*	OR	APPROVED	EQUAL

Columbus Cty Courthouse M1	LIT SYSTEM EQUIPMENT SCHEDULE (SYSTEM 2)
VIXE SE	(SYSTEM SERVES SECOND FLOOR ONLY)
VRF-2 OUTDOOR HEAT RECOVERY UNIT	* MITSUBISHI MODEL #TURYE1923BN4AN, 16 TON VRF OUTDOOR HEAT RECOVERY UNIT, 12.8 EER. 208 VOLT, 3 PHASE, OUTDOOR UNIT, 2 POINTS OF CONNECTION — 31A MCA, 45A MOCP EA. SYSTEM #2 OUTDOOR UNIT SERVES (7) TYPE "FCW—04.2" INDOOR FAN—COIL UNITS, (2) TYPE "FCW—06.2" FAN COIL UNITS. (5) TYPE "FCW—08.2" FAN—COIL UNITS, (4) TYPE "FCW—12.2" FAN—COIL UNITS, (3) TYPE "FCC—12.2 FAN COIL UNITS, AND (2) TYPE "FCC—15.2" FAN—COIL UNITS. SEE SCHEDULE BELOW FOR FAN COIL UNITS ENTIRE INSTALLATION SHALL BE PER MANUFACTURER'S INSTRUCTIONS.
FCW-04.2 DIRECT EXPANSION WALL MOUNTED FAN COIL UNIT	* MITSUBISHI MODEL #TPKFYP004LM140A WALL MOUNT FAN COIL UNIT. NET COOLING CAPACITY = 4,000 BTUH, 117 CFM LO TO 148 CFM HI. 0.33 TON NOMINAL. NET HEATING CAPACITY 4,500 BTUH. PROVIDE WIRED PROGRAMMABLE THERMOSTAT, AND CONDENSATE PUMP. 208 VOLT. SINGLE PHASE, MCA 0.24A, MOCP 15A.
FCW-06.2 DIRECT EXPANSION WALL MOUNTED FAN COIL UNIT	* MITSUBISHI MODEL #TPKFYP006LM14 WALL MOUNT FAN COIL UNIT. NET COOLING CAPACITY = 6,000 BTUH, 141 CFM LO TO 191 CFM HI. 0.5 TON NOMINAL. NET HEATING CAPACITY 6,700 BTUH. PROVIDE WIRED PROGRAMMABLE THERMOSTAT, AND CONDENSATE PUMP. 208 VOLT. SINGLE PHASE, MCA 0.24A, MOCP 15A.
FCW-08.2 DIRECT EXPANSION WALL MOUNTED FAN COIL UNIT	* MITSUBISHI MODEL #TPKFYP008LM140A WALL MOUNT FAN COIL UNIT. NET COOLING CAPACITY = 8,000 BTUH, 141 CFM LO TO 237 CFM HI. 0.66 TON NOMINAL. NET HEATING CAPACITY 9,00 BTUH. PROVIDE WIRED PROGRAMMABLE THERMOSTAT, AND CONDENSATE PUMP. 208 VOLT. SINGLE PHASE, MCA 0.24A, MOCP 15A.
FCW-12.2 DIRECT EXPANSION WALL MOUNTED FAN COIL UNIT	* MITSUBISHI MODEL #TPKFYP015LM140A WALL MOUNT FAN COIL UNIT. NET COOLING CAPACITY = 12,000 BTUH, 152 CFM LO TO 297 CFM HI. 1.0 TON NOMINAL. NET HEATING CAPACITY 9,00 BTUH. PROVIDE WIRED PROGRAMMABLE THERMOSTAT, AND CONDENSATE PUMP. 208 VOLT. SINGLE PHASE, MCA 0.24A, MOCP 15A.
FCC-12.2 DIRECT EXPANSION CEILING CASSETTE FAN COIL UNIT	* MITSUBISHI MODEL #TPLFYP12EM140B CEILING CASSETTE FAN COIL UNIT. NET COOLING CAPACITY = 12,000 BTUH, 495 CFM LO TO 600 CFM HI. 1.0 TON NOMINAL. NET HEATING CAPACITY 13,500 BTUH. PROVIDE WRED PROGRAMMABLE THERMOSTAT, BUILT—IN CONDENSATE LIFT MECHANISM. 208 VOLT. SINGLE PHASE, MCA 0.39A, MOCP 15A.
FCC-15.2 DIRECT EXPANSION CEILING CASSETTE FAN COIL UNIT	* MITSUBISHI MODEL #TPLFYP15EM140B CEILING CASSETTE FAN COIL UNIT. NET COOLING CAPACITY = 15,000 BTUH, 530 CFM LO TO 600 CFM HI. 1.25 TON NOMINAL. NET HEATING CAPACITY 17,000 BTUH. PROVIDE WRED PROGRAMMABLE THERMOSTAT, BUILT-IN CONDENSATE LIFT MECHANISM. 208 VOLT. SINGLE PHASE, MCA 0.39A, MOCP 15A.

* OR APPROVED EQUAL

NOTES FOR BOTH VRF SYSTEMS:
1. ENTIRE VRF SYSTEM SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. THE REFRIGERANT PIPING SYSTEM DESIGN SHALL BE DONE BY THE SYSTEM'S MANUFACTURER. THE REFRIGERANT PIPING SYSTEM SHALL INCLUDE ALL REQUIRED
VRF BRANCH CONTROL BOXES, AND REFRIGERANT ACCESSORIES. PROVIDE WALL MOUNTED THERMOSTATS FOR EACH INDOOR FAN—COIL UNIT WHERE INDICATED ON PLANS AND CENTRAL CONTROLLER FOR SYSTEM. PROVIDE ALL CONTROLS WRING INTERCONNECTIONS FOR ALL
COMPONENTS OF THE SYSTEM. THE ENTIRE SYSTEM SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. SUBMIT SHOP DRAWINGS
OF REFRIGERANT SYSTEM FOR REVIEW. PROVIDE MANUFACTURER'S START—UP OF SYSTEM AND OWNER TRAINING ON SYSTEM OPERATION AND MAINTENANCE.

- 2. REFRIGERANT PIPING SHALL BE RAN CONCEALED IN WALLS, ATTIC SPACES, AND CRAWL SPACE FROM OUTDOOR UNITS TO ALL INDOOR FAN-COIL UNITS. VRF BRANCH BOXES SHALL BE LOCATED BY CONTRACTOR AND VRF SYSTEM MANUFACTURER. COORDINATE LOCATIONS WITH ENGINEER.
- 3. RUN CONDENSATE PIPING FOR ALL INDOOR FAN-COIL UNITS CONCEALED IN WALLS AND ABOVE CEILINGS. ALL CONDENSATE PIPING SHALL BE INSULATED FOR ENTIRE LENGTH WITH CLOSED CELL INSULATION. CONDENSATE PIPING SHALL TERMINATE

DEHUMIDIFIER EQUIPMENT SCHEDULE
DH-1, DH-2, DH-3 & DH-4
HONEYWELL "TRUEDRY" DEHUMIDIFIER MODEL # DR90. 320 CFM @ 0.0" S.P. * 120 VOLTS, 5.3 AMPS. PROVIDE HUMIDISTAT. INSTALL SYSTEM PER MANUFACTURER'S INSTRUCTIONS. PROVIDE CONDENSATE PUMP PIPED TO THE EXTERIOR.

