HVAC 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. 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.
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 CFM 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 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 FLAME AND HOT GASES WHEN TESTED IN ACCORDANCE WITH ASTM-E8-14).
19. ALL MECHANICAL SYMBOLS ARE DRAWN DIAGRAMATICALLY. CONTRACTOR TO VERIFY WITH OWNER LOCATIONS OF VENTS, DAMPERS, REGISTERS, ETC.
20. REFER TO STRUCTURAL DRAWINGS TO COORDINATE LOCATION(S) & MOUNTING OF MECHANICAL EQUIPMENT.
21. FLEXIBLE DUCTWORK LENGTH NOT TO EXCEED 10'-0".
22. REFER TO REFLECTED CEILING PLAN FOR FINAL GRILLE AND DIFFUSER LOCATIONS AND COORDINATE AS REQUIRED.
23. FINAL LOCATION OF TEMPERATURE CONTROLS TO BE COORDINATED WITH OWNER AT JOB SITE.
24. 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.
25. FRESH AIR INTAKES ARE REQUIRED TO HAVE MOTORIZED OR GRAVITY DAMPERS TO SHUT OFF WHEN SYSTEM IS NOT RUNNING. ALL THERMOSTATS MUST BE PROGRAMABLE. SEE SECTIONS 502.4.4 OR 503.2.4.3 OF THE 2006 INTERNATIONAL ENERGY CODE.

EXHAUST FAN SCHEDULE

FAN No.	CFM	VOLTAGE	TYPE	MANUFACTURER-MODEL-LOCATION
EXF-1	245	120	VENT	BROAN-L250L (RESTROOM/SHOWER-RM 110)
EXF-2	108	120	VENT	BROAN-L100L (IT CLOSET-RM 105)
EXF-3	110	120	VENT/LIGHT	BROAN-XB110L(RESTROOM-RM 107)
EXF-4	700	120	EXHAUST	CAPTIVE AIRE HOOD-4224(KITCHEN-RM 117)
EXF-5	150	120	VENT/LIGHT	BROAN-QTXE150FLT(RESTROOM-RM 122)
EXF-6	309	120	VENT	BROAN-L300 (MECH/ELEC-RM 124)
EXF-7	309	120	VENT	BROAN-L300 (GEAR ROOM-RM 123)

NOTE: ALL FANS INSTALLED IN RATED CEILINGS NEED TO BE RATED.

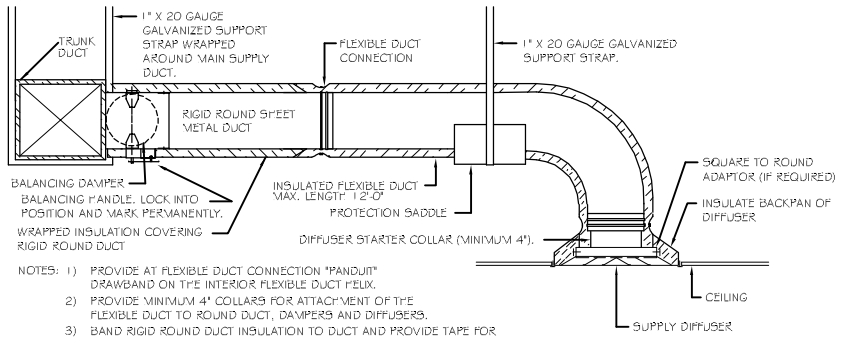
FRESH AIR REQUIREMENTS

FOR IMC 2009 TABLE 403.3

ROOM NAME	SF	OCC/ 1000 SF	CFM/ OCC	CFM/ SF	TOTAL OA
AHU #1-ZONE 1					264
DAYROOM	668	15	5	0.06	50
DINING/KITCHEN	407	70	7.5	0.06	214
AHU #2-ZONE 2					95
DORMITORY/SLEEP	685	20	5	0.06	69
BATHROOM/TOILET	266	20	5	0.06	26

A/C UNIT SCHEDULE TOTAL HVAC TONS = 3

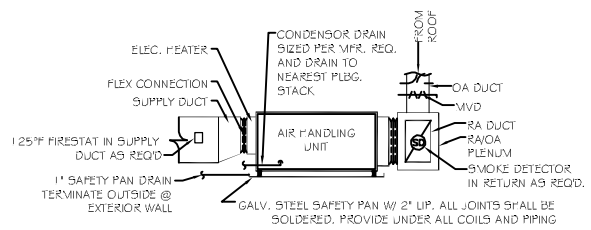
NO.	TOTAL BTU	CFM	O.A.	HEAT ELEC.	ELECTRICAL			MANUFACTURER
					VOLTAGE	MCA	CKT BRKR	
1	60,000 5 TON	2,000	264	15 KW	208V, 1Ø	35.0	PNL1	TRANE OR EQUAL
2	42,000 3½ TON	1,400	95	10 KW	208V, 1Ø	26.0	PNL1	



