### **GENERAL NOTES** (ALL GENERAL NOTES, SYMBOLS & ABBREVIATIONS MAY NOT BE USED ON THIS PROJECT) 1. EXAMINE JOB SITE AND VERIFY ALL SITE CONDITIONS PRIOR TO SIGNING CONTRACT. BRING ANY DISCREPANCY BETWEEN THE CONTRACT DOCUMENTS AND THE ACTUAL FIELD CONDITIONS TO THE ATTENTION OF THE ARCHITECT/ENGINEER. 2. THE LOCATION OF EXISTING UTILITIES IS SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, THE CONTRACTOR SHALL PAY FOR AND REPAIR ALL DAMAGES CAUSED BY FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES UNLESS OTHERWISE INDICATED. 3. THE DRAWINGS ARE DIAGRAMMATIC. COORDINATE IN THE FIELD, WITH THE ARCHITECT AND WITH ALL TRADES. THE EXACT LOCATION OF EQUIPMENT. FIXTURES, VALVES, THERMOSTATS, ETC. AND ROUTING OF PIPING, DUCTWORK, CONDUIT, 4. PERFORM WORK IN ACCORDANCE WITH RULES, REGULATIONS, STANDARDS, CODES, ORDINANCES, AND LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENTS AND OTHER AUTHORITIES HAVING JURISDICTION AND BE RESPONSIBLE FOR COMPLIANCE THEREWITH. REFRIGERATION COMPRESSORS FOR FIVE (5) YEARS.

- 5. OBTAIN ALL NECESSARY APPROVALS, PERMITS AND INSPECTIONS. PAY ALL ASSOCIATED FEES. 6. GUARANTEE ALL SYSTEMS AND WORK FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE. GUARANTEE
- 7. BEFORE STARTING FABRICATION/ WORK SUBMIT TO ARCHITECT/ENGINEER FOR APPROVAL SIX (6) COMPLETE SETS OF SHOP DRAWINGS AND PRODUCT DATA FROM MANUFACTURERS, SUPPLIERS, ETC.
- 8. ALL MATERIALS SHALL BE NEW AND OF COMMERCIAL GRADE AND BEAR THE UNDERWRITER'S LABEL WHERE APPLICABLE 9. LOCATE ALL EXISTING UTILITIES AND MAKE SERVICEABLE CONNECTIONS TO SAME.
- 10. OBTAIN APPROVAL FROM THE BUILDING OWNER'S REPRESENTATIVE PRIOR TO ANY INTERRUPTION OF BUILDING SYSTEMS. COORDINATE ACCEPTABLE WORKING HOURS WITH SAME.
- 11. REMOVE ALL ABANDONED EQUIPMENT, FIXTURES, DUCTWORK, PIPING, CONDUIT, ETC. CAP ALL PIPING ABANDONED IN
- 12. ALL CUTTING AND PATCHING IS BY RESPECTIVE CONTRACTORS. CORE DRILL OR SAW CUT ALL MASONRY AND RESTORE ALL SURFACES TO ORIGINAL CONDITION. PAINTING AND FINISHING ARE BY THE GENERAL CONTRACTOR. 13. PIPING AND SPECIALTIES
- a. ALL PIPING SHALL CONFORM TO THE REQUIREMENTS OF THE ANSI SAFETY CODE AND BE FREE FROM ALL DEFECTS. b. PROVIDE SLEEVES FOR PIPING THROUGH MASONRY, FIRE RATED WALLS AND SMOKE PARTITIONS. SLEEVES SHALL BE 22 GAUGE OR HEAVIER STEEL, SCHEDULE 40 IN BEARING WALLS. SIZE SLEEVES TO ACCOMMODATE PIPE INSULATION WHERE APPLICABLE. PROVIDE UL LISTINGS FOR SLEEVE PACKING.
- C. PROVIDE PIPE HANGERS TO SUPPORT PIPING FROM BUILDING STRUCTURE TO MAINTAIN REQUIRED SLOPE. PROVIDE FOR EXPANSION AND CONTRACTION, ISOLATE VIBRATION AND RELIEVE EQUIPMENT AND SPECIALTIES FROM STRAIN. SPACE HANGERS ACCORDING TO APPLICABLE CODES AND MANUFACTURER'S RECOMMENDATIONS.
- d. IDENTIFY ALL PIPING WITH SEMIRIGID OR ADHESIVE PLASTIC INDICATION MARKERS, EXCEPT WITHIN INACCESSIBLE CHASES. MARKERS SHALL SHOW DIRECTION OF FLOW. MARKERS SHALL BE LOCATED NEXT TO EACH VALVE. AT EACH BRANCH, ON BOTH SIDES OF PIPE PASSAGE THROUGH WALLS AND ON ALL HORIZONTAL PIPING AT 20' MAXIMUM INTERVALS.
- e. ROUTE ALL PIPING CONCEALED IN WALLS, ABOVE CEILING AND BELOW FLOOR UNLESS OTHERWISE NOTED. RUN PARALLEL WITH BUILDING LINES.
- f. PROVIDE DRAIN VALVES & PLUGS AT ALL LOW POINTS SUCH THAT PIPING SYSTEMS CAN BE DRAINED. PROVIDE MANUAL AIR VENT VALVES AT ALL HIGH POINTS IN THE SYSTEM.
- a. PROVIDE BACKFLOW PREVENTION DEVICES AT ALL EQUIPMENT AS REQUIRED BY CODE. UNLESS STATED OTHERWISE PROVIDE CHECK VALVE AND SHUT-OFF VALVE BOTH RATED FOR 250'F DOWN STREAM OF BACKFLOW PREVENTER ON MAKE UP WATER LINE FOR HYDRONIC HEATING HOT WATER SYSTEMS.
- h. PROVIDE DIELECTRIC UNIONS AT ALL JUNCTIONS OF DISSIMILAR METALS.
- I. ALL SHUTOFF VALVES, CONTROL VALVES, ETC. ARE FULL LINE SIZE UNLESS OTHERWISE NOTED. I INSTALL PIPING ON WARM SIDE OF BUILDING INSULATION. DO NOT INSTALL PIPING WHERE SUBJECT TO FREEZING.
- k. ALL PIPING INSULATION SHALL BE CONTINUOUS THROUGH WALLS AND CEILING OPENINGS, SLEEVES AND PIPE
- I. TEST ALL PIPING IN ACCORDANCE WITH APPLICABLE CODES, STANDARDS, AND INSPECTOR'S REQUIREMENTS PRIOR TO INSULATION OR ENCLOSING.
- m. BALANCE ALL HYDRONIC DEVICES FOR FLOW RATES NOTED ON DRAWINGS. PROVIDE BALANCING REPORT TO ARCHITECT/ENGINEER.
- n. UNLESS STATED OTHERWISE IN THE CONTRACT SPECIFICATIONS, PROVIDE A MINIMUM OF ONE (1) ONE AND A HALF (1-1/2") INCH THICK LAYER OF PREFORMED MINERAL FIBER PIPE INSULATION WITH PREFORMED MINERAL FIBER FITTINGS ON ALL DOMESTIC HOT AND COLD WATER PIPING, HYDRONIC HEATING AND CHILLED WATER SUPPLY AND RETURN PIPING. REFRIGERANT PIPING AND CONDENSATE DRAIN PIPING. INCLUDE A FIELD APPLIED FOIL AND PVC JACKET WITH VAPOR RETARDER AS PART OF THE INSULATION ASSEMBLY.
- O. UNLESS STATED OTHERWISE ALL UNDERGROUND PIPING SHALL BE INSTALLED WITH POLYETHYLENE ENCASEMENT (PE)
- D. UNLESS STATED OTHERWISE ALL FUEL GAS VENT PIPING TO BE SA-53GrB CARBON STEEL, ALL VENT PIPING TO BE PRIMED AND FINISH PAINTED IN A COLOR ACCEPTABLE TO THE OWNER.
- 14. DUCTWORK AND SPECIALTIES a. ALL DUCTWORK TO BE IN ACCORDANCE WITH S.M.A.C.N.A. "H.V.A.C. DUCT CONSTRUCTION STANDARDS", LATEST EDITION. PRESSURE CLASS "B".
- b. ALL DUCTWORK TO BE CONSTRUCTED OF GALVANIZED SHEETMETAL.
- c. PROVIDE 45 DEGREE COLLARS TO ALL BRANCH CONNECTIONS. PROVIDE TURNING VANES AT ALL ELBOWS 12"x6" OR LARGER. PROVIDE STANDARD RADIUS ELBOWS AT ALL ELBOWS SMALLER THAN 12"x6".
- d. PROVIDE ALL VOLUME DAMPERS REQUIRED TO BALANCE THE SYSTEMS. INSTALL VOLUME DAMPERS AT BRANCH TAKE-OFFS FROM TRUNK.
- e. PROVIDE CURTAIN TYPE FIRE DAMPERS WHEREVER DUCT PENETRATES FIRE RATED PARTITIONS. UNITS SHALL PROVIDE NOT LESS THAN 90% FREE AREA. PROVIDE ACCESS DOORS AT ALL FIRE DAMPERS.
- f. TEST DUCT SYSTEMS FOR AIR TIGHTNESS AND ABSENCE OF AUDIBLE LEAKS BEFORE ENCLOSURE.
- q. BALANCE ALL AIR DEVICES FOR AIR QUANTITIES NOTED ON DRAWINGS. PROVIDE BALANCING REPORT TO ARCHITECT/ENGINEER.
- h. FLEXIBLE DUCTS: ALL FLEXIBLE DUCTS SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF THE INTERNATIONAL I. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. COORDINATE AND PROVIDE
- ALL PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT, FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION. I. PROVIDE FIRE DAMPERS IN THE DUCTWORK IN ACCORDANCE WITH ALL APPLICABLE CODES AND THE CONTRACT
- DOCUMENTS. k. UNLESS STATED OTHERWISE IN THE CONTRACT SPECIFICATIONS, PROVIDE A MINIMUM OF ONE (1) TWO AND ONE HALF (2-1/2") INCH THICK LAYER OF MINERAL FIBER BLANKET INSULATION ON ALL NEW INDOOR ROUND AND RECTANGULAR SUPPLY AIR. EXHAUST AIR, RETURN AIR AND OUTDOOR AIR DUCTWORK, INCLUDE A FIELD APPLIED PAPER AND FOIL JACKET WITH VAPOR
- RETARDER AS PART OF THE INSULATION ASSEMBLY. I. UNLESS STATED OTHERWISE IN THE CONTRACT SPECIFICATIONS, PROVIDE A MINIMUM OF ONE (1) TWO (2") INCH THICK LAYER OF MINERAL FIBER BOARD INSULATION ON ALL NEW OUTDOOR ROUND AND RECTANGULAR SUPPLY AIR. EXHAUST AIR. RETURN AIR AND OUTDOOR AIR DUCTWORK, INCLUDE A WEATHERPROOF FIELD APPLIED 22 GAUGE ALUMINUM JACKET WITH VAPOR RETARDER AS PART OF THE INSULATION ASSEMBLY. COORDINATE FINISH COLOR OF EXTERIOR JACKET WITH THE OWNER.
- m. UNLESS OTHERWISE NOTED ALL EXPOSED SUPPLY, RETURN AND EXHAUST AIR DUCTWORK SHALL BE PRIMED AND PAINTED. COLOR TO BE DETERMINED BY THE ENGINEER / OWNER.
- 15. EQUIPMENT a. VERIFY ALL ELECTRICAL CHARACTERISTICS WITH ELECTRICAL CONTRACTOR BEFORE ORDERING EQUIPMENT.
- b. ALL MECHANICAL EQUIPMENT AND APPLIANCE INSTALLATIONS SHALL BE IN COMPLIANCE WITH THE LATEST EDITION
- OF THE INTERNATIONAL MECHANICAL CODE, AS WELL AS WITH MANUFACTURER'S RECOMMENDATIONS, c. ALL ELECTRICAL POWER WIRING IS BY ELECTRICAL CONTRACTOR. ALL CONTROL WIRING IS BY RESPECTIVE
- d. PROVIDE OWNER WITH OPERATION AND MAINTENANCE MANUALS FOR INSTALLED EQUIPMENT. INCLUDE CONTRACTOR'S, SUPPLIER'S AND MANUFACTURER'S NAMES, ADDRESS AND TELEPHONE NUMBERS.
- e. SUPPLY STARTERS AND DISCONNECTS WITH EQUIPMENT f. PROVIDE CONCRETE PADS FOR FLOOR MOUNTED EQUIPMENT. PADS SHALL BE A MINIMUM 4" HIGH AND SHALL EXTEND 6" BEYOND EQUIPMENT ON ALL SIDES.
- g. LABELING: ALL MECHANICAL EQUIPMENT AND APPLIANCES SHALL BEAR LABELING IN COMPLIANCE WITH THE LATEST VERSION OF THE INTERNATIONAL MECHANICAL CODE. h. UNLESS NOTED OTHERWISE, ALL HYDRONIC SYSTEMS BOILER/ CHILLED WATER SHALL BE PROVIDED WITH A NEW
- BLADDER TYPE EXPANSION TANK AS REQUIRED. TANK TO BE SIZED FOR EACH SYSTEM BASED UPON TANK MANUFACTURER'S RECOMMENDATIONS. I. UNLESS OTHERWISE NOTED CONTRACTOR IS RESPONSIBLE TO FURNISH AND INSTALL PROPYLENE GLYCOL ANTI
- FREEZE FOR ALL HYDRONIC HEATING AND COOLING SYSTEMS. THE CONTRACTOR SHALL SUPPLY A 35% CONCENTRATION OF PROPYLENE GLYCOL IN SOLUTION FOR CHILLED WATER COOLING SYSTEMS AND A 25% CONCENTRATION OF PROPYLENE GLYCOL IN SOLUTION FOR HOT WATER HEATING SYSTEMS. PROPYLENE GLYCOL ANTI FREEZE SHALL BE COMPATIBLE WITH ALL MATERIALS OF THE HYDRONIC SYSTEM (PIPING, VALVES, PUMPS, CHILLER, BOILER, ETC.) AS WELL AS ALL TERMINAL EQUIPMENT.
- 16. AUTOMATIC TEMPERATURE AND SAFETY CONTROLS
- a. PROVIDE ALL WIRING, RELAYS, CONTACTS, TRANSFORMERS, ETC. REQUIRED TO DELIVER A COMPLETE OPERABLE
- b. THERMOSTATS SHALL BE 24 HOUR/7 DAY PROGRAMMABLE WITH FAN "OFF/ON/AUTO" AND SYSTEM "HEAT/COOL/AUTO/OFF" SWITCHES. VERIFY OPERATION OF ALL FUNCTIONS.

