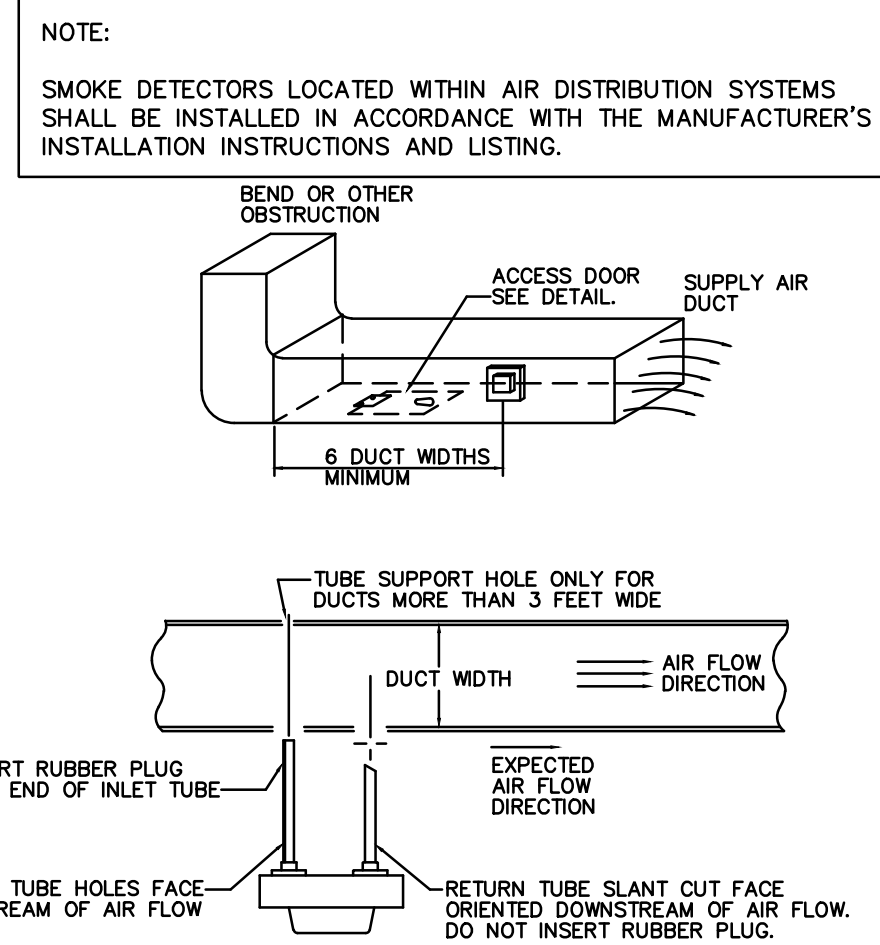
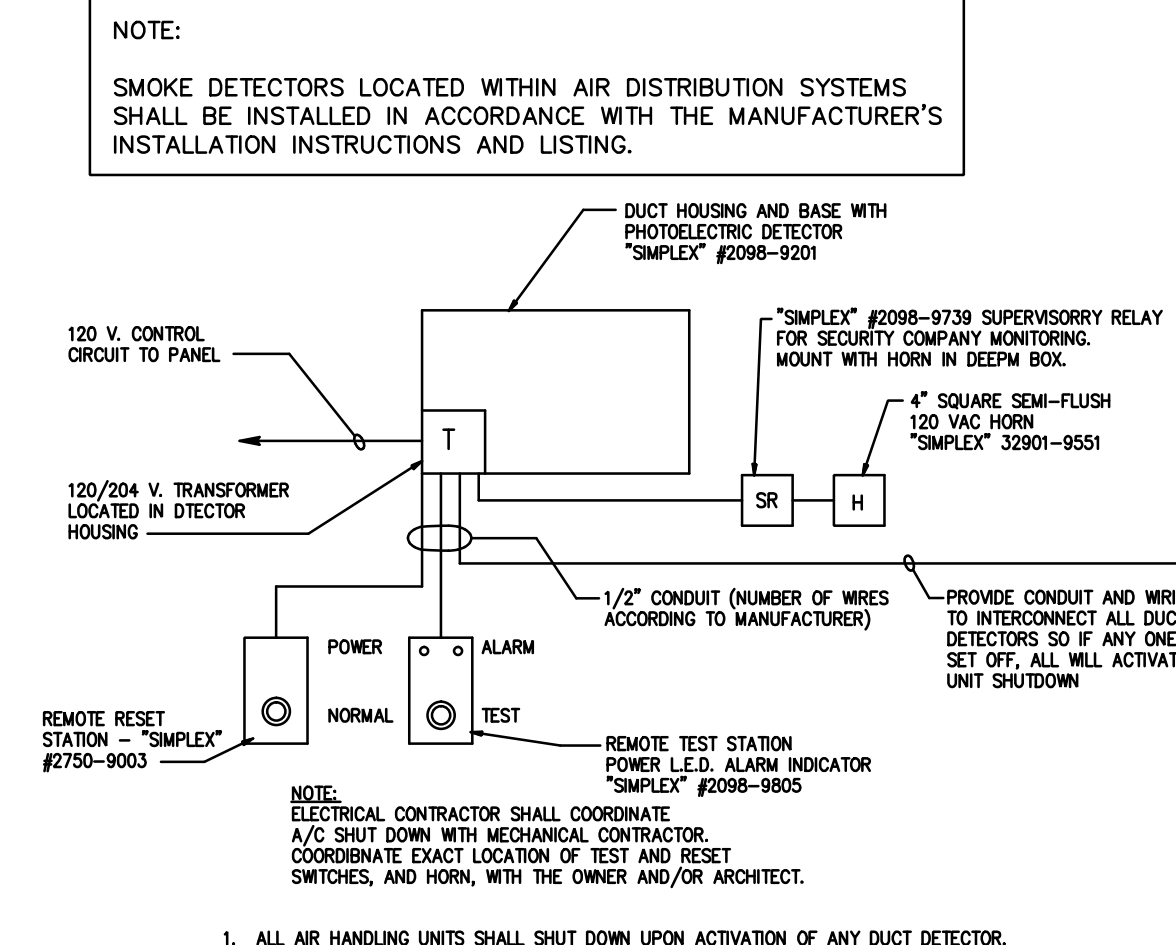


