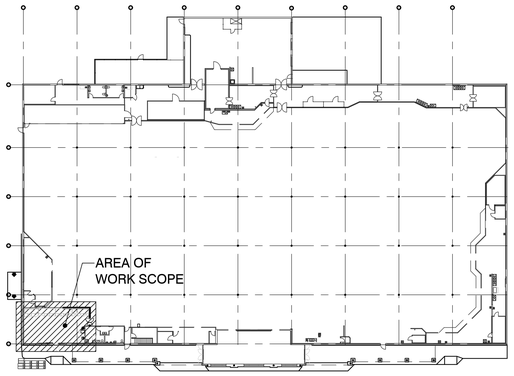
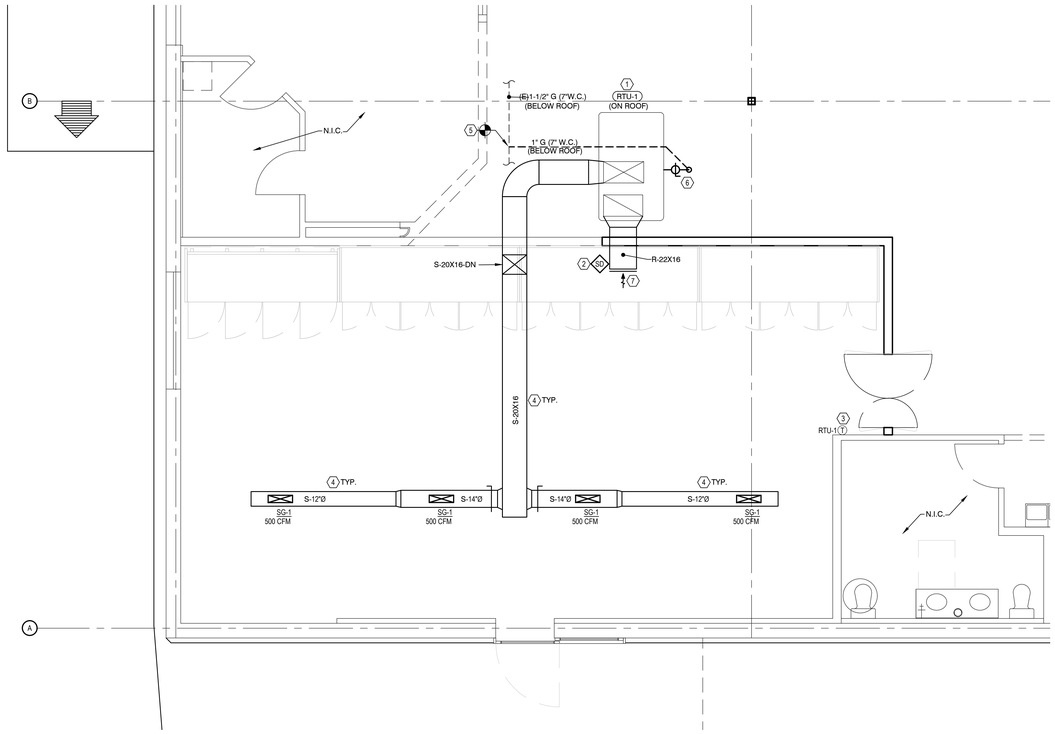


KEY PLAN
NOT TO SCALE



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

GENERAL NOTES

A) REFER TO HEATING, VENTILATION & AIR CONDITIONING SPECIFICATIONS AND GENERAL CONDITIONS FOR ADDITIONAL REQUIREMENTS.

B) REFER TO M5 SERIES DRAWINGS FOR HVAC LEGEND, SCHEDULES, AND DETAILS.

C) ALL MATERIAL AND WORKMANSHIP SHALL COMPLY WITH THE 2017 EDITION OF THE OHIO BUILDING CODE AND 2017 EDITION OF THE INTERNATIONAL MECHANICAL CODE. MATERIALS SHALL BE UL LISTED, NEW, DEFECT FREE, AND INSTALLED PER MANUFACTURER SPECIFICATIONS.

