




PACKAGED ROOF TOP UNIT SCHEDULE			(CARRIER MODELS TO BE SPECIFIED) (LO NoX in California)
UNIT SYMBOL		 (NEW)	
LOCATION		ROOF	
BLOWER	CFM	2,000 (5.0-TON)	
	TSP (IN W.G.)	0.7"	
COOLING	TOTAL (BTU/HR)	60,000	
	SENSIBLE (BTU/HR)	49,000	
	AMBIENT (F)	95	
	COIL ENTERING	66 WB/80 DB	
HEATING (BTU/HR) - <u>LOW NOX</u>		120,000 (INPUT) / 97,200 (OUTPUT)	
ELECTRICAL	POWER SUPPLY	208V/3PH/60HZ	
	COMPRESSOR (RLA)	(1) 15.9	
	CONDENSER MOTOR (FLA)	(1) 8.4	
	EVAPORATOR MOTOR (FLA)	1.4	
	MIN. CIRCUIT AMPACITY	30, HACR = 45	
PRICING ORDERING AND DELIVERY CONTACT: THERESA DAWSON PHONE: 949-309-9815 E-MAIL: Theresa.Dawson@carrier.utc.com		BY CARRIER 48HCLD06B2M5 DOWN DISCHARGE COMPLETE WITH 14" ROOF MOUNT CURB, ELECTRONIC PROGRAMMABLE THERMOSTAT, ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF. PROVIDE WITH HUMIDIFIER - 2 STAGE ADAPTIVE HUMIDITY CONTROL WITH HOT GAS REHEAT COMB. FAN MOTOR 0.48 AMPS (DOES NOT OPERATE WITH COMPRESSOR). OPER. WT. : 750 LBS APPROX. SEER=15.2 EER=12.45.0, AFUE=81%	SHALL HAVE FACTORY INSTALLED LOWVOKS CARD IN ORDER TO BE CONNECTED TO EXISTING BUILDING MANAGEMENT SYSTEM. DIRECT SPARK IGNITION
ALL ITEMS RELATED TO HVAC SYSTEM SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR. CONTACT CARRIER REPRESENTATIVE ABOVE. 2. UNITS ABOVE INCLUDE ACCESSORIES AND CURB. - THERMOSTATS: REMOTE SENSOR TYPE, 24/7 PROGRAMMABLE AND CAPABLE OF OPERATING ROOFTOP UNITS AND ACCESSORIES "CARRIER" COMFORT PRO 33CS PROVIDE REMOTE SENSOR FOR EACH THERMOSTAT - DUCT MOUNTED SMOKE DETECTORS: IONIZATION TYPE/UL LISTED, CSFM CERTIFIED, 24 VAC, BY EDWARDS, DH HOUSING WITH 1551F SENSOR NOTE: 1. 3.8 AMPS (5 TON) ECONOMIZER INCLUDED IN ELECTRICAL TOTAL MCA PER MANUFACTURER'S LITERATURE. 2. FACTORY OPTIONS SHALL INCLUDE HAIL GUARD PROTECTION FOR ALL UNIT. 4. FACTORY OPTIONS SHALL INCLUDE FACTORY INSTALLED DISCONNECTS AND CONVENIENCE OUTLETS (FIELD POWERED REFER TO ELECTRICAL DRAWING). 5. PROVIDE THRU THE BASE ELECTRICAL CONNECTION KIT #CRBTMPWR002A01 FOR ALL UNITS.			

EXHAUST FAN SCHEDULE			
FAN NO.			
LOCATION		ROOF	ROOF
AREA SERVED		KITCHEN GREASE EXHAUST HOOD #1	KITCHEN GREASE EXHAUST HOOD #2
FAN DUTY		AIR EXHAUST	AIR EXHAUST
FAN TYPE		CENTRIFUGAL BELT-DRIVEN	CENTRIFUGAL BELT-DRIVEN
FAN ARRANGEMENT		UPBLAST	UPBLAST
MIN. WHEEL DIAMETER		-	-
PERFORMANCE	C.F.M.	3,225	3,225
	T.S.P.	1.25"	1.25"
	B.H.P.	1.28	1.28
	FAN R.P.M.	1189	1189
	MOTOR H.P.	2.0	2.0
MOTOR	ELEC. CHARACTERISTICS	208V/3PH/60HZ	208V/3PH/60HZ
	MOTOR R.P.M.	1725	1725
	MOTOR SPECIAL FEATURES	OPEN DRIP-PROOF	OPEN DRIP-PROOF
	ACCESSORIES	2. VENTED ROOF CURB 2. HINGED AND CHAINED FAN INSTALLATION FOR DUCT ACCESS	1. VENTED ROOF CURB 2. HINGED AND CHAINED FAN INSTALLATION FOR DUCT ACCESS
MANUFACTURER		CAPTIVEAIRE MODEL NCA16FA WT. 184 LBS	CAPTIVEAIRE MODEL NCA16FA WT. 184 LBS

