# DIVISION 23 SPECIFICATIONS

PART I - GENERAL

1.01 SCOPE

A. IT IS THE RESPONSIBILITY OF CONTRACTOR TO READ ALL SPECIFICATIONS AND CONSULT ALL DRAWINGS WHICH MAY AFFECT THE INSTALLATION AND COORDINATION OF WORK WITH OTHER TRADES. CONTRACTOR SHALL COORDINATE AND MAKE MINOR ADJUSTMENTS IN LOCATION OF EQUIPMENT AND MATERIALS AS NECESSARY FOR COORDINATION.

B. COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES.

C. SYSTEM LAYOUT IS SCHEMATIC AND EXACT LOCATIONS SHALL BE DETERMINED BY STRUCTURAL CONDITIONS, COORDINATION WITH OTHER TRADES, COORDINATION WITH FINISHES AND OTHER CONDITIONS. STRUCTURAL SUPPORTS SHALL NOT BE CUT OR ALTERED TO ASSURE FIT OF HVAC SYSTEM. TEN FOOT CLEARANCE SHALL BE MAINTAINED BETWEEN OUTSIDE AIR INTAKES AND EXHAUST FANS AND PLUMBING VENT TERMINALS.

D. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEFECTS, REPAIRS AND REPLACEMENTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER FINAL PAYMENT IS APPROVED. CONTRACTOR SHALL HONOR FACTORY WARRANTIES ON ALL EQUIPMENT PROVIDED AS PART OF THIS SYSTEM.

E. UPON COMPLETION OF PROJECT, ALL SYSTEM EQUIPMENT AND MATERIALS SHALL BE IN NEW, CLEAN CONDITION WITH ALL DAMAGE RESTORED TO CONDITION ACCEPTABLE TO THE OWNERS REPRESENTATIVE. ALL EQUIPMENT, COMPONENTS, DUCTWORK AND AIR DEVICES SHALL BE INSPECTED AND THOROUGHLY CLEANED, CLEARED OF DEBRIS, AND READY FOR USE. AT COMPLETION OF JOB, ALL MISCELLANEOUS TOOLS, SCAFFOLDING, SURPLUS MATERIALS, RUBBISH AND DEBRIS SHALL BE REMOVED BY CONTRACTOR.

F. CONTRACTOR SHALL PROVIDE TWO SETS OF 2" MERV 8 OR HIGHER THROW AWAY TYPE FILTERS. A CLEAN SET SHALL BE PROVIDED PRIOR TO TEST AND BALANCE AND AGAIN PRIOR TO OPENING.

PART II - PRODUCTS

2.01 HEATING AND COOLING EQUIPMENT

A. FURNISH AND INSTALL R-410A ROOFTOP SINGLE PACKAGE COMBINATION ELECTRIC COOLING AND NATURAL GAS FIRED HEATING UNITS AS SHOWN ON DRAWINGS. EQUIPMENT SHALL BE ARI CERTIFIED AND A.G.A. AND U.L. LISTED.

B. ACCESSORIES SHALL INCLUDE LOW AND HIGH PRESSURE SAFETIES, CRANK CASE HEATER, OVERCURRENT AND OVERTEMPERATURE SAFETY, COMPRESSOR VIBRATION ISOLATORS, FILTER DRIERS, REFRIGERANT SERVICE VALVES, COIL HAIL GUARDS WHERE SCHEDULED, CONVENIENCE OUTLETS FACTORY INSTALLED ON SCHEDULED UNITS, UNIT MOUNTED NON-FUSED DISCONNECTS, LOW AMBIENT OPERATION DOWN TO 30 DEGREES F AND EVAPORATOR FREEZE STAT.

C. COMPRESSORS SHALL BE HERMETIC SCROLL TYPE WITH INTERNAL VIBRATION ISOLATORS. COMPRESSORS SHALL BE PROVIDED WITH A MINIMUM FIVE (5) YEAR FULL WARRANTY.

D. THE UNIT HEAT EXCHANGERS SHALL BE ALUMINIZED STEEL COATING. HEATING CONTROLS SHALL CONSIST OF REDUNDANT GAS VALVES, INTERMITTENT PILOT WITH ELECTRONIC SPARK OR HOT PLATE IGNITION SYSTEM, COMBUSTION/EXHAUST FAN PROTECTED BY CENTRIFUGAL SWITCHES, HEAT LIMIT SWITCHES, TIME-DELAY RELAY, FLAME, AND PILOT SENSORS. HEAT EXCHANGERS SHALL HAVE A TEN (10) YEAR WARRANTY. BURNERS SHALL BE IN-SHOT TYPE. THE DRAFT MOTOR SHALL BE MONITORED BY THE CONTROL SYSTEM.

2.02 DUCTWORK (C15735)

A. ACCEPTABLE MANUFACTURERS OF INSULATION SHALL BE: JOHNS MANVILLE, OWENS CORNING OR KNAUF.

B. ALL DUCTWORK SHALL BE SHEET METAL, UNLESS NOTED OTHERWISE (U.N.O.).

C. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS, U.N.O.

D. CONSTRUCTION OF DUCTWORK SHALL MEET SMACNA 1" W.C. PRESSURE CLASS STANDARD AND RECOMMENDATIONS. SMACNA SHALL BE FOLLOWED WITH RESPECT TO GAGE THICKNESS, JOINTS, REINFORCING, CONSTRUCTION, INSTALLATION AND SUPPORT FOR PRESSURE CLASS STATED. ALL TRANSVERSE JOINTS IN RECTANGULAR AND ROUND DUCT INCLUDING DUCT CONNECTION TO AIR DEVICE COLLAR SHALL BE SEALED PER SMACNA SEAL CLASS C WITH U.L. DUCT MASTIC SEALANT APPROVED FOR INTENDED USE. DUCT TAPE IS NOT AN ACCEPTABLE SUBSTITUTE FOR MASTIC UNLESS EQUAL TO HARDCAST FOIL-GRIP 1402 BUTYL RUBBER ADHESIVE TAPE.

E. DUCT SHALL BE SUPPORTED AT BASE OF DUCT DROPS. CURB DUCT RAILS ARE NOT INTENDED TO AND SHALL NOT SUPPORT THE WEIGHT OF THE DUCT.

F. ALL DUCT WRAP SHALL BE MINIMUM 2" THICK, 3/4 PCF AND 6 R-VALUE INSTALLED WITH EITHER A VAPOR BARRIER WITH MAXIMUM PERMEANCE 0.05 OR A MINIMUM 2 MIL ALUMINUM REINFORCED FOIL/KRAFT FACING.

G. ALL DUCT DROPS FROM THE ROOFTOP UNITS SHALL BE EXTERNALLY INSULATED.

H. SUPPLY AND RETURN AIR DUCTWORK SERVING ALL AREAS SHALL BE EXTERNALLY INSULATED.

I. ALL AIR CONVEYANCE COMPONENTS SUCH AS, BUT NOT LIMITED TO DUCT, DUCT PLENUMS, GRILLES/DIFFUSERS, BACK PANS, AND BOOTS SHALL BE INSULATED. INSULATION TYPE IS COVERED ELSEWHERE IN THIS SPECIFICATION.

J. RESTROOM RECTANGULAR EXHAUST AIR DUCTWORK SHALL BE LINED WITH 1" THICK, 1-1/2 PCF INSULATION. RESTROOM ROUND EXHAUST DUCT SHALL BE EXTERNALLY INSULATED PER SECTION 2.02F.

K. DUCT DROPS SHALL BE ISOLATED FROM UNIT VIBRATION WITH THE USE OF NFPA AND U.L. APPROVED FLEXIBLE CONNECTORS INSTALLED AT THE TOP OF BOTH SUPPLY AND RETURN DROPS.

L. INSULATED FLEXIBLE DUCT MAY BE UTILIZED FOR RUNOUTS TO GRILLES AND DIFFUSERS ONLY IN THE HORIZONTAL POSITION AND IN MAXIMUM LENGTHS OF 4'-0", NO EXCEPTIONS.

M. CONSTRUCTION OF FLEXIBLE DUCTWORK SHALL INCLUDE SPIRAL METAL HELIX BONDED TO A POLYESTER CORE, FIBERGLASS INSULATION WITH POLYETHYLENE OR MYLAR VAPOR BARRIER. ALL COMPONENTS SHALL HAVE APPROPRIATE U.L. APPROVAL AND SHALL BE EQUIVALENT TO THERMAFLEX MKE. FLEX DUCT SHALL HAVE A MINIMUM R-VALUE OF 6.

N. FLEXIBLE DUCT SHALL BE INSTALLED PER THE "ADC FLEXIBLE DUCT PERFORMANCE AND INSTALLATION STANDARDS, 4TH ED" USING FOIL TAPE AND DRAWBAND ON THE INNER CORE AND TAPE OR DRAWBAND ON THE OUTER JACKET.

O. DUCT TAPE SHALL BE EQUAL TO FASSON 181-B FX, 2-1/2" WIDE.

P. SINGLE THICKNESS TURNING VANES SHALL BE INSTALLED AT ALL 90 DEGREE ELBOWS WHERE THE CENTERLINE RADIUS (R) IS LESS THAN THE WIDTH OF THE DUCT AND ANY ONE DIMENSION IS GREATER THAN 12".

Q. EXTERNAL INSULATION ON BOTTOM OF DUCTS 24" OR WIDER SHALL BE SUPPORTED WITH STICK PINS ON 18" CENTERS. STICK PIN WASHERS SHALL BE COVERED WITH DUCT TAPE OR MASTIC.

2.03 CONTROLS

A. SYSTEMS SHALL BE COMPLETE WITH CONNECTIONS TO CFA-500 TEMPERATURE CONTROL PANEL AS MANUFACTURED BY SUNCOAST ENVIRONMENTAL CONTROLS (S.E.C.) (PH: 877-544-6679). THE PANEL IS PROVIDED AND MOUNTED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING TERMINATIONS ARE BY THE MECHANICAL CONTRACTOR WHERE PERMITTED BY AHJ.

B. THE SMOKE DETECTORS SHALL BE FACTORY INSTALLED AND WIRED BY THE ROOFTOP UNIT MANUFACTURER.

C. A FACTORY INSTALLED SMOKE DETECTOR IN THE RETURN AIR SECTION OF EACH AIR CONDITIONING UNIT SHALL STOP THE INDOOR FAN AND CLOSE THE OUTSIDE AIR DAMPER IN THE EVENT OF EXCESSIVE TEMPERATURE OR SMOKE. SMOKE DETECTOR SHALL BE LOCATED PRIOR TO ANY EXHAUST FROM THE BUILDING OR MIXING WITH FRESH AIR MAKE-UP. UPON DETECTION, THE SYSTEM SHALL NOT RESTART UNTIL THE DEVICE IS MANUALLY RESET. DEVICES SHALL BE LOCATED WHERE THEY CAN BE EASILY ACCESSED AND WHERE CLEAR OF FILTERS.

D. CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH SUNCOAST ENVIRONMENTAL CONTROLS FOR THE SMOKE DETECTOR TEST/RESET ANNUNCIATOR STATIONS. THE TEST/RESET STATIONS WILL BE PURCHASED BY THE ELECTRICAL CONTRACTOR AS A PART OF A NATIONAL ACCOUNT PACKAGE AND TURNED OVER TO THE MECHANICAL CONTRACTOR FOR INSTALLATION.

E. THE REMOTE TEST/RESET ANNUNCIATORS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE ANNUNCIATORS AND ALL WIRING FROM EACH DEVICE TO THE RTU. ELECTRICAL WILL PROVIDE A JUNCTION BOX IN THE WALL WITH 1/2" CONDUIT STUBBED UP ABOVE THE CEILING FOR EACH REMOTE TEST STATION AS SHOWN ON THE ELECTRICAL PLANS. ANNUCIATOR SHALL BE SUNCOAST CONTROLS REMOTE TEST/RESET STATION WITH POWER LED, TROUBLE LED, ALARM LED, 90DB HORN AND TEST/RESET BUTTON.

F. THE RESTROOM FAN SHALL BE INTERLOCKED TO THE LIGHTS SERVING THE MEN AND WOMEN'S RESTROOMS. THE HOOD FANS SHALL BE CONTROLLED VIA THE SUNCOAST CFA-500 CONTROL PANEL. WIRING, RELAYS AND SWITCHES FOR CONTROL OF ALL FANS ARE BY ELECTRICAL CONTRACTOR.

G. THERMOSTATS ARE PROVIDED AND INTEGRATED INTO THE TEMPERATURE CONTROL PANEL BY SUNCOAST ENVIRONMENT CONTROLS. SUNCOAST WILL PROVIDE A NETWORK THERMOSTAT US32-CFA THERMOSTAT PRE-WIRED IN THE TEMPERATURE CONTROL PANEL. REMOTE TEMPERATURE SENSOR(S) FOR EACH THERMOSTAT IS ALSO PROVIDED. MECHANICAL CONTRACTOR SHALL INSTALL ALL WIRING BETWEEN THE THERMOSTAT, THE REMOTE SENSOR(S) AND THE ROOFTOP UNIT.

H. MECHANICAL CONTRACTOR SHALL INSTALL CONTROL WIRING IN 1/2" CONDUIT WHERE REQUIRED BY CODE. WHERE NOT REQUIRED TO BE IN CONDUIT, ALL WIRING SHALL BE RUN PARALLEL TO STRUCTURAL MEMBERS OR PERPENDICULAR WITH NO DIAGONAL ROUTING. ALL WIRING SHALL BE SECURED TO THE FRAMING TO PREVENT SAGGING IN RUNS. WIRING TO ROOFTOP UNITS SHALL BE ROUTED THROUGH THE FACTORY THRU-BASE FITTING IN THE UNIT BASE. NO SPLICING OF WIRING WILL BE ACCEPTED. ALL WIRING ABOVE THE ROOF SHALL BE INSTALLED IN EXTERIOR GRADE FLEXIBLE CONDUIT. ALL CONTROL WIRING AND CONTROL WIRING CONDUIT SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LATEST EDITION OF NEC. ALL LOW VOLTAGE CONTROL WIRING SHALL BE NO LESS THAN 18 AWG MIN. CONTROL WIRING CONDUCTORS SHALL BE SIZED TO ACCOUNT FOR LOAD AND LENGTH OF RUN TO ALLOW SUFFICIENT VOLTAGE AVAILABLE AT CONTROLLED DEVICE TO OPERATE THE SYSTEM RELIABLY.

2.04 PIPING

A. ALL ABOVE GRADE NATURAL GAS PIPING SHALL BE SCHEDULE 40 STEEL MEETING ASTM A53 WITH SCREWED OR WELDED FITTINGS AND GASKET TYPE UNIONS AND FLANGES. FOR SCREWED PIPING, PIPING SHALL BE JOINED WITH BLACK 150 POUND MALLEABLE IRON SCREWED FITTINGS AS ALLOWED BY LOCAL AUTHORITY. CONTRACTOR SHALL VERIFY THE NEED FOR WELDED PIPING AS REQUIRED BY THE LOCAL GAS CODE AND/OR APPLICABLE LOCAL ORDINANCES AND AMENDMENTS.

B. ALL BELOW GRADE NATURAL GAS PIPING SHALL BE MEDIUM DENSITY POLYETHYLENE (PE) MEETING ASTM D2513 AS MANUFACTURED BY GASTITE WITH JOINING SYSTEM AS MANUFACTURED BY CON-STAB. TRANSITIONS FROM ABOVE GRADE RIGID PIPING TO PE BELOW GRADE PIPING SHALL BE MADE WITH ANODE-LESS RISER ASSEMBLY AS MANUFACTURED BY CON-STAB.

C. PROVIDE AND INSTALL A CUT-OFF VALVE, UNION AND FULL SIZE DIRT LEG AT CONNECTION TO EACH GAS-FIRED PIECE OF EQUIPMENT. INSTALL PIPING AT AND AROUND EQUIPMENT SO AS TO NO WAY OBSTRUCT EQUIPMENT ACCESS PANELS AND/OR ACCESS DOORS.

D. ALL GAS PIPING ABOVE ROOF SHALL BE CLEANED FREE OF RUST AND PAINTED WITH COAT OF ZINC RUST PRIMER AND ONE COAT OF ALUMINUM BASE PAINT. METER AND GAS RISER SHALL BE PRIMED AND PAINTED TO MATCH BUILDING.

E. NATURAL GAS PIPING SHALL BE LEAK TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

PART III - EXECUTION

3.01 SCOPE

A. FURNISH AND INSTALL SYSTEM IN ACCORDANCE WITH REFERENCED STANDARDS, APPLICABLE CODES, MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED ON DRAWINGS.

B. CONTRACTOR SHALL INSTRUCT THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT THROUGH DEMONSTRATION AND EXPLANATION OF OPERATING & MAINTENANCE MANUALS.

C. CONTRACTOR SHALL PROVIDE A "SAMPLE MAINTENANCE PROPOSAL" TO THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT.

D. CONTRACTOR SHALL COMPLETE A/C EQUIPMENT STARTUP DOCUMENTATION PROVIDED BY OWNER AND/OR MANUFACTURER. THIS SHALL INCLUDE RE-TORQUE OF ALL FIELD AND FACTORY HIGH VOLTAGE CONNECTIONS.

3.02 LEED PROJECTS

A. CONTRACTOR SHALL COMPLETE RECEIPT INSPECTION CHECKLISTS PROVIDED IN THE COMMISSIONING PLAN WITHIN 5 DAYS OF RECEIVING EQUIPMENT ON SITE.

B. CONTRACTOR SHALL COMPLETE PRE-FUNCTIONAL CHECKLISTS PROVIDED IN THE COMMISSIONING PLAN. CHECKLISTS SHALL BE RETURNED AT LEAST 5 DAYS PRIOR TO SCHEDULING FUNCTIONAL PERFORMANCE TESTING.

C. CONTRACTOR SHALL PROVIDE A TECHNICIAN TO ASSIST THE THIRD PARTY COMMISSIONING AUTHORITY WITH FUNCTIONAL TESTING. FUNCTIONAL TESTING SHALL OCCUR AFTER ALL CONTROLS HAVE BEEN INSTALLED AND VERIFIED AND AFTER TEST AND BALANCE IS COMPLETE. THE FUNCTIONAL PERFORMANCE TEST PROCEDURES CAN BE FOUND IN THE COMMISSIONING PLAN.

D. IF THE TOTAL TIME REQUIRED TO CORRECT PROBLEMS DURING TESTING IS GREATER THAT FORTY-FIVE (45) MINUTES (UNLESS EXTENUATING CIRCUMSTANCES EXIST), THE TEST SHALL BE CONSIDERED FAILED AND MUST BE REPEATED IN ITS ENTIRETY.

E. RE-TESTING: DURING THE COURSE OF THE RETEST, IF AT ANY POINT A MAJOR DEFICIENCY IS DISCOVERED, THE TEST WILL BE STOPPED. REPEAT TESTS UNTIL ACCEPTABLE RESULTS ARE ACHIEVED. IF MORE THAN TWO FUNCTIONAL PERFORMANCE TESTS (ONE INITIAL TEST AND ONE RETEST) FOR ANY TYPE OF EQUIPMENT DUE TO ISSUES THAT THE CONTRACTOR HAD DIRECT OR INDIRECT CONTROL OVER ARE REQUIRED, THE COSTS FOR THE CXA TO WITNESS RETESTING OF SIMILAR TYPES OF EQUIPMENT UNTIL SATISFACTORY RESULTS ARE OBTAINED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3.03 TEST & BALANCE

A. OWNER SHALL TEST AND BALANCE MECHANICAL SYSTEM IN ACCORDANCE WITH NEBB, NBC OR AABC STANDARDS TO ASSURE CONFORMANCE WITH DESIGN. G.C. WILL MAKE MECHANICAL CONTRACTOR AVAILABLE DURING TEST AND BALANCE TO ASSIST TESTING AGENCY AND TO MAKE CORRECTIONS IMMEDIATELY NECESSARY. CONTRACTOR SHALL CORRECT ITEMS ON WRITTEN TEST AND BALANCE REPORT.

B. ALL EQUIPMENT TO BE BALANCED MUST HAVE GONE THRU SUCCESSFUL START-UP PROCEDURE BY THE MECHANICAL CONTRACTOR (MC) PRIOR TO TAB VISIT.

C. THE FLOOR OF THE RESTAURANT SHALL BE CLEARED OF DEBRIS, STAGED CONSTRUCTION MATERIALS, EQUIPMENT, ETC. WHICH MAY, IN THE OPINION OF THE TAB TECHNICIAN, OBSTRUCT ACCESS TO AIR DISTRIBUTION COMPONENTS IN AND ABOVE THE CEILING.

D. EQUIPMENT ACCESS PANELS, DUCT AIR DEVICES SUCH AS BALANCING DAMPERS AND ACTUATORS SHALL BE ACCESSIBLE AND CLEAR OF PIPING, CONDUIT, FRAMING, SUPPORTS ETC...

E. PROVIDE AN 8 FT PORTABLE A-FRAME STYLE LADDER DEDICATED FOR THE TAB TECHNICIAN'S USE DURING THE ENTIRE TAB EFFORT DURATION.

## KITCHEN HOOD SYSTEMS NOTES

1. CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT WITH HALTON CO. FOR THE HOODS. CHICK-FIL-A WILL PURCHASE AND PROVIDE THE HOODS FOR INSTALLATION BY THE MECHANICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING THE HOODS. CONTACT HALTON CO. AT 270-237-5600 FOR MORE INFO.
2. THE FIRE SUPPRESSION SYSTEM SHALL CONSIST OF A COMPLETE WET CHEMICAL SYSTEM FURNISHED BY HALTON. THE HOOD SHALL BE FURNISHED PRE-PIPED BY HALTON.
3. THE FIRE SUPPRESSION SYSTEM EXTERNAL TO THE HOODS SHALL BE INSTALLED IN ACCORDANCE WITH HOOD MANUFACTURER'S SHOP DRAWINGS BY AN AUTHORIZED INSTALLER SELECTED AND HIRED BY HALTON. COST FOR INSTALLATION INCLUDED IN PRICE OF HOODS TO CFA.
4. HOOD EXHAUST DUCTWORK SHALL BE 16 GA. BLACK STEEL WITH CONTINUOUS LIQUID TIGHT WELD OF JOINTS & SEAMS.
5. TURNS IN GREASE EXHAUST DUCTWORK SHALL BE LONG RADIUS TYPE, WITH A CENTERLINE RADIUS R=3W/2, UNLESS OTHERWISE NOTED. NO MITERED FITTINGS ALLOWED.
6. ALL STAINLESS STEEL CLOSURE PANELS SHALL BE SUPPLIED BY HOOD MANUFACTURER AND INSTALLED BY THE MECHANICAL CONTRACTOR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. SLOPE ALL GREASE EXHAUST DUCT BACK TO HOOD AT 1/4" PER FOOT OF RUN.
8. WRAP NEW GREASE DUCT WITH UNIFRAX FYREWRAP. INSULATION ON ACCESS DOORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION RECOMMENDATIONS. UNIFRAX FYREWRAP PRODUCT USED SHALL MEET LOCAL CODE REQUIREMENTS.
9. SUPPORT ALL HOODS WITH THREADED ROD AT EACH FACTORY SUPPORT POINT. EACH SUPPORT POINT MUST SUPPORT THE HOOD WEIGHT EQUALLY. ATTACH TO STRUCTURE AS DETAILED ON STRUCTURAL DRAWINGS. ATTACH HOOD TO WALL AT 16" INTERVALS ALONG FULL LENGTH OF HOOD ON TOP AND BOTTOM. ATTACHMENT TO WALL REQUIRES FIELD DRILLING OF SUPPORT ANGLE AT BACK OF HOODS. EACH WALL ATTACHMENT POINT MUST OCCUR AT A WALL STUD. ATTACHMENT HARDWARE TO BE #12-24 HEX HEAD SHEET METAL SCREW EQUAL TO TEXTRON SDS EDT265, LENGTH AS REQUIRED TO FULLY PENETRATE THE STUD.
10. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-702 FOR MORE INFORMATION.

