

MECHANICAL NOTES

- M1. MECHANICAL SYSTEMS TO BE DESIGN/BUILD PROJECT. ARCHITECT'S PRELIMINARY STUDY IS INCLUDED FOR REFERENCE ONLY. SUBMIT DESIGN CALC'S AND PROPOSED DUCT LAYOUT TO ARCHITECT FOR COORDINATION AND OWNER'S RECORD.
- M2. ALL WORK SHALL MEET APPLICABLE CODES, STANDARDS, AND REGULATIONS. PROVIDE COMPLETE HEATING AND AIR CONDITIONING UNIT SYSTEMS FOR THE BUILDING, INCLUDING UNITS, DUCTWORK, GRILLES, REGISTERS, BALANCING DAMPERS, TEMPERATURE CONTROL WORK AND OUTDOOR AIR INTAKE DUCTS.
- M3. NEW DUCTWORK/TRUNKS SHALL BE GALVANIZED SHEET METAL CONSTRUCTED IN ACCORDANCE WITH SMAGNA STANDARDS. SEAL WITH DUCT SEALER SUCH AS "UNITED DUCT SEALER". ALL DUCTWORK (OTHER THAN EXPOSED SPIRAL PIPE) SHALL LINED WITH "REFLECTIX BUBBLE" INSULATION (R-5.6) OR APPROVED EQUIV., UNLESS NOTED OTHERWISE. EXTERIOR DUCTWORK TO BE INSULATED R3 MINIMUM, UNLESS NOTED OTHERWISE.
- M4. CONTRACTOR SHALL VERIFY THE CONDITION & SPACE FOR THE INSTALLATION WORK, MAKE ALL NECESSARY ROUTING, FITTING, AND DUCTWORK MODIFICATIONS TO AVOID ANY INTERFERENCE.
- M5. NEW INDOOR FURNACES (IF ANY) TO BE SEALED COMBUSTION UNITS WITH PVC COMBUSTION AIR AND EXHAUST LINES. SIZE AND INSTALL LINES PER MFR. GUIDELINES. INDOOR FURNACES TO HAVE OUTSIDE AIR INTAKE DUCTS TIED TO RETURN MAIN WITH MOTORIZED DAMPER.
- M6. ALL THERMOSTATS TO BE PROGRAMMABLE 14-EVENT TYPE WITH SUB-BASE AND LOCKING COVER. MOUNT AT 48" AFF.
- M7. PROVIDE 1 HOUR FIRE SEPARATION OR AUTOMATIC FIRE EXTINGUISHING SYSTEM IN MECHANICAL ROOMS WHERE ANY PIECE OF EQUIPMENT IS OVER 400,000 BTU PER HOUR INPUT.
- M8. POSITIVELY ATTACH CEILING MOUNTED TERMINALS OR SERVICES WEIGHING LESS THAN 20 LBS TO CEILING GRID. CONTACT ARCHITECT FOR ITEMS WEIGHING MORE THAN 20 LBS.
- M9. ELECTRICAL CONTRACTOR TO PROVIDE & INSTALL EXHAUST FAN. MECHANICAL CONTRACTOR TO PROVIDE & INSTALL DUCTS, CAPS, AND BACKDRAFT DAMPERS.
- M10. PROVIDE BALANCING DAMPER AT EACH DUCT TAKE-OFF FROM MAIN DUCTWORK. PROVIDE LOCKING DEVICE FOR EACH BALANCING DAMPER.
- M11. ALL NOISE GENERATED FROM MECHANICAL EQUIPMENT SHALL NOT EXCEED 55db AT LOT LINES.
- M12. ALL OUTDOOR AIR INTAKE SHALL BE MINIMUM 15'-0" FROM EXHAUST OR PLUMBING VENTS.
- M13. ALL REFRIGERANT PIPING SHALL BE TYPE "K" COPPER. INSULATE ALL SUCTION PIPING.
- M14. BALANCE SYSTEMS AND SUBMIT COPY OF BALANCING REPORT TO ARCHITECT. BALANCING MAY BE PERFORMED BY QUALIFIED MEMBERS OF MECH CONTRACTOR'S STAFF.
- M15. PROVIDE FIRE DAMPERS IN DUCTS AT RATED WALLS OR CEILING (IF ANY). RATING TO MATCH WALL OR CEILING ASSEMBLY.
- M16. CHANGE ALL FILTERS ON GENERAL CONTRACTOR'S DATE OF SUBSTANTIAL COMPLETION & PROVIDE ONE MORE REPLACEMENT SET TO OWNER FOR EACH UNIT.
- M17. ASSEMBLE COPIES OF ALL MAINTENANCE AND OPERATING MANUALS FOR ALL EQUIPMENT AND SUBMIT TO OWNER.
- M18. PROVIDE 50 CFM AIR SUPPLY IN JANITOR AREA UNDERCUT DOOR 1".
- M19. FLEXIBLE DUCTWORK TO BE "FLEXITITE" OR OTHER APPROVED MATERIAL WITH SAME R-VALUE & FRICTION. USE SHORTEST, STRAIGHTEST LENGTH FEASIBLE. NOTIFY ARCHITECT IF ANY SUPPLY OR RETURN FLEX RUNS EXCEED 8 FEET BEFORE INSTALLATION.
- M20. PROVIDE SMOKE DETECTORS & UNIT SHUT-DOWNS IN MAIN DUCTS WHERE RETURN AIR EQUALS OR IS GREATER THAN 2000 CFM PER CODE.
- M21. PROVIDE EXHAUST FAN IN TOILET ROOM SWITCHED WITH LIGHTS. ALL ROOF PENETRATIONS TO BE ON BACK SIDE OF ROOF RIDGE.
- M22. PROVIDE MOTORIZED DAMPER ON OUTSIDE AIR INTAKE DUCT CONNECTED TO AIR RETURN TRUNK.
- M23. MECHANICAL SYSTEMS IN THIS PROJECT ARE REQUIRED TO COMPLY WITH THE 2006 INTERNATIONAL ENERGY CONSERVATION CODE.
- M24. COVERS AND LININGS, INCLUDING ADHESIVES WHEN USED, SHALL HAVE A FLAME SPREAD INDEX NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX NOT MORE THAN 50 IN ACCORDANCE WITH ASTM E 84. DUCT COVERINGS AND LININGS SHALL NOT FLAME, GLOW, SMOLDER, OR SMOKE WHEN TESTED IN ACCORDANCE WITH ASTM C411 AT THE TEMPERATURE TO WHICH THEY ARE EXPOSED IN SERVICE. THE TEST TEMPERATURE SHALL NOT FALL BELOW 250°F.

