

1 HVAC FLOOR PLAN
M1.0 1/4" = 1'-0"

X FLOOR PLAN KEYNOTES

- 1 REMOTE TEST STATION FOR SMOKE DETECTORS FOR RTU-1, 2, & 3. TEST STATION TO BE MOUNTED ON THE MANAGERS OFFICE WALL. SECURITY CONTRACTOR SHALL WIRE RTU FACTORY MOUNTED SMOKE DETECTORS TO SECURITY/FIRE ALARM PANEL. MECHANICAL CONTRACTOR SHALL PROVIDE TEST STATION AND WIRING BETWEEN COMPONENTS AS WELL AS WIRING TO SHUT DOWN THE A/C FAN UPON ACTIVATION OF THE SMOKE DETECTOR. G.C. TO TEST THE SMOKE DETECTOR FUNCTIONS WITH THE WAWA PROJECT MANAGER.
- 2 TRANSFER AIR DUCT ASSEMBLY.
- 3 WALL MOUNTED SENSOR(S) FOR EACH MECHANICAL UNIT, AS SCHEDULE ON SHEET M3.0. G.C. SHALL INSTALL AND WIRE TO UNIT.
- 4 WALL MOUNTED CO2 SENSOR TO RTU-1. SENSOR TO MONITOR CO2 LEVELS THROUGH REMOTE BAS.
- 5 ROUTE DUCT THROUGH ANGLED WEB MEMBER AND SUPPORT AT PANEL POINT.
- 6 DUCTWORK TO RUN WITHIN JOIST SPACING. MECHANICAL CONTRACTOR TO COORDINATE MECHANICAL WORK WITH ALL TRADES PRIOR TO INSTALLATION.
- 7 CONNECT TO BOTTOM OF MAIN DUCT.
- 8 EF-1 SPEED CONTROLLER SHALL BE MOUNTED ON INSIDE OF FAN COVER BY MECHANICAL CONTRACTOR AND SET BY THE BALANCER.
- 9 ROUTE DUCT TIGHT TO UNDERSIDE OF JOIST
- 10 EXHAUST DUCT UP TO ROOF MOUNTED EXHAUST FAN. SEE ROOF PLAN FOR CONTINUATION.
- 11 RETURN DUCT PLENUM UP TO RTU FULL SIZE OF UNIT CONNECTION
- 12 SUPPLY DUCT PLENUM DOWN FROM RTU FULL SIZE OF UNIT CONNECTION.
- 13 DUCT TO PASS BELOW BEAM IN THIS AREA. COORDINATE WITH STRUCTURE.
- 14 MOUNT SUPPLY DIFFUSER IN LOWER CEILING AT THIS LOCATION.
- 15 MOUNT CENTER OF EXHAUST GRILLE AT 12" ABOVE FINISHED FLOOR. ROUTE DUCT SIZED AS SHOWN FROM GRILLE. UP IN WALL CAVITY TO ABOVE CEILING, THEN TO EXHAUST FAN AND OUT TO EXTERIOR WALL LOUVER. COORDINATE DUCT ROUTING WITH ALL OTHER TRADES.
- 16 12"x8" EXTERIOR WALL WIND DRIVEN RAIN LOUVER MODEL EHH-601 AS MANUFACTURED BY GREENHECK. INSTALL PER MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS. PROVIDE WITH BIRD SCREEN, 1-1/2" FLANGE, AND ALUMINUM MILL FINISH.
- 17 EMERGENCY SHUTOFF SWITCH AND WALL PLACARD INDICATING VENTILATION SYSTEM EMERGENCY SHUTOFF PROVIDED BY OTHERS. REFERENCE ELECTRICAL AND ARCHITECTURAL DRAWINGS.
- 18 HEATER SHALL BE A MINIMUM OF 12" AWAY FROM ANY WALL.

PERMITTING NOTE:

ALL REFRIGERATION EQUIPMENT INCLUDING WALK-IN COOLERS AND REFRIGERATORS WILL BE SUBMITTED UNDER A SEPARATE PERMIT.

SHEET GENERAL NOTE:

MECHANICAL CONTRACTOR SHALL ADJUST ALL LINEAR SLOT DIFFUSERS TO A GENERALLY VERTICAL FLOW. ADJUSTMENT SHALL BE MADE SO AS TO AVOID AIRFLOWS ON SENSORS, REFRIGERATION CASES, OR OPEN FOOD REFRIGERATION EQUIPMENT.