## LEGEND

| | | | |
|---|---|---|---|
| A-12-400 | TYPE - NECK SIZE - CFM | EF#1 | EXHAUST FAN #1 (TYP.) |
| | SPIN-IN FITTING WITH MANUAL BALANCING DAMPER, WITHOUT SCOOP | AC#1 | AIR CONDITIONING UNIT #1 (TYP.) |
| | SPIN-IN HARD∅ FLEXIBLE∅ DIFFUSER | | RETURN/EXHAUST (TYP.) |
| S | REMOTE TEMPERATURE SENSOR | | SUPPLY DIFFUSER, SQ FACE (TYP.) |
| H | HUMIDITY SENSOR | 1 | PLAN NOTE REFERENCE |
| SD | SMOKE DETECTOR | | MANUAL VOLUME DAMPER |
| 12x18 | DUCT SIZE (reverse for elevation views)<br>1ST NUMBER - HORIZONTAL DIMENSION<br>2ND NUMBER - VERTICAL DIMENSION | | DIRECTION OF THROW ON DIFFUSER |
| | | | CLOSED AIR PATTERN DEFLECTOR |
| SW | AIR DOOR SWITCH | GIH | GAS INFRARED HEATER (TYP.) |
| EIH | ELECTRIC INFRARED HEATER | B/G | BELOW GRADE |
| | | T | THERMOSTAT |
| | | | |

## ABBREVIATIONS

| | |
|---|---|
| EC | ELECTRICAL CONTRACTOR |
| GC | GENERAL CONTRACTOR |
| MC | MECHANICAL CONTRACTOR |
| PC | PLUMBING CONTRACTOR |
| O.C. | ON CENTER |
| IRH | INFRARED HEATER |
| CF | CIRCULATING FAN |
| TF | TRANSFER FAN |
| EF | EXHAUST FAN |

## GENERAL NOTES

1. DUCT SIZES SERVING DIFFUSERS AND GRILLES ARE SAME SIZE AS DIFFUSER OR GRILLE NECK UNLESS NOTED OTHERWISE.
2. FLEXIBLE DUCT AND INSULATION NOT SHOWN FOR CLARITY.
3. FOR ALL ROOF EQUIPMENT, PROVIDE A PLASTIC ENGRAVED LABEL WITH 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. WITH A SELF ADHESIVE BACKING.
4. UNLESS NOTED OTHERWISE, MC TO ADJUST ALL DIFFUSER AIR PATTERN DEFLECTORS TO THROW HORIZONTALLY ALONG THE CEILING.
5. ALL EXHAUST DUCTWORK AND UNFINISHED METAL ON ROOF EXCEPT STAINLESS SHALL BE PREPARED WITH TWO COATS OF SHERWIN WILLAIMS PRO INDUSTRIAL DTM ACRYLIC COATING, SEMI-GLOSS, WHITE. DEGREASE AND PRIME BARE METAL SURFACE WITH ONE COAT OF SHERWIN WILLAIMS PRO INDUSTRIAL PRO-CRYLACRYLIC UNIVERSAL PRIMER, WHITE, PRIOR TO PAINTING.
6. MAINTAIN 18" CLEARANCE FROM GREASE EXHAUST DUCTWORK ABOVE ROOF TO ANY COMBUSTIBLE CONSTRUCTION INCLUDING PARAPET WALLS.

## MASSACHUSETTS ENERGY CODE + STRETCH CODE REQUIREMENTS

PER THE REQUIREMENTS SET FORTH IN THE 2021 MASSACHUSETTS ENERGY CODE + STRETCH CODE, THIS BUILDING MUST MEET A TOTAL OF 15 CREDITS FROM TABLE C406.1 (5).

THE BELOW CREDIT IS BEING SOUGHT AFTER BY MECHANICAL FOR THIS BUILDING.

- C406.2.5 - MORE THAN 10% COOLING EFFICIENCY IMPROVEMENT - 4 CREDITS

**C406.2.5**

ENERGY REQUIREMENTS FOR HVAC EQUIPMENT FROM TABLE C403.3.2(1)

| EQUIPMENT | TOTAL BTU/H | REQUIRED |
|---|---|---|
| AC#1 | 279,000 BTU/H | 13.0 IEER (TABLE C403.3.2(1)) |
| AC#2 | 150,000 BTU/H | 14.0 IEER (TABLE C403.3.2(1)) |
| AC#3 | 186,600 BTU/H | 14.0 IEER (TABLE C403.3.2(1)) |
| AC#4 | 60,000 BTU/H | 13.4 SEER2 (TABLE C403.3.2(1)) |

PROPOSED/SCHEDULED EQUIPMENT EFFICIENCIES

| EQUIPMENT | EFFICIENCY | IMPROVEMENT |
|---|---|---|
| AC#1 | 16.1 IEER | 24% |
| AC#2 | 15.8 IEER | 13% |
| AC#3 | 18.0 IEER | 29% |
| AC#4 | 16.1 SEER2 | 20% |

MEAN COOLING EFFICIENCY IMPROVEMENT = (24%+13%+29%+20%)/4 = 21.5%

ACCORDING TO C406.2.5 THE CALCULATION FOR POINTS ALLOCATED IS:

$EEC_{HEC} = EEC_{10}$ [1+ ((CEI - 10%) / 10%)]

$EEC_{HEC}$ = 2 [ 1+ ((21.5%-10%) / 10%] = 2 [ 1 + 1.15] = 4.3 CREDITS


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1/27/25

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1

FSR#04631

BUILDING TYPE / SIZE: P14 LE BN
RELEASE: 23.11
PRINTED FOR
ISSUE FOR CONSTRUCTION

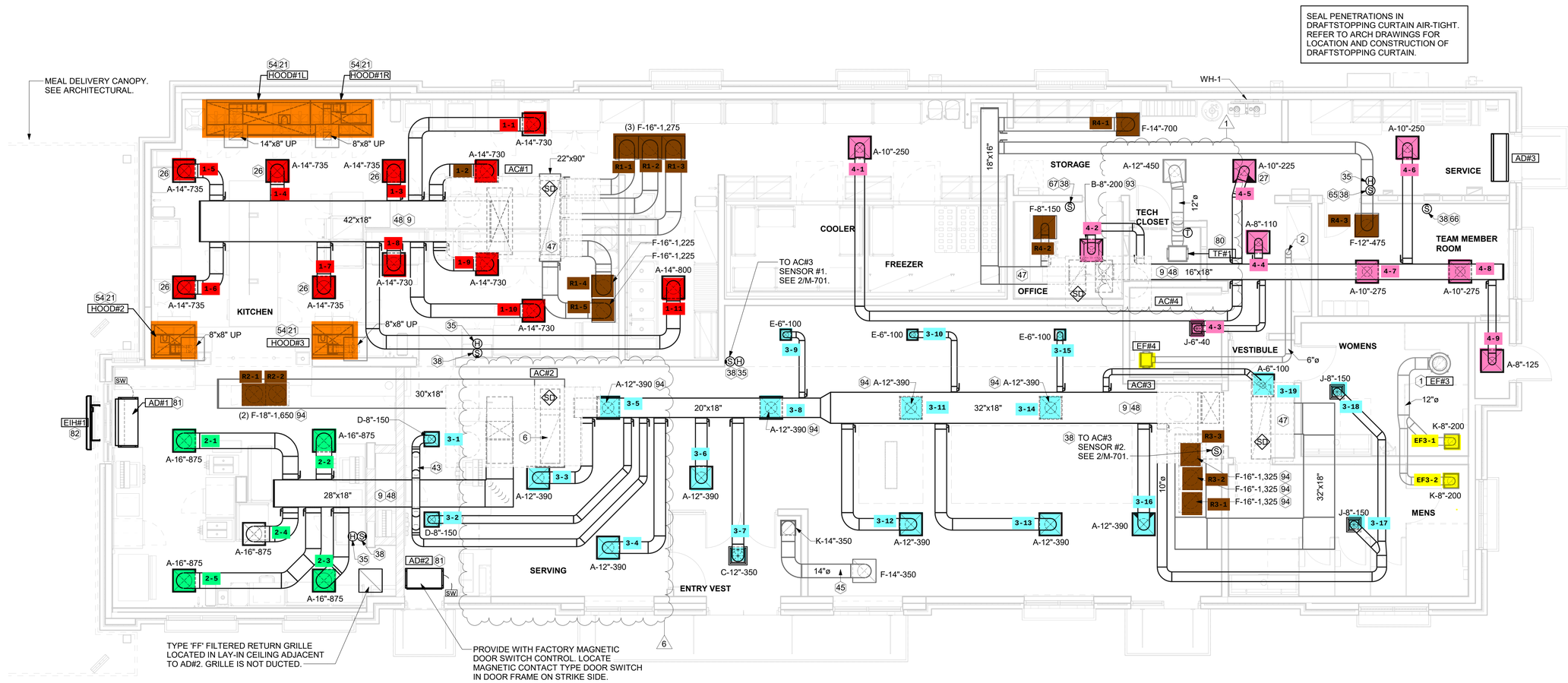
REVISION SCHEDULE

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | 06/10/24 | ISSUE FOR PERMIT |
| 1 | 01/28/25 | ISSUE FOR CONSTRUCTION |

CONSULTANT PROJECT # 24067.CD.S
DATE 06/10/2024
DRAWN BY BLM



SHEET
GENERAL NOTES, LEGENDS, SYMBOLS, AND ABBREVIATIONS
SHEET NUMBER
M-001




SEAL PENETRATIONS IN DRAFTSTOPPING CURTAIN AIR-TIGHT. REFER TO ARCH DRAWINGS FOR LOCATION AND CONSTRUCTION OF DRAFTSTOPPING CURTAIN.

## 1 EQUIPMENT AND DUCTWORK PLAN

1/4" = 1'-0"

## H.E.S. SYSTEM

MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-702 FOR MORE INFORMATION.

## AIR BALANCE SCHEDULE - HIGH SETTING

| Mark | SUPPLY AIR | RETURN AIR | OUTSIDE AIR | EXHAUST AIR | BUILDING POSITIVE PRESSURE |
|---|---|---|---|---|---|
| AC#1 | 8,125 | 6,275 | 1,850 | 0 | |
| AC#2 | 4,375 | 3,300 | 1,075 | 0 | |
| AC#3 | 5,250 | 3,975 | 1,275 | 0 | |
| AC#4 | 1,750 | 1,325 | 425 | 0 | |
| EF#1 | 0 | 0 | 0 | 1,913 | |
| EF#2 | 0 | 0 | 0 | 1,402 | |
| EF#3 | 0 | 0 | 0 | 400 | |
| EF#4 | 0 | 0 | 0 | 75 | |
| | 19,500 | 14,875 | 4,625 | 3,790 | 835 |

THE HIGH SETTING IS TO BE SET FOR 2ND STAGE COOLING AND MAX HEATING OPERATIONS.

## AIR BALANCE SCHEDULE - MED SETTING

| Mark | MED SUPPLY | MED RETURN | MED OA | EXHAUST AIR | BUILDING POSITIVE PRESSURE |
|---|---|---|---|---|---|
| AC#1 | 5,360 | 3,510 | 1,850 | 0 | 1,850 |
| AC#2 | 2,885 | 2,160 | 725 | 0 | 725 |
| AC#3 | 3,465 | 2,265 | 1,200 | 0 | 1,200 |
| AC#4 | 1,150 | 850 | 300 | 0 | 300 |
| EF#1 | 0 | 0 | 0 | 1,913 | -1,913 |
| EF#2 | 0 | 0 | 0 | 1,402 | -1,402 |
| EF#3 | 0 | 0 | 0 | 400 | -400 |
| EF#4 | 0 | 0 | 0 | 75 | -75 |
| | 12,860 | 8,785 | 4,075 | 3,790 | 285 |

THE MEDIUM SETTING IS TO BE SET FOR 1ST STAGE COOLING OPERATION AND LOW HEATING OPERATIONS. MAXIMUM DISCHARGE AIR TEMPERATURE IN HEATING TO BE SET AT 110 DEG. F. SUPPLY FAN SHALL MODULATE UP TO MAINTAIN MAXIMUM SUPPLY AIR DISCHARGE IN HEATING OPERATION.

## AIR BALANCE SCHEDULE - LOW SETTING

| Mark | LOW SUPPLY | LOW RETURN | LOW OA | EXHAUST AIR | BUILDING POSITIVE PRESSURE |
|---|---|---|---|---|---|
| AC#1 | 4,060 | 2,210 | 1,850 | 0 | |
| AC#2 | 2,185 | 1,585 | 600 | 0 | |
| AC#3 | 2,625 | 1,465 | 1,200 | 0 | |
| AC#4 | 875 | 575 | 300 | 0 | |
| EF#1 | 0 | 0 | 0 | 1,913 | |
| EF#2 | 0 | 0 | 0 | 1,402 | |
| EF#3 | 0 | 0 | 0 | 400 | |
| EF#4 | 0 | 0 | 0 | 75 | |
| | 9,745 | 5,835 | 3,950 | 3,790 | 160 |

THE LOW SETTING IS TO BE SET FOR ECONOMIZER MODE OR NO CALL FOR HEATING AND/OR COOLING. WHILE IN ECONOMIZER MODE OA = SUPPLY CFM.

## KEY NOTES

1 12" DIA. DUCT UP THRU ROOF.
2 PROVIDE DUCT AS SHOWN. TERMINATE DUCT 24" ABOVE ROOF WITH ALUMINUM WEATHER CAP WITH INTEGRAL BIRD SCREEN. EXHAUST DUCT DISCHARGE SHALL BE LOCATED A MINIMUM OF 10 FT FROM ANY OUTSIDE AIR INTAKE.
6 TRANSITION RETURN DUCT TO 50x20 FROM FULL SIZE OF CURB OPENING. DROP 50x20 DUCT DIRECTLY INTO TOP OF 30X18 DUCT RUNNING HORIZONTALLY BENEATH. NO TURNING VANES.
9 BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 3'-0" FROM ANY OFFSET OR ELBOW INCLUDING THE SUPPLY AIR DROP FROM CURB.
21 HALTON KBD DAMPER AT HOOD COLLAR BY MECHANICAL CONTRACTOR. SEE HOOD ELEVATIONS ON M-201 FOR LOCATION.
26 MECHANICAL CONTRACTOR TO ADJUST PATTERN DEFLECTORS TO THROW STRAIGHT DOWN.
27 MECHANICAL CONTRACTOR TO CLOSE THE AIR PATTERN DEFLECTORS ON SHADED SIDE.
35 MOUNT HUMIDITY SENSOR ON WALL ABOVE SPACE TEMP SENSOR AND ROUTE WIRING TO UNIT ON ROOF.
38 MOUNT REMOTE SENSOR ON WALL AT 5-0" AFF U.N.O. AND ROUTE WIRING BACK TO SUNCOAST TEMP CONTROL PANEL. FOR SENSOR SERVING AC#1, COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT.
43 ROUTE DUCT WITHIN STRUCTURE.
45 TRANSFER AIR DUCT, NO BALANCING DAMPERS AT GRILLES.
47 TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. SEE DETAIL 5/M-501 FOR REQUIRED TRANSITION GEOMETRY. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE THE DUCT IS SHOWN OFFSET HORIZONTALLY, PROVIDE ELBOW WITHOUT TURNING VANES. FOR DROPS WITH NO HORIZONTAL OFFSET, EXTEND DROP BELOW STRUCTURE TO ACCOMMODATE START COLLARS. TERMINATE DROP A MINIMUM 0'-10" ABOVE CEILING (0'-4" ABOVE CEILING IF REQUIRED TO ACCOMMODATE TAKE-OFF AND DROP IS NOT LOCATED DIRECTLY ABOVE A LIGHT).
48 TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE THE DUCT IS SHOWN OFFSET HORIZONTALLY, PROVIDE ELBOW WITH TURNING VANES. FOR DROPS WITH NO HORIZONTAL OFFSET, EXTEND DROP BELOW STRUCTURE TO ACCOMMODATE START COLLARS. TERMINATE DROP A MINIMUM 0'-10" ABOVE CEILING (0'-4" ABOVE CEILING IF REQUIRED TO ACCOMMODATE TAKE-OFF AND DROP IS NOT LOCATED DIRECTLY ABOVE A LIGHT).
54 SEE ELEVATIONS ON M-201 FOR CJ FAN DUCTING REQUIREMENT.
65 TO AC#4, SENSOR #1. SEE 2/M-701.
66 TO AC#4, SENSOR #2. SEE 2/M-701.
67 TO AC#4, SENSOR #3. SEE 2/M-701.
80 CEILING MOUNTED RECIRCULATING FAN. DUCT AND DISCHARGE TO TYPE 'A' DIFFUSER AS SHOWN.
81 MOUNT AIR DOOR IN CEILING. CENTERED ON DRIVE-THRU/MFA DOOR OPENING. REFER TO WIRING DIAGRAM ON SHEET M-702 FOR MORE INFORMATION.
82 ELECTRIC HEATER. MC TO MOUNT ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
93 MAXIMUM HEATING AND COOLING AIRFLOWS INDICATED. SET MINIMUM AIRFLOW TO 25 CFM.
94 TAKE OFF WITH DAMPER AT THE BOTTOM OF DUCTWORK, TYP.

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COMMONWEALTH OF MASSACHUSETTS — MICHAEL KURZYNSKE — REGISTERED PROFESSIONAL ENGINEER — NO. 48566 — MECHANICAL

5/22/25

# CHICK-FIL-A
## Dartmouth FSU

1
286 State Rd
Dartmouth, MA 02747

**FSR#04631**

BUILDING TYPE / SIZE: P14 LE BN
RELEASE: 23.11
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**REVISION SCHEDULE**

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | 06/10/24 | ISSUE FOR PERMIT |
| 1 | 01/28/25 | ISSUE FOR CONSTRUCTION |
| 6 | 05/22/25 | RFI 50 - AC2 ORIENTATION |

CONSULTANT PROJECT # 24067.CD.S
DATE 05/22/2025
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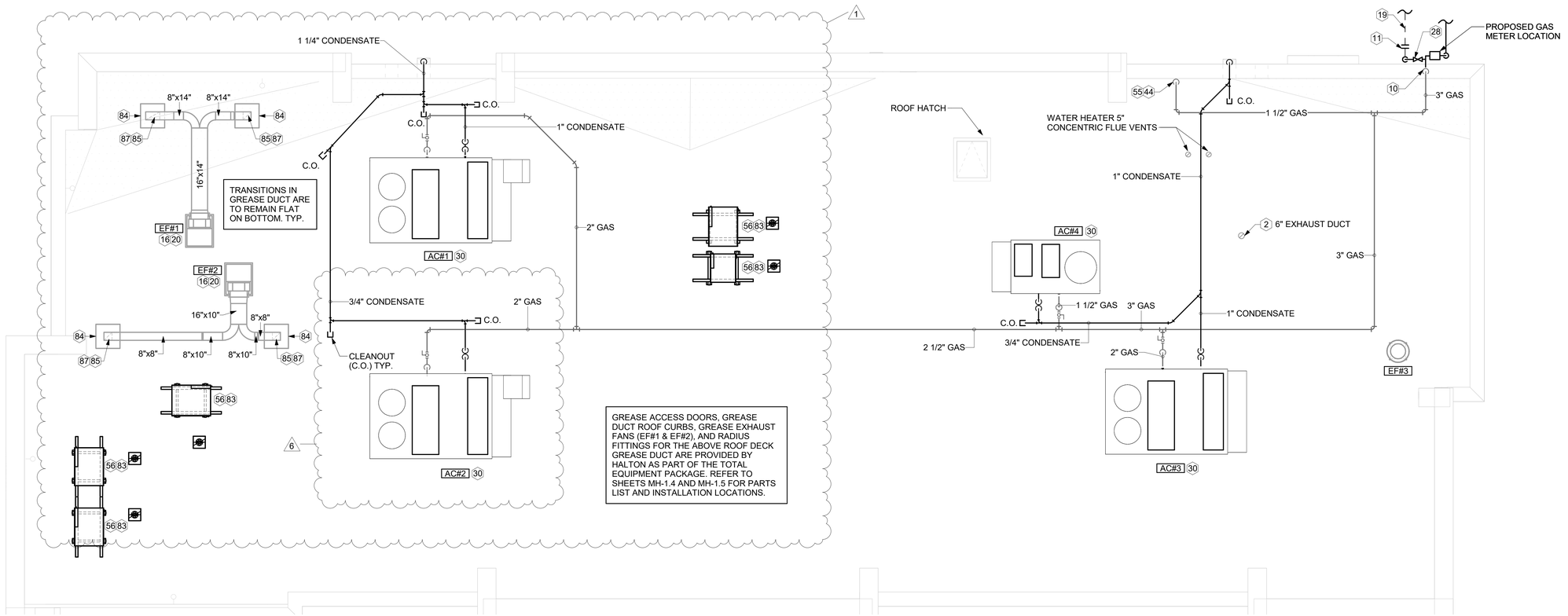
SHEET
EQUIPMENT AND DUCTWORK PLAN - TRANE
SHEET NUMBER
**M-101**




