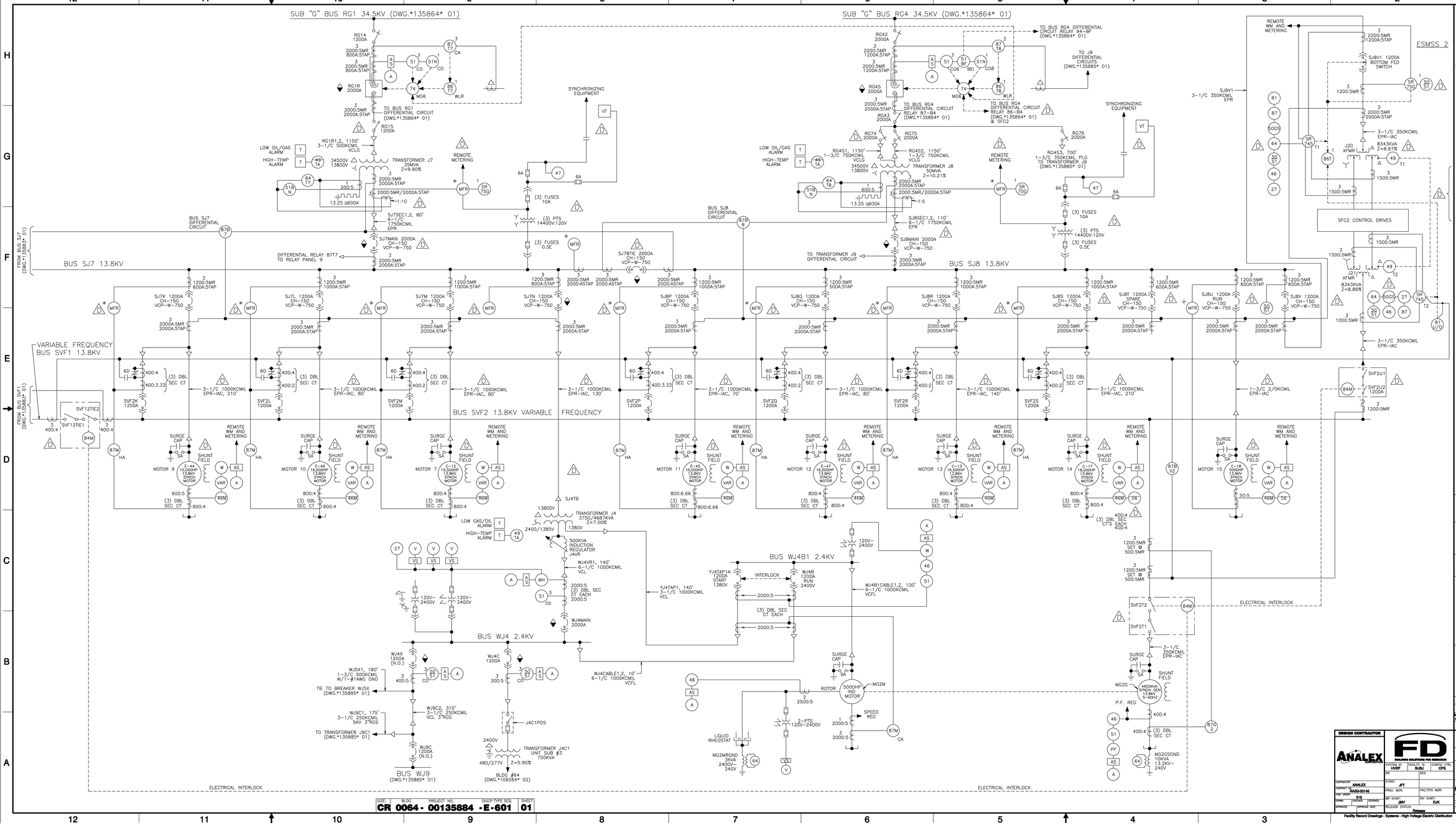


GENERAL NOTES:

1. CABLE NAMES FOLLOWED BY SEQUENCE OF NUMBERS 1, 2, 3.... OR SEQUENCE OF LETTERS A, B, C.... INDICATES MORE THAN 1 CONDUCTOR PER PHASE AND NAME OF CABLES. FOR EXAMPLE WM1G1, 2, 3 INDICATES 3 FEEDERS IN PARALLEL AND CABLE NAMES ARE WM1G1, WM1G2, WM1G3.
2. ELECTRICAL AND ELECTRONIC SYMBOLS ARE PER NASA FACILITIES ENGINEERING DIVISION DRAFTING AND PROCEDURES STANDARDS AND IEEE STANDARD 315–1975.
   EXCEPTIONS:
   - REMOTE INDICATION
   - REMOTE INDICATION AND CONTROL
   - GANG OPERATED DISCONNECT
   - GANG OPERATED DISCONNECT WITH ARCING CONTACTS
   - LOAD INTERRUPTER SWITCH – DOUBLE SIDE BREAK
   - T – TRANSMITS SIGNAL TO SCADA RTU
   - MFR – MULTI FUNCTION RELAY: 50, 51, 5IN
   - * MFR – MULTILIN 269 MULTI FUNCTION RELAY: 46, 49, 50, 51, 51N
3. UNLESS OTHERWISE NOTED ABBREVIATIONS ARE IN ACCORDANCE WITH ASME Y1.1–1989.
   EXCEPTIONS:
   SA = SURGE ARRESTER
   SUB = SUBSTATION

D		REVISED AS PER PSCRS 1992-P238, 1992-P297, FOR 2001-1323, PUT ON NEW FORMAT, CHANGED TITLEBLOCK, DRAWING SIZE, NOTE 2, ADDED NOTE 3 AND DRAWING WAS OF -135884 SHT 01 OF 01. CHANGED TITLES	ANALEX/JWS EZ LFB RGP 04/24/06
C	2	REVISED AS PER CHI FIELD MARKUP, PSCR'S 1992-P297, 1995-P623, 1996-P701, 1996-P770, 1997-P848 AND ADDED NOTE 2.	ANALEX/JWS EZ LFB 02/19/03
	1	PUT ON NEW FORMAT AND PUT ON AUTOCAD.	
B	1	REVISED: BUS WJ4B1, BREAKERS WJ4B AND YJ4TAP1A NOMEN- CLATURE CWERE YMG2, YMG2B, AND YMG2A RESPECTIVELY.	SVT/ZBM/TFM JFT 3/28/91
	3	BASELINE SYMBOL. ADDED DRAWING IS NOW UNDER CONFIGURATION CONTROL.	
A	2	ADDED NEW FORMAT.	SVT/ZM/HSB
	1	ADDEDNOTE 1,DISCONNECT SW RG43 AND RG73. REVISEDEQUIPMENT & CABLE NOMENCLATURE THROUGHOUT, BUS YMG2 CONNECTIONS,CABLE GAGE TO KCMIL (WAS MCM). (ACPIPSEWAS SWITCH ONLY).	JC TORRI 3/1/91

CONTROLLED DRAWING
CENTRAL PROCESS SYSTEMS
THE DRAWING IS UNDER CONFIGURATION CONTROL. ANY CHANGES MUST BE APPROVED BY CCB. CONTACT RESPONSIBLE SYSTEM MANAGER FOR RELEASE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

LAST APPROVED: FAC/SYS MGR: BR-CHI: REV DATE: 04/24/2006
ISSUE REVISIONS: L BERNHARDT R PALYO

CAD DRAWING - DO NOT REVISE MANUALLY

DESIGN CONTRACTOR: ANALEX CORPORATION

FD BUILDING SOLUTIONS FOR RESEARCH

SYSTEM ID: HVEP FACILITY ID: SJBJ DWNG CTRL: CPS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD
CLEVELAND, OHIO

BLDG.0064 SUBSTATION "J"
HIGH VOLTAGE ELECTRICAL SYSTEM

TRANSFORMERS J4, J7, J8, JAC1, J20 & J21
BUS SJ7, SJ8, SVF1, SVF2, WJ4 & WJ4B1
ONE LINE DIAGRAM

CONTRACTOR: ANALEX CONTRACT NO: NAS9-00145 TASK ORDER: 318 DRAWN: DESIGNED: APPROVED: APPROVAL DATE:
D.LEAD: JFT PROJ. MGR: FAC/SYS MGR: BR CHIEF: DV CHIEF: DJK RELEASE STATUS: Release

SIZE: BLDG PROJECT NO. DISCP TYPE SEQ: **CR 0064 - 00135884 -E-601**
AREA: PSL & SUBSTATION J SHEET 01 OF 01
UNITS: ENGLISH SOFTWARE: AUTOCAD 2002 REVISION D
SCALE: NONE OFFICIAL DATE: 03/02/1998

Facility Record Drawings - Systems - High Voltage Electric Distribution
0064-00135884-601_CR_01.dwg 3.0

SIZE: BLDG PROJECT NO. DISCP TYPE SEQ: SHEET
CR 0064 - 00135884 -E-601 01

PROJECT NO. 00135884 DISCP TYPE SEQ. -E-601 REV. D

NOTES:

1. SEE DRAWING CF121100 FOR DRAWING LIST OF REVISIONS.

CONTRACT

DRAWING SCHEDULE	
CD112890	DRAWING AND CABLE SCHEDULES, LOCATION PLAN AND ONE LINE DIAGRAM FOR MG SET AND AUXILIARIES
CD112891	EQUIPMENT LAYOUT – OPERATING FLOOR PLAN
CD112892	EQUIPMENT AND CABLE RACKING LAYOUT BASEMENT AND 2ND MEZZANINE FLOOR PLAN
CD112893	EQUIPMENT LAYOUT CONTROL ROOM AND 1ST MEZZANINE FLOOR PLAN
CD112894	CABLE TUNNEL RACKING AND CABLING
CD112895	CABLE RACKING SECTIONS AND DETAILS
CD112896	VARIABLE FREQUENCY MG SET AUXILIARIES LAYOUT AND CONNECTIONS
CD112897	LIQUID RHEOSTAT ENCLOSURE AND GRATING
CD112898	LIQUID RHEOSTAT ENCLOSURE AND GRATING DETAILS
CD112268	PIPING FOR LIQUID RHEOSTAT

REFERENCE

DRAWING SCHEDULE			
NUMBER	CHANGE NO.	DATE	TITLE
CD112214	A	1-20-54	FLOOR PLANS, SECTIONS AND DETAILS
CD112215	NONE	12-22-53	STAIR NO. 2 AND FLOOR SLOTS DETAILS
CD112220	B	10-5-54	GROUNDING SYSTEM

NO OF			
CABLE NO	FROM	TO	SPARES
VA2	AUX SWGR UNIT 2	VF SWGR UNIT 2	1
VA3	AUX SWGR UNIT 3	VF SWGR UNIT 3	1
VA4	AUX SWGR UNIT 4	VF SWGR UNIT 4	1
VA5	AUX SWGR UNIT 7	VF SWGR UNIT 5	1
VA6	AUX SWGR UNIT 5	VF SWGR UNIT 6	1
VA7	AUX SWGR UNIT 6	VF SWGR UNIT 7	1
VA10	AUX SWGR UNIT 8	VF SWGR UNIT 8	1
C20	MAIN 13.8 KV SWGR UNIT 7	MAIN 13.8 KV SWGR UNIT 6	3
C21	MAIN 13.8 KV SWGR UNIT 7	MAIN 13.8 KV SWGR UNIT 13	1
C22	MAIN 13.8 KV SWGR UNIT 1	MAIN 13.8 KV SWGR UNIT 4	2
C23	MAIN 13.8 KV SWGR UNIT 6	MAIN 13.8 KV SWGR UNIT 4	2

CABLE SCHEDULE

NACA COND OR CABLE NO				CONDUIT		CABLE					REMARKS
				KIND	SIZE INCHES	CONDUCTORS		CIRCUIT VOLTAGE	INSULATION		
						REQ'D	AWG MCM		TYPE	VOLTAGE	
12-200	UNIT SUBSTATION 3	250 HP MOTOR STARTER	150KW MG SET 250HP MOTOR	STEEL	4	3-1/C	500	480	VC-BRAID	600	
13-30	INDUCTION REG J4	2400V SWGR CUB 22	2400V FEEDER	———	———	6-1/C	1000	2400	VCL	5000	
13-31	TRANSFORMER J4	2400V SWGR CUB 19	LOW VOLTAGE TAP	———	———	3-1/C	1000	2400	VCL	5000	
13-32	2400V SWGR CUB. 18	VFMG SET 5000HP MOTOR	2400V FEEDER	———	———	6-1/C	1000	2400	VC-PVC	5000	
15-38	MAIN BUS SWGR CUB. 18	AUX POWER TRANSF J4	POWER SUPPLY TO 2400V BUS	———	———	1-3/C	250	13,800	VCL	15,000	
15-39	VFMG SET 4650VKA GEN	13.8KV VF SWGR CUB. 15	VF BUS 2 FEEDER	———	———	3-1/C	250	13,800	VC-PVC	15,000	

DRAWING NO.	TITLE
CD113020	LOCATION PLAN DRAWINGS & CABLE SCHEDULES
CD113046	PANEL INTERCONNECTIONS-MAIN 13.8 KV SWGR UNITS 1, 7 & 14
CD113047	PANEL INTERCONNECTIONS-MAIN 13.8 KV SWGR UNITS 4, 6 & 13
CD113048	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 1, 2 & 8
CD113049	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 3, 4 & 5
CD113050	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 6, 7 & 13
CD113051	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 10, 11 & 12
CD113052	PANEL INTERCONNECTIONS-VF SWAG UNITS 9, 2.4 KV SWGR UNITS 2, 9, 4 & 10
CD113053	PANEL INTERCONNECTIONS AUXILIARY PANEL 1, 2 & 3
CD113054	PANEL INTERCONNECTIONS AUXILIARY PANEL 4, 5, 6 & 7
CD113055	PANEL INTERCONNECTIONS AUXILIARY PANEL 8, 9, 10 & 11
CD112221	BASEMENT LIGHTING & RECEPTACLES
CHG B DATED 5-5-55	
CD112222	MEZZANINE & TUNNEL LIGHTING & RECEPTACLES
CHG B DATED 5-5-55	
CD112245	TELEPHONE & INTERCOMMUNICATION-CONTROL ROOM & DETAILS
CHG B DATED 5-5-55	
CD112248	TELEPHONE & INTERCOMMUNICATION-LAYOUT BASMT FLOOR SHEET 1
CHG B DATED 5-5-55	
CD112279	KEY PLAN & EQUIPMENT LOCATION
CHG B DATED 4-21-55	

CABLE NUMBER	FROM	TO	FOR	REQ'D	CONDUCTORS AWG	NO IN CABLE	REMARKS
11-101	MCC 6 PANEL T3	TRANSF J4 CONT CABINET		2/C	19/25	2/C	
11-103	MCC 6 PANEL T3	2400 V SWGR UNIT 22		4/C	19/25	4/C	
12-202	POWER PANEL P1	AIR COMPRESSOR 3		3/C	19/25	4/C	
12-203	AUX SWGR UNIT 12	VFMG 2 MOTOR HEATERS		3/C	19/25	4/C	
12-204	AUX SWGR UNIT 12	VFMG 2 GEN HEATERS		3/C	19/25	4/C	
12-206	ELECTROLYTE CIRC PUMP MOTOR	LIQ RHEO 2 CONTROL CABINET		3/C	19/25	4/C	
12-207	POWER PANEL P2	LIQ RHEO 2 CONTROL CABINET	440 V POWER FEED	3/C	19/25	4/C	3/4" CONDUIT
12-208	MCC 6	POWER PANEL P2	440 V POWER FEED	3-1/C	2/0		
A 11	AUX SWGR UNIT 1	AUX SWGR UNIT 12		7/C	19/25	8/C	
S 20	2.4 KV SWGR UNIT 19	2.4 KV SWGR UNIT 2		10/C	19/25	12/C	
S 21	2.4 KV SWGR UNIT 22	DISPATCH TERM CAB 29		8/C	19/25	8/C	
S 22	2.4 KV SWGR UNIT 22	J4 REGULATOR TERMINAL STRIPS		10/C	19/25	12/C	
S 23	2.4 KV SWGR UNIT 22	BATTERY PANEL	125 VDC CONTROL POWER	2-1/C	6	---	
A 17	AUX SWGR UNIT 9	AUX SWGR UNIT 12		3/C	19/25	4/C	
C 16	MAIN 13.8 KV SWGR 18	MAIN 13.8 KV SWGR 14		1/C	19/25	2/C	

LEGEND

A – DESIGNATES CABLES TERMINATING IN THE AUXILIARY SWITCHGEAR
C – DESIGNATES CABLES TERMINATING IN THE MAIN 13.8KV SWITCHGEAR
M – DESIGNATES CABLES TERMINATING IN THE MAIN DUPLEX CONTROL SWITCHBOARD
S – DESIGNATES CABLES TERMINATING IN THE 2.4KV SWITCHGEAR
V – DESIGNATES CABLES TERMINATING IN THE VARIABLE FREQUENCY SWITCHGEAR
11 – DESIGNATES 208V POWER CABLES
12 – DESIGNATES 440V POWER CABLES
DIS CONT RM – DESIGNATES DISPATCH CONTROL ROOM
C – DESIGNATES CONDUIT
/C – DESIGNATES CONDUCTOR

CADAM DRAWING DO NOT REVISE MANUALLY

SYM	ZONE	DESCRIPTION	APP/DATE
M	2	BASELINE SYMBOL ADDED DRAWING IS NOW UNDER CONFIGURATION CONTROL	NYMA/RT/TFM HS
	1	OBSOLETES AND SUPERSEDES DWGS CD-112890 10/12/54 CD-112939 REV A 1/10/58 NO CHANGE	DPB/JAW 07/19/96

REVISIONS

CENTRAL PROCESS SYSTEMS
BASELINE CONFIGURATION DOCUMENT

CONTRACT NAS3-27186
CONTRACTOR CLEVELAND,OHIO
TASK ORDER 7301
APPROVED RT/TFM/HS
LEWIS RESEARCH CENTER

DR.	CHK.	DES.
DES.BR.CH.	DES.ENG.	DES.P.ENG. DPB
FAC./SYS.MGR. JAM	ENG.BR.CH. JAW	ENG.DIV.CH. DRC
RES.ENG.	RES.BR.CH.	RES.DIV.CH.

OFFICIAL DATE 07/19/96

NASA
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LEWIS RESEARCH CENTER
CLEVELAND,OHIO

SYNC MTR AUX CONT SYSTEM
BUILDING 64

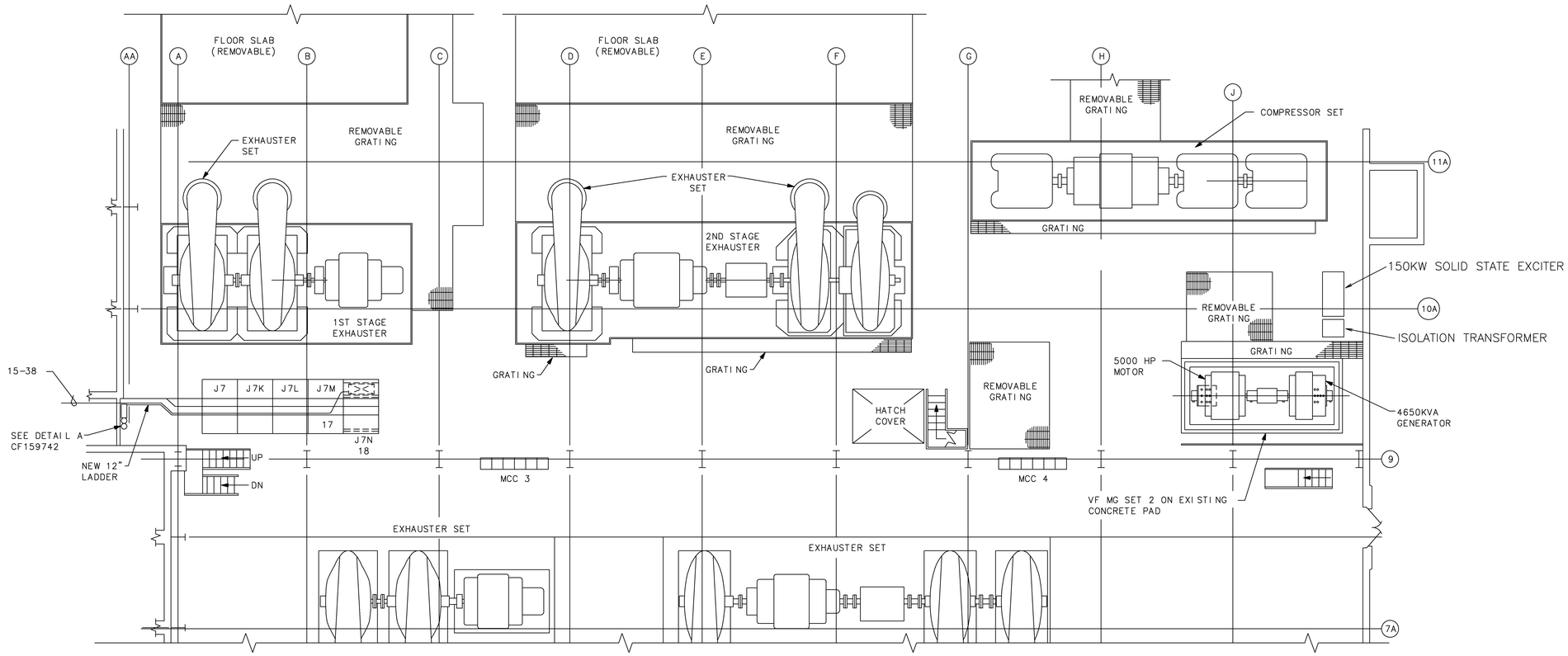
DRAWING AND CABLE SCHEDULES, LOCATION PLAN FOR M-G SET AND AUX

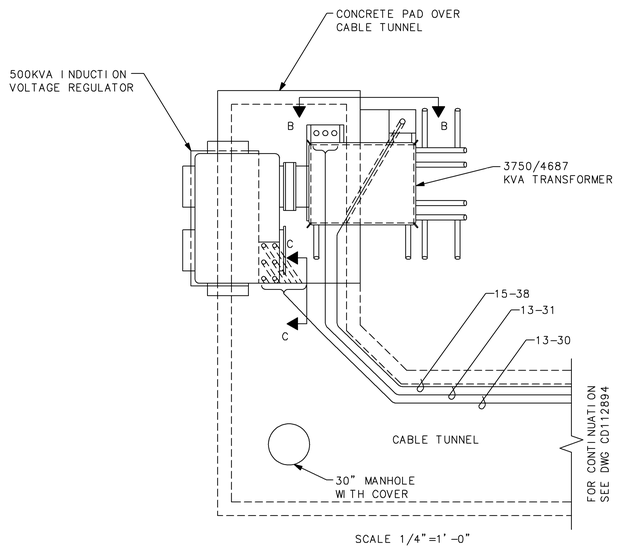
SIZE	DRAWING NUMBER	REV.	STAT	BLDG/CODE
F	CF-112890	X		64 /

SCALE: NONE SHEET OF

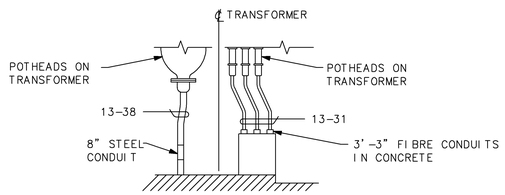
CAD GROUP DRAW CAD SUBGROUP CP-DCS NO. OF CADAM MODELS 01 CADAM UNITS INCHES

DRAWING NUMBER CF-112890 REV. X STAT



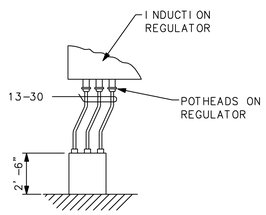


SCALE 1/4"=1'-0"



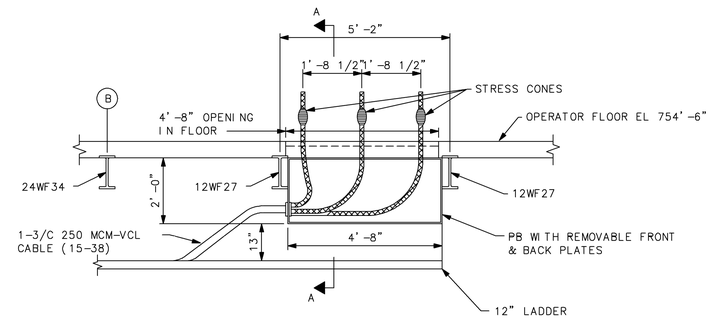
SECTION B-B

SCALE 1/4"=1'-0"



SECTION C-C

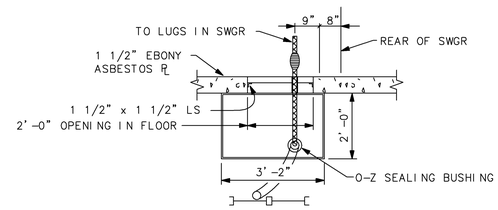
SCALE 1/4"=1'-0"



