HVAC NOTES:

1. DRAWINGS ARE SCHEMATIC & FOR REFERENCE ONLY.
2. HVAC CONTRACTOR TO COORDINATE & VERIFY W/ THE GENERAL CONTRACTOR FOR ALL NECESSARY FLASHING & SEALANT FOR WALL & ROOF PENETRATIONS.
3. EACH SUPPLY TO HAVE MANUAL DAMPER AT BRANCH TAKEOFF OR AT SUPPLY GRILL - COORD. W/ THE BUILDING OWNER. INSTALL DAMPER WHERE IT IS EASILY ACCESSIBLE.
4. COORDINATE DIFFUSERS W/ LIGHT FIXTURES & OTHER UTILITIES.
5. ALL MECHANICAL EQUIPMENT & APPLIANCES SHALL BEAR THE LABEL OF AN APPROVED AGENCY & SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTION
6. ALL MECHANICAL EQUIP. & SYSTEM SHALL COMPLY W/ OMC & CHAPTER 28 OF THE OBC
7. THE THERMOSTATS SHALL BE @ 48" AFF TO CENTERLINE W/ LOCKABLE COVERS, VERIFY LOCATION W/ THE OWNER
8. PER IECC 803.2.3.1 EACH HEATING & COOLING SYSTEM SHALL HAVE AT LEAST ONE SOLID-STATE PROGRAMMABLE THERMOSTAT. THE THERMOSTAT SHALL HAVE THE CAPABILITY TO SET BACK OR SHUT DOWN THE SYSTEM BASED ON DAY OF THE WEEK & TIME OF DAY, & PROVIDE A READILY ACCESSIBLE MANUAL OVERRIDE THAT WILL RETURN TO THE PRE SETBACK OR SHUTDOWN SCHEDULE WITHOUT REPROGRAMMING.
9. VERIFY W/ ELECTRICAL CONTRACTOR & ELECTRICAL SHEETS FOR POWER REQUIREMENTS
10. PROVIDE DISCONNECT FOR EACH HVAC UNIT & CONDENSER
11. VENTILATION SHALL BE PROVIDED DURING THE TIME THAT THE SPACE IS OCCUPIED.
12. CONTRACTOR SHALL INSTALL ALL EQUIPMENT, DUCTWORK, ETC. PER ALL LOCAL, STATE & FEDERAL CODES, PER THE RECOMMENDATIONS OF THE MANUFACTURER & PER ALL APPLICABLE GUIDELINES OF SMACNA & ASHRAE.
13. COORDINATE ALL EQUIPMENT LOCATIONS, DUCT ROUTINGS, ETC. IN THE FIELD W/ THE GENERAL CONTRACTOR & ALL OTHER TRADES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATION OF THEIR EQUIPMENT & MATERIALS THAT HAS NOT BEEN SO COORDINATED & CAUSES CONFLICTS.
14. BALANCE SUPPLY, RETURN, & EXHAUST REGISTERS & DIFFUSERS TO AIR FLOWS INDICATED ON THE DRAWINGS. PROVIDE & INSTALL BALANCE DAMPERS WHERE SHOWN IN ALL SUPPLY DUCTS OFF MAIN TRUNK(S) TO SUPPLY REGISTERS & DIFFUSERS. BALANCE ALL EQUIPMENT FANS TO AIR FLOWS INDICATED ON THE DRAWINGS. SUBMIT OPTIONAL BALANCE REPORT TO OWNER & ARCHITECT IF REQUIRED BY THE CONSTRUCTION MANAGER &/OR THE OWNER.
15. PROVIDE CONICAL TAKE-OFFS (OR "SPIN-INS") AT ALL BRANCHES FROM RECTANGULAR TO ROUND DUCTWORK.
