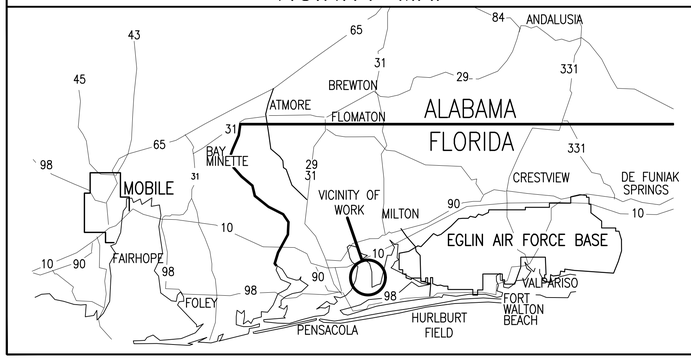
REPLACE BUR, PAINT INT-EXT, REPAIR-UPGRADE HVAC B6300

N

EGLIN RESERVATION – LOCATION OF WORK
NOT TO SCALE

VICINITY MAP



INDEX OF DRAWINGS

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M-001	GENERAL MECHANICAL NOTES, LEGEND AND ABBREVIATIONS
M-101	MECHANICAL DEMOLITION AND NEW WORK PLANS
M-501	MECHANICAL DETAILS
M-601	MECHANICAL SCHEDULES AND CONTROLS

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REVISION	DATE	DESCRIPTION	BY	APPR'D

BASE CIVIL ENGINEER
EGLIN AIR FORCE BASE, FLORIDA

SABER
PROJECT MANAGER
DATE
SIGNATURE
APPROVED
CENM
DRAWN BY
PROJ. ENGR.

TITLE
REPLACE BUR, PAINT INT-EXT, REPAIR-UPGRADE HVAC B6300

SABER AS-BUILT DRAWING
BASED ON 35% DESIGN

CONTENTS
TITLE, VICINITY MAP, LOCATION MAP AND INDEX OF DRAWINGS

APPROVED
96 CEG/CEN

DATE
MAY 2024

APPROVED
BASE CIVIL ENGINEER

SCALE
AS SHOWN

INDEX NO.
G-001

SPEC. NO.

PROJ. NO.
FTFA 23JG45

DRAWING NO.

FILE NO.

SHEET OF .

