

HVAC NOTES:

- ALL WORK SHALL BE PERFORMED PER THE LATEST EDITIONS OF NFPA 90A & 91, THE NATIONAL ELECTRICAL CODE, THE INTERNATIONAL MECHANICAL CODE AND ALL APPLICABLE STATE & LOCAL CODES & LATEST STATE AMENDMENTS. ALL PERMITS & FEES SHALL BE PAID BY THE HVAC CONTRACTOR. WHERE TWO OR MORE CODES ARE IN CONFLICT THE MORE STRINGENT CODE SHALL APPLY.
- PLANS ARE DIAGRAMMATIC & SHOW THE GENERAL LOCATION OF THE EQUIPMENT & DUCTWORK. REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS & DETAILS REGARDING BUILDING CONSTRUCTION. DRAWINGS ARE NOT TO BE SCALED & ALL DIMENSIONS & LOCATIONS SHALL BE VERIFIED AT THE BUILDING SITE BEFORE FABRICATION & EQUIPMENT/DUCT PURCHASES. REPORT ANY ERRORS FOUND WITH THESE PLANS TO NOTIFY ARCHITECT IMMEDIATELY PRIOR TO BID FOR RESOLUTION & CLARIFICATION. COORDINATE EXACT LOCATION OF HVAC EQUIPMENT WITH GENERAL CONTRACTOR & ARCHITECT. CLOSELY COORDINATE ALL WORK WITH OTHER TRADES. REVIEW THE ARCHITECTURAL PLANS FOR MOUNTING HEIGHTS & ELEVATIONS REGARDING LOUVERS, GRILLES, LIGHTS OR OTHER CEILING MOUNTED ITEMS. IF THE HVAC CONTRACTOR INSTALLS HIS WORK PRIOR TO COORDINATING WITH ALL OTHER TRADES OR AS TO CAUSE ANY INTERFERENCE WITH WORK OF OTHER TRADES, HE SHALL MAKE NECESSARY CHANGES TO THE WORK OR CORRECT THE CONDITION WITHOUT EXTRA CHARGE. WHERE APPLICABLE, COORDINATE FINAL LOCATIONS NEEDED FOR ALL CONDENSATE DRAIN RELATED PIPING & FIXTURES WITH PLUMBING CONTRACTOR. PROVIDE DUCT OFFSETS, DUCT ELEVATION CHANGES & DUCT REROUTING AS NEEDED TO AVOID CONFLICTS & INTERFERENCES. GENERAL CONTRACTOR TO PROVIDE FRAMED OPENINGS REQUIRED FOR DUCT/GRILLE/DIFFUSER/EQUIPMENT INSTALLATION THRU FLOOR & CEILING JOISTS. NOTIFY ARCHITECT/ENGINEER OF MAJOR CONFLICTS. THE HVAC CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE DRAWINGS TO DETERMINE THE QUANTITY OF ALL MECHANICAL ITEMS REQUIRED. THE SYMBOLS SHOWN ON SCHEDULES DEFINE THE TYPE OF EQUIPMENT & NOT THE QUANTITY. HVAC CONTRACTOR TO PROVIDE/INSTALL/COORDINATE ANY/ALL ADDITIONAL STRUCTURAL SUPPORTS/STEEL NEEDED FOR EQUIPMENT/DUCT, ETC., INSTALL UNDER THE HVAC SCOPE. HVAC CONTRACTOR TO INVESTIGATE AVAILABLE BUILDING STRUCTURE WITH GENERAL CONTRACTOR AND/OR STRUCTURAL ENGINEER AND/OR METAL BUILDING VENDOR (IF METAL BUILDING) FOR ADEQUACY TO SUPPORT ANY/ALL OF THE PROPOSED HVAC EQUIPMENT/DUCTWORK, ETC., OR OTHER ADDITIONAL EQUIPMENT SUPPLIED BY OTHERS BUT WILL BE INSTALLED BY THE HVAC CONTRACTOR PRIOR TO BID.