FRONT EL MAIN SWGR CUBICLE UNIT 18 PULL BOX

(SHOWN WITH FRONT PLATE REMOVED)

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



SECTION A-A

DETAIL A

MAIN POWER BUS SWGR PULL BOX CUBICLE UNIT 18

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

NOTES

1. FOR A LIST OF DRAWINGS SEE CF121100
2. FOR ABBREVIATIONS AND SYMBOLS SEE CF121101
3. FOR DRAWING & CABLE SCHEDULE SEE DWG CD112890

CADAM DRAWING DO NOT REVISE MANUALLY

SYM	ZONE	DESCRIPTION	APP/DATE
M	2	BASELINE SYMBOL ADDED DRAWING IS NOW UNDER CONFIGURATION CONTROL	NYMA/RT/TFM HS
	1	OBSOLETES AND SUPERSEDES DWG. CD-112891 REV "B" DATED 10/23/80 NO CHANGE	DPB/JAW 07/19/96

REVISIONS

CENTRAL PROCESS SYSTEMS BASELINE CONFIGURATION DOCUMENT

NASA — NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, LEWIS RESEARCH CENTER, CLEVELAND, OHIO

SYNC MTR AUX CONT SYSTEM BUILDING 64

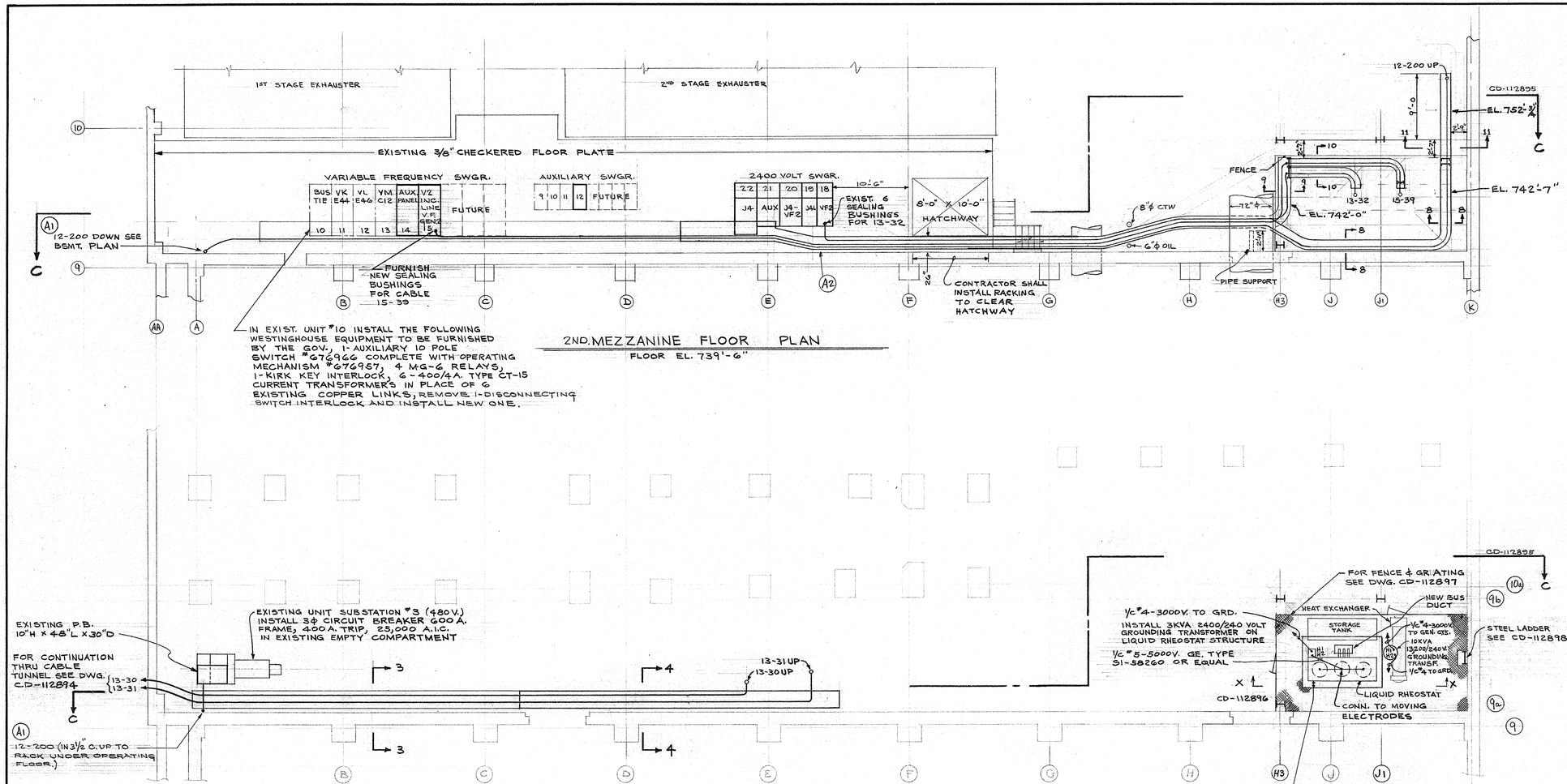
EQUIPMENT LAYOUT OPERATING FLOOR

CONTRACT CONTRACTOR	NAS3-27186 CLEVELAND,OHIO
TASK ORDER	7301
APPROVED	RT/TFM/HS
LEWIS RESEARCH CENTER	
DR. / CHK. / DES.	
DES.BR.CH. / DES.ENG. / DES.P.ENG. DPB	
FAC./SYS.MGR. JAM / ENG.BR.CH. JAW / ENG.DIV.CH. DRC	
RES.ENG. / RES.BR.CH. / RES.DIV.CH.	
OFFICIAL DATE	07/19/96

SIZE	DRAWING NUMBER	REV.	STAT	BLDG/CODE
F	CF-112891	X		64/
SCALE: NONE		SHEET	OF	

CAD GROUP DRAW | CAD SUBGROUP CP-DCS | NO. OF CADAM MODELS 02 | CADAM UNITS INCHES

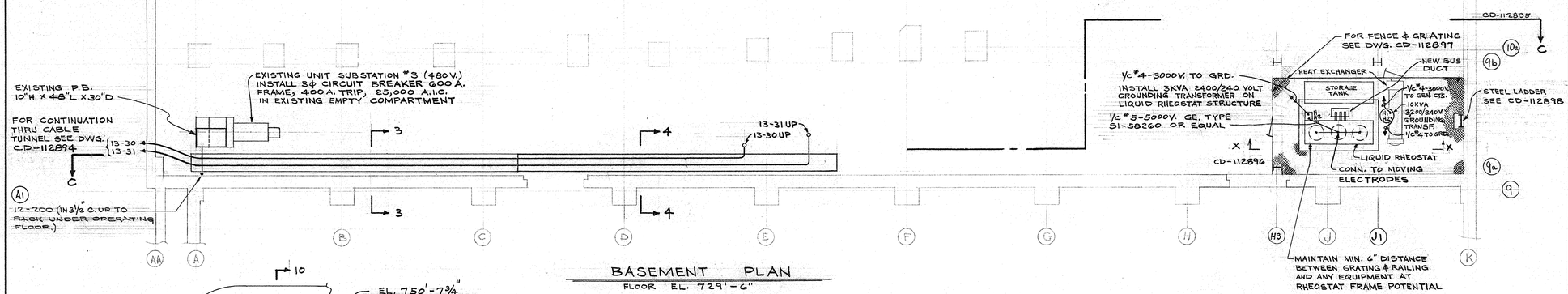
DRAWING NUMBER CF-112891 REV. X STAT



IN EXIST. UNIT #10 INSTALL THE FOLLOWING WESTINGHOUSE EQUIPMENT TO BE FURNISHED BY THE GOV., 1-AUXILIARY 10 POLE SWITCH #676966 COMPLETE WITH OPERATING MECHANISM #676957, 4 MG-6 RELAYS, 1-KIRK KEY INTERLOCK, 6-400/4A. TYPE CT-15 CURRENT TRANSFORMERS IN PLACE OF 6 EXISTING COPPER LINKS, REMOVE 1-DISCONNECTING SWITCH INTERLOCK AND INSTALL NEW ONE.

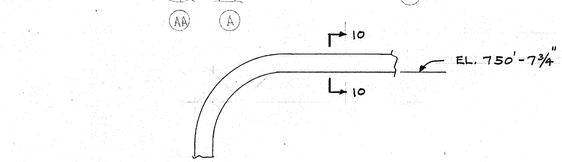
2ND. MEZZANINE FLOOR PLAN

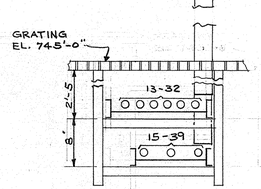
FLOOR EL. 739'-6"



BASEMENT PLAN

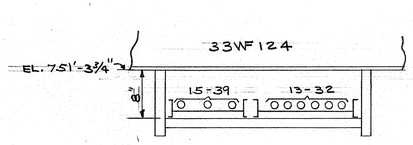
FLOOR EL. 729'-6"





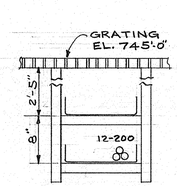
SECTION 9-9

NO SCALE



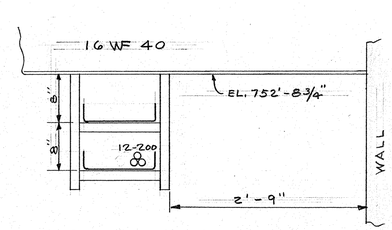
SECTION 10-10

NO SCALE



SECTION 8-8

NO SCALE



SECTION 11-11

NO SCALE

GENERAL NOTES

1. FOR DRAWING SCHEDULE SEE DWG. CD-112890
2. THE FOLLOWING EQUIPMENT WILL BE FURNISHED BY THE GOV. AND INSTALLED BY THE CONTRACTOR:
   (a) V.F. SWGR. UNITS #14 & #15
   (b) AUX. SWGR. UNITS #12
   (c) 2400 VOLT SWGR. UNITS #18, 19, 20, 21 & #22
   (d) LIQUID RHEOSTAT, STORAGE TANK AND HEAT EXCHANGER WITH INTERCONNECTING PIPING, 3 KVA & 10 KVA GROUNDING TRANSFORMERS.
3. RACKING SHALL BE UNISTRUT P-1000 OR EQUAL. CABLE TRAYS SHALL BE 12" COPE 11201 OR EQUAL. CABLE LADDERS SHALL BE HUSKY AR-12 FOR CABLE 15-39 AND AR-16 FOR CABLE 13-32, OR EQUAL.

CHANGE NO.	REVISION	DATE	OK-APP.
A 2	REVISED RACKING IN 2ND MEZZANINE FLOOR PLAN	1 24 55	AHS KBK VAK OJH GW
A 1	RELOCATED CABLE 12-200 AND CHANGED CONDUIT SIZE		

REFERENCES		INITIAL	DATE
PROJ. C1327	DR.	A.H.S.	10-7-54
J.O. 11018	CK.		
PR. NO. B-30739	D. Eng.	R.D.F.	10-12-54
SPEC. NO. C-4490	R. Eng.		
C-NAW.	P. Eng.	GW	10-12-54
	D. E. Dir.	OJH	10-12-54
SCALE 1/8" = 1'-0"	R. E. Dir.		
	D. D. Ch.	PSL	10-12-54
	R. D. Ch.		

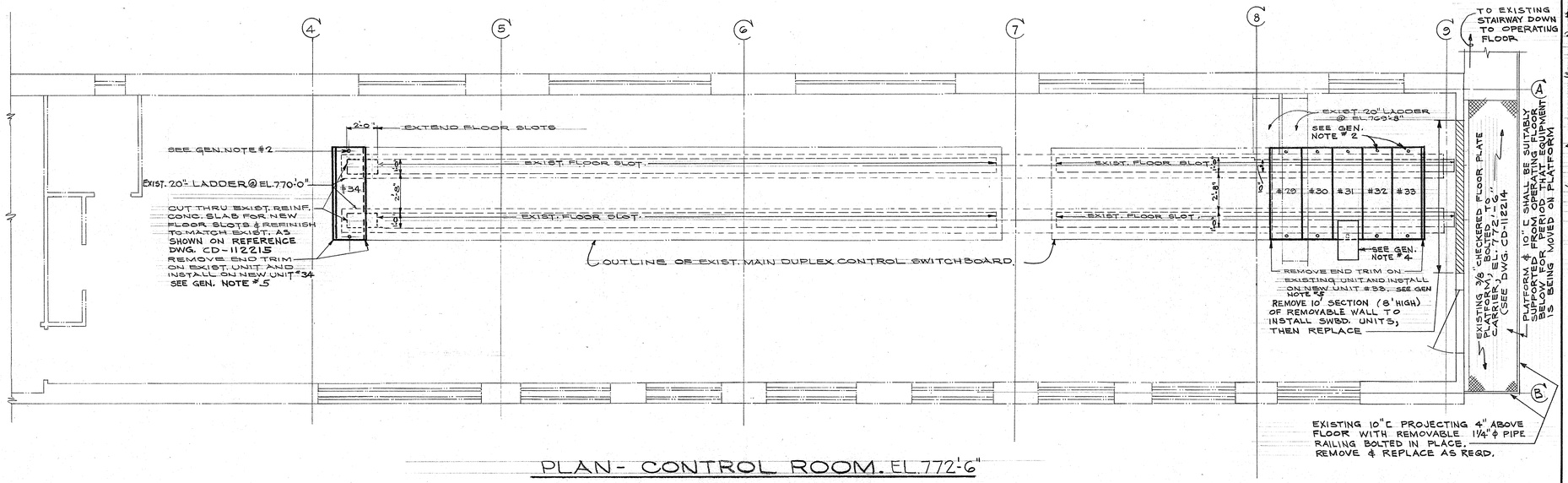
P.S.L. EXPANSION OF AIR FACILITIES EQUIPMENT BUILDING

ELECTRICAL EQUIPMENT INSTALLATION & CONNECTIONS

ELECTRICAL EQUIPMENT & CABLE RACKING LAYOUT BASEMENT & 2ND. MEZZANINE FLOOR PLANS.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS
LEWIS FLIGHT PROPULSION LABORATORY
CLEVELAND, OHIO

DWG. NO. CD-112892

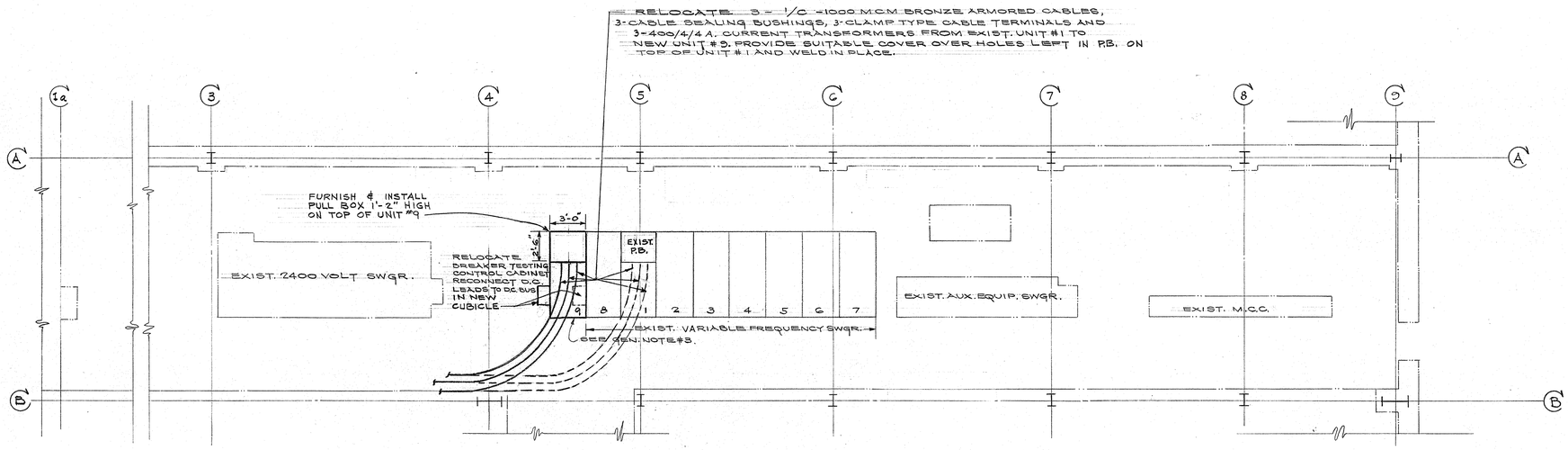


PLAN- CONTROL ROOM. EL. 772'-6"

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

GENERAL NOTES

1. FOR DWG. & CABLE SCHEDULES SEE CD-112890
2. ANCHOR NEW SWITCHBOARD UNITS TO CONCRETE FLOOR WITH 5/8" ϕ EXP. BOLTS, 12- REQD.
3. CUT SLOTS IN FLOOR & INSTALL 2-5'-6.7 LB. CHANNELS WHICH SHALL BE LEVELED & GROUTED. THESE CHANNELS SHALL SUPPORT THE NEW VARIABLE-FREQUENCY SWGR. UNIT #9 SO THAT IT WILL LINE UP WITH EXISTING SWGR, ANCHOR SWGR. TO CHANNELS WITH 4-1/2" BOLTS.
4. INSTALL SYNCHRONIZING PANEL (16 1/2" HIGH), TO BE FURNISHED BY THE GOVT., ON TOP OF UNIT # 31.
5. REMOVE END TRIM COMPLETE WITH EXISTING RECEPTACLE AND LIGHTING SWITCH & INSTALL IN NEW END UNIT. CONNECT RECEPTACLE AND LIGHTING SWITCH TO TERMINAL IN NEW END UNIT AND CONNECT RECEPTACLE AND LIGHTING CIRCUIT FROM NEW UNIT TO NEAREST EXISTING UNIT.



1ST. MEZZANINE FLOOR PLAN.

FLOOR EL. 741'-6"

SCALE: 3/16" = 1'-0"

REFERENCES		INITIAL	DATE
PROJ. C-1327	DR.	A.J.J.	9-21-54
J.O. 11018	CK.		
P.R. NO. B-30739	D. Eng.	R.B.F.	10-12-54
SPEC. NO. C-4490	R. Eng.		
C-NAW-	P. Eng.	GW	10-12-54
	D. S. Hd.	O.H.	10-12-54
SCALE AS NOTED.	E. S. Hd.		
	D. D. Ch.	B.F.F.	10-12-54
	R. D. Ch.		

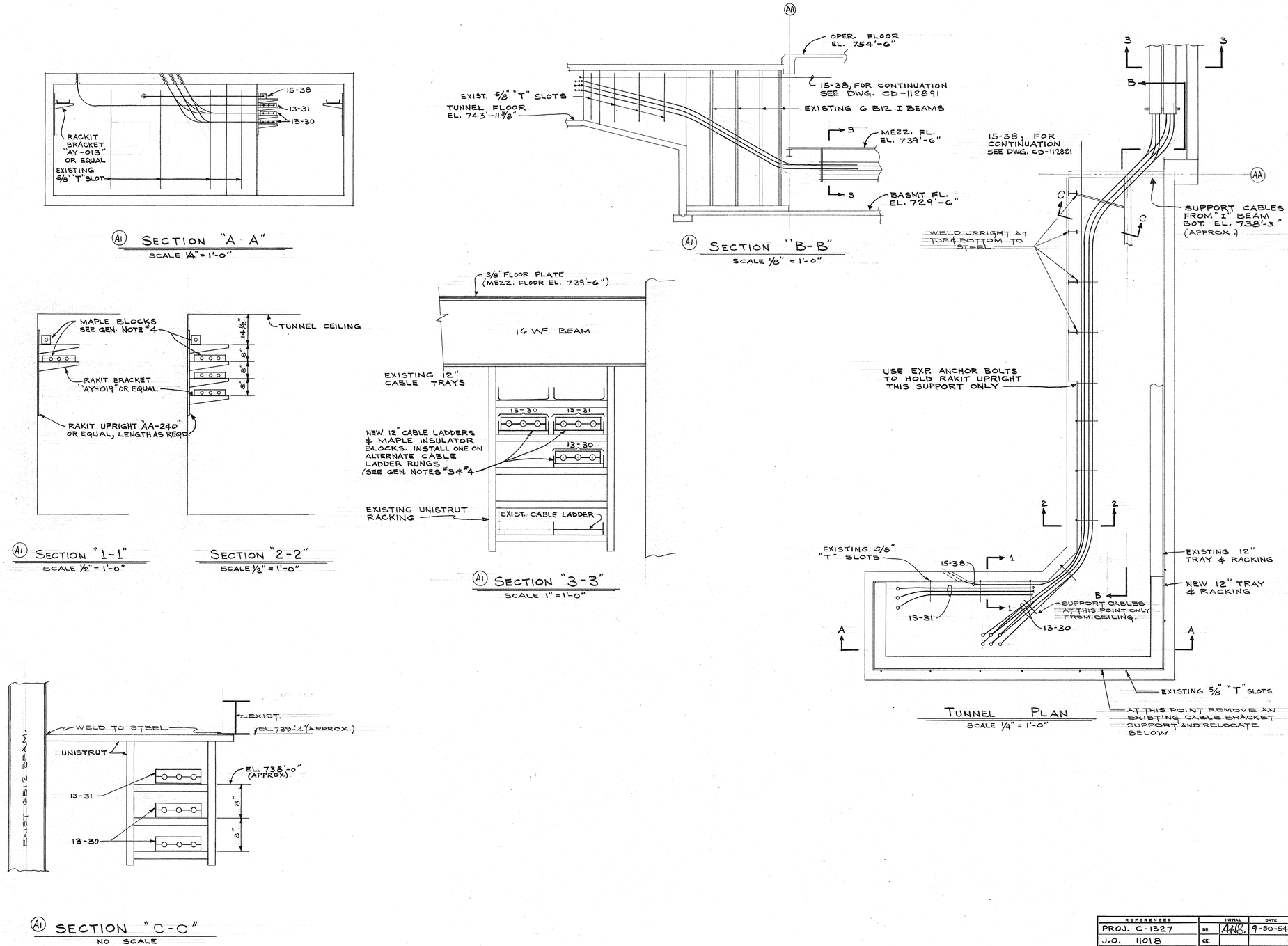
CHANGE NO.	REVISION	DATE	CK. APP.

(M)

P.S.L. EXPANSION OF AIR FACILITIES
EQUIPMENT BUILDING
ELECTRICAL EQUIPMENT INSTALLATION & CONNECTIONS
ELECTRICAL.
EQUIPMENT LAYOUT- CONTROL ROOM AND 1ST. MEZZANINE FLOOR PLANS.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS
LEWIS FLIGHT PROPULSION LABORATORY
CLEVELAND, OHIO

DWG. NO. CD-112893



(A1) SECTION "A A"
SCALE 1/4" = 1'-0"

(A1) SECTION "B-B"
SCALE 1/8" = 1'-0"

(A1) SECTION "1-1"
SCALE 1/2" = 1'-0"

SECTION "2-2"
SCALE 1/2" = 1'-0"

(A1) SECTION "3-3"
SCALE 1" = 1'-0"

TUNNEL PLAN
SCALE 1/4" = 1'-0"

(A1) SECTION "C-C"
NO SCALE

GENERAL NOTES

1. FOR DWG. & CABLE SCHEDULES SEE DWG. CD-112890
2. FOR CABLE TUNNEL LOCATION SEE DWG. CD-112891
3. CABLE LADDERS, "LIGHTWEIGHT HUSKY," STACEY BROS., OR EQUAL
4. SECURE ALL LEAD CABLE WITH MAPLE INSULATOR BLOCKS WHICH SHALL BE TAFT WOOD PRODUCTS CO., RAKIT CORP. OR HUSKY WITH NON-MAGNETIC HARDWARE OR APPROVED EQUAL.
5. CABLE TRAYS SHALL BE 12" COPE OR FULLY EQUAL.