PETERSON ENGINEERING INC.
(PROF. ENG. #: 3600)
75 SOUTH "F" STREET
PENSACOLA, FLORIDA 32502
(850) 434-0513
PEI 24057

HVAC GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL CODES. INSTALLING CONTRACTOR SHALL COMPLY THE IMC, SMACNA, ASHRAE 62.1, ASHRAE 90.1, AND NFPA 90A.
2. CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.
3. INSTALL ALL MECHANICAL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
4. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK.
5. COORDINATE EQUIPMENT CLEARANCES (AS RECOMMENDED BY MANUFACTURER) WITH ALL DISCIPLINES BEFORE INSTALLATION.
6. COORDINATE AND PROVIDE ALL DUCTS AND PIPING TRANSITION REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT, VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.
7. ALL EQUIPMENT, PIPING, DUCTWORK, ETC., SHALL BE SUPPORTED AS REQUIRED TO PROVIDE A VIBRATION–FREE INSTALLATION.
8. ALL DUCTWORK DIMENSIONS, AS SHOWN ON THE DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS AND DUCT SIZE SHALL BE INCREASED TO COMPENSATE FOR DUCT LINING THICKNESS.
9. AVOID ROUTING DUCTWORK AND MECHANICAL EQUIPMENT OVER LIGHTS WHEREVER POSSIBLE. MAINTAIN MINIMUM 6"CLEARANCE BETWEEN MECHANICAL EQUIPMENT AND DUCT INSULATION TO TOP OF LIGHTS. PROVIDE CLEARANCE AND ACCESS ALL AROUND AND BELOW MECHANICAL EQUIPMENT AS REQUIRED FOR ROUTINE MAINTENANCE.
10. SEAL ALL DUCT PENETRATIONS OF WALLS AIRTIGHT, REGARDLESS OF WHETHER WALLS ARE FIRE RATED OR NOT.
11. ALL NEW SUPPLY AIR DUCTWORK SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 2" W.G., SEAL CLASS A, EXTERNALLY INSULATED.
12. ALL NEW RETURN AIR DUCTWORK SHALL BE LOW PRESSURE RECTANGULAR, SMACNA STATIC PRESSURE CLASS 1"W.G., SEAL CLASS A, EXTERNALLY INSULATED.
13. ALL HVAC BUILDING PENETRATIONS SHALL BE LOCATED AT LEAST 10'–0" ABOVE FINISHED GRADE PER ATFP STANDARDS.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	IN	INCH
CFM	CUBIC FEET PER MINUTE	LPR	LOW–PRESSURE CONDENSATE RETRUN
CD	CONDENSATE DRAIN PIPING	MAX	MAXIMUM
CP	CONTROL PANEL	MPS	MEDIUM PRESSURE STEAM
DEMO	DEMOLISH	MIN	MINIMUM
DIA	DIAMETER	MISC	MISCELLANEOUS
DN	DOWN	MVD	MANUAL VOLUME DAMPER
DWG	DRAWING	N/A	NOT APPLICABLE
EA	EACH	NTS	NOT TO SCALE
ENT	ENTERING	OA	OUTDOOR AIR
EF	EXHAUST FAN	RM	ROOM
EX	EXISTING	SQ.FT.	SQUARE FEET
FLR	FLOOR	T'STAT	THERMOSTAT
FLRDR	FLOOR DRAIN	TYP	TYPICAL
FPM	FEET PER MINUTE		
FT	FEET		

HVAC LEGEND

HIDDEN

ITEMS TO BE DEMOLISHED

MD — MANUAL VOLUME DAMPER PROVIDE WITH LOCKING QUADRANT

TRANSITION

SQUARE THROAT ELBOW IN RECTANGULAR DUCT WITH DOUBLE WALL TURNING VANES.

POINT OF CONNECTION

POINT OF DEMOLITION

RECTANGULAR DUCTWORK TURNING 90° UP.

RECTANGULAR DUCTWORK TURNING 90° DOWN.

DUCT SECTION, POSITIVE PRESSURE, FIRST FIGURE IS TOP

DUCT SECTION, NEGATIVE PRESSURE

WxH — RECTANGULAR DUCTWORK, SIZES SHOWN ARE INTERNAL CLEAR DIMENSIONS. (WIDTH x HEIGHT) FIRST FIGURE IS SIDE SHOWN.

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PROJECT MANAGER
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TITLE
REPLACE BUR, PAINT INT–EXT, REPAIR–UPGRADE HVAC B6300

SABER AS-BUILT DRAWING BASED ON 35% DESIGN

CONTENTS
GENERAL MECHANICAL NOTES, LEGEND AND ABBREVIATIONS

APPROVED
96 CEG/CEN

DATE
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APPROVED
BASE CIVIL ENGINEER

SCALE
AS SHOWN

SPEC. NO.	PROJ. NO.	DRAWING NO.	FILE NO.	SHEET
	FTFA 23JG45			OF .

