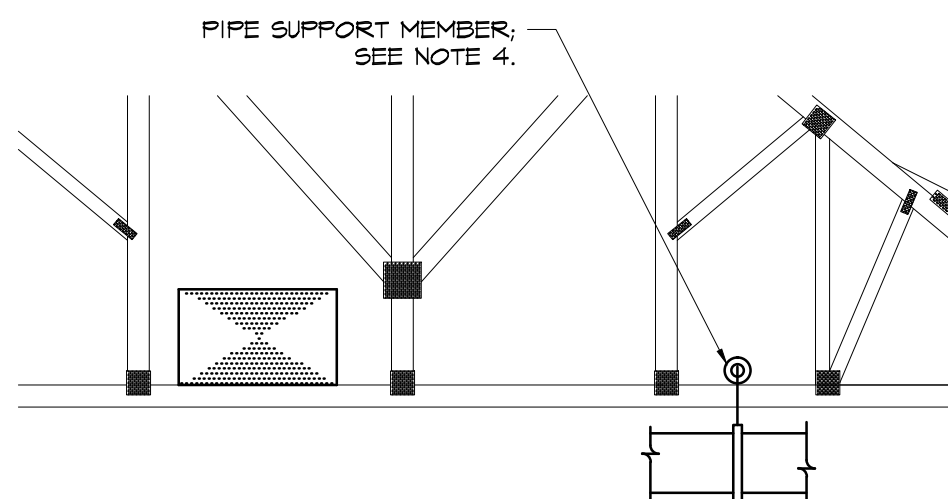
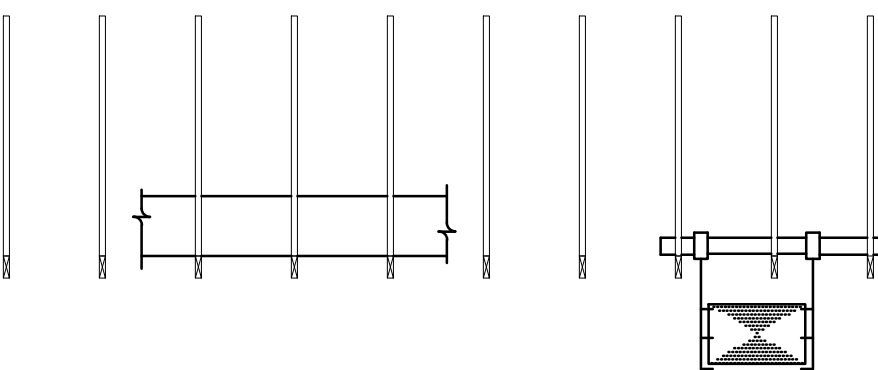


