

LEGEND			
A-12-400	TYPE - NECK SIZE - CFM	EPH	EXHAUST FAN #1 (TYP.)
	SPIN-IN FITTING WITH MANUAL BALANCING DAMPER, WITHOUT SCOOP	ACH	AIR CONDITIONING UNIT #1 (TYP.)
	SPIN-IN HARD ϕ FLEXIBLE ϕ DIFFUSER		RETURN/EXHAUST (TYP.)
	REMOTE TEMPERATURE SENSOR		SUPPLY DIFFUSER, SQ. FACE (TYP.)
	LENNOX HUMIDITY SENSOR		PLAN NOTE REFERENCE
	SMOKE DETECTOR		MANUAL VOLUME DAMPER
	DUCT SIZE 1ST NUMBER - HORIZONTAL DIMENSION 2ND NUMBER - VERTICAL DIMENSION		DIRECTION OF THROW ON DIFFUSER

KEY NOTES

- MOUNT REMOTE SENSOR ON WALL AT 5'-0" AFF AND ROUTE WIRING BACK TO TEMP CONTROL PANEL IN ELECTRICAL ROOM.
- MOUNT LENNOX HUMIDITY SENSOR ON WALL AT 5'-0" AFF AND ROUTE WIRING TO UNIT ON ROOF.
- BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 3'-0" FROM THE ELBOW AT THE SUPPLY AIR DROP FROM CURB.
- TRANSITION FROM FULL SIZE OF CURB OPENING TO 30X18 IN DROP. PROVIDE TURNING VANES IN ELBOW.
- TRANSITION FROM FULL SIZE OF CURB OPENING TO 20'X20". EXTEND 18" MIN BELOW STRUCTURE TO ALLOW TAKEOFFS.
- TRANSITION FROM FULL SIZE OF CURB OPENING TO 24X20 IN DROP. HOLD DUCT CLOSE TO WALL AT HAND SINK TO PROVIDE MAXIMUM CLEARANCE DUE TO LIGHT FIXTURES. PROVIDE TURNING VANES IN ELBOW.
- MOUNT REMOTE SENSOR FOR PLAYGROUND 10'-4" AFF NEAR THE RETURN AIR GRILLE ON THE WALL, AND ROUTE WIRING BACK TO TEMP CONTROL PANEL IN ELECTRICAL ROOM.
- TRANSITION FROM FULL SIZE OF CURB OPENING TO 30X16 IN DROP. PROVIDE TURNING VANES IN ELBOW.
- TRANSITION FROM FULL SIZE OF CURB OPENING TO 24X16 IN DROP. PROVIDE TURNING VANES IN ELBOW.
- MOUNT LENNOX HUMIDITY SENSOR ON WALL AT 10'-4" AFF NEAR THE RETURN AIR GRILLE ON THE WALL AND ROUTE WIRING TO UNIT ON ROOF.

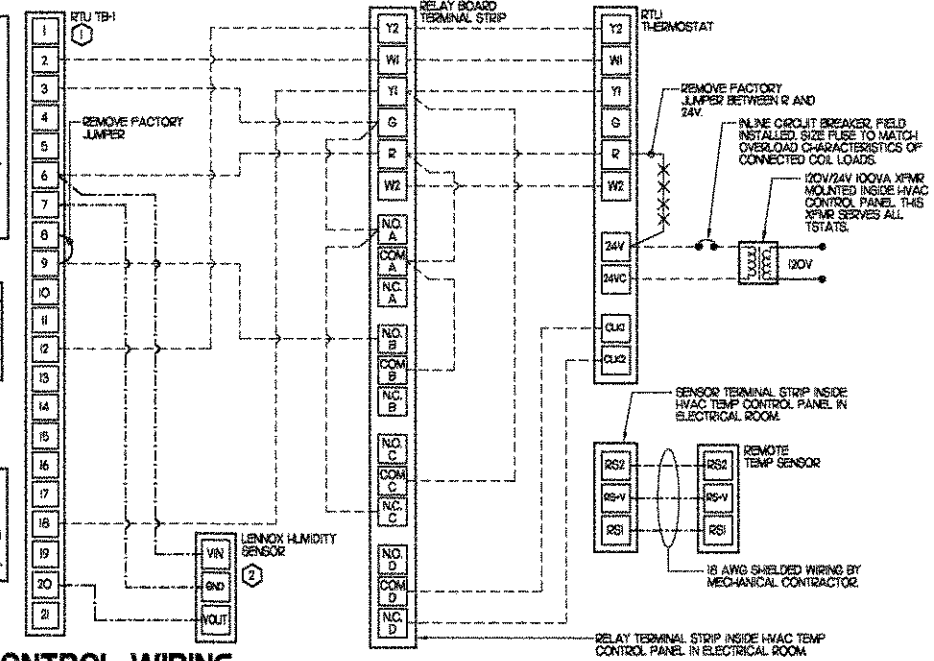
NOTES:

- EXCEPT AT ACH, CHANGE IMC BOARD ECTO PARAMETER 301 Q20 FOR LEA UNITS FROM THE DEFAULT SETTING TO ZERO. THIS WILL CAUSE THE O.A. DAMPER TO OPEN ON 'OCCUPIED' START. THE O.A. DAMPER AT ACH WILL REMAIN CLOSED FOR THE FIRST 60 MINUTES AFTER 'OCCUPIED' START.
- MECHANICAL CONTRACTOR SHALL MAKE PLASTIC LAMINATE OF THIS DETAIL AND INSTALL PERMANENTLY ON INSIDE DOOR OF ROOFTOP UNIT CONTROL COMPARTMENT.
- SEE DETAIL SWS FOR SMOKE DETECTOR AND ANNUNCIATOR WIRING.

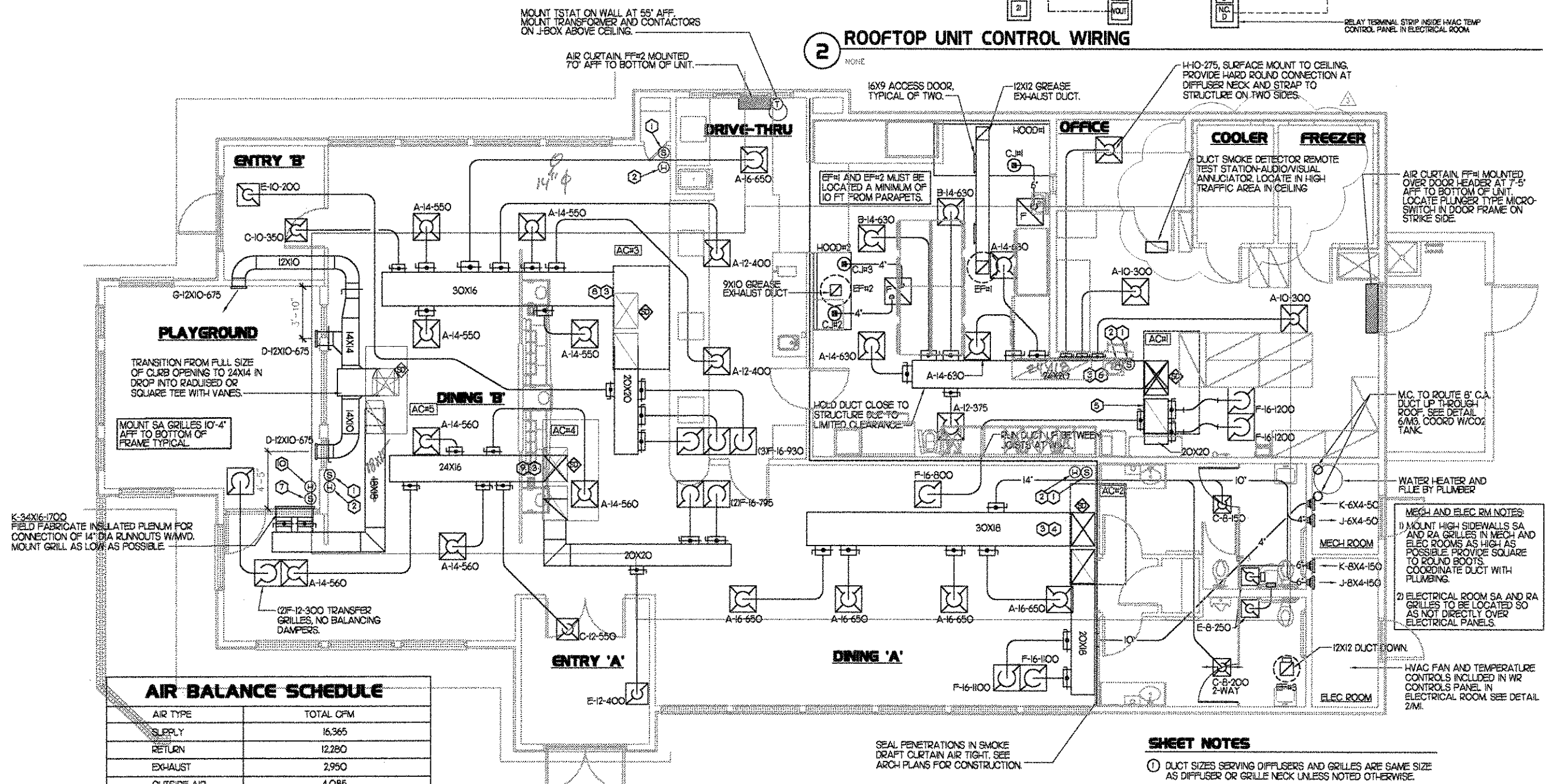
LEGEND	
WR MSH	WR CONTROLS HVAC PANEL
---	18 GA WIRING BY CONTRACTOR
---	LINE VOLTAGE
---	SHIELDED CABLE