17. FIRE PROTECTION				
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- a. THE QUANTITY AND LOCATION OF SPRINKLERS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND INTENDED FOR SCHEMATIC PURPOSES ONLY. THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING. INSTALLING AND COMMISSIONING ALL NECESSARY SPRINKLERS, PIPE, EQUIPMENT AND APPURTENANCES NECESSARY, IN FULL ACCORDANCE WITH THE NFPA AND APPROVED BY THE ENGINEER AND ALL AUTHORITIES HAVING JURISDICTION.
- b. THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE DETAILED DESIGN DRAWINGS, HYDRAULIC CALCULATIONS, PIPING, FITTINGS, SPRINKLERS, ALARM AND MONITORING DEVICES, SIGNAGE AND APPURTENANCES COMPLETE AND IN FULL ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND NFPA 13 & 14. ALL WIRING OF DEVICES SHALL BE DONE BY ELECTRICAL CONTRACTOR.
- c. ALL SPRINKLER HEADS SHALL BE LOCATED AT THE CENTER POINT OF ALL ACOUSTICAL CEILING TILES.
- 18. ALL EXISTING PLUMBING, HVAC AND ELECTRICAL EQUIPMENT AND MATERIALS THAT ARE EITHER EXPOSED OR CONCEALED AND THAT INTERFERE WITH ALTERED EXISTING BUILDING ARRANGEMENTS AND NEW SYSTEMS SHALL BE REMOVED, RELOCATED, REROUTED, OR ABANDONED, DRAWINGS GENERALLY INDICATE MAJOR ITEMS OF EXISTING MATERIALS AND EQUIPMENT THAT ARE AFFECTED. IT IS NOT POSSIBLE TO INDICATE ALL RELATED ACCESSORIES, SPECIALTIES AND OTHER MINOR ITEMS; HOWEVER, THEIR REMOVAL, RELOCATION, REROUTING AND ABANDONMENT SHALL ALSO BE INCLUDED IN THIS WORK.
- 19. EXISTING CONCEALED PLUMBING, HVAC AND ELECTRICAL EQUIPMENT AND MATERIALS THAT ARE TO REMAIN BUT BECOME EXPOSED DUE TO RENOVATION WORK, SHALL BE RELOCATED AND RECONNECTED AS PART OF THIS WORK.
- 20. PLUMBING DRAWINGS ARE DIAGRAMMATIC. ALL DEVICES & FITTINGS MAY NOT BE SHOWN ON THE DRAWINGS FOR CLARITY. PROVIDE CLEANOUTS NEAR THE BASE OF ALL VERTICAL WASTE & STORM WATER STACKS IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL STANDARD PLUMBING CODE.
- 21. GUARDS SHALL BE PROVIDED WHERE APPLIANCES, EQUIPMENT, FANS OR OTHER COMPONENTS THAT REQUIRE SERVICE AND ROOF HATCH OPENINGS ARE LOCATED WITHIN 12 FEET OF A ROOF EDGE OR OPEN SIDE OF A WALKING SURFACE AND SUCH EDGE OR OPEN SIDE IS LOCATED MORE THEN 30 INCHES ABOVE THE FLOOR, ROOF OR GRADE BELOW. THE GUARD SHALL EXTEND NOT LESS THEN 30 INCHES BEYOND EACH END OF SUCH APPLIANCES, EQUIPMENT, FANS, COMPONENTS AND ROOF HATCH OPENINGS AND THE TOP OF THE GUARD SHALL BE LOCATED NOT LESS THEN 42 INCHES ABOVE THE ELEVATED SURFACE ADJACENT TO THE GUARD. THE GUARD SHALL BE CONSTRUCTED SO AS TO PREVENT THE PASSAGE OF A 21 INCH-DIAMETER SPHERE AND SHALL COMPLY WITH THE LOADING REQUIREMENTS FOR GUARDS SPECIFIED IN THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE.
- 22 PROVIDE FOR ALL MECHANICAL EQUIPMENT FAN AND MOTOR PULLEYS, SHEAVES, BELTS AND LABOR REQUIRED TO BALANCE THE NEW AND EXISTING MECHANICAL EQUIPMENT TO THE SPECIFIED SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR FLOWS SHOWN ON THE CONTRACT DOCUMENTS AT NO ADDITIONAL COST TO THE OWNER. THE TESTING, ADJUSTING AND BALANCING CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL REQUIRED PULLEYS, SHEAVES AND BELTS EVEN IF THEY ARE NOT PROVIDED WITH THE EQUIPMENT BY THE MANUFACTURER.
- 23. UNLESS OTHERWISE NOTED CONTRACTOR IS RESPONSIBLE TO FURNISH AND INSTALL ALL CONNECTION / TRANSITION DUCTS BETWEEN NEW HVAC EQUIPMENT (UNIT VENTILATORS, BLOWER COILS, FAN COILS, AIR HANDLERS, ETC.) AND NEW OR EXISTING OUTSIDE AIR LOUVERS. CONTRACTOR IS ALSO RESPONSIBLE FOR REINFORCING ANY OUTSIDE AIR LOUVER OPENING THAT IS CREATED OR ENLARGED TO ACCOMMODATE THE NEW INSTALLATION.
- 24. UNLESS SPECIFICALLY DIRECTED OTHERWISE THE CONTRACTOR SHALL SUBMIT PRE-DEMOLITION/ PRE-CONSTRUCTION VIDEOS AND/ OR PHOTOGRAPHS OF THE EXISTING CONDITIONS IN THE PROPOSED AREA OF WORK TO THE ENGINEER FOR REVIEW PRIOR TO START OF DEMOLITION / CONSTRUCTION WORK.