INDEX NO.
M-001

PETERSON ENGINEERING INC.
(PROF. ENG. #: 3600)
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(850) 434–0513
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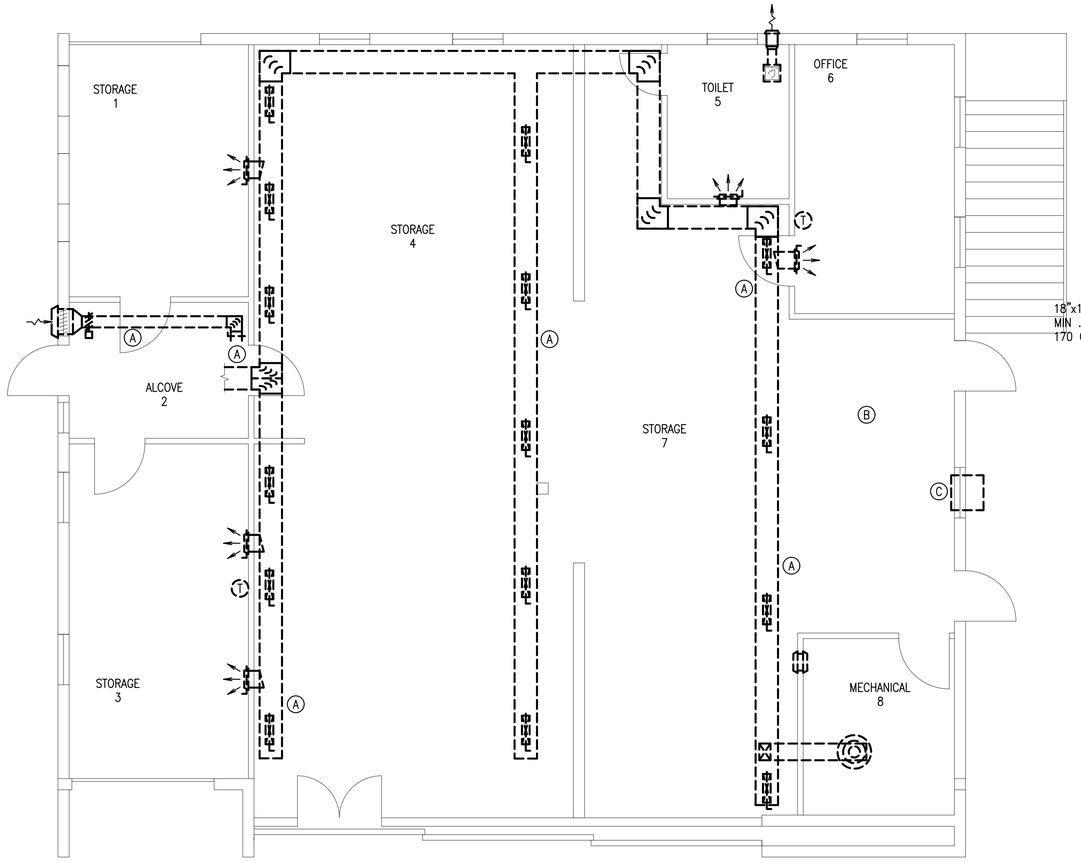