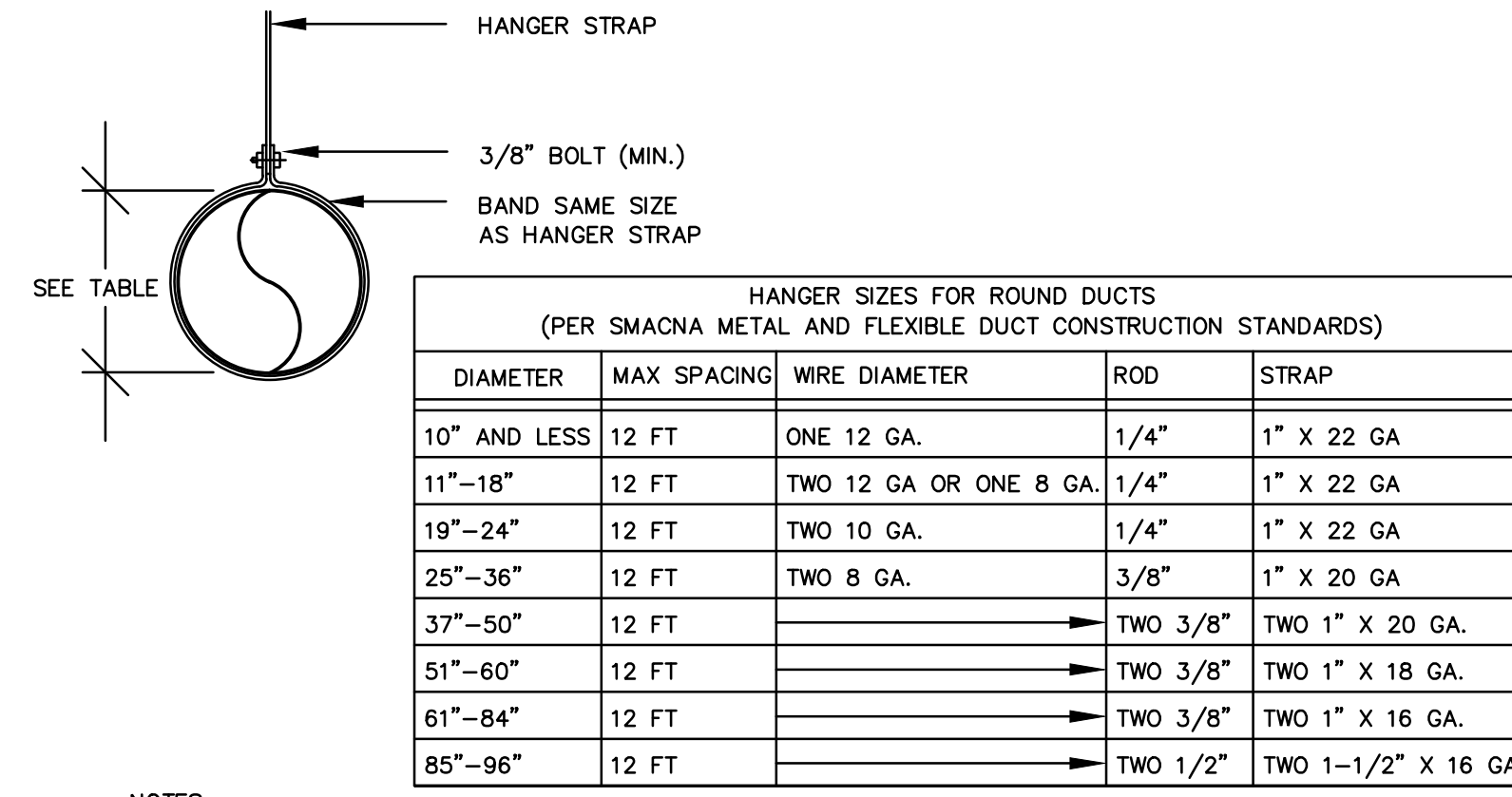
1 DUCT HANGING METHODS DETAIL  
M-3 NTS



2 TYPICAL DUCT DETECTOR INSTALLATION  
M-3 NTS



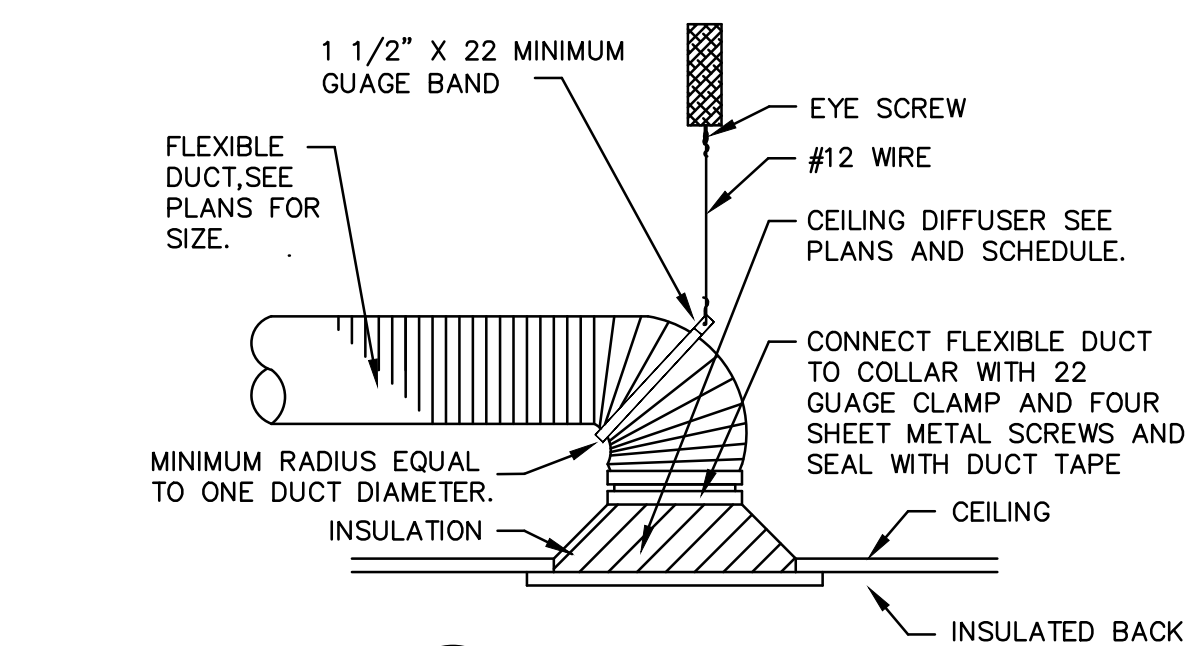
3 A/C UNIT DUCT DETECTOR DETAIL  
M-3 NTS



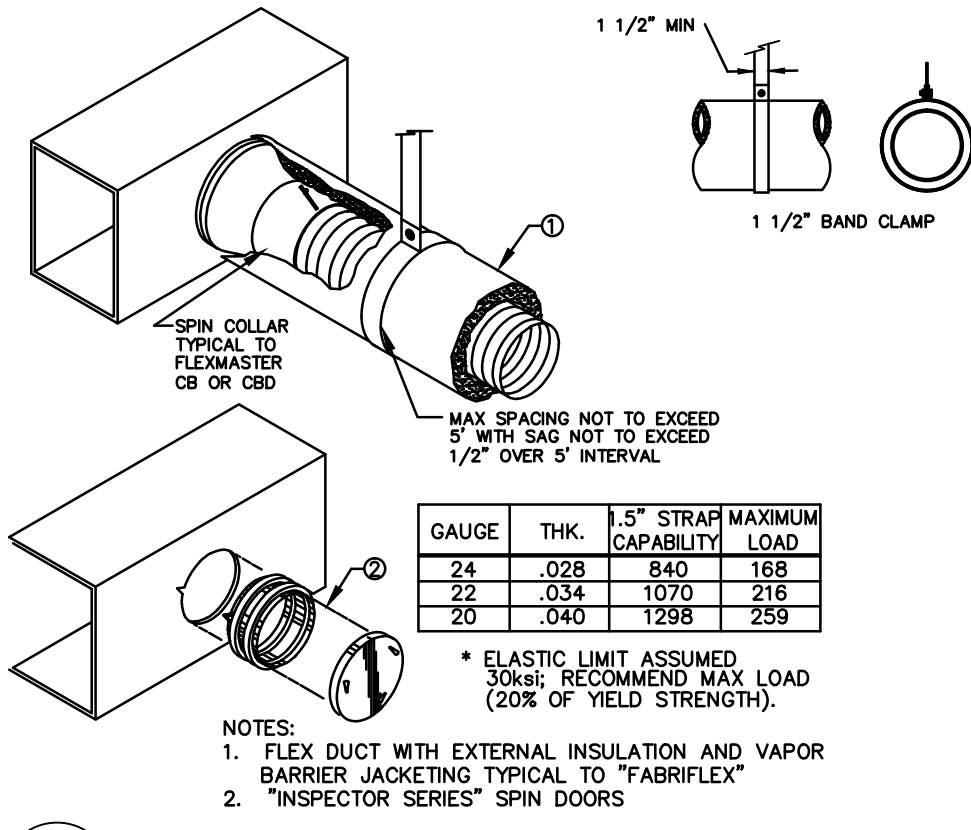
HANGER SIZES FOR ROUND DUCTS (PER SMACNA METAL AND FLEXIBLE DUCT CONSTRUCTION STANDARDS)				
DIAMETER	MAX SPACING	WIRE DIAMETER	ROD	STRAP
10" AND LESS	12 FT	ONE 12 GA.	1/4"	1" X 22 GA
11"-18"	12 FT	TWO 12 GA OR ONE 8 GA.	1/4"	1" X 22 GA
19"-24"	12 FT	TWO 10 GA.	1/4"	1" X 22 GA
25"-36"	12 FT	TWO 8 GA.	3/8"	1" X 20 GA
37"-50"	12 FT		TWO 3/8"	TWO 1" X 20 GA.
51"-60"	12 FT		TWO 3/8"	TWO 1" X 18 GA.
61"-84"	12 FT		TWO 3/8"	TWO 1" X 16 GA.
85"-96"	12 FT		TWO 1/2"	TWO 1-1/2" X 16 GA.