MECHANICAL NOTES

- 1) THE HVAC CONTRACTOR SHALL COORDINATE ALL WORK TO BE PERFORMED WITH THE GENERAL, PLUMBING AND ELECTRICAL CONTRACTORS. ANY WORK DONE BY THIS CONTRACTOR WHICH INTERFERES WITH WORK BY OTHERS AND WHICH WAS NOT FIRST COORDINATED SHALL BE REMOVED AND RELOCATED AT HVAC CONTRACTOR'S EXPENSE.
- 2) THIS CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL UTILITIES AND THE PLACEMENT OF ALL MECHANICAL EQUIPMENT PRIOR TO THE START OF HIS WORK. NO EXTRAS WILL BE ALLOWED DUE TO EQUIPMENT LOCATION CHANGE FROM THAT SHOWN ON DRAWINGS.
- 3) IT IS THE INTENT THAT THE WORK SHALL BE COMPLETE IN EVERY RESPECT, AND THAT ANY MATERIAL OR WORK NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO FULLY COMPLETE THE WORK, SHALL BE PROVIDED.
- 4) THE LOCATION OF SOME ITEMS SHOWN ON THE DRAWINGS MAY BE APPROXIMATE AND THE OWNER SHALL HAVE THE RIGHT TO MAKE REVISIONS BEFORE THE WORK IS INSTALLED, WITHOUT ADDITIONAL COST.
- 5) ALL WORK SHALL BE IN ACCORDANCE WITH ASHRAE, SMACNA OR GOVERNING CODES (MORE STRINGENT SHALL APPLY IN ALL INSTANCES)
- 6) ALL SUPPLY & RETURN DUCTS SHALL BE INSULATED WITH 1-1/2" THICK FLEXIBLE FIBERGLASS BLANKET INSULATION WITH VINYL VAPOR BARRIER AS MANUFACTURED BY KNAUF FIBER GLASS OR EQUAL.
- 7) ALL EXTERIOR DUCTS SHALL BE INSULATED WITH 1-1/2" THICK RIGID FIBERGLASS BOARD WITH SMOOTH ALUMINUM FINISH AND FACTORY APPLIED MOISTURE BARRIER AS MANUFACTURED BY KNAUF FIBER GLASS OR EQUAL. ALL JOINTS SHALL BE POSITIONED TO SHED WATER, WITH A MINIMUM 3" OVERLAP AND COMPLETELY WEATHER-SEALED
- 8) DUCT SIZES GIVEN ARE INSIDE CLEAR DIMENSIONS.
- 9) ROUND DUCTS SHALL BE RIGID WITH LARGE MOUTH TAKEOFF FITTINGS.
- 10) THIS CONTRACTOR SHALL PROVIDE ADJUSTABLE VOLUME DAMPERS IN ALL AIR DISTRIBUTION DUCTWORK, TO FACILITATE AIR BALANCING, AT BOTH BRANCH TAKEOFFS AND AT DIFFUSERS.
- 11) USE TURNING VANES IN ALL SQUARE ELBOWS.
- 12) THIS CONTRACTOR SHALL BALANCE AIR DISTRIBUTION SYSTEM AND SUBMIT BALANCE REPORT TO ARCHITECT/ENGINEER.
- 13) ALL EQUIPMENT WHICH PRODUCES AIR MOVEMENT SHALL HAVE A FLEXIBLE CONNECTOR AT ALL DUCT CONNECTIONS TO EQUIPMENT TO PREVENT THE TRANSMISSION OF VIBRATION TO STRUCTURE.
- 14) ALL MATERIALS USED FOR AIR DISTRIBUTION SHALL BE NON COMBUSTIBLE AND SHALL HAVE A SMOKE DEVELOPED RATING OF FIFTY (50) OR LESS. DUCTWORK SHALL BE DESIGNED AND INSTALLED IN STRICT CONFORMANCE TO THE CONSTRUCTION STANDARDS OF THE LATEST EDITION OF THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. (SMACNA) LOW PRESSURE SECTION AND SHALL BE CONSTRUCTED OF NEW GALVANIZED SHEET METAL, WITH ACCESS DOORS FOR DAMPERS, MOTORS, VALVES OR ANY OTHER EQUIPMENT OR ACCESSORIES WHICH MAY REQUIRE SERVICING.
- 15) FLEXIBLE DUCT SHALL NOT EXCEED FIVE FEET (5') IN LENGTH AND ITS USE SHALL BE LIMITED ONLY FOR THE FINAL CONNECTIONS TO DIFFUSERS.
- 16) ALL DUCTWORK SHALL BE INSTALLED UP AS HIGH AS PRACTICAL.
- 17) ALL THERMOSTATS SHALL BE PROGRAMMED BY THE INSTALLER PER THE OWNERS DIRECTION.
- 18) TABS SHALL BE REMOVED FROM ALL THERMOSTATS AFTER THERMOSTATS ARE PROGRAMMED BY THE INSTALLER.
- 19) CONTRACTOR SHALL SUPPLY AND INSTALL ASTRONOMICAL TIME CLOCK, WIRED TO THERMOSTATS, FOR SETBACK CAPABILITY.
- 20) HVAC DUCT SYSTEMS - ALL NEW DUCTWORK; DUCTWORK SHALL BE SEALED, TESTED & INSULATED PER STATE BUILDING CODE.
- 21) CONTRACTOR TO SUPPLY AND INSTALL TIME CLOCK IN ELEC RM FOR EF-3. SET TIME CLOCK TO STORE OPERATING HOURS.