KEYED NOTES:

- 18 AWG WIRING TO RTU TO BE ROUTED TO UNIT THRU FACTORY WIREWAY.
- WIRING TO HUMIDITY SENSOR TO BE MADE WITH TWO SEPARATE RUNS OF SHIELDED TWISTED PAIR. SEE LENNOX INSTALLATION INSTRUCTIONS.



2 ROOFTOP UNIT CONTROL WIRING



AIR BALANCE SCHEDULE	
AIR TYPE	TOTAL CFM
SUPPLY	16,365
RETURN	12,280
EXHAUST	2,950
OUTSIDE AIR	4,085
BUILDING POSITIVE PRESSURE	1,935

1 MECHANICAL FLOOR PLAN

5200 Buffington Rd.
Atlanta Georgia,
30349-2998

Revisions:

Mark	Date	By
△	05/23/03	SAW
△		CITY COMMENTS
Mark	Date	By
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SHEET TITLE
**MECHANICAL
FLOOR PLAN**

DWG EDITION Series 03
Preliminary
80% Submittal
For Construction

Job No. 2002.0697
Store : 1537
Date : 2/13/03
Drawn By : MDS
Checked By : ROB

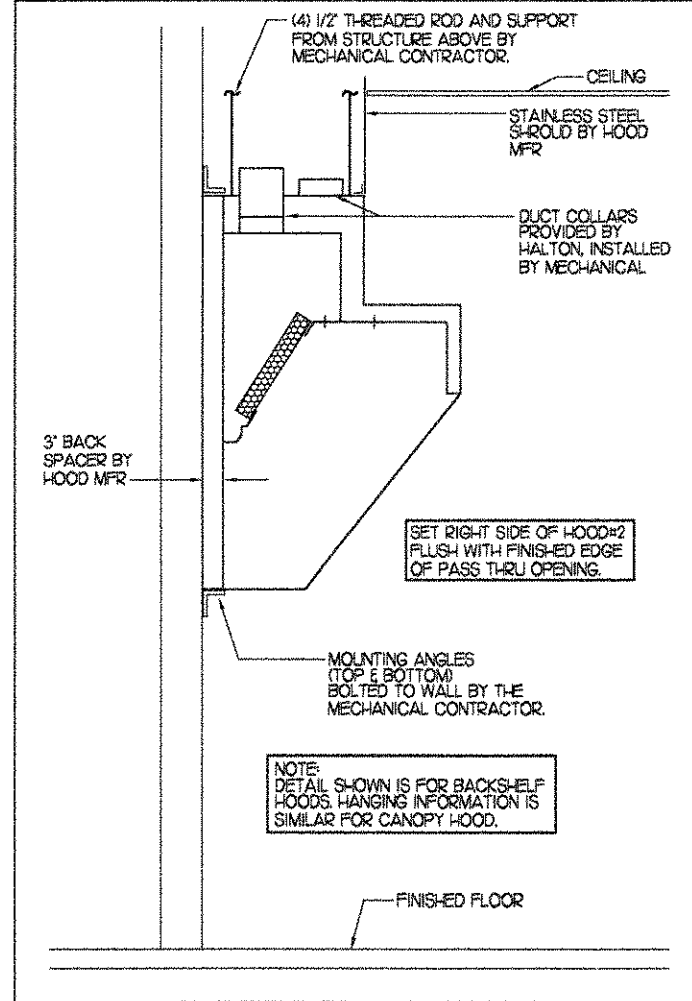
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M-1

KITCHEN HOOD SYSTEMS NOTES

- 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 GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING THE HOODS. CONTACT HALTON CO. AT 270-237-5600 FOR MORE INFO.
- REFER TO "PART 2 CONTROLS" OF THE MECHANICAL SPECIFICATIONS FOR DIFFERENTIATION BETWEEN CONTROL AND POWER WIRING RESPONSIBILITIES.
- ANY CONTACTORS OR WIRING REQUIRED FOR SHUT-OFF OF ELECTRIC COOKING EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
- ALL ROOF CURBS SHALL BE SHIMMED LEVEL.
- ROOF CURBS FOR EXHAUST SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE "NATIONAL ROOFING CONTRACTORS ASSOCIATION" GUIDELINES, AND THE ROOFING SUPPLIER'S DETAILS AND GUIDELINES FOR THE SPECIFIC ROOFING MATERIALS USED. ALL CURB INSULATION SHALL BE SUPPLIED AND INSTALLED BY ROOFING CONTRACTOR.
- THE GENERAL CONTRACTOR SHALL PROVIDE ALL ROOFCUT OPENINGS AND OTHER STRUCTURAL REQUIREMENTS FOR THE INSTALLATION OF ALL ROOF EQUIPMENT. REFER TO STRUCTURAL FRAMING PLAN FOR EQUIPMENT LOCATION DIMENSIONS.
- THE FIRE SUPPRESSION SYSTEM SHALL CONSIST OF A COMPLETE WET ANSLU SYSTEM FURNISHED BY HALTON. THE HOOD SHALL BE FURNISHED PRE-PIPED BY HALTON. COMPONENTS AND INSTALLATION SHALL MEET THE REQUIREMENTS OF NFPA-96, NFPA-17A, ALL APPLICABLE STATE AND FEDERAL CODES AND STANDARDS.
- THE R-102 ANSLU FIRE SUPPRESSION SYSTEM EXTERNAL TO THE HOODS SHALL BE INSTALLED IN ACCORDANCE WITH HOOD MANUFACTURER'S SHOP DRAWINGS BY AN AUTHORIZED ANSLU SYSTEM INSTALLER HIRED BY HALTON.
- PORTABLE FIRE EXTINGUISHERS IN THE KITCHEN SHALL BE PROVIDED BY THE GENERAL CONTRACTOR IN COMPLIANCE WITH NFPA-10 AND LOCAL REQUIREMENTS.
- OUTLETS OF EXHAUST FANS SHALL BE AT LEAST 40 INCHES ABOVE ROOF LINE.
- EXHAUST FANS SHALL BE LOCATED A MINIMUM OF 10 FEET FROM ANY FRESH AIR INTAKE. MEASUREMENT SHALL BE MADE USING STRETCHED STRING METHOD.
- HOOD EXHAUST DUCTWORK SHALL BE 16 GA. BLACK STEEL WITH CONTINUOUS LIQUID TIGHT WELD OF JOINTS & SEAMS.
- URNS IN GREASE EXHAUST DUCTWORK SHALL BE LONG RADIUS TYPE, WITH A CENTERLINE RADIUS R-3W/2, NO EXCEPTIONS ALLOWED. NO MITERED FITTINGS ALLOWED.
- HOODS AND ASSOCIATED DUCTWORK SHALL BE INSTALLED PER NFPA 96 AND LOCAL CODES.
- ALL STAINLESS STEEL SHROULDS SHALL BE SUPPLIED BY HOOD MANUFACTURER AND INSTALLED BY THE GENERAL CONTRACTOR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- HOODS, FANS AND ACCESS DOORS SHALL BE LISTED BY UNDERWRITERS INC. AND SHALL MEET REQUIREMENTS OF NFPA-96.
- ACCESS DOORS SHALL BE REMOVABLE WITHOUT USE OF TOOLS AND BE PROVIDED WITH GASKET SEAL.
- SLOPE ALL GREASE EXHAUST DUCT BACK TO HOOD AT 1/4" PER FOOT OF RUN.
- WRAP NEW GREASE DUCT WITH 3M FIRE BARRIER 15A. ACCESS DOORS SHALL BE INSTALLED ACCORDING TO 3M FIRE BARRIER PRODUCTS INSTALLATION MANUAL.

