

12144.400  
 ELECTRICAL COMMENTS 11/17/2017  
 CONTRACT DATE: 10.2.17  
 BUILDING TYPE: EXP. LITE MED40  
 PLAN VERSION: DECEMBER 2016  
 SITE NUMBER: 311687  
 STORE NUMBER: 436563

TACO BELL  
 3923 SHAKEDOWN ST.  
 CHARLOTTE, NC



**DUCT AND DIFFUSER FLOOR PLAN**  
**M2.0**

**NORTH CAROLINA STATE BUILDING CODE**  
 2012 North Carolina Energy Conservation Code

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

METHOD OF COMPLIANCE:  
 PRESCRIPTIVE     ENERGY COST BUDGET

THERMAL ZONE: 3

EXTERIOR DESIGN CONDITIONS  
 winter dry bulb 20.5° F.  
 summer dry bulb 94.1° F.

INTERIOR DESIGN CONDITIONS  
 winter dry bulb 70° F.  
 summer dry bulb 75° F.  
 relative humidity 50% R.H.

SPACE HEATING LOAD 210,000 BTUH (peak)  
 SPACE COOLING LOAD 205,000 BTUH (peak)

MECHANICAL SPACING CONDITIONING SYSTEM

UNITARY PACKAGED ROOFTOP UNITS WITH GAS HEAT  
 description of unit  
 heating efficiency 80 %  
 cooling efficiency 13.0 EER, 12.0 EER  
 heat output of unit 299,000 BTUH  
 cooling output of unit 238,200 BTUH

BOILER total boiler output N/A

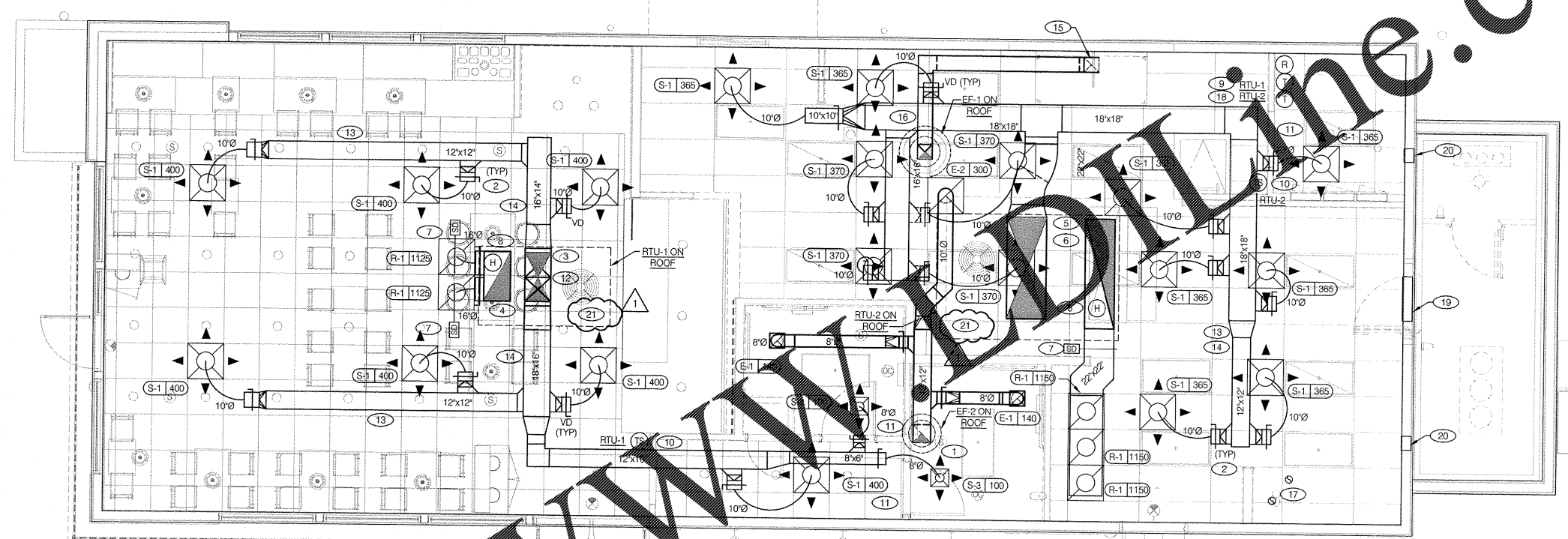
CHILLER total chiller capacity N/A

LIST EQUIPMENT EFFICIENCIES

Equipment schedules with motors (mechanical systems)  
 motor horsepower N/A  
 number of phases N/A  
 minimum efficiency N/A  
 motor type N/A  
 # of poles N/A

DESIGNER STATEMENT:  
 To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of the North Carolina State Building Code.