* OR APPROVED EQUAL

DEDIC	DEDICATED OUTDOOR AIR SYSTEM (DOAS) SPLIT SYSTEM SCHEDULE																			
EQUIP.		INDOOR UNIT AIR HANDLING UNIT									OUTDOOR	R HEAT PUM	P UNIT							
NUMBER	AAON MODEL NO *	SUPI	PLY FAN	OUTSIDE AIR	RETURN AIR		COOLING	CAPACITY	HEAT PUMP	ELECTRICAL HEATI	NG						COMP. #1/#2		· · · · · · · · · · · · · · · · · · ·	
	AAON MODEL NO.*	CFM	HP	CFM	СҒМ	POWER	TOTAL	SENSIBLE	HEATING CAPACITY	CAPACITY	FLA	VOLTAGE	MCA	МОСР	AAON MODEL NO. ≭	POWER	RLA	MCA	МОСР	EER
DOAS-1/DOASHP-	V3-BRB-2-0-162C-5SS: AABE-FE0 -FTD-0A0-B0A00V0-00-DA000BD00	1400 @ 0.75" ESP	1.34	800	600	208-3	102.89 MBH	50.22 MBH	79.7 MBH	76.8 MBH (22.5 KW)	54.1	208–3	71	80	CFA-011-B-A-2-DJ00K: 0-00-E0-00 -ANO-L-JE00-0000C00-0A000DB	208-3	16.9/15.6	42	50	11.2
DOAS-2/DOASHP-	H3-CRB-2-0-162C-3CS: AABE-FE0 -FTD-0A0-B0A00V0-00-DA000BD00	1800@ 0.75" ESP	1.34	700	1100	208–3	115.59 MBH	58.32 MBH	80 MBH	76.8 MBH (21 KW)	50.5	208–3	67	70	CFA-011-B-A-2-DJ00K: 0-00-E0-00 -ANO-L-JE00-0000C00-0A000DB	208-3	16.9/15.6	42	50	12.3
DOAS-3/DOASHP-	H3-CRB-2-0-162C-3CS: AABE-FE0 -FTD-0A0-B0A00V0-00-DA000BD00	1800@ 0.75" ESP	1.34	700	1100	208-3	115.59 MBH	58.32 MBH	80 MBH	76.8 MBH (21 KW)	50.5	208–3	67	70	CFA-011-B-A-2-DJ00K: 0-00-E0-00 -ANO-L-JE00-0000C00-0A000DB	208-3	16.9/15.6	42	50	12.3

NOTES: SYSTEM SHALL HAVE MODULATING HOT GAS RE-HEAT, 3 STAGE ELECTRIC HEAT, FILTER SECTION, AND UNIT CONTROLLER. UNIT SHALL PROVIDE OUTSIDE AIR AS INDICATED IN SCHEDULE. UNIT SHALL PROVIDE AIR TO CONDITION SPACE. PROVIDE ALL SENSORS AND CONTROLS REQUIRED TO PROVIDE A COMPLETE AND OPERATING SYSTEM.

ENTIRE INSTALLATION SHALL SHALL BE PER MANUFACTURER'S INSTRUCTIONS. PROVIDE MANUFACTURER'S START—UP OF SYSTEM AND OWNER TRAINING FOR

* OR APPROVED EQUAL

SYSTEM OPERATION. OUTDOOR AIR UNIT SHALL RUN CONTINUOUSLY WHEN BUILDING IS OCCUPIED.

EXHAUST	FAN SCHEDULE
EXHAUST FAN #1 (EF-1)	* CARNES MODEL# VCDD010C EXHAUST FAN, 93 CFM @ 1/4" SP, 640 RPM, 1.1 AMPS, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, 6" RIGID DUCT TO WALL CAP. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES.
EXHAUST FAN #2 (EF-2)	* CARNES MODEL# VCDD025C EXHAUST FAN, 250 CFM @ 1/4" SP, 830 RPM, 2.2 AMPS, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, 8" RIGID DUCT TO EXTERIOR, FLASHING AND ROOF CAP. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES.
EXHAUST FAN #3 (EF-3)	* CARNES MODEL# VIDK-06-J2 IN-LINE DIRECT DRIVE EXHAUST FAN, 300 CFM © 0.25" SP, 1300 RPM, 1/8 HP, 120V. SINGLE PHASE. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, GRAVITY BACKDRAFT DAMPER, AND VIBRATION ISOLATION ON HANGING RODS. PROVIDE FACTORY SPEED CONTROLLER FOR BALANCING FAN. FAN SHALL BE CONTROLLED BY THERMOSTAT.

* OR APPROVED EQUAL

NOTE: RUN EXHAUST DUCTS HORIZONTALLY AS REQUIRED TO MAINTAIN 10'-0" MINIMUM SEPARATION FROM ANY INTAKES.

AIR DISTRIBUTION SCHEDULE										
MARK	* MANUFACTURER	MODEL NO.	NECK SIZE	FACE SIZE	MATERIAL	SERVICE	NOTES			
Α	CARNES	CCJBD **	18" X 6"	20.75" X 8.75"	EXTRUDED ALUMINUM	SUPPLY	WOOD FLOOR MOUNTED, COLOR SELECTED BY ARCHITECT			
В	CARNES	RTDBH	6" X 6"	8" X 8"	STEEL	SUPPLY	SIDEWALL MOUNTED, WHITE			
С	CARNES	SASM40	8" DIA	13" X 13"	EXTRUDED ALUMINUM	SUPPLY	GYPSUM BOARD CEILING, 4-WAY BL COLOR SELECTED BY ARCHITECT			
D	CARNES	SKSA40	6" DIA	8" X 8"	STEEL	SUPPLY	GYPSUM BOARD CEILING, 4-WAY BL WHITE			
RA	CARNES	RSABH	18" X 16"	20" X 18"	STEEL	RETURN	WHITE, SIDEWALL MOUNTED			
RB	CARNES	RSABH	24" X 18"	26" X 20"	STEEL	RETURN	WHITE, SIDEWALL MOUNTED			
EA	CARNES	RSABH	8" X 8"	10" X 10"	STEEL	EXHAUST	WHITE, GYPSUM BOARD CEILING MOU PROVIDE WITH TAMPER PROOF SCRE			
EB	CARNES	RSABH	10" X 6"	12" X 8"	STEEL	EXHAUST	WHITE, GYPSUM BOARD WALL MOUN			

* OR APPROVED EQUAL

** PROVIDE GALVANIZED STEEL DUCT BOOT ON BOTTOM OF REGISTER WITH ROUND DUCT COLLAR.

COORDINATE BORDER TYPE WITH THE CEILING TYPE. SEE ARCH SHEETS PROVIDE CUT SHEETS TO OWNER/ARCH. PRIOR TO ORDERING.