16. PROVIDE RADIUS TURNS OR TURNING VANES IN ALL 90 DEGREE ELBOWS IN RECTANGULAR DUCTWORK.
17. PROVIDE COMPLETE START-UP & TESTING OF EQUIPMENT & INSTRUCT OWNER'S PERSONNEL IN OPERATION & MAINTENANCE OF EQUIPMENT (ONE HOUR MINIMUM SCHEDULED AT THE OWNER'S CONVENIENCE). PROVIDE TWO SETS OF OPERATION & MAINTENANCE MANUALS FOR ALL EQUIPMENT INCLUDING A ONE-YEAR WARRANTY ON ALL PARTS & WORKMANSHIP & A FIVE-YEAR WARRANTY ON ALL AIR CONDITIONING COMPRESSORS.
18. THE MECHANICAL CONTRACTOR SHALL PROVIDE & PAY FOR ALL PERMITS - VERIFY W/ THE GENERAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL PROVIDE INSPECTIONS, TESTS, ETC. REQUIRED FOR THE PERFORMANCE OF THIS WORK.
19. PROVIDE ALL TRANSITIONS, BOOTS, FITTINGS, ETC. AS REQUIRED TO ACHIEVE DUCT/DIFFUSER/ REGISTER CONNECTIONS. FIELD VERIFY EXACT REQUIREMENTS.
20. HVAC CONTRACTOR RESPONSIBLE FOR CUTTING & PATCHING OF ALL PENETRATIONS; ROOF, CEILING, FLOORS, WALLS, ETC.
21. HVAC CONTRACTOR IS RESPONSIBLE FOR PROVIDING & INSTALLING COMPLETE SYSTEMS OF HVAC EQUIPMENT, PIPING, DUCTWORK, ETC. DRAWINGS ARE SCHEMATIC IN NATURE & CONTRACTOR IS RESPONSIBLE FOR FIELD COORDINATING & ROUTING OF ALL PIPING & DUCTWORK W/ RESPECT TO EXISTING CONDITIONS, NEW CONSTRUCTION, STRUCTURAL FRAMING, OTHER TRADES, ETC. COORD. W/ GENERAL CONTRACTOR FOR PROVIDING & INSTALLING ALL OFFSETS, JOGS, TRANSITIONS, CORE DRILLS, WALL CUTS, LINTELS & OTHER NECESSARY APPURTENANCES TO INSTALL WORK. WORK WHICH HAS BEEN INSTALLED & HAS NOT BEEN COORDINATED W/ OTHER TRADES & HAS TO BE RELOCATED SHALL BE DONE SO AT THE EXPENSE OF THIS CONTRACTOR.
22. CONTRACTOR SHALL OBTAIN A COMPLETE SET OF PLANS & BE FAMILIAR W/ THE ENTIRE PROJECT IN ORDER TO UNDERSTAND THE COMPLETE SCOPE OF THE PROJECT.
23. MAINTAIN 10'-0" CLEARANCE FROM OUTSIDE AIR INTAKE OF ANY AIR CONDITIONING SYSTEM TO ANY EXHAUST, FLUE, PLUMBING VENT, ETC. MAINTAIN 10'-0" CLEARANCE FROM ANY EXHAUST TERMINATION TO ANY OUTSIDE AIR INTAKE TO THE OCCUPIED SPACE.
24. PER OMC 506.3.13.3 "EXHAUST OUTLETS SHALL BE LOCATED NOT LESS THAN 10 FEET HORIZONTALLY FROM PARTS OF THE SAME OR CONTIGUOUS BUILDINGS, ADJACENT PROPERTY LINES & AIR INTAKE OPENINGS INTO ANY BUILDING & SHALL BE NOT LESS THAN 10 FEET ABOVE THE ADJOINING GRADE LEVEL.
25. DUCT DIMENSIONS REFER TO THE INSIDE DIMENSIONS OF DUCTS.
