

MECHANICAL AND PLUMBING SYMBOL LEGEND

SOME SYMBOLS AND ABBREVIATIONS ON THIS LEGEND MAY NOT BE USED

	HIGH EFFICIENCY ROUND DUCT TAKEOFF (WITH & WITHOUT MANUAL DAMPER)
	SPIN-IN ROUND DUCT TAKEOFF (WITH & WITHOUT MANUAL DAMPER)
	CONICAL BELLMOUTH ROUND TAKEOFF
	ROUND DUCT ROUNDOFF WITH FLEX DUCT
	DUCTWORK ELBOW (WITH & WITHOUT TURNING VANES)
	720R DAMPER FS/FIRE/SMOKE DAMPER
	SD-SMOKE DAMPER RD-BACKDRAFT DAMPER (GRAVITY)
	AUTOMATIC MOTORIZED DAMPER
	SUPPLY DIFFUSER AND DIFFUSER CALLOUT (CHECK SIZE, TYPE AND CFM)
	LINEAR/SLOT DIFFUSER
	RETURN GRILLE OR EXHAUST REGISTER
	SUPPLY AIR FLOW INDICATOR
	RETURN AND EXHAUST AIR FLOW INDICATOR
	TEMPERATURE SENSOR
	HUMIDISTAT
	CONTROL WIRING
	MEDICAL GAS
	— MV — MEDICAL VACUUM PIPING
	— O — OXYGEN PIPING
	— NO — NITROGEN OXIDE PIPING
	— SA — MEDICAL COMPRESSED AIR PIPING
	— N — NITROGEN PIPING
	— CO — CARBON DIOXIDE PIPING
	— V — VACUUM VENT PIPING
	— W — WASTE ANESTHETIC GAS DISPOSAL PIPING
	— DV — MEDICAL GAS VENT PIPING
	MEDICAL GAS VENT W/ DESIGNATION (RE: BELOW)
	— O — OXYGEN
	— NO — NITROGEN
	— NO — NITROGEN OXIDE
	— W — WASTE ANESTHETIC GAS DISPOSAL
	— CO — CARBON DIOXIDE
	— MV — MEDICAL VACUUM
	— SA — SURGICAL AIR
	— S — MEDICAL SLIDE
	INDICATES CONNECT TO EXISTING
	INDICATES ELEVATION