## MECHANICAL ABBREVIATIONS

	1112011/1110/112 /12		
AD	ACCESS DOOR	LRG	LINEAR RETURN GRILLE
	ACCESS DOOR ADJACENT ABOVE FINISHED FLOOR AIR HANDLER UNIT ACCESS PANEL BOILER BELOW FINISHED FLOOR BACKFLOW PREVENTOR BOILER FEED UNIT BOTTOM OF DUCT	LKG	
ADJ.	ADJACENT	LSR	LINEAR SUPPLY REGISTER
AFF	ABOVE FINISHED FLOOR	MD	
AHU	AIR HANDLER UNIT	MH	MANHOLE
AP	ACCESS PANEL	MSB	MOP SERVICE BASIN
В	BOILER	MUA	MAKE-UP AIR UNIT
BFF	BELOW FINISHED FLOOR	MV	MIXING VALVE (THERMOSTATIC)
BFP	BACKFLOW PREVENTOR BOILER FEED UNIT BOTTOM OF DUCT BOTTOM OF LOUVER CONDENSATE CAST IRON CEILING DIFFUSER CEILING EXHAUST GRILLE CEILING EXHAUST REGISTER CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CLEANOUT CLEANOUT ON GRADE CONDENSATE PIPING CONTINUED CONDENSATE PUMP CEILING RETURN GRILLE CEILING RETURN REGISTER	NC	NORMALLY CLOSED
BFU	BOILER FEED UNIT	NO	NORMALLY OPEN
BOD	BOTTOM OF DUCT	NTS	NOT TO SCALE
BOL	BOTTOM OF LOUVER	OA	OUTSIDE AIR
C	CONDENSATE	D	PUMP
C	CONDENSATE	DA	RETURN AIR
CI	CAST IRON	KA	RETURN AIR
CD	CEILING DIFFUSER	RU	ROOF DRAIN
CEG	CEILING EXHAUST GRILLE	RH	RADIANT HEATER
CER	CEILING EXHAUST REGISTER	RPBP	REDUCED PRESSURE BACKFLOW PREVENTOR
CFH	CUBIC FEET PER HOUR	RWC	RAIN WATER CONDUCTOR
CFM	CUBIC FEET PER MINUTE	S	SINK/SANITARY PIPING
CO	CLEANOUT	S=02'	SLOPE
COG	CLEANOUT ON GRADE	SA	SUPPLY AIR
COND	CONDENSATE PIPING	SD	SPLITTER DAMPER
CONT	CONTINUED	SH	SHOWER
CP	CLEANOUT CLEANOUT ON GRADE CONDENSATE PIPING CONTINUED CONDENSATE PUMP CEILING RETURN GRILLE	SP	SPRINKLER PIPING
CRG	CEILING RETURN GRILLE	SC	SOIL STACK
ODD	CEILING RETURN GRILLE	SS CT	SUL STACK
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CSV	CIRCUIT SETTER VALVE	STM	STEAM PIPING
CT	COOLING TOWER	SV	STACK VENT
CTR	COOLING TOWER RETURN	SW	SAFEWASTE
CTS	COOLING TOWER SUPPLY CONDENSING UNIT	T	TUB
CU	CONDENSING UNIT	TAG	TRANSFER AIR GRILLE
CUH	CABINET UNIT HEATER	TOD	TOP OF DUCT
		TP	
CWS	COLD WATER SUPPLY	TD	TRAP PRIMER
CWS/R	CONDENSER WATER SUPPLY/RETURN		TRANSITION
DF	DRINKING FOUNTAIN DRAINAGE FIXTURE UNITS	TWR	TEMPERED WATER RETURN
DFU		TWS	TEMPERED WATER SUPPLY
DN	DOWN	TYP	TYPICAL
EA	EXHAUST AIR	UH	UNIT HEATER
EBBH	ELECTRIC BASEBOARD HEATER	UR	URINAL
EF	EXHAUST FAN	٧	VENT PIPING
EWC	ELECTRIC WATER COOLER	VAV	VARIABLE AIR VOLUME
EWH	ELECTRIC WATER HEATER	VD	VOLUME DAMPER
EX	EXISTING	VIF	VERIFY IN FIELD
FC	FLEXIBLE CONNECTION/FAN COIL	VS	VENT STACK
FCO	FLOOR CLEANOUT	VTR	VENT THRU ROOF
FD	FLOOR DRAIN	WC	WATER CLOSET
FRG	FLOOR RETURN GRILLE	WCO	WALL CLEANOUT
FRR	FLOOR RETURN REGISTER	WEG	WALL EXHAUST GRILLE
G	GAS PIPING	WER	WALL EXHAUST REGISTER
GV	GRAVITY VENTILATOR	WHA	WATER HAMMER ARRESTOR
HB	HOSE BIBB	WHY	WALL HYDRANT
HD	HAND DAMPER	WMS	WIREMESH SCREEN
HP	HEAT PUMP	WRG	WALL RETURN GRILLE
HW	HOT WATER	WRR	WALL RETURN REGISTER
HWC	HANDICAPPED WATER CLOSET	WSFU	WALL SUPPLY FIXTURE UNIT
HWG	HOT WATER GENERATOR	WSG	WALL SUPPLY GRILLE
HWH	HOT WATER HEATER	WSR	WALL SUPPLY REGISTER
ПМП	HOT WATER DETIEN	HOIL	Tichele OVI Lie I Heavioriely

HOT WATER RETU

HOT WATER SUPP

HEAT EXCHANGER

LINEAR BAR GRIL

LINEAR DIFFUSER LINEAR FEET

LOUVER

LAVATORY

HWS

	SHEET INDEX
SHEET#	DESCRIPTION
M-1.0	MECHANICAL COVER SHEET
M-2.1	MECHANICAL FLOOR PLAN
M-2.2	MECHANICAL MEZZANINE LEVEL FLOOR PLAN
M-3.1	MECHANICAL DETAILS
M-4.1	MECHANICAL SCHEDULES
P-2.1	PLUMBING DRAINAGE PIPING FLOOR PLAN
P-3.1	PLUMBING UTILITY PIPING FLOOR PLAN
P-4.1	PLUMBING RISER DIAGRAM
P-4.2	PLUMBING RISER DIAGRAMS
P-5.1	PLUMBING DETAILS
P-6.1	PLUMBING SCHEDULES

