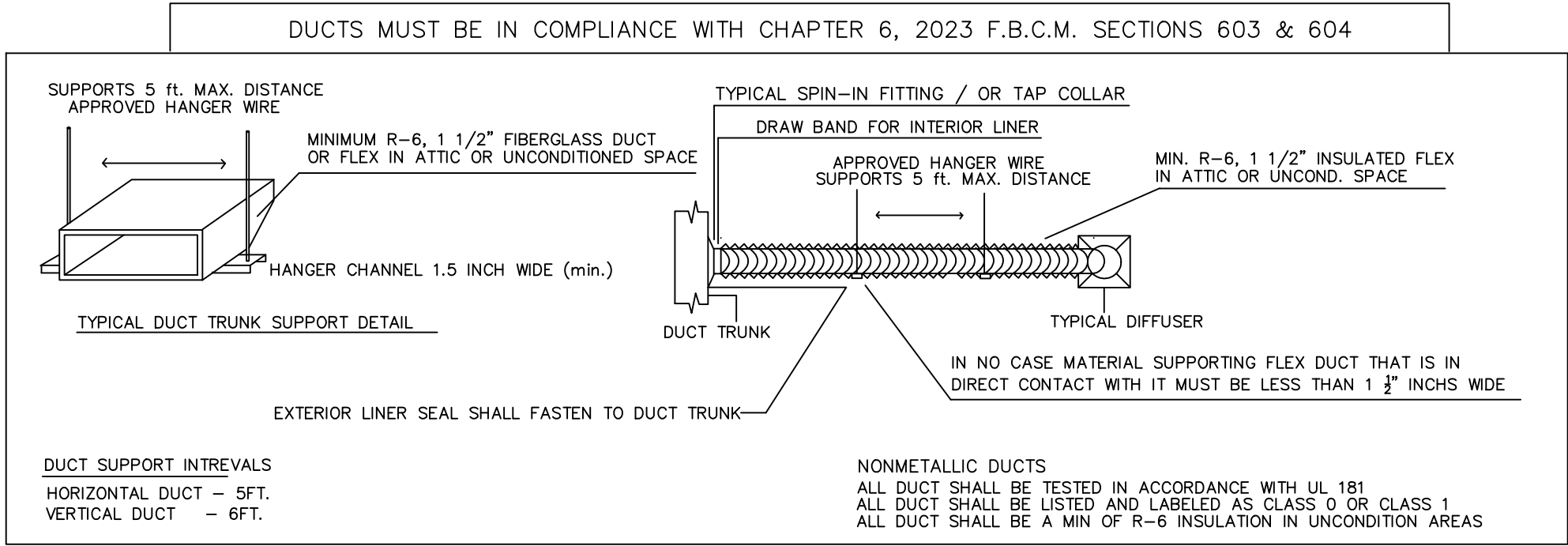
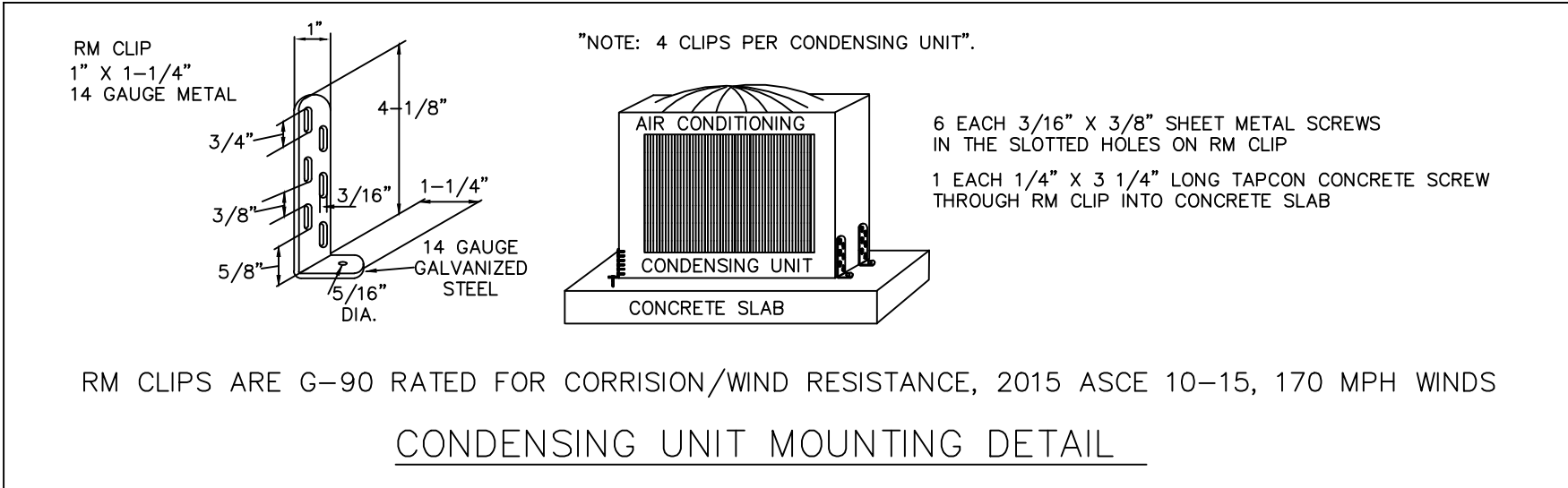