26. THE RESTROOM EXHAUST FAN SHALL BE TIED INTO THE RESTROOM LIGHT SWITCHES, WHEN LIGHTS ARE ON THE EXHAUST FAN IS ON. EXHAUST THRU THE ROOF OR SIDE WALL W/ BACK DRAFT DAMPER.
27. SEE SHEET G1 FOR GAS PIPING DESIGN.
28. PER IECC 803.2.8 ALL SUPPLY & RETURN AIR DUCTS & PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-5 INSULATION WHEN LOCATED IN UNCONDITIONED SPACES & WITH A MINIMUM OF R-8 INSULATION WHEN LOCATED OUTSIDE THE BUILDING. WHEN LOCATED WITHIN A BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPARATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED OR EXEMPT SPACES BY A MINIMUM OF R-8 INSULATION.
29. METALLIC DUCT CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF SMACNA LOW PRESSURE DUCT CONSTRUCTION MINIMUM THICKNESS OF ROUND DUCTS: 26 GA. GALVANIZED STEEL W/ LONGITUDINAL SEAMS, RECTANGULAR DUCTS: 24 GA. GALVANIZED STEEL.
30. FLEXIBLE DUCTS & FLEXIBLE CONNECTORS SHALL CONFORM, TO THE REQUIREMENTS OF UL. 181 FOR CLASS 1 OR CLASS 0 MAXIMUM LENGTH TO BE 14 FEET.
31. MATERIAL REQUIREMENTS FOR DUCT COVERINGS, DUCT LININGS, PANELS USED IN DUCT SYSTEMS, DUCT TAPE & VIBRATION ISOLATOR CONNECTORS SHALL HAVE FLAME SPREAD RATINGS OF 25 OR LESS & SMOKE DEVELOPED RATINGS OF 50 OR LESS WHEN TESTED IN ACCORDANCE W/ ASTM E84.
32. THE HVAC CONTRACTOR HAS THE RIGHT TO SUBSTITUTE THE MANUFACTURER OF THE EQUIPMENT AS LONG AS THE EQUIPMENT MEETS OR EXCEEDS THE DESIGN REQUIREMENTS AS INDICATED. THE HVAC CONTRACTOR ALSO HAS THE RIGHT TO CHANGE THE SIZE OF THE CEILING DIFFUSER (ROUND, SQUARE OR RECTANGLE) AS LONG AS MEETS OR EXCEEDS THE DESIGN REQUIREMENTS AS INDICATED.
33. THE HVAC CONTRACTOR HAS THE RIGHT TO SUBSTITUTE THE DESIGN OF THE MECHANICAL SYSTEM. IT WILL THEN BE THE RESPONSIBILITY OF THE HVAC CONTRACTOR TO PROVIDE CONSTRUCTION DOCUMENTS FOR PERMIT, STAMPED BY A LICENSED HVAC DESIGNER. CLARKE ARCHITECTS, INC. WILL NOT BE RESPONSIBLE FOR THE SUBSTITUTED DESIGN. THE HVAC CONTRACTOR SHALL PROVIDE DRAWINGS FOR THE REVISED DESIGN TO THE CONSTRUCTION MANAGER, OWNER & CLARKE ARCHITECTS, INC.
34. PER OMC 403.2 EXCEPTION: THE REGISTERED DESIGN PROFESSIONAL MAY USE ASHRAE 62 AS AN ALTERNATIVE ENGINEERED VENTILATION SYSTEM DESIGN. THIS MECHANICAL SYSTEM HAS BEEN DESIGNED IN ACCORDANCE W/ ASHRAE 62.