D) IT IS INTENDED THAT WORK COVERED BY THESE SPECIFICATIONS AND DRAWING INCLUDE EVERYTHING REQUISITE AND NECESSARY TO MAKE THE VARIOUS SYSTEMS COMPLETE AND OPERATIVE, IRRESPECTIVE OF WHETHER OR NOT EVERY ITEM IS SPECIFICALLY IDENTIFIED. ANY OMISSION OF DIRECT REFERENCE HEREIN TO ANY ESSENTIAL ITEM SHALL NOT EXCUSE THE CONTRACTOR FROM COMPLYING WITH THE ABOVE INTENT. THE CONTRACTOR SHALL CAREFULLY EXAMINE ALL THE DRAWINGS.

E) RTU'S SHOWN ON THESE PLANS AND SCHEDULES ARE INCLUDED IN KROGER'S DIRECT BUY PROGRAM AND SHALL BE PROVIDED BY KROGER AND INSTALLED BY THE HVAC CONTRACTOR UNLESS NOTED OTHERWISE.

F) COORDINATE THE INSTALLATION WITH THE OWNER'S MAINTENANCE STAFF, AND THE WORK OF OTHER CONTRACTORS. THE CONTRACTOR SHALL INCUR ALL COSTS FOR THE RELOCATION OF EQUIPMENT IN CONFLICT WITH WORK BY OTHER DISCIPLINES.

G) PROVIDE PROTECTION TO THE FACILITY FROM DAMAGE OF ANY KIND DURING ALL PHASES OF THE PROJECT.

H) COORDINATE WORK WITH ALL DISCIPLINES INCLUDING BUT NOT LIMITED TO: OWNER'S FIXTURES, DECOR, ELECTRICAL, PLUMBING, AND FIRE PROTECTION.

I) HVAC CONTRACTOR SHALL CAREFULLY COORDINATE DUCTWORK LOCATIONS WITH ALL OTHER TRADES.

J) ALL DUCTWORK CONNECTIONS TO GRILLES, SHALL MATCH GRILLE SIZE.

K) VERIFY EXISTING CONDITIONS RELATIVE TO EXTENT REQUIRED FOR NEW WORK. ALL CONDITIONS SHALL BE FIELD VERIFIED BEFORE ORDERING EQUIPMENT OR FABRICATING MATERIAL.

L) UNLESS OTHERWISE SPECIFIED, ALL NEW DUCTWORK IS TO BE INSTALLED AS CLOSE TO THE STRUCTURE ABOVE AS POSSIBLE. BOTTOM OF DUCT SHALL NOT BE INSTALLED LESS THAN 8'-0" ABOVE FINISHED FLOOR IN ANY AREAS. ROUTE DUCTWORK AS NECESSARY BETWEEN JOISTS TO MAINTAIN A MINIMUM OF 8'-0" CLEARANCE FROM BOTTOM OF DUCTS TO FINISHED FLOOR.

M) IN FINISHED AREAS, DUCTWORK AND PIPING SHALL BE LOCATED ABOVE SUSPENDED CEILINGS AND WITHIN WALLS.

N) CONTRACTOR IS REQUIRED TO FIRE STOP ALL WALLS THAT ARE FIRE RATED, SEE ARCHITECTURAL DRAWINGS.

O) THE HVAC CONTRACTOR SHALL COORDINATE ALL REQUIRED ROOF OPENINGS FOR DUCTWORK AND PIPING WITH THE GENERAL CONTRACTOR AND COORDINATE ALL REQUIRED PATCHING FOR NEW ROOF PENETRATIONS WITH THE PROJECT ROOFING CONTRACTOR.

P) THE HVAC CONTRACTOR SHALL PROVIDE ALL ADDITIONAL STEEL FRAMING AS REQUIRED TO INSTALL PIPE HANGERS, DUCTWORK, AND EQUIPMENT SUPPORTS.

Q) THE HVAC CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING THAT IS REQUIRED FOR DUCT AND PIPING PENETRATIONS THROUGH WALLS AND FLOOR SLABS.

