

BOOKER T. WASHINGTON ELEMENTARY SCHOOL HVAC REPLACEMENT FAYETTE COUNTY PUBLIC SCHOOLS

LEXINGTON, KENTUCKY

"CONSTRUCTION DOCUMENTS" BG #24-168



www.grwinc.com

JANUARY - 2024



SUBMITTAL SHEET INDEX							
SHEET #	SHEET NAME						
G-001 M-001 MD101 MD102 M-101 M-102 M-601 E-001 ED101 ED102 E-101 E-102	COVER MECHANICAL LEGEND AND GENERAL NOTES FIRST FLOOR PLAN HVAC - DEMOLITION ROOF PLAN - HVAC - DEMOLITION FIRST FLOOR PLAN - HVAC - NEW WORK ROOF PLAN - HVAC - NEW WORK MECHANICAL DETAILS AND SCHEDULES ELECTRICAL LEGEND AND GENERAL NOTES FIRST FLOOR PLAN - ELECTRICAL DEMOLITION ROOF PLAN - ELECTRICAL DEMOLITION FIRST FLOOR PLAN - ELECTRICAL NEW WORK ROOF PLAN - ELECTRICAL NEW WORK						

GRW PROJECT NO. 4973-05





KE OFF WITH RAKE OFF DAMPER; AM		BALL VALVES (BV)	V C	
		PLUG COCKS, BALANCING COCKS	 (Р/Т)	VACUUM AND COMPOUND GAUGES
I; PLAN, ONE LINE DIAGRAM			FS	PRESSURE/TEMPERATURE TEST PLUG
ERTICAL OR HORIZONTAL		SILENT CHECK VALVE		FLOW SWITCH
RS	──────────────────	BUTTERFLY VALVES (BFV)		ORIFICE FLOW METER
		CONTROL VALVE; TWO WAY, THREE WAY	M	METER: WATER, CONDENSATE OR GAS
			(F)	POT OR SHOT FEEDER
; ONE, TWO, THREE AND FOUR WAY				THERMOSTAT OR TEMP CONTROLLER
T OR TRANSFER GRILLE		MOTOR OPERATED VALVE		
/ITH ACOUSTIC BAFFLE		FLOW MEASURING DEVICE	P	PRESSURE CONTROLLER
JRN BOTTOM WALL REGISTER OR GRILLE		SELF REGULATING	H H	HUMIDISTAT, OR HUM. CONTROLLER
JRN TOP WALL REGISTER OR GRILLE		FLOW CONTROL VALVE	С	CONDUCTIVITY CONTROLLER
		RELIEF VALVE; PLAN, ELEVATION		MANUAL AIR VENT
				AUTOMATIC AIR VENT
NATION. TURN, (E) EXHAUST, (T) TRANSFER, JPPLY TYPE 2, 200 C.F.M.		PRESSURE REDUCING VALVE (PRV)		AUTOMATIC AIR ELIMINATOR
		TRI-FUNCTION VALVE (TDV)		
		STRAINER; STRAINER WITH BLOW DOWN.	<u>+</u>	VACUUM BREAKER
R RETURN GRILLE				FLOAT AND THERMOSTATIC TRAP, TRAP
ONNECTOR; PLAN, ONE LINE DIAGRAM				INVERTED BUCKET TRAP, TRAP SET
		FLEXIBLE CONNECTOR	F	FLOAT, STEAM OR AIR TRAP
		BACKFLOW PREVENTER, REDUCED PRESSURE (STRAINER NOT SHOWN) (BFP - RPZ)	EMD	MAIN OR END OF MAIN DRIP TRAP SET
RN PIPING	Υ Υ			HORIZONTAL UNIT HEATER
		DOUBLE CK. VALVE ASSEMBLY (DCA)		
ER RETURN PIPING UPPLY PIPING				PUMP
ETURN PIPING		REDUCING BUSHING		ROOF EXHAUST HOOD, EXHAUST FAN
ER SUPPLY PIPING		COUPLING, JOINT		ROOF INTAKE HOOD, SUPPLY FAN
ER RETURN PIPING		САР	FP	FIRE PROTECTION
IEAT PUMP RETURN		PLUG	——— F ———	FIRE PROTECTION
TABLE)		90° ELBOW		PIPE HANGER
TABLE)HOT	0	90° ELBOW TURNED UP		
RE STEAM (16-50 PSI) PIPING	C	90° ELBOW TURNED DOWN		
STEAM (51 PSI & OVER) PIPING	ſ f	45° ELBOW	\otimes	FIRE RISER
ONDENSATE RETURN (0-15 PSI) PIPING	⊥ ∔	TEE OR SIDE CONNECTION	•	FIRE HYDRANT (FH)
E CONDENSATE RETURN (16-50 PSI)	+O+	TEE OUTLET UP		FIRE DEPT. CONNECTION (FDC)
CONDENSATE RETURN (51 PSI & OVER)			0 0	FIRE DEPT CONNECTION (EDC)
		TEE OUTLET DOWN	I Î	(SINGLE: WALL, POST)
PIPING	<u>_</u>	CROSS	ZV	ZONE CONTROL VALVE SET
PIPING			_/////////////////////////////////////	
PING	<u>TOP</u> BOT.	UNCONNECTED CROSSING PIPES	A g A	
				POST INDICATOR VALVE (PIV)
STEM DRAIN PIPING	(RISE OR DROP IN PIPE	Ŷ	YARD HYDRANT (YH)
	O LPS	RISER ONLY, SERVICE (LPS) SHOWN		WATER MOTOR ALARM (GONG)
F VALVE DISCHARGE PIPING		BOTTOM CONNECTION TO LINE		ALARM CHECK VALVE
ING	φ	TOP CONNECTION TO LINE	•	
RY SEWER PIPING (SITE)	l Ø			DRY PIPE VALVE
SEWER PIPING (SITE)				DRY PIPE VALVE W/ EXHAUSTERS
PING (SITE)		UNION	\longrightarrow	PREACTION SYSTEM VALVE
ING	——————————————————————————————————————	STRUCTURAL PIPE ANCHOR		WET STANDPIPE HOSE STATION
		BUILDING ENTRANCE PIPE ANCHOR		DRY STANDPIPE HOSE STATION
				ANGLE HOSE (HV) OR DRAIN VALVE
		PIPE GUIDE	<u> </u>	SPRINKLER HEAD: UPRIGHT OR GENER
	— <u>—</u> —	EXPANSION JOINT	— <u> </u>	SPRINKI ER HEAD' DENDANT
VATER PIPING		THRUST BLOCK		
ATER (140 F) PIPING	т ^р т		— • •	SPRINKLER HEAD: PENDANT ON DROP I
CULATING HOT WATER PIPING		WALL SLEEVE	— # ``	SPRINKLER HEAD: DRY PENDANT TYPE
ATER (105 F) PIPING		CONCENTRIC REDUCER	©O	SPRINKLER HEAD: UPRIGHT ON SPRIG
			<u> </u>	SPRINKLER HEAD: WITH GUARD
PIPING (EXTERIOR)		ECCENTRIC REDUCER	\bigtriangledown \bigtriangledown	SPRINKLER HEAD: SIDEWALL
		VENT THROUGH ROOF, PLAN & RISER	v	
		THROUGH ROOF	\/	SPRINKLER HEAD: OUTSIDE
PIPING		THROUGH FLOOR	P-1	PLUMBING FIXTURE I.D. NUMBER
AL - SEE SPECS)	× '	THROUGH WALL	VTR	VENT THRU ROOF; PLAN & RISER
)	~≻ ~ □		FD-1	FLOOR DRAIN I.D. NUMBER; PLAN & RISI
		THERMOMETERS	WCO	WALL CLEAN OUT
			FCO	FLOOR CLEAN OUT
E (WITH READ OUT)	Ŧ	THERMOMETER WELL	GCO	GRADE CLEAN OUT
ONLY (NON-SHUTOFF)	(P) (AD	ACCESS DOOR
N, BOILER DRAIN	T	PRESSURE GAUGES		