CHANGE	NO.	REVISION	DATE	CK. APP.
A	1	REARRANGED CABLES IN SECTIONS "A-A", "B-B", "C-C", "1-1" & "3-3"	1 24 55	AHS RBS VJK OJH

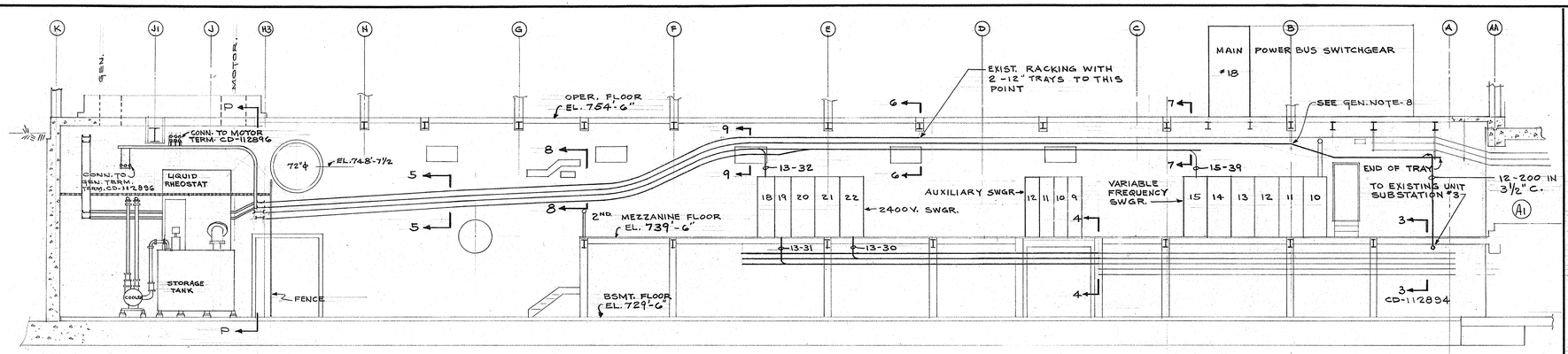
(M)

REFERENCES		INITIAL	DATE
PROJ. C-1327	DR.	AHS	9-30-54
J.O. 11018	CK.		
P.R. No. B-30739	D. Eng.	RBS	10-12-54
SPEC. No. C-4490	R. Eng.		
C-NAW	P. Eng.	JW	10-12-54
	D. S. Hd	OJH	10-12-54
SCALE	R. S. Hd		
As NOTED	D. D. Ch	BSS	10-12-54
	R. D. Ch		

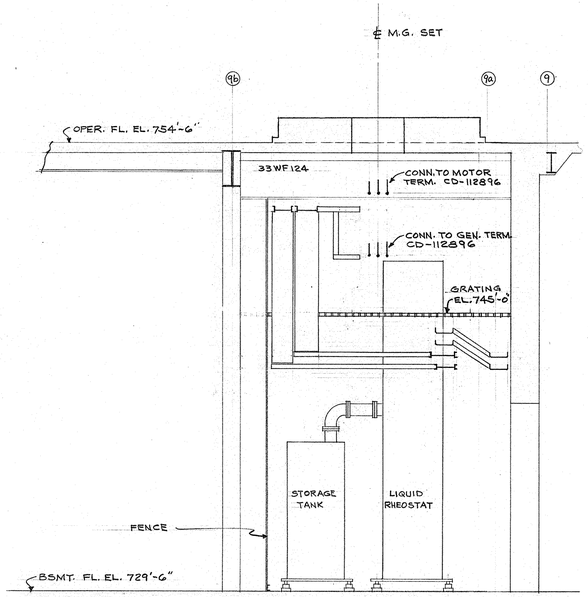
P.S.L. EXPANSION OF AIR FACILITIES
EQUIPMENT BUILDING.
ELECTRICAL EQUIPMENT INSTALLATION & CONNECTIONS
ELECTRICAL
CABLE TUNNEL RACKING & CABLING

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS
LEWIS FLIGHT PROPULSION LABORATORY
CLEVELAND, OHIO

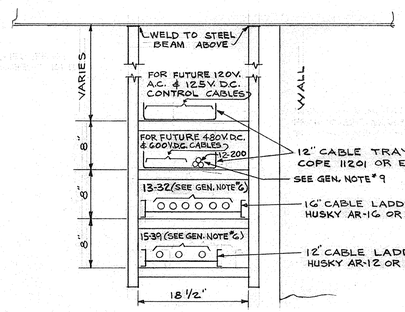
DWG. NO. CD-112894



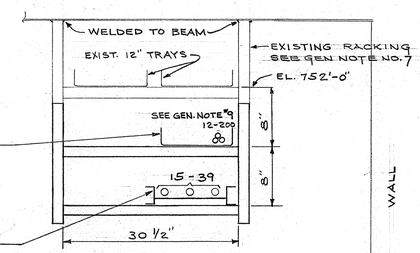
SECTION "C-C"
SCALE ⅛" = 1'-0"
CD-112892



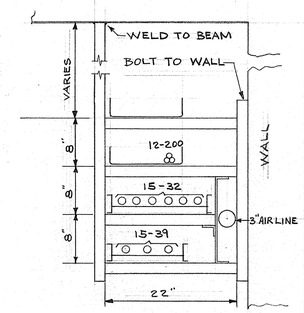
SECTION "P-P"
SCALE ¼" = 1'-0"



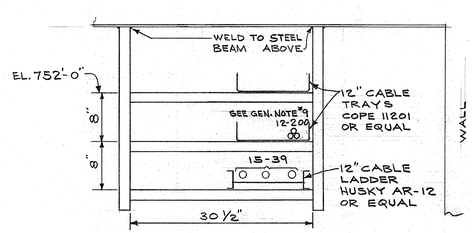
SECTION "5-5"
(A3) SCALE 1" = 1'-0"



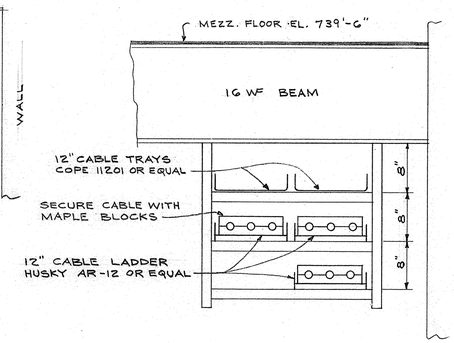
SECTION "7-7"
SCALE 1" = 1'-0"



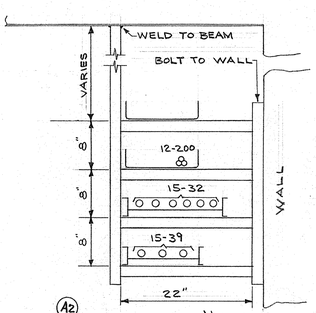
SECTION "8-8"
(A2) SCALE 1" = 1'-0"



SECTION "6-6"
(A3) SCALE 1" = 1'-0"



SECTION "4-4"
SCALE 1" = 1'-0"



(A2) SECTION "9-9"
SCALE 1" = 1'-0"

GENERAL NOTES

1. FOR DWG. & CABLE SCHEDULE SEE DWG. CD-112890.
2. ALL EXISTING TRAY & LADDER SUPPORTS ARE UNISTRUT P-1000.
3. CABLE LADDERS SHALL BE "LIGHTWEIGHT HUSKY," STACEY BROS., OR EQUAL.
4. SECURE ALL LEAD CABLE WITH MAPLE INSULATOR BLOCKS, TAFT WOOD PRODUCTS CO., RAKIT CORP. OR HUSKY WITH NON-MAGNETIC HARDWARE OR APPROVED EQUAL) INSTALLED ON ALTERNATE LADDER RUNGS.
5. CABLE TRAYS SHALL BE 12" COPE 11201 OR FULLY EQUAL.
6. CONTRACTOR SHALL SECURE ALL CABLES, EXCEPT LEAD, AT MIN. 3'-0" INTERVALS WITH MARLIN ROPE OR APPROVED CLAMP.
7. REMOVE EXIST. VERTICAL SUPPORTS AND INSTALL NEW ONES, WELD TO BEAM ABOVE.
8. RACKING TO SLOPE DOWN FROM EL. 751'-4" TO EL. 750'-0" SO AS TO CLEAR EXIST. 5" CONDUIT AND TO FOLLOW AND CLEAR EXIST. RACKING BY A MIN. OF 8 INCHES (EL. ARE APPROX.)
9. SECURE CABLE #12-200 BY WRAPPING ALL THREE CONDUCTORS AT MIN. 3'-0" INTERVALS IN THE CABLE TRAY WITH MARLIN ROPE OR APPROVED EQUAL AS SHOWN

CHANGE	NO.	REVISION	DATE	CK. APP.
A	3	REVISED SECTIONS "5-5" & "6-6"	1 24 55	AHS R.D.F. W.G.F. GW
	2	ADDED SECTIONS "8-8" & "9-9"		
	1	RELOCATED CABLE 12-200 AND CHANGED CONDUIT SIZE		

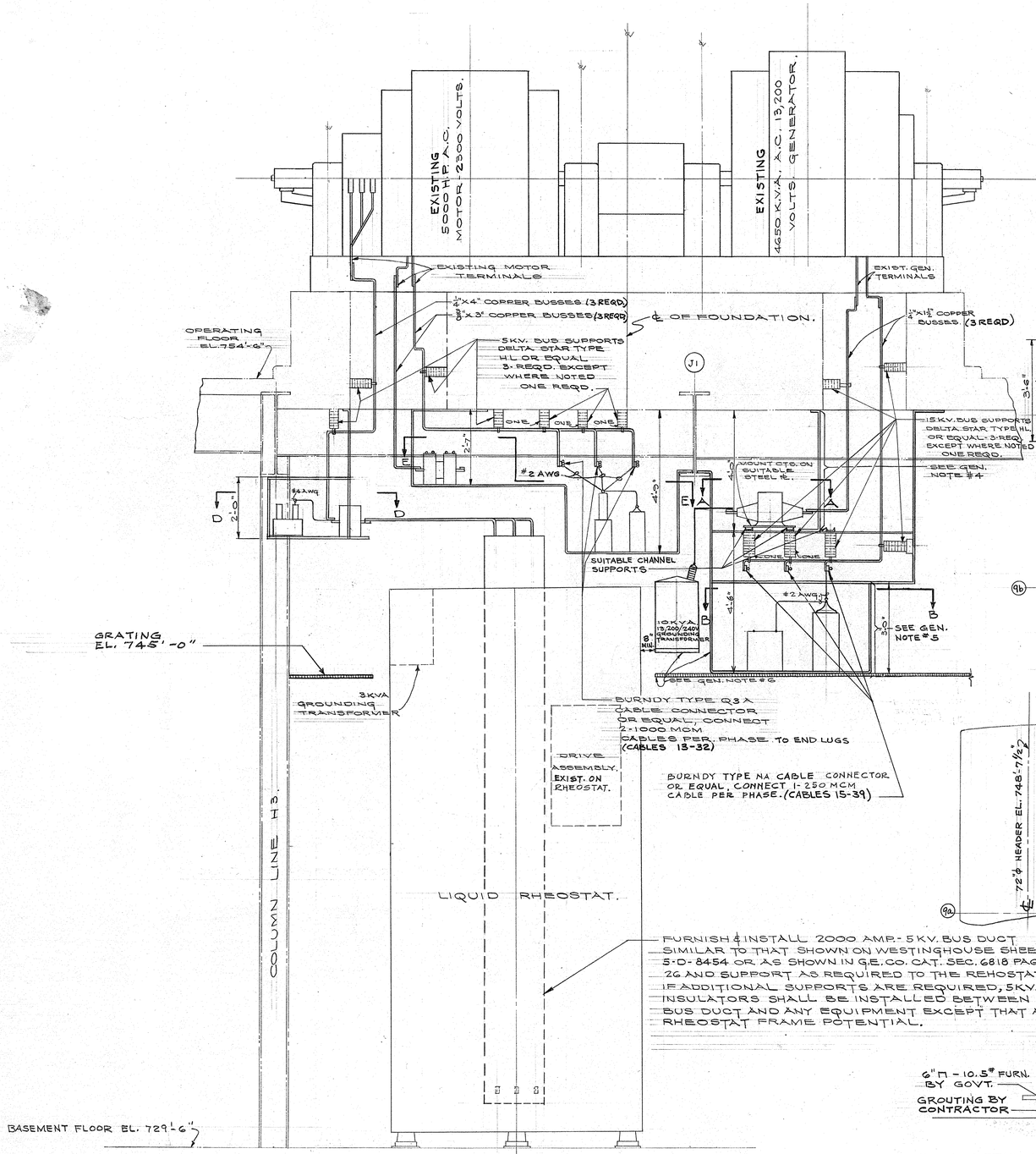
(M)

REFERENCES		INITIAL	DATE
PROJ. C-1327	DR.	AHS	9-30-54
J.O. 11018	CK.		
P.R. NO. B-30739	D. Eng.	R.D.F.	10-12-54
SPEC. NO. C-4490	R. Eng.		
C-NAW.	P. Eng.	GW	10-12-54
	D. S. Hd	O.H.	10-12-54
	R. S. Hd		
SCALE AS NOTED	D. D. Ch		10-12-54
	R. D. Ch		

P.S.L. EXPANSION OF AIR FACILITIES
EQUIPMENT BUILDING -
ELECTRICAL EQUIPMENT INSTALLATIONS & CONNECTIONS
ELECTRICAL
CABLE RACKING SECTIONS & DETAILS

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS
LEWIS FLIGHT PROPULSION LABORATORY
CLEVELAND, OHIO

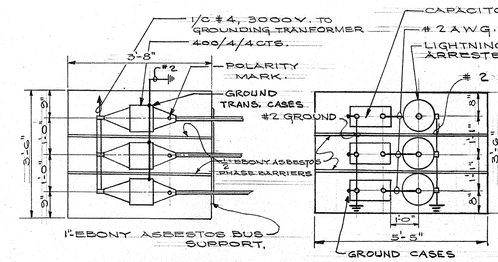
DWG. NO. CD-112895



(ELEVATION) SECTION "X-X"

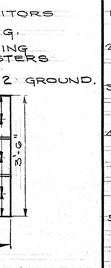
SCALE: 1/4" = 1'-0"

SEE GENERAL NOTE #2



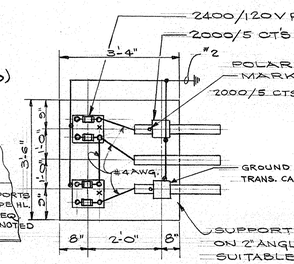
SECTION "A-A"

SCALE: NONE.



SECTION "B-B"

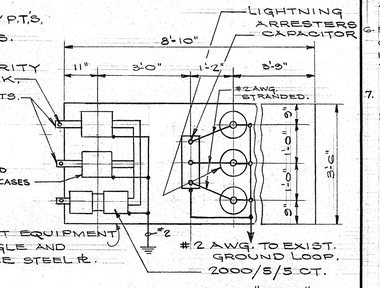
SCALE: NONE.



SECTION "D-D"

SCALE-NONE

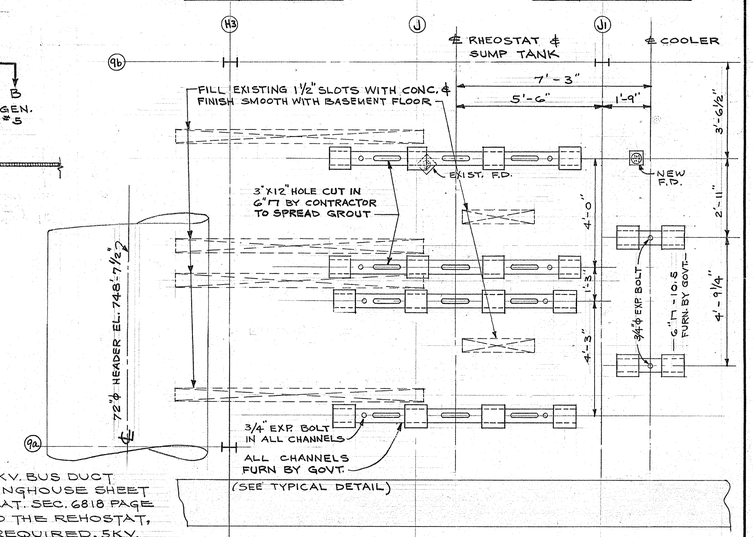
SEE GEN. NOTE #3



SECTION "E-E"

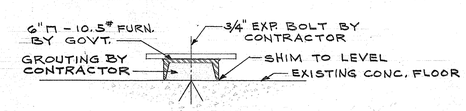
SCALE-NONE.

SEE GEN. NOTE #3



LIQUID RHEOSTAT FLOOR PAD LAYOUT

SCALE 3/8" = 1'-0"



TYPICAL DETAIL OF CHANNEL INSTALLATION

NO SCALE

NOTE:
ALL CHANNELS SHALL BE LEVEL & SHALL BE AT SAME ELEVATION.
PAINT EXPOSED CHANNEL SURFACES WITH BLACK ASPHALTUM BASE PAINT.

GENERAL NOTES

1. FOR SCHEDULE OF DWGS. SEE CD-112890
2. FOR LOCATION OF SECTION "X-X" SEE DRAWING CD-112892
3. EQUIPMENT SHALL BE SUPPORTED ON 2" ANGLE FRAMEWORK WITH 12 GAGE SHEET STEEL FLOOR.
4. CTS. SHALL BE ENCLOSED IN 2" ANGLE FRAME WITH 12 GAGE SHEET STEEL SIDES, ALL SIDES SHALL BE REMOVABLE. 1/2" EBONY ASBESTOS SHALL BE USED WHERE BUSSES ENTER ENCLOSURE.
5. SURGE EQUIPMENT SHALL BE ENCLOSED IN 2" ANGLE FRAME WITH 12 GAGE SHEET STEEL SIDES, ALL SIDES SHALL BE REMOVABLE. TOP SHALL BE 1/2" EBONY ASBESTOS OVER REMOVABLE. 1/2" EBONY ASBESTOS PHASE BARRIERS, EQUIPMENT SHALL BE SUPPORTED ON 2" ANGLE AND SUITABLE STEEL PLATE.
6. PROVIDE SUITABLE SUPPORT FROM GRATING SUPPORTING STRUCTURE TO 10 KVA. GROUNDING TRANSFORMER AND TO GENERATOR SURGE EQUIPMENT.
7. ALL SURGE EQUIPMENT, CURRENT, POTENTIAL AND GROUNDING TRANSFORMERS WILL BE FURNISHED BY THE GOVT.

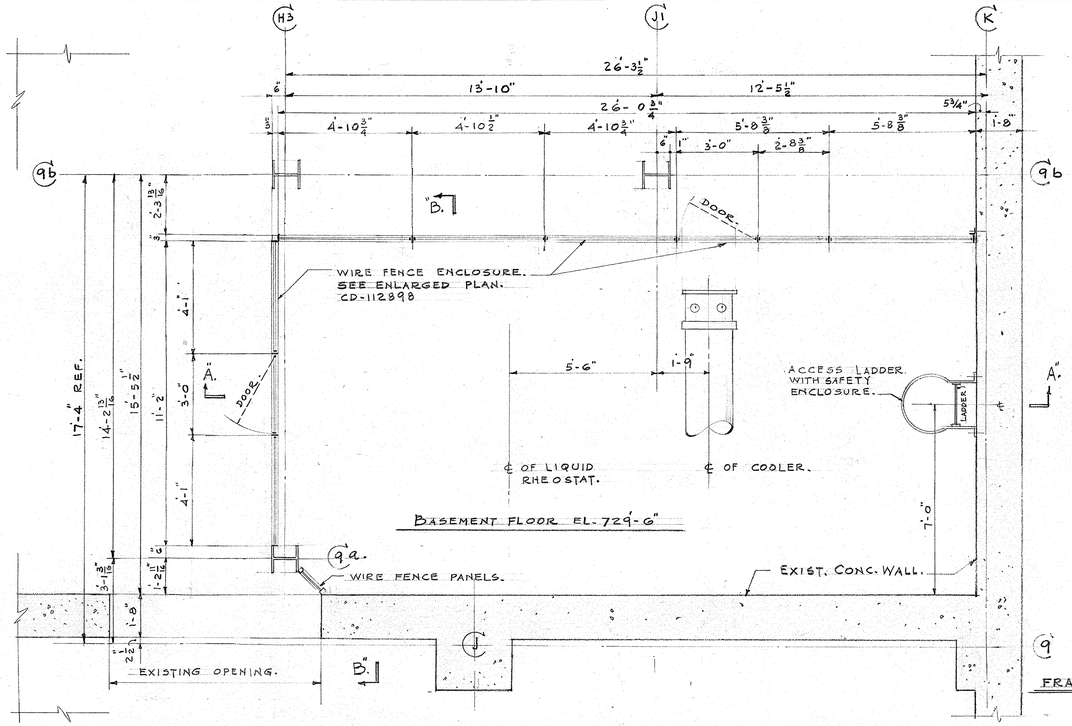
REFERENCES		INITIAL	DATE
PROJ. C-1327	DR.	A.A.J.	9-30-54
J.O. 11018	CK.		
P.R. NO. 8-30739	D. Eng.	RBF	10-12-54
SPEC. NO. C-4490	R. Eng.		
C-NAW.	P. Eng.	RW	10-12-54
	D. S. Hd.	OJH	10-12-54
SCALE AS NOTED.	R. S. Hd.		
	D. D. Ch.	BJG	10-12-54
	R. D. Ch.		

CHANGE | NO. | REVISION | DATE | CK. APP.

P.S.L. EXPANSION OF AIR FACILITIES
EQUIPMENT BUILDING.
ELECTRICAL EQUIPMENT INSTALLATION & CONNECTIONS
ELECTRICAL:
VARIABLE FREQUENCY M-G SET AUXILIARIES
LAYOUT & CONNECTIONS

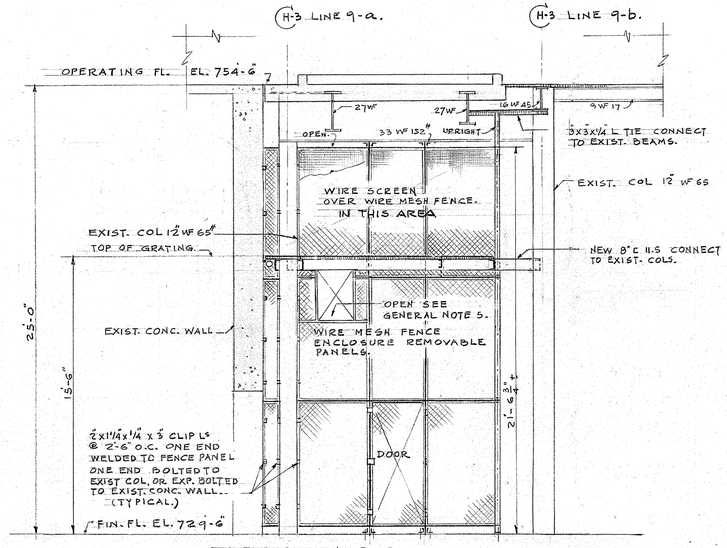
NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS
LEWIS FLIGHT PROPULSION LABORATORY
CLEVELAND, OHIO

DWG. NO. CD-112896



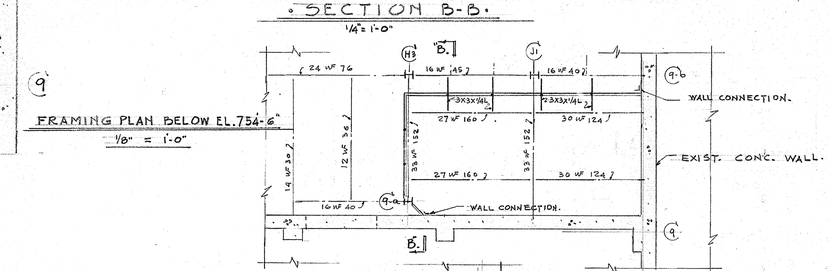
PLAN OF ENCLOSURE.

SCALE 3/8" = 1'-0"



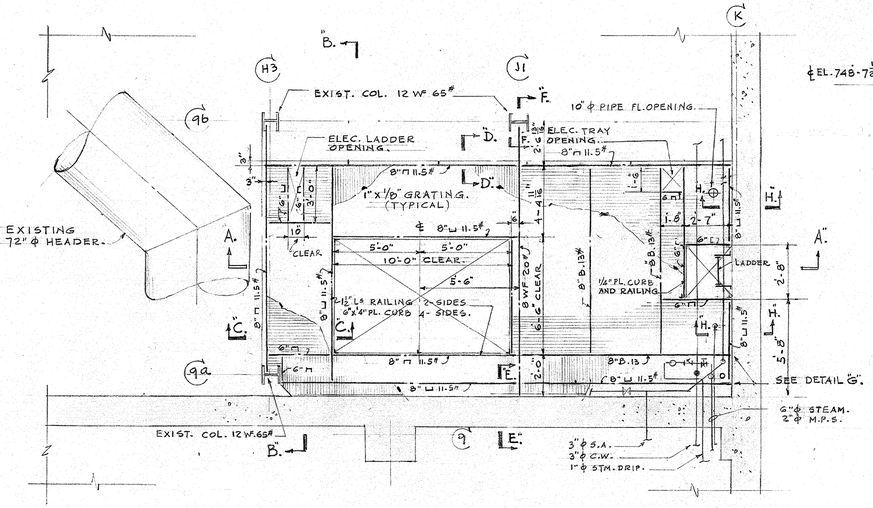
SECTION B-B.