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JOSE J. DIAZ-VELAZQUEZ,
PROFESSIONAL ENGINEER

CLIENT NAME
WAWA
2600 W. BALTIMORE PIKE
WAWA, PA 19083

PROJECT NAME
U45FB-V2021.1-MA
STORE #6446
RT. 206 & FLANDERS NETCONG RD.,
MOUNT OLIVE, NJ

SHEET TITLE
HVAC FLOOR PLAN

04/28/2022

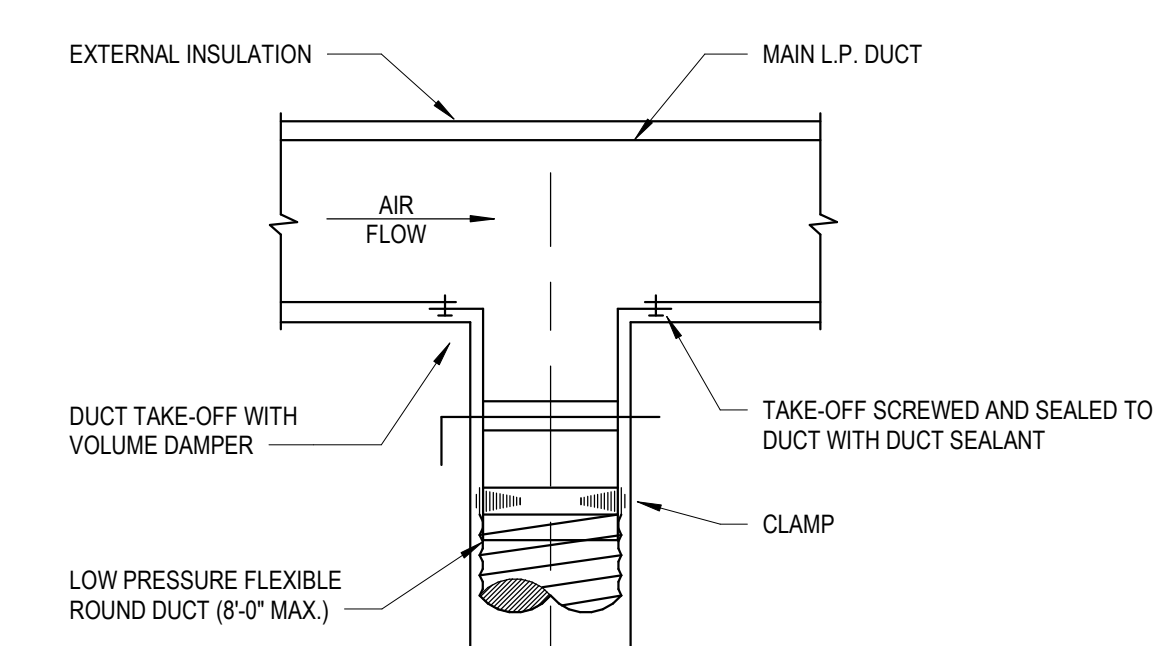
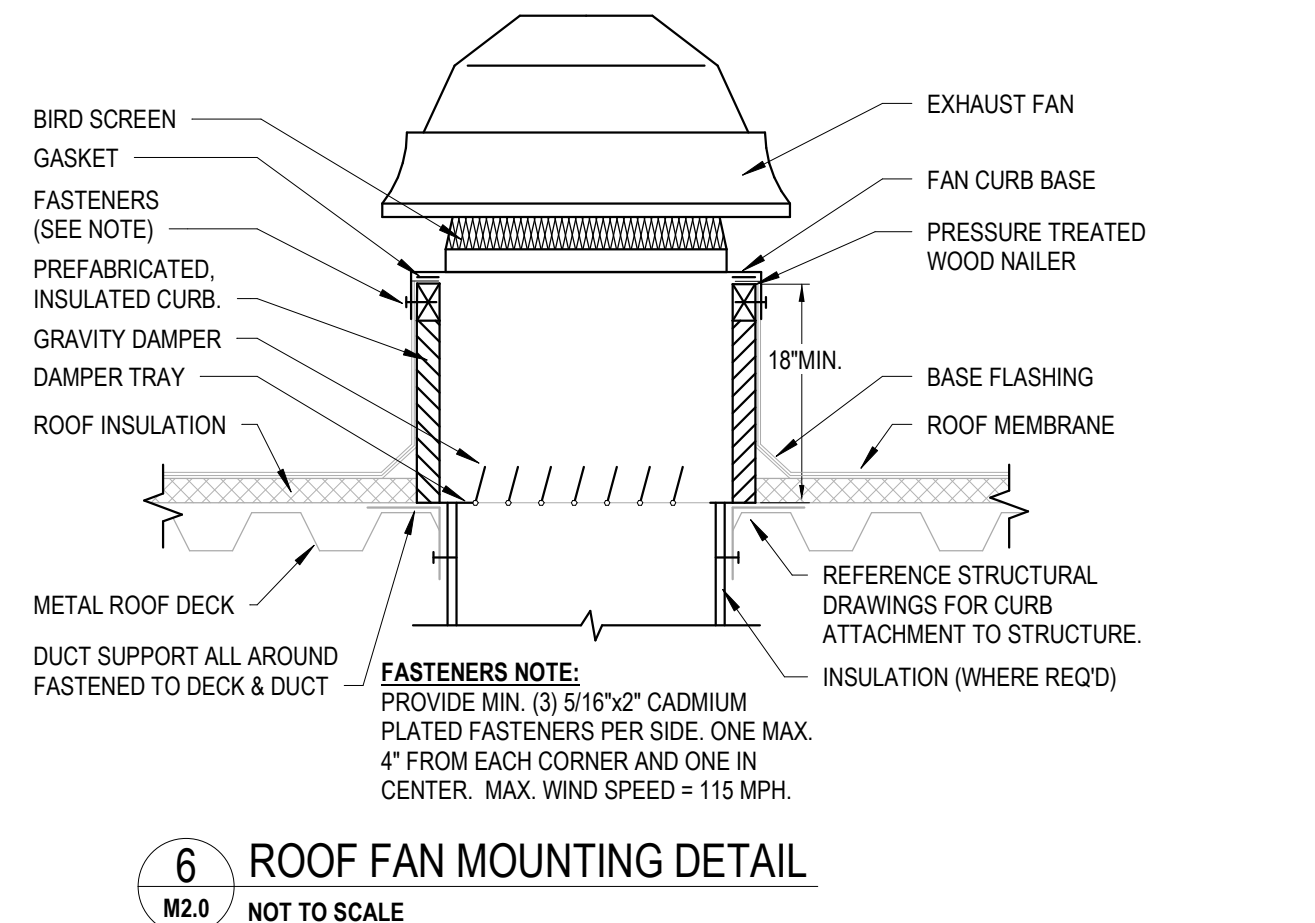
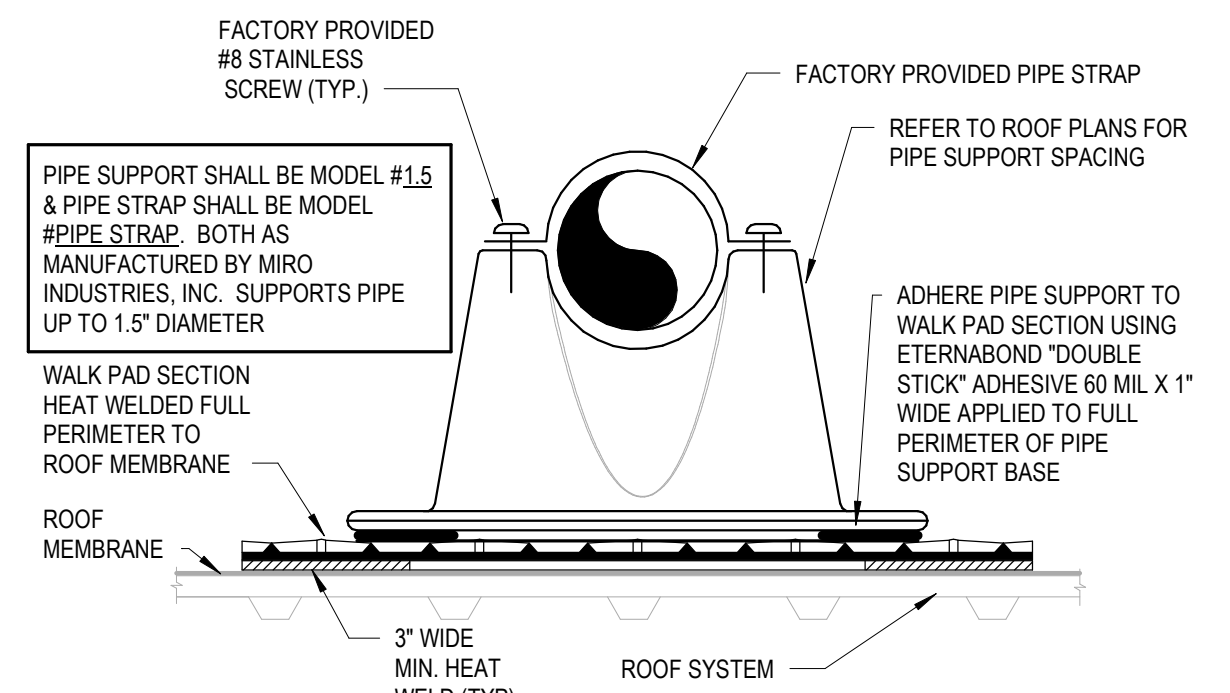
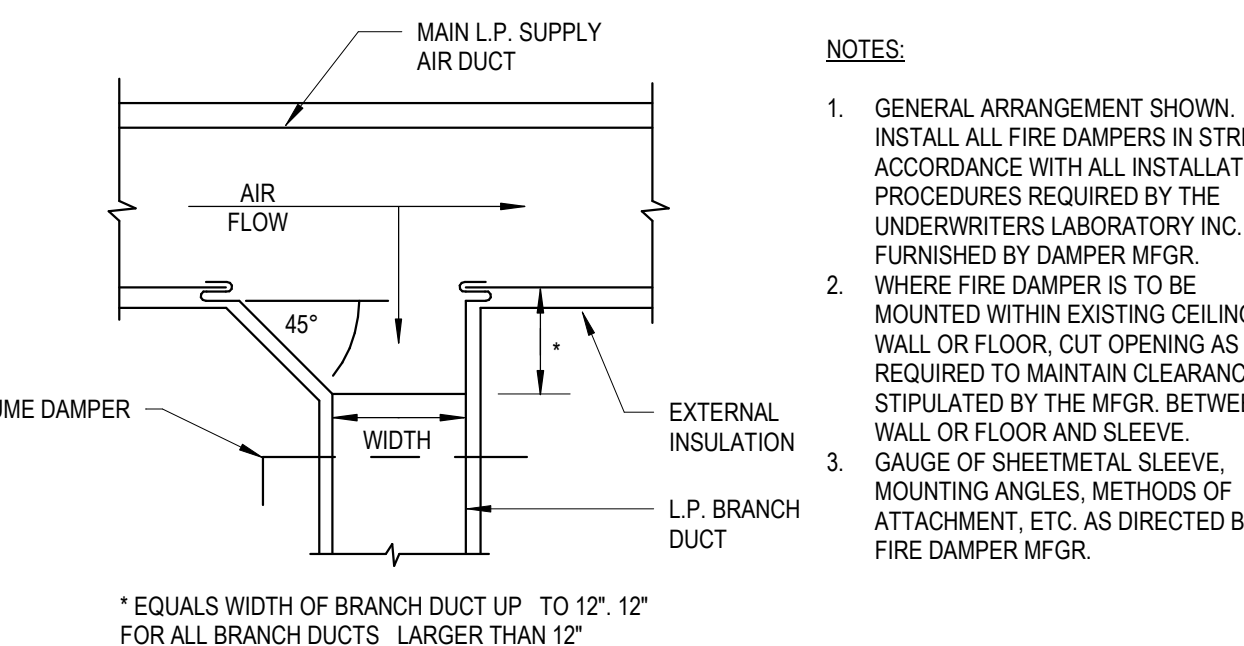
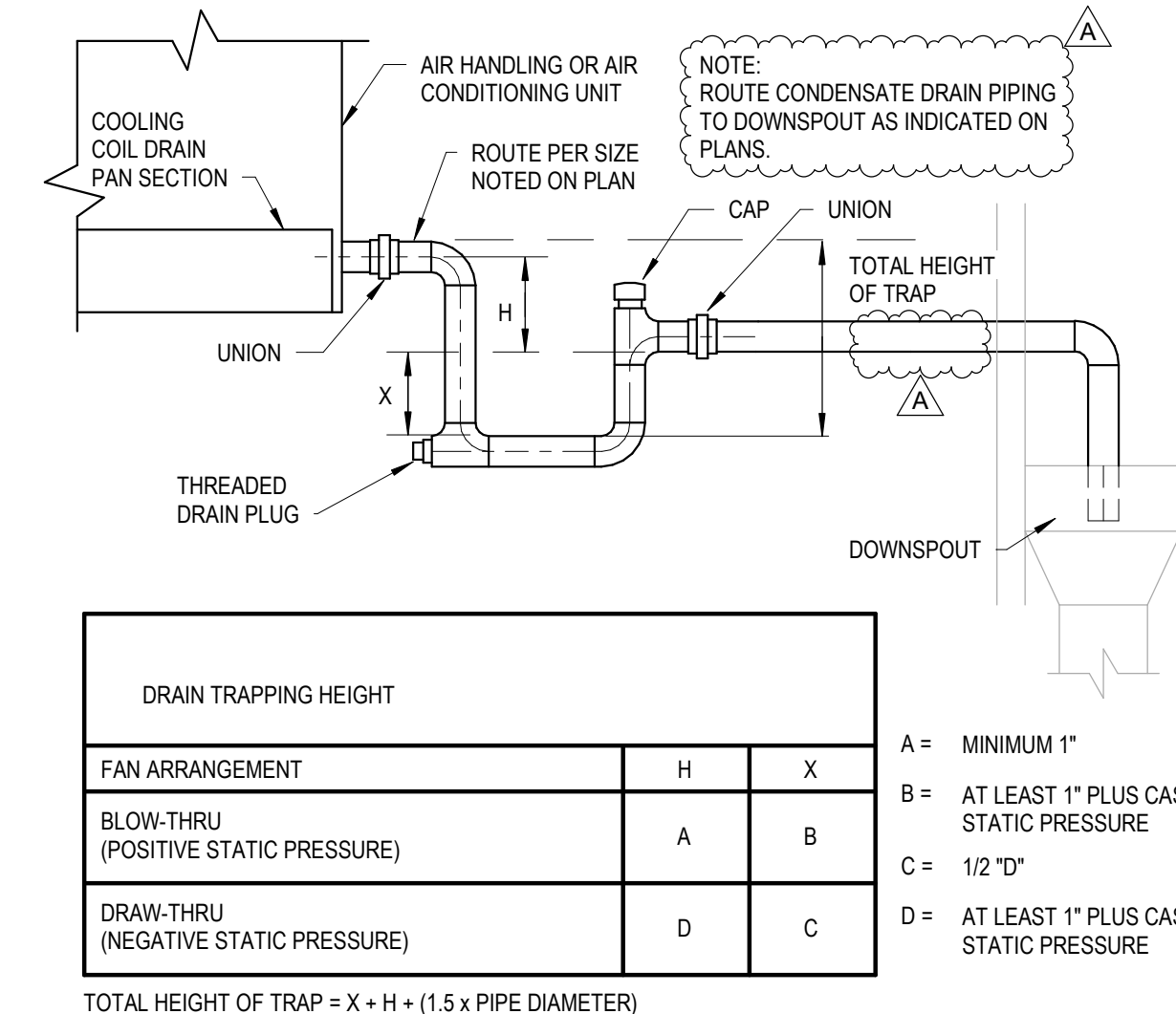
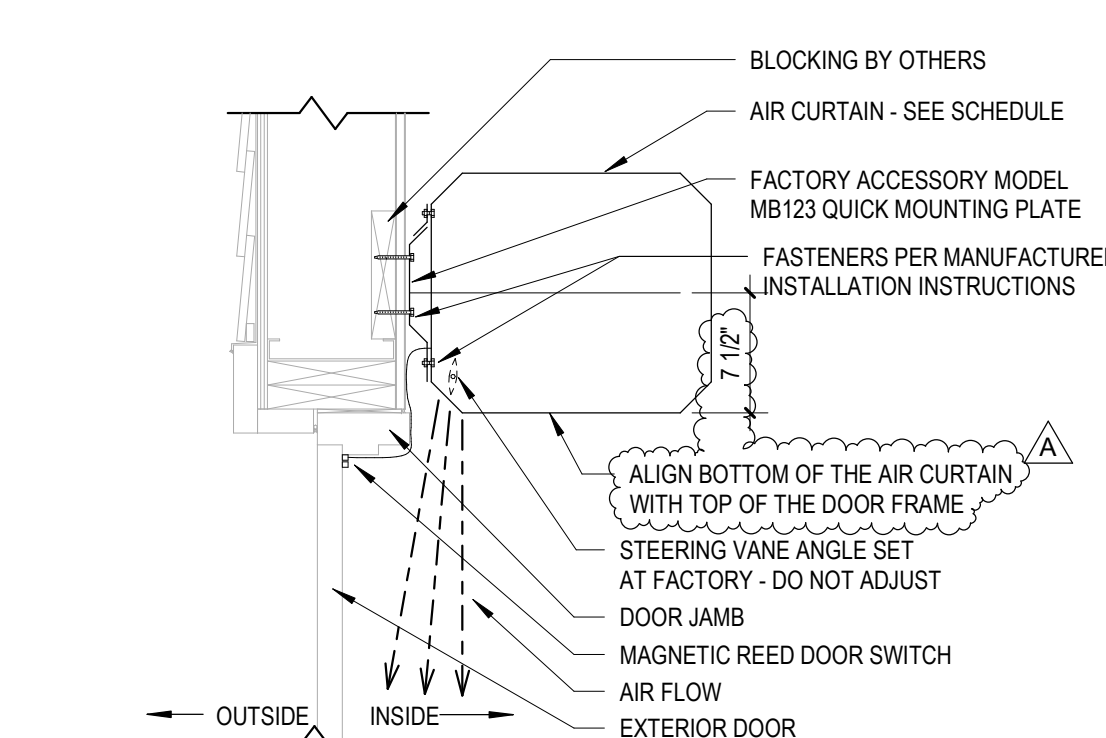
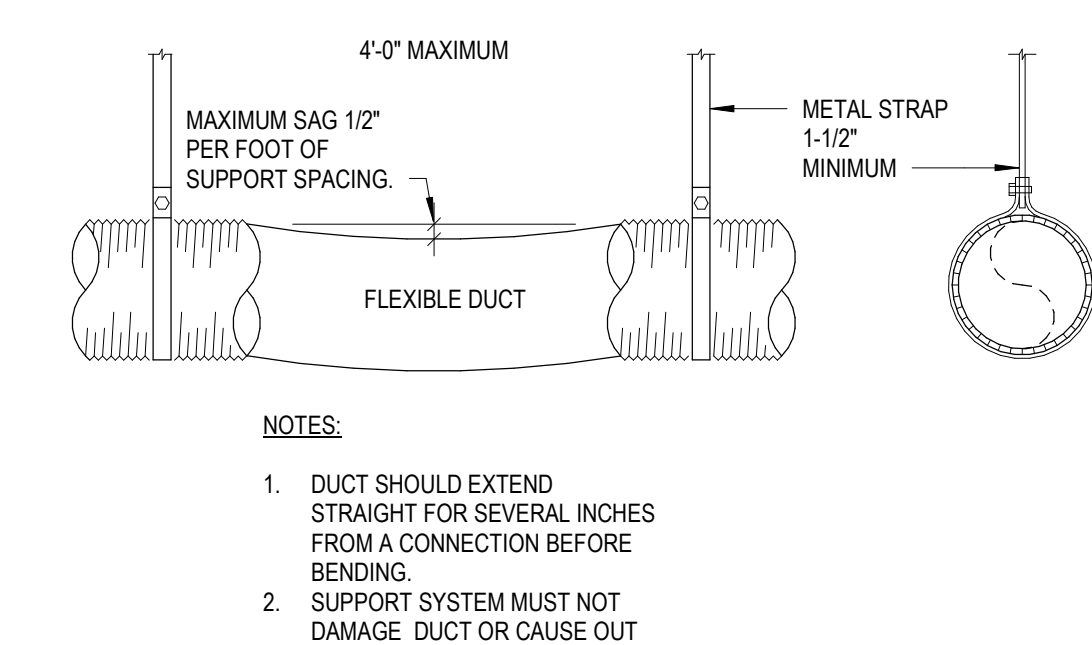
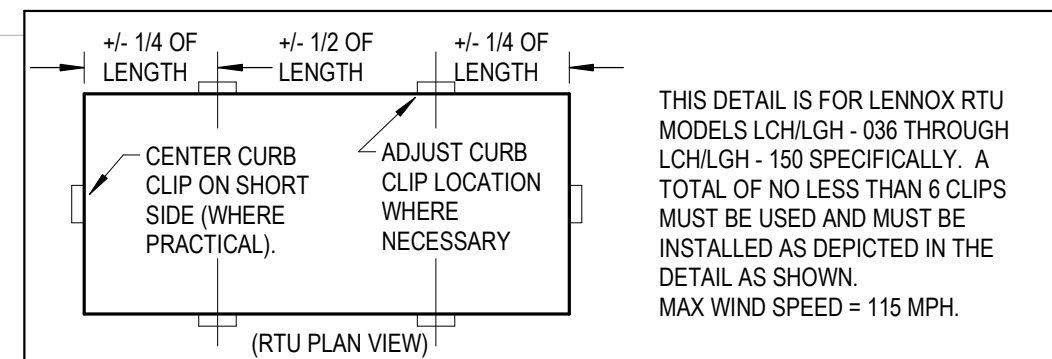
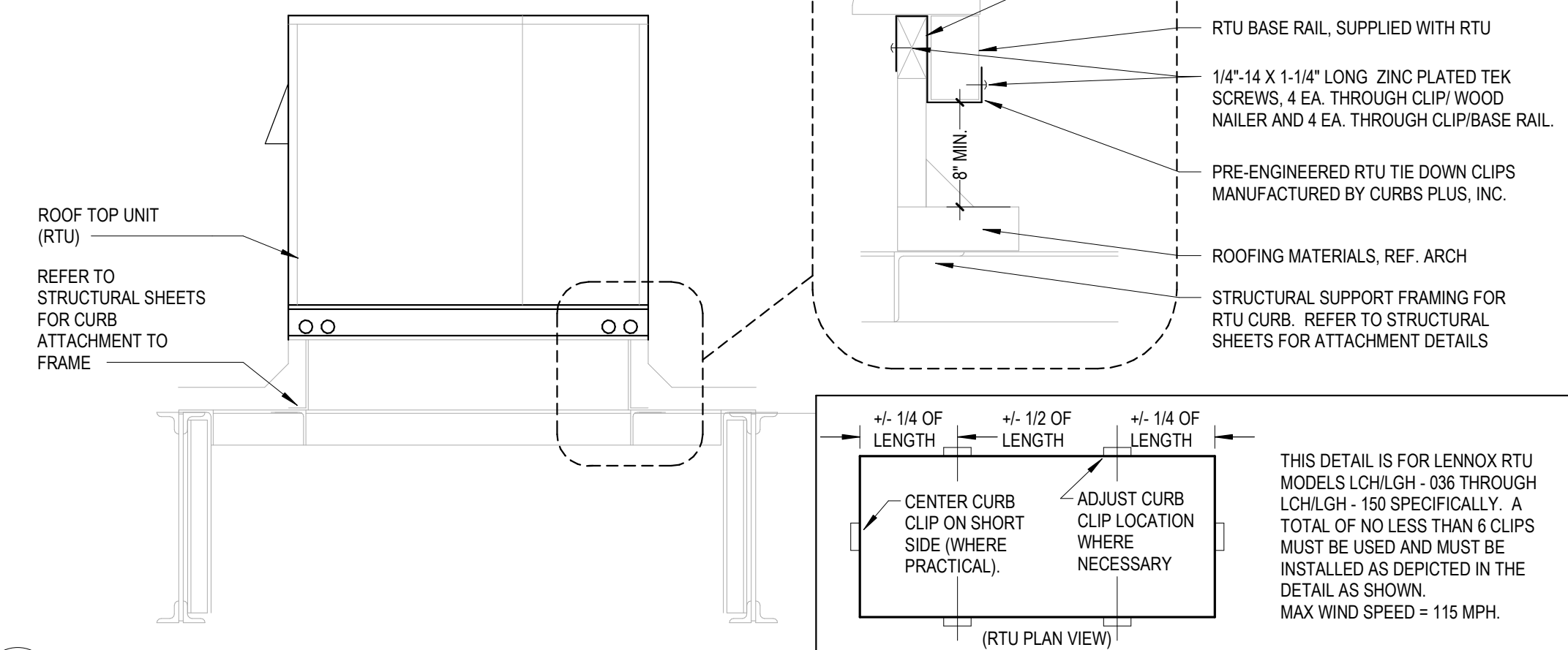
| Revision Schedule | |
|-------------------|---------------------|
| No. | Description |
| 1 | PERMIT SET |
| 2 | PRE-BID SET |
| 3 | BID SET |
| 4 | MECHANICAL REVISION |
| 5 | CONSTRUCTION SET |

