

**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 SMACNA STANDARDS. LINE WITH NEOPRENE COATED 1.0" x 1.5 POUNDS PER CUBIC FOOT DUCT INSULATION.
3. ROUND FLEXIBLE DUCT TO BE UL-181, CLASS 1, AIR DUCT MATERIALS, MAXIMUM LENGTH 14 FEET.
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. PROVIDE U.L. LISTED 1.25" F.I. FIRE-RATED IN RETURN AIR OF EACH SYSTEM UNDER 2000 CFM TO SHUT DOWN THE FAN IN THE EVENT OF FIRE.
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(5). 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 MANUFACTURERS' INSTRUCTIONS.
16. FRESH AIR SHALL BE SUPPLIED TO EACH AIR HANDLER THROUGH EXTERIOR WALL DUCT SUPPLIED WITH A CONTROL DAMPER.
17. INSTALL FIRE DAMPER WHERE S.A. & R.A. DUCTS PENETRATE 1 HOUR RATED CEILINGS.
18. 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-E-814).
19. MECHANICAL PLANS ARE DRAWN SCHEMATICALLY. CONTRACTOR TO ROUTE DUCT SYSTEMS PER FIELD CONDITIONS.
20. AREA OF REFUGE SHALL BE DESIGNED IN ACCORDANCE WITH NFPA 92A. TO INCLUDE STAIRWELL PRESSURIZATION SYSTEMS, PROVIDE PROPER ACTIVATION AND CONTROL SYSTEMS.
21. REFRIGERANT LINES SHALL BE 3/4" TYPE L HARD COPPER.
22. ALL MECHANICAL LAYOUTS ARE DRAWN DIAGRAMMATICALLY.
23. CONTRACTOR SHALL PROVIDE AN AIR BALANCE REPORT TO THE AUTHORITY HAVING JURISDICTION.

**NOTE:**

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 2006 INTERNATIONAL ENERGY CODE.

EXHAUST FAN SCHEDULE					
LOC. ROOM NO.	CFM	VOLTAGE	TYPE	MANIF.	NOTE
WOMENS-103 (EF-1)	1575	120	VENT	BROAN	#1

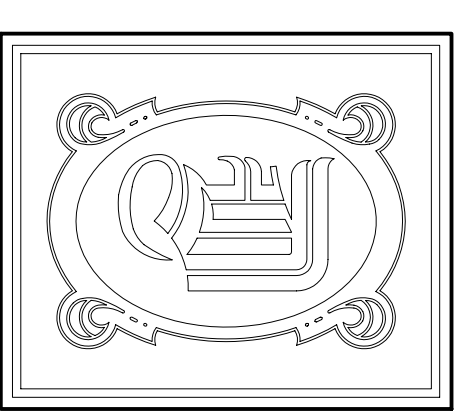
NOTES:  
1. EXHAUST FAN EF-1 SERVES RESTROOMS, ROOMS 102, 103, 104, 105, 131 & 137.

**A/C UNIT SCHEDULE**

ZONE	AHU NO.	LOCATION	TOTAL BTU	CFM	O.A.	HEAT (KW)	ELECTRICAL		COMMENTS
							VOLTAGE	MCA   CKT BRKR	
1	1	WORSHIP CENTER ROOM 113	120,000	4,000	688	24	480V, 3Ø	-	ROOFTOP UNIT
	2	WORSHIP CENTER ROOM 113	60,000	2,000	200	15	480V, 3Ø	-	ROOFTOP UNIT
	3	WORSHIP CENTER ROOM 113	120,000	4,000	688	24	480V, 3Ø	-	ROOFTOP UNIT
	4	CORRIDOR ROOM 138	48,000	1,600	375	15	480V, 3Ø	-	ROOFTOP UNIT
2	5	VESTIBULE ROOM 134	48,000	1,600	375	15	480V, 3Ø	-	ROOFTOP UNIT
	6	ROOM 135	48,000	1,600	375	15	480V, 3Ø	-	ROOFTOP UNIT
	7	CHILDRENS WORSHIP ROOM 114	72,000	2,400	432	20	480V, 3Ø	-	ROOFTOP UNIT
3	8	CHILDRENS WORSHIP ROOM 114	72,000	2,400	432	20	480V, 3Ø	-	ROOFTOP UNIT
	9	CHILDRENS WORSHIP ROOM 114	72,000	2,400	432	20	480V, 3Ø	-	ROOFTOP UNIT
	10	COFFEE SHOP ROOM 126	120,000	4,000	525	24	480V, 3Ø	-	ROOFTOP UNIT
4	11	WELCOME CENTER ROOM 126	180,000	6,000	550	35	480V, 3Ø	-	ROOFTOP UNIT
	12	POTER ROOM 100	120,000	4,000	420	24	480V, 3Ø	-	ROOFTOP UNIT
	13	VESTIBULE ROOM 136	72,000	2,400	45	20	480V, 3Ø	-	ROOFTOP UNIT
	14	YOUTH WORKSHOP ROOM 114	48,000	1,600	350	15	480V, 3Ø	-	ROOFTOP UNIT

ZONE NO.	AIR BALANCE SCHEDULE							OFFICES		YOUTH CENTER		
	RTU 1	RTU 2	ZONE 1	AHU 4	ZONE 2	ZONE 3	EF-2	AHU 10	AHU 11	AHU 12	A/C 13	A/C 14
OUTSIDE AIR FLOW (CFM)	688	200	688	375	375	375	0	525	550	420	0	45
RETURN AIR FLOW (CFM)	3312	1800	3312	1225	1225	1225	0	3475	3450	3580	0	751
SUPPLY AIR FLOW (CFM)	4000	2000	4000	1600	1600	2000	0	4000	6000	4000	0	800
EXHAUST AIR FLOW (CFM)	688	200	688	375	375	204	0	420	0	420	1575	350
BUILDING PRESSURE (CFM)	0	0	0	0	0	204	-300	525	550	420	-1575	0
UNIT QUANTITIES	1	1	1	1	1	1	1	1	1	1	1	1
TOTAL PRESSURIZATIONS	0	0	0	0	0	204	-300	525	550	420	-1575	0
REMARKS							108				0	45
RESULTING PRESSURIZATION												0

Childrens Worship  
AHU 7 & 8  
O.A. Calculations  
2007 SUPPLEMENT TO THE IMC  
403.3.1.1  
Vbz = RpFz + RzAz  
Vbz = (5)(69) + (06)(1037.58)  
Vbz = 407.25 cfm fresh air.



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NOTES AND SCHEDULES

REV: #3 11-2-09  
SCALE: AS NOTED  
JOB#: 1988  
DATE: 09-30-08  
SHEET

M-4

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