK MAY BE RETAINED BY THE OWNER AT HIS OPTION. ANY SUCH MATERIAL SHALL BE STORED IN THE BUILDING AT A LOCATION DESIGNATED BY THE OWNER. REMOVAL OF SUCH MATERIAL FROM THE JOB SITE SHALL BE THE OWNER'S RESPONSIBILITY.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITY LINES INCLUDING ELECTRICAL, SEWER, WATER, GAS, ETC. THE DRAWINGS SHOW DIAGRAMMATICALLY THE APPROXIMATE LOCATION OF UTILITIES WHERE INFORMATION IS AVAILABLE, BUT THE DRAWINGS ARE NOT EXACT AS TO THE QUANTITY, EXTENT OR LOCATION. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL PHASES OF THE WORK TO LOCATE, IDENTIFY, AND PROTECT EXISTING UTILITIES. THE CONTRACTOR SHALL RECORD LOCATION OF AND REPAIR DAMAGE TO EXISTING UTILITIES WHICH ARE ENCOUNTERED AS A RESULT OF WORK UNDER THIS CONTRACT.
7. COORDINATE ALL SHUTDOWNS OF EXISTING HVAC SYSTEMS WITH THE OWNER.
8. KEY NOTES DESCRIBE IN GENERAL THE SCOPE OF EQUIPMENT REMOVED. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH NEW WORK PLANS PRIOR TO REMOVING THE ITEM.

MECHANICAL - CONTROL - GENERAL NOTES

1. ALL ELECTRIC WIRING, CONNECTIONS, DEVICES, RACEWAY AND HARDWARE REQUIRED FOR THE INSTALLATION OF THE TEMPERATURE CONTROL SYSTEM AS SPECIFIED AND SHOWN ON THE DRAWINGS SHALL BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR (TCC).
2. ALL CONTROL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTROL SYSTEM MANUFACTURER'S REQUIREMENTS AND CURRENT CODE.
3. ALL LOW VOLTAGE CONTROL WIRING SHALL BE PLENUM RATED CABLE OF TYPES AND SIZES REQUIRED BY THE CONTROL SYSTEM MANUFACTURER.
4. PROVIDE MINIMUM OF 3/4" EMT CONDUIT FOR ALL WIRING EXPOSED TO VIEW AND FOR WIRING DROPS AND RUNS WITHIN NEW WALLS.ALL CONDUITS SHALL TERMINATE WITH JUNCTION BOXES OR OUTLET BOXES. PROVIDE BUSHINGS FOR ALL WIRING ENTERIES INTO THE CONDUIT SYSTEM.
5. ALL TEMPERATURE CONTROL WIRING SHALL BE NEATLY INSTALLED WITH CABLE RUNS INSTALLED PARALLEL TO OR AT RIGHT ANGLES TO THE LINES OF THE BUILDING. ALL WIRING IN NORMALLY OCCUPIED AREAS OF THE BUILDING SHALL BE CONCEALED FROM VIEW. OPEN CABLE RUNS ABOVE CEILINGS SHALL BE BUNDLE TIED WITH PLASTIC CABLE TIES AND SHALL BE SUPPORTED FREE FROM THE CEILING AND MECHANICAL/ELECTRICAL EQUIPMENT USING APPROVED CABLE HANGERS AND CABLE CLIPS.
6. THE TEMPERATURE CONTROL CONTRACTOR SHALL COORDINATE POWER SUPPLY REQUIREMENTS OF THE CONTROL SYSTEM WITH DIVISION 26.
7. REFER TO SPECIFICATION FOR ADDITIONAL CONTROLS REQUIREMENTS AND THE EQUIPMENT SEQUENCE OF OPERATIONS.
8. ALL CONTROLS DEVICES AND ELECTRONICS SHALL BE INSTALLED WITHIN A NEMA–1 ENCLOSURE LOCATED WITHIN PROXIMITY TO THE EQUIPMENT SERVED.
9. REFER TO MECHANICAL SPECIFICATIONS FOR SEQUENCE OF OPERATIONS AND ADDITIONAL DDC SENSOR REQUIREMENTS

MECHANICAL - REFRIGERANT PIPING - GENERAL NOTES

A/AMP	AMPERE
AC	AIR COMPRESSOR
AC	ALTERNATING CURRENT
ACU	AIR CONDITIONING UNIT(S)
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AMB	AMBIENT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APD	AIR PRESSURE DROP
APPROX	APPROXIMATE
AS	AIR SEPARATOR
ATC	AUTOMATIC TEMPERATURE CONTROL
AVG	AVERAGE
BDD	BACK DRAFT DAMPER
BFW	BOILER FEED WATER
BHP	BRAKE HORSEPOWER
BSMT	BASEMENT
BTU	BRITISH THERMAL UNITS
BTUH	BRITISH THERMAL UNITS/HOUR
C/B	CIRCUIT BREAKER
CC	COOLING COIL
CFM	CUBIC FEET PER MINUTE
CFP	CHEMICAL FEED PUMPS
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CI	CAST IRON
CLG	CEILING
CO	CLEANOUT
CO2	CARBON DIOXIDE
COND	CONDENSER
CONV	CONVECTOR
CP	CONDENSATE PUMP
CT	COOLING TOWER
CU	CONDENSING UNIT
CU FT	CUBIC FEET
CUH	CABINET UNIT HEATER
CV	CONSTANT VOLUME
CW	COLD WATER
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
D	DEPTH
DB	DRY BULB TEMPERATURE
dB	DECIBEL
DEG or °	DEGREE
DIA or Ø	DIAMETER
DN	DOWN
DP	DIFFERENTIAL PRESSURE
DSA	DUCT SOUND ATTENUATORS
DWG	DRAWING
DX	DIRECT EXPANSION
DXC	DIRECT EXPANSION COIL
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EFF	EFFICIENCY
ELEC	ELECTRICAL
ELEV	ELEVATOR
EM	EMERGENCY
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EVAP	EVAPORATOR
EWB	ENTERING WET BULB TEMPERATURE
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXP	EXPANSION
F	FAHRENHEIT
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FD/SB	FIRE DAMPER WITH INTEGRAL SECURITY BARS
FM	FLOW METER
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FOOT OR FEET
G	GAS
GA	GAUGE
GAL	GALLONS
GCC	GRAVITY COOLING CONDENSATE
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H	HEIGHT
H/C	HEATING/COOLING
HC	HEATING COIL
HD	HEAD
HP	HORSEPOWER
HR	HOUR(S)
HT	HEAT
HTR	HEATER
HUM	HUMIDIFIER
HV	HEATING/VENTILATION UNIT
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
HZ	FREQUENCY (CYCLES PER SECOND)
ID	INSIDE DIAMETER
IN	INCHES
IN WG	INCHES OF WATER, GAUGE (PRESSURE)
KVA	KILOVOLT AMPERE
KW	KILOWATT
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LBS/HR	POUNDS PER HOUR
LF	LINEAR FEET
LIQ	LIQUID
LWT	LEAVING WATER TEMPERATURE
MA	MIXED AIR
MAX	MAXIMUM
MBH	BTU PER HOUR (THOUSAND)
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MUAU	MAKE UP AIR UNIT
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
OD	OUTSIDE DIAMETER
P	POLE
PD	PRESSURE DROP
PF	POWER FACTOR
PH	PHASE
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
QTY	QUANTITY
RA	RETURN AIR
RAF	RETURN AIR FAN
REF	REFRIGERANT PIPING (MULTIPLE PIPES)
REG	REGISTER
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RTPU	ROOFTOP PACKAGE UNIT
S&R	SUPPLY AND RETURN
SA	SUPPLY AIR
SD	SMOKE DAMPER
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
SUCT	SUCTION
T'STAT	THERMOSTAT
TAG	IDENTIFICATION OF EQUIPMENT
TD	TEMPERATURE DIFFERENCE
TEMP	TEMPERATURE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UH	UNIT HEATER
V	VOLTAGE
VA	VOLT AMPERE
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VEL	VELOCITY
VFC	VARIABLE FREQUENCY CONTROLLER
VIF	VERIFY IN FIELD
VOL	VOLUME
W	WATT
WB	WET BULB TEMPERATURE
WI	WIDTH
WP	WEATHERPROOF
WPD	WATER PRESSURE DROP
WTG	WALL TRANSFER GRILLE
WTR	WATER

NOTE: NOT ALL ABBREVIATIONS MAY BE USED.

GENERAL SYMBOLS

	THICK, DARK SOLID LINES INDICATE NEW OR RELOCATED ITEMS OR NEW RACEWAY AND WIRING
	THIN, LIGHT LINES INDICATE EXISTING ITEMS OR RACEWAY TO REMAIN IN PLACE AND BE REUSED
	THICK, DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED
	POINT OF NEW TO EXISTING CONNECTION, INCLUDING TRANSITIONS
	POINT OF DEMOLITION
EX	SUB LETTERS "EX" INDICATES EXISTING EQUIPMENT.
	RECTANGULAR, FLAT OVAL OR ROUND AIR DUCT
	AIR DUCT WITH 1" ACOUSTICAL LINING
RL&RS	REFRIGERANT LIQUID AND SUCTION PIPING
HWS	HOT WATER SUPPLY PIPING.
HWR	HOT WATER RETURN PIPING.
C	CONDENSING DRAIN PIPING
	CEILING SUPPLY DIFFUSERS
	CEILING RETURN / EXHAUST GRILLE
	DIRECTION OF SUPPLY OR OUTDOOR AIRFLOW
	DIRECTION OF RETURN OR EXHAUST AIRFLOW
	UNIT VENTILATOR
T	ROOM THERMOSTAT OR TEMPERATURE SENSOR
T/CO_2	ROOM THERMOSTAT WITH CARBON DIOXIDE SENSOR
$T/RH/CO_2$	ROOM THERMOSTAT WITH CARBON DIOXIDE SENSOR AND RELATIVE HUMIDITY SENSOR

NOTES: NOT ALL ABBREVIATIONS AND SYMBOLS MAY BE USED.

REVISIONS

GIDEON WELLES SCHOOL
NEW AIR CONDITIONING SYSTEM
GLASTONBURY, CONNECTICUT

BEMIS ASSOCIATES, L.L.C.
Consulting Engineers
185 Main Street
Farmington, CT 06032

TITLE
GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.

DATE 11/01/2018

DWG. NO.
M0.1

REVISIONS

VARIABLE REFRIGERANT VOLUME - AIR COOLED CONDENSING UNIT SCHEDULE

TAG	"BASIS OF DESIGN (DAIKIN)"	"NOMINAL TONNAGE"	COOLING CAPACITY		HEATING CAPACITY		REFRIGERANT CHARGE	ELECTRICAL					EFFICIENCY (NonDucted/Ducted)				NOTES
			BTU/h	AMBIENT DESIGN (°F DB)	BTU/h	"AMBIENT DESIGN (°F DB / WB)"	Factory Charge (lbs)	"VOLTAGE- PHASE"	MIN CIRCUIT AMPS (MCA)	MAX OVERCURRENT PROTECTION (MOP)	"RUNNING CURRENT(A)"	"WEIGHT (lbs)"	EER	IEER	COP 47	COP17	
ACCU-VRV-01	RXYQ312TATJU	26	302,448	95.0	335,902	43.0 / 40.8	35.3	208V - 3ph	55.1 / 55.1	60.0 / 60.0	37.6 / 33.4	694.5 / 694.5	9.8/9.6	19.9/18.8	3.3/3.21	2.32/2.2	REFER TO NOTES
ACCU-VRV-02	RXYQ288TATJU	24	286,305	95.0	321,291	43.0 / 40.8	36.2	208V - 3ph	55.1 / 55.1	60.0 / 60.0	33.4 / 33.4	694.5 / 694.5	10.5/10.1	20.1/19.6	3.25/3.3	2.07/2.13	REFER TO NOTES
ACCU-VRV-03	RXYQ336TATJU	28	335,906	95.0	357,855	43.0 / 40.8	34.4	208V - 3ph	55.1 / 55.1	60.0 / 60.0	37.6 / 37.6	694.5 / 694.5	9.5/9.5	20.6/18.5	3.22/3.2	2.38/2.27	REFER TO NOTES
ACCU-VRV-04	RXYQ360TATJU	30	357,323	95.0	427,746	43.0 / 40.8	68.8	208V - 3ph	36.3 / 36.3 / 36.3	45.0 / 45.0 / 45.0	26.2 / 26.2 / 26.2	526.9 / 526.9 / 526.9	10.3/9.8	19.4/18.5	3.46/3.2	2.47/2.36	REFER TO NOTES
ACCU-VRV-05	RXYQ216TATJU	18	209,862	95.0	246,711	43.0 / 40.8	45.6	208V - 3ph	36.3 / 36.3	45.0 / 45.0	26.2 / 23.8	526.9 / 524.7	10.7/10.9	20.5/21.1	3.83/3.5	2.6/2.46	REFER TO NOTES

NOTES:

1. MANUFACTURER MUST BE CERTIFIED, LISTED, AND LABELED PER AHRI 1230.
2. SYSTEM RATING DATA BASED ON DESIGN AMBIENT CONDITIONS FOR COOLING AND FOR HEATING.
3. SUBMITTED PERFORMANCE DATA MUST BE FULLY DE-RATED FOR ALL COMPONENTS AND ACCESSORIES, INCLUDING BUT NOT LIMITED TO, LINE LENGTH, VERTICAL SEPARATION, CONNECTION RATIO, DESIGN CONDITIONS, CONDENSER COIL COATING.
4. CONDENSING UNITS MUST HAVE FULLY MODULATING INVERTER COMPRESSORS.
5. CONDENSING UNITS MUST HAVE AUTO CHANGEOVER FUNCTIONS
6. DEMAND LIMITING RELAY CONTACT MUST BE PROVIDED.
7. EEV ACTUATORS MUST BE REMOVABLE FROM VALVE BODY WITHOUT DISTURBING THE REFRIGERANT SYSTEM.
8. UV THERMOSTATS MUST PROVIDE +/- 1 DEGREE DEAD-BAND SET-POINT AND CONTROL CAPABILITY.
9. CONTRACTOR SHALL FIELD VERIFY AND SUBMIT PIPING LAYOUT AND SIZING.
10. MANUFACTURER MUST PROVIDE 10 YEARS PARTS WARRANTY ON ALL UV, CONDENSING UNITS, MODE CHANGEOVER DEVICES AND ZONE CONTROLS.
11. CONDENSING UNITS MUST BE FURNISHED WITH PROTECTIVE COIL COATING TO WITHSTAND ASTM B117 SALT SPRAY TEST FOR A MINIMUM OF 1000 HOURS.
12. MANUFACTURER MUST CERTIFY AND SUBMIT SYSTEM PERFORMANCE AT EXTREME CONDITIONS OF 122 DEGREES FDB AMBIENT IN COOLING MODE AND -4 DEGREES FWB IN HEATING MODE.
13. MANUFACTURER TO INSTALL VRV EKE EXPANSION VALVE AND CONTROLLER, NAVIGATOR THERMOSTAT AND ATC PROVIDED CONTROL BOARD IN FACTORY PRIOR TO SHIPMENT.
14. MANUFACTURER SHALL PROVIDE VRT TECHNOLOGY
15. PROVIDE UNIT WITH LOW AMBIENT CONTROL FOR COOLING DOWN TO 0°F OUTSIDE AIR TEMPERATURE.

UNIT VENTILATOR SCHEDULE

DAIKIN UNIT VENTILATORS		FAN			DAIKIN VRV HEAT PUMP REFRIGERATION COIL						HOT WATER COIL								NOTES
					EAT		LAT					EAT	LAT						
TAG	MODEL	AIRFLOW (CFM)	RATED FAN SPEED	MOTOR POWER (HP)	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	TOTAL COOLING CAPACITY (Btu/hr)	TOTAL HEATING CAPACITY (Btu/hr)	COIL ROWS	EDB (°F)	LDB (°F)	EWT (°F)	LWT (°F)	FLOW RATE (GPM)	WPD (ft H2O)	TOTAL CAPACITY (Btu/hr)	
UV2-A101-01	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV2-A102-02	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV2-A103-03	UAVS9V07	598	80%	0.33	80.0	67.0	53.5	53.5	22,000	20,000	1	70.0	105.1	160.0	137.2	2.0	0.61	22,805	REFER TO NOTES
UV2-A103-04	UAVS9V07	598	80%	0.33	80.0	67.0	53.5	53.5	22,000	20,000	1	70.0	105.1	160.0	137.2	2.0	0.61	22,805	REFER TO NOTES
UV2-A104-05	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV2-A106-06	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV1-A108-07	UAVS9V15	1,179	80%	0.33	80.0	67.0	48.5	48.5	48,000	45,000	1	70.0	104.7	160.0	134.6	3.5	2.17	44,422	REFER TO NOTES
UV1-A109-08	UAVS9V15	1,179	80%	0.33	80.0	67.0	48.5	48.5	48,000	45,000	1	70.0	104.7	160.0	134.6	3.5	2.17	44,422	REFER TO NOTES
UV1-A107B-09	UAVS9V07	598	80%	0.33	80.0	67.0	53.5	53.5	22,000	20,000	1	70.0	105.1	160.0	137.2	2.0	0.61	22,805	REFER TO NOTES
UV1-A107A-10	UAVS9V07	598	80%	0.33	80.0	67.0	53.5	53.5	22,000	20,000	1	70.0	105.1	160.0	137.2	2.0	0.61	22,805	REFER TO NOTES
UV1-A105-11	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	24,500	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV3-A110-12	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV3-A112-13	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV4-A118-14	UAVS9V15	1,179	80%	0.33	80.0	67.0	48.5	48.5	48,000	48,000	1	70.0	104.7	160.0	134.6	3.5	2.17	44,422	REFER TO NOTES
UV4-A119-15	UAVS9V13	970	80%	0.33	80.0	67.0	49.0	49.0	40,000	36,000	2	70.0	111.6	160.0	130.9	3.0	1.29	43,718	REFER TO NOTES
UV4-A120-16	UAVS9V15	1,179	80%	0.33	80.0	67.0	48.5	48.5	48,000	45,000	1	70.0	104.7	160.0	134.6	3.5	2.17	44,422	REFER TO NOTES
UV4-A116-17	UAVS9V13	970	80%	0.33	80.0	67.0	49.0	49.0	40,000	40,000	2	70.0	111.6	160.0	130.9	3.0	1.29	43,718	REFER TO NOTES
UV3-A115-18	UAVS9V13	1,181	80%	0.33	80.0	67.0	54.6	54.6	40,000	40,000	1	70.0	108.8	200.0	150.3	2.0	0.64	49,653	REFER TO NOTES
UV3-114B-19	UAVS9V07	598	80%	0.33	80.0	67.0	53.5	53.5	22,000	20,000	1	70.0	105.1	160.0	137.2	2.0	0.61	22,805	REFER TO NOTES
UV3-A114A-20	UAVS9V07	598	80%	0.33	80.0	67.0	53.5	53.5	22,000	20,000	1	70.0	105.1	160.0	137.2	2.0	0.61	22,805	REFER TO NOTES
UV3-A113-21	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV3-A111-22	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV2-A201-23	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV2-A202-24	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV2-A203-25	UAVS9V07	598	80%	0.33	80.0	67.0	53.5	53.5	22,000	20,000	1	70.0	105.1	160.0	137.2	2.0	0.61	22,805	REFER TO NOTES
UV2-A204-26	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV2-A206-27	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV1-A208-28	UAVS9V13	970	80%	0.33	80.0	67.0	49.0	49.0	40,000	40,000	2	70.0	111.6	160.0	130.9	3.0	1.29	43,718	REFER TO NOTES
UV1-A209-29	UAVS9V15	1,179	80%	0.33	80.0	67.0	48.5	48.5	48,000	45,000	1	70.0	104.7	160.0	134.6	3.5	2.17	44,422	REFER TO NOTES
UV1-A207-30	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV1-A205-31	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV5-A212-32	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV5-A214-33	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV5-A216-34	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	118.5	160.0	136.4	3.5	2.62	41,232	REFER TO NOTES
UV3-A218-35	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV4-A224-36	UAVS9V15	1,179	80%	0.33	80.0	67.0	48.5	48.5	48,000	45,000	1	70.0	104.7	160.0	134.6	3.5	2.17	44,422	REFER TO NOTES
UV4-A225-37	UAVS9V15	1,179	80%	0.33	80.0	67.0	48.5	48.5	48,000	45,000	1	70.0	107.8	160.0	132.3	3.5	2.17	48,408	REFER TO NOTES
UV4-A226-38	UAVS9V13	970	80%	0.33	80.0	67.0	49.0	49.0	40,000	40,000	2	70.0	111.6	160.0	130.9	3.0	1.29	43,718	REFER TO NOTES
UV4-A227-39	UAVS9V15	1,179	80%	0.33	80.0	67.0	48.5	48.5	48,000	45,000	1	70.0	104.7	160.0	134.6	3.5	2.17	44,422	REFER TO NOTES
UV4-A223-40	UAVS9V13	970	80%	0.33	80.0	67.0	49.0	49.0	40,000	40,000	2	70.0	111.6	160.0	130.9	3.0	1.29	43,718	REFER TO NOTES
UV3-A222-41	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV3-A221-42	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV3-A219-43	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV3-A217-44	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV5-A215-45	UAVS9V13	970	80%	0.33	80.0	67.0	49.0	49.0	40,000	40,000	2	70.0	111.6	160.0	130.9	3.0	1.29	43,718	REFER TO NOTES
UV5-A213-46	UAVS9V10	783	80%	0.33	80.0	67.0	50.7	50.7	32,000	35,000	2	70.0	112.2	160.0	131.3	2.5	1.34	35,878	REFER TO NOTES
UV5-A211-47	UAVS9V13	970	80%	0.33	80.0	67.0	49.0	49.0	40,000	40,000	2	70.0	108.2	160.0	127.8	2.5	0.89	40,190	REFER TO NOTES

NOTES:
1. ALL UNIT VENTILATORS ARE 208 VOLT / 1 PHASE, 3.8 AMPS AND REQUIRE 15 AMP MAX FUSE
2. DAKIN VRV ELECTRONIC EXPANSION VALVE SHALL BE FACTORY INSTALLED WITH VALVE AND CONTROLLER
3. FACTORY TO MAKE SPACE AND INSTALL ATC CONTROLLER AND WIRE TO FACTORY INSTALLED ACTUATORS
4. OUTSIDE AIR DAMPER ACTUATOR TO BE FACTORY INSTALLED
5. FACTORY INSTALLED HOT WATER COIL: 160°F EWT / FLUID: WATER
6. MANUFACTURER MUST PROVE THAT THE REFRIGERATION COIL HAS BEEN FACTORY SIZED TO MEET REFRIGERATION VOLUMES REQUIRED BY VRV MANUFACTURER
7. FURNISH DYNAMIC AIR QUALITY SOLUTIONS 1-INCH FILTERS FOR MERV-13 FILTRATION AND IMPROVED IAQ
8. DAIKIN VRV REFRIGERATION COIL TO BE SIZED FOR THE LOADS SCHEDULED AND THE FOLLOWING : 95°F AMBIENT COOLING, 43°F HEATING
9. INSULATED STAINLESS STEEL DRAIN PAN.
10. PROVIDE AUXILIARY DRAIN PAN FOR UNIT END COMPARTMENT
11. PROVIDE REFRIGERANT LINE SETS FOR EACH UNIT VENTILATOR.
12. PROVIDE WATER OVERFLOW SWITCH TO SHUT DOWN UNIT VENTILATOR

FAN COIL UNIT SCHEDULE

Unit										DX COOLING COIL							HOT WATER HEATING COIL								NOTES
			ELECTRICAL			SUPPLY FAN				EAT		LAT													
TAG	MANUFACTURER	MODEL	VOLTAGE	PHASE	MCA	AIRFLOW (CFM)	ESP (inH2O)	Motor Power (HP)	FLA	DB (°F)	WB (°F)	DB (°F)	WB (°F)	ROWS	TOTAL CAPACITY (BTU/HR)	SENSIBLE CAPACITY (BTU/HR)	EAT DB (°F)	LAT DB (°F)	ROWS	TOTAL CAPACITY (BTU/HR)	ENTERING WATER TEMP (°F)	LEAVING WATER TEMP (°F)	FLUID FLOW RATE (GPM)	WATER PRESSURE DROP (FT H2O)	
FCU-A210A-01	ENVIRO-TEC	HPP10	208	1	3.5	848	0.25	$\frac{1}{4}$	4.9	74.9	63.3	54.9	53.2	4	24791	18741	75	95.4	1	20349	160	130	1.3	0.32	REFER TO NOTES
FCU-A210B-02	ENVIRO-TEC	HPP10	208	1	3.5	848	0.25	$\frac{1}{4}$	4.9	74.9	63.3	54.9	53.2	4	24791	18741	75	95.4	1	20349	160	130	1.3	0.32	REFER TO NOTES
FCU-A220A-03	ENVIRO-TEC	HPP10	208	1	3.5	848	0.25	$\frac{1}{4}$	4.9	74.9	63.3	54.9	53.2	4	24791	18741	75	95.4	1	20349	160	130	1.3	0.32	REFER TO NOTES
FCU-A220B-04	ENVIRO-TEC	HPP10	208	1	3.5	848	0.25	$\frac{1}{4}$	4.9	74.9	63.3	54.9	53.2	4	24791	18741	75	95.4	1	20349	160	130	1.3	0.32	REFER TO NOTES

NOTES:
1. PROVIDE INSULATED STAINLESS STEEL DRAIN PAN.
2. ½" FOIL FACED FIBERGLASS INSULATION
3. HIGH EFFICIENCY EC MOTOR
4. UNIT MANUFACTURER SHALL PROVIDE 2" MERV 8 FILTER SECTION, FILTER BOTTOM ACCESS.
5. AUXILIARY DRAIN PAN WITH WATER OVERFLOW SWITCH TO SHUT DOWN FCU.
6. MANUFACTURER TO PROVIDE EXPANSION VALVE TO MEET THE REQUIREMENT.

ROUNDFLOW CASSETTE UNIT SCHEDULE

TAG	MANUFACTURER	SYSTEM PERF. DATA				INDOOR UNIT DATA						OUTDOOR UNIT DATA								NOTES
		COOLING MBH	EER	REF. CHARGE (LBS)	MODEL	CFM MI/HI	SOUND MI/HI (dBA)	TYPE	VOLTS	PHASE	MCA	TAG	MODEL	VOLTS	PHASE	MCA	MOCP	REF. TYPE	WEIGHT (LBS)	
IU-A117-01	DAIKIN	23.8	12	5.1	FCQ24PAVJU	620 / 780	32 / 36	CASSETTE	208	1	0.5	ACCU-A117-01	RZQ24PVJU8	208	1	16.5	20	R-410A	150	REFER TO NOTES
IU-B131-02 *	DAIKIN	41.5	10.2	8.8	FCQ42PAVJU	970 / 1220	40 / 45	CASSETTE	208	1	1.5	ACCU-B131-02	RZQ42PVJU8	208	1	27	30	R-410A	283	REFER TO NOTES

NOTES:
1. MANUFACTURER TO PROVIDE WIRED CONTROLLER WITH WALL MOUNTING HOLDER
2. PROVIDE REFRIGERATION LINE SETS FOR EACH UNIT WITH CONNECTIONS TO EVAPORATOR AND CONDENSING UNIT.
3. UNIT USING CFC BASED REFRIGERANTS WILL NOT BE ACCEPTED.
4. PROVIDE WITH INTEGRAL CONDENSATE PUMP, PROVIDE WATER OVERFLOW SWITCH TO SHUT DOWN THE UNIT.
5. PROVIDE WITH CONDENSATE LIFTING MECHANISM.

* ADD ALTERNATE

TRANSFER AIR REGISTER

TITUS CEILING MOUNTED REGISTER MODEL 355FL. 1/2"SPACING, 35 DEG. FIXED DEFLECTION. PROVIDE IN STEEL CONSTRUCTION. REFER TO DRAWINGS FOR LOCATION. 12"x12" NECK SIZE, AND 24"x24" CEILING MODULE SIZE. WHITE COLOR.

DIRECT EXPANSION COIL SCHEDULE (SELECTION BASED ON DAIKIN)

TAG	Model	FPI	Rows	Fin Height (in)	Fin Length (in)	Face Area (ft^2)	Airflow (CFM)	Face Velocity (ft/min)	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	Total Capacity (Btu/hr)	Sensible Capacity (Btu/hr)	Air Pressure Drop (inH2O)	Refrig. Type	NOTES
DXC-AHU-01 *	CAC010GBAM	12	4	21	67	9.77	4500	461	78.1	64.9	56	53.9	147965	108908	0.56	R410A	REFER TO NOTES
DXC-AHU-04 *	CAC005GBAM	10	5	15	33	3.44	1500	436	79.4	65	55.9	53.8	50176	38577	0.57	R410A	REFER TO NOTES

NOTES:
1. MANUFACTURER TO PROVIDE EXPANSION VALVE TO MEET THE REQUIREMENT.
2. OUTER PANEL TO BE 24 GAUGE STANDARD G90 GALVANIZED STEEL
3. R-13 INJECTED FOAM INSULATION
4. 2" WALL THICKNESS
5. UNIT SHALL MEET THE REQUIREMENT OF ASHRAE 90.1
6. DXC-AHU-01 ENCLOSURE DIMENSIONS: L80"xW20"xH30"
7. DXC-AHU-04 ENCLOSURE DIMENSIONS: L46"xW20"xH30"
8. PROVIDE REFRIGERANT LINE SETS FOR EACH DX-COIL.
9. PROVIDE WITH CONDENSATE DRAIN AND DRAIN.
10. PROVIDE AUXILIARY DRAIN PAN WITH OVERFLOW SWITCH TO SHUT-DOWN THE UNIT

* ADD ALTERNATE

AIR COOLED CONDENSING UNIT SCHEDULE

TAG	"BASIS OF DESIGN (DAIKIN)"	COOLING CAPACITY		REFRIGERANT CHARGE	ELECTRICAL			"WEIGHT (LBS)"	EER	NOTES
		BTU/h	AMBIENT DESIGN (°F DB)	Factory Charge (lbs)	"VOLTAGE - PHASE"	MIN CIRCUIT AMPS (MCA)	MAX OVERCURRENT PROTECTION (MOP)			
ACCU-A210A-01	DX20VC0241	23000	95	3	208 - 1	15.2	20	241	14.5	REFER TO NOTES
ACCU-A210B-02	DX20VC0241	23000	95	3	208 - 1	15.2	20	241	14.5	REFER TO NOTES
ACCU-A220A-03	DX20VC0241	23000	95	3	208 - 1	15.2	20	241	14.5	REFER TO NOTES
ACCU-A220B-04	DX20VC0241	23000	95	3	208 - 1	15.2	20	241	14.5	REFER TO NOTES
ACCU-AHU-01 *	RCS12F150C	140660	95	23.6	208-3	56	70	650	12	REFER TO NOTES
ACCU-AHU-04 *	DX14SA0481	45500	95	6	208 - 1	26.2	45	220	11.7	REFER TO NOTES

NOTES:

1. MANUFACTURER MUST BE CERTIFIED, LISTED, AND LABELED PER AHRI 1230.
2. SYSTEM RATING DATA BASED ON DESIGN AMBIENT CONDITIONS FOR COOLING AND FOR HEATING.

* ADD ALTERNATE

GIDEON WELLES SCHOOL
NEW AIR CONDITIONING SYSTEM
GLASTONBURY, CONNECTICUT

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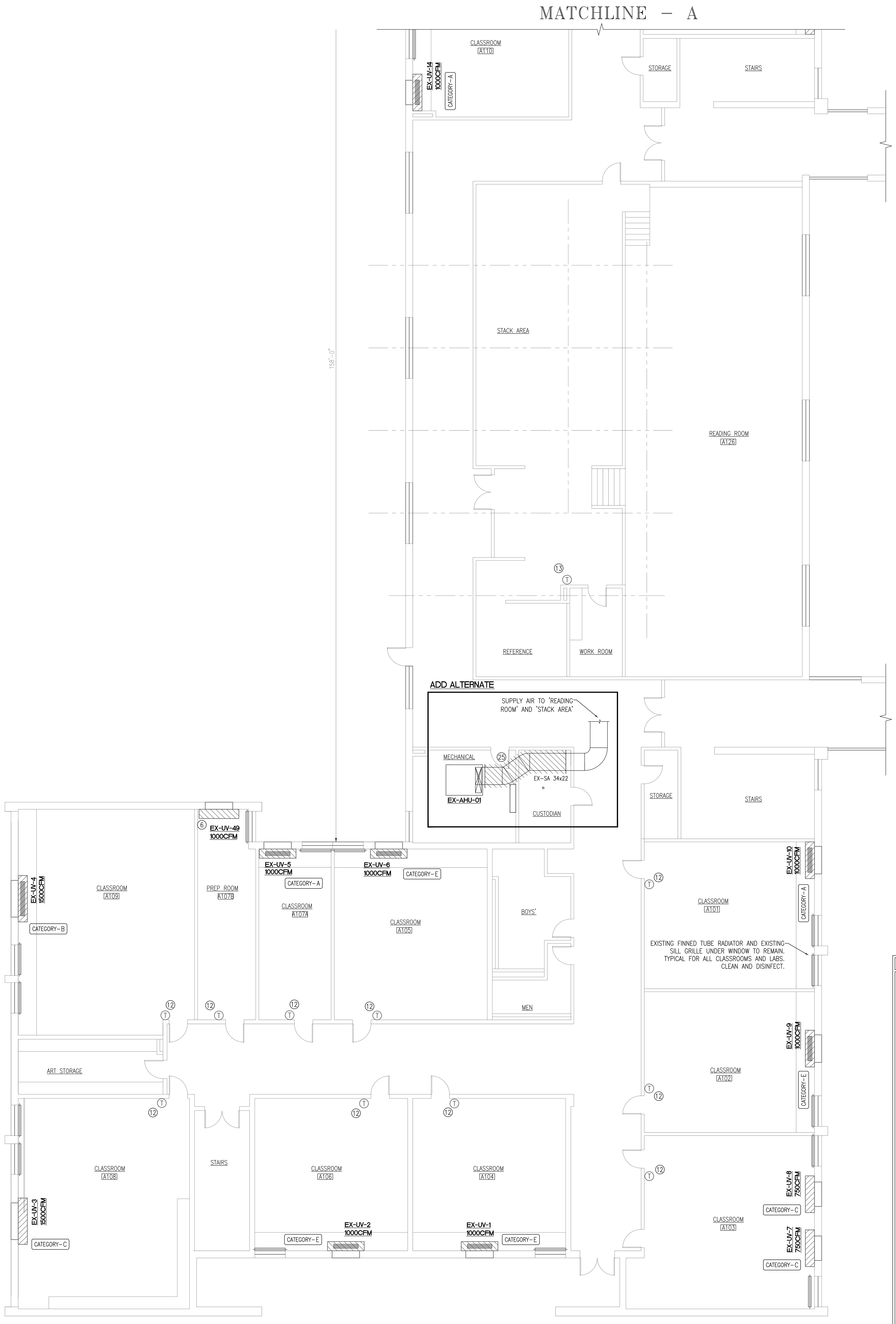
TITLE
MECHANICAL SCHEDULES

DATE 11/01/2018

DWG. NO.
M0.2



1st FLOOR PLAN SECTION "A"

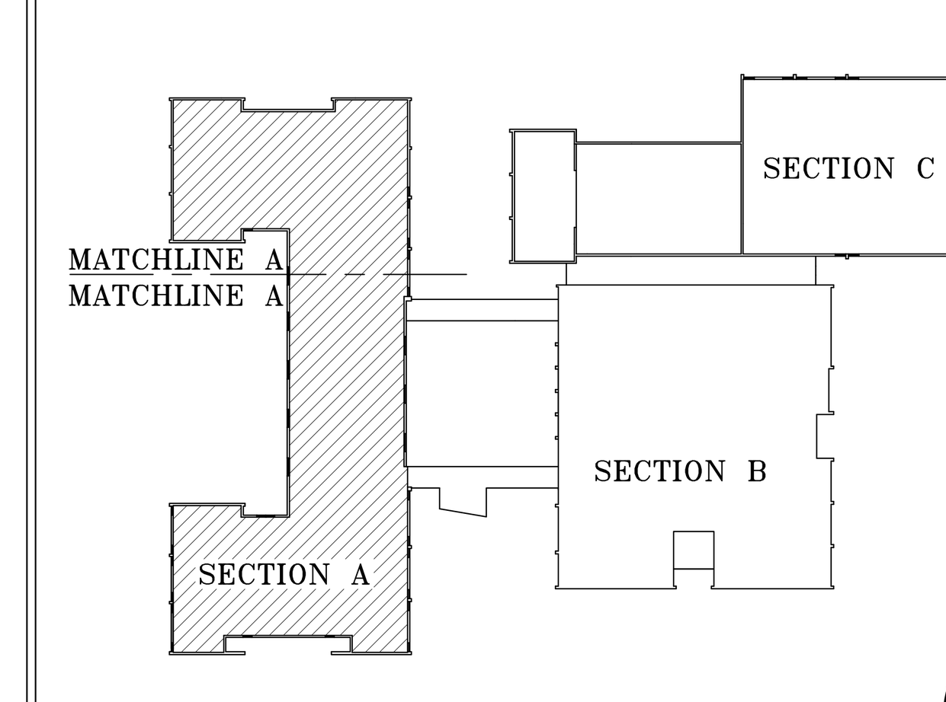
SCALE: 1/8"=1'-0"

1st FLOOR PLAN SECTION "A"(CONT.)

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

DEMOLITION DRAWING KEYED NOTES.

