EXISTING HEAT PUMP SPLIT SYSTEM SCHEDULE

	FAN SECTION			COOLING SECTION				HEATING SECTION		ELECTRIC HEATING COIL SECTION		OUTDOOR UNIT	INDOOR UNIT	
SYMBOL	CFM	OA	TOTAL SP	TOTAL MBTU	SEN. MBTU	EAT DB/WB	MIN SEER	TOTAL MBTU	MIN HSPF	KW	VOLTS/PH	MAKE & MODEL	MAKE & MODEL	NOTES:
AHU-1	1600	375	.50	47.5	36.2	80.0/67.0	14.0	45.5	8.2	11.5	208V/1PH	CARRIER/25HBC5048	CARRIER/FX4D049	1-3
AHU-2	1600	400	.50	47.5	36.2	80.0/67.0	14.0	45.5	8.2	11.5	208V/1PH	CARRIER/25HBC5048	CARRIER/FX4D049	1-3
AHU-3	1600	275	.50	47.5	36.2	80.0/67.0	14.0	45.5	8.2	11.5	208V/1PH	CARRIER/25HBC5048	CARRIER/FX4D049	1-3
AHU-4	1600	175	.50	47.5	36.2	80.0/67.0	14.0	45.5	8.2	11.5	208V/1PH	CARRIER/25HBC5048	CARRIER/FX4D049	1-3

NOTES:
1.) EXISTING UNIT INSTALLED BY LANDLORD
2.) PROVIDE THERMOSTAT & CONTROLS/WIRING
3.) PROVIDE ANY POWER WIRING NOT EXISITING

LOUVER SCHEDULE

SYMBOL	MAX. CFM	MAX. FPM	SQ. FT. FREE AREA	SIZE	MAKE & MODEL	NOTES:
L-1	1250	880	1.45	20" x 20"	ARCHITECTURAL LOUVERS/ E4WH	1-4
L-2	1250	880	1.45	20" x 20"	ARCHITECTURAL LOUVERS/ E4WH	1-4
L-3	1250	880	1.45	20" x 20"	ARCHITECTURAL LOUVERS/ E4WH	1-4

NOTES:
1.) UNIT SHALL BE CONSTRUCTED OF ALUMINUM.
2.) UNIT SHALL BE ANODIZED.
3.) UNIT SHALL BE INSTALLED IN EXISTING TRANSOM WINDOW.
4.) UNIT SHALL MATCH EXISTING FRAME COLOR.

OUTSIDE AIR CALCULATIONS

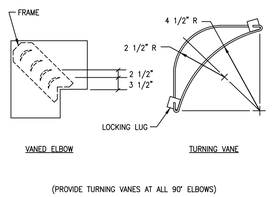
UNIT NO.	AREA S.F.	AREA SERVED	PERSONS /1000 S.F.	NO. OF PEOPLE	CFM PER PERSON	CFM PER S.F.	O.A. REQUIRED	S.A. PROVIDED	O.A. PROVIDED	EFFECTIVENESS FACTOR	NET O.A. PROVIDED
AHU-1	400	DINING AREA	70	28	7.5	0.18	282	1200	375	0.8	300
AHU-2	428		70	30	7.5	0.18	302	1250	400	0.8	320
AHU-3	281		70	20	7.5	0.18	201	900	275	0.8	220
AHU-4	171		70	12	7.5	0.18	121	800	175	0.8	140
		TOTALS		90			906	4150	1225		980

FAN SCHEDULE

TAG	CFM	S.P.	RPM	TYPE	VOLTS/PH	WATTS	MANUFACTURER & MODEL NO.	ACTIVATION	REMARKS
EF-1	750	.5	900	INLINE	115/1PH	419	GREENHECK/ CSP - A1050	CONTACTOR	1,2,3

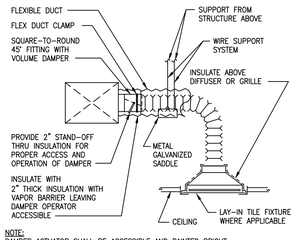
NOTES:
1. PROVIDE AUTOMATIC BACKDRAFT DAMPER.
2. PROVIDE SPEED CONTROLLER.
3. PROVIDE DISCONNECT SWITCH.