NOTES:

1. KITCHEN EXHAUST FANS SHALL BE ELECTRICALLY INTERLOCKED WITH MAKE-UP AIR UNIT AND ROOFTOP UNITS.
2. FOR WIRING DIAGRAM SEE 5/M-501

HVAC CONTROL SETTINGS

EACH HVAC UNIT SHALL BE PROVIDED WITH CONTROLS AS FOLLOWS:

THERMOSTAT: CARRIER COMMERCIAL PROGRAMMABLE THERMOSTAT WITH REMOTE TEMPERATURE SENSOR. SEE SHEET M-100 FOR THERMOSTAT AND SENSOR LOCATIONS.

ALL THERMOSTATS SHALL HAVE MANUAL OVERRIDE.

EACH UNIT CONTROL SHALL BE SET UP INITIALLY AS FOLLOWS

CONTRACTOR SHALL DETERMINE OCCUPIED PERIOD FROM OWNER.

FAN OPERATION SHALL BE CONTINUOUS DURING OCCUPIED PERIOD AND CYCLE WITH COOLING/HEATING DURING UNOCCUPIED PERIOD.

PROGRAMMED SETPOINTS (FOR EACH THERMOSTAT):

COOLING OCCUPIED:	75°F.
COOLING UNOCCUPIED:	85°F.
HEATING OCCUPIED:	68°F.
HEATING UNOCCUPIED:	50°F.

NOTE: DEVIATIONS FROM THE ABOVE MAY RESULT IN UNACCEPTABLE AIR QUALITY, COMFORT AND/OR ENERGY CONSUMPTION.

MECHANICAL LEGEND		
SYMBOL	ABBREVIATION	DESCRIPTION
	ABV	ABOVE
	AFF	ABOVE FINISHED FLOOR
	CLG	CEILING
	DN	DOWN
		DUCT SECTIONS (SUPPLY, EXHAUST, RETURN)
		FLEXIBLE DUCT
	MVD	MANUAL VOLUME DAMPER
	OBD	OPPOSED BLADE DAMPER
	MFR	MANUFACTURER
	MIN	MINIMUM
	OSA	OUTSIDE AIR
		ROUND RIGID DUCTWORK
	TSP	TOTAL STATIC PRESSURE
		TURNING VANES
		CONSTRUCTION NOTES
		MECHANICAL EQUIPMENT DESIGNATION
		SMOKE DETECTOR
		THERMOSTAT / UNIT
		REMOTE SENSOR / UNIT