R) UNLESS NOTED OTHERWISE, ALL NEW WALL- MOUNTED TEMPERATURE SENSORS AND THERMOSTATS ARE TO BE MOUNTED AT 7'-6" ABOVE THE FINISHED FLOOR SURFACE IN THE CUSTOMER AREAS OF THE STORE AND AT 5'-0" ABOVE THE FINISHED FLOOR IN THE EMPLOYEE AND NON-CUSTOMER AREAS.

S) PROVIDE BALANCING DAMPERS AT ALL BRANCH DUCTS AND MAINS TO INSURE THAT THE AIR SUPPLIED, RETURNED OR EXHAUSTED BY GRILLES, REGISTERS OR DIFFUSERS CAN BE SET BY THE BALANCING CONTRACTOR TO THE DESIRED FINAL CFM. REFER TO DETAILS FOR DESIGN INTENT. INSTALL DAMPERS AT A MINIMUM OF TWO DUCT WIDTHS FROM BRANCH TAKEOFF.

T) PROVIDE TURNING VANES IN ALL RECTANGULAR 90 DEGREE MITERED ELBOWS.

U) ALL SUPPLY DUCTS INSTALLED ABOVE CEILINGS ARE TO BE INSULATED AS REQUIRED BY THE SPECIFICATIONS. LINED DUCTS SIZES ARE NOTED AS INSIDE CLEAR DIMENSIONS.

V) COORDINATE THE FINAL LOCATION OF ALL CEILING DIFFUSERS AND GRILLES INSTALLED IN CEILINGS WITH THE CEILING GRID, LIGHTS, AND SPRINKLER HEADS.

W) UNLESS OTHERWISE NOTED, ALL DUCTWORK AND PIPING SHOWN DARK IS NEW.

X) TRANSITION THE EXHAUST DUCTS AT ROOF FANS TO MATCH THE FAN INTAKE SIZE.

Y) STORE SHALL REMAIN OPEN DURING CONSTRUCTION AND SHALL BE MAINTAINED IN A BEST POSSIBLE CONDITION FOR SHOPPING.

Z) ALL WORK IN SALES AREA TO TAKE PLACE OUTSIDE OF NORMAL STORE OPERATING HOURS. COORDINATE NEW WORK SCHEDULE WITH KROGER PROJECT MANAGER.

AA) CONTRACTOR SHALL REPAIR ALL WALLS, FLOORS, CEILINGS, ETC TO MATCH EXISTING THAT ARE DAMAGED AS PART OF THIS PROJECT.

AB) PROVIDE INTERNAL SOUND ATTENUATION DUCT LINER FOR A MINIMUM OF 10 FEET FROM ANY NEW HVAC UNIT, IN BOTH THE SUPPLY AND RETURN DUCTWORK.

CODED NOTES (#)

1. NEW GAS-FIRED ROOFTOP UNIT PROVIDED BY OWNER. HVAC CONTRACTOR TO INSTALL. COORDINATE PRECISE LOCATION WITH STRUCTURAL DRAWINGS. SECURE ROOF CURB TO ROOF STRUCTURE AND ROOF TOP UNIT TO ROOF CURB. CUT OPENINGS THROUGH ROOF AND INSTALL SUPPLEMENTAL SUPPORT STEEL AS REQUIRED TO FRAME OPENINGS AS DIRECTED BY STRUCTURAL ENGINEER. PROVIDE FLEXIBLE CONNECTIONS AT UNIT SUPPLY AND RETURN CONNECTIONS. OFFSET TRANSITION AT SUPPLY AND RETURN DUCTWORK AS REQUIRED TO AVOID STRUCTURE. MAINTAIN AT LEAST 10 FEET DISTANCE BETWEEN ROOF TOP UNIT AIR INTAKE AND EXHAUST VENTS OR FANS ON ROOF. PROVIDE PVC DRAIN EXTENDED TO DISCHARGE ON THE LOW SIDE OF THE ROOF CURB.
2. THE NEW DUCT MOUNTED SMOKE DETECTOR IS TO BE INSTALLED WHERE INDICATED AND WIRED TO DEACTIVATE OPERATION OF THE ROOFTOP UNIT UPON DETECTION OF SMOKE BY THE ELECTRICAL CONTRACTOR.
3. TEMPERATURE SENSOR FOR ROOF MOUNTED RTU. ROUTE CONTROL WIRING BACK TO BUILDING CONTROL PANEL "HVAC". MOUNT SENSOR 5'-0" AFF.
4. ROUTE ALL DUCTWORK BETWEEN LIGHTS. COORDINATE DUCT ELEVATION, LOCATION, AND ROUTING WITH OWNER AND GENERAL CONTRACTOR. CENTER MAIN DUCT THROUGH AREA BETWEEN WALLS. TYPICAL ALL LOCATIONS.
5. EXTEND AND CONNECT NEW GAS PIPING TO EXISTING GAS MAIN ON ROOF. COORDINATE EXACT PIPE ROUTING TO NEW RTU IN FIELD.
6. INSTALL AND CONNECT GAS PIPING TO NEW RTU PER DETAIL PSD-55 ON SHEET M5.1. CONTRACTOR SHALL COORDINATE EXACT SIDE OF UNIT THE GAS CONNECTION IS LOCATED WITH THE ORIENTATION OF THE UNIT. RTU-1 HAS A GAS INPUT OF 100,000 BTU/H.
7. PROVIDE 1/2" X 1/2" WIRE MESH OVER RETURN AIR DUCT OPENING.