APPLICATION	SQUARE FOOTAGE (SF)	AREA OUTDOOR AIR FLOW RATE (CFM/SF)	PEOPLE OUTDOOR AIR FLOW RATE (CFM/PERSON)	OCCUPANCY DENSITY RATE (# PEOPLE/ 1000SF)	OCCUPNCY (# PEOPLE)	AREA OUTDOOR AIR FLOW (CFM)	PEOPLE OUTDOOR AIR FLOW (CFM)	TOTAL (CFM)
OFFICE	4535	0.06	5	5	26	272	130	402
CORRIDOR	2487	0.06	1	_	1	149	-	149
TOTAL REQUIRED								551
	C UNIT	DOOK AIR PROV	/IDED FROM EAC		** DOR AIR (CF) 800 CF	•		
TOTAL	PROVIDED				800 CFN	1		
APPLIC	ATION				СҒМ			
TOILETS 70 CFM/FLUSHING FIXTURE								

*ACTUAL OCCUPANCY PER BUILDING TENANT AS ALLOWED BY 2018 NCSBC: MECHANICAL CODE, SECTION 403.3.1.1, EXCEPTION. ** SET OUTDOOR AIR DAMPER CONTROLS TO PROVIDE OUTDOOR AIR AS INDICATED IN THIS SCHEDULE.

HVAC E	QUIPMENT SCHEDULE					
HVAC SYSTEM #1 & #2						
AHU #1 & #2 DIRECT EXPANSION FAN COIL UNIT	* CARRIER MODEL #FX4DNF025, 4 WAY, MULTIPOISE FAN COIL UNIT. 3.8 KW HEATER. NOMINAL CAPACITY = 24,000 BTUH. 800 CFM NOMINAL. PROVIDE HARD SHUT-OFF TXV VALVE. 2 TON NOMINAL. PROVIDE PROGRAMMABLE THERMOSTAT AND FILTER RACK WITH HINGED DOOR. 1/3HP, 2.8A MOTOR FLA, 18.1A HEAT FLA, 208V, 1 PH, 26.1A MCA, 30A MOCP AHU & HEAT.					
HP #1 & #2 OUTDOOR HEAT PUMP UNIT	* CARRIER MODEL #25HCC524A0030, 2 TON OUTDOOR HEAT PUMP UNIT, 15 SEER, PROVIDE CYCLE PROTECTOR, LOW PRESSURE SWITCH, CRANKCASE HEATER, 208 VOLT, 1 PHASE. COMP 12.8A RLA, FAN 0.5A FLA, OUTDOOR HEAT PUMP 16.5A MCA, 25A MOCP.					

* OR APPROVED EQUAL

AHU CONTROL NOTE:

FOR EACH SYSTEM PROVIDE "SIMPLE ENGINEERED SOLUTIONS" MODEL #HPDM-XX HEAT PUMP DEHUMIDIFICATION CONTROL MODULE. PROVIDE PROGRAMMABLE ELECTRONIC THERMOSTAT WITH AUTO CHANGEOVER AND HUMIDISTAT FUNCTION. THERMOSTAT SHALL BE COMPATIBLE WITH DEHUMIDIFICATION CONTROL MODULE. PURPOSE OF DEHUMIDIFICATION CONTROL MODULE IS TO INITIATE COOLING MODE WHEN HUMIDISTAT SENSES HUMIDITY OVER SETPOINT AND ENERGIZE AND CONTROL ELECTRIC HEAT TO MAINTAIN SPACE TEMPERATURE. CONTACT SIMPLE ENGINEERED SOLUTIONS FOR INFORMATION ON DEHUMIDIFICATION CONTROL MODULE: (910) 231-9929. email: jmsuggs@yahoo.com.

GENERAL NOTES MECHANICAL

ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE AND ALL LOCAL AND OTHER APPLICABLE CODES.

ANY PERMITS AND INSPECTION FEES SHALL BE SECURED AND PAID FOR BY THE MECHANICAL CONTRACTOR (MC).

ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN. THE MC SHALL COORDINATE ALL OF HIS WORK WITH THE GENERAL CONTRACTOR (GC) AND OTHER TRADES.

THE LOCATION OF ALL DUCT, PIPING AND EQUIPMENT SHALL BE ADJUSTED TO ACCOMMODATE

ANTICIPATED OR ENCOUNTERED INTERFERENCES. THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. FOR

DIMENSIONS REFER TO THE ARCHITECTURAL PLANS. THE MC SHALL BE RESPONSIBLE FOR ALL ELECTRICAL STARTERS INTERLOCKS, CONTROL WIRING CONDUIT AND POWER WIRING FROM DISCONNECTS TO HIS EQUIPMENT, USING A LICENSED

THE MC SHALL USE FIRE DAMPERS FOR PROTECTION OF THE OPENING IN ACCORDANCE WITH STATE AND LOCAL CODES IN ALL LOCATIONS WHERE PENETRATIONS OF RATED WALLS AND FLOORS OCCUR. SEE ARCHITECTURAL PLANS FOR RATED WALL AND FLOOR LOCATIONS.

PROVIDE ACCESS DOORS AT ALL DAMPER LOCATIONS. LOCATE DOORS FOR EASY ACCESS.

INSTALL FLEXIBLE CONNECTORS ON SUPPLY AND RETURN DUCTWORK AHU. ALL MECHANICAL EQUIPMENT SHALL OPERATE FREE OF OBJECTIONAL NOISE AND VIBRATION.

INSTALL TURNING VANES IN SUPPLY DUCTS AT ALL ELBOWS AND SPLITTER DAMPERS. PROVIDE BALANCING DAMPERS IN ALL DUCTS WHERE SHOWN OR REQUIRED FOR SYSTEM BALANCING.

10. DUCT DIMENSIONS ARE SHOWN INSIDE CLEAR.

11. THE MC SHALL KEEP THE PREMISES CLEAR OF DEBRIS FROM HIS WORK DURING CONSTRUCTION AND LEAVE THE AREA AND BUILDING CLEAN AT THE COMPLETION OF HIS WORK. HE SHALL ALSO LEAVE CLEAN ALL EXPOSED EQUIPMENT IN HIS CONTRACT.

PROVIDE ALL REQUIRED ROOF PENETRATIONS FOR THE INSTALLATION OF THE NEW EQUIPMENT. ALL FLASHINGS ARE BY THE MECHANICAL CONTRACTOR. ALL ROOFING WORK SHALL BE DONE BY A LICENSED ROOFING CONTRACTOR SO AS TO MAINTAIN ORIGINAL WARRANTY.

THE M.C. SHALL COORDINATE WITH AND PROVIDE EQUIPMENT SPEC. SHEETS TO THE GENERAL AND ELECTRICAL CONTRACTORS FOR REVIEW PRIOR TO ORDERING EQUIPMENT.

PROPERLY SUPPORT ALL DUCT WORK, AND EQUIP FROM STRUCTURE. PROVIDE ALL STRUCTURAL SUPPORTS FOR THE LOADS AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER

TOTAL REQUIRED

MECHANICAL

12 X 8

FLEXIBLE DUCTWORK

12" DIA. ROUND GALVANIZED STEEL DUCT

SUPPLY DIFFUSER

WALL MOUNTED THERMOSTAT. MOUNT AT 48" AFF WALL MOUNTED THERMOSTAT/HUMIDISTAT WITH REMOTE TEMPERATURE/HUMIDITY SENSOR. MOUNT AT 48" AFF.