1 EQUIPMENT ROOF PLAN - TRANE
1/4" = 1'-0"

## KEY NOTES

| | |
|---|---|
| 2 | PROVIDE DUCT AS SHOWN. TERMINATE DUCT 24" ABOVE ROOF WITH ALUMINUM WEATHER CAP WITH INTEGRAL BIRD SCREEN. EXHAUST DUCT DISCHARGE SHALL BE LOCATED A MINIMUM OF 10 FT FROM ANY OUTSIDE AIR INTAKE. |
| 10 | TURN 3" GAS UP WITHIN WALL, THRU PARAPET AND ONTO ROOF. |
| 11 | ROUTE POLYETHYLENE GAS BELOW GRADE FROM THE METER. FOR TRANSITION FROM POLYETHYLENE PIPING BELOW GRADE TO STEEL AT THE METER, INSTALL ANODELESS RISER WITH INTEGRAL CONSTAB PE-TO-IPS TRANSITION FITTING BY CONTINENTAL INDUSTRIES OR EQUAL BY ELSTER. |
| 16 | VERIFY EXHAUST TERMINATION IS A MINIMUM 10'-0" FROM PARAPETS AND OUTSIDE AIR INTAKES. REFER TO MH-1.4 AND MH-1.5 FOR DETAILS. |
| 19 | 2" GAS BELOW GRADE TO ORDER CANOPY, SEE DETAIL 2 SHEET M-103. |
| 20 | GREASE EXHAUST DUCT LOCATED ON ROOF SHALL SLOPE 1/4" PER FOOT TOWARDS THE HOOD, THE FAN, OR A COMBINATION OF THE TWO SUCH THAT NO PORTION OF THE RADIUS ELBOW AT THE CURB IS BELOW THE CURB CAP AND SUCH THAT THE FAN BASE SETS DIRECTLY ON THE CURB RAILS. THE BOTTOM OF THE RADIUS ELBOW MAY BE EVEN OR FLUSH WITH THE CURB CAP, BUT NOT BELOW THE CAP. THE DUCT AT THE FAN MUST BE CENTERED ON THE FAN INLET. |
| 28 | PROVIDE FULL PORT BALL VALVE EQUAL TO APOLLO 50GB SERIES WITH WINGS HANDLE OPTION ABOVE GRADE AT THE METER. PROVIDE BRASS VALVE TAG WITH JACK CHAIN AT VALVE MARKED "SERVICE SHUTOFF FOR CANOPY HEATERS." |
| 30 | MECHANICAL CONTRACTOR TO SEE ARCHITECTURAL ROOF PLAN FOR NOTES REGARDING LEVELING FRAMES FOR RTUS. COORDINATE WITH GENERAL CONTRACTOR EXACT LOCATIONS AND SIZE NEEDED. |
| 44 | 1-1/2" GAS DOWN THRU ROOF TO WATER HEATER. SEE DETAIL 2/M-502 FOR MORE INFORMATION ON CONSTRUCTION AND PENETRATION. |
| 55 | SEE ARCHITECTURAL DETAILS FOR ROOFTOP PIPE PENETRATIONS. |
| 56 | GC SHALL PROVIDE EQUIPMENT STANDS AS MANUFACTURERED BY AVCOA OR EQUAL. STANDS SHALL BE INSTALLED PRIOR TO ROOF INSULATION SO THAT THE INSULATION IS CONTINUOUS UP TO THE PIPE POSTS. POSTS SHALL BE FLASHED IN ACCORDANCE WITH ROOFING MANUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE BLOCKING BELOW THE ROOF DECK AS REQUIRED. |
| 83 | DO NOT DISCHARGE OF CONDENSING UNITS INTO CONDENSER SECTION OF ROOFTOP UNITS, TYP. |
| 84 | ROOF CURB FOR DUCT PENETRATION. REFER TO MH-1.4 AND MH-1.5 FOR DETAILS. |
| 85 | TURN DOWN THRU ROOF. SEE M-101 FOR CONTINUATION. |
| 87 | DUCT PENETRATIONS ON ROOF MUST BE AT LEAST 18" FROM ADJACENT PARAPETS. |

## 3. GAS LOAD SCHEDULE

| EQUIPMENT | GAS LOAD |
|---|---|
| AC#1 | 400,000 BTUS |
| AC#2 | 250,000 BTUS |
| AC#3 | 400,000 BTUS |
| AC#4 | 150,000 BTUS |
| IRH (3 @ 50,000 BTU EA.) | 150,000 BTUS |
| IRH (FUTURE 6 @ 50,000 BTU EA.) | 300,000 BTUS |
| WATER HEATER | 398,000 BTUS |
| | |
| TOTAL FUTURE CONNECTED LOAD | 2,048,000 BTUS |
| REMARKS: | 1. EQUIVALENT TO 2,048.0 CFH<br>2. 7" W.C. DELIVERY PRESSURE<br>3. DEVELOPED LENGTH: 200 FT, (METER TO AC#2)<br>4. GAS PIPING SIZED FOR FUTURE LOAD<br>5. SIZED PER IFGC TABLE 402.4(2). |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5/22/25

# CHICK-FIL-A
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CONSULTANT PROJECT # 24067.CD.S
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SHEET
EQUIPMENT ROOF PLAN - TRANE

SHEET NUMBER
**M-102**

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### 286 State Rd
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SHEET
CANOPY HVAC PLAN

SHEET NUMBER
**M-103**

## CANOPY GENERAL NOTES

1. COORDINATE WORK WITH CONDUIT, STRUCTURE, AND PIPING. FIELD VERIFY CONDITIONS PRIOR TO START OF WORK.
2. COORDINATE LOCATION AND RESPONSIBILITIES FOR UNDERGROUND PIPING AND ASSOCIATED TRENCHING WITH GENERAL CONTRACTOR PRIOR TO START OF WORK.
3. EXPOSED GAS PIPING SHALL BE COVERED WITH A RUST INHIBITING PAINT SUCH AS RUST-OLEUM 5200. PAINT COLOR SHALL MATCH STRUCTURE. ROOF MOUNTED GAS PIPING COLOR SHALL BE YELLOW.
4. CONTROL WIRING FOR HEATERS BY EC. COORDINATE REQUIRED WIRE GAUGE WITH EC. SEE CONTROLS PLAN AND ELECTRICAL DRAWINGS, (TYP.).

## KEY NOTES

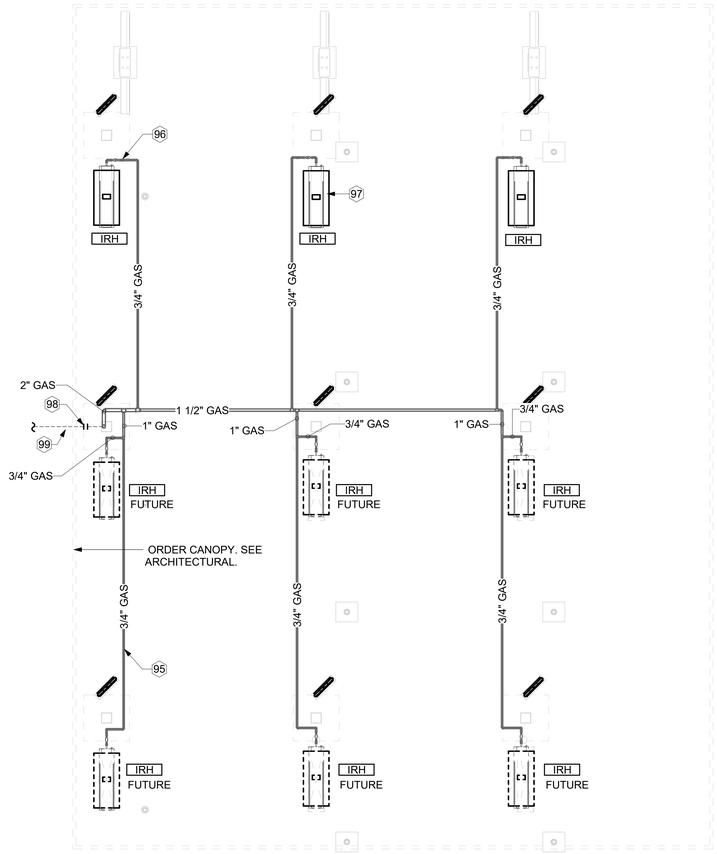
95 GAS PIPING TO BE ROUTED ABOVE CANOPY, ON TOP OF STRUCTURAL MEMBERS, EXCEPT WHERE ROUTED DOWN THROUGH PENETRATIONS AS INDICATED.

96 GAS PIPING DOWN THROUGH DECK. WEATHERPROOF DECK PENETRATION PER DETAIL 6/M-502, TYPICAL.

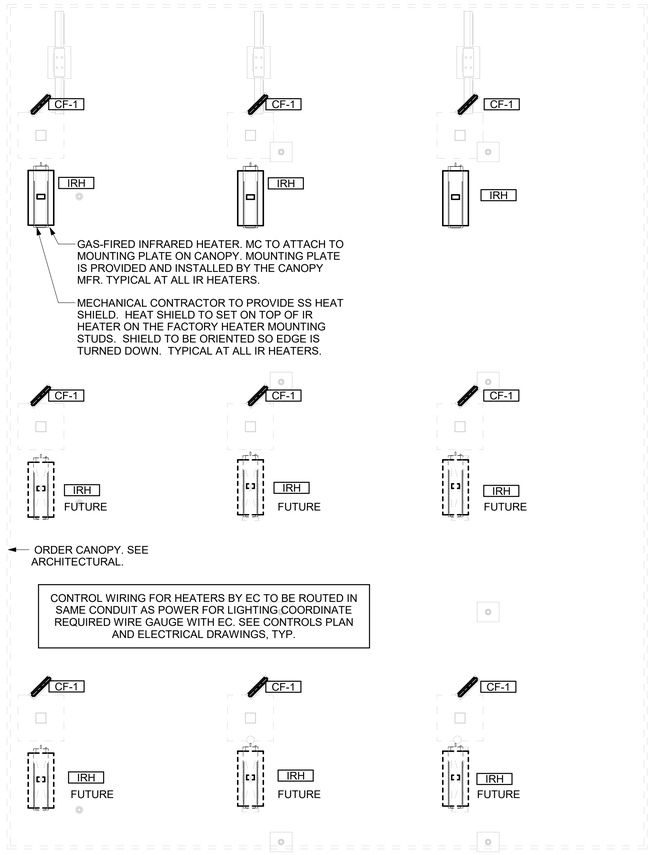
97 SEE DETAIL 1/M-502 FOR PIPING AT IRH, TYPICAL.

98 GAS TRANSITION FITTING TO GAS PIPE STUB-OUT. GAS PIPING INSIDE COLUMN AND STUB-OUTS BY CANOPY MFR. JOIN UNDERGROUND POLYETHYLENE GAS PIPING TO TRANSITION FITTING WITH ELSTER PERMASERT COUPLING. CANOPY MFR'S EXPOSED STEEL PIPING BELOW GRADE SHALL BE PROTECTED WITH TWO COATS ASPHALT TUM BASE PAINT AND POLY SLEEVE.

99 2" GAS B/G TO METER SEE 1/M-102.




2 ORDER CANOPY GAS PIPING PLAN
1/4" = 1'-0"

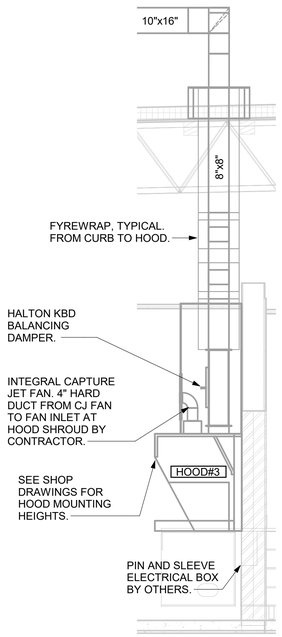



1 MECHANICAL FLOOR PLAN - ORDER CANOPY
1/4" = 1'-0"

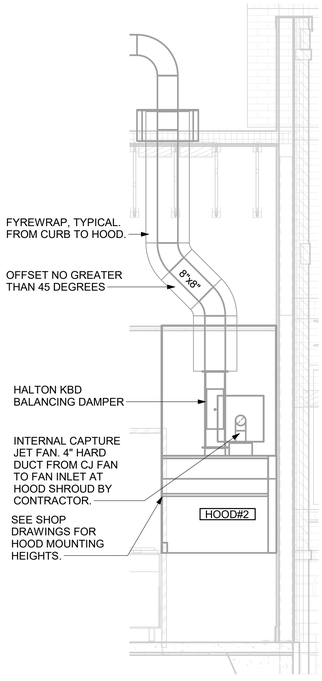
| GREASE EXHAUST DUCT CLEARANCE NOTE: |
|---|
| CLEARANCES ABOVE CEILING ARE TIGHT. MECHANICAL CONTRACTOR TO FIELD VERIFY EXACT ROUTING AND CLEARANCES PRIOR TO FABRICATING GREASE EXHAUST DUCT. |

| CLEANOUT DOOR NOTE: |
|---|
| DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS. NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED. |

CRITICAL:
MOUNT RIGHT SIDE OF HOOD#3
FLUSH WITH FINISHED EDGE
OF PASS THRU OPENING.

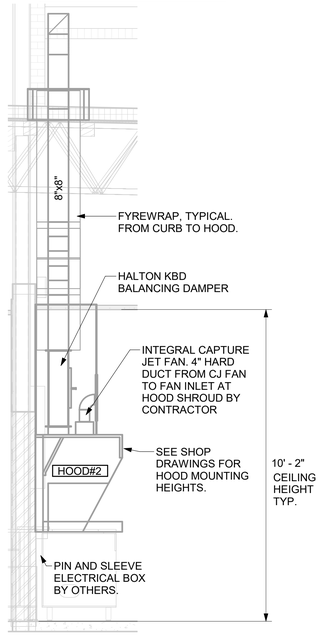



6 HOOD ELEVATION - HOOD#3
NOT TO SCALE

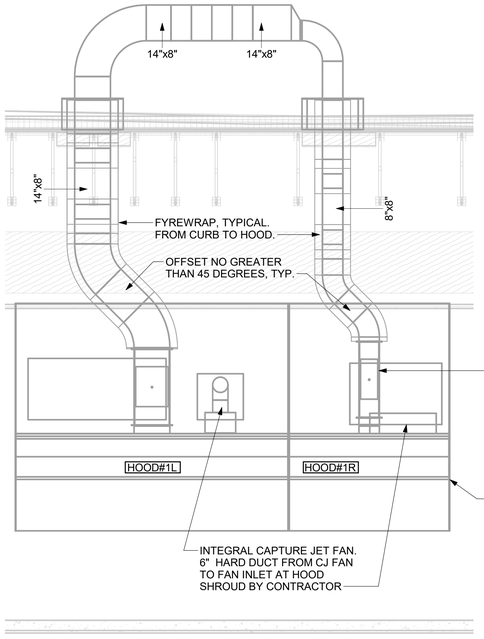



5 HOOD ELEVATION - HOOD#2 - FRONT
NOT TO SCALE

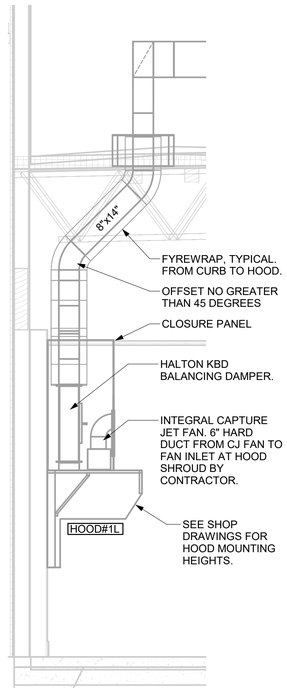
CRITICAL:
MOUNT LEFT SIDE OF HOOD#2
FLUSH WITH FINISHED EDGE
OF PASS THRU OPENING.



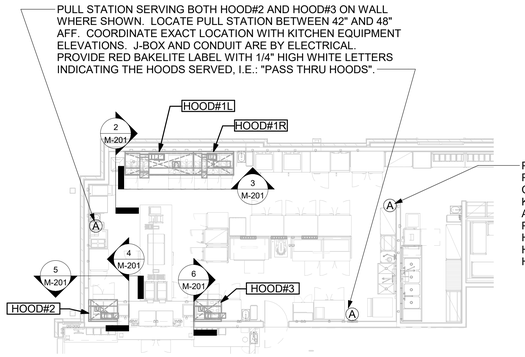

4 HOOD ELEVATION - HOOD#2 - SIDE
NOT TO SCALE




3 HOOD ELEVATION - HOOD#1 - FRONT
NOT TO SCALE




2 HOOD ELEVATION - HOOD#1 - SIDE
NOT TO SCALE




1 HOOD LAYOUT
1/8" = 1'-0"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BRIAN L. MCKEYNEE
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1/27/25

# CHICK-FIL-A
## Dartmouth FSU

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286 State Rd
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## FSR#04631

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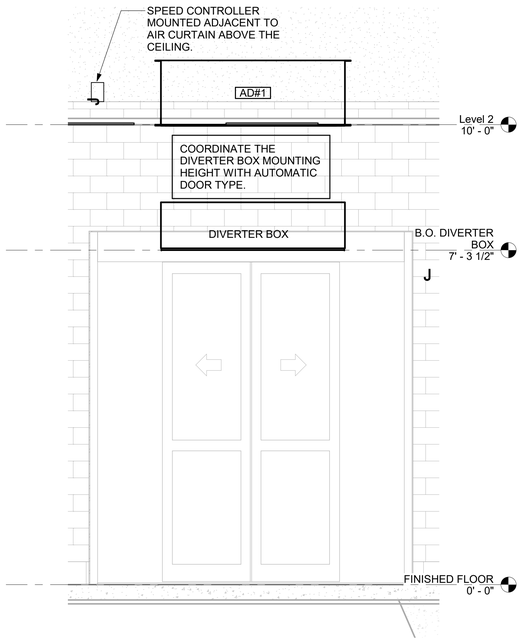
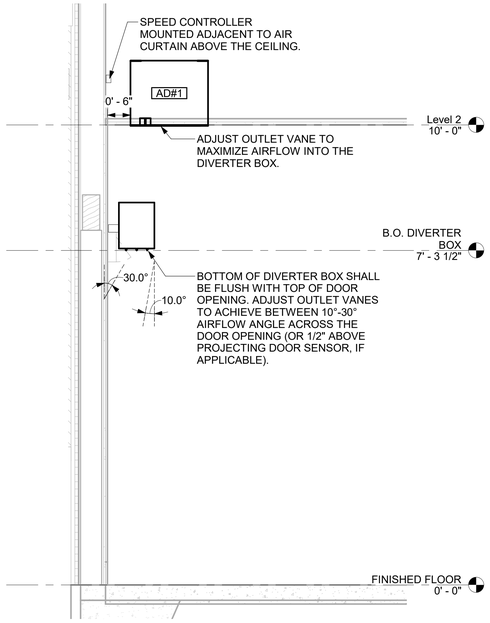
SHEET
EXHAUST HOOD ELEVATIONS

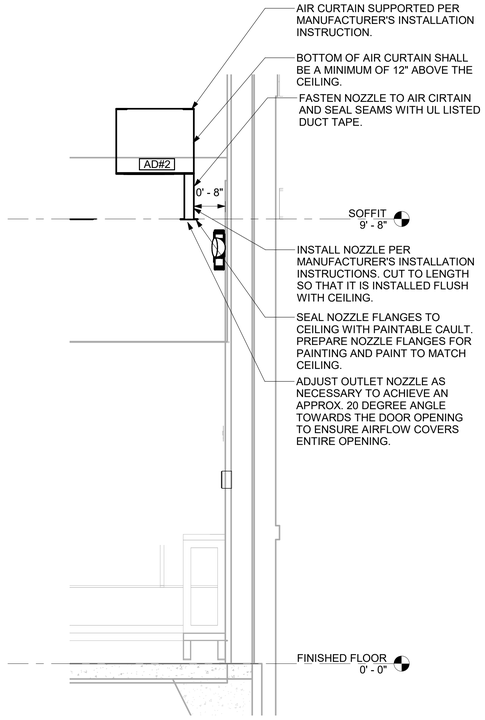
SHEET NUMBER
**M-201**



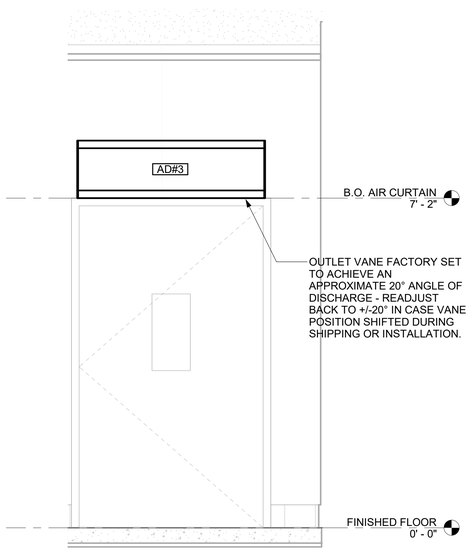

## 2 AD#1 FRONT VIEW
3/4" = 1'-0"



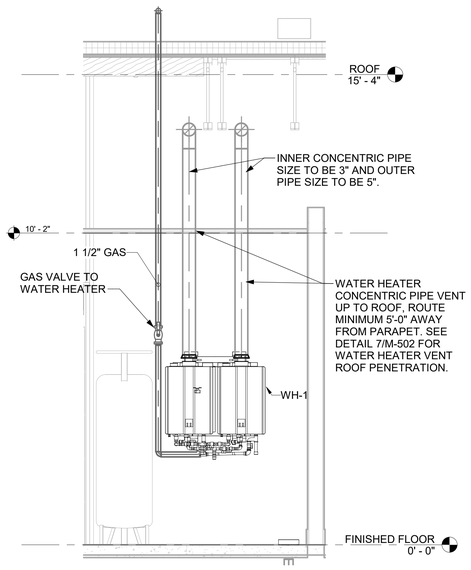

## 3 AD#1 SIDE VIEW
3/4" = 1'-0"



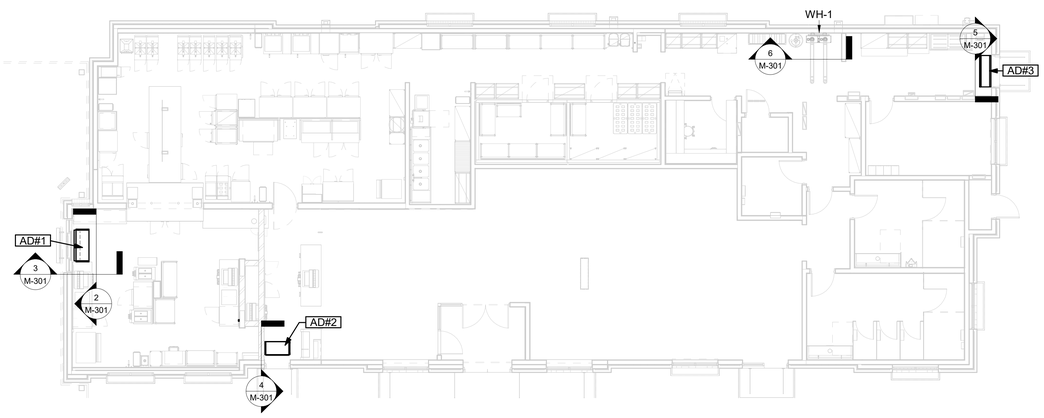

## 4 AD#2 SIDE VIEW
3/4" = 1'-0"




## 5 AD#3 FRONT VIEW
3/4" = 1'-0"




## 6 WATER HEATER GAS PIPING AND VENTING
NOT TO SCALE




## 1 VARIOUS SECTIONS
1/8" = 1'-0"

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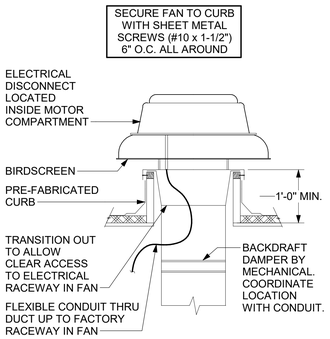
SHEET
SECTIONS

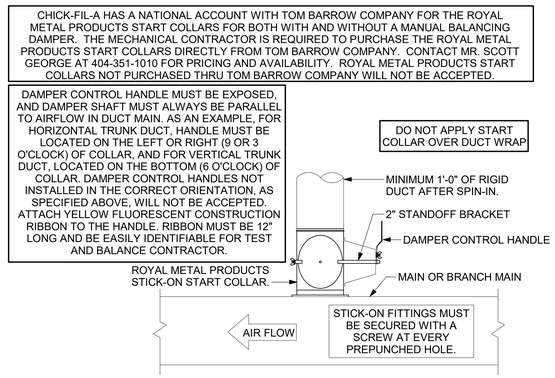
SHEET NUMBER
**M-301**



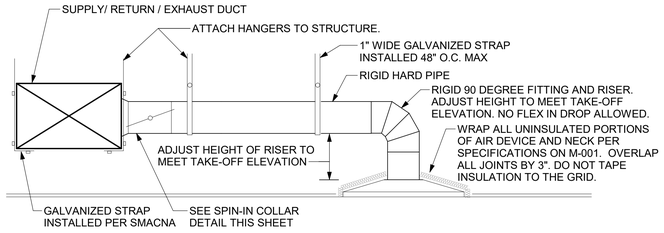

3 RESTROOM EXHAUST FAN
NOT TO SCALE

CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE ROYAL METAL PRODUCTS START COLLARS FOR BOTH WITH AND WITHOUT A MANUAL BALANCING DAMPER. THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE ROYAL METAL PRODUCTS START COLLARS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. ROYAL METAL PRODUCTS START COLLARS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.

