BLIND BROOK - RYE UNION FREE SCHOOL DISTRICT

DISTRICT ADMINISTRATION OFFICES

390 NORTH RIDGE STREET, RYE BROOK, NY 10573

2024 BOND IMPROVEMENTS

 AT

HVAC IMPROVEMENTS BLIND BROOK RYE MIDDLE/HIGH SCHOOL

840 KING STREET RYE BROOK, NY 10573 SED No.: **66-19-05-02-0-002-019**

LIST of DRAWINGS

BLIND BROOK HIGH SCHOOL

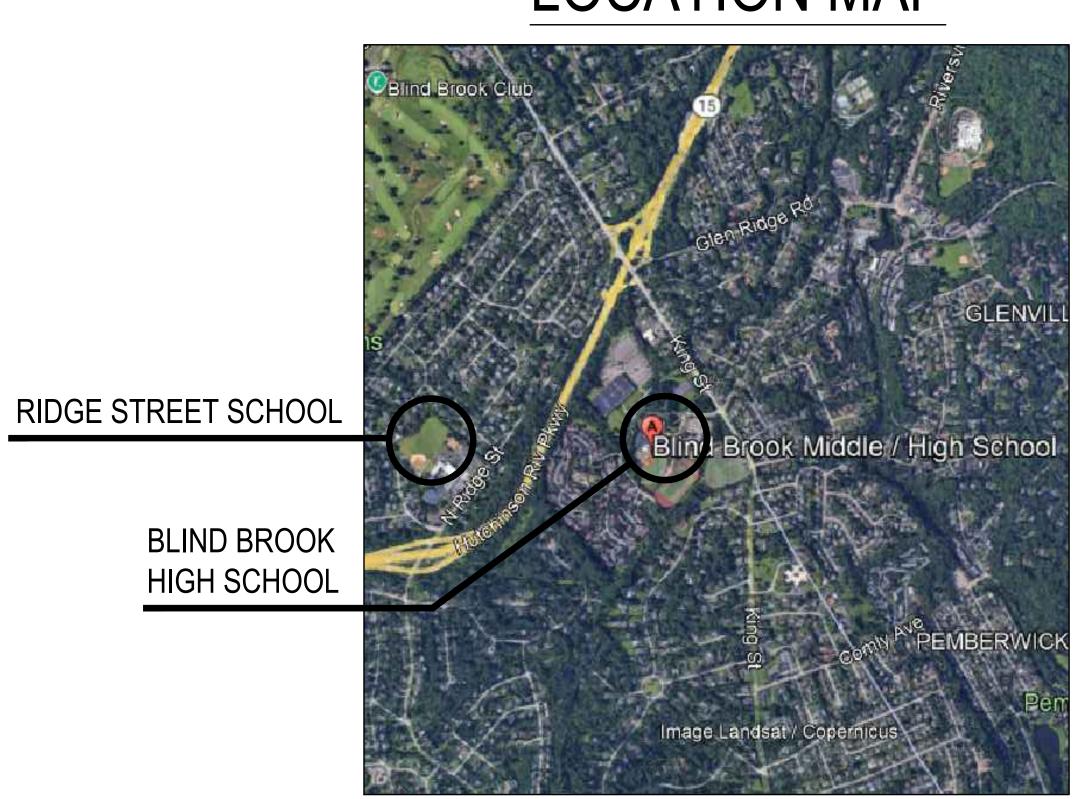
MECHANICAL

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ELECTRICAL

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LOCATION MAP



MAP DATA © GOOGL

B ARCHITECTS LANDSCAPE ARCHITECTS ENGINEERS

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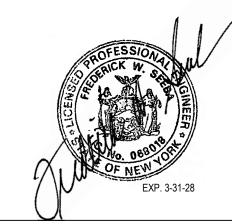
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ARCHITECTS CERTIFICATION
THE UNDERSIGNED CERTIFIES THAT TO THE BEST OF HIS KNOWLEDGE, INFORMATION, AND BELIEF, THE PLANS AND SPECIFICATIONS ARE IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE, THE NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE, AND THE CONSTRUCTION STANDARDS OF THE EDUCATION DEPARTMENT.





BBS FILE No. 24-353 BID SET: JULY 7, 2025



GENERAL NOTES

- REMOVAL & RELOCATION OF CERTAIN EXISTING WORK SHALL BE NECESSARY FOR THE PERFORMANCE OF THE NEW WORK SHOWN HEREIN. ALL EXISTING CONDITIONS ARE NOT COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE & MAKE ALL NECESSARY CHANGES BASED ON EXISTING CONDITIONS AS REQUIRED FOR PROPER DEMOLITION OF EXISTING WORK & SHALL INCLUDE ALL MATERIALS & LABOR FOR SAME IN HIS BID PRICE. NO ALLOWANCE WILL BE MADE FOR FAILURE TO DO SO.
- PRIOR TO SUBMITTING A BID. THE CONTRACTOR SHALL VISIT THE PREMISES OF THE PROPOSED WORK & SHALL CAREFULLY EXAMINE THE ENGINEERING DRAWINGS. EXISTING CONDITIONS & LIMITATIONS THEREOF. VERIFY ACTUAL LOCATIONS WHERE THE NEW PIPING WILL BE ROUTED, COORDINATE WITH NEW & EXISTING WORK & PROVIDE CLEARANCE W/ BUILDING STRUCTURE, OTHER SERVICES, ETC.. THE CONTRACTOR SHALL INCLUDE ALL COSTS WHATSOEVER WHICH ARE INCURRED AS A RESULT OF LIMITATIONS OF THE EXISTING & NEW CONDITIONS. LATER CLAIMS FOR EXTRA LABOR, EQUIPMENT, MATERIALS, ETC. REQUIRED DUE TO DIFFICULTIES WHICH COULD HAVE BEEN FORESEEN WILL NOT BE CONSIDERED AS EXTRA WORK.
- INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATING, MAINTENANCE & REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES OF MAGNITUDE WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT
- INVESTIGATE EACH SPACE THROUGH WHICH EQUIPMENT MUST BE MOVED. WHEN NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM MANUFACTURER IN CRATED SECTIONS OF SIZE SUITABLE FOR MOVING THROUGH AREAS AVAILABLE. ASCERTAIN FROM BUILDING OWNER AT WHAT TIMES OF DAY EQUIPMENT MAY BE MOVED THROUGH
- COORDINATE THE EXACT SIZE & LOCATION OF NEW OPENINGS WITH EXISTING STRUCTURE. PATCH / INSULATE AS REQUIRED. CONTRACTOR SHALL FIRESTOP ALI PENETRATIONS FROM NEW PIPING, CONDUIT, DUCTWORK, ETC. THROUGH EXISTING OR NEW FIRE/ SMOKE BARRIERS. REFER TO SPECIFICATION SECTION 230680 FOR FURTHER
- IT IS THE INTENT OF THIS CONTRACT FOR REMAINING SYSTEMS TO BE LEFT IN GOOD WORKING ORDER, READY FOR OPERATION. COORDINATE ANY REQUIRED SYSTEM SHUTDOWNS WITH OWNER 48 HOURS IN ADVANCE. EXISTING SYSTEM SHUTDOWNS WILL NOT BE PERMITTED IF THEY INTERFERE WITH THE DAILY OPERATIONS OF THE BUILDING. CONTRACTOR WILL BE REQUIRED TO TAKE PROPER PRECAUTIONS AGAINST DAMAGING OR DISRUPTING BUILDING SYSTEMS, WIRING, PIPING OR CONTROL TUBING. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED AT THE CONTRACTOR'S COST AS A PART OF THIS CONTRACT.
- THE CONTRACTOR SHALL REPAIR / RESTORE TO ORIGINAL CONDITION ANY EXISTING EQUIPMENT OR MATERIALS DAMAGED IN THE PROCESS OF INSTALLATION, OR DEMOLITION TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL MAKE REPAIRS USING THE SAME OR EQUIVALENT MATERIALS. WORK WILL BE PERFORMED AT THE CONTRACTOR'S COST.
- CONTRACTOR SHALL INCUR ANY COSTS OR BURDENS ASSOCIATED WITH LOST OR STOLEN EQUIPMENT / MATERIALS.
- DURING THE LIFE OF THE CONTRACT PERIOD, CONTRACTOR SHALL REMOVE ALL RUBBISH / EXCESS MATERIAL ACCUMULATED AS A RESULT OF HIS OPERATIONS ON A DAILY BASIS. ALL AREAS / EQUIPMENT AFFECTED UNDER THIS CONTRACT SHALL BE KEPT CLEAN OF DUST / DEBRIS. ALL AREAS SHALL RECEIVE A FINAL CLEANING PRIOR TO FINAL ACCEPTANCE BY THE OWNER.
- PROVIDE FOR LEGAL REMOVAL / DISPOSAL OF ALL RUBBISH / DEBRIS FROM THE

THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES PRIOR TO

SCHEDULING THE WORK. WORK SHALL BE PERFORMED IN PROPER SEQUENCE. AS

AGREED TO BY ALL TRADES. ANY COSTS INCURRED BY THE OWNER DUE TO IMPROPER

- BUILDING & SITE. PROTECT ALL WORK NOT SLATED FOR DEMOLITION.
- SEQUENCING OF WORK WILL BE PAID FOR BY THIS CONTRACTOR. CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY ALL FEES, CONNECTION CHARGES, ETC.
- ASSOCIATED WITH THE WORK UNDER THEIR CONTRACT. PAINT / TOUCH UP ALL SURFACES MARRED AS A RESULT OF THE PERFORMANCE OF

THE CONTRACT WORK.

- THE MECHANICAL CONTRACTOR SHALL REFER TO / REVIEW ALL OTHER TRADE DRAWINGS IN THE BID PACKAGE & SHALL BE RESPONSIBLE FOR / PERFORM ALL WORK INDICATED AS (M.C.) MECHANICAL WORK AS A PART OF THE BASE BID UNLESS
- SPECIFICALLY NOTED OTHERWISE. SUBSTITUTED EQUIPMENT OF GREATER OR LARGER POWER, DIMENSIONS, CAPACITIES & RATINGS MAY BE FURNISHED PROVIDED THAT SAID EQUIPMENT IS APPROVED IN WRITING PRIOR TO ORDER. ANY CONNECTING MECHANICAL SERVICES, ELECTRICAL SERVICES, BASES, STRUCTURAL APPURTENANCES, ETC. REQUIRED TO BE INCREASED

DUE TO THE USE OF SAID EQUIPMENT WILL BE PAID FOR IN FULL BY THE MECHANICAL

EACH PIECE OF EQUIPMENT SHALL BE PROVIDED WITH A PERMANENT TYPE LAMINATED, BLACK FINISH, WHITE CORE, PHENOLIC NAMEPLATE. NAMEPLATES SHOULD INDICATE THE NAME & NUMBER OF THE UNIT, UNIT VOLTAGE, & ANY INTERLOCK REFERENCE. STARTERS / DISCONNECT SWITCHES SHOULD ALSO BE EQUIPPED WITH AN IDENTICAL NAMEPLATE WITH THE SAME INFORMATION.

CONTRACTOR, INCLUDING ANY ADDITIONAL REQUIRED ENGINEERING FEES.

- "ATTIC STOCK" UPON COMPLETION OF THE PROJECT, MECHANICAL CONTRACTOR SHALL COMPLETELY REMOVE / DISPOSE OF FILTERS USED DURING CONSTRUCTION & START-UP PROCEDURES. INSTALL NEW FILTERS IN ALL EQUIPMENT, MERV-13 OR BETTER UPON TURN OVER OF THE PROJECT TO THE OWNER. IN ADDITION, PROVIDE (2) COMPLETE SETS OF FILTERS FOR EACH PIECE OF EQUIPMENT & TURN OVER TO
- MECHANICAL CONTRACTOR SHALL PROVIDE (1) SPARE MOTOR FOR EACH SIZE MOTOR USED ON THE PROJECT. IN INSTANCES WHERE MORE THAN TEN OF THE SAME MOTOR ARE USED, MECHANICAL CONTRACTOR SHALL PROVIDE (1) SPARE MOTOR FOR EVERY TEN MOTORS OF A GIVEN SIZE USED ON THE PROJECT.
- MAINTENANCE MANUAL: UPON COMPLETION OF THE PROJECT, THE MECHANICAL CONTRACTOR SHALL PROVIDE A BINDER CONTAINING THE OPERATIONS & MAINTENANCE MANUALS FOR EACH NEW PIECE OF EQUIPMENT INSTALLED UNDER THIS PROJECT. THE FIRST SECTION OF THE MAINTENANCE MANUAL SHALL CONTAIN A LIST OF EACH PIECE OF EQUIPMENT, COMPLETE WITH INFORMATION SHOWING APPROPRIATE REPLACEMENT FILTER SIZES / TYPES, APPROPRIATE REPLACEMENT BELT SPECIFICATIONS, REPLACEMENT MOTOR SPECIFICATIONS, REPLACEMENT BEARING SPECIFICATIONS, VOLTAGES OF UNIT, ETC. THIS SHALL SERVE AS A WRITTEN DATABASE DESCRIBING ALL MAINTENANCE INFORMATION FOR EACH NEW PIECE OF EQUIPMENT USED.
- WHERE THE INSTALLATION OF MECHANICAL SYSTEMS REQUIRES REMOVAL MODIFICATIONS TO EXISTING CEILINGS, MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE MODIFICATION / REMOVAL / REINSTALLATION OF CEILING MATERIALS AS A PART OF THEIR CONTRACT UNLESS SPECIFICALLY NOTED OTHERWISE. WORK TO INCLUDE RE-FRAMING GRIDS / CUTTING PLASTER OR SHEET ROCK CEILINGS WHEN REQUIRED FOR EQUIPMENT INSTALLATION. UPON COMPLETION OF ALL WORK, BUILDING CEILINGS SHALL BE RETURNED TO ORIGINAL OR BETTER THAN ORIGINAL CONDITION. MECHANICAL CONTRACTOR WILL BE RESPONSIBLE FOR THE DOCUMENTATION OF EXISTING CONDITIONS PRIOR TO THE START OF WORK.
- THERMOSTAT OR SENSOR LOCATIONS NOT SHOWN ON THE DRAWINGS SHALL BE SUBJECT TO APPROVAL BY THE ARCHITECT/ENGINEER.
- PROTECT/REMOVE ALL EXISTING SENSORS, WIRING OR PNEUMATICS THAT ARE TO REMAIN AND BE REUSED. REINSTALL ONCE FIELD CONDITIONS ALLOW. RELOCATE SENSORS AND EXTEND EXISTING WIRING, OR PNEUMATICS TO NEW LOCATION IF THE EXISTING LOCATION IS NOT SUITABLE FOR REINSTALLATION OF SENSOR.
- UNITS THAT PROVIDE OUTDOOR AIR AND HAVE STEAM OR HOT WATER COILS SHALL BE PROVIDED WITH A FREEZE STAT AND TIED INTO THE BMS. IF NO BMS EXISTS THEN TIE INTO EQUIPMENT STARTER. WHEN THE FREEZE STAT TRIPS THE EXHAUST AIR AND OUTDOOR DAMPERS SHALL CLOSE RETURN AIR DAMPER SHALL OPEN AND THE HEATING VALVE SHALL

ELECTRICAL WORK & TEMPERATURE CONTROL WIRING UNDER MECHANICAL CONTRACT

- MECHANICAL CONTRACTOR SHALL PROVIDE ALL STARTERS & DISCONNECT SWITCHES REQUIRED FOR ALL NEW MECHANICAL EQUIPMENT. STARTER / DISCONNECT SWITCH INSTALLATION TO BE PERFORMED UNDER THE ELECTRICAL CONTRACT. COORDINATE WORK W/ ELECTRICAL CONTRACTOR PRIOR TO START OF WORK. ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR POWER WIRING FROM DISCONNECT SWITCH TO MOTOR STARTERS & TO ALL EQUIPMENT LINE VOLTAGE LOADS.
- POWER WIRING REQUIRED FOR CONTROLS SHALL BE PERFORMED UNDER THE MECHANICAL CONTRACT UNLESS SPECIFICALLY NOTED OTHERWISE ON THE ELECTRICAL DRAWINGS. MECHANICAL CONTRACTOR SHALL OBTAIN THE SERVICES OF A LICENSED ELECTRICIAN (PER NEC REQUIREMENTS) TO PERFORM ANY & ALL ELECTRICAL WORK.

FIRESTOPPING NOTES

- ALL PENETRATIONS RELATED TO MECHANICAL WORK THROUGH FIRE RATED WALLS FLOORS OR OTHER STRUCTURES SHALL BE FIRE STOPPED AS REQUIRED TO MAINTAIN THE RATING OF THE WALL BY MECHANICAL CONTRACTOR. IT IS ASSUMED THAT ALL WALLS IN THE CONSTRUCTION CARRY A MINIMUM FIRE RATING OF 1 HR. IT SHOULD BE ASSUMED THAT ALL MACHINE ROOM WALLS / BOILER ROOM WALLS / ELECTRIC ROOM WALLS CARRY A RATING OF 2 HR. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR A COMPLETE REVIEW OF THE ARCHITECTURAL DRAWINGS IN ORDER TO DETERMINE FIRE RATINGS OF ALL WALLS / PARTITIONS RELATED TO WORK UNDER THIS
- MECHANICAL CONTRACTOR SHALL REVIEW THE COMPLETE ARCHITECTURAL SET OF DRAWINGS IN ORDER TO DETERMINE WHERE DUCT PENETRATIONS THROUGH RATED BARRIERS. DUCTS PENETRATING SAID RATED BARRIERS SHALL BE EQUIPPED WITH A UL LISTED FUSIBLE LINK TYPE FIRE DAMPER. RATED FOR SERVICE FOR WHICH IT IS BEING USED. FIRE DAMPERS SHALL BE PROVIDED & INSTALLED BY THE MECHANICAL CONTRACTOR, COMPLETE W/ DUCT ACCESS DOORS DIRECTLY ADJACENT TO THE DAMPER, POSITIONED FOR EASY REPLACEMENT OF THE LINK.
- MECHANICAL CONTRACTOR SHALL REVIEW THE COMPLETE ARCHITECTURAL SET OF DRAWINGS IN ORDER TO DETERMINE WHERE DUCT PENETRATIONS THROUGH RATED BARRIERS OCCUR BETWEEN SEPARATE SMOKE ZONES. DUCTS PENETRATING SAID FIRE / SMOKE BARRIERS SHALL BE EQUIPPED WITH A UL LISTED COMBINATION FIRE / SMOKE DAMPER, RATED FOR SERVICE FOR WHICH IT IS BEING USED. FIRE / SMOKE DAMPERS SHALL BE PROVIDED & INSTALLED BY THE MECHANICAL CONTRACTOR, COMPLETE W/ DUCT ACCESS DOORS DIRECTLY ADJACENT TO THE DAMPER. DAMPER ACTUATOR & RELATED WIRING SHALL BE PROVIDED & INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE DAMPER INSTALLATIONS W/ E.C. TO VERIFY PROPER CLEARANCES TO ASSURE PROPER DAMPER OPERATION.
- MECHANICAL CONTRACTOR SHALL PROVIDE A FULL SET OF AS-BUILT DRAWINGS, SHOWING EACH DAMPER LOCATION, TYPE OF DAMPER, ACCESS DOOR LOCATIONS, ETC
- CONTRACTOR SHALL REFER TO SPECIFICATION SECTION 230680 FOR FURTHER DETAILS REGARDING FIRESTOPPING MATERIALS & METHODS.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PRODUCTS TO BE USED. FIRESTOP MATERIALS OTHER THAN THE PRODUCTS SPECIFIED SHALL INCLUDE FULL TECHNICAL DATA WITH SHOP DRAWINGS TO DEMONSTRATE EQUALITY WITH THE SPECIFIED FIRESTOPPING MATERIALS.

GENERAL INSTRUMENTATION NOTES

- AT A MINIMUM, PROVIDE THERMOMETERS / WELLS AT THE FOLLOWING LOCATIONS:
- AT INLETS & OUTLET OF EACH THREE WAY VALVE (UNIT VENTILATORS / CABINET UNIT HEATER INSTALLATIONS EXCEPTED).
- AT INLET & OUTLET OF EACH HYDRONIC BOILER, CHILLER OR COOLING TOWER. AT INLET & OUTLET OF EACH HYDRONIC COIL IN AIR HANDLING UNITS & BUILT-UP CENTRA
- THERMOMETERS SHALL HAVE 9" SCALE W/ THE ABILITY TO ANGLE THE UNIT FOR BETTER

THERMOMETERS TO BE "WINTERS" #TIM SERIES OR EQUAL, DUAL SCALE / LEAD FREE BRASS THERMOWELL.

- AT A MINIMUM, PROVIDE LIQUID FILLED PRESSURE GAUGES / WELLS AT THE FOLLOWING
- AT SUCTION & DISCHARGE OF EACH PUMP.
- FOR EACH MAKEUP WATER LINE. BEFORE & AFTER ALL PRESSURE REDUCING VALVES.
- AT ACCESSIBLE HIGH POINT OF ALL HYDRONIC PIPING SYSTEMS. AT ALL EXPANSION / COMPRESSION TANKS.

PRESSURE GAUGES SHALL BE FULL STAINLESS STEEL / LIQUID FILLED & SHALL BE 4" DIA. MINIMUM, W/ PRESSURE SNUBBER ("WINTERS" #PFQ SERIES OR EQUAL). PROVIDE GAUGES W PRESSURE RANGES APPROPRIATE FOR ACCURATE MEASUREMENT / READING OF THE GAUGE

EQUIPMENT VENTING NOTES

- MECHANICAL CONTRACTOR WILL BE RESPONSIBLE FOR THE PROPER VENTING OF ALL NEWLY INSTALLED HYDRONIC PIPING SYSTEMS. AUTOMATIC AIR VENTS SHALL BE INSTALLED AT EVERY HIGH POINT IN THE PIPING SYSTEM WHERE AIR CAN COLLECT. PROVIDE COCK IN RISER PRIOR TO AUTOMATIC AIR VENT. NEW AIR VENTS SHALL BE "TACO" #HY-VENT OR EQUIVALENT.
- MECHANICAL CONTRACTOR SHALL PROVIDE & INSTALL NEW AUTOMATIC AIR VENT FOR EACH AIR HANDLING UNIT COIL OR DUCT MOUNTED COIL. INSTALL SHUT-OFF COCK PRIOR TO VENT TIE-IN.
- MECHANICAL CONTRACTOR SHALL PROVIDE NEW MANUAL AIR VENTS FOR ALL UNIT VENTILATOR COILS, CONVECTORS, FAN COIL UNITS, FIN TUBE RADIATORS, ETC MANUAL VENTS SHALL BE "TACO" #417 COIN VENT OR EQUIVALENT. PROVIDE SHUT-OFF COCK PRIOR TO VENT. AIM COIN VENT DISCHARGE IN AN APPROPRIATE MANNER AS TO FACILITATE THE CAPTURE OF BLEED WATER WHILE PERFORMING SYSTEM BLEEDING OPERATIONS.

