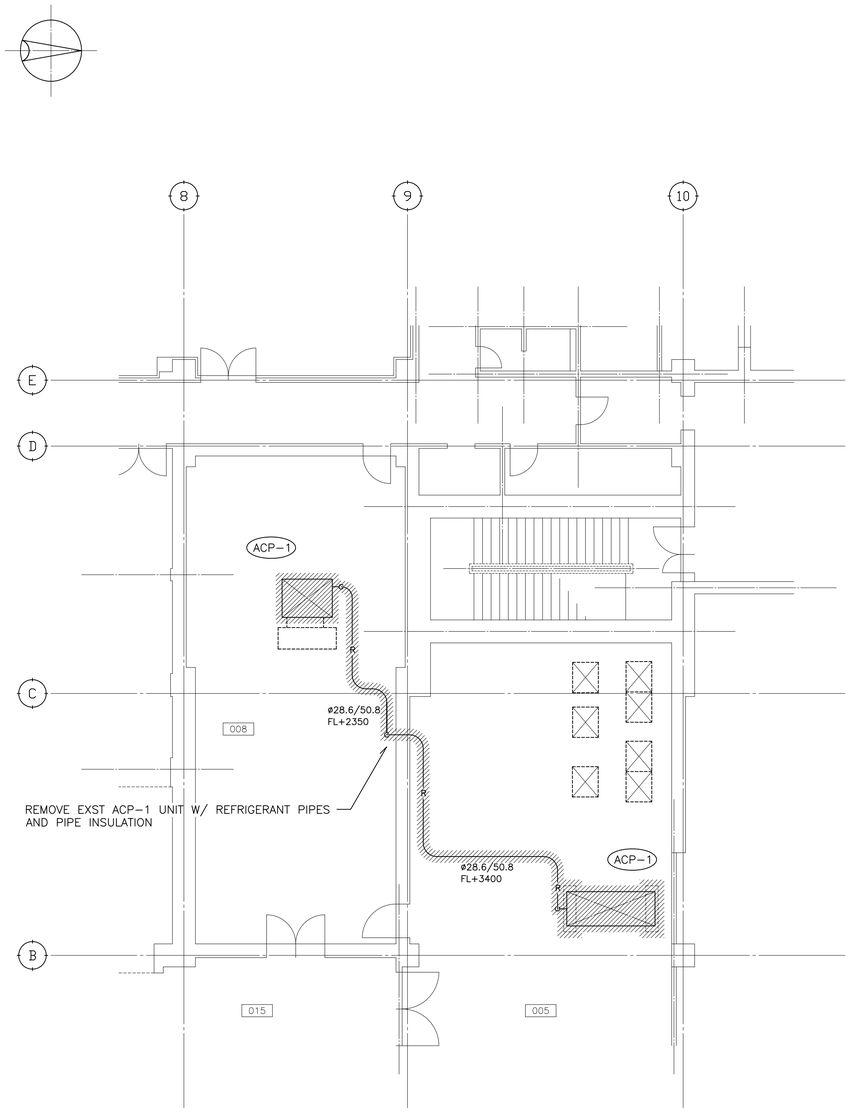
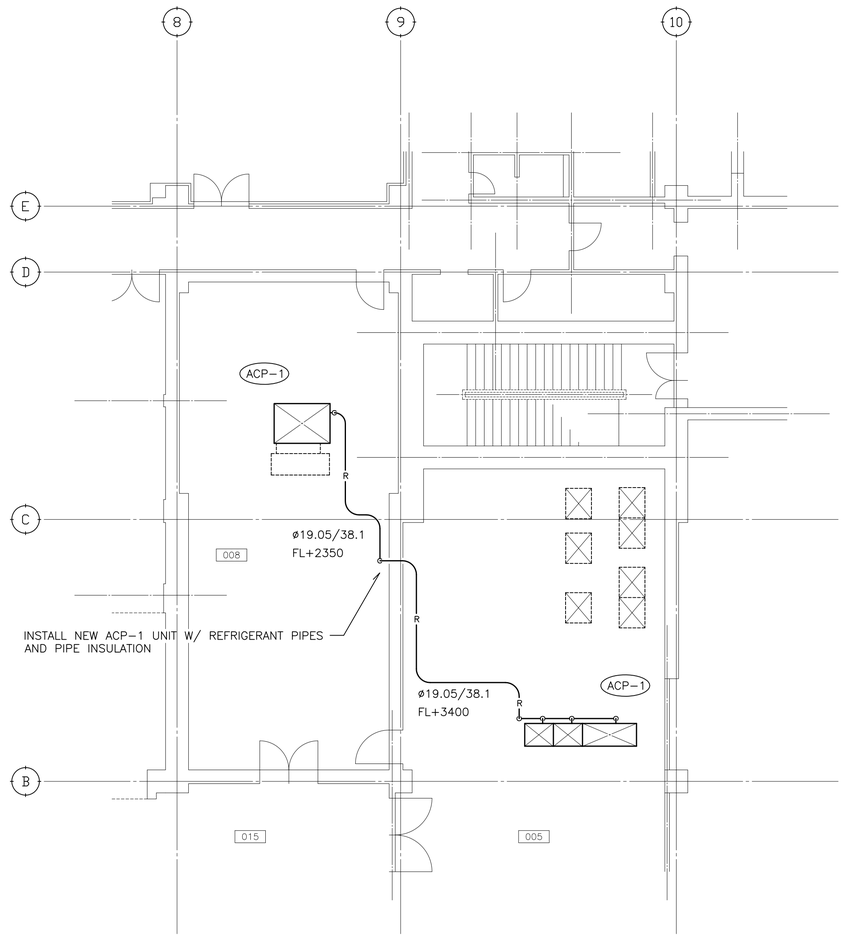


REMOVE EXST CONCRETE BASES (1500(W)x400(L)x170(H), 2EA)
FOR EXST EXTERIOR A/C UNIT

REMOVAL AIR CONDITIONING PLAN SCALE : 1/100



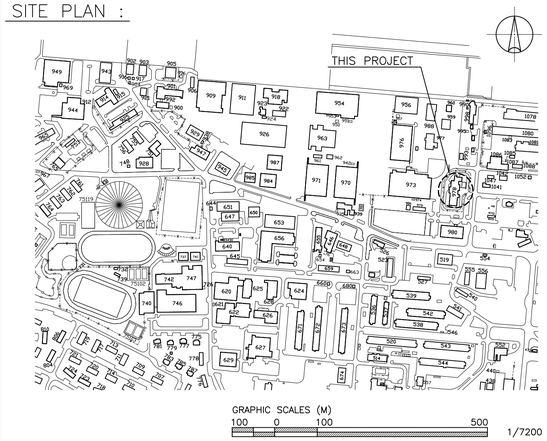
INSTALL NEW STAINLESS STEEL CONSTRUCTION MOUNT BASE
(3710(W)x810(L)x170(H)) FOR NEW EXTERIOR A/C UNIT