B6300 MECHANICAL DEMOLITION PLAN

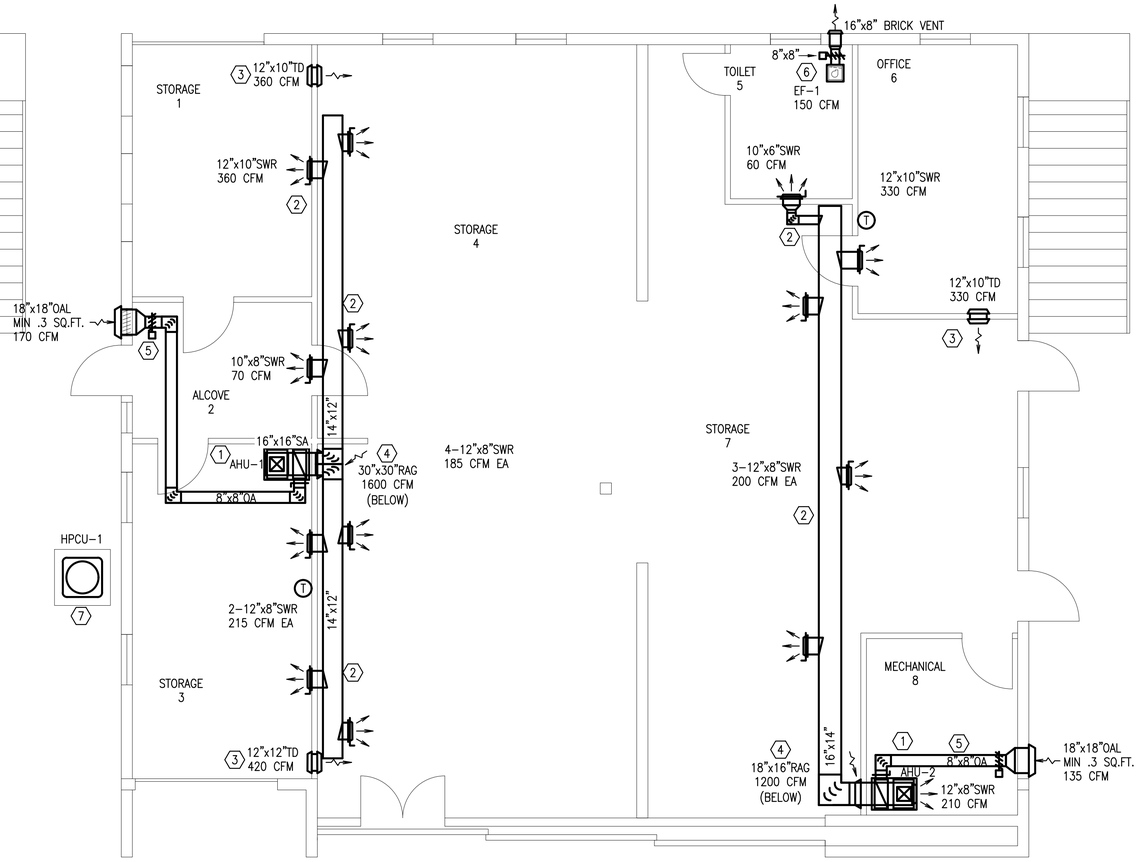
SCALE: 1/4"= 1'-0"

DEMOLITION NOTES

(A) DEMOLISH ALL EXISTING DUCTWORK, TAPS AND SUPPLY REGISTERS AS SHOWN.

(B) DEMOLISH AHU, CU, PIPING AND CONTROLS.

(C) DEMOLISH PACKAGE UNIT IN WINDOW. PATCH AND PAINT EXISTING PENETRATION.



B6300 MECHANICAL NEW WORK PLAN

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

NEW WORK NOTES

(1) PROVIDE AND PLACE NEW SPLIT SYSTEM AHU ON FACTORY PLENUM AS SHOWN.

(2) PROVIDE AND PLACE NEW SUPPLY AIR DUCT, SIDE WALL REGISTERS WITH MANUAL DAMPERS.

(3) PROVIDE AND PLACE NEW RETURN AIR TRANSFER DUCTS, SIZE AS SHOWN.

(4) PROVIDE AND PLACE NEW RETURN AIR GRILLES IN WALL AS SHOWN.

(5) PROVIDE AND PLACE NEW OUTSIDE AIR DUCT WITH AUTOMATIC AND MANUAL DAMPERS. RUN TO OUTSIDE AIR LOUVERS AS SHOWN.

(6) PROVIDE AND PLACE NEW CABINET EXHAUST FAN IN TOILET AS SHOWN.

(7) PROVIDE AND PLACE NEW OUTDOOR UNIT. HPCU-1 ON NEW CONCRETE PAD. HPCU-2 CAN BE PLACED ON EXISTING CONCRETE PAD.

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SABER AS-BUILT DRAWING BASED ON 35% DESIGN

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MECHANICAL DEMOLITION AND NEW WORK PLANS

APPROVED
96 CEG/CEN

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BASE CIVIL ENGINEER

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INDEX NO.
M-101

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FILE NO.

SHEET OF .