TYPICAL DETAILS

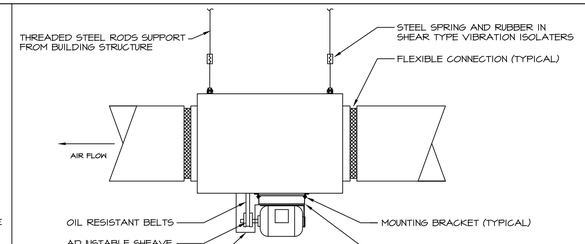


(PROVIDE TURNING VANES AT ALL 90° ELBOWS)

1 TURNING VANE DETAIL
SCALE: N.T.S.



2 BRANCH DUCT DETAIL
SCALE: N.T.S.



3 IN-LINE EXHAUST FAN DETAIL
SCALE: N.T.S.

G.C. NOTES

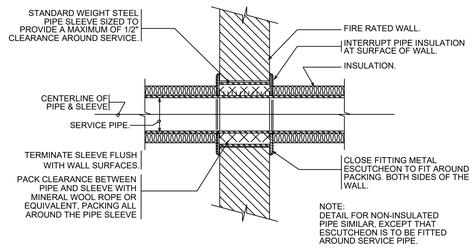
CONTRACTOR SHALL FOLLOW

NOTES

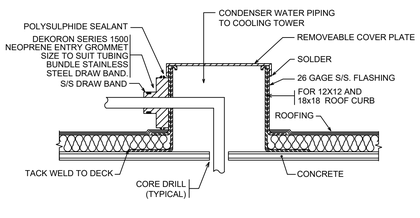
PROVIDE / INSTALL

DISCONNECTS	DIV-26
EXTERNAL POWER	DIV-26
THERMOSTATS	DIV-23
SMOKE DETECTOR	DIV-23*
HUMIDISTAT	NONE
ROOF CURBS	DIV-23
CONTROL WIRE	DIV-23

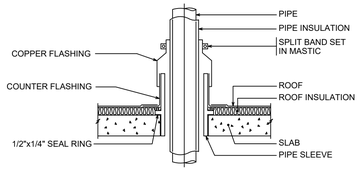
* PROVIDED BY DIV. 23, WIRED BY DIV. 26



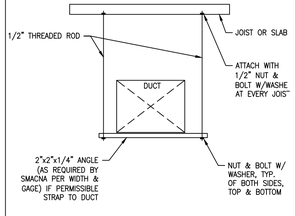
4 DETAIL OF PIPE THROUGH REQUIRED RATED PARTITION
SCALE: N.T.S.



5 CURB FOR PIPE PENETRATIONS THROUGH ROOF
SCALE: N.T.S.



6 DETAIL OF PIPE PENETRATION THROUGH ROOF
SCALE: N.T.S.



7 DUCT SUPPORT DETAIL
SCALE: N.T.S.

ABBREVIATIONS

(NOT ALL ARE USED)

AC	AIR CONDITIONING
AFF	ABOVE FINISHED FLOOR
AFMS	AIR FLOW MONITORING STATION
AG	ABOVE GRADE
AHU	AIR HANDLING UNIT
AD	ACCESS DOOR
APPROX	APPROXIMATELY
BDD	BACK DRAFT DAMPER
BOD	BOTTOM OF DUCT
BTU	BRITISH THERMAL UNIT
CAP	CAPACITY
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
CONN	CONNECTION
CU	CONDENSING UNIT
CV	CONSTANT VOLUME
DB	DRY BULB
DG	DOOR GRILLE
I	DIGITAL INPUT
N	DOWN
O	DIGITAL OUTPUT
AT	ENTERING AIR TEMPERATURE
ER	ENERGY EFFICIENCY RATIO
DF	EXHAUST FAN
DFF	EFFECTIVENESS
DG	EXHAUST GRILLE
ELEC	ELECTRICAL
EMS	ENERGY MGMT. SYSTEM
EX	EXHAUST
ENT	ENTERING
ESP	EXTERNAL STATIC PRESSURE
E	FAHRENHEIT
FA	FILTER ACCESS
FACP	FIRE ALARM CONTROL PANEL
FCD	FLOW CONTROL DAMPER
FD	FIRE DAMPER
FLA	FULL LOAD AMPACITY
FPM	FEET PER MINUTE
FPMB	FAN POWER MIXING BOX
FS	FIRE STAT
HP	HORSEPOWER
HZ	HERTZ
IN-H2O	INCHES OF WATER
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LAT	LATENT
LD	LOUVERED DOOR
LRA	LOCKED ROTOR AMPS
LVG	LEAVING
MAX	MAXIMUM
MBH	1000xBTU
MCA	MINIMUM CIRCUIT AMPACITY
MISC	MISCELLANEOUS
N.I.C.	NOT IN CONTRACT
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAL	OUTSIDE AIR LOUVER
OBD	OPPOSED BLADE DAMPERS
OC	ON CENTER
PD	PRESSURE DROP
PH	PHASE
PVC	POLYVINYLCHLORIDE
RA	RETURN AIR
REF	REFRIGERANT
RG	RETURN GRILLE
RLA	RUNNING LOAD AMPS
RTU	ROOFTOP A/C UNIT
SA	SUPPLY AIR
SD	SUPPLY DIFFUSER
SEN	SENSIBLE
SG	SUPPLY GRILLE
UNCORR	UNCORRECTED
UON	UNLESS OTHERWISE NOTED
VAV	VARIABLE VOLUME
VFD	VARIABLE FREQUENCY DRIVE
WMS	WIRE MESH SCREEN

