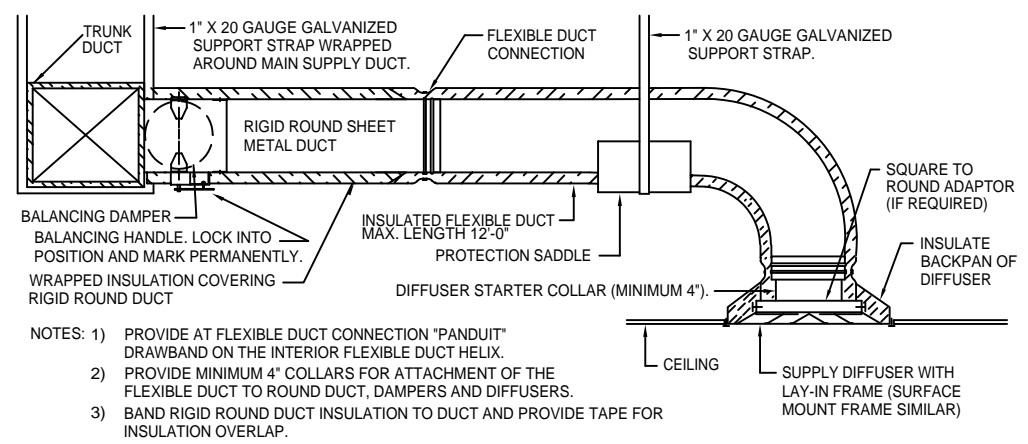
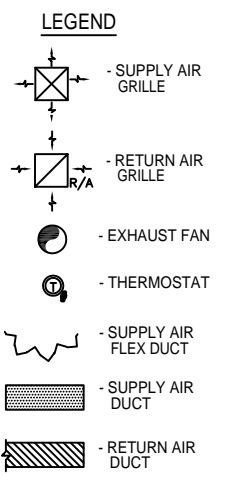


**MECHANICAL PLAN**  
SCALE: 1/4"=1'

NOTE: AIR EXHAUST OPENINGS THAT TERMINATE OUTDOORS SHALL BE PROTECTED WITH CORROSION RESISTANT SCREENS, LOUVERS, OR GRILLES PROTECTED AGAINST LOCAL WEATHER CONDITIONS. EXHAUST GRILLES TO BE A MINIMUM OF 10'-0" FROM ANY AIR INTAKE/OPENING.



**DIFFUSER CONNECTION DETAIL-FLEX DUCT**  
N.T.S.

**CMIG - CHALMETTE, LA HVAC CALCULATIONS**

Project Children's International Medical Group Chalmette, LA HVAC Calculations  
Wed Feb 23 12:02:42 EST 2011

Calculations #1:  
The Btuh Gain for 487 SqFt of NorthEast and NorthWest Single Pane Glass = 43830  
The Btuh Gain for 74 SqFt of Windows in Doors = 976.8

The Btuh Gain for 725 SqFt of Mason Above Grade R-11 Wall Number 1 = 1160  
The Btuh Gain for 425 SqFt of Mason Above Grade R-11 Wall Number 2 = 680  
The Btuh Gain for 383 SqFt of Mason Above Grade R-11 Wall Number 3 = 612.8  
The Btuh Gain for 653 SqFt of Wood R-19 & 1/2" Gypsum Wall Number 4 = 1110.1

The Btuh Gain for 2792 SqFt of Ceiling and Roof Combo R-11; Ceiling Number 1 = 19544  
The Btuh Gain for 28 People = 280  
The Btuh Gain for 2792 SqFt of Area Lighting in an Office = 8376

The Kitchen Outside Fresh Air #1 = 35.4 cfm  
The Btuh Gain for Outside Fresh Air #1 = 1062  
The Reception Area Outside Fresh Air #2 = 804.6 cfm  
The Btuh Gain for Outside Fresh Air #2 = 24138  
The Office Space Outside Fresh Air #3 = 249.2 cfm  
The Btuh Gain for Outside Fresh Air #3 = 7476

The Total Outside Fresh Air CFM = 1089.2  
This is in accordance with International Mechanical Code 2003

The Total BTU/h Gain = 109245.7  
The Total Tons of HVAC needed per Calculations #1 = 9.10380833333334 or 9 1/2 Tons

Calculations #2:  
2792 SqFt of Office/Business Space Divided by 300 = 9.306667 or 9 1/2 Tons

Conclusion: Minimum HVAC Tonnage required for this Office is 9 1/2 or 10 Tons.

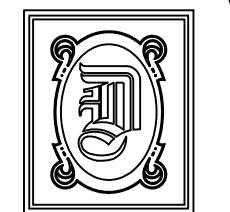
**EXHAUST FAN SCHEDULE**

NO.	LOCATION	CFM	VOLTAGE	TYPE	MANF.
EF1	RESTROOM	110	120	VENT	BROAN
EF2	RESTROOM	110	120	VENT	BROAN
EF3	RESTROOM	110	120	VENT	BROAN

**EXISTING ROOFTOP A/C UNIT SCHEDULE**

NO.	TOTAL MBTUH	CFM	O.A.	HEAT ELEC.	VOLTAGE	MCA	CKT BRKR	COMMENTS
RTU-4	235.46 18 TON	5,400	1,089	34 KW	208/120V	122	LP1-1,3,5	CARRIER D/X 50TM20

- HVAC NOTES**
- 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.
  - 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 A/H/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.



**DAMMON ENGINEERING, INC.**

CHIEF ENGINEER  
EMMETT DAMMON, P.E.  
CHIEF ARCHITECT  
ROBERT WILTSE

554 OLD SPANISH TRAIL  
SLIDELL, LA. 70458  
OFFICE: 985-649-5832  
FAX: 985-641-5950

WEBSITE:  
WWW.DAMMONENGINEERING.COM  
EMAIL:  
DAMMONENG@BELLSOUTH.NET

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**CHILDREN'S INTERNATIONAL MEDICAL GROUP**

8250 WEST JUDGE PEREZ DR.  
CHALMETTE, LA  
DR. EDUARDO HERNANDEZ

**MECHANICAL PLAN**

REV:

SCALE: AS NOTED

JOB#:2090

DATE: 02-24-11

SHEET 8

**M-1**

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