ROUND EXHAUST DUCTWORK

RECTANGULAR DUCTWORK

----- GRILLE TYPE - MIN. CFM

CEILING CASSETTE VRF FAN-COIL UNIT

ВС VRF BRANCH CONTROLLER (REFRIGERANT PIPING DISTRIBUTION BOX)

WALL MOUNTED VRF FAN-COIL UNIT

OA SCHEDULE OUTDOOR VENTILATION AIR PROVIDED PER TABLE 403.3 NCSBC MECHANICAL CODE. (SECOND FLOOR ONLY) FOOTAGE OUTDOOR AL APPLICATION OUTDOOR AIR DENSITY RATE OCCUPNCY OUTDOOR OUTDOOR TOTAL FLOW RATE | (# PEOPLE/ FLOW RATE (# PEOPLE) (CFM) (CFM) (CFM) (CFM/SF) (CFM/PERSON) 1000SF) 3011 0.06 181 1465 CORRIDOR 0.06 87 | - | 88 3660 COURTROOM 0.06 70 120 220 600 820 483 CONFERENCE 0.06 50 24 29 120 149

OUTDOOR AIR PROVIDED FROM EACH HVAC UNIT ** HVAC UNIT OUTDOOR AIR (CFM) DOAS-2 700 - 12" X 12. O.A. DUCT DOAS-3 700 - 12" X 12. O.A. DUCT TOTAL PROVIDED 1400

APPLICATION CFM TOILETS 70 CFM/FLUSHING FIXTURE

EXHAUST PROVIDED BY 7 EXHAUST FANS, MAKE UP AIR BY TRANSFER AIR

*ACTUAL OCCUPANCY PER BUILDING TENANT AS ALLOWED BY 2018 NCSBC: MECHANICAL CODE, SECTION 403.3.1.1, EXCEPTION.

** SET OUTDOOR AIR DAMPER CONTROLS TO PROVIDE OUTDOOR AIR AS INDICATED IN THIS SCHEDULE.

11 FLUSHING FIXTURE X 70 CFM = 770 CFM

APPENDIX B

2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

> MECHANICAL DESIGN (PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SYSTEMS, SERVICE SYSTEM AND EQUIPMENT

winter dry bulb summer dry bulb Interior Design Conditions winter dry bulb

summer dry bulb

relative humidity

Thermal Zone

Building Heating Load 269,500 BTU/hr (Tenant space only) 645,100 BTU/hr

Building Cooling Load (Tenant space only) Mechanical Spacing Conditioning System

Unitary – The tenant space is served the following systems: (1) One new 16 ton VRF outdoor heat recoverey unit with (20) indoor fan-coil units. (1) One new 16 ton VRF outdoor heat recoverey unit with (22) indoor fan-coil units. (1) One new 8.5 ton split system heat pump DOAS outdoor air unit.

(2) Two new 9.6 ton split system heat pump DOAS outdoor air units. Not applicable to this project.

Efficiencies and outputs are listed on equipment

Not applicable to this project. Equipment efficiencies

schedules - See drawings

ENGINEER

BURKE DESIGN GROUP 3305-109 DURHAM DRIVE

RALEIGH, NC 27603 PHONE: (919) 771-1916 FAX: (919) 779-0826 email: ben@bdg-nc.com Corp License # C-2652 Coastal

Architectural Planning

Institure of Architects

Lee D. Dixon, Jr., AIA 252-247-2127 lee@coastalarchitecture.ne Suite C

Morehead City, NC 28557

4206 Bridges St. Ext.,

CONDENSATE PIPING R R R R REFRIGERANT PIPING

> OUI .E, I 0 3 \mathbf{m}

HVAC SCHEDULES

SUED: **8/5/2022** WG BY: WBE

CKD BY: **BEB** REVISIONS

SHEET NO.

BASEMENT HVAC PLAN

M-2 SCALE: 1/8"=1'-0"

UNDER 006 KEY NOTES FOR SHEET M2

- 1 VERTICAL DOAS AIR HANDLING UNIT MOUNTED ON 4" THICK CONCRETE PAD.
- 2 OUTDOOR VRF HEAT RECOVERY UNIT MOUNTED AT GRADE.
- 3 NEW WALL MOUNTED OUTDOOR AIR INTAKE LOUVER. INSTALL IN EXISTING WALL OPENING WHERE EXISTING ACCESS DOOR IN LOCATED. LOUVER SHALL BE 30" X 18" APPROXIMATELY (MIN. ONE (1) SQUARE FOOT FREE AREA) AND FIT IN EXISTING OPENING IN MASONRY WALL. LOUVER SHALL BE EQUAL TO CARNES MODEL FKDC, COLOR SELECTED BY ARCHITECT. INTAKE SHALL BE 10'-0" MIN. FROM ANY EXHAUST DISCHARGE OR PLUMBING VENT.
- 4 RUN DUCTWORK IN EXISTING BOILER ROOM OVERHEAD AS HIGH AS POSSIBLE.
- 5 RUN DUCTWORK IN CRAWL SPACE.
- 6 CUT OPENING IN EXISTING FOUNDATION WALL AS REQUIRED FOR NEW DUCT PENETRATION.
 GENERAL CONTRACTOR SHALL PROVIDE LINTEL TO SUPPORT BRICK FOUNDATION WALL
- 7 12" X 10" RETURN AIR DUCT UP TO RETURN AIR GRILLE ON FIRST FLOOR. SEE 1/M3 FOR CONTINUATION.
- (8) VRF SYSTEM BRANCH CONTROLLER BOX IN CRAWL SPACE. CONTRACTOR SHALL VERIFY REQUIRED LOCATION WITH VRF SYSTEM MANUFACTURER. REFRIGERANT PIPING SERVING FIRST FLOOR FAN-COIL UNITS SHALL CONNECT TO BRANCH CONTROLLER BOXES IN CRAWL SPACE.
- (9) RUN REFRIGERANT PIPING IN CRAWL SPACE.
- (10) 6" X 6" SUPPLY AIR DUCT UP TO TOILETS ON FIRST FLOOR. SEE 1/M3 FOR CONTINUATION.
- 8" DIA. SUPPLY AIR DUCT UP TO NEW FLOOR MOUNTED SUPPLY AIR REGISTER ON FIRST FLOOR. SEE 1/M3 FOR FLOOR REGISTER LOCATIONS.
- 12 REFRIGERANT PIPING THAT SERVES SECOND FLOOR UP. SEE 1/M3 FOR CONTINUATION.
- DEHUMIDIFIER ON FLOOR OF CRAWL SPACE OR BASEMENT. PROVIDE CONDENSATE PUMP. RUN CONDENSATE LINE TO CONDENSATE HEADER.
- 14 VRF SYSTEM MAIN CONTROLLER MOUNTED ON WALL. VERIFY FINAL LOCATION WITH OWNER.
- (5) CONDENSATE MANIFOLD FOR FIRST FLOOR FAN-COIL UNITS. RUN AS HIGH AS POSSIBLE IN CRAWL SPACE AND BASEMENT.
- RUN CONDENSATE TO EXISTING FLOOR IN DRAIN IN BASEMENT BOILER AREA. PROVIDE AIR GAP WHERE CONDENSATE PIPE DRAINS INTO FLOOR DRAIN. VERIFY LOCATION OF FLOOR DRAIN.
- 17 LOCATION OF WALL MOUNTED FAN-COIL UNIT ON FIRST FLOOR ABOVE. RUN CONDENSATE PIPING FROM EACH UNIT DOWN CONCEALED IN WALL TO CRAWL SPACE, AND CONNECT TO CONDENSATE HEADER IN CRAWL SPACE. RUN REFRIGERANT PIPING FROM EACH FAN-COIL UNIT CONCEALED IN WALL TO CRAWL SPACE, AND CONNECT TO VRF SYSTEM BRANCH CONTROLLER BOX. (TYPICAL).
- (8) 2" CONDENSATE PIPE UP TO FIRST FLOOR. SEE 1/M3 FOR CONTINUATION.
- (19) RUN CONDENSATE TO GRADE. PROVIDE CRUSHED STONE AREA FOR CONDENSATE.