SIDE VIEW OF HOOD

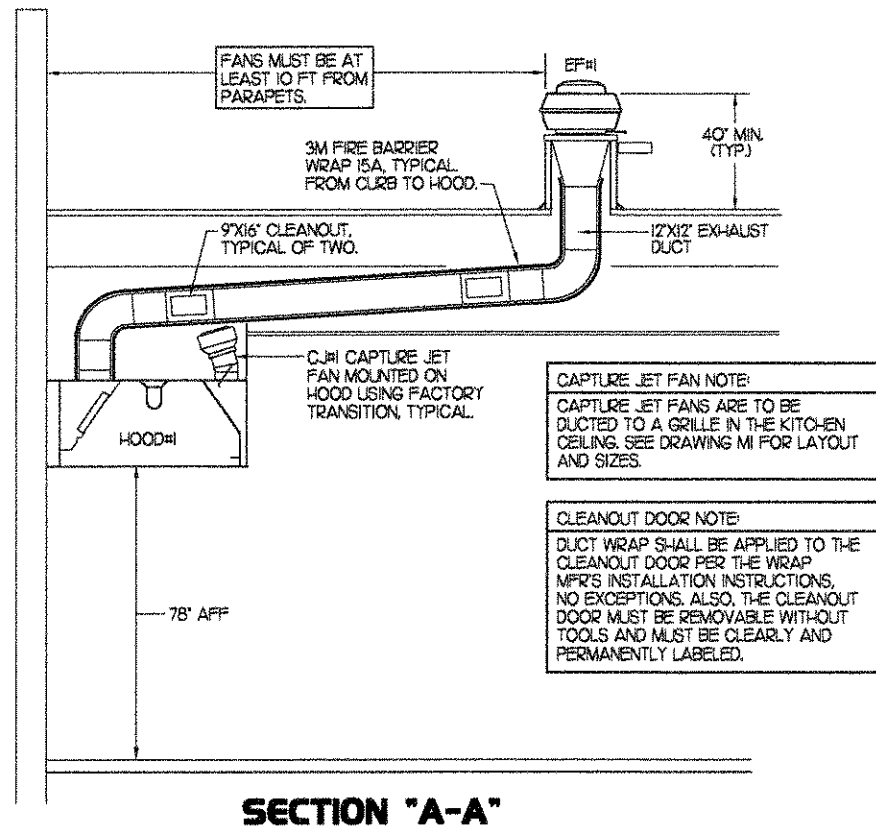


HOOD SCHEDULE

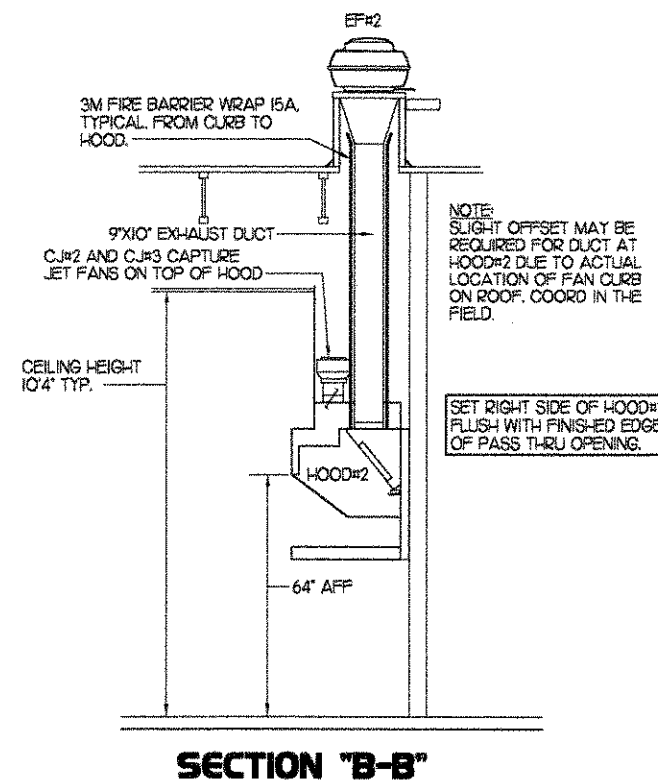
MARK	EXHAUST CFM	SP * TAB PORT	CAPTURE JET CFM & SP.	TYPE	COLLAR SIZE	LENGTH	HEIGHT	DEPTH	MANUFACTURER	MODEL	REMARKS
HOOD#1	1500	23"	102 * 0.72"	CANOPY	12X12"	102'	24"	48"	HALTON	KVE	1,345,678
HOOD#2	950	23"	48 * 0.30"	BACK SHELF	9X10"	72'	48"	31"	HALTON	KVL	1,245,89