FRONT VIEW



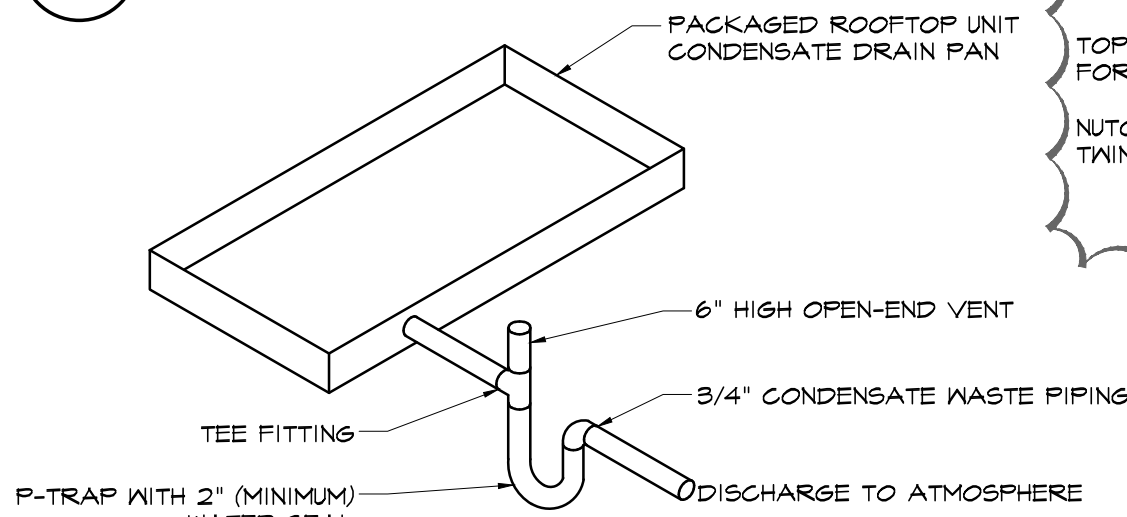
SIDE VIEW

NOTES

- 1) ALL DETAILS SHOWN SHALL BE SUBMITTED AS SHOP DRAWINGS AND SHALL BE REVIEWED BY THE REGISTERED STRUCTURAL ENGINEER OF RECORD.
- 2) ALL HANGERS SHALL BE SUSPENDED BOTTOM CHORD OF PRE-ENGINEERED TRUSSES.
- 3) EQUIP SHALL NOT BE HUNG FROM WD DECK OR BRIDGING MEMBERS.
- 4) HANGERS & SUPPORTING MEMBERS SUCH AS PIPES & UNISTRUT SHALL BE SUPPORTED BY BOTTOM CHORD & NOT DIRECTLY BY WEBBING, COORDINATE WITH STRUCTURAL ENGINEER.
- 5) THE SUM OF ALL BUILDING TRADES HANGER LOADS SHALL NOT EXCEED 150 LBS. PER TRUSS. WHEN THIS MAXIMUM IS EXCEEDED A DETAIL OF PROPOSED METHOD OF HANGING SHALL BE SUBMITTED FOR APPROVAL.
- 6) THIS CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES CONCERNED.
- 7) PROVIDE APPROVED TYPE PIPE OR CHANNEL MEMBERS TO SUPPORT DUCTWORK AND OTHER EQUIPMENT LOADS.
- 8) AT DRAFTSTOPPING TRUSS, ADD ADDITIONAL LAYER OF FIRE SAFING INSULATION AROUND PENETRATION SO AS TO FILL CAVITY.