LEGEND

- SUPPLY DIFFUSER
- RETURN GRILLE
- EXHAUST GRILLE
- SUPPLY DUCT DOWN
- RETURN DUCT DOWN
- EXHAUST DUCT DOWN
- (T) THERMOSTAT
- [TS] REMOTE TEMPERATURE SENSOR
- [SD] SMOKE DETECTOR
- [M] MOTORIZED DAMPER
- MANUAL VOLUME DAMPER
- DUCTWORK
- FLEX DUCT
- [BDD] BACKDRAFT DAMPER
- [FD] FIRE DAMPER
- AIR FLOW DIRECTION
- 1" DOOR UNDERCUT
- POINT OF CONNECTION
- R RISE IN ELEVATION
- D DROP IN ELEVATION
- AREA OF DEMOLITION

GENERAL NOTES

1. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, AND TOOLS TO PERFORM ALL WORK NECESSARY FOR THE COMPLETE EXECUTION OF THE HVAC WORK AS SHOWN ON THE DRAWINGS. PIPING SHALL ESSENTIALLY BE ROUTED AND LOCATED AS INDICATED ON THE DRAWINGS. HOWEVER, ACTUAL PLACEMENT SHALL BE VERIFIED BY CONFIRMING EXACT LOCATION OF STRUCTURES AND OTHER UTILITIES IN THE FIELD AND BY CAREFUL LAYOUT PRIOR TO EXECUTION OF THE WORK. HVAC PIPING LAYOUTS ARE GENERALLY DIAGRAMMATIC AND SHOULD NOT BE SCALED.
2. ALL DISCREPANCIES ON DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING PRIOR TO SUBMISSION OF BIDS. SUBMISSION OF A BID CONSTITUTES ACCEPTANCE OF FIELD CONDITIONS.
3. SUPPORT DUCTS PER SMACNA FROM SUPPORT STRUCTURE.
4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF ALL APPLICABLE LOCAL, STATE & NATIONAL CODES, STANDARDS AND AUTHORITY(S) HAVING JURISDICTION.
5. ROUTE ALL DUCTWORK, PIPING, ACCESSORIES AS NECESSARY TO AVOID BUILDING STRUCTURE, COMPONENTS AND LIGHTING. COORDINATE ANY TRANSITIONS MADE TO DUCTWORK WITH MAXIMUM FAN PRESSURE DROP REQUIREMENTS FROM MANUFACTURER'S RECOMMENDATIONS.
6. ALL DIMENSIONS ARE APPROXIMATE. DO NOT SCALE DRAWINGS FOR CONSTRUCTION.
7. ALL FINISHED WORK SHALL BE FREE OF DEFECTS WITH EXISTING SURFACES MAINTAINED IN THE SAME CONDITION AS ORIGINAL.
8. ALL DEBRIS SHALL BE PROPERLY DISPOSED OF OFF-SITE.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING FIRE RATING AND WEATHERPROOFING INTEGRITY OF ALL PIPING AND PENETRATIONS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY SUPPORTING DEVICES FOR ALL ACCESSORIES INCLUDED IN CONTRACT OR HEREIN SPECIFIED OR OTHERWISE.
11. CONTRACTOR SHALL PROVIDE ACCESS IN HARD CEILINGS FOR ALL FIRE DAMPERS, SPIN-IN FITTINGS AND MECHANICAL EQUIPMENT AS REQUIRED

DESIGN DATA

SUMMER OUTSIDE – 91/79 F
WINTER OUTSIDE – 45/60 F
INSIDE TEMP/RH – 75F/50%

AIR DISTRIBUTION SCHEDULE

TAG ⟶ SD-1
AIRFLOW ⟶ XXX

24"x24" 3-CONE ALUMINUM SUPPLY AIR DIFFUSER. 360 DEGREE FIXED PATTERN. LOUVERED FACE. SEE ARCH FOR CEILING TYPE. PROVIDE INSULATED BACK COVER. NECK TO MATCH FLEX SIZE. WHITE FINISH. CFM INDICATED ON PLANS. BASIS OF DESIGN: PRICE MODEL ASCD.

TAG ⟶ RG-1

24"x24" LOUVERED FACE RETURN GRILLE, WHITE FINISH, ALUMINUM CONSTRUCTION. BASIS OF DESIGN: PRICE MODEL 630.

