

MECHANICAL PLAN

SCALE: 1/8"=1'



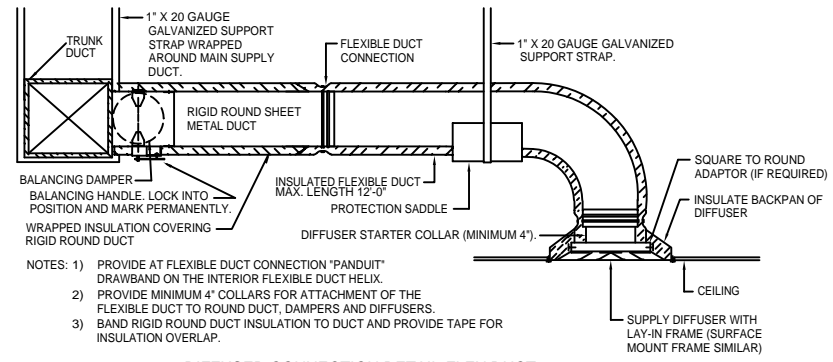
A/C UNIT SCHEDULE							
NO.	TOTAL BTU	CFM	O.A.	HEAT ELEC.	ELECTRICAL		COMMENTS
					VOLTAGE	MCA	
A/C 6	60,000 5 TON	2,000	220	15 KW	208V, 1Ø	-	LP2-1,3,2,4,5,7 YORK - (VERIFY WITH OWNER)
A/C 7	60,000 5 TON	2,000	220	15 KW	208V, 1Ø	-	LP3-1,3,2,4,5,7 "
A/C 9	60,000 5 TON	2,000	220	15 KW	208V, 1Ø	-	LP4-1,3,2,4,5,7 "

EXHAUST FAN SCHEDULE					
NO.	LOCATION	CFM	VOLTAGE	TYPE	MANF.
EF1	RESTROOM	100	120	VENT	BROAN
EF2	RESTROOM	100	120	VENT	BROAN
EF3	RESTROOM	100	120	VENT	BROAN