DAMPER CONTROL HANDLE MUST BE EXPOSED, AND DAMPER SHAFT MUST ALWAYS BE PARALLEL TO AIRFLOW IN DUCT MAIN. AS AN EXAMPLE, FOR HORIZONTAL TRUNK DUCT, HANDLE MUST BE LOCATED ON THE LEFT OR RIGHT (9 OR 3 O'CLOCK) OF COLLAR, AND FOR VERTICAL TRUNK DUCT, LOCATED ON THE BOTTOM (6 O'CLOCK) OF COLLAR. DAMPER CONTROL HANDLES NOT INSTALLED IN THE CORRECT ORIENTATION, AS SPECIFIED ABOVE, WILL NOT BE ACCEPTED. ATTACH YELLOW FLUORESCENT CONSTRUCTION RIBBON TO THE HANDLE. RIBBON MUST BE 12" LONG AND BE EASILY IDENTIFIABLE FOR TEST AND BALANCE CONTRACTOR.



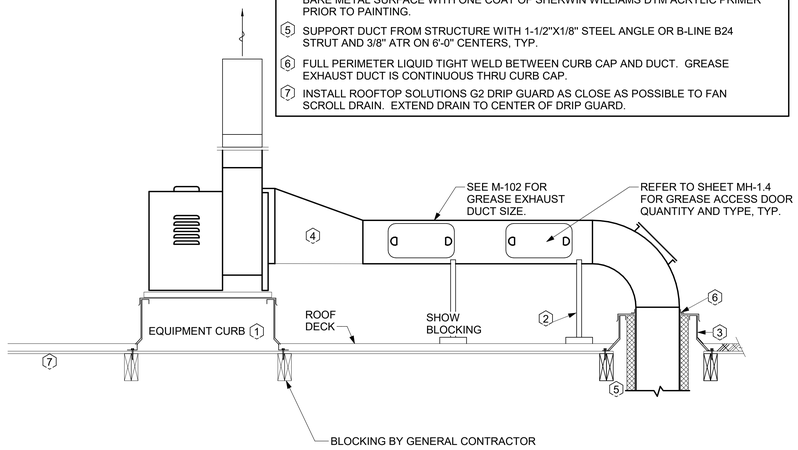

2 START COLLAR
NOT TO SCALE



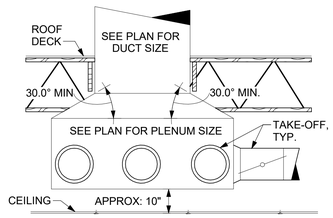

1 SAG/RAG/GRILLE TAKE-OFF
NOT TO SCALE

KEYED NOTES:

1. 22" EQUIPMENT CURB FURNISHED BY HALTON.
2. DUCT SUPPORT SHALL BE PROVIDED EVERY 8', AND WITHIN 12" OF ANY FITTING OR WELD SEAM. SUPPORTS SHALL BE SECURELY ATTACHED TO THE STRUCTURE AND DESIGNED TO CARRY GRAVITY, WIND, AND SEISMIC LOADS PER CODE.
3. 12" HIGH INSULATED CURB FURNISHED BY HALTON. MECHANICAL CONTRACTOR TO PROVIDE MINIMUM 18 GA STAINLESS STEEL CURB CAP AND FLASHING.
4. ALL DUCTWORK AND UNFINISHED METAL ON ROOF EXCEPT STAINLESS SHALL BE PREPARED WITH TWO COATS OF SHERWIN WILLIAMS B66-200 SERIES DTM WHITE ACRYLIC SEMI-GLOSS INDUSTRIAL MAINTENANCE COATING. DEGREASE AND PRIME BARE METAL SURFACE WITH ONE COAT OF SHERWIN WILLIAMS DTM ACRYLIC PRIMER PRIOR TO PAINTING.
5. SUPPORT DUCT FROM STRUCTURE WITH 1-1/2"X1/8" STEEL ANGLE OR B-LINE B24 STRUT AND 3/8" ATR ON 6'-0" CENTERS, TYP.
6. FULL PERIMETER LIQUID TIGHT WELD BETWEEN CURB CAP AND DUCT. GREASE EXHAUST DUCT IS CONTINUOUS THRU CURB CAP.
7. INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD AS CLOSE AS POSSIBLE TO FAN SCROLL DRAIN. EXTEND DRAIN TO CENTER OF DRIP GUARD.



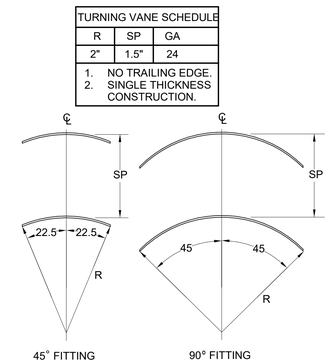

6 KITCHEN HOOD EXHAUST FAN
NOT TO SCALE




5 RETURN DROP GEOMETRY
NOT TO SCALE

| TURNING VANE SCHEDULE | | |
|---|---|---|
| R | SP | GA |
| 2" | 1.5" | 24 |

1. NO TRAILING EDGE.
2. SINGLE THICKNESS CONSTRUCTION.




4 TURNING VANES
NOT TO SCALE

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

COMMONWEALTH OF MASSACHUSETTS — BRIAN L. MCINTYRE — MECHANICAL — NO. 48566 — REGISTERED PROFESSIONAL ENGINEER

1/27/25

# CHICK-FIL-A
## Dartmouth FSU

1

286 State Rd
Dartmouth, MA 02747

## FSR#04631

BUILDING TYPE / SIZE: P14 LE BN
RELEASE: 23.11
PRINTED FOR
ISSUE FOR CONSTRUCTION

**REVISION SCHEDULE**

| NO. | DATE | DESCRIPTION |
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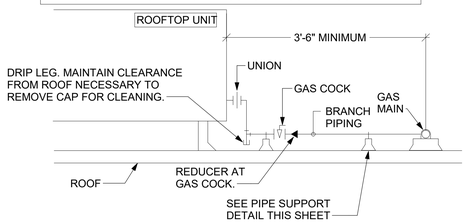
CONSULTANT PROJECT # 24067.CD.S
DATE 06/10/2024
DRAWN BY BLM



SHEET
DETAILS

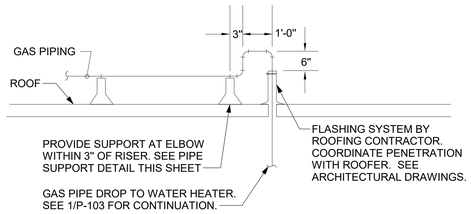
SHEET NUMBER
**M-501**

NOTES:
1. INSTALL GAS PIPING SUCH THAT HVAC EQUIPMENT ACCESS PANELS AND/OR DOORS ARE IN NO WAY OBSTRUCTED BY PIPING, VALVES, OR SUPPORTS.
2. TO AVOID CONFLICT WITH AC UNIT ACCESS DOORS, INSTALL GAS PIPING NO CLOSER THAN 3'-6" FROM AC UNIT. (EXCEPT FOR BRANCH LINE CONNECTED TO AC UNIT.)
3. ROUTE BRANCH TAKE-OFF DIRECTLY FROM MAIN TO ROOFTOP UNIT AS SHOWN ON PLAN AND DETAILS WITHOUT LATERAL OFFSETS WHICH MAY OBSTRUCT UNIT ACCESS DOORS.

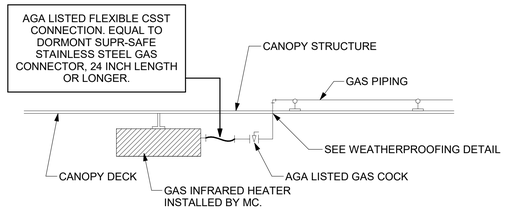



## 3 GAS PIPING AT RTU
NOT TO SCALE

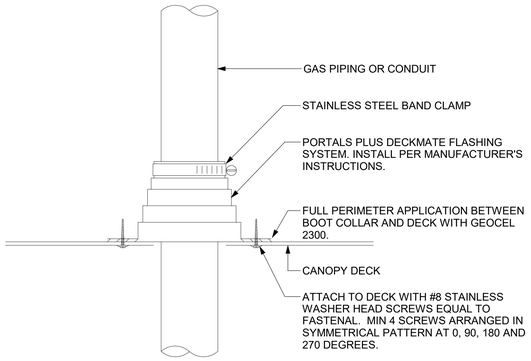
OFFSET PIPING A MINIMUM OF 6" ABOVE TOP EDGE OF FLASHING.



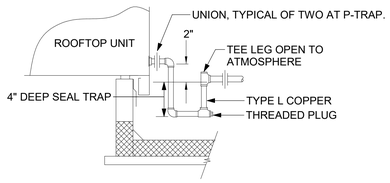

## 2 GAS PIPE DROP TO WATER HEATER
NOT TO SCALE




## 1 GAS CONNECTION AT APPLIANCE
NOT TO SCALE

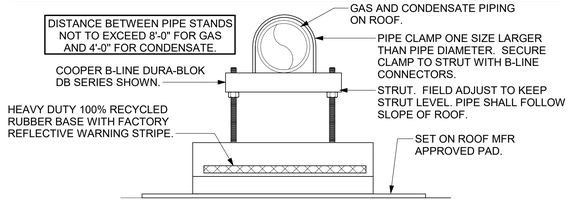



## 6 WEATHERPROOFING AT CANOPY PENETRATION
NOT TO SCALE

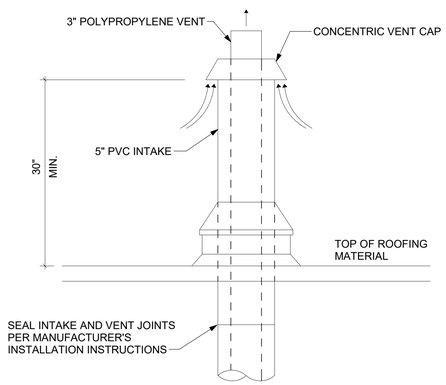



## 5 CONDENSATE DRAIN PIPING
NOT TO SCALE

NOTES:
1. NON ADJUSTABLE MODEL DB610 PIPE STAND TO BE USED FOR NON-ELEVATED PIPING INSTALLED FLAT ON ROOF DECK.
2. PROVIDE MODEL DBE 10-8 OR DBE 10-12 OR DBE 10-16 AS NEEDED FOR ELEVATING CONDENSATE PIPING TO MAINTAIN PROPER SLOPE AND FOR GAS PIPING CROSSING OVER CONDENSATE PIPING.
3. ENSURE GAS AND CONDENSATE PIPING DO NOT OBSTRUCT ROOFTOP EQUIPMENT ACCESS OPENINGS. RE-PIPING OF SYSTEMS DUE TO CONFLICTS WITH EQUIPMENT ACCESS OPENINGS SHALL BE DONE AT PLUMBING CONTRACTOR'S EXPENSE.




## 4 PIPING SUPPORT ON ROOF
NOT TO SCALE




## 7 WATER HEATER VENT ROOF PENETRATION
NOT TO SCALE


Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske & Associates
2705 Lebanon Pike - Suite One
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Telephone: (615) 255-5203


COMMONWEALTH OF MASSACHUSETTS — BRADLEY T. KURZYNSKE — MECHANICAL — NO. 48566 — REGISTERED PROFESSIONAL ENGINEER

1/27/25

# CHICK-FIL-A
## Dartmouth FSU

1
286 State Rd
Dartmouth, MA 02747

## FSR#04631

BUILDING TYPE / SIZE: P14 LE BN
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CONSULTANT PROJECT # 24067.CD.S
DATE 06/10/2024
DRAWN BY BLM



SHEET
DETAILS

SHEET NUMBER
**M-502**

## ROOFTOP UNIT SCHEDULE - TRANE

| MARK | TOTAL COOLING MBH | SENSIBLE COOLING MBH | HEATING INPUT MBH | HEATING OUTPUT MBH | SUPPLY (CFM) | OA (CFM) | HP | # OF FANS | ESP (in-wg) | EER | IEER / SEER | VOLTAGE (V) | PHASE | MCA (A) | MOCP (A) | MODEL | MFGR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AC#1 | 277.3 | 199.1 | 400 | 324.5 | 8,125 | 1,850 | 3 | 2 | 0.8 | 10.3 | 15.7 | 208 | 3 | 124 | 150 | YHK300A3S | TRANE | 1,3,4,5,7,8,9,10,11,12,13,14,16,17,18 |
| AC#2 | 155.6 | 133.7 | 250 | 202.5 | 4,375 | 1,075 | 4.6 | 1 | 0.8 | 12.6 | 18.4 | 208 | 3 | 80 | 100 | YHK150A3S | TRANE | 1,3,4,5,7,8,9,10,11,12,13,14,16,17,18 |
| AC#3 | 183.8 | 135.4 | 400 | 324 | 5,250 | 1,275 | 3 | 2 | 0.8 | 12.2 | 18.5 | 208 | 3 | 85 | 110 | YHK180A3S | TRANE | 1,3,4,5,7,8,9,10,11,12,13,14,16,17,18 |
| AC#4 | 61 | 41.4 | 150 | 121.5 | 1,750 | 425 | 3 | 1 | 0.8 | 13 | 16.4 | 208 | 3 | 34 | 45 | YHK060A3S | TRANE | 2,3,4,5,7,8,9,10,11,12,13,15,16,17 |

NOTES
- MECHANICAL CONTRACTOR TO VERIFY TRANE SUBMITTAL WITH CONSTRUCTION DOCUMENTS. NATIONAL ACCOUNTS - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS
1. PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST. PROVIDE FACTORY FAULT DETECTION AND DIAGNOSTICS.
2. PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC EXHAUST. PROVIDE FACTORY FAULT DETECTION AND DIAGNOSTICS.
3. PROVIDE 14" HIGH ROOF CURB.
4. SEE DETAIL 2/M-701 FOR CONTROL WIRING BY MC.
5. PROVIDE FACTORY INSTALLED SUPPLY AND RETURN AIR SMOKE DETECTORS.
6. NOT USED.
7. PROVIDE 2" MERV 8 THROW AWAY FILTERS.
8. PROVIDE HINGED PANELS FOR ACCESS TO FILTER(S), FAN BLOWER & MOTOR, COMPRESSOR(S) ACCESS AND CONTROLS.
9. PROVIDE FACTORY INSTALLED COIL HAIL GUARD.
10. PROVIDE HOT GAS DEHUMIDIFICATION OPTION WITH WALL MOUNTED HUMIDITY SENSOR.
11. PROVIDE FACTORY CONFIGURED PHASE LOSS PROTECTION.
12. PROVIDE FACTORY INSTALLED CONDENSATE PAN DRAIN OVERFLOW SWITCH.
13. PROVIDE WITH 65K SCCR RATING AND FACTORY CIRCUIT BREAKER.
14. PROVIDE FACTORY INSTALLED 115V, 20 AMP GFI SERVICE OUTLET. SEPERATE 115V CIRCUIT PROVIDED BY ELECTRICAL CONTRACTOR.
15. PROVIDE FACTORY INSTALLED AND POWERED 115V GFI SERVICE OUTLET.
16. PROVIDE FRESH AIR TEMPERING KIT.
17. PROVIDE SINGLE ZONE VAV OPTION.
18. PROVIDE WITH MODULATING GAS HEAT.

## HOOD SCHEDULE

| MARK | EXHAUST CFM | SP @ TAB PORT (in-wg) | CAPTURE JET CFM & S.P. | TYPE | COLLAR SIZE | WIDTH | DEPTH | HEIGHT | MANUFACTURER | MODEL | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HOOD#1L | 1,204 | 0.13 | 80 @ 0.30" | BACKSHELF | 14"X8" | 107" | 37" | 38" | HALTON | KVL-2 IC | 1 |
| HOOD#1R | 709 | 0.13 | 47 @ 0.30" | BACKSHELF | 8"X8" | 63" | 37" | 38" | HALTON | KVL-2 IC | 1 |
| HOOD#2 | 701 | 0.3 | 30 @ 0.29" | BACKSHELF | 8"X8" | 45" | 34" | 38" | HALTON | KVL-C IC | 1 |
| HOOD#3 | 701 | 0.3 | 30 @ 0.29" | BACKSHELF | 8"X8" | 42" | 34" | 38" | HALTON | KVL-C IC | 1 |

NOTES
- DIMENSIONS OF HOODS INCLUDE BACK AND SIDE SPACERS (HEIGHT DOES NOT INCLUDE CLOSURE PANELS). NATIONAL ACCOUNTS - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS
1. REFER TO HOOD SHOP DRAWINGS FOR HOOD OPTIONS AND CONSTRUCTION. PRELIMINARY HOOD SHOP DRAWINGS ARE INCLUDED FOR REFERENCE ON SHEETS MH-1.1, MH-1.2, AND MH-1.3.

## HEATER SCHEDULE

| MARK | HEATIING INPUT ELECTRIC (KW) | HEATIING INPUT GAS (MBH) | FRAME LENGTH | FRAME WIDTH | FRAME DEPTH | MOUNTING TYPE | VOLTAGE (V) | PHASE | FLA (A) | MOCP (A) | MODEL | MANUFACTURER | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EIH#1 | 6.00 | 0.0 | 56" | 8.5" | 3.5" | WALL BRACKET | 208 | 1 | 28.9 | 40 | BH0420035 | BROMIC | 1,2,3,4 |
| IRH | 0.00 | 50.0 | 48" | 13.4" | 9.8" | BRACKET | 120 | 1 | 0.4 | 20 | WB50-N7-CM | SPACE-RAY | 5,6,7 |

NOTES
- NATIONAL ACCOUNT NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.
- CONFIRM HEATER QUANTITY WITH CANOPY SHOP DRAWINGS.

REMARKS
1. STAINLESS STEEL LENS WITH BLACK EMISSIVE COATING.
2. PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND.
3. PROVIDE BLACK HEATER WITH HIGH TEMPERATURE COATING, AND MANUFACTURER MOUNTING BRACKETS.
4. PROVIDE BROMIC WALL MOUNTED ELECTRIC HEATER MODEL: BH0420033 FOR 220-240V SITES.
5. STEEL BURNER WITH CERAMIC BURNER TILES.
6. PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. MOUNT TO CANOPY DECK, FACING FORWARD, 12" LATERALLY FROM THE LONG SIDE OF THE HEATER.
7. STAINLESS STEEL HEAT SHIELDS.

## FAN SCHEDULE

| MARK | FAN CFM | ESP (in-wg) | MOTOR RPM | HP | AREA SERVED | VOLTAGE (V) | PHASE | FLA (A) | MOCP (A) | MODEL | MANUFACTURER | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CF#1 | 1,900 | 0.010 | 1,625 | 0.100 | OUTDOOR CANOPY | 120 | 1 | 1.1 | 20 | U-18-TE-HD | TPI | 20,21,24 |
| EF#1 | 1,913 | 0.750 | 1,331 | 0.750 | HOOD#1 | 120 | 1 | 12.8 | 25 | KEFB-14-CFA | HALTON | 1,2,3,4,5,6,7,8,9,10,11 |
| EF#2 | 1,402 | 0.950 | 1,199 | 0.750 | HOOD#2 & HOOD#3 | 120 | 1 | 12.8 | 25 | KEFB-14-CFA | HALTON | 1,2,3,4,5,6,7,8,9,10,11 |
| EF#3 | 400 | 0.375 | 1,550 | 0.125 | RESTROOMS | 120 | 1 | 2.2 | 20 | XRED-095-VG | ACCUREX | 1,3,11,12,13,14,15,16 |
| EF#4 | 75 | 0.260 | 1,550 | 0.020 | RESTROOMS | 120 | 1 | 0.2 | 20 | SP-A90 | GREENHECK | 1,22,23 |
| TF#1 | 450 | 0.300 | 1,144 | 0.127 | TECH CLOSET | 120 | 1 | 2.5 | 20 | SP-A510-VG | GREENHECK | 1,17, 18, 19 |

NOTES
- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED.

REMARKS
1. FANS SUPPLIED BY HALTON.
2. U.L. 705 LISTED AND LABELED FOR RESTAURANT APPLICATIONS.
3. FACTORY INSTALLED PREWIRED DISCONNECT SWITCH.
4. 19" HIGH ROOF CURB.
5. INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD. MECHANICAL CONTRACTOR TO CONTACT ROOFTOP SOLUTIONS AT 800-913-7034.
6. FACTORY WEATHER HOUSING W/ HINGED ACCESS DOOR.
7. FACTORY DRAIN CONNECTION.
8. FACTORY BOLTED ACCESS DOOR ON SCROLL.
9. FACTORY INSTALLED BELT DRIVE WITH ADJUSTABLE MOTOR SHEAVE, SPARE BELT, AND BELT TENSIONER.
10. FACTORY INSTALLED OUTLET WITH QUICK RELEASE, HINGED ACCESS, AND GRAVITY BACKDRAFT DAMPER.
11. INTEGRAL THERMAL OVERLOAD.
12. BIRDSCREEN.
13. BACKDRAFT DAMPER IN DUCT BY MECHANICAL CONTRACTOR AS SHOWN ON 3/M-501.
14. STARTER BY ELECTRICAL CONTRACTOR. INTERLOCK WITH LIGHTS BY ELECTRICAL CONTRACTOR.
15. 12" HIGH CURB.
16. FACTORY INSTALLED AND WIRED SPEED CONTROLLER.
17. PROVIDE NEMA 1 PREWIRED DISCONNECT.
18. INTEGRAL POTENTIOMETER ON FAN MOTOR. SET TO FULL SPEED.
19. PROVIDE THERMOSTAT THERMOSTAT / TEMPERATURE CONTROLLER. SET TO 76°F.
20. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
21. PROVIDE WITH ON/OFF SWITCH.
22. FAN SHALL BE CONTROLLED WITH THE ROOM LIGHTING. ALL WIRING IS BY THE ELECTRICAL CONTRACTOR.
23. DIRECT DRIVE CEILING FAN. PROVIDE A DISCONNECT SWITCH , INTEGRAL BACKDRAFT DAMPER, AND MANUFACTURER'S FAN SPEED CONTROLLER.
24. FAN SUPPLIED BY TOM BARROW OR POWERS OF ARKANSAS FOR SOUTHWEST REGION.

## AIR DOOR SCHEDULE

| MARK | CFM | VELOCITY (FPM) | HEATING (KW) | MOTOR HP | MCA (A) | MOCP (A) | VOLTAGE (V) | PHASE | AREA SERVED | MODEL | MANUFACTURER | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AD#1 | 1,543 | 2,338 | 10 | 0.75 | 31.4 | 40 | 208 | 3 | DRIVE THRU | CHA-1-48E | POWERED AIRE | 1,2,3,5 |
| AD#2 | 1,197 | 2,443 | 10 | 0.75 | 31.4 | 40 | 208 | 3 | SERVING | ETA-1-36E | POWERED AIRE | 1,2,3,4,6 |
| AD#3 | 3,867 | 4,218 | 0 | 0.75 | 8 | 20 | 120 | 1 | REAR DOOR | RBT-1-48 | POWERED AIRE | 4 |

NOTES
- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004

REMARKS
1. FACTORY PROVIDED, WIRED, AND UNIT MOUNTED SPEED CONTROLLER ABOVE CEILING.
2. FACTORY WIRED DISCONNECT.
3. FACTORY PROVIDED, FIELD INSTALLED BY MC, REMOTE WALL SWITCHES FOR HEATING ON/OFF AND FAN ON/AUTO SWITCH. SEE DETAILS ON M502.
4. FACTORY PROVIDED MAGNETIC DOOR CONTACT WITH FACTORY INSTALLED LOW VOLTAGE CONTROLS LOCATED IN AIR DOOR CABINET.
5. PROVIDE WITH A DIVERTER BOX. PROVIDE WITH MOUNTING BRACKETS PER MANUFACTURER'S RECOMMENDATIONS.
6. PROVIDE WITH NOZZLE EXTENSION, SEE DETAIL 3/M502.

