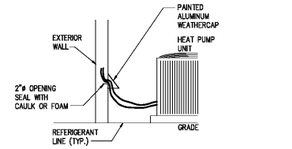
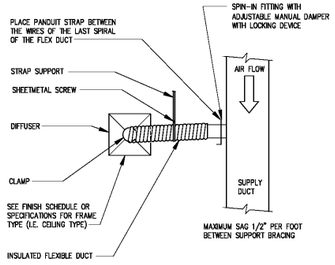


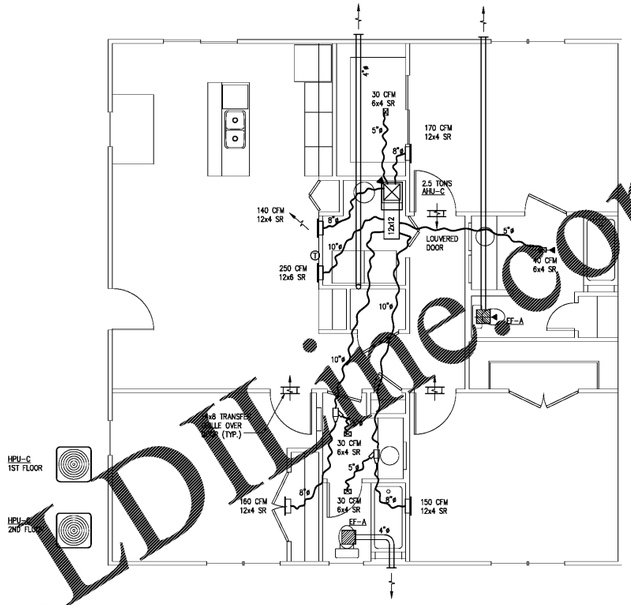
5 F3-M.1 REFRIGERANT LINE ENTRY DETAIL
NOT TO SCALE



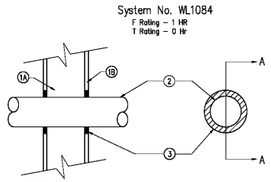
6 F3-M.1 DIFFUSER CONNECTION DETAIL
NOT TO SCALE