MECHANICAL SYMBOLS ANGLE GLOBE VALVE BUTTERFLY VALVE EQUIPMENT MARK (TYPE FC, NUMBER PLUG VALVE GATE VALVE SECTION INDICATOR OS & Y GATE VALVE EMERGENCY BOILER SHUTOFF (SECTION B2 ON DWG. -2-WAY CONTROL VALVE SOUND ATTENUATOR DETAIL INDICATOR 3-WAY CONTROL VALVE (DETAIL B2 ON DWG. - -) PRESSURE/TEMPERATURE TEST PLUG PRESSURE RELIEF VALVE KEY NOTE INDICATOR (REFERS TO NOTES ON SAME SHEET) PRESSURE GAUGE TEMPERATURE & PRESSURE RELIEF VALVE REVISIONS INDICATOR GAUGECOCK CALIBRATED BALANCE VALVE PIPE RISER THERMOMETER AUTOMATIC FLOW CONTROL VALVE (RISER HWS-11 ON DWG. - -) PRESSURE TEMPERATURE TAP SWING CHECK VALVE DUCT RISER (RISER E-1 ON DWG. - -) EXISTING HYDRONIC CONTROL VALVE ち SPRING LOADED CHECK VALVE (A/150 S) DIFFUSER/REGISTER/GRILLE MARK (TYPE A, 150 CFM, DIRECTION) HOSE BIBB DRAIN VALVE ALARM CHECK VALVE DOOR UNDERCUT - INSULATED PIPE COMBINATION CHECK/BALANCE/ SHUT OFF VALVE <del>----</del> TRANSFER AIR VERTICAL VALVE NEEDLE VALVE DIAMETER CIRCUIT SETTER PRESSURE REGULATOR CONNECTION TO EXISTING FLOW METER (MAGNETIC) BACK PRESSURE REGULATOR POINT OF DISCONNECTION FLOW METER (VENTURI) DIAPHRAGM VALVE \$16×10 → FLAT OVAL DUCT DIMENSION BALL JOINT SOLENOID VALVE SUCTION DIFFUSER FLOW SWITCH SOUND LINED DUCTWORK PIPE ANCHOR PRESSURE SWITCH SUPPLY DUCT TURNED UP PIPE GUIDE VALVE MONITOR SWITCH SUPPLY DUCT TURNED DOWN UNION RETURN/EXHAUST DUCT TURNED UP VACUUM BREAKER **BLOW-OFF STRAINER** RETURN/EXHAUST DUCT TURNED DOWN CAP AND VALVED ---- DOMESTIC HOT WATER PIPE SQUARE ELBOW (WITH TURNING VANES) CONCENTRIC REDUCER DOMESTIC HOT WATER RETURN ----ROUND ELBOW ECCENTRIC REDUCER STRAIGHT INVERT --- SAN --- SANITARY SEWER SPIN-IN WITH VOLUME DAMPER FOR ROUND DUCT ECCENTRIC REDUCER STRAIGHT CROWN SANITARY SEWER BELOW TAKE OFF WITH VOLUME DAMPER FOR RECTANGULAR DUCT GRADE OR SLAB (SEE CONNECTED PIPING FOR TYPE OF SERVICE) OPEN END DUCT WITH WMS CHAIN OPERATOR EXISTING DUCT WORK OR EQUIPMENT OR SLAB DUCT WORK TO BE REMOVED & EXISTING MOTOR OPERATOR -----V----- PLUMBING VENT DUCTWORK TO BE CAPPED EXISTING DUCTWORK TO BE RELOCATED -F-F FIRE PROTECTION PIPE FLEXIBLE DUCTWORK (SINGLE LINE) CO I CLEANOUT FLEXIBLE DUCTWORK (DOUBLE LINE) FD C FLOOR DRAIN WITH P-TRAP ---EX--- EXPANSION TANK PIPE FUNNEL DRAIN SUPPLY AIR DIFFUSER WITH 3 DIRECTION DISCHARGE --- HHWS--- HEATING HOT WATER SUPPLY PIPE (BLACK TRIANGLE INDICATED BLANK OFF) --- HHWR--- HEATING HOT WATER RETURN PIPE RETURN/EXHAUST REGISTER OR GRILLE DOUBLE CHECK VALVE TYPE BACKFLOW PREVENTER — CHWS— CHILLED WATER SUPPLY PIPE SLOT DIFFUSER WITH PLENUMS WITH GATE VALVES REDUCED PRESSURE ZONE BACKFLOW PREVENTER --- CHWR--- CHILLED WATER RETURN PIPE EXHAUST FAN WITH GATE VALVES --- CWS --- CONDENSER WATER SUPPLY PIPE REDUCED PRESSURE ZONE BACKFLOW PREVENTER HHHHHHHH ELECTRIC BASEBOARD WITH BALL VALVES --- CWR --- CONDENSER WATER RETURN PIPE VOLUME DAMPER (MANUAL) --- COND--- CONDENSATE WATER PIPING BACKDRAFT DAMPER ----- A ----- COMPRESSED AIR PIPE FIRE DAMPER ----M MOTORIZED DAMPER FPHB FROSTPROOF HOSE BIBB ---- G---- NATURAL GAS PIPING MOTORIZED SMOKE/FIRE DAMPER WATER HAMMER ARRESTOR - AW - ACID WASTE PIPING CARBON MONOXIDE SENSOR PITCH PIPE DOWN IN DIRECTION OF ARROW - FO - FUEL OIL PIPING THERMOSTAT TEE TURN UP PIPING TO BE DEMOLISHED HUMIDISTAT TEE TURNED DOWN BOILER FEED PIPING SENSOR --- PIPE TURNED UP - S - STEAM PIPING DUCT DETECTOR C PIPE TURNED DOWN - C - STEAM CONDENSATE PIPING BALL VALVE KEY SWITCH SHUTOFF VALVE BUSHING (SEE SPECS. FOR TYPE) FLEXIBLE PIPE CONNECTION MANUAL AIR VENT CONCEALED SPRINKLER HEAD PENDANT SPRINKLER HEAD UPRIGHT SPRINKLER HEAD SIDEWALL SPRINKLER HEAD ----RS ---- REFRIGERANT SUCTION ROUTE ---- DOMESTIC COLD WATER PIPE - BLIND FLANGE END CONNECTION LOCK SHIELD GATE VALVE GLOBE VALVE



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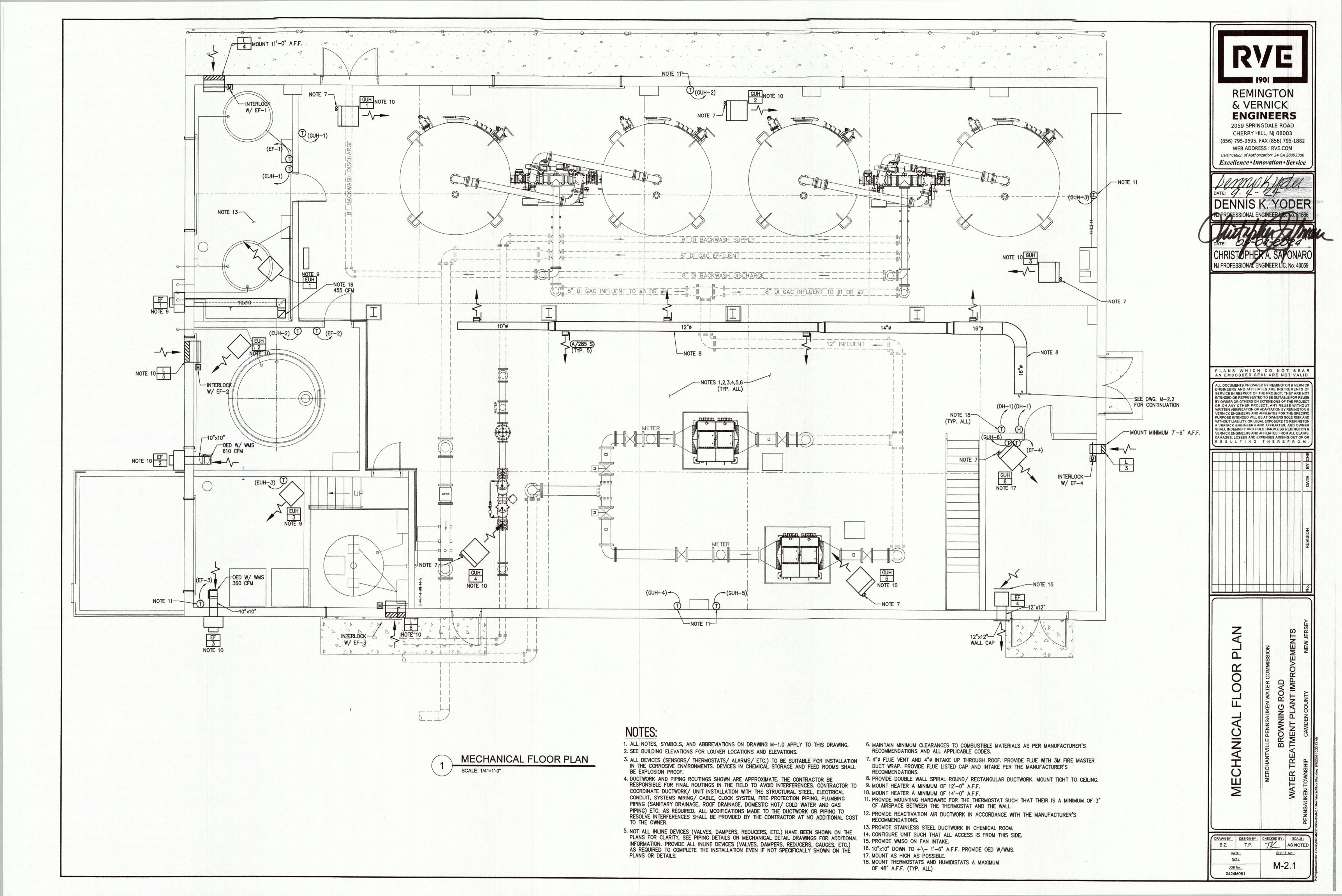
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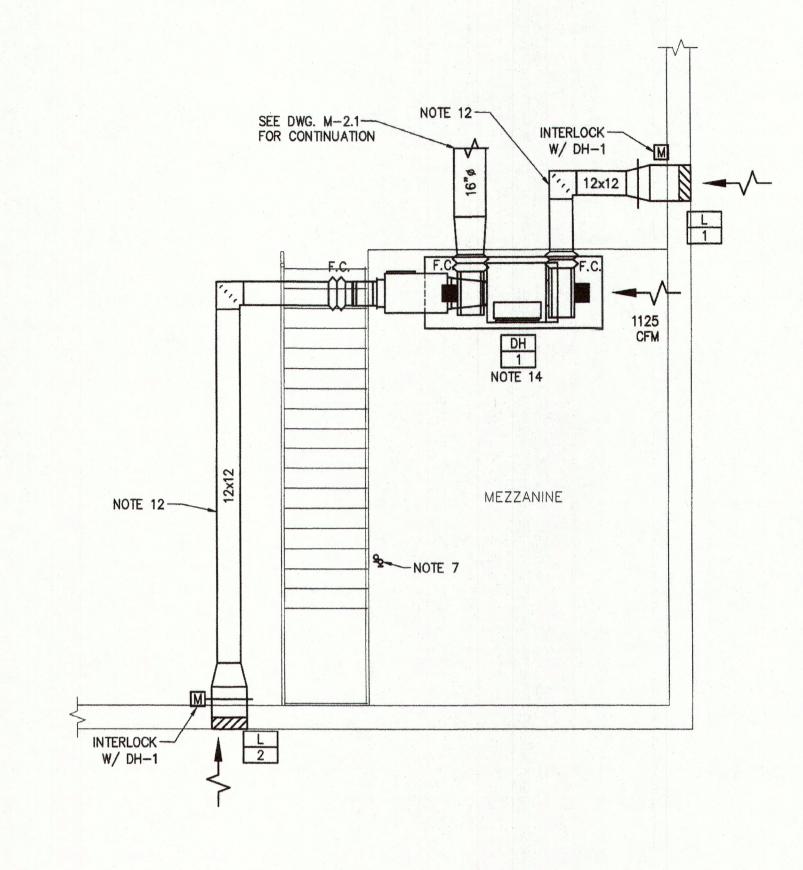
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0424M081