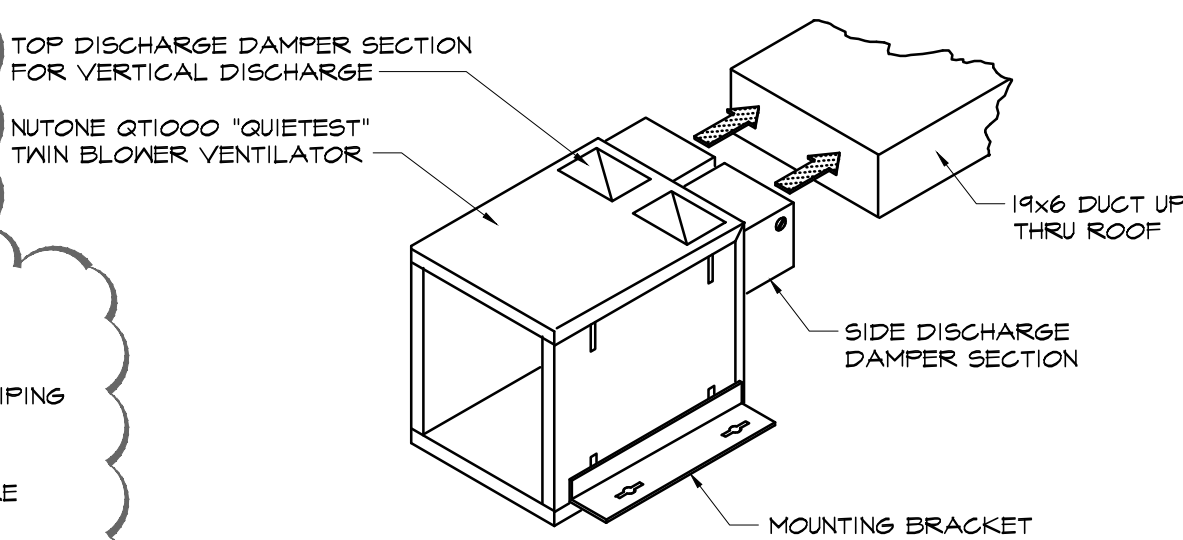
DUCTWORK SUPPORT DETAIL

SCALE: NO SCALE



TYP CONDENSATE DETAIL @ RTU

SCALE: NO SCALE



TYP CHILL ZONE EXHAUST FAN DETAIL

SCALE: NO SCALE

PACKAGED COOLING UNIT w/ ACCESSORY ELECTRIC HEAT SCHEDULE													
SYMBOL	CFM AIR	TONS	MINIMUM OA CFM	EXTERNAL SP (INCHES)	ELECTRICAL DATA			COOLING DATA		HEATING DATA		MODEL NUMBER	
					BLOWER HP	MCA	VOLTAGE	BTUH (TOTAL)	ENT AIR	LV6 AIR	BTUH		KW
HVAC UNIT-1	2400	6	200	1.00"	1 HP	-	208 V/3 PH	74,000	80/6T	51.1/51.1	30,100	9 KW	TRANE MODEL THC-0T2-EBR-ECOTD000000000100
HVAC UNIT-2	2400	6	200	1.00"	1 HP	-	208 V/3 PH	74,000	80/6T	51.1/51.1	30,100	9 KW	TRANE MODEL THC-0T2-EBR-ECOTD000000000100

NOTES

- 1) FURNISH UNIT WITH MODULATING ECONOMIZER, OUTDOOR AIR INTAKE/POWER EXHAUSTER RELIEF, ANTI-SHORT CYCLE TIMER, TIME DELAY RELAY, MULTISTAGE PROGRAMMABLE ELECTRONIC NIGHT SETBACK THERMOSTAT WITH REMOTE SENSOR, OVERSIZE BLOWER MOTOR, UNIT DISCONNECT, AND CONVENIENCE OUTLET
- 2) HVAC UNIT-1 AND HVAC UNIT-2 SUPPLIED BY OWNER AND INSTALLED ON CONG PAD BY CONTRACTOR. SEE 9/A5.2) CONTRACTOR SHALL INSTALL ALL REQUIRED DUCTWORK
- 3) PROVIDE FACTORY INSTALLED DEHUMIDIFICATION OPTION & FIELD-INSTALLED HUMIDITY SENSORS
- 4) PROVIDE ACCESSORY ELECTRIC HEATER (MODEL #BAYHTRX912B)
- 5) THERMOSTAT SETTINGS:
68° HEAT, T2° COOL - AUTOMATIC HEAT/COOL - CONSTANT FAN
PROVIDE 2° HIGH / LOW TEMP RANGE

CEILING DIFFUSER SPECIFICATION

PERFORATED CEILING DIFFUSERS SHALL BE TITUS MODEL PAS-AA (ALUMINUM, FLUSH FACE) FOR SUPPLY. THE FINISH SHALL BE #26 WHITE. THE DIFFUSER SHALL BE TESTED IN ACCORDANCE WITH ANSI/ASHRAE STANDARD 10-1991.

