AIR BALANCE SCHEDULE

	AHU-a*	AHU-b*	AHU-c*	AHU-#3	AHU-#4	AHU-#12	AHU-#14	AHU-#19	EF-1	HOOD	R/G
OUTSIDE AIR FLOW (CFM)	75	75	500	250	1000	390	55	55		7920	
RETURN AIR FLOW (CFM)	525	725	1500	750	3000	210	945	745			
SUPPLY AIR FLOW (CFM)	600	800	2000	1000	4000	600	1000	800			
EXHAUST AIR FLOW (CFM)									75	9900	
BUILDING PRESSURE (CFM)	+75	+75	+500	+250	+1000	+390	+55	+55	-75	-1980	-800
QUANTITIES	10	2	2	1	1	1	1	1	15	1	1
TOTAL PRESSURIZATIONS	+750	+150	+1000	+250	+1000	+390	+55	+55	-1125	-1980	-800
REMARKS											
* AHU-a= # 1,2,5,6,7,9,10,16,17, &18. AHU-b= # 8,11. AHU-c= # 13,15.											
RESULTING BUILDING PRESSURIZATION (CFM) = +535											

A/C UNIT SCHEDULE

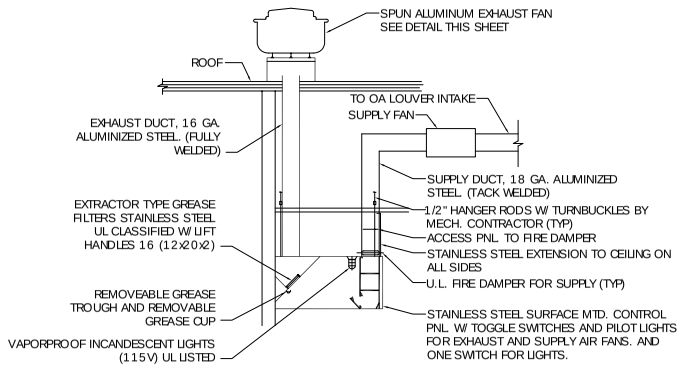
NO.	TOTAL BTU	CFM	O.A.	HEAT (KW)	ELECTRICAL VOLTAGE	ELECTRICAL MCA	ELECTRICAL CKT BRKR	COMMENTS
1	18,000 1-1/2 TON	600	75	5	240V,1Ø	9.3	15A	
2	18,000 1-1/2 TON	600	75	5	240V,1Ø	9.3	15A	
3	30,000 2-1/2 TON	1000	250	5	240V,1Ø	11.2	15A	
4	120,000 10 TON	4000	1000	10	240V,3Ø	13.5	20A	
5	18,000 1-1/2 TON	600	75	5	240V,1Ø	9.3	15A	
6	18,000 1-1/2 TON	600	75	5	240V,1Ø	9.3	15A	
7	18,000 1-1/2 TON	600	75	5	240V,1Ø	9.3	15A	
8	24,000 2 TON	800	75	5	240V,1Ø	11.2	15A	
9	18,000 1-1/2 TON	600	75	5	240V,1Ø	9.3	15A	
10	18,000 1-1/2 TON	600	75	5	240V,1Ø	9.3	15A	
11	24,000 2 TON	800	75	5	240V,1Ø	11.2	15A	
12	18,000 1-1/2 TON	600	390	5	240V,1Ø	9.3	15A	
13	60,000 5 TON	2000	500	10	240V,1Ø	33.3	60A	
14	30,000 2-1/2 TON	1000	55	5	240V,1Ø	11.2	15A	
15	60,000 5 TON	2000	500	10	240V,1Ø	33.3	60A	
16	18,000 1-1/2 TON	600	75	5	240V,1Ø	9.3	15A	
17	18,000 1-1/2 TON	600	75	5	240V,1Ø	9.3	15A	
18	18,000 1-1/2 TON	600	75	5	240V,1Ø	9.3	15A	
19	24,000 2 TON	800	55	5	240V,1Ø	11.2	15A	

FRESH AIR REQUIREMENTS PER IMC 2003, TABLE 403.3

ROOM NAME	SQUARE FEET	OCCUPANTS	CFM O.A. / OCC.	TOTAL REQ. O.A. (cfm)
TYPICAL DWELLING UNITS				
1 BEDROOM	~560	2	15	30 ea. (75)
2 BEDROOM	~950	2	15	30 ea. (75)
SPECIAL ZONES BY OCCUPANCY				
MAIN DINING HALL	2400	170	20	4800* (1000)
PRIVATE DINING	220	15	20	300
KITCHEN	1200	24	15	360
BREAKROOM	200	14	15	210
EXERCISE ROOM	350	10.5	20	210
LAUNDRY	150	2	25	50
CORRIDOR	2600	-	0.05 cfm / s.f.	130
*MFG. RECOMMENDED OA/RA RATIO IS 25% FOR AMANA BRAND EQUIPMENT				