BRANCH DUCT SIZE:
0 – 250 CFM – 12x6
255 – 350 CFM – 12x8
355 – 475 CFM – 12x10
480 – 650 CFM – 12x12
655 – 850 CFM – 14x12
855 – 1000 CFM – 16x12
1005 – 1200 CFM – 18x12

TAG ⟶ SR-1
AIRFLOW ⟶ XXX

SIDEWALL SUPPLY REGISTER, DOUBLE DEFLECTION, WHITE FINISH, ALUMINUM CONSTRUCTION. OPPOSED BLADE BALANCING DAMPER, ADJUSTABLE THROUGH FACE, BASIS OF DESIGN: PRICE MODEL 620.

CFM	NECK SIZE
0–175	8x4
180–300	10x6
305–450	12x8
455–650	16x8

SPECIFICATIONS

1.0 BASIC MATERIAL AND METHODS

1.1 SCOPE OF WORK
PROVIDE LABOR AND MATERIALS AS REQUIRED TO PROVIDE A FULLY FUNCTIONING AND COMPLETE SYSTEM AS INDICATED ON DRAWINGS. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT. FINAL LOCATIONS OF EQUIPMENT SHALL BE FIELD DETERMINED. ALL DISCREPANCIES ON DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING PRIOR TO SUBMISSION OF BIDS.

1.2 GENERAL AND SPECIAL CONDITIONS
ALL DIVISION 1 SPECIFICATIONS AND ARCHITECTURAL GENERAL AND SPECIAL CONDITIONS OUTLINED IN THE CONTRACT DOCUMENTS APPLY TO MECHANICAL SYSTEMS. ADDITIONALLY, WORK SHALL COMPLY WITH BUILDING CODE AND REGULATIONS OF THE LOCAL AUTHORITY HAVING JURISDICTION, NATIONAL FIRE PROTECTION ASSOCIATION, AND NATIONAL ELECTRICAL CODE. ALL EQUIPMENT SHALL CARRY THE UNDERWRITER'S LABORATORIES (UL) SEAL WHERE APPLICABLE.

1.3 QUALITY CONTROL
UNLESS OTHERWISE NOTED, PROVIDE NEW MATERIALS FREE OF DEFECTS. WHERE NO SPECIFIC WEIGHTS OR GRADES ARE SPECIFIED, PROVIDE MATERIALS OF AN ACCEPTED STANDARD WEIGHT AND GRADE ACCORDING TO CODE AND GOVERNING STANDARDS BY ASHRAE, SMACNA, NFPA, AND UL. INSTALL ALL EQUIPMENT, PIPING, DUCTWORK, AND CONTROLS IN ACCORDANCE WITH CODES, GOVERNING STANDARDS, AND MANUFACTURER'S RECOMMENDATIONS. FIRE PERFORMANCE CHARACTERISTICS OF INSTALLED MATERIALS SHALL BE RATED IN ACCORDANCE WITH ASTM E84. MAXIMUM FLAME SPREAD RATING SHALL BE 25 AND MAXIMUM SMOKE DEVELOPED RATING SHALL BE 50.

1.4 COORDINATION
COORDINATE ALL WORK FOR PROPER LOCATION, POWER, AND UTILITY REQUIREMENTS. SCHEDULE INSTALLATIONS TO AVOID CONFLICT AMONG TRADES. ADDITIONS TO THE CONTRACT FOR COORDINATION AMONG TRADES WILL NOT BE ALLOWED.

1.5 PENETRATIONS, CUTTING AND PATCHING
SEAL ALL PIPING AND DUCT PENETRATIONS OF WALLS IN ACCORDANCE WITH ARCHITECTURAL DRAWINGS AND SPECIFICATIONS. PIPING PENETRATIONS OF RATED FLOORS AND WALLS SHALL BE SEALED WITH FIRESTOPPING MATERIAL. FLASH ALL ROOF AND WALL PENETRATIONS IN ACCORDANCE WITH ARCHITECTURAL DRAWINGS. PROVIDE FIRE DAMPERS AT ALL RATED PENETRATIONS.

1.6 HANGERS AND SUPPORTS
PROVIDE HANGERS AND SUPPORTS FOR ALL PIPING, DUCTWORK, AND EQUIPMENT IN ACCORDANCE WITH SMACNA, MSS, ASME, AND ASHRAE STANDARDS. SUPPORT ALL ITEMS FROM INTEGRAL BUILDING STRUCTURAL MEMBERS. DO NOT HANG ITEMS FROM ROOF DECKING.