REMARKS

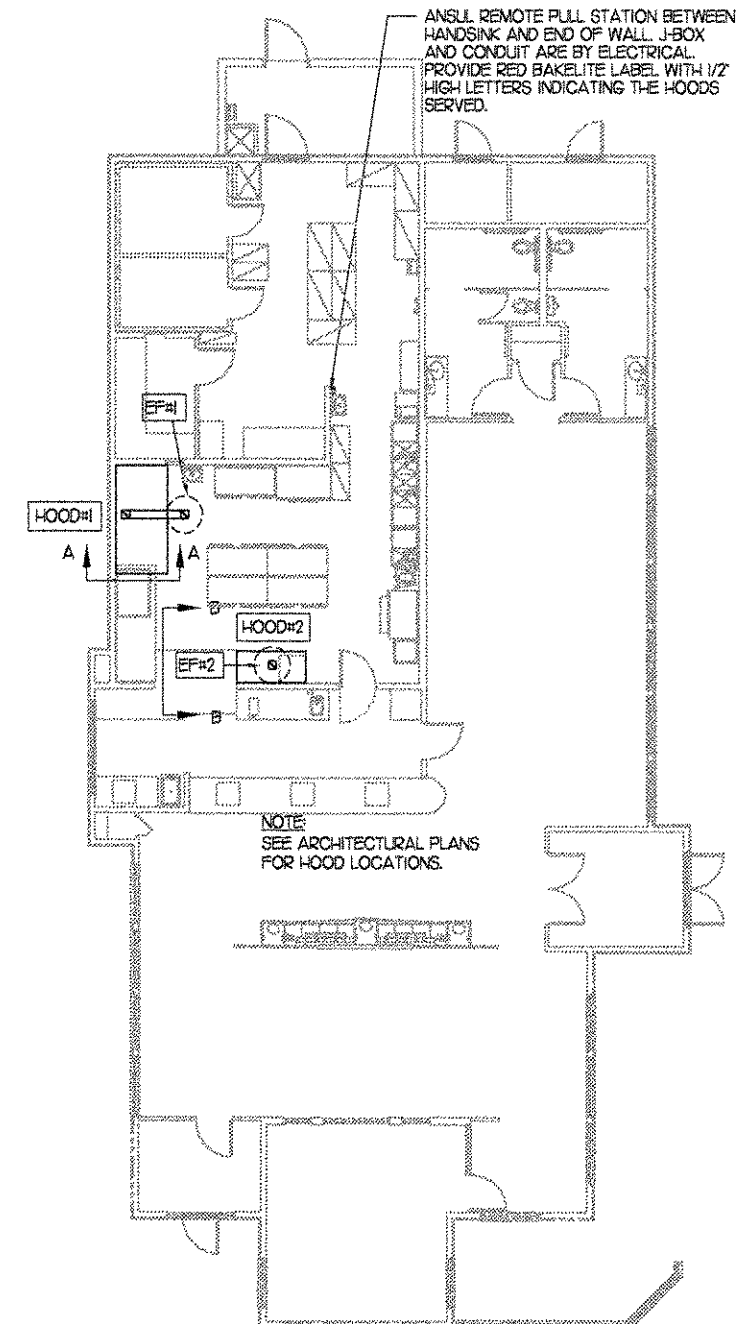
- 1) STAINLESS STEEL CONSTRUCTION.
- 2) PROVIDE FULL HEIGHT SS CLOSURE PANEL IN FRONT LARGE ENOUGH TO REMOVE CAPTURE JET FAN.
- 3) PROVIDE FULL HEIGHT SS CLOSURE PANEL WITH ACCESS PANEL IN FRONT LARGE ENOUGH TO SERVICE ANSLU COMPONENTS.
- 4) PROVIDE PRE-PIPED ANSLU R-102 WET FIRE EXTINGUISHING SYSTEM.
- 5) PROVIDE 3" BACK SPACER.
- 6) PROVIDE PARTIAL CLOSURE PANEL ON LEFT SIDE.
- 7) PROVIDE BLANK-OFF PLATE FOR SWITCH COVER.
- 8) PROVIDE TOP PLENUM CAPTURE JET FAN, SPEED CONTROLLER AND COLLAR.
- 9) PROVIDE INTEGRAL SIDE CAPTURE JET ASSEMBLY AND FAN.



SECTION "A-A"

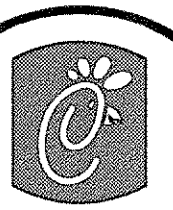


SECTION "B-B"



HOOD LAYOUT
1/8" = 1'-0"

2 HOOD ELEVATIONS
1/8" = 1'-0"



Chick-fil-A

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Revisions:

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SHEET TITLE
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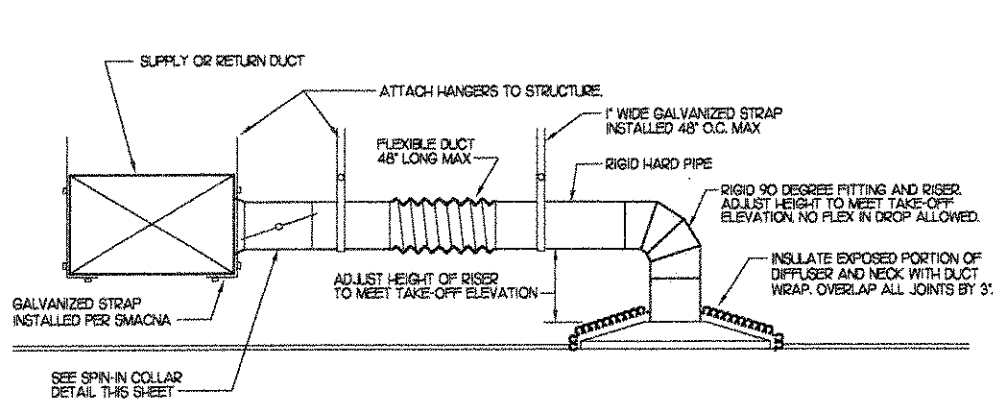
Date 2/13/03

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Checked By RDB

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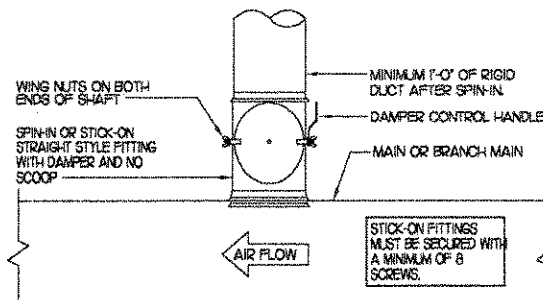
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1 SAG/RAG TAKE-OFF

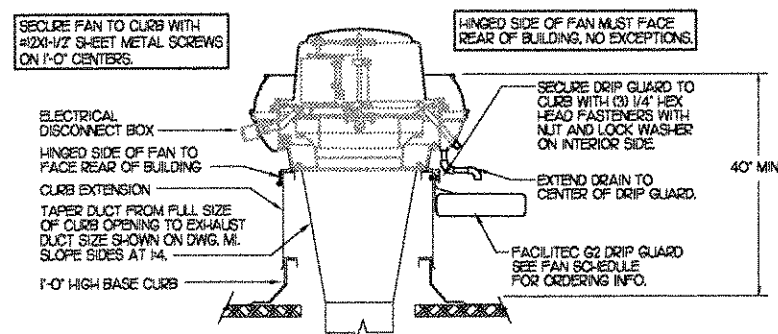
NO SCALE

DAMPER CONTROL HANDLE MUST BE LEFT EXPOSED. ATTACH A YELLOW FLUORESCENT CONSTRUCTION RIBBON TO THE HANDLE. RIBBON MUST HANG 12\"/>



2 SPIN-IN COLLAR

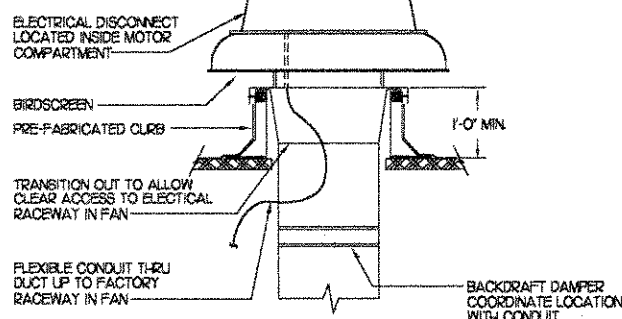
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3 KITCHEN HOOD EXHAUST FAN