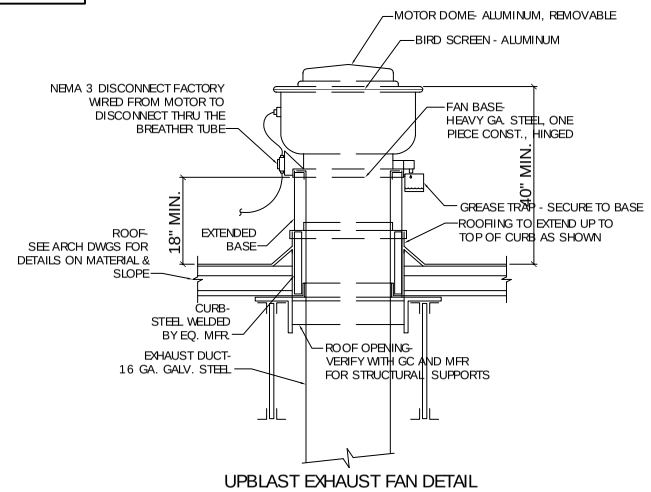
KITCHEN HOOD SYSTEM NOTES

1. SUBCONTRACTOR TO SUBMIT SHOP DRAWINGS AND REVIEW PACKAGE SUITABLE FOR FIRE MARSHAL KITCHEN HOOD REVIEW.
2. SUBCONTRACTOR TO SUBMIT SHOP DRAWINGS AND REVIEW PACKAGE SUITABLE FOR FIRE MARSHAL KITCHEN HOOD CHEMICAL FIRE SUPPRESION SYSTEM REVIEW.
3. PROVIDE GAS SHUTOFF VALVE FOR ALL EQUIPMENT UNDER HOOD CONNECTED TO HOOD EXHAUST SYSTEM.
4. PROVIDE SHUNT TRIP BREAKERS FOR ALL EQUIPMENT UNDER HOOD CONNECTED TO HOOD EXHAUST SYSTEM.



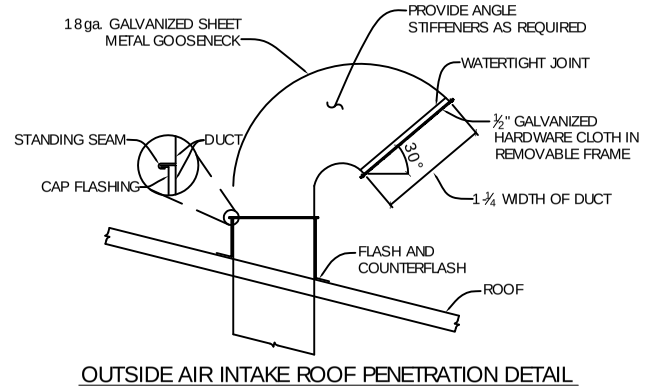
SECTION AT KITCHEN EXHAUST HOOD DETAIL

N.T.S.



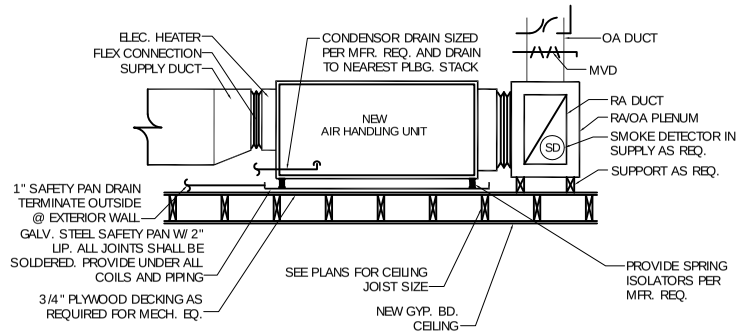
UPBLAST EXHAUST FAN DETAIL

N.T.S.



OUTSIDE AIR INTAKE ROOF PENETRATION DETAIL

SCALE: N.T.S.



TYPICAL HORIZONTAL AHU DETAIL

SCALE: N.T.S.