NOTES:  
- STRAPS ARE GALVANIZED STEEL; RODS ARE UNCOATED OR GALVANIZED STEEL.  
- WIRE IS BLACK ANNEALED, BRIGHT BASIC OR GALVANIZED STEEL. ALL ARE ALTERNATES.  
- TABLES ALLOW FOR CONVENTIONAL WALL THICKNESS, AND JOINT SYSTEMS PLUS 1 LB/SQ.FT. INSULATION WEIGHT.  
- IF HEAVIER DUCTS ARE TO BE INSTALLED, ADJUST HANGER SIZES TO BE WITHIN THEIR LOAD LIMITS.

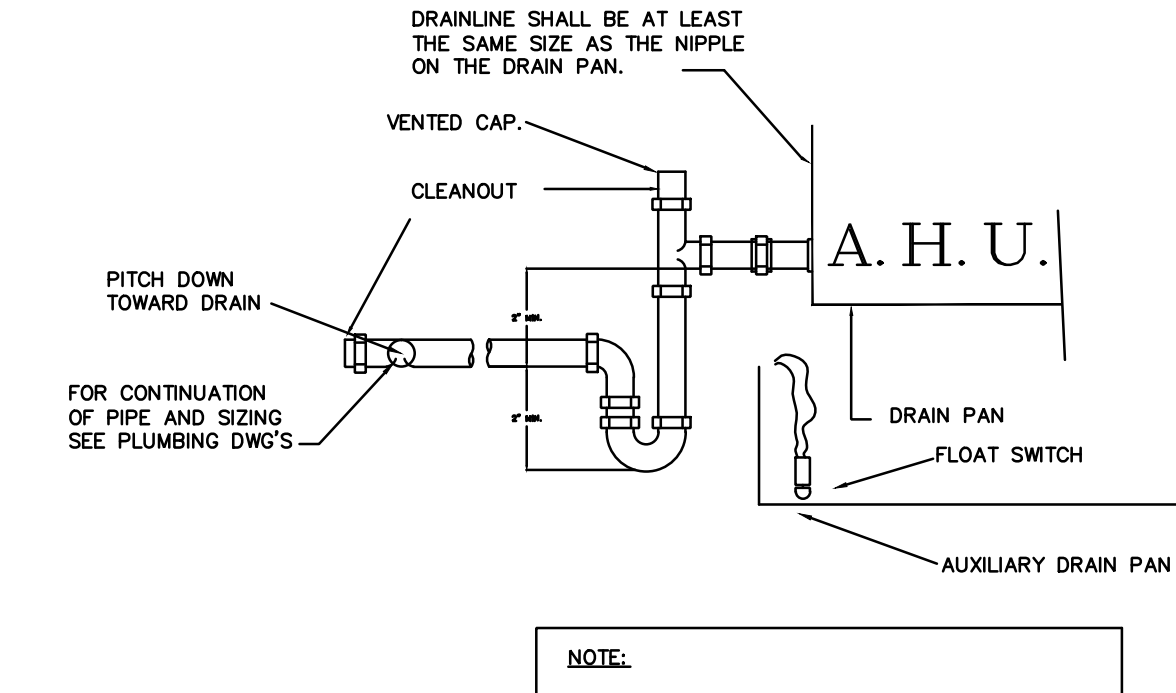
4 METAL ROUND DUCT HANGING DETAIL  
M-3 NTS