1/4" = 1'-0"



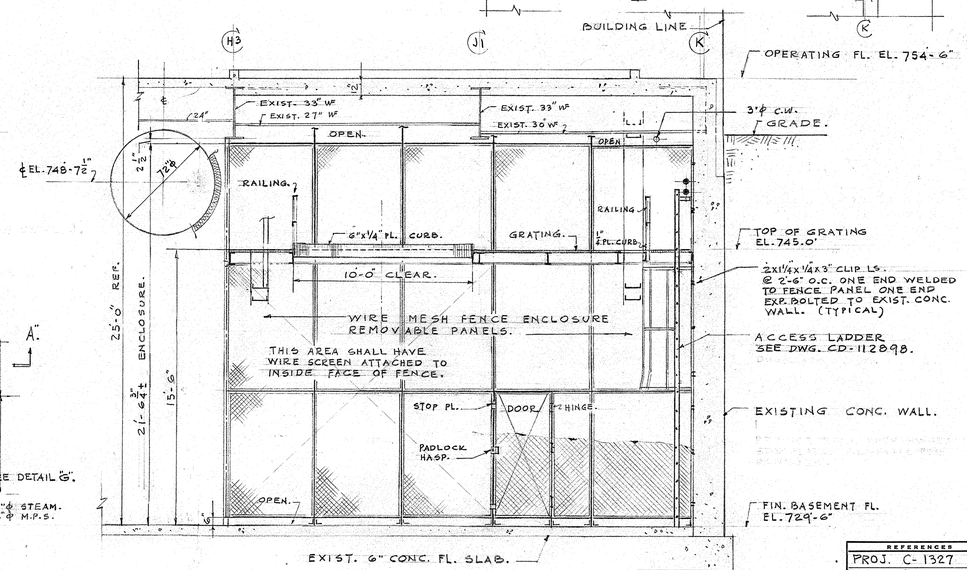
FRAMING PLAN BELOW EL. 754'-6"

1/8" = 1'-0"



GRATING FRAMING PLAN.

SCALE 1/4" = 1'-0"



SECTION "A-A"

SCALE 1/4" = 1'-0"

GENERAL NOTES

1. FOR DRAWING SCHEDULE SEE CD-112890
2. WORK THIS DWG. WITH CD-112898.
3. CONTRACTOR SHALL THOROUGHLY EXAMINE EXISTING CONDITIONS WHERE NEW ENCLOSURE IS TO BE ERECTED, AND VERIFY ALL DIMENSIONS AND ELEVATIONS.
4. CONTRACTOR SHALL SUBMIT SHOP DWGS. FOR APPROVAL.
5. FOR LOCATION AND SIZE VERIFY WITH ELECTRICAL CONTRACTOR.
6. DOORS SHALL BE PROVIDED WITH STOP PLATE & PADLOCK HASP

REFERENCES		INITIAL	DATE
PROJ. C-1327	DR.	DJAHON	10.6.54
J.O. 11018	CK.	HEK	10-12-54
P.R. No. B-30739	D. Eng.	AAH	10-12-54
SPEC. No. C-4490	A Eng.	DJH / RDS	10-12-54
C-NAW-	P. Eng.	KW	10-12-54
	D. S. Hd		
SCALE AS NOTED.	E. S. Hd		
	D. D. Ch		
	E. D. Ch		10-12-54

CHANGE	NO.	REVISION	DATE	CK. APP.

P. S. L. EXPANSION OF AIR FACILITIES

EQUIPMENT BUILDING

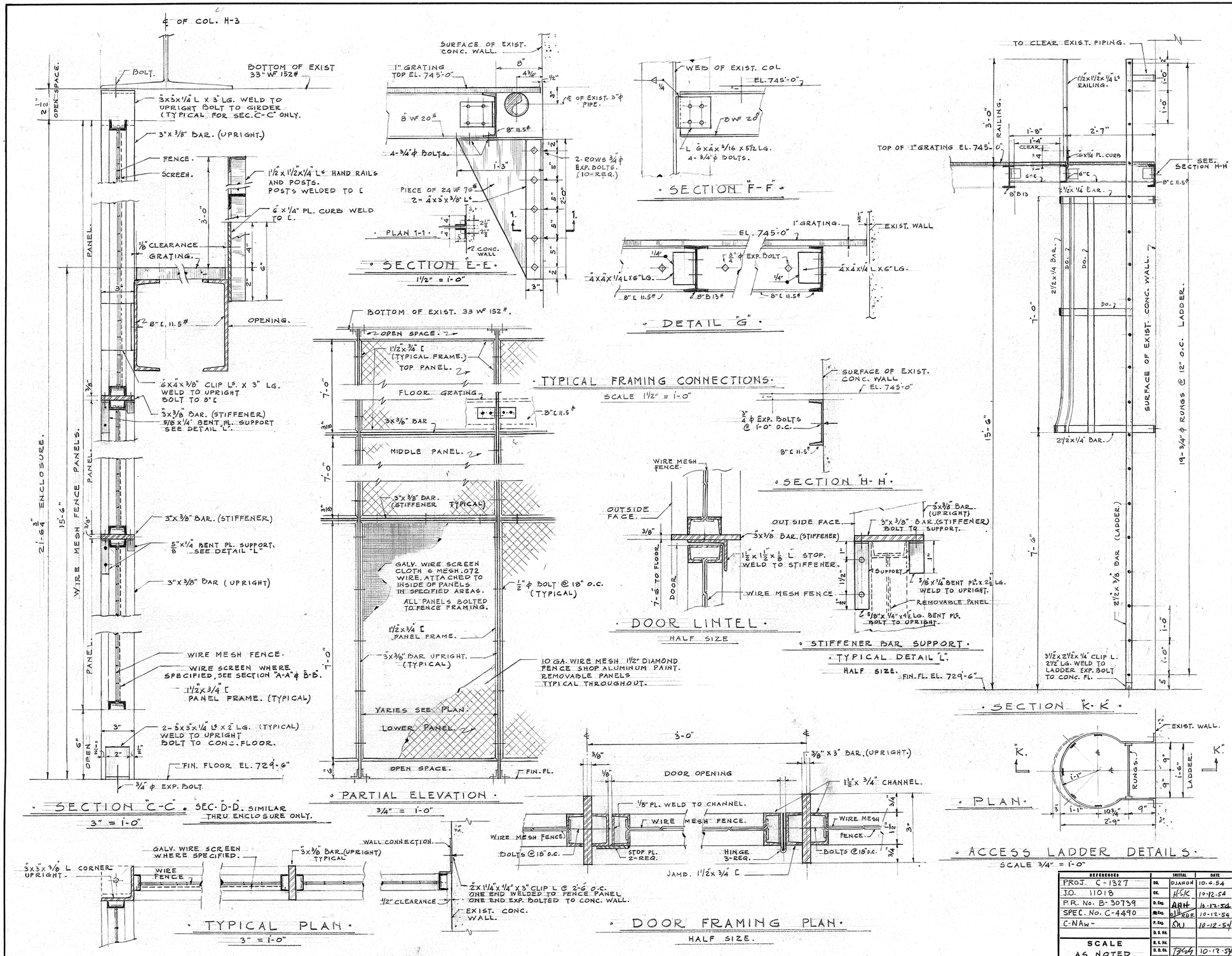
ELECTRICAL EQUIPMENT INSTALLATION & CONNECTIONS.

STRUCTURAL.

LIQUID RHEOSTAT ENCLOSURE & GRATING.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS
LEWIS FLIGHT PROPULSION LABORATORY
CLEVELAND, OHIO

DWG. NO. CD-112897



GENERAL NOTES

1. FOR DRAWING SCHEDULE SEE CD-112890.
2. WORK THIS DRAWING WITH CD-112897.
3. REMOVABLE FASTENERS SHALL BE PROVIDED TO SECURE FLOOR GRATING IN POSITION.

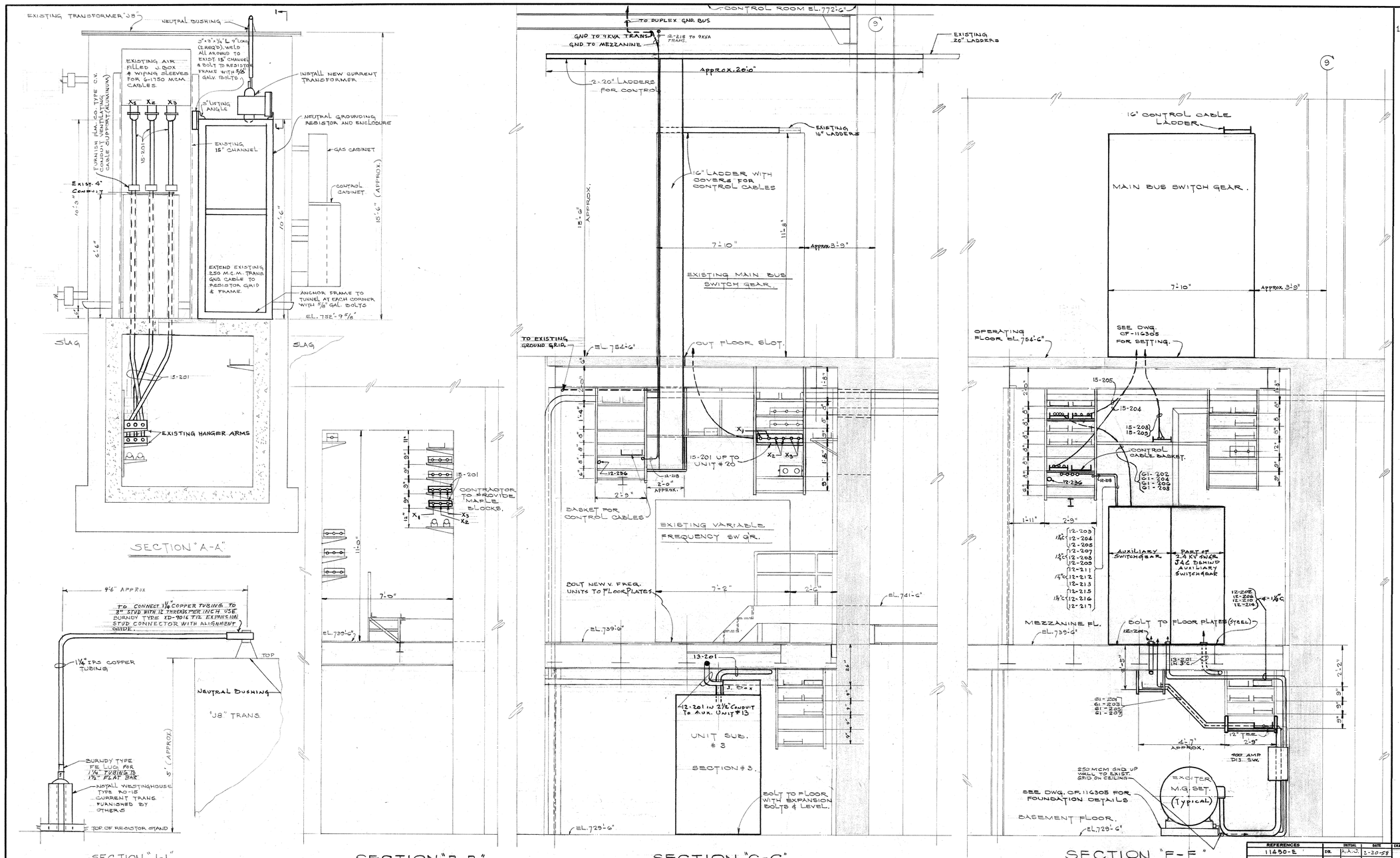
REFERENCES		INITIAL	DATE
PROJ. C-1327	DR.	DJAHON	10-4-54
J.O. 11018	CK.	HSK	10-12-54
P.R. No. B-30739	D. Eng.	AAH	10-12-54
SPEC. No. C-4490	M. Eng.	RDR	10-12-54
C-NAW-	P. Eng.	OW	10-12-54
	D. S. Ma.		
	R. S. Ma.		
SCALE AS NOTED	D. D. Ch.	TJ	10-12-54
	R. D. Ch.		

CHANGE	NO.	REVISION	DATE	OK. APP.
		(M)		

P.S.L. EXPANSION OF AIR FACILITIES
EQUIPMENT BUILDING
ELECTRICAL EQUIPMENT INSTALLATION & CONNECTIONS.
STRUCTURAL.
LIQUID RHEOSTAT ENCLOSURE & GRATING DETAILS.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS
LEWIS FLIGHT PROPULSION LABORATORY
CLEVELAND, OHIO

DWG. NO. CD-112898



GENERAL NOTES

1. SEE CF-116300 FOR SCHEDULE OF DRAWINGS & CABLE SCHEDULE.

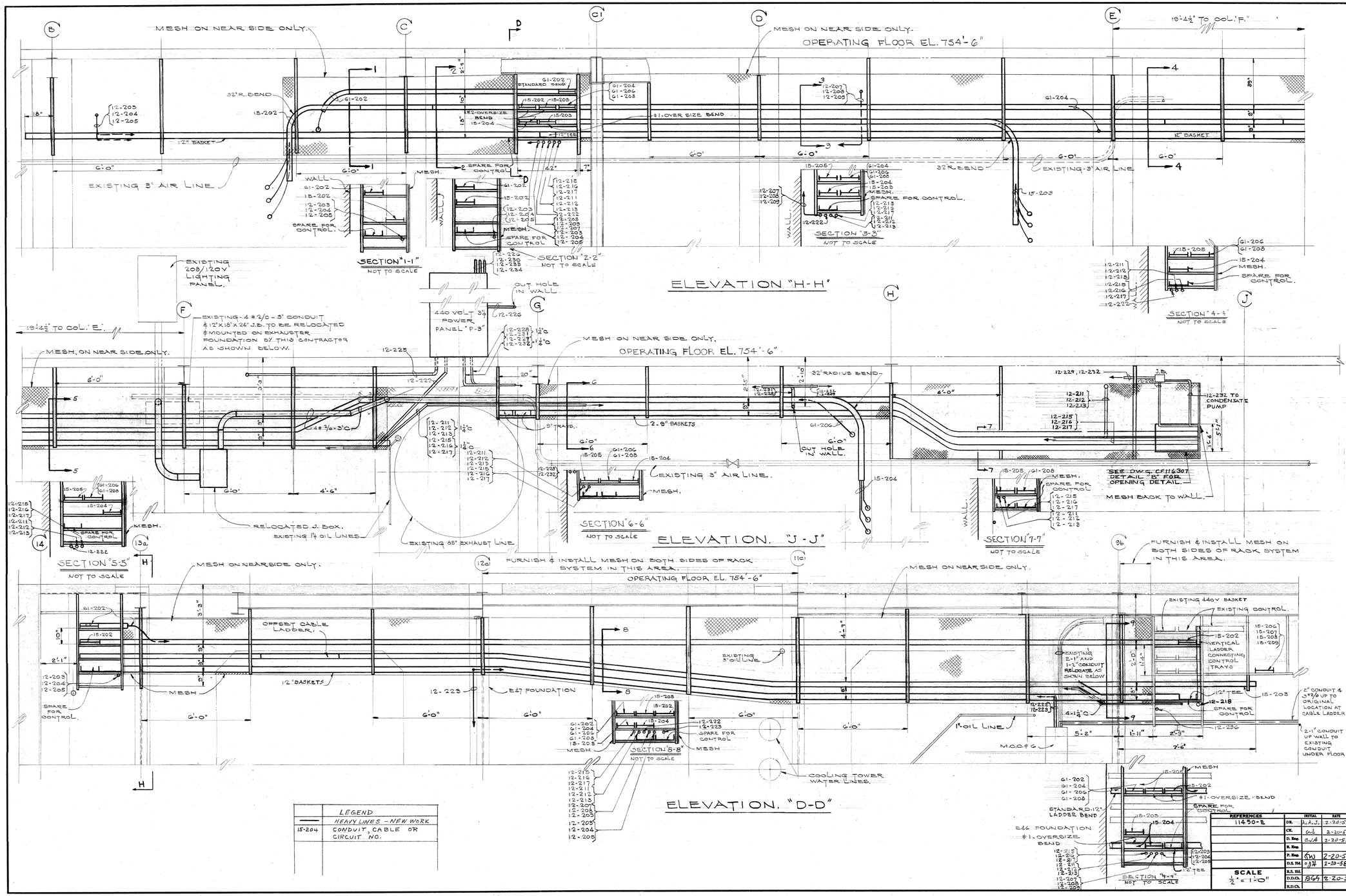
REFERENCES		INITIAL	DATE
11450-E	DR.	A.A.J.	2-20-58
	CK.	WS	2-20-58
	D. Eng.	CJA	2-20-58
	R. Eng.		
	F. Eng.	GW	2-20-58
	D.S. Hd.	OAH	2-20-58
SCALE NONE	R.S. Hd.		
	D.D.O.	BGG	2-20-58
	R.D.O.		

CHANGE NO.	REVISION	DATE	CK.-APP.
	MODIFICATION TO P.S.L. ELECTRICAL EQUIP. INSTALLATION & CONNECTIONS IN EQUIP. BLDG.		

ELECTRICAL.
SECTIONS "A-A", "B-B", "C-C" & "E-E".

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS
LEWIS FLIGHT PROPULSION LABORATORY
CLEVELAND, OHIO

DWG. NO. CF-116304



LEGEND	
——	HEAVY LINES - NEW WORK
15-204	CONDUIT, CABLE OR CIRCUIT NO.

GENERAL NOTES

1. SEE CF-116300 FOR SCHEDULE OF DRAWINGS, & CABLE SCHEDULE.
2. ALL CABLE LADDER AND BASKET TRAYS SHALL BE 12" WIDE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

REFERENCES		INITIAL	DATE
11450-E	DR.	A.A.J.	2-20-58
	CK.	WS	2-20-58
	D. Eng.	C.J.A	2-20-58
	E. Eng.		
	F. Eng.	JW	2-20-58
	D.S. Hd.	OJH	2-20-58
SCALE ½" = 1'-0"	R.S. Hd.		
	D.D.Ch.	BGS	2-20-58
	R.D.Ch.		

CHANGE NO.	REVISION	DATE	CK.-APP.
	MODIFICATION TO F.S.L. ELECTRICAL EQUIP. INSTALLATION & CONNECTIONS IN EQUIP. BLDG.		

ELECTRICAL.

SECTIONS "D-D", "H-H" & "J-J"

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS
LEWIS FLIGHT PROPULSION LABORATORY
CLEVELAND, OHIO

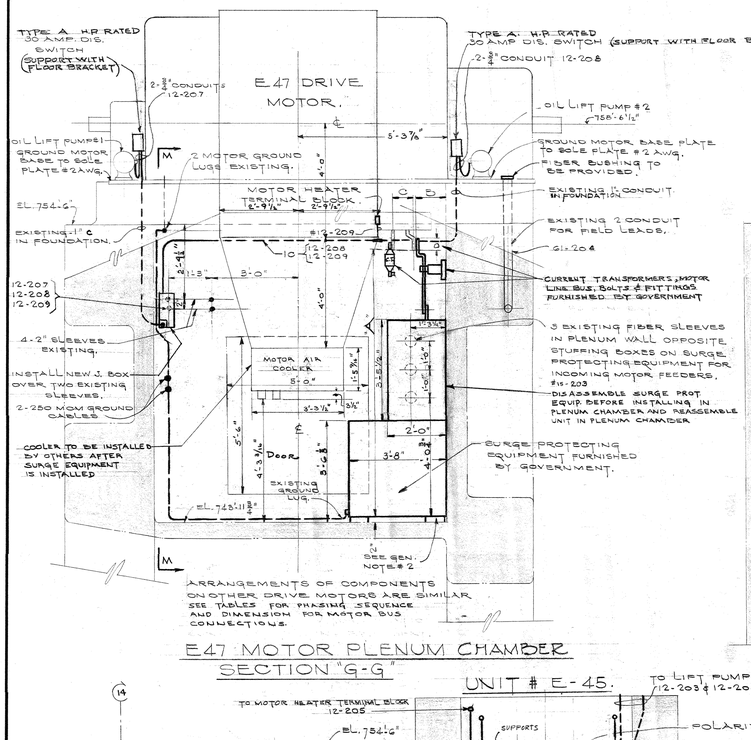
DWG. NO. CF-116305

UNIT NO.	LOCATE SURGE EQ.	DIMENSIONS A	B	C	D
E-45	L-HAND	10-1/2"	11-1/2"	7 1/2"	3 1/2"
E-47	L-HAND	9-7/8"	11-7/8"	8 3/8"	4"
C-13	R-HAND	9-7/8"	11-7/8"	8 3/8"	4"
C-17	R-HAND	9-7/8"	11-7/8"	8 3/8"	4"

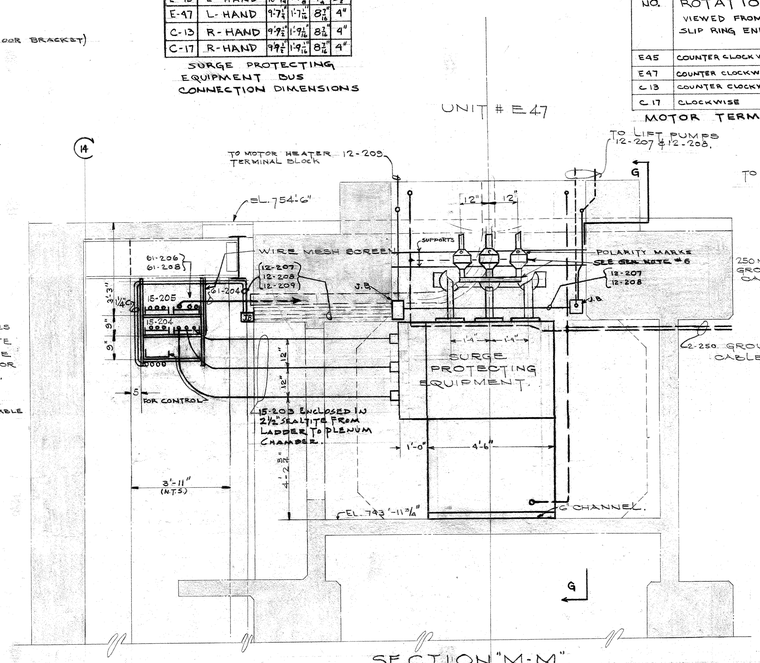
SURGE PROTECTING EQUIPMENT BUS CONNECTION DIMENSIONS

UNIT NO.	MOTOR ROTATION VIEWED FROM SLIP RING END	PHASING SEQUENCE: MOTOR TERMINAL NO.	SWITCH & BUS CONN. NO.	MOTOR TERMINAL NO.	SWITCH & BUS CONN. NO.	MOTOR TERMINAL NO.	SWITCH & BUS CONN. NO.	MOTOR NEUTRAL C.T. SIZE
E45	COUNTER CLOCK WISE	T3	1	T2	2	T1	3	800/6.60/6.66
E47	COUNTER CLOCKWISE	T3	1	T2	2	T1	3	800/4/4
C13	COUNTER CLOCKWISE	T3	1	T2	2	T1	3	800/4/4
C17	CLOCKWISE	T1	1	T2	2	T3	3	800/4/4

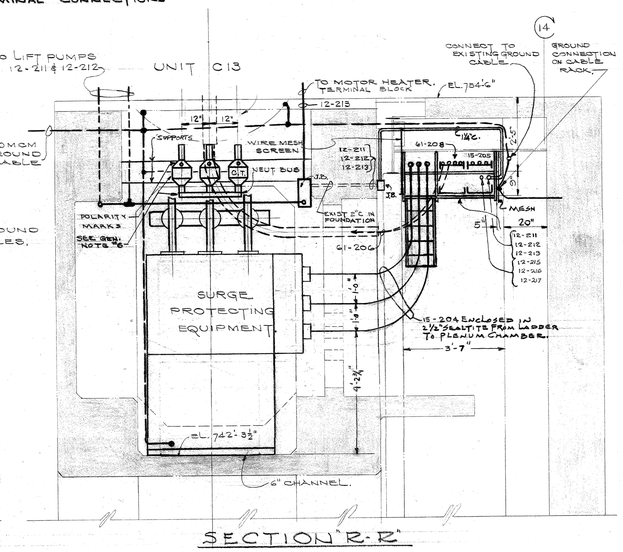
MOTOR TERMINAL CONNECTIONS



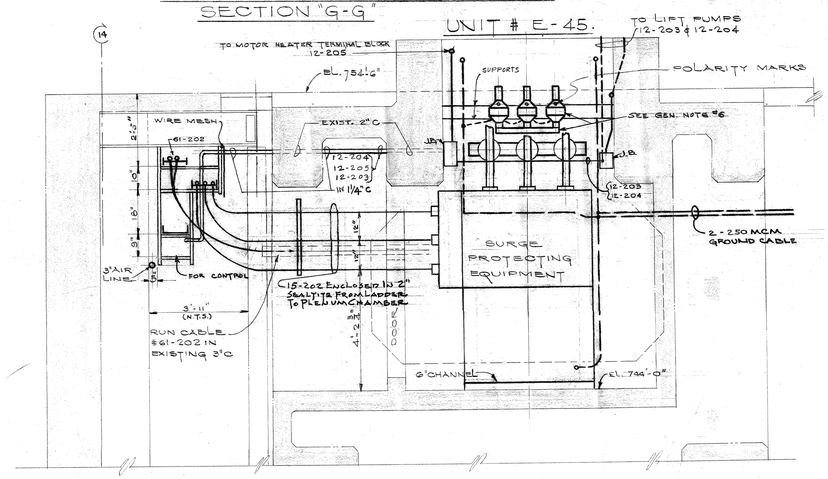
E47 MOTOR PLENUM CHAMBER SECTION "G-G"



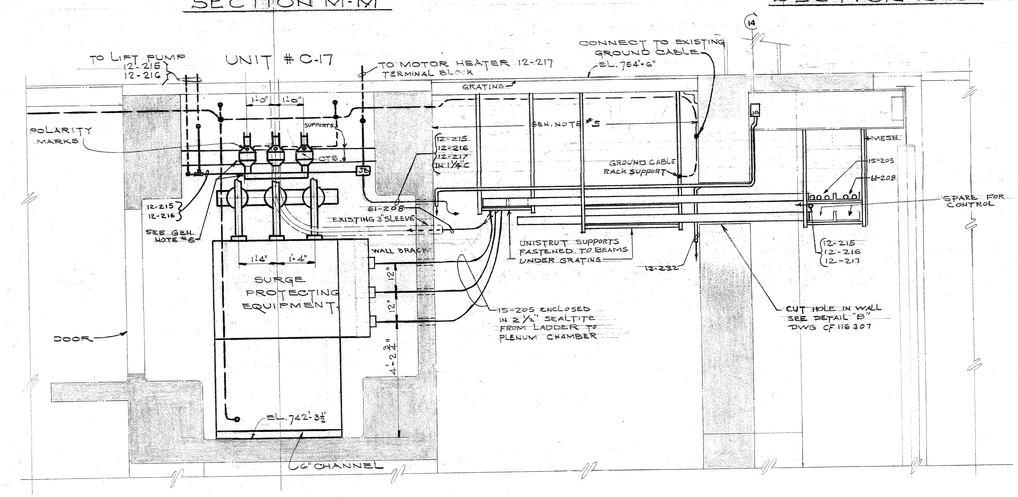
SECTION "M-M"



SECTION "R-R"



SECTION "K-K"



SECTION "S-S"

GENERAL NOTES

1. SEE CF 116300 FOR SCHEDULE OF DWGS AND CABLE SCHEDULE.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL 6" - 13 LB. CHANNELS FOR THE SURGE EQUIPMENT. THE CHANNELS SHALL BE FASTENED DOWN WITH 5/16" EXPANSION BOLTS, SHIMMED, LEVELED AND GROUTED IN. THE SURGE PROTECTIVE UNIT SHALL BE BOLTED TO THE 6" CHANNELS.
3. STRESS CONES SHALL BE INSTALLED ON ALL 13.8 K.V. FEEDER CABLES TERMINATING IN SURGE PROTECTIVE EQUIPMENT.
4. CONTRACTOR SHALL SEAL AROUND CONDUITS ENTERING PLENUMS WITH TIGHTLY PACKED OAKUM.
5. IN THIS AREA ENCLOSE CABLE RACK FOR CABLES 61-208 & 15-205 WITH CAGE ON TOP & EXPANDED METAL COVER ON THE BOTTOM (HUSKY AC-1210 & AE-1210 RESPECTIVELY OR EQUAL). IN ADDITION FASTEN SOLID METAL COVER (HUSKY AS-1210 OR EQUAL) ON TOP OF METAL CAGE. FURNISH & INSTALL SOLID METAL COVER (HUSKY AS-910 OR EQUAL) ON CABLE BASKETS IN THIS AREA.
6. MOTOR NEUTRAL BUS (3/8" x 3" COPPER), BOLTS & SUPPORTS FOR CURRENT TRANSFORMERS SHALL BE FURNISHED & INSTALLED BY CONTRACTOR. GROUND FRAME OF EACH CURRENT TRANSFORMER.