5' 0 5'

1/4"= 1'-0"

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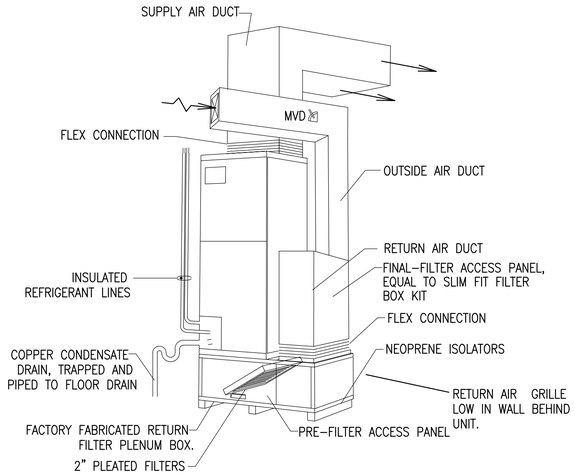
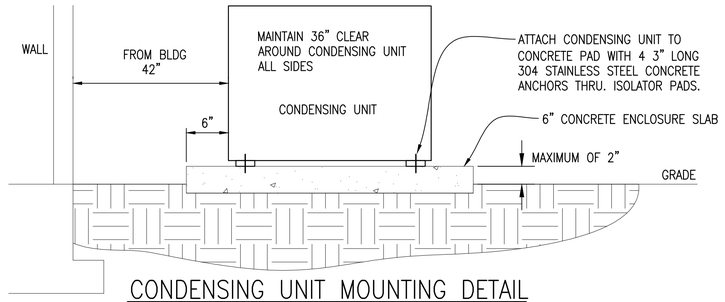


NOTES:
SECURE REFRIGERANT LINES AND CONDENSATE PIPING WITH UNISTRUT.

SIZE COPPER CONDENSATE LINE AT FULL SIZE OF UNIT CONNECTION, BUT IN NO CASE SMALLER THAN 3/4". INSULATE CONDENSATE WITH 1/2" FLEXIBLE UNICELLULAR INSULATION.

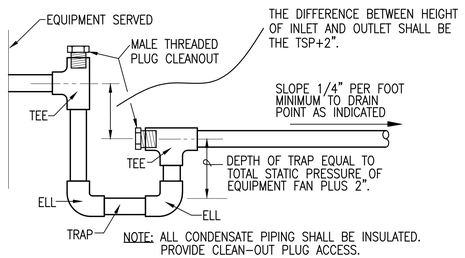
TYPICAL VERTICAL UPFLOW AHU DETAIL

NOT TO SCALE



CONDENSING UNIT MOUNTING DETAIL

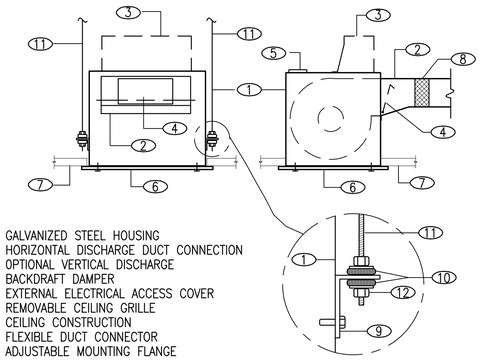
NOT TO SCALE



NOTE: ALL CONDENSATE PIPING SHALL BE INSULATED. PROVIDE CLEAN–OUT PLUG ACCESS.

TYPICAL CONDENSATE DRAIN DETAIL

NOT TO SCALE



1. GALVANIZED STEEL HOUSING
2. HORIZONTAL DISCHARGE DUCT CONNECTION
3. OPTIONAL VERTICAL DISCHARGE
4. BACKDRAFT DAMPER
5. EXTERNAL ELECTRICAL ACCESS COVER
6. REMOVABLE CEILING GRILLE
7. CEILING CONSTRUCTION
8. FLEXIBLE DUCT CONNECTOR
9. ADJUSTABLE MOUNTING FLANGE
10. VIBRATION ISOLATOR, TOP AND BOTTOM
11. 3/16" DIAMETER THREADED HANGER RODS, TOTAL OF FOUR, SUPPORT FROM BUILDING STRUCTURE
12. NUT AND WASHER

CEILING EXHAUST FAN DETAIL

NOT TO SCALE

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EGLIN AIR FORCE BASE, FLORIDA