1. CUT COUNTERTOP TO REMOVE THE UNIT VENTILATOR.
2. REMOVE EXISTING UNIT VENTILATOR, SUPPORTS, SUPPLY AIR LINEAR DIFFUSER, CONTROL VALVE, AND HOT WATER PIPING BACK TO ISOLATION VALVES, PROVIDE TEMPORARY PIPING CAPS DURING CONSTRUCTION.
   REMOVE PNEUMATIC CONTROL TUBING, CAP PNEUMATIC TUBING AT MAIN PIPING.
   EXISTING INTAKE AIR LOUVER TO REMAIN. REPLACE ISOLATION VALVES AT TAKE-OFFS.
3. REMOVE CABINET'S (2) DOORS AND ALL RELATED ACCESSORIES. CUT THE CABINET, THE COUNTERTOP, AND THE SHELVES TO FIT THE NEW UNIT VENTILATOR.
   CLEAN AND BAND THE EDGE OF THE COUNTERTOP USING STRIPS. (COLOR BY OWNER)
   CLEAN AND PAINT THE EDGE OF THE SHELVES TO MATCH CABINET.
4. PROVIDE NEW $\frac{3}{4}$" (THICK) PLYWOOD SIDE PANEL TO MATCH EXISTING PROVIDE FILLER PIECE TO MATCH EXISTING. PROVIDE LUMBER ALONG THE FRONT EDGE, FLUSH WITH ENDS. PAINT THE PANEL TO MATCH THE CABINET, THE SIDE PANEL SHALL BE ATTACHED TO THE BOTTOM OF COUNTERTOP, THE REAR WALL, AND THE FLOOR. THE SIDE PANEL SHALL BE SECURED AND FIXED FROM INSIDE THE CABINET.
   REMOVE BRACKET SLOTS INSIDE THE CABINET AND PROVIDE NEW BRACKETS SLOTS WITH ALL THE REQUIRED ACCESSORIES TO ADJUST SHELVES.
5. CUT THE CABINET, THE COUNTERTOP, AND THE SHELVES TO FIT THE NEW UNIT VENTILATOR.
   CLEAN AND BAND THE EDGE OF THE COUNTERTOP USING STRIPS. (COLOR BY OWNER)
   CLEAN AND PAINT THE EDGE OF THE SHELVES TO MATCH CABINET.
6. REMOVE EXISTING UNIT VENTILATOR, SUPPORTS, CONTROL VALVE, AND HOT WATER PIPING BACK TO ISOLATION VALVES, PROVIDE INSULATED TEMPORARY PIPING CAPS DURING CONSTRUCTION.
   REMOVE PNEUMATIC CONTROL TUBING, CAP PNEUMATIC TUBING AT MAIN PIPING.
   EXISTING INTAKE AIR LOUVER TO REMAIN.
7. REMOVE PIPING CHASE, PROVIDE NEW PIPING CHASE TO COVER HOT WATER PIPING AND REFRIGERANT PIPING. CHASES BY 'HVAC CUSTOM ENCLOSURE CO.'
8. REMOVE PIPING CHASE, PROVIDE NEW PIPING CHASE TO COVER HOT WATER PIPING CHASES BY 'HVAC CUSTOM ENCLOSURE CO.' NEW CHASES SHALL MATCH ON SIZES THE EXISTING CHASES.
9. SHIFT AND RE-SECURE TO THE WALL TALL STORAGE CABINET TO FIT THE NEW UNIT VENTILATOR.
10. CUT THE WOOD PANEL, CLEAN AND PAINT THE EDGE TO MATCH THE CABINET.
11. REMOVE TALL STORAGE CABINET.
12. REMOVE THERMOSTAT, REMOVE PNEUMATIC CONTROL TUBING, CAP PNEUMATIC TUBING AT MAIN PIPING. PATCH TO MATCH WALL.
13. EXISTING THERMOSTAT TO REMAIN
14. PRIOR TO REMOVE THE CONCEALED CEILING INDOOR UNIT, MEASURE EXHAUST AIR FLOW IN THE ROOM, REPORT RESULTS IN WRITING TO THE OWNER.
    REMOVE EXISTING CONCEALED INDOOR UNIT (EX-CIU) AND CONTROLS.
    REMOVE ASSOCIATED SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK, AND SUPPORTS.
    REMOVE HOT WATER PIPING BACK TO ISOLATION VALVES, PROVIDE INSULATED TEMPORARY PIPING CAPS DURING CONSTRUCTION.
    REMOVE PNEUMATIC CONTROL TUBING, CAP PNEUMATIC TUBING AT MAIN PIPING.
    PROVIDE INSULATED DUCTWORK CAP FOR THE OUTSIDE AIR INTAKE LOUVER DURING CONSTRUCTION.
15. SAFELY DISPOSE AND COMPLETELY REMOVE REFRIGERANT FROM THE ENTIRE SYSTEM.
    • REMOVE:
      1. EXISTING DX-WALL MOUNTED INDOOR UNIT (EX-DX-WIU)
      2. REFRIGERANT PIPING BACK TO THE AIR COOLED CONDENSING UNIT ON ROOF.
      3. CONDENSING PUMP AND CONDENSING DRAIN PIPING.
      4. SUPPORTS.
16. EXISTING BASEBOARD RADIATOR TO REMAIN. CLEAN AND DISINFECT.
17. REMOVE EXISTING AIR COOLED CONDENSING UNIT (EX-ACCU). RAILS TO REMAIN.
    EXISTING REFRIGERANT PIPING ROOF CURB TO REMAIN AND BE CAPPED WITH 2" INSULATED WATER AND AIR-TIGHT CAP. PATCH TO MATCH ROOF.
18. EXISTING OUTSIDE AIR INTAKE VENTILATOR (EX-OAI) TO REMAIN.
19. EXISTING EXHAUST FAN (EX-AF) TO REMAIN.
20. EXISTING AIR COOLED CONDENSING UNIT TO REMAIN.
21. CUT FINNED TUBE TRIM COVER TO FIT NEW UNIT VENTILATOR.
22. REMOVE EXISTING SUPPLY DUCTWORK WITH ALL RELATED ACCESSORIES AND SUPPORTS, REMOVE CONTROL PRESSURE SENSORS AND KEEP THEM IN A SAFE PLACE TO BE RE-INSTALLED.
23. AIR HANDLER UNIT AHU-04 TO REMAIN.
24. ENERGY RECOVERY UNIT (ERU-1) SYSTEM TO REMAIN.
25. REMOVE EXISTING SUPPLY DUCTWORK WITH ALL RELATED ACCESSORIES AND SUPPORTS.
26. EXISTING CONCEALED CEILING INDOOR UNIT TO REMAIN.



KEY PLAN

NO SCALE

NORTH

REVISIONS

GIDEON WELLES SCHOOL

NEW AIR CONDITIONING SYSTEM

GLASTONBURY, CONNECTICUT

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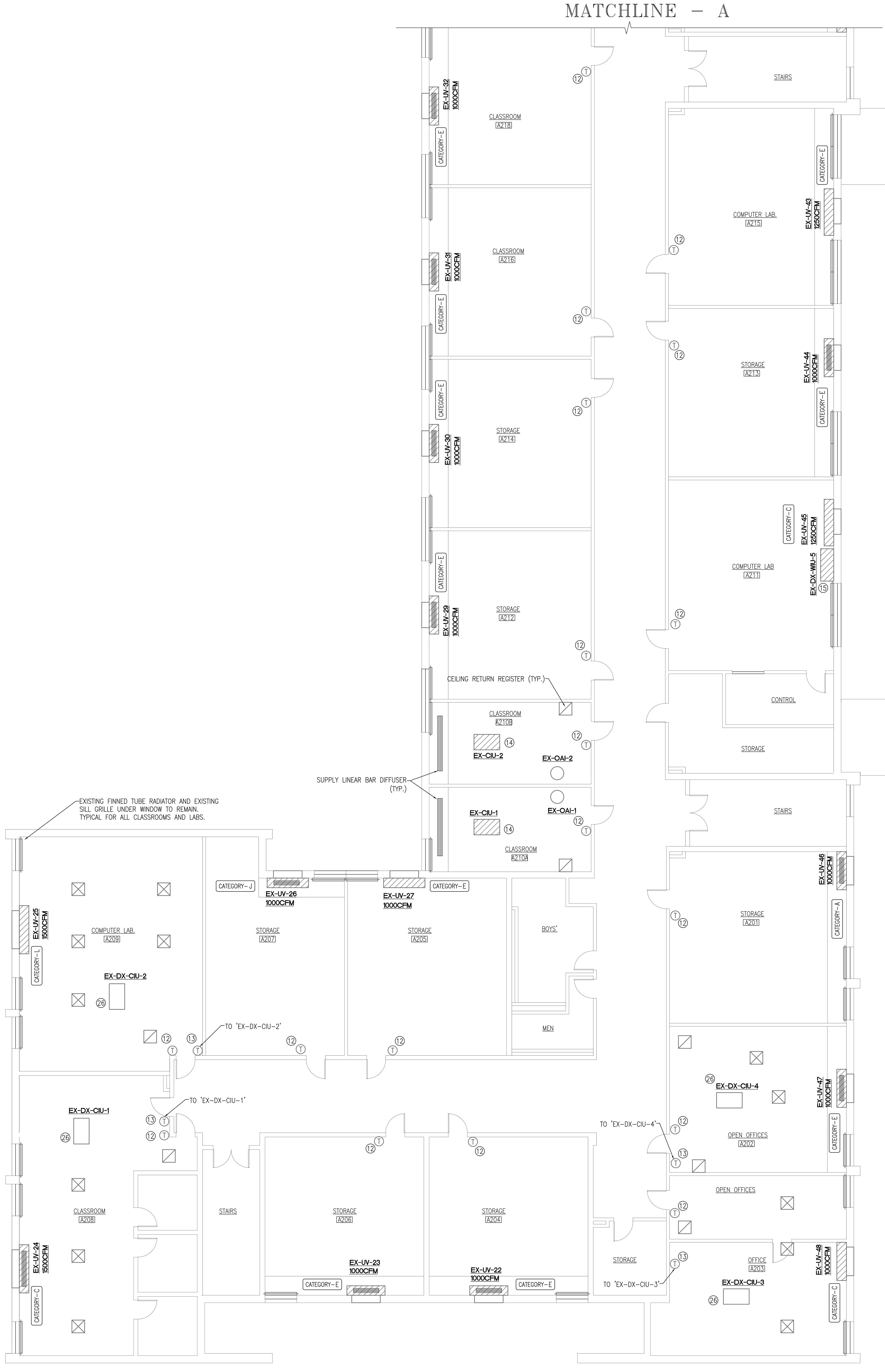
TITLE

1st FLOOR PLAN SECTION A MECHANICAL DEMOLITION

DATE 11/01/2018

DWG. NO. MD1.1A



2nd FLOOR PLAN SECTION "A"

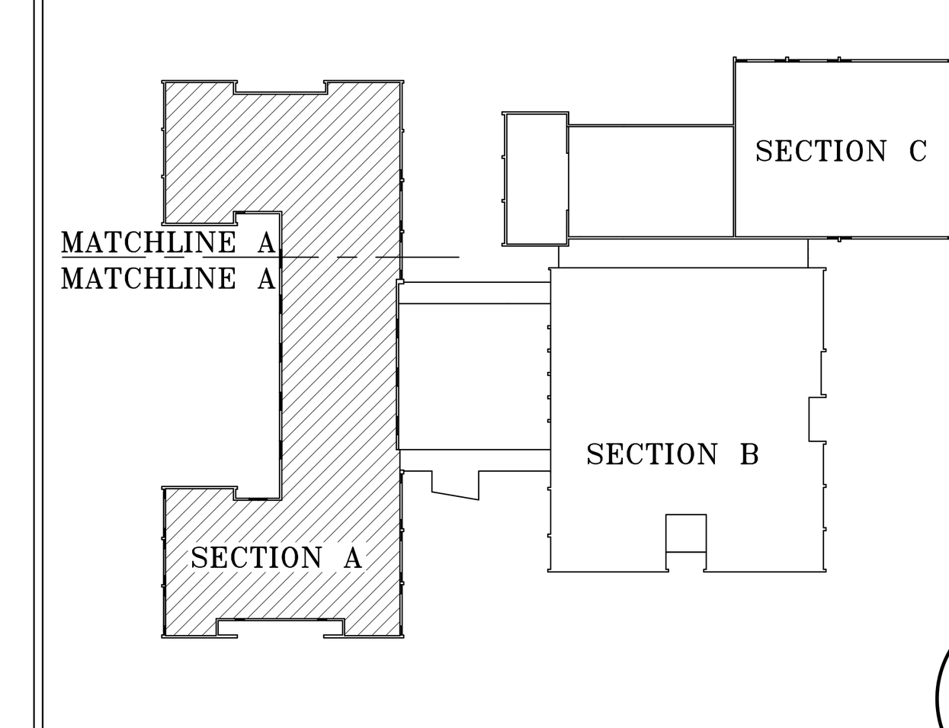
SCALE: 1/8"=1'-0"

2nd FLOOR PLAN SECTION "A"(CONT.)

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

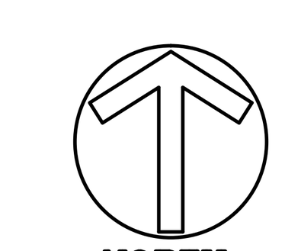
DEMOLITION DRAWING KEYED NOTES.

1. CUT COUNTERTOP TO REMOVE THE UNIT VENTILATOR.
2. REMOVE EXISTING UNIT VENTILATOR, SUPPORTS, SUPPLY AIR LINEAR DIFFUSER, CONTROL VALVE, AND HOT WATER PIPING BACK TO ISOLATION VALVES, PROVIDE TEMPORARY PIPING CAPS DURING CONSTRUCTION.
REMOVE PNEUMATIC CONTROL TUBING, CAP PNEUMATIC TUBING AT MAIN PIPING.
EXISTING INTAKE AIR LOUVER TO REMAIN. REPLACE ISOLATION VALVES AT TAKE-OFFS.
3. REMOVE CABINET'S (2) DOORS AND ALL RELATED ACCESSORIES. CUT THE CABINET, THE COUNTERTOP, AND THE SHELVES TO FIT THE NEW UNIT VENTILATOR.
CLEAN AND BAND THE EDGE OF THE COUNTERTOP USING STRIPS. (COLOR BY OWNER)
CLEAN AND PAINT THE EDGE OF THE SHELVES TO MATCH CABINET.
4. PROVIDE NEW $\frac{3}{4}$" (THICK) PLYWOOD SIDE PANEL TO MATCH EXISTING PROVIDE FILLER PIECE TO MATCH EXISTING. PROVIDE LUMBER ALONG THE FRONT EDGE, FLUSH WITH ENDS. PAINT THE PANEL TO MATCH THE CABINET, THE SIDE PANEL SHALL BE ATTACHED TO THE BOTTOM OF COUNTERTOP, THE REAR WALL, AND THE FLOOR. THE SIDE PANEL SHALL BE SECURED AND FIXED FROM INSIDE THE CABINET.
REMOVE BRACKET SLOTS INSIDE THE CABINET AND PROVIDE NEW BRACKETS SLOTS WITH ALL THE REQUIRED ACCESSORIES TO ADJUST SHELVES.
5. CUT THE CABINET, THE COUNTERTOP, AND THE SHELVES TO FIT THE NEW UNIT VENTILATOR.
CLEAN AND BAND THE EDGE OF THE COUNTERTOP USING STRIPS. (COLOR BY OWNER)
CLEAN AND PAINT THE EDGE OF THE SHELVES TO MATCH CABINET.
6. REMOVE EXISTING UNIT VENTILATOR, SUPPORTS, CONTROL VALVE, AND HOT WATER PIPING BACK TO ISOLATION VALVES, PROVIDE INSULATED TEMPORARY PIPING CAPS DURING CONSTRUCTION.
REMOVE PNEUMATIC CONTROL TUBING, CAP PNEUMATIC TUBING AT MAIN PIPING.
EXISTING INTAKE AIR LOUVER TO REMAIN.
7. REMOVE PIPING CHASE, PROVIDE NEW PIPING CHASE TO COVER HOT WATER PIPING AND REFRIGERANT PIPING. CHASES BY 'HVAC CUSTOM ENCLOSURE CO.'
8. REMOVE PIPING CHASE, PROVIDE NEW PIPING CHASE TO COVER HOT WATER PIPING CHASES BY 'HVAC CUSTOM ENCLOSURE CO.' NEW CHASES SHALL MATCH ON SIZES THE EXISTING CHASES.
9. SHIFT AND RE-SECURE TO THE WALL TALL STORAGE CABINET TO FIT THE NEW UNIT VENTILATOR.
10. CUT THE WOOD PANEL, CLEAN AND PAINT THE EDGE TO MATCH THE CABINET.
11. REMOVE TALL STORAGE CABINET.
12. REMOVE THERMOSTAT, REMOVE PNEUMATIC CONTROL TUBING, CAP PNEUMATIC TUBING AT MAIN PIPING. PATCH TO MATCH WALL.
13. EXISTING THERMOSTAT TO REMAIN
14. PRIOR TO REMOVE THE CONCEALED CEILING INDOOR UNIT, MEASURE EXHAUST AIR FLOW IN THE ROOM, REPORT RESULTS IN WRITING TO THE OWNER.
REMOVE EXISTING CONCEALED INDOOR UNIT (EX-CIU) AND CONTROLS.
REMOVE ASSOCIATED SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK, AND SUPPORTS.
REMOVE HOT WATER PIPING BACK TO ISOLATION VALVES, PROVIDE INSULATED TEMPORARY PIPING CAPS DURING CONSTRUCTION.
REMOVE PNEUMATIC CONTROL TUBING, CAP PNEUMATIC TUBING AT MAIN PIPING.
PROVIDE INSULATED DUCTWORK CAP FOR THE OUTSIDE AIR INTAKE LOUVER DURING CONSTRUCTION.
15. SAFELY DISPOSE AND COMPLETELY REMOVE REFRIGERANT FROM THE ENTIRE SYSTEM.
   - REMOVE:
     1. EXISTING DX-WALL MOUNTED INDOOR UNIT (EX-DX-WIU)
     2. REFRIGERANT PIPING BACK TO THE AIR COOLED CONDENSING UNIT ON ROOF.
     3. CONDENSING PUMP AND CONDENSING DRAIN PIPING.
     4. SUPPORTS.
16. EXISTING BASEBOARD RADIATOR TO REMAIN. CLEAN AND DISINFECT.
17. REMOVE EXISTING AIR COOLED CONDENSING UNIT (EX-ACCU). RAILS TO REMAIN.
EXISTING REFRIGERANT PIPING ROOF CURB TO REMAIN AND BE CAPPED WITH 2" INSULATED WATER AND AIR-TIGHT CAP. PATCH TO MATCH ROOF.
18. EXISTING OUTSIDE AIR INTAKE VENTILATOR (EX-OAI) TO REMAIN.
19. EXISTING EXHAUST FAN (EX-AF) TO REMAIN.
20. EXISTING AIR COOLED CONDENSING UNIT TO REMAIN.
21. CUT FINNED TUBE TRIM COVER TO FIT NEW UNIT VENTILATOR.
22. REMOVE EXISTING SUPPLY DUCTWORK WITH ALL RELATED ACCESSORIES AND SUPPORTS, REMOVE CONTROL PRESSURE SENSORS AND KEEP THEM IN A SAFE PLACE TO BE RE-INSTALLED.
23. AIR HANDLER UNIT AHU-04 TO REMAIN.
24. ENERGY RECOVERY UNIT (ERU-1) SYSTEM TO REMAIN.
25. REMOVE EXISTING SUPPLY DUCTWORK WITH ALL RELATED ACCESSORIES AND SUPPORTS.
26. EXISTING CONCEALED CEILING INDOOR UNIT TO REMAIN.



KEY PLAN

NO SCALE



NORTH

REVISIONS

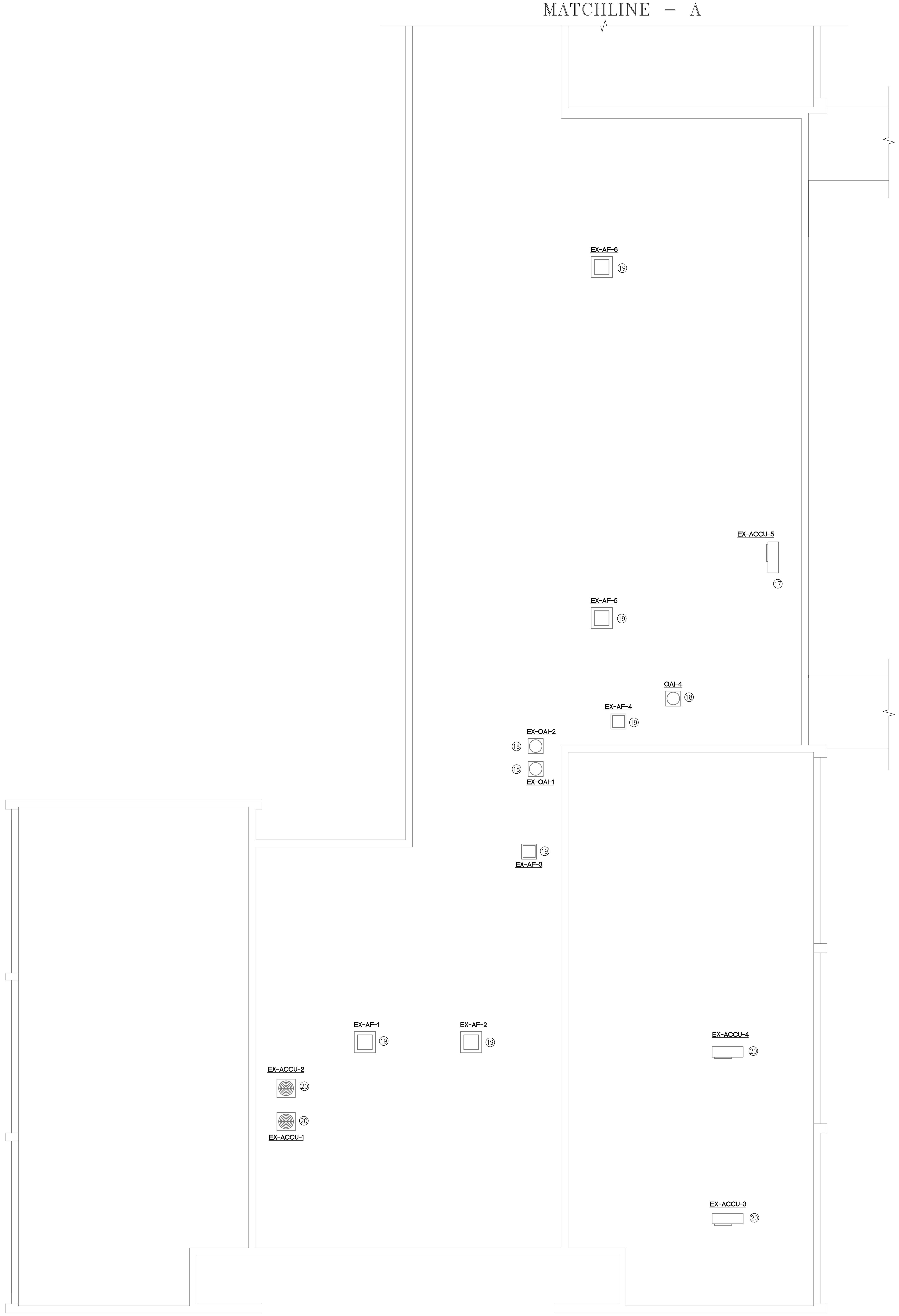
GIDEON WELLES SCHOOL
NEW AIR CONDITIONING SYSTEM
GLASTONBURY, CONNECTICUT

BEMIS ASSOCIATES, L.L.C.
Consulting Engineers
185 Main Street
Farmington, Ct 06032
(860) 667-3233
Fax: (860) 321-7070
w.w.w.bemisassociates.com

TITLE
2nd FLOOR PLAN SECTION A MECHANICAL DEMOLITION

DATE 11/01/2018

DWG. NO. MD1.2A



ROOF PLAN SECTION "A"
SCALE: 1/8"=1'-0"

ROOF PLAN SECTION "A"(CONT.)
SCALE: 1/8"=1'-0"

DEMOLITION DRAWING KEYED NOTES.

1. CUT COUNTERTOP TO REMOVE THE UNIT VENTILATOR.
2. REMOVE EXISTING UNIT VENTILATOR, SUPPORTS, SUPPLY AIR LINEAR DIFFUSER, CONTROL VALVE, AND HOT WATER PIPING BACK TO ISOLATION VALVES, PROVIDE TEMPORARY PIPING CAPS DURING CONSTRUCTION.
   REMOVE PNEUMATIC CONTROL TUBING, CAP PNEUMATIC TUBING AT MAIN PIPING.
   EXISTING INTAKE AIR LOUVER TO REMAIN. REPLACE ISOLATION VALVES AT TAKE–OFFS.
3. REMOVE CABINET'S (2) DOORS AND ALL RELATED ACCESSORIES. CUT THE CABINET, THE COUNTERTOP, AND THE SHELVES TO FIT THE NEW UNIT VENTILATOR.
   CLEAN AND BAND THE EDGE OF THE COUNTERTOP USING STRIPS. (COLOR BY OWNER)
   CLEAN AND PAINT THE EDGE OF THE SHELVES TO MATCH CABINET.
4. PROVIDE NEW $\frac{3}{4}$" (THICK) PLYWOOD SIDE PANEL TO MATCH EXISTING PROVIDE FILLER PIECE TO MATCH EXISTING. PROVIDE LUMBER ALONG THE FRONT EDGE, FLUSH WITH ENDS. PAINT THE PANEL TO MATCH THE CABINET, THE SIDE PANEL SHALL BE ATTACHED TO THE BOTTOM OF COUNTERTOP, THE REAR WALL, AND THE FLOOR. THE SIDE PANEL SHALL BE SECURED AND FIXED FROM INSIDE THE CABINET.
   REMOVE BRACKET SLOTS INSIDE THE CABINET AND PROVIDE NEW BRACKETS SLOTS WITH ALL THE REQUIRED ACCESSORIES TO ADJUST SHELVES.
5. CUT THE CABINET, THE COUNTERTOP, AND THE SHELVES TO FIT THE NEW UNIT VENTILATOR.
   CLEAN AND BAND THE EDGE OF THE COUNTERTOP USING STRIPS. (COLOR BY OWNER)
   CLEAN AND PAINT THE EDGE OF THE SHELVES TO MATCH CABINET.
6. REMOVE EXISTING UNIT VENTILATOR, SUPPORTS, CONTROL VALVE, AND HOT WATER PIPING BACK TO ISOLATION VALVES, PROVIDE INSULATED TEMPORARY PIPING CAPS DURING CONSTRUCTION.
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8. REMOVE PIPING CHASE, PROVIDE NEW PIPING CHASE TO COVER HOT WATER PIPING CHASES BY 'HVAC CUSTOM ENCLOSURE CO.' NEW CHASES SHALL MATCH ON SIZES THE EXISTING CHASES.
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10. CUT THE WOOD PANEL, CLEAN AND PAINT THE EDGE TO MATCH THE CABINET.
11. REMOVE TALL STORAGE CABINET.
12. REMOVE THERMOSTAT, REMOVE PNEUMATIC CONTROL TUBING, CAP PNEUMATIC TUBING AT MAIN PIPING. PATCH TO MATCH WALL.
13. EXISTING THERMOSTAT TO REMAIN
14. PRIOR TO REMOVE THE CONCEALED CEILING INDOOR UNIT, MEASURE EXHAUST AIR FLOW IN THE ROOM, REPORT RESULTS IN WRITING TO THE OWNER.
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16. EXISTING BASEBOARD RADIATOR TO REMAIN. CLEAN AND DISINFECT.
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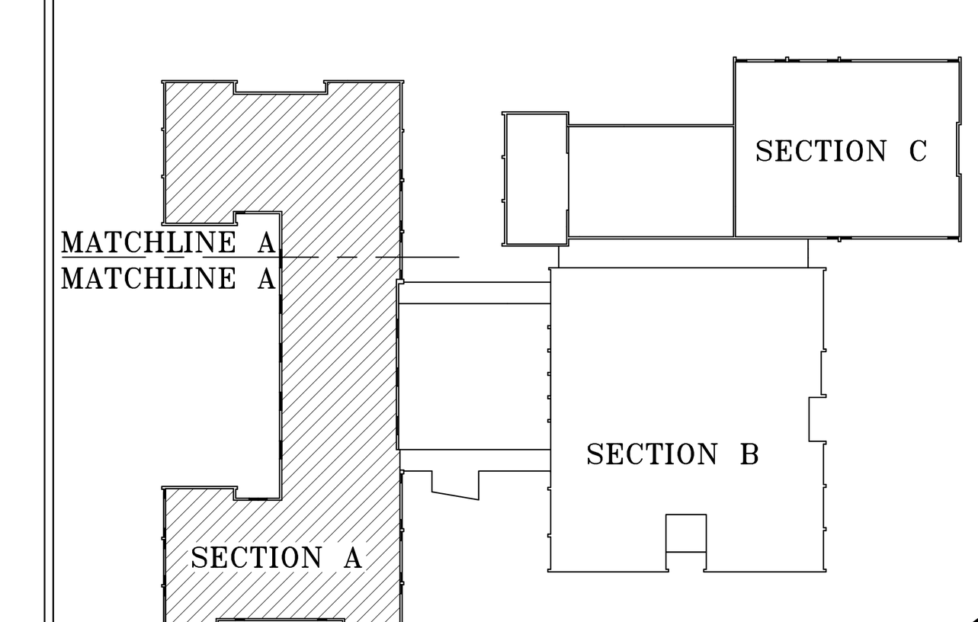


KEY PLAN
NO SCALE

NORTH

REVISIONS

GIDEON WELLES SCHOOL
NEW AIR CONDITIONING SYSTEM
GLASTONBURY, CONNECTICUT

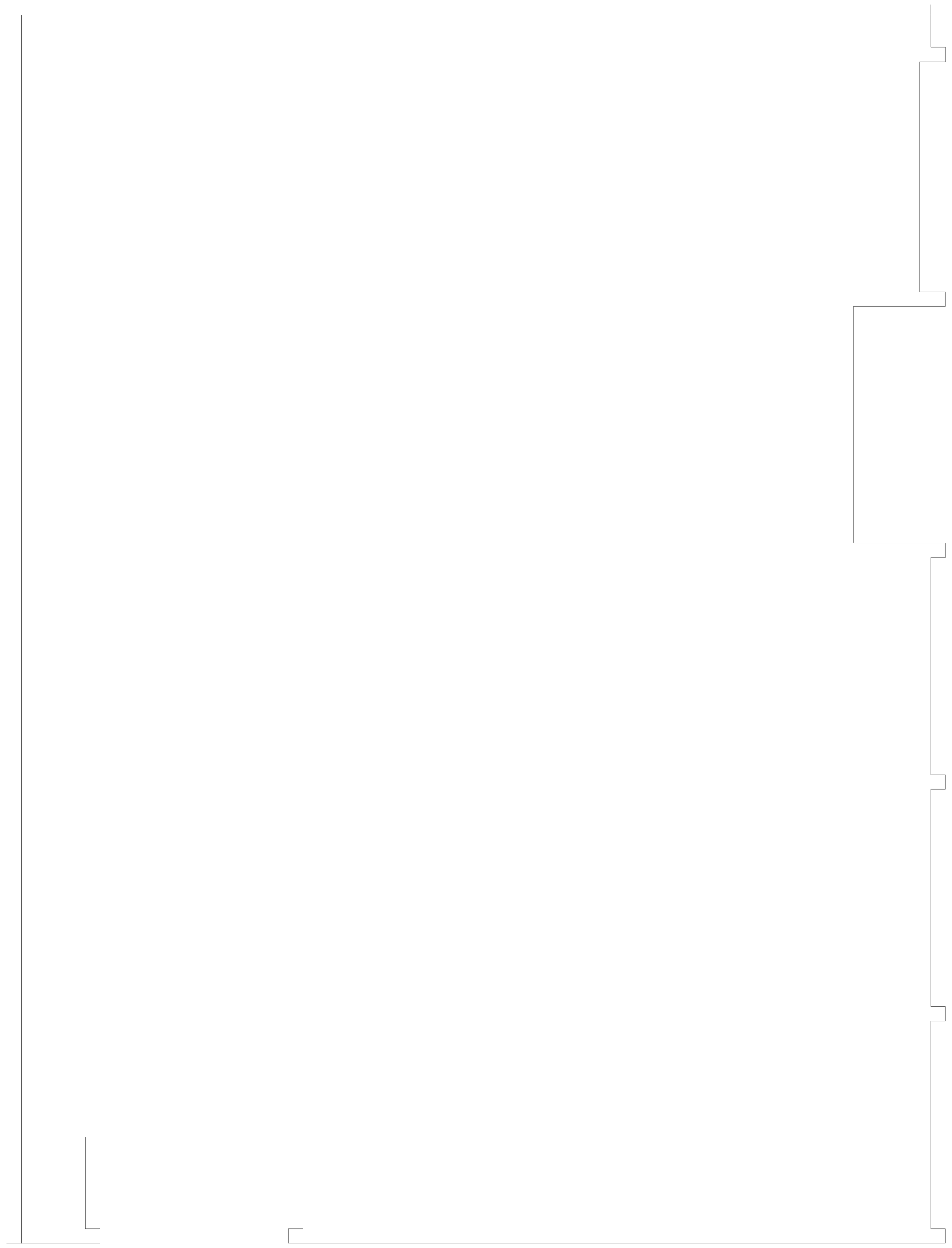
BEMIS ASSOCIATES, L.L.C.
Consulting Engineers
185 Main Street
Farmington, CT 06032

TITLE
ROOF PLAN SECTION A MECHANICAL DEMOLITION

DATE 11/01/2018

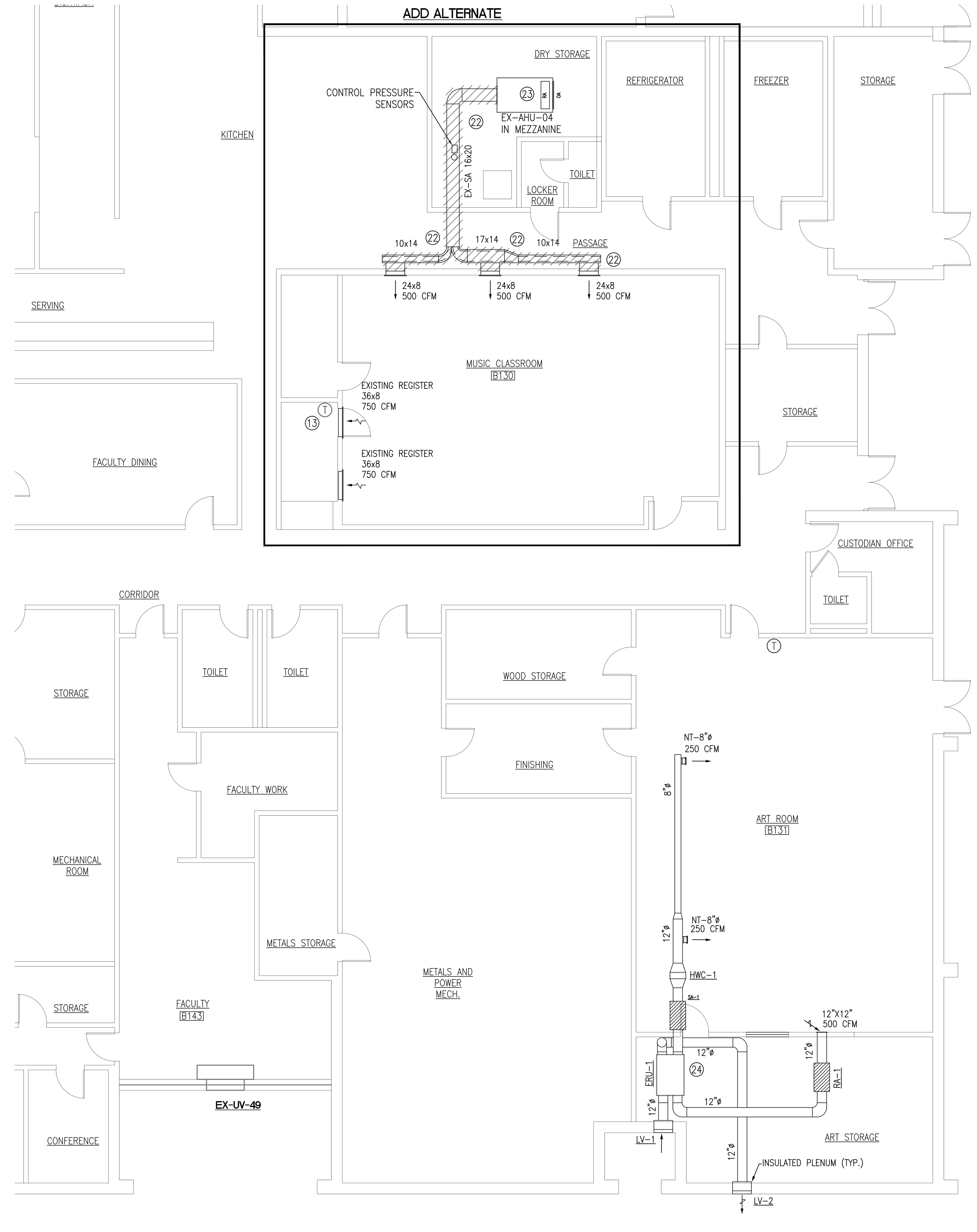
DWG. NO.
MD1.3A

REVISIONS



ROOF PLAN SECTION "B"

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



1st FLOOR PLAN SECTION "B"

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

DEMOLITION DRAWING KEYED NOTES.