ELECTRICAL SYMBOL LEGEND

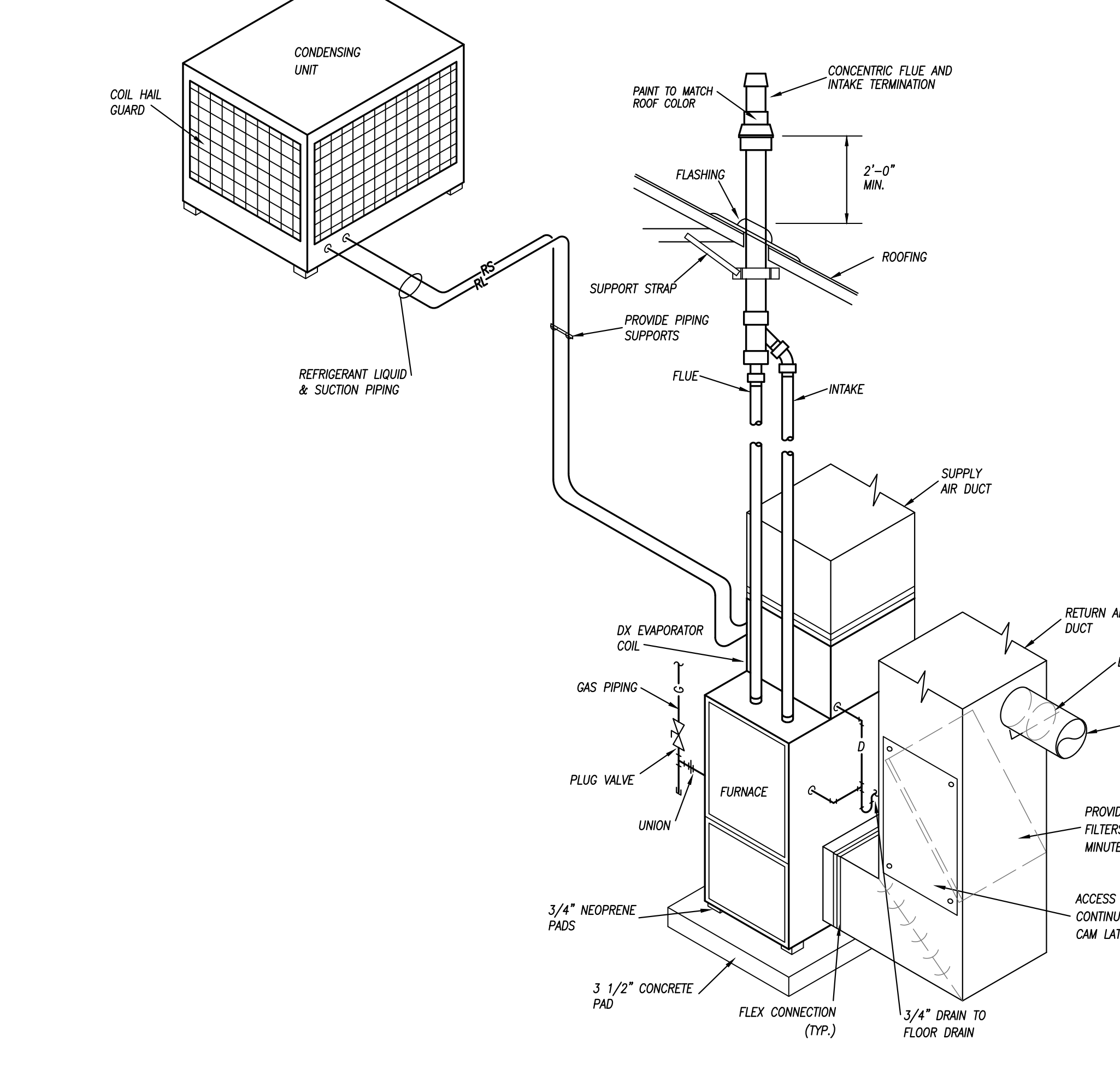
SOME SYMBOLS AND ABBREVIATIONS ON THIS LEGEND MAY NOT BE USED

	HOMER RUN (#12 1/125 UNG)
	INDICATES 2 PHASE, 1 N, & 1 GRD CONDUCTOR
	HOMER RUN: INDICATES SHARED CIRCUIT
	HOMER RUN: INDICATES #10 CONDUCTORS ENTIRELY
	UTILITIES
	--- USE --- UNDERGROUND ELECTRICAL
	--- ONE --- OVERHEAD ELECTRICAL
	--- TELE --- TELECOMMUNICATIONS CONDUIT
	--- UST --- UNDERGROUND TELECOMMUNICATIONS CONDUIT
	LIGHTING
	FLUORESCENT LIGHT FIXTURE
	FLUORESCENT STRIP FIXTURE
	SURFACE/RECESSED LIGHT FIXTURE
	WALL-MOUNTED LIGHT FIXTURE
	POLE-MOUNTED LIGHT FIXTURE
	EXIT LIGHT
	BATTERY-OPERATED EMERGENCY LIGHT (WALL MTD)
	BATTERY-OPERATED EMERGENCY LIGHT (CEILING MTD)
	WALL-MOUNTED COMBINATION EXIT LIGHT/ BATTERY-OPERATED EMERGENCY LIGHT
	LIGHT SWITCH - SINGLE POLE
	LIGHT SWITCH - 3-WAY
	LIGHT SWITCH - 4-WAY
	LIGHT SWITCH - KEY
	LIGHT SWITCH - DIMMER
	LIGHT SWITCH - PILOT LIGHT
	LIGHT SWITCH - 2 POLE
	LIGHT SWITCH - 3-WAY DIMMER
	WALL-MOUNTED MOTION SWITCH
	CEILING-MOUNTED MOTION SWITCH
	SWITCHBANK - REFER TO DETAILS
	DIMMER BOARD
	REMOTE CONTROL SWITCH AS SCHEDULED
	TIMECLOCK - REFER TO PLANS / DETAILS
	EQUIPMENT
	DISCONNECT SWITCH. RE: PLANS FOR INFORMATION.
	MAGNETIC MOTOR STARTER
	COMBINATION DISCONNECT SWITCH / MOTOR STARTER
	TOGGLE-TYPE DISCONNECT. FURNISH WITH THERMAL MOTOR PROTECTION WHERE SERVING PUMPS/PUMPS.
	SURFACE PANELBOARD
	RECESSED PANELBOARD
	DISTRIBUTION PANELBOARD
	SWITCHBOARD. FEEDER/MAIN CIRCUIT BREAKER SECTION AND DISTRIBUTION SECTION.
	GENERAL SYMBOLS
	INDICATES CONNECT TO EXISTING
	INDICATES ELEVATION

	DUPLEX RECEPTACLE
	LINE THRU DEVICE INDICATES ABOVE COUNTER
	SPECIAL DUPLEX RECEPTACLE (GFI, ISOLATED GROUND, ETC.)
	QUADPLEX RECEPTACLE
	SIMPLEX RECEPTACLE W/NEMA CONFIG AS NOTED
	MULTI-POLE RECEPTACLE W/NEMA CONFIG AS NOTED
	CEILING MOUNTED RECEPTACLE
	RECEPTACLE/DEVICE MOUNTED IN "TOMBSTONE"
	POKE-THRU WITH POWER
	POKE-THRU WITH TELECOMMUNICATIONS
	POKE-THRU WITH POWER AND TELECOM
	SINGLE GANG FLOOR BOX (2, 3, 4 GANG SIMILAR)
	DIVIDED POWER POLE
	CLOCK RECEPTACLE
	PLUG MOLD / WIRE MOLD AS SPECIFIED
	JUNCTION BOX
	THERMOSTAT - ELECTRIC
	PUSH BUTTON
	MOTOR
	TELEPHONE/DATA
	TELEPHONE OUTLET (SINGLE-GANG BOX WITH (1) 3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING)
	LINE THRU DEVICE INDICATES ABOVE COUNTER
	DATA OUTLET (DOUBLE-GANG BOX WITH (2) 3/4" CONDUITS TO ABOVE ACCESSIBLE CEILING)
	TELEPHONE/DATA OUTLET (DOUBLE-GANG BOX WITH (2) 3/4" CONDUITS TO ABOVE ACCESSIBLE CLG.)
	PHONE OUTLET WITH NUMBER OF PHONE JACKS AS INDICATED - SEE DETAILS FOR ADD'L INFO.
	DATA OUTLET WITH NUMBER OF PHONE JACKS AS INDICATED - SEE DETAILS FOR ADD'L INFO.
	PHONE/DATA OUTLET WITH NUMBER OF PHONE/DATA JACKS AS INDICATED - SEE DETAILS FOR ADD'L INFO.
	WALL-MOUNTED WIRELESS INTERNET TRANSMITTER
	CEILING-MOUNTED WIRELESS INTERNET TRANSMITTER
	AUDIO/VISUAL
	TELEVISION OUTLET (SINGLE GANG BOX WITH (1) 3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING)
	REVERSE TELEVISION OUTLET - CABLE TO HEAD END
	TEACHER'S DESK CONNECTIONS - RE: DETAILS
	WALL SPEAKER
	CEILING SPEAKER
	WALL SPEAKER - HORN TYPE
	CEILING SPEAKER - HORN TYPE
	CEILING SPEAKER - SUBWOOFER
	CEILING SPEAKER - SOUND SYSTEM
	VOLUME CONTROL
	INTERCOM CALL STATION
	INTERCOM HANDESET
	SOUND SYSTEM AUDIO JACK
	REMOTE MICROPHONE CONTROL
	PUBLIC ADDRESS SYSTEM AMPLIFIER
	INTERCOM MASTER STATION
	FIRE ALARM
	MANUAL PULL STATION
	CEILING SMOKE DETECTOR
	DUCT SMOKE DETECTOR
	HEAT DETECTOR
	WATERFLOW SWITCH
	TAMPER SWITCH
	VISIBLE NOTIFICATION DEVICE WITH CANDELA RATING. MINIMUM OF 75cd RATING.
	AUDIBLE/VISIBLE NOTIFICATION DEVICE WITH CANDELA RATING. 75cd UNLESS OTHERWISE NOTED ON PLANS.
	HORN
	CEILING-MOUNTED STROBE LIGHT WITH CANDELA RATING. MINIMUM OF 75cd RATING.
	CEILING-MOUNTED COMBINATION HORN/STROBE WITH CANDELA RATING. MIN. OF 75cd RATING.
	CEILING-MOUNTED HORN
	CEILING-MOUNTED SPEAKER
	RELAY
	FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATOR PANEL
	REMOTE ANNUNCIATOR PANEL
	FIRE ALARM EXTENDER CABINET
	DOOR HOLDER
	SINGLE / MULTI-STATION 120V SMOKE ALARM
	ZONE ADDRESSABLE MODULE
	INDIVIDUAL ADDRESSABLE MODULE
	KITCHEN HOOD FIRE SUPPRESSION SYSTEM PANEL
	KITCHEN HOOD REMOTE PULL STATION
	AREA OF RESCUE ASSISTANCE STATION
	AREA OF RESCUE ASSISTANCE MASTER STATION
	SECURITY
	FIXED CAMERA
	PAN/TILT/ZOOM CAMERA
	PROXIMITY TYPE CARD READER
	SMART CARD READER
	BREAK GLASS DETECTOR
	ELECTRIC STRIKE
	SECURITY MOTION DETECTOR
	KEYPAD / MAG LOCK
	BUTTON / MAG LOCK