I AND COMPOUND GAUGES	WH WALL HYDRANT
RE/TEMPERATURE TEST PLUG	HB HOSE BIBB
МІТСН	OSD RISER SYMBOL ON PLAN SHEET
ELOW METER	MI.4 SHEET WHERE WASTE & WATER RISERS APPEAR
	P2.1 SHEET WHERE WASTE RISER APPEARS P2.2 SHEET WHERE WATER RISER APPEARS
SHOT FEEDER	A A RISER SYMBOLS FOR WASTE (SANITARY) S W AND WATER ON RISER SHEET
OSTAT, OR TEMP. CONTROLLER	GENERAL NOTES.
RE CONTROLLER	1. GENERAL NOTES, WHEREVER THEY ARE FOUND, APPLY TO ALL WORK IN THE PROJECT, UNLESS OTHERWISE INDICATED. SHEET NOTES, UTILIZING NOTE SYMBOLS, APPLY ONLY TO THE SHEET ON WHICH THEY ARE FOUND, UNLESS OTHERWISE STATED, THE MEANING OF NOTE SYMBOLS AND
TAT, OR HUM. CONTROLLER	NUMBERS VARIES FROM SHEET TO SHEET.
CTIVITY CONTROLLER	AND FLOW DIAGRAMS FOR THE WORK WHERE APPROPRIATE, WHETHER OR NOT THEY ARE SPECIFICALLY REFERENCED ON THE PLANS OR SUPPORTING DRAWINGS.
AIR VENT	3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONTRACT DOCUMENTS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ANY WORK RELATING TO THOSE CONDITIONS IS PERFORMED.
TIC AIR VENT	4. LEGENDS OR LISTS OF SYMBOLS AND ABBREVIATIONS ARE GENERAL IN NATURE AND MAY CONTAIN ITEMS NOT USED IN THE CONTRACT DOCUMENTS. IF ANY SUCH ITEMS ARE FOUND WHICH ARE NOT DEFINED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER SHALL BE CONTACTED FOR CLARIFICATION BEFORE THE BID.
TIC AIR ELIMINATOR	5. CONTRACTOR SHALL MAINTAIN A SET OF PROJECT RECORD DRAWINGS AT THE JOB SITE AND SHALL BE RESPONSIBLE FOR MAKING CLEAR, NEAT CHANGES TO THE DRAWINGS, REFLECTING CHANGES TO THE WORK AND VARIANCE IN EXISTING CONDITIONS
IBREAKER	 PROVIDE ALL MISCELLANEOUS STEEL, AS REQUIRED, TO SUPPORT ALL MECHANICAL DUCT AND PIPING SYSTEMS AND EQUIPMENT. HANG ALL FOUNDMENT FROM STRUCTURE WITH MINIMUM OF TWO TRADEZE ASSEMBLIES OR FOUR INTEGRAL MOUNTING POINTS WITH VIBRATION ISOLATOR
	ON ALL FOUR SUPPORTS. DO NOT HANG ANYTHING FROM STEEL, COMPOSITION OR WOODEN DECKS. NON-ROOF CONCRETE DECKS MAY BE USE ONLY WITH PERMISSION OF THE ENGINEER. DO NOT HANG ANYTHING FROM MECHANICAL OR ELECTRICAL ITEMS.
ND THERMOSTATIC TRAP, TRAP SET	7. NO STEEL STRUCTURAL MEMBERS SHALL BE CUT, BURNED, WELDED OR DRILLED WITHOUT SPECIFIC PERMISSION OF THE ENGINEER.
D BUCKET TRAP, TRAP SET	8. NO WOODEN STRUCTURAL MEMBERS SHALL BE CUT OR DRILLED EXCEPT AS INDICATED IN THE CONTRACT DOCUMENTS OR AS APPROVED BY THE ENGINEER.
STEAM OR AIR TRAP	9. ALL EQUIPMENT, ACCESSORIES, PIPING, WIRING, DUCT AND OTHER WORK, WHICH IS INSTALLED IN FINISHED SPACES SHALL BE CONCEALED IN WALLS, FLOORS, FURRED CHASES OR SUSPENDED CEILINGS, EXCEPT FOR INDICATED TERMINAL UNITS, CONTROLS, AIR INLETS AND OUTLETS, A SHOWN.
END OF MAIN DRIP TRAP SET	10. DUCT DAMPERS IN INACCESSIBLE CEILINGS MAY BE PROVIDED WITH APPROVED REMOTE OPERATORS INSTEAD OF ACCESS DOORS.
NTAL UNIT HEATER	 11. DO NOT CHANGE PATH OF PIPING OR DUCT RUNS, ADD TURNS OR OFFSETS OR CHANGE DUCT DIMENSIONS OR PIPE SIZE WITHOUT FIRST CONSULTING THE ENGINEER. PIPE SIZES SHOWN ON DRAWINGS ARE NOMINAL UNLESS OTHERWISE INDICATED. ALL DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE DIMENSIONS FOR SHOP OR FIELD-FABRICATED DUCT AND NOMINAL SIZES FOR FACTORY FABRICATED DUCT. 12. FOR TYPICAL STEAM, WATER, REEDICERANT AND ALL CONNECTIONS TO FOLLOWER TO SEE STANDARD RETAILS.
KHAUST HOOD, EXHAUST FAN	12. FOR TYPICAL STEAM, WATER, REFRIGERANT AND AIR CONNECTIONS TO EQUIPMENT, SEE STANDARD DETAILS. 13. ALL COPPER PIPING SHALL BE ASSEMBLED WITH WROUGHT COPPER OR CAST COPPER ALLOY FITTINGS AND 95/5 TIN ANTIMONY SOLDER OR
	14. ALL CHECK VALVES IN PUMP DISCHARGES SHALL BE SPRING-LOADED OR SILENT TYPE OR FOR LARGE WASTE: LEVER-WEIGHTED TYPE.
OTECTION	15. ALL EXISTING EQUIPMENT SHUTDOWNS OR INTERRUPTIONS OF UTILITY SERVICE REQUIRED FOR COMPLETION OF THE WORK SHALL BE SCHEDULED IN ADVANCE, AS REQUIRED BY THE OWNER.
	16. COORDINATE ALL PIPING AND DUCTWORK WITH BOTH NEW AND EXISTING MECHANICAL AND ELECTRICAL WORK, INCLUDING HVAC, PLUMBING, ELECTRICAL, FIRE ALARM, SPRINKLER AND COMMUNICATIONS.
NGER	17. CONTRACTOR IS RESPONSIBLE FOR MAKING ALL REQUIRED CONNECTIONS FOR A COMPLETE SYSTEM. CONNECTIONS OF NEW WORK TO EXISTIN IS USUALLY INDICATED BY SPECIAL SYMBOL (SEE LEGEND). SYMBOLS MISSING FROM THE DRAWINGS DO NOT EXCUSE THE CONTRACTOR FROM PROVIDING THE WORK.
N PIT	18. ANY AND ALL DAMAGE DUE TO DEMOLITION OR CONSTRUCTION IS TO BE REPAIRED OR REPLACED AS APPROPRIATE, SUBJECT TO ENGINEER'S APPROVAL, AND AT NO ADDITIONAL COST TO THE OWNER.
SER	19. THE CONTRACTOR SHALL NOT REMOVE OR DISTURB ANY SUSPECTED HAZARDOUS MATERIALS, INCLUDING ASBESTOS-CONTAINING MATERIALS (ACM), LEAD-BASED PAINTS, ELECTRICAL GEAR CONTAINING PCB'S OR ANY OTHER, EXCEPT AS INSTRUCTED IN THIS CONTRACT. IF ANY MATERIAL NOT COVERED BY THE CONTRACT IS ENCOUNTERED, NOTIFY THE ENGINEER AT ONCE.
DRANT (FH)	20. ALL DEMOLISHED OR REMOVED EQUIPMENT, PIPING, DUCTWORK, SUPPORTS, CONTROLS AND THE LIKE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE NOTED.
PT. CONNECTION (FDC) F: WALL_POST)	21. REINSULATE ALL DUCTWORK AND PIPING WHERE EXISTING INSULATION HAS BEEN REMOVED OR DAMAGED DURING THE PROJECT.
PT. CONNECTION (FDC)	22. EXISTING OUTLETS (EXS) ARE SHOWN FOR BALANCING PURPOSES ONLY. NO MODIFICATIONS ARE REQUIRED. 23. ALL DUCTWORK AND SHEET METAL SHALL BE PROVIDED AS INDICATED AND SHALL BE MANUFACTURED AND SHOP- OR FIELD-FABRICATED, AS A
: WALL, POST) DNTROL VALVE SET	MINIMUM, IN ACCORDANCE WITH THE RECOMMENDATIONS AND DETAILS OF SMACNA, UNLESS SPECIFICALLY INDICATED OTHERWISE. 24. FANS SHALL BE PROVIDED AS INDICATED BY GREENHECK, CARNES, COOK OR APPROVED EQUAL. GRILLES, REGISTERS AND DIFFUSERS SHALL BE PROVIDED AS INDICATED BY TITUS, TUTTLE AND BAILEY, PRICE, CARNES OR APPROVED EQUAL. LOUVERS, HOODS AND PENTHOUSES SHALL BE
TAILS) LVE HEADER	25. ALL HVAC PIPING SHALL BE IN ACCORDANCE WITH ASME STANDARDS AND PRACTICES AND THE REQUIREMENTS OF THE KY BUILDING CODE .
	IN ACCORDANCE WITH AWS STANDARDS.
DICATOR VALVE (PIV)	27. MOUNT ALL ROOM THERMOSTATS OR ADJUSTABLE SENSORS AT HEIGHTS ABOVE FINISHED FLOOR, AS DIRECTED BY THE ENGINEER.
/DRANT (YH)	28. ALL HYDRONIC PIPING SYSTEMS SHALL BE PITCHED UP 1" IN 40 FT. IN DIRECTION OF FLOW.
MOTOR ALARM (GONG)	29. ALL HIGH POINTS IN HYDRONIC PIPING SYSTEMS SHALL CONTAIN AIR CHAMBERS WITH AUTOMATIC AIR VENTS, PIPED PER DETAILS.
CHECK VALVE	31. PIPING TO HEATING AND COOLING WATER COILS SHALL BE MADE TO PROVIDE COUNTERFLOW BETWEEN WATER AND AIR.
E VALVE	32. DO NOT USE BULL-HEADED TEE FITTINGS, EITHER ON PIPE OR ON DUCT, UNLESS SPECIFICALLY SHOWN, OR IN THE CASE OF DUCT, UNLESS INTERNAL TURNING VANES PER SMACNA ARE PROVIDED.
E VALVE W/ EXHAUSTERS	33. CONSULT ARCHITECTURAL REFLECTED CEILING PLAN FOR PLACEMENT OF AIR TERMINALS. COORDINATE WITH MECHANICAL WORK AND WORK OF OTHER TRADES.
ION SYSTEM VALVE	34. SUPPLY AND RETURN DUCT RUNS SHOWN AS SINGLE-LINE DIAGRAM ON PLANS SHALL BE EXTERNALLY INSULATED GALVANIZED RECTANGULAR DUCT, CONSTRUCTED PER SMACNA STANDARDS, OR SINGLE WALL ROUND PIPE AS SPECIFIED. APPROPRIATELY RATED FLEX DUCT MAY BE SUBSTITUTED FOR A MAXIMUM OF FIVE FEET OF MORE OR LESS STRAIGHT (MAX 90 DEGREE BEND) RUN ON FITHER HIGH OR LOW VELOCITY DUCT
ANDPIPE HOSE STATION	35. PROVIDE MANUAL DAMPERS IN ALL SUPPLY AND EXHAUST BRANCHES CONTAINING GRILLES, REGISTERS OR DIFFUSERS WHETHER SHOWN ON PLANS OR NOT AND PROVIDE DAMPERS IN RETURNS WHERE SHOWN PROVIDE AD JUSTABLE TAKE-OFF FITTINGS WITH GRIDS IN LIFL OF MANUAL
NDPIPE HOSE STATION	DAMPERS FOR ALL ROUND TAKE-OFFS FROM RECTANGULAR MAINS OR PLENUMS. DAMPERS IN DUCT DO NOT REPLACE DAMPERS SPECIFIED AS PART OF THE AIR TERMINAL ASSEMBLY OR VICE VERSA.
IOSE (HV) OR DRAIN VALVE	30. USE TURINING VANES, PER SMACINA CONSTRUCTION GUIDELINES, FOR ALL MITERED RECTANGULAR TURNS OF 45 DEGREES OR MORE. 37. CONTRACTOR SHALL MAKE MINOR OFFSETS AND LOCATION CHANGES IN PIPE AND DUCT AND IN DUCT ASPECT RATIO AS REQUIRED IN CONGESTE
ER HEAD: UPRIGHT OR GENERAL	CEILING OK MECHANICAL SPACES. GENERALLY, THESE WILL BE AT NO COST TO THE OWNER AND APPROVED BY THE ENGINEER WITHOUT FORMA DOCUMENTS. MAJOR REROUTING OF LINES OR MAJOR ADDITION OF FITTINGS WILL BE REVIEWED AND APPROVED AS A CHANGE ORDER OR A FORMAL DIRECTIVE. ENGINEER ALONE SHALL CLASSIFY CHANGES AS MAJOR OR MINOR.
ER HEAD: PENDANT	38. PROVIDE ALL CONTROLS NECESSARY TO OPERATE EQUIPMENT AS SHOWN OR DESCRIBED, INCLUDING VALVES, ACTUATORS, THERMOSTATS, DAMPERS, ALL ACCESSORY DEVICES, POWER AND/OR PNEUMATIC SERVICE.
ER HEAD: PENDANT ON DROP NIPPLE	39. PROVIDE ADDITIONAL INPUT/OUTPUT POINTS REQUIRED TO IMPLEMENT CONTROL SEQUENCES SPECIFIED.