1. CUT COUNTERTOP TO REMOVE THE UNIT VENTILATOR.
2. REMOVE EXISTING UNIT VENTILATOR, SUPPORTS, SUPPLY AIR LINEAR DIFFUSER, CONTROL VALVE, AND HOT WATER PIPING BACK TO ISOLATION VALVES, PROVIDE TEMPORARY PIPING CAPS DURING CONSTRUCTION.
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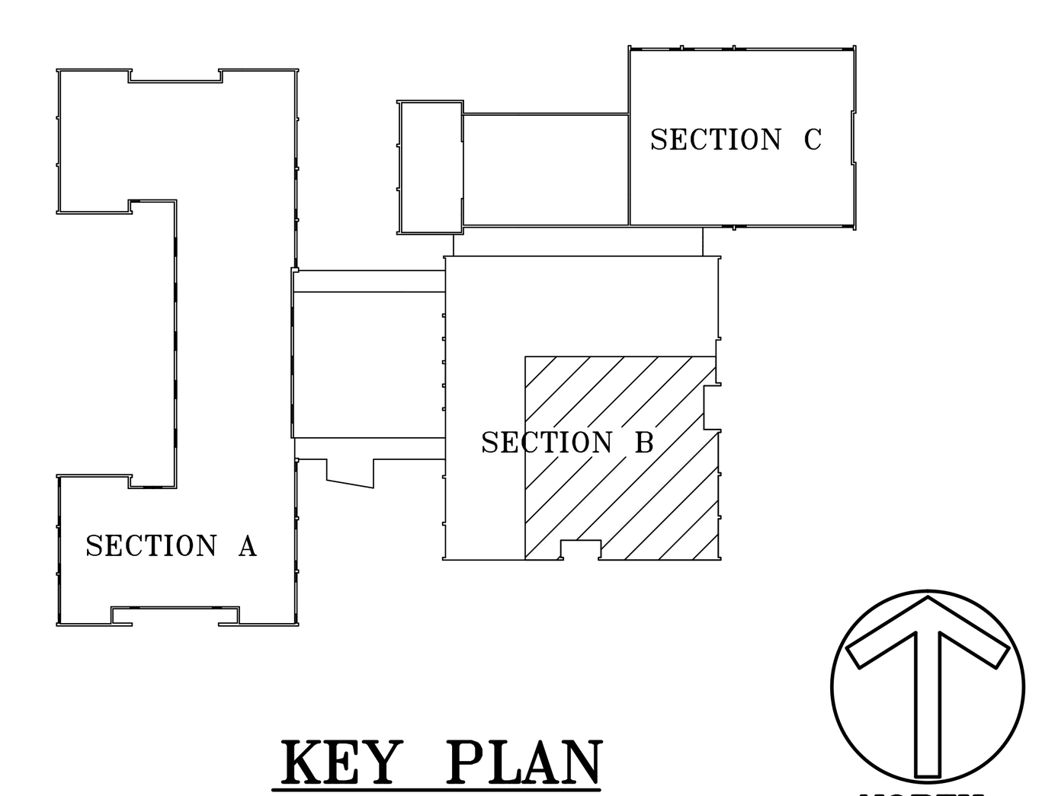

KEY PLAN

NO SCALE

GIDEON WELLES SCHOOL

NEW AIR CONDITIONING SYSTEM

GLASTONBURY, CONNECTICUT

BEMIS ASSOCIATES, L.L.C.
Consulting Engineers
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Fax: (860) 321–7070
w.w.w.bemisassociates.com

TITLE
1st FLOOR AND ROOF PLAN SECTION B MECHANICAL DEMOLITION

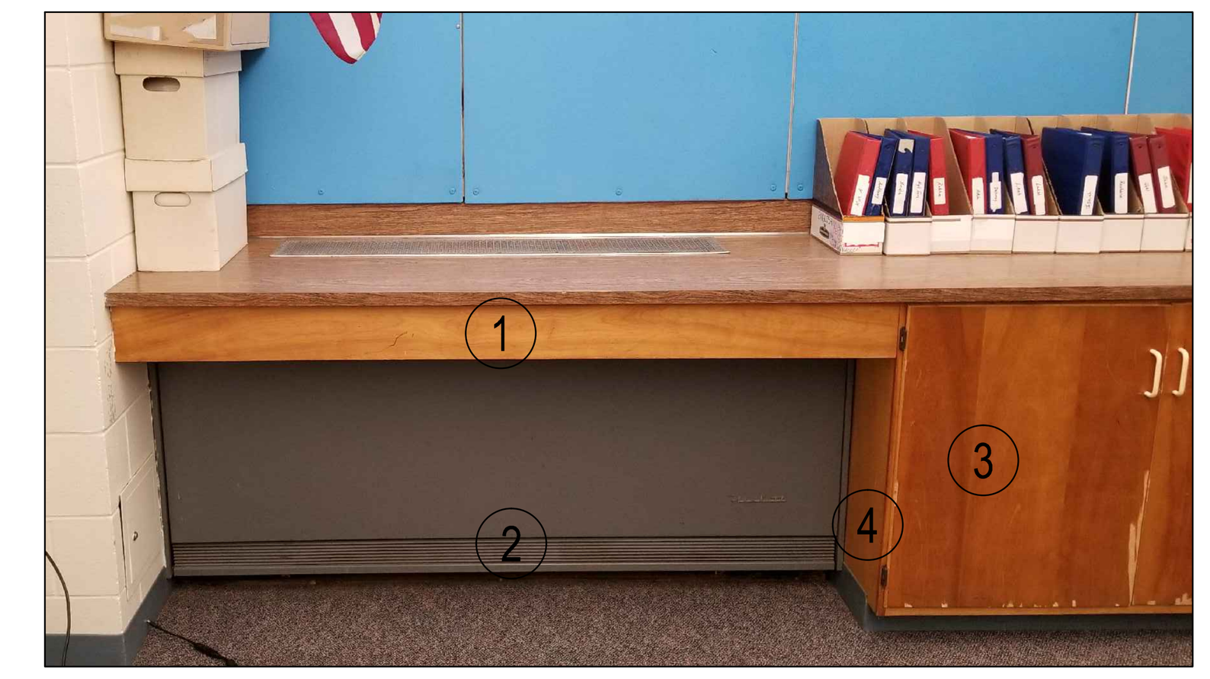
DATE 11/01/2018

DWG. NO. MD1.1B

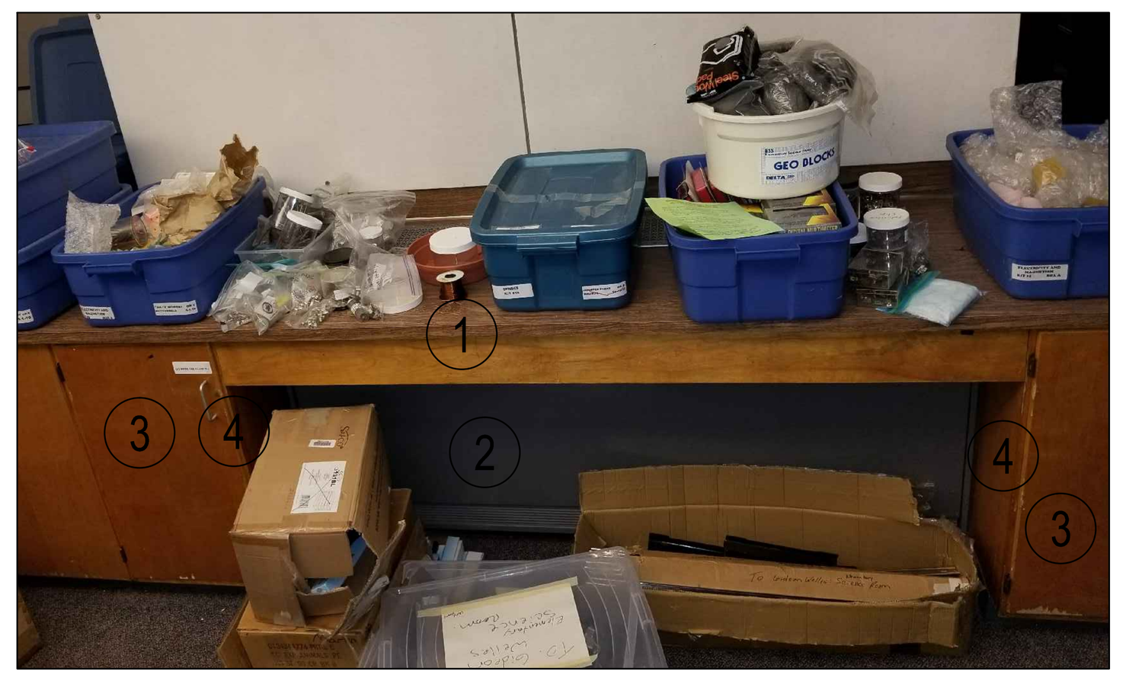
REVISIONS

CATEGORY - I

CATEGORY - E

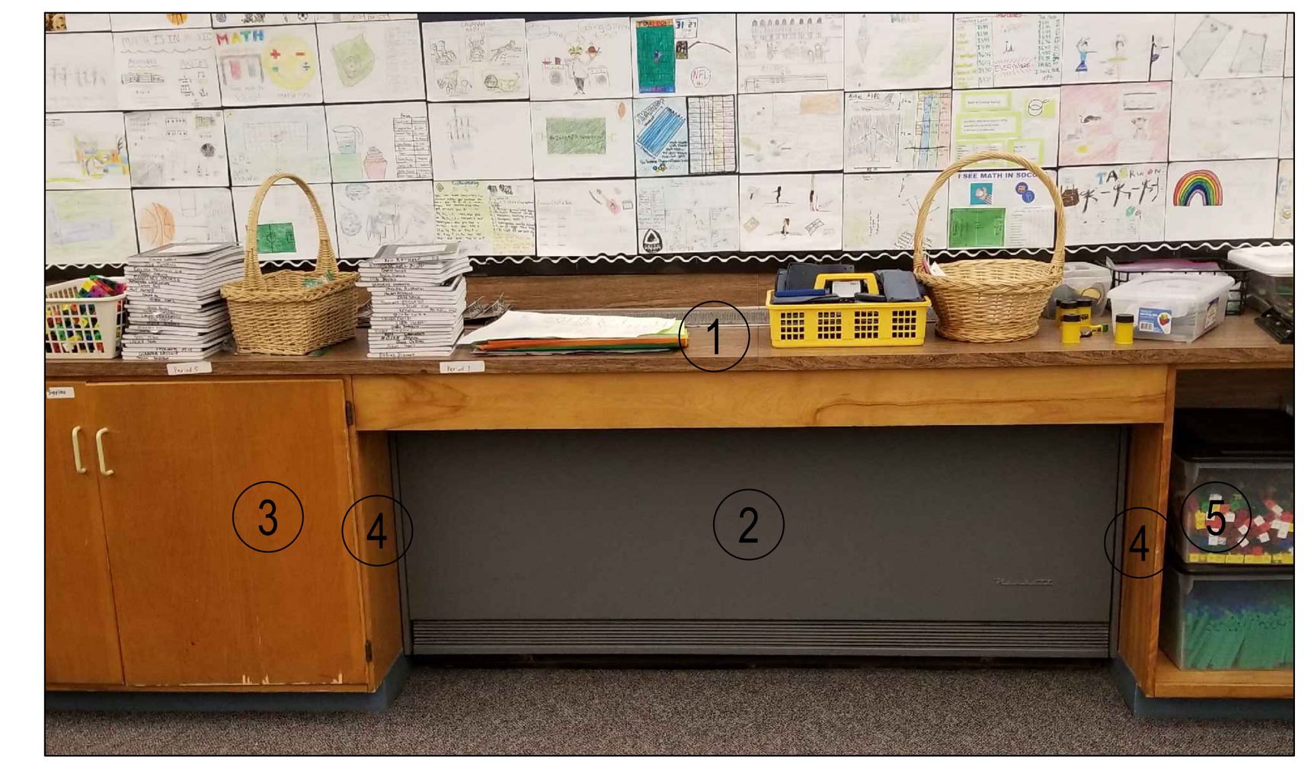


CATEGORY - A



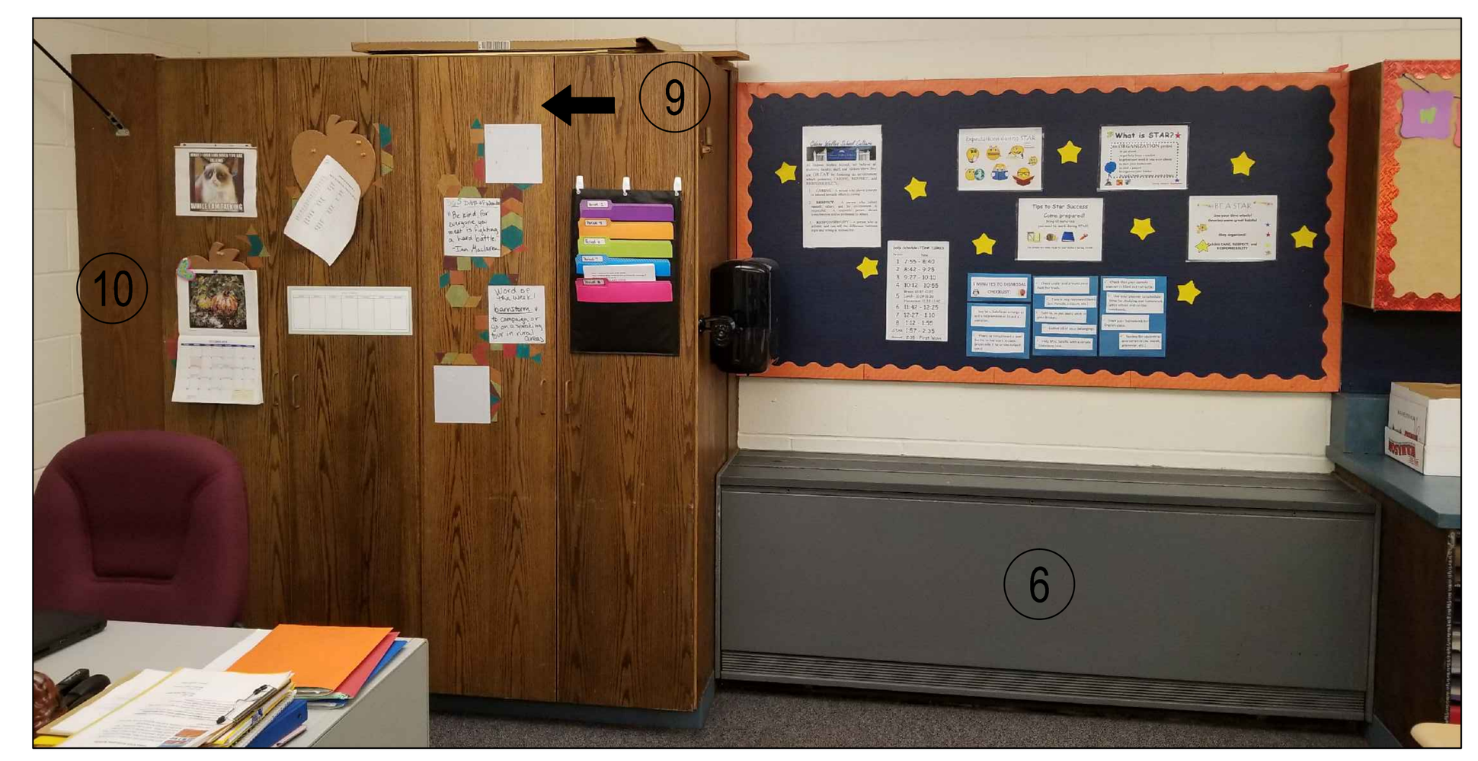
CATEGORY - J

CATEGORY - F



CATEGORY - B

CATEGORY - L



CATEGORY - G

CATEGORY - C

CATEGORY - H

CATEGORY - D

DEMOLITION DRAWING KEYED NOTES.

(1) CUT COUNTERTOP TO REMOVE THE UNIT VENTILATOR.

(2) REMOVE EXISTING UNIT VENTILATOR, SUPPORTS, SUPPLY AIR LINEAR DIFFUSER, CONTROL VALVE, AND HOT WATER PIPING BACK TO ISOLATION VALVES, PROVIDE TEMPORARY PIPING CAPS DURING CONSTRUCTION.
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(4) PROVIDE NEW $\frac{3}{4}$" (THICK) PLYWOOD SIDE PANEL TO MATCH EXISTING PROVIDE FILLER PIECE TO MATCH EXISTING. PROVIDE LUMBER ALONG THE FRONT EDGE, FLUSH WITH ENDS. PAINT THE PANEL TO MATCH THE CABINET, THE SIDE PANEL SHALL BE ATTACHED TO THE BOTTOM OF COUNTERTOP, THE REAR WALL, AND THE FLOOR. THE SIDE PANEL SHALL BE SECURED AND FIXED FROM INSIDE THE CABINET.
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(11) REMOVE TALL STORAGE CABINET.

(12) REMOVE THERMOSTAT, REMOVE PNEUMATIC CONTROL TUBING, CAP PNEUMATIC TUBING AT MAIN PIPING. PATCH TO MATCH WALL.

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(14) PRIOR TO REMOVE THE CONCEALED CEILING INDOOR UNIT, MEASURE EXHAUST AIR FLOW IN THE ROOM, REPORT RESULTS IN WRITING TO THE OWNER.
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(20) EXISTING AIR COOLED CONDENSING UNIT TO REMAIN.

(21) CUT FINNED TUBE TRIM COVER TO FIT NEW UNIT VENTILATOR.

(22) REMOVE EXISTING SUPPLY DUCTWORK WITH ALL RELATED ACCESSORIES AND SUPPORTS, REMOVE CONTROL PRESSURE SENSORS AND KEEP THEM IN A SAFE PLACE TO BE RE-INSTALLED.

(23) AIR HANDLER UNIT AHU-04 TO REMAIN.

(24) ENERGY RECOVERY UNIT (ERU-1) SYSTEM TO REMAIN.

(25) REMOVE EXISTING SUPPLY DUCTWORK WITH ALL RELATED ACCESSORIES AND SUPPORTS.

(26) EXISTING CONCEALED CEILING INDOOR UNIT TO REMAIN.

GIDEON WELLES SCHOOL
NEW AIR CONDITIONING SYSTEM
GLASTONBURY, CONNECTICUT

BEMIS ASSOCIATES, L.L.C.
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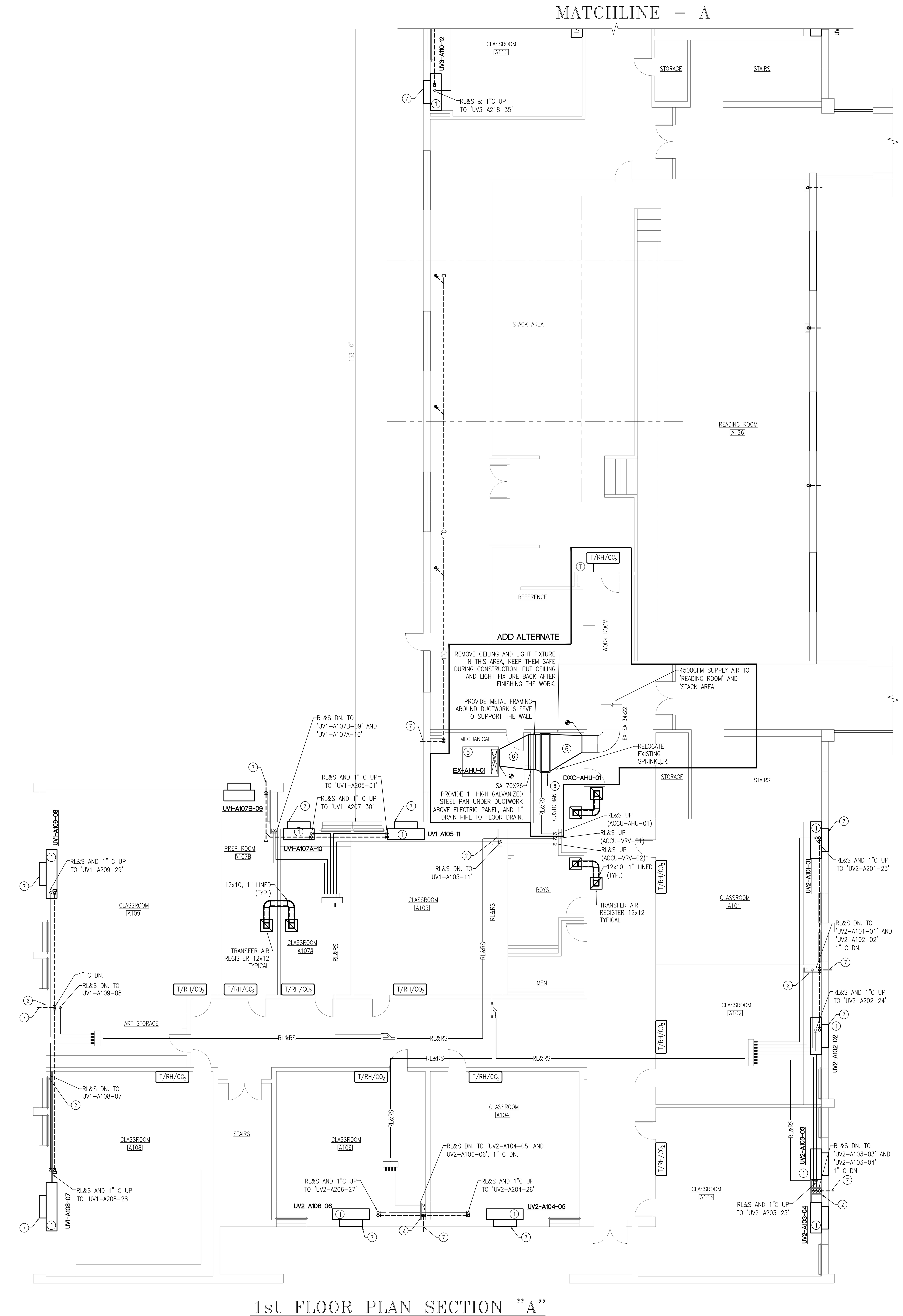
(860) 667-3233
Fax: (860) 321-7070
w.w.w.bemisassociates.com

TITLE
UNIT VENTILATOR DEMOLITION CATEGORIES

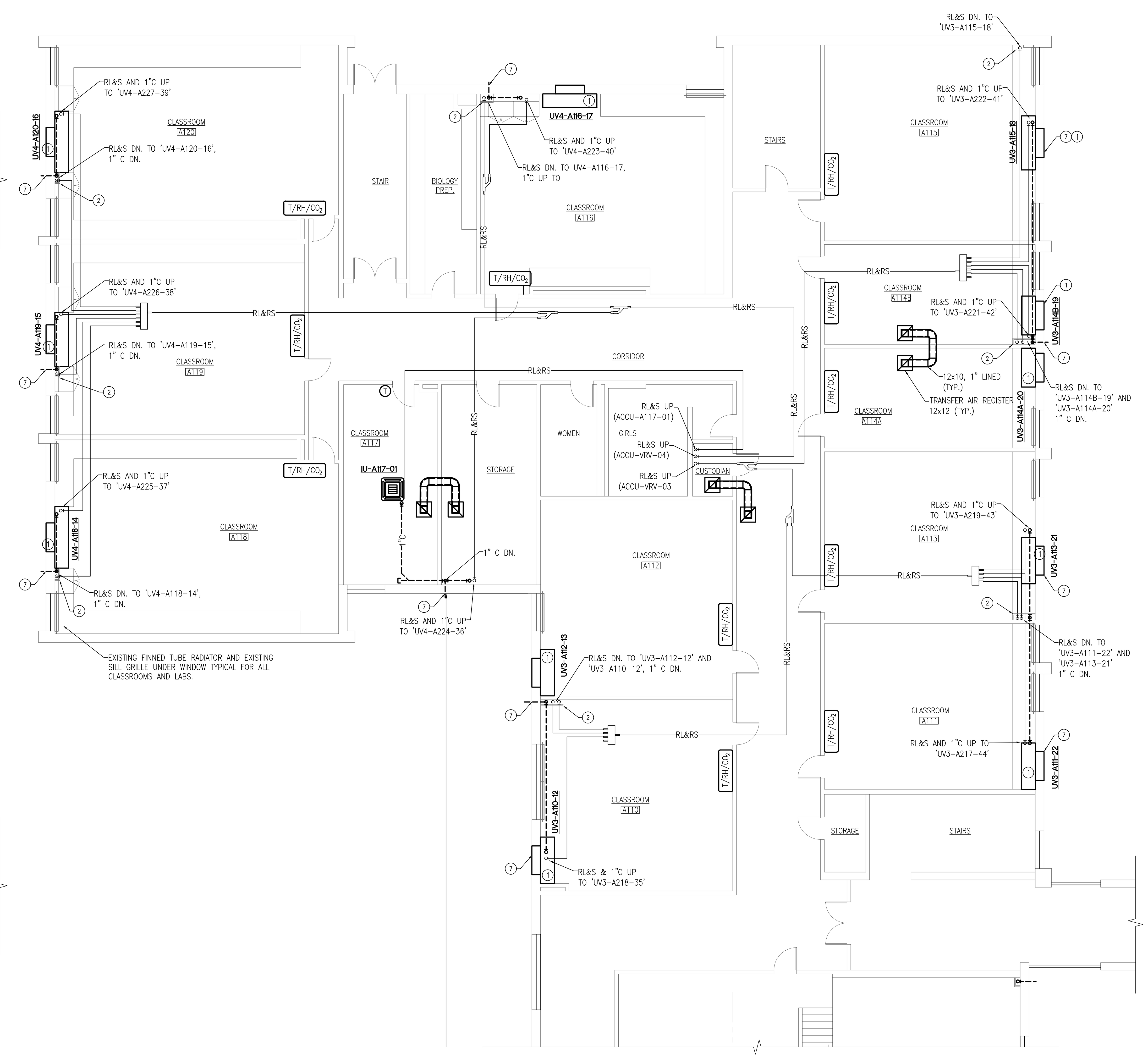
DATE 11/01/2018

DWG. NO.
MD2.0



1st FLOOR PLAN SECTION "A"

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

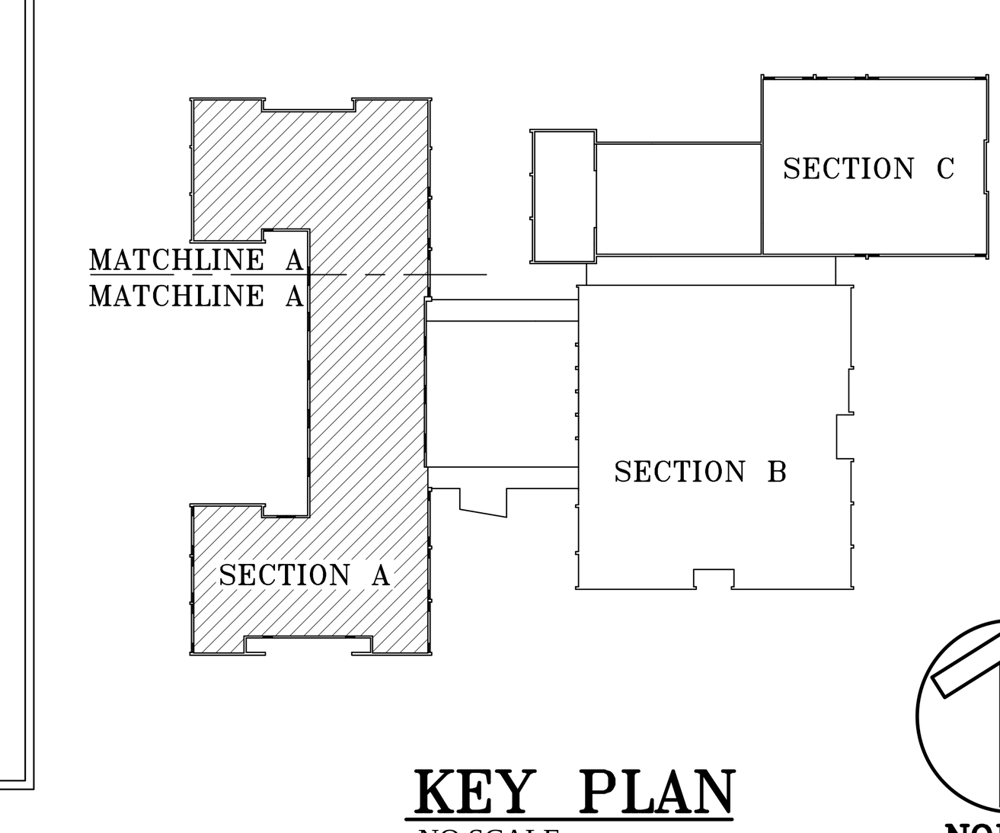


1st FLOOR PLAN SECTION "A"(CONT.)

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

NEW WORK DRAWING KEYED NOTES.

1. PROVIDE UNIT VENTILATOR AND:
   a. PRIOR ORDERING THE UNITS, CONTRACTOR SHALL FIELD VERIFY TO IDENTIFY PIPING CONNECTION ORIENTATION (RIGHT-HAND/LEFT-HAND) FOR EACH UNIT VENTILATOR.
   b. CLEAN EXISTING INTAKE AIR LOUVER AND DUCTWORK. SEAL AIR AND WATER TIGHT INTAKE AIR LOUVER AND DUCTWORK.
   c. EXTEND EXISTING HOT WATER PIPING AND PROVIDE FINAL CONNECTION TO UNIT VENTILATOR. (REFER TO DRAWING M5.0 (MECHANICAL DETAILS) FOR PIPING DETAIL)
   d. CONNECT REFRIGERANT PIPING PER MANUFACTURER RECOMMENDATIONS, REFER TO DRAWING M2.0 (VARIABLE REFRIGERANT VOLUME SYSTEM PIPING DIAGRAM) FOR PIPES SIZING.
   e. PROVIDE 1" TRAPPED CONDENSATE PIPING, INSTALL PIPING PER MANUFACTURER RECOMMENDATIONS.
   f. SEAL AIR AND WATER TIGHT ALL PIPING PENETRATIONS.
2. REFRIGERANT PIPING RL&RS DN., PROVIDE VERTICAL CHASE BY 'HVAC CUSTOM ENCLOSURE CO.' (TYPICAL FOR ALL REFRIGERANT AND CONDENSATE PIPING DROPPING ON WALL). CUT A HOLE ON THE COUNTERTOP, CUT THE BACK OF THE CABINET. REFRIGERANT PIPING TO RUN BEHIND THE CABINET THROUGH THE HORIZONTAL CHASE, AND CONNECT TO UNIT VENTILATOR. PROVIDE $\frac{1}{4}$" PLYWOOD PANEL TO CLOSE THE BACK OF THE CABINET.
3. PROVIDE THE FOLLOWING SCOPE OF WORK FOR EXISTING 'EX-AHU-04'
   a. CLEAN EXTERIOR AND INTERIOR UNIT CASING. CLEAN AND DISINFECT COIL.
   b. AIR TIGHT SEAL UNIT CASING.
   c. REMOVE FAN MOTOR ($\frac{1}{2}$ HP, 1750RPM), PULLEY, AND EXISTING SUPPORTING RAILS.
   d. PROVIDE NEW FAN MOTOR ($\frac{3}{4}$ HP, 1750RPM, 208V, 3PH, 60HZ) MOTOR SHALL BE HEAVY DUTY TYPE WITH PERMANENTLY LUBRICATED SEALED BALL BEARINGS. PROVIDE NEW PULLEY AND SUPPORTING RAILS.
   e. REPLACE SUPPLY FAN BELT, PROVIDE SPARE.
   f. REPLACE FILTERS
   g. VERIFY OPERATION OF UNIT CONTROLS INCLUDING DAMPERS, 3-WAY HOT WATER VALVE, AND HOT WATER COIL.
   h. RE-BALANCE THE UNIT TO PROVIDE THE SPECIFIED AIR FLOW (1500CFM)
   i. REPORT RESULTS IN WRITING TO THE OWNER.
4. a. CLEAN EXISTING INTAKE AIR INLET, SEAL AIR AND WATER TIGHT INTAKE AIR LOUVER AND DUCTWORK.
   b. EXTEND $\frac{3}{4}$" SUPPLY AND RETURN HOT WATER PIPING AND PROVIDE THE FINAL PIPING CONNECTIONS TO THE FCU. REFER TO DRAWING#M5.0 FOR PIPING ARRANGEMENT.
   c. PROVIDE REFRIGERATION LINE SETS FOR EACH REFRIGERATION CIRCUIT OF EACH UNIT WITH CONNECTIONS TO EVAPORATOR AND CONDENSING UNIT.
   d. MANUFACTURER TO PROVIDE EXPANSION VALVE TO MEET THE REQUIREMENT.
   e. PROVIDE 1" TRAPPED CONDENSATE PIPING, INSTALL PIPING PER THE MANUFACTURER RECOMMENDATIONS.
   f. PROVIDE SECONDARY DRAIN PAN WITH OVERFLOW SWITCH TO SHUT DOWN UNIT.
5. PROVIDE THE FOLLOWING SCOPE OF WORK FOR EXISTING 'EX-AHU-01'
   a. CLEAN EXTERIOR AND INTERIOR UNIT CASING. CLEAN AND DISINFECT COIL.
   b. AIR TIGHT SEAL UNIT CASING.
   c. REMOVE FAN MOTOR (1 HP, 1725RPM), PULLEY, AND EXISTING SUPPORTING RAILS.
   d. PROVIDE NEW FAN MOTOR (1.5 HP, 1725RPM, 208V, 3PH, 60HZ) MOTOR SHALL BE HEAVY DUTY TYPE WITH PERMANENTLY LUBRICATED SEALED BALL BEARINGS. PROVIDE NEW PULLEY AND SUPPORTING RAILS.
   e. REPLACE SUPPLY FAN BELT, PROVIDE SPARE.
   f. REPLACE FILTERS.
   g. VERIFY OPERATION OF UNIT CONTROLS INCLUDING DAMPERS, 3-WAY HOT WATER VALVE, AND HOT WATER COIL.
   h. RE-BALANCE THE UNIT TO PROVIDE THE SPECIFIED AIR FLOW (4500CFM)
   i. REPORT RESULTS IN WRITING TO THE OWNER.
6. ECCENTRIC TRANSITION ANGLE SHALL NOT EXCEED 30°.
7. CONDENSATE DRAIN TO OUTSIDE REFER TO DRAWING#M5.0 FOR PIPING DETAIL.
8. PROVIDE TRAPPED CONDENSING DRAIN, PIPE TO JANITOR SINK, REFER TO TYPICAL DETAIL. PROVIDE SECONDARY DRAIN PAN WITH OVERFLOW SWITCH TO SHUT DOWN UNIT.



KEY PLAN

NO SCALE

REVISIONS

GIDEON WELLES SCHOOL
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GLASTONBURY, CONNECTICUT

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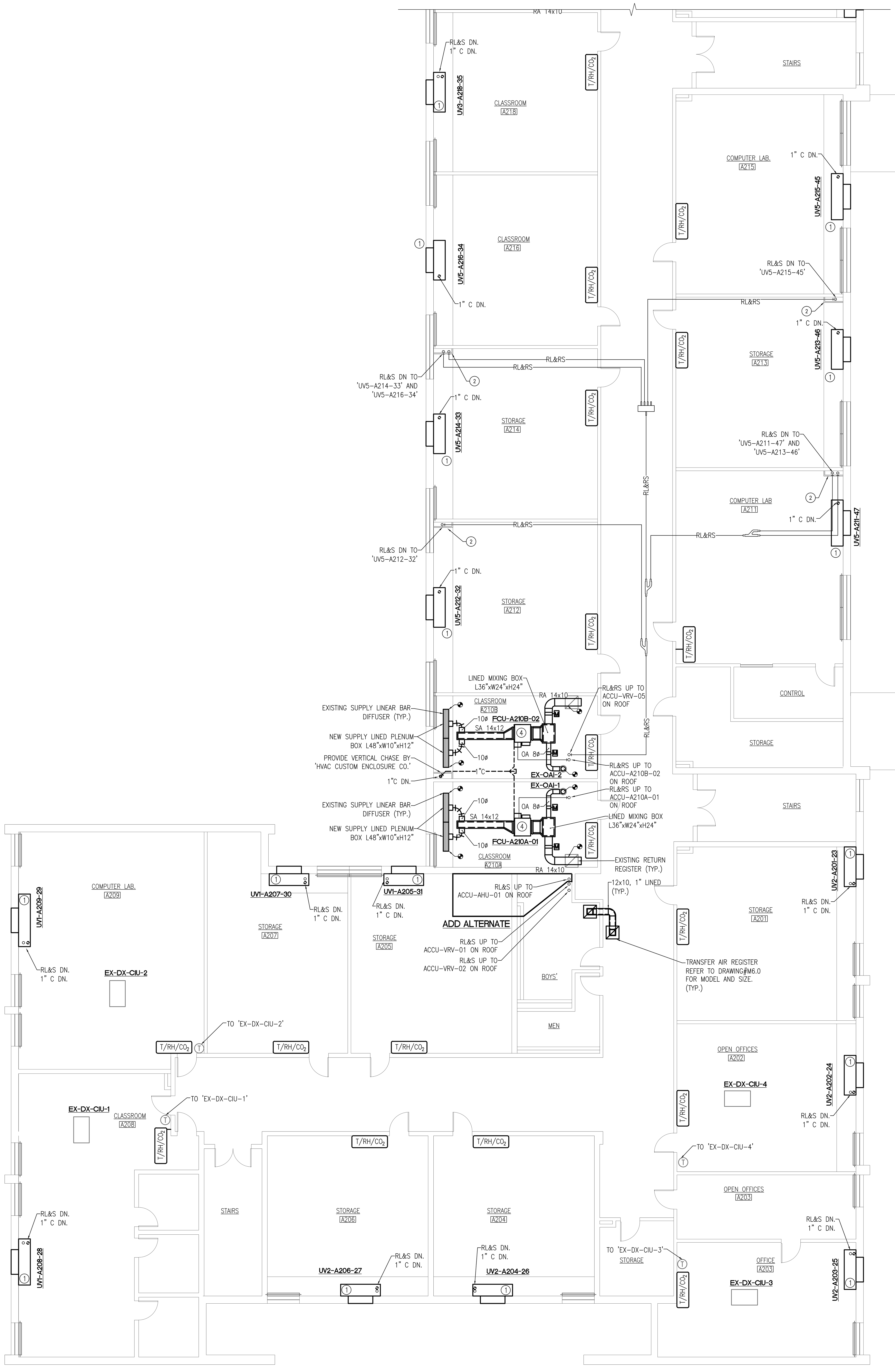
TITLE
1st FLOOR PLAN SECTION A MECHANICAL NEW WORK

DATE 11/01/2018

DWG. NO. M1.1A

MATCHLINE – A



2nd FLOOR PLAN SECTION "A"
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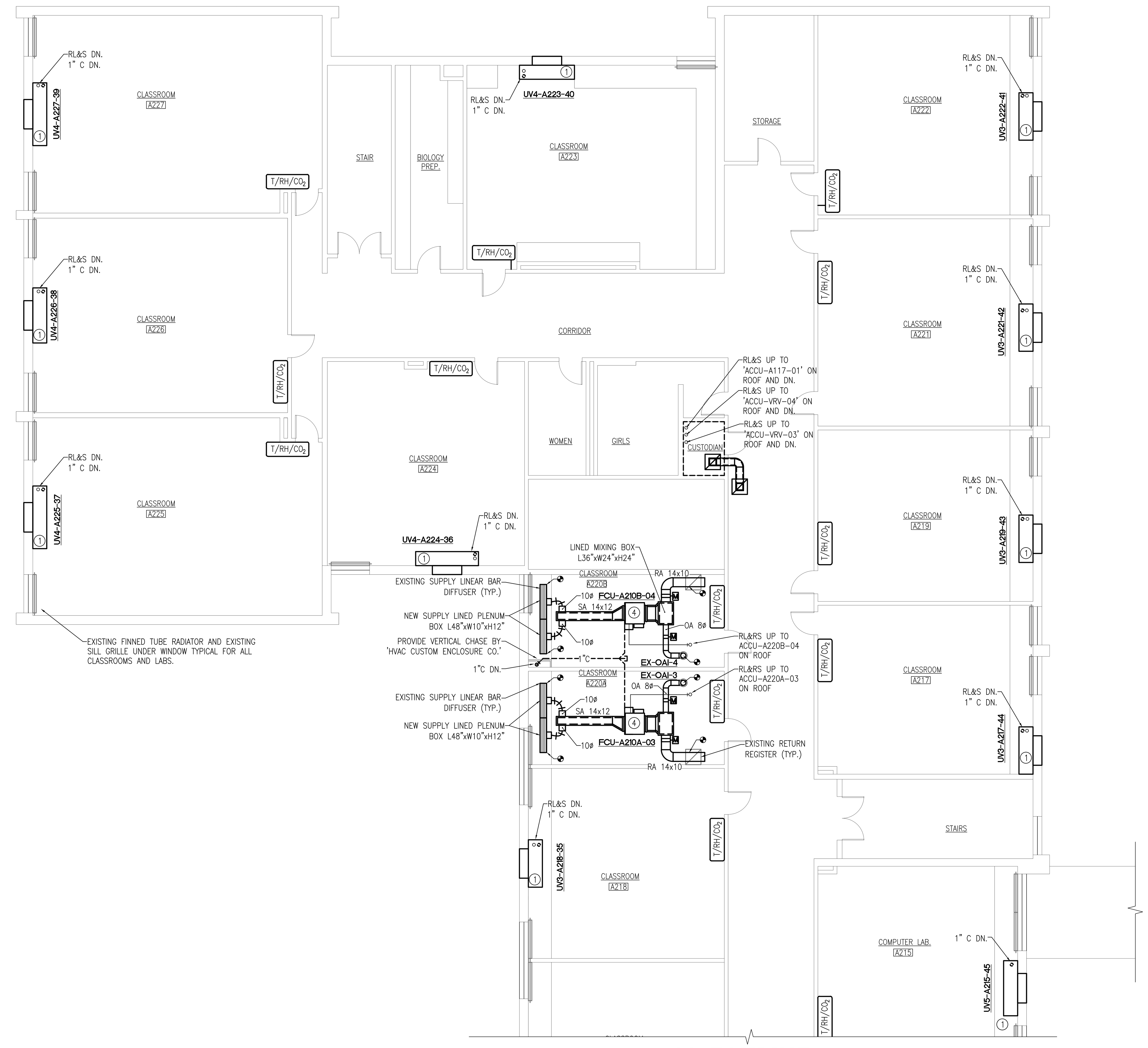


2nd FLOOR PLAN SECTION "A"(CONT.)
SCALE: 1/8"=1'-0"

NEW WORK DRAWING KEYED NOTES.

(1) PROVIDE UNIT VENTILATOR AND:
- a. PRIOR ORDERING THE UNITS, CONTRACTOR SHALL FIELD VERIFY TO IDENTIFY PIPING CONNECTION ORIENTATION (RIGHT–HAND/LEFT–HAND) FOR EACH UNIT VENTILATOR.
- b. CLEAN EXISTING INTAKE AIR LOUVER AND DUCTWORK. SEAL AIR AND WATER TIGHT INTAKE AIR LOUVER AND DUCTWORK.
- c. EXTEND EXISTING HOT WATER PIPING AND PROVIDE FINAL CONNECTION TO UNIT VENTILATOR. (REFER TO DRAWING M5.0 (MECHANICAL DETAILS) FOR PIPING DETAIL)
- d. CONNECT REFRIGERANT PIPING PER MANUFACTURER RECOMMENDATIONS, REFER TO DRAWING M2.0 (VARIABLE REFRIGERANT VOLUME SYSTEM PIPING DIAGRAM) FOR PIPES SIZING.
- e. PROVIDE 1" TRAPPED CONDENSATE PIPING, INSTALL PIPING PER MANUFACTURER RECOMMENDATIONS.
- f. SEAL AIR AND WATER TIGHT ALL PIPING PENETRATIONS.