## AIR DEVICE SCHEDULE

| MARK | DESCRIPTION | LOCATION | NECK SIZE | FACE SIZE | FRAME TYPE | REMARKS |
|---|---|---|---|---|---|---|
| A | PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS. | DINING / KITCHEN | VARIES | 24"x24" | LAY-IN | 1,7 |
| B | VARITHERM PLAQUE DIFFUSER | OFFICE | 10" | 24"x24" | LAY-IN | 1,7,8 |
| C | PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS. | ENTRY | 14"x14" | 16"x16" | BEVELLED | 1,3,5,6 |
| D | PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS. | SERVING | VARIES | 16"x16" | SURFACE | 1,3,5,6 |
| E | PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS. | DINING | 6" | 12"x12" | SURFACE | 1,3,5,6 |
| F | PRICE MODEL 80 EGGCRATE RETURN AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND ROUND NECK. | DINING / KITCHEN / MFA | 24"x24" | 24"x24" | LAY-IN | 1,7,8 |
| FF | PRICE MODEL 80FF STEEL FILTER RETURN AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND 2" FILTER FRAME. | MFA | 24"x24" | 24"x24" | LAY-IN | 1,7,8 |
| J | PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS. | RESTROOMS | VARIES | 10"x10" | BEVELLED | 1,2,3,5,6 |
| K | PRICE MODEL APDDR ALUMINUM PERFORATED FACE RETURN AIR GRILLE. | RESTROOMS / ENTRY | 14"x14" | 16"x16" | SURFACE | 1,2,5,6 |

NOTES
- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004

REMARKS
1. STANDARD OFF WHITE FINISH.
2. PROVIDE MODEL VCS3 NECK DAMPER.
3. SEE DRAWING M-101 FOR THROW.
4. PROVIDE MODEL VCR7 NECK DAMPER ON GRILLES IN RESTROOMS SERVING EXHAUST FAN.
5. PROVIDE BACKPAN. MC TO SEAL JOINTS WITH MASTIC AND INSULATE EXTERNALLY.
6. FIELD INSULATE BACKPAN AS SHOWN ON DETAIL 3/M-501.
7. FACTORY INSULATED R-6 BACKPAN.
8. PROVIDE RELIEF COLLAR ACCESSORY FOR VAV DIFFUSER.


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COMMONWEALTH OF MASSACHUSETTS — BRIAN L. MCKEITHEN — MECHANICAL — NO. 45566 — REGISTERED PROFESSIONAL ENGINEER

1/27/25

# CHICK-FIL-A
## Dartmouth FSU

286 State Rd
Dartmouth, MA 02747

**FSR#04631**

BUILDING TYPE / SIZE: P14 LE BN
RELEASE: 23.11
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CONSULTANT PROJECT # 24067.CD.S
DATE 06/10/2024
DRAWN BY BLM



SHEET
EQUIPMENT SCHEDULES - TRANE

SHEET NUMBER
**M-601**

# VENTILATION SCHEDULE

| General | | | Ventilation | | | | | | | | | | | | Exhaust | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | People | | | | Area | | | | | | | | Area | | Toilet | | | | Served by | |
| Room # | Room Name | Area $A_z$ $ft^2$ | Occupant Density People/1,000 $ft^2$ | Occupants People $P_z$ | Outdoor Airflow Rate CFM/Person $R_p$ | Outdoor Airflow CFM $P_z \times R_p$ | Outdoor Airflow Rate CFM/$ft^2$ $R_a$ | Outdoor Airflow CFM $A_z \times R_a$ | Breathing Zone Outdoor Airflow CFM $V_{bz}$ | Zone Air Distribution Effectiveness $E_z$ | Zone Outdoor Airflow CFM $V_{oz}$ | Primary Zone Airflow CFM $V_{pz}$ | Primary Outdoor Air Fraction $Z_p$ | Actual Outdoor Airflow CFM | Required Exhaust Rate CFM/$ft^2$ | Total Required Exhaust CFM | Exhaust Control/ Operation | Fixture Exhaust Rate CFM/Fixture | Required Fixture Exhaust CFM | Actual Exhaust CFM | Supply | Exhaust |
| 1 | Kitchen | 880 | 20 | 18 | 7.5 | 135 | 0.12 | 106 | 241 | 0.8 | 301 | 7,325 | 0.04 | 1,578 | 0.70 | 616 | - | - | - | 3,315 | AC#1 / ALT AC#1 | EF-1 / EF-2 |
| 2 | Kitchen (Dish Washing) | 128 | 15 | 2 | 7.5 | 15 | 0.18 | 23 | 38 | 0.8 | 48 | 800 | 0.06 | 172 | - | - | - | - | - | - | AC#1 / ALT AC#1 | - |
| | Total Area | 1,008 | | | | | | | Total $V_{bz}$ | 279 | Total Supply Airflow | 8,125 | | 1,750 | Actual Outdoor Airflow | | | | | | | |
| | | | | | | | | | Diversity (D) | 1.00 | | | Maximum Zp | 0.06 | | | | | | | | |
| | | | | | | | | | Uncorrected Outdoor Air Intake ($V_{ou}$) | 279 | System Ventilation Efficiency ($E_v$) | | | 1.00 | | | | | | | | |
| | | | | | | | | | Required Outdoor Air Intake (CFM) | 278 | | | | | | | | | | | | |

# VENTILATION SCHEDULE

| General | | | Ventilation | | | | | | | | | | | | Exhaust | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | People | | | | Area | | | | | | | | Area | | Toilet | | | | Served by | |
| Room # | Room Name | Area $A_z$ $ft^2$ | Occupant Density People/1,000 $ft^2$ | Occupants People $P_z$ | Outdoor Airflow Rate CFM/Person $R_p$ | Outdoor Airflow CFM $P_z \times R_p$ | Outdoor Airflow Rate CFM/$ft^2$ $R_a$ | Outdoor Airflow CFM $A_z \times R_a$ | Breathing Zone Outdoor Airflow CFM $V_{bz}$ | Zone Air Distribution Effectiveness $E_z$ | Zone Outdoor Airflow CFM $V_{oz}$ | Primary Zone Airflow CFM $V_{pz}$ | Primary Outdoor Air Fraction $Z_p$ | Actual Outdoor Airflow CFM | Required Exhaust Rate CFM/$ft^2$ | Total Required Exhaust CFM | Exhaust Control/ Operation | Fixture Exhaust Rate CFM/Fixture | Required Fixture Exhaust CFM | Actual Exhaust CFM | Supply | Exhaust |
| 5 | Meal Fulfillment Area | 460 | 15 | 7 | 7.5 | 52.5 | 0.18 | 83 | 135 | 0.8 | 170 | 4,375 | 0.04 | 1,075 | - | - | - | - | - | - | AC#2 /ALT AC#2 | - |
| | Total Area | 460 | | | | | | | Total $V_{bz}$ | 135 | Total Supply Airflow | 4,375 | | 1,075 | Actual Outdoor Airflow | | | | | | | |
| | | | | | | | | | Diversity (D) | 1.00 | | | Maximum Zp | 0.03 | | | | | | | | |
| | | | | | | | | | Uncorrected Outdoor Air Intake ($V_{ou}$) | 135 | System Ventilation Efficiency ($E_v$) | | | 1.00 | | | | | | | | |
| | | | | | | | | | Required Outdoor Air Intake (CFM) | 135 | | | | | | | | | | | | |

# VENTILATION SCHEDULE

| General | | | Ventilation | | | | | | | | | | | | Exhaust | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | People | | | | Area | | | | | | | | Area | | Toilet | | | | Served by | |
| Room # | Room Name | Area $A_z$ $ft^2$ | Occupant Density People/1,000 $ft^2$ | Occupants People $P_z$ | Outdoor Airflow Rate CFM/Person $R_p$ | Outdoor Airflow CFM $P_z \times R_p$ | Outdoor Airflow Rate CFM/$ft^2$ $R_a$ | Outdoor Airflow CFM $A_z \times R_a$ | Breathing Zone Outdoor Airflow CFM $V_{bz}$ | Zone Air Distribution Effectiveness $E_z$ | Zone Outdoor Airflow CFM $V_{oz}$ | Primary Zone Airflow CFM $V_{pz}$ | Primary Outdoor Air Fraction $Z_p$ | Actual Outdoor Airflow CFM | Required Exhaust Rate CFM/$ft^2$ | Total Required Exhaust CFM | Exhaust Control/ Operation | Fixture Exhaust Rate CFM/Fixture | Required Fixture Exhaust CFM | Actual Exhaust CFM | Supply | Exhaust |
| 1 | Dining | 1,209 | 70 | 85 | 7.5 | 637.5 | 0.18 | 218 | 855 | 0.8 | 1069 | 4,000 | 0.267 | 971 | - | - | - | - | - | - | AC#3 / ALT AC#3 | - |
| 2 | Serving | 313 | 15 | 5 | 7.5 | 38 | 0.18 | 56 | 94 | 0.8 | 118 | 500 | 0.23 | 121 | - | - | - | - | - | - | AC#3 / ALT AC#3 | - |
| 3 | Men's RR | 152 | - | - | - | - | - | - | - | 0.8 | - | 125 | - | 30 | - | - | Continuous | 50 | 100 | 150 | AC#3 / ALT AC#3 | EF-3 |
| 4 | Women's RR | 152 | - | - | - | - | - | - | - | 0.8 | - | 125 | - | 30 | - | - | Continuous | 50 | 100 | 150 | AC#3 / ALT AC#3 | EF-3 |
| 5 | RR Vestibule | 134 | - | - | - | - | 0.06 | 8 | 8 | 0.8 | 11 | 100 | 0.10 | 24 | - | - | - | - | - | - | AC#3 / ALT AC#3 | - |
| 6 | Entry Vestibule | 73 | - | - | - | - | 0.06 | 4 | 4 | 0.8 | 6 | 400 | 0.01 | 97 | - | - | - | - | - | - | AC#3 / ALT AC#3 | - |
| | Total Area | 2,033 | | | | | | | Total $V_{bz}$ | 961 | Total Supply Airflow | 5,250 | | 1,275 | Actual Outdoor Airflow | | | | | | | |
| | | | | | | | | | Diversity (D) | 0.82 | | | Maximum Zp | 0.267 | | | | | | | | |
| | | | | | | | | | Uncorrected Outdoor Air Intake ($V_{ou}$) | 910 | System Ventilation Efficiency ($E_v$) | | | 0.80 | | | | | | | | |
| | | | | | | | | | Required Outdoor Air Intake (CFM) | 1,138 | | | | | | | | | | | | |

# VENTILATION SCHEDULE

| General | | | Ventilation | | | | | | | | | | | | Exhaust | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | People | | | | Area | | | | | | | | Area | | Toilet | | | | Served by | |
| Room # | Room Name | Area $A_z$ $ft^2$ | Occupant Density People/1,000 $ft^2$ | Occupants People $P_z$ | Outdoor Airflow Rate CFM/Person $R_p$ | Outdoor Airflow CFM $P_z \times R_p$ | Outdoor Airflow Rate CFM/$ft^2$ $R_a$ | Outdoor Airflow CFM $A_z \times R_a$ | Breathing Zone Outdoor Airflow CFM $V_{bz}$ | Zone Air Distribution Effectiveness $E_z$ | Zone Outdoor Airflow CFM $V_{oz}$ | Primary Zone Airflow CFM $V_{pz}$ | Primary Outdoor Air Fraction $Z_p$ | Actual Outdoor Airflow CFM | Required Exhaust Rate CFM/$ft^2$ | Total Required Exhaust CFM | Exhaust Control/ Operation | Fixture Exhaust Rate CFM/Fixture | Required Fixture Exhaust CFM | Actual Exhaust CFM | Supply | Exhaust |
| 1 | Team Member Room | 158 | 50 | 8 | 5 | 40 | 0.06 | 9 | 49 | 0.8 | 62 | 600 | 0.10 | 146 | - | - | - | - | - | - | AC#4 / ALT AC#4 | - |
| 2 | Service | 157 | - | - | - | - | 0.12 | 19 | 19 | 0.8 | 24 | 185 | 0.13 | 45 | - | - | - | - | - | - | AC#4 / ALT AC#4 | - |
| 3 | Beverage | 166 | - | - | - | - | 0.12 | 20 | 20 | 0.8 | 25 | 275 | 0.09 | 67 | - | - | - | - | - | - | AC#4 / ALT AC#4 | - |
| 4 | Utility | 100 | - | - | - | - | 0.12 | 12 | 12 | 0.8 | 15 | 300 | 0.05 | 73 | - | - | - | - | - | - | AC#4 / ALT AC#4 | - |
| 5 | Dry Storage | 471 | - | - | - | - | 0.12 | 57 | 57 | 0.8 | 71 | 150 | 0.47 | 36 | - | - | - | - | - | - | AC#4 / ALT AC#4 | - |
| 6 | Office | 79 | 5 | 1 | 5 | 5 | 0.06 | 5 | 10 | 0.8 | 13 | 100 | 0.12 | 24 | - | - | - | - | - | - | AC#4 / ALT AC#4 | - |
| 7 | Employee RR | 62 | - | - | - | - | - | - | - | 0.8 | - | 40 | - | 10 | - | - | Intermittent | 70 | 70 | 75 | AC#4 / ALT AC#4 | EF#4 |
| 8 | Riser | 19 | - | - | - | - | 0.12 | 2 | 2 | 0.8 | 3 | 100 | 0.03 | 24 | - | - | - | - | - | - | AC#4 / ALT AC#4 | - |
| | Total Area | 1,212 | | | | | | | Total $V_{bz}$ | 169 | Total Supply Airflow | 1,750 | | 425 | Actual Outdoor Airflow | | | | | | | |
| | | | | | | | | | Diversity (D) | 1.00 | | | Maximum Zp | 0.47 | | | | | | | | |
| | | | | | | | | | Uncorrected Outdoor Air Intake ($V_{ou}$) | 169 | System Ventilation Efficiency ($E_v$) | | | 0.60 | | | | | | | | |
| | | | | | | | | | Required Outdoor Air Intake (CFM) | 281 | | | | | | | | | | | | |


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COMMONWEALTH OF MASSACHUSETTS
BRIAN L. MCKEYNIE
MECHANICAL
NO. 48566
REGISTERED
PROFESSIONAL ENGINEER
1/27/25

# CHICK-FIL-A
## Dartmouth FSU

1
286 State Rd
Dartmouth, MA 02747

# FSR#04631

BUILDING TYPE / SIZE: P14 LE BN
RELEASE: 23.11
PRINTED FOR
ISSUE FOR CONSTRUCTION

**REVISION SCHEDULE**

| NO. | DATE | DESCRIPTION |
|---|---|---|
| | 06/10/24 | ISSUE FOR PERMIT |
| 1 | 01/28/25 | ISSUE FOR CONSTRUCTION |

CONSULTANT PROJECT # 24067.CD.S
DATE 06/10/2024
DRAWN BY BLM



SHEET
VENTILATION SCHEDULES

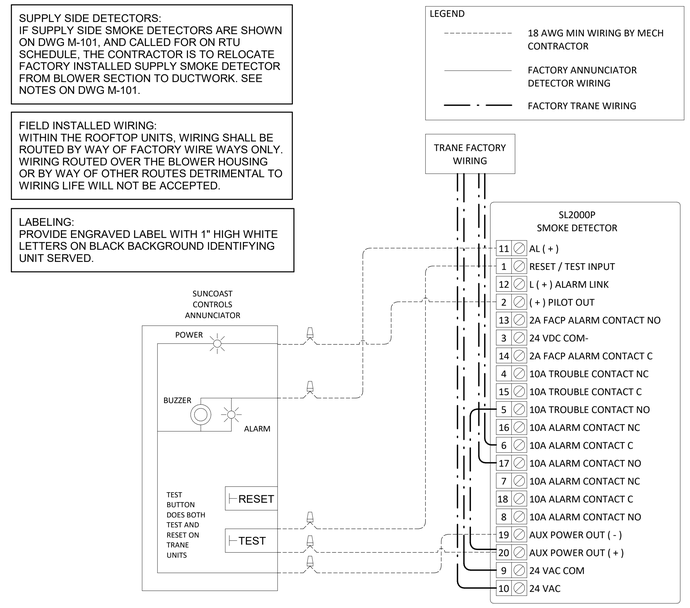
SHEET NUMBER
**M-602**

PROVIDE A PROFESSIONALLY LAMINATED COPY OF THESE DETAILS TO BE INSTALLED INSIDE THE ROOFTOP UNIT CONTROL CABINENT. USE A SETON CHART FRAME STYLE #68624, TELEPHONE NUMBER 800-243-6624, FOR MOUNTING THE DETAIL. ATTACH THE FRAME TO THE INTERIOR OF THE UNIT IN PLAIN AND EASY VIEW OF THE CONTROLS SECTION. CONTACT ENGINEER OF RECORD FOR A REPRODUCIBLE COPY OF THE DETAIL.

SUPPLY SIDE DETECTORS:
IF SUPPLY SIDE SMOKE DETECTORS ARE SHOWN ON DWG M-101, AND CALLED FOR ON RTU SCHEDULE, THE CONTRACTOR IS TO RELOCATE FACTORY INSTALLED SUPPLY SMOKE DETECTOR FROM BLOWER SECTION TO DUCTWORK. SEE NOTES ON DWG M-101.

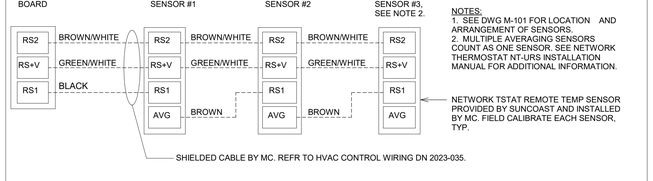
FIELD INSTALLED WIRING:
WITHIN THE ROOFTOP UNITS, WIRING SHALL BE ROUTED BY WAY OF FACTORY WIRE WAYS ONLY. WIRING ROUTED OVER THE BLOWER HOUSING OR BY WAY OF OTHER ROUTES DETRIMENTAL TO WIRING LIFE WILL NOT BE ACCEPTED.

LABELING:
PROVIDE ENGRAVED LABEL WITH 1" HIGH WHITE LETTERS ON BLACK BACKGROUND IDENTIFYING UNIT SERVED.




1 SMOKE DETECTOR AND ANNUNCIATOR WIRING DIAGRAM - TRANE
NOT TO SCALE

## AVERAGING SENSORS (WHERE SHOWN ON PLANS)




NOTES:
1. SEE DWG M-101 FOR LOCATION AND ARRANGEMENT OF SENSORS.
2. MULTIPLE AVERAGING SENSORS COUNT AS ONE SENSOR. SEE NETWORK THERMOSTAT NT-URS INSTALLATION MANUAL FOR ADDITIONAL INFORMATION.

NETWORK TSTAT REMOTE TEMP SENSOR PROVIDED BY SUNCOAST AND INSTALLED BY MC. FIELD CALIBRATE EACH SENSOR, TYP.

KEYED NOTES:

1. LOW VOLTAGE WIRING TO RTU TO BE ROUTED TO UNIT THRU FACTORY WIREWAY.

2. WIRING TO HUMIDITY SENSOR TO BE MADE WITH SINGLE 18/2 SENSOR CABLE:W221P-2003NT ONLY.

3. NETWORK TSTAT REMOTE TEMP SENSOR PROVIDED BY SUNCOAST AND INSTALLED BY MC. SENSOR IS INTENDED TO BE SURFACE MOUNTED AND DOES NOT REQUIRE A SINGLE GANG BOX OR CONDUIT. FIELD CALIBRATE EACH SENSOR. SEAL CABLE PENETRATION AT ALL WALL LOCATIONS.

4. FACTORY WIRING IN SUNCOAST T-500 PANEL NOT SHOWN FOR CLARITY. SEE SUNCOAST WIRING DIAGRAM FOR ADDITIONAL INFORMATION.

5. SY700 INTERFACE TO SET RELATIVE HUMIDITY. SET TO 60%.

6. CAT 5/5E CABLE BY M.C. NO SUBSTITUTIONS. REFER TO HVAC CONTROL WIRING DN 2023-035.

NOTES:

1. MECHANICAL CONTRACTOR SHALL MAKE PLASTIC LAMINATE OF THIS DETAIL AND INSTALL PERMANENTLY ON INSIDE DOOR OF ROOFTOP UNIT CONTROL COMPARTMENT.
2. SEE DETAILS THIS SHEET FOR SMOKE DETECTOR AND ANNUNCIATOR WIRING.
3. SET ALL THERMOSTATS FOR AUTO CHANGEOVER.
4. PROVIDE PLAIC ENGRAVLABEL AT ALL NEW SENSORS WITH 1/4" HIGH WHITE LETTERING ON BLACK BACKGROUND, I.E. "AC#2 HUMIDITY SENSOR" OR "AC#2 TEMP SENSOR". PLACE LABELS ON WALL ADJACENT TO DEVICE, DO NOT APPLY

LEGEND

| | |
|---|---|
| S.E.C. | SUNCOAST ENVIRONMENTAL CONTROLS (SUPPLIER OF TEMP/FAN CONTROL PANEL) LOCATED IN THE KITCHEN |
| 1 | KEY NOTE REFERENCE |
| MC | MECHANICAL CONTRACTOR |
| AC | SUNCOAST RELAY FACTORY INSTALLED AND WIRED IN CFA-500 PANEL, ENERGIZED BY PUTTING STORE SWITCH IN "STORE OCCUPIED" POSITION |
| AN | SUNCOAST RELAY FACTORY INSTALLED AND WIRED N CFA -500 PANEL, DENERGIZED WHEN ANSUL FIRE SUPPRESSION SYSTEM IS ACTIVATED, AS NOTED. |
| | ALL LOW VOLTAGE CABLING BY MC. ONLY USE CABLE SPECIFIED. NO SUBSTITUTIONS. |
| | LOW VOLTAGE WIRING BY S.E.C. |
| | LINE VOLTAGE BY ELECTRICIAN OR S.E.C. |

FRESH AIR TEMPERING KEYED NOTES:

1. INSTALL FRESH AIR TEMPERING KIT AS RECOMMENDED BY TRANE.

2. RIB2401B SPDT RELAY FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF TRANE UNIT.

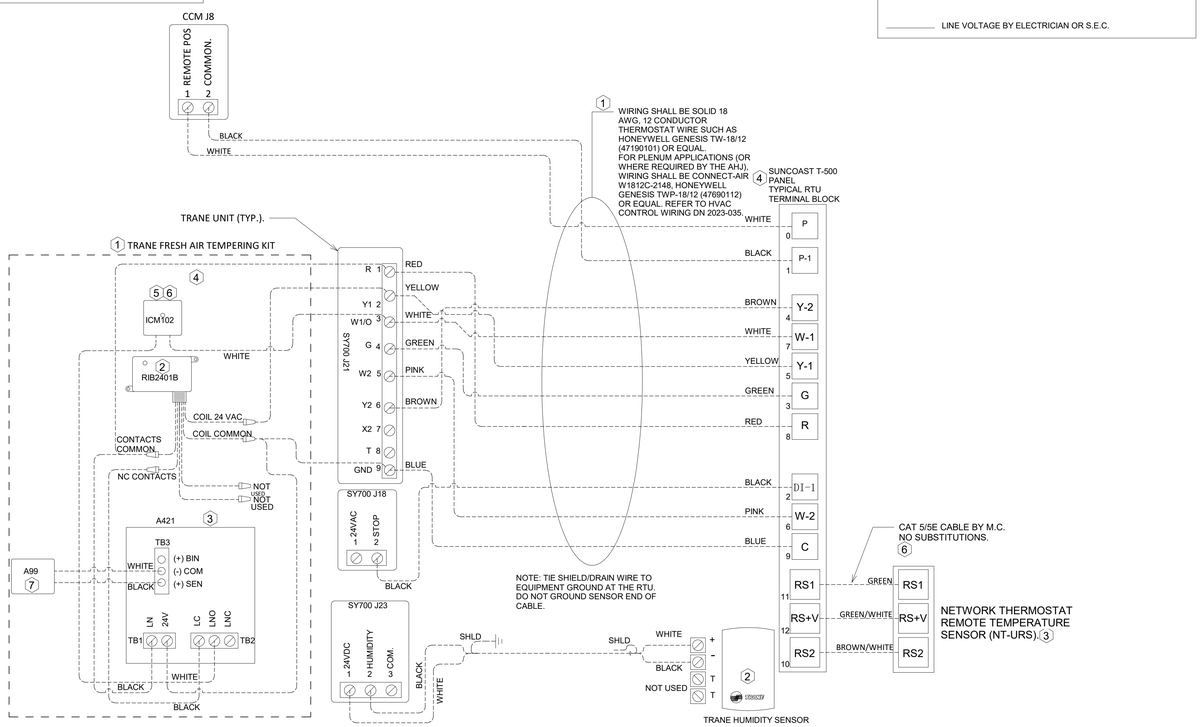
3. JCI A421 TEMPERATURE CONTROLLER FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR. DIN-MOUNTED IN THE RTU CONTROL CABINET. SET TO 58F. LOCATE TRANE PROVIDED JCI A99 SENSOR IN THE SUPPLY DUCT DOWNSTREAM OF FIRST ELBOW. SECURE WIRING TO DUCT WITH TE6001-1 SENSOR DUCT MOUNTING PLATE PROVIDED BY TRANE; DO NOT RUN WIRING INSIDE DUCTWORK.

