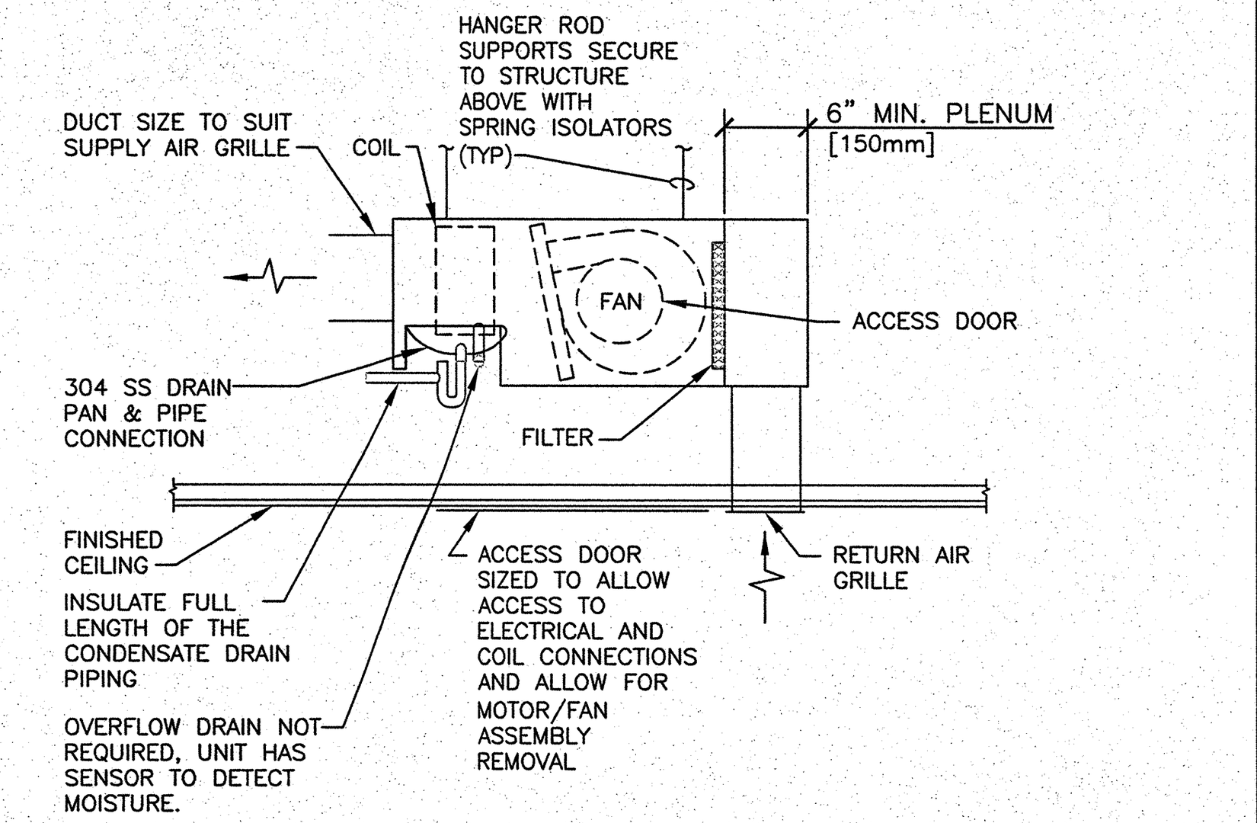
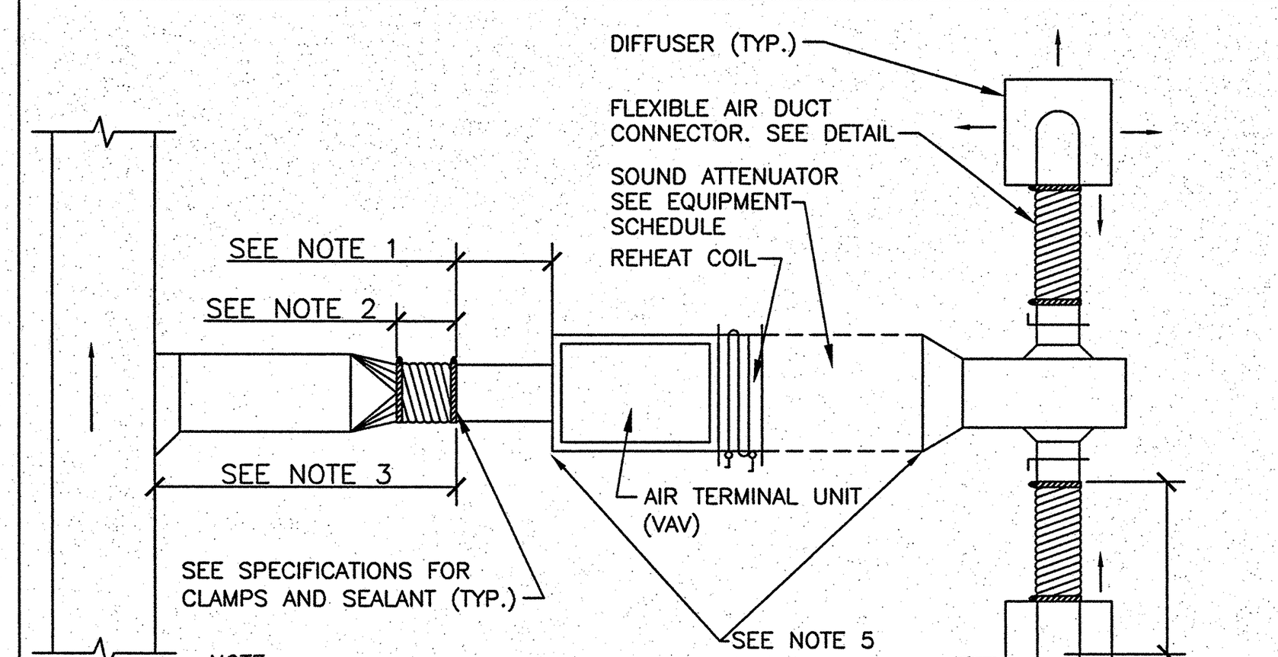


NOTES:

1. SIX INCH [150mm] PLENUM AS SHOWN SHALL BE SUPPLIED BY MANUFACTURER OF FAN COIL UNIT.
2. SEE SCHEMATICS FOR SUPPLY & RETURN PIPING CONNECTIONS.
3. PROVIDE ACCESS FOR FILTER REMOVAL.
4. SEE FAN COIL UNIT SCHEMATICS FOR PIPE SIZES.
5. SUPPLY & RETURN GRILLES SHALL BE SIZED TO SUIT CONNECTIONS ON FAN COIL UNIT. DUCTWORK SHALL SUIT GRILLES AND FAN COIL UNIT FURNISHED.