ABBREVIATIONS

A/E	ARCHITECT / ENGINEER	ELEV	ELEVATION	MLO	MAIN LUGS ONLY
AF	ABOVE FINISHED FLOOR	EM	EMERGENCY FIXTURE/DEVICE	NFA	NET FREE AREA
AFS	ABOVE FINISHED GRADE	EW	ENTERING WATER TEMPERATURE	NL	NIGHT LIGHT
AG	ABOVE GRADE	EX	EXISTING ITEM	OA	OUTSIDE AIR
AHJ	AUTHORITY HAVING JURISDICTION	FFA	FROM FLOOR ABOVE	ORD	OVERFLOW ROOF DRAIN
AHU	AIR HANDLING UNIT	FTB	FROM FLOOR BELOW	P/C	PLUMBING CONTRACTOR
ARCH	ARCHITECT	FFD	FINISHED FLOOR CLEAN OUT	PSI	POUNDS PER SQUARE INCH
BFP	BACKFLOW PREVENTER	FGD	FLUSH GRADE CLEAN OUT	PVC	POLYVINYLCHLORIDE
BS	BELOW GRADE	FL	FLOOR LINE	RA	RETURN AIR
BLDG	BUILDING	FLR	FLOOR	REF/REFR	REFRIGERANT / REFERENCE
BMS	BUILDING MANAGEMENT SYSTEM	FR	FIRE PROTECTION	RF	RELIEF FAN
C	CONDUIT	FPM	FEET PER MINUTE	RL	RELOCATED ITEM
CD	CANDELA	FWO	FLUSH WALL CLEAN OUT	RZ	REDUCED PRESSURE ZONE
CD	COLD DECK	G	GROUND / GANG	RR	RESTROOM
CLS	CEILING	G/C	GENERAL CONTRACTOR	SA	SUPPLY AIR
CM	COORDINATE MOUNTING HEIGHT	GFI	GROUND FAULT CIRCUIT INTERRUPTER	SPD	SURGE PROTECTIVE DEVICE
CO	CLEAN OUT	GM	GALLONS PER MINUTE	ST	SHUNT TRIP
CTE	CONNECT TO EXISTING	HD	HOT DECK	TA	TRANSFER AIR
DCVA	DOUBLE CHECK VALVE ASSEMBLY	HG	HEATING	TA	TO FLOOR ABOVE
DCW	DOMESTIC COLD WATER	IG	ISOLATED GROUND	T/B	TO FLOOR BELOW
DDC	DIRECT DIGITAL CONTROLS	JB	JUNCTION BOX	TP	TAMPERPROOF
DF	DRAINING FOUNTAIN	LED	LIGHT EMITTING DIODE	TYP	TYPICAL
DHW	DOMESTIC HOT WATER	LWT	LEAVING WATER TEMPERATURE	UN	UNLESS NOTED OTHERWISE
DHW	DOMESTIC HOT WATER RETURN	WVF	VARIABLE RETROFLOWS FLOW	VTR	VENT THROUGH ROOF
DM	DAMETER	WVC	WALL CLEANOUT	WCO	WALL CLEANOUT
DN	DOWN	MAU	MAKE UP AIR UNIT	WQ	WIRE GUARD
D/C	ELECTRICAL CONTRACTOR	MCB	MAIN CIRCUIT BREAKER	WP	WEATHERPROOF
EA	EXHAUST AIR	MCH	MECHANICAL		
EDF	ELECTRIC DRINKING FOUNTAIN	MH	MANHOLE		



FURNACE AND CONDENSING UNIT DETAIL
NO SCALE

GEN. MECHANICAL NOTES

- COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE INTERNATIONAL MECHANICAL CODE, LOCAL AND STATE CODES, AND REQUIREMENTS OF THE AHJ.
- ANY POWER FOR CONTROL SYSTEMS TO BE PROVIDED BY E/C IS INDICATED ON ELECTRICAL PLANS. ANY ADDITIONAL LINE VOLTAGE OR LOW VOLTAGE POWER REQUIRED BY THE M/C OR SUBCONTRACTORS TO HAVE A FULLY FUNCTIONING SYSTEM SHALL BE PROVIDED BY THE M/C CONTRACTOR OR SUBS.
- ALL EQUIPMENT SHALL BE ADEQUATELY AND PROPERLY SUPPORTED AND FASTENED TO STRUCTURE.
- ALL EQUIPMENT AND ACCESSORIES INSTALLED IN CONCEALED SPACES REQUIRING ACCESS SHALL BE PROVIDED WITH ACCESS DOORS MEETING ANY FIRE REQUIREMENTS OF THE WALL/CEILING THEY ARE INSTALLED IN.
- EACH AIR HANDLING UNIT OVER 2000CFM SHALL BE PROVIDED WITH A SMOKE DETECTOR TO SHUT DOWN THE UNIT PER IMC 606 AS REQUIRED BY AHJ. COORDINATE WITH OTHER TRADES.
- START UP AND ADJUST ALL MECHANICAL SYSTEMS WITH THEIR INTENDED PURPOSES. SUBMIT BALANCE AND START UP REPORTS TO THE A/E. REFER TO SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.

GENERAL PLUMBING NOTES

- COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE INTERNATIONAL PLUMBING CODE, LOCAL AND STATE CODES, AND REQUIREMENTS OF THE AHJ.
- NO PIPING SHALL BE INSTALLED WHERE IT WILL BE SUBJECT TO FREEZING TEMPERATURES. PIPING IN EXTERIOR WALLS SHALL BE INSTALLED ON THE WARM SIDE OF BUILDING INSULATION. INSULATED AND THE CHASE SHALL BE VENTILATED WITH GRILLES ALLOWING INDOOR AMBIENT CONDITIONS TO CIRCULATE THROUGH THE CHASE.
- PROVIDE CLEANOUTS IN THE FOLLOWING LOCATIONS:
 - IN ALL HORIZONTAL DRAINS (WITHIN THE BUILDING) NOT MORE THAN 100 FEET APART.
 - IN BUILDING SINKERS LOCATED NO MORE THAN 100 FEET APART MEASURED FROM THE UPSTREAM ENTRANCE OF THE CLEANOUT.
 - EACH CHANGE OF DIRECTION OF THE BUILDING DRAIN OR HORIZONTAL WASTE OR SOIL LINES GREATER THAN 45 DEGREES WHERE MORE THAN ONE CHANGE OF DIRECTION OCCURS IN A RUN OF PIPING, ONLY ONE CLEANOUT SHALL BE REQUIRED FOR EACH 40 FEET OF DEVELOPED LENGTH OF THE DRAINAGE PIPING.
 - AT THE BASE OF EACH WASTE OR SOIL STACK.
 - NEAR THE JUNCTION OF THE BUILDING DRAIN AND BUILDING SEWER.