2.0 NOT USED.

3.0 DUCTWORK AND ACCESSORIES

3.1 AIR DUCTS – SUPPLY AND RETURN
GALVANIZED SHEET METAL WITH LOCK-FORMING QUALITY ASTM A653, G90 COATING, MILL PHOSPHATIZED FINISH FOR DUCTS EXPOSED TO VIEW. CLASS DESIGNATION SHALL BE ADEQUATE FOR PRESSURE IN DUCT SYSTEM PER TOTAL PRESSURE AS SCHEDULED FROM EQUIPMENT SHOP DRAWINGS. INSULATE SUPPLY, RETURN AND OUTSIDE AIR DUCTS WITH MINERAL FIBERGLASS BLANKETS BONDED WITH A THERMOSETTING RESIN. ASTM C 553, TYPE II, WITHOUT FACING AND WITH ALL-SERVICE JACKET MANUFACTURED FROM KRAFT PAPER, REINFORCING SCRIM, ALUMINUM FOIL, VINYL FILM. DENSITY SHALL BE MIN. 1.5 LB/CUFT. THICKNESS TO MAINTAIN AN R VALUE OF 6.

3.2 DEDUCTIVE ALTERNATE
PROVIDE RIGID FIBERGLASS DUCTS FOR SUPPLY AND RETURN AIR ACCORDING TO THE FOLLOWING:
RIGID FIBERGLASS DUCTS WITH INTERIOR ACRYLIC COATING, CONFORMING TO SMACNA FSGDCS GUIDELINES. R BONDED WITH THERMOSETTING RESIN. FIRE-RESISTANT, REINFORCED, FOIL-SCRIM KRAFT PAPER FACE. UL-181, UL CLOSURE, EI LABEL ON FACE. VAPOR BARRIER WITH 0.02 PERMEANCE. NOISE REDUCTION OF 0.65 MIN COEFFICIENT. 250°F RATED. CLOSURE SHALL BE WITH PRESSURE SENSITIVE TAPE, PLASTIC STRAPS AND GASKETING CONFORMING TO ENERGY CODE. (OWENS CORNING ENDURACOAT OR EQUAL). FITTINGS ARE TO CONFORM TO NAIMA STANDARDS.

3.3 AIR DUCTS – EXHAUST AIR
26 GA GALVANIZED SHEET METAL DUCT SYSTEM WITH LOCK FORMING QUALITY. (SNAP-LOCK)

3.4 VOLUME CONTROL DAMPERS
PROVIDE VOLUME CONTROL DAMPERS AT EACH BRANCH DUCT AND AS NECESSARY FOR PROPER SYSTEM BALANCING. PROVIDE FACTORY FABRICATED VOLUME CONTROL DAMPERS COMPLETE WITH REQUIRED LOCKING HARDWARE AND ACCESSORIES.

3.5 FLEXIBLE CONNECTIONS
PROVIDE FLEXIBLE CONNECTIONS AT ALL EQUIPMENT CONNECTIONS.

3.6 OUTSIDE AIR DAMPERS
PROVIDE 24V MOTORIZED OUTSIDE AIR DAMPER INTERLOCKED TO OPEN UPON AHU FAN OPERATION, OTHERWISE DAMPER NORMALLY CLOSED.

4.0 TESTING, ADJUSTING AND BALANCING
BALANCE AIRFLOWS FOR EQUIPMENT, INLETS AND OUTLETS. TEST AND BALANCE ALL SYSTEMS INSTALLED TO MATCH INDICATED AIRFLOWS WITHIN ± 10% OF INDICATED VALUES. BALANCE AIR INLETS AND OUTLETS AS INDICATED. ADJUST SYSTEMS WHERE NECESSARY. PROVIDE TEST AND BALANCE REPORT INDICATING ALL INTERMEDIATE AND FINAL VALUES. NEBB OR AABC CERTIFICATION OF TEST AND BALANCE PERSONNEL AND REPORT IS REQUIRED ON THIS PROJECT.

5.0 SUBMITTALS
PROVIDE 6-SETS (EACH) OF MANUFACTURER'S DATA, O&M MANUALS, ELECTRICAL DATA, DIMENSIONAL DATA AND CLEARANCES, CONNECTION DATA, COLOR SAMPLES (IF REQUIRED), AND TEST DATA FOR THE FOLLOWING:

ROOFTOP UNITS, CONTROLS, EXHAUST FANS, AIR DISTRIBUTION, T&B REPORT.

SHOP DRAWINGS MUST BE SUBMITTED AND APPROVED PRIOR TO ORDERING OF EQUIPMENT. ENGINEER WILL REQUIRE 7 WORKING DAYS TO REVIEW DRAWINGS.

