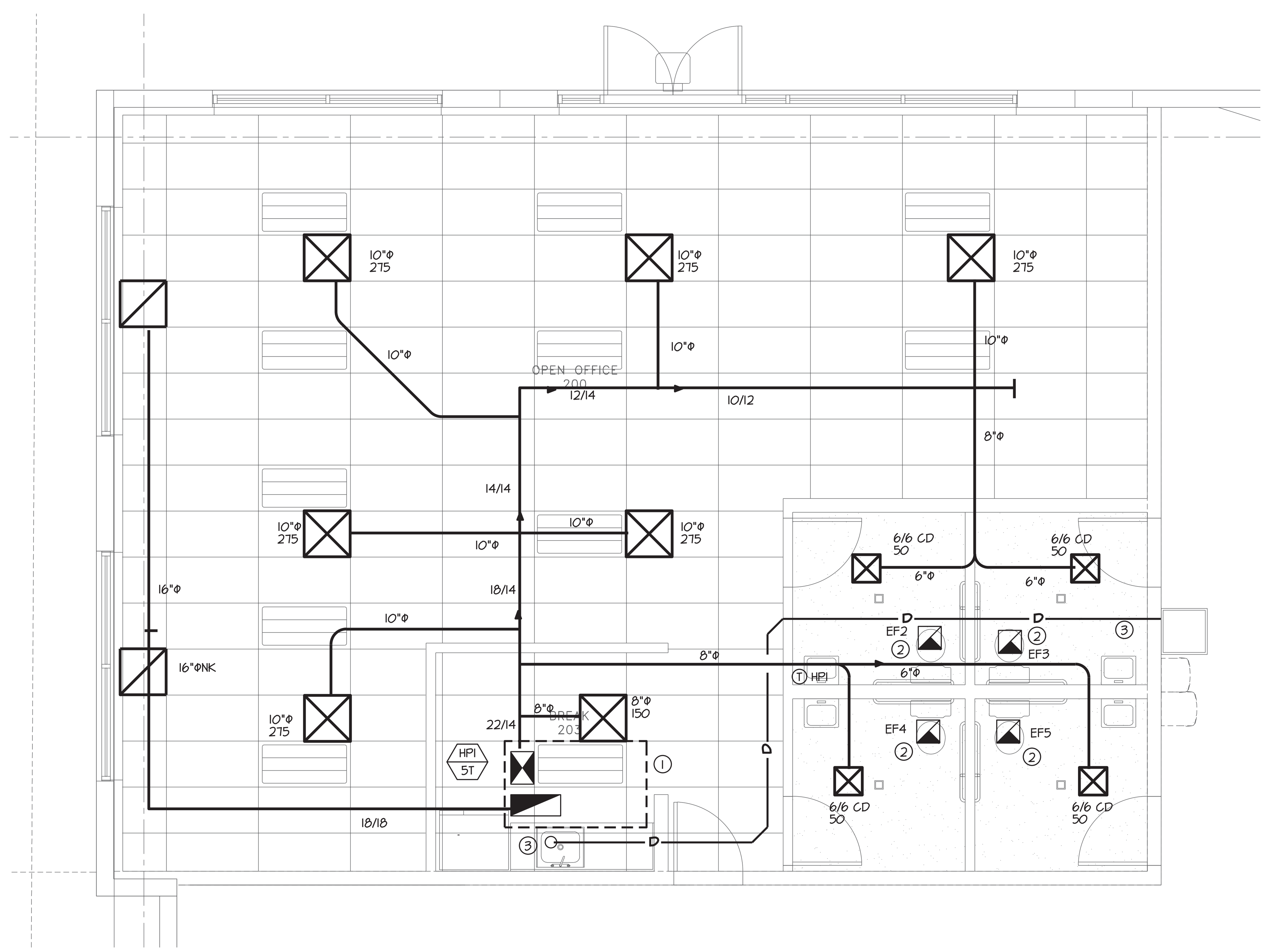