40. PROVIDE ALL WORK NECESSARY FOR THE COMPLETE FIRE PROTECTION SYSTEM AS INDICATED AND NOTED, INCLUDING ALL CONNECTIONS TO EXISTING WORK, NEW PIPING AND ACCESSORIES AND FINAL FINISH MOUNTING OF SPRINKLERS IN LOCATIONS INDICATED AND TESTING, ALL AS REQUIRED TO MEET ALL PROVISIONS OF NFPA-13 AND THE KY BUILDING CODE. WORK SHALL BE PERFORMED BY A LICENSED SPRINKLER CONTRACTOR AND SHALL BE ACCOMPANIED BY CERTIFICATIONS OF INSPECTION AND APPROVAL BY THE DEPT. OF HOUSING, BUILDINGS AND CONSTRUCTION. ALL SCREWED PIPING SHALL BE MINIMUM SCH 40 STEEL. ALL VICTAULIC TYPE PIPING SHALL BE MINIMUM SCH 10 STEEL.

41. PROVIDE ALL WORK NECESSARY FOR THE COMPLETE FIRE PROTECTION SYSTEM AS INDICATED AND NOTED, INCLUDING ALL CONNECTIONS TO EXISTING WORK, NEW PIPING AND ACCESSORIES AND FINAL FINISH MOUNTING OF SPRINKLERS IN LOCATIONS INDICATED AND TESTING, ALL AS REQUIRED TO MEET ALL PROVISIONS OF NFPA-13, NFPA-14, NFPA-20 AND THE KY BUILDING CODE. WORK SHALL BE PERFORMED BY A LICENSED SPRINKLER CONTRACTOR.

42. ALL FIRE PROTECTION COMPONENTS, INCLUDING BUT NOT LIMITED TO PUMPS, VALVES, PIPE & FITTINGS, CONTROL SYSTEMS AND TRIM SHALL BE UL AND/OR FM LISTED FOR FIRE SERVICE, WHERE SUCH LISTING EXISTS. 43. PROVIDE LISTED AIR RELEASE FOR ALL TRAPPED RUNS OF FIRE PROTECTION PIPING.

44. ALL FERROUS FIRE PROTECTION PIPING SHALL BE PAINTED RED WHERE EXPOSED TO VIEW; SHADE TO BE APPROVED BY ENGINEER.

45. ALL FIRE PROTECTION SHUTOFF VALVES SHALL BE SUPERVISED BY THE ALARM SYSTEM EXCEPT ON JOCKEY PUMP AND BYPASS.

46. FIRE PROTECTION PIPING CONNECTIONS MAY BE WELDED, FLANGED, SCREWED OR GROOVE-JOINT TYPE PER NFPA 13, 14, 20 AND THE SPECIFICATIONS FOR THIS PROJECT. NO SCREWED PIPING LARGER THAN 2 INCHES. PITCH ALL PIPING TO DRAIN.

47. SPRINKLER HEADS SHOWN IN FIRE PROTECTION DRAWINGS ARE LOCATED APPROXIMATELY. CONSULT ARCHITECTURAL REFLECTED CEILING PLAN FOR PLACEMENT OF SPRINKLER HEADS IN FINISHED CEILINGS AND CEILING GRIDS. CONTRACTOR SHALL PROVIDE HYDRAULICALLY-DESIGNED PIPING SYSTEMS AND SHALL MODIFY LOCATION OF SPRINKLER HEADS ONLY AS REQUIRED TO CONFORM WITH CODE AND PREVENT BLOCKAGE OF PATTERN. [PROVIDE HEADS AS SHOWN UNLESS IN VIOLATION OF CODE].

48. SPRINKLER HEADS SHALL BE CENTERED IN 2' x 2' SPACE IN EITHER 2' x 2' OR 2' x 4' GRID LAYOUT.

49. COORDINATE ALL WORK. DO NOT MOUNT SPRINKLER HEADS OR HANG PIPING SUCH AS TO BLOCK ACCESS TO HVAC OR ELECTRICAL EQUIPMENT OR THE CHANGEOUT OF EQUIPMENT WHEN NECESSARY.

50. PROVIDE SPECIAL HEADS AS REQUIRED FOR COMPLETE DESIGN. PROVIDE HIGH TEMPERATURE HEADS FOR AREAS NEAR SPACE HEATING OUTLETS AND EQUIPMENT.

NG FIXTURE I.D. NUMBER

HRU ROOF; PLAN & RISER

DRAIN I.D. NUMBER; PLAN & RISER

TED. SHEET NOTES, UTILIZING IG OF NOTE SYMBOLS AND

ACTOR SHALL UTILIZE DETAILS ED ON THE PLANS OR

DEQUIPMENT. HANG ALL S WITH VIBRATION ISOLATORS DNCRETE DECKS MAY BE USED

THE ENGINEER. ITS OR AS APPROVED BY THE

SHALL BE CONCEALED IN AIR INLETS AND OUTLETS, AS

IS OF NEW WORK TO EXISTING

THE KY BUILDING CODE. HVAC 2 1/2". ALL WELDING SHALL BE

HANICAL WORK AND WORK OF

AS REQUIRED IN CONGESTED ENGINEER WITHOUT FORMAL S A CHANGE ORDER OR A



FIRST FLOOR PLAN - HVAC - DEMOLITION SCALE: 1/8"=1'-0" 0 4' 8'



DEMOLITION GENERAL NOTES:

- A. DEMOLITION PLAN HAS BEEN DEVELOPED FROM EXISTING PLANS AND VISITING SITE. SOME MECHANICAL EQUIPMENT, DUCTWORK, REGISTERS AND PIPING SIZES MAY NOT BE INDICATED.
- B. IT SHALL BE THE RESPONSIBILITY OF ALL CONTRACTORS WHO SUBMIT BIDS FOR THIS PROJECT TO VISIT THE JOB PREMISES PRIOR TO BIDDING IN ORDER THAT THEY MAY DETERMINE THE TYPE, QUANTITY, LOCATIONS AND ANY HARDSHIPS INVOLVED WITH THE REMOVAL OF EQUIPMENT.
- C. CONTRACTOR UNDER THIS DIVISION IS FINANCIALLY RESPONSIBLE TO REPAIR AND PATCH FLOORS, WALLS, CEILING AND ROOF TO MATCH EXISTING CONDITION WHERE DEMOLITION WORK HAS BEEN DONE. COORDINATE ALL WORK WITH OWNER/ENGINEER.
- D. THE EXISTING HVAC SYSTEM SHALL REMAIN FULLY FUNCTIONAL THROUGHOUT PHASED CONSTRUCTION.
- E. IF THE EXISTING HVAC SYSTEM SHALL EVER REQUIRE SHUTTING DOWN TEMPORARILY IN OCCUPIED AREAS DURING CONSTRUCTION THE CONTRACTOR SHALL COORDINATE THE TIMING OF THE SHUT DOWN PERIOD WITH THE OWNER AND ARCHITECT PRIOR TO DISABLING THE EXISTING SYSTEM. THE EXISTING HVAC S SYSTEM SHALL REMAIN FUNCTIONAL IN ALL OCCUPIED AREAS DURING NORMAL SCHOOL OPERATION PERIODS.
- F. ALL EXISTING THERMOSTATS AND EXISTING CONTROL WIRING SHALL BE REMOVED FROM ALL EQUIPMENT THAT IS BEING REMOVED IN THE BUILDING IN DEMOLISHED AREAS UNLESS OTHERWISE NOTED.

○ SHEET KEYNOTES:

1. EXISTING THERMOSTAT TO BE REPLACED IN LOCATION. NOTE THAT LOCATION IS APPROXIMATE. SEE NEW WORK PLAN FOR MORE INFORMATION. TYPICAL OF ALL.

SPECIAL NOTES

- ALL EXISTING HVAC SYSTEMS SHALL REMAIN OPERATIONAL DURING THIS PROJECT. EXISTING EQUIPMENT SHALL BE DISABLED ONLY WHEN NEW EQUIPMENT IS ONSITE AND READY TO BE INSTALLED.
- AS UNITS ARE INSTALLED, THERMOSTATS SHALL BE INSTALLED AND PLACED IN STAND ALONE OPERATION MODE. ALL NEW EQUIPMENT INSTALLED SHALL CONNECT TO NEW DDC
- CONTROL SYSTEM TIED INTO FAYETTE COUNTY SCHOOLS CONTROL NETWORK. ALL OTHER EXISTING EQUIPMENT FOR THE SCHOOL SHALL REMAIN ON THE EXISTING CONTROL SYSTEM AND SHALL REMAIN SEPARATE FROM NEW EQUIPMENT CONTROLS.



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	FIRST FLOOR PLAN - AREA A - HVAC - DEMOLITION				BOOKER T. WASHINGTON - HVAC RENOVATION			
DESIGNED:	CVS	DRAWN:	ЯIС	REVIEWED:	CVS	APPROVED:	CVS	
REVISIONS	NO. DESCRIPTION DATE BY						SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED	
JA SCA 1/8 SHE	E: NU LE: B" =	1'- M	.0"	202	4)1			

ROOF PLAN - HVAC - DEMOLITION SCALE: 1/16"=1'-0"

0 8' 16'



DEMOLITION GENERAL

- A. DEMOLITION PLAN HAS BEEN DEVELOPED FROM EXISTIN VISITING SITE. SOME MECHANICAL EQUIPMENT, DUCTWO AND PIPING SIZES MAY NOT BE INDICATED.
- B. IT SHALL BE THE RESPONSIBILITY OF ALL CONTRACTORS FOR THIS PROJECT TO VISIT THE JOB PREMISES PRIOR T ORDER THAT THEY MAY DETERMINE THE TYPE, QUANTIT ANY HARDSHIPS INVOLVED WITH THE REMOVAL
- C. CONTRACTOR UNDER THIS DIVISION IS FINANCIALLY RES REPAIR AND PATCH FLOORS, WALLS, CEILING AND ROOF EXISTING CONDITION WHERE DEMOLITION WORK HAS BE COORDINATE ALL WORK WITH OWNER/ENGINEER.
 D. THE EXISTING HVAC SYSTEM SHALL REMAIN FULLY FUNCTION
- THE EXISTING TWO OF OF THE OFFICE OF A CONSTRUCTION.
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- TEMPORARILY IN OCCUPIED AREAS DURING CONSTRUCT CONTRACTOR SHALL COORDINATE THE TIMING OF THE S WITH THE OWNER AND ARCHITECT PRIOR TO DIS EXISTING SYSTEM. THE EXISTING HVAC S SYSTEM SHALL FUNCTIONAL IN ALL OCCUPIED AREAS DURING NORMAL OPERATION PERIODS.
- F. ALL EXISTING THERMOSTATS AND EXISTING CONTROL V REMOVED FROM ALL EQUIPMENT THAT IS BEING REMOV IN DEMOLISHED AREAS UNLESS OTHERWISE NOTED.