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SABER AS-BUILT DRAWING BASED ON 35% DESIGN

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MECHANICAL DETAILS

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M-501

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HEAT PUMP – CONDENSING UNIT SCHEDULE

MARK	DESIGN COOLING		DESIGN HEATING		REF. TYPE	COMPRESSORS		FANS		ELECTRICAL					BOD
	TOTAL MBTU/HR	AMBIENT °F	TOTAL MBTU/HR	AMBIENT °F		NO.	RLA EACH	NO.	FLA EACH	VOLTS	PHASE	HZ	MCA	MOCP	
HPCU–1	48.0	95	48.0	47	410A	1	11.7	1	0.7	208/230	1	60	28	45	TRANE 4TWR6048
HPCU–2	36.0	95	34.0	47	410A	1	15.3	1	0.7	208/230	1	60	20	35	TRANE 4TWR6036

HEAT PUMP – AIR HANDLING UNIT SCHEDULE

MARK	AIR DATA			COOLING DESIGN CONDITIONS					HEATING DESIGN			ELECTRICAL						UNIT FILTER DATA			BOD
	TOTAL AIR CFM	OUTSIDE AIR CFM	E.S.P. IN H_2O	TOTAL MBTU/HR	SENSIBLE MBTU/HR	COIL ENT. DB °F	COIL ENT. WB °F	MAX FACE VEL. FPM	TOTAL MBTU/HR	AMBIENT °F	AUX. HEAT KW	VOLTS	PHASE	Hz	BLOWER HP	MIN. SEER (1)	MIN. COP (2)	TYPE	SIZE	MAXIMUM VEL. FPM	
AHU–1	1600	160	0.5	48	36	80	67	500	48	47	14.4@240V	208/230	1	60	0.5	16.0	3.9	T–AWAY	1"	350	TRANE TEM6A0C48
AHU–2	1200	120	0.5	36	27	80	67	500	34	47	9.6@240V	208/230	1	60	0.5	16.0	3.9	T–AWAY	1"	350	TRANE TEM6A0C36

(1) AT ARI CONDITIONS OF 95°F AMB., 80°F D.B. AND 67°F W.B. COIL ENTERING (2) AT ARI CONDITIONS OF 47°F D.B., 70°F D.B. COIL ENTERING

FAN SCHEDULE

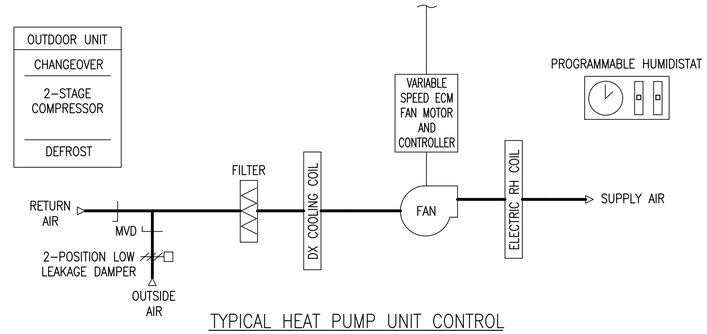
MARK	LOCATION	TYPE	DRIVE	PERFORMANCE DATA				ELECTRICAL				CONTROL	NOTES
				AIR FLOW CFM	E.S.P. IN. H_2O	MAX. RPM	MAX. SONES	MAX. HP/WATTS	VOLTS	PHASE	Hz		
EF–1	TOILET	CB	DD	150	0.375	900	3.0	51 W	115	1	60	W/LIGHT SWITCH	BELOW