MECHANICAL NOTES AND SPECIFICATIONS

1. THE CONTRACTOR SHALL PROVIDE A COMPLETE HVAC SYSTEM TO INCLUDE ALL LABOR, MATERIALS, TOOLS, AND EQUIPMENT FOR A COMPLETE AND FUNCTIONAL SYSTEM INCLUDING ALL NECESSARY APPURTENANCES CUSTOMARILY INCLUDED IF NOT SPECIFICALLY CALLED OUT.
2. DEVIATION FROM MATERIALS, METHODS AND PROCEDURES SET FORTH HEREIN MUST BE APPROVED IN WRITING. APPROVAL WILL NOT BE GIVEN UNLESS THE PROPOSED SYSTEM IS EQUAL IN PERFORMANCE, DURABILITY, LONGEVITY, AND RELIABILITY TO THAT SPECIFIED.
3. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH ALL LOCAL, STATE, AND FEDERAL CODES, LAWS, AND ORDINANCES.
4. THE CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL DETAILS OF THE WORK AND THE CONDITIONS AND SHALL VERIFY DIMENSIONS AND CLEARANCES AND BE ASSURED THAT THE EQUIPMENT PURCHASED WILL FIT INTO THE AVAILABLE SPACE.
5. SUBMISSION OF A BID OR PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT THE CONTRACTOR HAS FAMILIARIZED HIMSELF WITH THE PLANS, SPECIFICATIONS, AND BUILDING SITE. CLAIMS MADE SUBSEQUENT TO BIDS FOR MATERIALS AND/OR LABOR DUE TO DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED, UNLESS DIFFICULTIES COULD NOT HAVE BEEN FORESEEN EVEN THOUGH PROPER EXAMINATION HAD BEEN MADE.
6. THE CONTRACTOR SHALL REVIEW STRUCTURAL DRAWINGS BEFORE FABRICATING OR INSTALLING DUCTWORK OR EQUIPMENT TO AVOID ANY CONFLICTS.
7. ALL HARD DUCTWORK SHALL BE FABRICATED OF GALVANIZED STEEL OF THICKNESS AND GAUGES TO CONFORM TO SMACNA DUCT CONSTRUCTION STANDARDS. (RECTANGULAR OR EQUIVALENT ROUND)
8. ALL DUCT SHALL BE AIRTIGHT, FREE OF LEAKS, AND SHALL BE INSPECTED FOR LEAKS PRIOR TO INSTALLATION OF FINISHED CEILING SYSTEM.
9. DUCTWORK, DAMPERS, LOUVERS, DIFFUSERS, AND OTHER DISTRIBUTION EQUIPMENT AND MATERIALS SHALL CONFORM TO THE FOLLOWING:
   - A. ASHRAE/ANSI
   - B. SBCCI/ASME
   - C. SMACNA
   - D. NFPA
   - E. AMCA STANDARD HANDBOOK 99
   - F. AIR DIFFUSION COUNCIL TEST CODE 1062R3
   - G. ANY LOCAL CODES NOT COVERED ABOVE
10. ALL DUCT SIZES ARE CLEAR NET INSIDE DIMENSIONS.
11. ALL LOW PRESSURE ROUND DUCT AND FLEXIBLE DUCT SHALL BE CONNECTED TO LOW PRESSURE DUCT WITH SPIN-IN FITTINGS AND MANUAL DAMPERS.
12. LOW PRESSURE INSULATED FLEXIBLE DUCT SHALL BE SIZED AS SHOWN. USE R-6 IN CONDITIONED AREAS AND R-8 IN UNCONDITIONED AREAS.
13. ALL SUPPLY AND RETURN DUCTWORK NOT LINED SHALL BE INSULATED WITH 1-1/2", 3/4# DENSITY FOIL BACKED EXTERNAL INSULATION.
14. ALL THERMOSTATS SHALL BE INSTALLED 4'-0" AFF.
15. SUPPLY REGISTER (SR) SHALL BE TITUS MODEL 272RL OR APPROVED EQUAL. SIZED AS PER DRAWINGS.
16. SIDEWALL RETURN AIR GRILLE (SRAG) SHALL BE TITUS MODEL 25RL OR APPROVED EQUAL. SIZED AS PER DRAWINGS.
17. REFRIGERANT PIPING SHALL BE SIZED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR LIQUID, VAPOR HORIZONTALS AND VAPOR RISERS. JOINTS SHALL BE MADE WITH SILVER SOLDER.
18. INSULATE REFRIGERANT SUCTION LINES WITH ARMAFLEX OR EQUAL. INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. RUN IN WALLS AND ABOVE CEILINGS AS MUCH AS POSSIBLE.
19. MANUAL DAMPERS SHALL BE INCLUDED IN OUTSIDE AIR INTAKE DUCTS TO REGULATE OUTSIDE AIR TO THE AIR HANDLING UNITS. (UNITS SERVING COMMON AREAS ONLY)
20. UNDERCUT RESTROOM DOORS 3/4" FOR EXHAUST MAKE-UP.
21. CONDENSATE DRAIN MUST TERMINATE AT AN APPROVED POINT: VERIFY AT SITE.
22. ALL LOW VOLTAGE CONTROL WIRING SHALL BE UNDER THIS CONTRACTOR.
23. ALL INSULATING MATERIALS SHALL HAVE A COMPOSITE FLAME SPREAD OF 25 AND SMOKE DEVELOPED OF 50 (ASTM E-84, NFPA 255 & U.L. 723).
24. PROGRAMMABLE THERMOSTATS AND OTHER CONTROL ITEMS SHALL BE A COMPATIBLE WITH THE EQUIPMENT MANUFACTURER.
25. PROVIDE SMOKE DETECTORS IN ALL SUPPLY AIR DUCTS, OF UNITS SERVING EGRESS CORRIDORS OR GREATER THAN 2,000 CFM, ARRANGED TO SHUT DOWN UNIT BLOWER.
26. FIRE DAMPERS SHALL BE RUSKIN MODEL D-IBD2 STYLE "B" OR APPROVED EQUAL WITH A 1-1/2 HOUR RATING.
27. PROVIDE AIR EXTRACTORS AT DUCT TAKE-OFFS AS REQUIRED FOR AIR BALANCING. (COMMON AREAS ONLY)
28. BALANCE ALL AIR SYSTEMS TO PRODUCE THE VOLUMES AND QUANTITIES SHOWN ON THE DRAWINGS OR SPECIFIED.
29. THE CONTRACTOR SHALL VERIFY ALL ELECTRICAL CHARACTERISTICS WITH ELECTRICAL DRAWINGS BEFORE PURCHASING EQUIPMENT.
30. ALL MECHANICAL EQUIPMENT WHICH HAVE ELECTRICAL CONNECTIONS SHALL BE SUPPLIED WITH DISCONNECT (PROVIDED BY ELECTRICAL CONTRACTOR.)
31. OUTSIDE AIR TO AIR HANDLING UNITS SHALL CONFORM 2012 IMC TABLE 403.3. SEE CALCULATIONS FOR COMMON AREAS ONLY.