○ SHEET KEYNOTES:

- 1. EXISTING VAV ROOFTOP UNIT SHALL BE REMOVED AND A NEW VAV ROOFTOP UNIT TO BE INSTALLED IN ITS PLACE. THE EXISTING ROOF CURB SHALL REMAIN IN PLACE AND BE REUSED FOR NEW ROOFTOP INSTALLATION. DISCONNECT EXISTING GAS PIPING, DUCTWORK, AND ELECTRICAL WIRING. NEW CONNECTIONS SHALL BE INSTALLED BACK IN SAME LOCATIONS. SEE NEW WORK PLAN FOR MORE INFORMATION.
- EXISTING EXHAUST FAN SHALL REMAIN IN PLACE.
 EXISTING SINGLE ZONE ROOFTOP UNIT SHALL BE REMOVED AND REPLACED IN THE SAME LOCATION. THE EXISTING ROOF CURB SHALL REMAIN IN PLACE AND A NEW ROOF CURB ADAPTOR SHALL BE INSTALLED IF NECESSARY. DISCONNECT EXISTING DUCTWORK AND ELECTRICAL CONNECTIONS AND RECONNECT TO NEW UNIT. SEE NEW WORK PLAN FOR MORE INFORMATION.
- EXISTING RELIEF VENT SHALL REMAIN IN PLACE.
 EXISTING BOILER VENT STACK SHALL REMAIN IN PLACE.
- 6. EXISTING VENT THRU ROOF PIPING LOCATIONS SHALL REMAIN IN PLACE. TYPICAL OF ALL

SPECIAL NOTES

- ALL EXISTING HVAC SYSTEMS SHALL REMAIN OPERATION DURING THIS PROJECT. EXISTING EQUIPMENT SHALL B DISABLED ONLY WHEN NEW EQUIPMENT IS ONSITE AN TO BE INSTALLED.
- 2. AS UNITS ARE INSTALLED, THERMOSTATS SHALL BE INS AND PLACED IN STAND ALONE OPERATION MODE.
- 3. ALL NEW EQUIPMENT INSTALLED SHALL CONNECT TO CONTROL SYSTEM TIED INTO FAYETTE COUNTY SCHOO CONTROL NETWORK. ALL OTHER EXISTING EQUIPMEN THE SCHOOL SHALL REMAIN ON THE EXISTING CONTRO SYSTEM AND SHALL REMAIN SEPARATE FROM NEW EQUIPMENT CONTROLS.

NOTES: NG PLANS AND VORK, REGISTERS RS WHO SUBMIT BIDS TO BIDDING IN									ON DOCUMENTS
ITY, LOCATIONS AND AL OF EQUIPMENT. ESPONSIBLE TO OF TO MATCH BEEN DONE. NCTIONAL SHUTTING DOWN CTION THE SHUT DOWN PERIOD SABLING THE					ALL RIGHTS RESERVED:	THIS DOCUMENT IS THE PROPERTY OF GRW ENGINEERS, INC. AND SHALL NOT BE REPRODUCED IN WHOLE OR IN PART	OR USED FOR CONSTRUCTION OF OTHER THAN THIS SPECIFIC PROJECT	WITHOUT WRITTEN PERMISSION	CONSTRUCTIC
LL REMAIN L SCHOOL WIRING SHALL BE VED IN THE BUILDING					andineering architecture geospatia				
ONAL BE ND READY STALLED NEW DDC DLS NT FOR COL		ROOF PLAN - AREA A - HVAC - DEMOLITION				BOOKER T. WASHINGTON - HVAC RENOVATION			
	DESIGNED:	DATE BY CVS	DRAWN:	AIL IIK	REVIEWED:	CVS	APPROVED:	CVS	
	REVISIONS	DESCRIPTION						THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED	
	DATH JA SCAI 1/1 SHE	g E: NU LE: 16"	= 1	Y 2 '-0'''	1024	4		SCALE CHECK: F	

FIRST FLOOR PLAN - HVAC - NEW WORK

○ SHEET KEYNOTES:

 EXISTING THERMOSTAT TO BE REPLACED IN LOCATION. NOTE THAT LOCATION IS APPROXIMATE. SEE NEW WORK PLAN FOR MORE INFORMATION. TYPICAL OF ALL.

SPECIAL NOTES

EQUIPMENT CONTROLS.

- ALL EXISTING HVAC SYSTEMS SHALL REMAIN OPERATIONAL DURING THIS PROJECT. EXISTING EQUIPMENT SHALL BE DISABLED ONLY WHEN NEW EQUIPMENT IS ONSITE AND READY TO BE INSTALLED.
- AS UNITS ARE INSTALLED, THERMOSTATS SHALL BE INSTALLED AND PLACED IN STAND ALONE OPERATION MODE.
 ALL NEW EQUIPMENT INSTALLED SHALL CONNECT TO NEW DDC CONTROL SYSTEM TIED INTO FAYETTE COUNTY SCHOOLS CONTROL NETWORK. ALL OTHER EXISTING EQUIPMENT FOR THE SCHOOL SHALL REMAIN ON THE EXISTING CONTROL SYSTEM AND SHALL REMAIN SEPARATE FROM NEW

Y C

15 8 6 5 WORK EV FION 508 Ζ VAT 40 I ÓΣ AC ΧÝ ON - HVAC REN , LEXINGTON, I H A < ARE. μι ASHING STREI AN HOWARD Δ FLOOR BOOI 707 \vdash FIRS⁻ ____ ġ JANUARY 2024 1/8" = 1'-0" HEET NO. M101

ROOF PLAN - HVAC - NEW WORK SCALE: 1/16"=1'-0"

0 8' 16'

○ SHEET KEYNOTES:

- 1. EXISTING VAV ROOFTOP UNIT SHALL BE REMOVED AND A NEW VAV ROOFTOP UNIT TO BE INSTALLED IN ITS PLACE. THE EXISTING ROOF CURB SHALL REMAIN IN PLACE AND BE REUSED FOR NEW ROOFTOP INSTALLATION. DISCONNECT EXISTING GAS PIPING, DUCTWORK, AND ELECTRICAL WIRING. NEW CONNECTIONS SHALL BE INSTALLED BACK IN SAME LOCATIONS. SEE SHEET MD102 FOR MORE INFORMATION.
- EXISTING EXHAUST FAN SHALL REMAIN IN PLACE.
 EXISTING SINGLE ZONE ROOFTOP UNIT SHALL BE REMOVED AND REPLACED IN THE SAME LOCATION. THE EXISTING ROOF CURB SHALL REMAIN IN PLACE AND A NEW ROOF CURB ADAPTOR SHALL BE
- INSTALLED IF NECESSARY. DISCONNECT EXISTING DUCTWORK AND ELECTRICAL CONNECTIONS AND RECONNECT TO NEW UNIT. SEE SHEET MD102 FOR MORE INFORMATION.
 4. EXISTING RELIEF VENT SHALL REMAIN IN PLACE.
- 5. EXISTING BOILER VENT STACK SHALL REMAIN IN PLACE.
- 6. EXISTING VENT THRU ROOF PIPING LOCATIONS SHALL REMAIN IN PLACE. TYPICAL OF ALL

									PAC	KAGE	D ROC	OFTO	P UNI ⁻	г ссн	EDUL	E										
			UN	NIT											COOLIN	NG				HEATING						
							SUPPLY FAI	N	E	XHAUST FA	N	L	.AT	тоти			COMPRES	SOR					ELt	ECTRICAL		1
MANUFACTURER	MODEL	LOCATION	TON	TYPE	EER / IEER	AIRFLOW (CFM)	ESP (inH²O)	MOTOR SIZE (HP)	AIRFLOW (CFM)	ESP (inH²O)	MOTOR SIZE (HP)	LDB (F)	LWB(F)	CAPACITY (MBH)	CAPACITY (MBH)	STAGES	QTY	REFRIGERANT	TYPE OF HEATING	EAT/LAT	ĸw	LBS	V/Ø/Hz	MCA	МОСР	REMARKS
CARRIER	50FC-M08A2M6-3F3Q0	GYM OFFICE	7.5	SINGLE	11.4/15.2	3000	1	1.14	-	-	-	59.6	57.5	90.47	66.02	MULTI	2	410A	ELECTRIC	70/94.2	23	743	460/3/60	42	45	1-5,7-10,13-16, 18-19
CARRIER	50A6-H025ANG64AGN	GYM	25	SINGLE	10/13.4	10000	1.5	10	10000	0.5	-	59	57.6	300	226.5	MULTI	2	410A	ELECTRIC	68/90.7	72	4367	460/3/60	120	125	1-5,7-10,13-16, 18-19
CARRIER	50A7-030ANV64AHR	CAFETERIA	30	VAV	10/14.7	12000	2	10	11700	0.5	-	59.3	58.1	343.8	267.9	MULTI	2	410A	NO HEAT-VAV	-	-	4304	460/3/60	81	90	1-11,14-19
CARRIER	50A7-040AQV64AHR	LIBRARY	40	VAV	10/14.8	16000	2.5	20	11700	0.5	-	58	57.5	484.7	380.4	MULTI	2	410A	NO HEAT-VAV	-	-	5255	460/3/60	117	125	1-11,14-19
CARRIER	50A7-040AQV64AHR	CLASSROOMS	40	VAV	10/14.8	16000	2.5	20	11700	0.5	-	58	57.5	484.7	380.4	MULTI	2	410A	NO HEAT-VAV	-	-	5255	460/3/60	117	125	1-11,14-19
CARRIER	50A7-040AQV64AHR	CLASSROOMS	40	VAV	10/14.8	16000	2.5	20	11700	0.5	-	58	57.5	484.7	380.4	MULTI	2	410A	NO HEAT-VAV	-	-	5255	460/3/60	117	125	1-11,14-19
CARRIER	50A7-040AQV64AHR	CLASSROOMS	40	VAV	10/14.8	16000	2.5	20	11700	0.5	-	58	57.5	484.7	380.4	MULTI	2	410A	NO HEAT-VAV	-	-	5255	460/3/60	117	125	1-11,14-19
CARRIER	50FC-M12A2M6-3F3Q0	KITCHEN	10	SINGLE	11.2/15.2	4000	1	1.8	-	-	-	57.7	57.1	125.75	96.22	MULTI	2	410A	ELECTRIC	70/93.9	30.3	815	460/3/60	54	60	1-5,7-10,13-16, 18-19

1. COOLING DESIGN CONDITIONS: 95F DB / 78F WB AMBIENT. HEATING AMBIENT DESIGN CONDITIONS BASED ON 5F DB / 4F WB

2. PACKAGED AIR HANDLING UNIT WITH COMPRESSOR AND CONDENSER

4. PROVIDE WITH SINGLE POINT POWER CONNECTION WITH FACTORY INSTALLED DISCONNECT SWITCH AND 115V GFI CONVENIENCE OUTLET.

5. PROVIDE WITH HIGH AND LOW PRESSURE SWITCH.

6. VAV UNIT - CONNECT TO CONTROLS FOR VAV BOXES INSIDE BUILDING. 7. PROVIDE WITH HAIL GUARD.

8. PROVIDE WITH FACTORY MOUNTED DDC CONTROLLERS WITH BACNET INTERFACE.

9. PROVIDE WITH VFD'S ON SUPPLY AND EXHAUST FANS.

OTHER ACCEPTABLE MANUFACTURERS INCLUDE: DAIKIN. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SEQUENCE OF OPERATION - ROOFTOP UNITS