NEW AIR CONDITIONING PLAN SCALE : 1/100

GRAPHIC SCALES (M/M)
1000 0 1000 5000 10000

SCALE : 1/100

SITE PLAN :



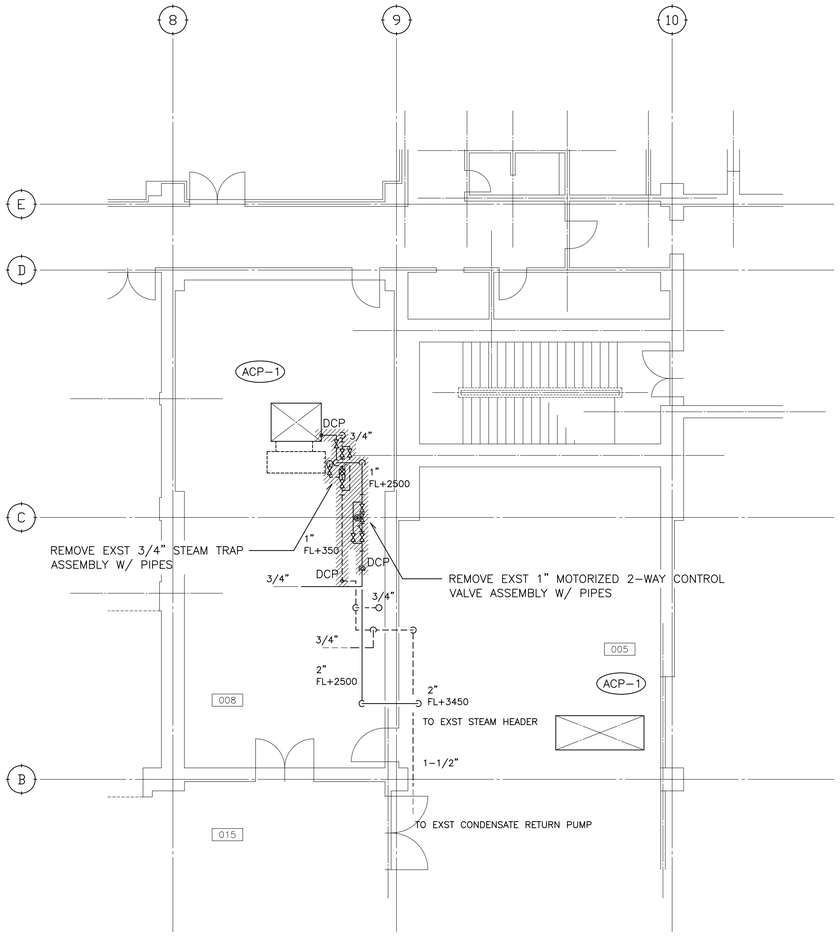
GENERAL DESCRIPTION OF WORK (MECHANICAL) :

1. REMOVE EXISTING A/C UNIT (ACP-1) INCLUDING REFRIGERANT PIPES AND DRAIN PIPES.
2. REMOVE EXISTING AIR DUCT, FLEXIBLE DUCT CONNECTIONS, RETURN AIR FAN AND HUMIDIFIER FROM EXISTING INTERIOR UNIT OF ACP-1.
3. REMOVE EXISTING MOTORIZED 2-WAY CONTROL VALVE, STEAM TRAP, STEAM SUPPLY PIPES AND CONDENSATION RETURN PIPES FROM EXISTING INTERIOR UNIT OF ACP-1.
4. REMOVE EXISTING AIR DUCT HOOD FROM EXISTING EXTERIOR UNIT OF ACP-1.
5. INSTALL NEW A/C UNIT (ACP-1) INCLUDING REFRIGERANT PIPES AND DRAIN PIPES.
6. INSTALL NEW AIR DUCT, FLEXIBLE DUCT CONNECTIONS AND RETURN AIR FAN TO NEW INTERIOR UNIT OF ACP-1.
7. INSTALL NEW 2-WAY CONTROL VALVE, STEAM TRAP, STEAM SUPPLY PIPES AND CONDENSATION RETURN PIPES WITH PIPE INSULATION TO NEW INTERIOR UNIT OF ACP-1.
8. INSTALL NEW AIR DUCT HOOD SIZED TO ACCOMMODATE NEW EXTERIOR UNIT OF ACP-1. CONNECT NEW AIR DUCT HOOD TO EXISTING EXHAUST DUCT AT SUITABLE POINT ALONG EXISTING EXHAUST DUCT.
9. REARRANGE EXISTING AUTOMATIC CONTROL SYSTEM TO NEW ACP-1 AUTOMATIC CONTROL SYSTEM.
10. PERFORM AIR BALANCING FOR NEW ACP-1 AIR DUCT SYSTEM.

ABBREVIATIONS :

W/	WITH	ø	DIAMETER
A/C	AIR CONDITIONING	CAP.	CAPACITY
CH	CHAMBER	D	DRAIN
DCP	DISCONNECTION POINT	EA	EACH
ELEC	ELECTRICAL	ELEM.	ELEMENTARY
EXST	EXISTING	FD	FIRE DAMPER
FL	FLOOR LEVEL	MIX	MIXING
NCP	NEW CONNECTION POINT	R	REFRIGERANT
RA	RETURN AIR	SA	SUPPLY AIR
TEMP	TEMPERATURE	TYP	TYPICAL

APPROVED BY P.W. OFFICER GERRARD.JEREMY.IAN.1155471677 Digitally signed by GERRARD.JEREMY.IAN.1155471677 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=DIN, cn=GERRARD.JEREMY.IAN.1155471677 Date: 2015.04.08 10:44:40 +09'00' DATE	P.W. DRAWING NO. 15-010	DEPARTMENT OF THE NAY PUBLIC WORKS DEPARTMENT MISAWA, JAPAN UNIT 5050, APO AP 96319-5000	SIZE: A-1	NAVFAC DRAWING NO. 17165752	DIV. NO. M - 1
	E-PROJECT NO. 870919	REPLACE A/C SYSTEM ACP-1 (CTF-72), BLDG. 978, NAF MISAWA, JAPAN	CODE IDENT NO. -	CONST CONTR NO. N40084-15-C-7009	
	DRAWN/DESIGN WATANABE YUICHI	REMOVAL AND NEW AIR CONDITIONING PLAN	SCALE: 1/100	SPEC: SEE ATTACHED	SHEET: 1 OF 6

