

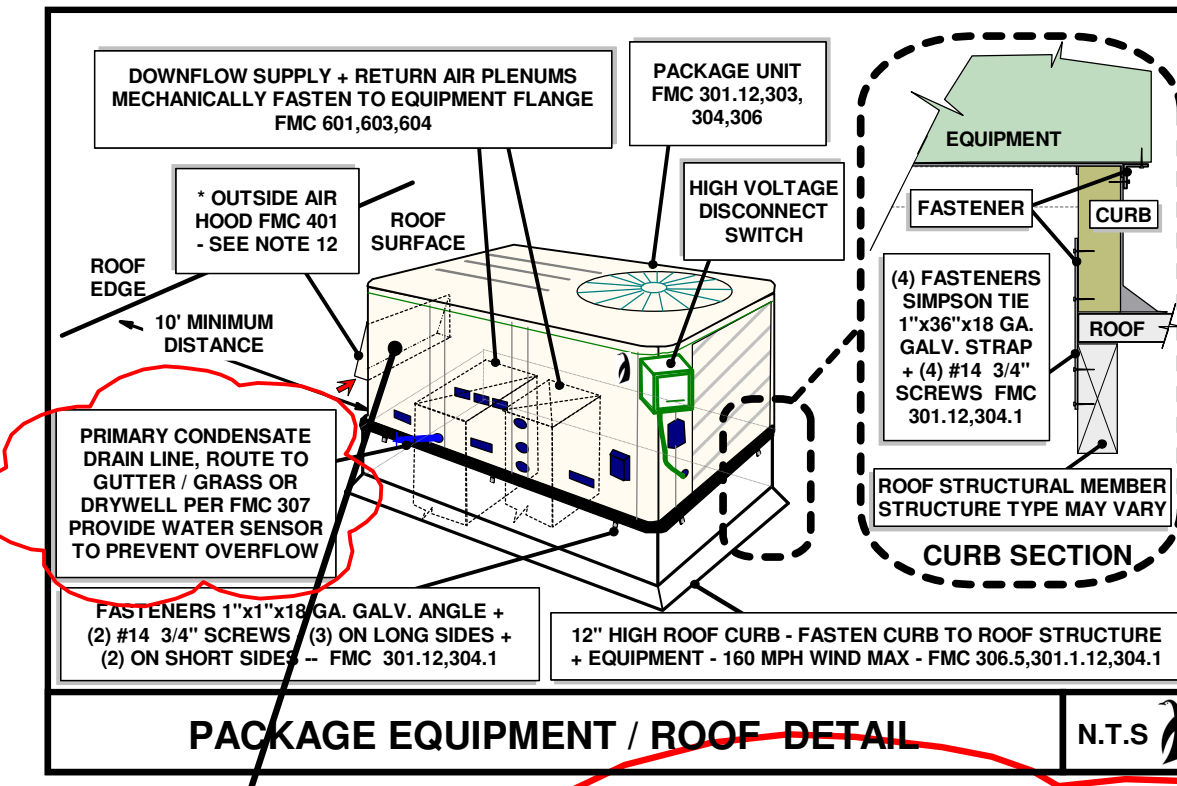
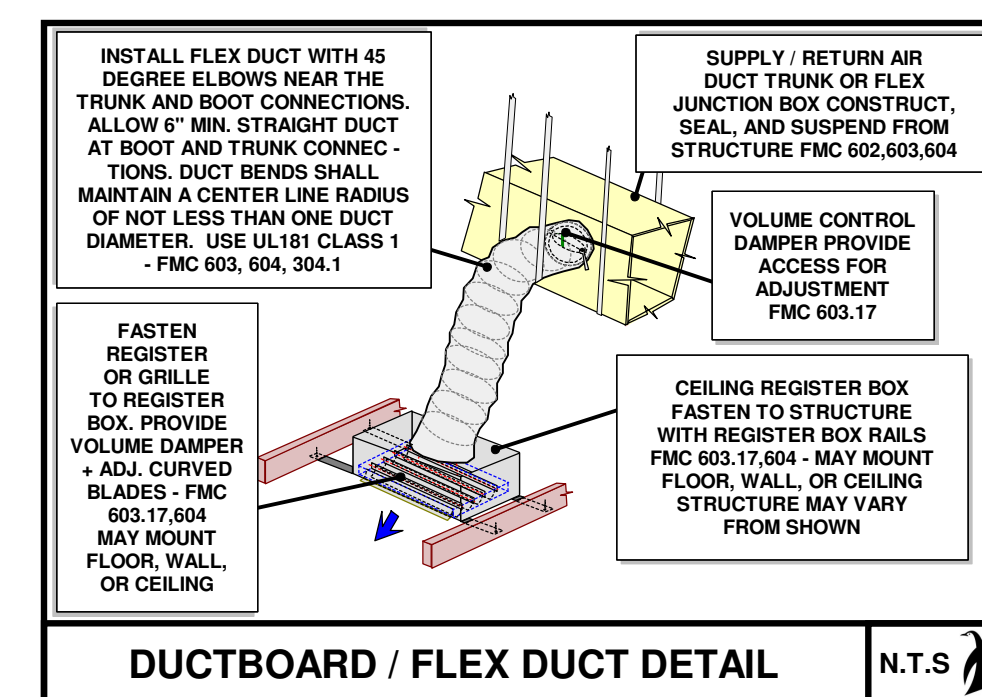
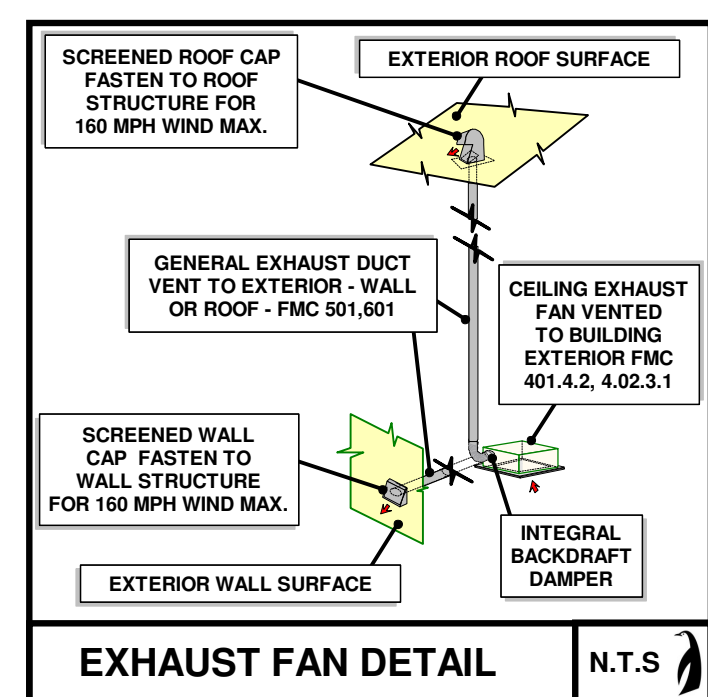
BUILDING AIR BALANCE SCHEDULE						
ZONE	ROOM NAME	OCCUPANTS	DURATION	SUPPLY AIR CFM	RETURN AIR CFM	FRESH AIR CFM
1	Storage	0	N/A	60	0	0
1	M Restroom	0	N/A	56	0	0
1	W Restroom	0	N/A	25	0	0
1	Deli / Kitchen	4	> 3 HRS	2368	1899	60
1	Office	1	> 3 HRS	153	153	0
1	Cashier	1	> 3 HRS	302	0	20
1	Retail Sales	10	VARIES	3036	3338	0
BUILDING TOTALS		16	VARIES	6000	5390	610