GENERAL ELECTRICAL NOTES

- COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE, LOCAL AND STATE CODES, AND REQUIREMENTS OF THE AHJ.
- COORDINATE LOCATIONS OF RECEPTACLES, SWITCHES, ETC. WITH ARCHITECTURAL CASEWORK AND ELEVATIONS.
- REFER TO MOUNTING HEIGHTS DETAIL FOR MOUNTING HEIGHTS OF DEVICES NOT INDICATED OTHERWISE.
- PROVIDE ALL EMPTY CONDUITS WITH PULL STRINGS AND BUSHED ENDS.
- CONTRACTOR SHALL CONCEAL ALL CONDUIT, FITTINGS, AND DEVICES FROM VIEW WHERE REASONABLY POSSIBLE.

COORDINATION NOTES

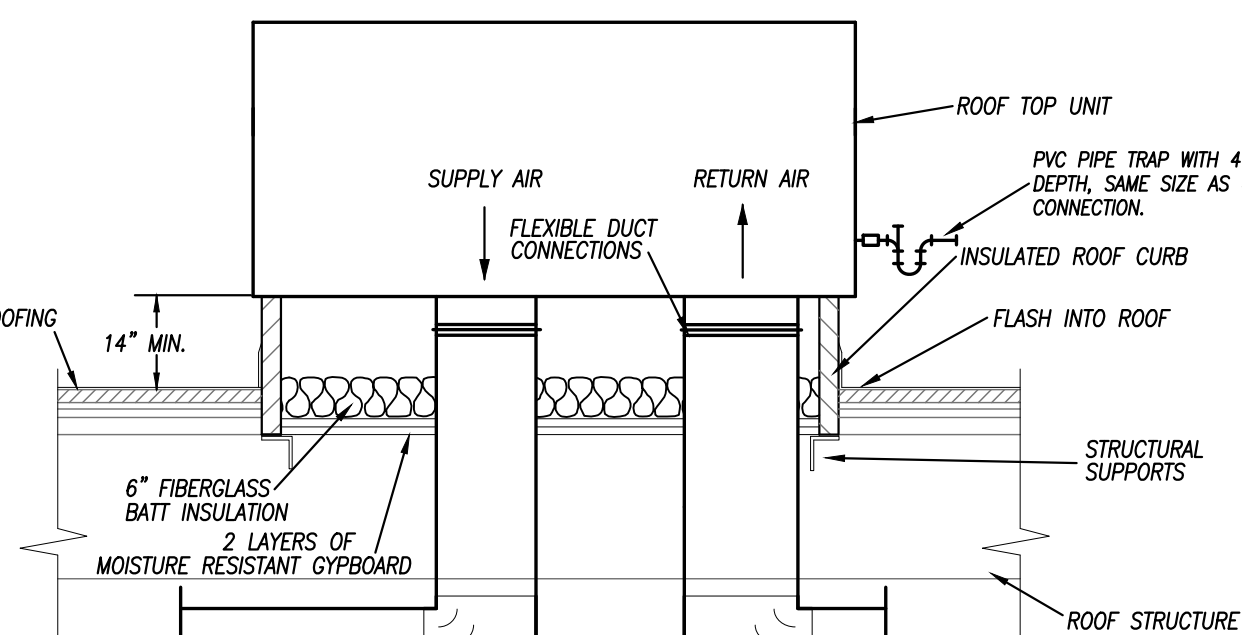
- COORDINATE REQUIREMENTS FOR INSTALLATION OF SYSTEMS AND EQUIPMENT WITH ALL OTHER TRADES.
- THE CONTRACTOR SHALL COORDINATE THE ROUTING AND PATH OF ALL SYSTEMS, CONDUITS, PIPES, DUCTS, ETC. WITH THE POSITION AND LAYOUT OF THE STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY OFFSETS, TURNS, RISERS AND DROPS FOR SYSTEMS AND COMPONENTS AS NEEDED TO INSTALL THE MEP SYSTEMS TO CLEAR STRUCTURE, CEILING, ETC. AND OTHER SYSTEMS IN POTENTIAL CONFLICT WITH ROUTING.
- COORDINATE WORK WITH OTHER TRADES TO INSTALL SYSTEMS ABOVE CEILING HEIGHTS INDICATED ON ARCHITECTURAL PLANS.
- CHECK SPACE REQUIREMENTS WITH OTHER TRADES AND STRUCTURE/CONSTRUCTION TO INSURE THAT ALL MATERIALS AND EQUIPMENT CAN BE INSTALLED IN THE SPACE ALLOTTED INCLUDING FINISHED SUSPENDED CEILINGS AND OTHER SPACES, CHASES, ETC. WITHIN THE BUILDING. MAKE MODIFICATIONS THERE TO AS REQUIRED AND APPROVED.
- TRANSIT TO OTHER TRADES ALL INFORMATION REQUIRED FOR WORK TO BE PROVIDED UNDER THEIR RESPECTIVE SECTIONS IN MAPLE TIME FOR INSTALLATION.
- WHEREVER WORK INTERCONNECTS WITH WORK OF OTHER TRADES, COORDINATE WITH THOSE TRADES TO INSURE THAT ALL SUBCONTRACTORS HAVE THE INFORMATION NECESSARY SO THAT THEY MAY PROPERLY INSTALL ALL CONNECTIONS AND EQUIPMENT. IDENTIFY ALL ITEMS OF WORK THAT REQUIRE ACCESS SO THAT THE CEILING TRADE WILL KNOW WHERE TO INSTALL ACCESS DOORS AND PANELS.
- COORDINATE, PROJECT AND SCHEDULE WORK WITH OTHER TRADES IN ACCORDANCE WITH THE CONSTRUCTION SEQUENCE.
- DRAWINGS SHOW THE GENERAL RUNS OF CONDUITS, PIPING AND DUCTWORK AND APPROXIMATE LOCATION OF OUTLETS. ANY SIGNIFICANT CHANGES IN LOCATION OF ITEMS NECESSARY IN ORDER TO MEET FIELD CONDITIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT/ENGINEER AND RECEIVE HIS APPROVAL BEFORE SUCH ALTERATIONS ARE MADE. ALL SUCH MODIFICATIONS SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION AND REPAIR OF SURFACES, AREAS AND PROPERTY THAT MAY BE DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES.
- ADJUST LOCATION OF PIPING, DUCTWORK, ETC. TO PREVENT INTERFERENCE, BOTH ANTICIPATED AND UNENCOUNTERED, DETERMINE THE EXACT ROUTE AND LOCATION OF EACH ITEM PRIOR TO FABRICATION, MAKE OFFSETS, TRANSITIONS AND CHANGES IN DIRECTION IN SYSTEMS AS REQUIRED TO MAINTAIN ADEQUATE CLEARANCES AND HEADROOM.
- WHEREVER THE WORK IS OF SUFFICIENT COMPLEXITY, PREPARE ADDITIONAL CONSTRUCTION DRAWINGS AND ORGANIZE ON-SITE MEETINGS WITH ALL RELATED SUBCONTRACTORS TO COORDINATE THE WORK BETWEEN TRADES. DRAWINGS SHALL CLEARLY SHOW THE WORK AND ITS RELATION TO THE WORK OF OTHER TRADES, AND BE SUBMITTED FOR REVIEW PRIOR TO COMMENCING SHOP FABRICATION OR ERECTION IN THE FIELD.
- COORDINATE WITH LOCAL UTILITY PROVIDERS FOR THEIR REQUIREMENTS FOR SERVICE CONNECTIONS AND PROVIDE ALL NECESSARY PERMITS, MATERIALS, LABOR AND TESTING TO ACCOMPLISH THE WORK.