19 FAN COIL UNIT - HORIZONTAL CONCEALED

NTS

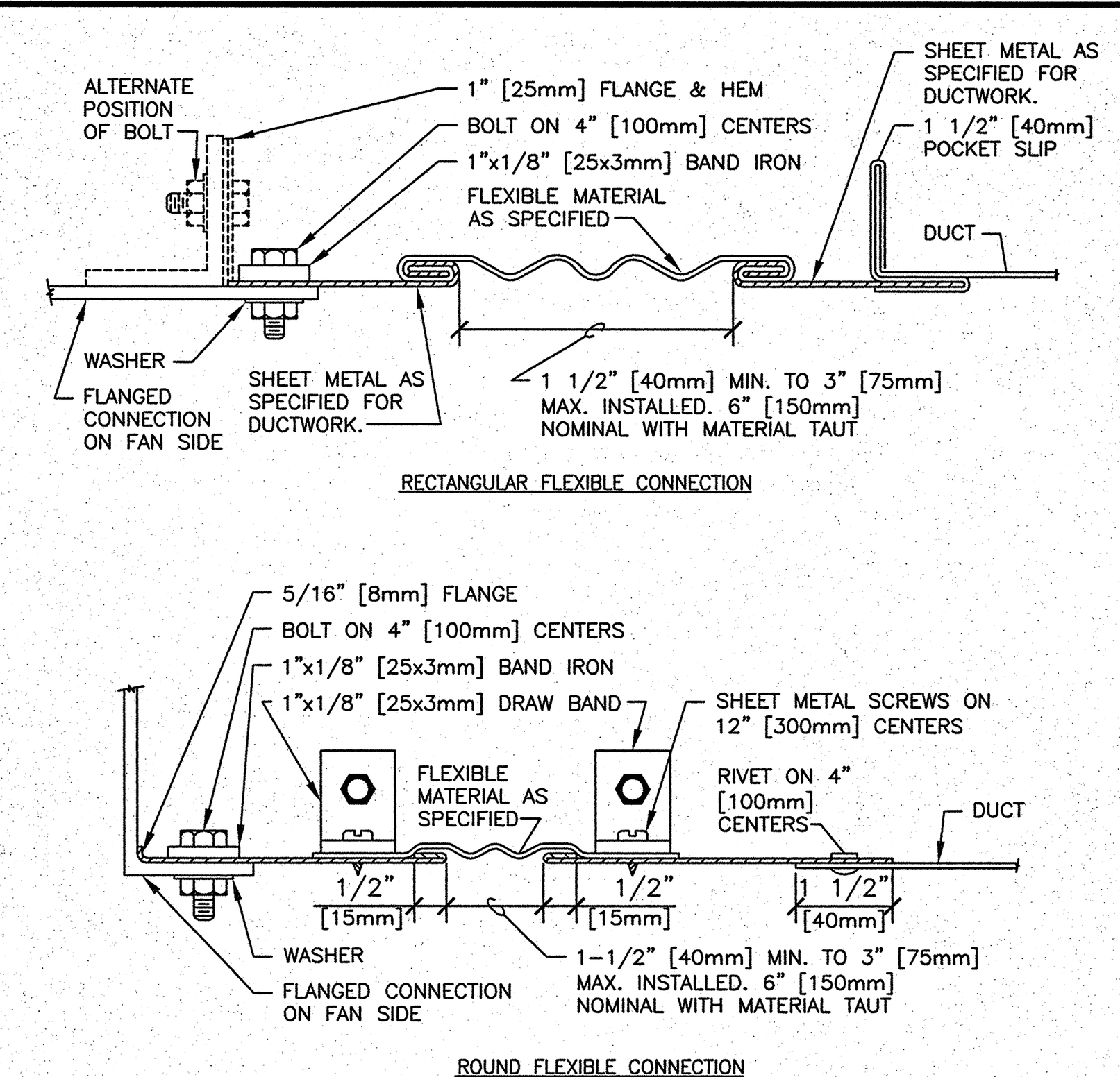


NOTE:

1. RIGID STRAIGHT TERMINAL UNIT INLET LENGTH SHALL BE A MINIMUM OF 3 TIMES THE DIAMETER OF INLET
2. A FLEXIBLE AIR DUCT CONNECTOR IS NOT MANDATORY FOR INLET TO THIS BOX, BUT ALLOWED TO ACCOMMODATE MINOR OFFSETS. MAXIMUM LENGTH 3'-0" [900mm].
3. A BRANCH DUCT SERVING AN INDIVIDUAL BOX MAY BE THE SAME SIZE AS THE BOX INLET, PROVIDED THE EQUIVALENT LENGTH OF THE BRANCH DUCT, AS SHOWN, DOES NOT EXCEED 10 FEET (3 METERS). FOR LONGER LENGTHS, INCREASE THE DUCT SIZE AND PROVIDE A DUCT TRANSITION TO MAINTAIN THE DUCT STATIC PRESSURE DROP AT OR BELOW 0.2"/100' [1.64Pa/m].
4. FLEXIBLE AIR DUCT CONNECTORS, WHEN USED FROM TERMINAL UNIT SUPPLY AIR DUCT TO DIFFUSER, SHALL NOT EXCEED 5'-0" [1500mm]. USE RIGID ELBOWS FOR CHANGE OF DIRECTION GREATER THAN 45°.
5. COMPONENT ARRANGEMENT MAY VARY BY MANUFACTURER. PROVIDE INSULATION W/VAPOR BARRIER FOR CONNECTING DUCT SECTIONS.
6. USE OF THE FLEXIBLE AIR DUCT CONNECTORS ARE NOT PERMITTED FOR THE DEDICATED AHU SERVING THE SURGICAL SUITE.