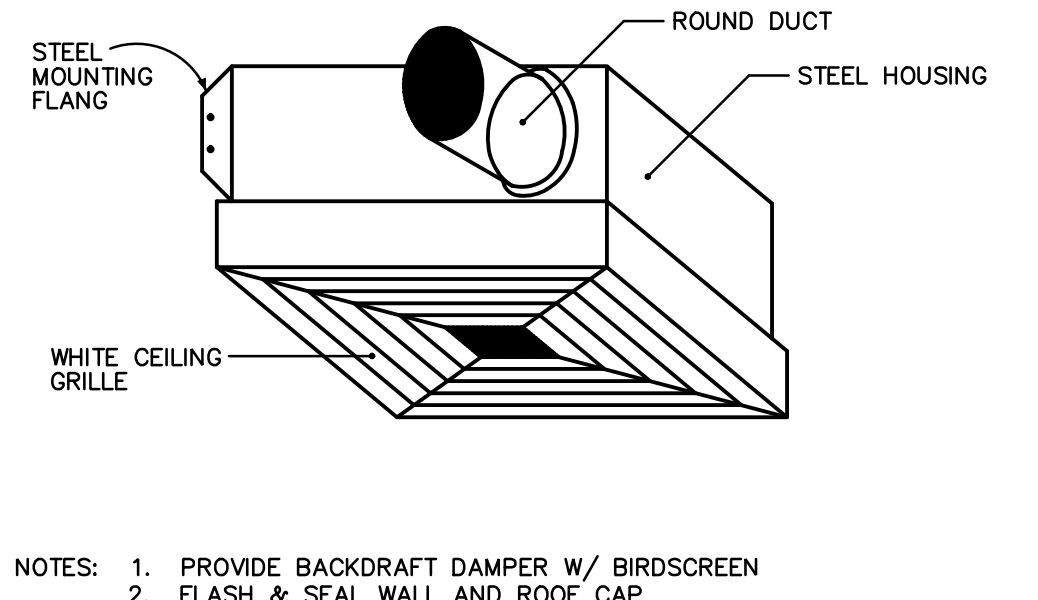
5 DIFFUSER DETAIL  
M-3 NTS



6 SUPPORT REQUIREMENTS FOR FLEX DUCT  
M-3 NTS

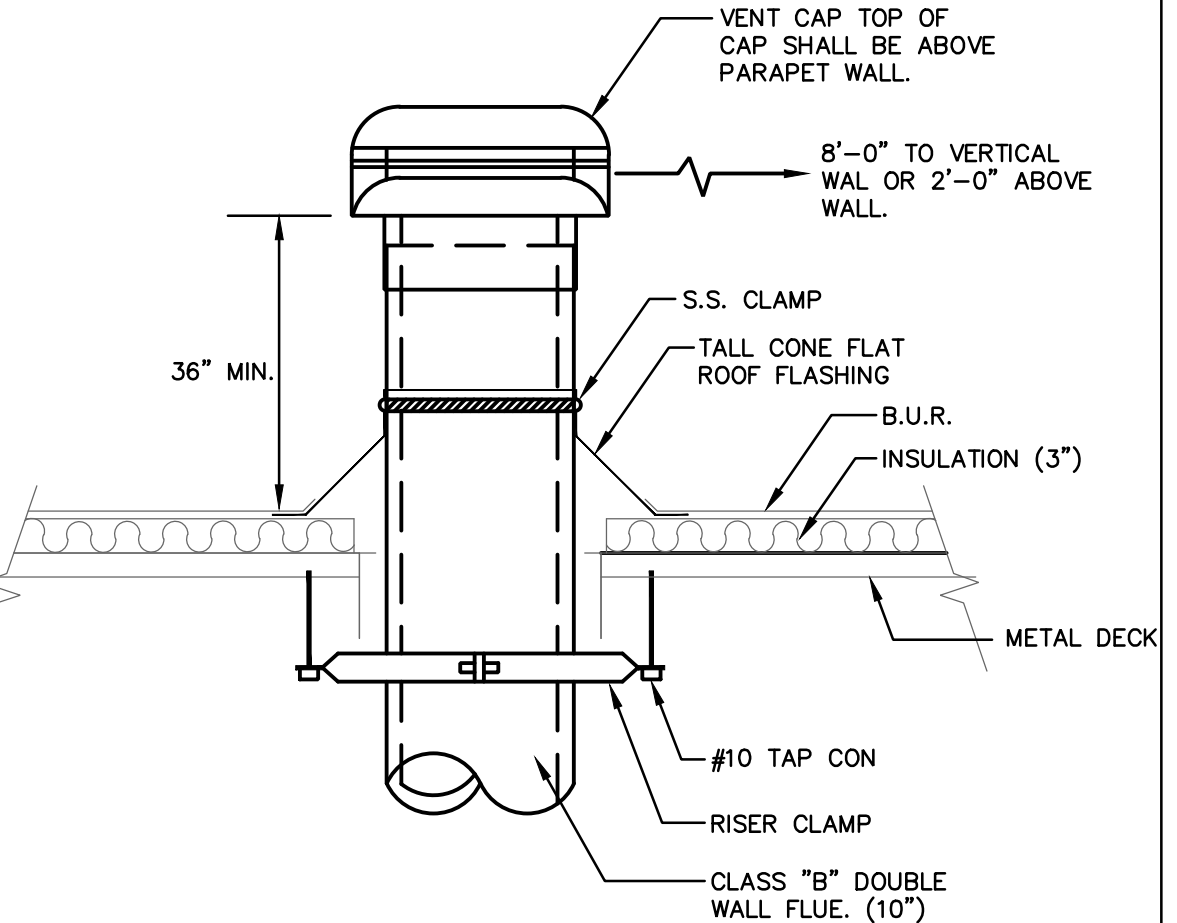


7 TYPICAL CONDENSATE DRAIN TRAP DETAIL  
M-3 NTS



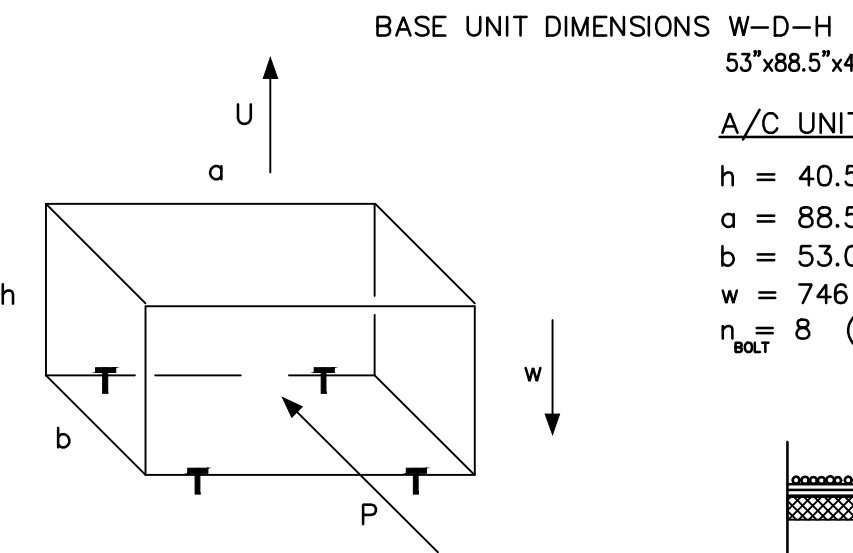
NOTES:  
1. PROVIDE BACKDRAFT DAMPER W/ BIRDSCREEN  
2. FLASH & SEAL WALL AND ROOF CAP  
3. PROVIDE INTERNAL ISOLATION AND SOUND INSULATION  
4. SUPPORT FAN FROM STRUCTURE  
5. UNIT MOUNTED MOTION SENSOR.