LEGEND

- SUPPLY AIR GRILLE
- RETURN AIR GRILLE
- EXHAUST FAN
- THERMOSTAT
- SUPPLY AIR DUCT
- RETURN AIR DUCT

- HVAC NOTES**
- CONCEALED DUCTWORK TO BE UL-181, CLASS 1, FIBERGLASS DUCTBOARD. DUCTS SHALL BE SIZED TO LIMIT AIR DUCTS TO 1000 CFM & SECONDARY DUCTS TO 800 CFM. TO BE INSTALLED PER SMACNA STANDARDS.
 - EXPOSED DUCTWORK TO BE GALVANIZED SHEET METAL PER SMACNA STANDARDS. LINE WITH NEOPRENE COATED 1.0," 1.5 POUNDS PER CUBIC FOOT DUCT INSULATION.
 - ROUND FLEXIBLE DUCT TO BE UL-181, CLASS 1, AIR DUCT MATERIALS.
 - DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS.
 - IN ALL SYSTEMS 2000 CFM AND OVER, BUT LESS THAN 15,000 CFM, SMOKE DETECTORS SHALL BE INSTALLED, IN ACCORDANCE WITH NFPA 72E & NFPA 90A, IN THE RETURN DUCT DOWNSTREAM OF THE AIR HANDLING UNIT AND ALL FILTERS TO AUTOMATICALLY STOP THE FAN.
 - PROVIDE U.L. LISTED 125' F FIRESTAT IN RETURN AIR OF EACH SYSTEM UNDER 2000 CFM TO SHUT DOWN THE FAN IN THE EVENT OF FIRE.
 - PROVIDE U.L. RATED FIRE DAMPERS WHERE REQUIRED AT ALL DUCT PENETRATIONS OF FIRE-RATED ASSEMBLIES AND WHERE REQUIRED BY CODE, INCLUDING OUTSIDE AIR INTAKES.
 - CONDENSATE DRAINS TO BE PVC PIPE RUN TO PLUMBERS P-TRAP WITHIN FIVE FEET OF AIR HANDLING UNITS.
 - ALL AIR HANDLING SYSTEMS TO BE BALANCED TO ASSURE PROPER AIR FLOWS PER PLANS.
 - ALL THERMOSTATS TO BE AUTOMATIC CHANGEOVER WITH HEAT SWITCH.
 - EXHAUST FAN EQUAL TO BROAN MODEL NO. 100 CF. OR EQUAL. FAN SHALL BE CONTROLLED BY A SWITCH ON THE WALL IN THE SAME LOCATION AS LIGHT SWITCH(S). PROVIDE BACK DRAFT DAMPER.
 - PROVIDE AND INSTALL WATER PROOF GRILLE VENT IN PROPER ROOF LOCATION FOR PLUMBING FIXTURE EXHAUST.
 - ALL SUPPLY AIR VENTS SHALL BE EQUIPPED WITH AIR CONTROL DAMPERS.
 - LOCATE OUTDOOR UNITS AS SHOWN ON ARCH. DWGS.
 - REFRIGERANT LINES SHALL BE SIZED BY UNIT MANUFACTURER AND INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
 - FRESH AIR SHALL BE SUPPLIED TO EACH AIR HANDLER THROUGH EXTERIOR WALL DUCT SUPPLIED WITH A CONTROL DAMPER.
 - INSTALL FIRE DAMPER WHERE S.A. & R.A. DUCTS PENETRATE 1 HOUR RATED CEILING.
 - ALL ELECTRICAL, MECHANICAL, AND PLUMBING PENETRATING FIRE WALLS SHALL BE FIRE CAULKED. (PENETRATIONS THROUGH RATED CONSTRUCTION SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES WHEN TESTED IN ACCORDANCE WITH ASTM-E8-14).
 - ALL MECHANICAL SYMBOLS ARE DRAWN DIAGRAMATICALLY. CONTRACTOR TO VERIFY WITH OWNER LOCATIONS OF VENTS, DAMPERS, REGISTERS, ETC.
 - REFER TO STRUCTURAL DRAWINGS TO COORDINATE LOCATION(S) & MOUNTING OF MECHANICAL EQUIPMENT.
 - FLEXIBLE DUCTWORK LENGTH NOT TO EXCEED 10'-0".
 - REFER TO REFLECTED CEILING PLAN FOR FINAL GRILLE AND DIFFUSER LOCATIONS AND COORDINATE AS REQUIRED.
 - FINAL LOCATION OF TEMPERATURE CONTROLS TO BE COORDINATED WITH OWNER AT JOB SITE.
 - PROVIDE AND INSTALL SMOKE DETECTORS AS APPROVED BY LOCAL AHJ'S. PLACE NEAR R/A AND S/A OPENINGS OF AHU AND PROVIDE WITH ACCESS PANEL, WIRING BY ELECTRICAL CONTRACTOR.
 - FRESH AIR INTAKES ARE REQUIRED TO HAVE MOTORIZED OR GRAVITY DAMPERS TO SHUT OFF WHEN SYSTEM IS NOT RUNNING. ALL THERMOSTATS MUST BE PROGRAMMABLE. SEE SECTIONS 502.4.4 OR 503.2.4.3 OF THE 2006 INTERNATIONAL ENERGY CODE.



DIFFUSER CONNECTION DETAIL-FLEX DUCT

N.T.S.

J D PLAZA - TENANT BUILD-OUT HVAC CALCULATIONS PER SUITE

Project J D Plaza Tenant Build Out per Suite (6, 7, or 9) HVAC Calculations
Fri Jun 25 09:31:14 EDT 2010

The Btuh Gain for 119.48 SqFt of NorthEast and NorthWest Double Pane Glass = 10220.6
The Btuh Gain for 13.6 SqFt of Windows in Doors = 413.92

Wall Number 1 = 25 Feet Wide x 11 Feet Ceiling Height = 275 SqFt
Wall Number 2 = 60 Feet Wide x 11 Feet Ceiling Height = 660 SqFt
Wall Number 3 = 25 Feet Wide x 11 Feet Ceiling Height = 275 SqFt
Wall Number 4 = 60 Feet Wide x 11 Feet Ceiling Height = 660 SqFt

The Btuh Gain for 275 SqFt of Metal Studs, R-11 Insulation, 5/8" Gypsum Bd, Aluminum Storefront Framing, & Glass Wall Number 1 = 10853.1