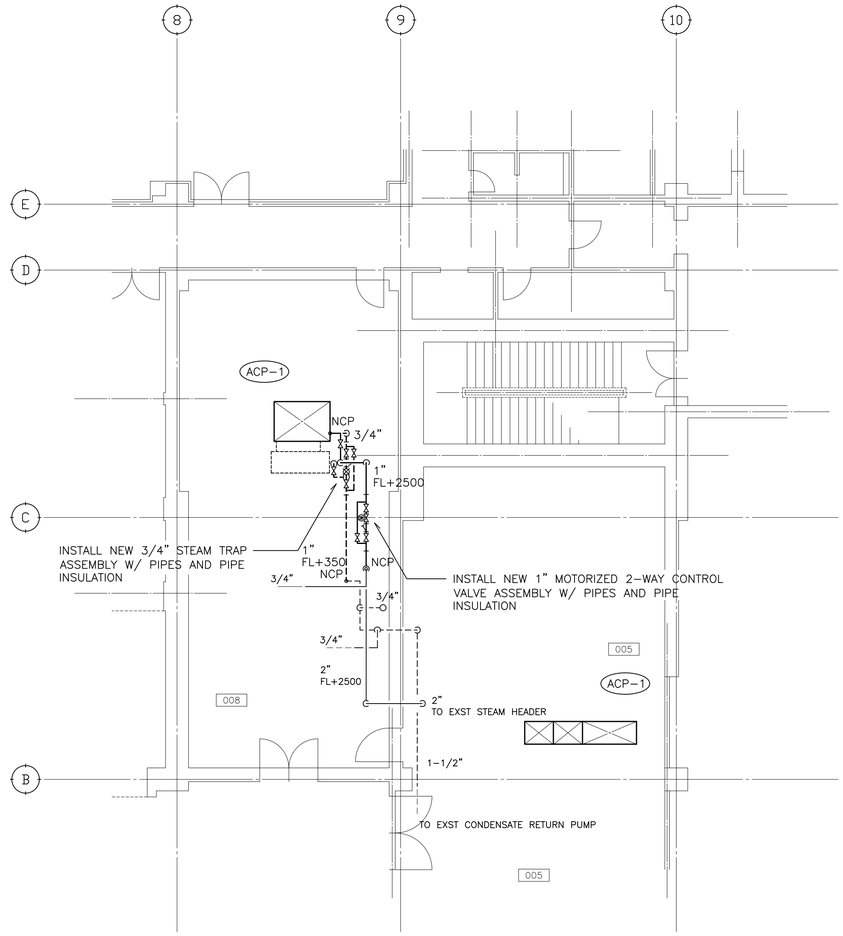


EXST MOTORIZED 2-WAY CONTROL VALVE:

2-PORT SEAT VALVE:
PORT SIZE : 1", CONNECTION : 1" JIS-10K FLANGE
KVS-VALUE : 10 M3/H
VVF52.25-10GJ, TOKIMEC BLDG. SYSTEM INC.

VALVE ACTUATOR:
ELEC CAP : 24 VAC, 18 VA
RUNNING TIME : 30 SEC W/ 15 SEC SPRING RETURN
SKD62, TOKIMEC BLDG. SYSTEM INC.

REMOVAL STEAM PIPING PLAN SCALE : 1/100



NEW STEAM PIPING PLAN SCALE : 1/100

REMOVAL EQUIPMENT SCHEDULE :

NO.	DESCRIPTION
	AIR CONDITIONING UNIT
ACP-1	EXTERIOR UNIT TYPE : AIR COOLED PACKAGED UNIT COOLING CAP. : 101 KW HEATING CAP. : 66 KW ELEC POWER SOURCE : 200 V, 3 PH, 50 HZ POWER CONSUMPTION : 40.9 KW (COOLING), 33.1 KW (HEATING) FAN MOTOR OUTPUT : 0.7 KW X 3 REFRIGERANT : R-22 OPTION : PRESSURE GAUGE DIMENSION : 2,880(W) X 1,146(D) X 1,540(H) MM WEIGHT : 530 KG QUANTITY : 1 EA MODEL : PVH-J1120K MITSUBISHI DENKI CO., LTD
	INTERIOR UNIT TYPE : FLOOR MOUNTED TYPE AIR FLOW CAP. : 284 CMM STATIC PRESSURE : 490 PA ELEC POWER SOURCE : 200 V, 3 PH, 50 HZ FAN MOTOR OUTPUT : 7.5 KW COMPRESSOR ELEC OUTPUT : 30 KW OPTION : STEAM HEATING COIL (64.3 KW, @5 PSIG), AIR FILTER (25%) DIMENSION : 1,640(W) X 1,280(D) X 1,852(H) MM WEIGHT : 1,060 KG QUANTITY : 1 EA MODEL : PAH-J1120K MITSUBISHI DENKI CO., LTD.
	RETURN AIR FAN
FR-1	MIXED FLOW FAN MIXED AIR FAN WITH VIBRATION ISOLATING SUPPORT, DIRECT DRIVE, STEEL CONSTRUCTION FRAME WITH ALUMINUM FAN BLADE. EXHAUST CAP. : 14,900 CMH, 363 Pa FAN MOTOR : 3.7 KW, 200 V, 3 PH, 50 HZ DIMENSION : 870(W) X 800(D) X 916(H) MM WEIGHT : 178 KG QUANTITY : 1 EA MODEL : 730AL-MH2 HITACHI SEISAKUSHO CO., LTD.
	HUMIDIFIER
AH-4	VAPOR TYPE HUMIDIFIER EVAPORATIVE TYPE HUMIDIFIER WITH VAPORIZING MODULE, WATER SUPPLY HEADER UNIT, DECOMPRESSION VALVE AND SOLENOID VALVE, HUMIDIFICATION CAP. : 31.8 KG/H, @20 °C/40 %RH POWER CONSUMPTION : 15 W, 200 V, 1 PH, 50 HZ DIMENSION : 2,085(W) X 1,100(D) X 1,657(H) MM WEIGHT : 420 KG QUANTITY : 1 EA MODEL : WM-VDC50-229BHL WETMASTER CO., LTD.