NO SCALE

NOTE: SECURE FAN TO CURB WITH SHEET METAL SCREWS (NO X 1-1/2) 6\"/>

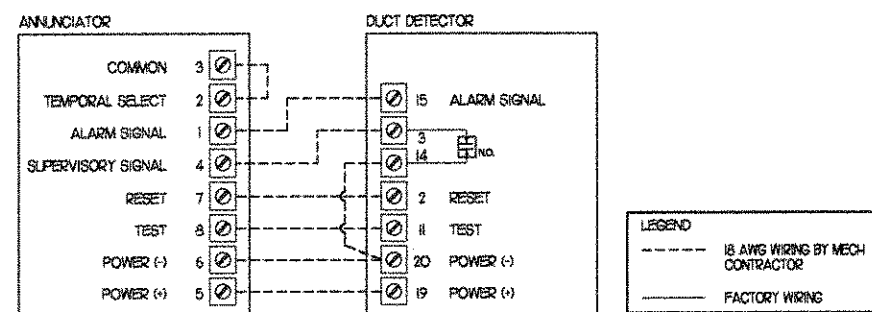


4 RESTROOM EXHAUST FAN

NO SCALE

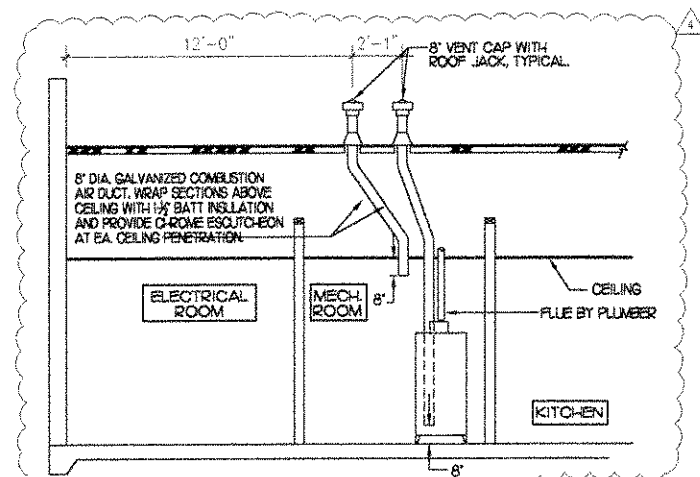
GAS FIRED ROOFTOP UNIT SCHEDULE												
MARK	COOLING CAPACITY (MBH)			HEATING CAPACITY (MBH)			FAN SECTION (CFM)			MODEL	MANUFACTURER	REMARKS
	TOTAL	SENS	INLET	OUTPUT	SUPPLY	O.A.	HP	ESP				
AC1	145.6	99.0	235.0	188.0	4,400	L200	3	.70	LGA20GH	LENOX	1,3,5,6,7,8,9,10,11,2,13	
AC2	104.0	71.8	235.0	188.0	3,150	750	2	.65	LGA20GH	LENOX	2,3,5,7,8,9,10,11,2,13	
AC3	128.0	90.8	235.0	188.0	4,000	L010	3	.65	LGA20GH	LENOX	1,3,5,7,8,9,10,11,2,13	
AC4	94.5	69.9	235.0	188.0	2,700	800	2	.65	LGA20GH	LENOX	2,3,5,6,7,8,9,10,11,2,13	
AC5	63.9	47.3	125.0	98.75	2,025	15	1.5	.65	LGA20GH	LENOX	3,4,5,6,7,8,9,10,11,2,13	
NOTES	COOLING CAPACITIES ARE GROSS, BASED ON INDOOR EDB: 80F, INDOOR EWB: 67F, OUTDOOR EDB: 95F											
REMARKS	<ol style="list-style-type: none"> 1) PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST. 2) PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC EXHAUST. 3) PROVIDE 14\"/> 											

EXHAUST FAN SCHEDULE										
MARK	CFM	ESP	RPM	TIP SPEED (FPS)	HP	AREA SERVED	MODEL	MANUFACTURER	REMARKS	
EP#1	1500	0.65	1200	105	3/4	HOOD#1	NERTD-140A	JEN	1,2,3,4,6,10	
EP#2	950	0.60	950	91	3/4	HOOD#2	NERTD-140A	JEN	1,2,3,4,6,10	
EP#3	600	.375	1083	56	1/4	RESTROOMS	REDIC25S	JEN	2,5,7,8,9,10	
NOTES	GREASE EXHAUST FAN RPM BASED ON 78 DEGREE F AIR AT SEA LEVEL.									
REMARKS	<ol style="list-style-type: none"> 1) PROVIDE FACTORY 1'-0\"/> 									



5 SMOKE DETECTOR AND ANNUNCIATOR WIRING DIAGRAM

NO SCALE

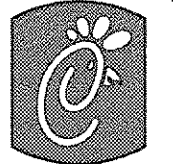


6 WATER HEATER VENT/C.A. ROUTING

NO SCALE

AIR DEVICE SCHEDULE						
MARK	DESCRIPTION	LOCATION	NECK SIZE	FACE SIZE	CEILING TYPE	REMARKS
A	METALARE MODEL 7600AL-6 ALUMINUM SUPPLY AIR DIFFUSER WITH AIR PATTERN CONTROLLERS	DINING AREA KITCHEN	SEE PLAN	24X24	LAY-IN	1
B	METALARE MODEL 7600AL-6 ALUMINUM SUPPLY AIR DIFFUSER WITH AIR PATTERN CONTROLLERS REMOVED.	KITCHEN	SEE PLAN	24X24	LAY-IN	1
C	METALARE MODEL 7000H ALUMINUM SUPPLY AIR DIFFUSER WITH AIR PATTERN CONTROLLERS.	VESTIBULES RESTROOMS	14X14	20X20	GYP/SLM	1,2,3,5
D	METALARE MODEL 4400AD DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY REGISTER, FRONT BLADE PARALLEL TO LONG SIDE.	PLAYGROUND	12X0	14X12	NA	1
E	METALARE MODEL 7000R-4 ALUMINUM RETURN AIR GRILLE	VESTIBULES RESTROOMS	14X14	20X20	GYP/SLM	1,4,5
F	METALARE MODEL CCS TB ALUMINUM EGGRATE RETURN AIR GRILLE WITH 1/2\"/>					
G	METALARE MODEL 4400AD DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY REGISTER, FRONT BLADE PARALLEL TO SHORT SIDE.	PLAYGROUND	12X0	14X12	NA	1
H	METALARE MODEL 900 ROUND, STEP DOWN ALUMINUM SURFACE MOUNT SUPPLY DIFFUSER.	OFFICE	8	12	LAY-IN	1,6
J	METALARE MODEL 4400AD DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY REGISTER, FRONT BLADE PARALLEL TO SHORT SIDE.	MECH AND ELEC ROOMS PLAYGROUND	SEE PLAN	SEE PLAN	NA	1
K	METALARE MODEL 4400R ALUMINUM SIDEWALL RETURN GRILLE, FRONT BLADE PARALLEL TO LONG SIDE.	MECH AND ELEC ROOMS PLAYGROUND	SEE PLAN	SEE PLAN	NA	1
REMARKS	<ol style="list-style-type: none"> 1) STANDARD OFF-WHITE FINISH. 2) PROVIDE MODEL BOS NECK DAMPER FOR RESTROOM DIFFUSERS ONLY. 3) DIFFUSER IN MENS RR SHALL BE 2-WAY THROW. 4) PROVIDE MODEL RSD NECK DAMPER ON GRILLES IN RESTROOMS. 5) PROVIDE MODEL TR SQUARE TO ROUND NECK TRANSITION. 6) PROVIDE 900D NECK DAMPER, ADJUSTABLE THRU DIFFUSER FACE. 					

AIR DOOR SCHEDULE								
MARK	CFM	VELOCITY	HEATING CAP	HP	AREA SERVED	MODEL	MANUFACTURER	REMARKS
FP#1	1752	3500	NA	3/4	REAR DOOR	STR-42A	BERNER	1,3
FP#2	69	1777	7200 W	1/5	DRIVE THRU	MAX-130EB-OFA	BERNER	2,3
REMARKS	<ol style="list-style-type: none"> 1) FACTORY PROVIDED PLUNGER TYPE MICRO-SWITCH. 2) FACTORY PROVIDED LOW VOLTAGE HEAT/ON/AUTO WALL MOUNT THERMOSTAT, TRANSFORMER AND CONTACTORS. 3) CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH BERNER AIR DOORS. THE MECHANICAL CONTRACTOR SHALL PURCHASE THE FANS DIRECTLY FROM BERNER. CONTACT BERNER AT 800-245-4455, FOR PRICING AND AVAILABILITY. 							