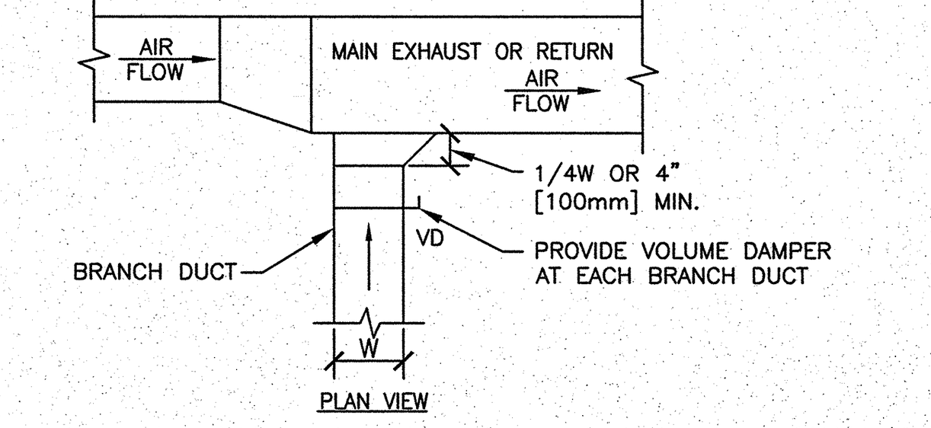
15 DUCT CONNECTIONS - AIR TERMINAL UNITS

NTS



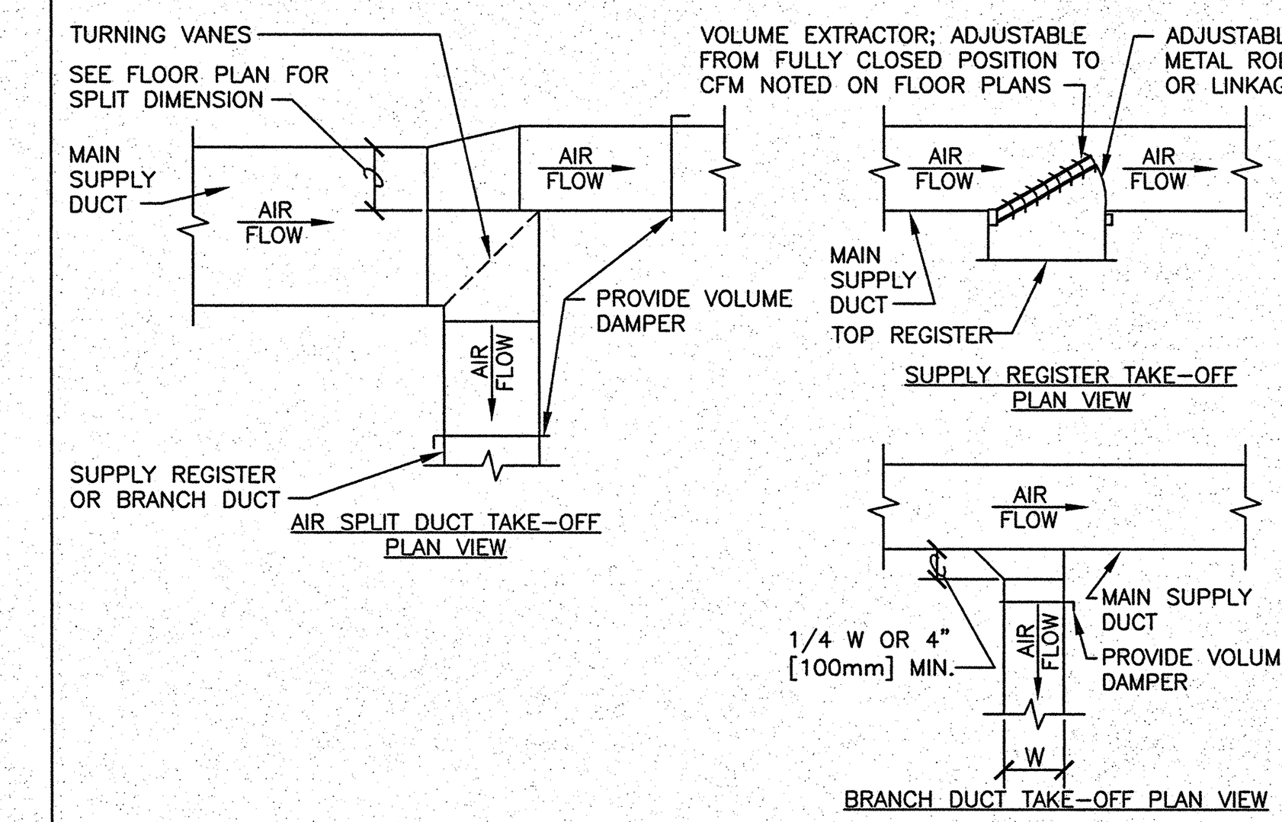
11 FLEXIBLE DUCT CONNECTIONS

NTS



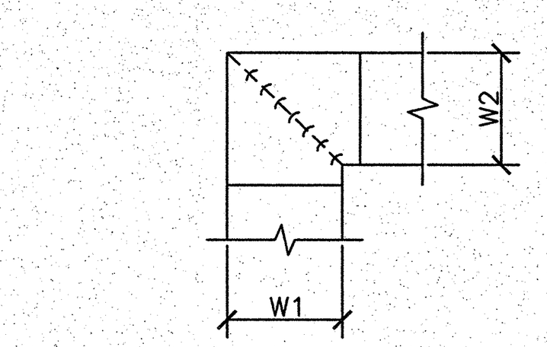
7 EXHAUST OR RETURN BRANCH DUCTWORK

NTS



4 SUPPLY DUCTWORK TAKE-OFFS

NTS

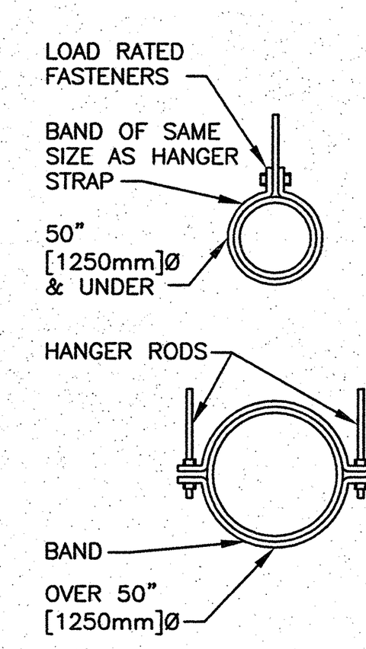


NOTE:

1. ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
3. ALL SINGLE THICKNESS VANES SHALL HAVE A 2" [50mm] RADIUS, 1 1/2" [40mm] MAXIMUM SPACE BETWEEN VANES AND A 3/4" [20mm] TRAILING EDGE.
4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" [500mm] VANES SHALL BE DOUBLE VANE TYPE.