The Btuh Gain for 660 SqFt of Metal Studs, R-11 Insulation, & 5/8" Gypsum Bd Wall Number 2 = 3377.3
The Btuh Gain for 275 SqFt of Metal Studs, R-11 Insulation, & 5/8" Gypsum Bd Wall Number 3 = 2489.5
The Btuh Gain for 660 SqFt of Metal Studs, R-11 Insulation, & 5/8" Gypsum Bd Wall Number 4 = 3377.3

The Btuh Gain for 1511 SqFt of Ceiling and Roof Combo; Ceiling Number 1 = 9071.4

1511 SqFt of Retail/Office Space Divided by 1000 = 1.511
1.511 x 7 (Estimated Maximum Occupant Load-Persons Per 1000 SqFt) = 10.577 Occupants or 11 People
The Btuh Gain for 11 People = 110

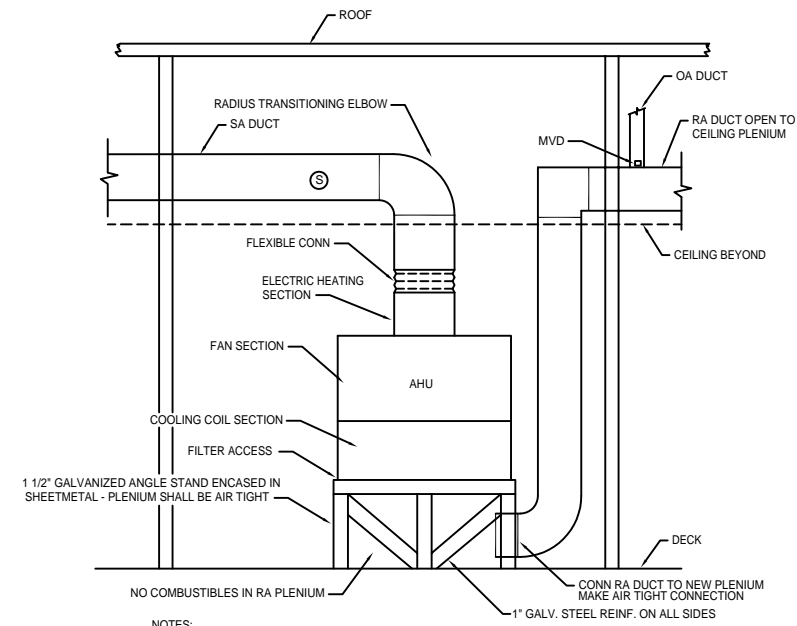
The Btuh Gain for 1511 SqFt of Area Lighting in a Retail Store = 7869

The wattage for 1 Gallon Coffee Machine = 470

The calculation for Outside Fresh Air = 11 People x 20 (Outdoor Air CFM per Person) = 220
The Total Outside Fresh Air CFM = 220
This is in accordance with International Mechanical Code 2006

The Total BTUH Gain = 47782.12

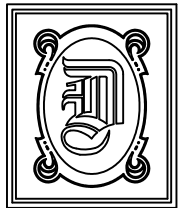
The Total Tons of HVAC needed per Calculation #1 = 4.71526 (5 Tons) Or
Per Calculation #2; 1511 SqFt of Retail/Office Space Divided by 300 = 5.03 (5 Tons)



AIR HANDLING UNIT INSTALLATION DETAIL

N.T.S.

- NOTES:**
- ON UNITS UNDER 5 TONS PROVIDE FIRESTAT IN THE RETURN AIR WIRED TO SHUT DOWN THE UNIT WHEN TEMPERATURE IS EXCEEDED.
 - ON UNITS 5 TONS AND LARGER, PROVIDE A SMOKE DETECTOR IN THE SUPPLY AND THE RETURN AIR DUCTS WIRED TO SHUT DOWN THE UNIT WHEN SMOKE IS DETECTED. THE SMOKE DETECTOR IN THE RETURN AIR DUCT MAY BE ELIMINATED IF CONTRACTOR RECEIVES APPROVAL FROM THE LOCAL AUTHORITY HAVING JURISDICTION.



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ARCHITECTURE

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EXPERT WITNESS

TENANT BUILD-OUT

J D PLAZA
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MECHANICAL PLAN

REV:

SCALE: AS NOTED

JOB#: 2070

DATE: 06-25-10

SHEET 7

M-1

OF 10