NEW EQUIPMENT SCHEDULE :

NO.	DESCRIPTION
	AIR CONDITIONING UNIT
ACP-1	EXTERIOR UNIT TYPE : AIR COOLED PACKAGED, INVERTER DRIVEN TYPE COOLING CAP. : 100 KW HEATING CAP. : 124.9 KW ELEC POWER SOURCE : 200 V, 3 PH, 50 HZ POWER CONSUMPTION : 35.44 KW (COOLING), 36.03 KW (HEATING) FAN MOTOR OUTPUT : 0.46 KW X 4 COMPRESSOR ELEC OUTPUT : 6.3 KW X 2, 8.4 KW REFRIGERANT : R410A REQUIRED OPTION : PRESSURE GAUGE, INTEGRATING HOUR METER, SALTY WEATHER RESISTANCE (TAI-ENGAI) FINISH QUANTITY : 1 EA
	INTERIOR UNIT TYPE : FLOOR MOUNTED TYPE AIR FLOW CAP. : 284 CMM STATIC PRESSURE : 490 PA ELEC POWER SOURCE : 200 V, 3 PH, 50 HZ FAN MOTOR OUTPUT : 5.5 KW REQUIRED OPTION : STEAM HEATING COIL (112 KW @0.034 MPa), AIR FILTER (25%) QUANTITY : 1 EA
	RETURN AIR FAN
FR-1	AXIAL FLOW FAN AXIAL FLOW FAN WITH SPRING-TYPE VIBRATION ISOLATING SUPPORT, DIRECT DRIVE, STEEL CONSTRUCTION FRAME WITH ALUMINUM FAN BLADE. EXHAUST CAP. : 14,900 CMH, 363 Pa FANE MOTOR : 5.5 KW, 200 V, 3 PH, 50 HZ QUANTITY : 1 EA

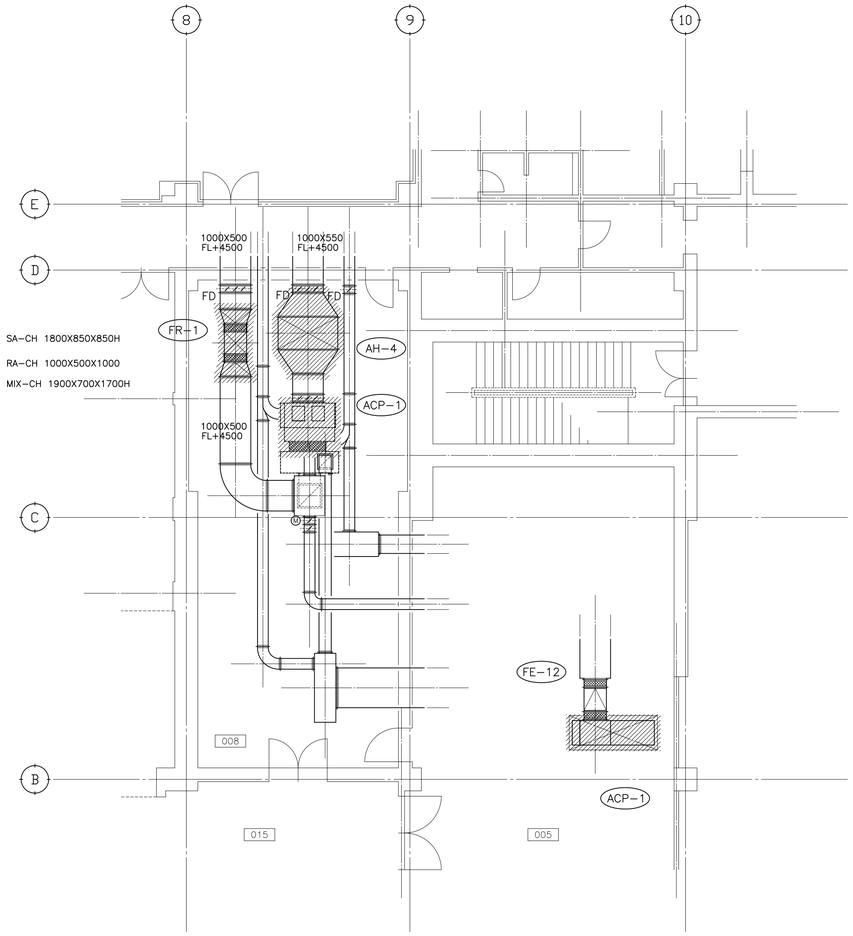
GRAPHIC SCALES (M/M)
1000 0 1000 5000 10000

SCALE : 1/100

APPROVED BY P.W. OFFICER DATE	P.W. DRAWING NO. 15-011 E-PROJECT NO. 870919 DRAWN/DESIGN WATANABE YUICHI	DEPARTMENT OF THE NAY PUBLIC WORKS DEPARTMENT MISAWA, JAPAN UNIT 5050, APO AP 96319-5000 REPLACE A/C SYSTEM ACP-1 (CTF-72), BLDG. 978, NAF MISAWA, JAPAN REMOVAL AND NEW STEAM PIPING PLAN	SIZE: A-1 CODE IDENT NO. - SCALE: 1/100	NAVFAC DRAWING NO. 17165753 CONST CONTR NO. N40084-15-C-7009 SPEC: SEE ATTACHED	DIV. NO. M - 2 SHEET: 2 OF 6

REMOVE EXST RETURN AIR FAN (FR-1) AND HUMIDIFIER (AH-4)