- ALL DUCTWORK & ACCESSORIES SHALL BE FABRICATED, SUPPORTED & INSTALLED PER ALL APPLICABLE ITEMS & REQUIREMENTS IN THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS, 2005 EDITION, FOR 1" W.G., & SEAL CLASS A. SUPPORT ANY EXTERIOR DUCT PER THE LATEST SMACNA INDUSTRIAL ROUND & RECTANGULAR DUCT STANDARDS. SEAL ALL LONGITUDINAL, CIRCUMFERENTIAL & FITTING GORES WITH DUCT SEALANT.
- NOT USED.
- DUCT SIZES MAY BE ALTERED AS LONG AS THE SAME CROSS SECTIONAL AREA IS MAINTAINED IN ORDER TO AVOID INTERFERENCES & CONFLICTS. COORDINATE FINAL DUCT LAYOUT WITH ALL OTHER TRADES & STRUCTURAL DRAWINGS & STRUCTURAL SHOP DRAWINGS PRIOR TO HVAC PROCUREMENT TO AVOID REWORK, INTERFERENCES & CONFLICTS.
- INSTALL ALL MECHANICAL EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PROVIDE/INSTALL ALL COMPONENTS WHETHER SPECIFICALLY INDICATED ON DRAWINGS OR NOT THAT ARE NEEDED TO RESULT IN FULLY FUNCTIONAL HVAC SYSTEMS. INSTALL TRAPPED CONDENSATE DRAINS ON UNITS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. ROUTE DRAIN & SPILL ON GRADE OR TO PLUMBING DRAIN OR ROOF DRAIN (NOT EMERGENCY ROOF DRAIN) WITH ELBOW TURNED DOWN. CONTRACTOR HAS THE OPTION TO REROUTE CONDENSATE DRAIN LINES IF NEEDED IF INDICATED ON PLANS TO AVOID INTERFERENCES & IF EQUIPMENT CONDENSATE DRAIN CONNECTION VARIES FROM WHAT IS SHOWN ON PLAN. DRAIN LINE SHALL BE 3/4" MINIMUM AS REQUIRED BY CODE, SCH 40 PVC WITH SOLVENT WELD JOINTS & WITH A 3 INCH MIN. TRAP. IF AIR HANDLING EQUIPMENT IS INSTALLED IN CEILING PLENUMS USED AS RETURN AIR PLENUMS PVC PIPING IS NOT ALLOWED. PIPING MUST BE PIPE MATERIAL THAT MEETS CODE FLAME SPREAD & SMOKE GENERATION REQUIREMENTS FOR PLENUMS. INSULATE DRAIN WITH 0.5 INCH THICK ARMAFLEX OR EQ. ADJUST ELEVATIONS OF EQUIPMENT REQUIRING CONDENSATE DRAINS TO ENSURE GRAVITY DRAINAGE. OTHERWISE PROVIDE/INSTALL CONDENSATE PUMPS. IF CONDENSATE PUMPS ARE INSTALLED COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR & MINIMUM PUMP DISCHARGE LINE TO MEET SAME REQUIREMENTS & TO BE INSULATED PREVIOUSLY LISTED. PROVIDE CONTRACTORS FOR FANS/EQUIPMENT IF NEEDED. DO NOT SPILL DRAINS DIRECTLY TO ROOF.
- REGARDING HVAC EQUIPMENT, DIFFERENT MANUFACTURERS WITH EQUAL OR BETTER PERFORMANCE OR CONSTRUCTION CHARACTERISTICS WILL BE CONSIDERED BY THE HVAC ENGINEER FOR ALL HVAC EQUIPMENT EXCEPT HEATING AND COOLING EQUIPMENT. HEATING & COOLING EQUIPMENT SHALL BE BY CARRIER, TRANE, JCI (YORK), MITSUBISHI OR SCHEDULED EQUIPMENT ON HVAC DRAWINGS. EXHAUST FANS BY GREENHECK, COOK, S&P, FANTECH OR BROAN. IF THE PROJECT OWNER/TENANT APPROVES OTHER HVAC BRANDS NOT LISTED PREVIOUSLY, THEIR APPROVAL MUST BE TRANSMITTED IN WRITING TO THE ARCHITECT 10 DAYS PRIOR TO BID DATE. ALL HVAC EQUIPMENT ALTERNATES DESIRED BY THE HVAC CONTRACTOR SHALL BE DOCUMENTED AND SENT TO THE ARCHITECT 10 BUSINESS DAYS PRIOR TO BID DATE.