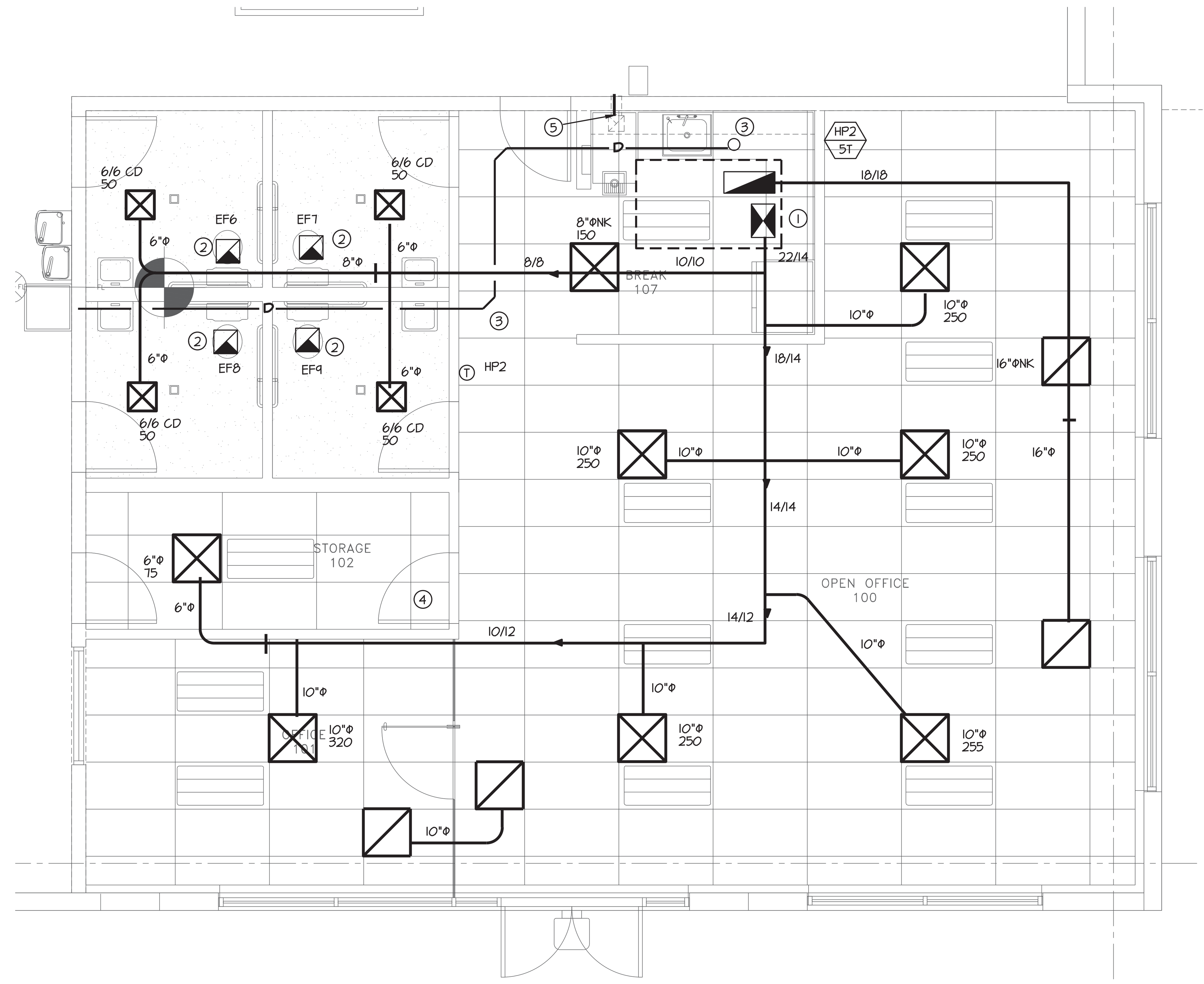