OUTSIDE AIR CALCULATION

FLOOR AREA
3336 sf (NET USABLE) - 141 sf (RESTROOMS) - 684 sf (BACK OF HOUSE) = 1690 sf (RETAIL)

ASHRAE 62.1 - 2007
RETAIL SALES AREA
7.5 CFM/ PERSON x 15 PEOPLE/1,000 sf
0.12 CFM/sf AREA VENTILATION

PEOPLE OUTDOOR AIR
(1690 sf) (7.5 CFM/PERSON) (15 PEOPLE/1,000 sf) = CFM
(25 PEOPLE) (7.5 CFM/PERSON) = 188 CFM

AREA OUTDOOR AIR
(1690 sf) (0.12 CFM/sf) = 196 CFM

TOTAL OUTDOOR AIR
(188 CFM/PEOPLE) + (196 CFM / AREA) = 384 CFM
DESIGN FOR 400 CFM TOTAL
(200 CFM PER UNIT)

*DESIGNED AS PER THE 2010 FLORIDA BUILDING CODE:
MECHANICAL SECTION 409.3 TABLE 409.3.

WALL CAP SPECIFICATION

WALL CAP FOR EF-3 AS MANUFACTURED BY BROAN.
MODEL #613 WITH BUILT IN BIRD SCREEN AND BACKDRAFT DAMPER, .025 ALUMINUM, 12" DUCT CONNECTION

EXHAUST FAN SCHEDULE

SYMBOL	CFM	SP (EXT)	ELECTRICAL DATA			FAN TYPE	MODEL NUMBER	REMARKS
			HP	FAN RPM	VOLTAGE			
EF-1	100	0.25"	1/2 AMP	1450	120 V/1 PH	N/A	CEILING-MOUNTED	NUTONE MODEL GTXEN-110
EF-2	100	0.25"	1/2 AMP	1450	120 V/1 PH	N/A	CEILING-MOUNTED	NUTONE MODEL GTXEN-110
EF-3	150	0.5"	1/1 AMP	2750	115 V/1 PH	N/A	IN-LINE	FANTECH MODEL FR200

NOTES

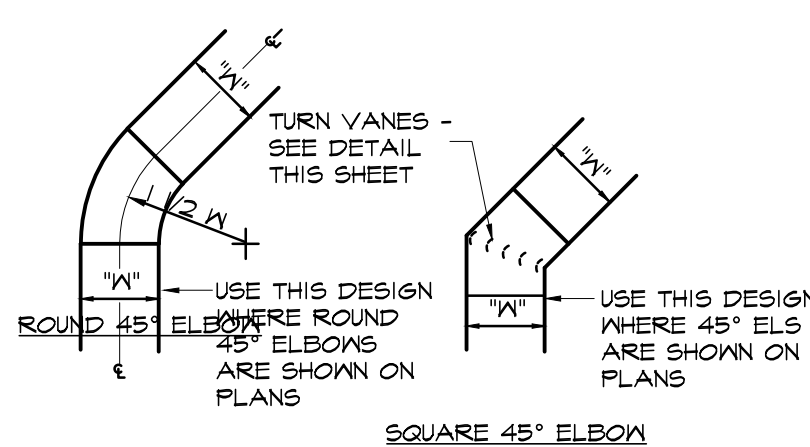
- 1) NOT USED
- 2) FURNISH RHEOSTAT FOR EF-3
- 3) ADJUST EF-3 EXHAUST AIRFLOW TO 150 CFM, USING RHEOSTAT
- 4) GC TO PROVIDE CONNECTION FROM EF-3 TO TIME CLOCK IN ELEC RM