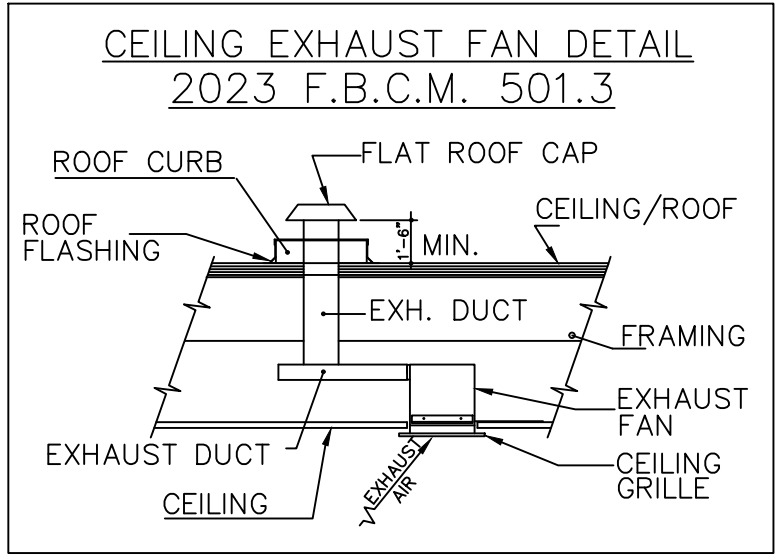
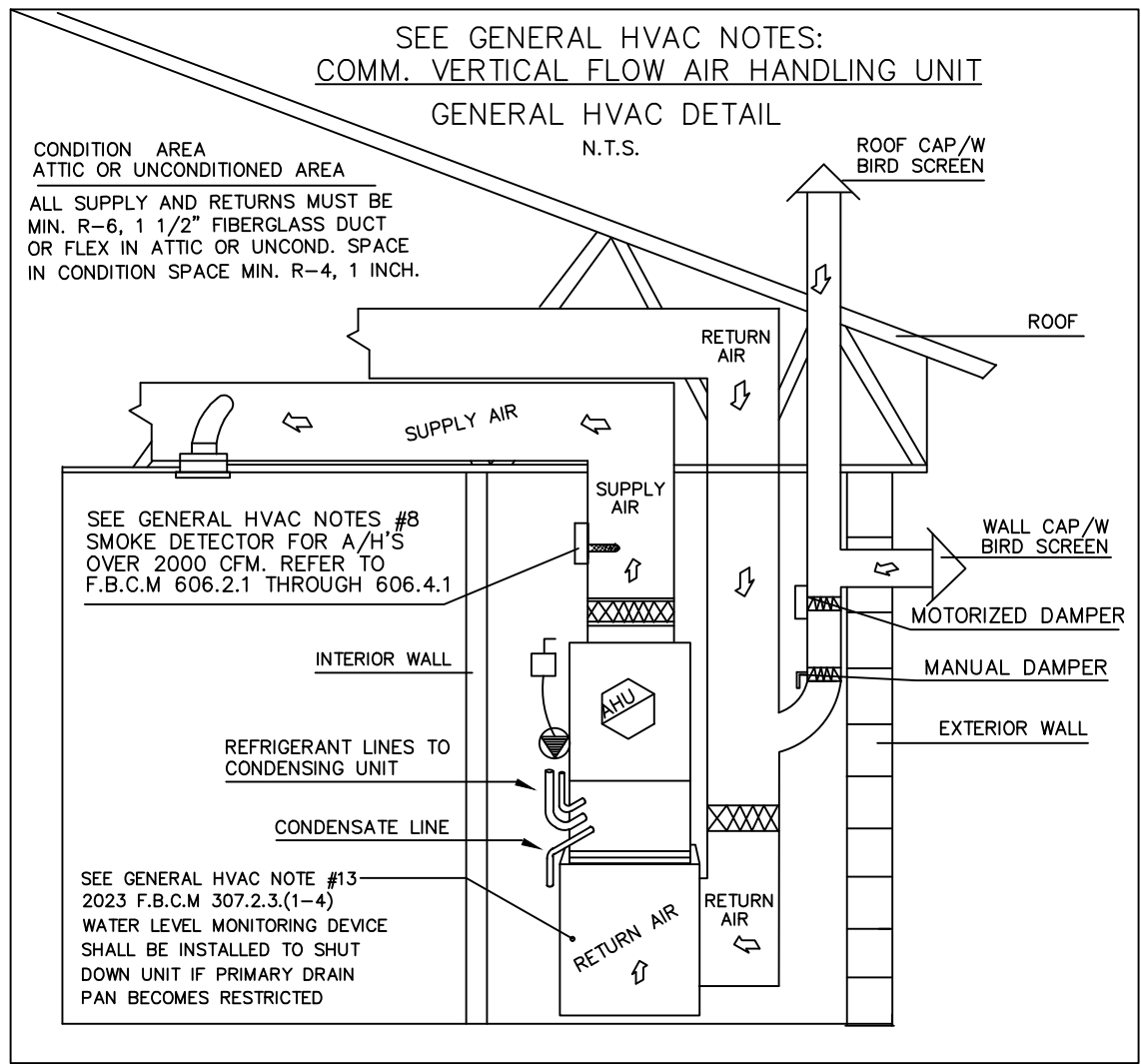