NW MECHANICAL PLAN

SCALE:1/4" =1'0"

0 2 4 8 12 16



SE MECHANICAL PLAN

SCALE:1/4" =1'0"

0 2 4 8 12 16

ENERGY COMPLIANCE PER 2018 IECC:

SEE COMCHECK SHEETS MP1.0 AND MP1.1

EQUIPMENT LOADS:
EQUIPMENT SELECTION/ DESIGN BASED ON DESIGN LOADS CALCULATED USING CARRIER BLOCK LOAD SOFTWARE BASED ON THE ASHRAE SYSTEMS AND EQUIPMENT HANDBOOK. SEE TABLE BELOW FOR EXTERIOR DESIGN CONDITIONS.

EXTERIOR DESIGN CONDITIONS	
WINTER DESIGN DRY BULB	31°F
SUMMER DESIGN DRY BULB	115°F
SUMMER DESIGN WET BULB	78°F
DEGREE DAYS HEATING	1552
DEGREE DAYS COOLING	3508
CLIMATE ZONE	2B

HP1		
1,488 SF		
SENSIBLE COOLING CAPACITY		
LOAD	PROVIDED	EQ. TAG
38,985 BTUH	44,000 BTUH	HP1

HP2		
1,488 SF		
SENSIBLE COOLING CAPACITY		
LOAD	PROVIDED	EQ. TAG
38,729 BTUH	44,000 BTUH	HP2

RT1 (RT2-7 SAME)		
13,030 SF		
SENSIBLE COOLING CAPACITY		
LOAD	PROVIDED	EQ. TAG
161,952 BTUH	170,000 BTUH	RT1 (RT2-7 SAME)

OPERATION AND MAINTENANCE MANUAL FOR NEW EQUIPMENT ONLY:
PROVIDE MANUAL TO BUILDING OWNER.

OUTSIDE AIR SOURCE:
SET OUTSIDE AIR INTAKE TO ADJUST OSA TO MINIMUM REQUIRED.

CONTROLS PER IECC :

FOR EACH SYSTEM: PROVIDE 7 DAY SOLID STATE PROGRAMMABLE THERMOSTAT WITH MANUAL CHANGE-OVER. THERMOSTAT TO HAVE SETBACK CAPABILITY TO SET SET BACK FOR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55° F OR UP TOE 85°F.

PROGRAMMABLE THERMOSTATS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST 10 HOURS. THERMOSTAT TO HAVE MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS; A MANUALLY OPERATED TIMER CAPABLE OF BEING ADJUSTED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS; OR AN OCCUPANCY SENSOR

DUCT AND PLENUM INSULATION AND SEALING

ALL SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-6. INSULATION NOT REQUIRED RT1-7: ALL DUCTWORK IS LOCATED IN CONDITIONED SPACE

ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS IN DUCTWORK SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS, OR TAPES. TAPES AND MASTICS USED TO SEAL DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A OR 181B. DUCT CONNECTIONS TO FLANGES OF AIR DISTRIBUTION SYSTEM EQUIPMENT SHALL BE SEALED AND MECHANICALLY FASTENED. UNLISTED DUCT TAPE IS NOT PERMITTED AS A SEALANT ON ANY METAL DUCTS.

BALANCING DEVICES:
PROVIDE IN ACCORDANCE WITH IECC.

NOTE:
DUCTWORK INSULATION VALUES SET FORTH BY THE IECC SHALL SUPERSEDE ANY OTHER SPECIFICATIONS (INCLUDING MECHANICAL SPECIFICATIONS).

LEGEND

- 24 X 24 "LAY-IN" CEILING DIFFUSER, CD1. PROVIDE MANUAL DAMPER AT BRANCH CONNECTION ADJUST CFM AS SHOWN
- FLANGE MOUNTED CL'G DIFFUSER WITH OBD. CD2. ADJUST CFM AS SHOWN
- 24 X 24 RETURN GRILLE, RG1
- 24 X 24 RETURN AIR TRANSFER GRILLE, RG1
- CEILING MOUNTED EXHAUST FAN
- DUCTWORK - SEE IECC COMPLIANCE SHEET M-2
- D — TYPE "M" HARD COPPER CONDENSATE DRAIN BELOW ROOF - SLOPE @ 1/8" PER FOOT MIN

CITY OF GOODYEAR GENERAL NOTES

ALL WORK TO COMPLY WITH THE 2018 IMC AND CITY OF GOODYEAR ADOPTED CODES AND AMENDMENTS, SECTION 106.3.1

ALL WORK TO COMPLY WITH THE 2018 IECC AND ALL GOODYEAR ADOPTED CODES AND AMENDMENTS, SECTION 106.3.1

CALL FOR INSPECTION OF ALL MECHANICAL SYSTEMS PRIOR TO BACKFILL AND CONCEALMENT, 2018 IMC 107.2

HVAC EQUIPMENT TO MEET IECC REQUIREMENTS. PROVIDE HVAC SUBMITTAL TO ARCHITECT OR ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ORDER OF EQUIPMENT, IMC 106.3.1