PORTIONS OF A MASTER LIST OF HVAC FLOOR PLAN GENERAL AND CODED NOTES HAVE BEEN APPLIED TO THIS PLAN. MISSING LETTERS OR NUMBERS HAVE BEEN SKIPPED ON PURPOSE AND WILL NOT APPLY TO THIS SHEET.

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KROGER CINCINNATI DIVISION

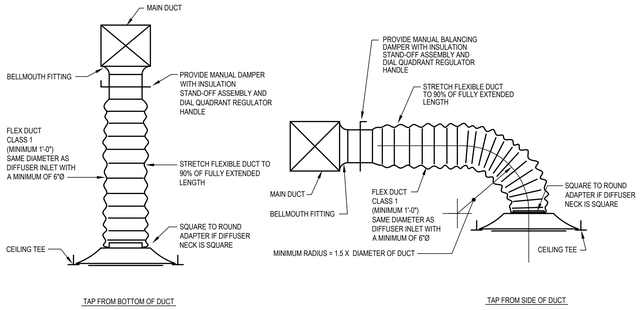
ISSUED	DATE
BID / PERMIT	09 / 03 / 2024
1 ADDENDUM #1	10 / 02 / 2024

SHEET TITLE
HVAC FLOOR PLAN

SCALE
COMM. NO.
E-12526.00
DRAWN BY

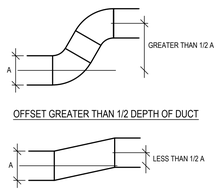
SHEET #
M1.1

THIS DRAWING IS PART OF A SET



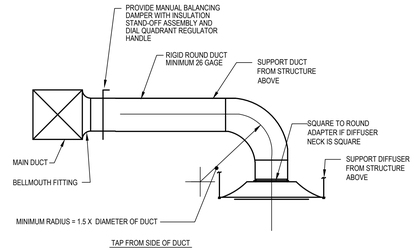
CEILING DIFFUSER CONNECTION DETAILS- TYPE CD-#