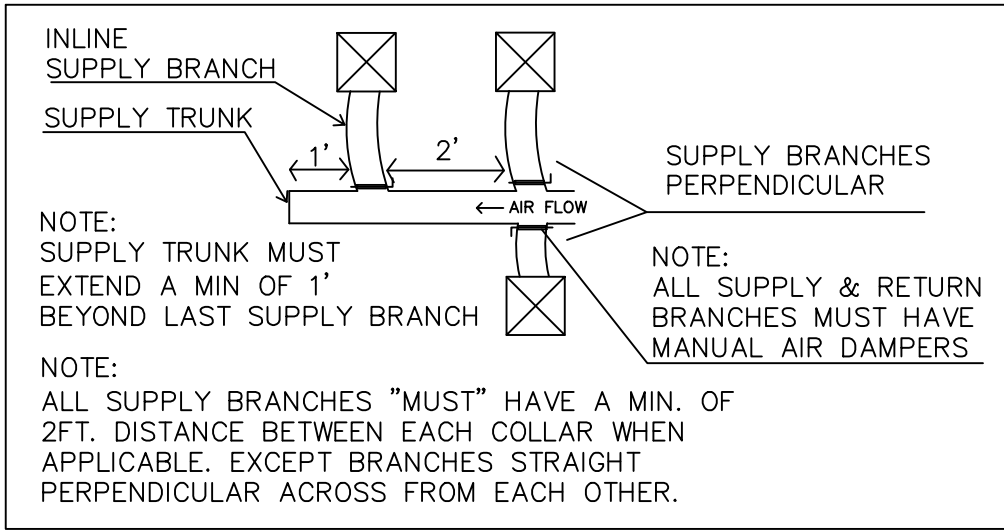
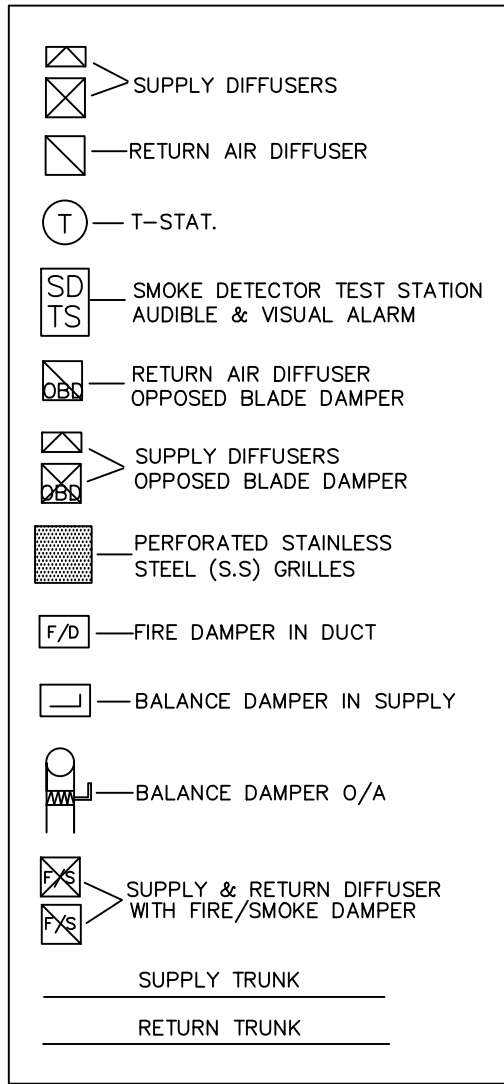