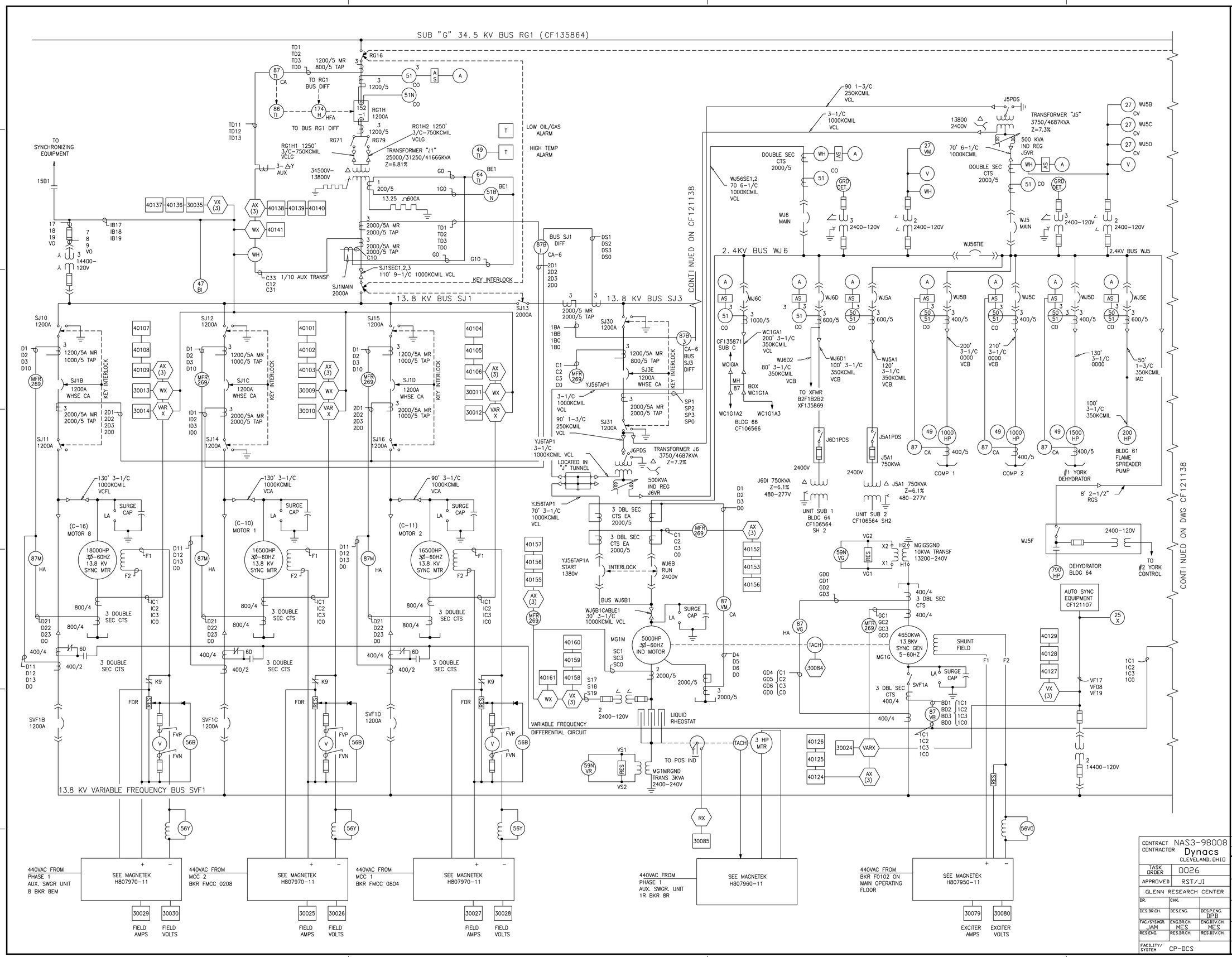
REFERENCED		INITIAL	DATE
11450-E	DR.	A.A.J.	2-20-58
	CK.	[illegible]	2-20-58
	D. Eng.	[illegible]	2-20-58
	E. Eng.		
	P. Eng.	[illegible]	2-20-58
	D.S. Bld.	[illegible]	2-20-58
SCALE NONE.	R.S. Bld.		
	D.D.O.	[illegible]	2-20-58
	R.D.O.		

CHANGE NO.	REVISION	DATE	CK.-APP.
	MODIFICATIONS TO P.S.L. ELECTRICAL EQUIP. INSTALLATION & CONNECTIONS IN EQUIP. BLDG.		

ELECTRICAL, PLENUM CHAMBER SECTIONS "G-G", "M-M", "R-R", "K-K", & "S-S"

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS
LEWIS FLIGHT PROPULSION LABORATORY
CLEVELAND, OHIO

DWG. NO. CF-116306



NOTES:

1. FOR A LIST OF DRAWINGS SEE CF121100
2. FOR ABBREVIATIONS AND SYMBOLS SEE CF121101
3. FOR CABLE SCHEDULE AND ROUTING SEE CF121149, CF121150, CF121192, CF121193, CF121194
4. REFERENCE DRAWINGS:
   CF121100
   CF121101
   CF121107
   CF121138
   CF121139
   CF121140
   CF121151
   CF105564 SHT 2
   CF106566
   CF135864
5. THREE LINE DRAWINGS:
   CF121129
   CF121130
   CF121131
   CF121132
   CF121133
   CF121134
6. ALL MOTOR MULTIFUNCTION RELAYS ARE 46, 49, 50, 51, AND 51N
7. ALL VFMG MULTIFUNCTION RELAYS ARE 46, 49, 50, 51, & 51N
8. ALL TRANSF MULTIFUNCTION RELAYS ARE 46, 50, 51, & 51N

CAUTION:
THIS DRAWING MAY NOT REFLECT ACTUAL CONDITIONS. FIELD VERIFICATION IS REQUIRED.
DATED: 2-15-01

AUTOCAD DRAWING
DO NOT REVISE MANUALLY

CENTRAL PROCESS SYSTEMS
BASELINE CONFIGURATION DOCUMENT

CHG	ZONE	DESCRIPTION	APP/DATE

REVISIONS

CONTRACT NAS3-98008
CONTRACTOR Dynacs CLEVELAND, OHIO
TASK ORDER 0026
APPROVED RST/JI
GLENN RESEARCH CENTER

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
CLEVELAND, OHIO
LEWIS FIELD

SYNC MTR AUX CONTROL SYSTEM
BUILDING 64

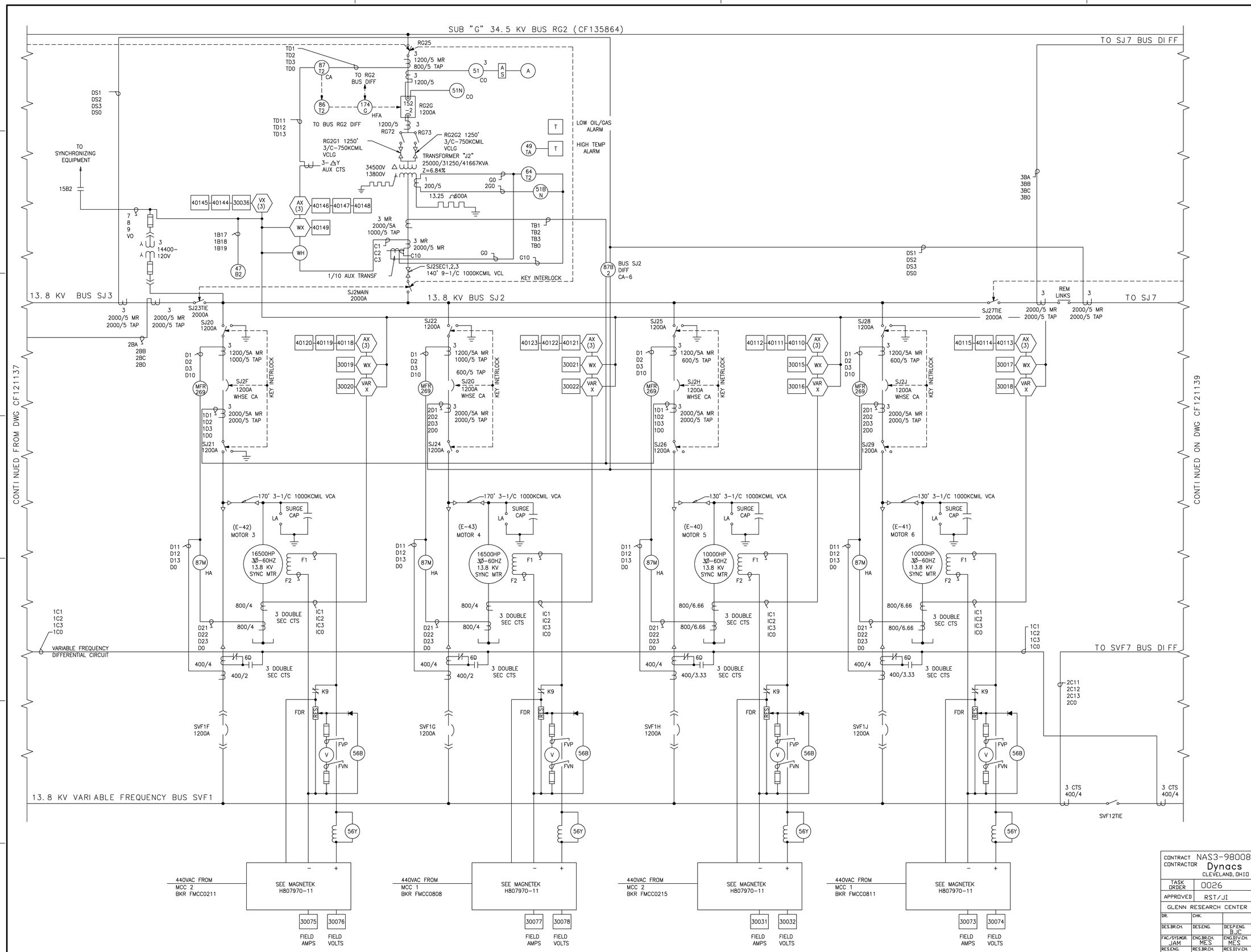
ONE LINE DIAGRAM
SHEET 1 OF 4

DR.	CHK.	
DES.BR.CH.	DES.ENG.	DES.P.ENG. DPB
FAC./SYS.MGR. JAM	ENG.BR.CH. MES	ENG.DIV.CH. MES
RES.ENG.	RES.BR.CH.	RES.DIV.CH.
FACILITY/SYSTEM CP-DCS		

SIZE	DRAWING NUMBER	REV	BLDG	AREA
CF	121137	-	64	
SCALE NONE	OFFICIAL DATE 2-15-01	SHEET 1 OF 1	UNITS INCHES	DISCIPLINE ELECTRICAL

AUTOCAD R14.01

DRAWING NUMBER 121137 REV - SIZE CF



NOTES:

1. FOR A LIST OF DRAWINGS SEE CF121100
2. ABBREVIATIONS AND SYMBOLS, SEE CF121101 & THE FOLLOWING:
3. CABLE SCHEDULE AND ROUTING DRAWINGS:
   CF121149
   CF121150
   CF121192
   CF121193
   CF121194
4. REFERENCE DRAWINGS:
   CF120100
   CF121101
   CF121137
   CF121139
   CF121140
   CF135864
5. THREE LINE DRAWINGS
   CF121129
   CF121130
   CF121131
   CF121132
   CF121133
   CF121134
6. ALL MOTOR MULTIFUNCTION RELAYS ARE 46, 49, 50, 51 & 51N
7. ALL VFMG MULTIFUNCTION RELAYS ARE 46, 49, 50, 51, & 51N
8. ALL TRANSF MULTIFUNCTION RELAYS ARE 46, 50, 51, & 51N

CAUTION:
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DATED: 2-15-01

AUTOCAD DRAWING
DO NOT REVISE MANUALLY

CENTRAL PROCESS SYSTEMS
BASELINE CONFIGURATION DOCUMENT

CHG	ZONE	DESCRIPTION	APP/DATE

REVISIONS

CONTRACT NAS3-98008
CONTRACTOR Dynacs CLEVELAND, OHIO
TASK ORDER 0026
APPROVED RST/JI
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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
CLEVELAND, OHIO
LEWIS FIELD

SYNC MTR AUX CONTROL SYSTEM
BUILDING 64

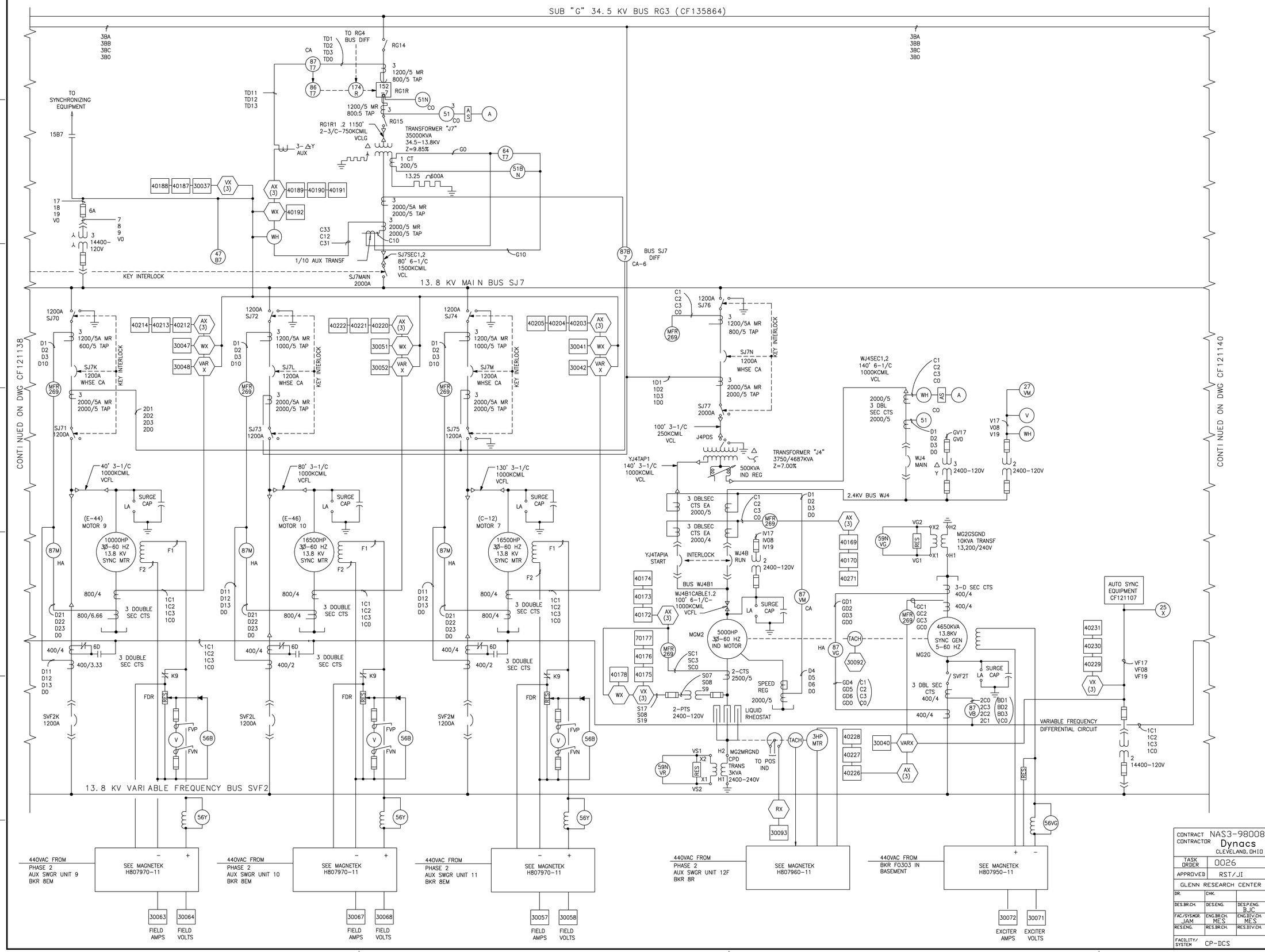
ONE LINE DIAGRAM
SHEET 2 OF 4

DR.	CHK.	
DES.BR.CH.	DES.ENG.	DES.P.ENG. BJC
FAC./SYS.MGR. JAM	ENG.BR.CH. MES	ENG.DIV.CH. MES
RES.ENG.	RES.BR.CH.	RES.DIV.CH.
FACILITY/SYSTEM CP-DCS		

SIZE	DRAWING NUMBER	REV	BLDG	AREA
CF	121138	-	64	
			UNITS INCHES	
SCALE NONE	OFFICIAL DATE 2-15-01	SHEET 1 OF 1	DISCIPLINE ELECTRICAL	

DRAWING NUMBER 121138 REV - SIZE CF

AUTOCAD R14.01



NOTES:

1. FOR A LIST OF DRAWINGS SEE CF121100
2. FOR ABBREVIATIONS AND SYMBOLS SEE CF121101
3. CABLE SCHEDULE AND ROUTING DRAWINGS:
   CF121149
   CF121150
   CF121192
   CF121193
   CF121194
4. REFERENCE DRAWINGS:
   CF121100
   CF121101
   CF121107
   CF121138
   CF121140
   CF121151
   CF135864
5. THREE LINE DRAWINGS:
   CF121129
   CF121130
   CF121131
   CF121132
   CF121133
   CF121134
6. ALL MOTOR MULTIFUNCTION RELAYS ARE 46, 49, 50, 51 & 51N
7. ALL VFMG MULTIFUNCTION RELAYS ARE 46, 49, 50, 51, & 51N
8. ALL TRANSF MULTIFUNCTION RELAYS ARE 46, 50, 51, & 51N

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DATED: 2-15-01

AUTOCAD DRAWING
DO NOT REVISE MANUALLY

CENTRAL PROCESS SYSTEMS
BASELINE CONFIGURATION DOCUMENT

CHG	ZONE	DESCRIPTION	APP/DATE

REVISIONS

CONTRACT NAS3-98008
CONTRACTOR Dynacs CLEVELAND, OHIO
TASK ORDER 0026
APPROVED RST/JI
GLENN RESEARCH CENTER

DR.	CHK.	
DES.BR.CH.	DES.ENG.	DES.P.ENG. B_JC
FAC./SYS.MGR. JAM	ENG.BR.CH. MES	ENG.DIV.CH. MES
RES.ENG.	RES.BR.CH.	RES.DIV.CH.
FACILITY/SYSTEM CP-DCS		

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
CLEVELAND, OHIO
LEWIS FIELD

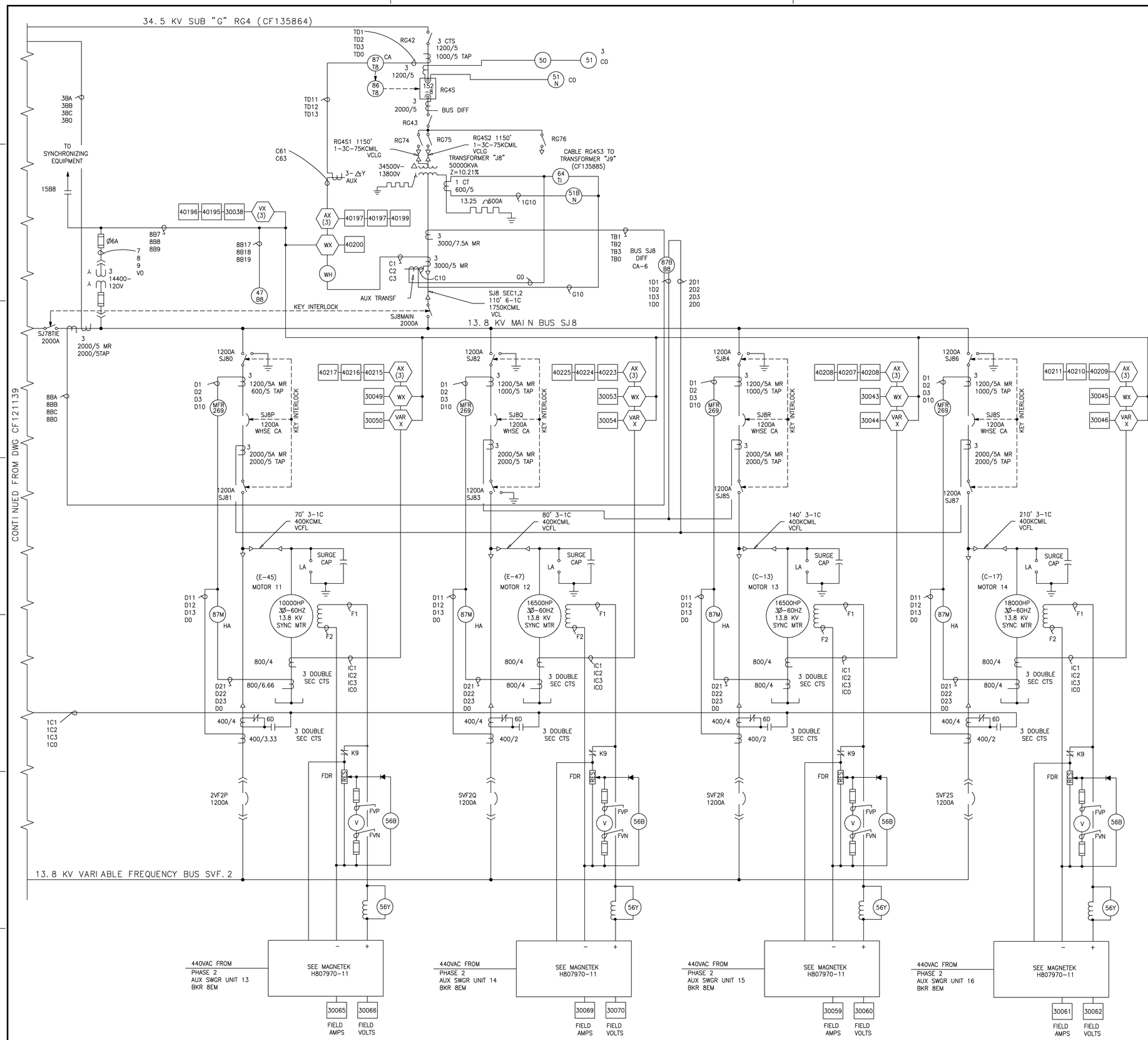
SYNC MTR AUX CONTROL SYSTEM
BUILDING 64

ONE LINE DIAGRAM
SHEET 3 OF 4

SIZE	DRAWING NUMBER	REV	BLDG	AREA
CF	121139	-	64	
			UNITS INCHES	

SCALE	OFFICIAL DATE	SHEET	DISCIPLINE
NONE	2-15-01	1 OF 1	ELECTRICAL

AUTOCAD R14.01



NOTES:

1. FOR A LIST OF DRAWINGS SEE CF121100
2. ABBREVIATIONS AND SYMBOLS, SEE CF121101
3. CABLE SCHEDULE AND ROUTING DRAWINGS:
   CF121149
   CF121150
   CF121192
   CF121193
   CF121194
4. REFERENCE DRAWINGS:
   CF121100
   CF121101
   CF121137
   CF121138
   CF121139
   CF121151
   CF135864
   CF135885
5. THREE LINE DRAWINGS:
   CF121129
   CF121130
   CF121131
   CF121132
   CF121133
   CF121134
6. ALL MOTOR MULTIFUNCTION RELAYS ARE 46, 49, 50, 51 & 51N
7. ALL VFMG MULTIFUNCTION RELAYS ARE 46, 49, 50, 51, & 51N
8. ALL TRANSF MULTIFUNCTION RELAYS ARE 46, 50, 51, & 51N

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DATED: 2-15-01

AUTOCAD DRAWING
DO NOT REVISE MANUALLY

CENTRAL PROCESS SYSTEMS
BASELINE CONFIGURATION DOCUMENT

CONTRACT	NAS3-98008
CONTRACTOR	Dynacs CLEVELAND, OHIO
TASK ORDER	0026
APPROVED	RST/JI
GLENN RESEARCH CENTER	
DR.	CHK.
DES.BR.CH.	DES.ENG. / DES.P.ENG. BJC
FAC./SYS.MGR. JAM	ENG.BR.CH. MES / ENG.DIV.CH. MES
RES.ENG.	RES.BR.CH. / RES.DIV.CH.
FACILITY/SYSTEM	CP-DCS

CHG	ZONE	DESCRIPTION	APP/DATE

REVISIONS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
CLEVELAND, OHIO
LEWIS FIELD

SYNC MTR AUX CONT SYSTEM
BUILDING 64

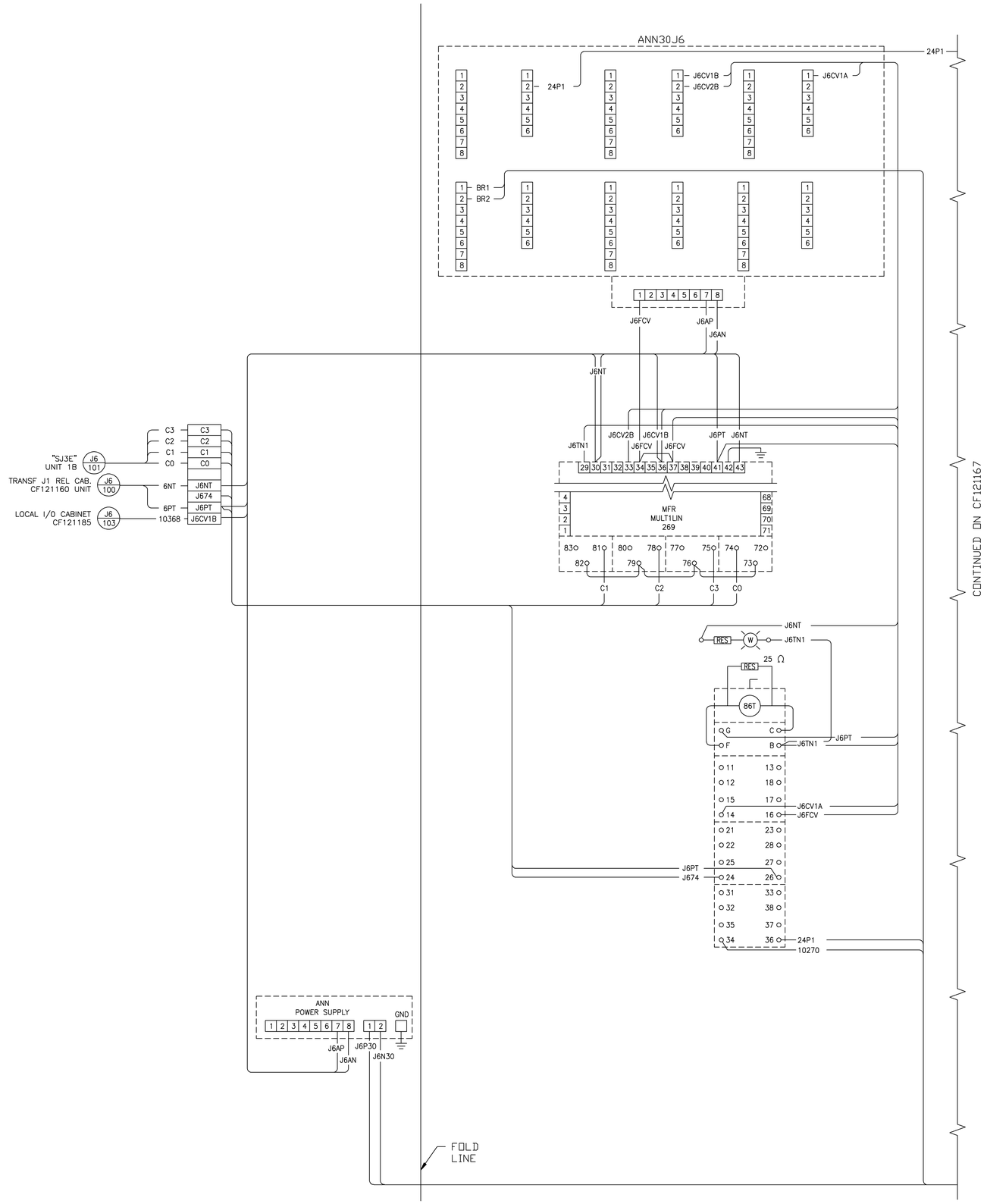
ONE LINE DIAGRAM
SHEET 4 OF 4

SIZE	DRAWING NUMBER	REV	BLDG	AREA
CF	121140	-	64	
			UNITS	INCHES

SCALE	OFFICIAL DATE	SHEET	DISCIPLINE
NONE	2-15-01	1 OF 1	ELECTRICAL

AUTOCAD R14.01

SIZE CF | DRAWING NUMBER 121140 | REV -



REAR VIEW

NOTES

1. FOR A LIST OF DRAWINGS, SEE CF121100.
2. FOR ABBREVIATIONS AND SYMBOLS, SEE CF121101.
3. CABLE SCHEDULE AND ROUTING:

   CF121149
   CF121150
   CF121192
   CF121193
   CF121194

4. REFERENCE DRAWINGS:

   CF121100
   CF121101
   CF121123
   CF121125
   CF121160
   CF121167
   CD116744

5. INTERNAL CABINET WIRING 14 AWG TYPE SIS
6. TAG ALL WIRES AT EACH END WITH PERMANENT MARKER.
7. EXTERNAL CABINET WIRING MULTI-CONNECTOR CONTROL CABLE 16 AWG UNLESS NOTED.
8. FOR FRONT PANEL, SEE CF121123.
9. FOR SIDE PANEL, SEE CF121125.

CENTRAL PROCESS SYSTEMS
BASELINE CONFIGURATION DOCUMENT

AUTOCAD DRAWING DO NOT REVISE MANUALLY

CHG	ZONE	DESCRIPTION	APP/DATE

REVISIONS

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Facilities and Test Engineering Division
GLENN RESEARCH CENTER

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
CLEVELAND, OHIO
LEWIS FIELD

SYNCHRONOUS MOTOR AUXILIARY CONTROL SYSTEM

INTERNAL WIRING DIAGRAM
CABINET TRANSFORMER J6 UNIT 5

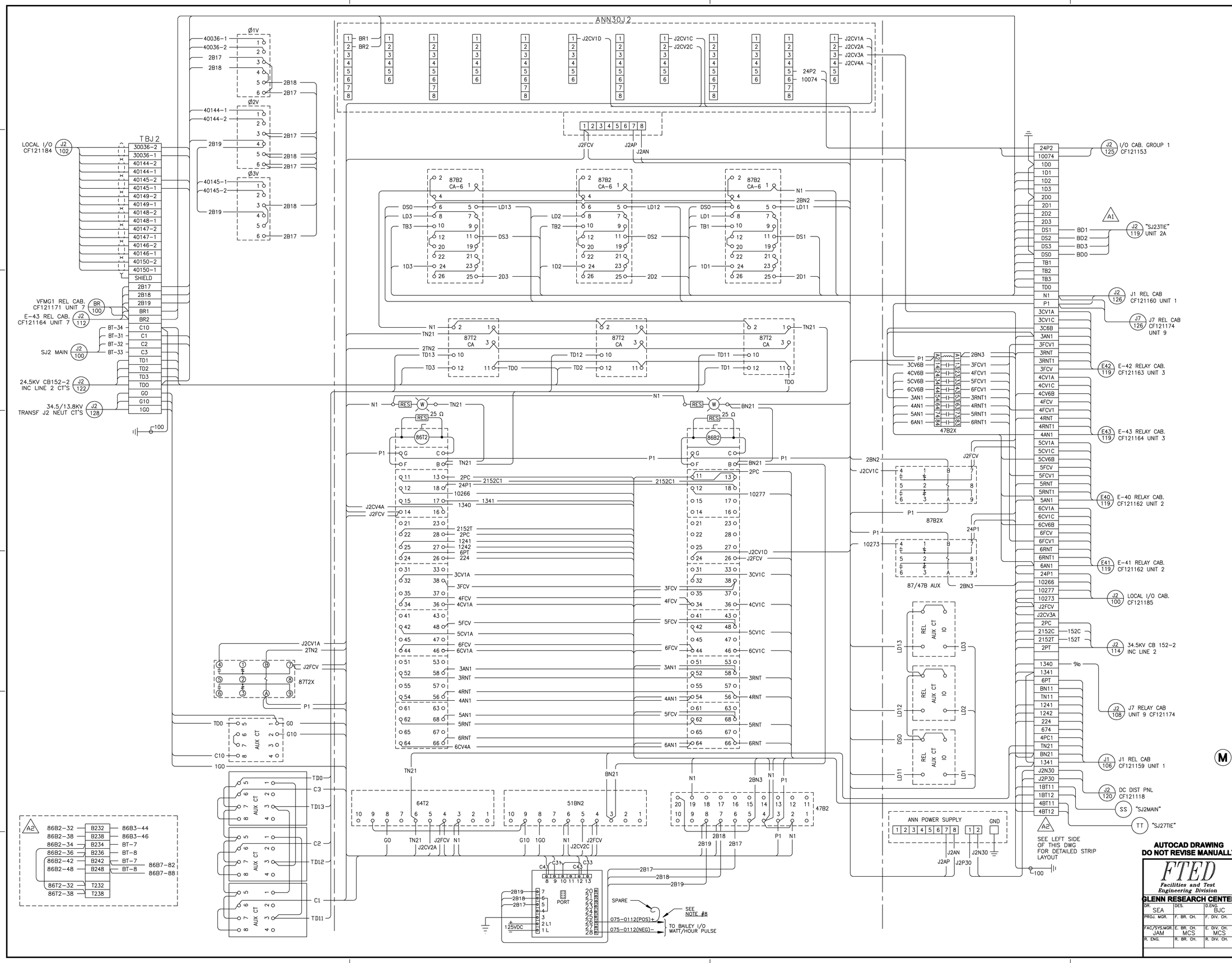
DR. SEA	DES.	D.ENG. BJC
PROJ. MGR.	F. BR. CH.	F. DIV. CH.
FAC/SYS.MGR. JAM	E. BR. CH.	E. DIV. CH. MCS
R. ENG.	R. BR. CH.	R. DIV. CH.

SIZE	DRAWING NUMBER	REV	BLDG	AREA
CF	121168	-	064	P&L
			UNITS	ENGLISH

SCALE	OFFICIAL DATE	SHEET	DISCIPLINE
NONE	05/20/02	01 OF 01	ELECTRICAL

SIZE CF | DRAWING NUMBER 121168 | REV -

AutoCAD 2002



NOTES

1. FOR A LIST OF DRAWINGS, SEE CF121100.
2. FOR ABBREVIATIONS & SYMBOLS, SEE CF121101.
3. CABLE SCHEDULE & ROUTING:

   CF121149
   CF121150
   CF121192
   CF121193
   CF121194

4. REFERENCE DRAWINGS:

   CF121100
   CF121101
   CF121118
   CF121149
   CF121150
   CF121153
   CF121159
   CF121160
   CF121161
   CF121162
   CF121163
   CF121164
   CF121171
   CF121174
   CF121184
   CF121190
   CF121192
   CF121193
   CF121194
   CD116625
   CD116626
   CD116627
   CD116744

5. INTERNAL CABINET WIRING 14 AWG TYPE SIS
6. TAG ALL WIRES AT EACH END WITH PERMANENT MARKER.
7. EXTERNAL CABINET WIRING MULTI-CONDUCTOR CONTROL CABLE 16 AWG UNLESS NOTED.
8. DISCONNECT WIRES FROM EXISTING WATT/HOUR METER & RELOCATE TO NEW DIGITAL MULTI-METER, AS SHOWN.

CHG	ZONE	DESCRIPTION	APP/DATE
M	A	1. CHANGES MADE PER SJ1-3 SWITCHGEAR REPLACEMENT PROJECT.	SEA, BJC JAM, MCS 5/20/02
		2. ADDED DETAILED STRIP LAYOUT. CHANGED TITLE.	

REVISIONS

CENTRAL PROCESS SYSTEMS
BASELINE CONFIGURATION DOCUMENT

AUTOCAD DRAWING DO NOT REVISE MANUALLY

FTED
Facilities and Test Engineering Division
GLENN RESEARCH CENTER

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
CLEVELAND, OHIO
LEWIS FIELD

SYNCHRONOUS MOTOR AUXILIARY CONTROL SYSTEM

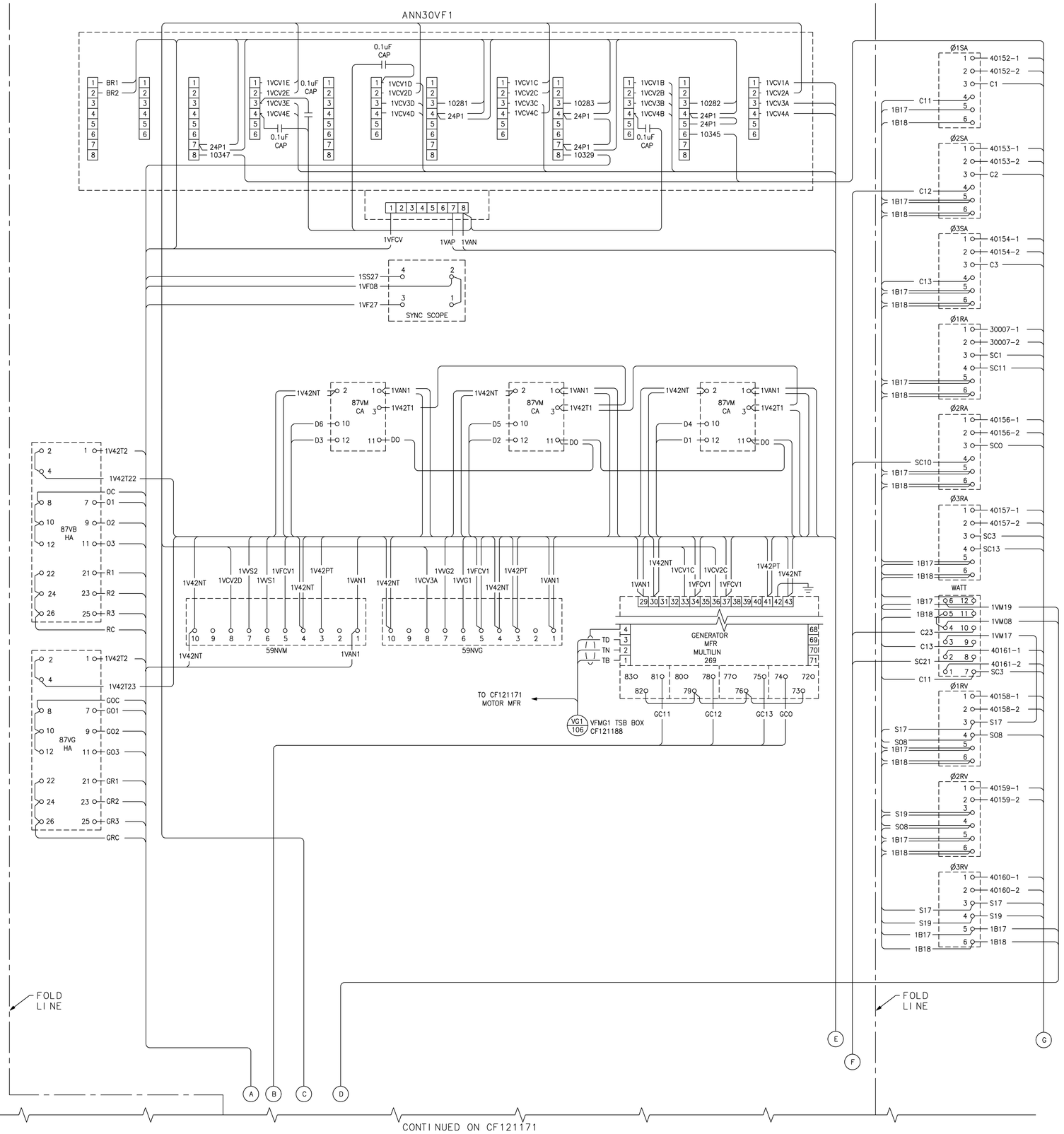
INTERNAL WIRING DIAGRAM RELAY CABINET BUS 2/TRANSF J2 UNIT 6

DR. SEA	DES.	D.ENG. BJC
PROJ. MGR.	F. BR. CH.	F. DIV. CH.
FAC/SYS.MGR. JAM	E. BR. CH. MCS	E. DIV. CH. MCS
R. ENG.	R. BR. CH.	R. DIV. CH.

SIZE	DRAWING NUMBER	REV	BLDG	AREA
CF	121169	A	064	PSL
SCALE NONE	OFFICIAL DATE 12/12/00	SHEET 01 OF 01	UNITS ENGLISH	DISCIPLINE ELECTRICAL

AutoCAD 2002

REV A
DRAWING NUMBER 121169
SIZE CF



CONTINUED ON CF121171

NOTES:

1. FOR A LIST OF DRAWINGS SEE CF121100
2. FOR ABBREVIATIONS AND SYMBOLS SEE CF121101
3. CABLE SCHEDULE AND ROUTING:
   CF121149
   CF121150
   CF121192
   CF121193
   CF121194
4. REFERENCE DRAWINGS:
   CF121100
   CF121101
   CF121123
   CF121124
   CF121171
   CF121188
5. INTERNAL CABINET WIRING 14 AWG TYPE SIS
6. EXTERNAL CABINET WIRING MULTI-CONDUCTOR CONTROL CABLE 16 AWG UNLESS NOTED
7. FOR FRONT PANEL LAYOUT SEE CF121123
8. FOR SIDE PANEL LAYOUT SEE CF121124

CAUTION:
THIS DRAWING MAY NOT REFLECT ACTUAL CONDITIONS. FIELD VERIFICATION IS REQUIRED.
DATED: 2-15-01

AUTOCAD DRAWING
DO NOT REVISE MANUALLY

CENTRAL PROCESS SYSTEMS
BASELINE CONFIGURATION DOCUMENT

CHG	ZONE	DESCRIPTION	APP/DATE

REVISIONS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
CLEVELAND, OHIO
LEWIS FIELD

SYNC MTR AUX CONT SYSTEM
BUILDING 64

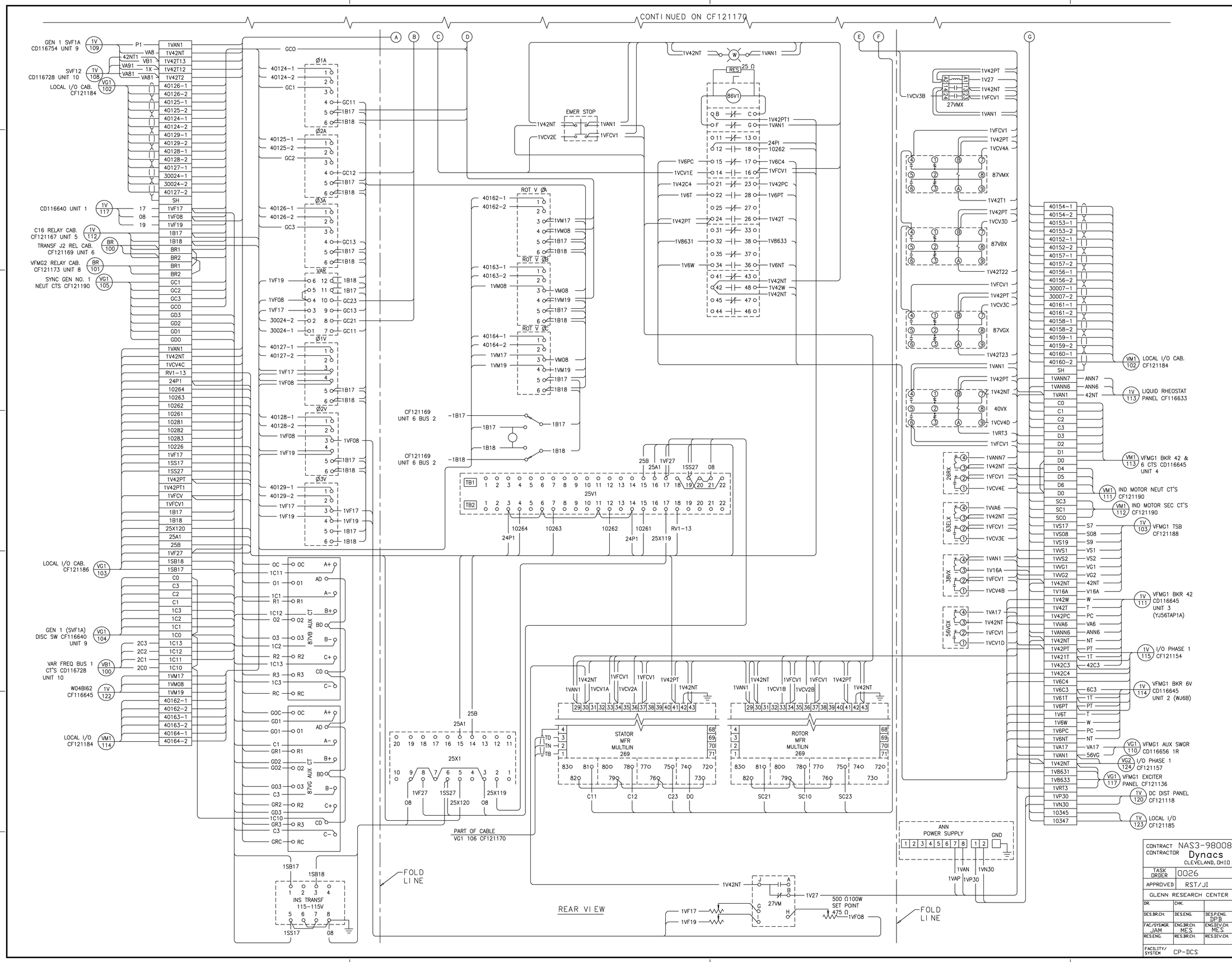
INTERNAL WIRING DIAGRAM RELAY CABINET VFMG1 UNIT 7 SHT 1 OF 2

CONTRACT	NAS3-98008		
CONTRACTOR	Dynacs CLEVELAND, OHIO		
TASK ORDER	0026		
APPROVED	RST/JI		
GLENN RESEARCH CENTER			
DR.	CHK.		
DES.BR.CH.	DES.ENG.	DES.P.ENG. DPB	
FAC/SYS.MGR. JAM	ENG.BR.CH. MES	ENG.DIV.CH. MES	
RES.ENG.	RES.BR.CH.	RES.DIV.CH.	
FACILITY/SYSTEM	CP-DCS		

SIZE	DRAWING NUMBER	REV	BLDG	AREA
CF	121170	-	64	
SCALE NONE	OFFICIAL DATE 2-15-01	SHEET 1 OF 1	UNITS INCHES	DISCIPLINE ELECTRICAL

AUTOCAD R14.01

SIZE CF | DRAWING NUMBER 121170 | REV -



NOTES:

1. FOR A LIST OF DRAWINGS SEE CF121100
2. FOR ABBREVIATIONS AND SYMBOLS SEE CF121101
3. CABLE SCHEDULE AND ROUTING DRAWINGS:
   CF121149
   CF121150
   CF121192
   CF121193
   CF121194
4. REFERENCE DRAWINGS:
   CF121100
   CF121101
   CF121118
   CF121123
   CF121124
   CF121153
   CF121154
   CF121167
   CF121169
   CF121184
   CF121188
   CF121190
   CD116645
   CD116728
   CD116732
   CD116740
   CD116741
   CD116746
5. INTERNAL CABINET WIRING 14 AWG TYPE SIS
6. TAG ALL WIRES AT EACH END WITH PERMANENT MARKER
7. EXTERNAL CABINET WIRING MULTICONDUCTOR CONTROL CABLE 16 AWG UNLESS NOTED
8. FOR FRONT PANEL LAYOUT SEE CF121123
9. FOR SIDE PANEL LAYOUT SEE CF121124
10. LAYOUT OF DRAWING IS ELECTRICAL AND NOT AN EXACT PHYSICAL REPRESENTATION

CAUTION:
THIS DRAWING MAY NOT REFLECT ACTUAL CONDITIONS. FIELD VERIFICATION IS REQUIRED.
DATED: 2-15-01

AUTOCAD DRAWING
DO NOT REVISE MANUALLY

CENTRAL PROCESS SYSTEMS
BASELINE CONFIGURATION DOCUMENT

CHG	ZONE	DESCRIPTION	APP/DATE

REVISIONS

CONTRACT NAS3-98008
CONTRACTOR Dynacs
CLEVELAND, OHIO

TASK ORDER 0026
APPROVED RST/JI
GLENN RESEARCH CENTER

DR.	CHK.	
DES.BR.CH.	DES.ENG.	DES.P.ENG. DPB
FAC./SYS.MGR. JAM	ENG.BR.CH. MES	ENG.DIV.CH. MES
RES.ENG.	RES.BR.CH.	RES.DIV.CH.