EQUIPMENT SCHEDULE

MARK	MANUFACTURER	AMPS	VOLTS/ PHASE	BTU INPUT	TOTAL CFM	ACCESSORIES/REMARKS
HZ-1	FURN - LUXAIR TG9S060B12MP11 - 95%	10.0	115/60/1	60,000	800	
C-1	CONDENSER - LUXAIR TCGD24S41S - 13 SEER	21.1	230/1	--	---	W/ MATCHING COIL
HZ-2	FURN - LUXAIR TG9S060B12MP11 - 95%	10.0	115/60/1	60,000	800	
C-2	CONDENSER - LUXAIR TCGD24S41S - 13 SEER	21.1	230/1	--	---	W/ MATCHING COIL
HZ-3	FURN - LUXAIR TG9S060B12MP11 - 95%	10.0	115/60/1	60,000	800	
C-3	CONDENSER - LUXAIR TCGD24S41S - 13 SEER	21.1	230/1	--	---	W/ MATCHING COIL
HZ-4	FURN - LUXAIR TG9S060B12MP11 - 95%	10.0	115/60/1	60,000	800	
C-4	CONDENSER - LUXAIR TCGD24S41S - 13 SEER	21.1	230/1	--	---	W/ MATCHING COIL

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER	DESCRIPTION	VOLTS/ PHASE	AMPS	RPM	CFM/ SONES	DRIVE	REMARKS
EF-1	BROAN S-80	BATH EXH. FAN W/ LIGHT	115/1	1.14	95	80	DD.	VENT TO OUTSIDE THROUGH WALL OR ROOF

HVAC SYSTEM DESIGN NOTES:

THE BUILDING SHALL HAVE (4) TWO (2) TON HORIZONTAL UNITS, 800 CFM EACH

SA DUCTWORK

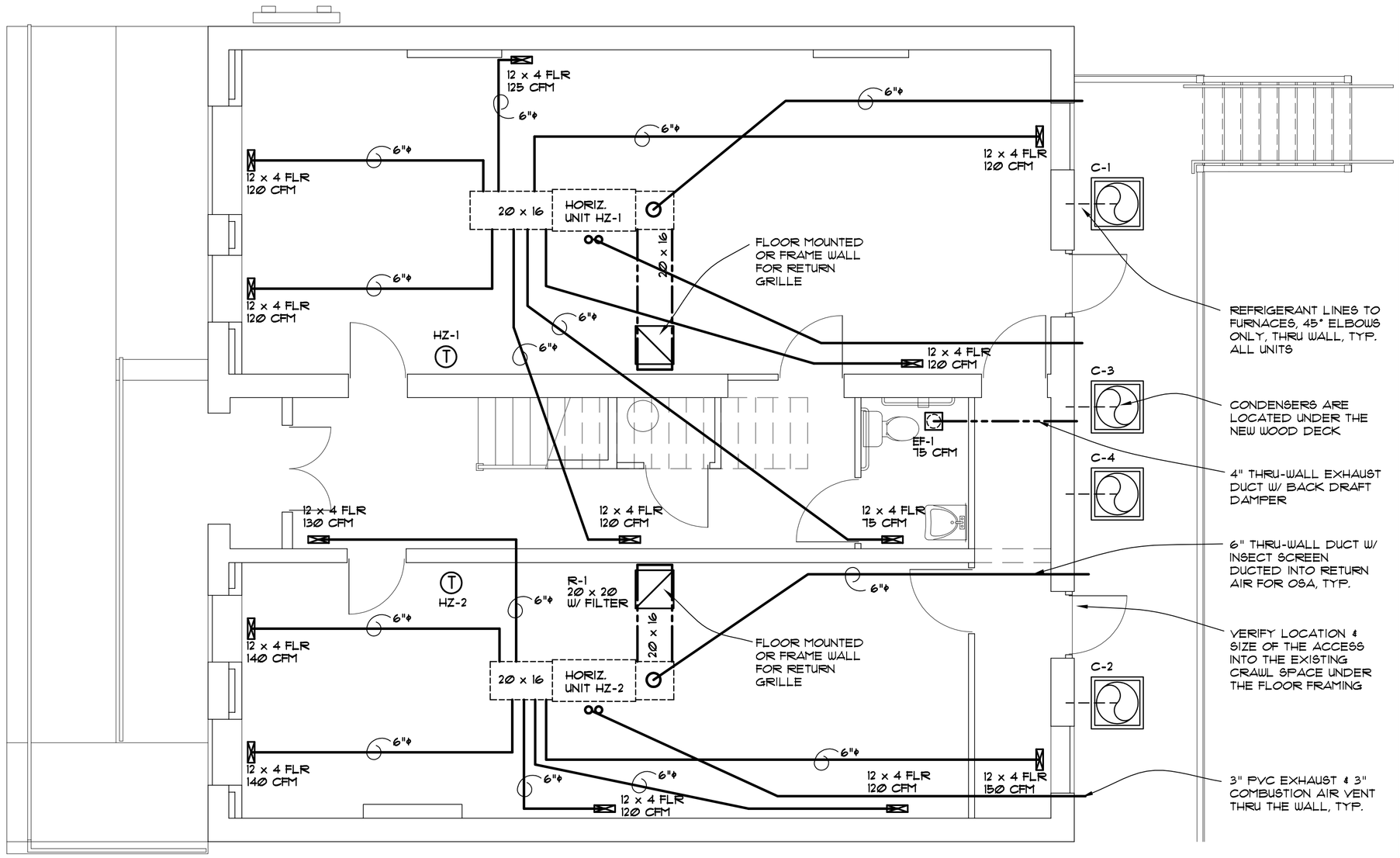
RA DUCT WORK

L VOLUME DAMPER, SUPPLY DUCTS ONLY

HVAC SYSTEM DESIGN NOTES:

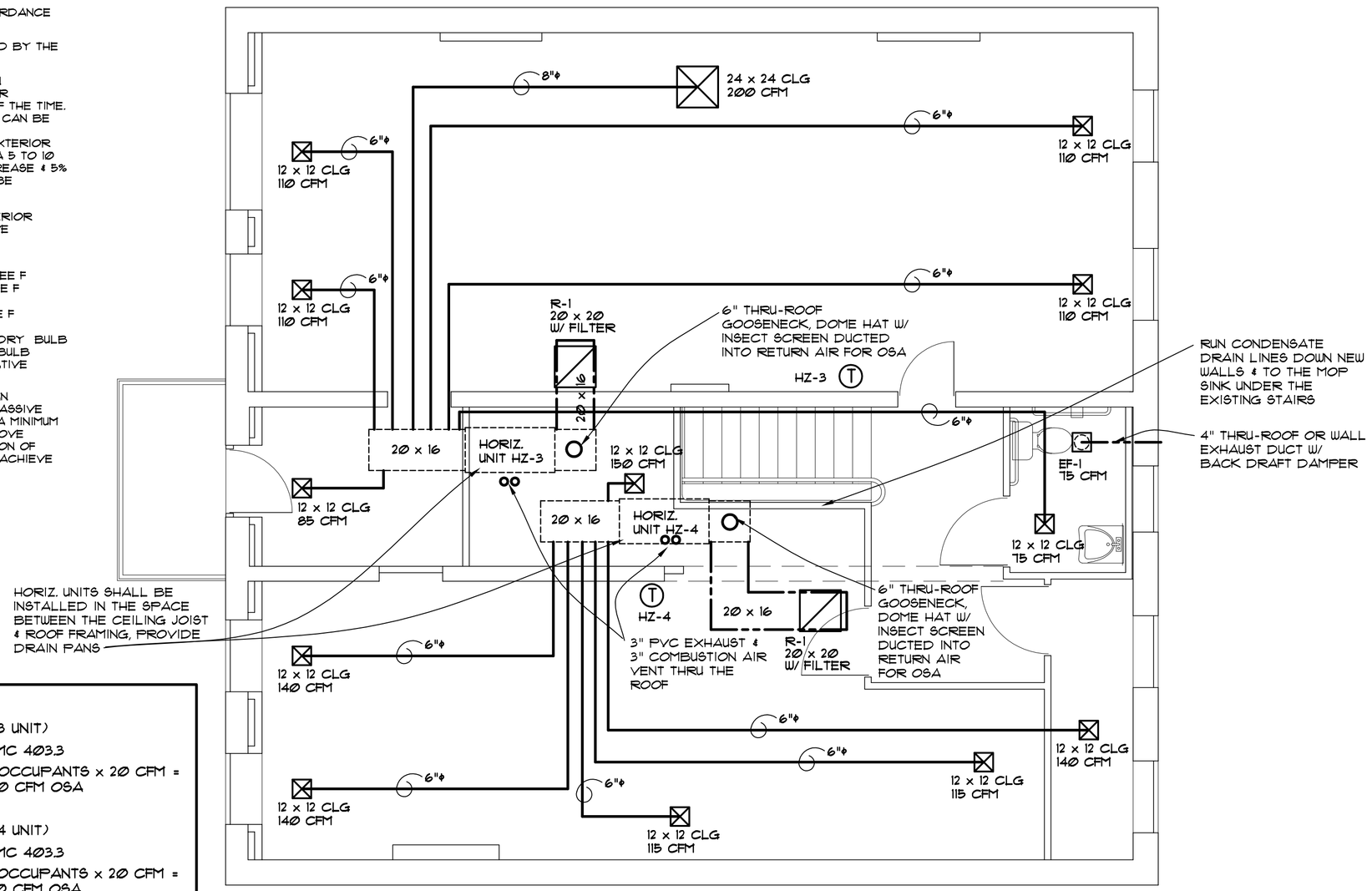
THE HVAC SYSTEMS HAVE BEEN DESIGNED & SIZED W/ THE FOLLOWING PARAMETERS

1. THE PARAMETERS HAVE BEEN ESTABLISHED IN ACCORDANCE W/ ASHRAE HANDBOOK OF FUNDAMENTALS, 1981.
2. OCCUPANT LOAD & ACTIVITY LEVEL ARE ESTABLISHED BY THE OWNER &/OR ARCHITECT.
3. THE WEATHER DATA USED REPRESENTS A 99% DESIGN CONDITION, THAT IS, HOTTER SUMMER & COLDER WINTER CONDITIONS STATISTICALLY MAY BE EXPECTED 1% OF THE TIME. DURING THE 1% PERIOD, THE SYSTEM PERFORMANCE CAN BE EXPECTED NOT TO ACHIEVE THE INDOOR AIR DESIGN PARAMETERS. DURING THE COOLING SEASON WHEN EXTERIOR WEATHER CONDITIONS EXCEED DESIGN PARAMETER, A 5 TO 10 DEGREE F OR GREATER INTERIOR TEMPERATURE INCREASE & 5% TO 10% INTERIOR RELATIVE HUMIDITY INCREASE CAN BE EXPECTED.
4. THE DESIGNER IS NOT RESPONSIBLE TO MAINTAIN INTERIOR DESIGN CONDITIONS WHEN EXTERIOR CONDITIONS HAVE EXCEEDED EXTERIOR DESIGN CONDITIONS.
5. DESIGN WEATHER PARAMETERS;
   SUMMER DESIGN DRY BULB TEMPERATURE 93.0 DEGREE F
   SUMMER DESIGN WET BULB TEMPERATURE 73.0 DEGREE F
   DAILY TEMPERATURE RANGE - 24 DEGREE F
   WINTER DESIGN DRY BULB TEMPERATURE 0.0 DEGREE F