THIS BUILDING COMPLIES WITH THE 2007 FLORIDA MECHANICAL CODE SECTION 403.1 AND SECTION 403.3 THE TEST AND BALANCE CONTRACTOR SHOULD ADJUST THE INTERIOR BUILDING PRESSURE SLIGHTLY POSITIVE

BUILDING VENTILATION CALCULATION						
TIME	CLASSIFICATION	OCCUPANTS	DURATION	MAX. REQ. AIR	ADJUSTED AIR	TOTAL AIR
PEAK	OFFICE	1	1.00	20	20	20
PEAK	KITCHEN	4	1.00	15	15	60
PEAK	CASHIER	1	1.00	20	20	20
BUILDING TOTALS		VARIES	VARIES	610	610	610

TIME	CLASSIFICATION	SQUARE FT	% USED	REQUIRED AIR	ADJUSTED AIR	TOTAL AIR	CFM / SQUARE FOOT
PEAK	RETAIL	2123	0.80	0.3	0.24	509.52	0.24
BUILDING TOTALS		VARIES	VARIES	610	610	610	610

THIS BUILDING COMPLIES WITH THE 2007 FLORIDA MECHANICAL CODE SECTION 403.1 AND SECTION 403.3 VENTILATION TABLE OCCUPANCY BASED ON FLORIDA MECHANICAL CODE 403.3.1 USING THE ACTUAL NUMBER OF OCCUPANTS PRESENT (ANTICIPATED DENSITY) ASHRAE 62.1-2007 ALTERNATE WAS USED TO DETERMINE FRESH AIR RATES FOR VARIABLE OCCUPANCY PER FMC 403.4