- NOT USED.
- PROVIDE PROGRAMMABLE COMMERCIAL AUTO CHANGEOVER TYPE THERMOSTAT. CONTROL WIRING SHALL BE 18 GAUGE THERMOSTAT CABLE. MOUNT THERMOSTAT 4'-0" ABOVE FINISHED FLOOR. THERMOSTAT TO ENABLE OCCUPIED & UNOCCUPIED CONTROL MODES. FANS TO OPERATE TO ENSURE PROPER SPACE VENTILATION DURING OCCUPIED MODE & FANS TO BE OFF DURING UNOCCUPIED MODE.
- ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.
- NOT USED.
- FILTERS SHALL BE LOCATED INSIDE AIR HANDLERS & SHALL BE DISPOSABLE TYPE. INSTALL CLEAN FILTERS AT COMPLETION OF ALL CONSTRUCTION.
- PROVIDE FLEXIBLE CONNECTIONS TO ALL AIR HANDLING EQUIPMENT.
- PROVIDE SPACING BETWEEN/AROUND ALL HVAC EQUIPMENT TO ALLOW MAINTENANCE CLEARANCES AND FREE AIR FLOW. ADJUST FINAL LOCATIONS OF HVAC EQUIPMENT SUCH AS SHIFTING OVER IN ANY DIRECTIONS AND ADJUSTING ELEVATIONS AS NEEDED TO COMPLY. EQUIPMENT IS SHOWN IN GENERAL VICINITY. LOCATION SHOWN ON DRAWINGS IS NOT DIMENSIONED SO EQUIPMENT CAN BE SHIFTED AS NEEDED TO WORK WITH FINAL BUILDING LAYOUT & UNANTICIPATED INTERFERENCES.
- REFER TO ARCHITECTURAL DRAWINGS, ELECTRICAL LIGHTING PLANS & REFLECTED CEILING PLANS FOR FINAL LOCATIONS OF CEILING MOUNTED AIR DEVICES & EQUIPMENT.
- ALL ALTERNATES DESIRED BY THE HVAC CONTRACTOR SHALL BE DOCUMENTED AND SENT TO THE ARCHITECT 10 BUSINESS DAYS PRIOR TO BID DATE. OTHERWISE THE HVAC CONTRACTOR SHALL PAY FOR ANY DRAWING REVISIONS OR CORRESPONDENCE REQUIRED OF THE ENGINEER TO OBTAIN THE BUILDING INSPECTORS APPROVAL OF INSTALLED EQUIPMENT, MATERIALS, ETC., THAT ARE NOT DESIGN BASIS PER THESE HVAC NOTES, HVAC SPECIFICATIONS, HVAC PLANS, AND/OR HVAC SCHEDULES.
- REFRIGERANT PIPING (IF NEEDED) SHALL BE "ACR" WITH 15% SILVER SOLDER JOINTS. INSULATE SUCTION LINE WITH 0.75 INCH THICK ARMAFLEX INSULATION. IF HVAC EQUIPMENT VENDOR REQUIRES DIFFERENT INSULATION THICKNESS/AND OR REQUIREMENTS COMPLY WITH THE VENDOR REQUIREMENTS. PURGE TUBING WITH DRY NITROGEN WHILE BRAZING. INSULATION JOINTS SHALL BE BUTTED & GLUED IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS. THE ZOOM LOCK BRAZE-FREE FITTINGS BY PARKER HANNIFIN CORPORATION ARE AN ACCEPTABLE ALTERNATIVE IF APPROVED BY THE HVAC EQUIPMENT MANUFACTURER. INSULATE & INSTALL TUBING & INSULATION PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. IF THESE SPECIFICATIONS CONFLICT WITH VENDOR REQUIREMENTS INSTALL IN ACCORDANCE WITH VENDOR REQUIREMENTS.