GENERAL HVAC NOTES ARE IN COMPLIANCE WITH 2023 F.B.C.M. AND F.B.C.EC [CE] COMMERCIAL

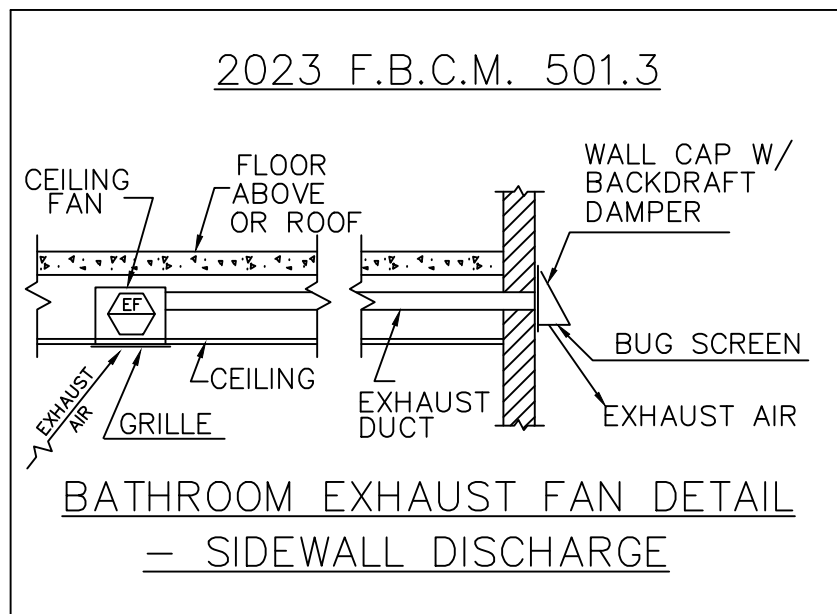
- [1] AN AIR DISTRIBUTION SYSTEM SHALL BE DESIGNED AND INSTALLED TO SUPPLY THE REQUIRED DISTRIBUTION OF AIR. THE INSTALLATION OF AN AIR DISTRIBUTION SYSTEM SHALL NOT AFFECT THE FIRE PROTECTION REQUIREMENTS SPECIFIED IN THE F.B.C.B. 2023. DUCTS SHALL BE CONSTRUCTED, BRACED, REINFORCED AND INSTALLED TO PROVIDE STRUCTURAL STRENGTH AND DURABILITY. REFER TO THE F.B.C.M. CHAPTER 6, SECTION 603 – DUCT CONSTRUCTION & INSTALLATION. A LEVEL WORKING SPACE NOT LESS THAN 30 INCHES DEEP AND 30 INCHES WIDE SHALL BE PROVIDED IN FRONT OF THE CONTROL SIDE TO SERVICE THE APPLIANCE. REFER TO F.B.C.M. 2023 CHAPTER 3, SECTION 306 – ACCESS & SERVICE
- [2] ALL DUCT SYSTEMS INSTALLED IN "NON-CONDITIONED" AREAS SHALL BE CONSTRUCTED WITH APPROVED MATERIAL AND OF A VALUE OF NO LESS THEN R-6 RATING. ALL SEAMS SHALL BE SEALED WITH GLASS FAB & MASTIC "OR" APPROVED TAPES THAT EXTEND NOT LESS THAN 1 INCH AND LABELED IN ACCORDANCE WITH THE UL-181A, PART 1 FOR DUCT BOARD OR UL 181B, PART 1 FOR FLEX. ALL THRU-WALL, FLOOR & CEILING PENETRATIONS INTO THE DUCT SECTION SHALL CONTAIN A BRANCH DUCT FABRICATED OF RIGID FIBROUS GLASS DUCT BOARD OR RIGID METAL AND IS SEALED TO BOTH DUCT SECTION AND GRILLE SIDE WALL SURFACE. THE BRANCH DUCT SHALL BE FABRICATED AND ATTACHED IN ACCORDANCE WITH 2023 F.B.C.M. CHAPTER 6, SECTION 603 AND 604 RESPECTIVE TO THE DUCT TAPE USED.
- [3] ALL DUCT TRUNK 90 DEGREE TURNS OR TEE'S, SHALL HAVE TURNING VANES. 3 PIECE OR 45 DEGREE TURNS CAN BE USED IN PLACE OF 90 DEGREE TURNS AND DO NOT NEED TURNING VANES.
- [4] EQUIPMENT AND APPLIANCES INSTALLED AT GRADE LEVEL SHALL BE SUPPORTED ON A LEVEL CONCRETE SLAB OR OTHER APPROVED MATERIAL EXTENDING NOT LESS THAN 3 INCHES (76MM) ABOVE ADJOINING GRADE OR SHALL BE SUSPENDED NOT LESS THAN 6 INCHES (152MM) ABOVE ADJOINING GRADE. SUCH SUPPORT SHALL BE IN ACCORDANCE WITH THE MANUFACTURE INSTALLATION INSTRUCTIONS. AS PER 2023 F.B.C.M. CHAPTER 3, SECTION 304.10
- [5] EACH ZONE SHALL BE PROVIDED WITH THERMOSTATIC SETBACK CONTROLS THAT ARE CONTROLLED BY EITHER TIME CLICK OR A PROGRAMMABLE CONTROL SYSTEM.
- [6] CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT A WRITTEN BALANCE REPORT BE PROVIDED TO OWNER OR DESIGNATED REPRESENTATIVE. AIR DISTRIBUTION SYSTEMS SHALL BE TESTED, ADJUSTED, AND BALANCED BY A LICENSED ENGINEER OF THIS STATE OR A THIRD PARTY COMPANY HOLDING A CURRENT TEST & BALANCE CERTIFICATION.
- [7] AIR BALANCING, SECTION 403.3.1.5 – THE VENTILATION AIR DISTRIBUTION SYSTEM SHALL BE PROVIDED WITH MEANS TO ADJUST THE SYSTEM TO ACHIEVE NOT LESS THAN THE MINIMUM VENTILATION AIRFLOW RATE AS REQUIRED BY SECTIONS 403.3 AND 403.3.1.2. VENTILATION SYSTEMS SHALL BE BALANCED BY AN APPROVED METHOD. SUCH BALANCING SHALL VERIFY THAT THE VENTILATION SYSTEM IS CAPABLE OF SUPPLYING AND EXHAUSTING THE AIRFLOW RATES REQUIRED BY SECTIONS 403.3 AND 403.3.1.2