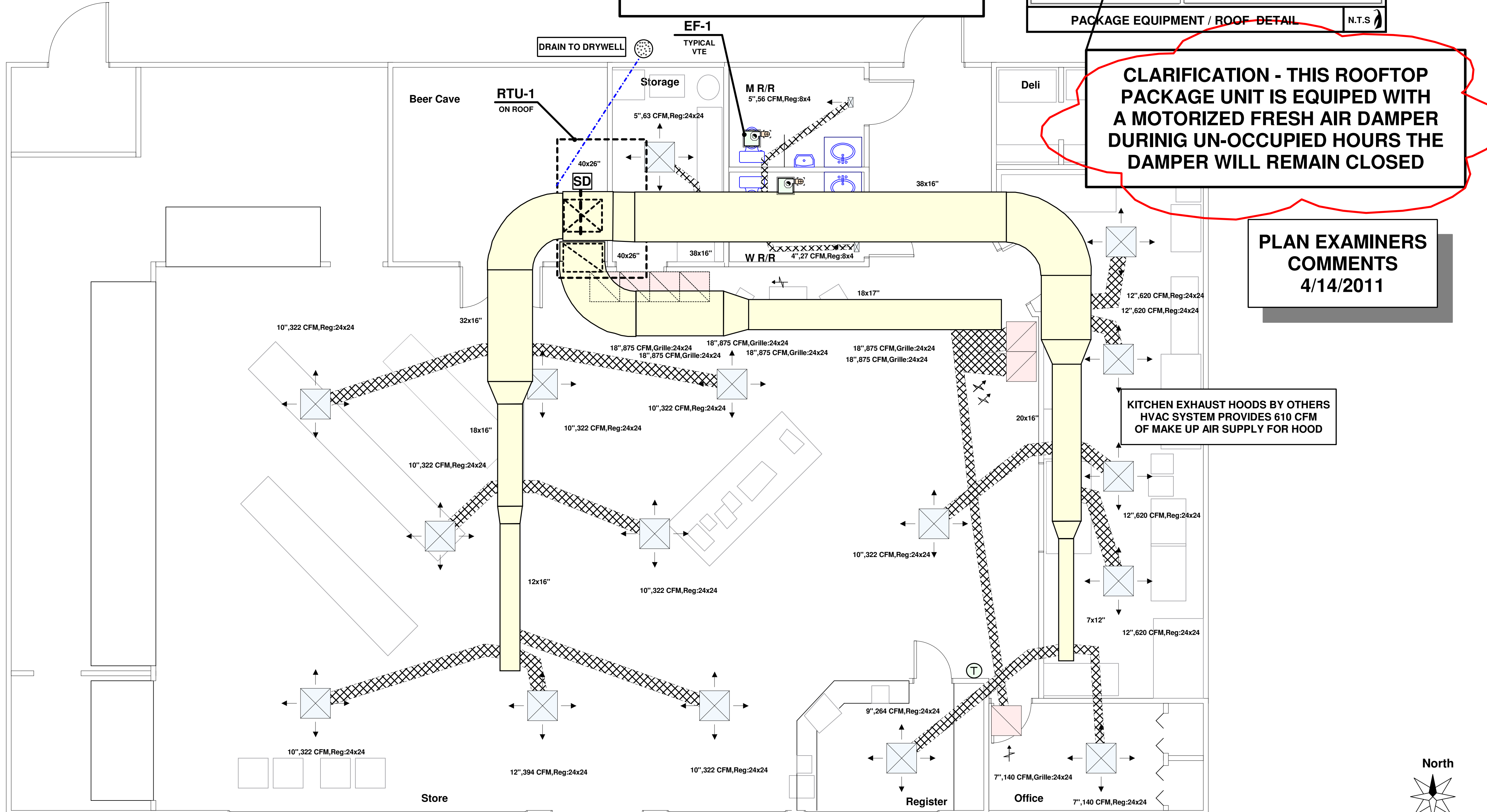


CLARIFICATION - THIS ROOFTOP PACKAGE UNIT IS EQUIPPED WITH A WATER SENSOR IN THE PRIMARY DRAIN PAN - RTU OFF IF OVERFLOW

CLARIFICATION - THIS ROOFTOP PACKAGE UNIT IS EQUIPPED WITH A MOTORIZED FRESH AIR DAMPER DURING UN-OCCUPIED HOURS THE DAMPER WILL REMAIN CLOSED

PLAN EXAMINERS COMMENTS 4/14/2011

KITCHEN EXHAUST HOODS BY OTHERS HVAC SYSTEM PROVIDES 610 CFM OF MAKE UP AIR SUPPLY FOR HOOD



HVAC SYMBOLS			
Ceiling Register 1 Way Throw FMC 603.17	Rectangular Ductwork FMC Section 603	Thermostat @ 60° Above Floor FMC 309	Horizontal Air Handler Mount From Structure FMC Sections 303, 304, 306
Ceiling Register 2 Way Throw FMC 603.17	Flexible Ductwork FMC Section 603	Wall Mounted Humidistat @ 60° Above Floor	Ductless Air Handler Mount From Structure FMC Sections 303, 304, 306
Ceiling Register 3 Way Throw FMC 603.17	Air Distribution Boxes FMC Section 602	Smoke Detector FMC Section 606	Package Unit Slab Mounted FMC Sections 303, 304, 306
Ceiling Register 4 Way Throw FMC 603.17	Return Air Plenum Trunk FMC Section 602	Equipment Access Panel FMC Section 306	Package Unit Roof Mounted FMC Sections 303, 304, 306
Ceiling Register Corner Throw FMC 603.17	Supply Air Plenum Trunk FMC Section 602	Exhaust Fan EF-1 or as Noted FMC Section 403	Package Unit Slab Mounted FMC Sections 303, 304, 306
Wall Register 2 Way Throw FMC 603.17	Air Volume Control Damper FMC Section 306	Zone Control Air Damper FMC Section 306	Package Unit Roof Mounted FMC Sections 303, 304, 306
Floor Register 2 Way Throw FMC 603.17	Roof Mounted Fire Damper FMC Section 607	Bypass Air Damper FMC Section 306	Package Unit Slab Mounted FMC Sections 303, 304, 306
Floor Grille Filter Return Air FMC 603.17	Dryer Vent Roof / Wall Cap FMC 604	1" Undercut Door 30 CFM T/A Typical All Interior Doors	Package Unit Slab Mounted FMC Sections 303, 304, 306
Ceiling Grille Filter Return Air FMC 603.17	Range Vent Roof / Wall Cap FMC 595 - 596	Condensing Unit On Slab or Roof FMC Sections 303, 304, 306	Package Unit Slab Mounted FMC Sections 303, 304, 306
Wall Grille Filter Return Air FMC 603.17	Control / Refrigerant Piping FMC 1101	Condensate Drain to Grass FMC Section 307	Package Unit Slab Mounted FMC Sections 303, 304, 306
Ceiling Grille Filter Return Air FMC 603.17	Condensate Drain to Drywell FMC Section 307	Condensate to Drywell FMC Section 307	Package Unit Slab Mounted FMC Sections 303, 304, 306
Wall Grille Direct T/A FMC 603.17	Condensate to Drywell FMC Section 307	Condensate to Drywell FMC Section 307	Package Unit Slab Mounted FMC Sections 303, 304, 306