DUCTWORK NOTES

- PROVIDE ALL NEW DUCTWORK AS SHOWN AND SPECIFIED UNDER SPECIFICATION SECTION 233113, AND IN CONFORMANCE WITH 'SMACNA' SPECIFICATIONS.
- IF A DUCT ELBOW IS SHOWN TO BE RADIUSED, THEN RADIUSED ELBOWS SHALL BE INSTALLED. SQUARE ELBOWS MAY NOT BE SUBSTITUTED WHERE RADIUSED ELBOWS ARE SHOWN. WHERE SQUARE ELBOWS ARE SHOWN, TURNING VANES SHALL BE INSTALLED UPON APPROVAL BY THE ENGINEER.
- PROVIDE DUCT LINING IN ALL DUCTWORK THAT IS CONVEYING BELOW AMBIENT TEMPERATURE AIR & IS NOT INSULATED. PROVIDE LINING IN SUPPLY & RETURN AIR DUCTWORK FROM AIR HANDLING EQUIPMENT TO 20 FEET AWAY FROM THE UNIT(S). IN ADDITION, INCLUDE LINING IN ANY OTHER DUCT SPECIFICALLY SHOWN OR SPECIFIED TO BE EQUIPPED WITH LINING. REFER TO SPECIFICATION SECTION 233113 & 230713 FOR FURTHER INFORMATION.
- WHERE FLEXIBLE DUCTWORK IS USED, LENGTHS MAY NOT EXCEED 4 FEET TOTAL IN ANY ONE RUN OF FLEXIBLE DUCTWORK. FLEXIBLE DUCTWORK SHALL BE RATED IN ACCORDANCE WITH UL 181, CLASS 1. REFER TO SPECIFICATION SECTION 233113 FOR FURTHER INFORMATION.
- MECHANICAL CONTRACTOR SHALL PROVIDE A BUTTERFLY TYPE VOLUME DAMPER WITH LOCKING QUADRANT HANDLE PRIOR TO EACH AIR OUTLET SHOWN. INSTALL DAMPER AT LEAST 5 FEET AWAY FROM AIR OUTLET WHEREVER POSSIBLE.
- MECHANICAL CONTRACTOR SHALL PROVIDE FLEXIBLE DUCT CONNECTIONS WHERE DUCT SYSTEMS CONNECT TO EQUIPMENT. REFER TO SPECIFICATION SECTION 233113 FOR FURTHER INFORMATION.
- ALL DUCTWORK DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS UNLESS OTHERWISE NOTED.

TESTING and BALANCING NOTES

- MECHANICAL CONTRACTOR WILL BE REQUIRED TO PERFORM ALL EQUIPMENT 8 SYSTEM TESTING / BALANCING REQUIRED UNDER THIS CONTRACT. PROVIDE A FULL REPORT DETAILING ALL DESIGN & ACTUAL CONDITIONS FOR ALL AIR & HYDRONIC SYSTEMS SHOWN ON THE DRAWINGS. REFER TO SPECIFICATION SECTIONS 230593 & 230580 FOR FURTHER DETAILS.
- UPON NOTICE OF COMPLETION OF WORK BY THE CONTRACTOR, OWNER WILL OBTAIN THE SERVICES OF AN INDEPENDENT TESTING & BALANCING CONTRACTOR TO VERIF THE RESULTS OF THE TESTING & BALANCING REPORT SUBMISSION. INDEPENDENT TESTING AGENCY SHALL SELECT A RANDOM NUMBER OF MEASUREMENTS TO BE CHECKED. MEASUREMENTS WILL BE CHECKED IN THE SAME MANNER AS ORIGINALLY MEASURED. NUMBER OF VERIFICATION MEASUREMENTS SHALL BE APPROXIMATELY 25% OF THE TOTAL MEASUREMENTS FOR THE PROJECT.
- IF MORE THAN 10% OF THE VERIFICATION TESTING SHOWS DEVIATIONS OF 10% OR MORE / SOUND LEVEL OF 2dB DIFFERENT THAN THAT ORIGINALLY MEASURED, THE ORIGINAL REPORT WILL BE REJECTED. ALL SYSTEMS WILL THEN BE REQUIRED TO BE COMPLETELY RE-TESTED, WITH A SECOND REPORT SUBMITTED. IN THE EVENT THAT THE ORIGINAL REPORT IS REJECTED, ALL SYSTEMS SHALL BE READJUSTED & TESTED NEW CERTIFIED REPORTS SUBMITTED, AND NEW VERIFICATION TESTS MADE, AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS INVOLVED WITH THE VERIFICATION TESTS.

BOILER ROOM and PIPING NOTES

- THE DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL PIPING & EQUIPMENT, & INDICATE THE REQUIRED SIZE / POINTS OF TERMINATION OF THE PIPING & SUGGEST PROPER ROUTING OF SAME. IT IS NOT THE INTENTION OF THE DRAWINGS TO SHOW ALL NECESSARY OFFSETS, RISES, DROPS, OBSTRUCTIONS OR STRUCTURAL CONDITIONS. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO INSTALL HIS WORK IN SUCH A MANNER THAT IT WILL CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM & KEEP OPENINGS / PASSAGEWAYS CLEAR WITHOUT FURTHER CONSTRUCTION OR COST.
- ALL FLOOR MOUNTED BOILER ROOM EQUIPMENT SHALL BE INSTALLED ON A LEVEL REINFORCED CONCRETE HOUSEKEEPING PAD, 4" THICK MIN. UNLESS OTHERWISE NOTED. ALL HOUSEKEEPING PADS SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR. PADS SHALL BE REINFORCED W/ WELDED WIRE MESH & SHALL BE POURED USING 3.000 PSI CONCRETE.
- MECHANICAL CONTRACTOR SHALL PROVIDE & INSTALL ALL REQUIRED STRUCTURAL SUPPORTS FOR ALL PIPING SYSTEMS & EQUIPMENT AS REQUIRED. PIPING SYSTEMS SHALL BE EQUIPPED WITH EXPANSION COMPENSATORS AT THE INTERVALS REQUIRED. PROVIDE PIPING GUIDES / ANCHORS AS REQUIRED.
- MECHANICAL CONTRACTOR SHALL PROPERLY INSULATE ALL NEW PIPING SYSTEMS & EQUIPMENT. REFER TO SPECIFICATION SECTION 230700 FOR FURTHER DETAILS REGARDING INSULATION REQUIREMENTS. UPON COMPLETION OF INSULATION WORK, MECHANICAL CONTRACTOR SHALL PROPERLY LABEL EACH PIPING RUN SHOWING THE TYPE OF FLUID CARRIED & DIRECTION OF FLOW. PIPE IDENTIFICATION MARKERS SHALL BE INSTALLED EVERY 20 FEET IN THE PIPING RUNS.
- ALL VALVES WITHIN PIPING SYSTEMS SHALL BE TAGGED USING A 1-1/2" DIA. BRASS TAG. PROVIDE A LEGEND LISTING VALVE #, TYPE OF VALVE, SERVICE TYPE, & LOCATION OF VALVE. KEY VALVE #'S TO AS-BUILT DRAWINGS UPON COMPLETION OF PROJECT.
- MECHANICAL CONTRACTOR SHALL SUBMIT (3) SETS OF OPERATING MANUALS FOR EACH PIECE / TYPE OF MECHANICAL EQUIPMENT.
- MECHANICAL CONTRACTOR SHALL PROVIDE & INSTALL ALL WIRING & DEVICES AS REQUIRED TO CONTROL THE BOILER ROOM EQUIPMENT AS DESCRIBED IN THE SEQUENCE OF OPERATIONS LISTED IN THE PROJECT MANUAL. REFER TO SPECIFICATION SECTION 230900 FOR FURTHER DETAILS.

ABBREVIATIONS FSD FIRE / SMOKE DAMPER - DUCT MOUNTED PREFAB........PREFABRICATED

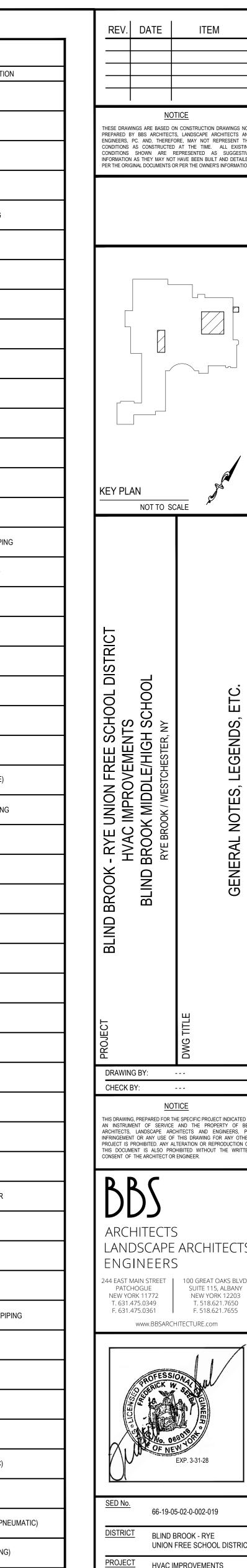
MECHANICAL SYMBOL LEGEND			
SYMBOL	DESCRIPTION		
24x12 / 20"~	RECTANGULAR GALVANIZED DUCTWORK - DIMENSIONS 'W' x 'H'		
	NEW SUPPLY DUCTWORK TO RISE UP		
	NEW SUPPLY DUCTWORK TO DROP DOWN		
	NEW RETURN DUCTWORK TO RISE UP		
	NEW RETURN DUCTWORK TO DROP DOWN		
	TRANSITION IN DUCTWORK		
FD FD	FIRE DAMPER INSTALLED IN DUCTWORK		
	VOLUME DAMPER IN DUCT (w/ LOCKING QUADRANT HANDLE)		
	ROUND DUCTWORK TO RISE UP		
	ROUND DUCTWORK TO DROP DOWN		
42x18 FO	FLAT OVAL DUCT WORK		
	RECTANGULAR TO ROUND DUCT TRANSITION		
Za Junio	ELBOW IN DUCTWORK w/ TURNING VANES		
***	ELBOW IN DUCTWORK (RADIUS + 1.5 x D)		
	45 DEG. TAKEOFF FITTING		
	90 DEG. TAKEOFF w/ BELLMOUTH FITTING		
	FLEXIBLE DUCTWORK TO DIFFUSER (4 FT. MAX. RUN)		
	4-WAY PATTERN CEILING DIFFUSER		
	3-WAY PATTERN CEILING DIFFUSER		
	2-WAY PATTERN CEILING DIFFUSER (90 DEG. / OPPOSING PATTERN)		
	CEILING RETURN AIR REGISTER		
	LINEAR SLOT DIFFUSER		
	ROOF MOUNTED EXHAUST FAN		
ROOFTOP UNIT A	ANCHORING		

	CEILING RETURN AIR REGISTER			
	LINEAR SLOT DIFFUSER			
ROOF MOUNTED EXHAUST FAN				
ROOFTOP UNIT A	NCHORING			
BASED ON 140 MPH WIND (50 PSF)) AND 200 LB SHEAR AND PULL-OUT FOR FASTENERS.			
F _R = MINIMUM QUANTITY OF FAY WITH THE MANUFACTUREF F _S = MINIMUM QUANTITY OF ½" HALL BE 12GA. x 1½" ALUMI FASTENERS SHALL BE: UNIT TO CURB/RAIL - ½" DIA. SI CURB/RAIL TO METAL DECK - ½ CURB/RAIL TO CONCRETE - ½"	DIA. SHEET SCREWS PER STRAP ANCHOR POINT. STRAPS INUM. HEET METAL SCREWS 4" DIA. SHEET METAL SCREWS 1 DIA. TAPCONS			
CURB/RAIL TO TECTUM DECK	-½" DIA. TOGGLE BOLTSX			
TYPE A - HORIZONTAL				
UP TO 5' 4'	W F _U UNIT BROAD SIDE Y			
	900 6			
UP TO 12' 6' 1	1,500 12 CURB +1 DECK			
TYPE A - VERTICAL X Y + 1 UP TO 2' 4' UP TO 3' 6' UP TO 4' 7'	F _R F _S 4 1 4 1 6 2 STRAPS (2 PER SIDE) X RAIL L = UNIT Y (MIN.)			
ABOVE ROOF SURFACE ABOVE ROOF SURFACE ABOVE ROOF SURFACE ABOVE ROOF SURFACE	MECHANICAL UNIT CURB/RAIL MANUFACTURER SUPPLIED GALVANIZED CAP FLASHING CURB/RAIL FASTENED DIRECT TO DECK. NO BLOCKING, NO CANT CUT AND PATCH ROOFING AS REQUIRED ROOF DECK RAIL INSTALLATION DETAIL			
	SCALE: N.T.S.			

	DESCRIPTION
	PIPING TO RISE UP
<u> </u>	PIPING TO DROP DOWN
	PIPING ANCHOR
	PIPING GUIDE
	DOMESTIC COLD WATER SUPPLY PIPING
HWS	HEATING SYSTEM SUPPLY PIPING
—— HWR—— ——	HEATING SYSTEM RETURN PIPING
CHWS	CHILLED WATER SUPPLY PIPING
————CHWR———	CHILLED WATER RETURN PIPING
CDWS	CONDENSER WATER SUPPLY PIPING
——————————————————————————————————————	CONDENSER WATER RETURN PIPING
	CONDENSATE DRAINAGE PIPING
FOS	FUEL OIL SUPPLY PIPING
FOR	FUEL OIL RETURN PIPING
G	LOW PRESSURE NATURAL GAS PIPING
EG	ELEVATED PRESSURE NATURAL GAS PIPING
_	GAS COCK ("L" INDICATES LOCK SHIELD)
	DIRT LEG IN PIPING
LPG	LIQUEFIED PETROLEUM GAS PIPING
V	VENT PIPING
	LINEAR EXPANSION COMPENSATOR
	EXPANSION LOOP IN PIPING
——————————————————————————————————————	UNION IN PIPING
	PIPING STRAINER (w/ BLOWDOWN VALVE)
	REDUCER / INCREASER FITTINGS IN PIPING
	ECCENTRIC REDUCER IN PIPING
	THERMOMETER
<u> </u>	PRESSURE GAUGE
	FULL PORT BALL VALVE
	GATE VALVE
<u> </u>	SWING CHECK VALVE
	BALANCING VALVE
N	3-WAY VALVE (MIXING)
NA	
	CIRCUIT SETTER
	TRIPLE DUTY VALVE
	TRIPLE DUTY VALVE WAFER VALVE
	TRIPLE DUTY VALVE
	TRIPLE DUTY VALVE WAFER VALVE
	TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING
	TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR
	TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR
	TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT
	TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING
	TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING
	TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE SENSOR IN PIPING
	TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE SENSOR IN PIPING LOW PRESSURE STEAM PIPING CONDENSATE RETURN PIPING
	TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE SENSOR IN PIPING LOW PRESSURE STEAM PIPING CONDENSATE RETURN PIPING THERMOSTATIC STEAM TRAP IN PIPING
	TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE SENSOR IN PIPING LOW PRESSURE STEAM PIPING THERMOSTATIC STEAM TRAP IN PIPING THERMOSTAT (D = DDC / P = PNEUMATIC)
	TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE SENSOR IN PIPING LOW PRESSURE STEAM PIPING CONDENSATE RETURN PIPING THERMOSTATIC STEAM TRAP IN PIPING
	TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE SENSOR IN PIPING LOW PRESSURE STEAM PIPING THERMOSTATIC STEAM TRAP IN PIPING THERMOSTAT (D = DDC / P = PNEUMATIC) DDC TEMPERATURE SENSOR
	TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE SENSOR IN PIPING LOW PRESSURE STEAM PIPING THERMOSTATIC STEAM TRAP IN PIPING THERMOSTAT (D = DDC / P = PNEUMATIC)

	PIPING TO RISE UP
- -	PIPING TO DROP DOWN
×	PIPING ANCHOR
	PIPING GUIDE
	DOMESTIC COLD WATER SUPPLY PIPING
HWS	HEATING SYSTEM SUPPLY PIPING
	HEATING SYSTEM RETURN PIPING
CHWS	CHILLED WATER SUPPLY PIPING
— — — CHWR — — — —	CHILLED WATER RETURN PIPING
CDWS—	CONDENSER WATER SUPPLY PIPING
— — CDWR — — —	CONDENSER WATER RETURN PIPING
··················CD··········	CONDENSATE DRAINAGE PIPING
FOS	FUEL OIL SUPPLY PIPING
FOR	FUEL OIL RETURN PIPING
	LOW PRESSURE NATURAL GAS PIPING
EG	ELEVATED PRESSURE NATURAL GAS PIPING GAS COCK ("I " INIDICATES LOCK SHIELD)
	GAS COCK ("L" INDICATES LOCK SHIELD)
4	DIRT LEG IN PIPING
LPG	LIQUEFIED PETROLEUM GAS PIPING
V	VENT PIPING
	LINEAR EXPANSION COMPENSATOR
	EXPANSION LOOP IN PIPING
	UNION IN PIPING
	PIPING STRAINER (w/ BLOWDOWN VALVE)
	REDUCER / INCREASER FITTINGS IN PIPING
	ECCENTRIC REDUCER IN PIPING
<u> </u>	THERMOMETER
<u> </u>	PRESSURE GAUGE
	FULL PORT BALL VALVE
	GATE VALVE
<u> </u>	SWING CHECK VALVE
<u> </u>	BALANCING VALVE
	3-WAY VALVE (MIXING)
	CIRCUIT SETTER
3	TRIPLE DUTY VALVE
——————————————————————————————————————	WAFER VALVE
	PLUG / CAP IN PIPING
\frown	PNEUMATIC CONTROL VALVE OPERATOR
	ELECTRIC CONTROL VALVE OPERATOR
	AUTOMATIC AIR VENT
	EXISTING PIPING
	DDC TEMPERATURE SENSOR & WELL IN PIPING
Ď ^P	DDC PRESSURE SENSOR IN PIPING
STM	LOW PRESSURE STEAM PIPING
	CONDENSATE RETURN PIPING
	THERMOSTATIC STEAM TRAP IN PIPING
(t)	THERMOSTAT (D = DDC / P = PNEUMATIC)
<i>i</i>	DDC TEMPERATURE SENSOR
(S)	EVIOTING THEORY COLUMN
(S) (T) ^{D/P}	EXISTING THERMOSTAT (D = DDC / P = =PNEUMATIC)
	POINT OF DISCONNECTION (DEMO TO EXISTING) POINT OF DISCONNECTION (DEMO TO EXISTING)

PING SYMBOL	LEGEND
SYMBOL	DESCRIPTION
 	PIPING TO RISE UP
 •	PIPING TO DROP DOWN
$\overline{}$	PIPING ANCHOR
	PIPING GUIDE
	DOMESTIC COLD WATER SUPPLY PIPING
HWS —	HEATING SYSTEM SUPPLY PIPING
— HWR—— —	HEATING SYSTEM RETURN PIPING
CHWS-	CHILLED WATER SUPPLY PIPING
— — — CHWR — — —	CHILLED WATER RETURN PIPING
	CONDENSER WATER SUPPLY PIPING
——————————————————————————————————————	CONDENSER WATER RETURN PIPING
· · · · · · · · · · · · · · · · · · ·	CONDENSATE DRAINAGE PIPING
FOS-	FUEL OIL SUPPLY PIPING
FOR	FUEL OIL RETURN PIPING
G	LOW PRESSURE NATURAL GAS PIPING
EG	ELEVATED PRESSURE NATURAL GAS PIPING
<u>L</u> L	GAS COCK ("L" INDICATES LOCK SHIELD)
<u>'t</u>	DIRT LEG IN PIPING
LPG-	LIQUEFIED PETROLEUM GAS PIPING
V	VENT PIPING
	LINEAR EXPANSION COMPENSATOR
	EXPANSION LOOP IN PIPING
——- —————————————————————————————————	UNION IN PIPING
	PIPING STRAINER (w/ BLOWDOWN VALVE)
 	REDUCER / INCREASER FITTINGS IN PIPING
	ECCENTRIC REDUCER IN PIPING
Į	THERMOMETER
<u> </u>	PRESSURE GAUGE
•	FULL PORT BALL VALVE
\mathbb{N}	GATE VALVE
	SWING CHECK VALVE
	SWING CHECK VALVE BALANCING VALVE
	BALANCING VALVE
	BALANCING VALVE 3-WAY VALVE (MIXING)
	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER
	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE
	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE WAFER VALVE
	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING
<u></u>	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR
	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR
	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT
	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING
→	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE SENSOR IN PIPING
→ ↑ ↑ · · · · · · · · · · · · · · · · ·	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE SENSOR IN PIPING LOW PRESSURE STEAM PIPING
→	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE SENSOR IN PIPING LOW PRESSURE STEAM PIPING CONDENSATE RETURN PIPING
→	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE SENSOR IN PIPING LOW PRESSURE STEAM PIPING CONDENSATE RETURN PIPING THERMOSTATIC STEAM TRAP IN PIPING
→ ↑ ↑	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE SENSOR IN PIPING LOW PRESSURE STEAM PIPING CONDENSATE RETURN PIPING
T D / P STM T D / P S S S S S S S S S S S S S S S S S S	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE SENSOR IN PIPING LOW PRESSURE STEAM PIPING CONDENSATE RETURN PIPING THERMOSTATIC STEAM TRAP IN PIPING
→ ↑ ↑	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE SENSOR IN PIPING LOW PRESSURE STEAM PIPING THERMOSTATIC STEAM TRAP IN PIPING THERMOSTAT (D = DDC / P = PNEUMATIC)
T D / P T D / P T D / P S T M	BALANCING VALVE 3-WAY VALVE (MIXING) CIRCUIT SETTER TRIPLE DUTY VALVE WAFER VALVE PLUG / CAP IN PIPING PNEUMATIC CONTROL VALVE OPERATOR ELECTRIC CONTROL VALVE OPERATOR AUTOMATIC AIR VENT EXISTING PIPING DDC TEMPERATURE SENSOR & WELL IN PIPING DDC PRESSURE STEAM PIPING LOW PRESSURE STEAM PIPING THERMOSTATIC STEAM TRAP IN PIPING THERMOSTAT (D = DDC / P = PNEUMATIC) DDC TEMPERATURE SENSOR