- IF HVAC CONTRACTOR DESIRES TO VALUE ENGINEER THE DUCT SYSTEM(S) DESIGN, THE HVAC CONTRACTOR SHALL BEAR ALL COSTS REQUIRED TO REVISE ALL AFFECTED CONSTRUCTION DOCUMENTS FOR RESUBMITAL TO ALL APPROVING PARTIES. ANY DESIRE TO VALUE ENGINEER SHALL BE DOCUMENTED VIA A FORMAL RFI DOCUMENT. HVAC CONTRACTOR TO COORDINATE PROPOSED CHANGES WITH ALL OTHER AFFECTED TRADES.
- THE MECHANICAL/HVAC CONTRACTOR SHALL COORDINATE & CONFIRM ALL ELECTRICAL REQUIREMENTS & SPECIFICATIONS WITH THE ELECTRICAL CONTRACTOR WRITING ONCE THE PROJECT HAS BEEN AWARDED FOR ALL HVAC EQUIPMENT TO BE INSTALLED. ANY DIFFERENCES IN ELECTRICAL LOADS FOR EQUIPMENT OTHER THAN THE DESIGN BASIS SHALL NOT CONSTITUTE CHANGE ORDERS FOR ELECTRICAL CHANGES REQUIRED EVEN IF ENGINEER APPROVES SUBMITTALS.
- IF HVAC CONTRACTOR SELECTS EQUIPMENT OTHER THAN THE BRANDS/MODELS SPECIFIED, THEY WILL BE RESPONSIBLE FOR PAYING FOR ANY HVAC DRAWING REVISIONS REQUIRED FOR ANY REASON DUE TO DIFFERENCES IN THE HVAC CONTRACTORS DESIRED EQUIPMENT, AS APPROVED BY THE ENGINEER. ALL HVAC EQUIPMENT USED AS THE DESIGN BASIS ON THE HVAC BID DRAWINGS. IF THE HVAC EQUIPMENT INDICATED ON DRAWINGS HAS BEEN SUPERCEDED THE HVAC CONTRACTOR SHALL NOTIFY THE ENGINEER OF THIS PRIOR TO BID.
- IF NEEDED, ADJUST ITEMS SUCH AS DIP SWITCHES ON AIR HANDLERS, ETC., TO ACHIEVE PROPER AIR FLOW CHARACTERISTICS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. ALSO PROGRAM/ADJUST VFDs WHERE NEEDED TO PROHIBIT COIL FROM FREEZING AS DIRECTED BY MANUFACTURER.
- HVAC CONTRACTOR MUST VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS/SPECIFICATIONS W/ EQUIPMENT SUPPLIER, ELECTRICAL CONTRACTOR & GENERAL CONTRACTOR PRIOR TO HVAC EQUIPMENT PROCUREMENT.
- IF ROOF TOP UNITS ARE INSTALLED, FILL ENTIRE ROOF CURB CAVITY BETWEEN RTU AND ROOF SURFACE WITHIN ROOF CURB WITH NON COMPACTED UNFACED FIBERGLASS INSULATION FOR SOUND DEADENING.
- ROOF CAPS TO BE CROWN PRODUCTS 350 SERIES OR EQ. EXCEPT DRYER ROOF CAP. DRYER ROOF CAP TO BE CROWN MODEL 350-D W/ ROUND COLLAR IN BOTTOM & GRAVITY DAMPER. WALL CAPS TO BE HOODED CROWN MODEL 349 OR EQ.
- SEAL AND OR FLASH ALL OPENINGS IN INTERNAL/EXTERNAL BUILDING COMPONENTS RESULTING FROM THIS WORK IN COMPLIANCE WITH ALL APPLICABLE CODES. RODENTPROOF OPENINGS PER THE INTERNATIONAL BUILDING CODE AS WELL.