FACILITY/SYSTEM CP-DCS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
CLEVELAND, OHIO
LEWIS FIELD

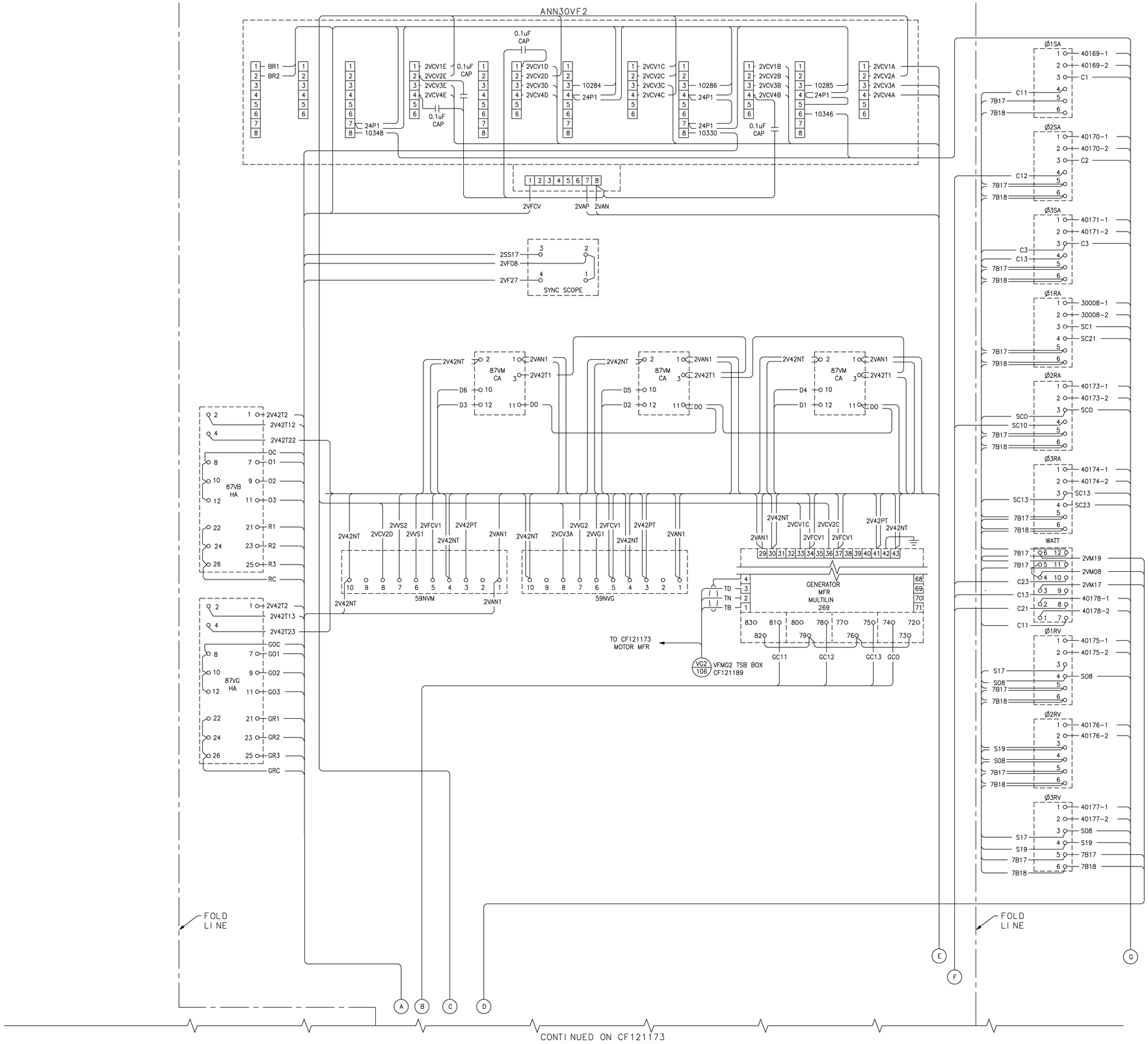
SYNC MTR AUX CONTROL SYSTEM
BUILDING 64

INTERNAL WIRING DIAGRAM RELAY CABINET VFMG1 UNIT 7 SHEET 2 OF 2

SIZE	DRAWING NUMBER	REV	BLDG	AREA
CF	121171	-	64	
			UNITS	INCHES

SCALE	OFFICIAL DATE	SHEET	DISCIPLINE
NONE	2-15-01	1 OF 1	ELECTRICAL

AUTOCAD R14.01



NOTES:

1. FOR A LIST OF DRAWINGS SEE CF121100
2. FOR ABBREVIATIONS AND SYMBOLS SEE CF121101
3. CABLE SCHEDULE AND ROUTING:
   CF121149
   CF121150
   CF121192
   CF121193
   CF121194
4. REFERENCE DRAWINGS:
   CF121100
   CF121101
   CF121123
   CF121124
   CF121173
   CF121189
5. INTERNAL CABINET WIRING 14 AWG TYPE SIS
6. TAG ALL WIRES AT EACH END WITH PERMANENT MARKER
7. EXTERNAL CABINET WIRING MULTICONDUCTOR CONTROL CABLE 16 AWG UNLESS NOTED
8. FOR FRONT PANEL LAYOUT SEE CF121123
9. FOR SIDE PANEL LAYOUT SEE CF121124

CAUTION:
THIS DRAWING MAY NOT REFLECT ACTUAL CONDITIONS. FIELD VERIFICATION IS REQUIRED.
DATED: 2-15-01

AUTOCAD DRAWING
DO NOT REVISE MANUALLY

CENTRAL PROCESS SYSTEMS
BASELINE CONFIGURATION DOCUMENT

CHG	ZONE	DESCRIPTION	APP/DATE

REVISIONS

CONTRACT NAS3-98008
CONTRACTOR Dynacs CLEVELAND, OHIO
TASK ORDER 0026
APPROVED RST/JI
GLENN RESEARCH CENTER

DR.	CHK.	
DES.BR.CH.	DES.ENG.	DES.P.ENG. DPB
FAC./SYS.MGR. JAM	ENG.BR.CH. MES	ENG.DIV.CH. MES
RES.ENG.	RES.BR.CH.	RES.DIV.CH.

FACILITY/SYSTEM CP-DCS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
CLEVELAND, OHIO
LEWIS FIELD

SYNC MTR AUX CONT SYSTEM
BUILDING 64

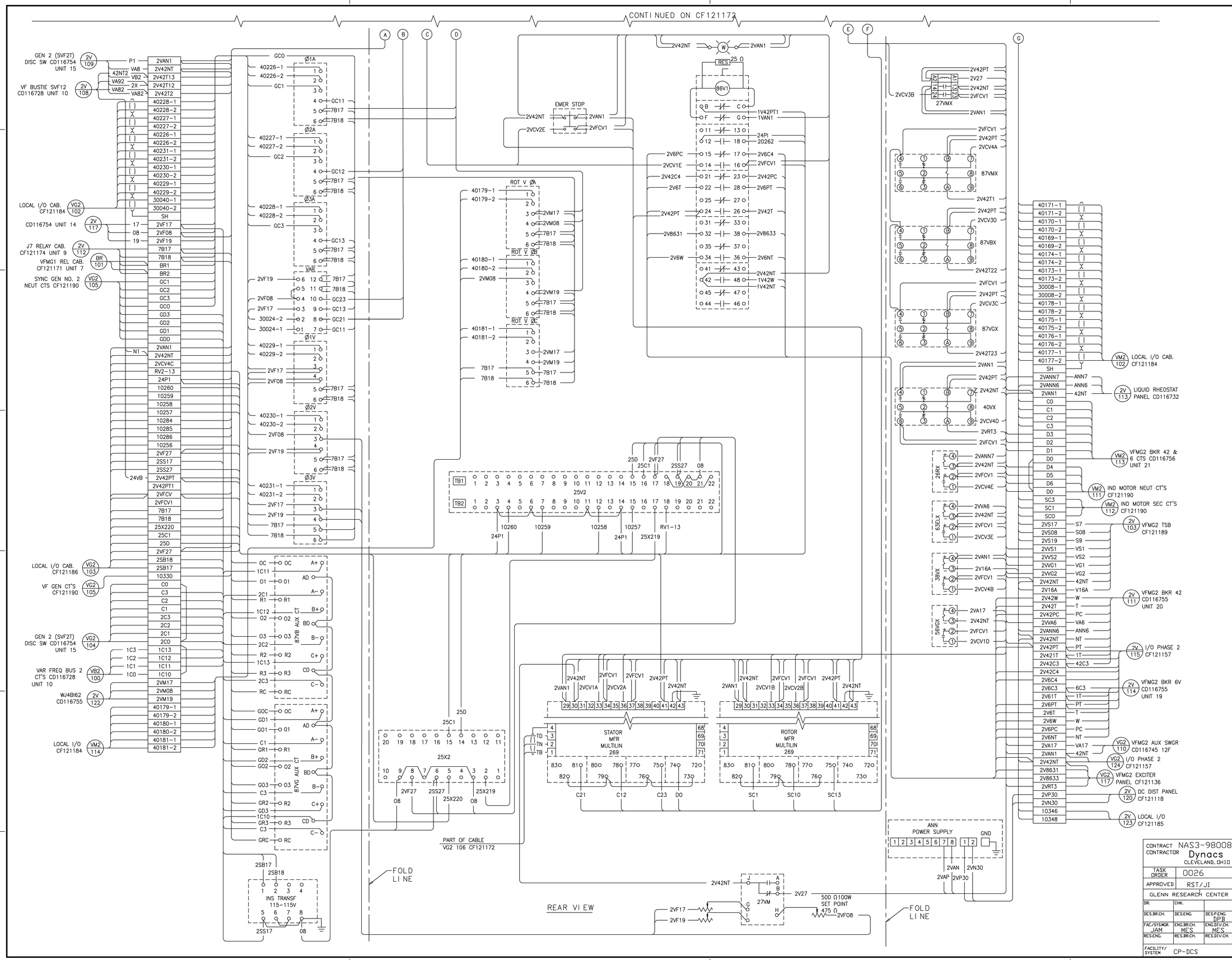
INTERNAL WIRING DIAGRAM RELAY CABINET VFMG2 UNIT 8 SHT 1 OF 2

SIZE	DRAWING NUMBER	REV	BLDG	AREA
CF	121172	-	64	
			UNITS	INCHES

SCALE	OFFICIAL DATE	SHEET	DISCIPLINE
NONE	2-15-01	1 OF 1	ELECTRICAL

AUTOCAD R14.01

DRAWING NUMBER 121172 REV - SIZE CF



NOTES:

1. FOR A LIST OF DRAWINGS SEE CF121100
2. FOR ABBREVIATIONS AND SYMBOLS SEE CF121101
3. CABLE SCHEDULE AND ROUTING DRAWINGS:
   CF121149
   CF121150
   CF121192
   CF121193
   CF121194
4. REFERENCE DRAWINGS:
   CF121100
   CF121101
   CF121118
   CF121123
   CF121124
   CF121153
   CF121156
   CF121170
   CF121171
   CF121172
   CF121174
   CF121184
   CF121188
   CF121190
   CD116633
   CD116645
   CD116728
   CD116745
   CD116754
   CD116755
5. INTERNAL CABINET WIRING 14 AWG TYPE SIS
6. TAG ALL WIRES AT EACH END WITH PERMANENT MARKER
7. EXTERNAL CABINET WIRING MULTICONDUCTOR CONTROL CABLE 16 AWG UNLESS NOTED
8. FOR FRONT PANEL LAYOUT SEE CF121123
9. FOR SIDE PANEL LAYOUT SEE CF121124
10. LAYOUT OF DRAWING IS ELECTRICAL AND NOT AN EXACT PHYSICAL REPRESENTATION

CAUTION:
THIS DRAWING MAY NOT REFLECT ACTUAL CONDITIONS. FIELD VERIFICATION IS REQUIRED.
DATED: 2-15-01

AUTOCAD DRAWING
DO NOT REVISE MANUALLY

CENTRAL PROCESS SYSTEMS
BASELINE CONFIGURATION DOCUMENT

CHG	ZONE	DESCRIPTION	APP/DATE

REVISIONS

CONTRACT NAS3-98008
CONTRACTOR Dynacs CLEVELAND, OHIO
TASK ORDER 0026
APPROVED RST/JI
GLENN RESEARCH CENTER

DR.	CHK.	
DES.BR.CH.	DES.ENG.	DES.P.ENG. DPB
FAC./SYS.MGR. JAM	ENG.BR.CH. MES	ENG.DIV.CH. MES
RES.ENG.	RES.BR.CH.	RES.DIV.CH.
FACILITY/SYSTEM CP-DCS		

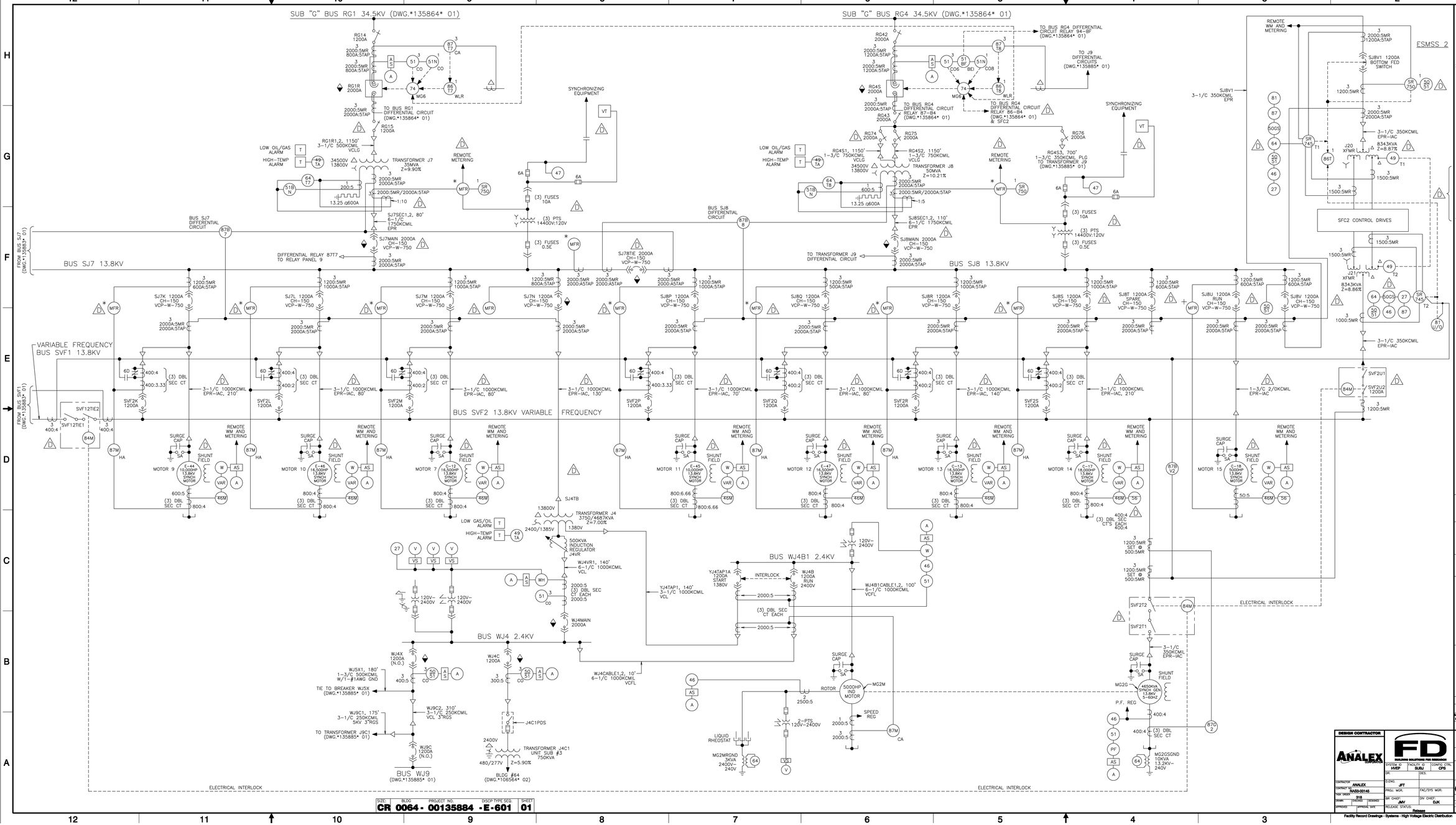
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
CLEVELAND, OHIO
LEWIS FIELD

SYNC MTR AUX CONTROL SYSTEM
BUILDING 64

INTERNAL WIRING DIAGRAM RELAY CABINET VFMG2 UNIT 8 SHEET 2 OF 2

SIZE	DRAWING NUMBER	REV	BLDG	AREA
CF	121173	-	64	
SCALE NONE	OFFICIAL DATE 2-15-01	SHEET 1 OF 1	UNITS INCHES	DISCIPLINE ELECTRICAL

AUTOCAD R14.01



GENERAL NOTES:

1. CABLE NAMES FOLLOWED BY SEQUENCE OF NUMBERS 1, 2, 3.... OR SEQUENCE OF LETTERS A, B, C.... INDICATES MORE THAN 1 CONDUCTOR PER PHASE AND NAME OF CABLES. FOR EXAMPLE WM1G1, 2, 3 INDICATES 3 FEEDERS IN PARALLEL AND CABLE NAMES ARE WM1G1, WM1G2, WM1G3.
2. ELECTRICAL AND ELECTRONIC SYMBOLS ARE PER NASA FACILITIES ENGINEERING DIVISION DRAFTING AND PROCEDURES STANDARDS AND IEEE STANDARD 315–1975.
   EXCEPTIONS:
   - REMOTE INDICATION
   - REMOTE INDICATION AND CONTROL
   - GANG OPERATED DISCONNECT
   - GANG OPERATED DISCONNECT WITH ARCING CONTACTS
   - LOAD INTERRUPTER SWITCH – DOUBLE SIDE BREAK
   - T – TRANSMITS SIGNAL TO SCADA RTU
   - MFR – MULTI FUNCTION RELAY: 50, 51, 5IN
   - * MFR – MULTILIN 269 MULTI FUNCTION RELAY: 46, 49, 50, 51, 51N
3. UNLESS OTHERWISE NOTED ABBREVIATIONS ARE IN ACCORDANCE WITH ASME Y1.1–1989.
   EXCEPTIONS:
   SA = SURGE ARRESTER
   SUB = SUBSTATION

D		REVISED AS PER PSCRS 1992-P238, 1992-P297, FOR 2001-1323, PUT ON NEW FORMAT, CHANGED TITLEBLOCK, DRAWING SIZE, NOTE 2, ADDED NOTE 3 AND DRAWING WAS OF -135884 SHT 01 OF 01. CHANGED TITLES	ANALEX/JWS EZ LFB RGP 04/24/06
C	2	REVISED AS PER CHI FIELD MARKUP, PSCR'S 1992-P297, 1995-P623, 1996-P701, 1996-P770, 1997-P848 AND ADDED NOTE 2.	ANALEX/JWS EZ LFB 02/19/03
	1	PUT ON NEW FORMAT AND PUT ON AUTOCAD.	
B	1	REVISED: BUS WJ4B1, BREAKERS WJ4B AND YJ4TAP1A NOMEN- CLATURE CWERE YMG2, YMG2B, AND YMG2A RESPECTIVELY.	SVT/ZBM/TFM JFT 3/28/91
	3	BASELINE SYMBOL. ADDED DRAWING IS NOW UNDER CONFIGURATION CONTROL.	
A	2	ADDED NEW FORMAT.	SVT/ZM/HSB
	1	ADDEDNOTE 1,DISCONNECT SW RG43 AND RG73. REVISEDEQUIPMENT & CABLE NOMENCLATURE THROUGHOUT, BUS YMG2 CONNECTIONS,CABLE GAGE TO KCMIL (WAS MCM). (ACPIPSEWAS SWITCH ONLY).	JC TORRI 3/1/91

CONTROLLED DRAWING
CENTRAL PROCESS SYSTEMS
THE DRAWING IS UNDER CONFIGURATION CONTROL. ANY CHANGES MUST BE APPROVED BY CCB. CONTACT RESPONSIBLE SYSTEM MANAGER FOR RELEASE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