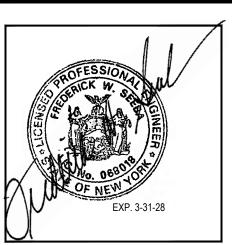
<u>NOTICE</u>

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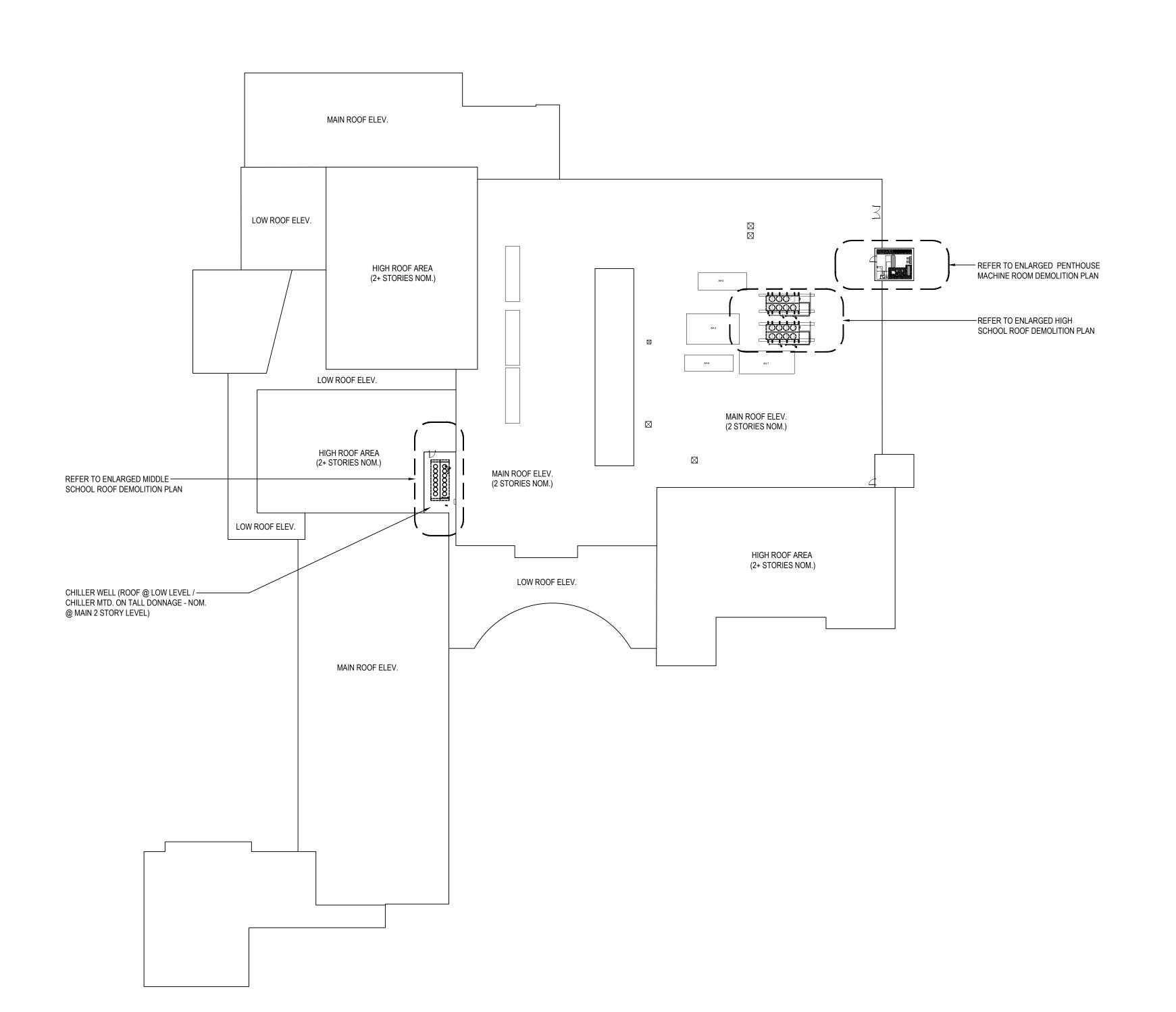


66-19-05-02-0-002-019 DISTRICT BLIND BROOK - RYE UNION FREE SCHOOL DISTRIC PROJECT HVAC IMPROVEMENTS

SCALE: AS NOTED DATE: JAN 2025 BID PICK-UP: FILE No: 24-353

<u>DWG TITLE</u>

M0.01

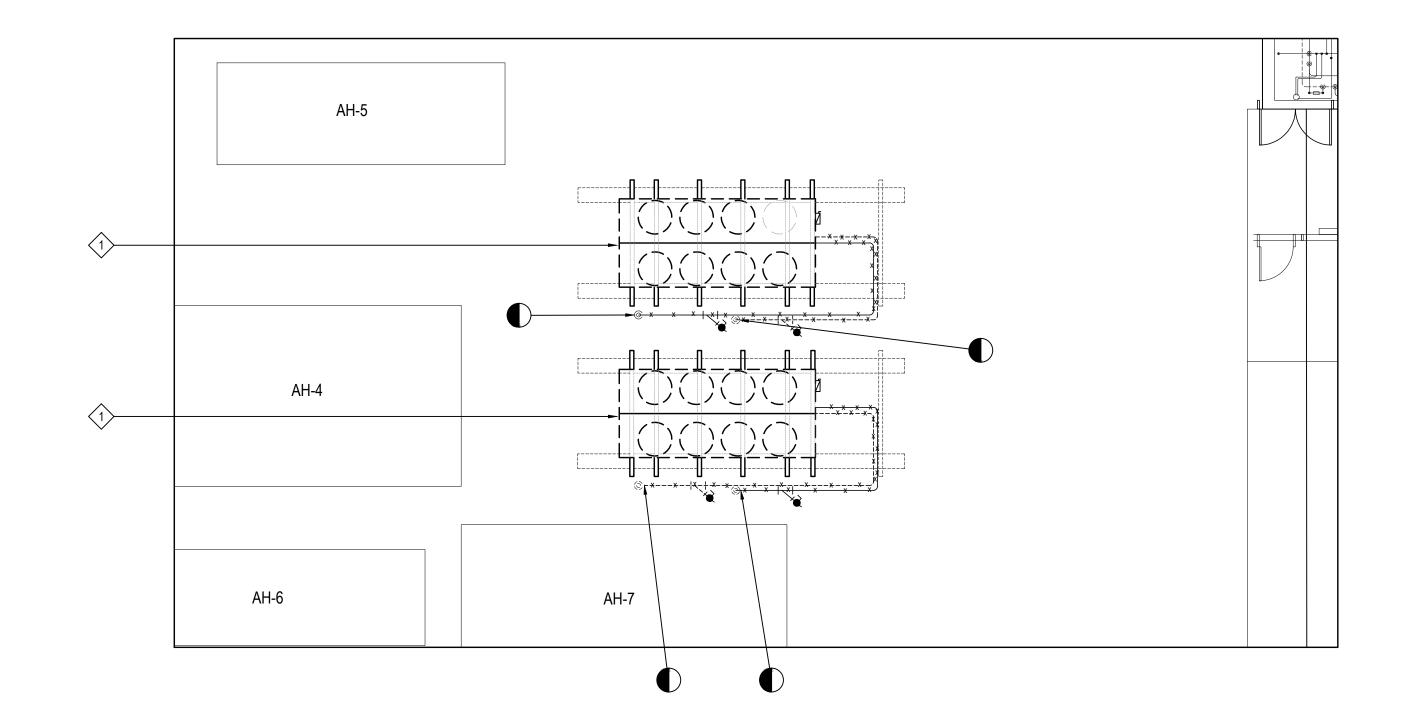


ROOF DEMOLITION PLAN NOTE: SCALE: 1/32" = 1'-0"

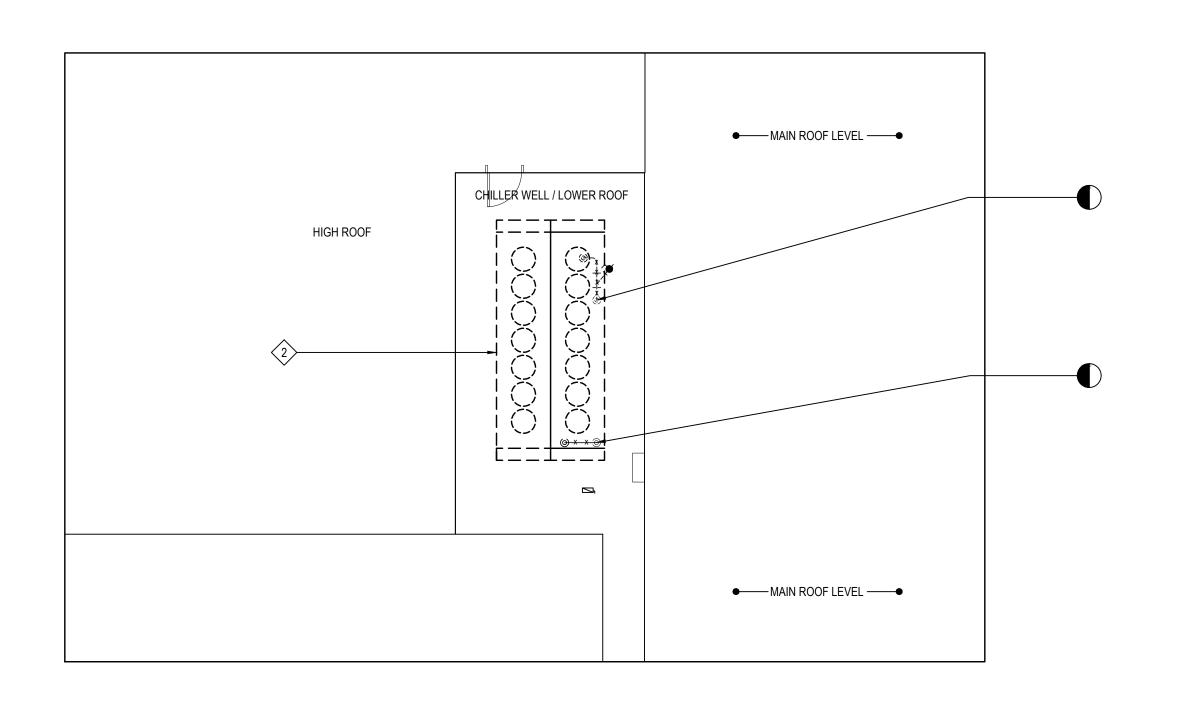
DEMOLITION KEY NOTES - ROOFTOP MECHANICAL

(REFER TO THE TESTING REPORTS PRIOR TO ANY REMOVALS)

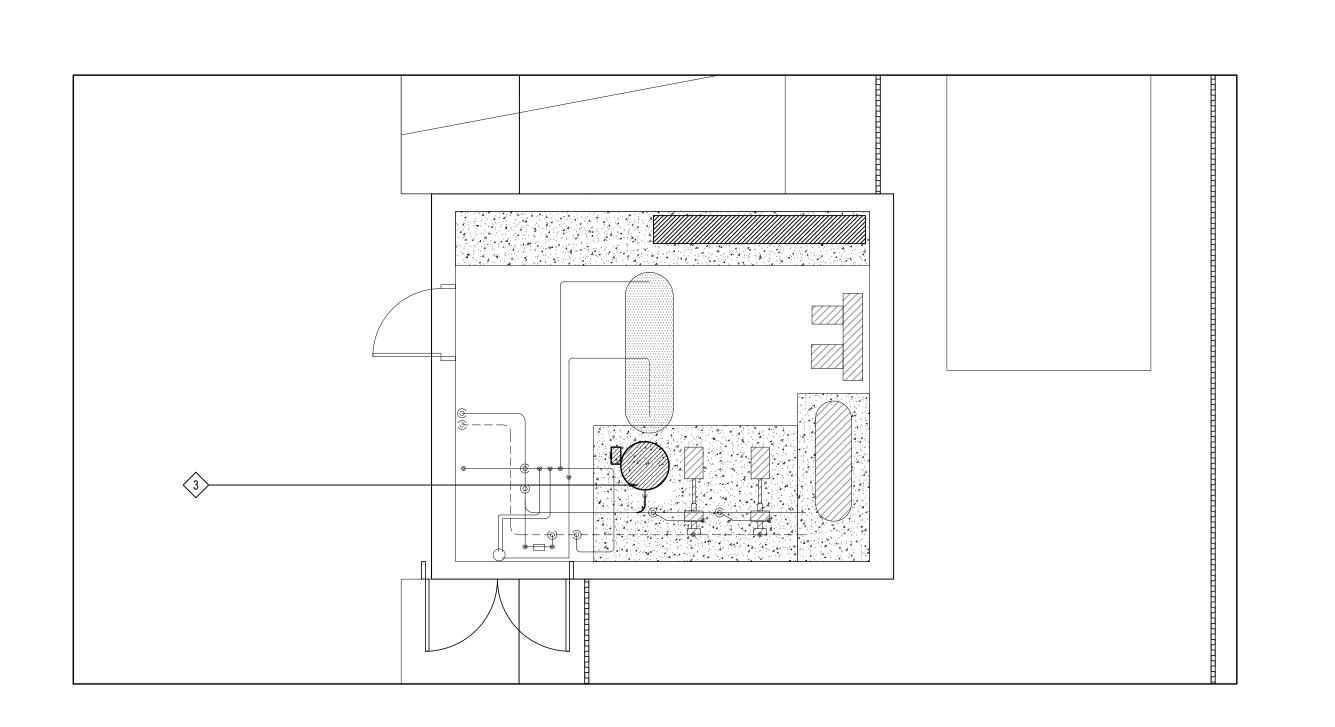
- MC TO DISCONNECT & REMOVE (2) EXISTING 140T ROOFTOP CHILLERS. STORE GLYCOL CHARGE FOR FUTURE REFILLING OF SYSTEM. PROVIDE ADDITIONAL GLYCOL AS REQUIRED FOR NEW CHARGE TO REACH 40%. MC TO DISCONNECT & REMOVE CHILLED WATER SUPPLY / RETURN PIPING TO THE POINTS SHOWN. LEAVE 1'-0" MIN. STUB ABOVE ROOF TO FACILITATE FUTURE CONNECTION OF PIPING.
- MC TO DISCONNECT & REMOVE THE EXISTING 250T ROOFTOP CHILLER. STORE GLYCOL CHARGE FOR FUTURE REFILLING OF SYSTEM. PROVIDE ADDITIONAL GLYCOL AS REQUIRED FOR NEW CHARGE TO REACH 40%. MC TO DISCONNECT & REMOVE CHILLED WATER SUPPLY / RETURN PIPING TO THE POINTS SHOWN. LEAVE 1'-0" MIN. STUB ABOVE ROOF TO FACILITATE FUTURE CONNECTION OF PIPING.
- MC TO CLEAN & PREPARE EXISTING CONCRETE PAD IN MACHINE ROOM TO PREPARE FOR INSTALLATION OF GLYCOL FEEDER. LEVEL PAD PRIOR TO INSTALLATION OF NEW EQUIPMENT.



HIGH SCHOOL ROOF DEMOLITION PLAN NOTE: SCALE: 1/8" = 1'-0"



MIDDLE SCHOOL ROOF DEMOLITION PLAN NOTE: SCALE: 1/8" = 1'-0"



PENTHOUSE MACHINE ROOM DEMOLITON PLAN

NOTE:

SCALE: 1/4" = 1'-0"

<u>NOTICE</u> THESE DRAWINGS ARE BASED ON CONSTRUCTION DRAWINGS NOT PREPARED BY BBS ARCHITECTS, LANDSCAPE ARCHITECTS AND ENGINEERS, PC. AND, THEREFORE, MAY NOT REPRESENT THE CONDITIONS AS CONSTRUCTED AT THE TIME. ALL EXISTING CONDITIONS SHOWN ARE REPRESENTED AS SUGGESTIVE INFORMATION AS THEY MAY NOT HAVE BEEN BUILT AND DETAILED PER THE ORIGINAL DOCUMENTS OR PER THE OWNER'S INFORMATION. MS MACH. RM. HS MACH. RM. → ←HS CHILLER LOC. └──MS CHILLER LOC KEY PLAN NOT TO SCALE DRAWING BY: ACC CHECK BY: <u>NOTICE</u> THIS DRAWING, PREPARED FOR THE SPECIFIC PROJECT INDICATED IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF BBS ARCHITECTS, LANDSCAPE ARCHITECTS AND ENGINEERS, PC. INFRINGEMENT OR ANY USE OF THIS DRAWING FOR ANY OTHER PROJECT IS PROHIBITED. ANY ALTERATION OR REPRODUCTION OF THIS DOCUMENT IS ALSO PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT OR ENGINEER. LANDSCAPE ARCHITECTS

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66-19-05-02-0-002-019 DISTRICT BLIND BROOK - RYE UNION FREE SCHOOL DISTRICT PROJECT HVAC IMPROVEMENTS

DWG TITLE

BLIND BROOK RYE HS/MS

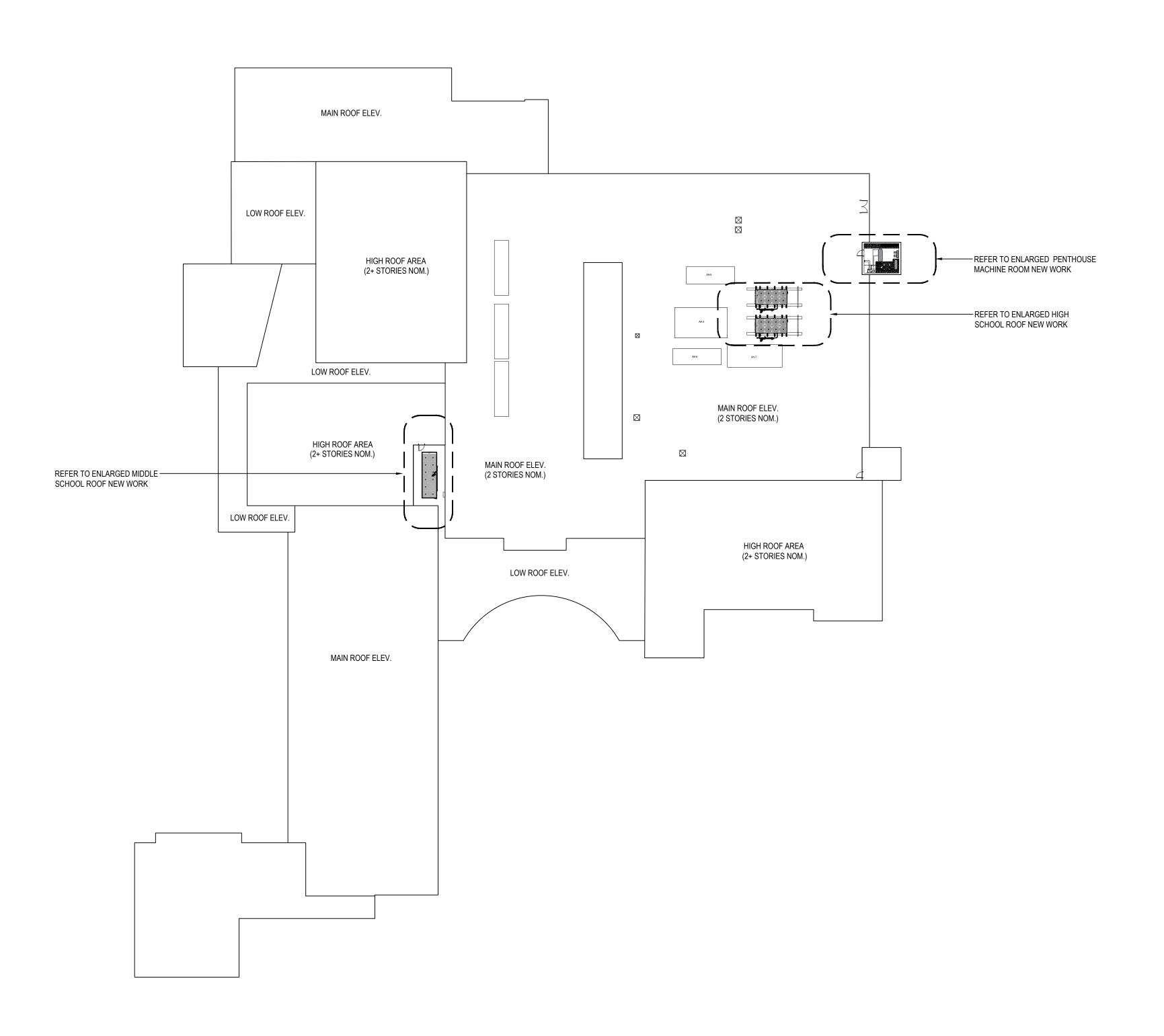
ROOF DEMOLITION PLAN SCALE: AS NOTED

DATE: JAN 2025

BID PICK-UP:

4 FILE No: 24-353

M1.01

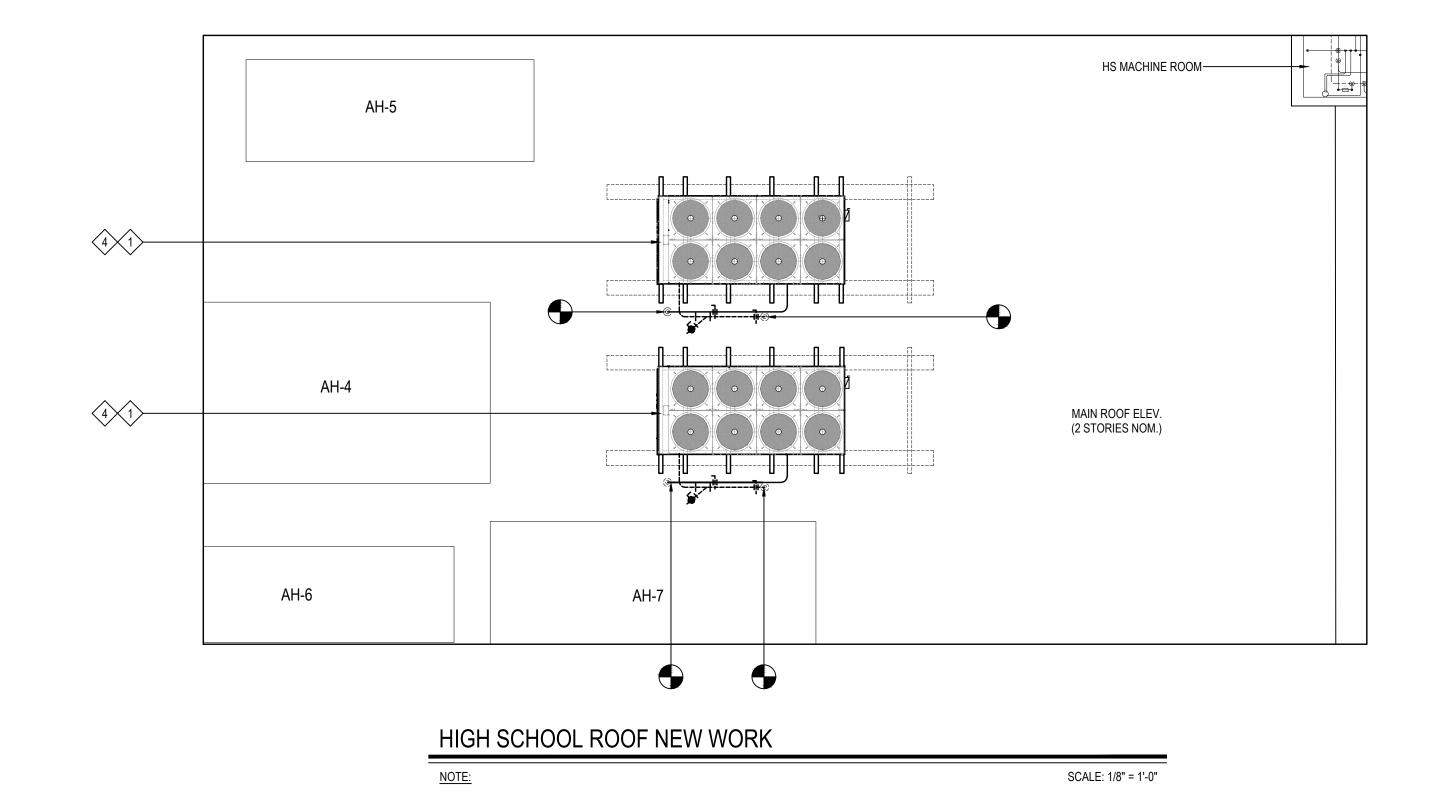


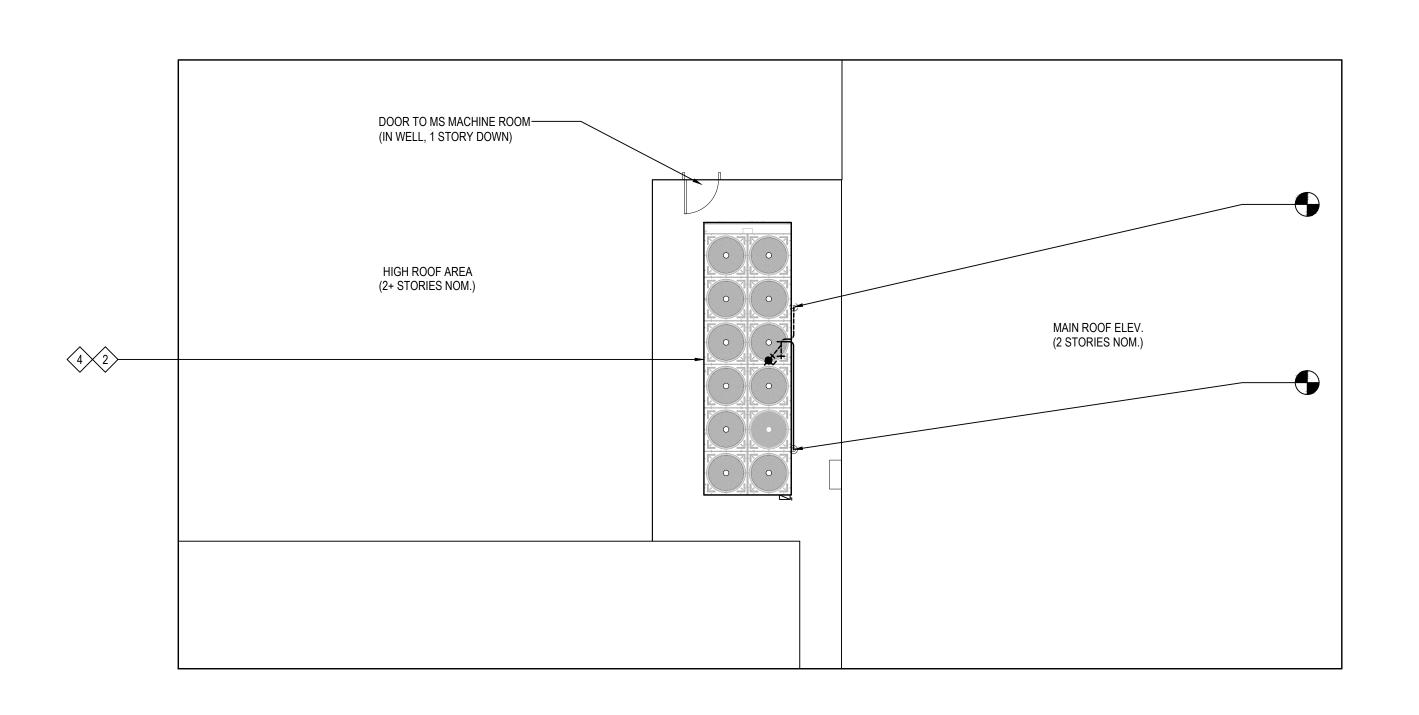
ROOF NEW WORK PLAN

NOTE: SCALE: 1/32" = 1'-0"

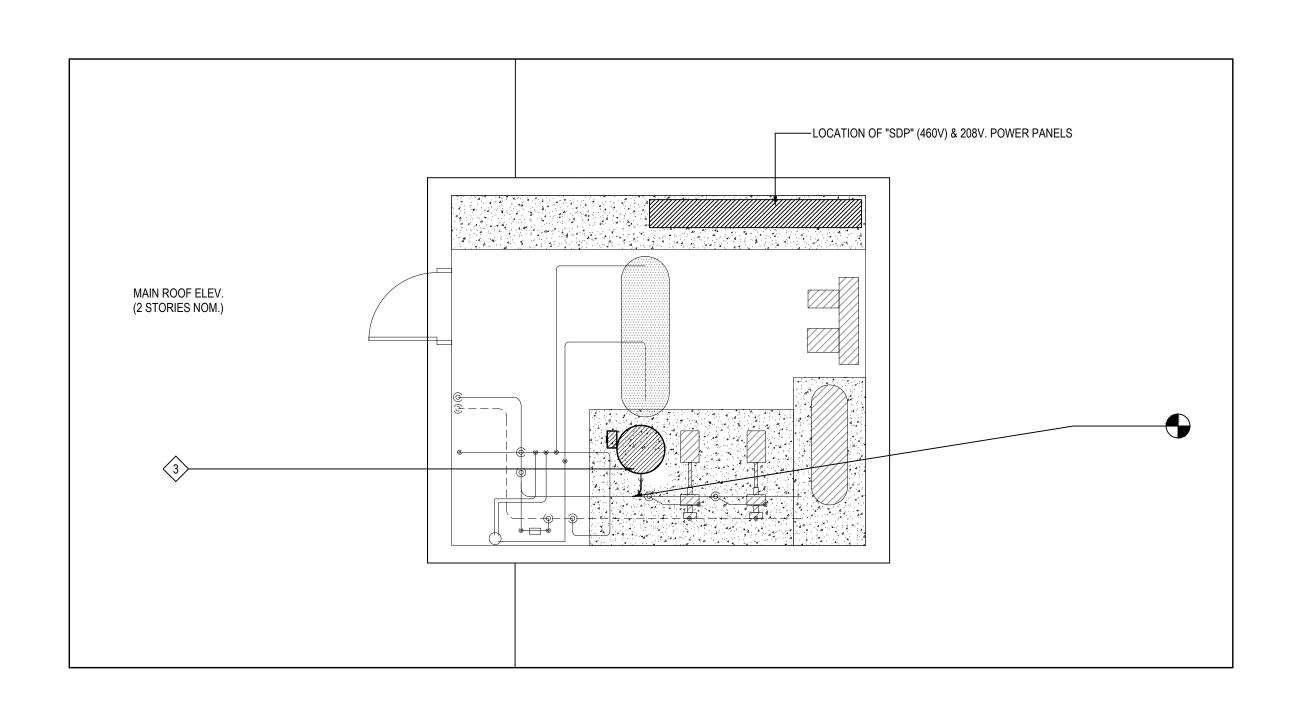
PROPOSED NEW WORK - ROOFTOP MECHANICAL

- MC TO PROVIDE AND INSTALL (2) 140T "QUANTEC" QTC3140TZJ46XE AIR COOLED CHILLERS AT THE LOCATIONS SHOWN. MC TO PROVIDE NEW CHILLED WATER SUPPLY & RETURN PIPING & RECONNECT TO EXISTING STUBS AT POINTS SHOWN. PROVIDE (4) W10x55 CROSS BEAMS MTD. ON EXISTING DONNAGE. MOUNT CROSS BEAMS @ CHILLER SUPPORT POINTS & PROVIDE / INSTALL SPRING TYPE VIBRATION ISOLATORS AT EACH OF (8) POINTS. REFER TO SPECIFICATIONS FOR FURTHER AIR COOLED CHILLER
- MC TO PROVIDE AND INSTALL (1) 250T. "QUANTEC" # AIR COOLED CHILLER AT THE LOCATION SHOWN. MC TO PROVIDE NEW CHILLED WATER SUPPLY & RETURN PIPING & RECONNECT TO EXISTING STUBS AT POINTS SHOWN. PROVIDE (4) W10x55 CROSS BEAMS MTD. ON EXISTING DONNAGE. MOUNT CROSS BEAMS @ CHILLER SUPPORT POINTS & PROVIDE / INSTALL SPRING TYPE VIBRATION ISOLATORS AT EACH OF (8) POINTS. REFER TO SPECIFICATIONS FOR FURTHER AIR COOLED CHILLER DETAILS.
- MC TO PROVIDE AND INSTALL BELL & GOSSETT GMU560 GLYCOL MAKEUP UNIT. MC TO CONNECT GLYCOL MAKE UP LINE TO EXISTING PIPING AT POINT SHOWN. FOR FURTHER INFO., SEE DETAIL, DWG. #M6.01.
- MC TO PROVIDE & INSTALL NEW "JOHNSON" BMS PANELS (1 EACH MACHINE ROOM) AS REQUIRED TO MAP NEW CHILLERS UP TO THE EXISTING BMS. TIE EXISTING CHILLED WATER PUMPS INTO NEW CONTROLS SO THAT ALL DEVICES ASSOCIATED W/ THE CHILLERS ARE CONTROLLED BY THE BMS & APPEAR ON THE BMS HEAD END. REFER TO SPECIFICATION SECTION 230923 FOR FURTHER DETAILS.





MIDDLE SCHOOL ROOF NEW WORK SCALE: 1/8" = 1'-0" NOTE:



PENTHOUSE (HS) MACHINE ROOM - NEW WORK

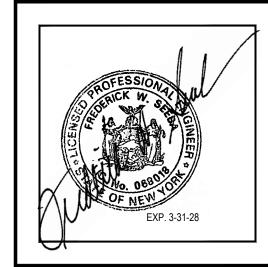
SCALE: 1/4" = 1'-0"

REV. DATE <u>NOTICE</u> THESE DRAWINGS ARE BASED ON CONSTRUCTION DRAWINGS NOT PREPARED BY BBS ARCHITECTS, LANDSCAPE ARCHITECTS AND ENGINEERS, PC. AND, THEREFORE, MAY NOT REPRESENT THE CONDITIONS AS CONSTRUCTED AT THE TIME. ALL EXISTING CONDITIONS SHOWN ARE REPRESENTED AS SUGGESTIVE INFORMATION AS THEY MAY NOT HAVE BEEN BUILT AND DETAILED PER THE ORIGINAL DOCUMENTS OR PER THE OWNER'S INFORMATION. HS MACH. RM. MS MACH. RM. ←HS CHILLER LOC MS CHILLER LOC KEY PLAN NOT TO SCALE DRAWING BY: ACC CHECK BY: <u>NOTICE</u> THIS DRAWING, PREPARED FOR THE SPECIFIC PROJECT INDICATED IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF BBS ARCHITECTS, LANDSCAPE ARCHITECTS AND ENGINEERS, PC. INFRINGEMENT OR ANY USE OF THIS DRAWING FOR ANY OTHER PROJECT IS PROHIBITED. ANY ALTERATION OR REPRODUCTION OF THIS DOCUMENT IS ALSO PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT OR ENGINEER.

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66-19-05-02-0-002-019 DISTRICT BLIND BROOK - RYE UNION FREE SCHOOL DISTRICT PROJECT HVAC IMPROVEMENTS

DWG TITLE

BLIND BROOK RYE HS/MS

ROOF PROPOSED NEW WORK

SCALE: AS NOTED DATE: JAN 2025
BID PICK-UP: FILE No: 24-353

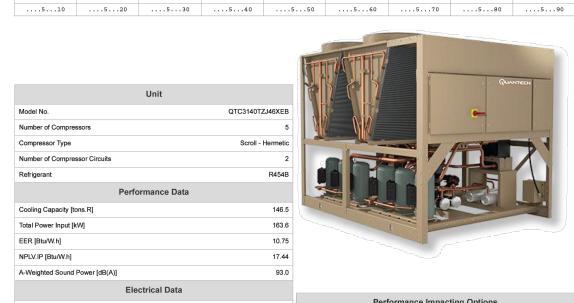
M2.01

ROOFTOP CHILLER INFORMATION

QUANTECH

Project Name: BBS Chiller

HIGH SCHOOL CHILLERS **Performance Report** Performance Specification Unit Tag: **CH-1**, CH-2 Qty.: ■ 2 Model: QTC3140TZJ46XE Full Load - Design



QTC3140TZJ 46XEBSDTXA SXBLXCXX45 SE1XXXHXXX XAXDRXX7BX AMGNXXXXXX

EER [Btu/W.h]	10.75		
NPLV.IP [Btu/W.h]	17.44	· · · · · · · · · · · · · · · · · · ·	
A-Weighted Sound Power [dB(A)]	93.0		
Electri	cal Data		
Nominal Voltage / Voltage Limits	460/3/60 / 414-506	Performance Im	pacting Options
Compressor RLA (each circuit) [A]	53.1 / 53.1 / 53.1 / 53.1 / 53.1 / -	Starter Type	Across the line starte
High LRA Current (each circuit) [A]	316.0 / 316.0 / 316.0 / 316.0 / 316.0 / -	Power Factor Correction Capacitor	No Power Capacitor required
Fan QTY (each circuit)	4/4	Remote Evaporator	Standard Cooler required
Fan FLA (each circuit) [A]	4.0 / 4.0	Sound Kit	Acoustic Blanket Required
Min. Circuit Ampacity [A]	315.0	Fan	Ultra Quiet Fans with VSD
Recommended Fuse / CB Rating [A]	350.0	Weight & Dim	ensional Data
Max. Inverse Time CB Rating [A]	350.0	Shipping Weight [lbs]	8675
Max. Dual Element Fuse Size [A]	350.0	Operating Weight [lbs]	9226
Unit Short Circuit Withstand [kA]	5 kA	Refrigerant Charge [lbs]	190
Wires Per Phase	1+2	Length [in]	187.7
Wire Range (Lug Size)	250 - 500 kcmil + #3/0 AWG - 250 kcmil	Width [in]	88.3

150.1 Height [in]

Project Name: BBS Chiller Rating Engine Version: REV.v9_25a.idd Version: SN24.12 Unit Name: CH-1 CHL.2024-12.002

MIDDLE SCHOOL CHILLER

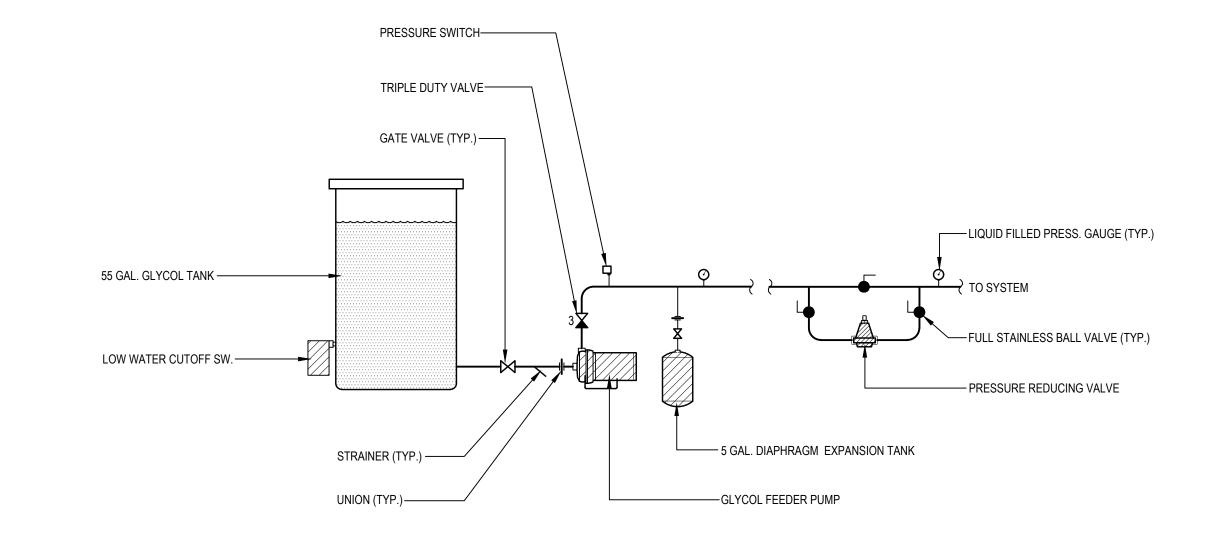
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QUAN	TECHI			ormance Specif	•			Page 1 of 4
Project Name: E	BS Chiller		Unit Ta	g: CH-3	Qty.: 1		Model: Q	TC3225THJ46XI
			F	ull Load - Desig	n			
				PIN				
QTC3225THJ	46XIBSDTXA	SXBLXCXX45	XE1XXXHXXX	YUXGTXX7BX	AVGNXXXXX			
510	520	530	540	550	560	570	580	590

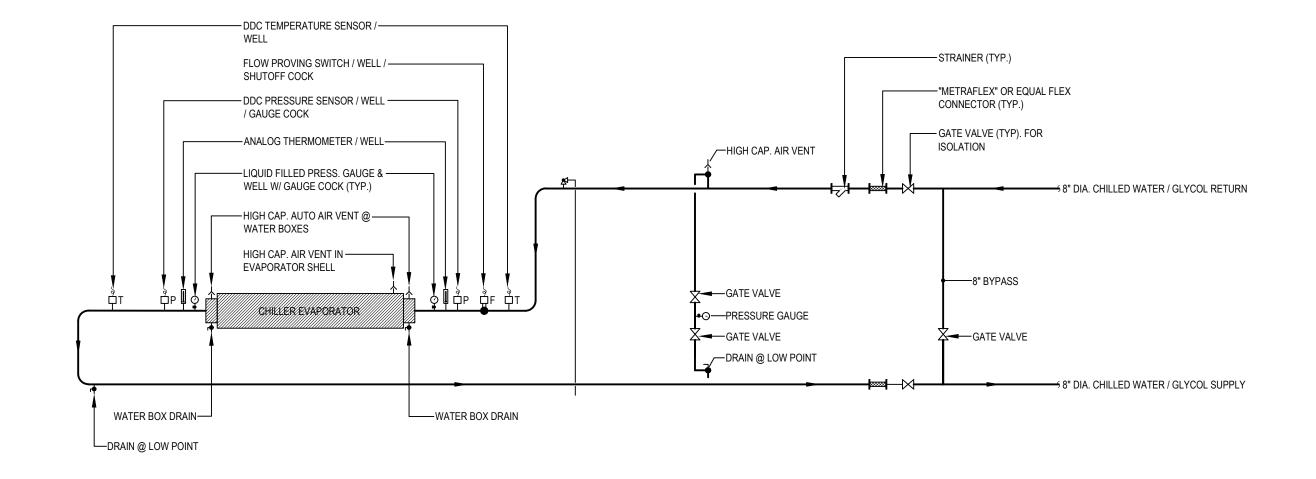
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A-Weighted Sound Power [dB(A)]	99.0		
Elect	rical Data		
Nominal Voltage / Voltage Limits	460/3/60 / 414-506	Performar	nce Impacting Options
Compressor RLA (each circuit) [A]	67.9 / 67.9 / 67.9 / 67.9 / 67.9 / 67.9	Starter Type	Across the line starter
High LRA Current (each circuit) [A]	344.0 / 344.0 / 344.0 / 344.0 / 344.0 / 344.0	Power Factor Correction Capacitor	No Power Capacitor required
Fan QTY (each circuit)	6/6	Remote Evaporator	Standard Cooler required
Fan FLA (each circuit) [A]	4.0 / 4.0	Sound Kit	Acoustic Blanket Required
Min. Circuit Ampacity [A]	477.0	Fan	Low Sound Fans with VSD
Recommended Fuse / CB Rating [A]	500.0	Weight	& Dimensional Data
Max. Inverse Time CB Rating [A]	500.0	Shipping Weight [lbs]	10798
Max. Dual Element Fuse Size [A]	500.0	Operating Weight [lbs]	10928
Unit Short Circuit Withstand [kA]	5 kA	Refrigerant Charge [lbs]	168
Wires Per Phase	2+3	Length [in]	274.8
Wire Range (Lug Size)	250 - 500 kcmil + #2/0 AWG - 400 kcmil	Width [in]	88.3
		l 	