# MECHANICAL MEZZANINE LEVEL FLOOR PLAN

- 1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING.
- 2. SEE BUILDING ELEVATIONS FOR LOUVER LOCATIONS AND ELEVATIONS.
- 3. ALL DEVICES (SENSORS/ THERMOSTATS/ ALARMS/ ETC.) TO BE SUITABLE FOR INSTALLATION IN THE CORROSIVE ENVIRONMENTS, DEVICES IN CHEMICAL STORAGE AND FEED ROOMS SHALL BE EXPLOSION PROOF.
- 4. DUCTWORK AND PIPING ROUTINGS SHOWN ARE APPROXIMATE. THE CONTRACTOR BE RESPONSIBLE FOR FINAL ROUTINGS IN THE FIELD TO AVOID INTERFERENCES. CONTRACTOR TO COORDINATE DUCTWORK/ UNIT INSTALLATION WITH THE STRUCTURAL STEEL, ELECTRICAL CONDUIT, SYSTEMS WIRING/ CABLE, CLOCK SYSTEM, FIRE PROTECTION PIPING, PLUMBING PIPING (SANITARY DRAINAGE, ROOF DRAINAGE, DOMESTIC HOT/ COLD WATER AND GAS PIPING) ETC. AS REQUIRED. ALL MODIFICATIONS MADE TO THE DUCTWORK OR PIPING TO RESOLVE INTERFERENCES SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- 5. NOT ALL INLINE DEVICES (VALVES, DAMPERS, REDUCERS, ETC.) HAVE BEEN SHOWN ON THE PLANS FOR CLARITY, SEE PIPING DETAILS ON MECHANICAL DETAIL DRAWINGS FOR ADDITIONAL INFORMATION. PROVIDE ALL INLINE DEVICES (VALVES, DAMPERS, REDUCERS, GAUGES, ETC.) AS REQUIRED TO COMPLETE THE INSTALLATION EVEN IF NOT SPECIFICALLY SHOWN ON THE PLANS OR DETAILS.
- 6. MAINTAIN MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS AS PER MANUFACTURER'S
- RECOMMENDATIONS AND ALL APPLICABLE CODES.
- 7. 4" FLUE VENT AND 4" INTAKE UP THROUGH ROOF. PROVIDE FLUE WITH 3M FIRE MASTER DUCT WRAP. PROVIDE FLUE LISTED CAP AND INTAKE PER THE MANUFACTURER'S RECOMMENDATIONS.
- 8. PROVIDE DOUBLE WALL SPIRAL ROUND/ RECTANGULAR DUCTWORK. MOUNT TIGHT TO CEILING. 9. MOUNT HEATER A MINIMUM OF 12'-0" A.F.F.
- 10. MOUNT HEATER A MINIMUM OF 14'-0" A.F.F.
- 11. PROVIDE MOUNTING HARDWARE FOR THE THERMOSTAT SUCH THAT THEIR IS A MINIMUM OF 3" OF AIRSPACE BETWEEN THE THERMOSTAT AND THE WALL.
- 12. PROVIDE REACTIVATION AIR DUCTWORK IN ACCORDANCE WITH THE MANUFACTURER'S
- RECOMMENDATIONS.
- 13. PROVIDE STAINLESS STEEL DUCTWORK IN CHEMICAL ROOM. 14. CONFIGURE UNIT SUCH THAT ALL ACCESS IS FROM THIS SIDE.
- 15. PROVIDE WMSO ON FAN INTAKE.
- 16. 10"x10" DOWN TO +\- 1'-6" A.F.F. PROVIDE OED W/WMS. 17. MOUNT AS HIGH AS POSSIBLE.
- 18. MOUNT THERMOSTATS AND HUMIDISTATS A MAXIMUM

OF 48" A.F.F. (TYP. ALL)

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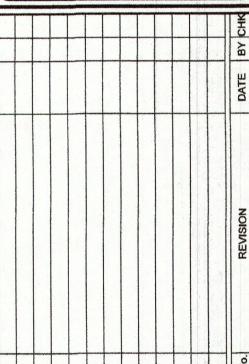
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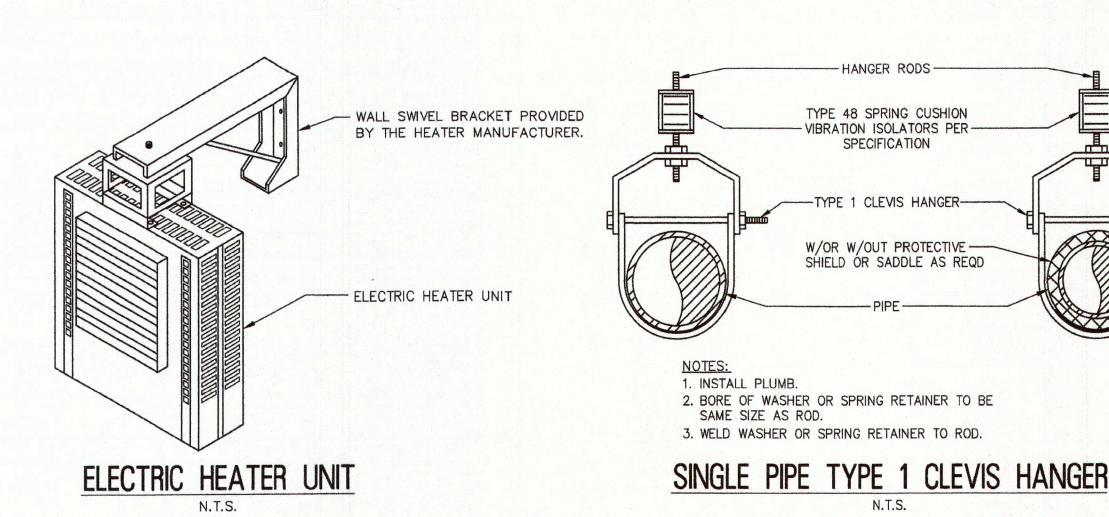
ZZANII ECHANICAL MEZ LEVEL FLOOR I