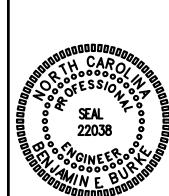
Coastal

Planning

Lee D. Dixon, Jr., AIA
252-247-2127
lee@coastalarchitecture.net

4206 Bridges St. Ext., Suite C Morehead City, NC 28557

COURTHOUSE 13 COURTHOUSE SQ. VILLE, NORTH CAROLINA COUNTY



BASEMENT HVAC PLAN

19035 SSUED: **8/5/2022** DWG BY: WBE CKD BY: **BEB**

REVISIONS

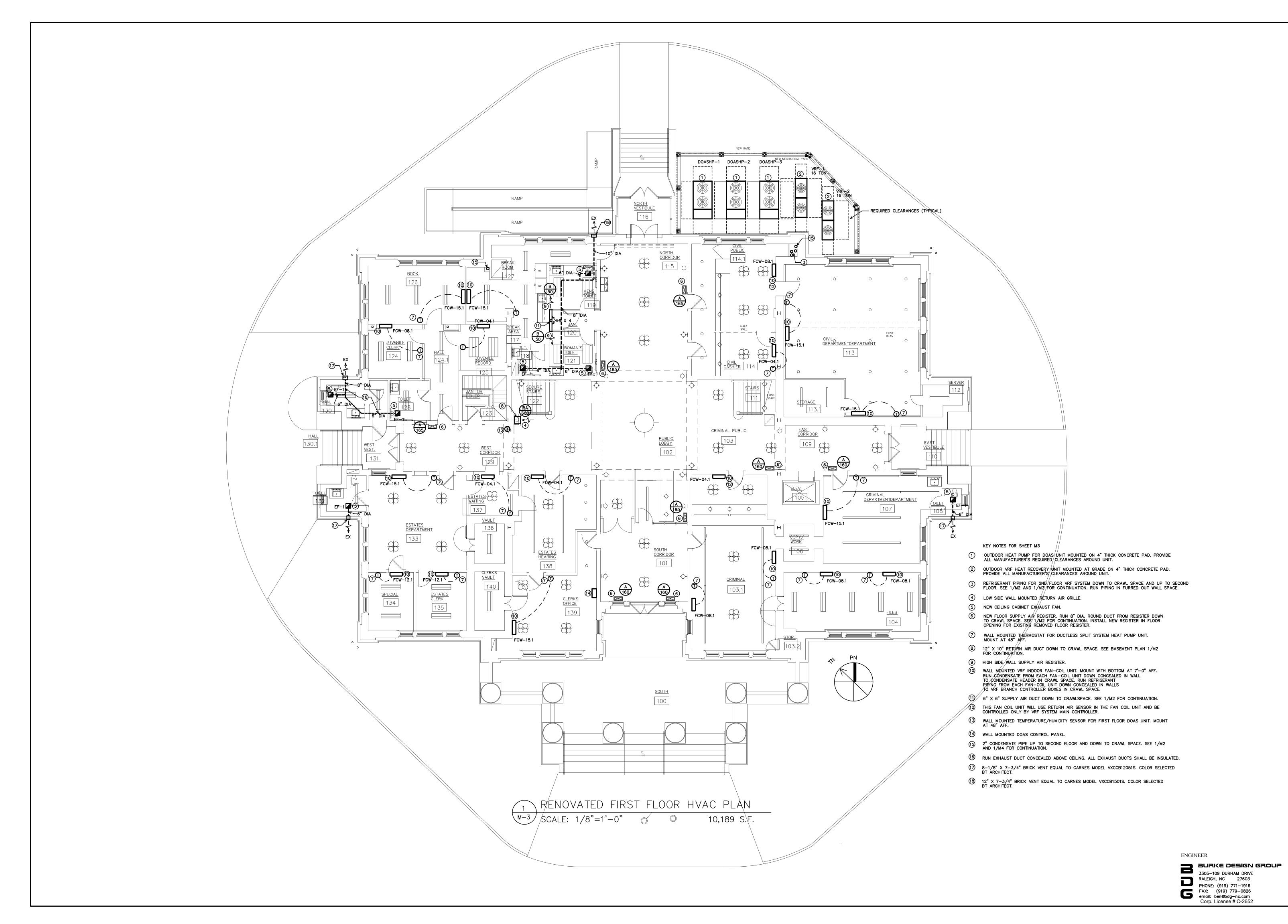
SHEET NO.

ENGINEER

BURICE DESIGN GROUP

3305-109 DURHAM DRIVE RALEIGH, NC 27603
PHONE: (919) 771–1916 PHONE: (919) 771-1916 FAX: (919) 779-0826 email: ben@bdg-nc.com

Corp. License # C-2652







Lee D. Dixon, Jr., AIA
252-247-2127
lee@coastalarchitecture.net

4206 Bridges St. Ext., Suite C

Morehead City, NC 28557

22038

RENOVATED FIRST FLOOR HVAC PLAN

19035 DWG BY: WBE CKD BY: BEB REVISIONS

SHEET NO.

SCALE: $"=1\overline{'-0"}$

RENOVATED SECOND FLOOR HVAC PLAN

9,843 S.F.

KEY NOTES FOR SHEET M4

1 NEW DOAS AIR HANDLING UNIT IN ATTIC SPACE. SEE 1/M5 NEW ATTIC HVAC PLAN AND

NEW CEILING CASSETTE VRF INDOOR FAN-COIL UNIT. MOUNT WITH BOTTOM AT 7'-0" AFF. RUN PUMPED CONDENSATE FROM EACH FAN—COIL UNIT UP CONCEALED IN WALL AND ABOVE CEILING TO CONDENSATE HEADER IN ATTIC SPACE. RUN REFRIGERANT PIPING FROM EACH FAN—COIL UNIT UP CONCEALED IN WALLS AND ABOVE CEILING TO VRF BRANCH CONTROLLER BOXES IN ATTIC SPACE.

REFRIGERANT PIPING DOWN TO FIRST FLOOR AND UP TO ATTIC SPACE. SEE 1/M3 AND 1/M5 FOR CONTINUATION. RUN PIPING IN FURRED OUT WALL SPACE.