MECHANICAL SPECIFICATIONS

1. WORK INCLUDES INSTALLATION OF HVAC SYSTEMS, INCLUDING GREASE EXHAUST FANS AND MAKE-UP AIR UNIT FOR KITCHEN HOODS, SPACE HEATING/AIR CONDITIONING SYSTEMS, SUPPLY, RETURN, EXHAUST, AND GREASE EXHAUST DUCTWORK, GRILLES, REGISTERS, DIFFUSERS, COMPLETE CONTROLS SYSTEM, INTERLOCK WIRING FOR OPERATION OF KITCHEN HOODS, EXHAUST FANS, AND MAKE-UP AIR UNIT, DUCT INSULATION, AND RELATED ITEMS NECESSARY FOR A COMPLETE FUNCTIONING SYSTEM AS INDICATED ON THE PLANS. FURNISH ALL NEW MATERIALS AND EQUIPMENT UNLESS NOTED OTHERWISE (U.N.O.).
2. DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT AND REQUIRED EQUIPMENT. DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. AS REQUIRED, REFER TO ARCHITECTURAL AND MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. FURNISH AND INSTALL DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND EQUIPMENT SHOWN ON PLANS.
3. CODE COMPLIANCE: ALL WORK COVERED BY THIS SECTION SHALL BE IN ACCORDANCE WITH ALL LOCAL CODES AND ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
4. COORDINATE WORK WITH OTHER TRADES, EQUIPMENT FURNISHED BY OTHERS AND OWNER REQUIREMENTS. PROVIDE DUCT RISES AND DROPS AS REQUIRED FOR INSTALLATION AND/OR TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK. WORK SHALL BE PERFORMED BY EXPERIENCED TRADESMEN AND THEIR WORK SHALL BE OF HIGH STANDARD ACCEPTABLE TO THE OWNER.
5. DUCTWORK: DUCT SYSTEMS SHALL BE CONSTRUCTED, INSTALLED, SEALED AND INSULATED AS PROVIDED IN THE INT'L ENERGY AND MECHANICAL CODES. SHEET METAL SHALL BE IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS. SHEET METAL SHALL BE GALVANIZED OF LOCK-FORMING QUALITY, ASTM A-525, UNLESS OTHERWISE NOTED. DUCT DIMENSIONS ON DRAWINGS ARE NET INSIDE CLEAR DIMENSIONS ON UNINED DUCTS OR SHEET METAL DIMENSIONS ON UNLINED DUCTS. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. ROUND RIGID DUCTWORK SHALL CONFORM TO SMACNA TABLE 3-2.
6. INSTALL DUCT HIGH AS POSSIBLE WITHIN JOIST SPACE. CONSULT ARCHITECT AND ENGINEER FOR ALTERNATE ROUTING IF CONFLICT OCCURS.
7. SEAL ALL TRANSVERSE AND LONGITUDINAL DUCT SEAMS AIR-TIGHT. PROVIDE TURNING VANES AT ALL ELBOWS OR OFFSETS EXCEEDING 30 DEGREES.
8. GREASE EXHAUST SYSTEM: ALL GREASE EXHAUST DUCTS SHALL BE FABRICATED BY WELDED JOINT CONSTRUCTION OF 16 GAUGE WELDED STEEL OR 18 GAUGE STAINLESS STEEL. PROVIDE RATED ACCESS DOORS AT ALL ELBOWS AND OFFSETS NECESSARY FOR COMPLETE CLEANING OF GREASE DUCT. PROVIDE MINIMUM 30"x30" UNOBSTRUCTED ACCESS OR ROUTE FROM THE CEILING TO EACH ACCESS DOOR. DO NOT BLOCK ACCESS WITH PLUMBING, ELECTRICAL OR HVAC OBSTRUCTIONS. ALL ELBOWS SHALL BE LONG RADIUS. GREASE DUCT SHALL BE INSTALLED EITHER IN A RATED ENCLOSURE PROVIDED BY THE GENERAL CONTRACTOR OR WRAPPED WITH FIREMASTER GREASE DUCT WRAP.
9. DUCT INSULATION: PROVIDE DUCT WRAP FOR ALL DUCTS ABOVE CEILING, INCLUDING VERTICAL, HORIZONTAL, RIGID AND FLEXIBLE DUCTS, EXCLUDING PREFABRICATED PREINSULATED DUCTS AND GREASE DUCTS. DUCT WRAP SHALL BE JOHNS MANVILLE MICROGLITE OR EQUAL WITH FOLICRIMFRANKT, 1" IN THICKNESS, 1.5 POUNDS/FT³ DENSITY. DUCT WRAP SHALL BE BONDED GLASS FIBERS IN THERMOSETTING RESIN MEETING NFPA 90A, WITH K VALUE NOT TO EXCEED 0.23 AT 75 DEGREES F. FLAME SPREAD AND SMOKE DEVELOPED RATINGS SHALL NOT EXCEED 25/50. APPLY 100% ADHESIVE COVERAGE TO SHEET METAL DUCTWORK. PROVIDE ADDITIONAL MECHANICAL FASTENERS ON DUCTS OVER 12" WIDE OR 16" HIGH. MECHANICAL FASTENERS SHALL BE "GRIPNAIL" OR WELDED PIN AND SPEED CLIPS SPACED PER SMACNA STANDARDS.