REMOVE EXST FLEXIBLE DUCT CONNECTION FROM EXST INTERIOR UNIT OF ACP-1



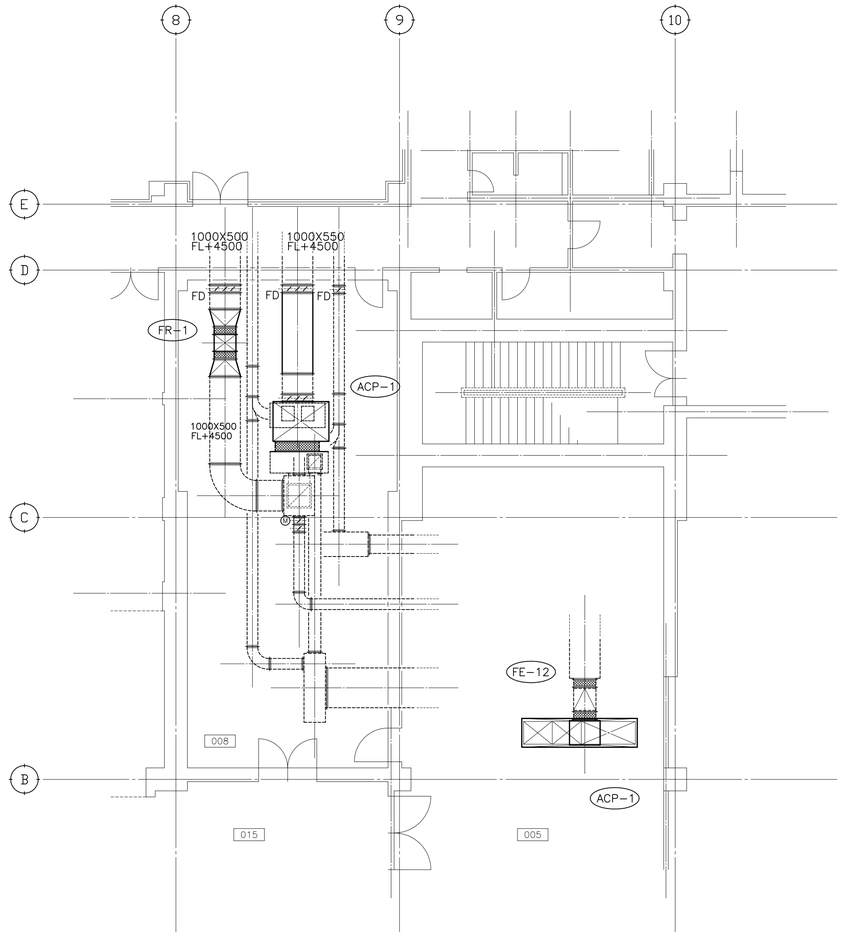
REMOVE EXST AIR DUCT HOOD FROM EXST EXTERIOR UNIT OF ACP-1

REMOVAL AIR CONDITIONING DUCT PLAN SCALE : 1/100

INSTALL NEW FLEXIBLE DUCT CONNECTION TO NEW INTERIOR UNIT OF ACP-1 AND ARRANGE CONNECTION TO EXST RETURN AIR MIXING CHAMBER AND AIR DUCTS TO EXST SUPPLY AIR CHAMBER

INSTALL NEW RETURN AIR FAN (FR-1) AND CONNECT AIR DUCT TO EXST AIR DUCT AT SUITABLE POINT

ARRANGE AIR DUCTS TO SUIT AROUND REMOVED HUMIDIFIER



INSTALL NEW AIR DUCT HOOD TO NEW EXTERIOR UNIT OF ACP-1
AND ARRANGE CONNECTION TO AIR DUCTS TO EXST EXHAUST DUCT

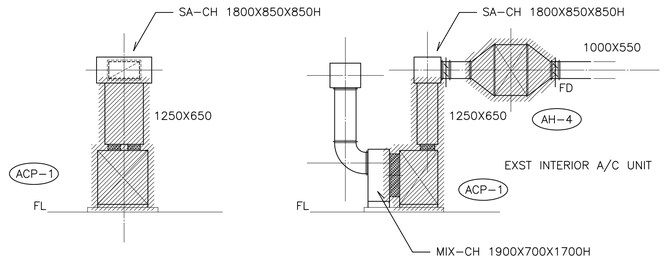
NEW AIR CONDITIONING DUCT PLAN SCALE : 1/100

GRAPHIC SCALES (M/M)
1000 0 1000 5000 10000

SCALE : 1/100

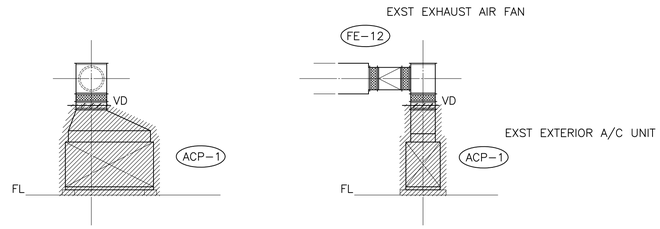
APPROVED BY P.W. OFFICER DATE	P.W. DRAWING NO. 15-012 E-PROJECT NO. 870919 DRAWN/DESIGN WATANABE YUICHI	DEPARTMENT OF THE NAY PUBLIC WORKS DEPARTMENT MISAWA, JAPAN UNIT 5050, APO AP 96319-5000 REPLACE A/C SYSTEM ACP-1 (CTF-72), BLDG. 978, NAF MISAWA, JAPAN REMOVAL AND NEW AIR CONDITIONING DUCT PLAN	SIZE: A-1 CODE IDENT NO. - SCALE: 1/100	NAVFAC DRAWING NO. 17165754 CONST CONTR NO. N40084-15-C-7009 SPEC: SEE ATTACHED	DIV. NO. M - 3 SHEET: 3 OF 6

REMOVE EXST FLEXIBLE DUCT CONNECTION FROM EXST INTERIOR UNIT OF ACP-1 W/ AIR DUCT , DUCT INSULATION AND HUMIDIFIER (AH-4)



REMOVAL AIR CONDITIONING DUCT SECTION SCALE : 1/100

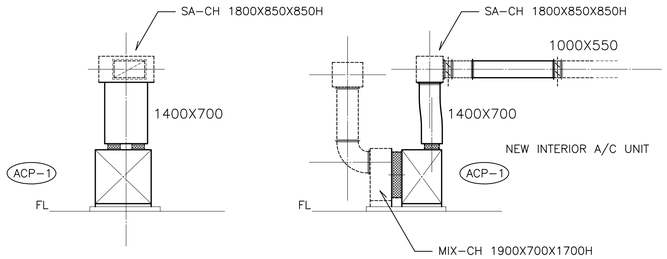
REMOVE EXST AIR DUCT HOOD FROM EXST EXTERIOR UNIT OF ACP-1



REMOVAL AIR DUCT HOOD DETAIL SCALE : 1/100

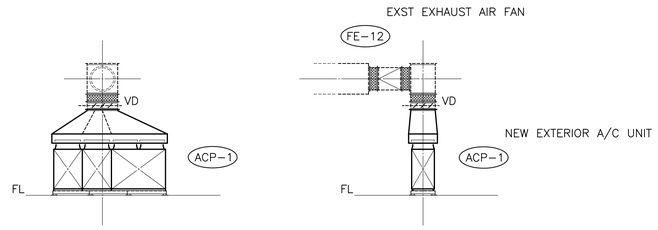
INSTALL NEW FLEXIBLE DUCT CONNECTION TO NEW INTERIOR UNIT OF ACP-1 AND ARRANGE CONNECTION TO EXST RETURN AIR MIXING CHAMBER AND AIR DUCTS TO EXST SUPPLY AIR CHAMBER