Chick-fil-A

5200 Buffington Rd.
Atlanta Georgia,
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Revisions:
Mark Date By
6/30/03 TDG
CORRECTIONS

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SHEET TITLE
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DWG. EDITION: Series 03
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□ 80% Submittal
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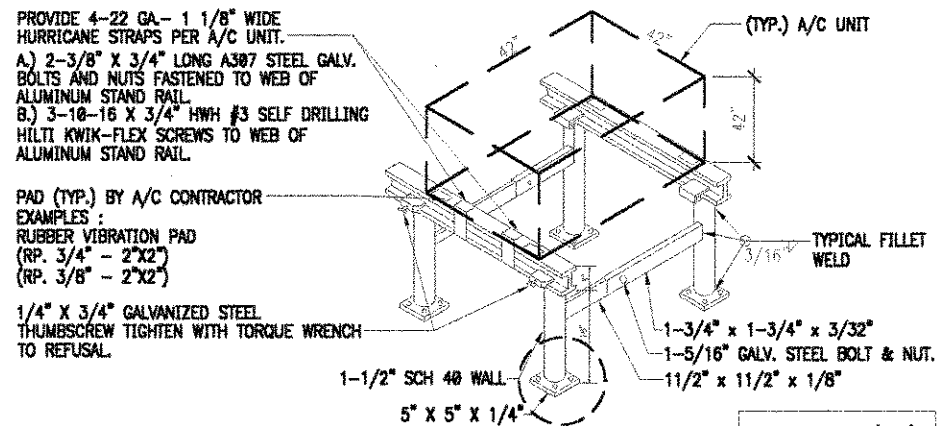
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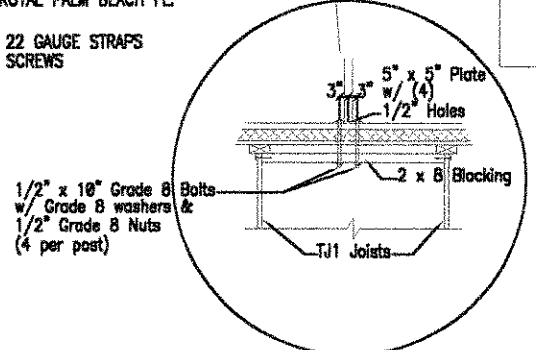
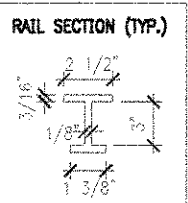
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M-3

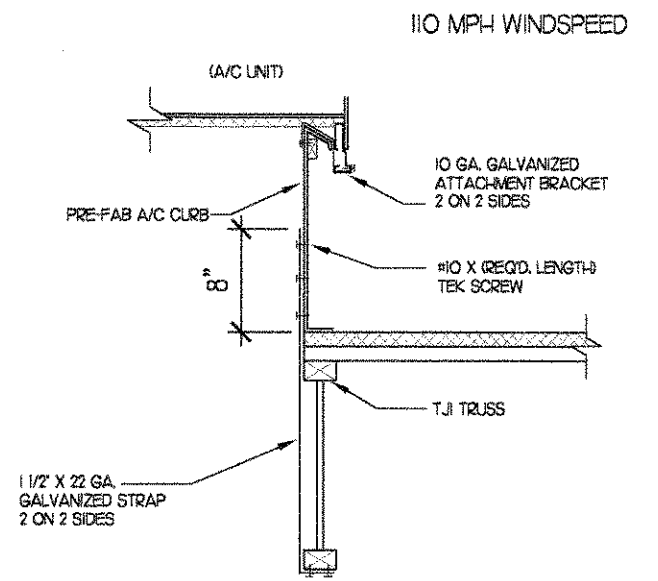
R.M. ENTERPRISES
"RDCA-80 STAND" (110 MPH WINDSPEED)



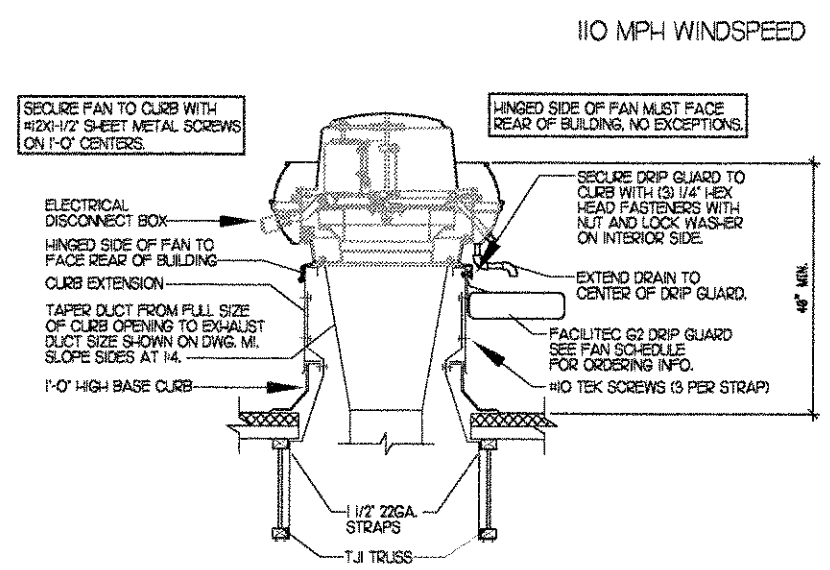
- NOTES:
- 1.) ALL CONSTRUCTION TO MEET ALUMINUM ASSOCIATION SPECS.
 - 2.) VIBRATION INSULATOR PADS SHALL BE PROVIDED BY THE A/C CONTRACTOR SO AS NOT TO CAUSE VIBRATION TO EXISTING SUB-STRUCTURE.
 - 3.) STAND TO BE MANUFACTURED BY RM ENTERPRISES 510 BUSINESS PARKWAY ROYAL PALM BEACH FL 561-682-1225
 - 4.) STRAP DOWN UNITS WITH 22 GAUGE STRAPS AT 4 CORNERS WITH TEK SCREWS



1 REFRIGERATION SYSTEM FRAMING SUPPORT DETAIL
NO SCALE



2 ROOFTOP A/C UNIT TIE-DOWN DETAIL
NO SCALE



3 TYPICAL FAN TIE-DOWN SYSTEM DETAIL
NO SCALE



Chick-fil-e

5200 Buffington Rd.
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Revisions:

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△		

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Checked By : ROB

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M-31

MECHANICAL SPECIFICATIONS

PART I GENERAL

1. FURNISH ALL MATERIALS, LABOR, TOOLS, TRANSPORTATION AND INCIDENTALS TO COMPLETE IN EVERY DETAIL, AND LEAVE IN WORKING ORDER ALL ITEMS CALLED FOR HEREIN OR SHOWN ON THE ACCOMPANYING DRAWINGS.
2. IT IS THE RESPONSIBILITY OF CONTRACTOR TO READ ALL SPECIFICATIONS AND CONSULT ALL DRAWINGS WHICH MAY AFFECT THE INSTALLATION AND COORDINATION OF HIS WORK WITH OTHER TRADES. CONTRACTOR SHALL COORDINATE AND MAKE MINOR ADJUSTMENTS IN LOCATION OF EQUIPMENT AND MATERIALS AS NECESSARY TO SECURE COORDINATION.
3. LAYOUT SHOWN IN DRAWINGS IS BASED ON A PARTICULAR MAKE OF EQUIPMENT. CONTRACTOR SHALL PROVIDE SIX SUBMITTAL SETS OF SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO STARTING WORK. IF ANOTHER MAKE OF EQUIPMENT IS DESIRED, THESE SUBMITTALS SHALL ALSO SHOW ALL REQUIRED MODIFICATIONS AND CHANGES, INCLUDING THOSE INVOLVING OTHER TRADES, AND COST THEREOF SHALL BE INCLUDED IN HIS BID. CONTRACTOR MUST RECEIVE APPROVED SUBMITTAL COPY, SIGNED BY ENGINEER BEFORE PROCEEDING WITH ANY MODIFICATIONS. WORK INSTALLED USING UNAPPROVED SUBSTITUTIONS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
4. CONTRACTOR SHALL VISIT THE SITE AND FULLY INFORM HIMSELF CONCERNING ALL CONDITIONS AFFECTING SCOPE OF WORK. FAILURE TO DO SO SHALL NOT RELIEVE CONTRACTOR OF ANY RESPONSIBILITY IN THE PERFORMANCE OF HIS WORK. ALL WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY IN ACCORDANCE WITH THE BEST PRACTICES OF THE TRADE BY CRAFTSMEN SKILLED IN THIS PARTICULAR WORK. CONTRACTOR SHALL FILE ALL DRAWINGS, PAY ALL FEES AND OBTAIN ALL PERMITS AND CERTIFICATES OF INSPECTION RELATIVE TO THIS WORK.
5. COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES, INCLUDING BUT NOT LIMITED TO THE LATEST APPROVED EDITIONS OF NFPA-96, NFPA-90A, NFPA-54, SMACNA, ASHRAE 90.1 AND ASHRAE 62-89.
6. 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.
7. 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.
8. UPON COMPLETION OF PROJECT, ALL SYSTEM EQUIPMENT AND MATERIALS SHALL BE IN NEW, CLEAN CONDITION WITH ALL DAMAGE RESTORED TO CONDITION ACCEPTABLE TO THE OWNER'S REPRESENTATIVE. ALL EQUIPMENT, COMPONENTS AND DUCTWORK SHALL BE INSPECTED AND THOROUGHLY CLEANED, READY FOR USE. AT COMPLETION OF JOB, ALL MISCELLANEOUS TOOLS, SCAFFOLDING, SURPLUS MATERIALS, RUBBISH AND DEBRIS SHALL BE REMOVED BY CONTRACTOR.
9. IF HVAC EQUIPMENT IS USED FOR TEMPORARY HEATING, ETC., THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY FOR CLEANING COILS, ETC. FINAL PERMANENT CONNECTIONS OF SERVICES TO UNITS SHALL BE COMPLETE PRIOR TO ANY START-UP OF EQUIPMENT. PROVIDE NEW FILTERS AT WORK COMPLETION.
10. CONTRACTOR SHALL SUBMIT THREE (3) SETS OF INSTRUCTION BOOKS INCLUDING INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS, PAMPHLETS OR BROCHURES AND ALL EQUIPMENT WARRANTIES OBTAINED FROM EACH MANUFACTURER OF EQUIPMENT TO OWNER'S REPRESENTATIVE.
11. DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED FOR EXACT SIZES OR LOCATIONS. THEY ARE NOT INTENDED TO DISCLOSE ABSOLUTE OR UNCONDITIONAL KNOWLEDGE OF ACTUAL FIELD CONDITIONS.