4. 18 AWG MIN. LOW VOLTAGE WIRING BY MC.

5. ICM102 TIME DELAY RELAY FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF TRANE UNIT.

6. SET TIME DELAY RELAY (ICM102) TO 2 MINUTES.

7. PROVIDE JCI TE6001-1 TEMPERATURE ELEMENT HOLDER FOR SUPPLY AIR TEMPERATURE SENSOR (A99).




2 ROOFTOP UNIT CONTROL WIRING - TRANE
NOT TO SCALE


Chick-fil-A
5200 Buffington Road
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Telephone: (615) 255-5203


COMMONWEALTH OF MASSACHUSETTS
BRADLEY KURZYNSKE
MECHANICAL
NO. 48566
REGISTERED PROFESSIONAL ENGINEER
1/27/25

# CHICK-FIL-A
## Dartmouth FSU

286 State Rd
Dartmouth, MA 02747

1

**FSR#04631**

| | |
|---|---|
| BUILDING TYPE / SIZE: | P14 LE BN |
| RELEASE: | 23.11 |
| PRINTED FOR | ISSUE FOR CONSTRUCTION |

**REVISION SCHEDULE**

| NO. | DATE | DESCRIPTION |
|---|---|---|
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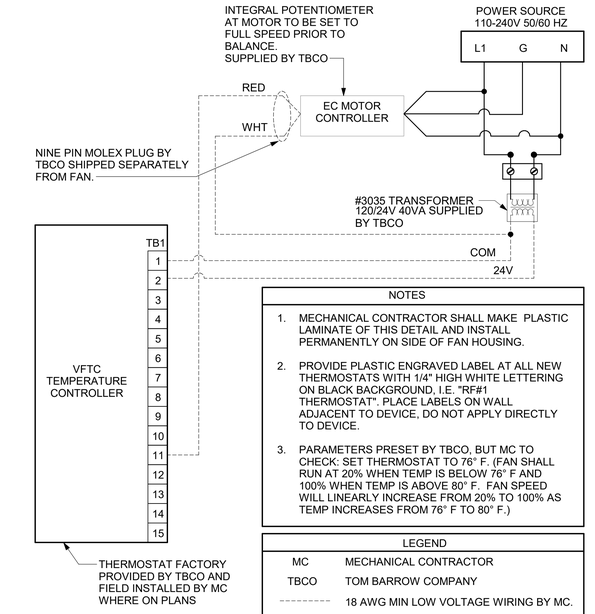
| 1 | 01/28/25 | ISSUE FOR CONSTRUCTION |

| | |
|---|---|
| CONSULTANT PROJECT # | 24067.CD.S |
| DATE | 06/10/2024 |
| DRAWN BY | BLM |



SHEET
CONTROL WIRING DIAGRAMS - TRANE

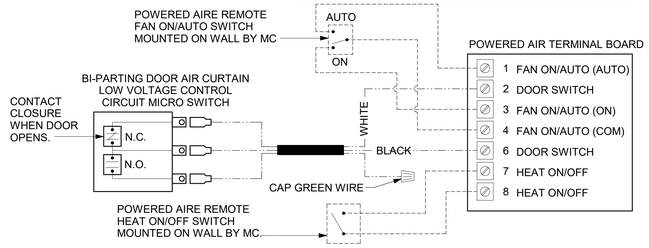
SHEET NUMBER
**M-701**




## 1 TECH CLOSET CONTROL DIAGRAM
NOT TO SCALE

AD#2 IS NOT PROVIDED WITH A BI-PARTING DOOR SWITCH. AD#2 IS PROVIDED WITH FACTORY DOOR MICROSWITCH. WIRE DOOR SWITCH WITH TERMINAL BOARD PER MFGR'S INSTRUCTIONS.

LEGEND
18 AWG MIN LOW VOLTAGE WIRING BY MC, U.N.O.
22 AWG LOW VOLTAGE WIRING PROVIDED BY TORMAX. WIRING INSTALLED BY MC.

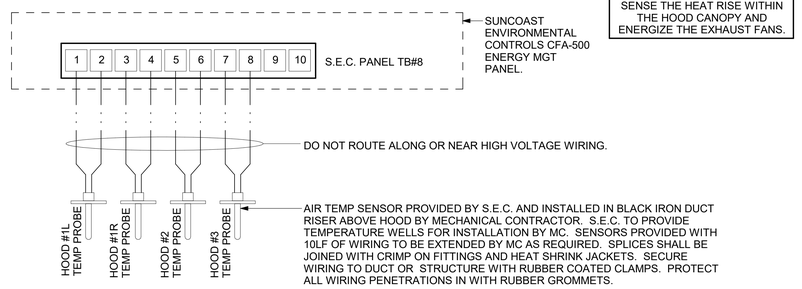



## 2 AIR CURTAIN WIRING DIAGRAM
NOT TO SCALE

LEGEND
S.E.C. SUNCOAST ENVIRONMENTAL CONTROLS CFA-500 ENERGY MGT PANEL
M.C. MECHANICAL CONTRACTOR
18 AWG MIN UNSHIELDED LOW VOLTAGE WIRING BY MC, U.N.O.

GENERAL NOTES
1. THE SUNCOAST H.E.S. SYSTEM HAS BEEN INTEGRATED INTO THE SUNCOAST ENVIRONMENTAL CONTROLS CFA-500 ENERGY MGT PANEL.

S.E.C. H.E.S. OPERATION
IN THE EVENT THAT ANY COOKING EQUIPMENT ITEM BENEATH ANY HOOD IS STARTED WITHOUT THE 'STORE SWITCH' BEING IN THE 'OCCUPIED' POSITION, THE H.E.S. CONTROLLER WILL SENSE THE HEAT RISE WITHIN THE HOOD CANOPY AND ENERGIZE THE EXHAUST FANS.




## 3 HOOD FAN/EQUIPMENT INTERLOCK - 3 Hood (4 Collars) - CFA500 Integrated
1/4" = 1'-0"

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203


1/27/25

# CHICK-FIL-A
## Dartmouth FSU
286 State Rd
Dartmouth, MA 02747

1

**FSR#04631**

BUILDING TYPE / SIZE: P14 LE BN
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CONSULTANT PROJECT # 24067.CD.S
DATE 06/10/2024
DRAWN BY BLM

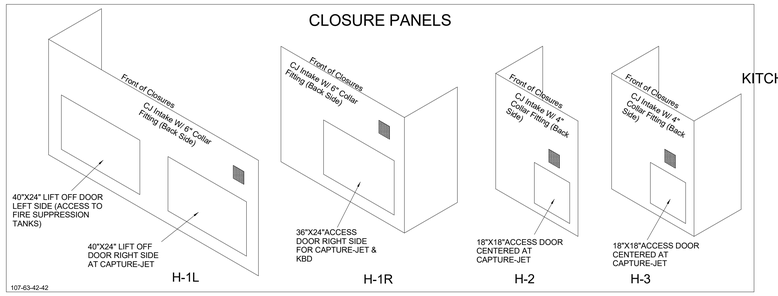


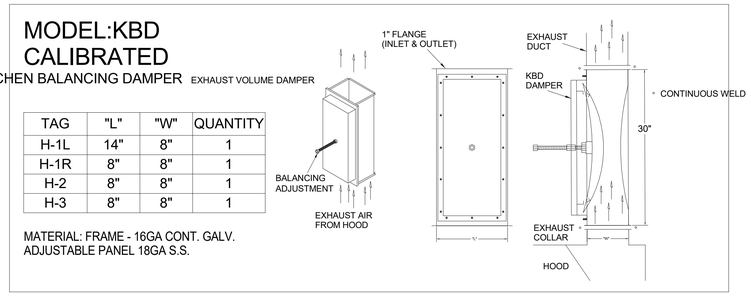
SHEET
CONTROL WIRING DIAGRAMS

SHEET NUMBER
**M-702**

| | | EXHAUST COLLAR | | | EXHAUST AIR INFORMATION | | | CAPTURE AIR INFORMATION | | S.S. KSA FILTERS | | | CEILING CLOSURES | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HOOD MODEL | HOOD NUMBER | QTY | LENGTH | WIDTH | CFM | TAB | SP | CFM | SP | FULL | HALF | LED LIGHTS | QTY | CLOSURE HEIGHT | CEILING HEIGHT | HOOD WEIGHT | KBD DAMPER | K FACTOR (CFM = K FACTOR * √DP) | MATERIAL |
| KVL-2-IC | H-1L | 1 | 14" | 8" | 1204 | 0.13" | 0.22" | 80 | 0.30" | 5 | - | 3 | 2 | 51" | 122" | 669 LBS | * | 3365 | EXPOSED SURFACES 18 GA. S.S. |
| KVL-2-IC | H-1R | 1 | 8" | 8" | 709 | 0.13" | 0.23" | 47 | 0.30" | 3 | - | 2 | 2 | | | 394 LBS | * | 1959 | |
| KVL-C-IC | H-2 | 1 | 8" | 8" | 701 | 0.30" | 0.39" | 30 | 0.29" | 2 | - | 1 | 2 | | | 245 LBS | * | 1291 | |
| KVL-C-IC | H-3 | 1 | 8" | 8" | 701 | 0.30" | 0.39" | 30 | 0.29" | 2 | - | 1 | 3 | | | 245 LBS | * | 1291 | |

**FOR REFERENCE ONLY**

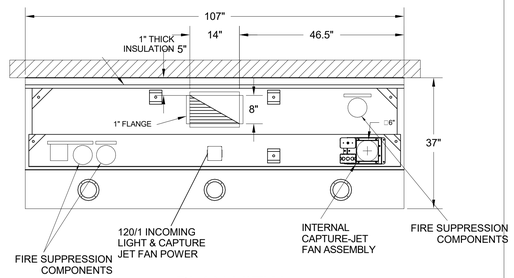


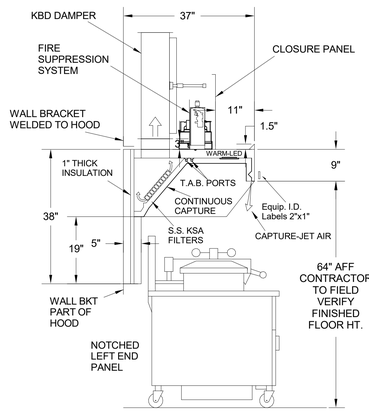

| TAG | "L" | "W" | QUANTITY |
|---|---|---|---|
| H-1L | 14" | 8" | 1 |
| H-1R | 8" | 8" | 1 |
| H-2 | 8" | 8" | 1 |
| H-3 | 8" | 8" | 1 |

MATERIAL: FRAME - 16GA CONT. GALV.
ADJUSTABLE PANEL 18GA S.S.

## H-1L



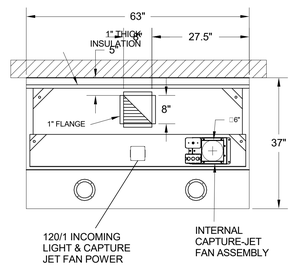

PLAN VIEW



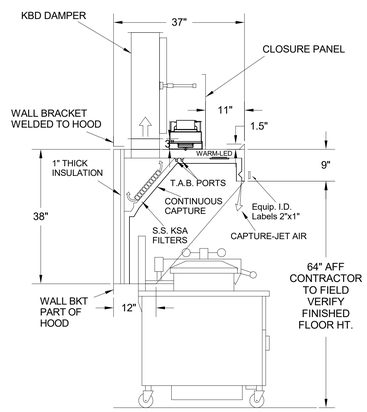

H-1L SECTION VIEW

- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
  - FRONT CLOSURE PANEL WITH 40"X24" LIFT OUT DOOR LEFT SIDE (ACCESS TO FIRE SUPPRESSION
  - 40"X24" LIFT DOOR RIGHT SIDE AT CAPTURE-JET WITH FRONT CJ INTAKE
  - CONTINUOUS CAPTURE INTERNAL RIGHT END CUTOUT
  - 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
  - NOTCHED LEFT END PANEL
  - EQUIPMENT COVERED:
    (4) PRESSURE FRYERS
    (2) GRILLS
- ANSUL WEIGHT = 286 LBS
- AMEREX WEIGHT = 264 LBS

## H-1R



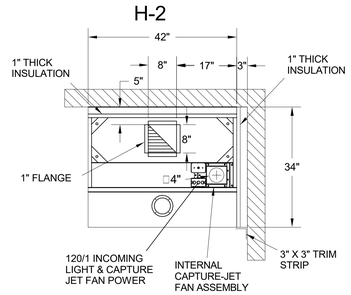

PLAN VIEW



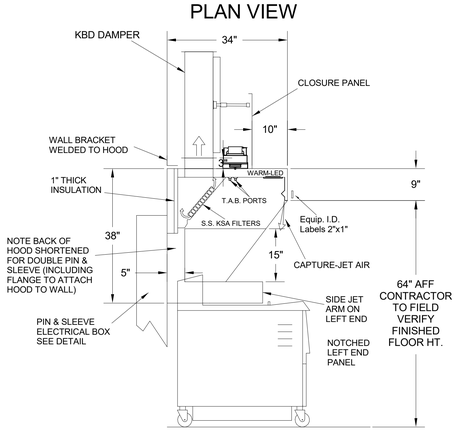

H-1R SECTION VIEW

- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
- 36"X24" ACCESS DOOR RIGHT SIDE FOR ACCESS TO CAPTURE-JET WITH FRONT CJ INTAKE & KBD
- CONTINUOUS CAPTURE INTERNAL LEFT END CUTOUT
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- EQUIPMENT COVERED:
  (3) PRESSURE FRYERS

## H-2



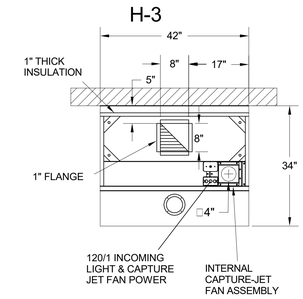

PLAN VIEW



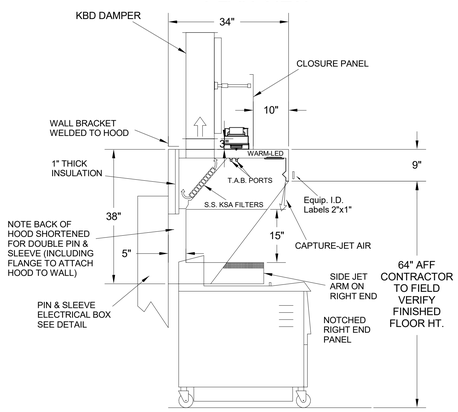

H-2 SECTION VIEW

- CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF
- 18"X18" ACCESS DOOR CENTERED AT CAPTURE-JET WITH FRONT CJ INTAKE
- NOTCHED LEFT END PANEL
- DOUBLE RECEPTACLE PIN & SLEEVE
- 3"X3" TRIM STRIP FOR STANDOFF ON RIGHT END
- 3" SIDE & REAR STAND-OFF TO HAVE 1" THICK INSULATION
- EQUIPMENT COVERED:
  (2) FRYERS

## H-3




PLAN VIEW




H-3 SECTION VIEW

- CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF
- 18"X18" ACCESS DOOR CENTERED AT CAPTURE-JET WITH FRONT CJ INTAKE
- NOTCHED RIGHT END PANEL
- DOUBLE RECEPTACLE PIN & SLEEVE
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- EQUIPMENT COVERED:
  (2) FRYERS




HALTON CO. (USA)
101 INDUSTRIAL DRIVE
SCOTTSVILLE, KY 42164
1-270-237-5600
WEBSITE: WWW.HALTONCOMPANY.COM

HALTON CO. (CANADA)
1021 BREVIK PLACE
MISSISSAUGA, ON L4W 3R7
1-905-624-0301

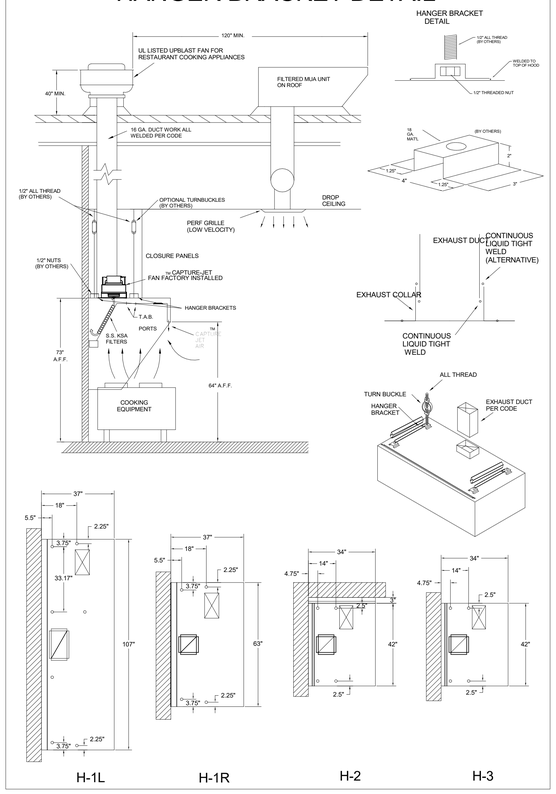

| REV: | REVISION DESCRIPTION | BY: | DATE |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |

PROJECT: **CHICK-FIL-A**
SN#: 04631
LOCATION: Dartmouth FSU
DRAWN BY:
DATE: 06/10/2024
SCALE: N.T.S
Halton Dwg:

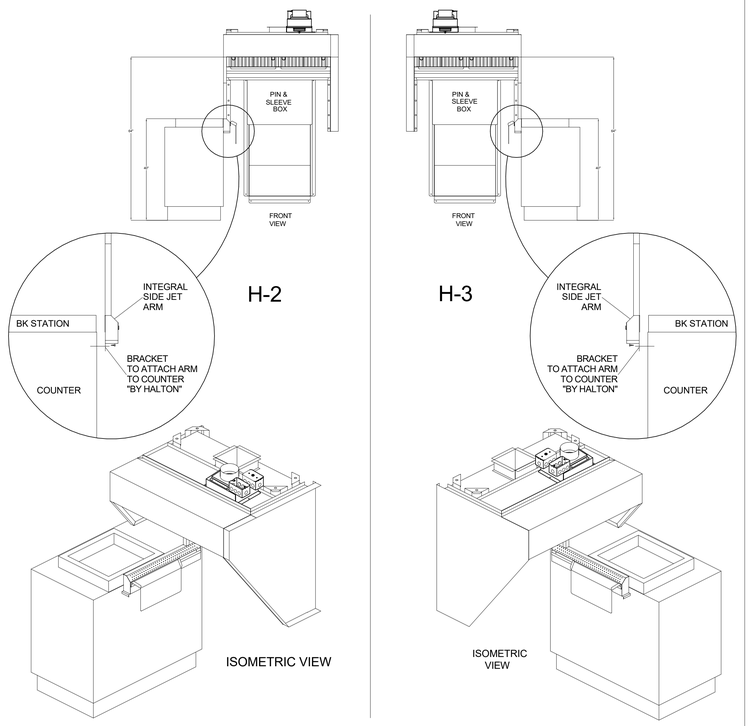
Halton
CARE FOR INDOOR AIR

Sheet
MH-1.1

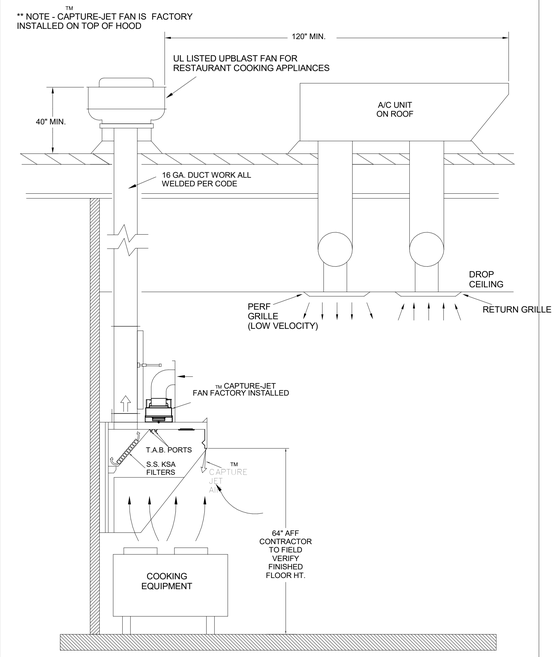
# HANGER BRACKET DETAIL




# INTEGRAL SIDE JET ARM




# TYPICAL INSTALLATION

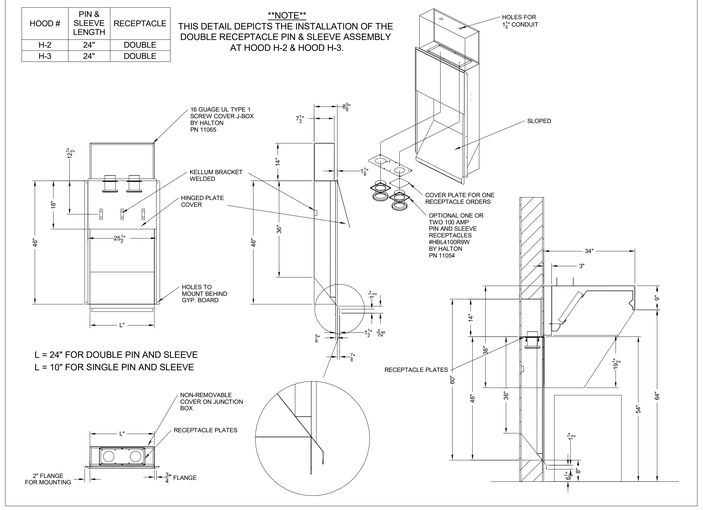



4105A

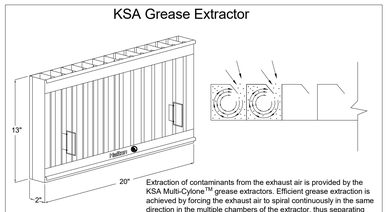
# PIN & SLEEVE BOX DETAIL

| HOOD # | PIN & SLEEVE LENGTH | RECEPTACLE |
|---|---|---|
| H-2 | 24" | DOUBLE |
| H-3 | 24" | DOUBLE |

**NOTE**
THIS DETAIL DEPICTS THE INSTALLATION OF THE DOUBLE RECEPTACLE PIN & SLEEVE ASSEMBLY AT HOOD H-2 & HOOD H-3.

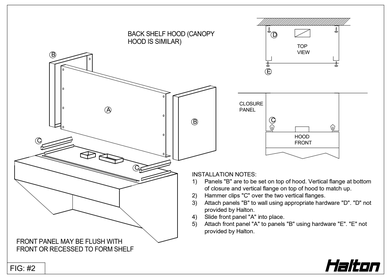



# KSA Grease Extractor




Extraction of contaminants from the exhaust air is provided by the KSA Multi-Cyclone™ grease extractors. Efficient grease extraction is achieved by forcing the exhaust air to spiral continuously in the same direction in the multiple chambers of the extractor, thus separating the grease particles from the air flow centrifugally. High extraction efficiency and low pressure loss over the KSA remain practically constant in use.