8 CABINET EXHAUST DETAIL  
M-3 NTS

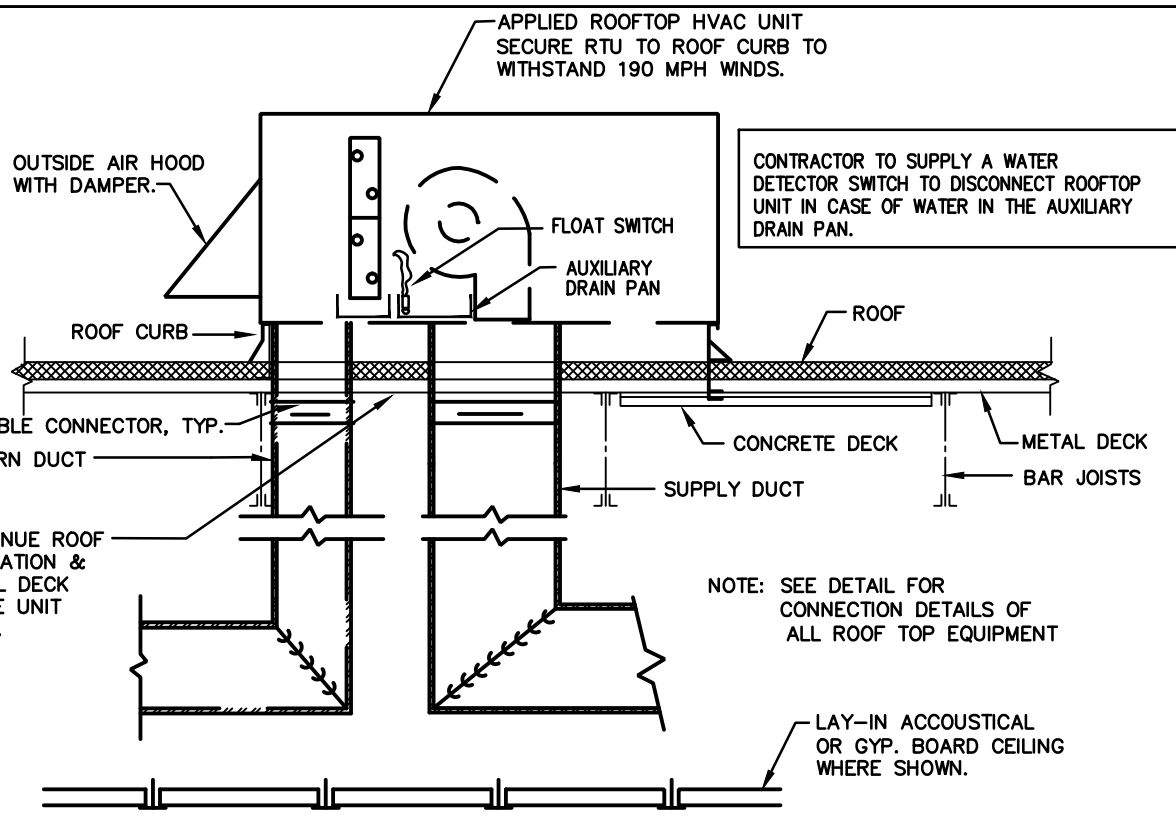


9 GAS FLUE CAP DETAIL  
M-3 NTS

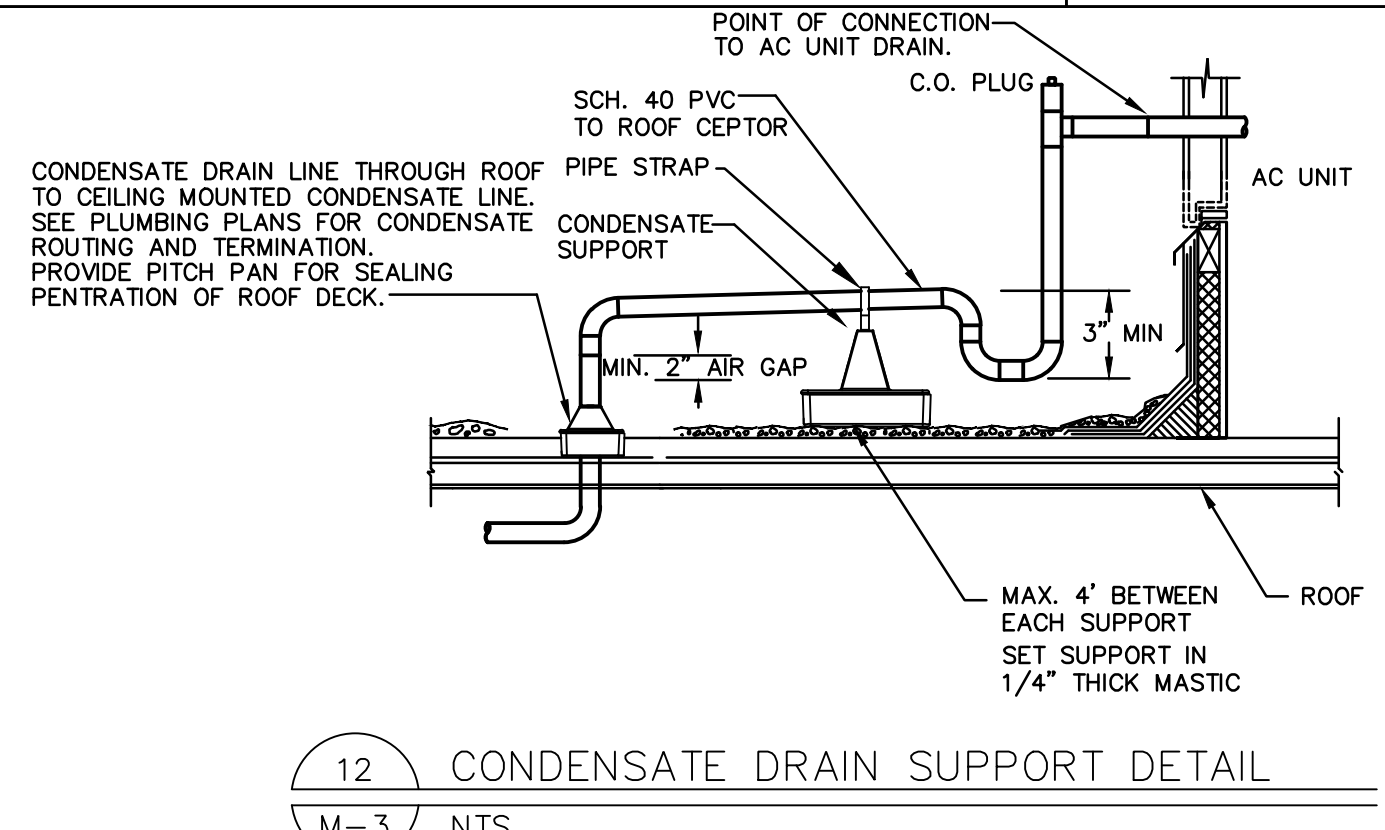
WIND LOADS ARE BASED ON ASCE 7-2010 USING A BASIC WIND SPEED EQUAL TO 190 MPH, AN IMPORTANCE FACTOR OF 1.0, AND EXPOSURE "C".