OCCUPIED MODE: THE UNIT CAN BE PLACED IN THE OCCUPIED MODE BY A 7-DAY PROGRAMMABLE SCHEDULE IN THE DDC CONTROLLER, ACCESSIBLE THROUGH THE KEYPAD. A DIGITAL INPUT SHALL BE AVAILABLE TO OVERRIDE ANY OTHER COMMAND AND TURN THE UNIT ON EVEN WHEN THE SCHEDULE IS CALLING FOR THE UNIT TO BE OFF (UNOCCUPIED MODE). THE DIGITAL INPUT CAN BECOME THE PRIMARY MEANS OF ENABLING THE UNIT BY NOT HAVING ANY ON/OFF TIMES IN THE SCHEDULE. IF A BUILDING AUTOMATION SYSTEM (BAS) IS USED TO INTERFACE WITH THE UNIT(S), THE CONTROLS CONTRACTOR SHOULD CONTACT

UNOCCUPIED MODE: THE SUPPLY AIR BLOWER AND EXHAUST AIR FAN SHALL BE DE-ENERGIZED. THE OUTDOOR AIR DAMPER WILL BE FULLY CLOSED, AND THE RETURN AIR DAMPER WILL BE FULLY OPEN. NO COOLING OR HEATING FUNCTION WILL BE ALLOWED SUPPLY AIR BLOWER: THE SUPPLY AIR BLOWER WILL RUN CONTINUOUSLY IN OCCUPIED MODE. THE SUPPLY AIR BLOWER WILL BE A CONSTANT AIR VOLUME TYPE CONTROLLED BY VARIABLE SPEED DRIVE. THE VSD IS USED TO SET THE REQUIRED BLOWER SPEED.

THE VSD IS USED FOR BLOWER BALANCING PURPOSES AND WILL BE SET BY THE TEST AND BALANCING CONTRACTOR. EXHAUST AIR FAN: THE EXHAUST AIR FAN WILL BE VARIABLE AIR VOLUME TYPE CONTROLLED BY A VARIABLE SPEED DRIVE AND WILL BE ENERGIZED AND CONTROLLED BASED ON BUILDING PRESSURE.

SMOKE DETECTOR: THE UNIT WILL HAVE A RETURN AIR SMOKE DETECTOR. UPON DETECTION OF SMOKE, THE SUPPLY AIR FAN WILL DE- ENERGIZE. THE OUTDOOR (AND EXHAUST) AIR DAMPER(S) WILL DRIVE TO A FULLY CLOSED POSITION. THE RETURN AIR DAMPER WILL DRIVE TO A FULLY OPEN POSITION. A TERMINAL BLOCK SHALL BE PROVIDED FOR FIELD WIRING CONNECTIONS TO A REMOTE LOCATION IF DESIRED.

COMPRESSOR & COOLING SECTION: A CALL FOR COOLING WILL BE INITIATED WHEN THE SPACE TEMPERATURE RISES ABOVE THE COOLING SET POINT OF THE TEMPERATURE CONTROL. THE CALL FOR COOLING WILL CONTINUE UNTIL THE TEMPERATURE CONTROL IS SATISFIED. THE COLD DECK DAMPER WILL OPEN AND THE HOT DECK DAMPER WILL CLOSE. THE UNIT IS EQUIPPED WITH AN EVAPORATOR COOLING COIL AND SCROLL COMPRESSORS, INCLUDING A VFD SCROLL LEAD COMPRESSOR CAPABLE OF MODULATING CAPACITY FOR CAPACITY CONTROL. THE COMPRESSORS WILL STAGE BASED ON A CALL FOR COOLING AND SHALL MAINTAIN A DISCHARGE AIR TEMPERATURE OF 50°F (ADJUSTABLE). THE LEAD VFD SCROLL COMPRESSOR HAS A DESIGN OPERATING SPEED OF 7200 RPM. THE RANGE OF OPERATION SHOULD BE LIMITED TO A MINIMUM SPEED OF 35% (APPROXIMATELY 2500 RPM) FOR PROTECTION OF THE SYSTEM.COMPRESSOR STAGING SEQUENCE WILL BE: COMPRESSOR 1 ON, COMPRESSOR 2 ON, ETC. COMPRESSOR STAGING MUST BE RE-STARTED BEGINNING WITH STAGE 1 UPON RESET OF ANY SAFETY DEVICE. ONCE THERE IS A CALL FOR COOLING, THE DDC CONTROLLER WILL ENABLE COMPRESSOR 1 AND PROVIDE A DEMAND SIGNAL BASED ON DISCHARGE AIR TEMPERATURE. EACH SUBSEQUENT COMPRESSOR WILL HAVE AN ON-DELAY OF 5 MINUTES TO ALLOW THE LEAD VFD COMPRESSOR TO MODULATE TO MEET SET POINT BEFORE ANY OTHER COMPRESSORS ARE TURNED ON/OFF. IF AFTER 5 MINUTES THE VFD COMPRESSOR IS AT FULL CAPACITY AND THE DISCHARGE AIR TEMPERATURE IS STILL ABOVE THE DISCHARGE AIR TEMPERATURE DEADBAND, THE NEXT COMPRESSOR WILL BE STAGED ON. IF AFTER 5 MINUTES THE VFD COMPRESSOR IS AT MINIMUM OUTPUT AND THE DISCHARGE AIR TEMPERATURE IS STILL BELOW THE DEADBAND, THE NEXT COMPRESSOR WILL BE STAGED OFF. THE VFD COMPRESSOR MUST REACH FULL CAPACITY ON AN INCREASE IN DEMAND OR MINIMUM OUTPUT ON A DECREASE IN DEMAND BEFORE STAGING ANY OTHER COMPRESSORS ON/OFF. EACH COMPRESSOR WILL RUN FOR A MINIMUM OF 3 MINUTES ONCE ENERGIZED TO ENSURE PROPER OIL RETURN TO THE COMPRESSOR. EACH COMPRESSOR HAS A SOLID-STATE 5 MINUTE TIMER TO PREVENT SHORT CYCLING. MECHANICAL COOLING IS DISABLED IF THE COIL LEAVING TEMPERATURE DROPS BELOW 38°FDB (ADJUSTABLE). COOLING WILL REACTIVATE ONCE THE FREEZE STAT DOWNSTREAM OF EVAPORATOR COIL IS SATISFIED. THE UNIT WILL HAVE A LOW AMBIENT LOCKOUT SET AT 50°F (ADJUSTABLE).

HOT GAS REHEAT COIL: THE HOT GAS REHEAT (HGR) COIL IS PROVIDED ON THE SPECIFIED COMPRESSOR CIRCUIT(S) (TYPICALLY THE LEAD CIRCUIT) TO PROVIDE "NEUTRAL" AIR LEAVING THE UNIT. THE HGR COIL IS ONLY AVAILABLE WHEN THE COMPRESSOR IS RUNNING AND CAN BE USED AS REHEAT FOR DEHUMIDIFICATION. THE HOT GAS REHEAT COIL IS CONTROLLED BY A MODULATING 3-WAY VALVE TO MAINTAIN A UNIT LEAVING AIR SET POINT OF 70°F (ADJUSTABLE). UPON INITIAL REHEAT CALL, THE HGR VALVE IS SET TO THE FULLY OPEN (100% THROUGH THE HGR COIL) POSITION FOR ONE (1) MINUTE. AFTER ONE MINUTE, THE VALVE IS MODULATED TO ACHIEVE THE REQUIRED LEAVING AIR TEMPERATURE SET POINT. IF THE COMPRESSOR IS ACTIVE AND THE HGR VALVE IS OPEN TO THE HGR COIL (GREATER THAN 0%) FOR MORE THAN AN ACCUMULATED TIME OF 50 MINUTES, THE HGR VALVE IS SET TO THE FULLY OPEN (100%) POSITION FOR ONE (1) MINUTE TO "FLUSH" THE HGR COIL. AFTER THIS FLUSH TIME, THE VALVE IS RETURNED TO NORMAL MODULATING OPERATION TO ACHIEVE THE REQUIRED LEAVING AIR TEMPERATURE SET POINT. IF THERE IS A CALL FOR COOLING ONLY (NO HGR) WHILE THE HGR COIL IS ACTIVE, THE HGR VALVE IS SET TO THE FULLY OPEN (100%) POSITION FOR TWO (2) MINUTES. AT THE END OF TWO MINUTES, THE HGR VALVE IS CLOSED (0%, THE HGR COIL IS COMPLETELY BYPASSED). IF THE COMPRESSOR DE-ENERGIZES, THE HGR VALVE IS SET TO THE FULLY OPEN (100%) POSITION.

ECONOMIZER (OUTSIDE, RETURN & EXHAUST DAMPERS): THE ECONOMIZER WILL HAVE AN ENTHALPY CHANGEOVER CONTROL WHICH WILL ENABLE THE ECONOMIZER ANYTIME THERE IS A CALL FOR COOLING AND THE AMBIENT ENTHALPY IS BELOW THE CHANGEOVER SET POINT OF 22 BTU/LB (ADJUSTABLE). THE OUTDOOR AND RETURN AIR DAMPERS WILL MODULATE TO MAINTAIN A MIXED AIR TEMPERATURE OF 55°F (ADJUSTABLE). WHEN THE ECONOMIZER IS DISABLED AND THE UNIT IS IN OCCUPIED MODE, THE OUTDOOR AIR DAMPER WILL BE SET AT MINIMUM POSITION. WHEN THE ECONOMIZER IS DISABLED AND THE UNIT IS IN UNOCCUPIED MODE, THE OUTDOOR AIR DAMPER WILL BE CLOSED. THE EXHAUST AIR DAMPER IS A GRAVITY DAMPER. THE OUTDOOR AND RETURN AIR DAMPER ACTUATORS WILL BE ELECTRIC.