#132



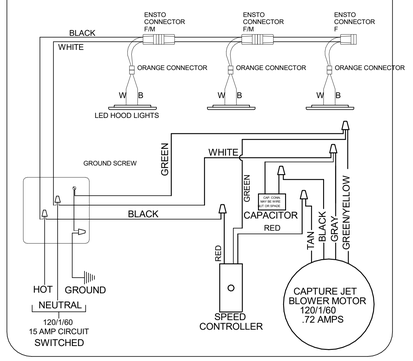

INSTALLATION NOTES:
1) Panels "B" are to be set on top of hood. Vertical flange at bottom of closure and vertical flange on top of hood to match up.
2) Hammer clips "C" over the two vertical flanges.
3) Attach panels "B" to wall using appropriate hardware "D". "D" not provided by Halton.
4) Slide front panel "A" into place.
5) Attach front panel "A" to panels "B" using hardware "E". "E" not provided by Halton.

FIG: #2

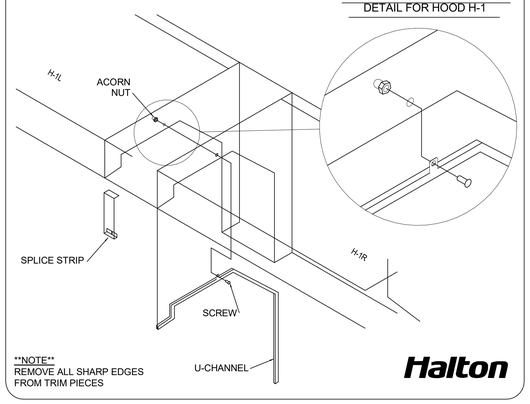
Halton

# TYPICAL WIRING OF CAPTURE-JET FAN

BY HALTON
BY ELECTRICIAN




# SPLICE STRIP/U-CHANNEL DETAIL FOR HOOD H-1




**NOTE**
REMOVE ALL SHARP EDGES FROM TRIM PIECES

Halton

HALTON HOODS
- ETL LISTED PER LATEST 710 STANDARD
- BUILT PER NFPA 96
- NSF LISTED

NSF Halton ETL LISTED — CONFORMS TO UL STD UL STD 710 CERTIFIED TO ULC STD S646
INTERTEK 3012225

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42164

| MODEL NO. | SERIAL NO. | ITEM NO. |
|---|---|---|
| KVL-C-IC | | |

GENERAL REQUIREMENTS

FILTER TYPE EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS

THE FAN CIRCUIT IS RATED FOR 120V, 15A, 60HZ.

THE LIGHTING CIRCUIT IS RATED FOR 120V, 15A, 60HZ.

THE HOOD HAS BEEN CERTIFIED BY ETL FOR 0 INCH CLEARANCE TO COMBUSTIBLE

MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL710 WITH CONSIDERATIONS TO NFPA 96

THE HOOD IS PROVIDED WITH REPLACEABLE KSA FILTERS AND LIGHTING FIXTURES

REPLACE FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER.

SUITABLE FOR USE TO MEDIUM DUTY COOKING APPLIANCES.

| DUTY LEVEL | MINIMUM OVERHANG | | DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, IN | | MIN. EXHAUST CFM/FT OF HOOD LENGTH |
|---|---|---|---|---|---|
| | FRONT, IN | SIDE, IN | MIN | MAX | |
| MEDIUM | 0 | 0 | 21 | 31 | 138 |
| JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.30 IN H20 | | | | | |

NSF Halton ETL LISTED — CONFORMS TO UL STD UL STD 710 CERTIFIED TO ULC STD S646
INTERTEK 3012225

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42164

| MODEL NO. | SERIAL NO. | ITEM NO. |
|---|---|---|
| KVL-2-IC | | |

GENERAL REQUIREMENTS

FILTER TYPE EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS

THE FAN CIRCUIT IS RATED FOR 120V, 15A, 60HZ.

THE LIGHTING CIRCUIT IS RATED FOR 120V, 15A, 60HZ.

THE HOOD HAS BEEN CERTIFIED BY ETL FOR 0 INCH CLEARANCE TO COMBUSTIBLE

MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL710 WITH CONSIDERATIONS TO NFPA 96

THE HOOD IS PROVIDED WITH REPLACEABLE KSA FILTERS AND LIGHTING FIXTURES

REPLACE FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER.

SUITABLE FOR USE TO HEAVY DUTY COOKING APPLIANCES.

| DUTY LEVEL | MINIMUM OVERHANG | | DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, IN | | MIN. EXHAUST CFM/FT OF HOOD LENGTH |
|---|---|---|---|---|---|
| | FRONT, IN | SIDE, IN | MIN | MAX | |
| MEDIUM | 6 (+) | 0 | 20 | 30 | 121 |
| MEDIUM | 6 | 0 | 20 | 32 | 106 |
| MEDIUM | 6 | 0 | 20 | 36 | 133 |
| HEAVY | 0 | 2 | 20 | 25 | 191 |
| HEAVY | 0 | 2 | 20 | 30 | 216 |
| +/- = SETBACK/UNDERHANG DISTANCE | | | | | |
| JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.26 IN H20 | | | | | |

**FOR REFERENCE ONLY**



| REV. | BY | DATE |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |

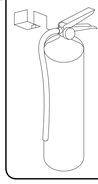
PROJECT: **CHICK-FIL-A**
LOCATION: Dartmouth FSU
DRAWN BY:
SCALE: NTS
Halton Dwg:
SN#: 04631
DATE: 06/10/2024

Halton CAPE FOR INDOOR AIR

Sheet
MH-1.2

ISO VIEW W/BRACKET

## FIRE EXTINGUISHER



ANSUL

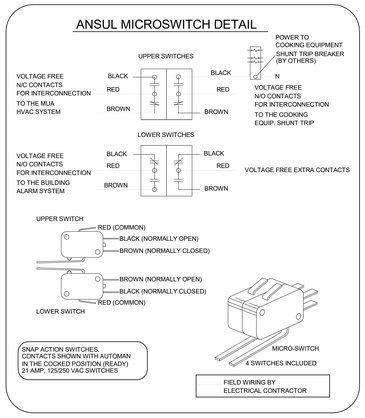
13051 5 LBS ABC MODEL AA05 QTY_____

13052 10 LBS ABC MODEL AA10S QTY_____

13053 6 LTR CLASS K-GUARD K01-3 QTY_____

SUPPLIED BY HALTON

## ANSUL MICROSWITCH DETAIL




**FOR REFERENCE ONLY**

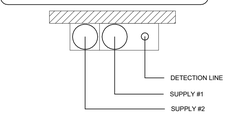
# NOTE:

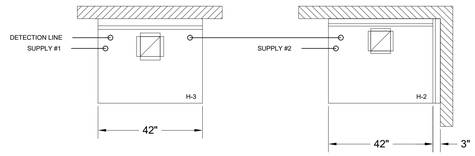
FIRE SYSTEM TYPE TO BE DETERMINED AT TIME OF ORDER RELEASE.

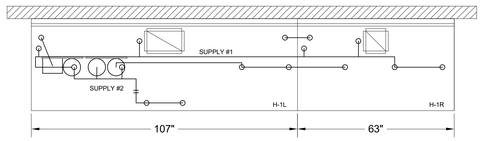
**PROTECTS HOODS H-2 & H-3**

REMOTE MOUNTED:

(1) REGULATED RELEASE (WITH ONE TANK)
(1) SINGLE TANK ENCLOSURE (WITH ONE TANK)



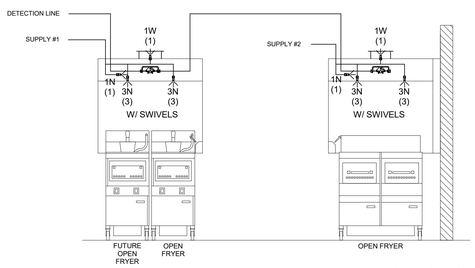



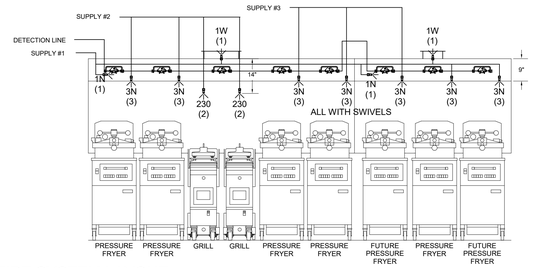

ANSUL R-102 FIRE SYSTEM
A) 6 GALLON SYSTEM (2 TANKS)
(REMOTE MOUNTED) (FOR HOOD H-2 & H-3)
B) 3/8" BLACK IRON PIPING WITH 3/8" S.S. APPLIANCE DROPS

(1) REGULATED RELEASE
(2) EXTRA MICRO SWITCH ASSEMBLIES (MOUNTED IN REG. REL.)
(1) SINGLE TANK ENCLOSURE
(2) 3 GALLON TANKS

ANSUL R-102 FIRE SYSTEM
A) 9 GALLON SYSTEM (3 TANKS)
(MOUNTED ON HOOD H-1L)
(FOR HOODS H-1L & H-1R)
B) 3/8" BLACK IRON PIPING WITH 3/8" S.S. APPLIANCE DROPS

(1) OEM REGULATED RELEASE
(2) EXTRA MICRO SWITCH ASSEMBLIES (MOUNTED IN OEM REG. REL.)
(3) 3 GALLON TANKS




ANSUL R-102 FIRE SYSTEM LAYOUT

# ANSUL

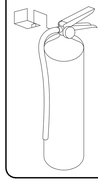
FUSIBLE LINK RATINGS
ITEM TEMP
OPEN FRYERS 450°
2 BURNER / FLAT TOP 450°
PRESSURE FRYERS 450°
GRILL 450°
EXHAUST COLLARS 450°
ANSUL R-102 FIRE SYSTEM NOTES
THREE TANK SYSTEM MOUNTED ON TOP OF (H-1L)
MAXIMUM FLOW POINTS = 33
ANSUL R-102 FIRE SYSTEM NOTES
TWO TANK SYSTEM REMOTE MOUNTED
MAXIMUM FLOW POINTS = 22

| ITEM | PART # | QTY | DESCRIPTION | FLOW PTS (TOTAL) |
|---|---|---|---|---|
| 1W | 10023 | 4 | DUCT NOZZLES | 4 |
| 1N | 10022 | 4 | PLENUM NOZZLES | 4 |
| 230 | 10025 | 2 | APPLIANCE NOZZLES | 4 |
| 3N | 10021 | 11 | APPLIANCE NOZZLES | 33 |
| | | | TOTAL FLOW POINTS | 45 |
| ITEM | | QTY | DESCRIPTION | |
| #200 | 10035 | 8 | SERIES DETECTORS W/ FUSIBLE LINKS | |
| #201 | 11973 | 2 | TERMINAL DETECTORS W/ FUSIBLE LINKS | |
| #202 | 10046 | 1 | OEM REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH | |
| #202 | 10033 | 1 | REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH | |
| #203 | 10333 | 5 | 3 GALLON TANKS | |
| #204 | 10044 | 1 | SINGLE TANK ENCLOSURE | |
| #205 | 10040 | 2 | REMOTE PULL STATION | |
| #206 | 10065 | 4 | DOUBLE TANK NITROGEN CARTRIDGE | |
| #207 | 11128 | 5 | 3 GALLON ANSULEX CONTAINER | |

ANSUL R-102 FIRE SYSTEM
UL LISTED PER STD LATEST STD 300
1. FINAL INSTALLATION IS TO BE MADE IN ACCORDANCE WITH ALL APPLICABLE CODES
2. ALL ELECTRICAL COMPONENTS FOR EQUIPMENT SHUT DOWN TO BE PROVIDED BY THE ELECTRICIAN. MICRO-SWITCH INSTALLED IN REGULATED RELEASE BY ANSUL INSTALLER
3. REMOTE PULL STATION LOCATED PER MECHANICAL DRAWINGS

ISO VIEW W/BRACKET

## FIRE EXTINGUISHER



AMEREX

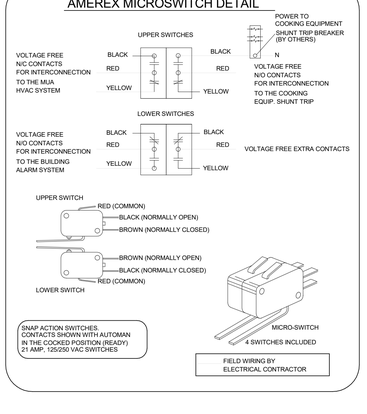
11238 5 LBS ABC MODEL B402 QTY_____

11239 10 LBS ABC MODEL B456 QTY_____

11240 6 LTR CLASS K MODEL C-260 QTY_____

SUPPLIED BY HALTON

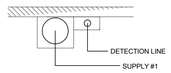
## AMEREX MICROSWITCH DETAIL



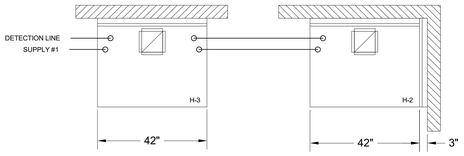

**PROTECTS HOODS H-2 & H-3**

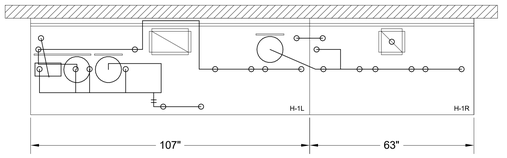
REMOTE MOUNTED:

(1) SYSTEM ENCLOSURE W/
(1) MECHANICAL RELEASE MODULE
(1) KP475 AGENT CYLINDER (4.75 GALLON TANK)




1/2" BLACK IRON SUPPLY LINE REQ'D FROM TANK TO FIRST BRANCH LINE FOR 475 TANKS ONLY!




AMEREX FIRE SYSTEM
A) (1) KP475 TANKS - 14 FLOW POINTS
(REMOTE MOUNTED) (FOR HOOD H-2 & H-3)
B) 3/8" BLACK IRON PIPING W/ 3/8" S.S. APPLIANCE DROPS

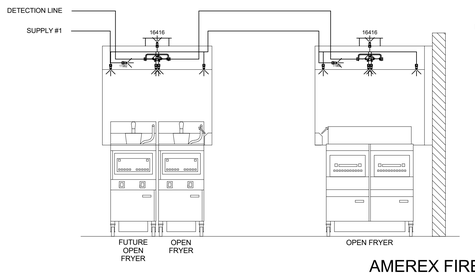
(1) SYSTEM ENCLOSURE
(1) MECHANICAL RELEASE MODULE
(2) EXTRA MICRO SWITCH ASSEMBLIES (MOUNTED IN MECHANICAL REL. MODULE)
(1) KP475 AGENT CYLINDERS (4.75 GALLON TANK)

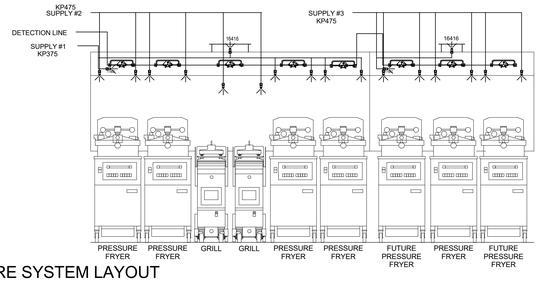
| NOZZLE | QTY | DESCRIPTION |
|---|---|---|
| 16416 | 1 EA. | DUCT NOZZLES |
| 11982 | 1 PER 10' | PLENUM NOZZLES |
| 11982 | 2 PER FRYER | ALL OPEN FRYERS |
| 13729 | 2 PER FRYER | ALL PRESSURE FRYERS |
| 14178 | 1 PER GRILL | ALL GRILLS |
| ALL APPLIANCE NOZZLES WITH SWIVELS | | |

* SEE ELEVATION VIEW FOR FIRE SYSTEM DESIGN.

AMEREX FIRE SYSTEM
A) (1) KP375 TANK - 11 FLOW POINTS (2) KP475 TANKS - 14 FLOW POINTS
(MOUNTED ON HOOD H-1L)
(FOR HOODS H-1L & H-1R)
B) 1/2" & 3/8" BLACK IRON PIPING W/ 3/8" S.S. APPLIANCE DROPS

(1) MECHANICAL RELEASE MODULE
(2) EXTRA MICRO SWITCH ASSEMBLIES (MOUNTED IN MECHANICAL REL. MODULE)
(1) 3.75 GALLON TANK
(2) 4.75 GALLON TANKS




AMEREX FIRE SYSTEM LAYOUT

# AMEREX

FUSIBLE LINK RATINGS
ITEM TEMP
OPEN FRYERS 450°
2 BURNER / FLAT TOP 450°
PRESSURE FRYERS 450°
GRILL 450°
EXHAUST COLLARS 450°
AMEREX FIRE SYSTEM NOTES
(1) KP375 & (2) KP475 TANK SYSTEM MOUNTED ON TOP OF (H-1L)
MAXIMUM FLOW POINTS = 39
AMEREX FIRE SYSTEM NOTES
(1) KP475 TANK SYSTEM REMOTE MOUNTED
MAXIMUM FLOW POINTS = 14

| ITEM | QTY | DESCRIPTION | FLOW PTS (TOTAL) |
|---|---|---|---|
| 16416 | 4 | DUCT NOZZLES | 4 |
| 11982 | 4 | PLENUM NOZZLES | 4 |
| 11982 | 8 | APPLIANCE NOZZLES | 8 |
| 14178 | 2 | APPLIANCE NOZZLES | 4 |
| 13729 | 14 | APPLIANCE NOZZLES | 28 |
| | | TOTAL FLOW POINTS | 48 |
| ITEM | QTY | DESCRIPTION | |
| 12508-P001 | 10 | DETECTORS BRACKET ASSEMBLY | |
| 13334 | 1 | KP375 AGENT CYLINDER | |
| 17379 | 3 | KP475 AGENT CYLINDER | |
| 18001 | 1 | MECHANICAL RELEASE MODULE WITH ENCLOSURE WITH DOUBLE POLE MICRO SWITCH | |
| 11977 | 1 | MECHANICAL RELEASE MODULE WITHOUT ENCLOSURE WITH DOUBLE POLE MICRO SWITCH | |
| 21481 | 2 | REMOTE MANUAL PULL STATION | |

AMEREX FIRE SYSTEM
UL LISTED PER STD LATEST STD 300
1. FINAL INSTALLATION IS TO BE MADE IN ACCORDANCE WITH ALL APPLICABLE CODES
2. ALL ELECTRICAL COMPONENTS FOR EQUIPMENT SHUT DOWN TO BE PROVIDED BY THE ELECTRICIAN. MICRO-SWITCH INSTALLED IN REGULATED RELEASE BY AMEREX INSTALLER
3. REMOTE PULL STATION LOCATED PER MECHANICAL DRAWINGS

THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE HALTON REPRESENTATIVE BEFORE ANY FABRICATION IS PERFORMED.

1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS AND CLEARANCES.