10 HVAC EQUIPMENT ROOF CURB MOUNTING DETAIL  
M-3 NTS



11 ROOFTOP PACKAGE UNIT DETAIL  
M-3 NTS



12 CONDENSATE DRAIN SUPPORT DETAIL  
M-3 NTS

BASE UNIT DIMENSIONS W-D-H  
53"x88.5"x40.5"

A/C UNIT DATA  
h = 40.5" = 3.38'  
a = 88.5" = 7.38'  
b = 53.0" = 4.42'  
w = 746 lbs  
n<sub>BOLT</sub> = 8 (# of bolts)

WIND LOAD  
ROOF ELEVATION: 15'  
WIND PRESSURE @ H = 37.2 lbs/ft<sup>2</sup> (gh) (190mph)  
C<sub>F</sub> = 1.21

W<sub>w</sub> = gh x C<sub>F</sub> = 45.0 lbs/ft<sup>2</sup>

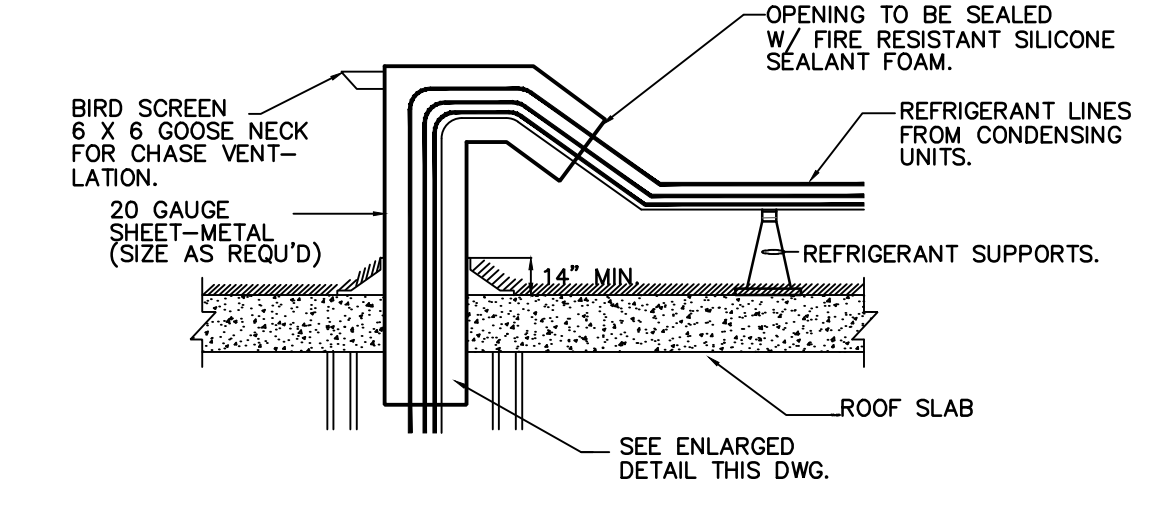
HORIZONTAL WIND FORCE  
P = W<sub>w</sub> x h x a = 1,122 lbs/ft<sup>2</sup>