| | | | |
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| PROJECT NO. 2188083 | DATE 11-04-2021 | DRAWN AG | CHECKED BT |
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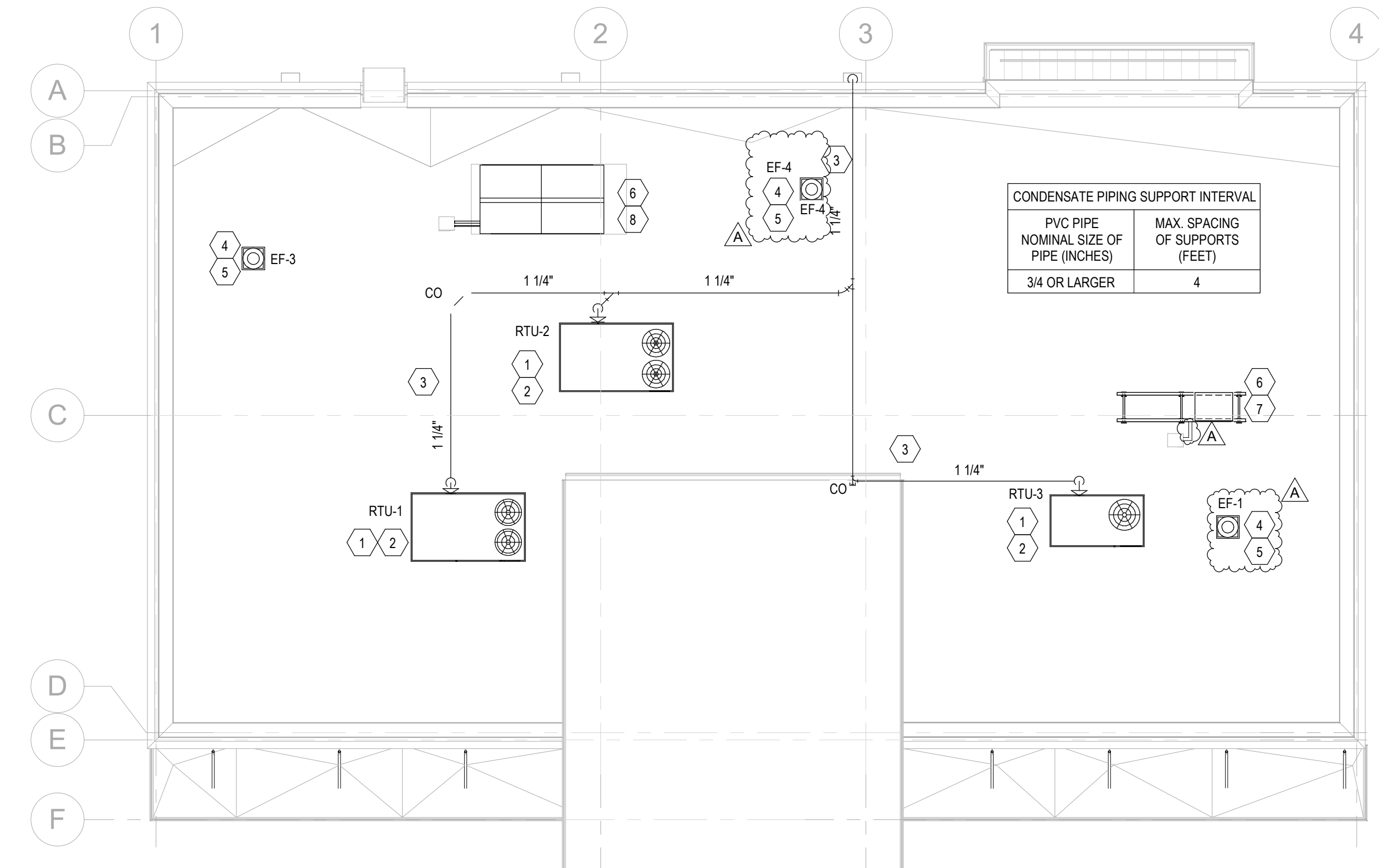
M1.0