- [8] SMOKE DETECTORS APPROVED FOR AIR DUCT USE SHALL BE INSTALLED ON THE SUPPLY SIDE OF AIR-HANDLING SYSTEMS AS REQUIRED BY NFPA 90A, STANDARD FOR THE INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS. SMOKE DETECTORS LISTED FOR USE IN AIR DISTRIBUTION SYSTEMS SHALL BE LOCATED DOWNSTREAM OF THE AIR FILTERS AND AHEAD OF ANY BRANCH CONNECTIONS IN THE AIR SUPPLY SYSTEMS HAVING A CAPACITY GREATER THAN 2000 CFM. THE DUCT SMOKE DETECTORS SHALL BE CONNECTED TO A FIRE ALARM SYSTEM WHERE A FIRE ALARM SYSTEM IS REQUIRED BY THE 'FLORIDA FIRE PREVENTION CODE'. THE ACTUATION OF A DUCT SMOKE DETECTOR SHALL ACTIVATE A VISIBLE AND AUDIBLE SUPERVISORY SIGNAL AT A CONSTANTLY ATTENDED LOCATION. IN FACILITIES THAT ARE REQUIRED TO BE MONITORED BY A SUPERVISING STATION, DUCT SMOKE DETECTORS SHALL REPORT ONLY AS A SUPERVISORY SIGNAL, NOT AS A FIRE ALARM. REFER TO F.B.C.M. CHAPTER 6, SECTION 606.2.1 THROUGH 606.4.1. WHERE MULTIPLE AIR-HANDLING SYSTEMS SHARE A COMMON SUPPLY WITH A COMBINED DESIGN CAPACITY GREATER THAN 2000 CFM, EACH SUPPLY AIR SYSTEM SHALL BE PROVIDED WITH SMOKE DETECTORS IN ACCORDANCE WITH SECTION 606.2.1. SMOKE DETECTORS REQUIRED BY THIS SECTION SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72. THE REQUIRED SMOKE DETECTORS SHALL BE INSTALLED TO MONITOR THE ENTIRE AIRFLOW CONVEYED BY THE SYSTEM. SMOKE DETECTORS SHALL NOT BE REQUIRED FOR FAN UNITS WHOSE SOLE FUNCTION IS TO REMOVE AIR FROM THE INSIDE OF THE BUILDING TO THE OUTSIDE OF THE BUILDING. ACCESS SHALL BE PROVIDED TO SMOKE DETECTORS FOR INSPECTION AND MAINTENANCE. REFER TO F.B.C.M. 2023 606.3 – INSTALLATION
- [9] FIRE DAMPERS, SMOKE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS AND CEILING RADIATION DAMPERS LOCATED WITHIN AIR DISTRIBUTION AND SMOKE CONTROL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION, AND THE MANUFACTURER'S INSTRUCTIONS AND LISTING. REFER TO F.B.C.M. 2023 CHAPTER 607.2 – INSTALLATION DAMPERS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH THE STANDARDS IN THE SECTION. FIRE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF UL 555. ONLY FIRE DAMPERS AND CEILING RADIATION DAMPERS LABELED FOR USE IN DYNAMIC SYSTEMS SHALL BE INSTALLED IN HEATING, VENTILATING AND AIR-CONDITIONING SYSTEMS DESIGNED TO OPERATE WITH FANS ON DURING A FIRE. SMOKE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF UL 555S. COMBINATION FIRE/SMOKE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF BOTH UL 555 AND UL 555S. CEILING RADIATION DAMPERS SHALL COMPLY WITH THE REQUIREMENTS IF UL 555C OR SHALL BE TESTED AS PART OF A FIRE-RESISTANCE-RATED FLOOR/ CEILING OR ROOF/CEILING ASSEMBLY IN ACCORDANCE WITH ASTM E119 OR UL 263. CORRIDOR DAMPERS SHALL COMPLY WITH REQUIREMENTS OF BOTH UL 555 AND UL 555S. CORRIDOR DAMPERS SHALL DEMONSTRATE ACCEPTABLE CLOSURE PERFORMANCE WHEN SUBJECTED TO 150 FEET PER MINUTE (0.76 MPS) VELOCITY ACROSS THE FACE OF THE DAMPER USING THE UL 555 FIRE EXPOSURE TEST. REFER TO F.B.C.M. 2023 CHAPTER 6 SECTION 607.3.1 – DAMPER TESTING ALL DAMPERS LOCATED AT CEILING OR WALL PENETRATIONS MUST HAVE AN ACCESS DOOR TO RESET DAMPER UNLESS THE DAMPER IS IN THE DIFFUSER, THAN IT CAN BE RESET THROUGH THE DIFFUSER. WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED INSIDE THE DUCT OR OUTSIDE THE DUCT WITH SAMPLING TUBES PROTRUDING INTO THE DUCT. THE DETECTOR OR TUBES WITHIN THE DUCT SHALL BE WITHIN 5 FEET OF THE DAMPER. AIR OUTLETS AND INLETS SHALL NOT BE LOCATED BETWEEN THE DETECTOR OR TUBES AND THE DAMPER. F.B.C.M 2023 607.3.3.2 DAMPER ACTUATION SHALL BE IN ACCORDANCE WITH SECTIONS 607.3.3.1 THROUGH 607.3.3.4 AS APPLICABLE. CORRIDOR DAMPER ACTUATION SHALL BE IN ACCORDANCE WITH SECTIONS 607.3.3.1 AND 607.3.3.2
- [10] ENCLOSED SUPPORT PLATFORMS SHALL BE CONSTRUCTED IN ACCORDANCE TO F.B.C.M. 2023 CHAPTER 6.