IT IS THE RESPONSIBILITY OF ALL BIDDING CONTRACTORS TO ENSURE THAT EACH OF THEIR SUBCONTRACTORS RECEIVE THE NECESSARY DRAWINGS AND INFORMATION FOR BIDDING. MECHANICAL CONTRACTOR SHALL INDICATE TO ALL BIDDING VENDOR'S THAT EACH VENDOR SHALL REQUEST FROM THE BLUEPRINT COPY COMPANY FULL SIZE DRAWINGS PER MECHANICAL CONTRACTOR'S FOR WHICHEVER DRAWINGS HE/SHE DEEMS NECESSARY.

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Date	Issued For
7 . 29 . 22	CRAVE FINAL REVIEW
8 . 05 . 22	BID & PERMIT REVIEW

Sq. Ft.: 2,915

CRAVE

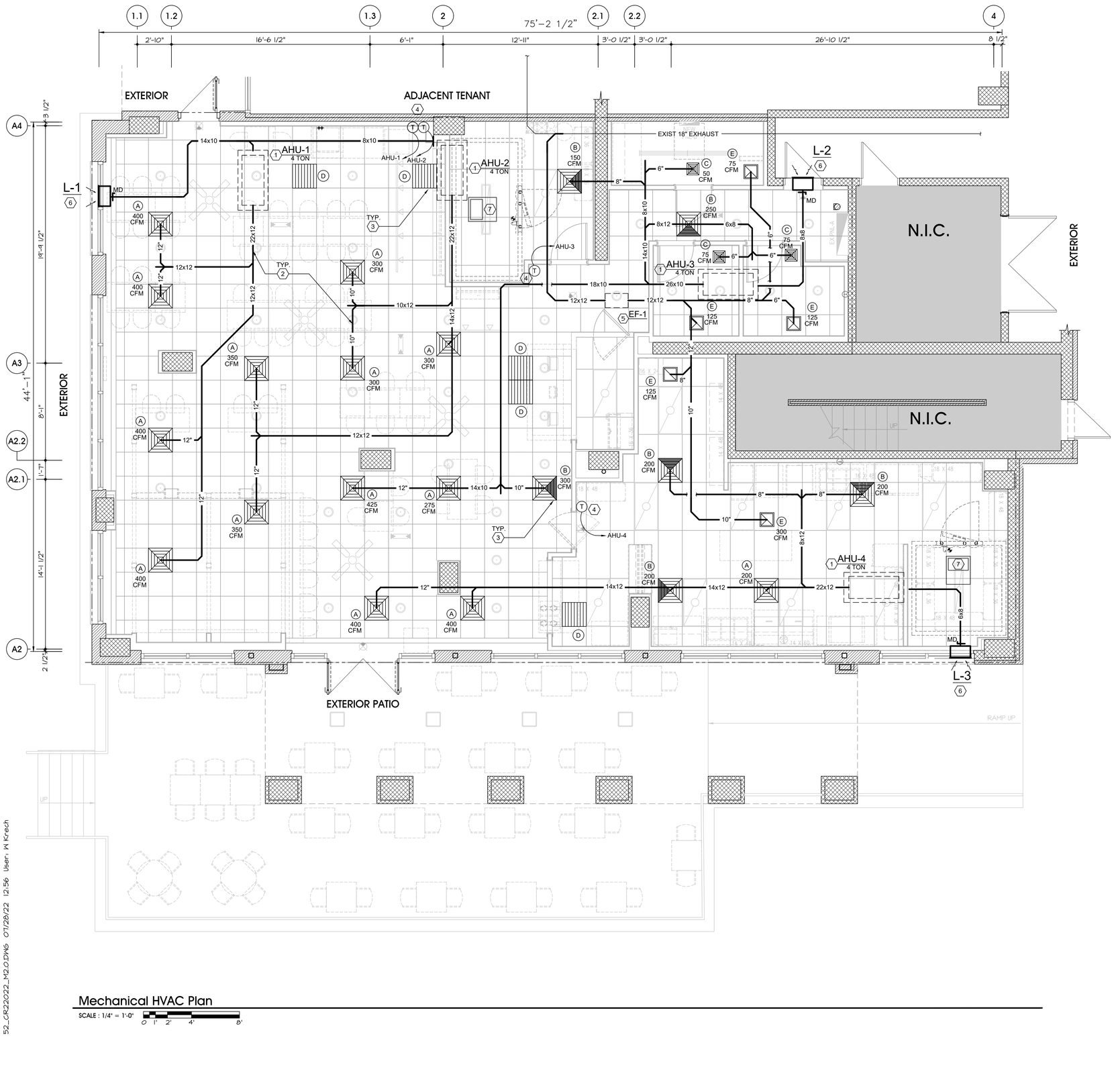
99 Westedge
Suite 1100
99 Westedge
Charleston, SC 29403

Mechanical Schedules, Specs & Details

DATE: xx.xx.xx CHECKED: WJK

Job #: 22022
CRAVE #: xxx

M1.0



Mechanical HVAC Plan

SCALE : 1/4" = 1'-0" 0 1' 2' 4' 8'

SEQUENCE OF OPERATION

COOLING CYCLE - OCCUPIED SPACE CONDITION

UPON A RISE IN SPACE TEMPERATURE ABOVE THE SETTING OF THE THERMOSTAT, THE ROOF TOP UNIT SHALL BE ACTIVATED, OUTSIDE AIR DAMPER SHALL OPEN, AND FAN SHALL START TO PROVIDE COOLING TO THE SPACE. THE SUPPLY FAN SHALL OPERATE CONTINUOUSLY AND THE COMPRESSOR SHALL CYCLE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE.