SCALE: NONE — 5 / M5.1



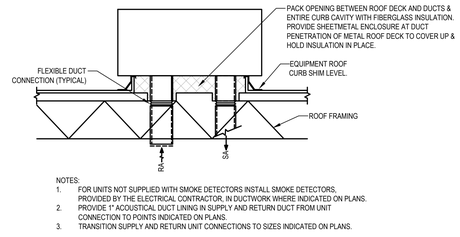
DUCT OFFSET DETAIL

SCALE: NONE — 4 / M5.1



CEILING DIFFUSER CONNECTION DETAILS- TYPE CD-1

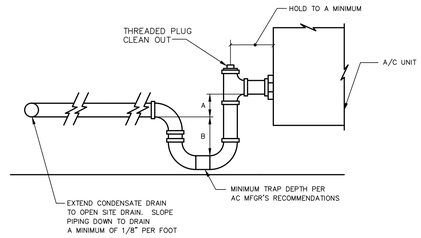
SCALE: NONE — 1 / M5.1



NOTES:
1. FOR UNITS NOT SUPPLIED WITH SMOKE DETECTORS INSTALL SMOKE DETECTORS, PROVIDED BY THE ELECTRICAL CONTRACTOR, IN DUCTWORK WHERE INDICATED ON PLANS.
2. PROVIDE 1" ACOUSTICAL DUCT LINING IN SUPPLY AND RETURN DUCT FROM UNIT CONNECTION TO POINTS INDICATED ON PLANS.
3. TRANSITION SUPPLY AND RETURN UNIT CONNECTIONS TO SIZES INDICATED ON PLANS.

ROOFTOP UNIT INSTALLATION DETAIL

SCALE: NONE — 6 / M5.1



CONDENSATE DRAIN PIPE SCHEDULE	
UNIT	PIPE SIZE (INCHES)
**	SIZE EQUAL TO DRAIN CONNECTION SIZE. 1" MINIMUM

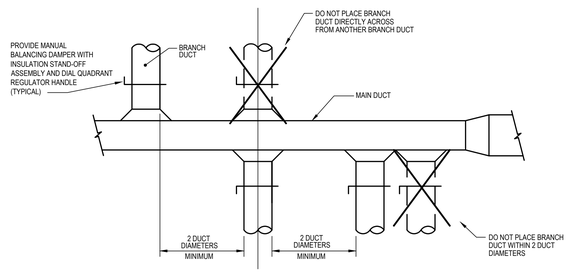
* ALL AC UNITS

POSITIVE STATIC PRESSURE
"A" = AT LEAST 1 INCH
"B" = AT LEAST 1 INCH PLUS STATIC PRESSURE (INCHES WG.)

NEGATIVE STATIC PRESSURE
"A" = AT LEAST 1 INCH PLUS STATIC PRESSURE (INCHES WG.)
"B" = 1/2 "A"

CONDENSATE DRAIN PIPING DIAGRAM

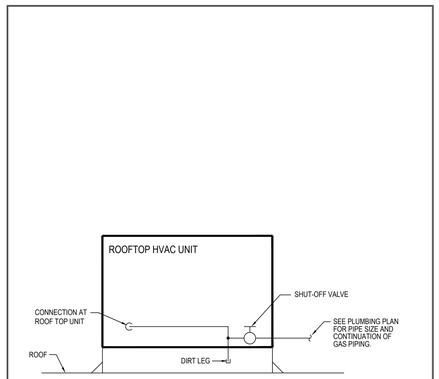
SCALE: NONE — 3 / M5.1



NOTE: SEE FLOOR PLAN DRAWINGS FOR EXACT DUCT SIZES

BRANCH DUCT CONNECTION DETAIL

SCALE: NONE — 2 / M5.1



NOTE:
PAINT ALL EXTERIOR GAS LINES PER KROGER MASTER BUILDING SPECIFICATIONS – SECTION 01 GENERAL REQUIREMENTS

GAS PIPING CONNECTIONS AT ROOF TOP UNITS	DATE: 1/30/09 SCALE: NONE DRAWN: DCS
MASTER SPECIFICATION DETAIL	PSD-55

ORIGINAL ISSUE DATE 11/30/06

GAS INPUT SCHEDULE FOR KROGER A910 ST. MARYS, OHIO			
SERVICE ADDRESS : 475 FORTMAN DR., ST. MARYS, OHIO 45885			
TOTAL EQUIVALENT LENGTH OF PIPE: 1000'		GAS SERVICE LENGTH: NA	
EXISTING DELIVERY PRESSURE: 2LBS		NUMBER OF METERS: 1	
EQUIPMENT	LOAD (BTU/HR)		
	NEW	EXISTING	REMOVED
EXISTING EQUIPMENT		3,274,000	
NEW RTU-1	100,000		
TOTAL	100,000	3,274,000	0
OLD TOTAL (EXISTING & REMOVED)	3,274,000		
NEW GRAND TOTAL (EXISTING & NEW)	3,374,000		
NEW GRAND TOTAL IN CFH (EXIST. & NEW)	3374		