GENERAL NOTES

1 PROVIDE A CERTIFIED TEST AND BALANCE FOR ALL HVAC SYSTEMS PER AABC OR NEBB STANDARDS. SUBMIT FINAL REPORT TO ARCHITECT OR ENGINEER. AND TO THE CITY OF GOODYEAR INSPECTOR. PROVIDE A "COMFORT" AIR BALANCE

2 FLEX DUCT SHOULD NOT EXCEED 8' IN LENGTH

3 PROVIDE MANUAL DAMPERS @ EACH BRANCH CONNECTION

4 ALL HEATING, COOLING, AND VENTILATION UNITS TO BE PERMANENTLY IDENTIFIED AS TO THE AREA SERVED BY THAT UNIT. TAG TO BE SUNLIGHT RESISTANT.

5 DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS

6 PROVIDE RADIUS ELBOWS, TURNING VANES, MANUAL DAMPERS AND SPLITTER DAMPERS IN BRANCHES AND EXTRACTORS WHERE APPLICABLE.

7 ALL SENSORS SHALL BE MOUNTED PER ADA 48" TO 54" AFF.

8 PROVIDE (1) SET OF FARR 30X30 THROW AWAY FINAL FILTERS, FRAMES, MOUNTING HARDWARE, AND ACCESSORIES. PROVIDE (1) SET OF THROW AWAY FILTERS FOR USE DURING CONSTRUCTION PERIOD.

REMOVE THE FILTERS AFTER THE CONSTRUCTION PERIOD AND INSTALL FINAL FILTERS. (PRIOR TO THE BALANCING OF THE SYSTEM)

○ KEYED NOTES

1 ROOF TOP PACKAGED HEAT PUMP. FULL SIZE S & R THRU ROOF. ¾" TYPE "M" HARD COPPER CONDENSATE DRAIN WITH TRAP & VENT. ADJUST OSA PER VENTILATION SCHEDULE SHEET M3.0

HPX / XT — NUMBER / TONNAGE

2 CEILING MOUNTED EXHAUST FAN WITH BACKDRAFT DAMPER - 6"Φ DISCHARGE THRU ROOF TO CAP - MIN. 10' FROM FRESH AIR INTAKES

3 3/4" CONDENSATE DRAIN BELOW ROOF - SLOPE @ 1/8" PER FOOT MIN TO MOP SINK WITH AIR GAP

4 UNDERCUT DOOR 1"

5 EXTEND 6"Φ ICE MAKER HEAT VENT THRU PARTITION WALL - DISCHARGE INTO OPEN WAREHOUSE VERIFY EXACT SIZE AND REQUIREMENTS WITH OWNER PROVIDED ICE MAKER PRIOR TO ANY OTHER WORK

DUCT SMOKE DETECTORS

SMOKE DETECTORS ARE NOT REQUIRED: SYSTEMS ARE 2000 CFM OR LESS AND DO NOT SHARE COMMON RETURN

MECHANICAL UNIT LOCATIONS

VERIFY ALL ROOF TOP MECHANICAL UNIT LOCATIONS WITH STRUCTURAL ENGINEER PRIOR TO ANY OTHER WORK

OUTSIDE AIR CALCULATIONS

REFER TO SHEET M3.0 FOR CALCULATIONS

OVERHEAD PIPING

INSTALL AS HIGH AS POSSIBLE BETWEEN JOISTS

Registered Professional Engineer (Mechanical) CERTIFICATE NO. 37921 ROBERT H. THOMPSON ARIZONA, U.S.A.

SUN STATE BUILDERS

VIP PRODUCTS
GOODYEAR, ARIZONA
ENLARGED MECHANICAL PLANS

M2.0
40012.010
25MAR21

ingenium DESIGN
Project No. 21034 Drawn by: LK

BALMER architectural group

CITY OF Goodyear Approved 07/01/21 21-2119 - VIP PRODUCTS

CITY OF Goodyear Approved 07/01/21 21-2119 - VIP PRODUCTS