(2) REFRIGERANT PIPING RL&RS DN., PROVIDE VERTICAL CHASE BY 'HVAC CUSTOM ENCLOSURE CO.' (TYPICAL FOR ALL REFRIGERANT AND CONDENSATE PIPING DROPPING ON WALL). CUT A HOLE ON THE COUNTERTOP, CUT THE BACK OF THE CABINET. REFRIGERANT PIPING TO RUN BEHIND THE CABINET THROUGH THE HORIZONTAL CHASE, AND CONNECT TO UNIT VENTILATOR. PROVIDE $\frac{1}{4}$" PLYWOOD PANEL TO CLOSE THE BACK OF THE CABINET.

(3) PROVIDE THE FOLLOWING SCOPE OF WORK FOR EXISTING 'EX–AHU–04'
- a. CLEAN EXTERIOR AND INTERIOR UNIT CASING. CLEAN AND DISINFECT COIL.
- b. AIR TIGHT SEAL UNIT CASING.
- c. REMOVE FAN MOTOR ($\frac{1}{2}$ HP, 1750RPM), PULLEY, AND EXISTING SUPPORTING RAILS.
- d. PROVIDE NEW FAN MOTOR ($\frac{3}{4}$ HP, 1750RPM, 208V, 3PH, 60HZ) MOTOR SHALL BE HEAVY DUTY TYPE WITH PERMANENTLY LUBRICATED SEALED BALL BEARINGS. PROVIDE NEW PULLEY AND SUPPORTING RAILS.
- e. REPLACE SUPPLY FAN BELT, PROVIDE SPARE.
- f. REPLACE FILTERS
- g. VERIFY OPERATION OF UNIT CONTROLS INCLUDING DAMPERS, 3–WAY HOT WATER VALVE, AND HOT WATER COIL.
- h. RE–BALANCE THE UNIT TO PROVIDE THE SPECIFIED AIR FLOW (1500CFM)
- i. REPORT RESULTS IN WRITING TO THE OWNER.

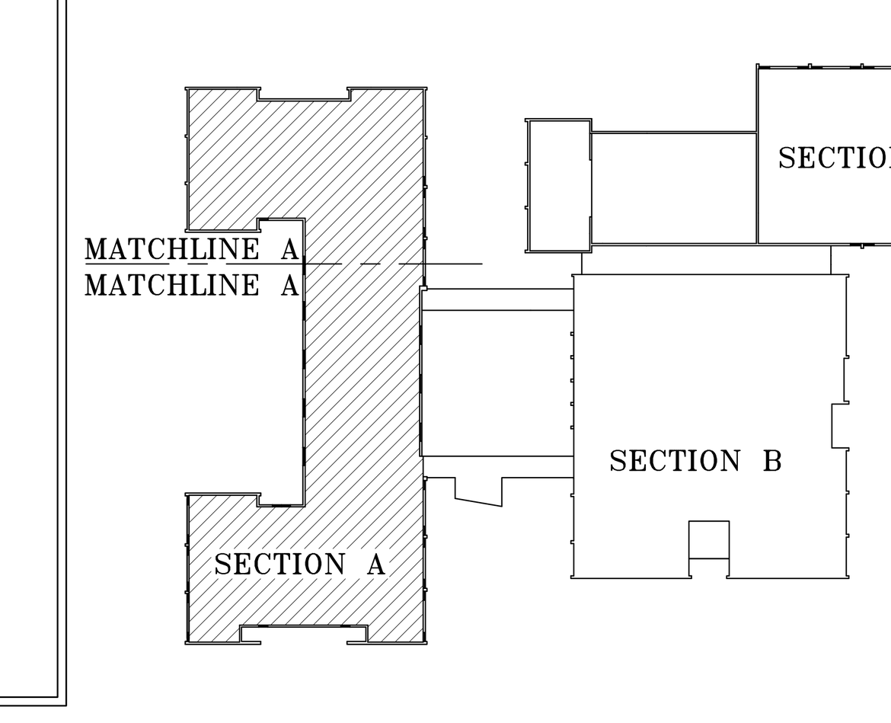
(4)
- a. CLEAN EXISTING INTAKE AIR INLET, SEAL AIR AND WATER TIGHT INTAKE AIR LOUVER AND DUCTWORK.
- b. EXTEND $\frac{3}{4}$" SUPPLY AND RETURN HOT WATER PIPING AND PROVIDE THE FINAL PIPING CONNECTIONS TO THE FCU. REFER TO DRAWING#M5.0 FOR PIPING ARRANGEMENT.
- c. PROVIDE REFRIGERATION LINE SETS FOR EACH REFRIGERATION CIRCUIT OF EACH UNIT WITH CONNECTIONS TO EVAPORATOR AND CONDENSING UNIT.
- d. MANUFACTURER TO PROVIDE EXPANSION VALVE TO MEET THE REQUIREMENT.
- e. PROVIDE 1" TRAPPED CONDENSATE PIPING, INSTALL PIPING PER THE MANUFACTURER RECOMMENDATIONS.
- f. PROVIDE SECONDARY DRAIN PAN WITH OVERFLOW SWITCH TO SHUT DOWN UNIT.

(5) PROVIDE THE FOLLOWING SCOPE OF WORK FOR EXISTING 'EX–AHU–01'
- a. CLEAN EXTERIOR AND INTERIOR UNIT CASING. CLEAN AND DISINFECT COIL.
- b. AIR TIGHT SEAL UNIT CASING.
- c. REMOVE FAN MOTOR (1 HP, 1725RPM), PULLEY, AND EXISTING SUPPORTING RAILS.
- d. PROVIDE NEW FAN MOTOR (1.5 HP, 1725RPM, 208V, 3PH, 60HZ) MOTOR SHALL BE HEAVY DUTY TYPE WITH PERMANENTLY LUBRICATED SEALED BALL BEARINGS. PROVIDE NEW PULLEY AND SUPPORTING RAILS.
- e. REPLACE SUPPLY FAN BELT, PROVIDE SPARE.
- f. REPLACE FILTERS.
- g. VERIFY OPERATION OF UNIT CONTROLS INCLUDING DAMPERS, 3–WAY HOT WATER VALVE, AND HOT WATER COIL.
- h. RE–BALANCE THE UNIT TO PROVIDE THE SPECIFIED AIR FLOW (4500CFM)
- i. REPORT RESULTS IN WRITING TO THE OWNER.

(6) ECCENTRIC TRANSITION ANGLE SHALL NOT EXCEED 30°.

(7) CONDENSATE DRAIN TO OUTSIDE REFER TO DRAWING#M5.0 FOR PIPING DETAIL.

(8) PROVIDE TRAPPED CONDENSING DRAIN, PIPE TO JANITOR SINK, REFER TO TYPICAL DETAIL. PROVIDE SECONDARY DRAIN PAN WITH OVERFLOW SWITCH TO SHUT DOWN UNIT.



KEY PLAN
NO SCALE

NORTH

REVISIONS

GIDEON WELLES SCHOOL
NEW AIR CONDITIONING SYSTEM
GLASTONBURY, CONNECTICUT

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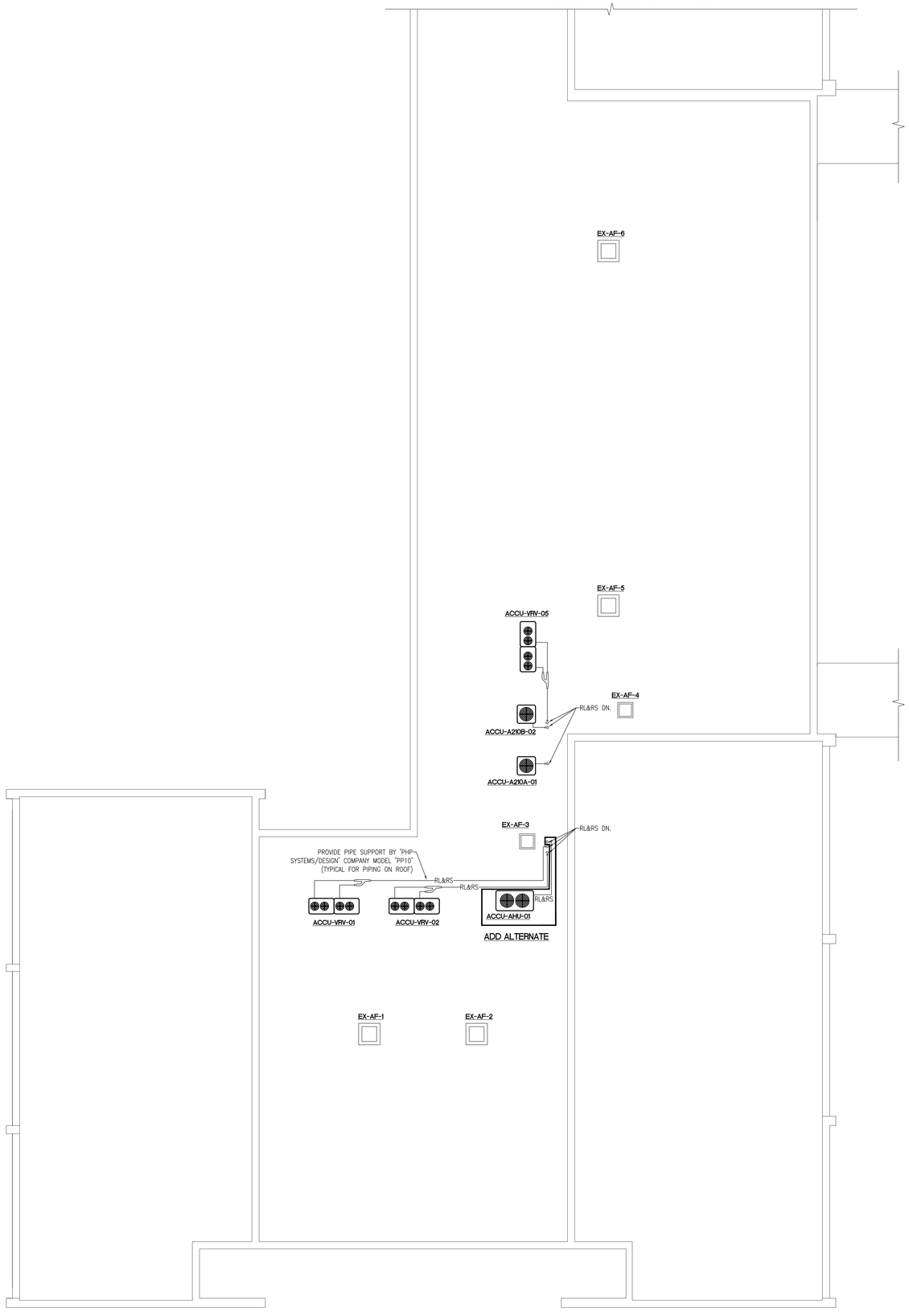
TITLE
2nd FLOOR PLAN
SECTION A
MECHANICAL
NEW WORK

DATE 11/01/2018

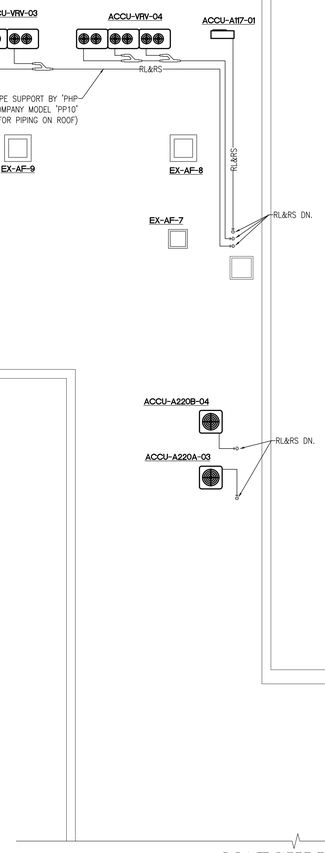
DWG. NO.
M1.2A

MATCHLINE – A



ROOF PLAN SECTION "A"

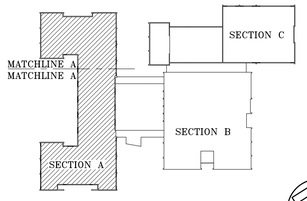
SCALE: 1/8"=1'-0"



MATCHLINE – A

ROOF PLAN SECTION "A"(CONT.)

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



KEY PLAN

NO SCALE

NORTH

REVISIONS

GIDEON WELLES SCHOOL

NEW AIR CONDITIONING SYSTEM

GLASTONBURY, CONNECTICUT

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(860) 677-2603
Fax: (860) 321-7070
www.bemisassociates.com

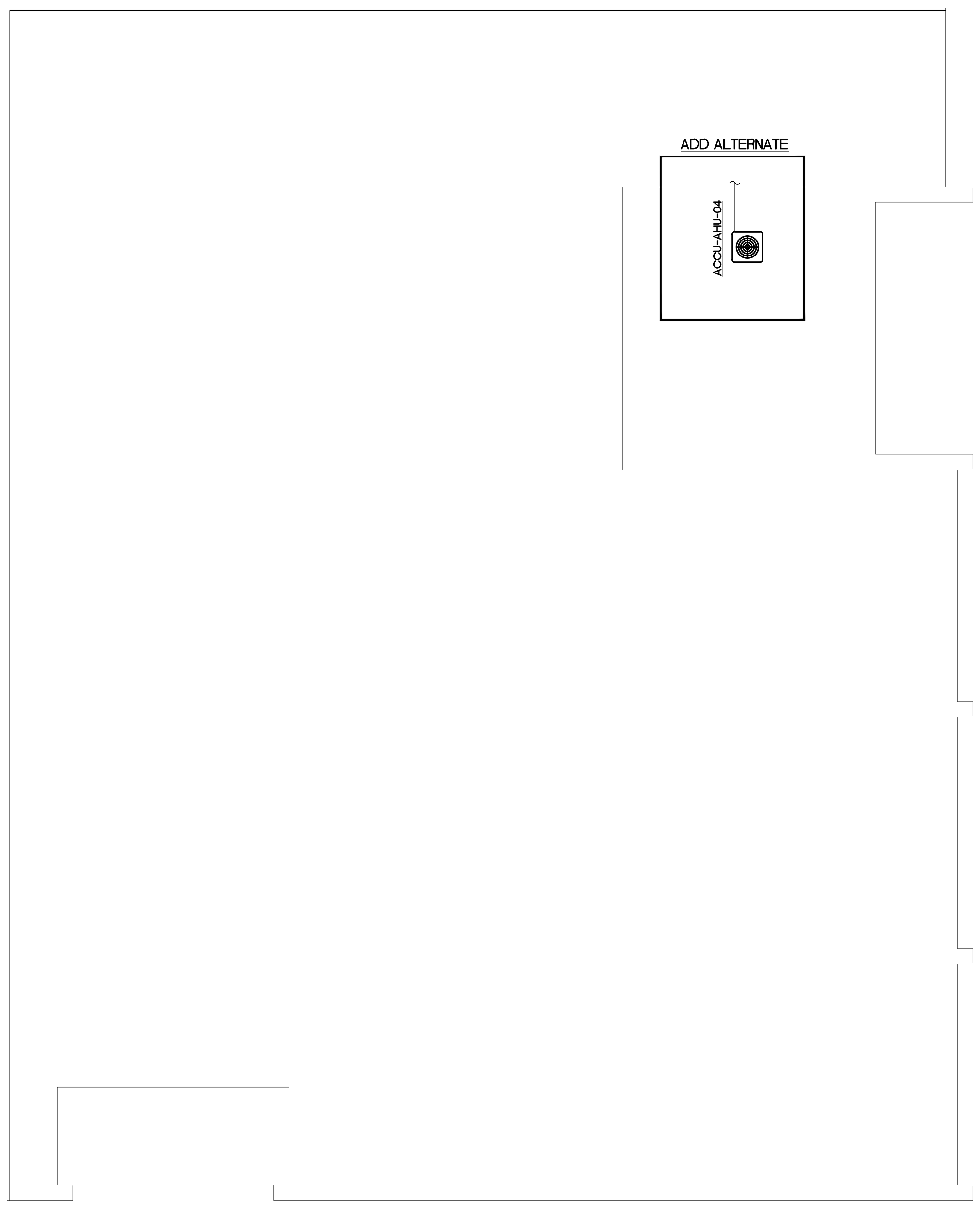
TITLE

ROOF PLAN
SECTION A
MECHANICAL
NEW WORK

DATE 11/01/2018

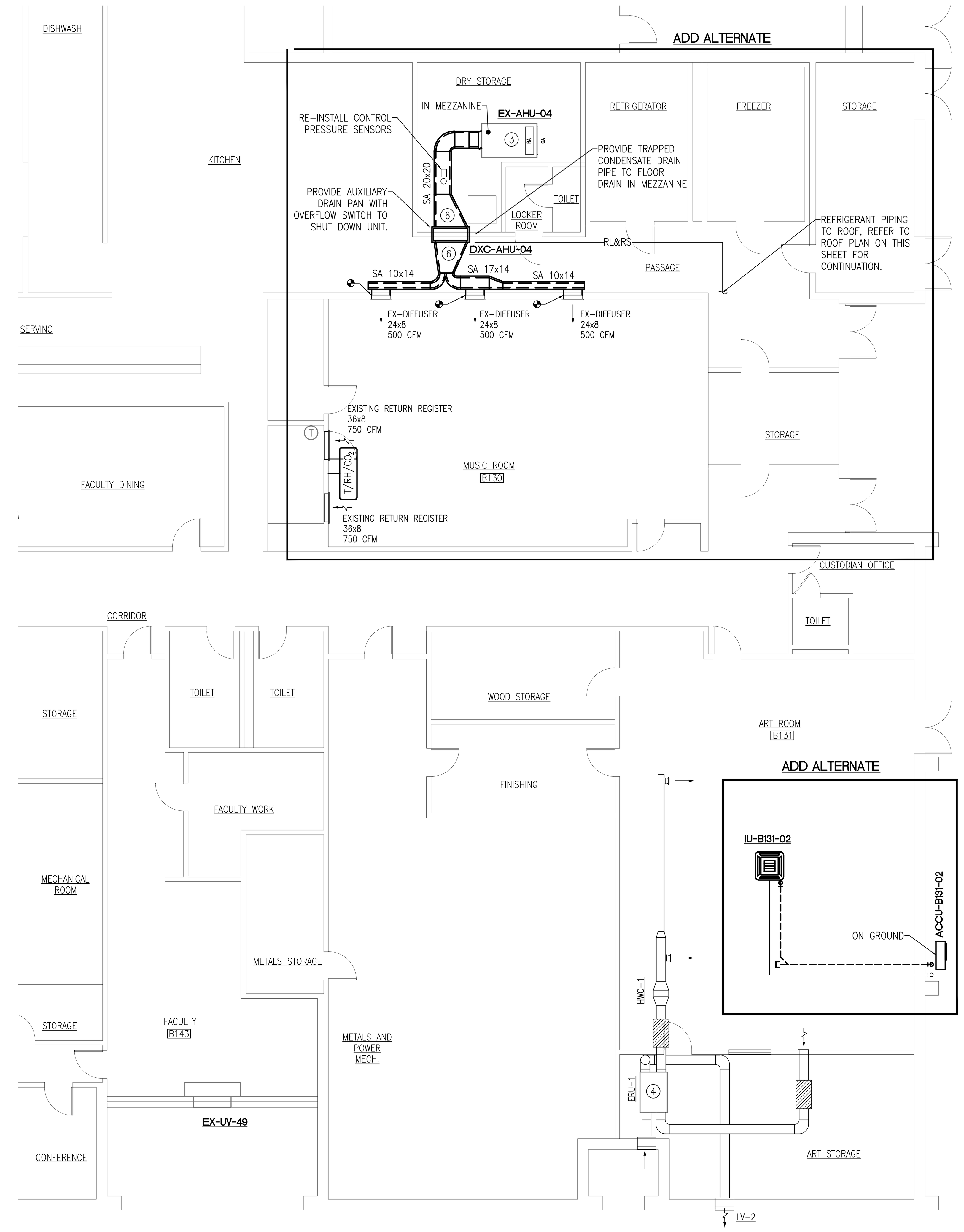
DWG. NO.

M1.3A



ROOF PLAN SECTION "B"

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



1st FLOOR PLAN SECTION "B"

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

NEW WORK DRAWING KEYED NOTES.

(1) PROVIDE UNIT VENTILATOR AND:

a. PRIOR ORDERING THE UNITS, CONTRACTOR SHALL FIELD VERIFY TO IDENTIFY PIPING CONNECTION ORIENTATION (RIGHT-HAND/LEFT-HAND) FOR EACH UNIT VENTILATOR.
b. CLEAN EXISTING INTAKE AIR LOUVER AND DUCTWORK. SEAL AIR AND WATER TIGHT INTAKE AIR LOUVER AND DUCTWORK.
c. EXTEND EXISTING HOT WATER PIPING AND PROVIDE FINAL CONNECTION TO UNIT VENTILATOR. (REFER TO DRAWING M5.0 (MECHANICAL DETAILS) FOR PIPING DETAIL)
d. CONNECT REFRIGERANT PIPING PER MANUFACTURER RECOMMENDATIONS, REFER TO DRAWING M2.0 (VARIABLE REFRIGERANT VOLUME SYSTEM PIPING DIAGRAM) FOR PIPES SIZING.
e. PROVIDE 1" TRAPPED CONDENSATE PIPING, INSTALL PIPING PER MANUFACTURER RECOMMENDATIONS.
f. SEAL AIR AND WATER TIGHT ALL PIPING PENETRATIONS.

(2) REFRIGERANT PIPING RL&RS DN., PROVIDE VERTICAL CHASE BY 'HVAC CUSTOM ENCLOSURE CO.' (TYPICAL FOR ALL REFRIGERANT AND CONDENSATE PIPING DROPPING ON WALL). CUT A HOLE ON THE COUNTERTOP, CUT THE BACK OF THE CABINET. REFRIGERANT PIPING TO RUN BEHIND THE CABINET THROUGH THE HORIZONTAL CHASE, AND CONNECT TO UNIT VENTILATOR. PROVIDE $\frac{1}{4}$" PLYWOOD PANEL TO CLOSE THE BACK OF THE CABINET.

(3) PROVIDE THE FOLLOWING SCOPE OF WORK FOR EXISTING 'EX-AHU-04'

a. CLEAN EXTERIOR AND INTERIOR UNIT CASING. CLEAN AND DISINFECT COIL.
b. AIR TIGHT SEAL UNIT CASING.
c. REMOVE FAN MOTOR ($\frac{1}{2}$ HP, 1750RPM), PULLEY, AND EXISTING SUPPORTING RAILS.
d. PROVIDE NEW FAN MOTOR ($\frac{3}{4}$ HP, 1750RPM, 208V, 3PH, 60HZ) MOTOR SHALL BE HEAVY DUTY TYPE WITH PERMANENTLY LUBRICATED SEALED BALL BEARINGS. PROVIDE NEW PULLEY AND SUPPORTING RAILS.
e. REPLACE SUPPLY FAN BELT, PROVIDE SPARE.
f. REPLACE FILTERS
g. VERIFY OPERATION OF UNIT CONTROLS INCLUDING DAMPERS, 3-WAY HOT WATER VALVE, AND HOT WATER COIL.
h. RE-BALANCE THE UNIT TO PROVIDE THE SPECIFIED AIR FLOW (1500CFM)
i. REPORT RESULTS IN WRITING TO THE OWNER.

(4)
a. CLEAN EXISTING INTAKE AIR INLET, SEAL AIR AND WATER TIGHT INTAKE AIR LOUVER AND DUCTWORK.
b. EXTEND $\frac{3}{4}$" SUPPLY AND RETURN HOT WATER PIPING AND PROVIDE THE FINAL PIPING CONNECTIONS TO THE FCU. REFER TO DRAWING#M5.0 FOR PIPING ARRANGEMENT.
c. PROVIDE REFRIGERATION LINE SETS FOR EACH REFRIGERATION CIRCUIT OF EACH UNIT WITH CONNECTIONS TO EVAPORATOR AND CONDENSING UNIT.
d. MANUFACTURER TO PROVIDE EXPANSION VALVE TO MEET THE REQUIREMENT.
e. PROVIDE 1" TRAPPED CONDENSATE PIPING, INSTALL PIPING PER THE MANUFACTURER RECOMMENDATIONS.
f. PROVIDE SECONDARY DRAIN PAN WITH OVERFLOW SWITCH TO SHUT DOWN UNIT.

(5) PROVIDE THE FOLLOWING SCOPE OF WORK FOR EXISTING 'EX-AHU-01'

a. CLEAN EXTERIOR AND INTERIOR UNIT CASING. CLEAN AND DISINFECT COIL.
b. AIR TIGHT SEAL UNIT CASING.
c. REMOVE FAN MOTOR (1 HP, 1725RPM), PULLEY, AND EXISTING SUPPORTING RAILS.
d. PROVIDE NEW FAN MOTOR (1.5 HP, 1725RPM, 208V, 3PH, 60HZ) MOTOR SHALL BE HEAVY DUTY TYPE WITH PERMANENTLY LUBRICATED SEALED BALL BEARINGS. PROVIDE NEW PULLEY AND SUPPORTING RAILS.
e. REPLACE SUPPLY FAN BELT, PROVIDE SPARE.
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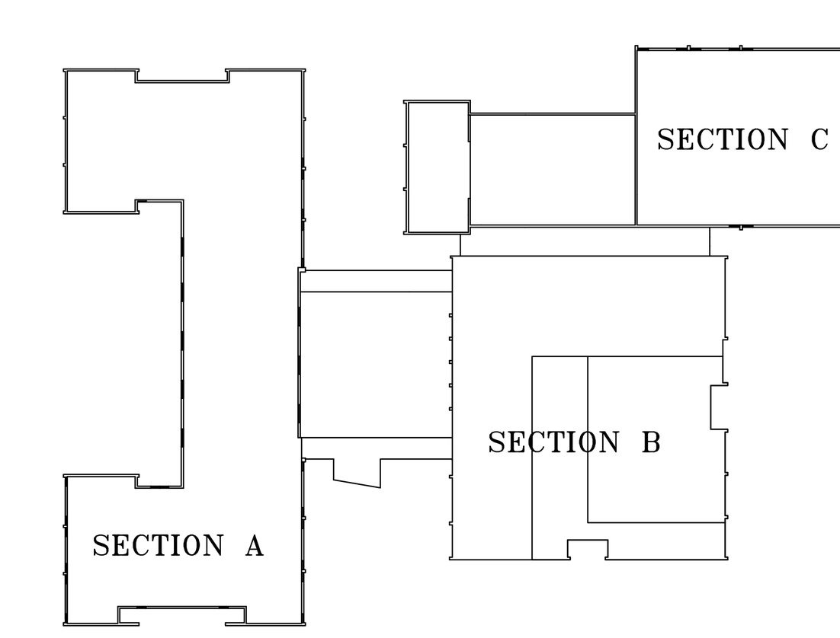
g. VERIFY OPERATION OF UNIT CONTROLS INCLUDING DAMPERS, 3-WAY HOT WATER VALVE, AND HOT WATER COIL.
h. RE-BALANCE THE UNIT TO PROVIDE THE SPECIFIED AIR FLOW (4500CFM)
i. REPORT RESULTS IN WRITING TO THE OWNER.

(6) ECCENTRIC TRANSITION ANGLE SHALL NOT EXCEED 30°.

(7) CONDENSATE DRAIN TO OUTSIDE REFER TO DRAWING#M5.0 FOR PIPING DETAIL.

(8) PROVIDE TRAPPED CONDENSING DRAIN, PIPE TO JANITOR SINK, REFER TO TYPICAL DETAIL. PROVIDE SECONDARY DRAIN PAN WITH OVERFLOW SWITCH TO SHUT DOWN UNIT.



KEY PLAN

NO SCALE

NORTH

GIDEON WELLES SCHOOL
NEW AIR CONDITIONING SYSTEM
GLASTONBURY, CONNECTICUT

BEMIS ASSOCIATES, L.L.C.
Consulting Engineers
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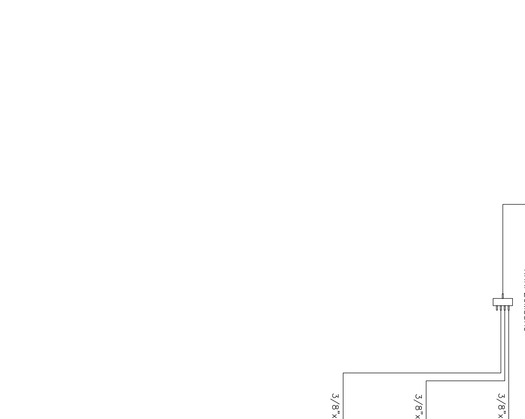
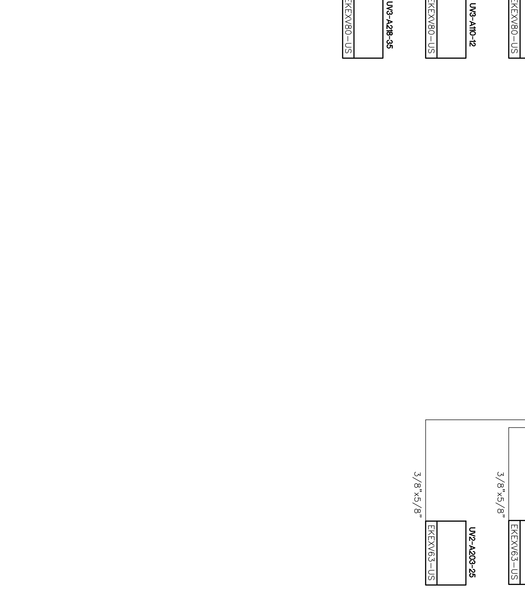
(860) 677-3233
Fax: (860) 321-7070
w.w.w.bemisassociates.com

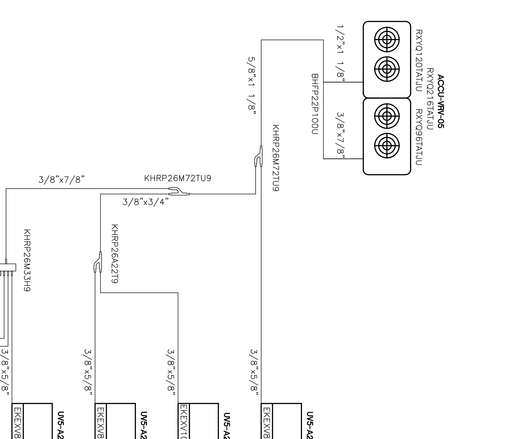
TITLE
1st FLOOR AND ROOF PLAN SECTION B MECHANICAL NEW WORK

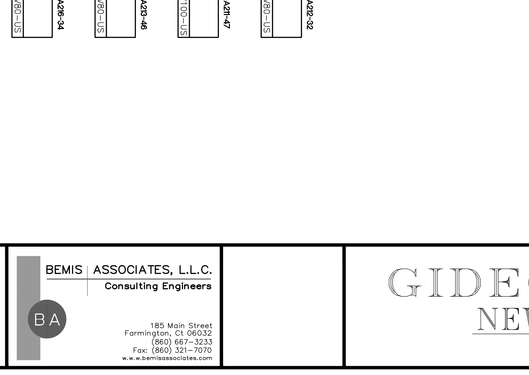
DATE 11/01/2018

DWG. NO.
M1.1B









GENERAL NOTE

CONTRACTOR SHALL PROVIDE REFRIGERANT PIPING LAYOUT WITH PIPE SIZES FOR ALL THE VRV SYSTEMS, CONFIRMED BY THE MANUFACTURER PRIOR TO INSTALLATION.

REVISIONS

GIDEON WELLES SCHOOL
NEW AIR CONDITIONING SYSTEM
GLASTONBURY, CONNECTICUT

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Consulting Engineers
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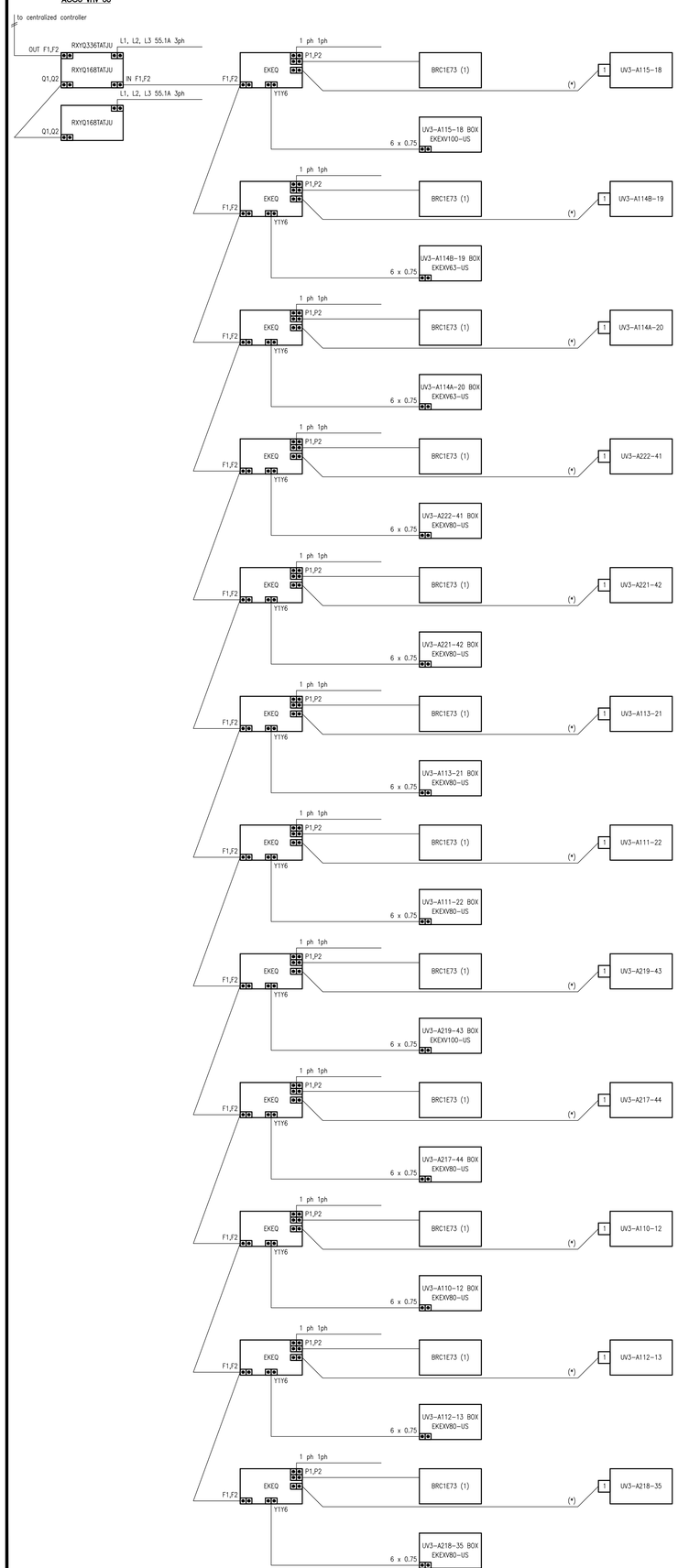
Fax: (860) 321-7070
www.bemisassociates.com