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| | |
|-------------------|---------------------------------------|
| BUILDING LOCATION | WIND SPEED ZONE (IBC FIGURE 1609A) |
| MOUNT OLIVE, NJ | 115 MPH |



- ROOF PLAN KEY NOTES**
- FACTORY INSTALLED SMOKE DETECTOR IN MAIN SUPPLY AND RETURN OF EACH ROOF TOP UNIT.
 - PROVIDE FLEXIBLE CONNECTIONS BETWEEN ALL DUCT WORK AND MECHANICAL UNITS.
 - ROUTE SCH. 40 PVC CONDENSATE DRAIN PIPING ALONG ROOF. SUPPORT PIPING PER DETAIL ON SHEET M2.0
 - INSTALL ROOF MOUNTED EXHAUST FAN PER DETAIL ON SHEET M2.0 COORDINATE EXACT LOCATION OF FAN PENETRATION WITH ARCHITECTURAL ROOF PLAN. TRANSITION GALVANIZED DUCT WORK AS NECESSARY FROM FAN INTO CEILING/JOIST SPACE. SEE SHEET M1.0 FOR CONTINUATION.
 - MAINTAIN A MINIMUM 10' CLEARANCE BETWEEN OUTSIDE AIR INTAKES AND EXHAUST TERMINATIONS ON ROOF.
 - FOOD SERVICE REFRIGERATION EQUIPMENT PROVIDED BY OTHERS.
 - FOOD SERVICE REFRIGERATION EQUIPMENT MOUNTED ON PRE-ENGINEERED RACK. SEE DETAIL ON SHEET A3.0
 - FOR SPECIFIC WIND LOADING REQUIREMENTS NOT TO EXCEED 115 MPH, SEE STRUCTURAL DRAWINGS.