HVAC NOTES

THIS HVAC DRAWING IS NOT INTENDED TO SHOW EXACT DETAIL OF EVERY ITEM REQUIRED TO MEET CODE REQUIREMENTS. THE PROPOSED DUCT ROUTING SHOWN IS GENERAL IN NATURE. FIELD CONDITIONS WILL DICTATE EXACT CONFIGURATION OF THE HVAC SYSTEM. CODE SECTIONS ARE LISTED FOR EACH HVAC SYMBOL. HVAC CONTRACTOR SHOULD REFERENCE CODE BOOK FROM TO INSTALLATION. THIS DRAWING COMPLIES WITH 2007 FMC 106.3.5 PLAN REVIEW REQUIREMENTS.

ROOM AIR DEVICE SIZES, CFM VALUES, AND BRANCH DUCT SIZES ARE SHOWN PER ROOM BASED ON PEAK COOLING SEASON. SEE THE "HVAC RESIDENTIAL AND COMMERCIAL HVAC LOADS" FOR HEATING CFM VALUES. ALTERNATE AIR DEVICE SIZES MUST BE EQUAL TO OR LARGER THAN THE OUTDOOR AIR THAT ENTERS THE BUILDING NATURALLY DUE TO INFILTRATION AS MODELED BY THE HEAT LOAD CALCULATIONS. COMMERCIAL BUILDINGS ALWAYS REQUIRE MECHANICALLY INDUCED FRESH AIR PER THE FRESH AIR REQUIREMENTS AND THE BUILDING AIR BALANCE SCHEDULE.

COORDINATE LOCATION OF ALL EQUIPMENT, FANS, AIR DEVICES, AND BUILDING PENETRATIONS WITH THE GENERAL CONTRACTOR. PROTECT THE STRUCTURE PER FMC 302.3. FABRICATE AND INSTALL HVAC SYSTEMS PER THE 2007 FLORIDA MECHANICAL CODE AND ALL APPLICABLE CODES. PROVIDE A FRESH AIR DUCT TO THE RETURN AIR PLENUM SIZED FOR 15 CFM PER RESIDENTIAL OCCUPANT (THIS AMOUNT MUST EXCEED BUILDING INFILTRATION BY 4%. SEE BLOWER DOOR TEST TO VERIFY THE BUILDING IS SUBSTANTIALLY SEALED AND ABLE TO HOLD POSITIVE PRESSURE).

MECHANICAL INSTALLER TO FIELD VERIFY CLEARANCES AND ACCESSIBILITY PRIOR TO FABRICATION OR INSTALLATION OF ANY HVAC WORK. PROVIDE A MEANS FOR WIND RESISTANCE ON ALL EXTERIOR MOUNTED EQUIPMENT PER SECTION FMC 306.5. AN ENGINEER SEAL MAY BE REQUIRED FOR EQUIPMENT SUSPENDED FROM ATTIC TRUSSES AND FOR EXTERIOR EQUIPMENT MOUNTED ABOVE GROUND LEVEL.

