

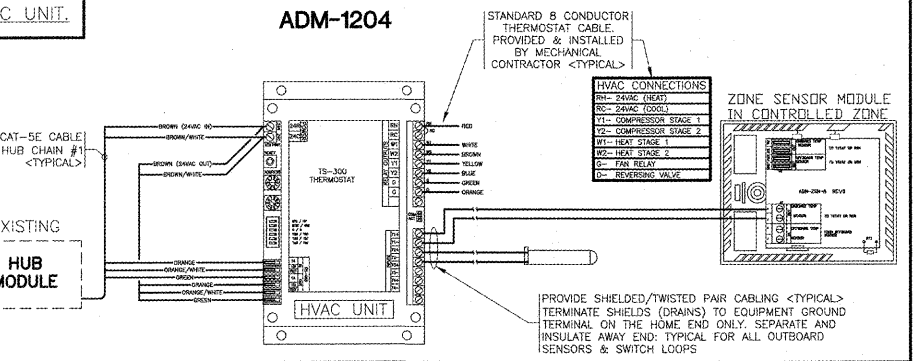
TYPICAL FOR EACH HVAC UNIT.

NOTE: ALL SENSOR WIRING SHALL CONSIST OF 18-24AWG SHIELDED-TWISTED PAIR (BELDEN EQUIVALENT) WITH 6 TWIST PER FOOT BEING A MINIMUM REQUIREMENT. THIS PERTAINS TO:

- OUTSIDE AIR TEMPERATURE SENSOR
- DUCT PROBE SENSOR(S)
- ZONE SENSOR MODULE(S)
- PHOTO DIODE SENSOR
- DOOR CONTACT SWITCH LOOPS



ADM-1204



HVAC OUTDOOR AIR REQUIREMENTS

MECHANICAL CODE REFERENCE: FOR REQUIRED OUTDOOR VENTILATION AIR IN RETAIL - "SALES/STORAGE ROOM"

- SHOWROOM = 0000 SQUARE FEET
- HARD PARTS = 9171 SQUARE FEET

SHOWROOM (SALES)
 0 (SQUARE FEET) + 1000 (SQUARE FEET) = 0.00
 0.00 x 15 (PERSONS/1000 SQUARE FEET) = 0 PERSONS
 (CFM/ PERSON x PERSONS) + (CFM/SQUARE FEET x SQUARE FEET) = CFM
 (7.5 x 0) + (.12 x 0) = 0.00 CFM OF OUTSIDE AIR REQUIRED

0.00 + .8 (EFFECTIVENESS) = 0.00 CFM

HARD PARTS (STORAGE ROOM)
 9171 x .12 (CFM/SQUARE FEET) = 1100.5 CFM OF OUTSIDE AIR REQUIRED

1100.5 + .8 (EFFECTIVENESS) = 1375.65 CFM

0 CFM + 1376 CFM = 1376 TOTAL CFM

TOTAL OUTSIDE AIR MINIMUM REQUIRED BY CODE: 1376 CFM
 OUTSIDE AIR SPECIFIED ON PLAN SHEET M1: 1380 CFM

HVAC - KEYNOTES

- THERMOSTATS. (TO RELATED T-STAT).
- 12"x12" DUCT W/ ELBOW FROM "R2" TO JUST ABOVE THE CEILING PLATFORM.
- NOT USED.
- TAPERED CONCENTRIC FITTING. TYPICAL.
- WIRE TO OPERATE WITH MIXING BOX OUTSIDE AIR DAMPER. TYPICAL.
- 24"x24" DUCT FROM RELIEF VENTILATOR "RV" ON ROOF. EXTEND DUCT 30" AFTER ELBOW. OPEN ENDED.
- CONDENSATE DRAIN. REFER TO DETAIL S/M1.2.

OUTSIDE AIR SETUP:

CONTRACTOR TO SET DAMPERS AS FOLLOWS:
 ECONOMIZER MODE MAXIMUM CFM PER UNIT
 TYPICAL = 1980
 MINIMUM OUTSIDE AIR CFM (TYPICAL) = 276 DURING OCCUPIED HOURS ONLY.

CONTRACTOR TO HIRE STRUCTURAL ENGINEER FOR HVAC EQUIPMENT

GENERAL CONTRACTOR TO HIRE A REGISTERED PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MISSISSIPPI WHERE THE PROJECT IS LOCATED. STATING SAID ADEQUACY OF THE EXISTING CONSTRUCTION, AND DETERMINATION OF THE ADEQUACY OF THE EXISTING CONSTRUCTION TO STRUCTURALLY SUPPORT ALL NEW, REPLACEMENT, AND RELOCATED MECHANICAL UNITS, INCLUDING NEW CURBS AND/OR TRANSITION CURBS INDICATED WITHIN THESE DRAWINGS. SAID EQUIPMENT AND CURBS SHALL NOT BE INSTALLED UNTIL SUCH TIME GENERAL CONTRACTOR ARE IN RECEIPT OF WRITTEN DOCUMENTATION SIGNED AND SEALED BY A REGISTERED ENGINEER.