Project Name: BBS Chiller Rating Engine Version: REV.v9_25a.idd Version: SN24.12 Generated: 2025/01/02 at 14:13 CHL.2024-12.002 Unit Name: CH-2 Page 1 of 4









NOTE "ATC" - CHILLER AUTOMATIC TEMPERATURE CONTROLS

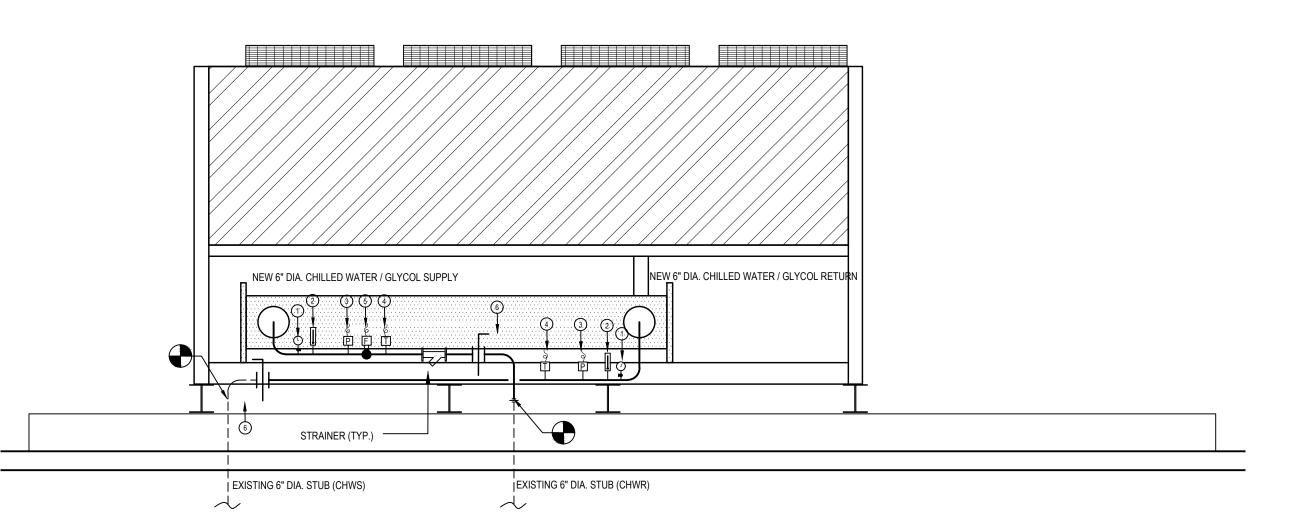
MECHANICAL CONTRACTOR SHALL PROVIDE & INSTALL ALL NEW TEMPERATURE CONTROLS AS REQUIRED FOR THE NEW CHILLERS TO OPERATE USING THE SEQUENCE OF OPERATION LISTED BELOW & AS REQUIRED TO CONNECT EACH CHILLER TO THE EXISTING BUILDING BMS. NOTE THAT THE EXISTING BMS IS A "JOHNSON CONTROLS INC." METASYS, AND CAN ONLY BE SERVICED / MODIFIED BY THE LOCAL JOHNSON BRANCH. THE MC IS TO HIRE THE LOCAL JOHNSON BRANCH TO PERFORM ALL WORK / PROGRAMMING / WIRING, ETC. RELATED TO THE TEMPERATURE CONTROL PORTION OF THIS CONTRACT. SEQUENCES TO BE AS FOLLOWS:

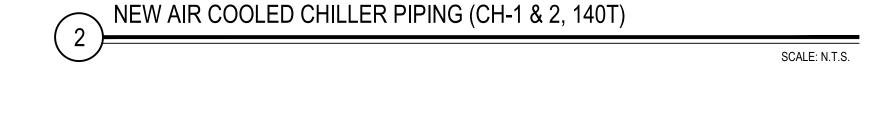
- 1. NEW CHILLERS SHALL BE LOCKED OUT BELOW A GIVEN OUTDOOR AIR SETPOINT BY THE BMS (ADJUSTABLE). THE CHILLERS SHALL BE ENABLED ABOVE THE SETPOINT.
- 2. WHEN THE CHILLERS ARE ENABLED & THERE IS A CALL FOR COOLING, THE CHILLED WATER PUMPS SHALL START & FLOW SHALL BE PROVEN PRIOR TO ALLOWING ANY CHILLER TO START. ONCE FLOW IS PROVEN, EACH CHILLER SHALL CONTROL IT'S OWN LEAVING WATER TEMPERATURE VIA THE CHILLER CONTROLLER. CHILLED WATER RESET SHALL BE ALLOWED SUCH THAT THE LEAVING WATER TEMPERATURE IS VARIED AS THE LOAD VARIES. THIS FEATURE SHALL BE MAPPED UP TO THE BMS & SHALL HAVE THE CHILLED WATER RESET SCHEDULE PROGRAMMED AT THE BMS.
- 3. END USER SHALL BE ABLE TO SEE ALL CHILLER VARIABLES / VALUES THAT ARE A PART OF THE CHILLER CONTROLLER, INCLUDING, BUT NOT LIMITED TO ALL SETPOINTS, COMPRESSOR ENABLE, COMPRESSOR RUNNING PERCENTAGE, HEAD PRESSURES, SUPPLY WATER TEMPERATURE, SUPPLY WATER FLOW, RETURN WATER TEMPERATURE & ALL CHILLER ALARM INDICATORS, STATING SPECIFICALLY WHAT ALARM HAS TRIPPED AT THE CHILLER.
- 4. PROVIDE FOR FULL CHILLER OCCUPIED / UNOCCUPIED SCHEDULING, ALLOWING FOR HOLIDAY & WEEKEND SCHEDULING THROUGH THE BMS.
- 5. PROVIDE FOR POWER MEASUREMENT OVER TIME, MAPPED TO THE BMS FOR TRENDING.

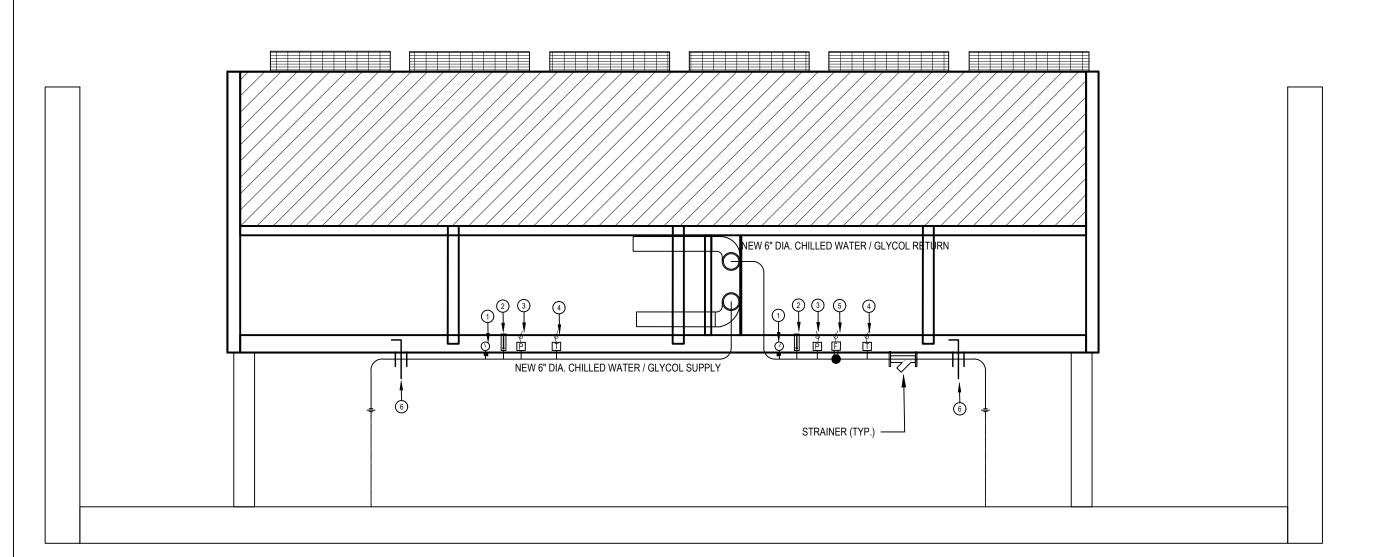
REFER TO SPECIFICATION SECTION 230923 FOR FURTHER DETAILS REGARDING THE AUTOMATIC TEMPERATURE CONTROL SYSTEM REQUIREMENTS.

ROOFTOP CHILLER PIPING LEGEND

- LIQUID FILLED PRESS. GAUGE & WELL W/ GAUGE COCK (TYP.)
- ANALOG THERMOMETER / WELL
- DDC PRESSURE SENSOR / WELL / GAUGE COCK
- DDC TEMPERATURE SENSOR / WELL
- FLOW PROVING SWITCH / WELL / SHUTOFF COCK
- NEW 6" BUTTERFLY VALVE





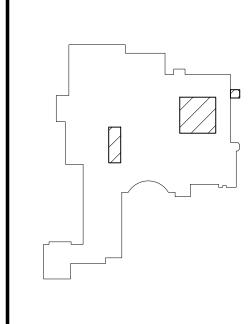


NEW AIR COOLED CHILLER PIPING (CH-3, 225T)

SCALE: N.T.S.

REV. DATE

NOTICE THESE DRAWINGS ARE BASED ON CONSTRUCTION DRAWINGS NOT PREPARED BY BBS ARCHITECTS, LANDSCAPE ARCHITECTS AND ENGINEERS, PC. AND, THEREFORE, MAY NOT REPRESENT THE CONDITIONS AS CONSTRUCTED AT THE TIME. ALL EXISTIN CONDITIONS SHOWN ARE REPRESENTED AS SUGGESTIVE INFORMATION AS THEY MAY NOT HAVE BEEN BUILT AND DETAILED



KEY PLAN NOT TO SCALE

DRAWING BY: ACC CHECK BY:

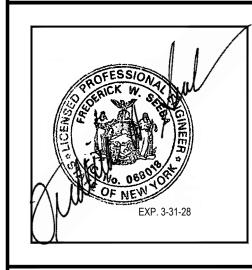
THIS DRAWING, PREPARED FOR THE SPECIFIC PROJECT INDICATED IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF BBS ARCHITECTS, LANDSCAPE ARCHITECTS AND ENGINEERS, PC. INFRINGEMENT OR ANY USE OF THIS DRAWING FOR ANY OTHER PROJECT IS PROHIBITED. ANY ALTERATION OR REPRODUCTION OF THIS DOCUMENT IS ALSO PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT OR ENGINEER.



LANDSCAPE ARCHITECTS ENGINEERS

44 EAST MAIN STREET PATCHOGUE SUITE 115, ALBANY NEW YORK 11772 NEW YORK 12203 F. 631.475.0361 F. 518.621.7655





66-19-05-02-0-002-019 DISTRICT BLIND BROOK - RYE UNION FREE SCHOOL DISTRICT PROJECT HVAC IMPROVEMENTS DWG TITLE BLIND BROOK RYE HS/MS

DETAIL SHEET SCALE: AS NOTED BID PICK-UP:

FILE No: 24-353

M6.01

ELECTRICAL CONSTRUCTION NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE N.E.C., APPLICABLE LOCAL CODES. STATE CODES, OWNER'S WORKING RULES AND SCHEDULE DIRECTIVES, AND THE ENGINEER'S SPECIFICATIONS.
- THE VOLTAGE CHARACTERISTIC OF BUILDING IS 480Y/277V, 3-PHASE, 4-WIRE, GROUNDED NEUTRAL, WYE. ALL EQUIPMENT SHALL BE COMPATIBLE WITH THESE CHARACTERISTICS. VERIFY AND MAINTAIN ALL PHASE ROTATIONS
- THE DRAWINGS SCHEMATICALLY SHOW THE APPROXIMATE LOCATION OF ALL EQUIPMENT, CONDUITS, DEVICES, ETC. THE EXACT LOCATION OF WHICH SHALL BE SUBJECT TO APPROVAL BY THE ARCHITECT AND / OR OWNER WHO RESERVES THE RIGHT TO MAKE PRIOR TO INSTALLATION, ANY REASONABLE CHANGES IN LOCATION INDICATED WITHOUT EXTRA COST TO THE OWNER. CONTRACTOR SHALL VERIFY ALL INDICATED OR APPROXIMATED DIMENSIONS DRAWN OR DENOTED.
- CONTRACTOR SHALL EXAMINE THE SITE TO VERIFY WORK TO BE PERFORMED AS SHOWN ON DRAWINGS AND SPECIFICATIONS BEFORE SUBMITTING HIS BID. ANY DISCREPANCY BETWEEN DRAWINGS AND SPECIFICATIONS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO ARCHITECT / ENGINEERS ATTENTION BEFORE BID SUBMITTAL. ANY FIELD CONDITION FOUND AFTER BID APPROVAL WHICH HAMPERS AND / OR PREVENTS ANY WORK TO BE PERFORMED AS SHOWN ON DRAWINGS AND SPECIFICATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BID THE HIGHER SPECIFICATION FOR ANY DISCREPANCY BETWEEN DRAWINGS AND SPECIFICATIONS.
- CONTRACTOR SHALL PROVIDE ALL LABOR SERVICE MATERIALS, EQUIPMENT, AND RELATED ITEMS TO COMPLETE THE WORK OF THIS DIVISION, AS REQUIRED BY THE NATIONAL ELECTRIC CODE, AND ALL STATE AND LOCAL AUTHORITIES
- CONTRACTOR SHALL PROVIDE ALL ELECTRICAL HARDWARE SHOWN ON THESE DRAWINGS, RELATED DETAIL AND IS NECESSARY TO COMPLETE THE INSTALLATION.
- CONTRACTOR SHALL PAY ANY FEES APPLICABLE TO ELECTRICAL WORK, SUCH AS, BUT NOT LIMITED TO, THE POWER COMPANY, TELEPHONE COMPANY, CAT-V, AN APPROVED ELECTRICAL INSPECTION AGENCY, ALARM AND FIRE PROTECTION COMPANIES.
- CONTRACTOR SHALL REFER TO ALL OTHER DRAWINGS IN BID PACKAGE AND PERFORM THE WORK (INCLUDE IN HIS BID) INDICATED AS ELECTRICAL CONTRACTOR (E.C.) WORK.
- ALL WORK SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND DIRECTIVES OF THE OWNER.
- ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR WHO SHALL OBTAIN AN INSPECTION CERTIFICATE AND PAY ASSOCIATED FEE. SUBMIT A PHOTOCOPY OF THIS CERTIFICATE TO THE ENGINEER WITH FINAL PAYMENT APPLICATION.
- CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND THEIR INSTALLATION TO BE FREE OF DEFECTS FOR A PERIOD AS DEFINED IN SPECIFICATION SECTION 01700 OF THE PROJECT MANUAL.
- A COMPLETE SYSTEM OF WIRING, WITH ALL FEEDERS, MAINS, BRANCHES AND CONDUITS AS SHOWN ON THE DRAWINGS, SHALL BE FURNISHED AND INSTALLED FROM THE MAIN DISTRIBUTION BOARD TO THE PANELS OUTLETS, MOTORS, AND APPURTENANCES.
- PROVIDE IDENTIFICATION FOR ALL PANEL AND MOTOR FEEDER CABLES IN PULL BOXES AND AT TERMINATIONS. ANY CONDUCTOR VOLTAGES HIGHER THAN 240 VOLTS SHALL BE MARKED ON DEVICES AND JUNCTION BOXES.
- FURNISH AND INSTALL ALL WIRING OF ANY VOLTAGE OR PURPOSE AS SHOWN ON THE DRAWINGS.
- THE INDICATED SOURCE OF EXISTING CIRCUITS MAY NOT BE KNOWN OR HAS NOT BEEN VERIFIED. IT IS THE DIVISION 16 CONTRACTOR'S RESPONSIBILITY TO TRACE OUT, LOCATE AND VERIFY THE DISCONNECTING MEANS OF EXISTING CIRCUIT(S) TO BE IMPACTED BY THE WORK. SAFE OFF THE CIRCUIT (SO AS REQUIRED TO SAFELY PERFORM THE WORK, AND RE-ENERGIZE UPON COMPLETION. UPDATE PANEL DIRECTORIES UPON COMPLETION.
- ALL BRANCH CIRCUITS SHALL HAVE INDIVIDUAL NEUTRALS. SHARING COMMON NEUTRALS AMONG BUNDLED CIRCUITS IS SPECIFICALLY DISALLOWED UNLESS OTHERWISE NOTED.
- PULL / JUNCTION BOXES SHALL BE PROVIDED WHERE INDICATED OR AS OTHERWISE REQUIRED TO FACILITATE THE PROPER INSTALLATION OF WIRES AND CABLES. CONDUITS MAY BE INCREASED IN SIZE FOR CONSTRUCTION
- FURNISH AND INSTALL ALL DISCONNECT DEVICES AND SAFETY SWITCHES AS SHOWN ON THE DRAWINGS AND / OR AS REQUIRED TO CONFORM WITH CODE REQUIREMENTS.
- NEW CIRCUIT BREAKERS INSTALLED IN EXISTING PANELBOARD(S) SHALL BE LISTED / LABELED FOR USE WITH THE
- EXISTING PANELBOARD(S) AND SHALL MEET OR EXCEED THE INTERRUPTING RATING OF THE PANEL. CONDUITS MAY BE SURFACE MOUNTED IN MECHANICAL SPACES UNLESS OTHERWISE NOTED. CONDUITS IN PUBLIC
- AREAS SHALL BE CONCEALED IN HUNG CEILINGS, EMBEDDED IN SLAB OR MASONRY WALLS, EXCEPT WHERE SURFACE MOUNTED RACEWAY IS SPECIFIED.
- ALL CONNECTIONS AND / OR SPLICES SHALL BE MADE ONLY IN ACCESSIBLE JUNCTION BOXES.
- ALL COUPLINGS AND CONNECTORS FOR USE WITH EMT SHALL BE COMPRESSION TYPE. SET SCREW TYPE OR INDENT TYPE FITTINGS WILL NOT BE ACCEPTED.

ALL PENETRATIONS TO BUILDING EXTERIOR SHALL BE SEALED WATERTIGHT. ROOF PENETRATIONS SHALL BE MADE

- VIA APPROVED PITCH POCKETS OR PIPE PORTALS AND IN ACCORDANCE WITH EXISTING ROOF WARRANTIES. . WIRING INSTALLED IN CEILINGS SHALL BE HUNG INDEPENDENT OF CEILING SYSTEM AND SECURELY TIED TO
- BUILDING STEEL.
- ALL LOW VOLTAGE (FIRE ALARM, PA INTERCOM, PHONE, DATA, TEMPERATURE CONTROL, ETC.) WIRING INSTALLED IN OPEN AREAS SHALL BE IN METALLIC RACEWAY IN MECHANICAL AREAS, GYMNASIUMS, ART ROOMS, STOREROOMS, ETC., AND IN SURFACE MOUNTED RACEWAY IN PUBLIC AREAS. LOW VOLTAGE WIRE INSTALLED IN DROPPED CEILINGS SHALL BE BUNDLED TOGETHER AND SUPPORTED BY BUILDING STEEL. LOW VOLTAGE WIRE SHALL NOT BE SUPPORTED WITH BRANCH CIRCUITS OR FEEDER CIRCUITS AND SHALL NOT BE SUPPORTED BY CONDUIT, PIPES, ETC.. LOW VOLTAGE WIRING NOT INSTALLED IN CONDUITS, SHALL BE PLENUM RATED.
- FURNISH AND INSTALL ALL HARDWARE TO PROPERLY SUPPORT ALL CONDUITS NOT INSTALLED IN CONCRETE SLABS OR UNDERGROUND.
- ALL CONDUITS OR MC CABLE SHALL BE EQUIPPED WITH AN INSULATING / CHAFE GUARD GROMMET AT WIRE EXIT / ENTRANCE. MC CABLE SHALL USE MC STYLE BUSHINGS. BX OR OTHER BUSHINGS ARE SPECIFICALLY DISALLOWED.
- WHERE AN EXISTING CONDUIT OR CABLE IS REQUIRED TO BE REMOVED BUT SERVES AND EXISTING PIECE OF EQUIPMENT WHICH IS TO REMAIN OPERABLE, THE ELECTRICAL CONTRACTOR SHALL REROUTE SAID CONDUIT OR CABLE OR PROVIDE A NEW SOURCE OF POWER (APPROVED BY ENGINEERING) TO THIS EQUIPMENT AS A PART OF THIS CONTRACT.
- . ALL PANELS, SWITCHES, DISCONNECT STARTERS, OR OTHER ELECTRIC SYSTEM CONTROLS SHALL BE STENCILED WITH THEIR APPROPRIATE DESIGNATION/FUNCTION. ALL CIRCUIT BREAKERS SHALL BE IDENTIFIED BY A PANEL SCHEDULE OR STENCIL ADJACENT TO THE CIRCUIT BREAKER. PROVIDE PRINT PANEL SCHEDULE. HAND WRITING NOT ALLOWED.
- ALL CIRCUIT BREAKERS POSITIONS IN ALL PANELS ARE SHOWN FOR GROUPING PURPOSES ONLY. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR LOAD BALANCING.
- . ALL DEVICES SHALL BE FASTENED IN PLACE SECURELY.
- WORK WHICH MUST BE DONE IN OCCUPIED AREAS SHALL BE DONE AT SUCH TIMES AS INDICATED IN THE PHASING OF CONSTRUCTION AND AS APPROVED BY THE OWNER. OUTAGES ARE ONLY PERMITTED OUTSIDE OF NORMAL BUSINESS HOURS. COORDINATE WITH OWNER. INCLUDE ALL PREMIUM TIME IN BID.
- REMOVAL OF ELECTRICAL ITEMS INCLUDES THEIR DISPOSAL. THE EXCEPTION WILL BE TO TURN OVER TO THE OWNER ITEMS, IF ANY, THEY SPECIFY TO BE RETAINED IN THEIR INVENTORY. PCB OR ASBESTOS BEARING MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH LAWS AND REGULATIONS.
- . UNLESS OTHERWISE NOTED, STARTERS AND DISCONNECTS FOR MECHANICAL EQUIPMENT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR. COORDINATE WITH THE MECHANICAL CONTRACTOR FOR ALL POWERED MECHANICAL EQUIPMENT. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO INSTALL ALL MOTOR STARTERS AND ASSOCIATED POWER WIRING FROM SOURCE TO UNIT VIA STARTERS AND DISCONNECTS. THE LOCATIONS OF MOTOR STARTERS SHALL BE DETERMINED BY THE MECHANICAL CONTRACTOR IN THE FIELD AND SUBMITTED TO THE ENGINEER FOR APPROVAL UNLESS IT IS SPECIFIED ON THE DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE MECHANICAL DRAWINGS, EQUIPMENT SCHEDULES AND NOTES AND INCLUDE IN HIS BID PRICE ALL ELECTRICAL WORK ASSOCIATED WITH THEIR INSTALLATION, AND THE REMOVAL OF ANY STARTERS / DISCONNECTS NO LONGER REQUIRED.
- PROVIDE PROTECTIVE DUST COVERS ON SMOKE DETECTORS IN CONSTRUCTION AREAS. REMOVE COVERS UPON
- ANY LIGHT FIXTURES INSTALLED & ARE SUBJECT TO IMPACT OR PHYSICAL DAMAGE SHALL BE MOUNTED WITH SAFETY CHAINS AND SECURED TO STRUCTURE.
- PROVIDE ALL WIRING, PANEL BOARDS, SWITCHES, FUSES, EQUIPMENT, AND ALL INCIDENTAL MATERIALS REQUIRED TO SUPPLY TEMPORARY AND PERMANENT ELECTRICAL NEEDS FOR THE WORK INVOLVED, ALL IN ACCORDANCE WITH OSHA, LOCAL, STATE AND UNDERWRITERS REQUIREMENTS.