CONDENSER FAN CONTROL: THE CONDENSER FAN MOTORS WILL BE CONTROLLED BY A VARIABLE FREQUENCY DRIVE. THE VARIABLE FREQUENCY DRIVE WILL RAMP UP AND DOWN BASED UPON INPUT SIGNALS COMING FROM PRESSURE TRANSDUCERS MOUNTED ON THE DISCHARGE LINES. THE CONDENSER FAN SPEED WILL MODULATE TO MAINTAIN A CONSTANT HEAD PRESSURE OF 320 PSIG. 320 PSIG. IF AT ANY TIME THE DISCHARGE PRESSURE OF ANY OF THE COMPRESSOR CIRCUITS THAT ARE RUNNING FALLS BELOW 250 PSIG, THE CONTROLLER WILL REDUCE THE CONDENSER FAN SPEED TO MAINTAIN A MINIMUM DISCHARGE PRESSURE OF 240 PSIG AND ALLOW THE HIGHEST DISCHARGE PRESSURE TO RISE ABOVE THE 320 PSIG SETPOINT. THE CONTROLLER WILL CONTINUE TO REDUCE THE CONDENSER FAN SPEED AS NEEDED TO MAINTAIN THE MINIMUM DISCHARGE PRESSURE UNTIL THE DISCHARGE PRESSURE OF ANY OTHER COMPRESSOR CIRCUIT REACHES A MAXIMUM PRESSURE OF 475 PSIG. FILTER PRESSURE DROP: UNIT IS EQUIPPED WITH A DIFFERENTIAL STATIC PRESSURE SWITCH ACROSS THE FILTER BANK. AN ALARM

SHALL BE PROVIDED VIA THE UNIT CONTROLLER TO THE OPERATOR INTERFACE WHEN THE DIFFERENTIAL STATIC PRESSURE EXCEEDS 1.0" W.C. (ADJUSTABLE). NIGHT SETBACK: DURING THE UNOCCUPIED MODE IF A ZONES' TEMPERATURE FALLS BELOW 60F (ADJUSTABLE), THE UNIT

CONTROLLER SHALL RESTART THE SUPPLY FAN. THE OUTSIDE AIR DAMPER WILL DRIVE TO COMPLETELY CLOSED POSITION, AND THE RETURN AIR DAMPER WILL DRIVE TO A COMPLETELY OPEN POSITION. THE SUPPLY AIR FAN WILL REMAIN ON UNTIL THE TEMPERATURE REACHES 60F (ADJUSTABLE). DURING THEIS MODE HEATING CAPABILITIES SHALL REMAIN ENABLED. DURING THE UNOCCUPIED MODE IF A ZONES' TEMPERATURE RISES ABOVE 80F (ADJUSTABLE), THE UNIT CONTROLLER SHALL RESTART THE SUPPLY FAN. THE OUTSIDE AIR DAMPER WILL DRIVE TO COMPLETELY CLOSED POSITION, AND THE RETURN AIR DAMPER WILL DRIVE TO A COMPLETELY OPEN POSITION. THE SUPPLY AIR FAN WILL REMAIN ON UNTIL THE TEMPERATURE REACHES 80F (ADJUSTABLE). DURING THIS MODE COOLING CAPABILITIES SHALL REMAIN ENABLED.

MORNING WARM UP: IN THE MORNING WARM UP MODE, AS DETERMINED BY THE TIME OF DAY SCHEDULE, OUTDOOR AIR DAMPER SHALL BE FULLY CLOSED AND RETURN AIR DAMPER SHALL BE FULLY OPENED UNTIL THE RETURN AIR TEMPERATURE REACHES 65°F (ADJUSTABLE). ONCE THE MIXED AIR TEMPERATURE REACHES ITS SET POINT, OUTDOOR AIR DAMPER SHALL BE OPENED TO A MINIMUM VENTILATION POSITION. DURING THIS MODE HEATING CAPABILITIES SHALL REMAIN ENABLED.

11. PROVIDE WITH HOT GAS REHEAT.

12. PROVIDE WITH SMOKE DETECTOR SHUT DOWN. COORDINATE WITH ELECTRICAL PLANS.

13. PROVIDE UNIT WITH BI-POLAR IONIZATION KIT 14. PROVIDE UNIT WITH MERV 13 FILTERS.

15. PROVIDE WITH ROOF CURB ADAPTOR IF NECESSARY

16. PROVIDE 100 % ECONOMIZER WITH MODULATING EXHAUST

17. PROVIDE BAROMETRIC RELIEF 18. PROVIDE WITH DOUBLE WALL CABINET CONSTRUCTION

19. PROVIDE UNIT WITH 2 YEAR PARTS WARRANTY AND 5 YEAR COMPRESSOR WARRANTY

58 $\mathbf{\Sigma}$ \frown (Ш ĊЛШ Ż ဟ \square $> \gamma$ Σ 07 Ŏ, JANUARY 2024 NOT TO SCALE M-601

INTERIOR LIGHTING

SUBSCRIPTS INDICATE THE FOLLOWING.	

INTERIOR LIGHTING CONTROLS

EMERGENCY REMOTE HEAD

INTERIOR CONDUIT & WIRE

	CONDUIT CONCEALED IN WALL OR CEILING TIC MARKS INDICATE NUMBER OF WIRES. #12 IF NOT OTHERWISE SHOWN. CONDUIT SHALL BE 3/4 " UNLESS OTHERWISE NOTED. – GROUND – PHASE(S) – NEUTRAL
	CONDUIT EXPOSED OR CONCEALED
	CONDUIT RUN UNDERGROUND OR IN CONCRETE
	HOMERUN TO PANEL (PANEL LP1 CIRCUIT 2 INDICATED)
	SIGNIFIES MULTIPLE CIRCUITS IN ONE CONDUIT
— x ——	EXPLOSION PROOF CONDUIT SEAL
	CONDUIT WITH END CAPPED
o	CONDUIT TURNED UP
`	CONDUIT TURNED DOWN

$\nabla \nabla$ **V**CATV

 \mathbf{N}

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 ∇ A/V

POWER WIRING DEVICES

(M) OR (5)

4

4

 \boxtimes

4

 \square

M

<u>7</u>

	SUBSCRIPTS INDICATE THE FOLLOWING:
	WP=WEATHER PROOF, IN-USE COVERWR=WEATHER RESISTANT WIRING DEVICEGFCI=GROUND FAULT CIRCUIT INTERRUPTERGF-BF=BLANK FACE GROUND FAULT INTERRUPTIG=ISOLATED GROUNDEXP=EXPLOSION PROOFACT=ABOVE COUNTER TOPTR=TAMPER RESISTANTAFCI=ARC FAULT INTERRUPTERTVSS=TRANSIENT VOLTAGE SURGE SUPPRESSOR
Φ	SINGLE RECEPTACLE, 125 VOLT, 2-POLE, 3-WIRE, NEMA 5-20R GROUNDING TYPE
ϕ_{xxx}	DUPLEX RECEPTACLE, 125 VOLT, 2-POLE, 3 WIRE, NEMA 5-20R GROUNDING TYPE
$\Phi^{XXX}_{{}^{(6-60)}}$	SPECIAL PURPOSE RECEPTACLE, NUMBER DENOTES NEMA CONFIGURATION
₽xxx	QUADRUPLEX RECEPTACLE, 125 VOLT, 2-POLE, 3 WIRE, NEMA 5-20R GROUNDING TYPE
\bigcirc	SINGLE SPECIAL PURPOSE RECEPTACLE, NEMA CONFIGURATION NOTED
	FLOOR MOUNTED DUPLEX RECEPTACLE, 125-VOLT, 2-POLE, 3-WIRE, NEMA 5-20R GROUNDING TYPE
	FLOOR MOUNTED QUADRAPLEX RECEPTACLE, 125-VOLT, 2-POLE, 3-WIRE, NEMA 5-20R GROUNDING TYPE
₿	RANGE RECEPTACLE, 125/250 VOLT, 3-POLE, 4-WIRE, NEMA 14-50R GROUNDING TYPE
	JUNCTION BOX WALL OR CLNG MOUNTED FLUSH OR SURFACE AS NOTED, 4"X4" SQUARE UNLESS OTHERWISE NOTED
$\Box - \Phi - $	MULTI-OUTLET SURFACE RACEWAY, SIZE AND NUMBER OF RECEPTACLE AS SCHEDULED. # INDICATES CIRCUIT NUMBER
	M WIREWAY
	CABLE TRAY
B B B	B PLUGIN OR FEEDER BUS
Ŷ	WALL MTD SINGLE FACE CLOCK
éb	WALL MTD DOUBLE FACE CLOCK

POWER DEVICES	EXISTING
MOTOR CONNECTION (5 HP INDICATED)	35/3
DISCONNECT SWITCH (ENCLOSURE TYPE, SIZE, AND FUSING, IF REQUIRED, DESIGNATED ON DRAWINGS)	3-25 ▽△▽
PANELBOARD, SURFACE MOUNTED	∧ 25
PANELBOARD, RECESSED	
ENCLOSED CIRCUIT BREAKER (ENCLOSURE TYPE, SIZE DESIGNATED ON DRAWINGS)	T 100
MOTOR CONTROLLER (ENCLOSURE TYPE, SIZE DESIGNATED ON DRAWINGS)	s ^{fr}
COMBINATION STARTER/CIRCUIT BREAKER (ENCLOSURE TYPE, SIZE DESIGNATED ON DRAWINGS)	/
VARIABLE FREQUENCY DRIVE (ENCLOSURE	EG —
TYPE, SIZE DESIGNATED ON DRAWINGS)	EG
DRY TYPE TRANSFORMER - FLOOR MOUNTED	EG —
ON 4 HIGH HOUSEREEPING PAD	
MAGNETIC CONTACT, DOOR MOUNTED	EG
MAGNETIC CONTACT, WINDOW MOUNTED	Â
PASSIVE INFRARED MOTION DETECTOR, ARROW	
	₽ _{xxx}

COMMUNICATION

SUE	BSCRIPTS INDICATE THE FOLLOWING:	
V D	VOICE OUTLETDATA OUTLET	
	TYPE OF OUTLET	

OF OUTLETS -

FLOOR MOUNTED

RJ-45 OUTLET - WALL-MOUNTED, MOUNT 18" AFF, UNLESS OTHERWISE NOTED FIBER OUTLET, DUPLEX LC CONNECTORS -WALL-MOUNTED, MOUNT 18" AFF, UNLESS OTHERWISE NOTED