PART II PRODUCTS

I. HEATING AND COOLING EQUIPMENT

- A. FURNISH AND INSTALL ROOFTOP SINGLE PACKAGE COMBINATION ELECTRIC COOLING AND NATURAL GAS FIRED HEATING UNITS BY LENNOX AS SHOWN ON DRAWINGS. EQUIPMENT SHALL BE ARI CERTIFIED AND A.G.A. AND U.L. LISTED.
- B. UNIT SHALL BE FACTORY ASSEMBLED, TESTED AND HAVE COMPLETE REFRIGERANT R-22 CHARGE, READY TO OPERATE. ALL TUBING JOINTS SHALL BE BRAZED. COILS SHALL BE MINIMUM OF 3-ROWS DEEP.
- C. INDOOR FAN SHALL BE STATICALLY AND DYNAMICALLY BALANCED, DOUBLE INLET, FORWARD CURVED BELT DRIVEN BLOWER CAPABLE OF DELIVERING DESIGN CFM. FAN SHALL BE QUIET IN OPERATION AND INTERNALLY VIBRATION ISOLATED.
- D. FILTERS SHALL BE THROW AWAY TYPE, FARR 30/30 2' OR EQUAL, A CLEAN SET OF REPLACEMENT FILTERS SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR AFTER SUCCESSFUL START-UP OF EQUIPMENT AND AGAIN PRIOR TO OPENING.
- E. 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 (FL, TX, OK ONLY), CONVENIENCE OUTLETS FACTORY INSTALLED ON SCHEDULED UNITS, UNIT MOUNTED NON-FUSED DISCONNECTS, LOW AMBIENT OPERATION DOWN TO 30 DEGREES F AND EVAPORATOR FREEZE STAT.
- F. COMPRESSORS SHALL BE FULLY HERMETIC SCROLL TYPE WITH INTERNAL VIBRATION ISOLATORS. COMPRESSORS SHALL BE PROVIDED WITH A MINIMUM FIVE (5) YEAR FULL WARRANTY.
- G. UNIT SHALL BE DOWN DISCHARGE AS INDICATED ON THE DRAWINGS.
- H. UNITS SHALL BE PROVIDED WITH FACTORY INSTALLED DIFFERENTIAL ENTHALPY ECONOMIZERS WITH POWER OR BAROMETRIC EXHAUST AS SCHEDULED. PLAYGROUND UNIT SHALL BE EQUIPPED WITH 0-100% MOTORIZED O.A. DAMPER ASSEMBLY.
- I. THE UNIT HEAT EXCHANGERS SHALL BE STEEL WITH 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. ALL UNITS SHALL BE CAPABLE OF TWO STAGES OF HEAT. HEAT EXCHANGES SHALL HAVE A TEN (10) YEAR WARRANTY. BURNERS SHALL BE ALUMINIZED IN-SHOT TYPE. THE DRAFT MOTOR SHALL BE MONITORED BY THE CONTROL SYSTEM.
- J. CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT FOR EQUIPMENT WITH LENNOX CORPORATION. PRICING FOR THE EQUIPMENT HAS BEEN ESTABLISHED IN ADVANCE. CONTACT LENNOX NATIONAL ACCOUNTS AT 972-497-6785 FOR PRICING, ORDERING AND AVAILABILITY.

2. GENERAL EXHAUST AND KITCHEN HOOD FANS

- A. FANS SHALL BE JENN MODELS, UP BLAST OR DOWN BLAST, CENTRIFUGAL OR PROPELLER, AS INDICATED ON DRAWINGS AND SHALL BE LOCATED WHERE SHOWN ON DRAWINGS. ALL FANS SHALL BE U.L. LISTED FOR INTENDED USE AND SHALL BEAR THE A.M.C.A. SEAL. MANUFACTURERS OTHER THAN THE JENN MODELS SPECIFIED ARE NOT ACCEPTABLE.

3. ROOF CURBS

- A. EQUIPMENT MANUFACTURER SHALL PROVIDE ALL ROOF CURBS FOR ROOF MOUNTED EQUIPMENT.
- B. ROOF CURBS FOR ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ROOFING CONTRACTORS ASSOCIATION GUIDELINES, AND THE ROOFING SUPPLIER'S DETAILS AND GUIDELINES FOR THE SPECIFIC ROOFING MATERIALS USED.
- C. CURB CONSTRUCTION AND HEIGHT FOR THE HOOD FANS SHALL CONFORM TO THE REQUIREMENTS OF NFPA 96.
- D. THE RESTROOM EXHAUST FAN CURB SHALL BE 1'-0" HIGH MINIMUM.
- E. ALL CURBS SHALL HAVE PERIMETER INSULATION PROVIDED AND INSTALLED BY THE ROOFING INSTALLER.
- F. THE ROOFTOP EQUIPMENT CURBS SHALL HAVE A 2" THICK ACOUSTICAL INSULATION BLANKET APPLIED BETWEEN THE ROOF AND EQUIPMENT BY THE MECHANICAL CONTRACTOR.