TITLE
VARIABLE REFRIGERANT VOLUME SYSTEM PIPING DIAGRAM

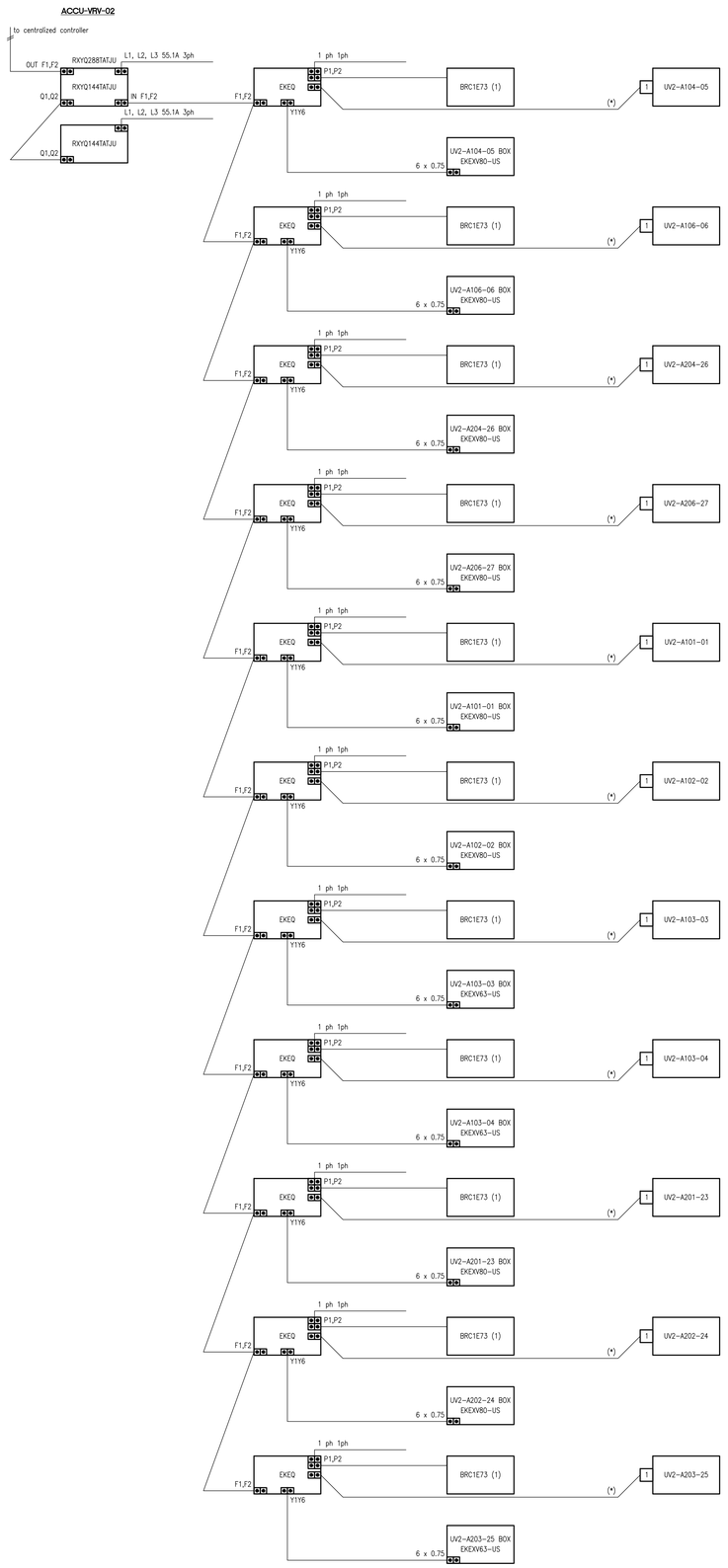
DATE 11/01/2018

DWG. NO. M2.0

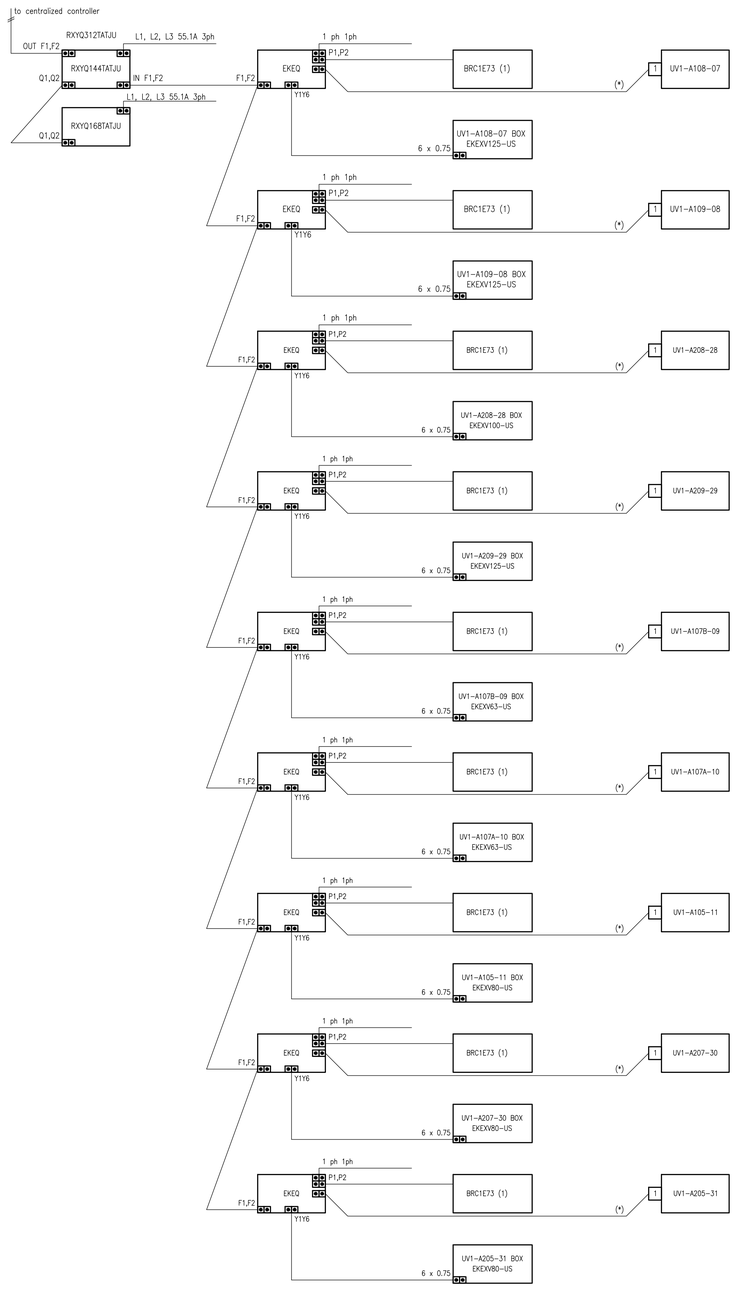
ACCU-VRV-03



ACCU-VRV-02



ACCU-VRV-01



REVISIONS

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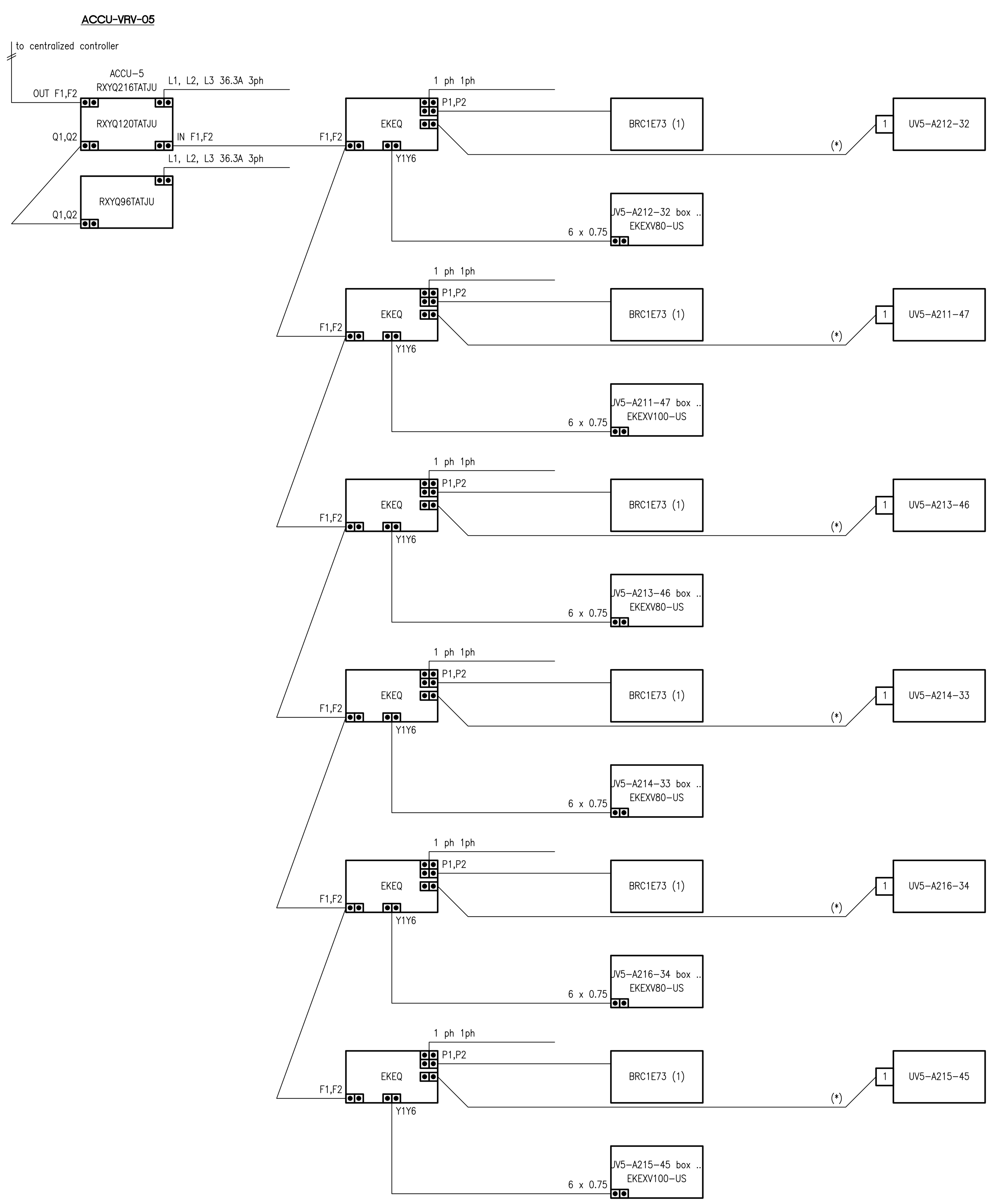
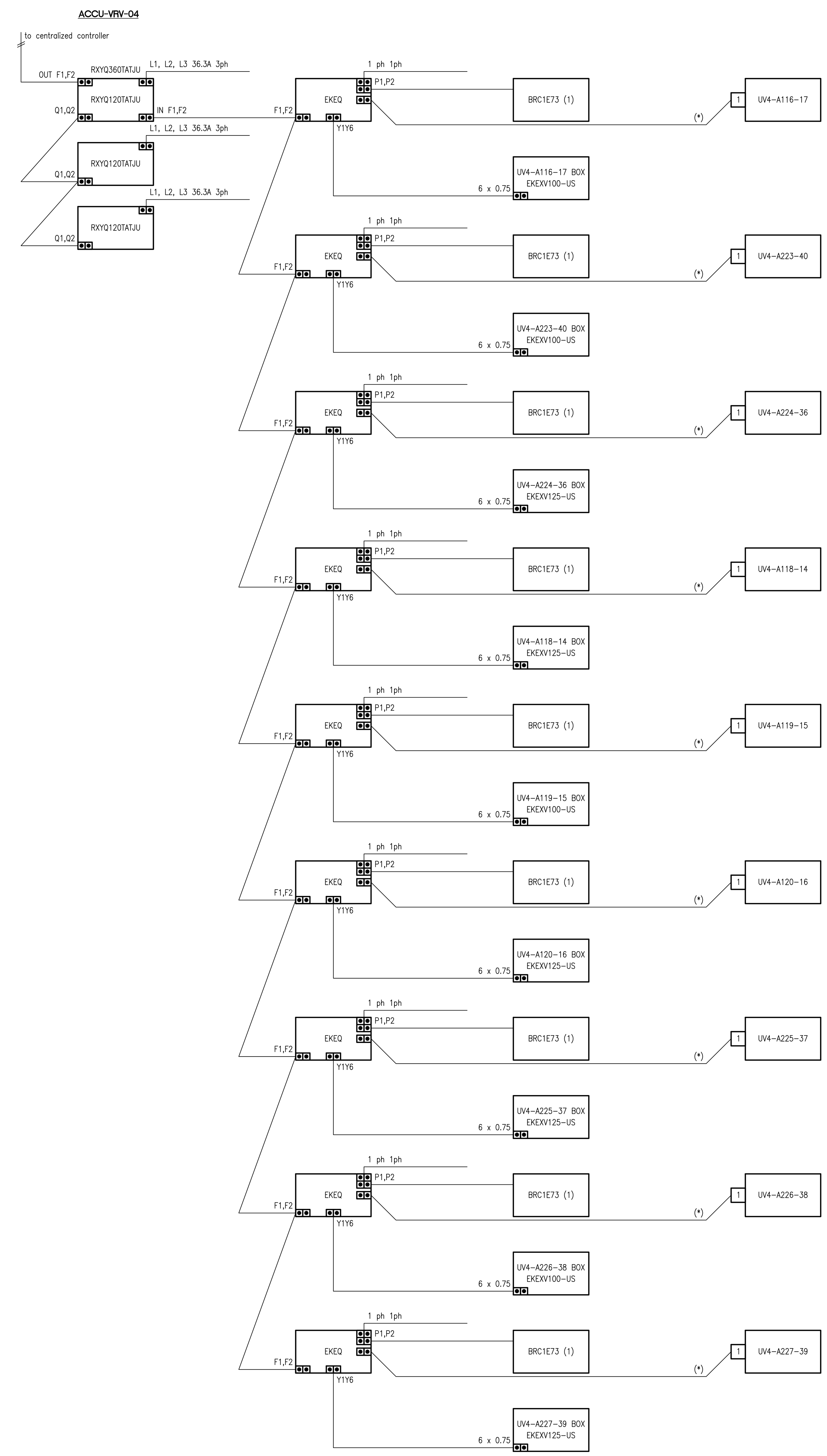
TITLE
VARIABLE REFRIGERANT VOLUME SYSTEM WIRING DIAGRAM

DATE 11/01/2018

DWG. NO.
M3.1





REVISIONS

GIDEON WELLES SCHOOL
NEW AIR CONDITIONING SYSTEM
GLASTONBURY, CONNECTICUT

BEMIS ASSOCIATES, L.L.C.
Consulting Engineers
185 Main Street
Farmington, Ct 06032
(860) 667-3233
Fax: (860) 321-7070
w.w.w.bemisassociates.com

TITLE
VARIABLE REFRIGERANT VOLUME SYSTEM WIRING DIAGRAM

DATE 11/01/2018

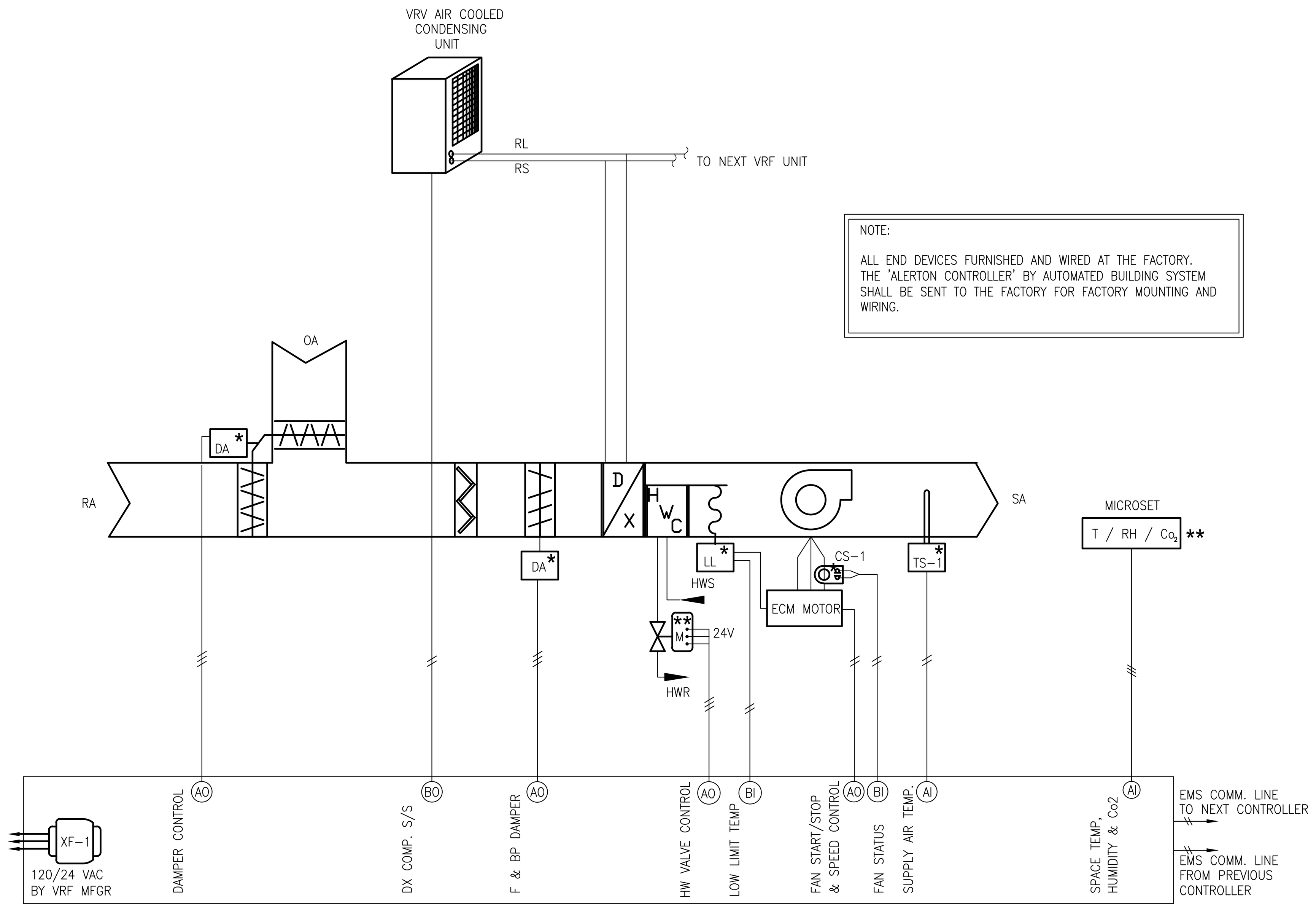
DWG. NO.
M3.2

NOTE:

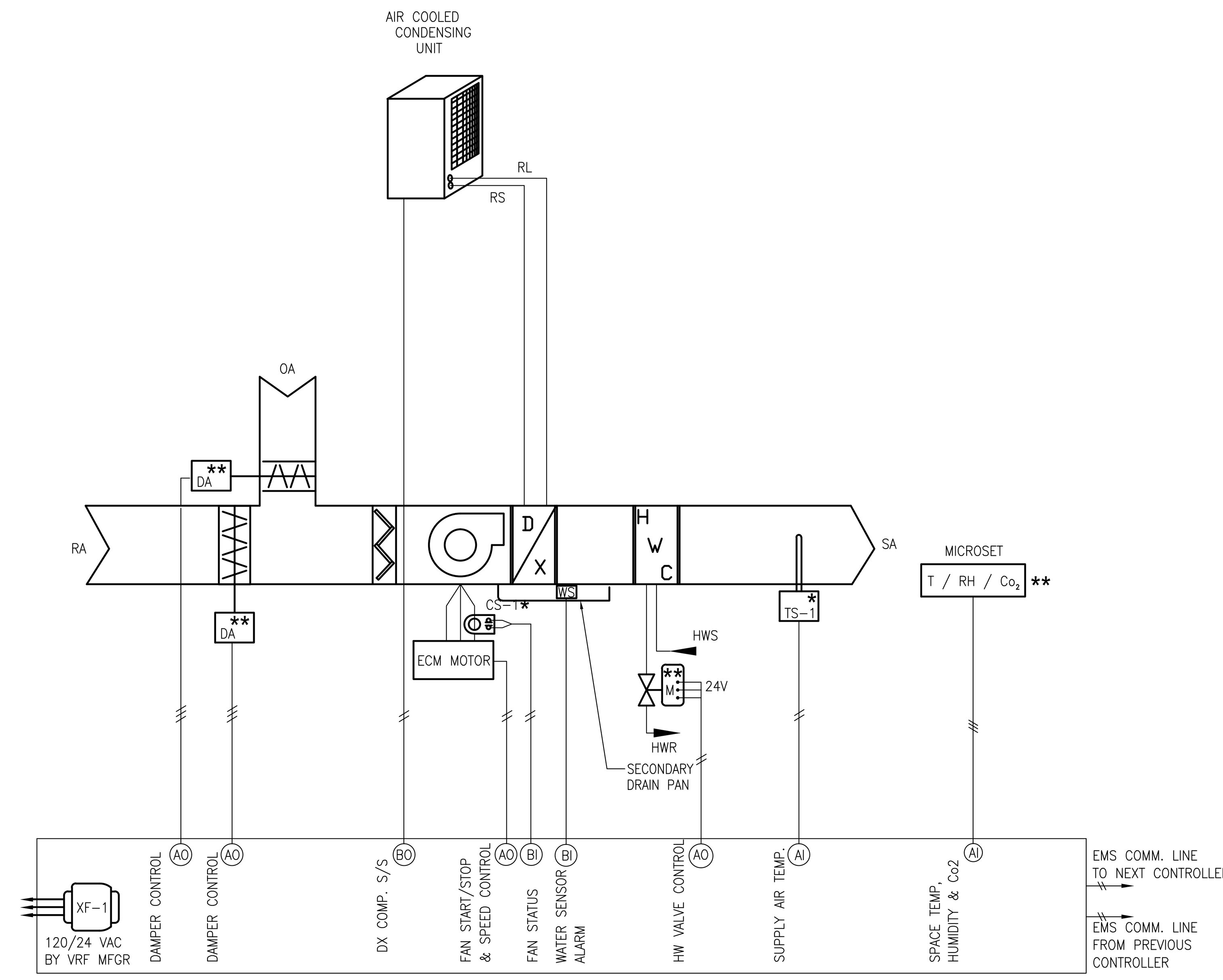
ALL END DEVICES FURNISHED AND WIRED AT THE FACTORY. THE "ALERTON CONTROLLER" BY AUTOMATED BUILDING SYSTEM SHALL BE SENT TO THE FACTORY FOR FACTORY MOUNTING AND WIRING.

DRAWING M5.0 KEYED NOTES.

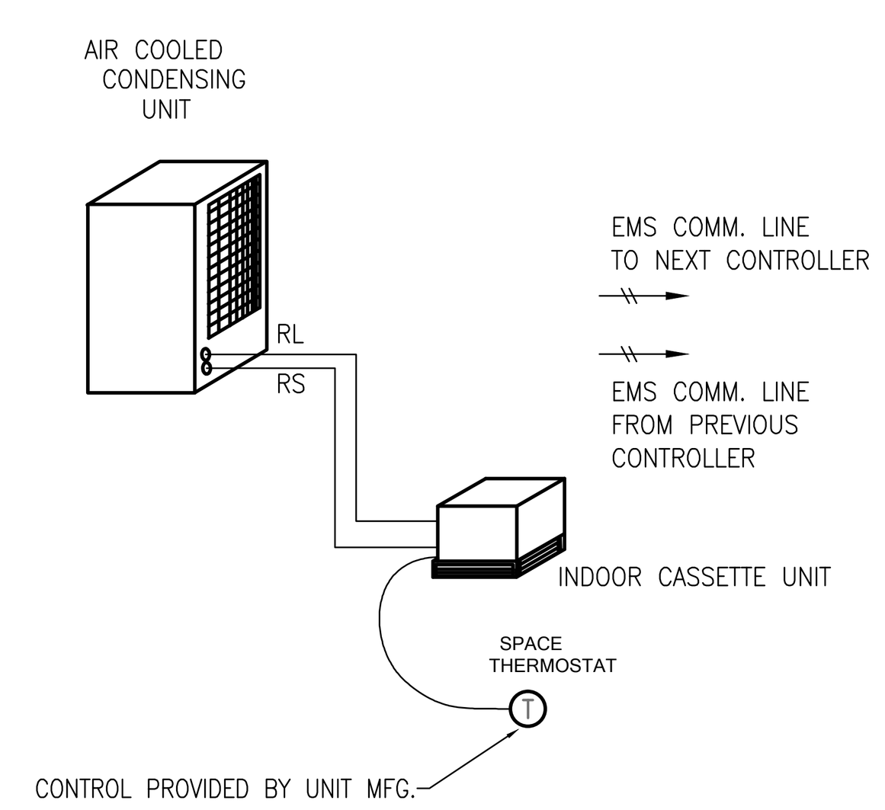
*	SUPPLIED, MOUNTED, AND WIRED BY UNIT MANUFACTURER
**	SUPPLIED, MOUNTED AND WIRED BY TCC



UNIT VENTILATOR CONTROL DIAGRAM



FAN COIL UNIT CONTROL DIAGRAM

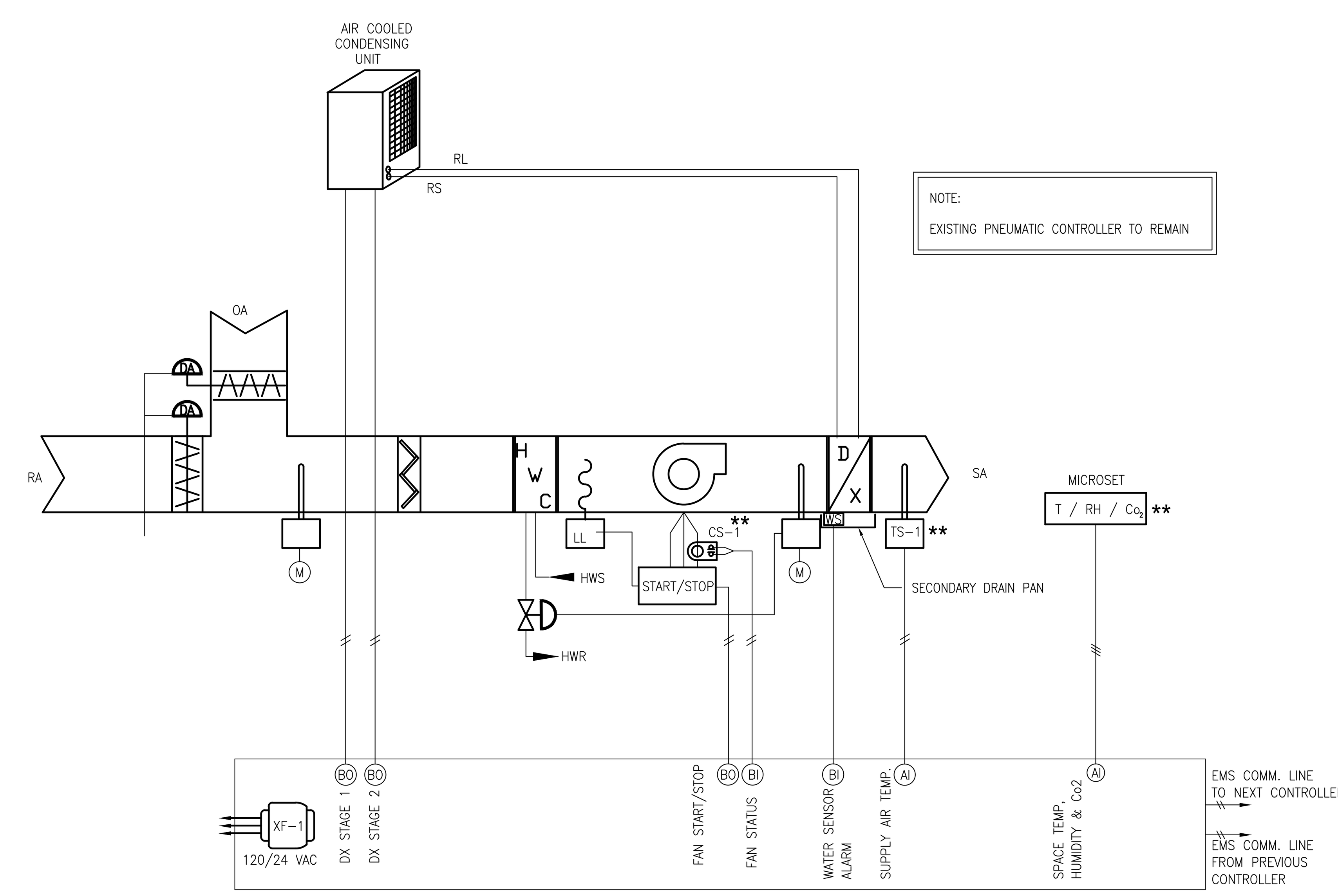


CASSETTE UNTI CONTROL DIAGRAM

ADD ALTERNATE

NOTE:

EXISTING PNEUMATIC CONTROLLER TO REMAIN



EXISTING AIR HANDLING UNIT EX-AHU-01 AND EX-AHU-04 CONTROL DIAGRAM

REVISIONS

GIDEON WELLES SCHOOL
NEW AIR CONDITIONING SYSTEM
GLASTONBURY, CONNECTICUT

BEMIS ASSOCIATES, L.L.C.
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185 Main Street
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(860) 677-3233
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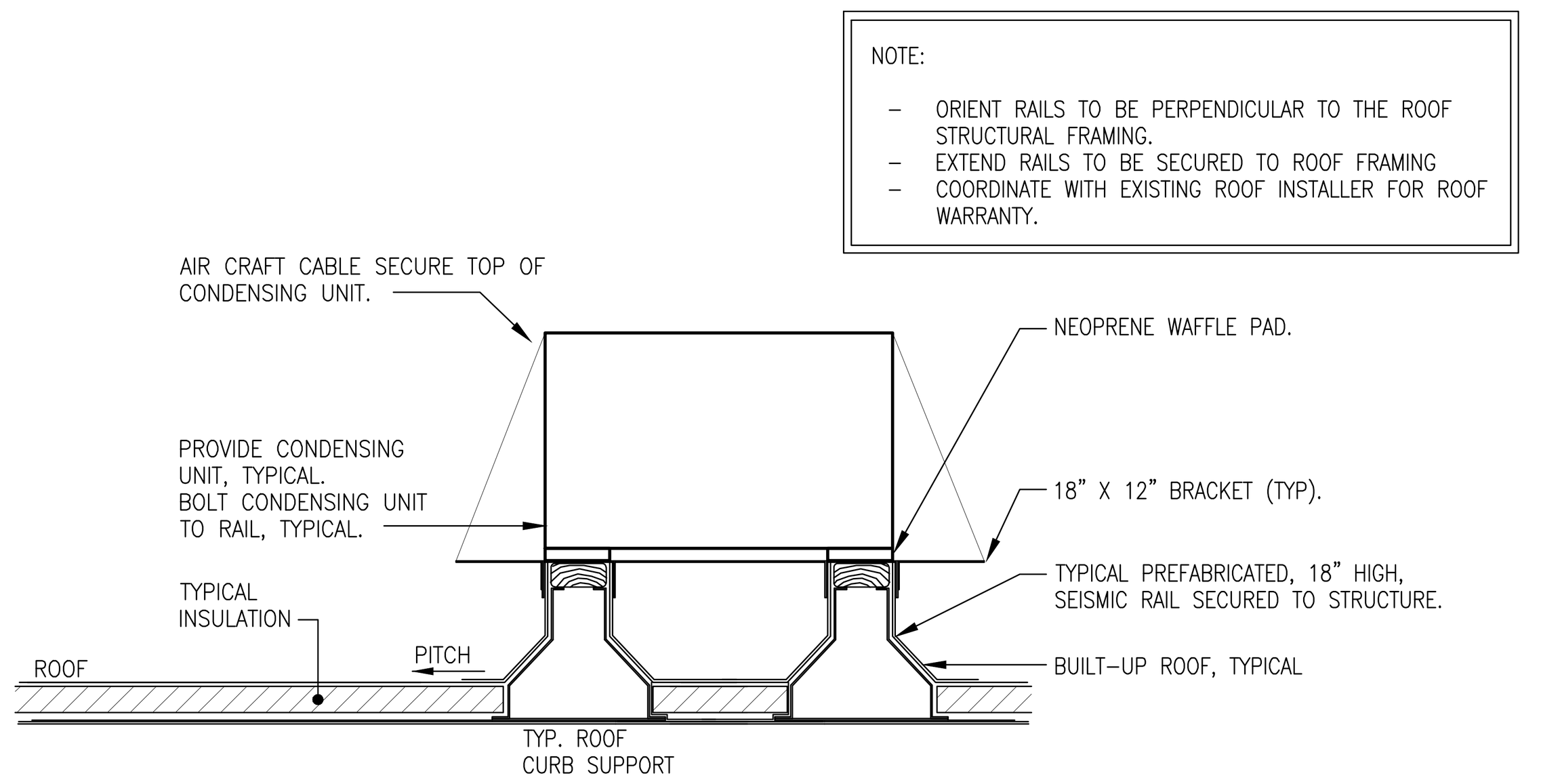
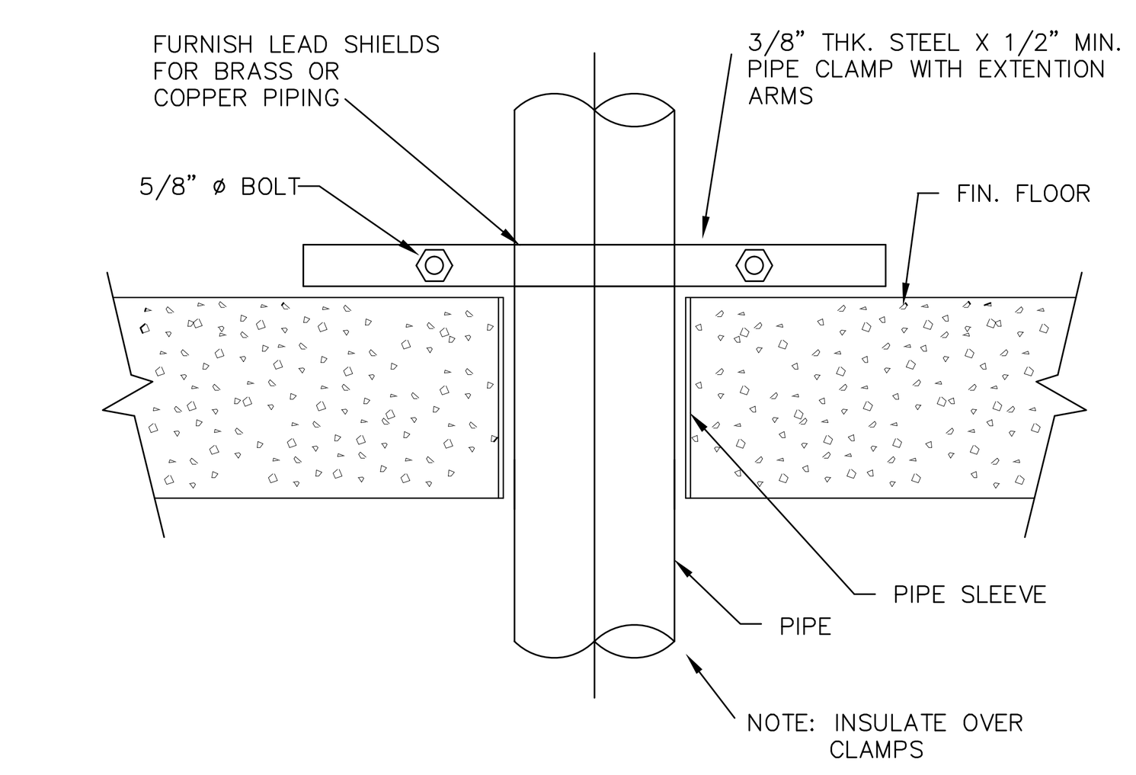
TITLE
CONTROL DIAGRAMS

DATE 11/01/2018

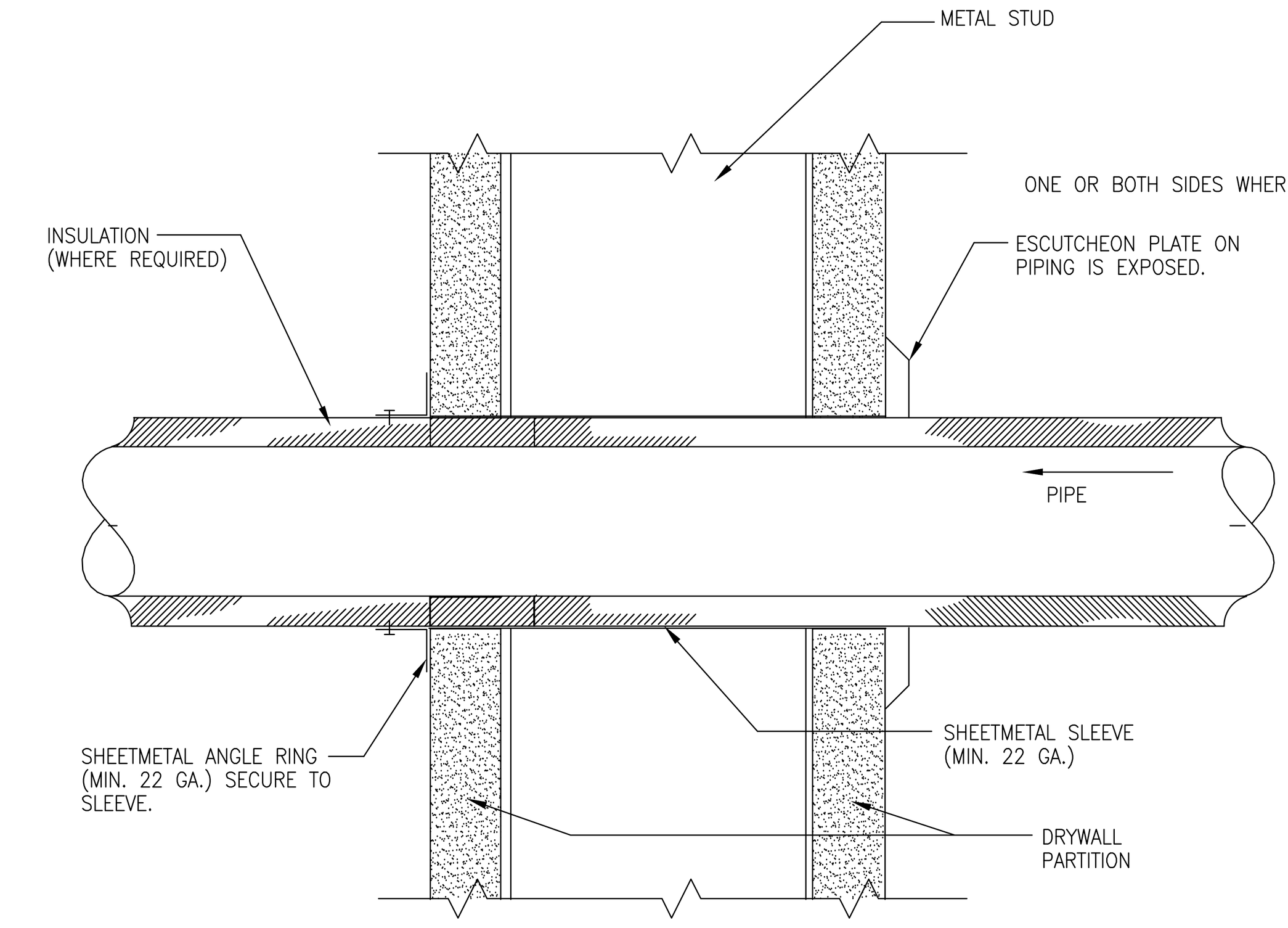
DWG. NO.
M4.0



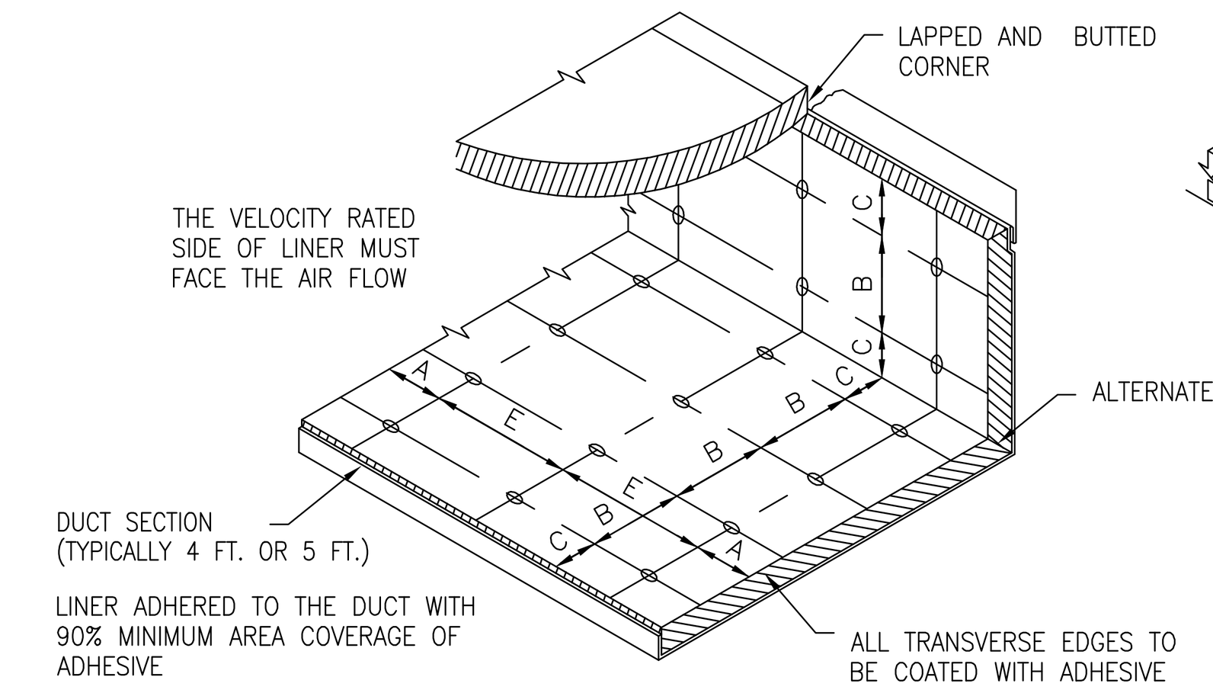
TYPICAL CONDENSING UNIT INSTALLATION DETAIL
NO SCALE



TYPICAL PIPE RISER SUPPORT DETAIL
NOT TO SCALE



PIPE SLEEVE THROUGH WALL DETAIL
NOT TO SCALE



WHEN VELOCITY EXCEEDS 4000FPM, USE METAL NOSING ON EVERY LEADING EDGE. NOSING MAY BE FORMED ON DUCT OR BE ATTACHED BY SCREWS, RIVETS OR WELDS