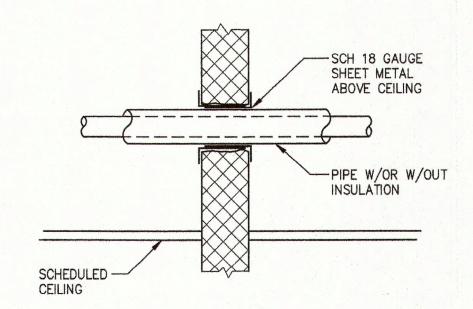
BROWNING ROAD ATMENT PLANT IMPR

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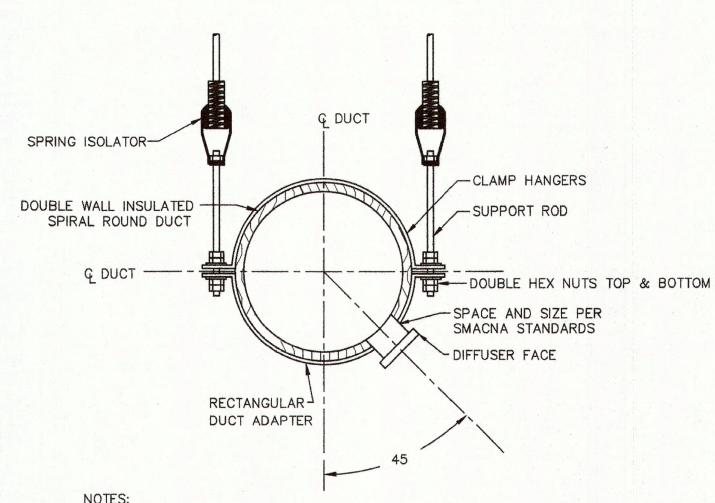




1. TYP FOR NON-INSULATED PIPE AND CONDUIT.

 TYP FOR MASONRY OR CONCRETE WALL.
 FIRE RATED WALLS MUST BE SEALED W/APPROPRIATE FIRE RETARDED CAULKING.

PIPE PENETRATION
THRU WALL ABOVE CEILING
N.T.S.

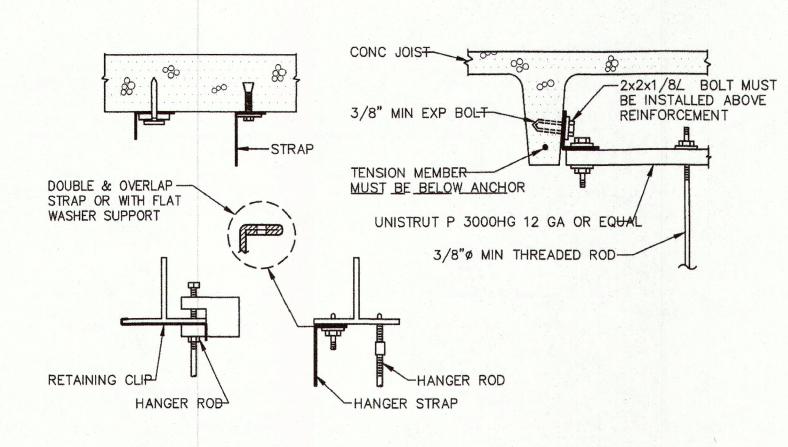


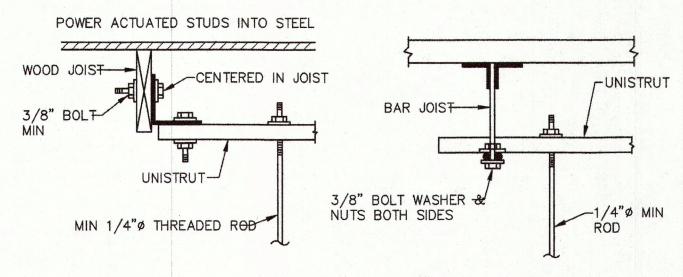
NOTES:

1. REINFORCEMENT MAY BE USED FOR ATTACHMENT IF IT QUALIFIES FOR BOTH DUTIES.

2. DO NOT EXCEED ALLOWABLE LOAD LIMITS

"ANGLED" DIFFUSER SECTIONAL DETAIL



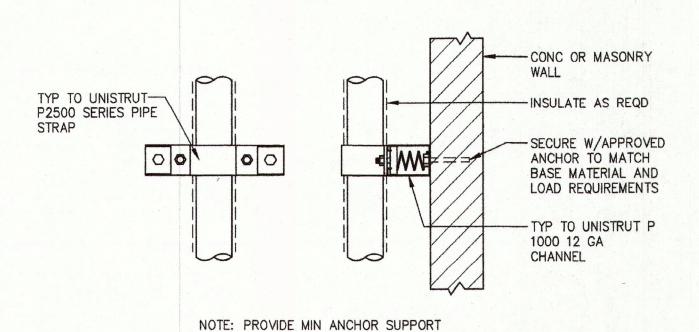


NOTE:

1. ALLOWABLE LOADS AND ELEMENT SIZING SEALED BY REGISTERED ENGINEER IN STATE OF NEW JERSEY.

# UPPER ATTACHEMENT AND JOIST HANGERS FOR DUCTWORK

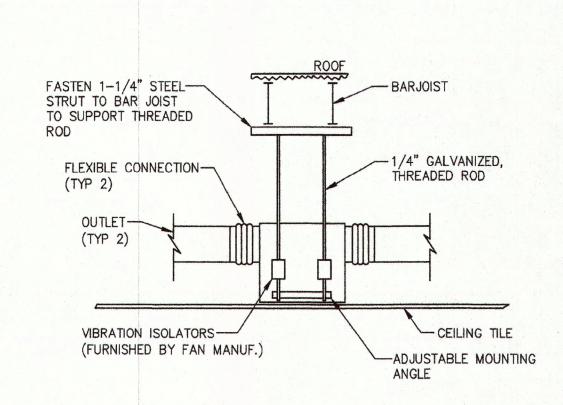
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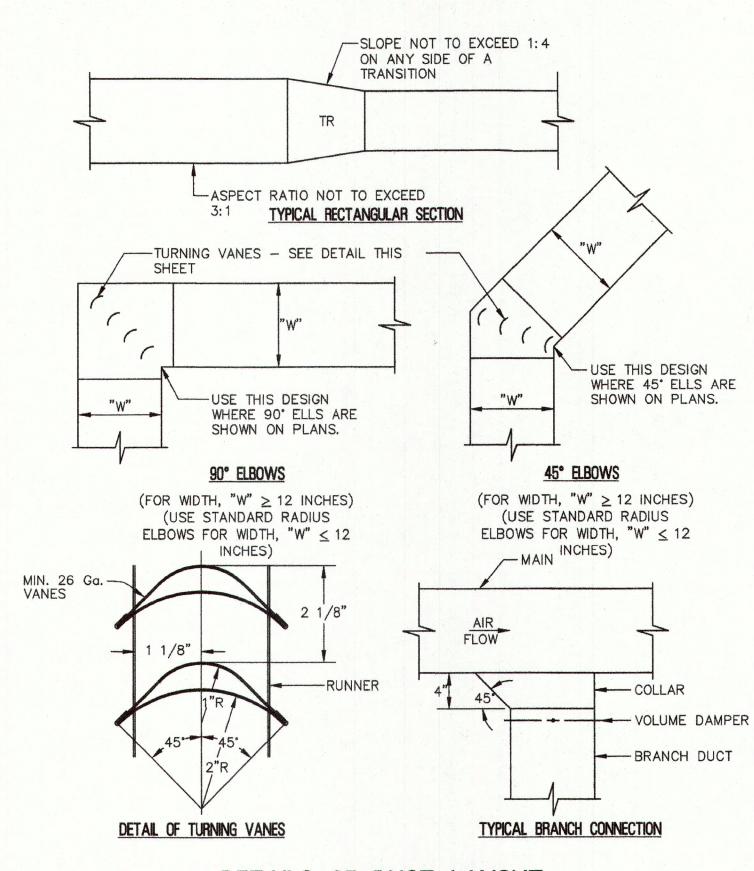
VERTICAL PIPE BRACKET SUPPORT

N.T.S.

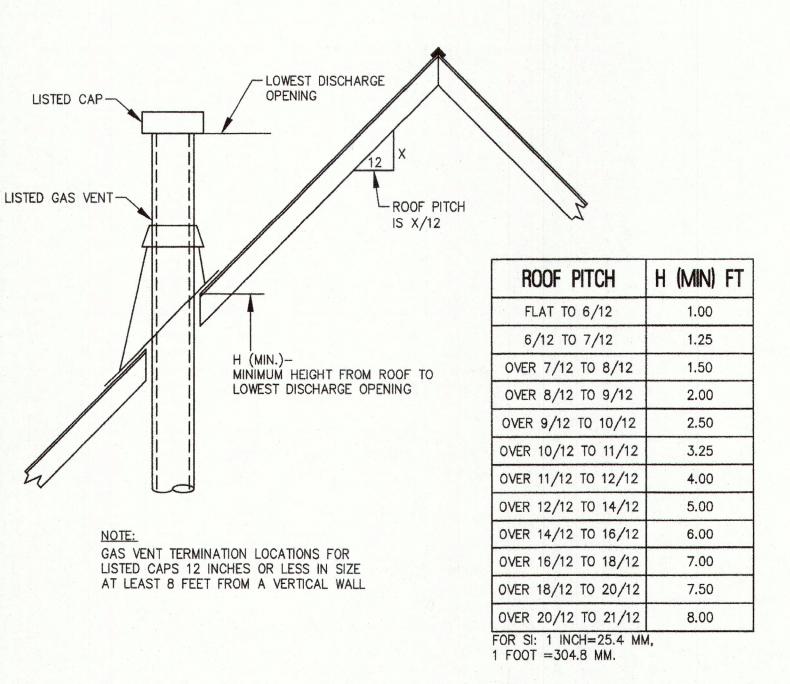
SPACING EVERY 3' VERTICALLY



INLINE FAN DETAIL



DETAILS OF DUCT LAYOUT



GAS FIRED FURNACE OR APPLIANCE ROOF VENT



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NUPROFESSIONAL ENGINEERIC, No. 31866