NOTES: 1) PROVIDE AT FLEXIBLE DUCT CONNECTION "PANDUIT" DRAWBAND ON THE INTERIOR FLEXIBLE DUCT PELX.
2) PROVIDE MINIMUM 4" COLLARS FOR ATTACHMENT OF THE FLEXIBLE DUCT TO ROUND DUCT, DAMPERS AND DIFFUSERS.
3) BAND RIGID ROUND DUCT INSULATION TO DUCT AND PROVIDE TAPE FOR INSULATION OVERLAP.

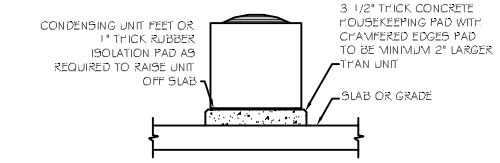
DIFFUSER CONNECTION DETAIL-FLEX DUCT

N.T.S.



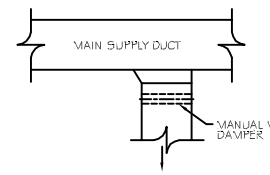
TYPICAL HORIZONTAL AHU DETAIL

N.T.S.



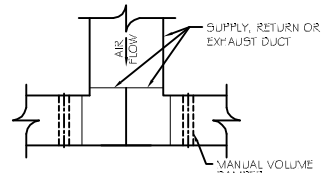
CONDENSING MOUNTING DETAIL

N.T.S.



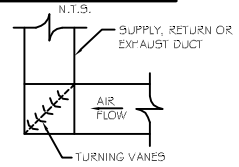
SUPPLY DUCT TAKE-OFF DETAIL

N.T.S.



DUCT SPLITTER DETAIL.

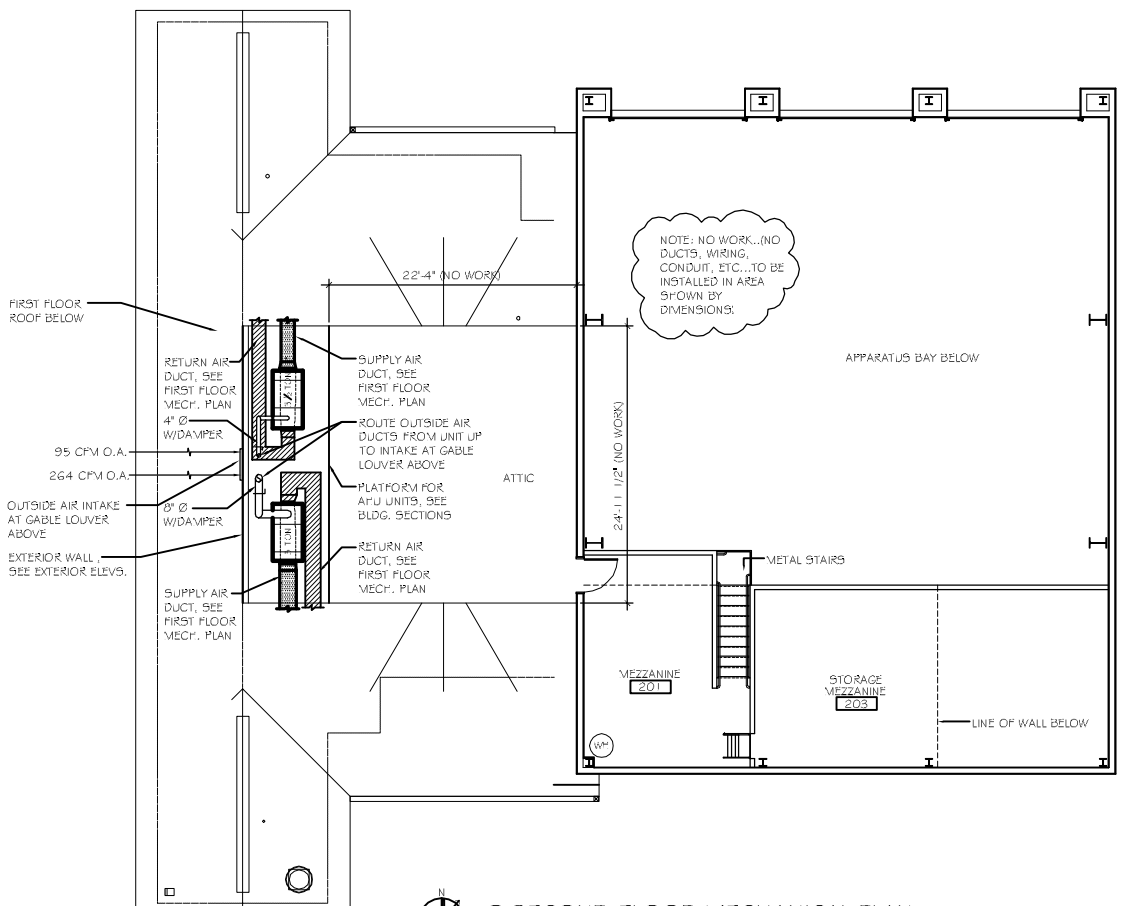
N.T.S.