PACKAGED ROOFTOP AIR CONDITIONING UNIT SCHEDULE

DESIGNATION	AREA SERVED	NOMINAL CAPACITY (TONS)	APPROX. WEIGHT (LBS)	REFRIGERANT TYPE	COOLING EFFICIENCY ARI (EER)	SUPPLY FAN DATA: SUPPLY (CFM)	TOTAL ESP (IN. WG)	MOTOR HP	OUTSIDE AIRFLOW (CFM)	NET COOLING CAPACITY: COIL EAT Deg F (db/wb)	COIL LAT Deg F (db/wb)	TOTAL MBH	SENSIBLE MBH	NATURAL GAS HEATING CAPACITY: EAT Deg F (db)	LAT Deg F (db)	INPUT MBH	OUTPUT MBH	ELECTRICAL DATA: VOLTS/ PH/HZ	MCA	MOCP	BASIS OF DESIGN: MFGR.	MODEL NO.	ACCESSORIES
RTU-1	GROCERY PICK UP	5	1050	R-454b	13	2,000	0.5	3	150	75.4 / 63.1	52.0 / 52.0	58	48	60	96	100	81	208-230/60/3	31	45	TRANE	YHK060A3S0M	SEE NOTES BELOW

NOTES TO BE INCLUDED FOR ALL ROOFTOP UNITS:
1 ECONOMIZER WITH BAROMETRIC RELIEF
2 MED GAS HEAT
3 CONTRACTOR SUPPLIED, ROOF CURB-ADJUSTABLE, MANUFACTURED BY AES
4 NON-FUSED DISCONNECT TO BE PROVIDED BY THE MECHANICAL CONTRACTOR - CONFIRM LOCAL AHJ REQUIREMENTS
5 FACTORY CONTROLS PER KROGER STANDARDS
7 STD CONDENSER COIL WITH HAIL GUARD
8 TRANE IS THE BASIS OF DESIGN AND NO SUBSTITUTIONS WILL BE ALLOWED

AIR DEVICE SCHEDULE

DESIGNATION	TYPE	MODULE SIZE	DUCT SIZE	CONSTRUCTION MATERIAL	MOUNTING SURFACE	FINISH COLOR	BASIS OF DESIGN: MFGR	MODEL NO.	ACCESSORIES
SG-1	SPIRAL DUCT MOUNTED DOUBLE DEFLECTION GRILLE	20"x 6"	(SEE PLAN DWG.)	ALUMINUM	DUCT MOUNTED	WHITE	TITUS	S300FL	AIR SCOOP DEVICE

OUTDOOR AIR VENTILATION SCHEDULE

ROOM NAME	ROOM NUMBER	GROSS FL AREA (SQ. FT)	NET FL AREA (SQ. FT)	MAX. NO. OF OCCUPANTS (PER 1000 SF)	OUTSIDE AIR PER OCC. CFM	OUTSIDE AIR PER FL AREA CFM/SQ.FT.	DESIGN NUMBER OF PEOPLE	SHORT TERM OCCUPANT DIVERSITY	ACTUAL NUMBER OF PEOPLE	AIR SYSTEM EFFECTIVENESS	INITIAL ZONE OUTSIDE AIR CFM	SYSTEM OCCUPANT DIVERSITY	UNCORRECTED OUTSIDE AIR CFM	DESIGN SUPPLY AIR CFM	OUTSIDE AIR PRIMARY AIR RATIO, (Z p)	ACTUAL OA CFM	ACTUAL OUTDOOR AIR %	EXHAUST REQUIREMENTS: NO. OF FIXTURES	CFM PER FIXTURE	CFM PER SQ. FT.	REQUIRED CFM	GENERAL EXHAUST CFM
GROCERY PICKUP AREA	NA	1,183	1,183	8	7.5	0.06	10	100%	10	80%	182	100%	146	2000	0.09	150	7.5%					
															WORST CASE							
TOTALS:		1,183	1,183				10		10		182		146	2000	9.1%	150						0

NOTE: 1. The design number of people shown for each room is the estimated maximum for each room per Ohio Mechanical Code. The actual number of people is based on either the estimated actual occupancy or the short term occupancy.
2. The ventilation air calculations for this schedule are based on Ohio Mechanical Code.