- [11] FRESH AIR INTAKES SHALL NOT BE LOCATED CLOSER THAN 10 FT. FROM ANY CHIMNEY OR VENT OUTLET, OR SANITARY SEWER VENT OUTLET. ALL OUTDOOR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN VENTILATION IS NOT OPERATING. F.B.C.M. 2023, SECTION 401.4
- [12] ALL EXHAUST DUCTS, SHALL BE CONSTRUCTED OF METAL AND COMPLY WITH F.B.C.M. 2023 CHAPTER 5, SECTION 501.5
- [13] CONDENSATE FROM ALL COOLING COILS AND EVAPORATORS SHALL BE CONVEYED FROM THE DRAIN PAN OUTLET TO AN APPROVED PLACE OF DISPOSAL. SUCH PIPING SHALL MAINTAIN A MINIMUM HORIZONTAL SLOPE IN THE DIRECTION OF DISCHARGE OF NOT LESS THAN ONE-EIGHTH UNIT VERTICAL IN 12 UNITS HORIZONTAL (1-PERCENT SLOP). CONDENSATE SHALL NOT DISCHARGE INTO ANY STREET, ALLEY OR OTHER AREA AS TO CAUSE A NUISANCE. CONDENSATE DRAINS SHALL NOT DIRECTLY CONNECT TO ANY PLUMBING DRAIN, WASTE OR VENT PIPE. CONDENSATE DRAINS SHALL NOT DISCHARGE INTO A PLUMBING FIXTURE OTHER THAN A FLOOR SINK, FLOOR DRAIN, TRENCH DRAIN, MOP SINK, HUB DRAIN, STANDPIPE, UTILITY SINK OR LAUNDRY SINK. CONDENSATE DRAIN CONNECTIONS TO A LAVATORY WYE BRANCH TAILPIECE OR TO A BATHTUB OVERFLOW PIPE SHALL NOT BE CONSIDERED AS DISCHARGING TO A PLUMBING FIXTURE. EXCEPT WHERE DISCHARGING TO A GRADE OUTDOORS, THE POINT OF DISCHARGE OF CONDENSATE DRAINS SHALL BE LOCATED WITHIN THE SAME OCCUPANCY, TENANT SPACE OR DWELLING UNIT AS THE SOURCE OF THE CONDENSATE. F.B.C.M.2023 SECTION 307.2.1.1 IN ADDITION TO THE REQUIREMENTS OF SECTION 307.2.1, WHERE DAMAGE TO ANY BUILDING COMPONENTS COULD OCCUR AS A RESULT OF OVERFLOW FROM THE EQUIPMENT PRIMARY CONDENSATE REMOVAL SYSTEM, AN AUXILIARY PROTECTION METHOD SHALL BE PROVIDED FOR EACH COOLING COIL OR FUEL-FIRED APPLIANCE THAT PRODUCES CONDENSATE. REFER TO F.B.C.M 2023 CHAPTER 3, SECTION 307.2.3 #1 THRU #4. CONDENSATE DRAIN SYSTEMS SHALL BE DESIGNED, CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH F.B.C.M. 2023 CHAPTER 3, SECTIONS 307.2.1 THROUGH 307.2.5 CONDENSATE WASTE AND DRAIN LINE SIZE SHALL BE NOT LESS THAN 3/4" INTERNAL DIAMETER AND SHALL NOT DECREASE IN SIZE FROM THE DRAIN PAN CONNECTION TO THE PLACE OF CONDENSATE DISPOSAL. WHERE THE DRAIN PIPES FROM ONE UNIT ARE MANIFOLDED TOGETHER FOR CONDENSATE DRAINAGE, THE PIPE OR TUBING SHALL BE SIZED IN ACCORDANCE WITH F.B.C.M. 2023 CHAPTER 3, TABLE 307.2.2 ALL HORIZONTAL PRIMARY DRAIN LINES WITHIN UNCONDITIONED AREAS SHALL BE INSULATED DUCTLESS MINI-SPLIT EQUIPMENT THAT PRODUCES CONDENSATE SHALL BE PROVIDED WITH AN INLINE CHECK VALVE LOCATED IN THE DRAIN LINE OR A TRAP. REFER TO F.B.C.M. 2023 CHAPTER 3, SECTION 307.2.4.1 CONDENSATE PUMPS LOCATED IN UNINHABITABLE SPACES, SUCH AS ATTICS AND CRAWL SPACES, SHALL BE CONNECTED TO THE APPLIANCE OR EQUIPMENT SERVED SUCH THAT WHEN THE PUMP FAILS, THE APPLIANCE OR EQUIPMENT WILL BE PREVENTED FORM OPERATING. PUMPS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' INSTRUCTIONS.
- [14] BATHROOMS CONTAINING BATHTUBS, SHOWERS, SPAS AND SIMILAR BATHING FIXTURES SHALL BE MECHANICALLY VENTILATED. "EXCEPTION" RESIDENTIAL BATHROOMS HAVING NO LESS THAN 4 PERCENT OF FLOOR SPACE. F.B.C.M. 2023 CHAPTER 4, SECTION 402.2
- [15] ALL AIR DISTRIBUTION COMPONENTS WILL BE INSTALLED IN ACCORDANCE TO 2023 F.B.C.M. AND F.E.C.C.
- [16] IF HVAC EQUIPMENT OTHER THAN SPECIFIED BY DESIGNER IS SUBSTITUTED, IT'S CAPABILITIES OF BTU REMOVAL MUST BE EQUAL TO THE EQUIPMENT SPECIFIED BY THE HVAC DESIGNER.
- [17] THE HVAC DESIGNER WILL NOT BE RESPONSIBLE FOR ANY SYSTEM NOT INSTALLED ACCORDING TO PLANS.