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PROJECT NAME
U45FB-V2021.1-MA
STORE #6446
RT. 206 & FLANDERS NETCOING RD.,
MOUNT OLIVE, NJ

SHEET TITLE
HVAC ROOF PLAN AND DETAILS

04/28/2022

| No. | Date | Description |
|-----|------------|---------------------|
| 1 | 11/04/2021 | PERMIT SET |
| 2 | 12/09/2021 | PRE-BID SET |
| 3 | 12/23/2021 | BID SET |
| 4 | 04/21/2022 | MECHANICAL REVISION |
| 5 | 04/28/2022 | CONSTRUCTION SET |

PROJECT NO. 2180803
DATE 11-04-2021
DRAWN AG
CHECKED BT

M2.0

| OUTSIDE AIR CALCULATION | | | | | | | | | |
|-------------------------|-------------|------|-----------------------------|----------|------------|-------------------------|---------------------------|------------------------|---------------------------|
| AREA SERVED | AREA (SQFT) | CFM | UNOCCUPIED MIN O/A REQUIRED | # PEOPLE | CFM PERSON | PEOPLE O.A. REQ'D (CFM) | COMBINED O.A. REQ'D (CFM) | TOTAL O.A. REQ'D (CFM) | TOTAL O.A. SUPPLIED (CFM) |
| COFFEE | 435 | 0.12 | 53 | 2 | 7.5 | 15 | 68 | 68 | |
| DELIVERY | 61 | 0.12 | 8 | 1 | 10 | 10 | 18 | 18 | |
| VESTIBULE | 112 | 0.06 | 7 | 0 | 0 | 0 | 7 | 7 | |
| RETAIL | 1238 | 0.12 | 149 | 25 | 7.5 | 188 | 337 | 337 | |
| WASH RM. | 256 | 0.18 | 47 | 1 | 7.5 | 7.5 | 55 | 55 | |
| | | | | | | | | | RTU-1 |
| | | | | | | | | | 485 |
| | | | | | | | | | 510 |
| BACKROOM | 151 | 0.18 | 28 | 1 | 7.5 | 8 | 36 | 36 | |
| FOOD SVC | 434 | 0.18 | 79 | 4 | 7.5 | 30 | 109 | 109 | |
| | | | | | | | | | RTU-2 |
| | | | | | | | | | 145 |
| | | | | | | | | | 580 |
| OFFICES | 96 | 0.06 | 6 | 1 | 5 | 5 | 11 | 11 | |
| RETAIL | 322 | 0.12 | 39 | 7 | 7.5 | 53 | 92 | 92 | |
| ASSOCIATES | 75 | 0.06 | 5 | 1 | 5 | 5 | 10 | 10 | |
| CHECKOUT | 131 | 0.12 | 16 | 3 | 7.5 | 23 | 39 | 39 | |
| | | | | | | | | | RTU-3 |
| | | | | | | | | | 152 |
| | | | | | | | | | 340 |

NOTES:
 1. OCCUPANCY LOAD VENTILATION RATES ARE BASED ON NET OCCUPIABLE SPACE IN ACCORDANCE WITH THE 2018 INTERNATIONAL MECHANICAL CODE, TABLE 403.3.1.1
 2. ANTICIPATED NUMBER OF PEOPLE IS BASED ON AN OCCUPANCY LOAD FACTOR (# PEOPLE/SF) VALUE (BASED ON THE 2018 INTERNATIONAL MECHANICAL CODE, TABLE 403.3.1.1).

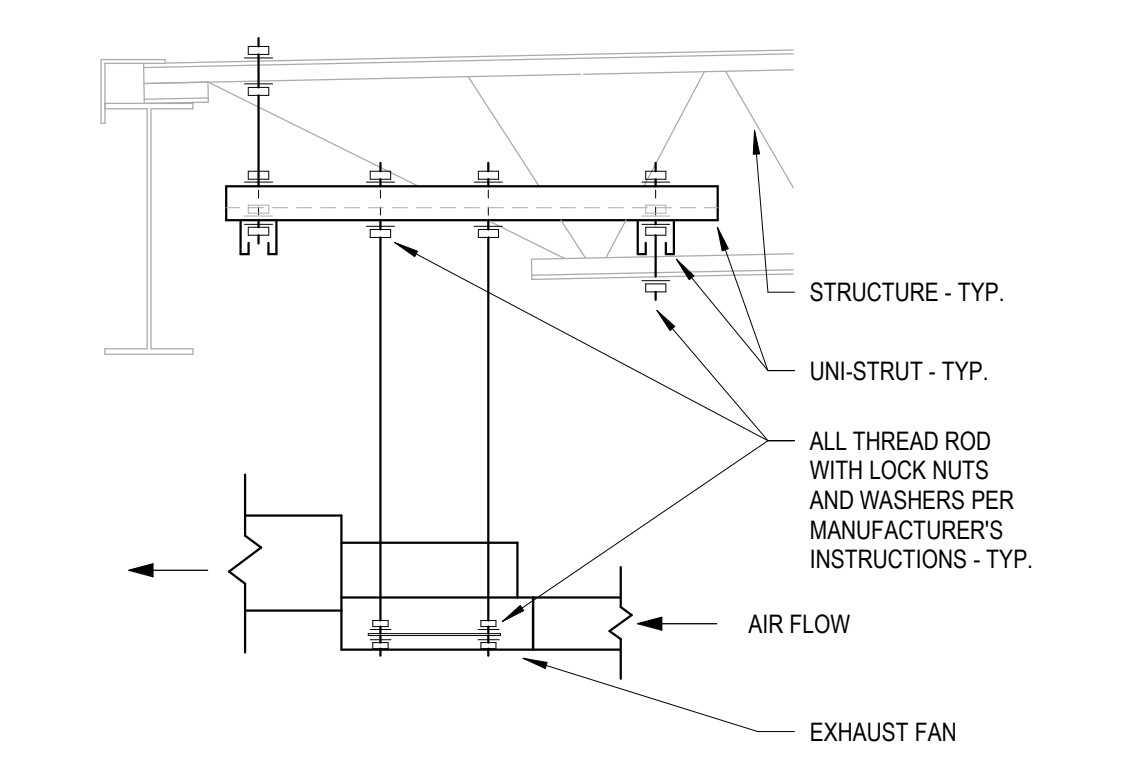
| AIR BALANCE SCHEDULE | |
|----------------------------|------|
| SYSTEM | CFM |
| RTU-1 | +510 |
| RTU-2 | +680 |
| RTU-3 | +340 |
| EF-1 | -370 |
| EF-2 | -70 |
| EF-3 | -100 |
| EF-4 | -800 |
| BUILDING POSITIVE PRESSURE | +190 |