10. FLEX DUCT: PROVIDE FACTORY ASSEMBLED CLASS 1 AIR DUCT (UL 181) WITH FIBERGLASS INSULATION AND REINFORCED OUTER PROTECTIVE COVER/VAPOUR BARRIER. FLEX DUCT SHALL MEET NFPA 90A WITH FLAME SPREAD UNDER 25, SMOKE DEVELOPED UNDER 50 AND SHALL BE RATED FOR 2" W.C. PRESSURE AND 0 TO 250 DEGREE TEMPERATURE. FLEX DUCT MAXIMUM ALLOWED LENGTH TO BE PER LOCAL CODE.
11. PROVIDE INSULATION APPLIED TO COMPLETE BACKUP OF AIR DEVICES.
12. ACCESS DOOR: PROVIDE HINGED ACCESS PANELS IN DUCTWORK WHERE SHOWN AND AS REQUIRED FOR ACCESS TO DAMPERS OR EQUIPMENT. PROVIDE INSULATED ACCESS DOORS IN INSULATED DUCTWORK.
13. AUTOMATIC TEMPERATURE CONTROL: CONTRACTOR TO PROVIDE AND INSTALL 24/7 PROGRAMMABLE THERMOSTATS AND REMOTE SENSORS.
14. KITCHEN HOOD EQUIPMENT INTERLOCK: PROVIDE ALL INTERLOCK AND CONTROL WIRING FOR KITCHEN HOOD SYSTEMS, WHICH INCLUDES EFT, EF2, MAU1 AND ANSUL SYSTEM SHUT DOWN INTERLOCK TO MAKE-UP AIR FAN. UPON ACTIVATION OF ANSUL SYSTEM, MAKE-UP AIR FAN SHALL BE DEACTIVATED. PROVIDE ALL NECESSARY CONTROLS AND WIRING FOR A COMPLETE AND OPERABLE SYSTEM. INTERLOCK GREASE EXHAUST FANS AND MAKE-UP AIR UNIT TO START SIMULTANEOUSLY FROM SWITCH PROVIDED AT HOOD.
15. TEST AND ADJUST EACH PIECE OF EQUIPMENT AND EACH SYSTEM AS REQUIRED TO ASSURE PROPER AIR BALANCE AND OPERATION. PROVIDE A CERTIFIED AIR BALANCE REPORT TO OWNER SHOWING DESIGN AND MEASURED AIR VOLUMES, STATIC PRESSURES, FAN RPMs, ETC. AIR BALANCE CONTRACTOR SHALL ADJUST SYSTEMS TO MINIMIZE NOISE AND VIBRATION, AND TO ASSURE PROPER FUNCTION OF CONTROLS. MAINTENANCE OF TEMPERATURE AND OPERATION. GENERAL CONTRACTOR TO OBTAIN ALL INSPECTIONS REQUIRED BY LOCAL CODE AND GUARANTEE WORK AND INSTALLATION FOR ONE YEAR AFTER ACCEPTANCE BY OWNER. GENERAL CONTRACTOR TO FURNISH OWNER WITH TWO COMPLETE SETS OF AS-BUILT DRAWINGS INDICATING ALL INSTALLED WORK, INCLUDING ALL CONTROL WIRING DIAGRAMS AND INTERLOCK FOR SYSTEM OPERATION.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF ECONOMICIZERS INCLUDING INSTALLATION OF ALL NECESSARY SENSORS AND CONNECTIONS TO THERMOSTAT. PROVIDE SUPPORT OF ECONOMICIZERS PER MANUFACTURER'S REQUIREMENTS AND TEST FOR PROPER OPERATION PRIOR TO FINAL TEST AND BALANCE.



PANDA RESTAURANT GROUP INC

1683 Walnut Grove Ave.
Rosemead, California
91770

Telephone: 626.799.9898
Facsimile: 626.372.8288

All ideas, designs, arrangement and plans indicated or represented by this drawing are the property of Panda Express Inc. and were created for use on this specific project. None of these ideas, designs, arrangements or plans may be used by or disclosed to any person, firm, or corporation without the written permission of Panda Express Inc.

REVISIONS:

ISSUE DATE:

1	95% PLAN REVIEW SUBMITTAL	08/03/2018
2	100% BID SET	09/28/2018

DRAWN BY:

PANDA PROJECT #: D6263 (L3093)

ARCH PROJECT #



GARY WANG
& ASSOCIATES, INC.

1000 Corporate Center Dr., Ste. 550
Monterey Park, CA 91754
TEL: (626) 288-6898 FAX: (626) 768-7101
<http://www.garywang.com>



9/28/18

PANDA EXPRESS

BLDG 419
112 VILSECK ROAD
FORT STEWART, GA 31315

M-000

MECHANICAL NOTES
SPECIFICATIONS & SCHEDULES