GENERAL NOTES

- SOME ROOM NAMES MAY NOT BE SHOWN FOR PURPOSE OF CLARIFYING PLAN. REFER TO ARCHITECTURAL PLANS FOR REFERENCE TO ROOM NAMES NOT SHOWN.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN AND KEEP AT THE JOB SITE AN UP TO DATE SET OF "RECORD" DRAWINGS SHOWING ALL CHANGES FROM THE ORIGINAL PLANS. THE CONTRACTOR SHALL DELIVER THE "RECORD DRAWINGS" TO THE ENGINEER AT THE CONCLUSION OF THE PROJECT ELECTRONICALLY.
- THESE DRAWINGS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS (NEW AND EXISTING) DIMENSIONS, AND CLEARANCES PRIOR TO THE COMMENCEMENT OF WORK AND SHALL INCLUDE ALL COSTS, EQUIPMENT, MATERIAL, ACCESSORIES, ETC. REQUIRED FOR A FULLY COMPLETE, FUNCTIONAL AND CODE COMPLIANT INSTALLATION.
- FINAL LOCATIONS OF ALL DEVICES, LIGHT FIXTURES, EQUIPMENT ETC. SHALL BE INDICATED ON THE ARCHITECTURAL DRAWINGS. ALL DIMENSIONAL INFORMATION SHALL BE OBTAINED FROM ARCHITECTURAL PLANS. NO DIMENSIONAL INFORMATION SHALL BE OBTAINED FROM MEP DRAWINGS.
- THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS, APPROVALS, LICENSES, ETC. AS NEEDED FOR THE COMPLETE INSTALLATION AND PROJECT. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ALL FEES AND DATA REQUIRED FOR THIS.

GEN. RENOVATION NOTES

- DISCONNECT AND REMOVE ANY EQUIPMENT, PIPING OR DUCTWORK THAT WAS INSTALLED AS PART OF THE BUILDING SHELL THAT IS NOT NEEDED OR CONFLICTS WITH THIS BUILD OUT.
- EXISTING UNDERGROUND PIPING LOCATIONS ARE ESTIMATED BASED UPON ANTICIPATED ROUTINGS. FIELD VERIFY EXACT LOCATIONS DURING CONSTRUCTION AND PROVIDE ALL NECESSARY MODIFICATIONS.
- SAW/CUT FLOOR SLABS TO INSTALL NEW PIPING, MECHANICAL SYSTEMS, ELECTRICAL FLOOR BOXES AND ALL ASSOCIATED CONDUIT, ETC. PATCH FLOOR TO MAKE LIKE NEW AFTER INSTALLATION. TAKE CARE TO LOCATE EXISTING CONDUIT, ETC. AND AVOID CUTTING EXISTING CONDUITS BY NOT OVERTIGHTENING SLAB DEPTH.
- SAW/CUT AND CORE DRILL OPENINGS AS REQUIRED FOR ABOVE GRADE SLAB PENETRATIONS. XRAY SLABS TO ASCERTAIN STEEL AND EXISTING CONDUIT PENETRATIONS PRIOR TO CUTTING. VERIFY OPENINGS WITH STRUCTURAL ENGINEER PRIOR TO CUTTING.
- INSTALL CIRCUITS TO 20 AMP, SINGLE POLE BREAKERS IN PANELBOARDS INDICATED. UTILIZE SPARE BREAKERS MADE AVAILABLE BY DEMOLITION, IF NO SPARE BREAKER IS AVAILABLE, PROVIDE NEW BREAKER.
- EXISTING CIRCUITING MAY BE RE-USED WHERE POSSIBLE.
- CONCEAL NEW CIRCUITING IN WALLS WHERE POSSIBLE. FOR NEW DEVICES INSTALLED ON EXISTING SOLID WALLS, CONCEAL CIRCUITING IN WIREMOLD. COORDINATE FINISH AND GENERAL ROUTING OF WIREMOLD WITH ARCHITECT TO BE AS CONCEALED AND/OR ROUTED IN A NEAT AND ORGANIZED CONSISTENT MANNER.



ROOF TOP UNIT MOUNTING DETAIL
NO SCALE



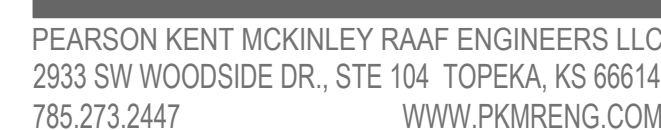
pkmr
ENGINEERS
PEARSON KENT MCKINLEY RAAF ENGINEERS LLC
2933 SW WOODSIDE DR., STE 104 TOPEKA, KS 66614
785.273.2447 WWW.PKMRENG.COM

USD 506 LABETTE CO SCHOOLS
HVAC UPGRADES

ALTAMONT GRADE SCHOOL
705 6TH ST.
ALTAMONT, KS 67330

ISSUED FOR:	DESCRIPTION	DATE
1		
2		
3		
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DRAWN BY:	EJT	
CHECKED BY:	SWM	
SHEET TITLE:		
HVAC SYMBOLS & DETAILS		
DATE:	PKMR PROJECT:	22.175
9/29/2022		
SHEET NUMBER:		