SQUARE ELBOW DETAIL

N.T.S.

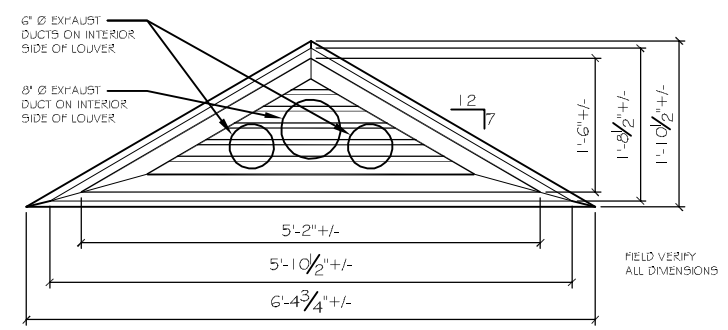
NOTE: INSTALL FIRE DAMPER AT ANY LOCATION WHERE DUCT PENETRATES A FIRE WALL.



N

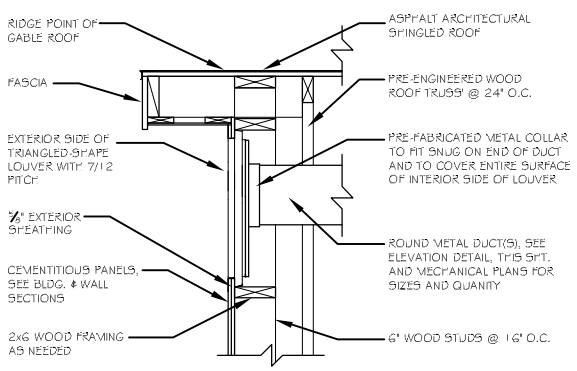
2 SECOND FLOOR MECHANICAL PLAN

SCALE: 1/8" = 1'-0"



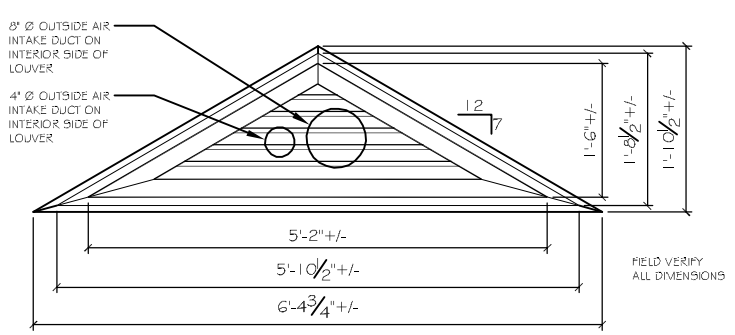
GABLE LOUVER ELEVATION DETAIL

SCALE: 1"=1'-0" (FOR MENS SHOWER ROOM AREA)



TYP. GABLE LOUVER/DUCT ATTACHMENT DETAIL

SCALE: 1"=1'-0" (CROSS-SECTION, SEE PLAN & ELEVATION)



GABLE LOUVER ELEVATION DETAIL

SCALE: 1"=1'-0" (FOR AHU OUTSIDE AIR INTAKE DUCTS)

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2161 | 04-03-2013 | JTL

#	DESCRIPTION	DATE
	REVISIONS	

MECHANICAL DETAILS

SHEET No: -

M2