REGISTER, GRILLE & DIFFUSER SCHEDULES

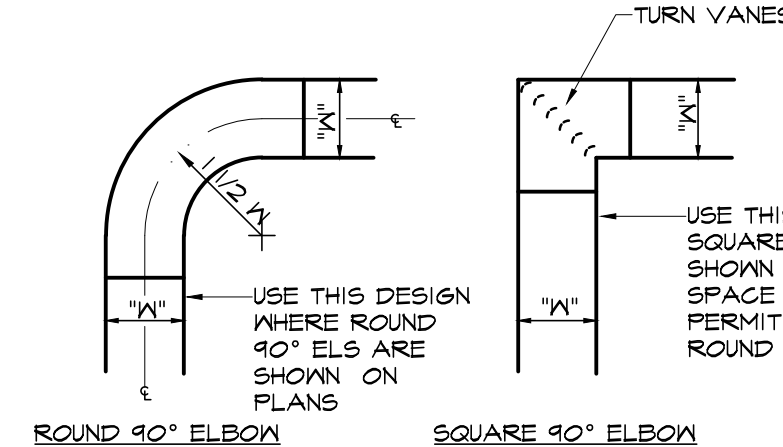
SYMBOL	CFM AIR	NECK SIZE	TYPE & THROW	MODEL NUMBER
①	UP TO 120	6 X 6	2-WAY CORNER DIFFUSER	TITUS MODEL TDC-AA (BORDER STYLE 1)
②	250	48" LONG X 10"	SLOT DIFFUSER	TITUS MODEL TBD-10-FB-48-2LP-10-1-02-D-2
③	UP TO 125	6"	ADJUSTABLE DIFFUSER	TITUS MODEL PAS-AA (PERFORATED FLUSH FACE, 24 X 24 CEILING MODULE)
④	150-200	8"	ADJUSTABLE DIFFUSER	TITUS MODEL PAS-AA (PERFORATED FLUSH FACE, 24 X 24 CEILING MODULE)
⑤	205-365	10"	ADJUSTABLE DIFFUSER	TITUS MODEL PAS-AA (PERFORATED FLUSH FACE, 24 X 24 CEILING MODULE)
⑥	000	22 X 22	RETURN/EXHAUST	TITUS MODEL PAR-AA (PERFORATED FLUSH FACE, 24 X 24 CEILING MODULE)
⑦	150	8"	RETURN/EXHAUST	TITUS MODEL PAR-AA (PERFORATED FLUSH FACE, 12 X 12 CEILING MODULE)

NOTES

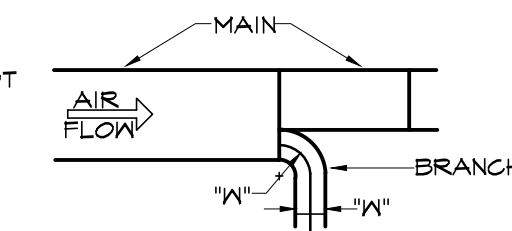
- 1) PROVIDE ALL REGISTERS, GRILLES AND DIFFUSERS WITH OPPOSED BLADE VOLUME DAMPERS
- 2) IN BOTH RECTANGULAR & RECTANGULAR TO ROUND TRANSITIONS, SLOPE IS NOT TO EXCEED 1" IN 4".
- 3) PROVIDE INSULATION OPTION FOR ALL DIFFUSERS & GRILLES.