DATE: 99-04-2024

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RESULTING THEREFROM

MECHANICAL DETAILS

MERCHANTVILLE PENNSAUKEN WATER COMMISSION

MERCHANTVILLE PENNSAUKEN WATER COMMIS
BROWNING ROAD
VATER TREATMENT PLANT IMPROVI

DRAWN BY: DESIGN BY: CHECKED BY: SCALE:

B.Z. T.P. AS NOTED

DATE: SHEET No.:

3/24

JOB No.: M-3.1

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DEF	UMIDIFIER SCI	HEDULE																	
UNIT TAG	AREA SERVED		ADSORPTION DEHUMIDIFICATION  @ 80 DEG, F / 43 GR/LB (LB / HR)	PROCESS BLOWER MOTOR HP	PROCESS SCFM	REACTIVATION BLOWER MOTOR HP	REACTIVATION SCFM	NAT. GAS CONNECTION		FURNACE DUTPUT (BTU/HR)	DIMENSIONS (L x W x H)	WEIGHT	ELECTRICAL	FIA	MCA	мпср	BASIS OF DESIGN	MODEL	NOTES
DH-1	FILTER ROOM	TIGEL DESICCANT WHEEL	43,8 E SENSOR, BALANCING DAMPERS, 1' PRO	3	1,125	3	399	1 IN. FPT	100,000		132" X 34" X 71"	122011	460/60/3	9.6	11.0	TILLOT	MUNTERS	HCD-1125-DGA-SES	1, 2, 3, 4, 5, 6, 7, 8 & 9

SENSUR, BALANCING DAMPERS, I PROCESS INCEL INSULATION AND CEC CONDENSATION CONTROLLER. 2. PROVIDE ALL OTHER ACCESSORIES REQUIRED TO INSTALL AND OPERATE DEHUMIDIFIER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, MANUFACTURER'S RECOMMENDATIONS, AND ALL APPLICABLE CODES AND STANDARDS.

3. PROVIDE FACTORY START-UP AND 13 MONTH WARRANTY.

4. PROVIDE MERV 8 FILTERS FOR BOTH PROCESS AND REACTIVATION AIR. PROVIDE FIVE (5) ADDITIONAL SPARE FILTERS FOR EACH SIZE.

5. PROVIDE DIRECT FIRED FURNACE (MUNTERS MODEL DFG-100 OR APPROVED EQUAL) PROVIDE TEFC TYPE FAN MOTORS FOR BOTH PROCESS AND REACTIVATION AIR.

PROVIDE SIEMENS S7-1200 OR APPROVED EQUAL CONTROLLER.

8. PROVIDE WITH NEMA 4 RATED CONTROL PANEL, SINGLE POINT ELECTRICAL, CONTROL TRANSFORMER, 5 KA SCCR RATING, AND ELECTRICAL DISCONNECT.

9. PROVIDE WITH FAN PLENUM ENCLOSURE.

## GAS UNIT HEATER SCHEDULE

TAG	ROOM	HEATING	HEATING	AIRFLOW	MOTOR		S	IZE (INCHE	(2	ELECTRICAL	CURRENT	MOCP	VENT	COMBUSTION	APPROX.	BASIS OF DESIGN	NOTES
	SERVED	INPUT	DUTPUT	(CFM)	N□.	HP	LENGTH	WIDTH	HEIGHT	(V / PH / HZ)	1	SIZE	CONNECTION	AIR INLET	WEIGHT	Brioto di Beordia	NETES
		(MBH)	(MBH)								(AMPS)	(AMPS)	(IN.)	(IN.)	(LBS)		
GUH-1	FILTER ROOM	60	49.8	769	1	0.03	27	25-5/8	15-1/8	115/1/60	2.4	15	4	4	67	REZNOR MODEL UDAP60	1, 2, 3 & 4
GUH-2	FILTER ROOM	60	49.8	769	1	0,03	27	25-5/8	15-1/8	115/1/60	2.4	15	4	4	67	REZNOR MODEL UDAP60	1 2 2 9 4
GUH-3	FILTER ROOM	60	49.8	769	1	0.03	27	25-5/8	15-1/8	115/1/60	2.4	15	1 4	<u> </u>	67	REZNOR MODEL UDAP60	1 2 2 0 4
GUH-4	FILTER ROOM	60	49.8	769	1	0.03	27	25-5/8	15-1/8	115/1/60	2.4	15	4	4	67	REZNOR MODEL UDAP60	1, 2, 3 & 4
GUH-5	FILTER ROOM	60	49.8	769	1	0.03	27	25-5/8	15-1/8	115/1/60	2.4	15	4	4	67	REZNOR MODEL UDAP60	1, 2, 3 & 4
GUH-6	ELECTRICAL CONTROL ROOM	30	24.6	456	1	0.02	27	25-5/8	15-1/8	115/1/60	1.9	15	4	4	54	REZNOR MODEL UDAP30	1 2 2 0 4

NOTES: 1 PROVIDE TWO-STAGE GAS CONTROL VALVE WITH EXTERNAL SPACE MOUNTED THERMOSTAT (ADJUSTABLE).

2. PROVIDE UNIT MOUNTED DISCONNECT SWITCH.

3. PROVIDE HANGING VIBRATION ISOLATORS, THREADED RODS, NUTS, BOLTS AND ALL REQUIRED MOUNTING ACCESSORIES.

3. PROVIDE WITH POWER DISCONNECT SWITCH AND BUILT-IN THERMOSTAT. 4. PROVIDE WITH UNIVERSAL WALL AND CEILING MOUNTING BRACKET.

4. PROVIDE GAS PRESSURE REDUCING VALVE.

TAG	ROOM	HEATING	AIRFLOW	MOTOR	S	IZE (INCHE	(2)	ELECTRICAL	CURRENT	MAX. FUSE	APPROXIMATE	BASIS OF DESIGN	NOTES
	SERVED	CAPACITY	(CFM)	HP	LENGTH	WIDTH	HEIGHT	(V / PH / HZ)	(AMPS)	SIZE	WEIGHT (LBS)		112.20
		(kW)				3.00				(AMPS)			
EUH-1	SODIUM HYPOCHLORITE ROOM	15.0	2400	1/4	26	20	28	480/3/60	20.0	25	115	INDEECO TRIAD MODEL 234-U11L-0150U	1, 2, 3 & 4
EUH-2	HYDROGEN PEROXIDE ROOM	15.0	2400	1/4	26	20	28	480/3/60	20.0	25	115	INDEECO TRIAD MODEL 234-U11L-0150U	1, 2, 3 & 4
EUH-3	LIME ROOM  1. PROVIDE WITH EPOXY PAINTED STA	12.5	2400	1/4	26	20	28	480/3/60	17.0	20	115	INDEECO TRIAD MODEL 234-U11L-0130U	1, 2, 3 & 4

**EXHAUST FAN SCHEDULE** 

TAG	ROOMS SERVED	FAN TYPE	AIRFLOW (CFM)	TOTAL S.P. (In. w.c.)	MOTOR HP OR WATTS	DRIVE TYPE	ELECTRICAL V/PH/HZ	SONES	ROOF/WALL OPENING SIZE	APPROXIMATE WEIGHT (LBS)	BASIS OF DESIGN	NOTES
EF-1	SODIUM HYPOCHLORITE ROOM	WALL-MOUNTED	455	0.25	1/6	BELT	120/1/60	5.3	10" × 10"	65	LDREN-COOK ACW-B 100	1
EF-2	HYDROGEN PEROXIDE ROOM	WALL-MOUNTED	610	0.25	1/6	BELT	120/1/60	7.7	10" × 10"	65	LOREN-COOK ACW-B 100	2
EF-3	LIME ROOM	WALL-MOUNTED	360	0,25	1/6	BELT	120/1/60	5.3	10" × 10"	65	LOREN-COOK ACW-B 100	2
EF-4	ELECTRICAL CONTROL ROOM	INLINE	175	0.25	1/6	BELT	120/1/60	11.0	N/A	80	LOREN-COOK SQN-B 60SQN	3

NOTES: 1. PROVIDE FAN WITH WALL LOUVER, ALUMINUM WHEEL, STAINLESS STEEL BIRDSCREEN, STAINLESS STEEL HARDWARE, STAINLESS STEEL SHAFT, EPOXY POWDER COATING WITH UV PROTECTION FOR HIGHLY CORROSIVE ATMOSPHERES, AMCA 'A' SPARK RESISTANT CONSTRUCTION, GRAVITY BACKDRAFT DAMPER, FAN SPEED CONTROL, DISCONNECT SWITCH (WITH STARTER), VIBRATION ISOLATORS, MOUNTING ACCESSORIES, AND ALL DTHER DEVICES AND ACCESSORIES REQUIRED TO INSTALL AND OPERATE THE NEW FAN. ALL EQUIPMENT HARDWARE SHALL BE SUITABLE FOR HIGHLY CORROSIVE ATMOSPHERES.