1 DUCTWORK SQUARE VANE ELBOWS

NTS

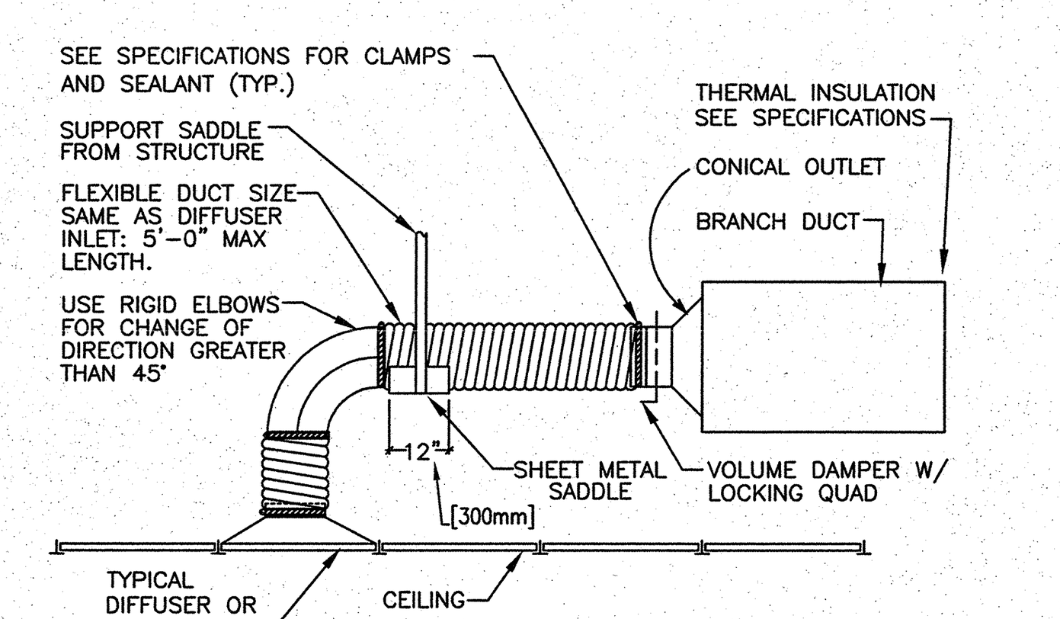


HANGER STRAPS OR RODS			
MAX. DUCT Ø IN. [mm]	QUANTITY/SIZE IN. [mm]	MAX. LOAD LBS. [kg]	MAX. SPACING IN. [mm]
26 [650]	ONE 1 [25] x 22 GA STRAP	260 [119]	144 [3600]
36 [900]	ONE 1 [25] x 18 GA STRAP	420 [190]	144 [3600]
50 [1250]	ONE 1 [25] x 16 GA STRAP	700 [317]	144 [3600]
60 [1500]	TWO 3/8 [10]Ø. RODS	1320 [598]	144 [3600]
84 [2100]	TWO 1/2 [13]Ø RODS	2500 [1133]	144 [3600]

NOTE:
TABULATED DATA FROM SMACNA ALLOWS FOR DUCT REINFORCING AND INSULATION, BUT NO EXTERNAL LOAD.

16 ROUND DUCT HANGERS

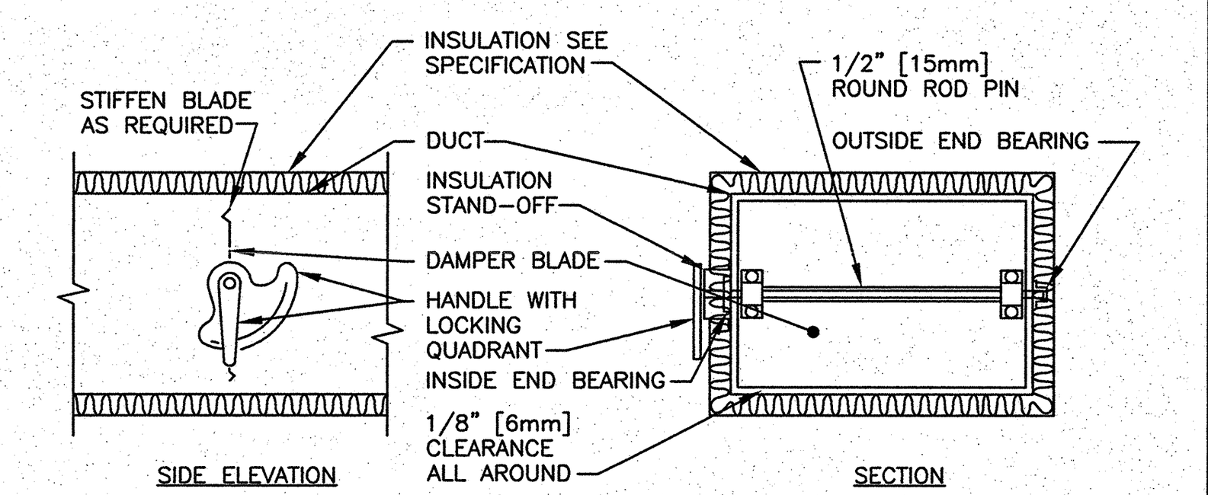
NTS



NOTE:
THE USE OF FLEXIBLE AIR DUCT CONNECTORS ARE NOT PERMITTED FOR THE DEDICATED AHU SERVING THE SURGICAL SUITE.

12 FLEXIBLE AIR DUCT CONNECTOR

NTS

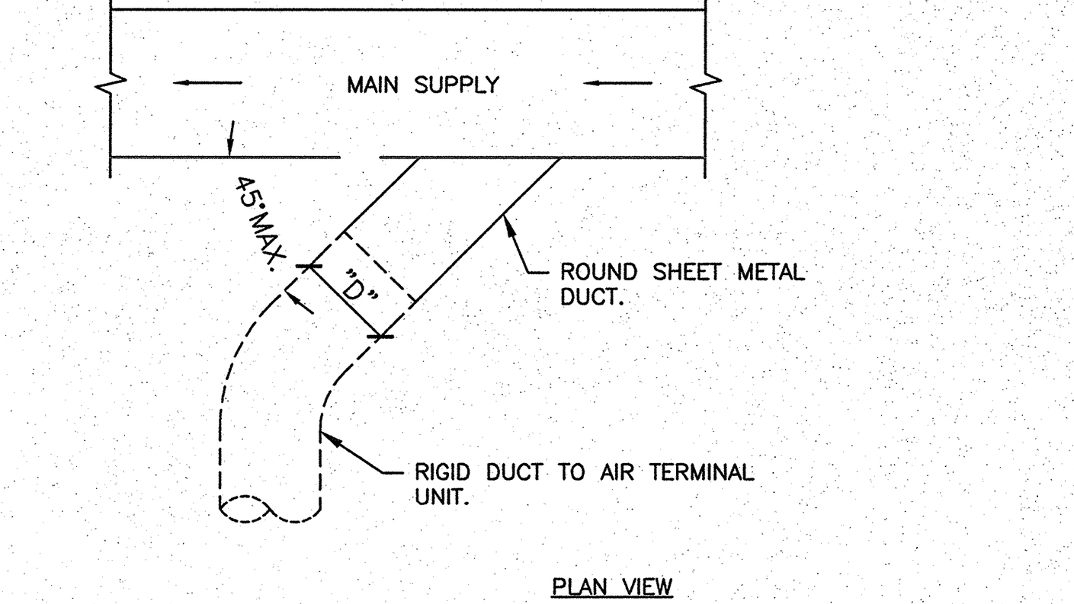


NOTE:

1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

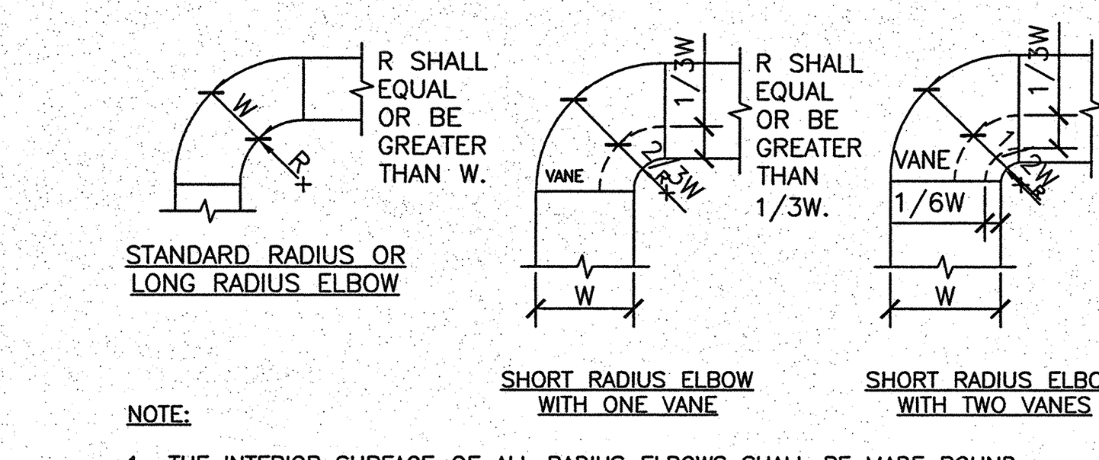
8 VOLUME DAMPER DETAIL

NTS



5 SUPPLY DUCT TAKEOFF - AIR TERMINAL UNIT

NTS

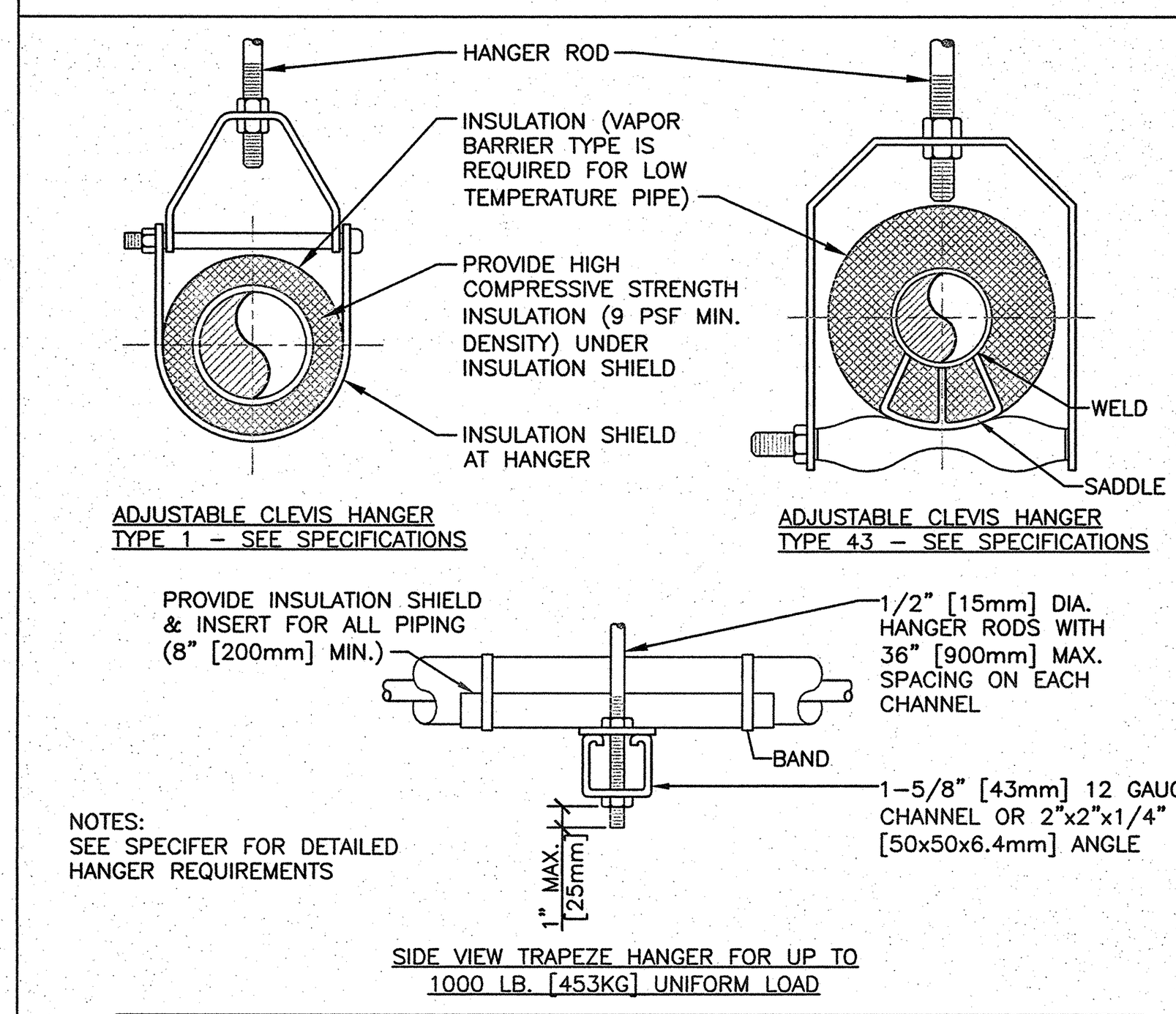


NOTE:

1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

2 DUCTWORK RADIUS ELBOWS

NTS



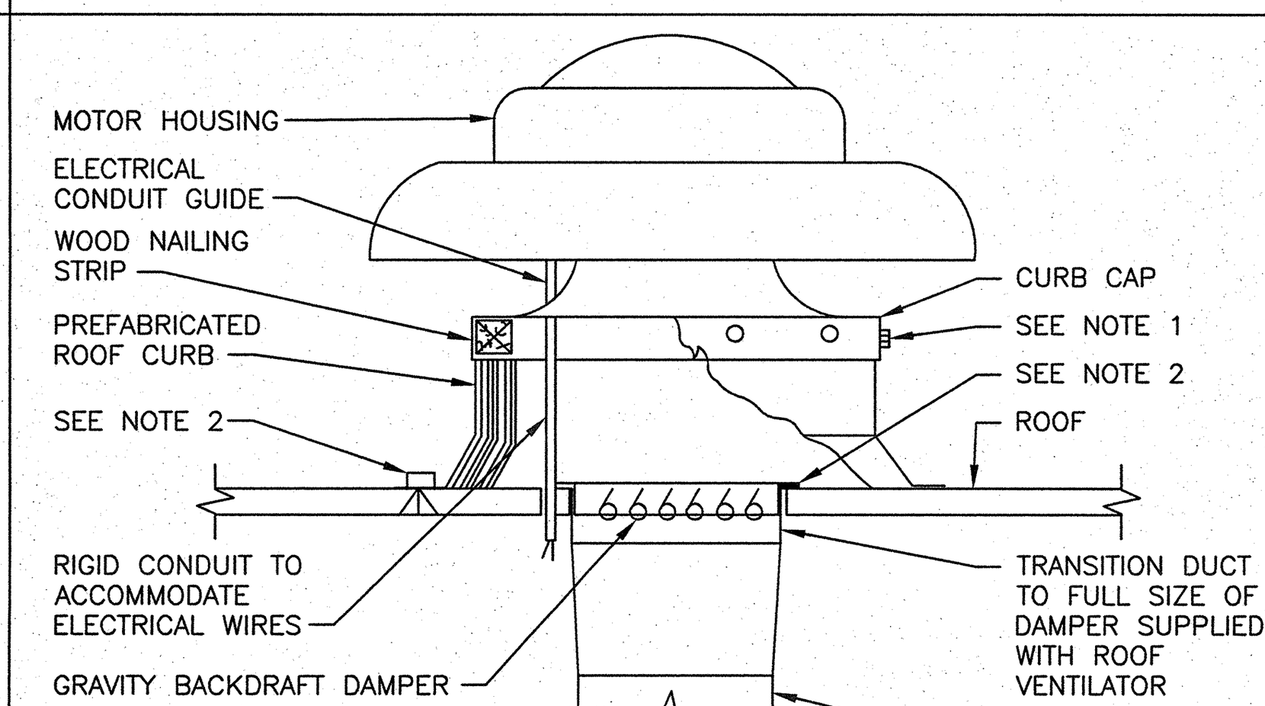
NOTES:
SEE SPECIFER FOR DETAILED HANGER REQUIREMENTS

SIDE VIEW TRAPEZE HANGER FOR UP TO 1000 LB. [453KG] UNIFORM LOAD

MAXIMUM PIPE/TUBING SUPPORT SPACING												
NOM. SIZE	IN. [mm]	THRU 3/4 THRU [20]	1 [25]	1 1/4 [32]	1 1/2 [40]	2 [50]	2 1/2 [65]	3 [75]	4 [100]	5 [125]	6 [150]	8 [200]
PIPE	FT. [mm]	7 [2100]	7 [2100]	7 [2100]	9 [2700]	10 [3000]	11 [3400]	12 [3700]	14 [4100]	16 [4900]	17 [5200]	19 [5800]
TUBING	FT. [mm]	5 FT [1500]	6 [1800]	7 [2100]	8 [2400]	8 [2400]	9 [2700]	10 [3000]	12 [3700]	13 [4000]	14 [4100]	16 [4900]
NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.												

17 PIPE HANGERS

NTS



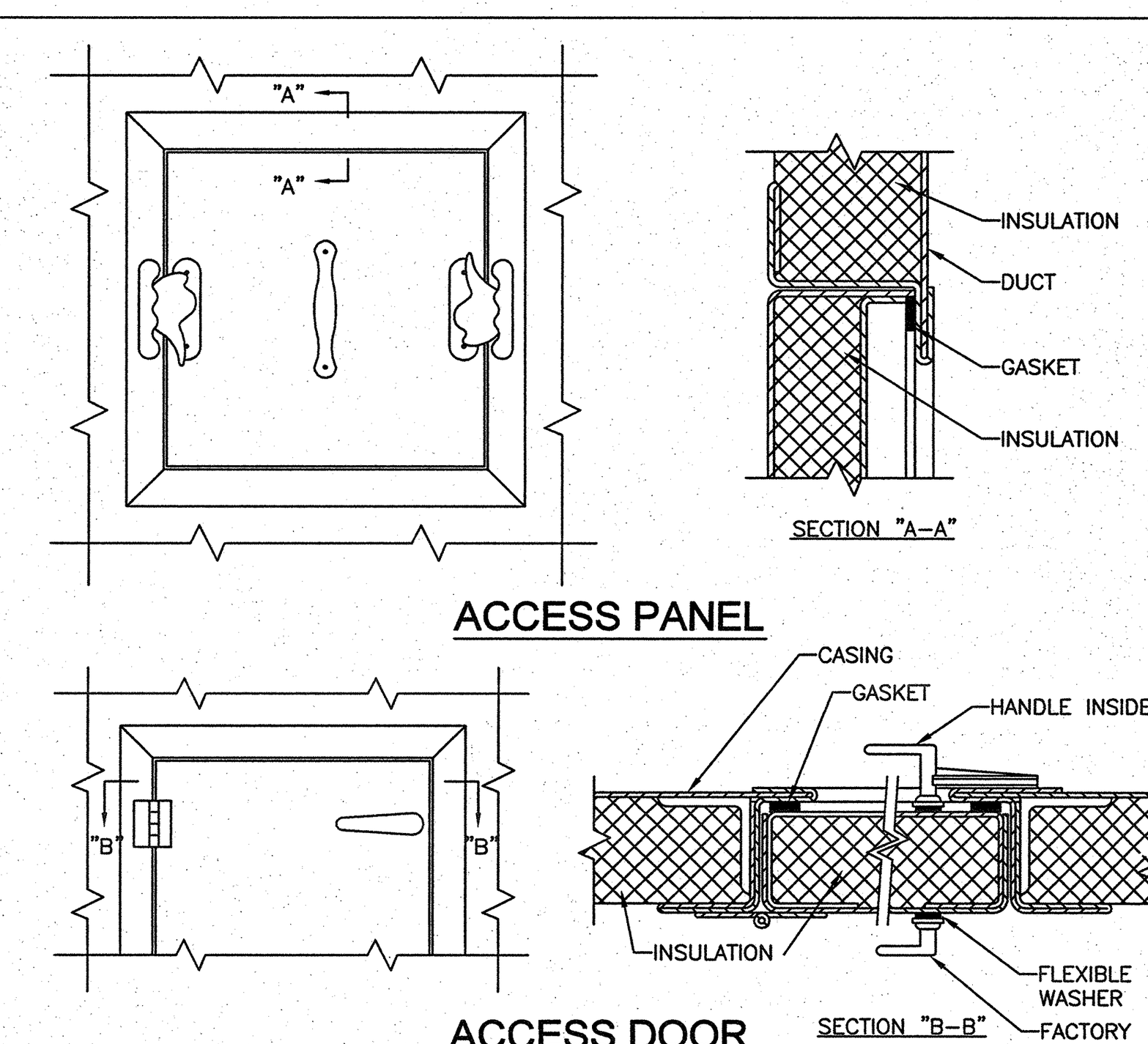
NOTE:

1. SECURE CURB CAP TO WOOD NAILING STRIP WITH 3/8" [10mm] CADMIUM PLATED LAG BOLTS NOT OVER 12" [300mm] ON CENTER.
2. SECURE ROOF CURB, DUCTWORK AND DAMPER TO ROOF WITH EXPANSION BOLTS (CONCRETE ROOF) OR RUST RESISTANT BOLTS (METAL DECK AND BAR JOIST ROOF).
3. RUN ELECTRICAL LINES THROUGH CLEARANCE HOLE PROVIDED IN GRAVITY DAMPER, THEN THROUGH VENTILATOR ELECTRICAL CONDUIT GUIDE.

13 POWER ROOF VENTILATOR

NTS

DESIGNERS NOTES:
1. PROVIDE A MOTORIZED DAMPER, IF APPLICABLE.
2. PROVIDE DIRECT DRIVE FANS FOR LOCATIONS NOT EASILY ACCESSIBLE. AS ATTIC OR PIPE BASEMENT AND LESS THAN 2 HP.
3. MINIMUM CURB HEIGHT SHALL BE 12 INCHES [300 mm]. INCREASE HEIGHT, IF REQUIRED, TO OVERCOME SNOW DRIFT.

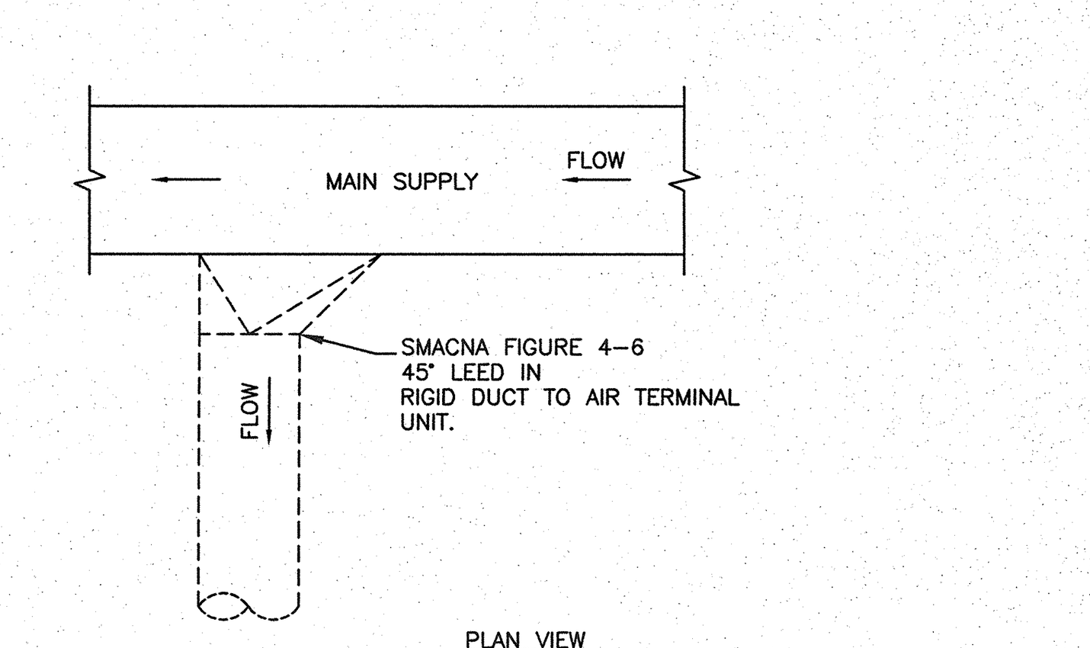


NOTES:

1. LATCHES SHALL BE OF THE WEDGE TYPE TO CLOSE DOORS TIGHTLY.
2. HINGES ON THE ACCESS DOORS SHALL HAVE NON-CORROSIVE PINS.
3. SEE SMACNA 2005, FIGURE 9-15