4. DUCTWORK, INSULATION & INSTALLATION (SEE DWG M2 FOR GREASE DUCT)

- A. ACCEPTABLE MANUFACTURERS OF INSULATION ARE MANVILLE, OWENS CORNING OR KNAUF.
- B. ALL DUCTWORK, EXCEPT GREASE DUCT, SHALL BE SHEET METAL.
- C. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS.
- 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 SHALL BE SEALED PER SMACNA SEAL CLASS C WITH U.L. DUCT MASTIC SEALANT APPROVED FOR INTENDED USE. STANDARD DUCT TAPE IS NOT ACCEPTABLE.
- E. ALL DUCT INSULATION SHALL MEET MINIMUM R-VALUE REQUIRED BY ASHRAE 90.1 LATEST EDITION. ALL DUCT WRAP SHALL BE MINIMUM 2" THICK, 3/4 PCF AND 5.6 R-VALUE INSTALLED WITH EITHER A VAPOR BARRIER WITH MAXIMUM PERMEANCE 0.05 OR A MINIMUM 2 MIL ALUMINUM REINFORCED FOIL/KRAFT FACING. ALL DUCT LINER SHALL BE MINIMUM 1/2" THICK, 1/2 PCF AND 6.0 R-VALUE.
- F. ALL DUCT DROPS FROM THE ROOFTOP UNITS SHALL BE EXTERNALLY INSULATED.
- G. SUPPLY AND RETURN AIR DUCTWORK SERVING THE PLAYGROUND, KITCHEN, SERVING AND DINING AREAS SHALL BE EXTERNALLY INSULATED.
- H. RESTROOM RECTANGULAR EXHAUST AIR DUCTWORK SHALL BE LINED.
- I. TRUNK DUCTS 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.
- J. 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. SEE SAG/RAG TAKE-OFF DETAIL ON DRAWING M3.
- K. 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 FLEXMASTER TYPE 3M.
- L. SINGLE THICKNESS TURNING VANES SHALL BE INSTALLED AT 90 DEGREE TURNS IN SUPPLY DUCTWORK WHERE ANY ONE DIMENSION IS GREATER THAN 12".
- M. RADIUSSED ELBOWS MAY BE SUBSTITUTED FOR 90 DEGREE ELBOWS AT THE DISCRETION OF THE CONTRACTOR. CENTERLINE RADIUS EQUAL TO 3W/2 PER FIGURE NO. 2-2 IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

5. AIR DEVICES

- A. AIR DEVICES SHALL BE BY METALAIRE, NO SUBSTITUTIONS ALLOWED. COORDINATE FRAME TYPE WITH REFLECTED CEILING PLAN PRIOR TO ORDERING. FURNISH AND INSTALL ACCESS DOORS IN GYPSUM CEILINGS AND WALLS FOR DAMPER ACCESS. PAINT ACCESS DOOR TO MATCH CEILING FINISH.
- B. MANUAL VOLUME BALANCING DAMPERS SHALL BE SPIN-IN OR STICK-ON TYPES WITH STRAIGHT TAKE-OFF STYLE AND MUST HAVE WING NUTS EXTERNALLY LOCATED AT BOTH ENDS OF DAMPER SHAFT.

6. PAINTING

- A. ALL EQUIPMENT LOCATED OUTDOORS SHALL HAVE ANY SCRATCHES TOUCHED UP WITH PAINT OF THE SAME TYPE AND COLOR AS ORIGINAL.

7. CONTROLS

- A. SYSTEMS SHALL BE COMPLETE WITH CONNECTIONS TO HVAC TEMP CONTROL SECTION AS MANUFACTURED BY WR CONTROLS (PH: 800-417-7543). THE PANEL IS PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
- B. 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.

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

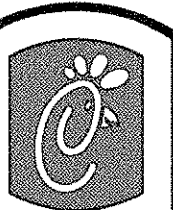
- D. THE REMOTE TEST/RESET ANNUNCIATORS SHALL BE PROVIDED, INSTALLED AND WIRED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE ANNUNCIATORS AND ALL WIRING FROM EACH DEVICE TO THE RTU. ELECTRICAL WILL PROVIDE A JUNCTION BOX IN THE WALL WITH 1/2" CONDUIT STUBBED UP ABOVE THE CEILING FOR EACH REMOTE TEST STATION AS SHOWN ON THE ELECTRICAL PLANS. PROVIDE SYSTEM SENSOR REMOTE TEST/RESET STATION MODEL SSK451 WITH POWER LED, TROUBLE LED, ALARM LED, 87DB HORN AND KEYPED TEST/RESET FEATURE.
- E. WHERE REQUIRED BY LOCAL CODE, INSTALL A FIRESTAT IN THE RETURN AIR DUCT OF EACH PIECE OF AIR CONDITIONING EQUIPMENT HANDLING 2000 CFM OR MORE TO STOP THE INDOOR FAN AND CLOSE THE OUTSIDE AIR DAMPER WHEN HEAT WITHIN THE DUCT IS IN EXCESS OF 135 DEGREES FAHRENHEIT. FIRESTAT SHALL BE EQUIVALENT TO HONEYWELL MODEL H4025E HIGH LIMIT CONTROLLER. FIRESTATS SHALL BE PROVIDED AND MOUNTED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE DEVICE AND ALL WIRING FROM THE DEVICE TO THE RTU. SHUTDOWN OF UNIT AND INDOOR FAN SHALL BE IMMEDIATE WITH NO DELAY.
- 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 WR CONTROLS FAN CONTROL SECTION. WIRING, RELAYS AND SWITCHES FOR CONTROL OF ALL FANS ARE BY ELECTRICAL CONTRACTOR.
- G. THERMOSTATS ARE PROVIDED AND MOUNTED BY WR CONTROLS. THE MULTI-STAGE A/C UNIT THERMOSTATS SHALL BE JOHNSON CONTROLS MODEL T500QSNH ELECTRONIC NON-PROGRAMMABLE, WITH MULTI-STAGE AND AUTO CHANGEOVER CAPABILITY. THE SINGLE-STAGE A/C UNIT THERMOSTATS SHALL BE JOHNSON CONTROLS MODEL T500QSNH. PROVIDE JOHNSON CONTROLS REMOTE TEMPERATURE SENSOR MODEL SEN-500H FOR EACH THERMOSTAT. MECHANICAL CONTRACTOR SHALL INSTALL ALL WIRING BETWEEN TSTAT, SENSOR AND ROOFTOP UNIT.
- H. EACH THERMOSTAT SHALL BE PROVIDED WITH AN ENGRAVED PLASTIC LABEL 1/2" HIGH WITH WHITE LETTERING ON BLACK FIELD. EACH LABEL SHALL INDICATE A/C UNIT # AND ZONE SERVED, I.E. "AC#2 PLAYGROUND". PROVIDE AND INSTALLED BY MC.
- I. 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. 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.

B. SEQUENCE OF OPERATION:

- A. WHEN STORE IS OPEN, THE EXHAUST FANS AND ROOFTOP UNITS SHALL OPERATE THRU CONTROL OF THE SWITCHES AND SENSORS SHOWN ON THE MECHANICAL AND ELECTRICAL PLANS. THE ROOFTOP UNIT INDOOR FANS SHALL RUN CONTINUOUSLY AND THE OUTSIDE AIR DAMPERS SHALL REMAIN OPEN.
- B. WHEN STORE IS CLOSED, THE EXHAUST FANS SHALL BE SWITCHED OFF AND THE THERMOSTATS SHALL BEGIN NIGHT SET-BACK MODE. OUTSIDE AIR DAMPERS AT THE ROOFTOP UNITS SHALL REMAIN CLOSED AT ALL AT ALL TIMES DURING NIGHT SET-BACK MODE.
- C. HOOD EXHAUST FANS SHALL NOT BE CAPABLE OF OPERATION UNLESS WR CONTROLS STORE SWITCH HAS BEEN PUT INTO "STORE OPEN" MODE.
- D. ACTUATION OF ANSUL SYSTEM SHALL STOP ALL ROOFTOP UNITS, CLOSE THE O.A. DAMPERS AND MAINTAIN OPERATION OF THE GREASE HOOD EXHAUST FANS.
- E. RESTROOM EXHAUST FAN SHALL ENERGIZE UPON OPERATION OF LIGHTS IN RESTROOMS.

PART III EXECUTION

- A. FURNISH AND INSTALL SYSTEM IN ACCORDANCE WITH REFERENCED STANDARDS, APPLICABLE CODES, MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED ON DRAWINGS.
- B. OWNER SHALL TEST AND BALANCE MECHANICAL SYSTEM IN ACCORDANCE WITH 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.
- C. 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.
- D. 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.



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Revisions:

Mark	Date	By
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Mark	Date	By
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3111
INTERPLAN
ARCHITECTURE
ENGINEERING
INTERIOR DESIGN
PROJECT MANAGEMENT

STORE

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SHEET TITLE
**MECHANICAL
SPECIFICATIONS**

DWG. EDITION: Series 03

□ Preliminary
□ 90% Submittal
□ For Construction

Job No. 2002.0697

Store 1537

Date 2/13/03

Drawn By MDS

Checked By: ROB

Sheet

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