METAL NO SCALE

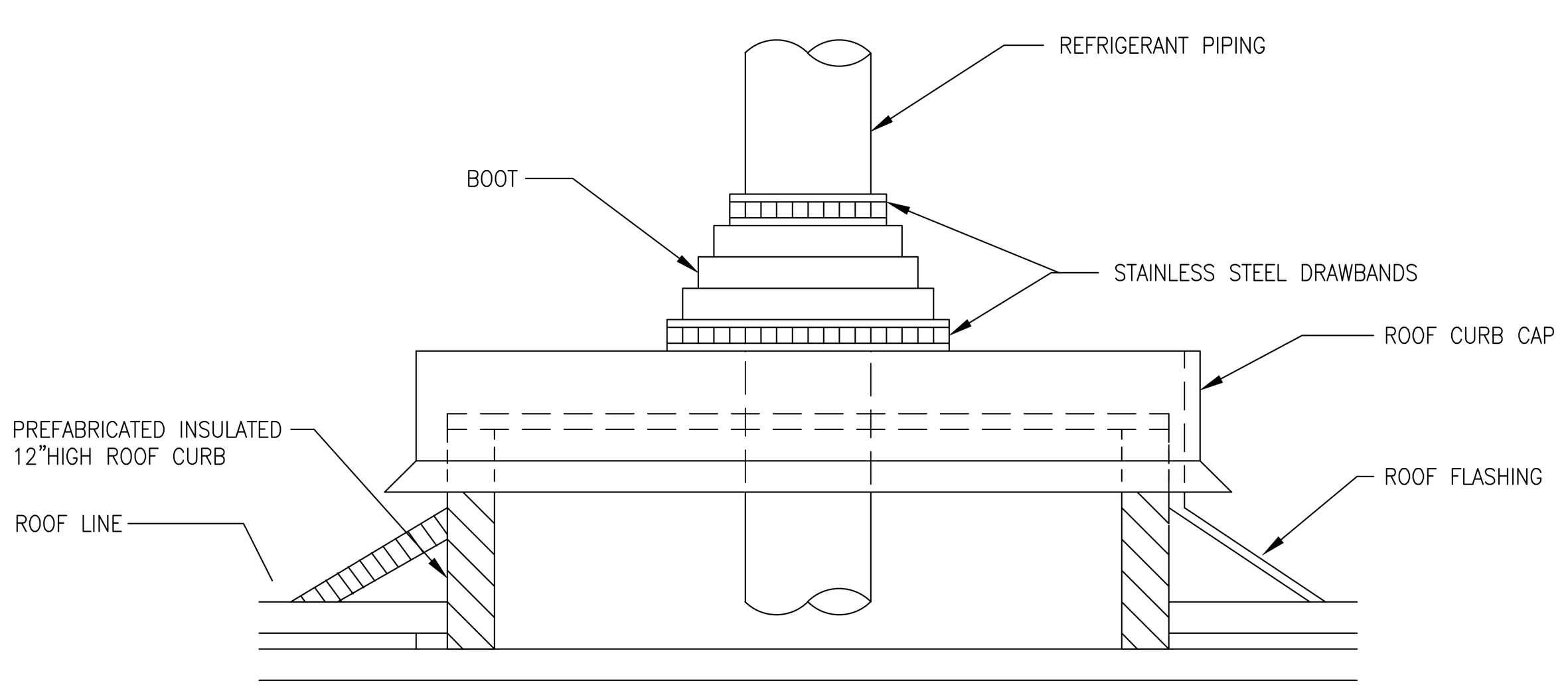
MAXIMUM SPACING FOR FASTNERS
ACTUAL INTERVALS ARE APPROXIMATE

VELOCITY*	DIMENSIONS A	B	C	E
0 – 2500 FPM	3"	12"	4"	18"
2501 – 6000 FPM	3"	6"	4"	16"

*UNLESS A LOWER LEVEL IS SET BY MANUFACTURER OR LISTING AGENCY

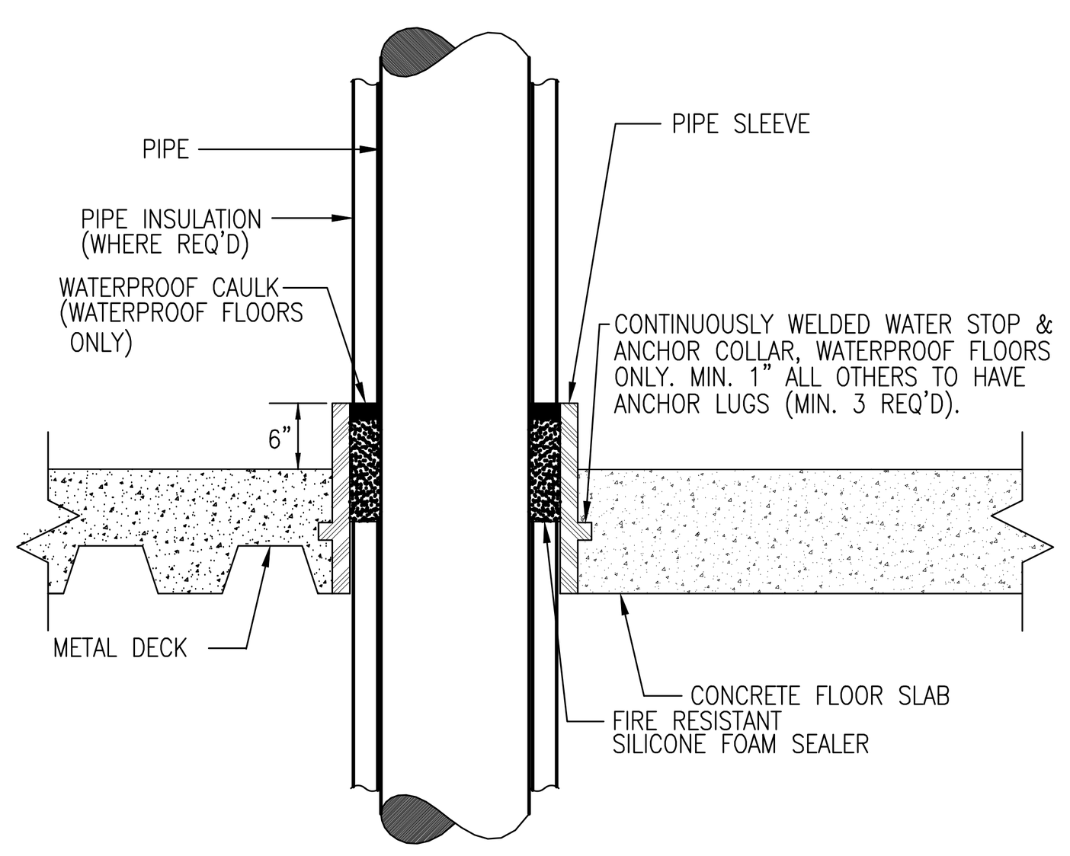
NO PINS	LINER INTERIOR WIDTH
0	8" DN
2	9"–16"
3	17"–28"
4	29"–40"
5	41"–52"
6	53"–64"
7	65"–76"
8	77"–88"
9	89"–100"

FLEXIBLE DUCT LINER INSTALLATION
NO SCALE

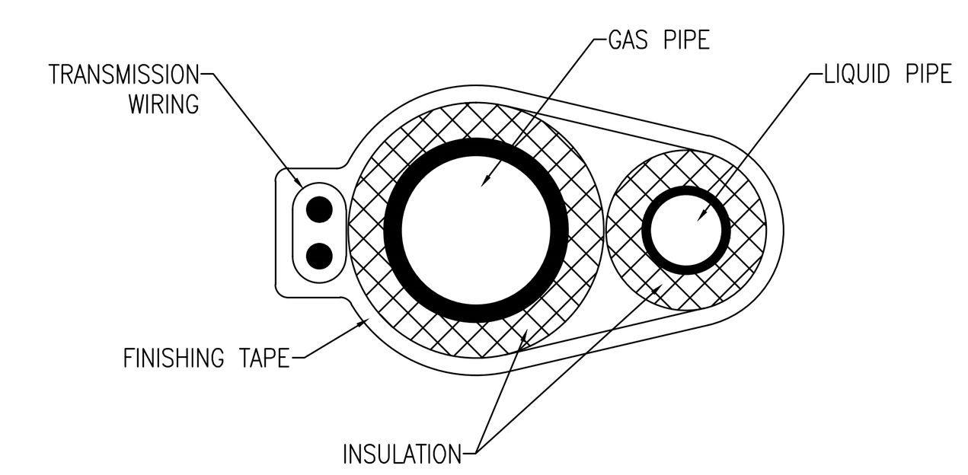


NOTE: ROOF CURB TO BE PROVIDED BY MECHANICAL CONTRACTOR AND ALL FLASHING AND ROOFING TO BE PROVIDED BY ROOFING CONTRACTOR.

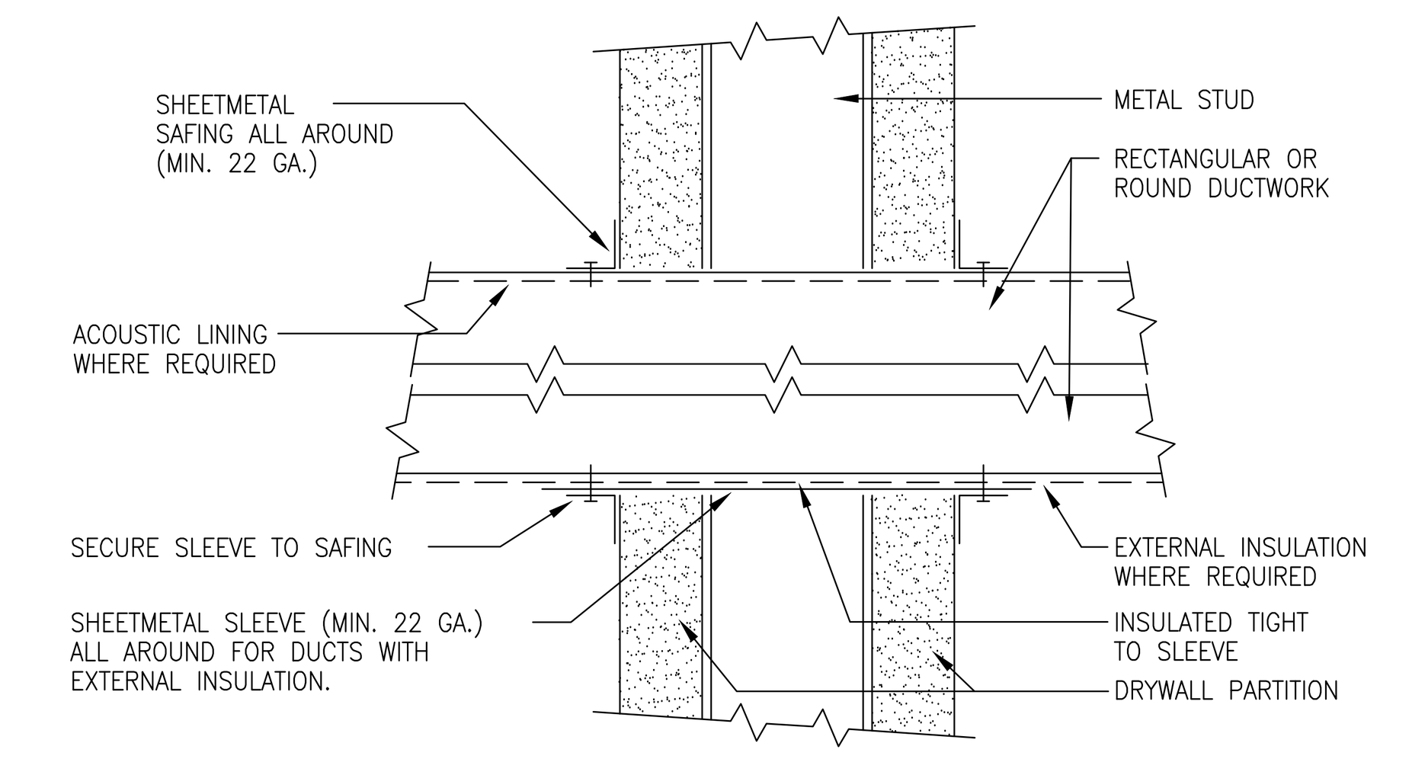
TYPICAL PIPING ROOF PENETRATION DETAIL
NOT TO SCALE



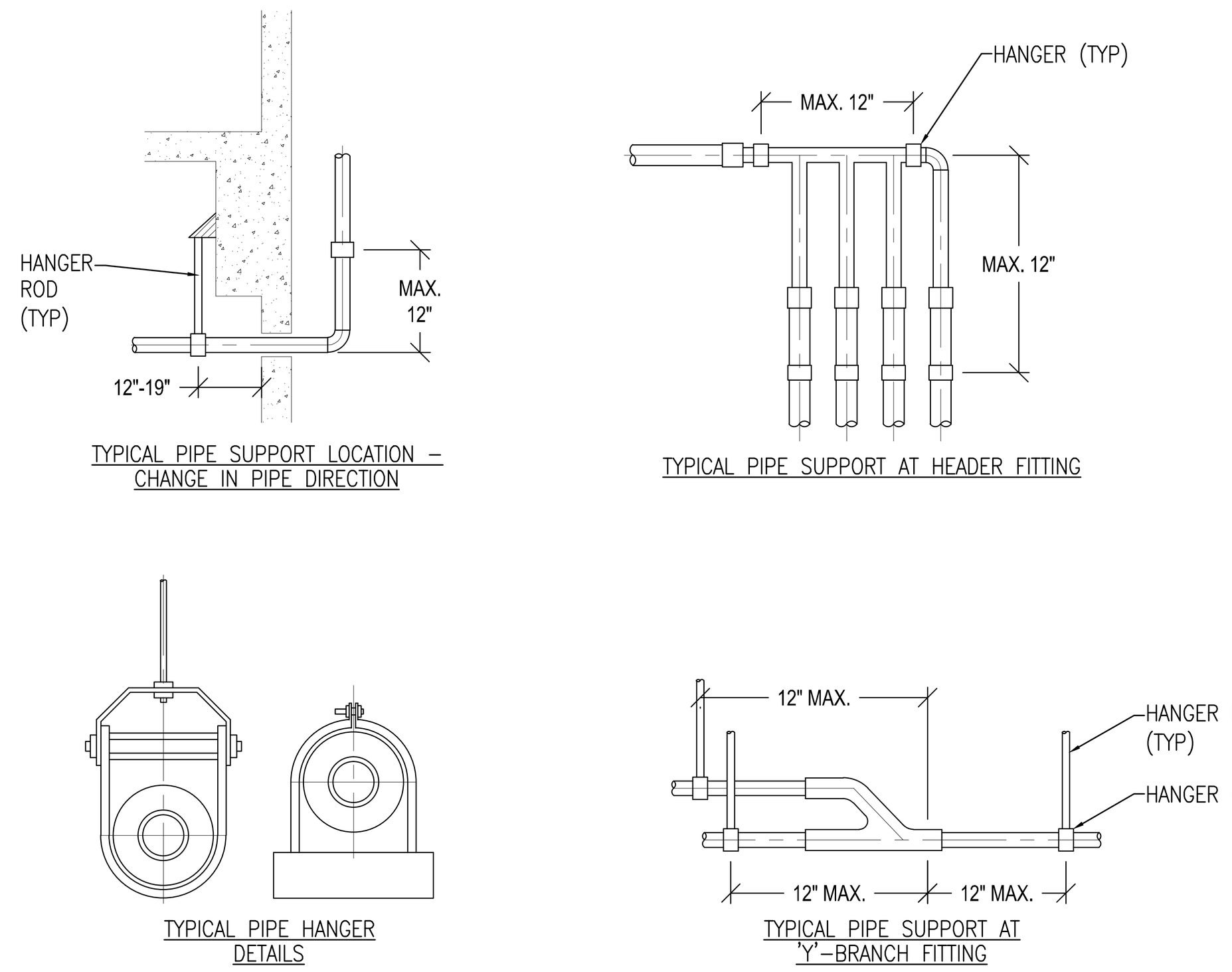
TYPICAL PIPE SLEEVE THROUGH FLOOR DETAIL
NOT TO SCALE



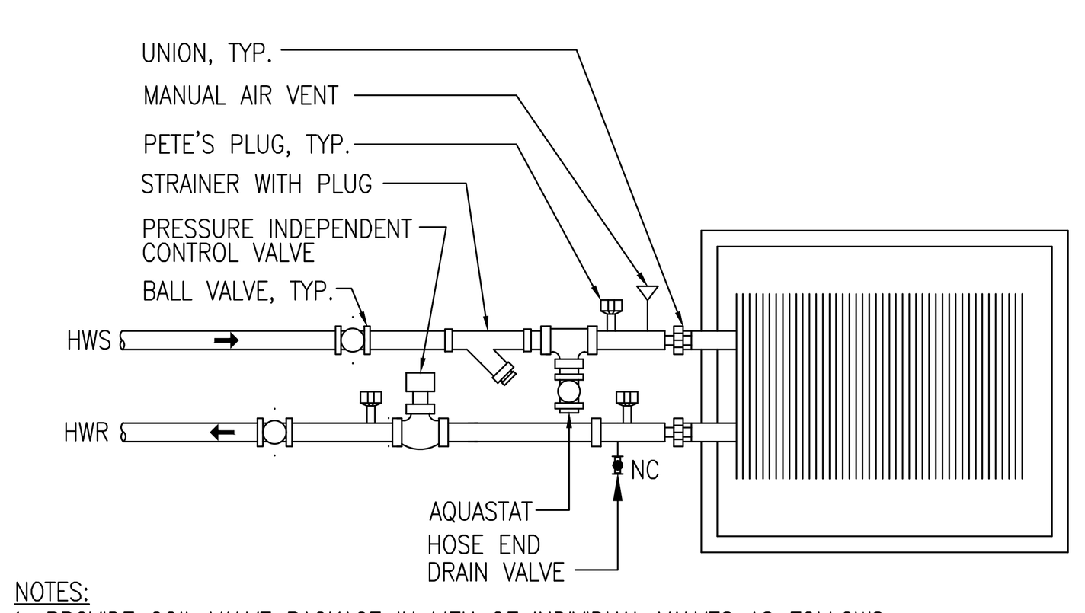
REFRIGERANT PIPING ARRANGEMENT DETAIL
NOT TO SCALE



TYPICAL DUCT PENETRATION THROUGH NON-FIRE RATED WALL
NOT TO SCALE

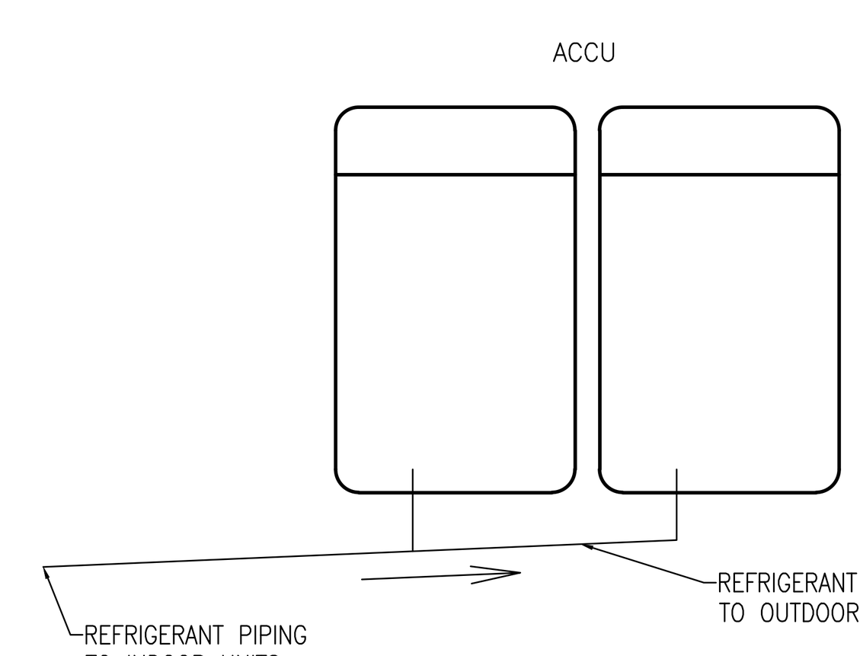


TYPICAL PIPING SUPPORTING DETAIL
NOT TO SCALE



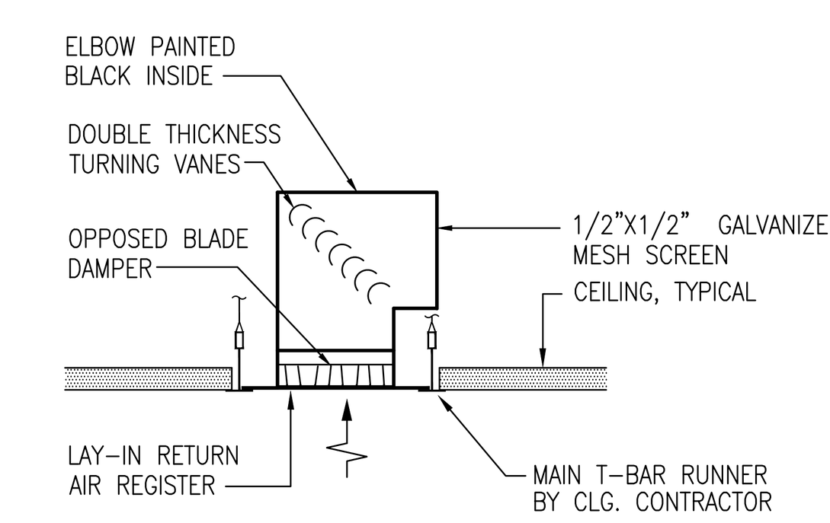
NOTES:
1. PROVIDE COIL VALVE PACKAGE IN LIEU OF INDIVIDUAL VALVES AS FOLLOWS:
A. RETURN PIPING: UNION WITH P/T PORT, AND BALL VALVE WITH UNION AND P/T PORT.
B. SUPPLY PIPING: COMBINATION BALL VALVE AND Y STRAINER WITH UNION, P/T PORT AND HOSE END DRAIN CAP WITH CAPTURE CHAIN, UNION WITH MANUAL AIR VENT.
2. ISOLATION VALVES AND STRAINERS SHALL BE LINE SIZES AS SHOWN ON CONTRACT DRAWINGS.
3. ALL VALVES INCLUDING P/T PORTS SHALL HAVE EXTENDED STEMS TO ACCOMMODATE INSULATION INSTALLATION. CONTROL VALVE AND STRAINERS SHALL HAVE REMOVABLE INSULATION.
4. PRESSURE INDEPENDENT CONTROL VALVE SHALL BE INSTALLED BY MECHANICAL CONTRACTOR.

TYPICAL UNIT VENTILATOR HOT WATER COIL PIPING DETAIL
NO SCALE

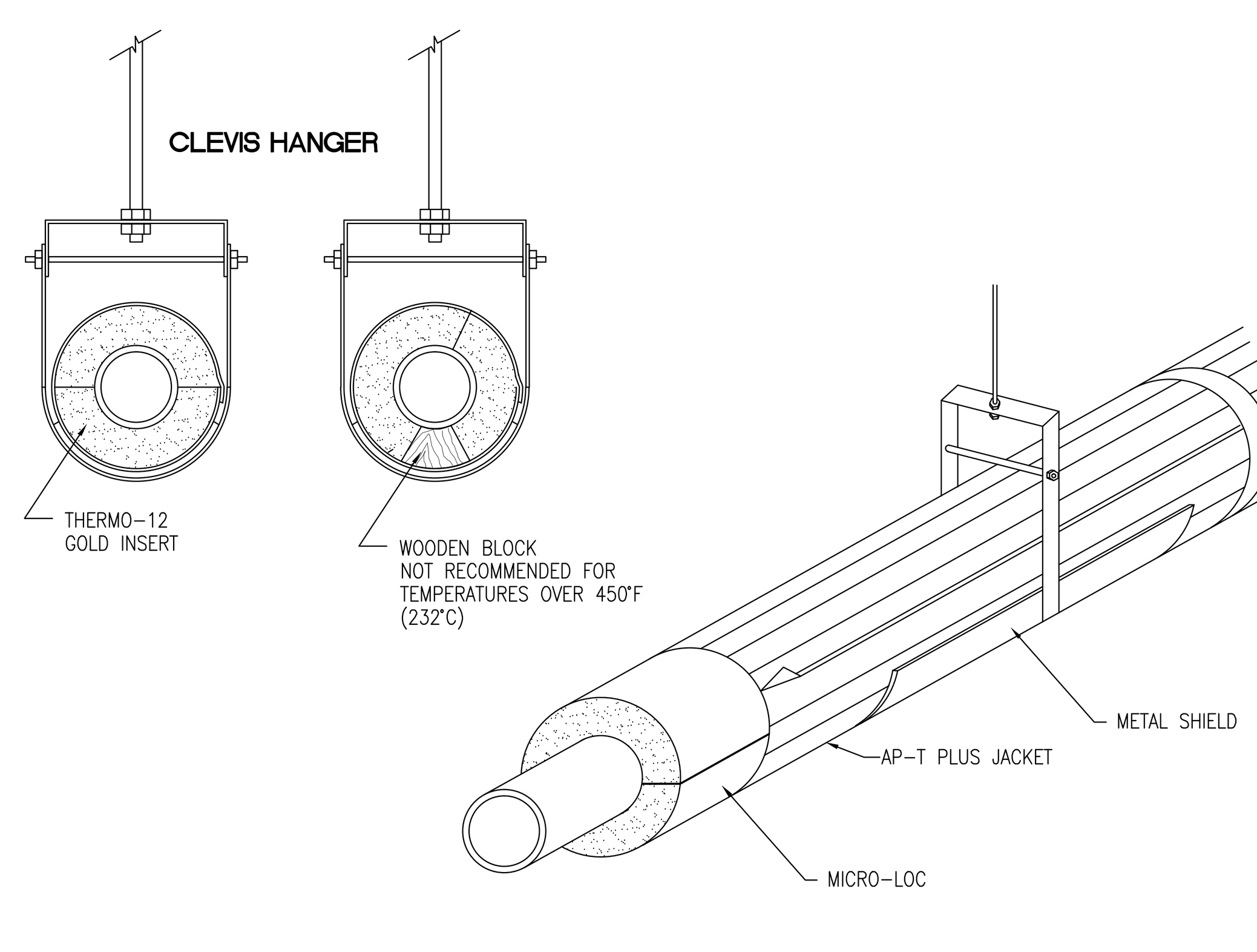


NOTE:
THE PIPING BETWEEN THE OUTDOOR UNITS MUST BE ROUTED LEVEL OR SLIGHTLY UPWARD TO AVOID THE RISK OF OIL RETENTION INTO THE PIPING.

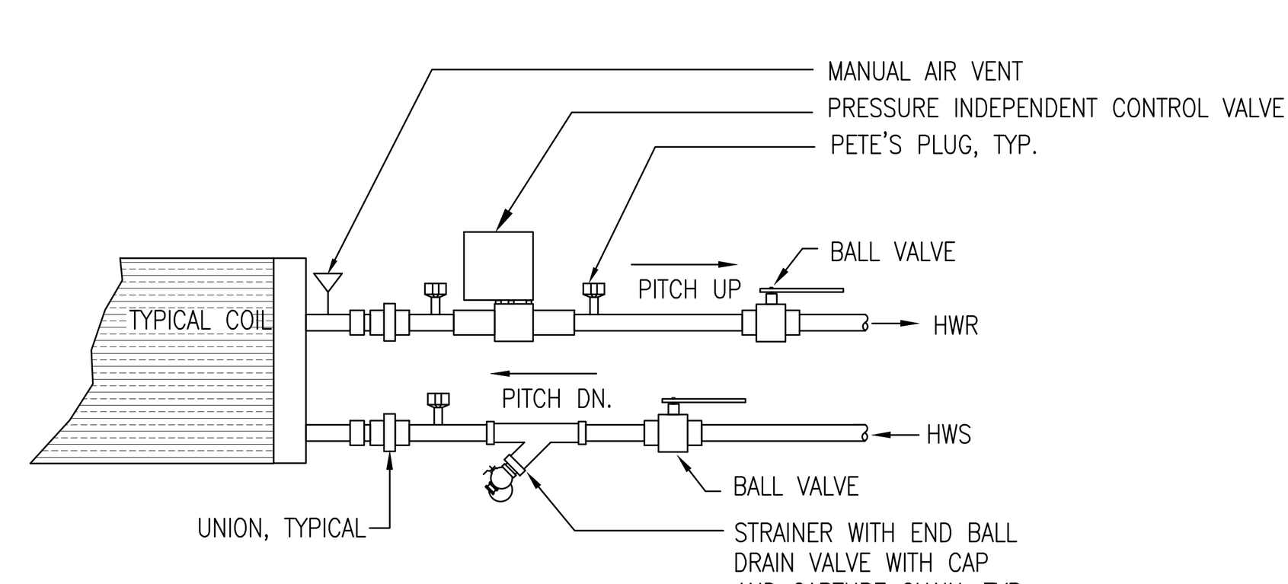
AIR COOLED CONDENSING UNIT PIPING ARRANGEMENT DETAIL
NOT TO SCALE



TYPICAL RETURN AIR REGISTER DETAIL
NO SCALE

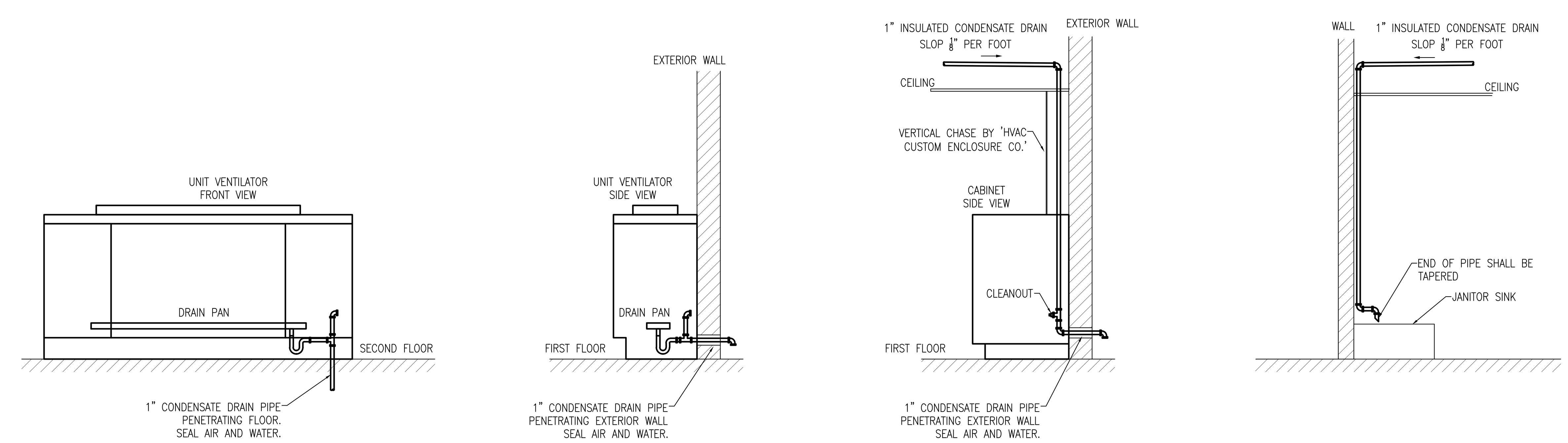


TYPICAL HOT WATER PIPING INSULATION
NO SCALE



NOTES:
1. PROVIDE COIL VALVE PACKAGE IN LIEU OF INDIVIDUAL VALVES AS FOLLOWS:
A. RETURN PIPING: UNION WITH MANUAL AIR VENT AND P/T PORT, AND BALL VALVE WITH UNION AND P/T PORT.
B. SUPPLY PIPING: COMBINATION BALL VALVE AND Y STRAINER WITH UNION, P/T PORT AND HOSE END DRAIN CAP WITH CAPTURE CHAIN.
2. ISOLATION VALVES AND STRAINERS SHALL BE LINE SIZES AS SHOWN ON CONTRACT DRAWINGS.
3. ALL VALVES INCLUDING P/T PORTS SHALL HAVE EXTENDED STEMS TO ACCOMMODATE INSULATION INSTALLATION. CONTROL VALVE AND STRAINERS SHALL HAVE REMOVABLE INSULATION.
4. PRESSURE INDEPENDENT CONTROL VALVE SHALL BE INSTALLED BY MECHANICAL CONTRACTOR.

TYPICAL FAN COIL UNITPIPING DETAIL
NO SCALE



CONDENSATE DRAIN PIPING DETAIL
NOT TO SCALE

REVISIONS

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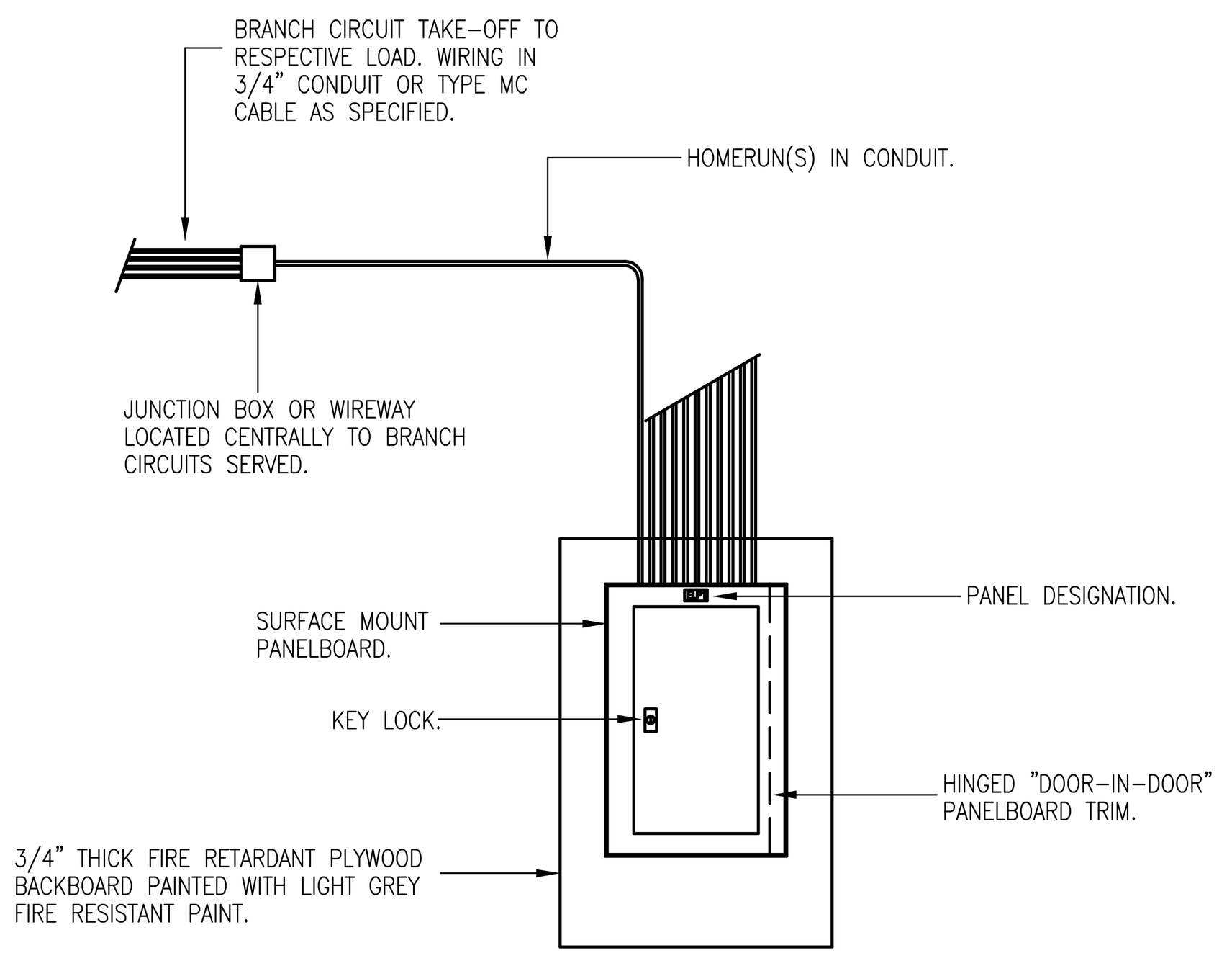
NEW AIR CONDITIONING SYSTEM
GLASTONBURY, CONNECTICUT

BEMIS ASSOCIATES, L.L.C.
Consulting Engineers
185 Main Street
Farmington, CT 06032

TITLE
MECHANICAL DETAILS

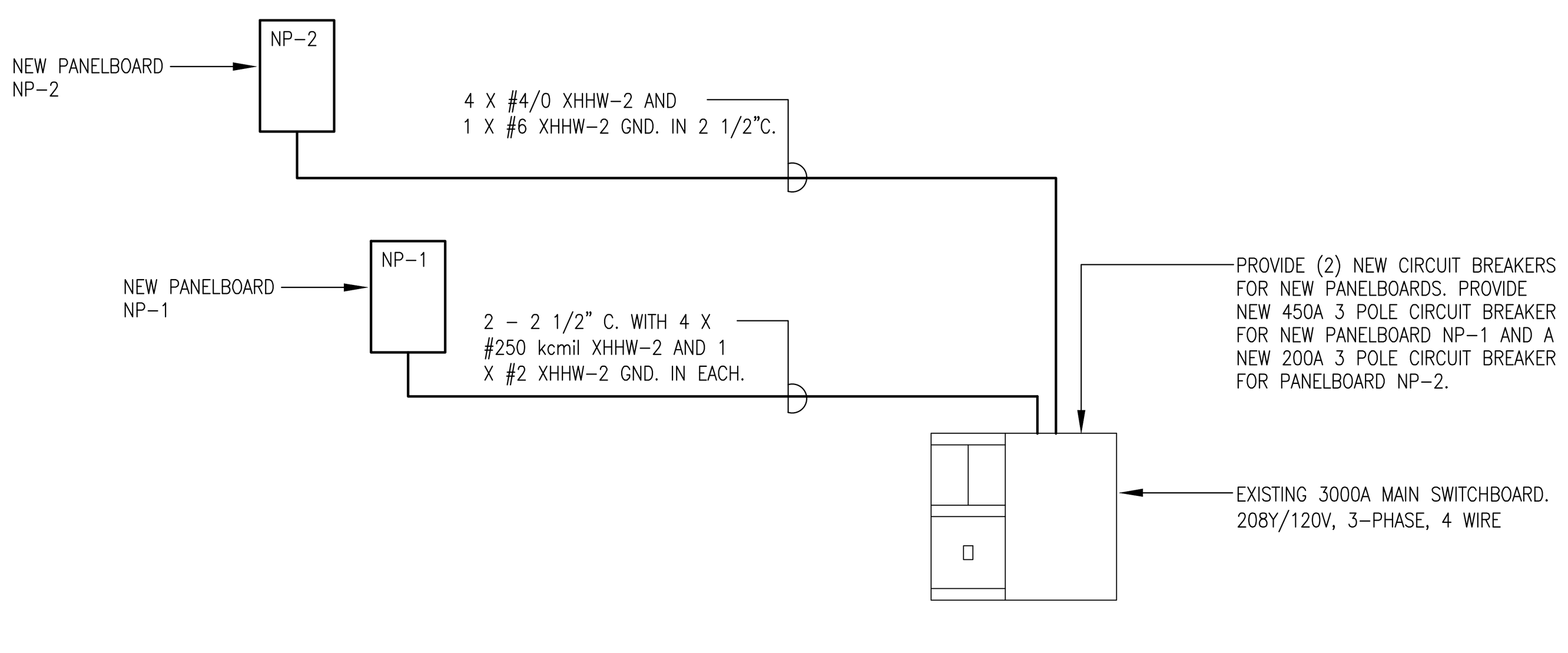
DATE 11/01/2018

DWG. NO.
M5.0



TYPICAL BRANCH CIRCUIT HOMERUN ARRANGEMENT

NTS



POWER RISER DIAGRAM

NTS

PANEL: NP-1					MANUFACTURE & MODEL: CUTLER HAMMER TYPE PRL3a							
MOUNTING: SURFACE					VOLTAGE CLASSIFICATION: 208Y/120V, 3 PHASE, 4 WIRE							
MAINS RATING: 600 AMP MAIN LUGS					SCR (FULLY RATED): 10k A.I.C.							
200% NEUTRAL: NO					SPD: NO							
BREAKER					PHASE LOAD - KW					BREAKER		
#	TRIP RATING	POLE	LOAD DESCRIPTION	LOAD KW	A	B	C	LOAD KW	LOAD DESCRIPTION	TRIP RATING	POLE	#
1	20	2	UNIT VENTILATOR (3)	1.20	2.80			1.60	UNIT VENTILATOR (4)	20	2	2
3	-	-	-	1.20		2.80		1.60	-	-	-	4
5	20	2	UNIT VENTILATOR (4)	1.60			2.80	1.20	UNIT VENTILATOR (3)	20	2	6
7	-	-	-	1.60	2.80			1.20	-	-	-	8
9	20	2	UNIT VENTILATOR (2)	0.79		1.99		1.20	UNIT VENTILATOR (3)	20	2	10
11	-	-	-	0.79			1.99	1.20	-	-	-	12
13	20	2	UNIT VENTILATOR (3)	1.20	5.20			4.00	ACCU-VRV-02	60	3	14
15	-	-	-	1.20		5.20		4.00	-	-	-	16
17	60	3	ACCU-VRV-01	4.50			8.50	4.00	-	-	-	18
19	-	-	-	4.50	8.50			4.00	ACCU-VRV-02	60	3	20
21	-	-	-	4.50		8.50		4.00	-	-	-	22
23	60	3	ACCU-VRV-01	4.00			8.00	4.00	-	-	-	24
25	-	-	-	4.00	5.30			1.30	ACCU-A210A-01	20	2	26
27	-	-	-	4.00		5.30		1.30	-	-	-	28
29	45	3	ACCU-VRV-05	3.10			4.40	1.30	ACCU-A210B-02	20	2	30
31	-	-	-	3.10	4.40			1.30	-	-	-	32
33	-	-	-	3.10		9.80		6.70	ACCU-AHU-01	70	3	34
35	45	3	ACCU-VRV-05	2.90			9.60	6.70	-	-	-	36
37	-	-	-	2.90	9.60			6.70	-	-	-	38
39	-	-	-	2.90		3.26		0.36	FCU-A210A-01	20	2	40
41	20	2	FCU-A210B-02	0.36			0.72	0.36	-	-	-	42
43	-	-	-	0.36	0.36			0.00	SPARE	20	1	44
45	20	1	ROOF RECEPTACLES	0.36		0.36		0.00	SPARE	20	1	46
47	20	1	SPARE	0.00			0.00	0.00	SPARE	20	1	48
49	20	1	SPARE	0.00	0.00			0.00	SPARE	20	1	50
51	20	1	SPARE	0.00		0.00		0.00	SPARE	20	1	52
53	20	1	SPARE	0.00			0.00	0.00	SPARE	20	1	54
55	20	1	SPARE	0.00	0.00			0.00	SPARE	20	1	56
57	20	1	SPARE	0.00		0.00		0.00	SPARE	20	1	58
59	20	1	SPARE	0.00			0.00	0.00	SPARE	20	1	60
TOTAL LOAD PER PHASE:					38.96	37.21	36.01	TOTAL LOAD ON PANEL:		112.18		KW
										311.40		AMPS

PANEL: NP-2					MANUFACTURE & MODEL: CUTLER HAMMER TYPE PRL3a							
MOUNTING: SURFACE					VOLTAGE CLASSIFICATION: 208Y/120V, 3 PHASE, 4 WIRE							
MAINS RATING: 250 AMP MAIN LUGS					SCR (FULLY RATED): 10k A.I.C.							
200% NEUTRAL: NO					SPD: NO							
BREAKER					PHASE LOAD - KW					BREAKER		
#	TRIP RATING	POLE	LOAD DESCRIPTION	LOAD KW	A	B	C	LOAD KW	LOAD DESCRIPTION	TRIP RATING	POLE	#
1	20	2	ACCU-A220B-04	1.30	2.60			1.30	ACCU-220A-03	20	2	2
3	-	-	-	1.30		2.60		1.30	-	-	-	4
5	20	2	FCU-A220B-04	0.36			0.72	0.36	FCU-A220A-03	20	2	6
7	-	-	-	0.36	0.72			0.36	-	-	-	8
9	60	3	ACCU-VRV-03	4.50		9.00		4.50	ACCU-VRV-03	60	3	10
11	-	-	-	4.50			9.00	4.50	-	-	-	12
13	-	-	-	4.50	9.00			4.50	-	-	-	14
15	20	1	ROOF RECEPTACLES	0.36		0.36		0.00	SPARE	20	1	16
17	20	1	SPARE	0.00			0.00	0.00	SPARE	20	1	18
19	20	1	SPARE	0.00	0.00			0.00	SPARE	20	1	20
21	20	1	SPARE	0.00		0.00		0.00	SPARE	20	1	22
23	20	1	SPARE	0.00			0.00	0.00	SPARE	20	1	24
25	20	1	SPARE	0.00	0.00			0.00	SPARE	20	1	26
27	20	1	SPARE	0.00		0.00		0.00	SPARE	20	1	28
29	20	1	SPARE	0.00			0.00	0.00	SPARE	20	1	30
TOTAL LOAD PER PHASE:					12.32	11.96	9.72	TOTAL LOAD ON PANEL:		34.00		KW
										94.38		AMPS

TYPICAL PANELBOARD NOTES:
1) PROVIDE WITH SILVER PLATED COPPER BUS BARS AND COPPER GROUND BAR.
2) PROVIDE WITH DOOR-IN-DOOR TRIM.
3) PROVIDE WITH BLACK FACE, WHITE CORE ENGRAVED NAMEPLATE FIXED TO PANEL WITH TWO SCREWS OR RIVETS.
4) PROVIDE WITH METAL FRAME, PLASTIC COVER CIRCUIT DIRECTORY FRAME.
5) PROVIDE WITH TYPE WRITTEN CIRCUIT DIRECTORY REPRESENTING CIRCUITS AS ACTUALLY CONNECTED TO PANEL.
6) CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE.