ALL DUCT DIMENSIONS SHOWN ARE CLEAR INTERIOR DUCT DIMENSIONS. ADD 3" TO LISTED SIZE FOR EXTERIOR DIMENSIONS. FIBERGLASS DUCTBOARD EQUAL TO KNAMF 1 1/2" R-8. INSTALL PER SMACNA STANDARDS. FLEXIBLE DUCTWORK EQUAL TO ATCO 36 SERIES R-6 CLASS ONE AIR DUCT. CONTRACT AND SUSPEND DUCTWORK FROM THE BUILDING STRUCTURE PER THE 2007 FLORIDA MECHANICAL CODE CHAPTER 6. SEAL ALL DUCTWORK PER UL-181. AND FMC CHAPTER 6. PROVIDE ACCESSIBLE VOLUME DAMPERS.

PROVIDE A CONDENSATE DRAIN SYSTEM PER THE 2007 FLORIDA MECHANICAL CODE SECTION 307 AND A REFRIGERANT PIPING SYSTEM PER FMC SECTION 1107. EXTEND CONDENSATE DRAIN DISCHARGE 12" FROM EXTERIOR WALL TO GRASS (OR OTHER APPROVED METHOD). PROVIDE PIPING SUPPORTS FOR BOTH CONDENSATE DRAINS AND REFRIGERANT PIPING PER FMC 306.

PROVIDE A BALANCED RETURN AIR SYSTEM PER THE 2007 FLORIDA MECHANICAL CODE SECTION 601.A. ALL CLOSEABLE ROOMS REQUIRE 1" UNDERCUT ON INTERIOR DOORS PLUS A MEANS FOR AIR TRANSFER OR AIR RETURN. PRESSURE DIFFERENTIALS NOT TO EXCEED .01 INCH W.G. PROVIDE ACCESSIBLE VOLUME DAMPERS ON DUCTED RETURNS.

ATTIC MOUNTED EQUIPMENT (RESIDENTIAL) MUST CONTAIN A DEVICE TO ALERT THE HOMEOWNER IF THE CONDENSATE DRAIN LINE IS NOT WORKING PROPERLY. POST A NOTICE ON THE ELECTRICAL PANEL INDICATING TO THE HOMEOWNER THE AIR HANDLER IS LOCATED IN THE ATTIC SPACE WITHIN 5' OF THE ACCESS PANEL. SEE SECTION 13-010 OF THE 2007 FLORIDA ENERGY CODE FOR FULL COMPLIANCE DESCRIPTION.

INSTALLING CONTRACTOR MUST PROVIDE A COPY OF THE BUILDING HEAT LOAD CALCULATIONS, FLORIDA ENERGY CALCULATIONS, AND AN HVAC DRAWING TO THE BUILDING OWNER FOR REVIEW AND APPROVAL. INSTALLING CONTRACTOR SHALL CONDUCT A COMBUSTION ANALYSIS OF THE BUILDING HEAT LOADS. THE HEAT LOAD CALCULATIONS SHALL BE COMMUNICATED TO THE DESIGNER. HVAC CONTRACTOR SHOULD RED LINE SKETCH ANY FIELD CHANGES MADE DURING CONSTRUCTION AND SUBMIT THE "AS BUILT" CHANGES TO THE HVAC DESIGNER FOR REVIEW. THE HVAC DRAWINGS ARE BASED ON THE BUILDING HEAT LOAD CALCULATIONS. FOR DETAILED BUILDING ENVELOPE INFORMATION (INSULATION VALUES, WINDOW U-VALUES, CONSTRUCTION COMPONENT TYPES, ETC) SEE "TOTAL BUILDING LOAD SUMMARY" FIELD. FIELD INSPECT THE BUILDING ENVELOPE COMPONENTS DURING CONSTRUCTION TO VERIFY THE BUILDING CONSTRUCTION MATCHES THE HEAT LOAD CALCULATION FORM.