HVAC SYSTEMS TESTING & BALANCING

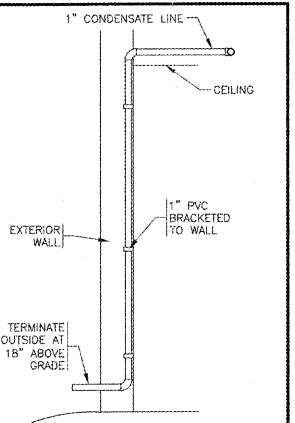
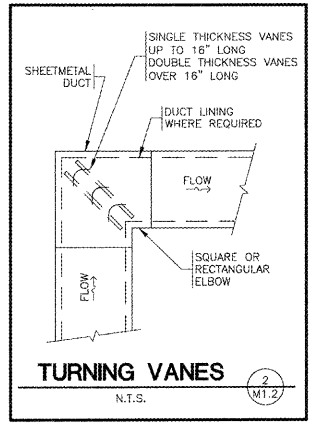
THE HVAC SYSTEM SHALL BE TESTED AND BALANCED (TAB) BY THE CONTRACTOR PER SPEC SECTION 23.05.00 IN ACCORDANCE WITH THE PROCEDURES OF AABC OR NEBB. CONTRACTOR SHALL SUBMIT WRITTEN TAB REPORTS TO THE OWNER. SINCE THIS O'REILLY STORE IS LESS THAN 50,000 SQ. FT. SYSTEM COMMISSIONING IS NOT REQUIRED PER ASHRAE 90.1-2010 SECTION 6.7.2.4.

HVAC ROOF BRACING CONFLICTS

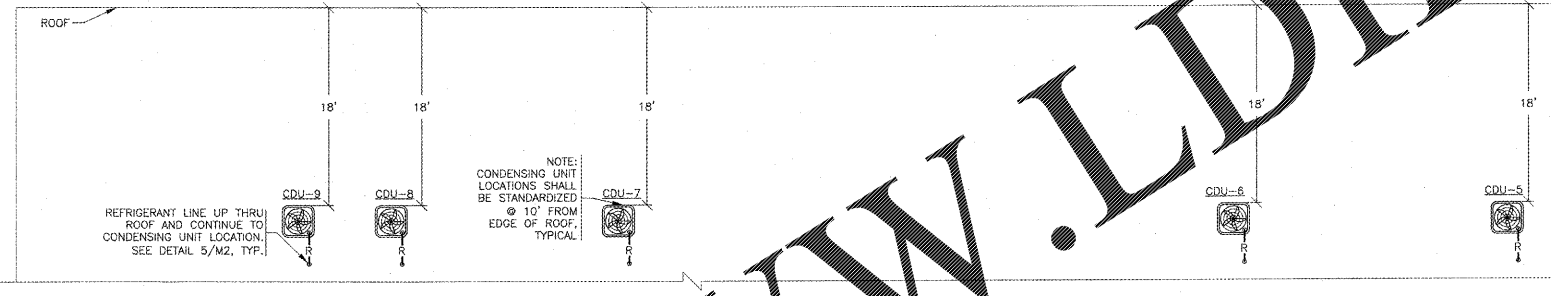
CONTRACTOR TO VERIFY ROOF'S HORIZONTAL ROD BRACING LOCATION. IF NECESSARY, SHIFT RTU'S AND DUCTS AS REQUIRED TO AVOID BRACING CONFLICTS.

HVAC SYSTEMS TESTING AND BALANCING

THE HVAC SYSTEM SHALL BE TESTED AND BALANCED (TAB) BY THE CONTRACTOR IN ACCORDANCE WITH THE PROCEDURES OF AABC OR NEBB. CONTRACTOR SHALL SUBMIT WRITTEN TAB REPORTS TO THE OWNER. SINCE THIS O'REILLY STORE IS LESS THAN 50,000 SQ. FT. THEN SYSTEM COMMISSIONING IS NOT REQUIRED PER ASHRAE 90.1.



REFER TO SHEET M1.1 FOR HVAC LEGEND.



EXISTING ADM-BASIC S/N: 1204

PARTIAL ROOF PLAN

SCALE: 1/8" = 1'-0"

ECONOMIZER AND CO2 SENSOR SEQUENCE OF OPERATION

Modulating Economizer

The purpose of an economizer is to use outdoor air for cooling, whenever possible, to reduce compressor operation.

The economizer system initially responds to a signal from the cooling thermostat and functions as a true first stage for cooling, while providing maximum fuel economy. The economizer is automatically locked out during the heating mode and holds the outdoor air damper at the minimum position settings.

During the occupied period, the discharge sensor provides a signal to the actuator during free cooling or economizer mode. The signal opens the economizer damper until the discharge temperature drops below 50 degrees F. At this time the signal causes the motor to drive the damper back to minimum position. As the discharge temperature climbs to 60 degrees F the motor will drive back open. During the occupied period, the actuator will not close past the minimum position.