| AHU #1 – OUTSIDE AIR SCHEDULE | | |
|-------------------------------|--|-------|
| SPACE | OCCUPANTS | CFM'S |
| OFFICE #1 | .06 CFM X 200 SQ.FT. = 12 CFM 5 CFM X 2 OCC. = 10 CFM | 22 |
| OFFICE #2 | .06 CFM X 200 SQ.FT. = 12 CFM 5 CFM X 2 OCC. = 10 CFM | 22 |
| OFFICE #3 | .06 CFM X 200 SQ.FT. = 12 CFM 5 CFM X 2 OCC. = 10 CFM | 22 |
| OFFICE #4 | .06 CFM X 200 SQ.FT. = 12 CFM 5 CFM X 2 OCC. = 10 CFM | 22 |
| WAITING & LOBBY | .06 CFM X 380 SQ.FT. = 23 CFM 5 CFM X 4 OCC. = 20 CFM | 43 |
| RECEPTIONIST | .06 CFM X 224 SQ.FT. = 13 CFM 5 CFM X 2 OCC. = 10 CFM | 23 |
| WC CLST #1 | .06 CFM X 34 SQ.FT. = 2 CFM | 2 |
| WC CLST #2 | .06 CFM X 34 SQ.FT. = 2 CFM | 2 |
| TOTAL | | +158 |