ARRANGE AIR DUCTS TO SUIT AROUND REMOVED HUMIDIFIER



NEW AIR CONDITIONING DUCT SECTION SCALE : 1/100

INSTALL NEW AIR DUCT HOOD W/ GUIDE VANE TO NEW EXTERIOR UNIT OF ACP-1 AND ARRANGE CONNECTION TO AIR DUCTS TO EXST EXHAUST DUCT



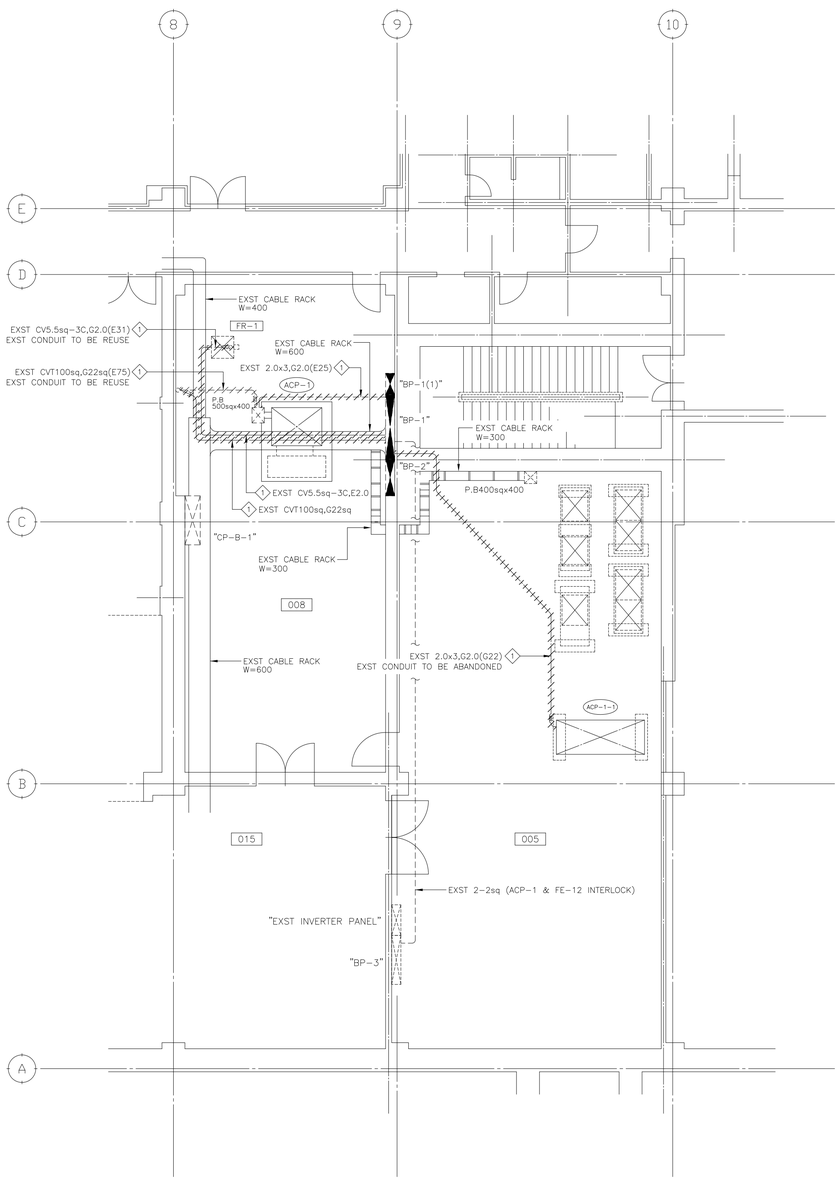
NEW AIR DUCT HOOD DETAIL SCALE : 1/100

GRAPHIC SCALES (M/M)