PANEL: AP-12					MANUFACTURE & MODEL: EXISTING							
MOUNTING: SURFACE					VOLTAGE CLASSIFICATION: 208Y/120V, 3 PHASE, 4 WIRE							
MAINS RATING: 200 AMP MAIN C/B					SCR (FULLY RATED): 10k A.I.C.							
200% NEUTRAL: NO					SPD: NO							
BREAKER					PHASE LOAD - KW					BREAKER		
#	TRIP RATING	POLE	LOAD DESCRIPTION	LOAD KW	A	B	C	LOAD KW	LOAD DESCRIPTION	TRIP RATING	POLE	#
1	20	2	UNIT VENTILATORS (2)	0.79	1.58			0.79	UNIT VENTILATORS (2)	20	2	2
3	-	-	-	0.79		1.58		0.79	-	-	-	4
5	20	2	UNIT VENTILATORS (3)	1.20			2.80	1.60	UNIT VENTILATORS (4)	20	2	6
7	-	-	-	1.20	2.80			1.60	-	-	-	8
9	20	2	UNIT VENTILATORS (3)	1.20		2.80		1.60	UNIT VENTILATORS (4)	20	2	10
11	-	-	-	1.20			2.80	1.60	-	-	-	12
13	20	2	UNIT VENTILATORS (3)	1.20	2.80			1.60	UNIT VENTILATOR (4)	20	2	14
15	-	-	-	1.20		2.80		1.60	-	-	-	16
17	20	2	ACCU-A117-01/IU-A117-01	1.77			4.87	3.10	ACCU-VRV-04	45	3	18
19	-	-	-	1.77	4.87			3.10	-	-	-	20
21	20	1	SPARE	0.00		3.10		3.10	-	-	-	22
23	20	1	SPARE	0.00			3.10	3.10	ACCU-VRV-04	45	3	24
25	20	1	SPARE	0.00	3.10			3.10	-	-	-	26
27	20	1	SPARE	0.00		3.10		3.10	-	-	-	28
29	20	1	SPARE	0.00			3.10	3.10	ACCU-VRV-04	45	3	30
31	20	1	SPARE	0.00	3.10			3.10	-	-	-	32
33	20	1	SPARE	0.00		3.10		3.10	-	-	-	34
35	20	1	SPARE	0.00			0.00	0.00	SPARE	20	1	36
37	20	1	SPARE	0.00	0.00			0.00	SPARE	20	1	38
39	20	1	SPARE	0.00		0.00		0.00	SPARE	20	1	40
41	20	1	SPARE	0.00			0.00	0.00	SPARE	20	1	42
TOTAL LOAD PER PHASE:					18.25	16.48	16.67	TOTAL LOAD ON PANEL:		51.40		KW
										142.68		AMPS

SCHEDULE OF BRANCH CIRCUIT CONDUCTOR SIZES

C/B SIZE	* CIRCUIT SIZE
20A-1P	** 2 X #12 AWG AND 1 X #12 AWG GND. IN 3/4" C.
20A-2P	2 X #12 AWG AND 1 X #12 AWG GND. IN 3/4" C.
20A-3P	3 X #12 AWG AND 1 X #12 AWG GND. IN 3/4" C.
25A-1P	2 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
25A-2P	2 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
25A-3P	3 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
30A-1P	2 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
30A-2P	2 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
30A-3P	3 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
35A-1P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
35A-2P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
35A-3P	3 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
40A-1P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
40A-2P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
40A-3P	3 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
45A-1P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
45A-2P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
45A-3P	3 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
50A-1P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
50A-2P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
50A-3P	3 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
60A-1P	2 X #6 AWG AND 1 X #10 AWG GND. IN 1" C.
60A-2P	2 X #6 AWG AND 1 X #10 AWG GND. IN 1" C.
60A-3P	3 X #6 AWG AND 1 X #10 AWG GND. IN 1" C.
70A-1P	2 X #4 AWG AND 1 X #8 AWG GND. IN 1 1/4" C.
70A-2P	2 X #4 AWG AND 1 X #8 AWG GND. IN 1 1/4" C.
70A-3P	3 X #4 AWG AND 1 X #8 AWG GND. IN 1 1/4" C.
80A-1P	2 X #4 AWG AND 1 X #8 AWG GND. IN 1 1/4" C.
80A-2P	2 X #4 AWG AND 1 X #8 AWG GND. IN 1 1/4" C.
80A-3P	3 X #4 AWG AND 1 X #8 AWG GND. IN 1 1/4" C.
90A-1P	2 X #3 AWG AND 1 X #8 AWG GND. IN 1 1/4" C.
90A-2P	2 X #3 AWG AND 1 X #8 AWG GND. IN 1 1/4" C.
90A-3P	3 X #3 AWG AND 1 X #8 AWG GND. IN 1 1/4" C.
100A-1P	2 X #3 AWG AND 1 X #8 AWG GND. IN 1 1/4" C.
100A-2P	2 X #3 AWG AND 1 X #8 AWG GND. IN 1 1/4" C.
100A-3P	3 X #3 AWG AND 1 X #8 AWG GND. IN 1 1/4" C.

* PROVIDE CIRCUIT SIZE AND NUMBER OF CONDUCTORS SCHEDULED UNLESS NOTED OR SHOWN DIFFERENTLY ON THE DRAWINGS. CROSS REFERENCE CIRCUIT DESIGNATIONS SHOWN ON DRAWINGS WITH RESPECTIVE PANEL SCHEDULES TO OBTAIN C/B SIZE.

** PROVIDE #10 AWG SIZE CONDUCTORS FOR BRANCH CIRCUIT RUNS EXCEEDING 75' IN CONDUCTOR LENGTH AND #8 AWG SIZE CONDUCTORS FOR BRANCH CIRCUIT RUNS EXCEEDING 150' IN CONDUCTOR LENGTH.

ELECTRICAL DEMOLITION WORK NOTES

1 – PRIOR TO SUBMITTING BID, VISIT THE SITE AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK TO BE PERFORMED. NO COMPENSATION WILL BE GRANTED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY CONSTRUED BY EXPERIENCED OBSERVERS. INCLUDE IN THE BID ALL DEMOLITION WORK REQUIRED.

2 – THE DEMOLITION DRAWINGS ARE INTENDED ONLY TO DEFINE THE GENERAL SCOPE OF DEMOLITION WORK AND TO ASSIST THE CONTRACTOR DURING BIDDING. THE DEMOLITION DRAWINGS MAY NOT SHOW EVERY ITEM WHICH MUST BE DISCONNECTED, REMOVED, OR RELOCATED IN ORDER TO FACILITATE NEW WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION WORK REQUIRED WHETHER OR NOT SHOWN ON THE PLANS.

3 – REMOVE AND/OR RELOCATE ALL EXISTING ELECTRICAL WORK AS NECESSARY FOR THE PERFORMANCE OF THE WORK OF THIS CONTRACT.

4 – EXISTING ELECTRICAL EQUIPMENT, WIRING, AND RACEWAYS SHALL NOT BE REUSED UNLESS SPECIFICALLY NOTED OTHERWISE.

5 – REMOVE ALL DEMOLITION MATERIAL FROM THE JOB SITE UNLESS NOTED DIFFERENTLY. MATERIAL REQUESTED BY THE OWNER FOR SALVAGE SHALL BE DELIVERED TO THE OWNER'S DESIGNATED MATERIAL STORAGE AREA.

6 – PROVIDE WIRING AS REQUIRED AND RECONNECT EXISTING FIXTURES, DEVICES, OR EQUIPMENT THAT ARE TO REMAIN ACTIVE, BUT HAVE BEEN DISCONNECTED DURING DEMOLITION OF OTHER FIXTURES, DEVICES, OR EQUIPMENT.

– ELECTRICAL DEMOLITION WORK SYMBOLS –

TAG	ACTION
(1)	DISCONNECT AND REMOVE EXISTING UNIT VENTILATOR(S) BRANCH CIRCUIT WIRING BACK TO LAST ACTIVE DEVICE OR POWER SOURCE AND ALL ASSOCIATED WIRING BETWEEN UNIT VENTILATORS.
(2)	EXISTING MECHANICAL UNIT TO BE DISCONNECTED AND REMOVED. DISCONNECT AND REMOVE BRANCH CIRCUIT WIRING AND CONDUIT BACK TO POWER SOURCE. TURN CIRCUIT BREAKER OFF AND LABEL AS A SPARE.
(3)	DISCONNECT EXISTING AIR COOLED CONDENSING UNIT (EX-ACCU) ON ROOF. DISCONNECT AND REMOVE ASSOCIATED WIRING AND CONDUIT BACK TO LAST ACTIVE DEVICE OR POWER SOURCE.
(4)	EXISTING EXHAUST FAN (EX-AF) POWER CONNECTION TO REMAIN.
(5)	EXISTING AIR COOLED CONDENSING UNIT (ACCU) POWER CONNECTION TO REMAIN.
(6)	DISCONNECT EXISTING AHU-XX BRANCH CIRCUIT WIRING BACK TO SOURCE. DISCONNECT AND REMOVE START/DISCONNECT

– ELECTRICAL NEW WORK SYMBOLS –

TAG	ACTION
[1]	PROVIDE NEW BRANCH CIRCUIT AND CONDUIT FOR UNIT VENTILATORS.
[2]	PROVIDE NEW BRANCH CIRCUIT FOR UNIT VENTILATORS. PROVIDE NEW C/B IN EXISTING PANELBOARD.
[3]	PROVIDE NEW BRANCH CIRCUITS AND DISCONNECT SWITCH FOR NEW ACCU UNIT.

GENERAL SPECIFICATION NOTES – POWER

1 – THE CONTRACTOR SHALL VERIFY AND OBTAIN ALL NECESSARY DIMENSIONS AT THE BUILDING.

2 – FINISHED WORK: THE INTENT OF THE SPECIFICATIONS AND DRAWINGS IS TO CALL FOR FINISHED WORK, COMPLETED, TESTED AND READY FOR OPERATION.

3 – GOOD PRACTICE: IT IS NOT INTENDED THAT THE DRAWINGS SHOW EVERY CONDUIT, JUNCTION BOX, FITTING OR MINOR DETAIL AND IT IS UNDERSTOOD THAT WHILE THE DRAWINGS MUST BE FOLLOWED AS CLOSELY AS CIRCUMSTANCES WILL PERMIT, THE SYSTEMS SHALL BE INSTALLED ACCORDING TO THE INTENT AND MEANING OF THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH GOOD PRACTICE.

4 – ANY APPARATUS, APPLIANCE, MATERIAL OR WORK NOT SHOWN ON DRAWINGS BUT MENTIONED IN SPECIFICATIONS OR VICE VERSA, OR ANY INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND PERFECT IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SPECIFIED, SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

5 – CODES AND STANDARDS – COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES AND STANDARDS WHEREVER APPLICABLE INCLUDING THE FOLLOWING: 2018 CONNECTICUT STATE BUILDING CODE, 2015 INTERNATIONAL BUILDING CODE, 2018 CONNECTICUT FIRE SAFETY CODE, 2015 INTERNATIONAL FIRE CODE, 2013 NFPA 72 NATIONAL FIRE ALARM CODE, 2017 NFPA 70 NATIONAL ELECTRICAL CODE, 2010 NFPA 110 STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS, 2015 INTERNATIONAL ENERGY CONSERVATION CODE, ICC/ANSI A117.1-2009 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES, ADA, NFPA, UNDERWRITERS LABORATORIES, FACTORY MUTUAL INSURANCE COMPANY, NEMA STANDARDS.

6 – NOTE THAT THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF THE ELECTRICAL EQUIPMENT AND SYSTEMS, WITHOUT SHOWING EVERY DETAIL AND FITTING.

7 – RACEWAYS: PROVIDE EMT CONDUIT FOR ALL WIRING. EMT CONNECTORS AND COUPLINGS SHALL BE GALVANIZED STEEL SET-SCREW TYPE. PROVIDE GLAND COMPRESSION CONNECTORS AND COUPLINGS WHERE LOCATED IN DAMP AND WET LOCATIONS. TYPE MC CABLE MAY BE USED FOR WIRING FISHED DOWN INSIDE EXISTING WALLS. PROVIDE FLEXIBLE STEEL CONDUIT FOR FINAL CONNECTIONS TO MOTOR DRIVEN EQUIPMENT. PROVIDE LIQUIDTIGHT FLEXIBLE STEEL CONDUIT WHERE LOCATED IN DAMP OR WET AREAS. PROVIDE WIREMOLD RACEWAY AND BOXES FOR SURFACE MOUNTED WIRING ON EXISTING WALLS IN FINISHED ROOMS.

8 – CONDUCTORS SHALL BE COPPER, RATED 600 VOLTS, 90 DEG. C., COLOR CODED, TYPE XHHW-2.

9 – WIRE SIZE #8 AWG AND LARGER SHALL BE STRANDED. WIRE OF SIZE SMALLER THAN #8 AWG SHALL BE SOLID.

10 – MINIMUM SIZE CONDUCTORS SHALL BE #12 AWG. PROVIDE MINIMUM #10 AWG SIZE FOR RUNS EXCEEDING 75' IN CONDUCTOR LENGTH, AND #8 AWG SIZE FOR RUNS EXCEEDING 150' IN CONDUCTOR LENGTH. PROVIDE LARGER SIZE CONDUCTORS AS SCHEDULED OR AS NOTED ON THE DRAWINGS.

11 – THE NUMBER OF WIRES IN A CONDUIT RUN IS INDICATED ON THE DRAWINGS BY CROSS LINES ON THE CONDUIT RUNS. PROVIDE CODE-SIZED CONDUIT FOR THE NUMBER AND SIZE OF WIRES UNLESS A LARGER SIZE IS SHOWN ON THE DRAWINGS. MINIMUM CONDUIT SIZE SHALL BE 3/4".

12 – RACEWAYS SHALL BE CONCEALED WHEREVER POSSIBLE IN ALL FINISHED AREAS.

13 – RACEWAYS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO WALL LINES.

14 – RACEWAYS SHALL BE SUPPORTED FROM THE STRUCTURE BY STRAP HANGERS, ROD HANGERS, OR RACK MOUNTED, OR OTHER APPROVED ELECTRICAL MOUNTING.

15 – PROVIDE FIRE STOPPING AT ALL FIRE AND/OR SMOKE RATED WALL OR CEILING PENETRATIONS IN ORDER TO MAINTAIN ITS ORIGINAL INTEGRITY.

16 – OUTLET BOXES SHALL BE CODE GAUGE GALVANIZED STEEL AND SHALL BE OF SHAPES AND SIZES TO SUIT THEIR RESPECTIVE LOCATIONS AND INSTALLATIONS, AND SHALL BE PROVIDED WITH COVERS TO SUIT THEIR FUNCTION AND INSTALLATION. MINIMUM BOX SIZE SHALL BE 4" SQ. X 2 1/8" DEEP (2-GANG).

17 – OUTLET BOXES SHALL BE EQUIPPED WITH FIXTURE STUD OR STRAPS WHERE REQUIRED.

18 – INSTALL BOXES IN ACCESSIBLE LOCATIONS AND AT UNIFORM HEIGHTS.

19 – SET BOXES AND COVERS SQUARE AND TRUE WITH BUILDING FINISH.

20 – BRANCH CIRCUIT WIRING AND ARRANGEMENT OF HOME RUNS HAS BEEN DESIGNED FOR MAXIMUM ECONOMY CONSISTENT WITH ADEQUATE SIZING FOR VOLTAGE DROPS, CIRCUIT AMPACITIES, AND OTHER CONSIDERATIONS. INSTALL THE WIRING WITH CIRCUITS ARRANGED AS SHOWN ON THE DRAWINGS, EXCEPT AS APPROVED IN ADVANCE BY THE ARCHITECT AND ENGINEER. DO NOT MAKE CHANGES WITHOUT PRIOR APPROVAL.

21 – PROVIDE A SEPARATE NEUTRAL CONDUCTOR FOR EACH 120V SINGLE PHASE CIRCUIT. DO NOT USE A COMMON NEUTRAL FOR GROUPS OF CIRCUITS. PROVIDE A SEPARATE GROUND WIRE FOR EACH CIRCUIT BACK TO THE RESPECTIVE PANEL GROUND. IF MORE THAN 3 CURRENT CARRYING CONDUCTORS ARE INSTALLED IN ONE CONDUIT THEY SHALL BE DE-RATED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE. DO NOT INSTALL MORE THAN THREE 30 AMP SINGLE PHASE OR FOUR 20 AMP SINGLE PHASE CIRCUITS IN THE SAME CONDUIT.

ELECTRICAL DRAWING LEGEND

SYMBOLS

- SPECIAL EQUIPMENT POWER CONNECTION, EQUIPMENT AS DESIGNATED.
- MOTOR POWER CONNECTION. EQUIPMENT AS DESIGNATED.
- DISCONNECT SWITCH
- PANELBOARD
- BRANCH CIRCUIT WIRING. CROSS LINES INDICATE NUMBER OF CONDUCTORS.
- BRANCH CIRCUIT WIRING HOMERUN IN CONDUIT. CROSS LINES INDICATE NUMBER OF CONDUCTORS.
- DUPLEX RECEPTACLE
- COMBINATION STARTER/DISCONNECT SWITCH

ABBREVIATIONS

A	AMPS.
ACCU	AIR COOLED CONDENSING UNIT.
AHU	AIR HANDLING UNIT.
C	CONDUIT.
C/B	CIRCUIT BREAKER.
FCU	FAN COIL UNIT.
GFCI	INDICATES DEVICE WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER.
GND	GROUND.
UV	UNIT VENTILATOR.
V	VOLTS.
WP	WEATHER PROOF.

NOTE:

1. REFER TO MECHANICAL DRAWINGS M3.1 AND M3.2 FOR VARIABLE REFRIGERANT VOLUME SYSTEM WIRING DIAGRAMS.

2. WIRING TO UNIT VENTILATORS SHALL FOLLOW HVAC PIPING DOWN CHASE TO UNITS. (TYPICAL).

REVISIONS

GIDEON WELLES SCHOOL
NEW AIR CONDITIONING SYSTEM
GLASTONBURY, CONNECTICUT

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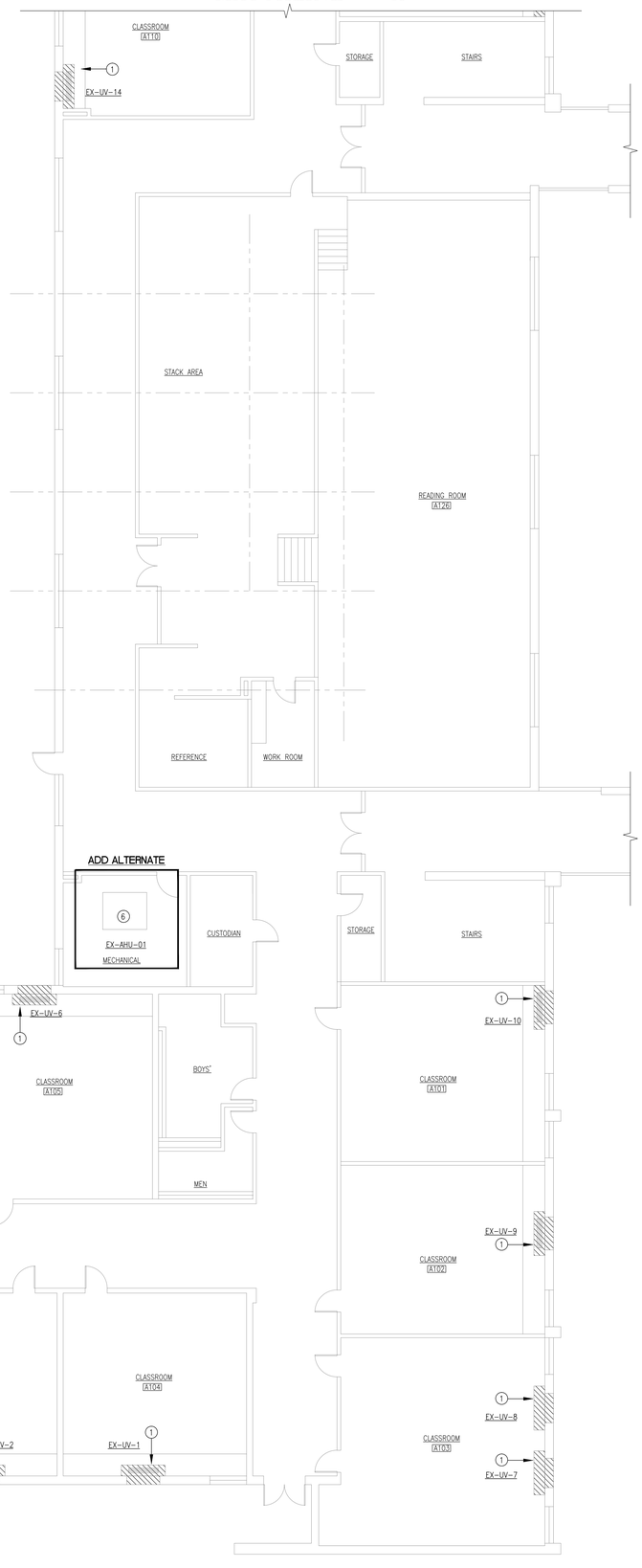
TITLE
GENERAL NOTES, SYMBOLS, ABBREVIATIONS, AND SCHEDULES

DATE 11/01/2018

DWG. NO.
E0.1



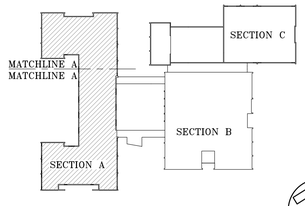
1st FLOOR PLAN SECTION "A"

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

MATCHLINE – A

1st FLOOR PLAN SECTION "A"(CONT.)

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



KEY PLAN

NO SCALE

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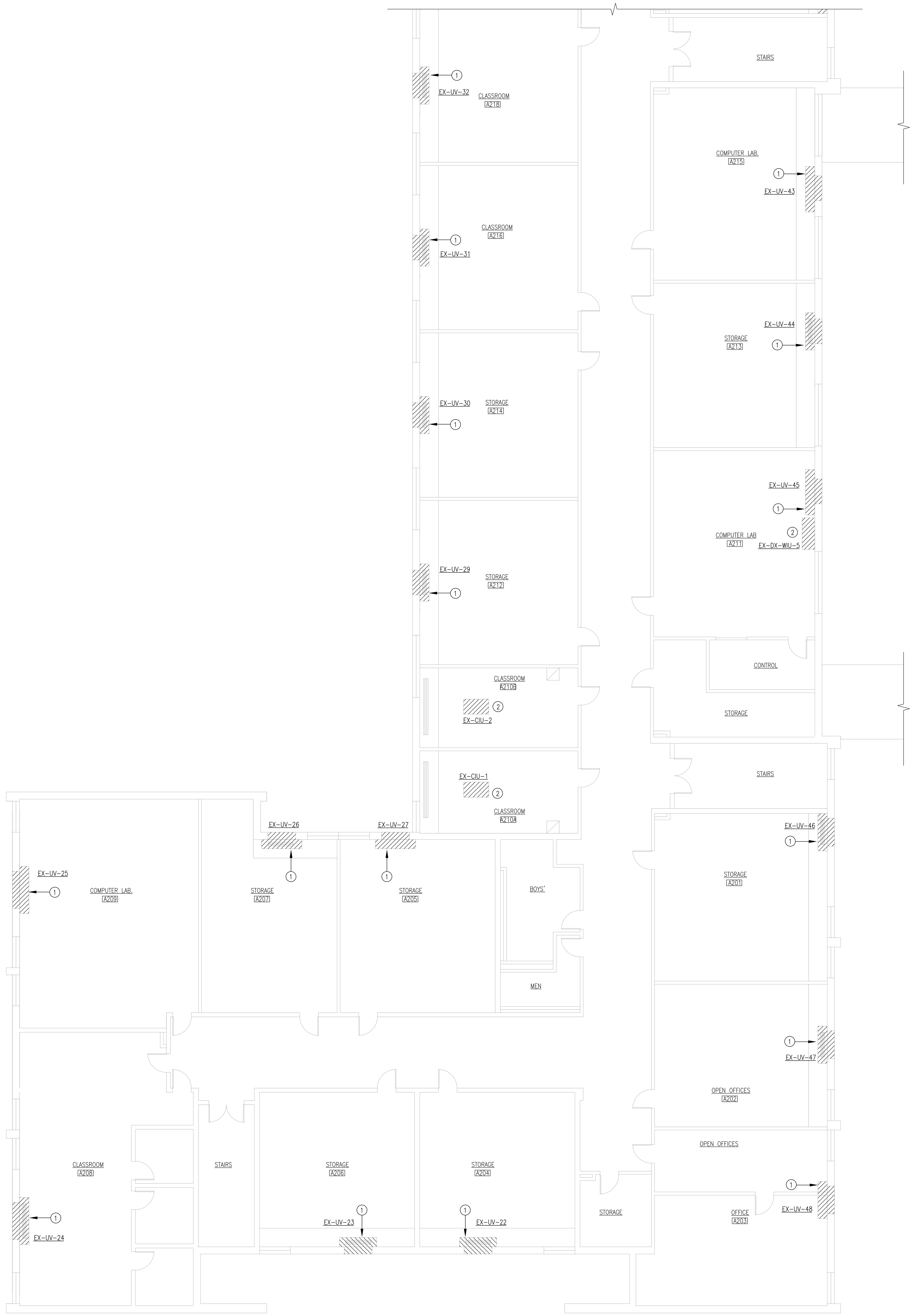
TITLE
1st FLOOR PLAN
SECTION A
ELECTRICAL
DEMOLITION

DATE 11/01/2018

DWG. NO.
ED1.1A



2nd FLOOR PLAN SECTION "A"

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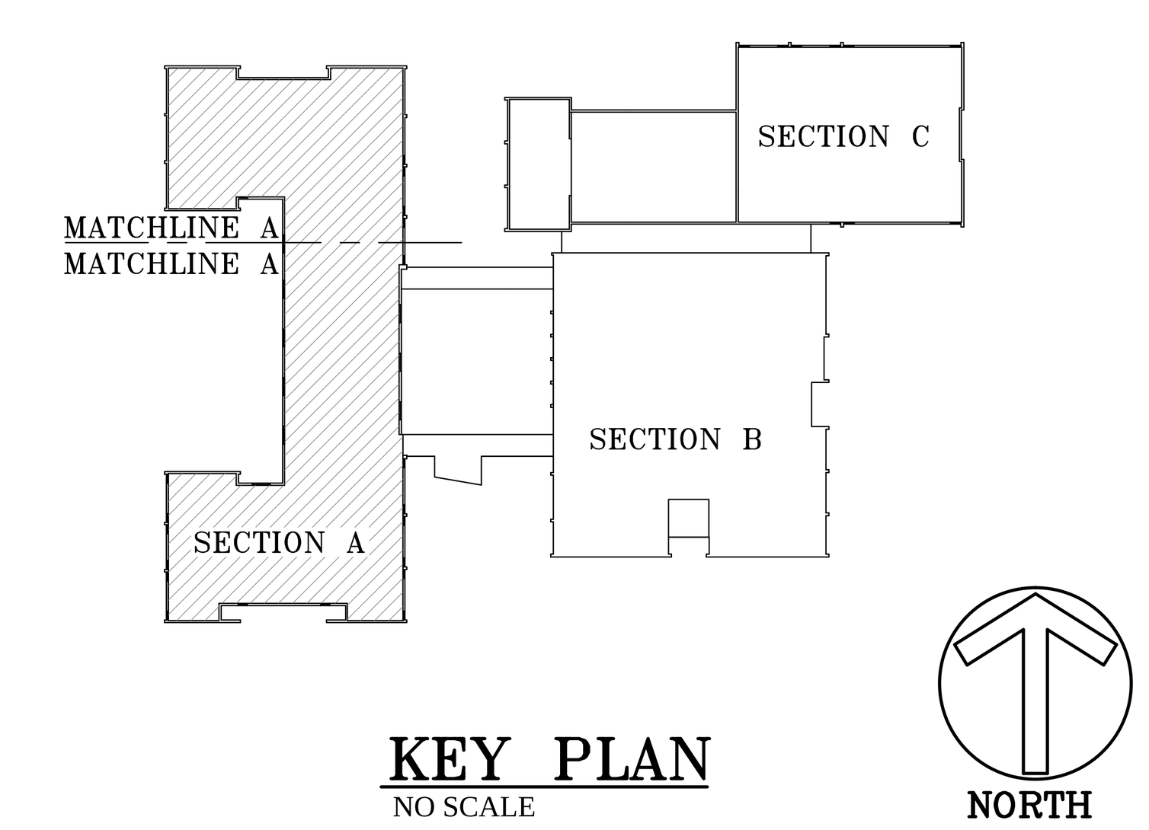
2nd FLOOR PLAN SECTION "A"(CONT.)

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



KEY PLAN

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TITLE

2nd FLOOR PLAN SECTION A ELECTRICAL DEMOLITION

DATE 11/01/2018

DWG. NO.