MECHANICAL GENERAL NOTES

- REFER TO WRITTEN BOOK SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- THE WORK TO BE DONE UNDER THESE SPECIFICATIONS AND THE DRAWINGS CONSISTS OF FURNISHING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES, AND PERFORMING ALL OPERATIONS TO COMPLETE THE MECHANICAL CONSTRUCTION WORK FOR THIS PROJECT. ANY WORK NOT SPECIFICALLY COVERED BY THESE SPECIFICATIONS OR INDICATED ON THE MECHANICAL/ELECTRICAL/PLUMBING PLANS, BUT NECESSARY TO COMPLETE OR PERFECT ANY PART OF THIS INSTALLATION IN A SUBSTANTIAL MANNER, SHALL BE PROVIDED WITHOUT EXTRA COST TO OWNER.
- THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "MECHANICAL WORK" OR "WORK" SHALL MEAN ALL LABOR, MATERIAL, EQUIPMENT, SCAFFOLDING, RIGGING, TOOLS, SUPERVISION, SERVICES AND OTHER INCIDENTALS NECESSARY FOR COMPLETE AND OPERABLE INSTALLATION.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT, MATERIALS AND LABOR TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM AS INDICATED ON THE DESIGN DOCUMENTS.
- CONTRACTOR SHALL OBTAIN ALL PERMITS, INSPECTIONS AND APPROVALS PRIOR TO AND DURING CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES AND IN FIELD PRIOR TO INSTALLATION OF ANY WORK. REPORT ALL CONFLICTS IMMEDIATELY TO ARCHITECT AND ENGINEER.
- CONTRACTOR SHALL PROVIDE ALL ROOFING OPENINGS, FLASHINGS, AUXILIARY STEEL, THREADED RODS, VIBRATION ISOLATORS, TURNBUCKLES, ETC. TO SUPPORT HIS EQUIPMENT ON OR FROM THE STRUCTURE.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES AND IN FIELD PRIOR TO INSTALLATION OF ANY WORK. REPORT ALL CONFLICTS IMMEDIATELY TO ARCHITECT AND ENGINEER.
- THE DRAWINGS INDICATE DIAGRAMMATICALLY THE EXTENT, GENERAL CHARACTER AND LOCATION OF THE WORK INCLUDED. OFFSETS OR CHANGES IN DUCT SHAPE TO AVOID STRUCTURAL OR OTHER INTERFERENCES, AND WORK INDICATED BUT HAVING MINOR DETAILS OBVIOUSLY OMITTED SHALL BE PROVIDED WITHOUT EXTRA COST.
- ANY CHANGES AND/OR MODIFICATIONS MUST BE REVIEWED AND APPROVED BY THE ENGINEER OR OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
- REMOVE ALL TRASH, DEBRIS AND DEMOLITION MATERIAL FROM PREMISES AT THE END OF EACH WORK DAY.
- SCHEDULE ALL WORK, CUTTING AND BUILDING SERVICE INTERRUPTIONS WITH BUILDING OWNER AND CONSTRUCTION MANAGER, PRIOR TO COMPLETING WORK.
- ALL DUCT DIMENSIONS ARE INSIDE CLEAR DIMENSIONS.
- THE MAXIMUM FLEXIBLE DUCT LENGTH PERMITTED IS 8'-0". THIS DUCTWORK SHALL BE INSTALLED WITHOUT KINKS OR 90° BENDS.
- ALL FLEXIBLE DUCTWORK SHALL BE FLEX-VENT TYPE KM INSULATED WITH POLYMER INNER FILM AND METALIZED OUTER JACKET, OR APPROVED EQUAL. SIZE SHALL BE SAME AS DIFFUSER NECK SIZE, UNLESS INDICATED OTHERWISE.
- FIELD ADJUST THE DIRECTION OF BLOW FOR ALL SUPPLY AIR DEVICES SO THAT THE DEVICES DO NOT BLOW DIRECTLY INTO SOFFITS, CURTAIN WALLS, REFRIGERATED CASES OR EXHAUST HOODS.
- ALL NEW AND EXISTING PIPES AND DUCTS SHALL HAVE UL FIRE RATED SLEEVES AND/OR FIRE RATED DAMPERS, WHEN PASSING THROUGH FIRE RATED CONSTRUCTION.
- COORDINATE LOCATION OF NEW DUCTWORK, AIR DEVICES AND EQUIPMENT WITH LIGHT FIXTURES, SPRINKLER PIPING AND HYDRONIC PIPING.
- CONTRACTOR SHALL VERIFY FIELD CONDITIONS AT THE SITE AND NOTIFY THE OWNER/ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.
- ALL TEMPERATURE AND HUMIDITY SENSORS SHALL BE INSTALLED 54" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE ON PLAN. COORDINATE FINAL LOCATIONS WITH EQUIPMENT, FURNITURE, TENANT AND ARCHITECT PRIOR TO INSTALLATION.
- ALL DUCTWORK SHALL BE GALVANIZED 17 Z" PRESSURE CLASS. ALL CONCEALED DUCTWORK BELOW TRUSSES SHALL BE INSULATED WITH 1-1/2" FIBERGLASS DUCT WRAP WITH WIRE SUPPORT BANDS ON 24" CENTERS. ALL CONCEALED DUCTWORK ABOVE THE TRUSSES SHALL BE INSULATED WITH 1-1/2" OF FIBERGLASS DUCT WRAP WITH WIRE SUPPORT BANDS ON 24" CENTERS. ALL INTERIOR EXPOSED DUCTWORK BELOW TRUSSES SHALL BE INSULATED WITH 1" RIGID FIBERGLASS DUCT BOARD WITH FOAM AND SCRM FACING. ALL EXTERIOR EXPOSED DUCTWORK SHALL BE INSULATED WITH 4" RIGID FIBERGLASS BOARD WITH WEATHERPROOF MEMBRANE.
- VERIFY ALL EQUIPMENT VOLTAGES, WIRING REQUIREMENTS, AND REQUIRED BREAKER SIZES WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
- ALL ACCESS DOORS REQUIRED IN GENERAL CONSTRUCTION ARE TO BE PROVIDED AND INSTALLED BY THE GENERAL CONTRACTOR. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO IDENTIFY SIZE, TYPE AND LOCATION OF SUCH DOORS FOR PROPER ACCESS TO ALL CONCEALED MECHANICAL EQUIPMENT, VALVES AND OTHER RELATED DEVICES. THE MECHANICAL CONTRACTOR SHALL IDENTIFY THESE REQUIREMENTS ON A COORDINATED SHOP DRAWING PRIOR TO SYSTEM FABRICATION AND INSTALLATION.
- AFTER THE HEATING AND AIR CONDITIONING SYSTEM INSTALLATIONS ARE COMPLETE, THE CONTRACTOR SHALL BALANCE THE SYSTEM AND PRESENT OWNER & ARCHITECT WITH A WRITTEN BALANCING REPORT BY A CERTIFIED INDEPENDENT TESTING LAB. DAMPER HANDLES SHALL BE FASTENED INTO DUCTWORK WITH SHEETMETAL SCREWS AFTER BALANCING TO ASSURE CORRECT BALANCED AIRFLOW.
- PROVIDE ELBOWS OR TEES WITH TURNING VANES FOR ALL CHANGES IN SUPPLY DUCT DIRECTION. PROVIDE BRANCH DUCT DAMPERS WITH LOCKING QUADRANTS FOR ALL BRANCHES AND TAKE-OFFS. PROVIDE RAISED QUADRANTS FOR INSULATED DUCTWORK. ALL VOLUME DAMPER HANDLES ARE TO PROTRUDE NEATLY THROUGH DUCT INSULATION AND BE TAGGED SO THAT THEY ARE CLEARLY VISIBLE.
- PROVIDE FLEXIBLE CONNECTIONS AT ALL DUCT CONNECTIONS TO VIBRATING EQUIPMENT. THESE CONNECTIONS SHALL BE INSTALLED IN CLOSE PROXIMITY TO SUCH EQUIPMENT.
- THE MECHANICAL CONTRACTOR SHALL HAVE A QUALIFIED HVAC TECHNICIAN FROM THE UNIT MANUFACTURER PROVIDE AN EQUIPMENT OPERATION CHECK AFTER UNIT START-UP AND PRIOR TO CERTIFIED AIR BALANCING. THE CERTIFICATION, SIGNED BY THE TECHNICIAN, MUST BE INCLUDED IN THE GENERAL CONTRACTOR CLOSING DOCUMENTS FOR THE STORE.
- PROVIDE CONDENSATE DRAIN PIPING AND TRAP FOR EACH ROOFTOP UNIT PER DETAIL ON PLANS. PIPE DRAIN TO GUTTER OR DOWNSPOUT PER PLAN.

| HVAC LEGEND | |
|-------------|---|
| SYMBOL | DESCRIPTION |
| | NEW RECTANGULAR OR ROUND DUCT |
| | FLEXIBLE DUCT |
| | SUPPLY AIR DUCTWORK UP THROUGH PLAN |
| | RETURN AIR DUCTWORK UP THROUGH PLAN |
| | EXHAUST AIR DUCTWORK UP THROUGH PLAN |
| | 90° ELBOW WITH TURNING VANES |
| | MANUAL AIR VOLUME CONTROL DAMPER |
| | 4 WAY SUPPLY DIFFUSER |
| | 3 WAY SUPPLY DIFFUSER |
| | 2 WAY OPPOSED SUPPLY DIFFUSER |
| | 2 WAY CORNER SUPPLY DIFFUSER |
| | RETURN AIR DEVICE |
| | EXHAUST AIR DEVICE |
| | VAV PLAQUE FACE DIFFUSER |
| | AIR CURTAIN |
| | LINEAR SLOT DIFFUSER WITH PLENUM |
| | TEMPERATURE SENSOR |
| | COMBINATION TEMPERATURE/HUMIDITY SENSOR |
| | CO2 SENSOR |
| | TYPE MARK CFM |
| | MECHANICAL EQUIPMENT TAG |
| | CONDENSATE PIPING |
| | ROOF MOUNTED EXHAUST FAN |
| | INLINE EXHAUST FAN |
| | PACKAGED ROOFTOP AIR CONDITIONER |

| ABBREVIATIONS | | | |
|---------------|------------------------------------|-------|----------------------------------|
| DB°F | DRY BULB DEGREES FAHRENHEIT | LD | LINEAR DIFFUSER |
| AC | AIR CURTAIN | LP | LOW PRESSURE |
| AC | AIR CURTAIN | MAX | MAXIMUM |
| A.F.F. | ABOVE FINISHED FLOOR | MBH | 1000 BTU PER HOUR |
| BTU | BRITISH THERMAL UNIT | MCA | MINIMUM CIRCUIT AMPACITY |
| CD | CEILING DIFFUSER | MN | MINIMUM |
| CFM | CUBIC FEET PER MINUTE | MOPC | MAXIMUM OVER CURRENT PROTECTION |
| CO2 | CARBON DIOXIDE | MPH | MILES PER HOUR |
| D | DIAMETER | O.A. | OUTSIDE AIR |
| EER | ENERGY EFFICIENCY RATIO | O.C. | ON CENTER |
| EF | EXHAUST FAN | PVC | POLYVINYL CHLORIDE |
| FFH | FAN FORCED HEATER | REQ'D | REQUIRED |
| G | GRILLE | RTU | PACKAGED ROOF TOP HVAC UNIT |
| G.C. | GENERAL CONTRACTOR | SCH | SCHEDULE |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER | SEER | SEASONAL ENERGY EFFICIENCY RATIO |
| HP | HORSEPOWER | SF | SQUARE FOOT |
| IEER | INTEGRATED ENERGY EFFICIENCY RATIO | TYP. | TYPICAL |
| IN. | INCHES WATER COLUMN | V | VOLTS |
| LBS. | POUNDS | WI | WITH |
| | | WB°F | WET BULB DEGREES FAHRENHEIT |