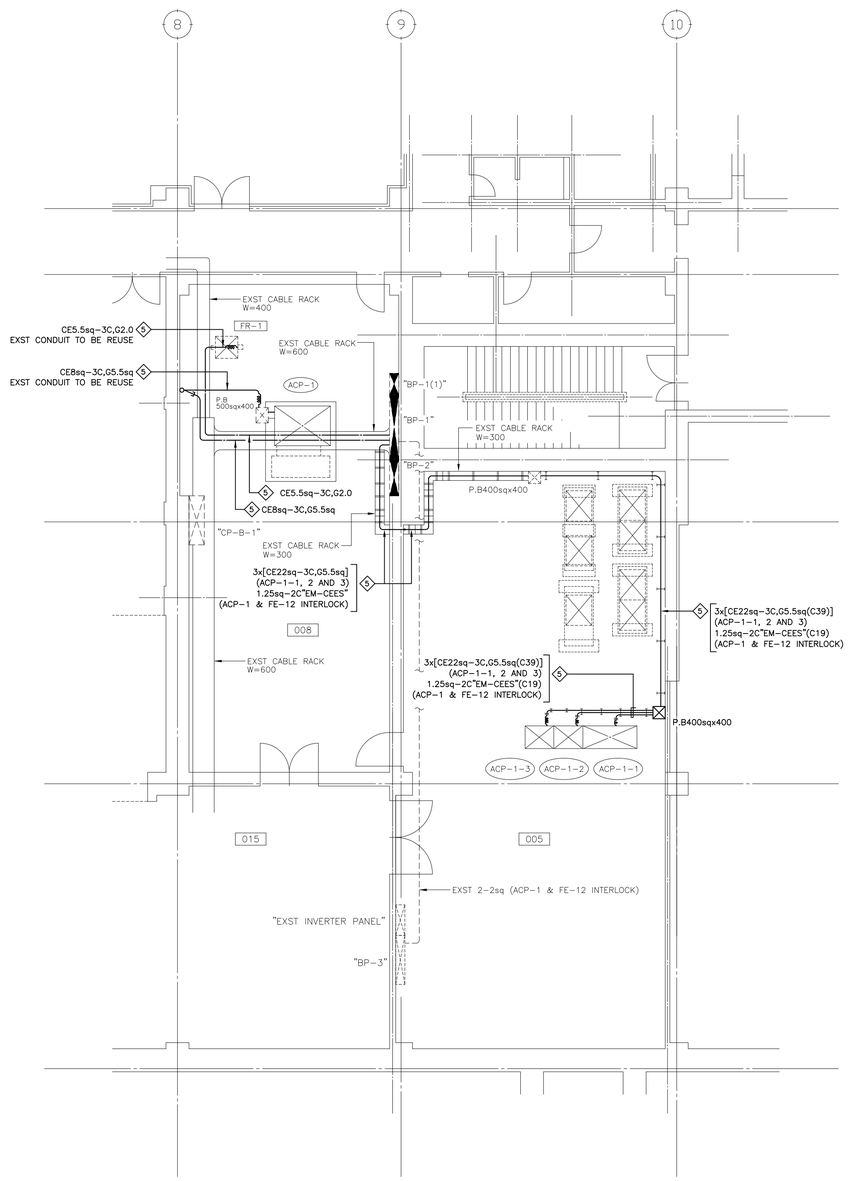
1000 0 1000 5000 10000

SCALE : 1/100

APPROVED BY P.W. OFFICER DATE	P.W. DRAWING NO. 15-013	DEPARTMENT OF THE NAY PUBLIC WORKS DEPARTMENT MISAWA, JAPAN UNIT 5050, APO AP 96319-5000	SIZE: A-1	NAVFAC DRAWING NO. 17165755	DIV. NO. M - 4
	E-PROJECT NO. 870919	REPLACE A/C SYSTEM ACP-1 (CTF-72), BLDG. 978, NAF MISAWA, JAPAN	CODE IDENT NO. -	CONST CONTR NO. N40084-15-C-7009	
	DRAWN/DESIGN WATANABE YUICHI	REMOVAL AND NEW AIR CONDITIONING DUCT SECTION	SCALE: 1/100	SPEC: SEE ATTACHED	SHEET: 4 OF 6



EXST AND REMOVAL POWER WIRING PLAN ①
SCALE : 1/100



NEW POWER WIRING PLAN ⑤
SCALE : 1/100

GENERAL DESCRIPTION OF WORK (ELECTRICAL):

1. REMOVE EXISTING POWER CABLES FOR EXISTING MECHANICAL EQUIPMENT.
2. REMOVE EXISTING MOLDED CASE CIRCUIT BREAKER (MCCB), FUSE AND RELAY FOR ACP-1 IN THE PANELBOARD "BP-1".
3. REMOVE EXISTING POWER WIRE AND CONTROL CABLES FOR EXISTING HUMIDIFIER (AH-4).
4. REMOVE EXISTING EARTH LEAKAGE CIRCUIT BREAKER (ELCB) AND PROVIDE NEW EARTH LEAKAGE CIRCUIT BREAKER.
5. PROVIDE NEW POWER CABLES, CONTROL CABLES AND CONDUIT FOR NEW MECHANICAL EQUIPMENT.
6. NEW POWER FOR ACP-1 CONNECTED FROM THE EXISTING POWER PANELBOARD "BP-1" AND "BP-1(1)".

NOTE:

1. NEW WIRES AND CABLES SHALL BE ECOLOGICAL TYPE.
2. UNLESS OTHERWISE INDICATED SIZES AND DIMENSIONS ARE MILLIMETERS.
3. EXISTING CONDUIT MAY REMAIN.

SYMBOLS:

NUMBERS SHOWN ON PLAN & ELEVATION CORRESPOND TO NUMBERS SHOWN IN GENERAL DESCRIPTION OF WORK (ELEC).

ABBREVIATIONS:

A	– AMPERE	KW	– KILOWATT
AF	– AMPERE FRAME	MCCB	– MOLDED CASE CIRCUIT BREAKER
AT	– AMPERE TRIP	P	– POLE OR PHASE
A/C	– AIR CONDITIONING	P.B	– PULL BOX
BLDG	– BUILDING	NO,	– NUMBER
C	– CONDUCTOR	sq	– SQUARE MILLIMETER
COM	– COMMERCIAL	V	– VOLT
CT	– CURRENT TRANSFORMER	VA	– VOLT-AMPERE
DWG	– DRAWING	W	– WATT, WIDTH OR WIRE
ELCB	– EARTH LEAKAGE CIRCUIT BREAKER	W/	– WITH
ELEC	– ELECTRICAL	&	– AND
EXST	– EXISTING	3ø	– THREE PHASE
F	– FUSE		

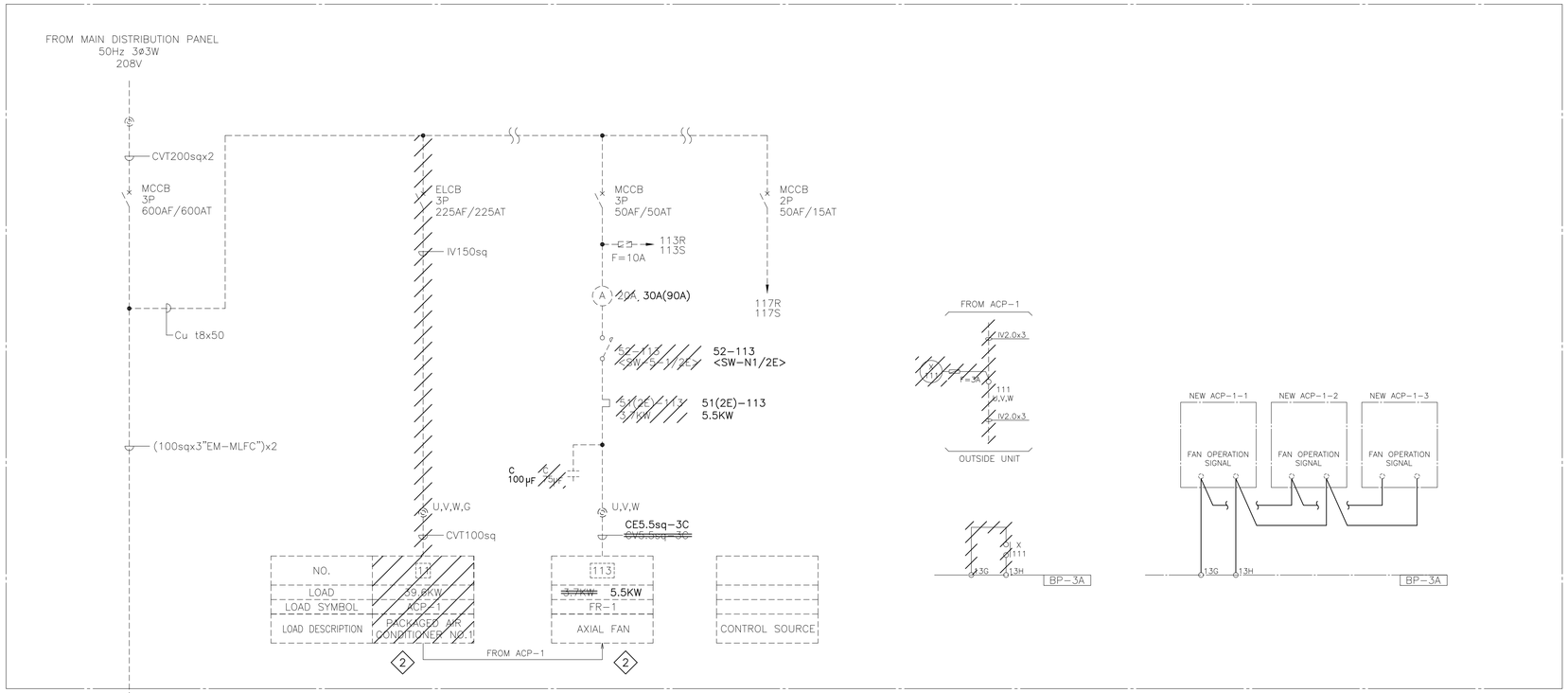
LEGEND:

	EXST	EXST TO BE REMOVED	NEW
POWER PANELBOARD, EXPOSED			
PULL BOX W/COVER	P.B		P.B
FLEXIBLE CONDUIT			
CONDUIT AND WIRING, EXPOSED			
CONDUIT AND WIRING, CONCEALED			

GRAPHIC SCALES (M/M)
1000 0 1000 5000 10000

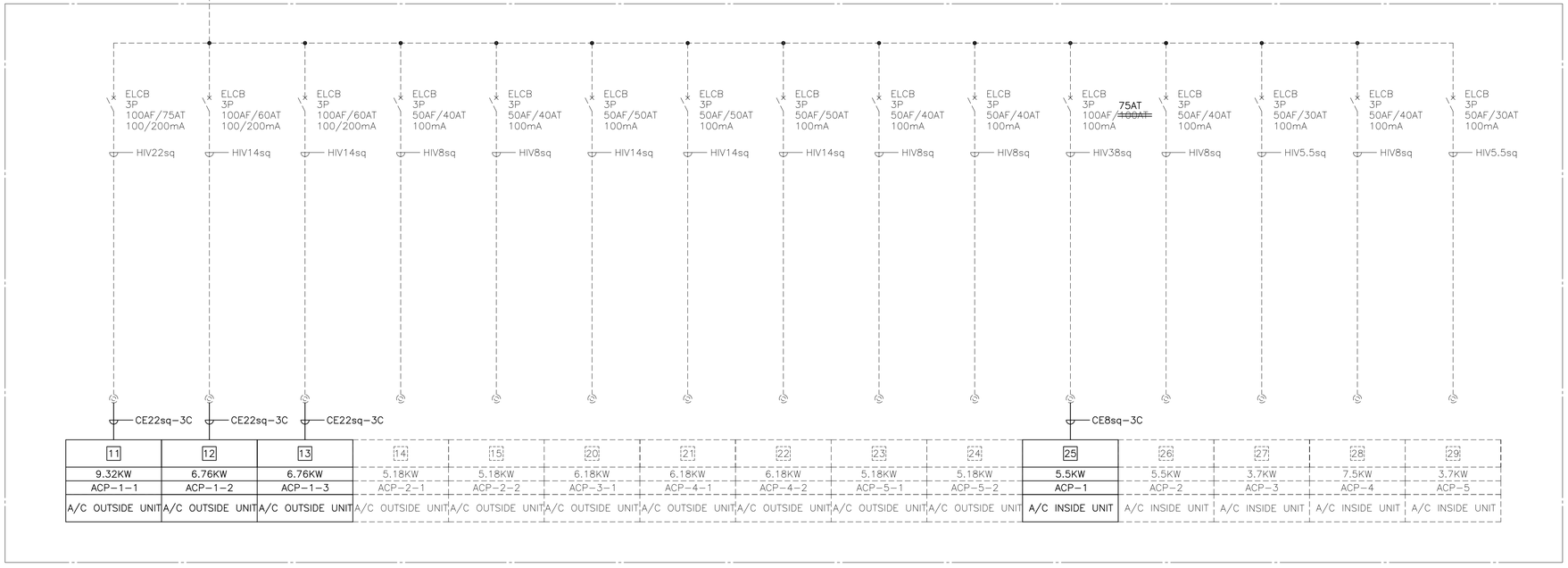
SCALE : 1/100

APPROVED BY P.W. OFFICER	P.W. DRAWING NO. 15-014	DEPARTMENT OF THE NAVY PUBLIC WORKS DEPARTMENT MISAWA, JAPAN UNIT 5050, APO AP 96319-5000	SIZE: A-1	NAVFAC DRAWING NO. 17165756	DIV. NO. E - 1
	E-PROJECT NO. 870919	REPLACE A/C SYSTEM ACP-1 (CTF-72), BLDG. 978, NAF MISAWA, JAPAN	CODE IDENT NO. -	CONST CONTR NO. N40084-15-C-7009	
DATE	DRAWN/DESIGN TENMA,Shinji	REMOVAL AND NEW POWER WIRING PLAN	SCALE: 1/100	SPEC: SEE ATTACHED	SHEET: 5 OF 6



REMOVAL AND NEW POWER PANELBOARD "BP-1" ◇2

NOT TO SCALE



EXST AND NEW POWER PANELBOARD "BP-1(1)" ◇4 ◇6

NOT TO SCALE

APPROVED BY P.W. OFFICER DATE	P.W. DRAWING NO. 15-015 WORK REQUEST NO. 870919 DRAWN/DESIGN TENMA, Shinji	DEPARTMENT OF THE NAVY PUBLIC WORKS DEPARTMENT MISAWA, JAPAN UNIT 5050, APO AP 96319-5000 REPLACE A/C SYSTEM ACP-1 (CTF-72), BLDG 978, NAF MISAWA, JAPAN PANELBOARD SCHEDULES	SIZE: A-1 CODE IDENT NO. - SCALE: NOT TO SCALE	NAVFAC DRAWING NO. 17165757 CONST CONTR NO. N40084-15-C-7009 SPEC: SEE ATTACHED	DIV. NO. E - 2 SHEET: 6 OF 6