MECHANICAL EQUIPMENT SCHEDULE

| TAG NO. | SERVICE AREA | MANUFACTURER | HEATING CAPACITY BTU/H IN | CAPACITY BTU/H OUT | COOLING CAPACITY | ASSUMED CFM | REMARKS |
|----------------|--------------------------|-----------------------|------------------------------|-----------------------|----------------------|-------------|---|
| F-1 (5 TON) | ENTIRE BUILDING | TRANE XR90 TUX SERIES | 80,000 | 74,000 | 5 TON 14 SEER MIN | 2000 CFM | DIRECT VENT GAS FIRED FURNACE. 90% EFFICIENT HEAT MIN. 14 SEER MIN. SEE REQUIRED OUTDOOR VENT AIR SCHEDULE BELOW. PROVIDE O.A.I. DUCT W/ MOTORIZED DAMPER |
| F-2 (5 TON) | PUBLIC & SECURED DISPLAY | TRANE XR90 TUX SERIES | 80,000 | 74,000 | 5 TON 14 SEER MIN | 2000 CFM | DIRECT VENT GAS FIRED FURNACE. 90% EFFICIENT HEAT MIN. 14 SEER MIN. SEE REQUIRED OUTDOOR VENT AIR SCHEDULE BELOW. PROVIDE O.A.I. DUCT W/ MOTORIZED DAMPER |

REQUIRED OUTDOOR VENTILATION AIR

| OCCUPANCY CLASSIFICATION | OCCUPANT LOAD | OUTDOOR AIR (CUBIC FEET PER MINUTE (CFM) PER PERSON) UNLESS NOTED |
|--------------------------|---------------|---|
| CORRIDORS AND UTILITIES | N/A | .05 CFM PER SQ. FT. |
| PUBLIC TOILET ROOMS | N/A | 75 CFM EXHAUST PER WATER CLOSET |
| OFFICE SPACES | 2 | 20 CFM PER PERSON |
| RECEPTION AREAS | 36 | 15 CFM PER PERSON |