RJ-45 OUTLET - FLOOR MOUNTED FIBER OUTLET, DUPLEX LC CONNECTORS -

ONE POSITION VOICE OUTLET (RJ-45) - WHITE JACK -WALL-MOUNTED AT 48" AFF, UNLESS OTHERWISE

NOTED CABLE TV OUTLET, MOUNT AT HEIGHT INDICATED ON FLOOR PLANS - REQUIRES A TYPE F COMPRESSION

CONNECTOR AUDIO VISUAL OUTLET, MOUNT AT HEIGHT INDICATED ON FLOOR PLANS - REQUIRES TYPE F

COMPRESSION CONNECTOR + EMPTY BOX FOR

OWNER PROVIDED DATA CABLING

FIRE ALARM/SUPPRESSION SYSTEM DEVICES

			•			
EOL	END OF LINE RESISTOR		FTM		\sim 1	MAGNETIC ONLY CIRCUIT
[FCP]	FIRE ALARM CONTROL PANEL					BREAKER (SINGLE POLE SHOWN)
FAC	FIRE ALARM COMMUNICATOR		ТМ	TIMER MOTOR	-	THERMAL-MAGNETIC CIRCUIT
MIC) CONTROL RELAY	,	
Ι <u>Χ</u> Ι	FIRE ALARM MANUAL STATION X=H- HALON F- FOAM					GENERIC
	C- CARBON DIOXIDE W- WET CHEMICAL D- DRY CHEMICAL P- MANUAL PULL ST/	ATION	(Sv)	CONNECTION	[GF)	
XX	FIRE ALARM SPEAKER-HORN/STROBE LIGHT		LS	LIMIT SWITCH CONNECTION		
	FIRE ALARM HORN OR SPEAKER		T	THERMOSTAT		PROTECTED BREAKER
Θ	FIRE ALARM BELL/LIGHT					
, <u> </u>	WATER MOTOR GONG		(PC) OR EW		• ~~~~ •	
\mathbf{X}	FIRE ALARM STROBE LIGHT		PS	PRESSURE SWITCH		
H⊠	WALL MOUNTED FIRE ALARM STROBE LIGHT		A	AMMETER	.	CURRENT TRANSFORMER
() _x	SMOKE DETECTOR			DAMPER MOTOR ACTUATOR	3 8	
<i>A</i>	X=P- PHOTOELECTRIC BT- BEAM TRA I- IONIZATION BR- BEAM REC	NSMITTER EIVER		SPRING RETURN	H E	POTENTIAL TRANSFORMER
	DUCT MOUNTED SMOKE DETECTOR		(EF)	EXHAUST FAN MOTOR	המפו	
	HEAT DETECTOR, SUBSCRIPT DENOTES THE FOL		$\overline{(v)}$	VOLTMETER	[JFD]	DEVICE, TYPE 1 OF TYPE 2
ωx	X=F-FIXED TEMPERATURE		(W)		0 0	
	R/F-COMBINATION RATE OF RISE AND FIXE	C		WATHWETER		LIGHTNING ARRESTOR (CROWBAR STYLE)
Ŷ	TAMPER SWITCH CONNECTION		(WH)	WATTHOUR METER	₹	
èç	FLOW SWITCH CONNECTION		M	MOTOR STARTER COIL		CAPACITOR
	DOOR HOLDER		M ol			
<u>ا</u> ــــا	PRESSURE SWITCH				÷	GROUND
	LEVEL SWITCH		R			
, 0 +X+	VALVE WITH TAMPER SWITCH			INDICATOR LIGHT (CONTROL CIRCUIT)	\mathcal{W}	TRANSFORMER
A A	MUSHROOM HEAD EMERGENCY				ΓΥΥΥ	
ه				W/PUSH TO TEST	—-	
<u>(</u>	FIREMANS TELEPHONE STATION		σ-†-σ	(CONTROL CIRCUIT)	N 1	
			ON OFF			(NORMALLY CLOSED)
	ADDRESSABLE MONITOR MODULE				~~ °	TIMER CONTACT -
(co)	CARBON MONOXIDE DETECTOR		<u> </u>	2 POSITION SELECTOR SWITCH: ON-OFF		NORMAL OPEN, TIME CLOSE
			<u>o</u> o		N.Ó.T.C.	
					0-0	TIMER CONTACT - NORMAL CLOSE, TIME
EXISTING	EXTERIOR	NEW		3 POSITION SELECTOR SWITCH:	× NCTO	OPEN
\sim		\sim		LOCAL-OFF-REMOTE HAND-OFF-AUTOMATIC	~ 0	TIMER CONTACT -
35/3	POLE, LENGTH AND CLASS AS INDICATED	35/3		_		NORMAL OPEN, TIME
3-25 ▽∧▽	TRANSFORMER BANK POLE MOUNTED, SHOWN	3-25			N.O.T.O.	
v ∠_ v	AS THREE PHASE 25 KVA TRANSFORMERS	•			0_0	TIMER CONTACT - NORMAL CLOSE TIME
△ 25	25 KVA NOTED	2 5	- <u>*</u> ~- <u>+</u> - <u></u>	4 POSITION SELECTOR SWITCH: LOCAL-OFF-REMOTE-AUTOMATIC	V NCTC	CLOSE
	PAD MOUNTED TRANSFORMER, 100 KVA	T 100			N.C.1.C.	
<u> </u>	NOTED				K	KEY INTERLOCK
\$ ^{\$}	FUSE CUTOUT WITH FUSE SIZE AND TYPE NOTED	کر	∽- [⊥] -⊸		Ļ	THERMAL OVERLOAD
/	DISCONNECT SWITCH OR	/	START		5	PROTECTION
	SECTIONALIZING SWITCH	2	STOP			BATTERY
	BURIED GROUND WIRE	G		 START-STOP PUSHBUTTON (NON-MAINTAINED CONTACT) 		
	GROUND WIRE IN OR UNDER FLOOR SLAB	0		、 · · · · · · · · · · · · · ·		AUTUTKANSFUKMEK
EG	GROUND WIRE EXPOSED	G	OFF			
	GROUND CONNECTION OR EQUIPMENT BOND			N ON-OFF PUSHBUTTON		DOUBLE THROW SWITCH
EG	ROOF CONDUCTOR	RC	• •			OR TRANSFER SWITCH
ê	POLE MOUNTED LUMINAIRE	ê			I	
	MANHOLE, HANDHOLE, OR PULLBOX, SUBSCRIPT				0-0-0-0	FLOAT SWITCH
-xxx	EMH ELECTRICAL MANHOLE	-xxx		CONTROL PANEL	\bullet	(NORMALLY CLOSED)
	CMH COMMUNICATIONS MANHOLE EHH ELECTRICAL HANDHOLE			HEATER/COOLING FAN	0-60	THERMOSTATIC SWITCH
	CHH COMMUNICATIONS HANDHOLE EPB ELECTRICAL PULLBOX					
			E-STOP	EMERGENCY STOP	0-10	PRESSURE SWITCH
-	CPB COMMUNICATIONS PULLBOX		\frown			
	CPB COMMUNICATIONS PULLBOX WALLPACK EXTERIOR LUMINAIRE			PUSHBUTTON STATION		
	CPB COMMUNICATIONS PULLBOX WALLPACK EXTERIOR LUMINAIRE WALLPACK EXTERIOR LUMINAIRE			PUSHBUTTON STATION	00	LIMIT SWITCH OR TORQUE SWITCH
$\begin{array}{c} & \bigcirc \\ XXX \\ XXX \\ & \bigcirc \\ \\ XXX \end{array} \xrightarrow{OR} \begin{array}{c} & & & & \\ & & & & \\ & & & & \\ & & & & $	CPB COMMUNICATIONS PULLBOX WALLPACK EXTERIOR LUMINAIRE WALLPACK EXTERIOR LUMINAIRE WITH EMERGENCY BATTERY			SWITCH, NONFUSED	○−●	LIMIT SWITCH OR TORQUE SWITCH DOT INDICATES
$ \begin{array}{c} & \bigcirc \\ XXX \\ XXX \\ & \bigcirc \\ XXX \end{array} \\ OR \\ & \swarrow \\ XXX \\ & \bigcirc \\ W \end{array} \\ \begin{array}{c} & & & \\ XXX \\ & & \\ XXX \\ & & \\ & & \\ \end{array} $	CPB COMMUNICATIONS PULLBOX WALLPACK EXTERIOR LUMINAIRE WALLPACK EXTERIOR LUMINAIRE WITH EMERGENCY BATTERY GROUND ROD, SIZE AS NOTED 3/4" X 10' (W DENOTES INSTALLATION IN WELL)			SWITCH, NONFUSED		LIMIT SWITCH OR TORQUE SWITCH DOT INDICATES CONNECTION OF WIRES
$ \bigcirc \overset{\text{OR}}{\overset{\text{OR}}{\overset{\text{XXX}}{\overset{\text{XXX}}{\overset{\text{OR}}{\overset{\text{OR}}{\overset{\text{XXX}}{\overset{\text{XXX}}}}} } $	CPB COMMUNICATIONS PULLBOX WALLPACK EXTERIOR LUMINAIRE WALLPACK EXTERIOR LUMINAIRE WITH EMERGENCY BATTERY GROUND ROD, SIZE AS NOTED 3/4" X 10' (W DENOTES INSTALLATION IN WELL) LIGHTNING ROD, (24 INCHES HIGH NOTED)	$ \begin{array}{c} $		SWITCH, NONFUSED		LIMIT SWITCH OR TORQUE SWITCH DOT INDICATES CONNECTION OF WIRES
$ \begin{array}{c} $	CPB COMMUNICATIONS PULLBOX WALLPACK EXTERIOR LUMINAIRE WALLPACK EXTERIOR LUMINAIRE WITH EMERGENCY BATTERY GROUND ROD, SIZE AS NOTED 3/4" X 10' (W DENOTES INSTALLATION IN WELL) LIGHTNING ROD, (24 INCHES HIGH NOTED)	$ \begin{array}{c} $		SWITCH, NONFUSED FUSED SWITCH FUSE		LIMIT SWITCH OR TORQUE SWITCH DOT INDICATES CONNECTION OF WIRES TERMINALS FOR WIRE CONNECTIONS FROM REMOTE DEVICE

AND THE NOTED
DISCONNECT SWITCH OR SECTIONALIZING SWITCH
BURIED GROUND WIRE
GROUND WIRE IN OR UNDER FLOOR SLAB

CMH	COMMUNICATIONS MANHOLE
EHH	ELECTRICAL HANDHOLE
CHH	COMMUNICATIONS HANDHOLE
EPB	ELECTRICAL PULLBOX
CPB	COMMUNICATIONS PULLBOX

SINGLE LINE DIAGRAMS/CONTROLS

GENERAL NOTES:

- 1. THE MINIMUM STANDARD FOR ALL WORK SHALL BE THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE WITH THE 2018 IN STATE AMENDMENTS AND THE
- NATIONAL ELECTRICAL CODE (NEC). 2. ALL ELECTRICAL WORK SHALL BE PERFORMED BY AN IN-STATE LICENSED ELECTRICIAN. 10. ALL NEW WIRING SHALL BE ENCLOSED IN AN APPROVED RACEWAY SYSTEM. OPEN
- 3. ALL PERMITS NEEDED TO LEGALLY PERFORM THE ELECTRICAL WORK SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO START OF WORK. COST OF PERMITTING IS BY THE CONTRACTOR.
- 4. AT COMPLETION OF THE WORK, A CERTIFICATE OF COMPLIANCE FROM THE LOCAL AHJ AT COMPLETION OF THE WORK, A CERTIFICATE OF COMPLETING THE ENGINEER AND OWNER. COST OVER THE ELECTRICAL WORK SHALL BE PROVIDED TO THE ENGINEER AND OWNER. COST 13. COORDINATE ALL MOTOR STARTERS, FEEDERS AND DISCONNECT SWITCHES FOR HVACE 13. COORDINATE ALL MOTOR STARTERS, FEEDERS AND DISCONNECT SWITCHES FOR HVACE
- 5. ALL MATERIALS USED IN THE PROJECT GENERALLY SHALL BE NEW AND UNUSED, UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL NEW MATERIALS SHALL BE LISTED BY UL OR 14. IN ORDER TO COMPLY WITH OSHA REQUIREMENTS, NO OPERATOR DEVICE OF ANY PANEL
- 6. THE CONTRACTOR SHALL VISIT THE SITE(S) PRIOR TO BIDDING TO FAMILIARIZE THEMSELVES WITH PROJECT REQUIREMENTS AND EXISTING CONDITIONS.
- 7. FIRESTOP ALL NEW CONDUIT INSTALLED THROUGH EXISTING OR NEW FIRE RATED
- ASSEMBLIES. 8. SHOP DRAWINGS SHALL BE SUBMITTED ON ALL ELECTRICAL MATERIALS AND EQUIPMENT FOR ACCEPTANCE PRIOR TO PURCHASE BY THE CONTRACTOR.
- 9. WHEN AN ITEM DEMOLISHED IS REMOVED, REMOVE ALL CONCRETE PADS, FASTENERS, CONDUIT AND WIRING. SCARIFY SURFACE AND RESTORE TO MATCH EXISTING SURROUNDING SURFACE, INCLUDING PAINTING TO MATCH.
- WIRING IS PROHIBITED. 11. CIRCUIT BREAKERS USED FOR HVAC EQUIPMENT LOADS SHALL BE HACR TYPE.
- 12. ENSURE DEDICATED ELECTRICAL SPACE IS PROVIDED ABOVE AND BELOW ELECTRICAL PANELS IN ACCORDANCE WITH NEC ARTICLE 110.26.
- AND OTHER UTILIZATION EQUIPMENT ACTUALLY PROVIDED IN ACCEPTED SHOP DRAWINGS.
- OR DISCONNECT OR MOTOR CONTROL SHALL BE HIGHER THAN 6'-6" AFF.
- 15. PROVIDE AN EXTERIOR RATED SERVICE RECEPTACLE WITHIN 25 FEET HORIZONTALLY OF ANY EXTERIOR OR ROOFTOP HVAC OUTDOOR UNITS (HEATING OR AIR CONDITIONING ONLY).