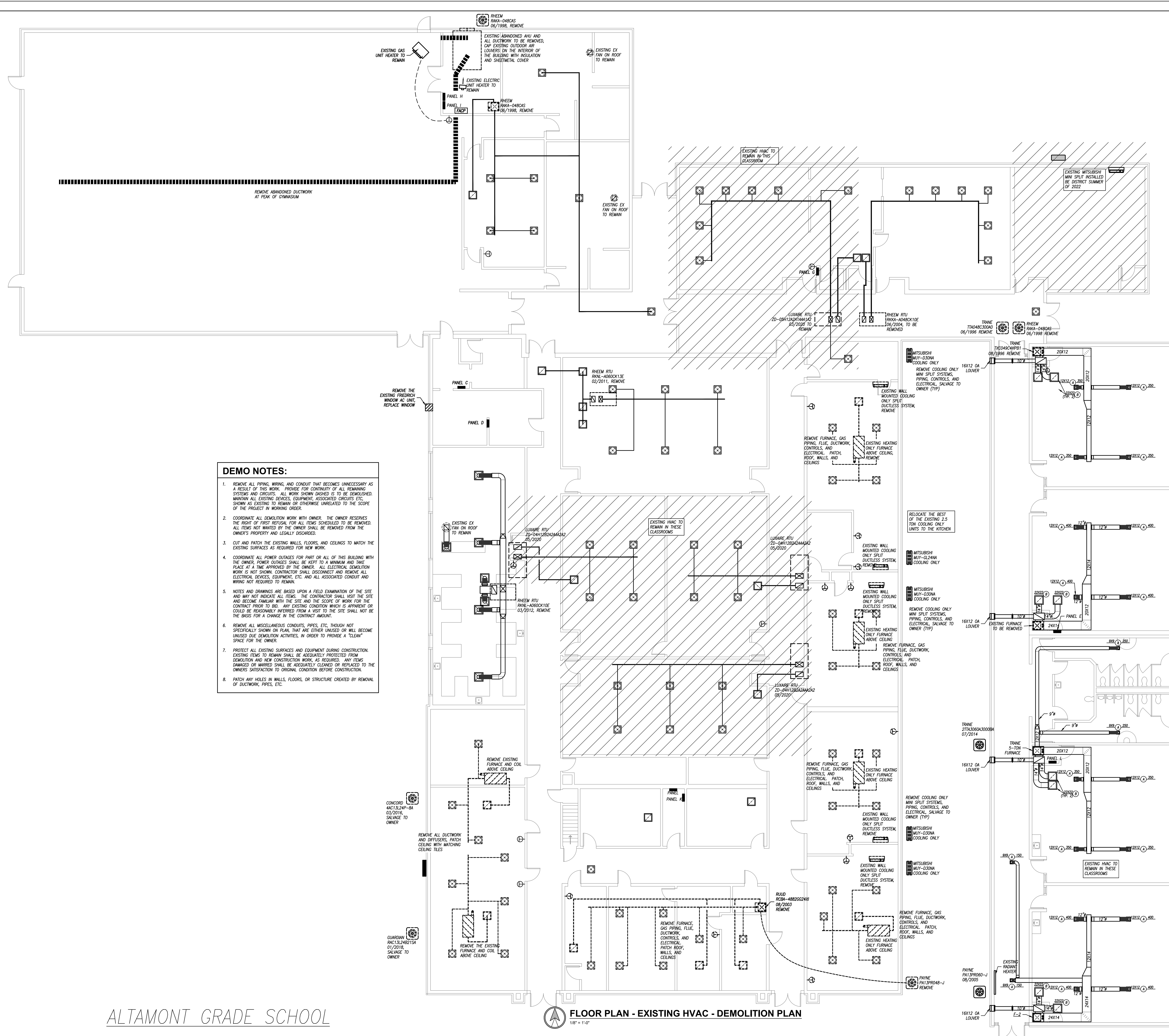
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USD 506 LABETTE CO SCHOOLS
HVAC UPGRADES

**ALTAMONT GRADE SCHOOL
705 6TH ST.
ALTAMONT, KS 67330**

ISSUED FOR:			
DESCRIPTION		DATE	
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2			
3			
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DRAWN BY:		EJT	
CHECKED BY:		SWM	
SHEET TITLE:			
<h1>HVAC DEMO PLAN</h1>			
DATE: 9/29/2022		PKMR PROJECT.	
SHEET NUMBER:		22.175	

M1



ALTAMONT GRADE SCHOOL



pkmr
ENGINEERS

PEARSON KENT MCKINLEY RAAF ENGINEERS LLC
2933 SW WOODSIDE DR., STE 104 TOPEKA, KS 66614
785.273.2447
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USD 506 LABETTE CO SCHOOLS
HVAC UPGRADES

ALTAMONT GRADE SCHOOL
705 6TH ST.
ALTAMONT, KS 67330

ISSUED FOR:
DESCRIPTION
DATE

1		
2		
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SHEET TITLE:
HVAC PLAN

DATE: 9/29/2022
PKMR PROJECT: 22.175
SHEET NUMBER:

M2

ALTAMONT GRADE SCHOOL

OWNER WILL PURCHASE THIS EQUIPMENT, CONTRACTOR TO RECEIVE AND INSTALL EQUIPMENT

ROOF TOP UNIT SCHEDULE - THREE PHASE ELECTRIC WITH GAS HEAT																
PLAN MARK	MANUFACTURER	MODEL NUMBER	SIZE	REFRIGERANT	MINIMUM EFFICIENCY	AIRFLOW	COMPRESSORS	COOLING CAPACITY	CFM	EXTERNAL STATIC	OA CFM	HEATING CAPACITY	ELECTRICAL	WEIGHT	FILTER	NOTES
RTU-1A&B	LUXARE	ZD-03H07B2	3 TON	R-410A	14 SEER	DOWN OR HORIZONTAL	(1) SCROLL	37,100 BTUH	1,200	0.7"	120	75 MBH	208 V, 3 PH, 25 AMP	800 LBS	MERV 13	1,2,3
RTU-2	LUXARE	ZD-04H07B2	4 TON	R-410A	14 SEER	DOWN OR HORIZONTAL	(1) SCROLL	49,000 BTUH	1,600	0.7"	160	75 MBH	208 V, 3 PH, 30 AMP	800 LBS	MERV 13	1,2,3

- NOTES LEGEND
- REFER TO PLANS FOR QUANTITIES - PROVIDE ADAPTER ROOF CURB, DISCONNECT SWITCH, HAIL GUARDS, HOT GAS HUMIDITY CONTROL, AND ECONOMIZER
 - PROVIDE WALL MOUNTED 7-DAY PROGRAMMABLE THERMOSTAT
 - PROVIDE INTERNAL VIBRATION ISOLATION FOR THE RTU FAN AND COMPRESSORS

OWNER WILL PURCHASE THIS EQUIPMENT, CONTRACTOR TO RECEIVE AND INSTALL EQUIPMENT

MINI-SPLIT DUCTLESS EVAPORATOR/HEAT PUMP SCHEDULE												
PLAN MARK	MANUFACTURER	MODEL	NOMINAL SIZE	MAX CFM	ENTERING AIR DRYWET	COOLING MBH	HEATING MBH	ELECTRICAL	MOCP AMPS	MIN CIRCUIT AMPS	DISCONNECT	NOTES
MSEV-MHP-1	MTSUSHI	CEILING RECESSED HYPER HEAT	2.5 TON	705	80/67	30.0	23.0	208/240V, 1P	40	25	YES	1,2,3
MSEV-MHP-2	MTSUSHI	CEILING RECESSED HYPER HEAT	3.0 TON	990	80/67	35.0	25.0	208/240V, 1P	40	25	YES	1,2,3
MSEV-3	MTSUSHI	CEILING RECESSED HYPER HEAT	1.0 TON	300	80/67	11.0	9.0	---	---	---	---	1,2,3
MHP-3	MTSUSHI	CEILING RECESSED HYPER HEAT	2.0 TON	---	---	11.0	---	208/240V, 1P	15	10	YES	1,2,3