Contract # 97367
GENERAL NOTES

1. NO GENERAL NOTES ON THIS SHEET.

01.09.09 IDOT Submittal
Issued description

MECHANICAL PLAN & NOTES

CHESTER WELCOME CENTER

Chester, Illinois

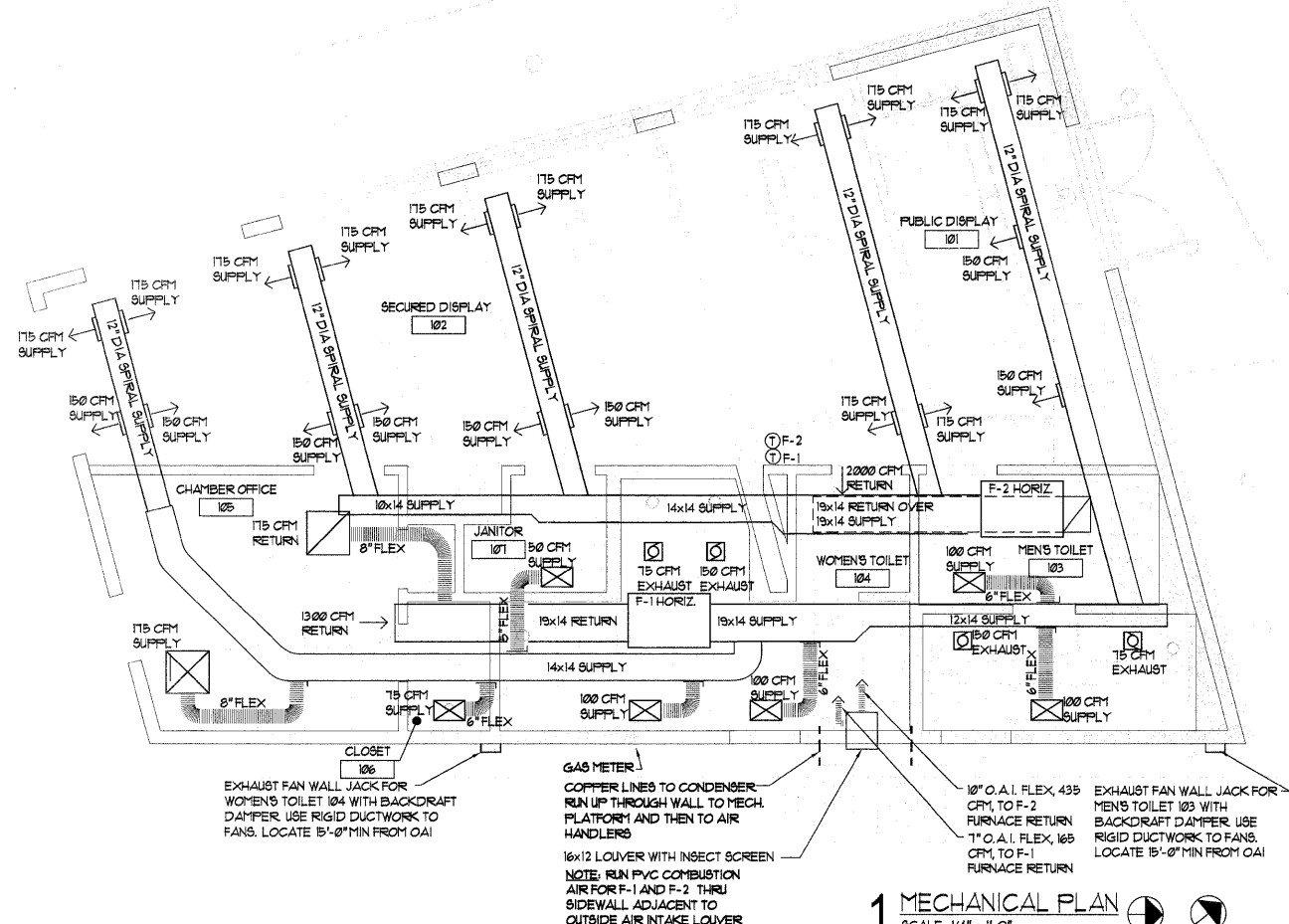
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job number 20525
drawn by JE
checked by MS
file name
scale

sheet

M1.1



1 MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