HIGH SIDE WALL MOUNTED RETURN AIR GRILLE. INSTALL IN EXISTING WALL OPENING.

NEW CEILING CABINET EXHAUST FAN.

NEW SUPPLY AIR DUCTWORK IN ATTIC SPACE. SEE 1/M5 NEW ATTIC HVAC PLAN.

WALL MOUNTED THERMOSTAT FOR DUCTLESS SPLIT SYSTEM HEAT PUMP UNIT. MOUNT AT 48" AFF.

8 NEW RETURN AIR DUCT IN ATTIC SPACE. SEE 1/M5 NEW ATTIC HVAC PLAN FOR CONTINUATION.

NEW WALL MOUNTED VRF INDOOR FAN-COIL UNIT. MOUNT WITH BOTTOM AT 7'-0" AFF. RUN PUMPED CONDENSATE FROM EACH FAN-COIL UNIT UP CONCEALED IN WALL AND ABOVE CEILING TO CONDENSATE HEADER IN ATTIC SPACE. RUN REFRIGERANT PIPING FROM EACH FAN-COIL UNIT UP CONCEALED IN WALLS AND ABOVE CEILING TO VRF BRANCH CONTROLLER BOXES IN ATTIC SPACE.

THIS FAN COIL UNIT WILL USE RETURN AIR SENSOR IN THE FAN COIL UNIT AND BE CONTROLLED ONLY BY VRF SYSTEM MAIN CONTROLLER.

WALL MOUNTED TEMPERATURE/HUMIDITY SENSOR FOR COURTROOM DOAS UNIT. MOUNT AT 48" AFF.

(2) CONNECT 6" DIA RIGID SUPPLY AIR DUCT TO SUPPLY AIR TAP ON CEILING CASSETTE FAN COIL UNIT. RUN DUCT IN ATTIC SPACE.

RUN EXHAUST DUCT CONCEALED ABOVE CEILING. ALL EXHAUST DUCTS SHALL BE INSULATED.

8-1/8" X 7-3/4" BRICK VENT EQUAL TO CARNES MODEL VXCCB12051S. COLOR SELECTED BT ARCHITECT.

15" DIA EXHAUST DUCT UP TO NEW ROOF MOUNTED CAP. EXHAUST DISCHARGE SHALL BE 10'-0" MIN. FROM ANY OUTSIDE AIR INTAKE.

8" DIA EXHAUST DUCT UP TO NEW ROOF MOUNTED CAP. EXHAUST DISCHARGE SHALL BE 10'-0" MIN. FROM ANY OUTSIDE AIR INTAKE.

2" CONDENSATE PIPE UP TO ATTIC AND DOWN TO SECOND FLOOR. SEE 1/M2 AND 1/M5 FOR CONTINATION.

18 IN-LINE EXHAUST FAN IN ATTIC SPACE.

19 PROVIDE SECURITY CAGE ON WALL MOUNTED FAN-COIL UNIT. CAGE BY GENERAL CONTRACTOR.



Architectural

Coastal

Lee D. Dixon, Jr., AIA

252-247-2127

Iee@coastalarchitecture.net

4206 Bridges St. Ext., Suite C Morehead City, NC 28557

COURTHOUSE

113 COURTHOUSE SQ. HITEVILLE, NORTH CAROLINA

COLUI

RENOVATED SECOND FLOOR HYAC PLAN

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SHEET NO.

ENGINEER BURICE DESIGN GROUP

3305-109 DURHAM DRIVE RALEIGH, NC 27603 PHONE: (919) 771–1916

Corp. License # C-2652

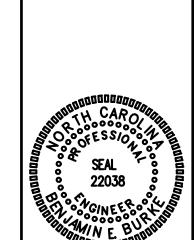
FAX: (919) 779-0826 email: ben@bdg-nc.com