CARRIER ROOFTOP UNIT SCHEDULE	RTU6TON	RTU7.5TON	RTU4TON	RTU6TON-A
Unit Configuration Data				
Tag Name	RTU6TON	RTU7.5TON	RTU4TON	RTU6TON-A
Unit Model	50LCA2A2AS-0A0A0	50LCA2A2AS-0A0A0	50FC-A55A2AS-0A0A0	50HCED7A2AS-0A0G0
Unit Size	07 (8 Tons)	08 (7.5 Tons)	05 (4 Tons)	07 (8 Tons)
Voltage-Phase-Hertz	208-3-60	208-3-60	208-3-60	208-3-60
Duct Configuration	Vertical Supply / Vertical Return	Vertical Supply / Vertical Return	Vertical Supply / Vertical Return	Vertical Supply / Vertical Return
Total Oper. Weight (lb)	1419.0	2083.0	684.0	1084.0
Unit Ratings				
ARI SEER	9.00	9.00	14.00	9.00
ARI EER	20.70	18.40	0.00	16.20
ARI EER	13.10	12.90	0.00	12.20
Cooling Performance				
Actual Airflow (CFM)	2400	3000	1600	2400
Evaporator Entering Air DB (F)	90.0	80.0	78.5	78.5
Evaporator Entering Air WB (F)	66.6	66.7	65.7	65.7
Evaporator Leaving Air DB (F)	57.4	58.1	59.0	57.4
Evaporator Leaving Air WB (F)	57.0	56.9	56.3	55.6
Gross Cooling Capacity (MBH)	73.12	91.86	48.51	73.06
Gross Sensible Cooling Capacity (MBH)	58.15	70.42	33.52	54.49
Supply Fan				
External Static Pressure (in wg)	0.80	0.80	0.80	0.80
Total Static Pressure (in wg)	1.04	0.86	1.06	1.00
Supply Fan Power (BHP)	1.05	1.28	0.85	1.55
Maximum Continuous BHP	2.9	3.7	3	4.7
Heating Performance				
Electric Heating Capacity (kW)	18.60	25.20	14.40	19.80
Electrical Data				
Roofcap MCA	72.0	95.0	59.0	80.0
Roofcap MGGP	80	100	60	80
REQUIRED OPTIONS/ACCESSORIES				
ROOF CURB				
PROGRAMMABLE THERMOSTAT				
LOWLEAK ECONOMIZER				
CONDENSER HAIL GUARDS				
DUCT MOUNTED SMOKE DETECTOR FOR 6 AND 7.5TON RTU'S				
ELECTRIC HEATERS				
RTU6TON, 7.5TON, 6TON-A HUMIDIFIERS				
RTU6TON, 7.5TON, 6TON-A HIGH HEAT				
RTU6TON, 7.5TON MED STATIC W/ VFD				
RTU4TON, 6TON-A MEDIUM STATIC				
6TON-A 2 SPD INDOOR FAN W/ VFD				

EXHAUST FAN SCHEDULE						
MARK	MFG./MODEL NO.	CFM NOM.	IN. S.P.	AMPS	PHASE	NOTES/ACCESSORIES
EF	GREENHECK SP-450	50	.125	1.15	115/1/1	16 WALL CAP & BACKDRAFT DAMPER

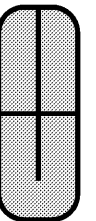
INTERLOCK WITH LIGHT SWITCHES.

HVAC LEGEND

- FC24-AC: SELF-CLEANING, UP TO 2,400 CFM. BI-POLAR IONIZATION GENERATOR
- FC48-AC: SELF-CLEANING UP TO 9,600 CFM. BI-POLAR IONIZATION GENERATOR

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PROPOSED BUILDING SHELL & SCHEDULES
DUNKIN' OMNI PC# 362912

APS INVESTMENT, INC.

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HVAC NOTES & SCHEDULES

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CHECKED BY:
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SHELL DESIGN

M3.0