WHEN THE OUTDOOR AIR TEMPERATURE IS BELOW 68 DEG. F. THE ROOF TOP UNIT OPERATION SHALL BE CONTROLLED BY THE ECONOMIZER. THE ECONOMIZER SHALL MODULATE THE RETURN AIR AND OUTDOOR AIR DAMPERS TO INTRODUCE UP TO 100% OUTDOOR AIR TO SATISFY THE MIXED AIR THERMOSTAT, AND THE UNIT EXHAUST FAN SHALL ACTIVATE.

COOLING CYCLE - UNOCCUPIED SPACE CONDITION

UPON A RISE IN SPACE TEMPERATURE ABOVE THE SETTING OF THE THERMOSTAT, THE ROOF TOP UNIT SHALL BE ACTIVATED TO PROVIDE COOLING TO THE SPACE.

HEATING CYCLE - OCCUPIED SPACE CONDITION

UPON A DROP IN SPACE TEMPERATURE BELOW THE SETTING OF THE THERMOSTAT, THE ROOF TOP UNIT SHALL BE ACTIVATED, OUTSIDE AIR DAMPER SHALL OPEN, THE FURNACE SHALL CYCLE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE. THE SUPPLY FAN SHALL OPERATE CONTINUOUSLY.

HEATING CYCLE - UNOCCUPIED SPACE CONDITION

UPON A DROP IN SPACE TEMPERATURE BELOW THE SETTING OF THE THERMOSTAT, THE ROOF TOP UNIT SHALL BE ACTIVATED TO PROVIDE HEATING TO THE SPACE.

THERMOSTAT / CONTROLS REQUIREMENTS

NIGHT SET-BACK THERMOSTAT SHALL PROVIDE:

- FIVE (5) DEGREE DEAD BAND BETWEEN HEATING AND COOLING.
- ABILITY TO SETBACK TEMPERATURES DOWN TO 55 DEG. F. OR UP TO 85 DEG. F. CONTROLS SHALL PROVIDE FOR:
- CAPABLE OF AUTOMATICALLY STARTING AND STOPPING THE SYSTEMS FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK.
- CAPABLE OF HAVING SETTINGS SAVED IN MEMORY FOR 10 HOURS DURING A LOSS OF POWER.
- MANUAL SYSTEM "ON" OVERRIDE FOR UP TO TWO HOURS, OR AN OCCUPANCY SENSOR.
- EACH OUTDOOR SUPPLY AIR AND EXHAUST AIR DUCT SHALL BE PROVIDED WITH MOTORIZED DAMPERS TO SHUT OFF WHEN NOT IN USE.

(XX) HVAC PLAN KEYED NOTES:

1. EXISTING (NEWLY INSTALLED BY L/L) 4-TON CEILING HUNG SPLIT SYSTEM HEAT PUMP AHU. CONTRACTOR SHALL COMPLETE SYSTEM INSTALLATION INCLUDING ALL DUCTWORK, INSTALLATION, FITTINGS, CONDENSATE DRAIN, CONTROL WIRING, ETC. SEE DETAIL,
2. PROVIDE AND INSTALL NEW SUPPLY, RETURN, AND EXHAUST AIR DUCTWORK MOUNTED TIGHT TO STRUCTURE INCLUDING ALL INSULATION, HANGERS, SUPPORTS, ETC. SEE DETAIL.
3. PROVIDE AND INSTALL NEW CEILING MOUNTED SUPPLY AIR DIFFUSER / RETURN AIR / EXHAUST GRILLE INCLUDING ALL DUCTWORK, HANGERS, SUPPORTS, ETC. SEE DETAIL.
4. PROVIDE AND INSTALL NEW PROGRAMMABLE ELECTRONIC NIGHT SET-BACK THERMOSTAT. PROVIDE FOR - 5 DEG. F. DEADBAND & SETPOINT OVERLAP RESTRICTIONS (REPLACE IF REQ'D.), INCLUDING ALL CONTROL WALL BASE, ETC. MOUNT ON WALL 48" A.F.F. WITH LOCKABLE COVER. COVER SHALL BE HONEYWELL MODEL TG511D1004 METAL AND PAINTED TO MATCH ADJACENT WALL. PROVIDE FOR SETBACK TO 55 DEG. F. FOR HEATING & 85 DEG. F. COOLING WITH A 2 HOUR OVERRIDE AND MIN. 10 HOUR BACK-UP.
5. PROVIDE AND INSTALL NEW CEILING HUNG IN-LINE EXHAUST FAN ASSEMBLY INCLUDING DUCTWORK, GRILLES, HANGER ASSEMBLY, FITTINGS, ETC. SEE DETAIL. CONNECT TO EXISTING EXHAUST DUCT INTO SPACE. VERIFY EXACT LOCATION IN FIELD.
6. PROVIDE AND INSTALL NEW EXTERIOR WALL MOUNTED LOUVER (OR MOUNTED IN TRANSOM WINDOW, V.I.F.) FOR OUTSIDE AIR INTAKE INCLUDING ALL DUCTWORK, DAMPERS, CONTROLS, INSULATION, SUPPORTS, WEATHERPROOFING, ETC. COORDINATE EXACT LOCATION IN FIELD. INSTALL IN ONE PANE OF EXISTING STOREFRONT GLAZING SYSTEM AT STOREFRONTS. MAINTAIN MIN. 10 L.F. FROM ANY EXHAUST OUTLETS.
7. INSTALL TENANT SUPPLIED D.O.E. COMPLIANT 'BOHN' PRO3 INDOOR TOP MOUNT SELF-CONTAINED (PACKAGED) REFRIGERATION SYSTEM, MOUNTED ABOVE WALK-IN COOLER(S) PER MANUFACTURERS INSTRUCTIONS. NOTE: SYSTEM COMES PRE-CHARGED - NO REFRIDGERANT LINES. ROUTE CONDENSATE DRAIN LINE TO NEAREST FLOOR SINK, PROVIDE INDIRECT CONNECTION WITH AN APPROVED AIR GAP.

EXHAUST CALCULATIONS:

PRODUCTION (ROOM 102) / PICK-UP AREA (ROOM 103) -
454 SF x 0.7 = 317.8 CFM
COUNTER TOP OVEN (ITEM # 12) - MIN. 100 SF x 0.7 = 70 CFM
TOTAL EXHAUST REQUIRED FOR AREA = 417.8 CFM
TOTAL EXHAUST PROVIDED FOR AREA = 425 CFM

DIFFUSER, GRILLE, REGISTER SCHEDULE

SYMBOL	MAX. CFM	NECK SIZE	FACE SIZE	MAX. FPM	MAX. NC LEVEL	TYPE	CEILING GRID SIZE	FRAME TYPE	MAKE & MODEL	NOTES
A	550	12x12	24x24	500	30	DIFFUSER	24" x 24"	LAY-IN	METALAIRE / 5000-1	1,2,3,4
B	550	12x12	24x24	500	30	DIFFUSER	VARIES	LAY-IN	METALAIRE / 5000-S3	1,2,3,4
C	275	9x9	15x15	500	30	DIFFUSER	VARIES	CUT-IN	METALAIRE / 5000-1	1,2,3,4
D	1800	22x22	24x24	500	30	GRILLE	GYP. BD.	LAY-IN	METALAIRE / RH	1,2,3,4
E	340	10x10	12x12	500	30	GRILLE	24" x 24"	CUT-IN	METALAIRE / RH	1,2,3,4

NOTES:
1. COLOR SHALL BE BAKED ENAMEL FINISH - "WHITE" IN PRODUCTION & SERVING AREAS, AND "BLACK" IN REMAINING AREAS.
2. ALL UNITS TO BE CONSTRUCTED OF ALUMINUM.
3. DIFFUSERS AND REGISTERS SHALL HAVE INTEGRAL BUTTERFLY DAMPERS.
4. BOTH 'METALAIRE' & 'TITUS' TYPE SUPPLY DIFFUSERS & RETURN AIR GRILLES ARE ACCEPTABLE, PER THE FOLLOWING SPECIFICATIONS; 'METALAIRE' - SUPPLY DIFFUSER, '5000 SERIES' & RETURN AIR GRILLE, 'RH SERIES' 'TITUS' - SUPPLY DIFFUSERS 'TDC-AA SERIES' & RETURN AIR GRILLES '350F SERIES'.

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Date	Issued For
7.29.22	CRAVE FINAL REVIEW
8.05.22	BID & PERMIT REVIEW

Sq. Ft.: 2,915

CRAVE

99 Westedge
Suite 1100
99 Westedge
Charleston, SC 29403

Mechanical HVAC Plan

DATE: xx.xx.xx CHECKED: WJK

Job #: 22022
CRAVE #: xxx

M2.0