Coastal Architecture

Lee D. Dixon, Jr., AIA
252-247-2127
lee@coastalarchitecture.net

4206 Bridges St. Ext., Suite C Morehead City, NC 28557 www.CoastalArchitecture.net



NEW ATTIC HVAC PLAN

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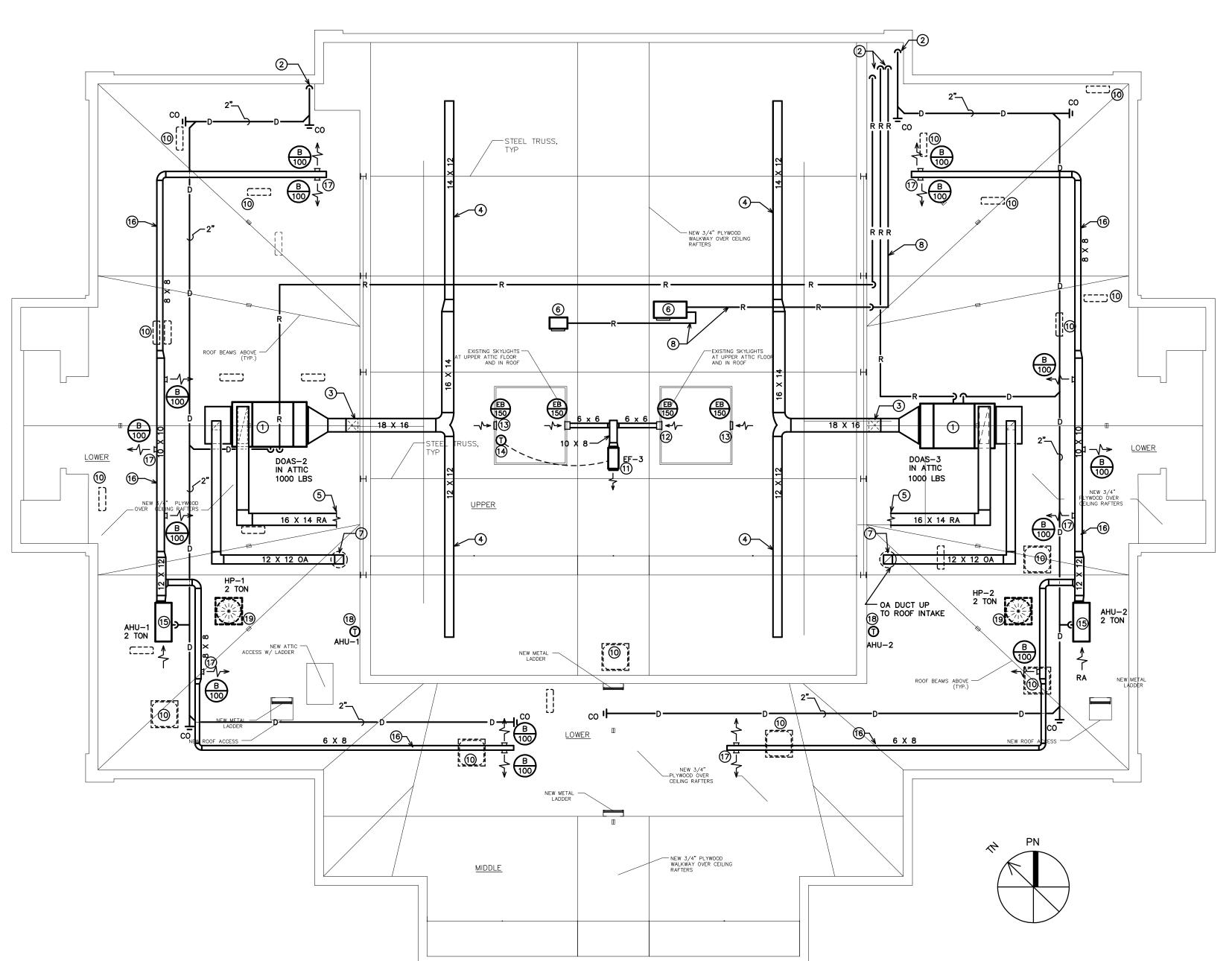
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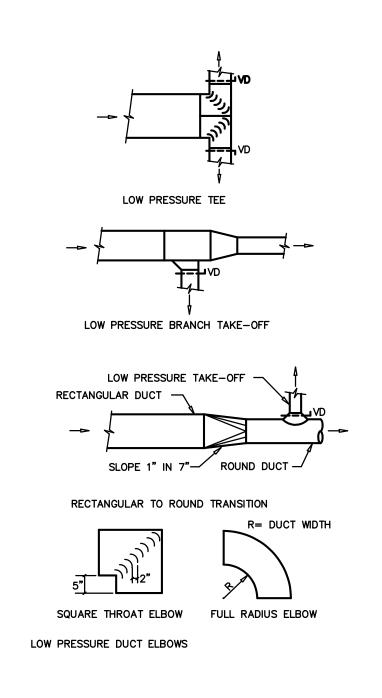
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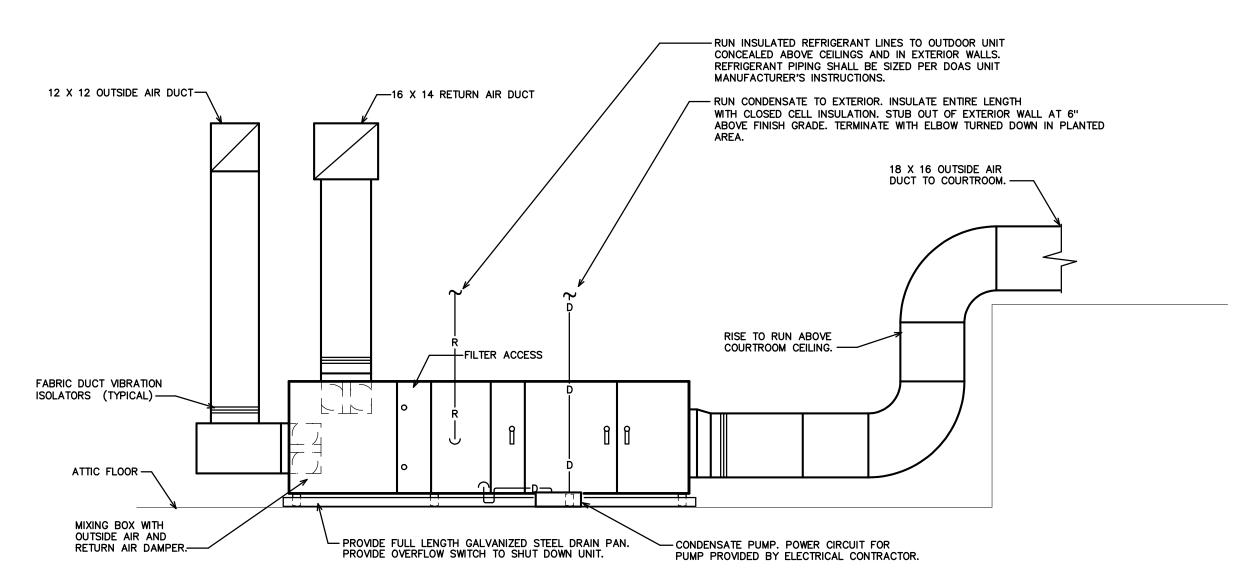
NEW ATTIC HVAC PLAN M-5 SCALE: 1/8"=1'-0"

- KEY NOTES FOR SHEET M5
- 1) NEW DOAS AIR HANDLING UNIT IN ATTIC SPACE. SEE 1/M5 NEW ATTIC HVAC PLAN AND DETAIL 2/M6.
- 2 REFRIGERANT PIPING FOR 2ND FLOOR VRF AND DOAS SYSTEMS DOWN TO SECOND FLOOR. SPACE. SEE 1/M4 FOR CONTINUATION.
- 3 SUPPLY AIR DUCT SHALL RISE AT THIS LOCATION TO RUN OVER HIGHER ATTIC SECTION OVER COURTROOM.
- 4 NEW SUPPLY AIR DUCTWORK IN ATTIC SPACE. SEE 1/M4 RENOVATED SECOND FLOOR HVAC PLAN FOR SUPPLY DIFFUSER CONNECTIONS.
- 5 NEW RETURN AIR DUCT IN ATTIC SPACE. SEE 1/M4 NEW ATTIC HVAC PLAN FOR CONTINUATION.
- 6 VRF SYSTEM BRANCH CONTROLLER BOX IN ATTIC SPACE. CONTRACTOR SHALL VERIFY REQUIRED LOCATION WITH VRF SYSTEM MANUFACTURER. REFRIGERANT PIPING FOR SECOND FLOOR INDOOR FAN—COIL UNITS SHALL CONNECT TO THIS BRANCH CONTROLLER BOX. PROVIDE FULL LENGTH DRAIN PAN UNDER UNIT WITH DRAIN PIPE TO EXTERIOR.
- 7 RUN 12" X 12" OUTSIDE AIR DUCT UP TO AND CONNECT TO NEW ROOF MOUNTED OUTSIDE AIR INTAKE HOOD. HOOD SHALL BE EQUAL TO CARNES MODEL GSAA, SIZE 12. INTAKE SHALL BE 10'-0" MIN. FROM ANY EXHAUST DISCHARGE OR PLUMBING VENT.
- 8 RUN REFRIGERANT PIPING IN ATTIC SPACE.
- (9) 2" CONDENSATE PIPE DOWN TO SECOND. SEE 1/M4 FOR CONTINATION.
- (10) LOCATION OF FAN-COIL UNIT ON SECOND FLOOR BELOW. RUN CONDENSATE PIPING UP INTO ATTIC SPACE FROM EACH UNIT CONCEALED IN WALL, AND CONNECT TO CONDENSATE HEADER IN ATTIC SPACE. RUN REFRIGERANT PIPING FROM EACH FAN-COIL UNIT UP CONCEALED IN WALL AND CONNECT TO VRF BRANCH CONTROLLER BOX IN ATTIC SPACE. (TYPICAL).
- 11) IN-LINE EXHAUST FAN LOCATED IN ATTIC SPACE. FAN SHALL DISCHARGE INTO ATTIC SPACE. FAN IS FOR HEAT REMOVAL FROM SKYLIGHT WELL.
- ② SIDE WALL EXHAUST INTAKE GRILLE MOUNTED NEAR THE TOP OF THE SKYLIGHT WELL.
- SIDE WALL EXHAUST INTAKE GRILLE MOUNTED NEAR BOTTOM OF SKYLIGHT WELL. THIS GRILLE WILL DRAW AIR FROM THE CONDITIONED ATTIC SPACE.
- MOUNT THERMOSTAT TO CONTROL EXHAUST FAN ON WALL INSIDE SKYLIGHT WELL. PROVIDE 24" X 24" ACCESS DOOR ON SIDE OF SKYLIGHT WELL TO ACCESS THERMOSTAT.
- 15) NEW HORIZONTAL AIR HANDLING UNIT MOUNTED ON ATTIC SPACE FLOOR. SEE DETAIL 3/M6.
- 16 RUN SUPPLY DUCTWORK IN ATTIC SPACE.
- (17) DUCT MOUNTED SUPPLY AIR DIFFUSER (TYPICAL).
- (18) MOUNT THERMOSTAT ON VERTICAL WALL.
- 9 OUTDOOR HEAT PUMP UNIT MOUNTED ON ROOF. SEE DETAIL 3/M-6.