6. INDOOR AIR DESIGN PARAMETERS COOLING SEASON DRY BULB TEMPERATURE 75.0 DEGREE F COOLING SEASON WET BULB TEMPERATURE 62.7 DEGREE F COOLING SEASON RELATIVE HUMIDITY - 51%
7. PER OMC 309 INTERIOR SPACES INTENDED FOR HUMAN OCCUPANCY SHALL BE PROVIDED WITH ACTIVE OR PASSIVE SPACE-HEATING SYSTEMS CAPABLE OF MAINTAINING A MINIMUM INDOOR TEMPERATURE OF 68F AT A POINT 3 FEET ABOVE FLOOR ON THE DESIGN HEATING DAY. THE INSTALLATION OF PORTABLE SPACE HEATERS SHALL NOT BE USED TO ACHIEVE COMPLIANCE WITH THIS SECTION.



1 / M1 FIRST FLOOR MECHANICAL PLAN

1/4" = 1'-0"



OSA REQUIREMENTS

(HZ-1 UNIT)
OMC 403.3
8 OCCUPANTS x 20 CFM = 160 CFM OSA

(HZ-3 UNIT)
OMC 403.3
8 OCCUPANTS x 20 CFM = 160 CFM OSA

(HZ-2 UNIT)
OMC 403.3
7 OCCUPANTS x 20 CFM = 140 CFM OSA

(HZ-4 UNIT)
OMC 403.3
7 OCCUPANTS x 20 CFM = 140 CFM OSA

OUTSIDE AIR DAMPERS ON EACH HORIZ. UNIT TO ALLOW FOR THE OSA AMOUNT INDICATED

2 / M1 SECOND FLOOR MECHANICAL PLAN

1/4" = 1'-0"

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DATE: JULY 27, 2011

REVISION DATES:

PROJECT:

OFFICE BUILDING
94 N. SANDUSKY ST.
DELAWARE, OHIO 43015

PROJECT NUMBER: CA1201129

SHEET TITLE:

TENANT A MECHANICAL PLAN/NOTES

SHEET NUMBER: M1

NAME: CLARKE Y:\COMMERCIAL\92 - 94 N. SANDUSKY\94 MF-MECH.PLN.DWG DATE: JUL 27, 2011 TIME: 6:53 PM