If the fully open actuator cannot satisfy the space demand, mechanical cooling is sequenced on.

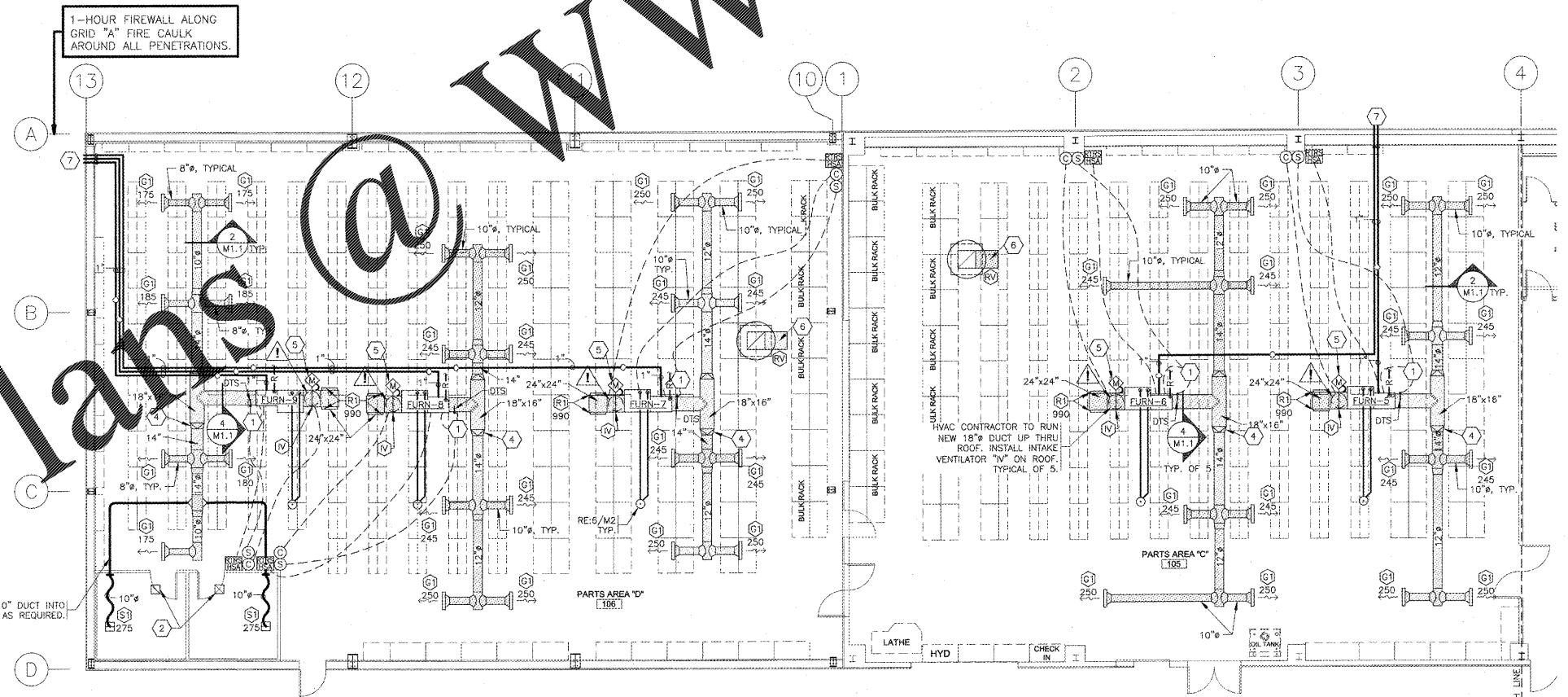
Demand controlled ventilation (DCV)
 CO2 sensor is connected to the economizer control. As the CO2 level in the space increases above the setpoint, the minimum position of the damper will be increased proportionally, until the Maximum Ventilation setting is reached. As the space CO2 level decreases due to the increase in fresh air, the outdoor damper will follow the higher demand condition from the DCV mode or from the free cooling mode. The DCV operation is to be available in Occupied period only.

During the unoccupied period, the actuator will override minimum position setting and drive fully closed. On a loss of power, the actuator will spring return fully closed.

When in heating operation, or when outdoor air temperature or enthalpy conditions are high, economizer operation is locked out, and actuator is held at minimum position.

The staging relay is used when the first stage compressors must provide mechanical cooling when assisting the economizer.

The staging relay can be omitted when the second stage compressors can be used to assist the economizer with mechanical cooling.



PARTIAL HVAC PLAN

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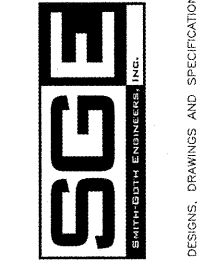
Order Plans @



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DRAWN BY: RM
 CHECKED BY: NEG
 DATE: 05/11/18
 REVISION:

PROJECT NUMBER:
PEA-0994

SHEET NUMBER

M1.2

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