ENERGY REBATES:

- FROM THE LOCAL UTILITY AND/OR APPLICABLE AGENCIES FOR CONTRACTOR FURNISHED EQUIPMENT. THIS SHALL INCLUDE, BUT NOT LIMITED TO: LIGHTING FIXTURES, LIGHTING CONTROLS, PHOTOVOLTAIC SYSTEMS, ELECTRIC VEHICLE TO START OF CONSTRUCTION AS REQUIRED BY REBATE AGENCY.
- CHARGING SYSTEMS, ETC. BEGIN THIS PROCESS EARLY WITH THE OWNER PRIOR PROVIDE TO OWNER ALL REQUIRED DOCUMENTATION AS REQUIRED BY THE ISSUING AGENCY TO OBTAIN REBATE.

THE CONTRACTOR SHALL SHALL COORDINATE AND PROVIDE ALL ASSISTANCE TO THE OWNER IN THE APPLICATION PROCESS FOR ENERGY EFFICIENCY REBATES

- ALTERATIONS AND RENOVATIONS OF EXISTING AREAS MAY REQUIRE PRE-INSPECTION BY THE REBATE ISSUING AGENCY TO VERIFY EXISTING CONDITIONS. OBTAIN AND COORDINATE ANY PRE-INSPECTIONS PRIOR TO START OF
- DEMOLITION. OBTAIN AND COORDINATE ANY POST INSTALLATION INSPECTIONS AS REQUIRED. ALL REBATE PROCEEDS ARE THE PROPERTY OF THE OWNER.

FIRE STOP NOTES

- ALL CONDUIT AND CABLE PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS OR OTHER STRUCTURES SHALL BE FIRE STOPPED.
- THE FIRE STOP MATERIALS SHALL BE HILTI TYPE FS-657 FIRE BLOCK, FS-ONE SEALANT, CP-672 JOINT SPRAY. CP-601S ELASTOMERIC SEALANT, CP-606 FLEXIBLE SEALANT, CP-643 OR CP-642 COLLAR, CP-618 PUTTY STICK, OR FS-635 TROWEL ABLE COMPOUND, AS SUITABLE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PRODUCTS SPECIFIED OR EQUAL.
- FIRE STOP MATERIALS OTHER THAN HILTI SHALL INCLUDE FULL TECHNICAL DATA WITH SHOP DRAWINGS TO DEMONSTRATE EQUALITY WITH THE SPECIFIED FIRE STOPS AND STATEMENT FROM MANUFACTURER THAT THEY MEET OR EXCEED THE PRODUCTS SPECIFIED HERE.
- ALL SYSTEMS SHALL HAVE THEIR OWN SLEEVE THROUGH FIRE RATED WALLS, IE FIRE ALARM, PUBLIC ADDRESS, TELEPHONE, DATA, POWER AND LIGHTING.

DEMOLITION NOTES

OR PURPOSE.

- THE ITEMS SPECIFICALLY SHOWN ON THE DEMOLITION DRAWINGS ARE TO BE ADDRESSED BY THE ELECTRICAL CONTRACTOR. THE ITEMS ARE TO BE TREATED AS NOTED AND RANGE FROM DIRECT REMOVAL AND DISPOSAL TO REMOVAL, STORAGE AND REINSTALLATION
- MANY OTHER ELECTRIC ITEMS EXIST THAT ARE NOT SHOWN INCLUDING, BUT ARE NOT LIMITED TO SWITCHES, RECEPTACLES, FLOOR OUTLETS, LOW VOLTAGE JACKS, LOW VOLTAGE DEVICES AND WIRING, TELEPHONE PUNCH DOWN BLOCKS, AND OUT OF SERVICE ITEMS. ALL SUCH ITEMS SHALL BE PERMANENTLY DE-ENERGIZED, DISCONNECTED, AND OTHERWISE MADE SAFE FOR DEMOLITION BY NON-ELECTRICAL CONTRACTORS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ASSURING THAT ALL ELECTRIC DEVICES SCHEDULED FOR DEMOLITION, OF ANY VOLTAGE OR FUNCTION, ARE SAFE AND ADVISE THE OTHER CONTRACTORS.
- AFTER THE ELECTRICAL CONTRACTOR HAS DISCONNECTED ELECTRIC SUPPLIES TO ITEMS TO BE DEMOLISHED, HE SHALL ADVISE THE GENERAL CONTRACTOR OF ANY ELECTRIC ITEMS TO BE RETAINED FOR FUTURE USE AND THEREFORE NOT TO BE DEMOLISHED. THE GENERAL CONTRACTOR SHALL THEN PERFORM ALL WORK ZONE DEMOLITION. THIS MATTER APPLIES TO ALL ELECTRIC ITEMS, OF ANY VOLTAGE
- THE SPECIAL/SPECIFIC ITEMS SHOWN ON THE DRAWING FOR ELECTRICAL CONTRACTOR TO ACT ON WERE FOUND BY SURVEY. NUMEROUS LOCATIONS WERE BLOCKED AND ADDITIONAL EQUAL TYPE ITEMS MAY BE PRESENT. THE ELECTRICAL CONTRACTOR SHALL ALLOW FOR THIS IN HIS BID PRICE AND ATTEND TO THOSE EQUAL OR SIMILAR DEVICES AS MAY BE DISCOVERED.
- REMOVAL ITEMS THAT ARE LISTED AS TO BE TURNED OVER TO OWNER'S INVENTORY SHALL BE DISCUSSED WITH THE OWNERS BUILDINGS AND GROUNDS MANAGER. THOSE ITEMS THAT THE OWNER DECLINES SHALL THEN BE DISPOSED OF BY THE CONTRACTOR IN THE MANNER OF OTHER PERMANENT REMOVALS. ANY PCB BEARING FLUORESCENT FIXTURES SHALL BE DISPOSED OF PER REGULATIONS.
- RETAIN EXISTING RECEPTACLES IN WALLS THAT WILL NOT BE IN CONFLICT WITH NEW CONSTRUCTION. RETAIN LIGHT SWITCH LOCATIONS THAT WILL NOT BE IN CONFLICT WITH NEW CONSTRUCTION. INSTALL BLANKING PLATE COVERS OVER THE UNUSED PORTION OF GANG BOXES HAVING MORE GANG POSITIONS THAN NEEDED FOR NEW SWITCHES.
- THE ELECTRICAL CONTRACTOR SHALL COVER ALL BACK BOXES IN THE WALL THAT BECOME EXPOSED DUE TO DEVICE REMOVALS. THIS INSTRUCTION ALSO APPLIES TO EXPOSED ELECTRICAL BACK BOXES AS MAY EXIST AT THE SITE PRIOR TO THIS PROJECT. THE COVER SHALL BE BRUSHED ALUMINUM WITH CHAMFERED EDGES AND COVER THE HOLE COMPLETELY WITH AT LEAST 3/4" EXTRA MARGIN ON ALL SIDES. MOUNT THE COVER WITH SCREWS TO MATCH THE ORIGINAL PATTERN.
- IT IS EXPECTED THAT STRUCTURAL DEMOLITION BY THE MECHANICAL CONTRACTOR WILL CAUSE VARIOUS ELECTRIC SUPPLIES, OF VARIOUS VOLTAGES AND PURPOSES, TO BE CUT AND RENDER SOME DEVICES TEMPORARILY INACTIVE. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO RECONSTRUCT AND RECONNECT SUCH ELECTRIC SOURCES WHEN THE NEW STRUCTURE IS BUILT. NOTE THAT MOST REINSTALLED ITEMS WILL BE IN DIFFERENT LOCATIONS FROM THE REMOVAL LOCATION. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED CIRCUIT EXTENSIONS OR MODIFICATIONS TO PROVIDE SERVICE TO A REINSTALLED ITEM AS RELOCATED. PROVIDE ALL REQUIRED CIRCUIT EXTENSIONS AS REQUIRED TO RESTORE SERVICE TO DEVICES. NOTE THAT THIS REQUIREMENT ALSO APPLIES TO THE ROOMS AND ELECTRICAL ITEMS WITHIN THAT ARE NOMINALLY NOT IN CONTRACT. SUCH RESTORATION OF SERVICE, IF NEEDED, IS SPECIFICALLY IN THE ELECTRICAL CONTRACTOR'S CONTRACT.
- IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL ELECTRICAL DEVICES, FROM DAMAGES DURING CONSTRUCTION, WHICH ARE EITHER INDICATED TO REMAIN, AND/OR TO BE REMOVED AND REINSTALLED THROUGHOUT ALL CONSTRUCTION AREAS. DEVICES SHALL INCLUDE BUT WILL NOT BE LIMITED TO: SMOKE DETECTORS, EMERGENCY LIGHTS, EXIT SIGNS, OCCUPANCY SENSORS, SPEAKERS, LIGHT FIXTURES, SWITCHES, RECEPTACLE, ETC. IN THE EVENT OF DAMAGES INCURRED DUE TO CONSTRUCTION ACTIVITIES. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE ANY DAMAGED DEVICES AT NO ADDITIONAL COST TO THE OWNER.
- ALL SYSTEMS ASSOCIATED WITH THE DEVICES SCHEDULED TO BE REMOVED, STORED AND PROTECTED SHALL BE TESTED BY THE MANUFACTURER'S CERTIFIED TESTING VENDOR PRIOR TO ANY DEMOLITION ACTIVITY. ANY DEVICE WHICH FAILS THE TEST SHALL BE REPLACED WITH A FORM, FIT AND FUNCTION COMPONENT PER UNIT PRICES, AND SUCH DEVICES ARE NOT INCLUDED IN THIS RESPONSIBILITY STATEMENT, BUT ALSO SUCH INSTALLATION SHALL BE IN THE ELECTRICAL CONTRACTOR'S BASE BID. THE ELECTRICAL CONTRACTOR SHALL RE-TEST ALL SUCH SYSTEM COMPONENTS BY A MANUFACTURER CERTIFIED TESTING VENDOR OF SUCH SYSTEM OF ALL PREVIOUSLY TESTED SYSTEM COMPONENTS AFTER ALL WORK BY ALL TRADES HAS BEEN COMPLETED, AND ALL SYSTEM COMPONENTS HAVE BEEN INSTALLED. ANY COMPONENT WHICH FAILS SHALL BE REPLACED, AND PROGRAMMED IF NECESSARY BY THE ELECTRICAL CONTRACTOR. ALL SUCH REPLACEMENT AND PROGRAMMING COSTS SHALL BE ELECTRICAL CONTRACTOR'S RESPONSIBILITY. ALL COSTS ASSOCIATED WITH THE TESTING OF AFFECTED SYSTEM SUCH AS BUT NOT LIMITED TO FIRE ALARM, PUBLIC ADDRESS, INTERCOM, TELEPHONE, AND SECURITY SYSTEMS SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. ALL EQUIPMENT, DEVICES, WIRING AND THEIR ASSOCIATED MATERIAL SPECIFIED TO REMAIN, WHICH IS NOT STORED AND PROTECTED SHALL BE PROTECTED DURING THE DEMOLITION ACTIVITIES, AND ALL TRADES SHALL BE INFORMED OF SUCH COMPONENTS. ANY OF SUCH COMPONENTS WHICH BECOME DAMAGED DURING DEMOLITION SHALL BE REPLACED FORM, FIT AND FUNCTION BY THE ELECTRICAL CONTRACTOR AT HIS EXPENSE.

TEMPORARY POWER CONSTRUCTION NOTES

- THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND LIGHTING IN THE CONSTRUCTION
- ALL TEMPORARY POWER PANELS AND FUSED SWITCHES OUTDOORS SHALL BE NEMA 3R CONSTRUCTION AND LOCKABLE. ALL OUTDOOR RECEPTACLES SHALL BE WATERPROOF AND HAVE A COVER THAT ENCLOSES THE PLUGGED IN CORDS WHILE IN SERVICE AS 'INTERMATIC WP1020C'. NON-WATERPROOF GEAR IN A HOUSING IS NOT ACCEPTABLE.
- ALL RECEPTACLES SHALL BE GFCI PROTECTED AND MOUNTED 3'-0" ABOVE FINISHED FLOOR. PROVIDE WORK BLOCKING AS REQUIRED. ALL RECEPTACLES OUTLETS SHALL BE 2 GANG DOUBLE DUPLEX.
- TEMPORARY LIGHTING SHALL BE CONSTRUCTED OF SINGLE AND DOUBLE 100 WATT CLEAR INCANDESCENT LAMPS, OR EQUIVALENT, AND WATERPROOF RUBBER SOCKETS, SPLICED WITH WATERPROOF CONNECTORS ON FESTOONED ROMEX-TYPE WIRE. ADEQUACY OF ALL TEMPORARY LIGHTING CONFIGURATIONS SHALL BE AS DETERMINED BY THE CONSTRUCTION MANAGER. PRE ASSEMBLED TEMPORARY LIGHTING IS DISALLOWED. TAPS AND SPLICES SHALL BE MADE WITH SCOTCH LOCK CONNECTORS, RUBBER TAPE, AND THEN PVC COATED. THE CONNECTORS SHALL BE FILLED WITH PENETROX. A PLASTIC SHAPE ON CAGE/GUARD SHALL PROTECT EACH SOCKET AND LAMP. NOMINAL SPACING BETWEEN LAMP CLUSTER IS 16 FEET. MOUNT LIGHTS EIGHT FEET ABOVE FINISHED FLOOR IN TYPICAL LOCATIONS AND 10 FEET ABOVE FINISHED FLOOR IN CORRIDOR. PROVIDE NIGHT LIGHTING CIRCUIT, WHICH SHALL OPERATE CONTINUOUSLY. ALL LAMPS SHALL BE 130 VOLT, ROUGH SERVICE RATED. TEMPORARY LIGHTS SHALL BE TO OSHA STANDARDS. ALTERNATE FIXTURES SHALL BE 400W
- WIRING SHALL BE 1#12+1#12(N)+1#12(G) ROMEX STYLE. CIRCUITS SHALL BE OPERATED A MAXIMUM OF 15 AMPS OR 1800 WATTS (18 100 WATT LAMPS). SWITCHING SHALL BE DONE VIA THE SWITCH RATED 20A. 10 CIRCUIT BREAKERS. SEGREGATE THE NIGHT LIGHTS AND RECEPTACLES IN THE LOWER PART OF THE POWER PANELS AND LABEL THESE "DO NOT TURN OFF" . CIRCUIT HOME RUNS CONDUCTORS SHALL INCREASE ONE WIRE SIZE EVERY 100 FEET I.E. #10 CONDUCTORS. WIRING WITHIN THE ROOM AREA SHALL BE MADE WITH #12 CONDUCTORS.
- THE ELECTRICAL CONTRACTOR SHALL PREPARE EACH PANEL SCHEDULE.
- A LENGTH OF GREENFIELD FLEX CONDUIT AT PINCH POINTS SHALL PROTECT ALL WIRE, SUCH AS WHERE WIRING PASSES THROUGH A DOORWAY. WIRING SHALL BE SUPPORTED FROM ANCHORS INSTALLED BY THE ELECTRICAL CONTRACTOR FOR THE PURPOSE OF THIS PROJECT. ALL ELECTRICAL HARDWARE SHALL BE NEW FOR THIS PROJECT.
- ALL WIRING SHALL BE INSTALLED SO AS NOT TO CAUSE TRIPPING HAZARD OR SIMILAR OBSTRUCTION.
- POWER PANELS SHALL BE EQUIPPED WITH 42 1P, 20A CIRCUIT BREAKERS AND ALL CIRCUIT BREAKERS NOT IN SERVICE SHALL BE LABELED SPARE. AT THE OWNERS OPTION PANEL AND CIRCUIT BREAKERS SHALL BE TURNED OVER TO OWNERS INVENTORY AT CONCLUSION OF THE PROJECT. ALL ELECTRICAL HARDWARE SHALL BE NEW FOR THIS PROJECT.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE OF TEMPORARY LIGHTING AND POWER SYSTEMS DURING, AND AFTER INSTALLATION, UP TO THE TIME OF BENEFICIAL OCCUPANCY, AND TIME OF REMOVAL. REPAIRS SHALL BE MADE WITHIN 24 HOURS OF THE REPORTED OUTAGE, OR AS DIRECTED BY THE CONSTRUCTION MANAGER. ELECTRICAL CONTRACTOR SHALL COMMENCE WORK ON
- REMOVAL OF THE TEMPORARY POWER AND LIGHTING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR WHEN THE PROJECT IS COMPLETE. ALL EQUIPMENT, WIRING SUPPORTS, CONNECTORS, ETC SHALL BE REMOVED FROM OWNER'S PROPERTY AFTER PROJECT IS COMPLETE. INCLUDE STATEMENT OF

THIS PROJECT WITH A GROSS OF SPARE CONSTRUCTION BULBS AT HIS IMMEDIATE DISPOSAL.

REMOVAL WITHIN CLOSE OUT DOCUMENTS, REQUIRED FOR FINAL PAYMENT.

PROVIDE THE TEMPORARY ELECTRICAL SERVICE TO THE CONSTRUCTION TRAILERS SHALL BE AS PER USERS REQUIREMENTS OF THE TRADES. TEMPORARY SERVICES ARE REQUIRED PER SPECIAL CONDITIONS OF THE PROJECT. THE OWNER IS TO PAY FOR POWER CONSUMPTION UNLESS OTHERWISE NOTED.