Sum of Room Peak Occupancies = 10 | Peak System Occupancy = 10 | Occupant Diversity Factor, (D) = 100%
Sum of Room Supply Air Quantities = 2000 | Supply Fan Diversity Factor = 100% | Actual Total System Supply Air Flow = 2000
orrected Outdoor Air Flow V ou = 146 CFM | Ventilation Efficiency E v = 1.00 (Per Ohio Mechanical Code) | Required OA Flow V ot = 146 CFM | Actual Final Outdoor Air Flow 150 CFM

HVAC ABBREVIATIONS LEGEND:

AAD	AUTOMATIC AIR DAMPER
AC	AIR CONDITIONING UNIT
AFF	ABOVE FINISHED FLOOR
AMP	AMPERE
BAS	BUILDING AUTOMATION SYSTEM
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BOS	BOTTOM OF STEEL
BTUH	BTU'S PER HOUR
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CU	CONDENSING UNIT
DIA	DIAMETER
DB	DRY BULB TEMPERATURE
DIA	DIAMETER
DN	DOWN
DR	DRAIN
DV	DRYER VENT
EA	EXHAUST AIR
EAL	EXHAUST AIR LOUVER
EAT	ENTERING AIR TEMPERATURE
EBH	ELECTRIC BASEBOARD HEATER
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
EUH	ELECTRIC UNIT HEATER
F	DEGREE FAHRENHEIT
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
HP	HORSEPOWER
HR	HOUR
HVAC	HEATING, VENTILATING AND A/C
IN	INCH
KEF	KITCHEN EXHAUST HOOD
KH	KITCHEN HOOD
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LD	LINEAR DIFFUSER
LL	REFRIGERANT LIQUID LINE
MCA	MINIMUM CIRCUIT AMPS
MBH	BTU'S PER HOUR, THOUSAND
MOCP	MAXIMUM OVER CURRENT PROTECTION
NO	NUMBER
OA	OUTSIDE AIR
OAH	OUTSIDE AIR HOOD
OAL	OUTSIDE AIR LOUVER
PH	PHASE
RG	RETURN AIR GRILLE
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
RTU	PACKAGED ROOFTOP UNIT
SF	SQUARE FOOT (FEET)
SG	SUPPLY AIR GRILLE
SL	REFRIGERANT SUCTION LINE
SR	SUPPLY REGISTER
TG	TRANSFER AIR GRILLE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
WB	WET BULB TEMPERATURE
WC	WATER COLUMN

HVAC SYMBOLS LEGEND:

- BAS TEMPERATURE SENSOR
- DUCT MOUNTED SMOKE DETECTOR
- ANGLED DUCT TAP
- MANUAL DAMPER
- SQUARE ELBOW WITH TURNING VANES
- DUCT RISE IN DIRECTION OF AIR FLOW (UP)
- DUCT DROP IN DIRECTION OF AIR FLOW (DN)
- RECTANGULAR TO ROUND DUCT TRANSITION
- S-12"x8" — SUPPLY AIR (RECTANGULAR DUCT) S=SUPPLY, R=RETURN, E=EXHAUST, OA=OUTSIDE AIR
- S-12"Ø — SUPPLY AIR (ROUND DUCT) R=RETURN, E=EXHAUST, OA=OUTSIDE AIR
- SUPPLY DIFFUSER
- RETURN / EXHAUST GRILLE OR REGISTER
- INTERNALLY LINED DUCTWORK (DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS)

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KROGER CINCINNATI DIVISION

NOT FOR CONSTRUCTION

ISSUED	DATE
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1 ADDENDUM #1	10 / 02 / 2024

SHEET TITLE
HVAC SCHEDULES AND DETAILS

SCALE: N/A | COMM. NO: E-12526.00
DRAWN BY: ELEVAR
SHEET #: M5.1

THIS DRAWING IS PART OF A SET