THIS DRAWING, HEAT LOAD CALCULATION, AND ENERGY CALCULATIONS WERE BASED ON THE ARCHITECTURAL DRAWINGS PROVIDED FOR PERMIT APPLICATION. ANY MODIFICATIONS TO THE BUILDING OR BUILDING COMPONENTS DURING CONSTRUCTION MUST BE COMMUNICATED TO THE DESIGNER. HVAC CONTRACTOR SHOULD RED LINE SKETCH ANY FIELD CHANGES MADE DURING CONSTRUCTION AND SUBMIT THE "AS BUILT" CHANGES TO THE HVAC DESIGNER FOR REVIEW. THE HVAC DRAWINGS ARE BASED ON THE BUILDING HEAT LOAD CALCULATIONS. FOR DETAILED BUILDING ENVELOPE INFORMATION (INSULATION VALUES, WINDOW U-VALUES, CONSTRUCTION COMPONENT TYPES, ETC) SEE "TOTAL BUILDING LOAD SUMMARY" FIELD. FIELD INSPECT THE BUILDING ENVELOPE COMPONENTS DURING CONSTRUCTION TO VERIFY THE BUILDING CONSTRUCTION MATCHES THE HEAT LOAD CALCULATION FORM.

THIS DESIGN IS FOR PEAK COOLING LOAD CONDITIONS. HVAC CONTRACTOR MUST PROVIDE YEAR ROUND DEHUMIDIFICATION (STAND ALONE), TEMPERATURE CONTROL, FILTRATION TO MEET THE OWNER'S NEEDS, AND ADJUSTED AIRFLOW CFM VALUES SHOWN FOR EACH ROOM. HVAC CONTRACTOR TO PROVIDE EQUIPMENT WITH CAPACITY CAPABLE OF HEATING, COOLING, DEHUMIDIFICATION, AND AIR MOVEMENT PER THE HEAT LOAD CALCULATIONS AND HVAC DRAWING.

G.C. SHOULD PERFORM A BLOWER DOOR TEST UPON BUILDING COMPLETION TO DETERMINE ACTUAL BUILDING INFILTRATION CFM RATE. PROVIDE CONTROLLED VENTILATION FOR BUILDINGS WITH LEAKAGE RATES LESS THAN 30 CFM (TESTED @ 50 PASCAL) PER BUILDING OCCUPANT. PROVIDE BUILDING INFILTRATION TO MATCH REQUIRED FRESH AIR DUCT - CFM FOR A SLIGHTLY POSITIVE INTERIOR BUILDING PRESSURE.

ROOFTOP UNIT SCHEDULE	
PACKAGE UNIT MARK:	RTU-1
UNIT MANUFACTURER:	AMERICAN STND
UNIT MODEL NUMBER:	TCD180B
NOMINAL A/C TONS:	15
UNIT CONFIGURATION:	DOWNFLOW
UNIT DIMEN H/W/D:	72X108X51
UNIT WEIGHT:	1700
SUPPLY PLENUM SIZE:	29X56
RETURN PLENUM SIZE:	63X21
SUPPLY FAN CFM / SP:	6000 / .4
SUPPLY FAN H/P:	3
OUTDOOR AIR CFM:	610 MTR DMPR
UNIT PHASE / HERTZ:	3/60
UNIT VOLTAGE:	208-240
UNIT MCA:	79/85
UNIT MAX BREAKER:	90/100
HEATER KW:	27/36
HEATER MCA:	108/122
HEATER BREAKER:	110/125
TOTAL COOLING BTUH:	184,000
SENS. COOLING BTUH:	130,000
LAT. COOLING BTUH:	54,000
TOTAL HEATING BTUH:	92,124
SENS. HEAT %:	0.71
COOLING EFFICIENCY:	9.9 / 10.2
THERMOSTAT MODEL:	T8411R1002

EXHAUST FAN SCHEDULE	
FAN MARK:	EF-1
MANUFACTURER:	NUTONE
MODEL NUMBER:	QT-200
FAN TYPE:	EXHAUST
FAN CFM:	200
TOTAL PRESSURE:	.25
FAN VOLTAGE:	120/160
FAN AMPERAGE:	1.0
FAN DIMEN L/W/H:	14X10X9
DUCT OUTLET SIZE:	3.25X10 TO 7
DUCT INLET SIZE:	15X11
FAN WEIGHT:	14
NOTES:	1,2

PLAN EXAMINERS COMMENTS 4/14/2011