OUTSIDE AIR AS PER 2023 F.B.C.M.
CHAPTER 4, SECTION 403.3

| BALANCE AIR SCHEDULE | | |
|----------------------|---|-------|
| POS / NEG | SPACE | CFM'S |
| POSITIVE-AHU #1 | RECEPTIONIST/OFFICES/CLOSETS WAITING & LOBBY | +158 |
| NEGATIVE | BATHROOM EXHAUST FANS | -70 |
| TOTAL | BUILDING PRESSURE | +88 |



| H.V.A.C. EQUIPMENT SCHEDULE | | | | | | | | | | NOTE: ELECTRIC REQUIREMENT FOR EQUIPMENT TO BE FIELD VERIFIED BY ELECTICTIAN/MECHANICAL CONTRACTOR. | | | | | | | |
|-----------------------------|-----------------------|---|----------|--------|-------------------------------|------------------------|---------------|-------------|---------------|---|-----------------|-------------------|-------------|------|------------|-------------|----------------|
| A/C | MFG. "OR EQUAL" | MODEL NO. "EQUAL OR BETTER" | SENSIBLE | LATENT | TOTAL—BTUH COOLING/HEATING | | SEER SEER2 | EER EER2 | HSPF HSPF2 | VOLTAGE | RLA. | M.C.A. | MOCP | CFM | O/A CFM | O/A LINE | UNIT WEIGHT |
| 1 | CARRIER #208081293 | AHU: FV4CNB006L00 COND: GA55AN46000W | 42920 | 15080 | 5 TON 58000 | 34121 BTU/h 10KW | --- 14.5 | N/A 12.5 | N/A N/A | 1/60 208—230 | 36.2/40 26.4 | 53.8/58.5 34.2 | 60/60 50 | 1800 | 158 | 6" | 198# 215# |
| | | | | | | | | | | | | | | | | | |

| BATHROOM EXHAUST FAN SCHEDULE | | | | | | |
|-------------------------------|--------|---------------------|-----|-------|-------|-----------|
| FAN# | MFG | EXHAUST FAN TYPE | CFM | VOLTS | PART# | DUCT DIA. |
| 1 | DAYTON | CEILING EXHAUST FAN | 70 | 120 | 1UBH6 | 6" MTL |
| | | | | | | |

HVAC

PROJECT #: 61680124C

THIS HVAC SYSTEM AS DESIGNED IS IN COMPLIANCE WITH 2023 F.B.C.M. AND THE 2023 F.B.C.EC [CE] COMMERCIAL

EFFICIENT ENERGY SERVICES, INC.
ROY ABOOD STATE OF FLORIDA RATER
RES. # 1316 COMM. #1361
P.O. BOX 1007 ALTOONA, FL. 32702
PHONE - 352-669-9090
FAX - 352-669-7526

KYLE MCLEOD OFFICES
NW REAL TERRACE
LAKE CITY, FL 32055

FLORIDA

COLUMBIA COUNTY

DATE: 01/11/2024
REVISED:

SHEET NUMBER

M-2