- NOTES LEGEND
- REFER TO PLANS FOR QUANTITIES PER SCHOOL - PROVIDE WIRED REMOTE THERMOSTAT, AND CONDENSATE PUMP
 - PROVIDE ALL NEEDED ACCESSORIES FOR A COMPLETE INSTALLATION WITH LOW AMBIENT COOLING DOWN TO 0 DEG AMBIENT FOR IT ROOMS AND HYPER HEAT IN ALL UNITS
 - VERIFY EXACT REFRIGERANT LINE SIZES WITH MANUFACTURER

OWNER WILL PURCHASE THIS EQUIPMENT, CONTRACTOR TO RECEIVE AND INSTALL EQUIPMENT

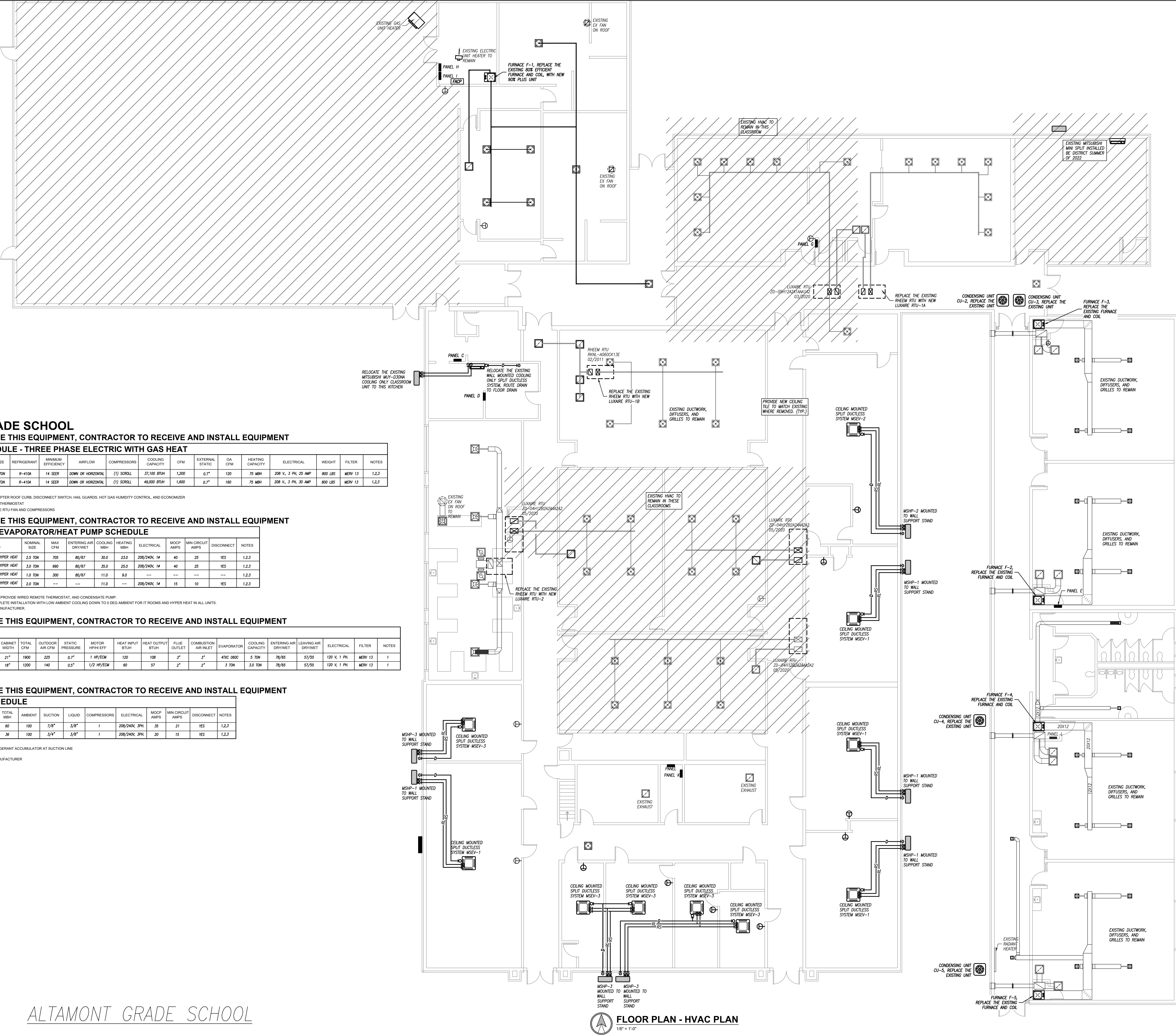
FURNACE SCHEDULE																		
PLAN MARK	MANUFACTURER	MODEL NUMBER	CABINET WIDTH	TOTAL CFM	OUTDOOR AIR CFM	STATIC PRESSURE	MOTOR HP/H EFF	HEAT INPUT BTUH	HEAT OUTPUT BTUH	FLUE OUTLET	COMBUSTION AIR INLET	EVAPORATOR	COOLING CAPACITY	ENTERING AIR DRYWET	LEAVING AIR DRYWET	ELECTRICAL	FILTER	NOTES
F-1,4&5	LUXARE	TL8C60812UH1	21"	1900	225	0.7"	1 HP/ECM	120	108	3"	3"	47X 060C	5 TON	78/65	57/55	120 V, 1 PH	MERV 13	1
F-2&3	LUXARE	TL8C60812UH1	18"	1200	140	0.5"	1/2 HP/ECM	60	57	2"	2"	3 TON	3.0 TON	78/65	57/55	120 V, 1 PH	MERV 13	1