UPLIFT WIND FORCE  
U = W<sub>w</sub> x b x a = 1,467 lbs/ft<sup>2</sup>

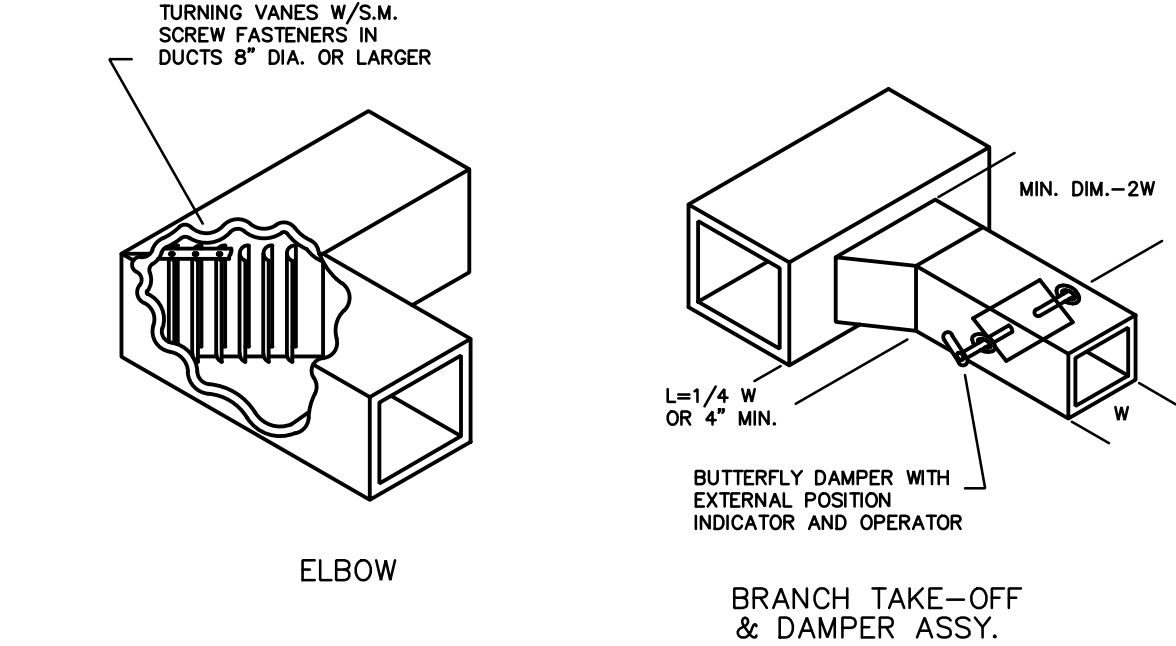
CHECK BOLT SHEAR  
V<sub>BOLT</sub> = P / n<sub>BOLT</sub> = 1,122 / 8 = 140.3 lbs

CHECK BOLT CAPACITY  
T = [(P x h/2 + U x a/2) - w x a/2] x 1/a = 617 lbf  
V<sub>BOLT</sub> = T / n<sub>BOLT</sub> = 617 / 8 = 77.1 lbs

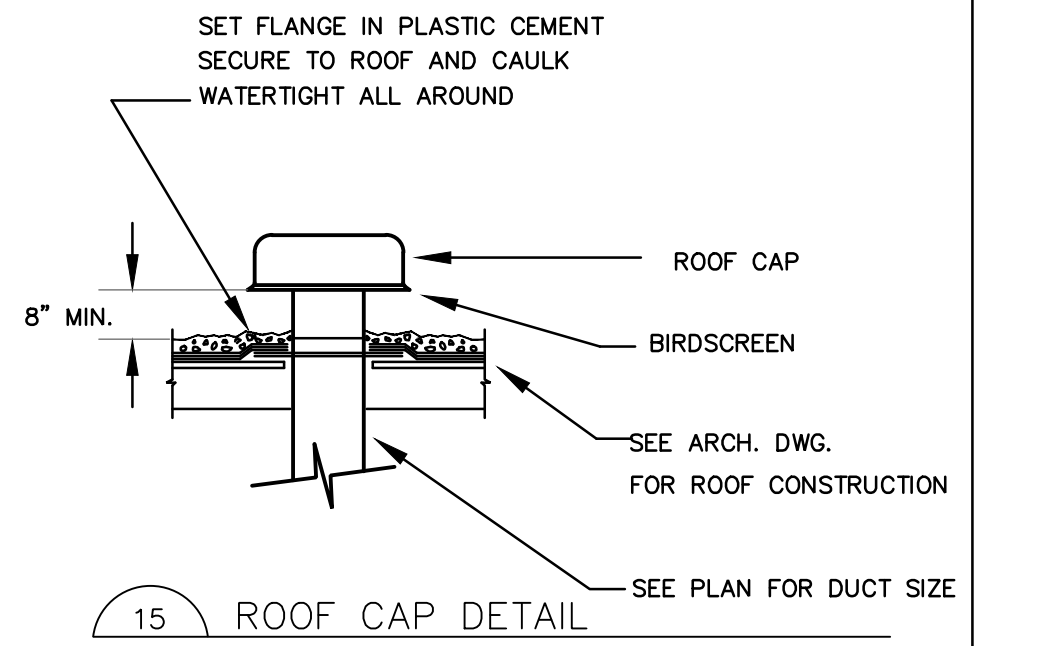
USE EIGHT ( 8 ) 3/8" X 1-1/2" METAL SCREWS ( PULL OUT = 250 lbs, SHEAR = 700 lbs )



13 PIPING THROUGH ROOF DECK DETAIL  
M-3 NTS



14 TYPICAL DUCT DETAIL  
M-3 NTS



15 ROOF CAP DETAIL  
M-3 NTS

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REVISIONS	BY

INTERIOR IMPROVEMENTS  
**FIRE UP PIZZA**  
8170 OKEECHOBEE BLVD. - SUITES 1 & 2  
SEDONA COMMONS - BUILDING #7  
WEST PALM BEACH, FLORIDA

**KUOPPALA & ASSOCIATES, P.A.**  
ROBERT E. KUOPPALA ARCHITECTS  
FLORIDA ARCHITECT #0481 LICENSE #AAC-001869  
925 SOUTH MILITARY TRAIL, SUITE D-10 (561) 662-1909-OFF.  
WEST PALM BEACH, FLORIDA 33415 (561) 662-1975-FAX.

DRAWN	MB
CHECKED	MB
DATE	APRIL 26, 2016
SCALE	AS NOTED
COMM. NO.	16-071
SHEET	M-3
OF 3	3 SHEETS