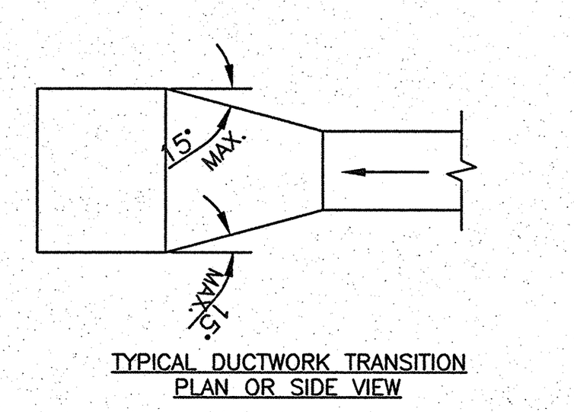
9 ACCESS PANEL AND DOOR DETAIL

NTS



6 ALTERNATE SUPPLY DUCT TAKEOFF - AIR TERMINAL UNITS

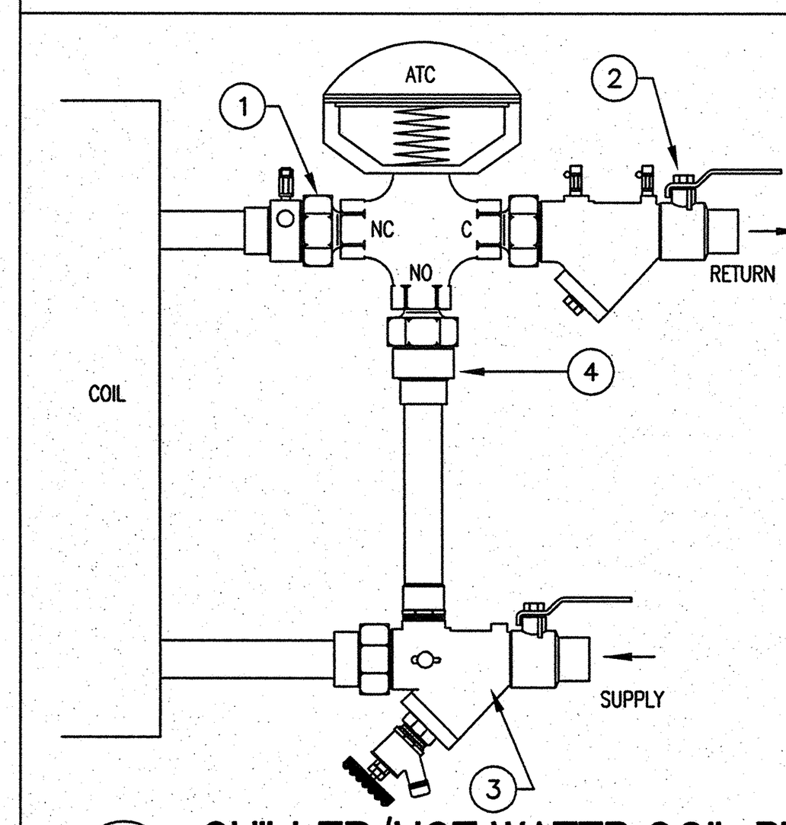
NTS



NOTE:
UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

3 DUCTWORK TRANSITIONS

NTS



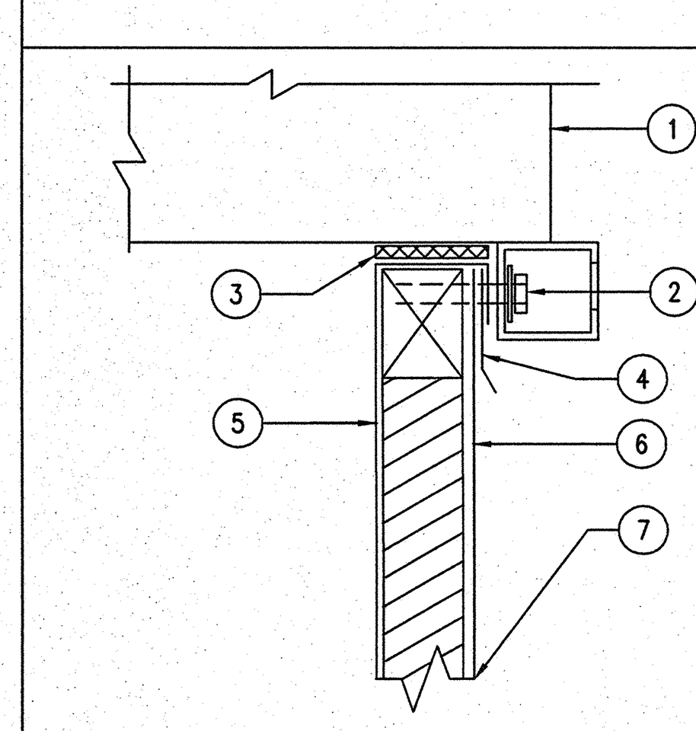
1. UNION WITH MANUAL AIR VENT AND P/T PLUG. FLOW DESIGN MODEL UP OR EQUAL.
2. AUTOFLOW VALVE WITH P/T PORTS, UNION & MEMORY STOP. FLOW DESIGN MODEL AC OR EQUAL.
3. COMBINATION BALL VALVE, Y-STRAINER & UNION WITH TWO P/T's, BY PASS ADAPTER AND HOSE END DRAIN VALVE WITH CAP & CHAIN. FLOW DESIGN MODEL YC OR EQUAL.
4. UNION. FLOW DESIGN MODEL UP OR EQUAL.

NOTES:

1. SEE GENERAL COIL SPECIFICATIONS FOR ACCEPTABLE MATERIALS AND PRESSURE DROPS.
2. ALL FACTORY MODULES MUST BE LEAK TESTED AT 100 PSI AIR UNDER WATER.

18 CHILLED/HOT WATER COIL PIPING

NTS



1. ODU OR ERV ON ROOF.
2. 3/8" DIA. X 3" LAG BOLT. (2) PER SIDE.
3. 2" x 1/4" CONTINUOUS DENSE NEOPRENE SPONGE GASKET.
4. GALV. SHEET METAL FLASHING.
5. METAL ROOF CURB, SLOPE TO MATCH ROOF SLOPE. (FURNISHED W/ A.C. UNIT)

* 6. 1-1/2" RIGID INSULATION COMPATIBLE WITH ROOFING.

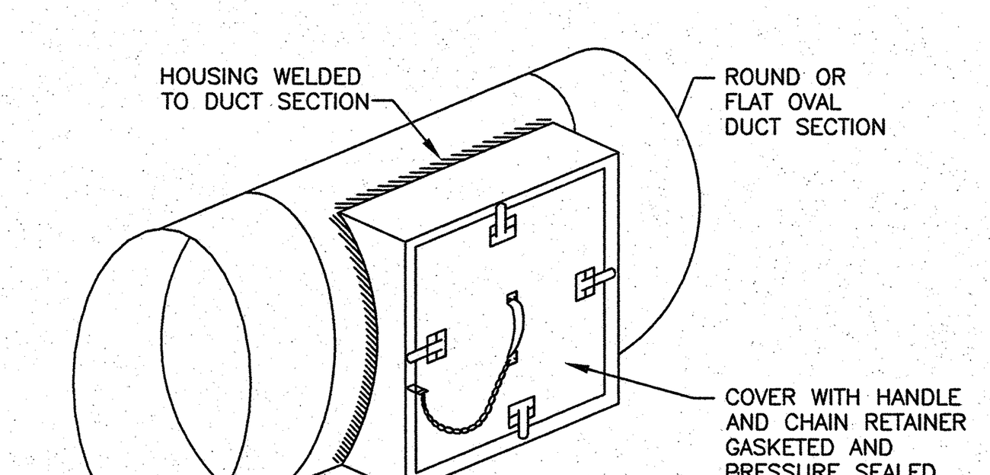
* 7. FOR CURB MOUNTING TO EXISTING ROOF, SEE ARCHITECTURAL SHEET AS401 AND STRUCTURAL SHEET SS302.

* (BY GENERAL CONTRACTOR)

NOTE: WOOD CURBS SHALL BE FIRE RETARDANT TREATED PER CALIF. STATE FIRE MARSHALL REQUIREMENTS.

14 ODU/ ERV ROOF MOUNTING

NTS



10 ACCESS SECTION FOR ROUND/OVAL DUCT

NTS

Revisions	Date

CONSULTANTS:

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ARCHITECT/ENGINEERS:

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Drawing Title	Project Title	Project Number	
MECHANICAL DETAILS	BUILDING 24 SEISMIC CORRECTION AND ADDITION	570-215	Office of Construction and Facilities Management
		Building Number: 24	
Approved: Project Director	Location: VAMC FRESNO, CA	Drawing Number: MH501	Department of Veterans Affairs
	Date: January 31, 2012 / Checked: K.K. / Drawn: D.N.	Dwg. 141 of 180	

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