- NOTES LEGEND
- PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT

OWNER WILL PURCHASE THIS EQUIPMENT, CONTRACTOR TO RECEIVE AND INSTALL EQUIPMENT

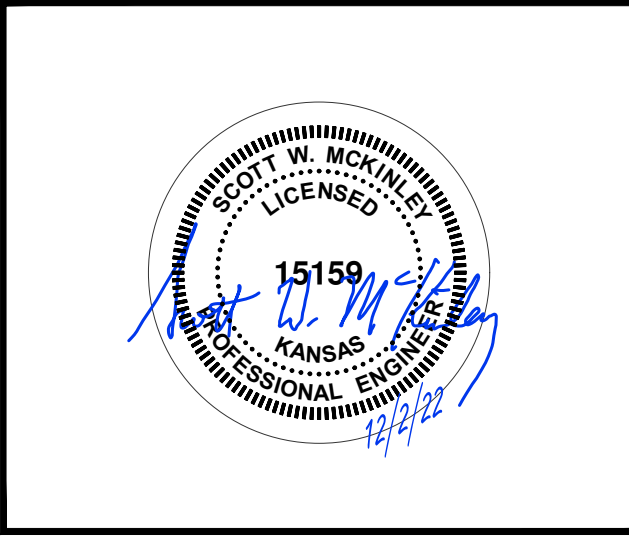
CONDENSING UNIT SCHEDULE													
PLAN MARK	MANUFACTURER	MODEL NUMBER	NOMINAL SIZE	TOTAL MBH	AMBIENT	SUCTION	LIQUID	COMPRESSORS	ELECTRICAL	MOCP AMPS	MIN CIRCUIT AMPS	DISCONNECT	NOTES
CU-1,4&5	LUXARE	T02 6083	5 TONS	60	100	7/8"	3/8"	1	208/240V, 3PH	35	21	YES	1,2,3
CU-2&3	LUXARE	T02 3683	3 TONS	36	100	5/4"	3/8"	1	208/240V, 3PH	20	15	YES	1,2,3

- NOTES LEGEND
- PROVIDE TXV VALVE, SERVICE VALVES, AND REFRIGERANT ACCUMULATOR AT SUCTION LINE
 - PROVIDE COIL HAIL GUARDS
 - VERIFY EXACT REFRIGERANT LINE SIZES WITH MANUFACTURER



ALTAMONT GRADE SCHOOL

FLOOR PLAN - HVAC PLAN
1/8" = 1'-0"



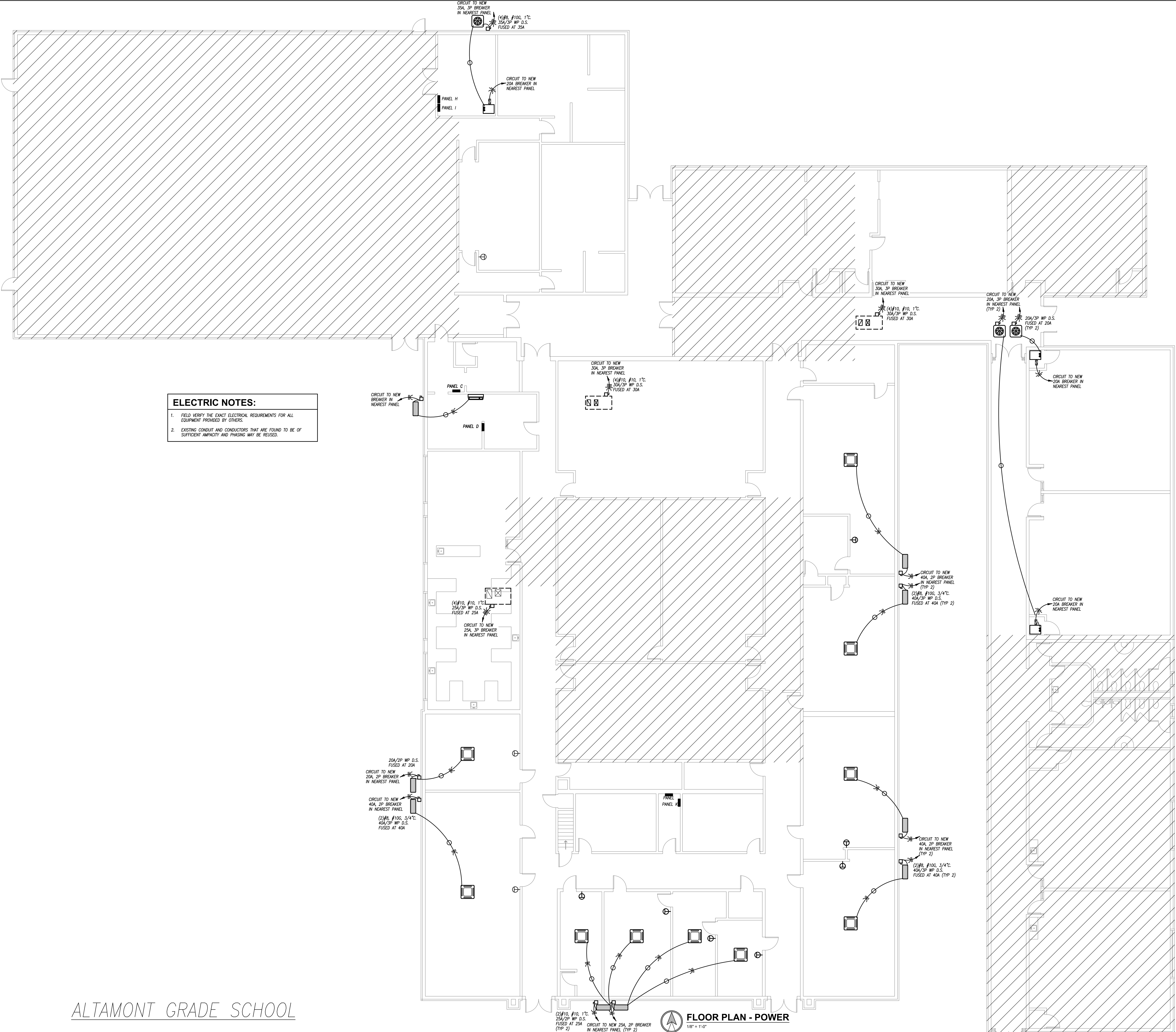
pkmr
ENGINEERS

PEARSON KENT MCKINLEY RAAF ENGINEERS LLC
2933 SW WOODSIDE DR., STE 104 TOPEKA, KS 66614
785.273.2447
WWW.PKMRENG.COM

**USD 506 LABETTE CO SCHOOLS
HVAC UPGRADES**

**ALTAMONT GRADE SCHOOL
705 6TH ST.
ALTAMONT, KS 67330**

ISSUED FOR:	
DESCRIPTION	DATE
1	
2	
3	
© PEARSON KENT MCKINLEY RAAF ENGINEERS, LLC	
DRAWN BY:	EJT
CHECKED BY:	SWM
SHEET TITLE:	
POWER PLAN	
DATE:	PKMR PROJECT:
9/29/2022	22.175
SHEET NUMBER:	
E1	



- ELECTRIC NOTES:**
1. FIELD VERIFY THE EXACT ELECTRICAL REQUIREMENTS FOR ALL EQUIPMENT PROVIDED BY OTHERS.
 2. EXISTING CONDUIT AND CONDUCTORS THAT ARE FOUND TO BE OF SUFFICIENT AMPACITY AND FINISHING MAY BE REUSED.

ALTAMONT GRADE SCHOOL

FLOOR PLAN - POWER
1/8" = 1'-0"