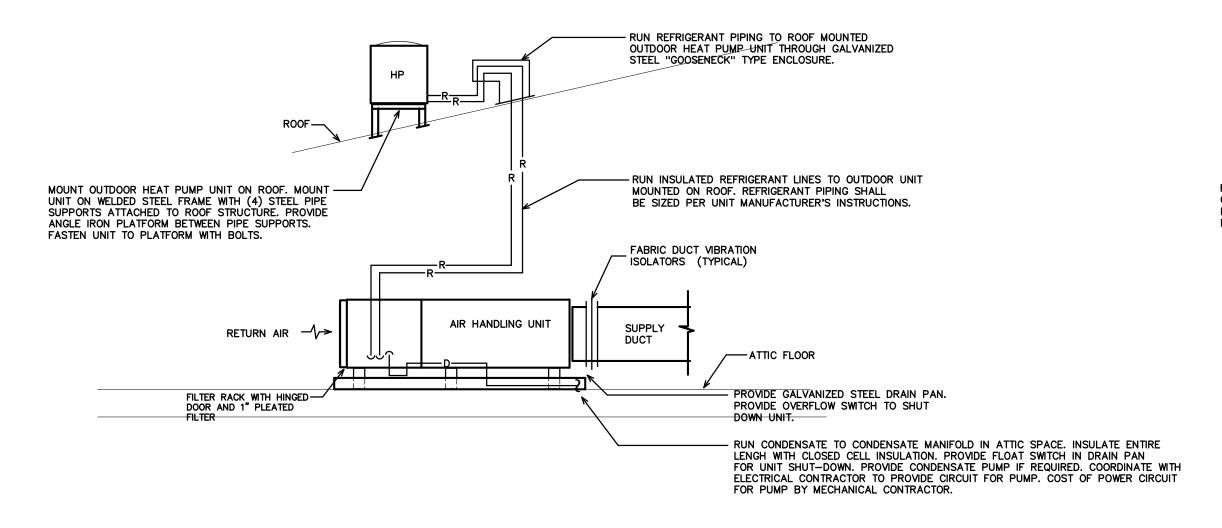


DUCT CONSTRUCTION DETAILS

M-6 SCALE: NOT TO SCALE

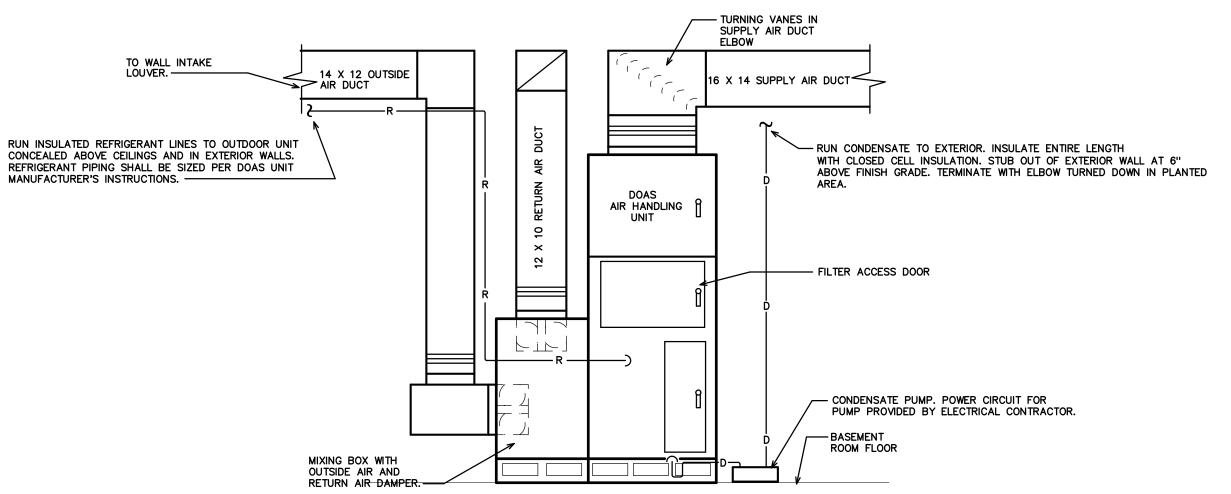


HORIZONTAL DOAS AIR HANDLING UNIT DETAIL M-6 SCALE: NOT TO SCALE

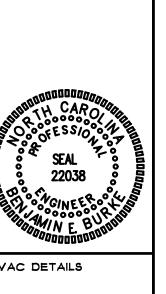


AIR HANDLING UNIT DETAIL

M-6 SCALE: NOT TO SCALE



VERTICAL DOAS AIR HANDLING UNIT DETAIL M-6 SCALE: NOT TO SCALE

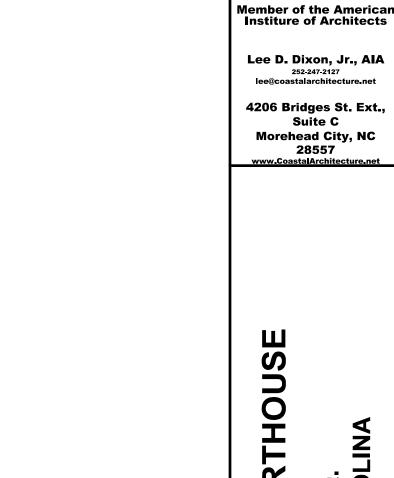


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ENGINEER BURKE DESIGN GROUP

3305-109 DURHAM DRIVE 3305-109 DURHAM DRIVE RALEIGH, NC 27603 PHONE: (919) 771-1916 FAX: (919) 779-0826 email: ben@bdg-nc.com Corp. License # C-2652



COURTHOUSE ISE SQ. I CAROLINA URTHOUS ;, NORTH COUNTY BU OLUME

Coastal

Architectural Design **Planning** Interiors

Lee D. Dixon, Jr., AIA 252-247-2127 lee@coastalarchitecture.net

4206 Bridges St. Ext., Suite C

Morehead City, NC 28557

HVAC DETAILS

SHEET NO. M-6