FIRST FLOOR PLAN - ELECTRICAL DEMOLITION SCALE: 1/16"=1'-0" 0 8' 16'

GENERAL NOTES:

1. FOR LOCATIONS WHERE EXISTING EQUIPMENT IS BEING DISCONNECTED AND REMOVED, CONTRACTOR SHALL MAINTAIN INTEGRITY OF EXISTING POWER AND FIRE ALARM WIRING FOR RECONNECTION TO NEW UNIT AND SMOKE DETECTION EQUIPMENT. NOTE THAT IN CERTAIN INSTANCES EXISTING WIRING MAY REQUIRE REPLACEMENT. IN THESE LOCATIONS EXISTING CONDUIT MAY BE REUSED FOR NEW WIRE INSTALLATION.

58865 ELECTRICAL DEMOLITION 10N 508 VAT 40 ASHINGTON - HVAC RENOV STREET, LEXINGTON, KY, I. AN BOOKER T. WA 707 HOWARD (ЪГ FLOOR FIRST ()Ö JANUARY 2024 1/16" = 1'0" HEET NO. ED101

ROOF PLAN - ELECTRICAL DEMOLITION SCALE: 1/16"=1'-0"

GENERAL NOTES:

- 1. FOR LOCATIONS WHERE EXISTING EQUIPMENT IS BEING DISCONNECTED AND REMOVED, CONTRACTOR SHALL MAINTAIN INTEGRITY OF EXISTING POWER AND FIRE ALARM WIRING FOR RECONNECTION TO NEW UNIT AND SMOKE DETECTION EQUIPMENT. NOTE THAT IN CERTAIN INSTANCES EXISTING WIRING MAY REQUIRE REPLACEMENT. IN THESE LOCATIONS EXISTING CONDUIT MAY BE REUSED FOR NEW WIRE INSTALLATION.
- 2. REFER TO SHEET ED101 FOR LOCATION OF EXISTING SWITCHBOARDS, PANELBOARDS AND FIRE ALARM MAIN CONTROL PANEL.
- 3. DEMOLITION PLANS HAVE BEEN DEVELOPED FROM SITE VISITS AND EXISTING BUILDING DRAWINGS. SOME DEVICES MAY NOT BE INDICATED.
- 4. IT SHALL BE THE RESPONSIBILITY OF ALL CONTRACTORS WHO SUBMIT BIDS FOR THIS PROJECT TO VISIT THE JOB PREMISES PRIOR TO BIDDING IN ORDER THAT THEY MAY DETERMINE THE TYPE, QUANTITY, LOCATIONS AND ANY HARDSHIPS INVOLVED WITH THE REMOVAL OF EQUIPMENT.
- 5. CONTRACTOR UNDER THIS DIVISION IS FINANCIALLY RESPONSIBLE TO REPAIR AND PATCH FLOORS, WALLS, CEILING AND ROOF TO MATCH EXISTING CONDITION WHERE DEMOLITION WORK HAS BEEN DONE. COORDINATE ALL WORK WITH OWNER/ENGINEER.
- 6. ITEMS TO BE DEMOLISHED ARE INDICATED WITH A HATCH PATTERN.
- 7. REMOVE ALL WIRING AND EXPOSED CONDUIT ASSOCIATED WITH DEMOLISHED ELECTRICAL EQUIPMENT / DEVICES UNLESS CIRCUIT IS INDICATED TO BE REUSED. REMOVE BACK TO SOURCE. MAINTAIN ALL ELECTRICAL CONNECTIONS TO DEVICES AND EQUIPMENT THAT REMAIN.

\bigcirc SHEET KEYNOTES:

- 1. EXISTING ROOFTOP UNIT TO BE DISCONNECTED AND REMOVED ALONG WITH EXISTING DUCT SMOKE DETECTOR. EXISTING POWER AND FIRE ALARM WIRING TO REMAIN FOR RECONNECTION TO NEW EQUIPMENT.
- 2. EXISTING ROOFTOP UNIT TO BE DISCONNECTED AND REMOVED ALONG WITH EXISTING DUCT SMOKE DETECTOR. EXISTING POWER SUPPLY WIRING AND CONDUIT TO BE REPLACED. EXISTING FIRE ALARM WIRING TO REMAIN FOR RECONNECTION TO NEW DEVICE.
- 3. EXISTING CONVENIENCE OUTLET TO BE DISCONNECTED AND REMOVED. EXISTING POWER WIRING AND CONDUIT TO REMAIN. REWORK/EXTEND EXISTING CONDUIT AND WIRE TO NEW CONVENIENCE OUTLET. SEE SHEET E-102 FOR NEW WORK.

0 8' 16'

FIRST FLOOR PLAN - ELECTRICAL NEW WORK SCALE: 1/16"=1'-0"

0 8' 16'

GENERAL NOTES:

1. DUCT SMOKE DETECTORS SHALL BE FURNISHED FOR ALL AIR HANDLING EQUIPMENT WITH DESIGN CAPACITY GREATER THAN 2000 CFM. DUCT SMOKE DETECTORS SHALL BE INSTALLED IN RETURN AIR SYSTEMS UPSTREAM OF ANY FILTERS, EXHAUST OR OUTDOOR AIR CONNECTIONS. UPON ACTIVATION, THE FIRE ALARM SYSTEM SHALL SHUTDOWN ALL OPERATIONAL CAPABILITIES OF THE AIR HANDLING EQUIPMENT.

ROOF PLAN - ELECTRICAL NEW WORK SCALE: 1/16"=1'-0"

GENERAL NOTES:

- 1. REFER TO SHEET E-102 FOR LOCATION OF EXIS DISTRIBUTION PANELS.
- 2. DUCT SMOKE DETECTORS SHALL BE FURNISHED FOR ALL AIR HANDLING EQUIPMENT WITH DESIGN CAPACITY GREATER THAN 2000 CFM. DUCT SMOKE DETECTORS SHALL BE INSTALLED IN RETURN AIR SYSTEMS UPSTREAM OF ANY FILTERS, EXHAUST OR OUTDOOR AIR CONNECTIONS. UPON ACTIVATION, THE FIRE ALARM SYSTEM SHALL SHUTDOWN ALL OPERATIONAL CAPABILITIES OF THE AIR HANDLING EQUIPMENT.

\bigcirc SHEET KEYNOTES:

- 1. NEW ROOFTOP UNIT. RECONNECT EXISTING POWER SUPPLY CIRCUIT.
- 2. NEW ROOF TOP UNIT. FURNISH AND INSTALL (3)#8 AND (1)#10 GND IN 3/4"C FROM NEW ROOFTOP UNIT POWER ENTRANCE LOCATION TO NEW 45A/3P CIRCUIT BREAKER INSTALLED IN EXISTING PANELBOARD H. SEE SHEET E-101 FOR LOCATION. CONTRACTOR MAY REUSE EXISTING CONDUIT IF ADEQUATE SIZE.
- 3. NEW ROOF TOP UNIT. FURNISH AND INSTALL (3)#1 AND (1)#6 GND IN 1-1/2"C FROM NEW ROOFTOP UNIT POWER ENTRANCE LOCATION TO NEW 125A/3P CIRCUIT BREAKER INSTALLED IN EXISTING MAIN DISTRIBUTION SWITCHBOARD MDP. SEE SHEET E-101 FOR LOCATION. CONTRACTOR MAY REUSE EXISTING CONDUIT IF ADEQUATE SIZE.
- 4. NEW ROOF TOP UNIT. FURNISH AND INSTALL (3)#3 AND (1)#8 GND IN 1-1/4"C FROM NEW ROOFTOP UNIT POWER ENTRANCE LOCATION TO NEW 90A/3P CIRCUIT BREAKER INSTALLED IN EXISTING MAIN DISTRIBUTION SWITCHBOARD MDP. SEE SHEET E-101 FOR LOCATION. CONTRACTOR MAY REUSE EXISTING CONDUIT IF ADEQUATE SIZE.
- 5. NEW ROOF TOP UNIT. RECONNECT EXISTING POWER SUPPLY CIRCUIT. EXISTING BREAKER IN XX-XX TO BE REPLACED WITH NEW 60A/3P CIRCUIT BREAKER. SEE SHEET E-101 FOR LOCATION.
- 6. NEW DUCT SMOKE DETECTOR BY FIRE ALARM CONTRACTOR. INSTALL IN RETURN AIR SYSTEM OF NEW MULTI-ZONE ROOFTOP UNIT. FIRE ALARM CONTRACTOR TO RECONNECT/EXTEND EXISTING FIRE ALARM SIGNALING LINE CIRCUIT TO NEW DUCT SMOKE DETECTOR AND INSTALL CONTROL/MONITORING MODULES AS REQUIRED FOR CORRECT OPERATION. PROVIDE AIR HANDLING UNIT INTERLOCK WIRING AS REQUIRED TO SHUTDOWN ALL OPERATIONAL CAPABILITIES OF THE AIR
- HANDLING EQUIPMENT UPON ACTIVATION OF SMOKE DETECTOR. 7. NEW GFI RECEPTACLE WITH WEATHERPROOF WHILE-IN-USE COVER. CONNECT/EXRTEND EXSITING
- CIRCUIT TO NEW DEVICE AS REQUIRED. 8. FURNISH AND INSTALL NEW REMOTE TEST STATION FOR DUCT SMOKE DETECTOR IN ROOM BELOW. PROVIDE SINGLE-GANG BOX AND MOUNT DEVICE FLUSH IN CEILING TILE AND INSTALL DESCRIPTIVE NAMPLATE. FURNISH AND INSTALL FIRE ALARM WIRING IN 3/4"C.