SIGNED: *David Vigue*  
 NAME: DAVID VIGUE, P.E.  
 TITLE: MECHANICAL ENGINEER



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NOT USED    F

**GENERAL NOTES**    E

1. HANG ROOF LIGHT FIXTURE LOCATIONS ARE CRITICAL. COORDINATE DUCTWORK LOCATIONS AS NOT TO CONFLICT WITH LIGHT FIXTURE LOCATIONS.
2. THERMOSTATS SHALL BE PROGRAMMABLE THERMOSTAT WITH SUBBASE, REMOTE TEMPERATURE SENSOR, AND REMOTE HUMIDITY SENSOR. (PROVIDED WITH TRANE PACKAGE).
3. HUMIDITY SENSOR APPLICATION IS VARIABLE PER SITE SPECIFIC CONDITIONS. REFER TO HVAC UNIT SCHEDULE, 1/M1.0, FOR APPLICATION CONDITIONS.
4. COORDINATE DUCTWORK LOCATIONS WITH LIGHTING AND STRUCTURAL.

**KEY NOTES**    B

- 1 12"x12" EXHAUST AIR DUCT UP THROUGH ROOF TO EF-2.
- 2 SEE DETAIL 8 ON DRAWING M4.0 FOR SUPPLY AIR TAKE-OFF TO CEILING DIFFUSERS. RETURN OR EXHAUST AIR TAKE-OFFS SHALL BE SIMILAR.
- 3 34"x18" SUPPLY AIR DUCT UP. CONNECT TO SUPPLY AIR PLENUM AT ROOFTOP UNIT RTU-1.
- 4 32"x18" RETURN AIR DUCT UP. CONNECT TO RETURN AIR PLENUM AT ROOFTOP UNIT RTU-1.
- 5 68"x26" SUPPLY AIR DUCT UP. CONNECT TO SUPPLY AIR PLENUM AT ROOFTOP UNIT RTU-2.
- 6 76"x20" RETURN AIR DUCT UP. CONNECT TO RETURN AIR PLENUM AT ROOFTOP UNIT RTU-2.
- 7 FURNISH AND INSTALL SMOKE DETECTOR IN THE SUPPLY AIR DUCT, IN ACCORDANCE WITH LOCAL CODES. DUCT SMOKE DETECTOR WIRED BY ELECTRICAL CONTRACTOR, SEE SHEET E3.2.
- 8 HUMIDITY SENSOR (REMOTE). HUMIDITY SENSOR LOCATION SHALL BE PLACED IN RETURN AIR DUCTWORK. VERIFY EXACT LOCATION. SEE 9/M4.0.
- 9 LOCATE THERMOSTAT CONTROLS ON WALL IN OFFICE AT 48" A.F.F. COORD LOCATION WITH LIGHT SWITCHES.
- 10 MOUNT THERMOSTAT REMOTE SENSOR AT 60" ABOVE FINISHED FLOOR.
- 11 UNDERCUT RESTROOM DOORS AND OFFICE DOOR MIN. 3/4" FOR MAKE-UP AIR.
- 12 PROVIDE SPLITTER DAMPER AND 90 DEGREE ELBOW WITH TURNING VANES.

- 13 RUN DUCT THROUGH OPEN WEBBING OF ROOF JOISTS (WHERE POSSIBLE). COORDINATE WITH TRUSS DESIGN PRIOR TO DUCTWORK FABRICATION. ALLOW HOOD VENT TO BE HIGHER ELEVATION AT THIS LOCATION.
- 14 RUN DUCTWORK BETWEEN TRUSSES AS HIGH AS POSSIBLE UNDER ROOF JOISTS.
- 15 10"x10" EXHAUST AIR DUCT DOWN AND TRANSITION TO FIELD CUT EXHAUST CONNECTION AT HOOD.
- 16 EXHAUST DUCT SHALL RUN BETWEEN ROOF JOISTS TO CONNECT TO ROOF EXHAUST FAN EF-1. SEE HOOD DETAILS ON DRAWING M3.0. SEE DETAIL 15 ON SHEET M4.0 FOR FIRE PROTECTION OF DUCT WORK. SEE DETAIL 18 ON SHEET M4.0 FOR EXHAUST DUCT TRANSITION.
- 17 FURNISH AND INSTALL 4" PVC WATER HEATER INTAKE AND FLUE VENT TERMINATION ON ROOF. COORDINATE WORK WITH ALL TRADES.
- 18 NEW SMOKE DETECTOR RESET SWITCH WITH KEY. MFR. IS "SYSTEM SENSOR" MODEL # RTS151 KEY. MOUNT NEXT TO THERMOSTATS @ 48" A.F.F. - INSTALL PER MFR. SPECIFICATIONS.
- 19 ACCESS OPENING TO SPACE ABOVE WALK-IN. SEE SHEET C/A5.1 & A7.1.
- 20 AIR TRANSFER GRILLS.
- 21 PROVIDE HI-WATER DETECTION DEVICE IN RTUS DRAIN PAN TO SHUT-OFF EQUIPMENT IN THE EVENT THAT THE PRIMARY DRAIN IS BLOCKED.

**DUCT AND DIFFUSER PLAN** 1/4"=1'-0"    A