1 F3-M.1 MECHANICAL THREE BEDROOM UNIT
1/4" = 1'-0"

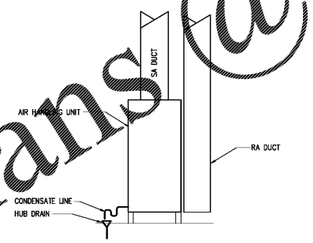


SECTION A-A

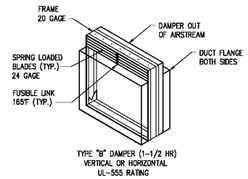
1. Wall Assembly – The fire rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistant Directory and shall include the following construction features:
   - A. Studs–Wall framing may consist of of either wood studs or steel channel studs. Wood studs to consist of nom. 2 by 4 in. lumberspaced 16 in. O.C. Steel studs to be min. 3-5/8 in. wide and spaced max. 24 in. O.C.
   - B. Wallboard Gypsum–Nom. 5/8 in. thick gypsum wallboard/panels identified in the individual Wall and Partition Design. Diam. of opening is 1-1/2 in. larger than the nominal diam. of pipe.
2. Through–Penetrant–One metallic pipe, conduit or tubing to be installed within this firestop system. An annular space of 3/4 in. is required within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   - A. Steel Pipe–Nom. 12 in. diam. (or smaller) Schedule 10 (or heavier) steel pipe.
   - B. Conduit–Nom. 6 in. diam. (or smaller) electrical metallic tubing or steel conduit.
   - C. Copper Tubing–Nom. 6 in. diam. (or smaller) Type L (or heavier) copper pipe.
   - D. Copper Pipe–Nom. 6 in. diam (or smaller) Type L (or heavier) copper pipe.
3. Fill, Void or Cavity Material*–Sealant–Minimum 1 in. thickness of fill material applied within the annulus, flush with both surfaces of the assembly.
   Minnesota Mining & Mfg. Co.–FB-2000+

*Bearing the UL Classification Marking

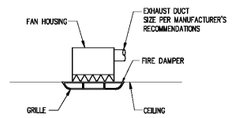
7 F3-M.1 FIRE RATED PIPE PENETRATION
NOT TO SCALE



4 F3-M.1 TYP. APARTMENT AIR HANDLER DETAIL
NOT TO SCALE



3 F3-M.1 FIRE DAMPER ASSEMBLY
NOT TO SCALE



2 F3-M.1 EXHAUST FAN DETAIL
NOT TO SCALE

FANS

MARK	SERVICE	TYPE	CFM	WATTS	ESP IN WC	DRIVE	SONES	UNIT WT (LBS)	BASIS OF DESIGN GREENHECK	REMARKS
EF-A	UNIT RR	CABINET	50	38	0.1	DIRECT	1.4	12	SP-B50	①②③④

① BACKDRAFT DAMPER ② DISCONNECT SWITCH ③ CONTROLLED W/LIGHTS ④ FIRE DAMPER

AIR HANDLING UNITS

MARK	SERVICE	TONS	CFM	OA CFM	COOLING CAPACITY TOTAL MBH	COOLING CAPACITY SENS. MBH	HEATING CAPACITY	MAX HP	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL VOLTAGE	UNIT WT (LBS)	BASIS OF DESIGN GOODMAN	REMARKS
AHU-C	GENERAL	2.5	1000	③	29.2	18.7	8 KW	1/3	35/40	40/40	208/230/1	150	ARPF-363616B	①②

HEAT PUMP UNITS

MARK	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL VOLTAGE	SEER	UNIT WT (LBS)	BASIS OF DESIGN GOODMAN
HPU-C	17.8	30	208/230/1	14	171	GSZ14-030

① DISCONNECT ② SMOKE DETECTOR ③ SEE CALCULATIONS

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GEORGIA REGISTERED NO. 19085 PROFESSIONAL ENGINEER FREDERICK W. KEERNEY 3/31/15

F-3 UNIT
WISTERIA RIDGE

Will-O-War llc
75 north Main Street
Watkinsville, GA 30677

Issue & Revisions:

No.	Date	Description

MECHANICAL
F-3 UNIT
DETAILS & SPECS

Drawn: RK
Checked: RK
Contract No.: 07-03
Scale: AS NOTED

F3-M.1

of sheets

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