2. PROVIDE FAN WITH WALL LOUVER, ALUMINUM WHEEL, ALUMINUM BIRDSCREEN, AMCA "A" SPARK RESISTANT CONSTRUCTION, EPOXY POWDER COATING WITH UV PROTECTION FOR HIGHLY CORROSIVE ATMOSPHERES, GRAVITY BACKDRAFT DAMPER, FAN SPEED CONTROL, DISCONNECT SWITCH (WITH STARTER), VIBRATION ISOLATORS, MOUNTING ACCESSORIES, AND ALL OTHER DEVICES AND ACCESSORIES. REQUIRED TO INSTALL AND OPERATE THE NEW FAN. ALL EQUIPMENT HARDWARE SHALL BE SUITABLE FOR HIGHLY CORROSIVE ATMOSPHERES.

3. PROVIDE FAN WITH ALUMINUM WHEEL, GALVANIZED STEEL HOUSING, EPOXY POWDER COATING WITH UV PROTECTION FOR HIGHLY CORROSIVE ATMOSPHERES, GRAVITY BACKDRAFT DAMPER, FAN SPEED CONTROL, UNIT MOUNTED DISCONNECT SWITCH (WITH STARTER), VIBRATION ISOLATION HANGING ISOLATORS (SPRING), FLEX DUCT CONNECTIONS, MOUNTING ACCESSORIES, AND ALL OTHER DEVICES AND ACCESSORIES REQUIRED TO INSTALL AND OPERATE THE NEW FAN. ALL EQUIPMENT HARDWARE SHALL BE SUITABLE FOR HIGHLY CORROSIVE ATMOSPHERES.

	APPROX.	ROOM	APPROX.	VENTILAT REQUIREM		OUTDOOR AIR	EXHAUST	AIR	RETURN A	IR	SUPPLY A	IR
ROOM NAME	AREA	HEIGHT	VOLUME	AIR CHANGES	CODE	CORRECTED	DESIGN	AS-BUILT	DESIGN	AS-BUILT	DESIGN	AS-BUILT
	(SF)	(FT)	(FT3)	PER HOUR	TOTAL	DESIGN TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
					(CFM)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)	MAX/MIN	(CFM)
SODIUM HYPOCHLORITE ROOM	312	14.5	4,524	6 AC/HR	452	455	455		1		(CFM) 455	
HYDROGEN PEROXIDE ROOM	304	20.0	6,080	6 AC/HR	608	610	610		0		610	<del></del>
LIME ROOM	360	15.0	5,400	4 AC/HR	360	360	360		0		360	
ELECTRICAL CONTROL ROOM	247	10,5	2,594	4 AC/HR	173	175	175		0		175	

TAG	LOCATION SERVED	SERVICE	AIRFLOW (CFM)	SIZE (H x W)	FREE AREA (FT2)	MATERIAL	FINISH	BASIS OF DESIGN	NOTE:
L-1	DH-1 REGEN EXHAUST	EXHAUST	400	18" X 18"	1,0	ALUMINUM	BAKED ENAMEL	RUSKIN ELF6375DXH	1, 2
L-5	DH-1 REGEN INTAKE	INTAKE	400	18" X 18"	1.0	ALUMINUM	BAKED ENAMEL	RUSKIN ELF6375DXH	1, 2
L-3	ELECTRICAL CONTROL ROOM	INTAKE	175	12" X 12"	0.36	ALUMINUM	BAKED ENAMEL	RUSKIN ELF6375DXH	1, 2
L-4	SODIUM HYPOCHLORITE RM	INTAKE	455	24" X 18"	1,38	ALUMINUM	BAKED ENAMEL	RUSKIN ELF6375DXH	1, 2
L-5	HYDROGENT PEROXIDE RM.	INTAKE	610	24" X 18"	1.38	ALUMINUM	BAKED ENAMEL	RUSKIN ELF6375DXH	1, 2
L-6	LIME RM	INTAKE	360	18" X 18"	1.00	ALUMINUM	BAKED ENAMEL	RUSKIN ELF6375DXH	1, 2

TAG	DESCRIPTION	FACE	NECK	DIRECTION	BAS	IS OF DES	SIGN
					MF'R	MODEL	NOTES
Α	SUPPLY REGISTER	8" × 6"	8" x 6"	SUPPLY	KRUEGER	5880	1, 2, 3, 4 & 5

4. COORDINATE COLOR WITH OWNER.

5. PROVIDE ALUMINUM CONSTRUCTION.

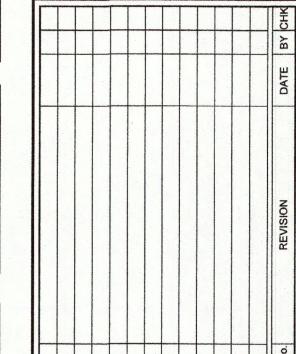
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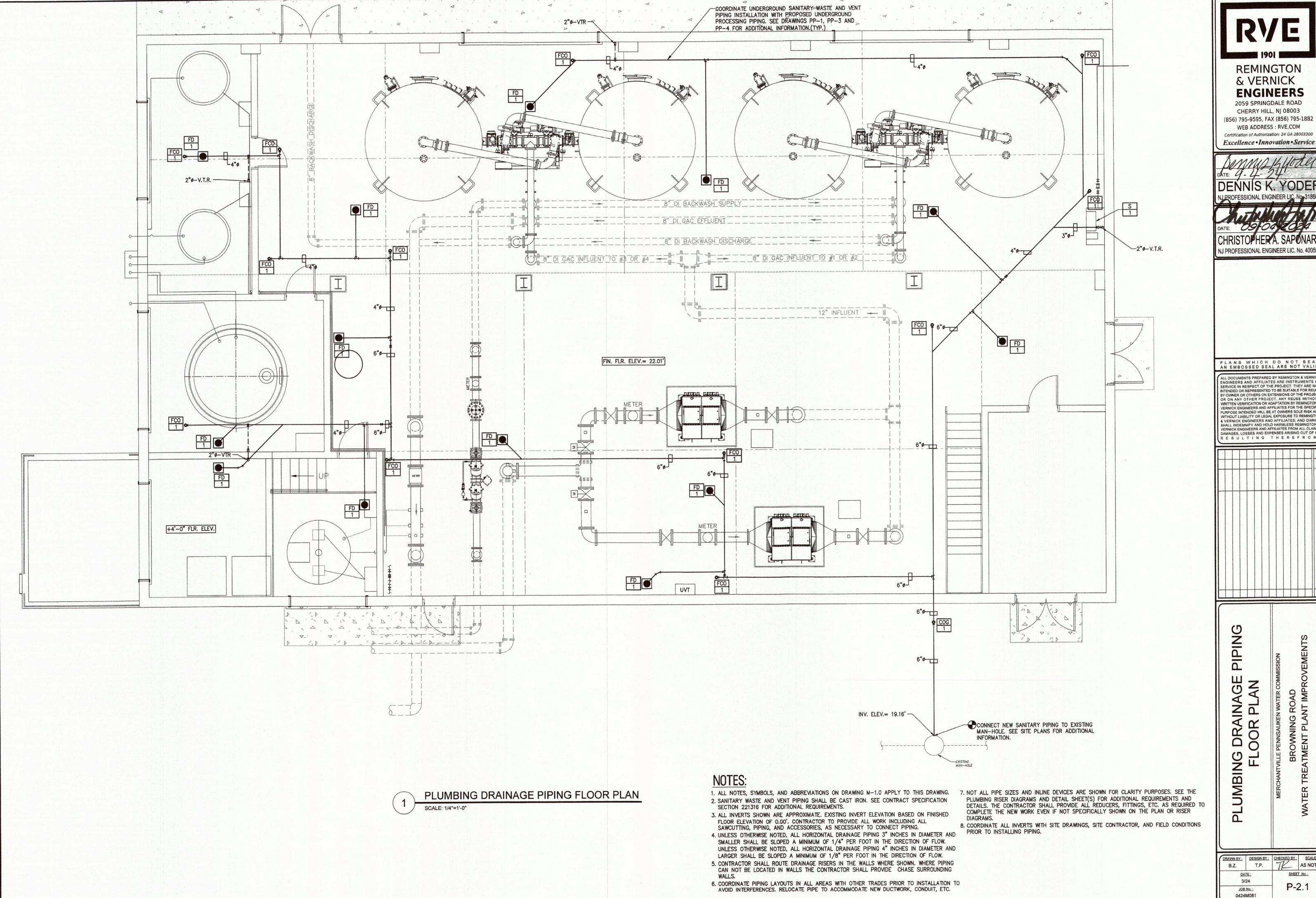
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