1 INLINE FAN MOUNTING DETAIL
 M3.0 NOT TO SCALE

| HVAC AIR DEVICE SCHEDULE | | | | | | | | | |
|--------------------------|--------------|-------|-----------------|--------------------------------------|---------------|----------|-----------|-------------|-------|
| TYPE MARK | MANUFACTURER | MODEL | SERVICE | DESCRIPTION | MOUNTING TYPE | MATERIAL | NECK SIZE | FACE SIZE | NOTES |
| CD-1 | PRICE | AMD | SUPPLY | LOUVERED FACE DIRECTIONAL DIFFUSER | LAY-IN | ALUMINUM | 18"X18" | 24"X24" | 1.6 |
| CD-2 | PRICE | AMD | SUPPLY | LOUVERED FACE DIRECTIONAL DIFFUSER | SURFACE | ALUMINUM | 12"X12" | NECK-5" | 5.6 |
| CD-3 | PRICE | AMD | SUPPLY | LOUVERED FACE DIRECTIONAL DIFFUSER | SURFACE | ALUMINUM | 9"X9" | NECK-5" | 5.6 |
| CD-4 | PRICE | AMD | SUPPLY | LOUVERED FACE DIRECTIONAL DIFFUSER | SURFACE | ALUMINUM | 9"X9" | NECK-5" | 5.6 |
| G-1 | PRICE | 630FF | RETURN/TRANSFER | LOUVERED FACE FILTER RETURN GRILLE | LAY-IN | ALUMINUM | 20"X20" | NECK-3 3/4" | 4 |
| G-2 | PRICE | 630FF | RETURN/TRANSFER | LOUVERED FACE FILTER RETURN GRILLE | SURFACE | ALUMINUM | 14"X14" | NECK-3 3/4" | 4 |
| G-3 | PRICE | 630FF | EXHAUST | LOUVERED FACE FILTER RETURN GRILLE | SURFACE | ALUMINUM | 8"X8" | NECK-3 3/4" | 4 |
| G-4 | PRICE | 630D | EXHAUST | LOUVERED FACE RETURN GRILLE | SURFACE/WALL | ALUMINUM | 10"X10" | NECK-1 3/4" | 4 |
| LD-1 | PRICE | TB04 | SUPPLY | 48" INSULATED PLENUM W/ (4) 1" SLOTS | LAY-IN | ALUMINUM | SEE PLAN | NA | 2.3 |

NOTES:
 -NO SUBSTITUTIONS PERMITTED--
 1. FOR LAY-IN CEILING PROVIDE WITH 18"X18" FULL FACE APPEARANCE DIFFUSER NECK. PROVIDE WITH FACTORY SQUARE TO ROUND NECK ADAPTER MODEL "SR". ROUND NECK SIZE SHALL BE EQUAL TO FLEX SIZE SERVING DIFFUSER.
 2. PROVIDE WITH PLENUM INTERNALLY LINED WITH COATED FIBERBOARD. EXTERNALLY INSULATE PLENUM UPON INSTALLATION WITH DUCT WRAP INSULATION.
 3. PROVIDE WITH CENTER NOTCH OPTION (CN) AS REQUIRED WHEN USED IN 24" T-BAR CEILING.
 4. "SR" STYLE (1/4" TURN FASTENERS ONLY). OMIT HINGE. FILTER TYPE RETURN GRILLES PROVIDED SOLELY FOR MAINTENANCE PURPOSES. OMIT FILTER UPON INSTALLATION.
 5. PROVIDE WITH TYPE 6 BEVELED SERVICE MOUNT FRAME AND FACTORY SQUARE TO ROUND NECK ADAPTER MODEL "SR".
 6. PROVIDE WITH BACKPAN INSULATION.

| HVAC AIR CURTAIN SCHEDULE | | | | | | | | | |
|---------------------------|------------------|-----------------|---------|------------|-----|------------|-------|-----------------|-------|
| MARK | AREA SERVED | BASIS OF DESIGN | | | | UNIT POWER | | MOUNTING HEIGHT | NOTES |
| | | MANUFACTURER | MODEL | NOZZLE CFM | HP | VOLTAGE | PHASE | | |
| AC-1 | DELIVERY/STAGING | POWERED AIRE | BCE-148 | 2165 CFM | 0.5 | 120 V | 1 | 7'-2" | 1-4 |

NOTES:
 -NO SUBSTITUTIONS PERMITTED--
 1. MOUNT INSIDE BUILDING ABOVE DOOR AT 7'-2" A.F.F. MOUNTING HEIGHT IS FROM BOTTOM OF AIR CURTAIN.
 2. PROVIDE ALL NECESSARY MOUNTING BRACKETS AND ACCESSORIES.
 3. PROVIDE WITH MODEL SM-900 COMMERCIAL MAGNETIC REED DOOR SWITCH.
 4. AIR CURTAIN CONTROLLED BY MAGNETIC REED DOOR SWITCH. FAN ON WHEN DOOR IS OPEN.

| HVAC EXHAUST FAN SCHEDULE | | | | | | | | | | | | |
|---------------------------|---------|------------------------------|-----------|------------|-------|----------|---------|------------|-------|-----------------|--------|-------|
| MARK | CFM | EXT. STATIC PRESSURE (in-wg) | FAN TYPE | DRIVE TYPE | SONES | HP | FAN RPM | UNIT POWER | | BASIS OF DESIGN | | NOTES |
| | | | | | | | | VOLTAGE | PHASE | MANUFACTURER | MODEL | |
| EF-1 | 370 CFM | 0.50 in-wg | DOWNBLAST | DIRECT | 6.8 | 1/12 | 1550 | 120 V | 1 | PENNBARRY | DX10R | 1.2 |
| EF-2 | 60 CFM | 0.25 in-wg | INLINE | DIRECT | 0.6 | 28 WATTS | 680 | 120 V | 1 | LOREN COOK | GN-148 | 2.3 |
| EF-3 | 100 CFM | 0.38 in-wg | DOWNBLAST | DIRECT | 3.5 | 1/30 | 1550 | 120 V | 1 | PENNBARRY | DX10R | 1.2 |
| EF-4 | 800 CFM | 0.38 in-wg | DOWNBLAST | DIRECT | 14 | 1/4 | 1725 | 120 V | 1 | PENNBARRY | DX13G | 1.2 |

NOTES:
 -NO SUBSTITUTIONS PERMITTED--
 1. PROVIDE WITH FACTORY DISCONNECT, FACTORY WIRED SOLID STATE SPEED CONTROLLER, 18" HIGH ROOF CURB WITH DAMPER TRAY, BACKDRAFT DAMPER, AND BIRD SCREEN.
 2. WIRE FOR CONTINUOUS OPERATION.
 3. PROVIDE WITH FACTORY DISCONNECT & FACTORY WIRED SOLID STATE SPEED CONTROLLER. FAN SHALL BE WIRED TO EMERGENCY SHUTOFF SWITCH PROVIDED BY OTHERS. REFERENCE ARCHITECTURAL AND ELECTRICAL DRAWINGS.

| HVAC ELECTRIC HEATING UNIT SCHEDULE | | | | | | | | | |
|-------------------------------------|---------|-----------------------|---------|-------|------------------|-----------------|----------|-------|-------|
| MARK | CFM | FAN TYPE | VOLTAGE | PHASE | HEATING CAPACITY | BASIS OF DESIGN | | | NOTES |
| | | | | | | MANUFACTURER | MODEL | NOTES | |
| FFH-1 | 150 CFM | FAN FORCED CLG HEATER | 120 V | 1 | 1500 W | QMARK | EFF-1500 | 1-3 | |
| FFH-2 | 150 CFM | FAN FORCED CLG HEATER | 120 V | 1 | 1500 W | QMARK | EFF-1500 | 1-3 | |
| FFH-3 | 150 CFM | FAN FORCED CLG HEATER | 120 V | 1 | 1500 W | QMARK | EFF-1500 | 1-3 | |

NOTES:
 -NO SUBSTITUTIONS PERMITTED--
 1. COORDINATE MOUNTING FRAME TYPE WITH ARCHITECTURAL DRAWINGS.
 2. PROVIDE FACTORY ACCESSORIES AS REQUIRED FOR RECESSED CEILING INSTALLATION.
 3. PROVIDE WITH INTERNAL DISCONNECT SWITCH, FACTORY FAN DELAY SWITCH, FACTORY HIGH TEMPERATURE CUTOFF SWITCH, AND INTEGRAL THERMOSTAT.

| HVAC ROOFTOP UNIT SCHEDULE | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|--------------|--------------|------------------|-------------------|--------------|-----|-----------|------------|----------------|---------|------------|-----|------|-----------|------------------------|--------------------------------|----------------------|----------|----------|-----------------|-----------------------------|-----------|-------|
| MARK | AREA SERVED | NOMINAL TONS | FAN DATA | | | | GAS HEAT | | | | UNIT POWER | | | | WEIGHT (LBS. RTU ONLY) | MIN. UNIT NET COOLING CAPACITY | | | | BASIS OF DESIGN | | NOTES | |
| | | | SUPPLY AIR (CFM) | OUTSIDE AIR (CFM) | E.S.P. (IN.) | HP | INPUT MBH | OUTPUT MBH | CONTROL STAGES | VOLTAGE | PHASE | MCA | MOPC | EER (EER) | | TOTAL COOLING MBH | SENSIBLE COOLING MBH | EDB (°F) | EWB (°F) | AMBIENT (°F) | MANUFACTURER & PRODUCT LINE | | MODEL |
| RTU-1 | RETAIL | 7.5 | 3000 CFM | 510 | 0.5 | 2.0 | 130 | 104 | 2 | 208 V | 3 | 45 | 50 | 1332 | 89.3 | 69.7 | 76.8 | 64.0 | 92/75 | 12.5 [13.0] | LENNOX ENERGENCE | LGH092H4B | 1-20 |
| RTU-2 | FOOD SERVICE | 10 | 4000 CFM | 680 | 0.5 | 3.0 | N/A | N/A | N/A | 208 V | 3 | 54 | 60 | 1316 | 119.7 | 98.3 | 75.1 | 62.4 | 92/75 | 12.2 [13.2] | LENNOX ENERGENCE | LCH120H4B | 2-20 |
| RTU-3 | RETAIL | 5.0 | 2000 CFM | 340 | 0.5 | 1.0 | 70 | 57 | 2 | 208 V | 3 | 27 | 40 | 871 | 60.0 | 46.2 | 80 | 67 | 92/75 | 12.3 [15.5] | LENNOX ENERGENCE | LGH060S4T | 2-20 |