ABBREVIATIONS	
A = AMPERAGE OR AMPS	MTD = MOUNTED
AC = ALTERNATING CURRENT	MTH = MOUNTING HEIGHT
ACT = ABOVE COUNTER TOP	N = NEUTRAL
AFF = ABOVE FINISHED FLOOR	NEC = NATIONAL ELECTRICAL CODE
AFG = ABOVE FINISHED GRADE	NEMA = NATIONAL ELECTRICAL MANUFACTURERS ASSO
BC = BELOW CEILING	NIC. = NOT IN CONTRACT
C = CONDUIT	NL = NIGHT LIGHT
CB, C/B = CIRCUIT BREAKER	NTS = NOT TO SCALE
CD = CANDELAS	PA = PUBLIC ADDRESS
CKT = CIRCUIT	PV = PHOTOVOLTAIC
CM = CEILING MOUNTED	PVC = POLYVINYL CHLORIDE
DC = DIRECT CURRENT	REC = RECEPTACLE
DH = DOOR HOLDER	REQ'D = REQUIRED
DISC = DISCONNECT	RL = RELOCATED
EM = EMERGENCY	R&R = REMOVE AND REINSTALL
EMT = ELECTRICAL METALLIC TUBING	SCH = SCHEDULE
ETR = EXISTING TO REMAIN	SD = SMOKE DAMPER
(E), EX, EXIST = EXISTING	SM = SURFACE MOUNTED
FA = FIRE ALARM	SPD = SURGE PROTECTION DEVICE
FM = FLUSH MOUNT	SQ = SQUARE
FMC = FLEXIBLE METAL CONDUIT	SWBD = SWITCHBOARD
FSD = FIRE SMOKE DAMPER	SWG = STEEL WIRE GUARD
FT = FEET	TK = TOE KICK
GFCI, GFI = GROUND FAULT CIRCUIT INTERRUPTER	TSP = TWISTED SHIELDED PAIR
G, GND = GROUND	TVSS = TRANSIENT VOLTAGE SURGE SUPPRESSION
GRS = GALVANIZED RIGID STEEL	TYP = TYPICAL
HD = HAND DRYER	UC = UNDER COUNTER
IG = ISOLATED GROUND	UG = UNDERGROUND
IN = INCHES	UON = UNLESS OTHERWISE NOTED
KW = KILOWATT	UTP = UNSHIELDED TWISTED PAIR
LFMC = LIQUID TIGHT FLEXIBLE METAL CONDUIT	UWS = UNTWISTED
MAX = MAXIMUM	V = VOLTAGE OR VOLTS
MC = METAL CLAD	VFD = VARIABLE FREQUENCY DEVICE
MCB = MAIN CIRCUIT BREAKER	VIF = VERIFY IN FIELD
MDB = MAIN DISTRIBUTION BOARD	W = WATTAGE OR WATTS
MDP = MAIN DISTRIBUTION PANEL	WG = WIRE GUARD
MFG = MANUFACTURER	WM = WALL MOUNTED
MH = MANHOLE	WP = WEATHER PROOF
MIN = MINIMUM	XFMR = TRANSFORMER
MLO = MAIN LUGS ONLY	

CONTRACTOR ABBREVIATIONS

GC = GENERAL CONTRACTOR	PC = PLUMBING CONTRACTOR
MC = MECHANICAL CONTRACTOR	CC = CASEWORK CONTRACTOR
EC = ELECTRICAL CONTRACTOR	

	TICAL 5	MBOL LEG			
SYMBOL	SINGLE PO	DE LE CIRCUIT 2-#12, 1-#12	SCRIPTION 2G, ¾"C UNLESS OTHE	RWISE NOTED	
#					
#		TWO POLE CIRCUIT 3-#12,1-#12G, 3/4"C UNLESS OTHERWISE NOTED			
		E CIRCUIT 4-#12, 1-#12			
Ψ	SINGLE RE	CEPTACLE, NEMA 5-201	R W/ STAINLESS STEEL	_ FACEPLATE	
$\frac{\Psi}{\Omega}$		DUPLEX RECEPTACLE, NEMA 5-20R W/ STAINLESS STEEL FACEPLATE GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE, 5-20R W/			
HWP	STAINLESS 'WP' ANNO	STAINLESS STEEL FACEPLATE FOR MECHANICAL SPACES, OUTDOORS, ETC. 'WP' ANNOTATION - IN RAINPROOF & IN-USE COVER.			
<u> Ф</u>		DUPLEX RECEPTACLE W/ (2) USB TYPE 'A', 20A W/ STAINLESS STEEL FACEPLATE			
Φ	DUPLEX RE STEEL FAC	CEPTACLE W/ (1) USB EPLATE	TYPE 'A' & (1) TYPE 'C',	20A W/ STAINLESS	
Ф	DUPLEX CE FACEPLATE	EILING MOUNTED RECE	PTACLE , NEMA 5-20R	W/ STAINLESS STEE	
\Box		DESTAL RECEPTACLE E. MODEL # KASON 710			
#		EX RECEPTACLE - (2)-(SS STEEL FACEPLATE		TACLES PER ABOVE	
•		AULT CIRCUIT INTERRU LE, 2 GANG WITH STAII			
$\overline{\P}$		EX RECEPTACLE - (2)-(1) TYPE 'C' PER RECEF			
^T ⊘ ⊘ ²²	OV RECEPTAC	LE, VOLTAGE & PHASE	PER LABEL		
WB		TA WALL BOX. REFER ¹ ATION AND LOCATION.	TO TECHNOLOGY DRA	WINGS FOR FINAL	
FB _P	CONFIGUR	TA FLOOR BOX. REFER			
(PT) _n	POWER/DA DRAWINGS	CONFIGURATION PER PLAN. POWER/DATA FIRE-RATED POKE-THROUGHS. REFER TO TECHNOLOGY DRAWINGS FOR FINAL CONFIGURATION AND LOCATION. SUBSCRIPT 'P'			
	RETRACTA	POWER ONLY. CONFIGURATION PER PLAN. RETRACTABLE WHITE INDUSTRIAL CORD REEL, 20A, 125V, 25' CORD LENGTH (2) DUPLEX RECEPTACLE END W/ GFCI.			
	UNFUSED [UNFUSED DISCONNECT SWITCH, SIZE PER PLAN			
F)	FUSED DIS	FUSED DISCONNECT SWITCH, SIZES PER PLAN			
\$ _{1P}		MOTOR SWITCH FURNISHED BY MC. EC TO INSTALL. WIRE SIZE AND POLE PER PLAN.			
	JUNCTION	JUNCTION BOX. MOUNT/ INSTALL IN FIELD AS REQUIRED.			
(HP)/	MOTOR, NO). INDICATES HORSEPO)WER		
HD	HAND DRYE	ER, SUPPLIED BY G.C.,	INSTALLED AND WIREI	D BY E.C. U.O.N	
	PANEL BOA	RD/LOAD CENTER, MO	UNTING AND CHARAC	TERISTICS PER PLA	
	TRANSFOR	MER, VOLTAGE, PHASI	E, KVA PER PLAN		
GRP		M SHUTOFF RELAY PA		D INSTALL, EC TO	
<u> </u>		ER TO PLUMBING DRAV CY SHUT-OFF MUSHRO		DN:	
<u>H</u>		PC TO PROVIDE, EC TC R - PC TO PROVIDE, EC			
Ê	'E' = ELECT 'H'- MOTOR	RICAL IZED HOIST	,	TOWNING DIVAMING	
	SUBSCRIPT	FER CONTROL SWITCH F'R'- INCLUDES KEY RE			
P.	T FIXTURE WIRI ANEL NAME/ STING CIRCUIT	NG FORMAT: CKT BKR/ EXISTING CIRCUIT GROUPING	FIXTURE TYPE	SWITCH LETTER	
21-1-AE-b	"P1"	"1"	"AE"	"b"	
	"EX"	"1"	"AE"	"b"	
		CH: R CASE LETTER (TOP) R CASE LETTER(S) OR			
	(NO K = I	NE) = SINGLE PÔLÉ, 20. KEY SWITCH	A, HEAVY DUTY SPEC (I = INDICATOR LIGHT	GRADE SWITCH	
	M# =	3 = THREE WAY SWITCH 4 = FOUR WAY SWITCH M# = MOMENTARY CONTACT SWITCH. '#' NUMBER OF BUTTONS.			
\$ к к		EF = COMMERCIAL GRADE EXHAUST FAN SWITCH MARKTIME MODEL NO. 42723 VAC = WALLSWITCH W/ MOMENTARY BUTTON & INTEGRATED PIR			
	oco	C = WALLSWITCH W/ IN	ANCY SENSOR U.O.N. FEGRATED PIR TECHN	OLOGY OCCUPANC	
		SENSOR U.O.N. WALLBOX SLIDE DIMME BALLAST/DRIVER	ER COMPATIBLE W/ FIX	CTURE DIMMING	
	T = 1	BALLAS I/DRIVER WALL SWITCH 7-DAY TI #RPLS530A OR EQ	MER. HONEYWELL EC	ONSWITCH	
(OS)(VS)(DS	\ I	DUNTED OCCUPANCY/ DUAL TECHNOLOGY, C		•	
(wos) (wvs)	WALL MOU	NTED OCCUPANCY/ VA	CANCY, LOW VOLTAGI	E, DUAL	
(WVS)	TECHNOLO	WALL MOUNTED OCCUPANCY/ VACANCY, LOW VOLTAGE, DUAL TECHNOLOGY, COMPLETE W/ POWER PACK(S) AS REQUIRED.			
PC					

		OAL O	WIDOL LLO			
SYMBOL		DESCRIPTION SINGLE POLE CIRCUIT 2.#12, 1.#12G 3/."C LINLESS OTHERWISE NOTED				
#		SINGLE POLE CIRCUIT 2-#12, 1-#12G, ¾"C UNLESS OTHERWISE NOTED				
#		TWO POLE CIRCUIT 3-#12,1-#12G, 3/4"C UNLESS OTHERWISE NOTED				
+		THREE POLE CIRCUIT 4-#12, 1-#12G, ¾"C UNLESS OTHERWISE NOTED				
Ψ		SINGLE RECEPTACLE, NEMA 5-20R W/ STAINLESS STEEL FACEPLATE				
Ψ		DUPLEX RECEPTACLE, NEMA 5-20R W/ STAINLESS STEEL FACEPLATE GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE, 5-20R W/				
¶wp		STAINLESS STEEL FACEPLATE FOR MECHANICAL SPACES, OUTDOORS, ETC. 'WP' ANNOTATION - IN RAINPROOF & IN-USE COVER.				
Φ		DUPLEX RECEPTACLE W/ (2) USB TYPE 'A', 20A W/ STAINLESS STEEL FACEPLATE				
Ψ		DUPLEX RECEPTACLE W/ (1) USB TYPE 'A' & (1) TYPE 'C', 20A W/ STAINLESS STEEL FACEPLATE				
Ф		DUPLEX CEILING MOUNTED RECEPTACLE , NEMA 5-20R W/ STAINLESS STEEL FACEPLATE.				
Φ		DUPLEX PEDESTAL RECEPTACLE , NEMA 5-20R W/ STAINLESS STEEL FACEPLATE. MODEL # KASON 7109 SERIES. TYPE OF DUPLEX PER PLAN.				
\bigoplus		QUADRUPLEX RECEPTACLE - (2)-GANG DUPLEX RECEPTACLES PER ABOVE W/ STAINLESS STEEL FACEPLATE				
#		GROUND FAULT CIRCUIT INTERRUPTER 20A, 125V QUADRUPLEX RECEPTACLE, 2 GANG WITH STAINLESS STEEL FACEPLATE.				
$\overline{\oplus}$		QUADRUPLEX RECEPTACLE - (2)-GANG DUPLEX RECEPTACLES W/ (1) USB TYPE 'A' & (1) TYPE 'C' PER RECEPTACLE, W/ STAINLESS STEEL FACEPLATE				
^T ⊘ ⊘ ^{220V}		RECEPTACLE, VOLTAGE & PHASE PER LABEL				
WB		POWER/DATA WALL BOX. REFER TO TECHNOLOGY DRAWINGS FOR FINAL CONFIGURATION AND LOCATION.				
FB		POWER/DATA FLOOR BOX. REFER TO TECHNOLOGY DRAWINGS FOR FINAL CONFIGURATION AND LOCATION. SUBSCRIPT 'P' POWER ONLY. CONFIGURATION PER PLAN.				
(PT) _p		POWER/DATA FIRE-RATED POKE-THROUGHS. REFER TO TECHNOLOGY DRAWINGS FOR FINAL CONFIGURATION AND LOCATION. SUBSCRIPT 'P' POWER ONLY. CONFIGURATION PER PLAN.				
		RETRACTABLE WHITE INDUSTRIAL CORD REEL, 20A, 125V, 25' CORD LENGTH, (2) DUPLEX RECEPTACLE END W/ GFCI.				
		UNFUSED DISCONNECT SWITCH, SIZE PER PLAN				
F		FUSED DISCONNECT SWITCH, SIZES PER PLAN				
\$ _{1P}		MOTOR SWITCH FURNISHED BY MC. EC TO INSTALL. WIRE SIZE AND POLE PER PLAN.				
J		JUNCTION BOX. MOUNT/ INSTALL IN FIELD AS REQUIRED.				
/HP/		MOTOR, NO. INDICATES HORSEPOWER				
HD		HAND DRYER, SUPPLIED BY G.C., INSTALLED AND WIRED BY E.C. U.O.N				
		PANEL BOARD/LOAD CENTER, MOUNTING AND CHARACTERISTICS PER PLAN				
m	ww.	TRANSFORMER, VOLTAGE, PHASE, KVA PER PLAN				
GR	<u>P</u>	GAS SYSTEM SHUTOFF RELAY PANEL - PC FURNISH AND INSTALL, EC TO WIRE. REFER TO PLUMBING DRAWINGS.				
		EMERGENCY SHUT-OFF MUSHROOM TYPE PUSH BUTTON:				
Œ		'G' = GAS - PC TO PROVIDE, EC TO WIRE, REFER TO PLUMBING DRAWINGS 'W' = WATER - PC TO PROVIDE, EC TO WIRE, REFER TO PLUMBING DRAWINGS 'E' = ELECTRICAL 'H'- MOTORIZED HOIST MCS= MASTER CONTROL SWITCH, ASCO 216B89, BY PC SUBSCRIPT 'R'- INCLUDES KEY RESET				
		 Fixture Wiri El Name/	NG FORMAT: CKT BKR/ EXISTING	FIXTURE TYPE	SWITCH LETTER	
P1-1-AE-b		NG CIRCUIT "P1"	CIRCUIT GROUPING "1"	"AE"	"b"	
		"EX"	"1"	"AE"	"b"	
\$ а к		WALL SWITCH: • LOWER CASE LETTER (TOP) INDICATES SWITCHING DESIGNATION • UPPER CASE LETTER(S) OR NUMBER SUBSCRIPTS (BOTTOM): (NONE) = SINGLE POLE, 20A, HEAVY DUTY SPEC GRADE SWITCH K = KEY SWITCH I = INDICATOR LIGHT 3 = THREE WAY SWITCH 4 = FOUR WAY SWITCH M# = MOMENTARY CONTACT SWITCH. '# NUMBER OF BUTTONS. EF = COMMERCIAL GRADE EXHAUST FAN SWITCH MARKTIME MODEL NO. 42723 VAC = WALLSWITCH W/ MOMENTARY BUTTON & INTEGRATED PIR TECHNOLOGY VACANCY SENSOR U.O.N. OCC = WALLSWITCH W/ INTEGRATED PIR TECHNOLOGY OCCUPANCY SENSOR U.O.N. D = WALLBOX SLIDE DIMMER COMPATIBLE W/ FIXTURE DIMMING BALLAST/DRIVER T = WALL SWITCH 7-DAY TIMER. HONEYWELL ECONSWITCH #RPLS530A OR EQ				
OS VS DS		CEILING MOUNTED OCCUPANCY/ VACANCY/ DAYLIGHT SENSOR, LOW VOLTAGE, DUAL TECHNOLOGY, COMPLETE W/ POWER PACK(S) AS REQ'D.				
(wos) (wvs)		WALL MOUNTED OCCUPANCY/ VACANCY, LOW VOLTAGE, DUAL TECHNOLOGY, COMPLETE W/ POWER PACK(S) AS REQUIRED.				
PC		PHOTOCEL	L			
RC		ROOM CONTROLLER. MOUNT ABOVE CEILING UNLESS OTHERWISE NOTED.				

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INFORMATION AS THEY MAY NOT HAVE BEEN BUILT AND DETAILE

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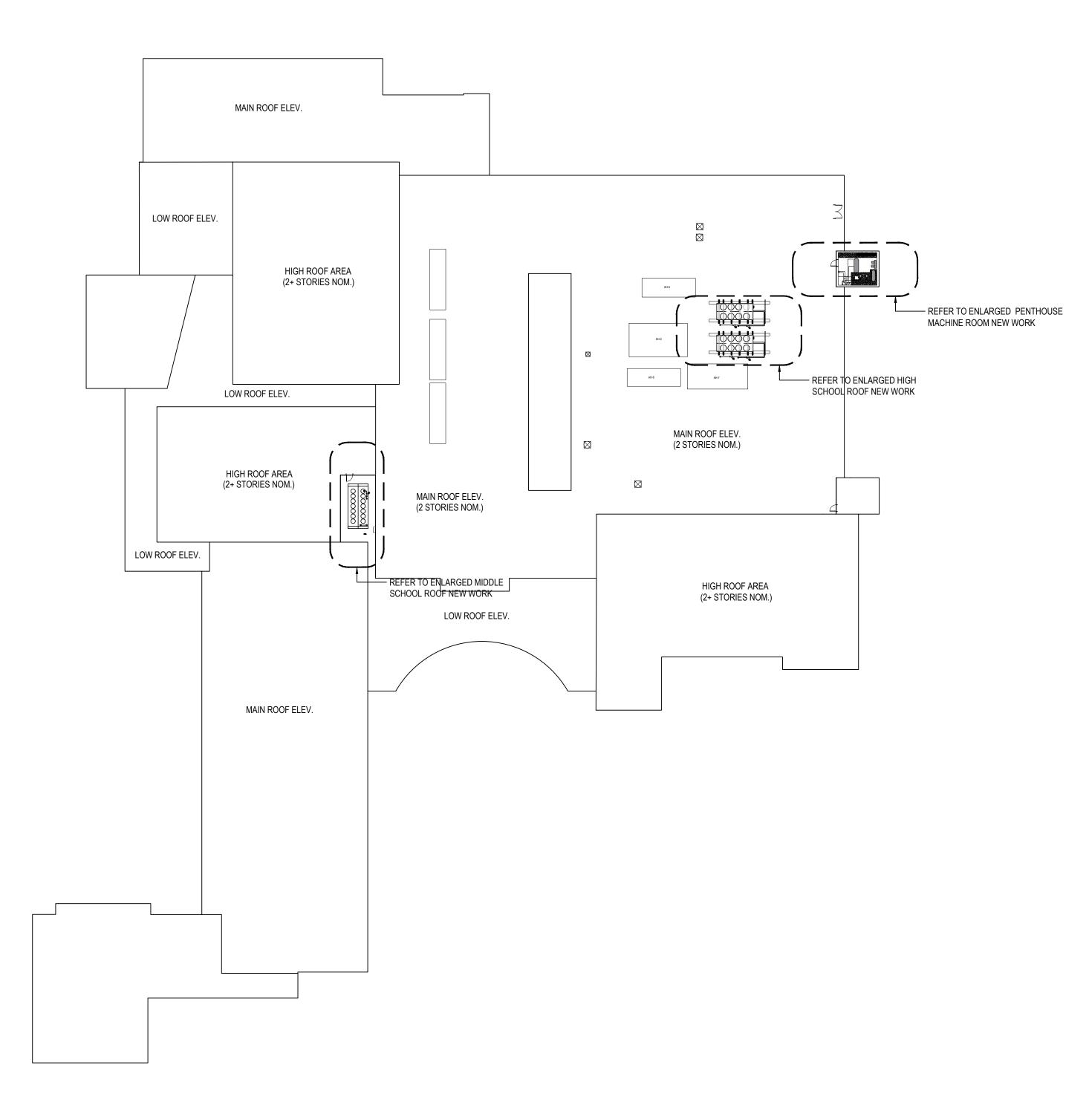
SED	No.	66-19-05-02-0-002-019
DIS	TRICT_	BLIND BROOK - RYE UNION FREE SCHOOL DISTR
PRO	<u>DJECT</u>	HVAC IMPROVEMENTS
DW	<u>G TITLE</u>	ELECTRICAL GENERAL NOTES AND LEGE
SCA	ALE:	AS NOTED
DAT	E:	JAN 2025

BID PICK-UP:

FILE No: 24-353

EXP. 3-31-28

E0.01



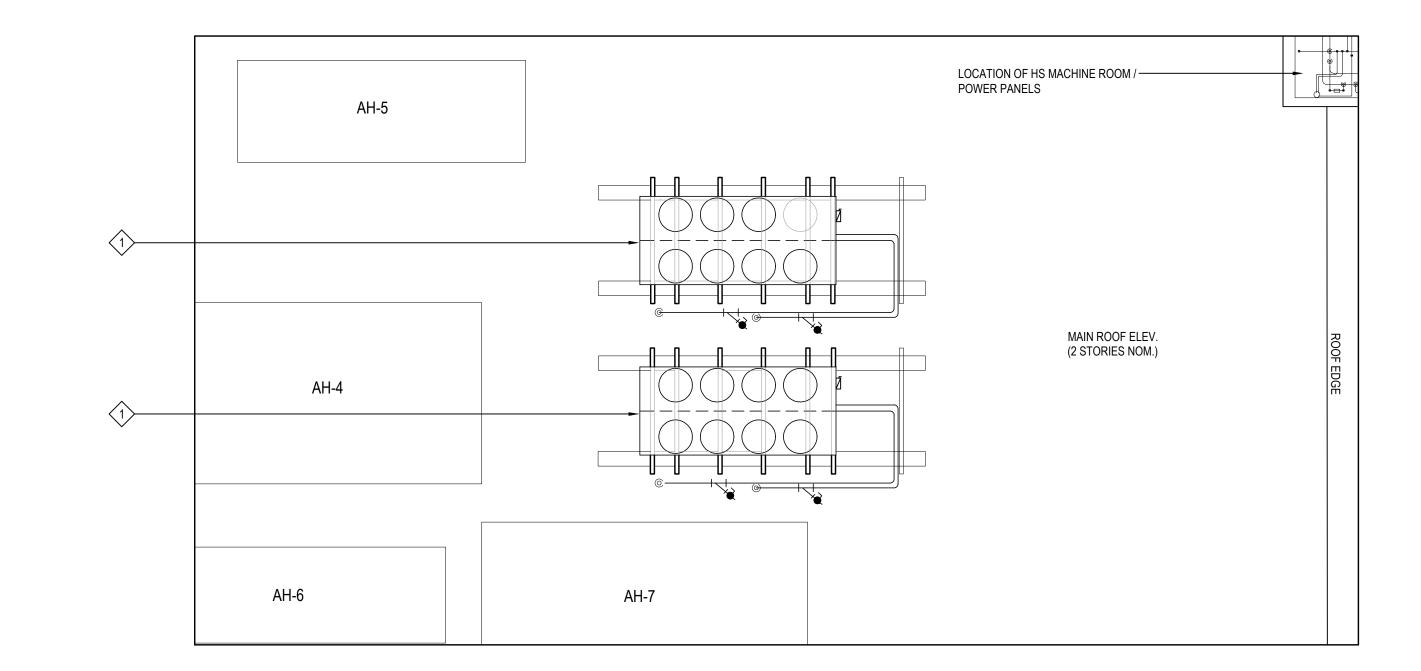
ROOF DEMOLITION PLAN

NOTE: SCALE: 1/32" = 1'-0"

(REFER TO THE TESTING REPORTS PRIOR TO ANY REMOVALS)