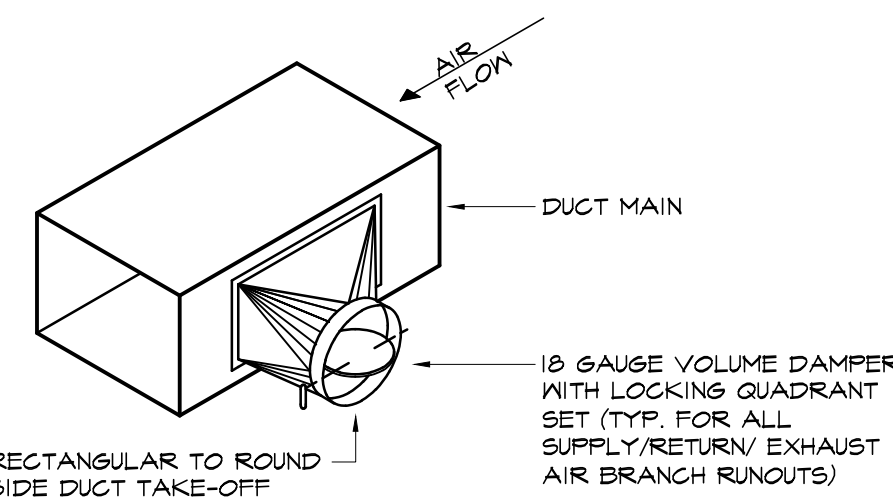
CONSTRUCTION OF 45° ELBOWS



CONSTRUCTION OF 90° ELBOWS

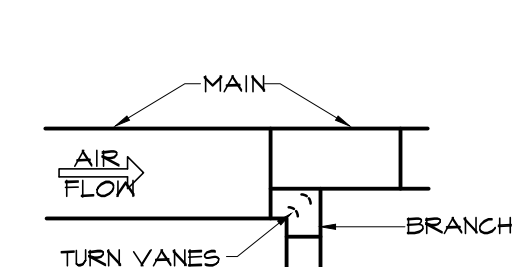


ROUND BRANCH TAKEOFF

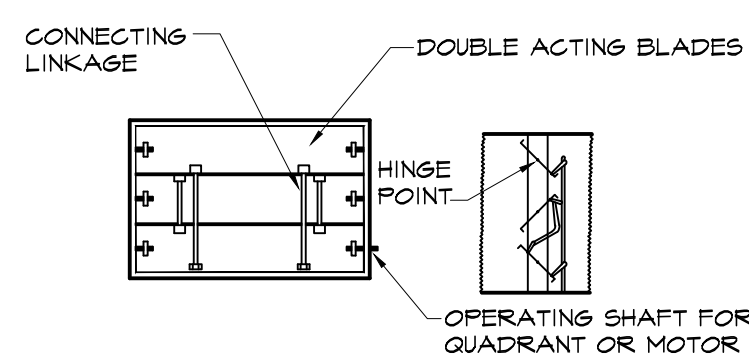


DUCT TAKEOFF DETAIL

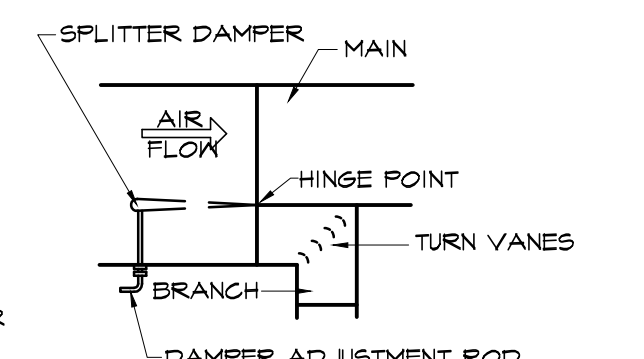
SCALE: NO SCALE



CONSTRUCTION OF BRANCH TAKEOFFS FROM MAIN



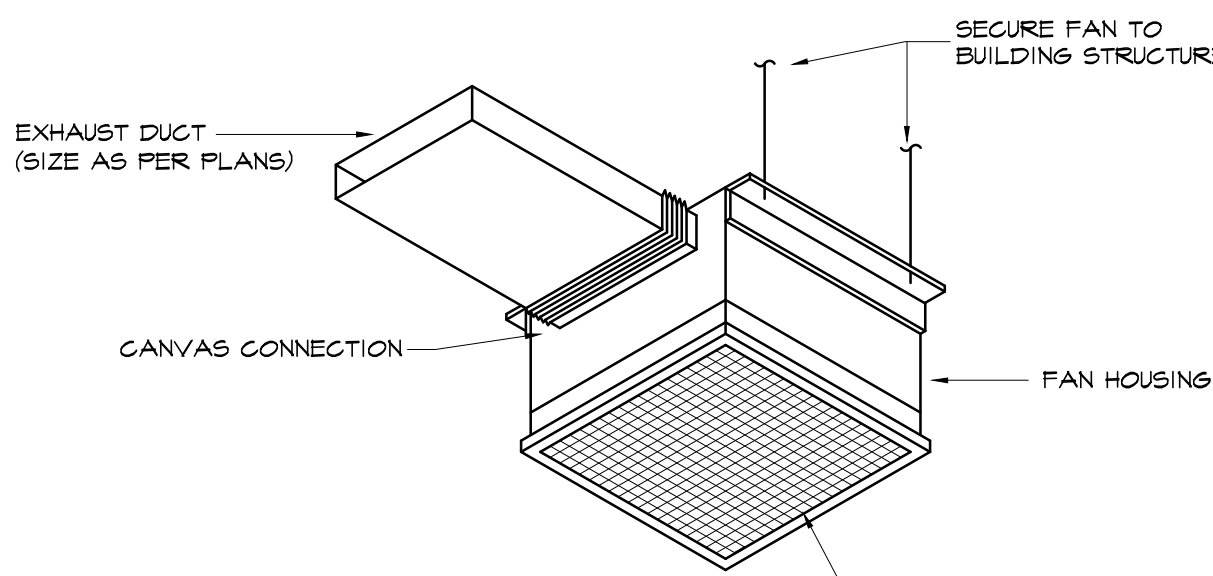
TYPICAL VOLUME DAMPER



TYPICAL SPLITTER DAMPER

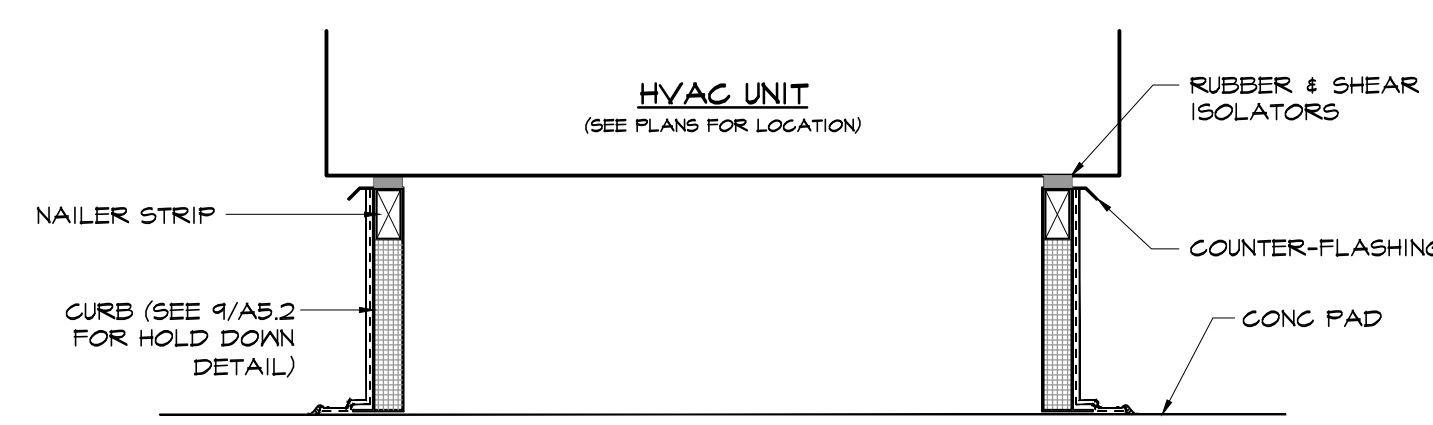
TYPICAL DUCT CONSTRUCTION DETAILS

SCALE: NO SCALE



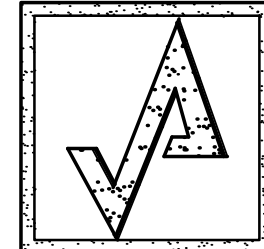
TYP EXHAUST FAN DETAIL

SCALE: NO SCALE



HVAC UNIT MOUNTING W/ CURB DETAIL

SCALE: NO SCALE



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REVISIONS

NUMBER	REMARKS	DATE
1	MECHANICAL COMMENTS	9/25/12
2	BUILDING DEPARTMENT COMMENTS	12/7/12

FOR PERMIT ONLY

PROJECT TITLE

Cumberland
FARMS

100 Crossing Blvd, Framingham, Massachusetts

STORE #

V0636

22905 S.R. 7

BOCA RATON, FL

Palm Beach County

DRAWING TITLE

MECHANICAL
SCHEDULES & DETAILS

DATE AUG 29, 2012	PROJ NO 11117
DRAWN BY BB	CHECKED BY AZ

DRAWING NUMBER

M2.1