FAN SCHEDULE LEGEND

BD – BELT DRIVE
EF – EXHAUST FAN
CB – CABINET EXHAUST FAN
ILC – INLINE CENTRIFUGAL FAN
ESP – EXTERNAL STATIC PRESSURE

FAN NOTES

1. ALL EXHAUST FANS SHALL BE INSTALLED WITH FLEXIBLE DUCT CONNECTION, VIBRATION ISOLATORS, AND FLEXIBLE CONDUIT. FAN SHALL NOT BE IN CONTACT WITH ANY OTHER DUCT, PIPING, CONDUIT, OR STRUCTURAL MEMBERS.
2. THE FANS SHALL BE PROVIDED WITH BACKDRAFT DAMPERS.
3. THE ROOF MOUNTED FANS SHALL BE PROVIDED WITH PREFABRICATED ROOF CURBS AND BACKDRAFT DAMPER.
4. ALL DIRECT DRIVE FANS WITH MOTORS LESS THAN 1/2 HP SHALL BE PROVIDED WITH AN ADJUSTABLE ELECTRONIC SPEED CONTROLLER.



TYPICAL HEAT PUMP UNIT CONTROL

SEQUENCE OF OPERATION

HEATING AND COOLING:

THE INDOOR UNIT FAN SHALL BE STARTED BY THE DDC ACCORDING TO IT'S OCCUPIED/UNOCCUPIED SCHEDULE AS PROGRAMMED. THE TEMPERATURE SET POINTS SHALL BE PROGRAMMED BY THE CONTRACTOR FOR OCCUPIED HOURS AT 75°F (ADJ) COOLING AND 70°F (ADJ) FOR HEATING MODE. WHEN ROOM AIR TEMPERATURE RISES ABOVE THE COOLING SET POINT THE INDOOR FAN, OUTDOOR UNIT AND DX COOLING SHALL BE STAGED BY THE FACTORY CONTROLS AS NEEDED TO SATISFY SPACE COOLING REQUIREMENTS. WHEN ROOM AIR TEMPERATURE FALLS BELOW THE HEATING SET POINT THE INDOOR FAN SHALL RUN AND THE OUTDOOR UNIT REVERSING VALVE AND COMPRESSOR HEAT SHALL BE CONTROLLED BY THE FACTORY CONTROLS AS NEEDED TO SATISFY SPACE HEATING REQUIREMENTS. IF COMPRESSOR HEAT IS INSUFFICIENT TO SATISFY SPACE HEATING DEMAND, THE ELECTRIC AUXILIARY HEAT SHALL CYCLE ON. WHEN THE OUTDOOR UNIT DEFROST CIRCUIT IS ACTIVATED THE AUXILIARY HEAT SHALL CYCLE AS NEEDED TO PREVENT OVERCOOLING THE SPACE.

DEHUMIDIFICATION:

WHEN SPACE RELATIVE HUMIDITY (RH) RISES ABOVE RH SET POINT, THE UNIT WILL ACTIVATE THE COMPRESSOR IN COOLING MODE AS PER THE FACTORY PROGRAMMED CONTROL ALGORITHM UNTIL THE HUMIDITY SET POINT IS MET AT WHICH TIME THE UNIT SHALL RETURN TO NORMAL COOLING OPERATION.

CONTRACTOR SHALL PROGRAM THERMOSTAT WITH OCCUPIED SCHEDULE AND TEMPERATURE/HUMIDITY SET POINTS.

CONFIRM BELOW WITH USERS.

MON–FRI 7AM–6PM OCCUPIED.
OCCUPIED 74F COOLING
OCCUPIED 68F HEATING
UNOCCUPIED 80F COOLING
UNNOCUPIED 65F HEATING
RH SETPOINT SHALL BE 60% (ADJ)

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EGLIN AIR FORCE BASE, FLORIDA

PROJECT MANAGER: SABER
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TITLE: REPLACE BUR, PAINT INT–EXT, REPAIR–UPGRADE HVAC B6300

SABER AS-BUILT DRAWING BASED ON 35% DESIGN

CONTENTS: MECHANICAL SCHEDULES AND CONTROLS

APPROVED: 96 CEG/CEN
DATE: MAY 2024
APPROVED: BASE CIVIL ENGINEER
SCALE: AS SHOWN

INDEX NO. M-601

SPEC. NO. | PROJ. NO. FTFA 23JG45 | DRAWING NO. | FILE NO. | SHEET OF .

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