NOTES:
 1. PROVIDE CO2 SENSOR FOR INTERLINK WITH BUILDING AUTOMATION SYSTEM.
 2. PROVIDE LENNOX HUMIDITROL HOT GAS REHEAT OPTION.
 3. PROVIDE REMOTE WALL MOUNTED COMBINATION TEMPERATURE/HUMIDITY SENSOR MODEL 21W06
 4. REFER TO CONTROL SYSTEM NOTES FOR CONTROL COMPONENTS REQUIREMENTS
 5. PROVIDE 5-MINUTE ANTI-SHORT CYCLE TIMER
 6. PROVIDE THRU THE BASE ELECTRICAL AND SINGLE POINT CONNECTION
 7. PROVIDE WITH FACTORY 2" THROW AWAY PLEATED MERV 8 FILTERS.
 8. PROVIDE WITH 18" ROOF CURB
 9. PROVIDE FACTORY 15 AMP GFCI SERVICE OUTLET WITH WEATHERPROOF COVER. COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE FIELD WIRING TO RECEPTACLE.
 10. PROVIDE WITH FACTORY INSTALLED DISCONNECT
 11. PROVIDE WITH MOTORIZED DAMPER AND OUTSIDE AIR INTAKE HOOD.
 12. PROVIDE MANUFACTURER'S MOTOR AND DRIVE PACKAGE AS REQUIRED TO MEET SCHEDULED AIR CAPACITIES AND PRESSURE DROP.
 13. PROVIDE FACTORY APPLIED PHENOLIC COATING FOR CORROSION PROTECTION ON CONDENSER COILS WITHIN 5 FEET OF SALT WATER.
 14. PROVIDE BUILDING AUTOMATION SYSTEM (BAS) EQUIPMENT - REFER TO BAS SYSTEM MASTER SPEC FOR SYSTEM DETAILS AND EQUIPMENT PART NUMBERS.
 15. PROVIDE FACTORY INSTALLED BACNET BAS INTERFACE.
 16. PROVIDE LENNOX DIRTY FILTER SWITCH.
 17. PROVIDE LENNOX IMC CONTROL BOARD (STANDARD ON L-SERIES UNITS)
 18. TEMPERATURE SETPOINT: 74°F COOLING, 68°F HEATING HUMIDITY SETPOINT: 50% RELATIVE HUMIDITY.
 19. PROVIDE WITH FACTORY CONDENSATE DRAIN PAN WATER LEVEL MONITORING DEVICE FOR COMPLIANCE WITH IMC-2018, SECTION 307.2.3.
 20. PROVIDE WITH FACTORY INSTALLED SUPPLY AND RETURN SMOKE DETECTORS.

RTU-1, 2, & 3 SEQUENCE OF OPERATION

SUPPLY AIR BLOWER SPEED
 UNIT HAS FOLLOWING SUPPLY AIR BLOWER SPEED SETTINGS THAT PERTAIN TO THIS INSTALLATION:
 COOLING AIR BLOWER SPEED
 HEATING AIR BLOWER SPEED

COOLING MODE
 • Y1 DEMAND: COMPRESSOR 1 OPERATES AND SUPPLY AIR BLOWER OPERATES AT COOLING SPEED.
 • Y2 DEMAND: ALL COMPRESSORS OPERATE AND SUPPLY AIR BLOWER OPERATES AT COOLING SPEED.

DEHUMIDIFICATION MODE
 • IF THE UNIT RECEIVES A CALL FOR DEHUMIDIFICATION, ECONOMIZER FREE COOLING IS LOCKED OUT (ON UNITS EQUIPPED WITH ECONOMIZER).
 • CALL FOR DEHUMIDIFICATION, NO Y1, Y2 DEMAND: 1ST STAGE COMPRESSOR OPERATES, SUPPLY AIR BLOWER OPERATES AT COOLING SPEED, AND THE REHEAT VALVE IS ENERGIZED.
 • Y1 DEMAND WITH A CALL FOR DEHUMIDIFICATION: ALL COMPRESSORS OPERATE, SUPPLY AIR BLOWER OPERATES AT COOLING SPEED AND THE REHEAT VALVE IS ENERGIZED.
 • Y2 DEMAND WITH A CALL FOR DEHUMIDIFICATION: ALL COMPRESSORS OPERATE, SUPPLY AIR BLOWER OPERATES AT COOLING SPEED, AND THE REHEAT VALVE IS DE-ENERGIZED.

HEATING MODE (GAS HEAT)
 • W1 DEMAND: 1ST STAGE GAS HEAT IS ENERGIZED AND THE SUPPLY AIR BLOWER OPERATES AT HEATING SPEED.
 • W2 DEMAND: 2ND STAGE GAS HEAT IS ENERGIZED AND THE SUPPLY AIR BLOWER OPERATES AT HEATING SPEED.

MODULATING OUTDOOR AIR DAMPER
 • THE MINIMUM DAMPER POSITION FOR "OCCUPIED HIGH BLOWER" IS ADJUSTED DURING UNIT SETUP TO PROVIDE MINIMUM FRESH AIR REQUIREMENTS PER RTU SCHEDULE.
 • WHEN SUPPLY AIR BLOWER IS OFF, THE OUTDOOR AIR DAMPER IS CLOSED.
 • WHEN UNIT IS IN OCCUPIED MODE AND SUPPLY AIR BLOWER IS OPERATING, THE OUTDOOR AIR DAMPER IS AT MINIMUM "HIGH BLOWER" POSITION.

LENNOX SETUP PARAMETERS / MID-ATLANTIC STORES (R3)

- CLIENT NAME: WAWA
 2600 W. BALTIMORE PIKE
 WAWA, PA 19063
- PROJECT NAME: U45FB-V2021.1-MA STORE #6446
 RT. 208 & FLANDERS NETCONG RD., MOUNT OLIVE, NJ
- SHEET TITLE: HVAC NOTES & SCHEDULES
- UNIT ID CONFIGURATION (MECHANICAL CONTRACTOR TO DEFINE / AS APPLICABLE):
 • BACNET CONFIGURATION: GO TO SETTINGS-GENERAL-CONFIGURATION ID1 POSITION 5 SET TO "B"
 • NETWORK CONFIGURATION: GOT TO SETUP-NETWORK INTEGRATION. SET TO BACNET
 • CONTROL MODE: SET CONTROL MODE TO ROOM SENSOR. CO2, TEMP. & HUMIDITY TO "NO".
 • ENTHALPY CONFIGURATION: CHANGE CONFIG ID1 POSITION 2 FROM D (DUAL ENTHALPY) TO S (SINGLE ENTHALPY)
 • FRESH AIR COOLING: SETUP-TEST & BALANCE-DAMPER. SCROLL TO FRESH AIR COOLING SET TO "NO"
 • FRESH AIR HEAT: SETUP-TEST & BALANCE-DAMPER. SCROLL TO FRESH AIR HEAT SET TO "NO"
- INDIVIDUAL PARAMETER CONFIGURATIONS (MECHANICAL CONTRACTOR TO DEFINE / AS APPLICABLE):
 • PARAMETER 106 DEHUMID MODE: 7 NO CONDITIONS
 • PARAMETER 108 DEHUMID SETPOINT: 50. THIS IS A CENTERED SET POINT (+/-)
 • PARAMETER 109 DEHUMID DEADBAND: 3 (DEFAULT) THIS IS THE ACTUAL +/- VALUE
 • PARAMETER 117 CO2 DAMPER MAX OPEN %: 50
 • PARAMETER 118 CO2 START OPEN PPM: 1200
 • PARAMETER 119 CO2 FULL OPEN PPM: 1500
 • PARAMETER 131 FREECOOLMAX DAMPER: 100%
 • PARAMETER 137 OCC HEAT SET POINT: 68 (BACK UP)
 • PARAMETER 139 OCC COOLING SET POINT: 72 (BACK UP)
 • PARAMETER 154 OCC BLOWER MODE: ON-CONTINUOUS 1
 • PARAMETER 155 FREE COOL LOCK OUT SET POINT: 29 (DISABLED)
 • PARAMETER 159 FREE COOL SUPPLY SET POINT: 55 (DEFAULT)
 • PARAMETER 160 ECON FREE COOL SET POINT: 55 (DEFAULT)
 • PARAMETER 161 ECON FREE COOL OFFSET: 10 (DEFAULT)
 • PARAMETER 162 FREE COOL ENTHALPY SET POINT (SINGLE ENTHAL