NOTE: THE APPLICATION AND TYPE OF COOKING EQUIPMENT, EQUIPMENT POSITION, MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED AND OF THESE CHANGES OCCUR, A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

REVISE AND RESUBMIT
APPROVED FOR FABRICATION WITH CHANGES AS NOTED
APPROVED WITH NO CHANGES

APPROVED BY: DATE:

MAL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW

HALTON CO. (CANADA)
1021 BREVIK PLACE
MISSISSAUGA, ON L4W 3R7
1-905-624-0901

HALTON CO. (USA)
101 INDUSTRIAL DRIVE
SCOTTSVILLE, KY 42164
1-270-237-5600

WEBSITE: WWW.HALTONCOMPANY.COM

REVISION DESCRIPTION | BY | DATE

REV.: 1 2 3 4 5 6 7

PROJECT: CHICK-FIL-A

LOCATION: Dartmouth FSU

DRAWN BY:

DATE: 06/10/2024

SCALE: NTS

Halton Dwg:

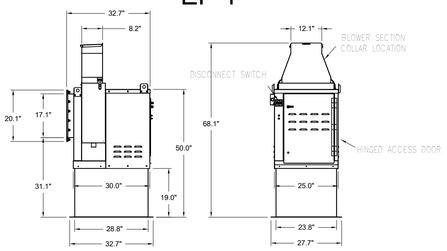
SN#: 04631

Halton CARE FOR INDOOR AIR

Sheet MH-1.3

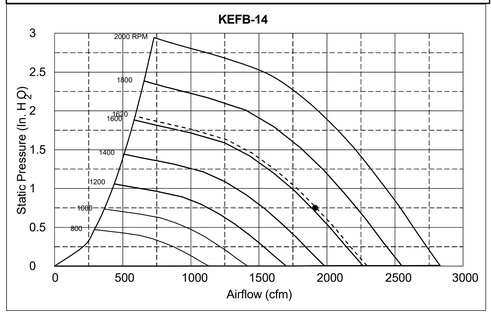
**FOR REFERENCE ONLY**

# EF-1

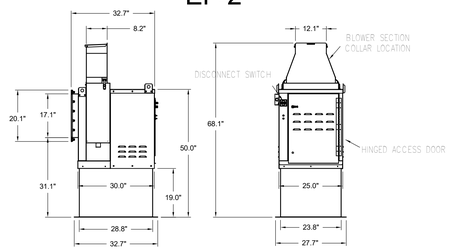



Halton KEFB Exhaust Fan

| | | | | | |
|---|---|---|---|---|---|
| Job Name | Chick-fil-A | | | | |
| Location | EF-1 | | | | |
| Date | 1/26/2023 | Item No | | Qty | |
| Model | KEFB-14 | Fan RPM | 1,747 | Volts/Ph/Amps: | 115/1/60 |
| Airflow, cfm | 1,913 | Fan BHP | 0.55 | Motor HP | 0.75 |
| Static Pressure, in WC | 0.75 | dB | 85.3 | TAB Port, in WC | 4 |

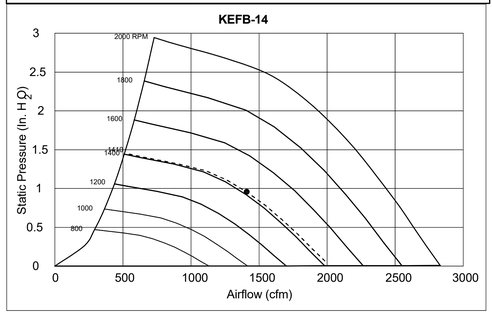



# EF-2




Halton KEFB Exhaust Fan

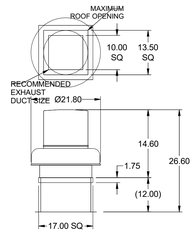
| | | | | | |
|---|---|---|---|---|---|
| Job Name | Chick-fil-A | | | | |
| Location | EF-2 | | | | |
| Date | 1/26/2023 | Item No | | Qty | |
| Model | KEFB-14 | Fan RPM | 1,522 | Volts/Ph/Amps: | 115/1/60 |
| Airflow, cfm | 1,402 | Fan BHP | 0.38 | Motor HP | 0.75 |
| Static Pressure, in WC | 0.95 | dB | 81.6 | TAB Port, in WC | 2.1 |




## Model: XRED-095-VG

Direct Drive Centrifugal Roof Exhaust Fan

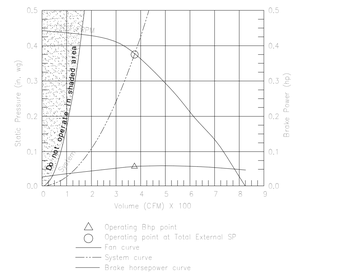
| Dimensional | |
|---|---|
| Quantity | 1 |
| Weight w/o Acc's (lb) | 28 |
| Weight w/ Acc's (lb) | 35 |
| Weight w/ Acc's and Curb (lb) | 49 |
| Standard Curb Cap Size (in.) | 17 x 17 |
| Optional Damper (in.) | 10 x 10 |
| Roof Opening (in.) | 13.5 x 13.5 |
| **Performance** | |
| Requested Volume (CFM) | 375 |
| Actual Volume (CFM) | 375 |
| Total External SP (in. wg) | 0.375 |
| Fan RPM | 1207 |
| Operating Power (hp) | 0.05 |
| Elevation (ft) | 23 |
| Airstream Temp.(F) | 70 |
| Air Density (lb/ft3) | 0.075 |
| Tip Speed (ft/min) | 3,437 |
| Static Eff. (%) | 41 |
| **Misc Fan Data** | |
| Fan Eff. Index (FEI) | - |
| Outlet Velocity (ft/min) | 323 |




| Motor | |
|---|---|
| Motor Mounted | Yes |
| Size (hp) | 1/8 (or greater) |
| Voltage/Cycle/Phase | 115/60/1 |
| Enclosure | ODP |
| Motor RPM | 1550 |
| Efficiency Rating | Standard |
| Windings | 1 |

# EF-3

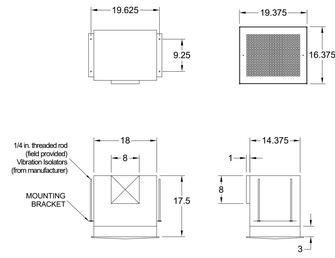
OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.

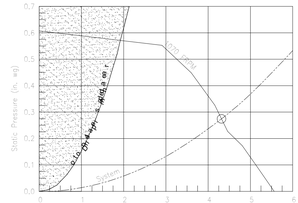



## Model: SP-A510-VG

| Dimensional | |
|---|---|
| Quantity | 1 |
| Weight w/o Acc's (lb) | 31 |
| Weight w/ Acc's (lb) | 40 |
| **Performance** | |
| Requested Volume (CFM) | 450 |
| Actual Volume (CFM) | 431 |
| Total External SP (in. wg) | 0.275 |
| Fan RPM | 1070 |
| * FLA (A) | 3.3 |
| Elevation (ft) | 23 |
| Airstream Temp.(F) | 70 |
| Air Density (lb/ft3) | 0.075 |
| Sones | 4.5 |
| **Motor** | |
| Motor Mounted | Yes |
| ** Input Watts (W) | 224 |
| Voltage/Cycle/Phase | 115/60/1 |
| Enclosure | ODP |

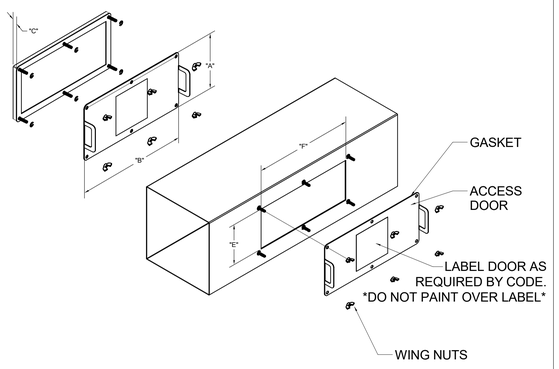
# RF-1



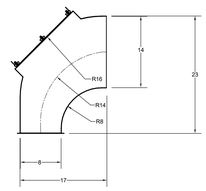



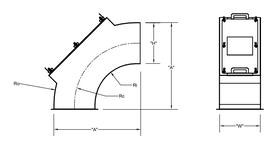

| GREASE ACCESS DOOR SCHEDULE | | | | | |
|---|---|---|---|---|---|
| | DOOR SIZE | | OPTIONAL FLANGE | OPENING | |
| MODEL | "A" | "B" | "C" | "E" | "F" |
| KAP0715 | 7 | 15 | FLAT | 5.5 | 13.5 |
| KAP1015 | 10 | 15 | 1/2 | 7 | 12 |

ACCESS DOORS SHALL BE U.L. 1978 LISTED OR FIELD FABRICATED, REQUIRE NO TOOLS FOR REMOVAL AND MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE IMC. ACCESS DOOR SHALL BE SECURED WITH THUMB SCREWS. ACCESS DOORS SHALL BE SEALED WITH A MINIMUM 1500 DEREE GASKET MATERIAL

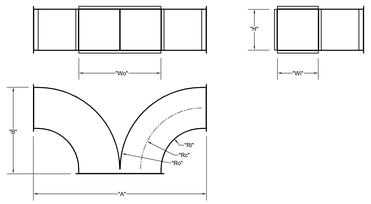



INSTALL PER MANUFACTURER'S INSTRUCTIONS

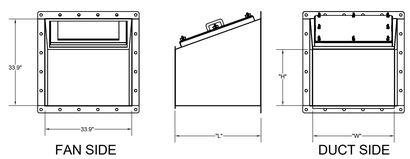


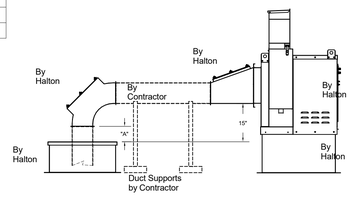

| "H" | "W" | "A" | Ro | Rc | Ri |
|---|---|---|---|---|---|
| 14 | 8 | 29 | 28 | 21 | 14 |
| 8 | 8 | 17 | 16 | 12 | 8 |




| | "Wi" | "H" | Wo | Ro | Rc | Ri | "A" | "B" |
|---|---|---|---|---|---|---|---|---|
| EF-1 | 8 | 14 | 16 | 16 | 12 | 8 | 34 | 17 |
| EF-2 | 8 | 10 | 16 | 16 | 12 | 8 | 34 | 17 |



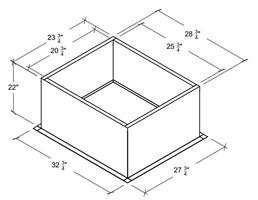

| TRANSITION | "H" | "W" | "L" |
|---|---|---|---|
| EF-1 (5) | 14 | 16 | 25 |
| EF-2 (6) | 10 | 16 | 17 |

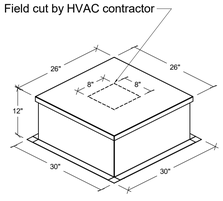



"A" DISTANCE AVAILABLE FOR DUCT SLOPE

| | ELBOW | "A" |
|---|---|---|
| EF-1 | 14X8 | 6 |
| EF-2 | 8X8 | 10 |

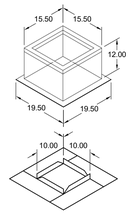
## Halton Kitchen Exhaust Fan Curb
## Insulated Duct Curb




**Kitchen Exhaust Fan Roof Curb**
**Standard Construction Features:**
- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of 18 ga aluminized steel - Straight Sided without a cant - 2 in. mounting flange - Height is 22 in.

**Insulated Duct Curb**
**Standard Construction Features:**
- Duct Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of 18 ga aluminized steel - Straight Sided without a cant - 2 in. mounting flange - Height is 12 in. - 16 ga. cap




## Model: GPI
## For Model: XRED-090-VG
## Curb & Damper Tray

| Accessories | | | | |
|---|---|---|---|---|
| Material | Security Bars | Liner | Insulation (in.) | Insulation R Value |
| Galvanized | No | No | 1 | R4.3 |

**General**

| Tag | Qty | Model | Sizing Method | Undersizing (in.) | Weight (lb) | Shipped Assembled | Union Label |
|---|---|---|---|---|---|---|---|
| EF-3 | 1 | GPI-17 | Nominal | 1.5 | 14 | Yes | No Preference |

**Dimensions**

| Curb Height (in.) | Nominal Outside Width (in.) | Nominal Outside Length (in.) | Actual Outside Width (in.) | Actual Outside Length (in.) | Actual Inside Width (in.) | Actual Inside Length (in.) | Flange Width (in.) | Flange Length (in.) | Hinge Base Width* (in.) | Hinge Base Length* (in.) |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 17 | 17 | 15.5 | 15.5 | 12 | 12 | | 19.5 | 16 | |

*May not be applicable



| REV: | BY: | DATE |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |

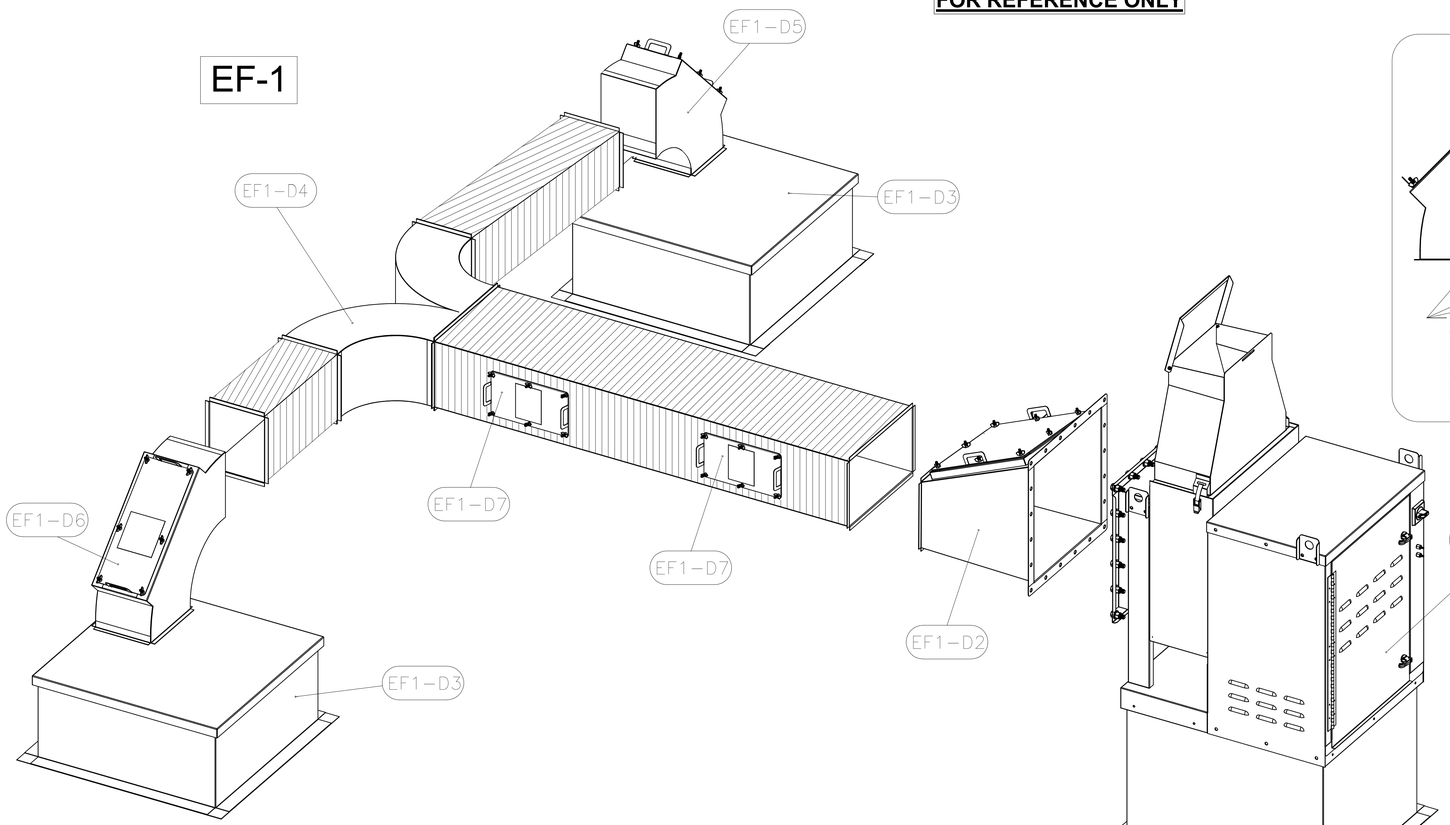
PROJECT: **CHICK-FIL-A** SN#: 04631
LOCATION: Dartmouth FSU DATE: 06/10/2024
DRAWN BY: SCALE: NTS
Halton Dwg:

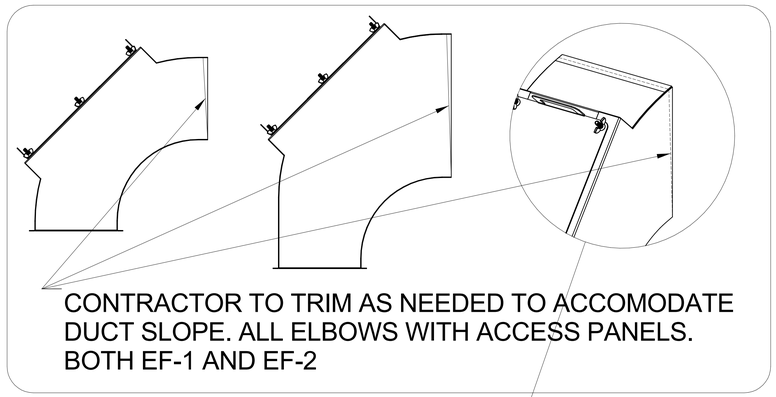
Halton CARE FOR INDOOR AIR

Sheet MH-1.4

**FOR REFERENCE ONLY**

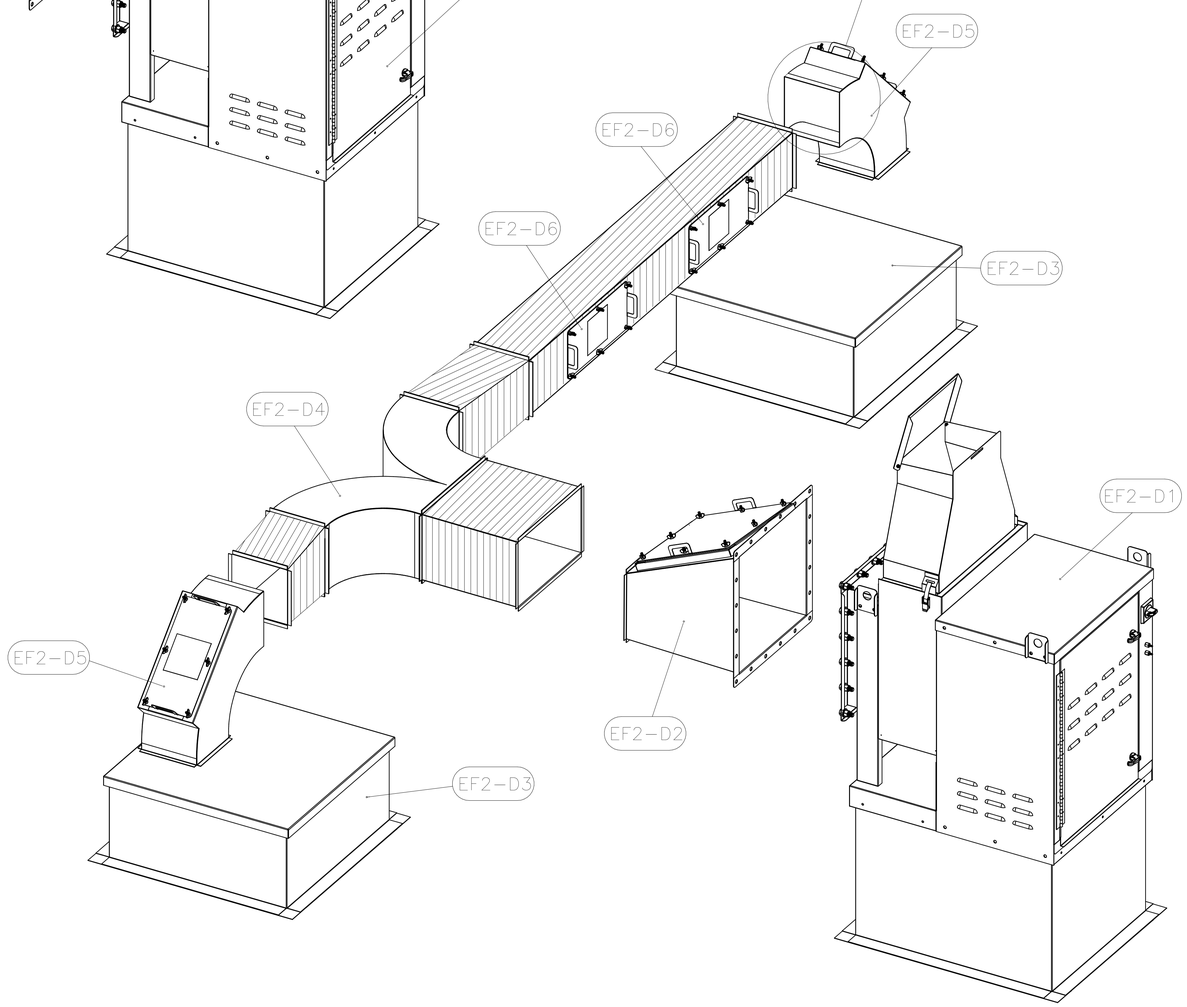
## EF-1



CONTRACTOR TO TRIM AS NEEDED TO ACCOMODATE DUCT SLOPE. ALL ELBOWS WITH ACCESS PANELS. BOTH EF-1 AND EF-2

## EF-2




| EXHAUST FAN #1 (EF-1) | | |
|---|---|---|
| ITEM | DESCRIPTION | QTY |
| EF1-D1 | KEFB EXHAUST FAN W/ ROOF CURB | 1 |
| EF1-D2 | FAN TRANSITION W/ UL LISTED ACCESS PANEL 14X16 | 1 |
| EF1-D3 | DUCT ROOF CURB W/ CAP 26X26X12 | 2 |
| EF1-D4 | LONG SWEEPING WYE 14X8 | 1 |
| EF1-D5 | LONG SWEEPING ELBOW TRANS W/ UL LISTED ACCESS PANEL 8X8 TO 8X14 | 1 |
| EF1-D6 | LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 14X8 | 1 |
| EF1-D7 | UL LISTED ACCESS PANEL 10X15 | 2 |
| | | |

| EXHAUST FAN #2 (EF-2) | | |
|---|---|---|
| ITEM | DESCRIPTION | QTY |
| EF2-D1 | KEFB EXHAUST FAN W/ ROOF CURB | 1 |
| EF2-D2 | FAN TRANSITION W/ UL LISTED ACCESS PANEL 10X16 | 1 |
| EF2-D3 | DUCT ROOF CURB W/ CAP 26X26X12 | 2 |
| EF2-D4 | LONG SWEEPING WYE 8X10 | 1 |
| EF2-D5 | LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 8X8 | 2 |
| EF2-D6 | UL LISTED ACCESS PANEL 7X15 | 2 |
| | | |

-CONTACT HALTON CUSTOMER SERVICE FOR HALTON PROVIDED ITEMS ONLY DUCT SECTIONS SPECIFIED BY NUMBERS AND SHOWN IN THE ABOVE CHART ARE PROVIDED BY HALTON

-ALL OTHER DUCTS AND FITTINGS BY HVAC CONTRACTOR. DUCT SECTIONS PROVIDED BY HVAC CONTRACTOR ARE SHOWN IN ORDER TO DEPICT TOTAL SYSTEM DESIGN. DUCT SECTIONS SHOWN WITH UL LISTED ACCESS PANELS, THAT ARE NOT HALTON PROVIDED LONG SWEEPING ELBOWS OR FAN TRANSITIONS, ARE PROVIDED BY HVAC CONTRACTOR. THE UL LISTED ACCESS PANELS PROVIDED BY HALTON MUST BE INSTALLED IN DUCT SECTIONS NOT PROVIDED BY HALTON BY HVAC CONTRACTOR.

-ALL DUCTS AND FITTINGS DEPICTED BY HATCH AREAS ARE BY HVAC CONTRACTOR.

THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE HALTON REPRESENTATIVE BEFORE ANY FABRICATION IS PERFORMED.

1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS AND CLEARANCES.
2. THE APPLICATION AND TYPE OF COOKING EQUIPMENT.

NOTE: ANY CHANGES TO THE ABOVE LISTED ITEMS, INCLUDING ENERGY INPUTS PER EQUIPMENT POSITION, MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED AND OF THESE CHANGES OCCUR. A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

☐ REVISE AND RESUBMIT
APPROVED FOR FABRICATION ☐ WITH CHANGES AS NOTED
☐ WITH NO CHANGES

APPROVED BY: DATE:

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW WEBSITE: WWW.HALTONCOMPANY.COM

HALTON CO. (USA) ☒
101 INDUSTRIAL DRIVE
SCOTTSVILLE, KY 42164
1-270-237-5400

HALTON CO. (CANADA) ☐
1021 BREVIK PLACE
MISSISSAUGA, ON L4W 3R7
1-905-624-0301

| REV. | BY | DATE | REVISION DESCRIPTION |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |

PROJECT: **CHICK-FIL-A**

LOCATION: Dartmouth FSU SN#: 04631
DRAWN BY: DATE: 06/10/2024
SCALE: NTS
Halton Dwg:

Halton CARE FOR INDOOR AIR

Sheet
MH-1.5