CONTRACTOR NOTES

1. PROVIDE ELEC. DISCONNECT, MAINTENANCE OUTLET, AND LIGHT AT EACH AIR HANDLER LOCATION.
2. PROVIDE ELEC. DISCONNECT, AND 4" THICK CONCRETE PAD FOR EACH CONDENSOR UNIT.
3. INSTALL ALL MECHANICAL EQUIPMENT PER MANUFACTURER REQUIREMENTS.
4. INSTALL ALL AIR HANDLERS IN ATTIC SPACE LOCATION AS SHOWN, POSITION HANDLER PER FIELD REQUIREMENTS.
5. PROVIDE ONE OUTDOOR SERVICE OUTLET WITHIN 10' OF EACH CONDENSER UNIT.
6. COORDINATE MECHANICAL PLANS WITH ARCHITECTURAL, ELECTRICAL, AND PLUMBING PLANS (BY OTHERS).

MECHANICAL NOTES

1. CONCEALED DUCTWORK TO BE UL-181, CLASS 1, FIBERGLASS DUCTBOARD. DUCTS SHALL BE SIZED TO LIMIT MAIN DUCTS TO 1000 CFM & SECONDARY DUCTS TO 800 CFM. TO BE INSTALLED PER SMACNA STANDARDS.
2. EXPOSED DUCTWORK TO BE GALVANIZED SHEET METAL PER SMACA STANDARDS. LINE WITH NEOPRENE COATED 1.0," 1.5 POUNDS PER CUBIC FOOT DUCT INSULATION.
3. ROUND FLEXIBLE DUCT TO BE UL-181, CLASS 1, AIR DUCT MATERIALS.
4. DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS.
5. IN ALL SYSTEMS OVER 2000 CFM AND LESS THAN 15,000 CFM, SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72E IN THE RETURN DUCT DOWNSTREAM OF THE AIR HANDLING UNIT AND ALL FILTERS TO AUTOMATICALLY STOP THE FAN.
6. WHERE MULTIPLE AIR-HANDLING SYSTEMS SHARE COMMON SUPPLY OR RETURN AIR DUCTS OR PLENUMS WITH A COMBINED CAPACITY GREATER THAN 2000 CFM , THE RETURN AIR SYSTEM SHALL BE PROVIDED WITH SMOKE DETECTORS IN ACCORDANCE WITH IMC '06 SEC. 606.2.1.
7. 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.
8. CONDENSATE DRAINS TO BE PVC PIPE RUN TO PLUMBERS P-TRAP WITHIN FIVE FEET OF AIR HANDLING UNITS.
9. ALL AIR HANDLING SYSTEMS TO BE BALANCED TO ASSURE PROPER AIR FLOWS PER PLANS.
10. ALL THERMOSTATS TO BE AUTOMATIC CHANGEOVER WITH HEAT SWITCH.
11. 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.
12. PROVIDE AND INSTALL WATER PROOF GRILLE VENT IN PROPER ROOF LOCATION FOR PLUMBING FIXTURE EXHAUST.
13. ALL SUPPLY AIR VENTS SHALL BE EQUIPPED WITH AIR CONTROL DAMPERS.
14. LOCATE OUTDOOR UNITS AS SHOWN ON ARCH. DWGS.
15. REFRIGERANT LINES SHALL BE SIZED BY UNIT MANUFACTURER AND INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
16. FRESH AIR SHALL BE SUPPLIEDTO EACH AIR HANDLER THROUGH EXTERIOR WALL DUCT SUPPLIED WITH A CONTROL DAMPER.
17. 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 FLAMESAND HOT GASES WHEN TESTED IN ACCORDANCE WITH ASTM-E8-14).
18. MECHANICAL PLANS ARE DRAWN SCHEMATICALLY. CONTRACTOR TO ROUTE DUCT SYSTEMS PER FIELD CONDITIONS.
19. AREA OF REFUGE SHALL BE DESIGNED IN ACCORDANCE WITH NFPA 92A, TO INCLUDE STAIRWELL PRESSURIZATION SYSTEMS. PROVIDE PROPER ACTIVATION AND CONTROL SYSTEMS.
20. PROVIDE POWER SUPPLY AND MAX. OVERCURRENT DEVICE PER MANUFACTURERS SPECIFICATION FOR ALL UNITS.

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BLDG.B MECHANICAL NOTES AND DETAILS

REV: 3-24-09

SCALE: AS NOTED

JOB#: 2010

DATE: 01-23-09

SHEET

M-3b

OF