ED1.2A

ROOF PLAN SECTION "A"
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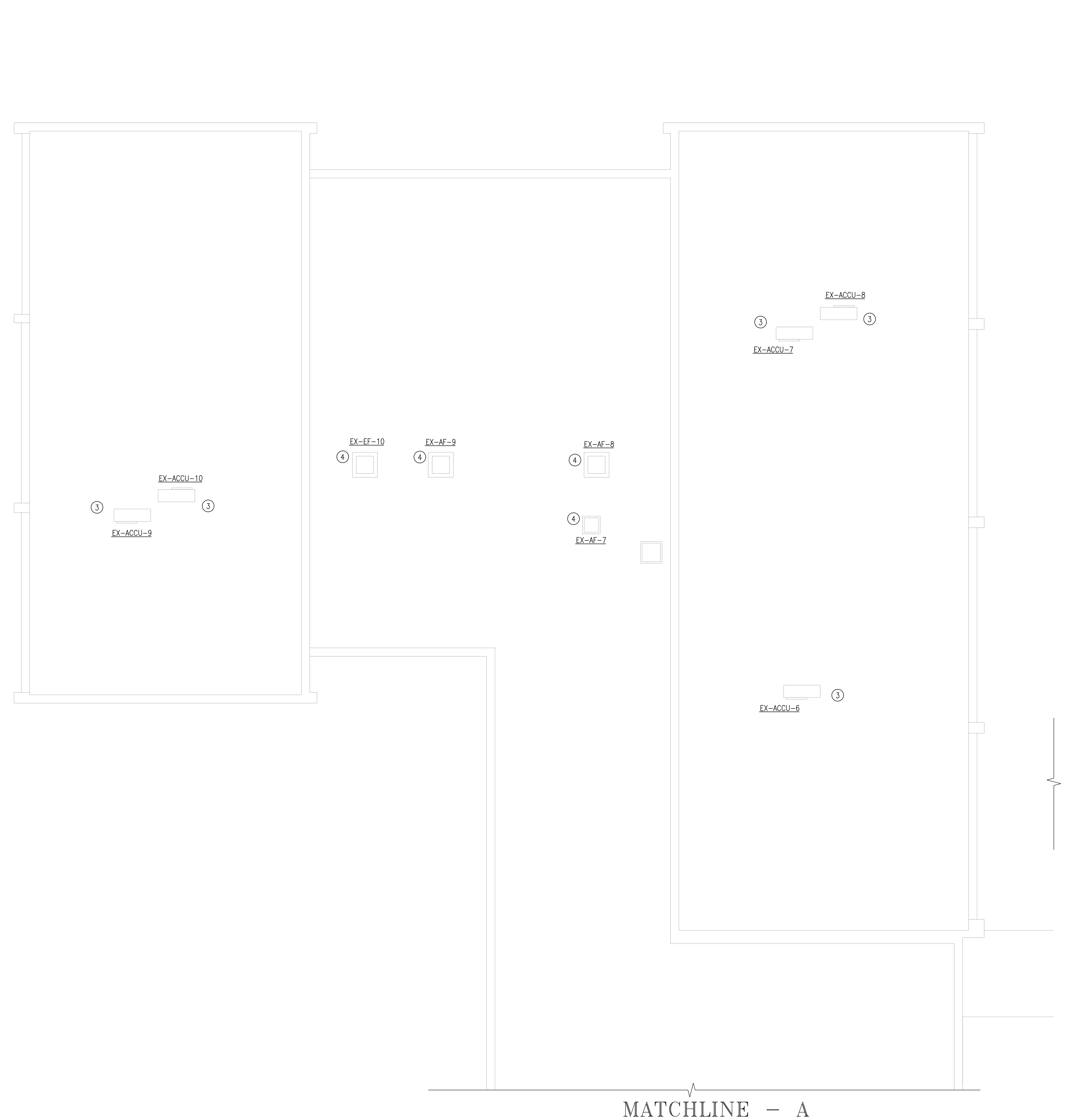

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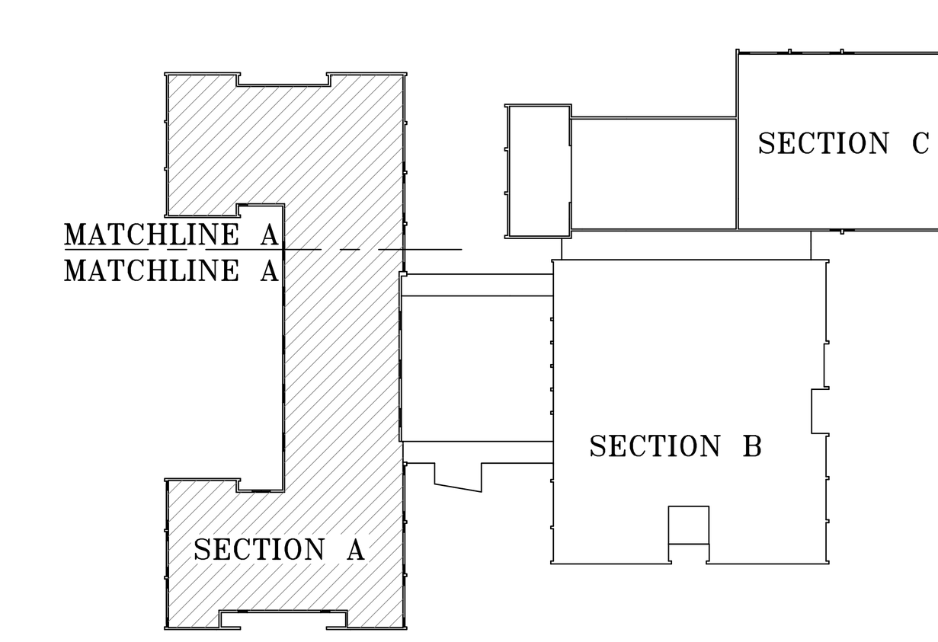

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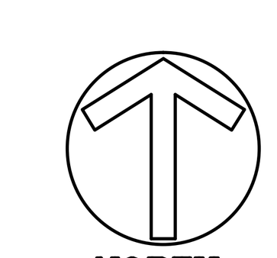

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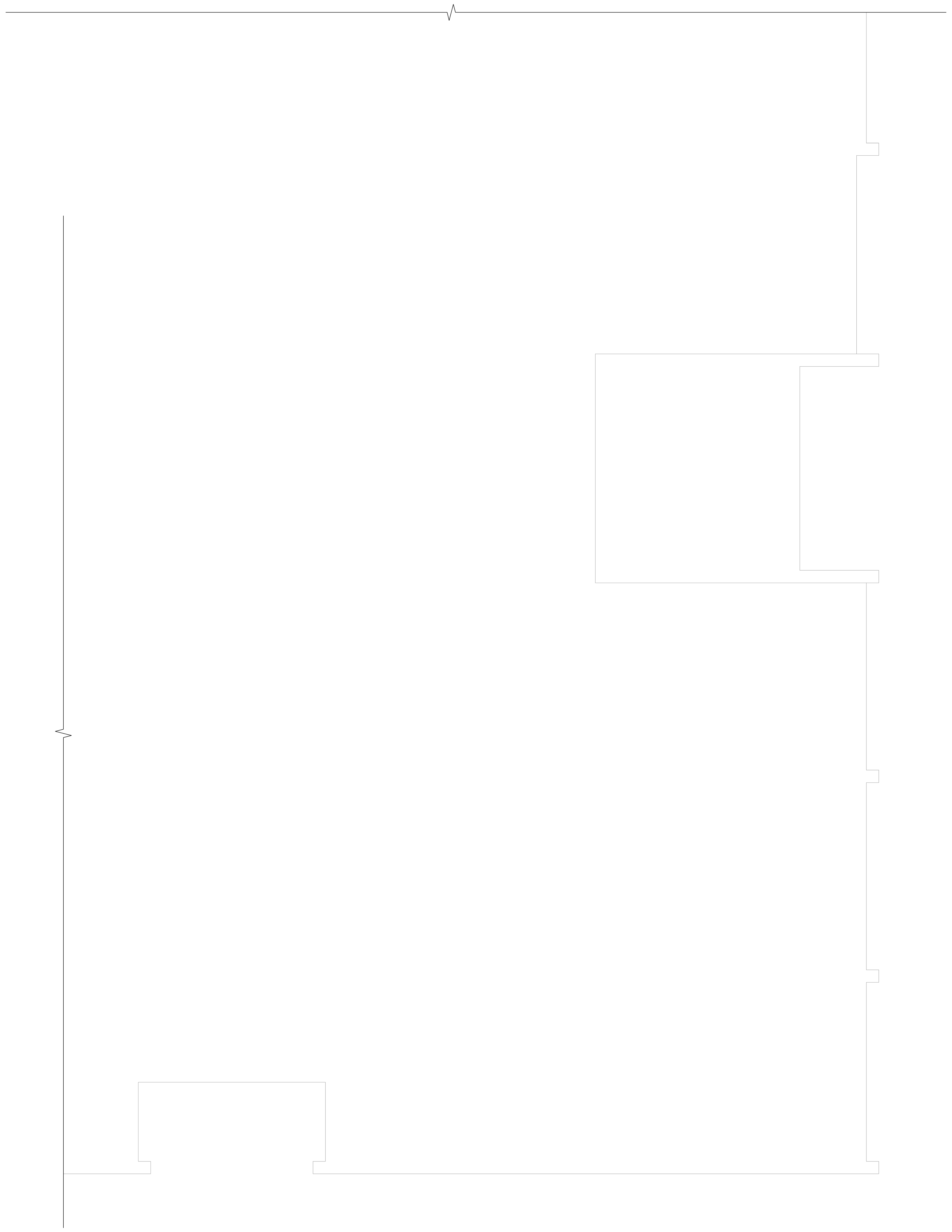
TITLE
ROOF PLAN
SECTION A
ELECTRICAL
DEMOLITION

DATE 11/01/2018

DWG. NO.
ED1.3A

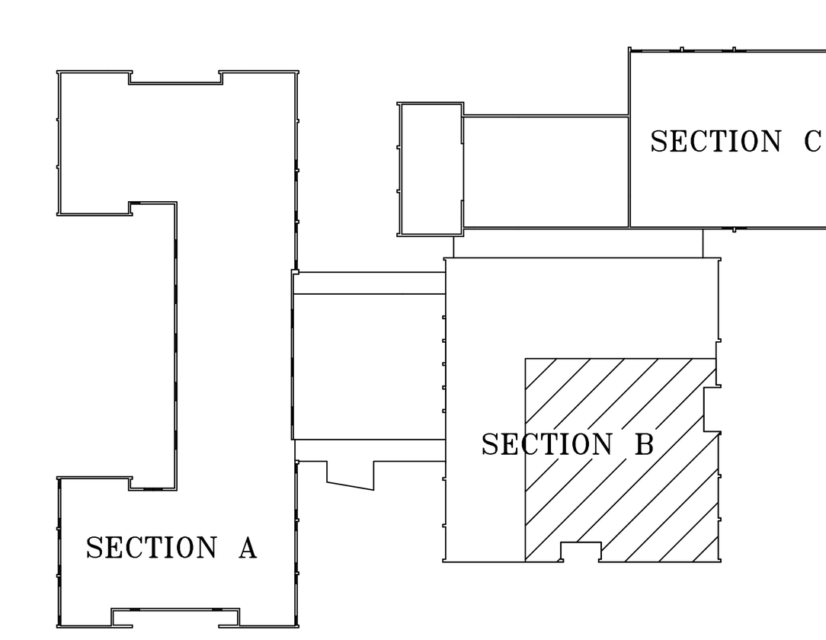


ROOF PLAN SECTION "B"

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

1st FLOOR PLAN SECTION "B"

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



KEY PLAN

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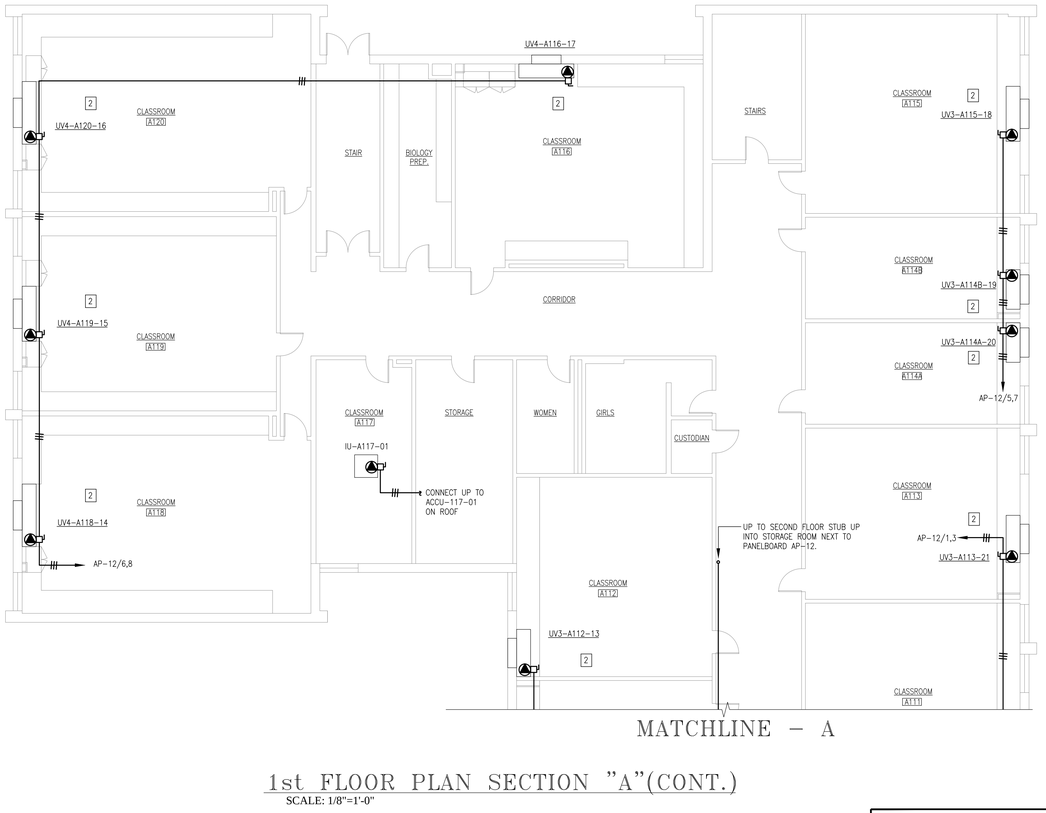
TITLE
1st FLOOR AND ROOF PLAN SECTION B ELECTRICAL DEMOLITION

DATE 11/01/2018

DWG. NO.
ED1.1B



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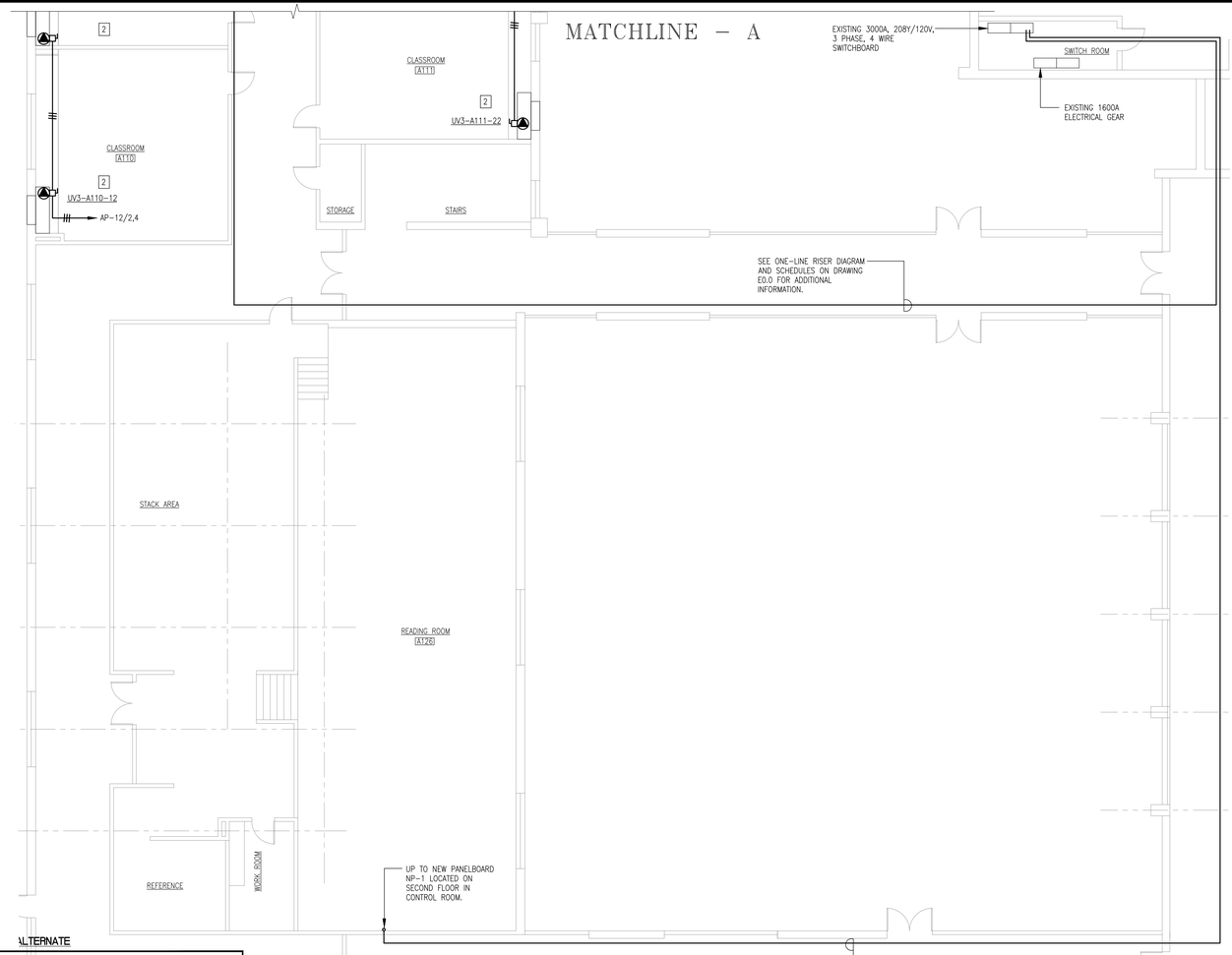
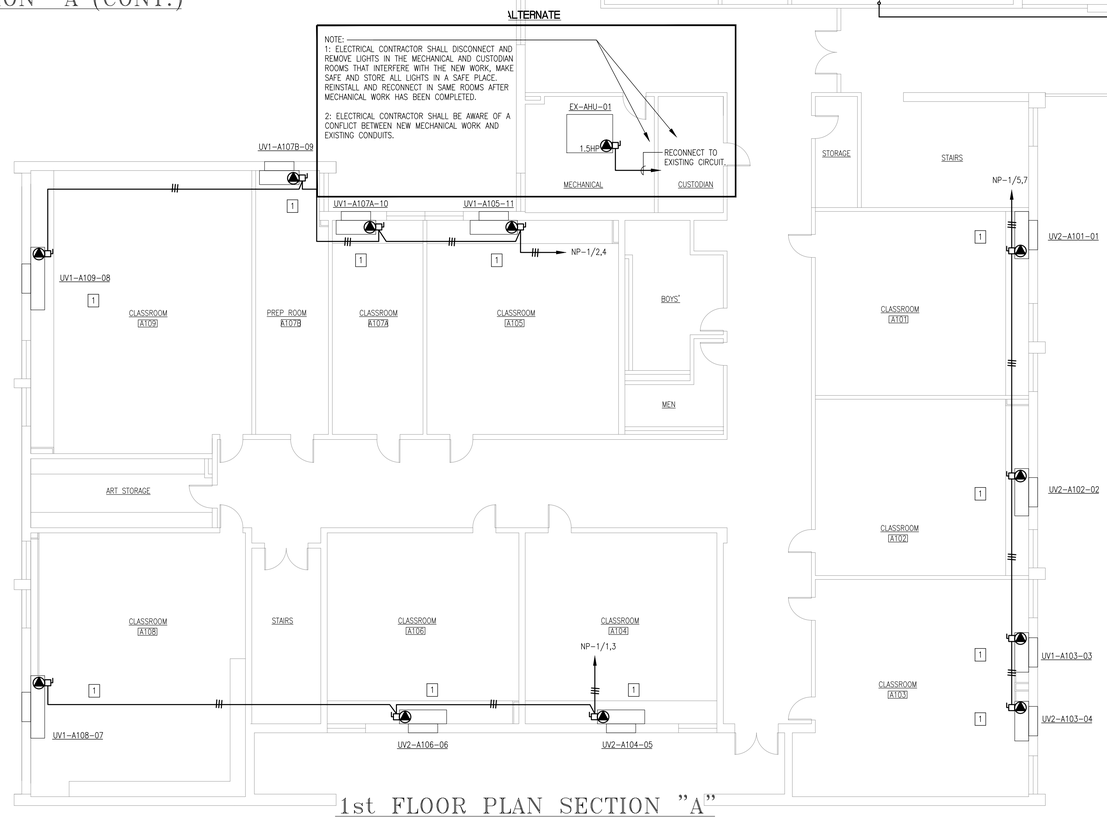




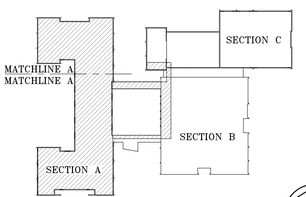
1st FLOOR PLAN SECTION "A"

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

NOTE:

1. REFER TO MECHANICAL DRAWINGS M3.1 AND M3.2 FOR VARIABLE REFRIGERANT VOLUME SYSTEM WIRING DIAGRAMS.

2. WIRING TO UNIT VENTILATORS SHALL FOLLOW HVAC PIPING DOWN CHASE TO UNITS. (TYPICAL).



KEY PLAN

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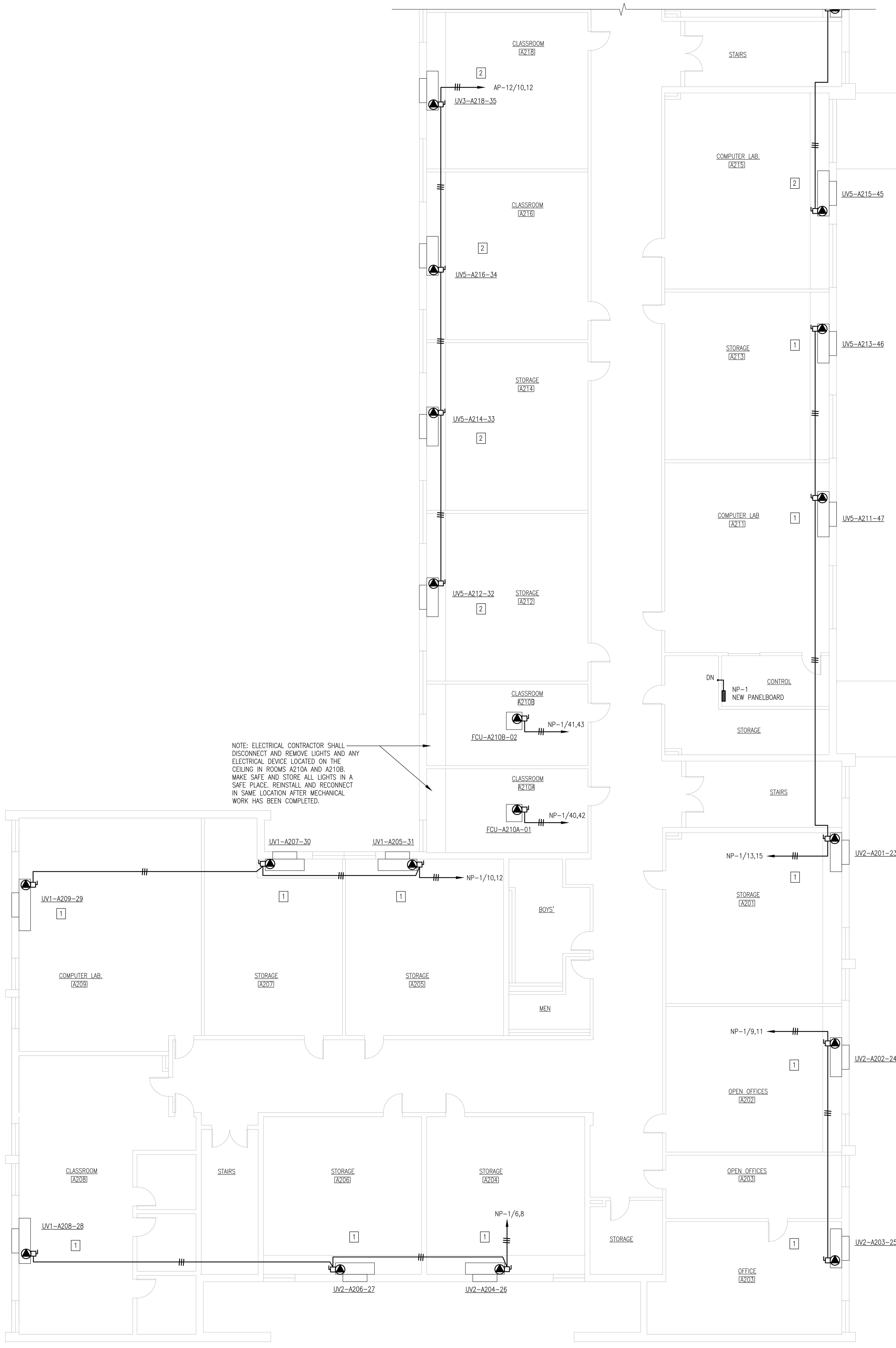
TITLE
1st FLOOR PLAN
SECTION A
ELECTRICAL
NEW WORK

DATE 11/01/2018

DWG. NO.
E1.1A

REVISIONS

MATCHLINE – A



2nd FLOOR PLAN SECTION "A"

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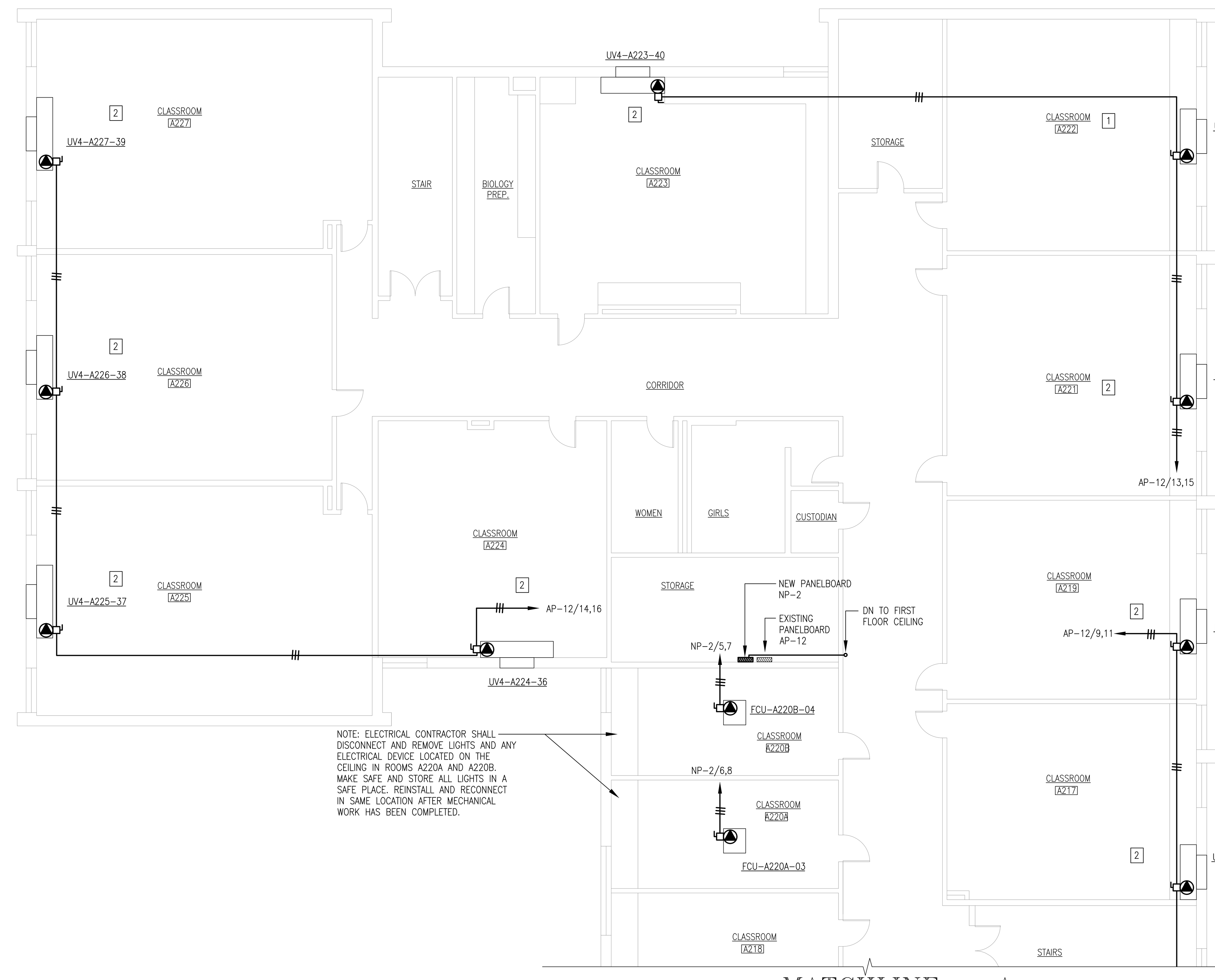


MATCHLINE – A

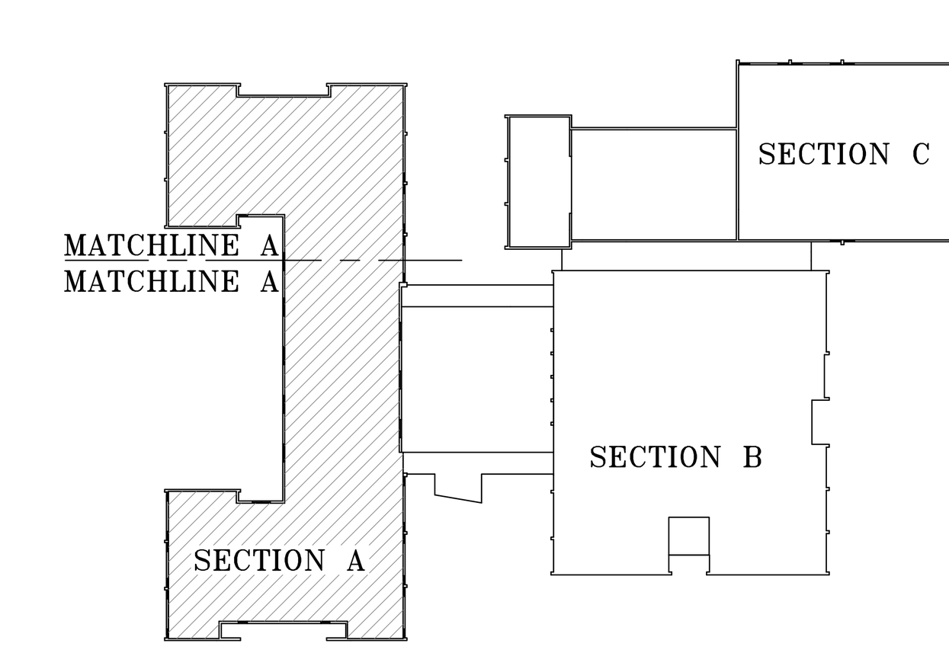
2nd FLOOR PLAN SECTION "A"(CONT.)

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

NOTE:

1. REFER TO MECHANICAL DRAWINGS M3.1 AND M3.2 FOR VARIABLE REFRIGERANT VOLUME SYSTEM WIRING DIAGRAMS.

2. WIRING TO UNIT VENTILATORS SHALL FOLLOW HVAC PIPING DOWN CHASE TO UNITS. (TYPICAL).



KEY PLAN

NO SCALE

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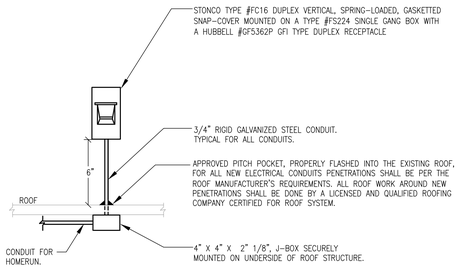
TITLE

2nd FLOOR PLAN SECTION A ELECTRICAL NEW WORK

DATE 11/01/2018

DWG. NO. E1.2A



ROOF MOUNTED RECEPTACLE DETAIL

SCALE: NOT TO SCALE

MATCHLINE – A

EX-AF-6

EX-AF-5

ACCU-VRV-05

REFER TO DETAIL THIS DRAWING FOR ROOF MOUNTED RECEPTACLE

NP-1/35,37,39

NP-1/29,31,33

GFCI WP

EX-AF-4

ACCU-A210B-02

NP-1/45

NP-1/30,32

ACCU-A210A-01

NP-1/26,28

EX-AF-3

REFER TO DETAIL THIS DRAWING FOR ROOF MOUNTED RECEPTACLE

GFCI WP

ACCU-VRV-01

ACCU-VRV-02

ACCU-AHU-01

NP-1/34,36,38

NP-1/23,25,27

NP-1/14,16,18

NP-1/20,22,24

NP-1/17,19,21

EX-AF-1

EX-AF-2

ROOF PLAN SECTION "A"

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

AP-12/24,26,28

CONNECT TO IU-A117-01 ON FIRST FLOOR LOCATED IN ROOM A117

ACCU-A117-01

AP-12/17,19

ACCU-VRV- 03

ACCU-VRV-04

AP-12/18,20,22

AP-12/30,32,34

NP-2/10,12,14

NP-2/9,11,13

GFCI WP

EX-EF-10

EX-AF-9

EX-AF-8

EX-AF-7

ACCU-A220B-04

NP-2/1,3

REFER TO DETAIL THIS DRAWING FOR ROOF MOUNTED RECEPTACLE

GFCI WP

ACCU-A220A-03

NP-2/15

NP-2/2,4

MATCHLINE – A

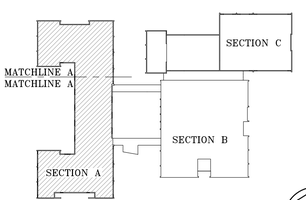
ROOF PLAN SECTION "A"(CONT.)

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

NOTE:

1. REFER TO MECHANICAL DRAWINGS M3.1 AND M3.2 FOR VARIABLE REFRIGERANT VOLUME SYSTEM WIRING DIAGRAMS.

2. WIRING TO UNIT VENTILATORS SHALL FOLLOW HVAC PIPING DOWN CHASE TO UNITS. (TYPICAL).



KEY PLAN
NO SCALE

NORTH

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TITLE
ROOF PLAN
SECTION A
ELECTRICAL
NEW WORK

DATE 11/01/2018

DWG. NO.
E1.3A

REVISIONS

GIDEON WELLES SCHOOL
NEW AIR CONDITIONING SYSTEM
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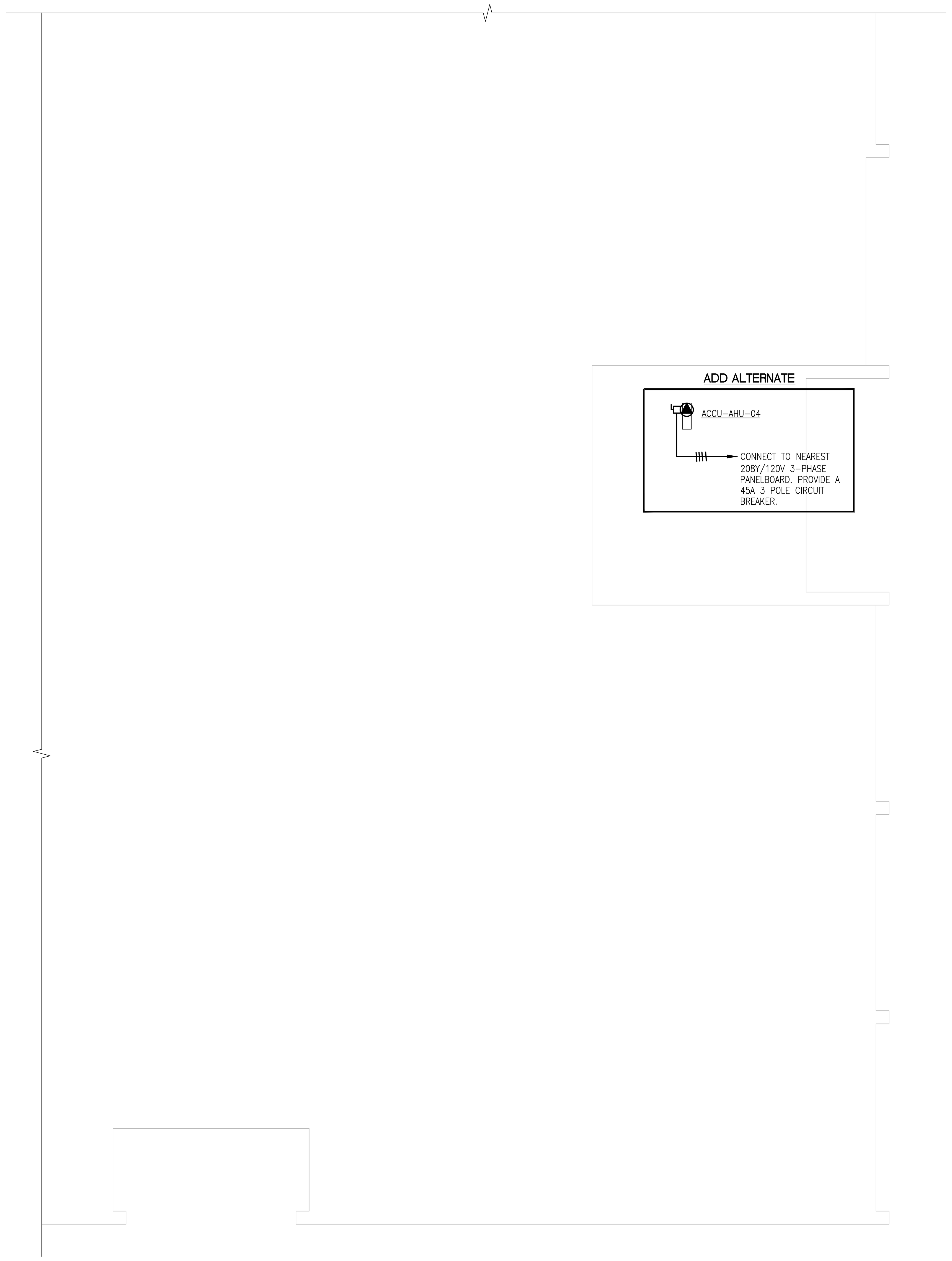
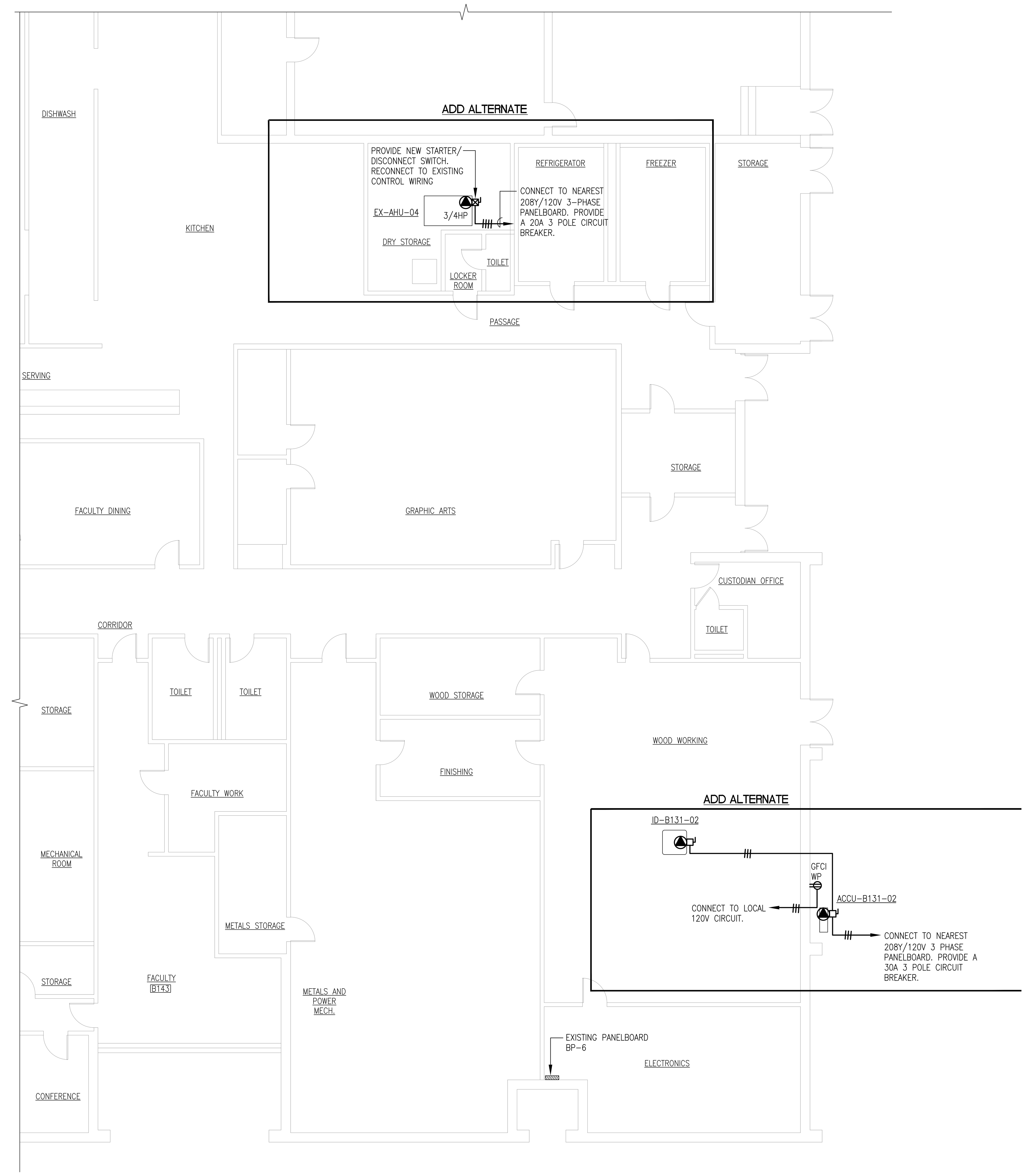


ROOF PLAN SECTION "B"
SCALE: 1/8"=1'-0"

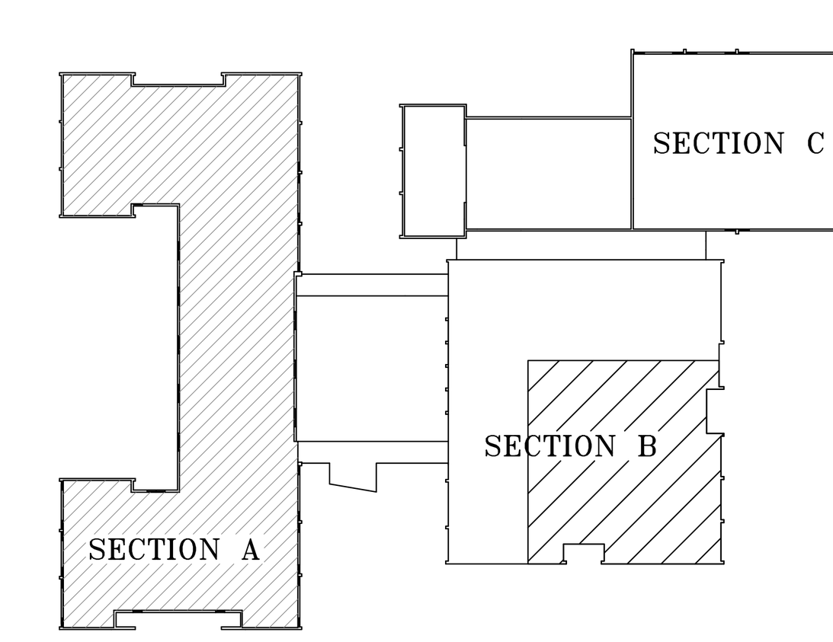


1st FLOOR PLAN SECTION "B"
SCALE: 1/8"=1'-0"

NOTE:

1. REFER TO MECHANICAL DRAWINGS M3.1 AND M3.2 FOR VARIABLE REFRIGERANT VOLUME SYSTEM WIRING DIAGRAMS.

2. WIRING TO UNIT VENTILATORS SHALL FOLLOW HVAC PIPING DOWN CHASE TO UNITS. (TYPICAL).



KEY PLAN
NO SCALE

NORTH

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TITLE
1st FLOOR AND ROOF PLAN SECTION B ELECTRICAL NEW WORK

DATE 11/01/2018

DWG. NO.
E1.1B