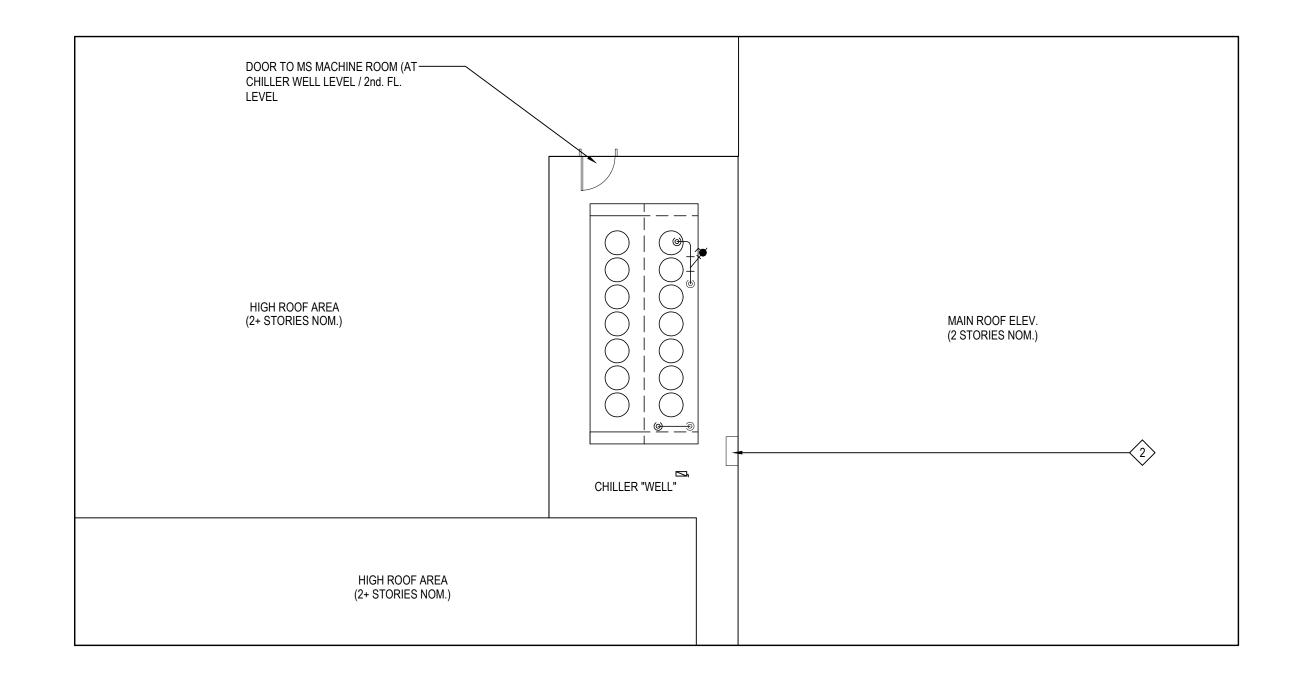
DEMOLITION KEY NOTES - ROOFTOP ELECTRICAL

- EC TO LOCK OUT / TAG OUT POWER FEED FROM (2) EXISTING 140T ROOFTOP CHILLERS. EC TO LEAVE
- WIRING AT CHILLERS FOR FUTURE RE-WORK / CONNECTION TO NEW MACHINES.
- EC TO LOCK OUT / TAG OUT POWER FEED FROM EXISTING 225T ROOFTOP CHILLER. EC TO DISCONNECT / REMOVE CKT. FROM CHILLER BACK TO ROOFTOP JUNCTION BOX.
- © EC TO REMOVE EXISTING FUSES IN 400A CUBICAL. FUSES TO LATER BE REPLACED TO MEET MINIMUM SPEC OF NEW CHILLERS.



HIGH SCHOOL ROOF DEMOLITION PLAN

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

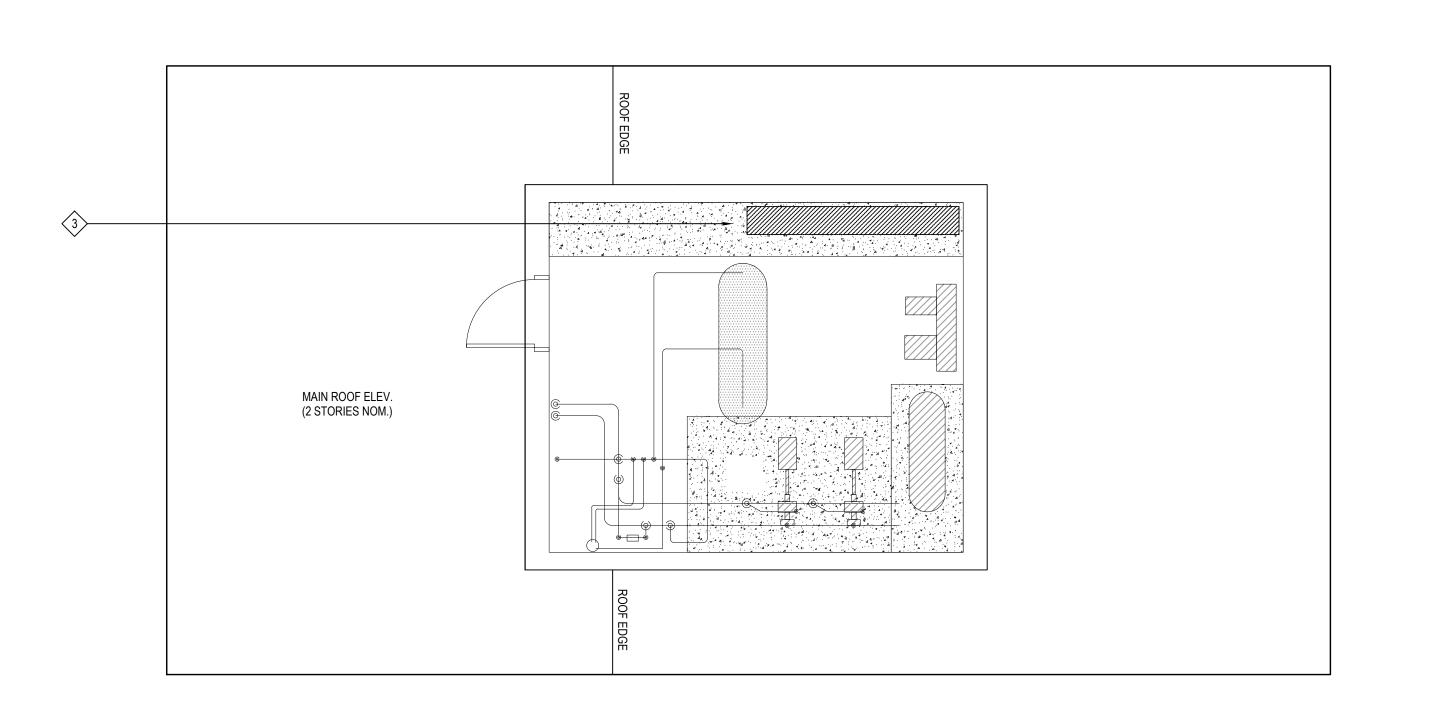


MIDDLE SCHOOL ROOF DEMOLITION PLAN

NOTE:

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

SCALE: 1/4" = 1'-0"



HS PENTHOUSE / MACHINE ROOM DEMOLITION PLAN

KEY PLAN NOT TO SCALE DRAWING BY: ACC CHECK BY: <u>NOTICE</u> THIS DRAWING, PREPARED FOR THE SPECIFIC PROJECT INDICATED IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF BBS ARCHITECTS, LANDSCAPE ARCHITECTS AND ENGINEERS, PC. INFRINGEMENT OR ANY USE OF THIS DRAWING FOR ANY OTHER PROJECT IS PROHIBITED. ANY ALTERATION OR REPRODUCTION OF THIS DOCUMENT IS ALSO PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT OR ENGINEER. LANDSCAPE ARCHITECTS ENGINEERS 244 EAST MAIN STREET PATCHOGUE SUITE, 115, ALBANY NEW YORK 11772 NEW YORK 12205 T. 631.475.0349 T. 518.621.7650 F. 631.475.0361 F. 518.621.7655 www.BBSARCHITECTURE.com

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UNION FREE SCHOOL DISTRICT

ROOF DEMOLITION PLAN

E1.01

DISTRICT BLIND BROOK - RYE

PROJECT HVAC IMPROVEMENTS

DWG TITLE ELECTRICAL

SCALE: AS NOTED

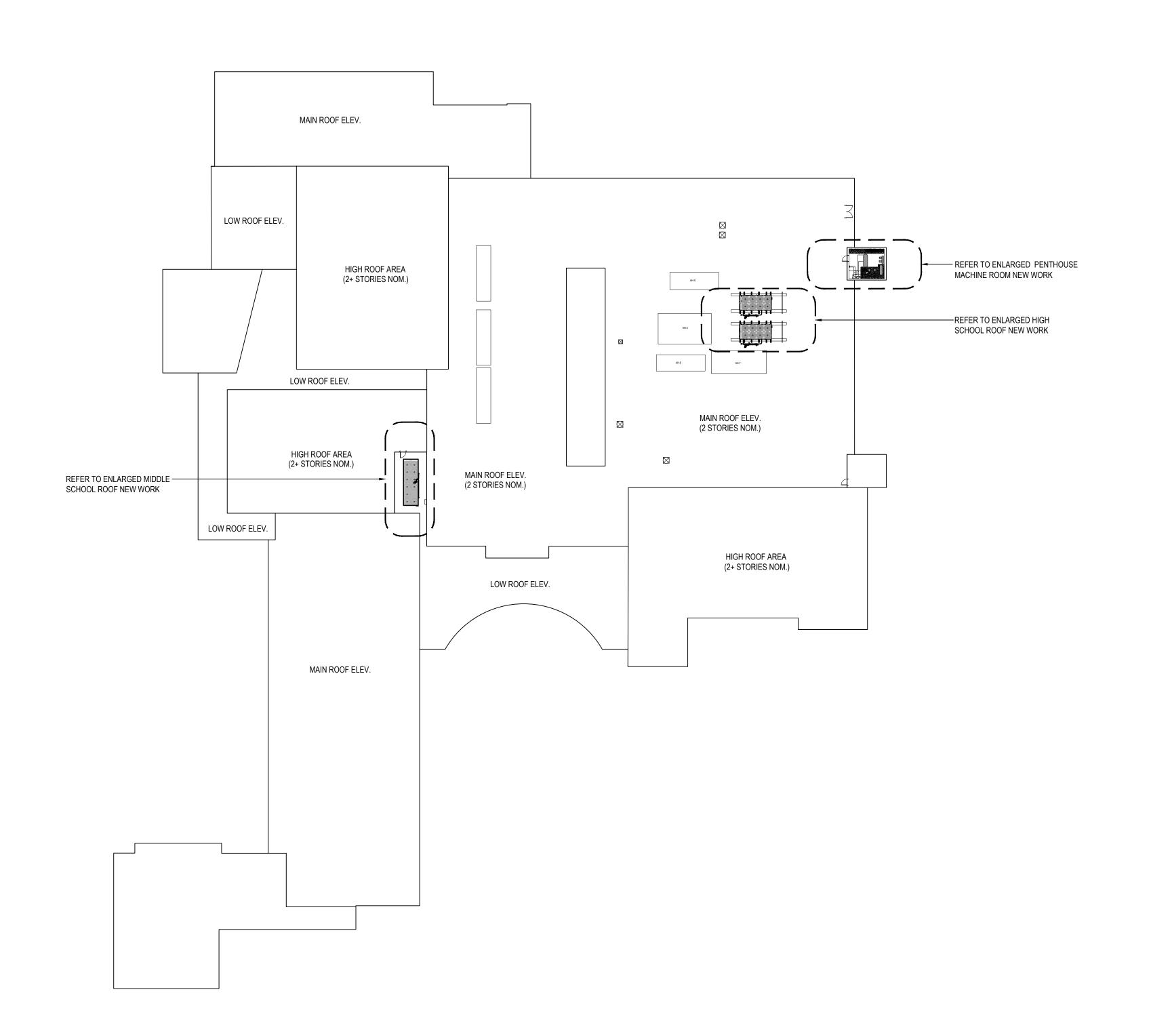
DATE: JAN 2025
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FILE No: 24-353

REV. DATE

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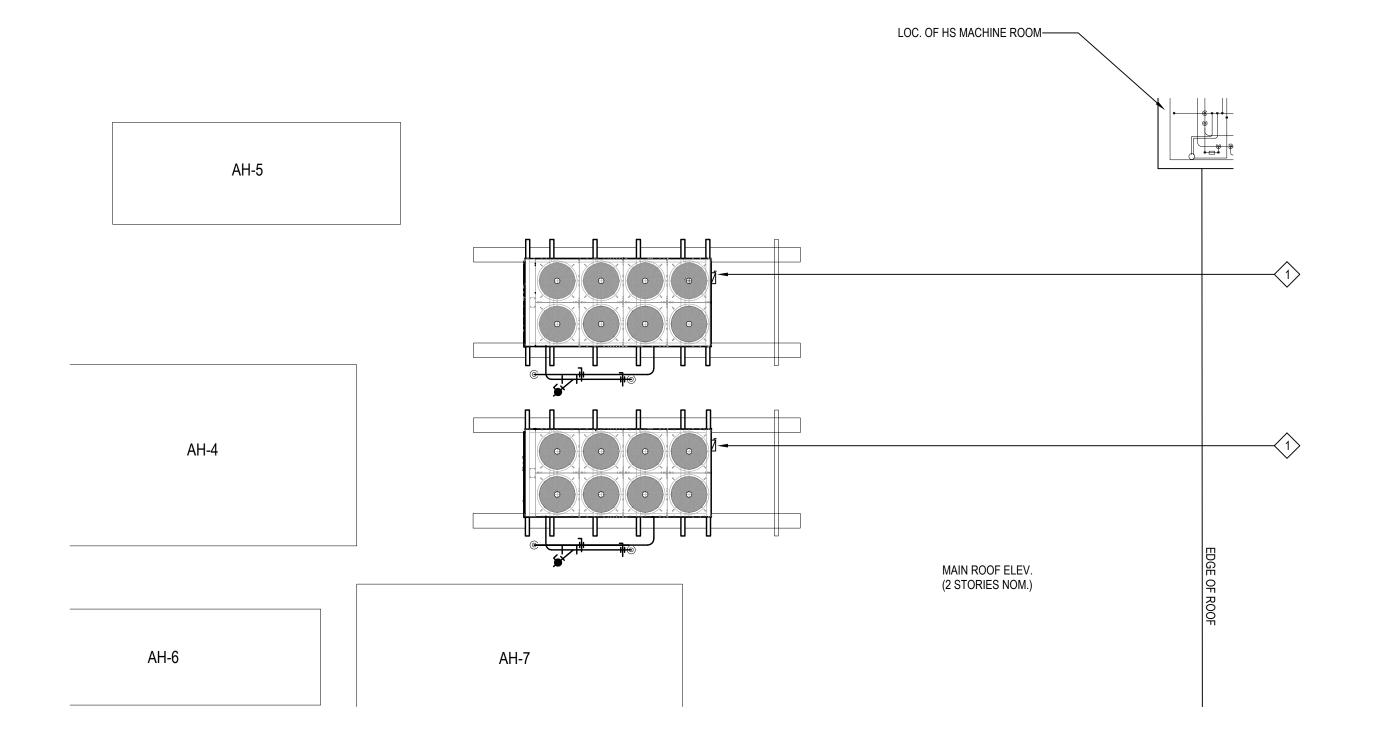


ROOF NEW WORK PLAN

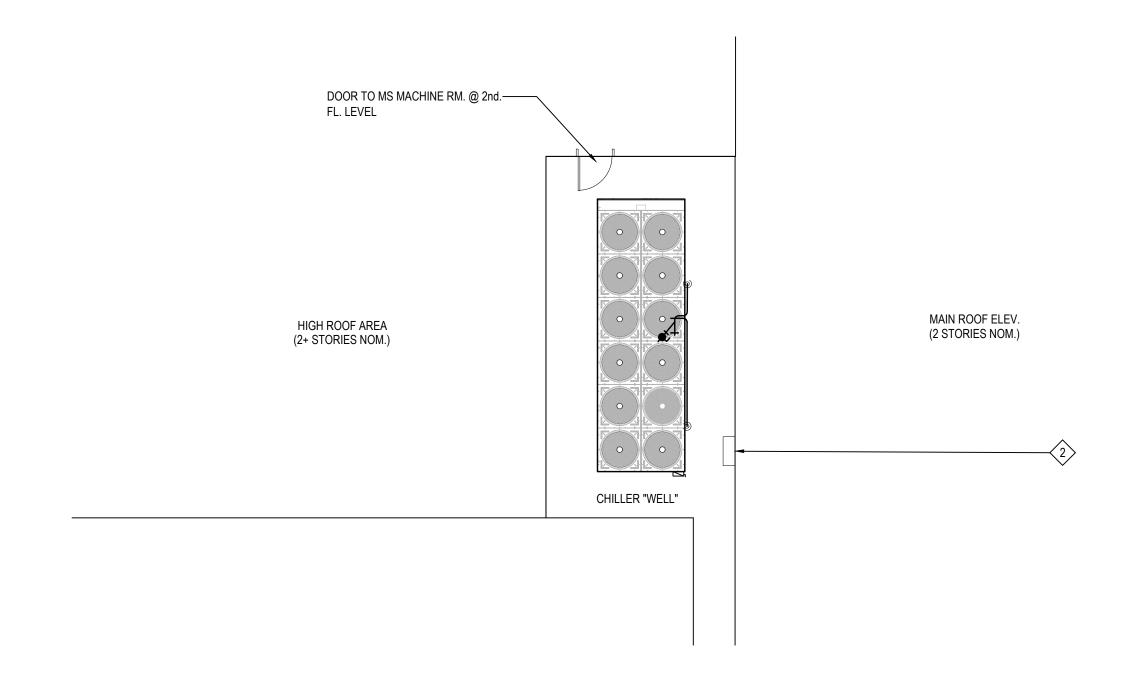
NOTE: SCALE: 1/32" = 1'-0"

- EC TO RUN 120V WIRING TO NEW GLYCOL MAKE-UP PUMP. PROVIDE NEW 20A, 1P. BRKR. IN 120 / 208V 3

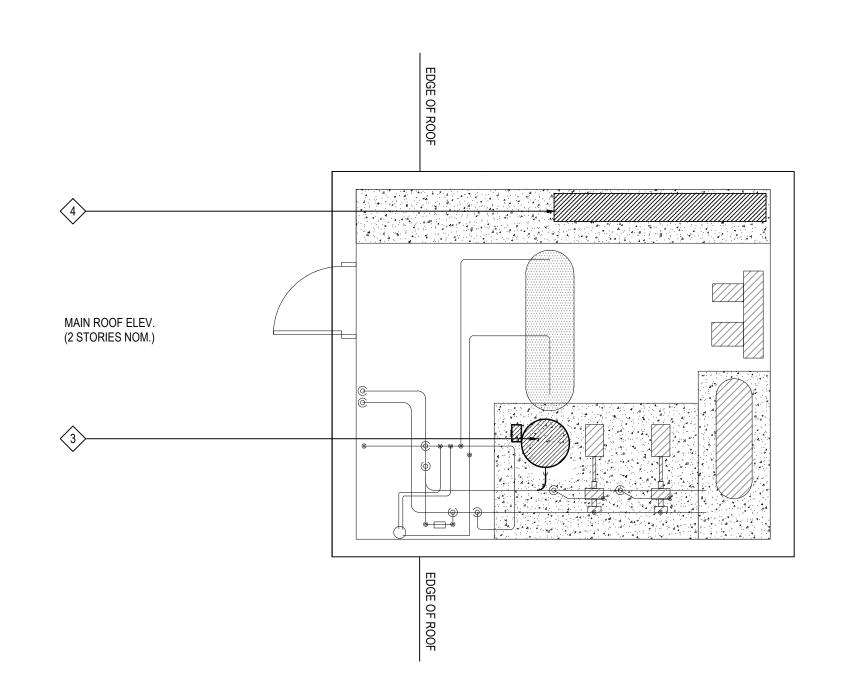
PROPOSED NEW WORK - ROOFTOP ELECTRICAL EC TO FURNISH & INSTALL STAINLESS CABINET NEMA-4X 600V 400A DISCONNECT SWITCH, TYPICAL FOR EACH OF (2) CHILLERS. EC TO RECONNECT TO EXISTING 460V WIRING STUB IN ROOF FROM SDP-R1 / SDP-R2 IN HIGH SCHOOL PENTHOUSE MECHANICAL ROOM. EC TO FURNISH & INSTALL STAINLESS CABINET NEMA-4X 600V 600A DISCONNECT SWITCH, TYPICAL FOR (1) CHILLER. EC TO RECONNECT TO EXISTING WIRING IN JUNCTION BOX FROM DP-1 IN MIDDLE SCHOOL. PH. PANEL IN HS MACHINE ROOM. EC TO FURNISH & INSTALL NEW FUSES FOR EACH EXISTING CIRCUIT @ SDP. FUSES SHALL BE DUAL ELEMENT TIME DELAY TYPE, 600V RATED. CH-1 & 2: - 400A FUSES CH-3: - 600A FUSES



HIGH SCHOOL ROOF NEW WORK SCALE: 1/8" = 1'-0" NOTE:



MIDDLE SCHOOL ROOF - NEW WORK SCALE: 1/8" = 1'-0" NOTE:



HS PENTHOUSE MACHINE ROOM - NEW WORK

SCALE: 1/4" = 1'-0"

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KEY PLAN NOT TO SCALE

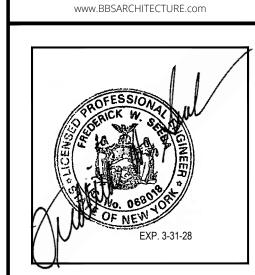
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66-19-05-02-0-002-019 DISTRICT
BLIND BROOK - RYE
UNION FREE SCHOOL DISTRICT PROJECT HVAC IMPROVEMENTS

DWG TITLE ELECTRICAL ROOF PROPOSED NEW WORK SCALE: AS NOTED

DATE: JAN 2025

BID PICK-UP:

FILE No: 24-353

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