LAST APPROVED: FAC/SYS MGR: BR-CHI: REV DATE: 04/24/2006
ISSUE REVISIONS: L BERNHARDT R PALYO

CAD DRAWING - DO NOT REVISE MANUALLY

DESIGN CONTRACTOR: ANALEX CORPORATION

FD BUILDING SOLUTIONS FOR RESEARCH

SYSTEM ID: HVEP FACILITY ID: SJBJ DWNG CTRL: CPS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD
CLEVELAND, OHIO

BLDG.0064 SUBSTATION "J"
HIGH VOLTAGE ELECTRICAL SYSTEM

TRANSFORMERS J4, J7, J8, JAC1, J20 & J21
BUS SJ7, SJ8, SVF1, SVF2, WJ4 & WJ4B1
ONE LINE DIAGRAM

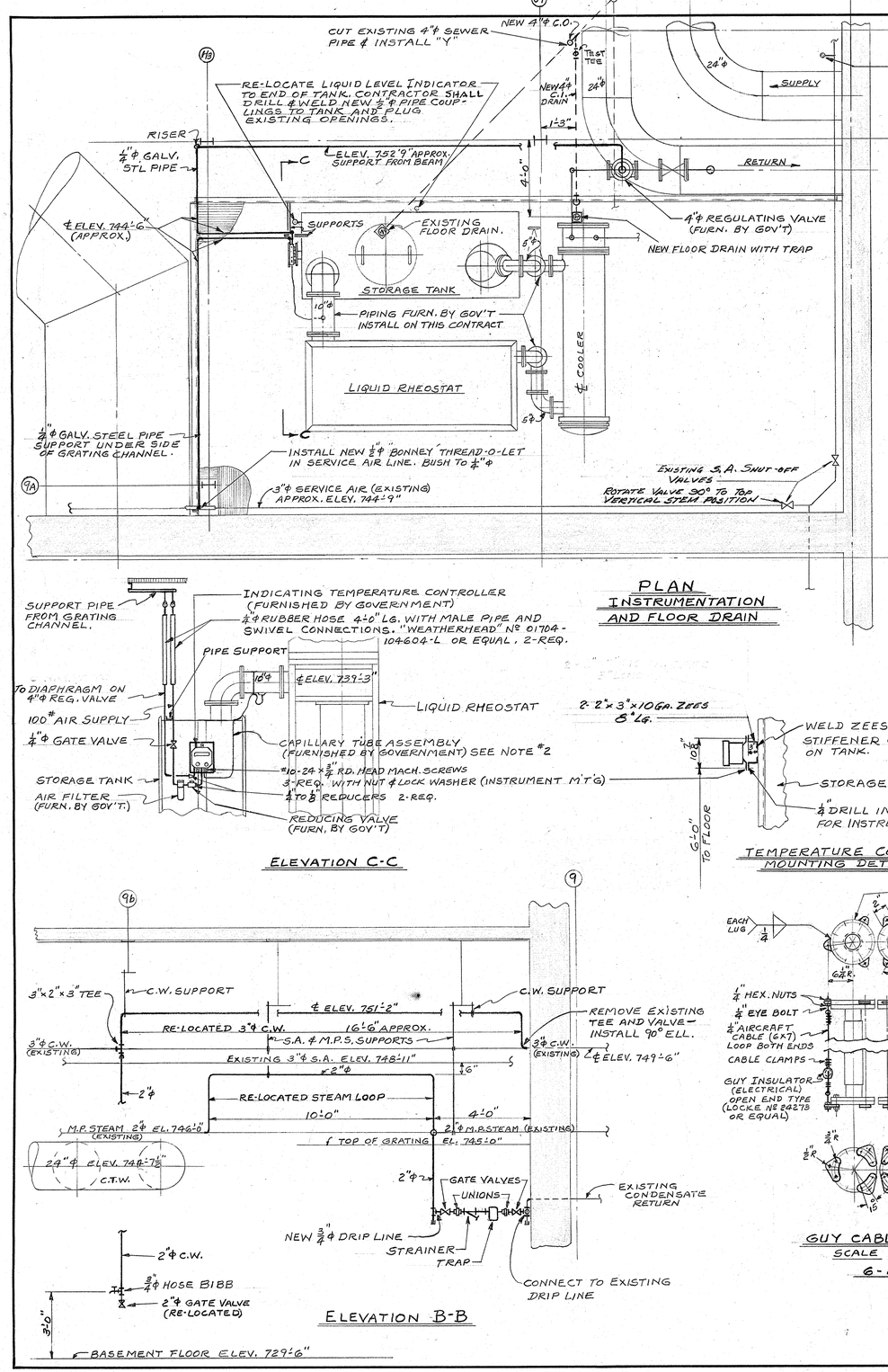
CONTRACTOR: ANALEX CONTRACT NO: NAS9-00145 TASK ORDER: 318 DRAWN: DESIGNED: APPROVED: APPROVAL DATE:
D.LEAD: JFT PROJ. MGR: FAC/SYS MGR: BR CHIEF: DV CHIEF: DJK RELEASE STATUS: Release

SIZE: BLDG PROJECT NO. DISCP TYPE SEQ: **CR 0064 - 00135884 -E-601**
AREA: PSL & SUBSTATION J SHEET 01 OF 01
UNITS: ENGLISH SOFTWARE: AUTOCAD 2002 REVISION D
SCALE: NONE OFFICIAL DATE: 03/02/1998

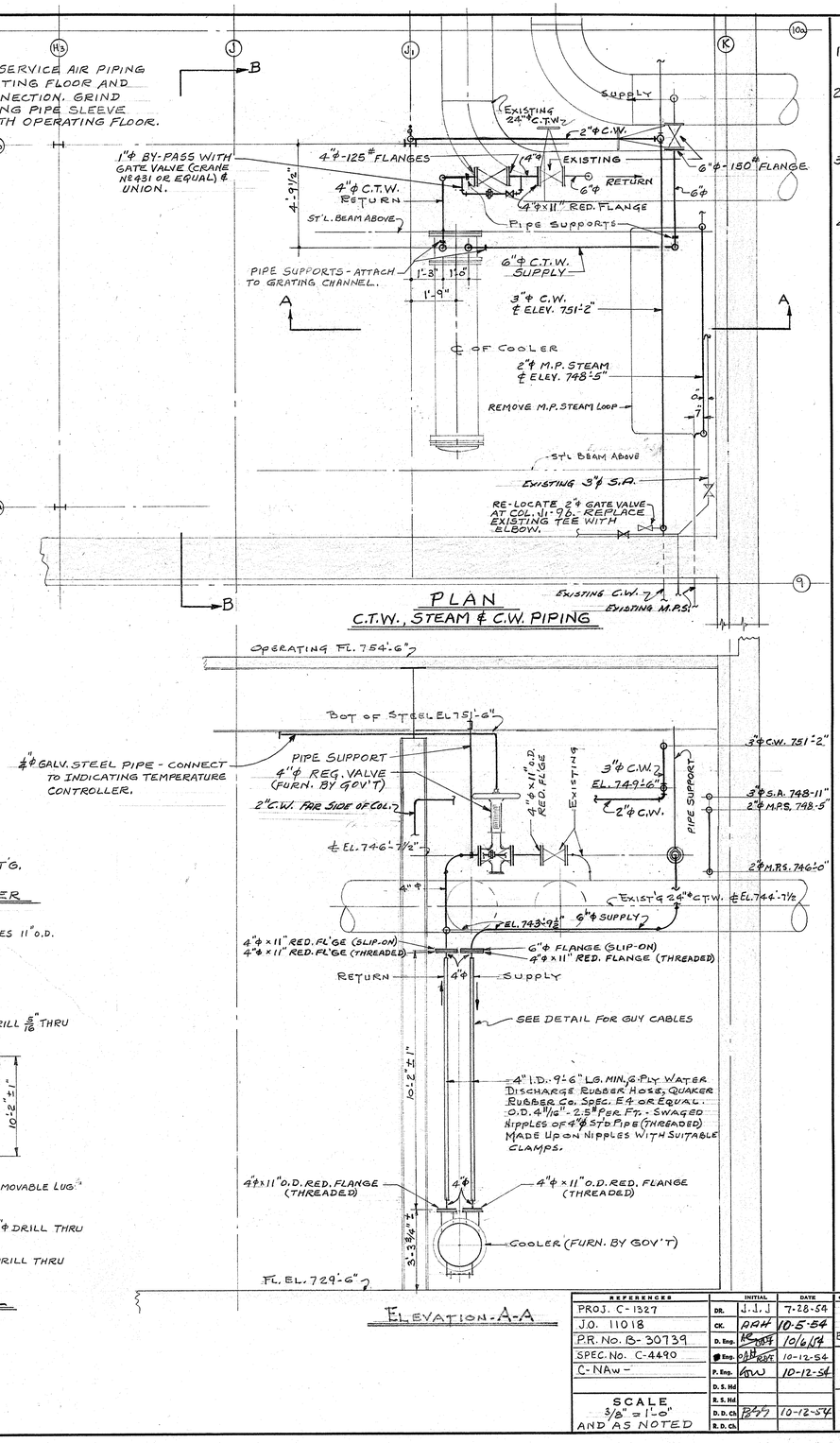
Facility Record Drawings - Systems - High Voltage Electric Distribution
0064-00135884-601_CR_01.dwg 3.0

SIZE: BLDG PROJECT NO. DISCP TYPE SEQ: SHEET
CR 0064 - 00135884 -E-601 01

PROJECT NO. 00135884 DISCP TYPE SEQ. -E-601 REV. D



PLAN
INSTRUMENTATION AND FLOOR DRAIN

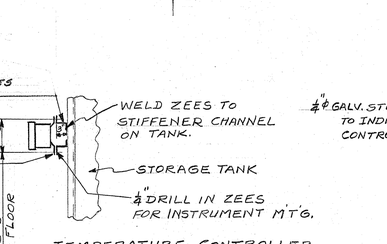


PLAN
C.T.W., STEAM & C.W. PIPING

GENERAL NOTES

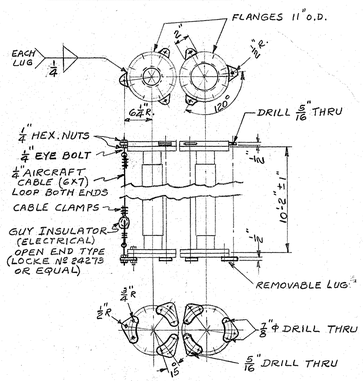
1. FOR SCHEDULE OF DRAWINGS SEE DWG. Nº CD-112890.
2. CAPILLARY TUBE SHALL BE SUPPORTED AT BOTH ENDS TO PREVENT DAMAGE. EXCESS TUBING SHALL BE COILED ON TOP OF TANK & CLAMPED.
3. ALL PIPE INSULATION REMOVED OR DAMAGED IN ALTERING PIPING SHALL BE RE-INSTALLED TO MATCH EXISTING WORK.
4. GUY WIRE EYE BOLTS SHALL BE EQUALLY TORQUED TO RELIEVE 4"φ HOSE OF WATER PRESSURE LOADING.

ELEVATION C-C



TEMPERATURE CONTROLLER MOUNTING DETAIL

ELEVATION B-B



GUY CABLE DETAIL
SCALE 1/4" = 1'-0"
6-REQ.

ELEVATION - A-A

LEGEND

C.O. — CLEAN OUT.
C.T.W. — COOLING TOWER WATER.
C.W. — CITY WATER.
M.P.S. — MEDIUM PRESSURE STEAM.
S.A. — SERVICE AIR - 100# P.S.I. GAGE.

REFERENCES		INITIAL	DATE
PROJ. C-1327	DR.	J.J.J	7-28-54
J.O. 11018	CK.	RAH	10-5-54
P.R. No. B-30739	D. Eng.	[illegible]	10/6/54
SPEC. No. C-4490	Eng.	[illegible]	10-12-54
C-NAw -	P. Eng.	KW	10-12-54
	D. S. Hd		
	R. S. Hd		
SCALE 3/8" = 1'-0" AND AS NOTED	D. D. Ch	[illegible]	10-12-54
	R. D. Ch.		

CHANGE	NO.	REVISION	DATE	CK. APP.

P.S.L. EXPANSION OF AIR FACILITIES
EQUIPMENT BUILDING ADDITION
ELECTRICAL EQUIPMENT INSTALLATION & CONNECTIONS

PIPING FOR
LIQUID RHEOSTAT

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS
LEWIS FLIGHT PROPULSION LABORATORY
CLEVELAND, OHIO

DWG. NO. CD-112268

NOTES:

1. SEE DRAWING CF121100 FOR DRAWING LIST OF REVISIONS.

CONTRACT

DRAWING SCHEDULE	
CD112890	DRAWING AND CABLE SCHEDULES, LOCATION PLAN AND ONE LINE DIAGRAM FOR MG SET AND AUXILIARIES
CD112891	EQUIPMENT LAYOUT – OPERATING FLOOR PLAN
CD112892	EQUIPMENT AND CABLE RACKING LAYOUT BASEMENT AND 2ND MEZZANINE FLOOR PLAN
CD112893	EQUIPMENT LAYOUT CONTROL ROOM AND 1ST MEZZANINE FLOOR PLAN
CD112894	CABLE TUNNEL RACKING AND CABLING
CD112895	CABLE RACKING SECTIONS AND DETAILS
CD112896	VARIABLE FREQUENCY MG SET AUXILIARIES LAYOUT AND CONNECTIONS
CD112897	LIQUID RHEOSTAT ENCLOSURE AND GRATING
CD112898	LIQUID RHEOSTAT ENCLOSURE AND GRATING DETAILS
CD112268	PIPING FOR LIQUID RHEOSTAT

REFERENCE

DRAWING SCHEDULE			
NUMBER	CHANGE NO.	DATE	TITLE
CD112214	A	1-20-54	FLOOR PLANS, SECTIONS AND DETAILS
CD112215	NONE	12-22-53	STAIR NO. 2 AND FLOOR SLOTS DETAILS
CD112220	B	10-5-54	GROUNDING SYSTEM

NO OF			
CABLE NO	FROM	TO	SPARES
VA2	AUX SWGR UNIT 2	VF SWGR UNIT 2	1
VA3	AUX SWGR UNIT 3	VF SWGR UNIT 3	1
VA4	AUX SWGR UNIT 4	VF SWGR UNIT 4	1
VA5	AUX SWGR UNIT 7	VF SWGR UNIT 5	1
VA6	AUX SWGR UNIT 5	VF SWGR UNIT 6	1
VA7	AUX SWGR UNIT 6	VF SWGR UNIT 7	1
VA10	AUX SWGR UNIT 8	VF SWGR UNIT 8	1
C20	MAIN 13.8 KV SWGR UNIT 7	MAIN 13.8 KV SWGR UNIT 6	3
C21	MAIN 13.8 KV SWGR UNIT 7	MAIN 13.8 KV SWGR UNIT 13	1
C22	MAIN 13.8 KV SWGR UNIT 1	MAIN 13.8 KV SWGR UNIT 4	2
C23	MAIN 13.8 KV SWGR UNIT 6	MAIN 13.8 KV SWGR UNIT 4	2

CABLE SCHEDULE

NACA COND OR CABLE NO				CONDUIT		CABLE					REMARKS
				KIND	SIZE INCHES	CONDUCTORS		CIRCUIT VOLTAGE	INSULATION		
						REQ'D	AWG MCM		TYPE	VOLTAGE	
12-200	UNIT SUBSTATION 3	250 HP MOTOR STARTER	150KW MG SET 250HP MOTOR	STEEL	4	3-1/C	500	480	VC-BRAID	600	
13-30	INDUCTION REG J4	2400V SWGR CUB 22	2400V FEEDER	———	———	6-1/C	1000	2400	VCL	5000	
13-31	TRANSFORMER J4	2400V SWGR CUB 19	LOW VOLTAGE TAP	———	———	3-1/C	1000	2400	VCL	5000	
13-32	2400V SWGR CUB. 18	VFMG SET 5000HP MOTOR	2400V FEEDER	———	———	6-1/C	1000	2400	VC-PVC	5000	
15-38	MAIN BUS SWGR CUB. 18	AUX POWER TRANSF J4	POWER SUPPLY TO 2400V BUS	———	———	1-3/C	250	13,800	VCL	15,000	
15-39	VFMG SET 4650VKA GEN	13.8KV VF SWGR CUB. 15	VF BUS 2 FEEDER	———	———	3-1/C	250	13,800	VC-PVC	15,000	

DRAWING NO.	TITLE
CD113020	LOCATION PLAN DRAWINGS & CABLE SCHEDULES
CD113046	PANEL INTERCONNECTIONS-MAIN 13.8 KV SWGR UNITS 1, 7 & 14
CD113047	PANEL INTERCONNECTIONS-MAIN 13.8 KV SWGR UNITS 4, 6 & 13
CD113048	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 1, 2 & 8
CD113049	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 3, 4 & 5
CD113050	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 6, 7 & 13
CD113051	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 10, 11 & 12
CD113052	PANEL INTERCONNECTIONS-VF SWAG UNITS 9, 2.4 KV SWGR UNITS 2, 9, 4 & 10
CD113053	PANEL INTERCONNECTIONS AUXILIARY PANEL 1, 2 & 3
CD113054	PANEL INTERCONNECTIONS AUXILIARY PANEL 4, 5, 6 & 7
CD113055	PANEL INTERCONNECTIONS AUXILIARY PANEL 8, 9, 10 & 11
CD112221	BASEMENT LIGHTING & RECEPTACLES
CHG B DATED 5-5-55	
CD112222	MEZZANINE & TUNNEL LIGHTING & RECEPTACLES
CHG B DATED 5-5-55	
CD112245	TELEPHONE & INTERCOMMUNICATION-CONTROL ROOM & DETAILS
CHG B DATED 5-5-55	
CD112248	TELEPHONE & INTERCOMMUNICATION-LAYOUT BASMT FLOOR SHEET 1
CHG B DATED 5-5-55	
CD112279	KEY PLAN & EQUIPMENT LOCATION
CHG B DATED 4-21-55	

CABLE NUMBER	FROM	TO	FOR	REQ'D	CONDUCTORS AWG	NO IN CABLE	REMARKS
11-101	MCC 6 PANEL T3	TRANSF J4 CONT CABINET		2/C	19/25	2/C	
11-103	MCC 6 PANEL T3	2400 V SWGR UNIT 22		4/C	19/25	4/C	
12-202	POWER PANEL P1	AIR COMPRESSOR 3		3/C	19/25	4/C	
12-203	AUX SWGR UNIT 12	VFMG 2 MOTOR HEATERS		3/C	19/25	4/C	
12-204	AUX SWGR UNIT 12	VFMG 2 GEN HEATERS		3/C	19/25	4/C	
12-206	ELECTROLYTE CIRC PUMP MOTOR	LIQ RHEO 2 CONTROL CABINET		3/C	19/25	4/C	
12-207	POWER PANEL P2	LIQ RHEO 2 CONTROL CABINET	440 V POWER FEED	3/C	19/25	4/C	3/4" CONDUIT
12-208	MCC 6	POWER PANEL P2	440 V POWER FEED	3-1/C	2/0		
A 11	AUX SWGR UNIT 1	AUX SWGR UNIT 12		7/C	19/25	8/C	
S 20	2.4 KV SWGR UNIT 19	2.4 KV SWGR UNIT 2		10/C	19/25	12/C	
S 21	2.4 KV SWGR UNIT 22	DISPATCH TERM CAB 29		8/C	19/25	8/C	
S 22	2.4 KV SWGR UNIT 22	J4 REGULATOR TERMINAL STRIPS		10/C	19/25	12/C	
S 23	2.4 KV SWGR UNIT 22	BATTERY PANEL	125 VDC CONTROL POWER	2-1/C	6	---	
A 17	AUX SWGR UNIT 9	AUX SWGR UNIT 12		3/C	19/25	4/C	
C 16	MAIN 13.8 KV SWGR 18	MAIN 13.8 KV SWGR 14		1/C	19/25	2/C	

LEGEND

A – DESIGNATES CABLES TERMINATING IN THE AUXILIARY SWITCHGEAR
C – DESIGNATES CABLES TERMINATING IN THE MAIN 13.8KV SWITCHGEAR
M – DESIGNATES CABLES TERMINATING IN THE MAIN DUPLEX CONTROL SWITCHBOARD
S – DESIGNATES CABLES TERMINATING IN THE 2.4KV SWITCHGEAR
V – DESIGNATES CABLES TERMINATING IN THE VARIABLE FREQUENCY SWITCHGEAR
11 – DESIGNATES 208V POWER CABLES
12 – DESIGNATES 440V POWER CABLES
DIS CONT RM – DESIGNATES DISPATCH CONTROL ROOM
C – DESIGNATES CONDUIT
/C – DESIGNATES CONDUCTOR

CADAM DRAWING DO NOT REVISE MANUALLY

SYM	ZONE	DESCRIPTION	APP/DATE
M	2	BASELINE SYMBOL ADDED DRAWING IS NOW UNDER CONFIGURATION CONTROL	NYMA/RT/TFM HS
	1	OBSOLETES AND SUPERSEDES DWGS CD-112890 10/12/54 CD-112939 REV A 1/10/58 NO CHANGE	DPB/JAW 07/19/96

REVISIONS

CENTRAL PROCESS SYSTEMS
BASELINE CONFIGURATION DOCUMENT

CONTRACT NAS3-27186
CONTRACTOR CLEVELAND,OHIO
TASK ORDER 7301
APPROVED RT/TFM/HS
LEWIS RESEARCH CENTER

DR.	CHK.	DES.
DES.BR.CH.	DES.ENG.	DES.P.ENG. DPB
FAC./SYS.MGR. JAM	ENG.BR.CH. JAW	ENG.DIV.CH. DRC
RES.ENG.	RES.BR.CH.	RES.DIV.CH.

OFFICIAL DATE 07/19/96

NASA
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LEWIS RESEARCH CENTER
CLEVELAND,OHIO

SYNC MTR AUX CONT SYSTEM
BUILDING 64

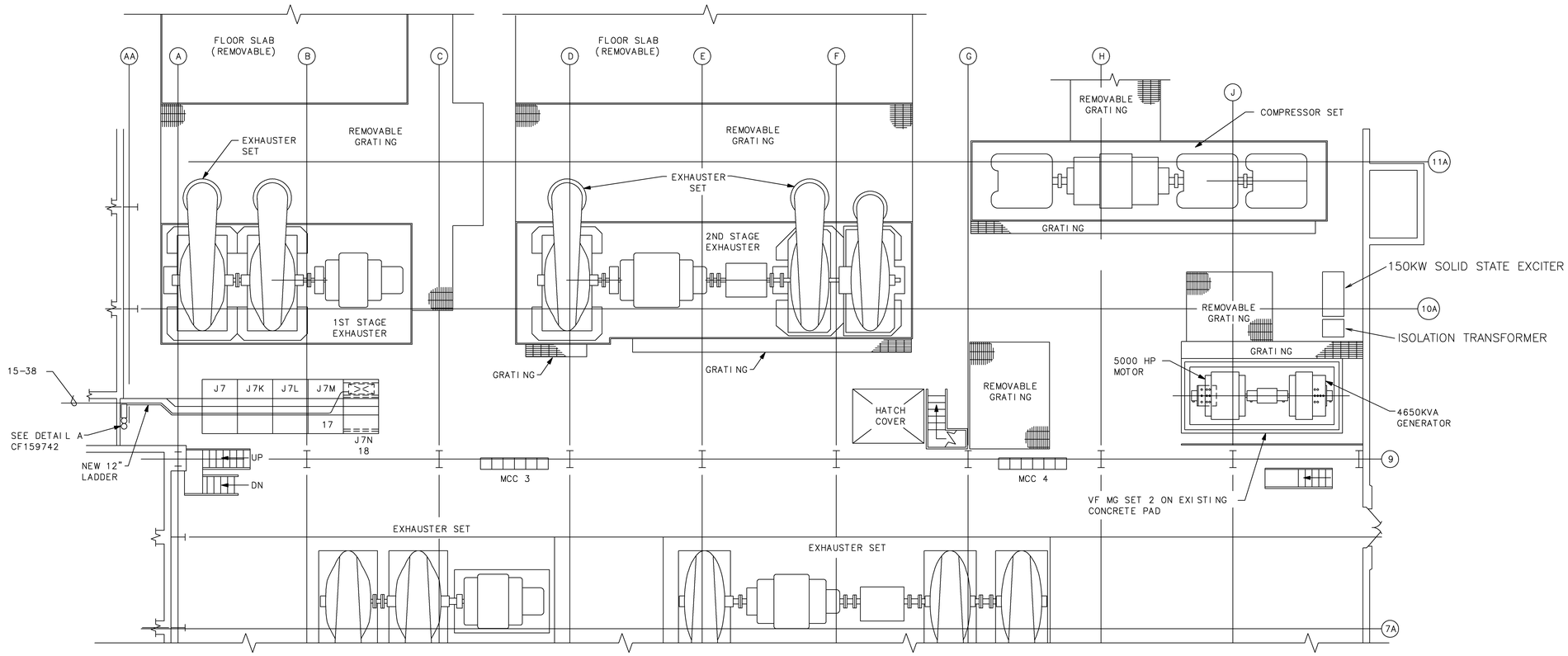
DRAWING AND CABLE SCHEDULES, LOCATION PLAN FOR M-G SET AND AUX

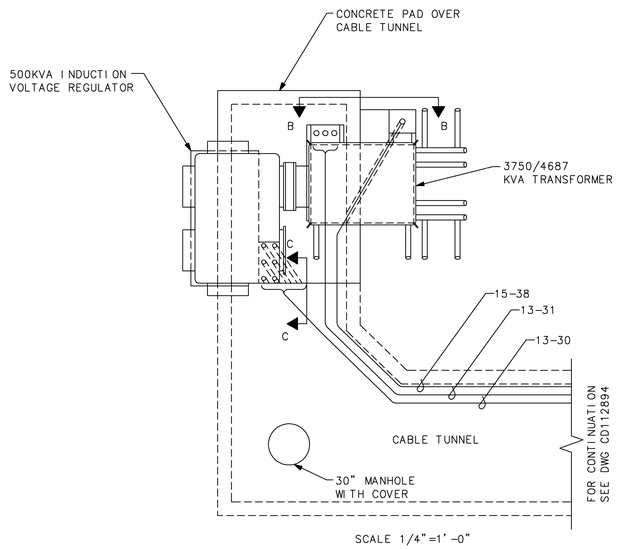
SIZE	DRAWING NUMBER	REV.	STAT	BLDG/CODE
F	CF-112890	X		64 /

SCALE: NONE SHEET OF

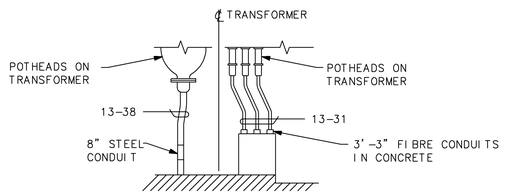
CAD GROUP DRAW CAD SUBGROUP CP-DCS NO. OF CADAM MODELS 01 CADAM UNITS INCHES

DRAWING NUMBER CF-112890 REV. X STAT



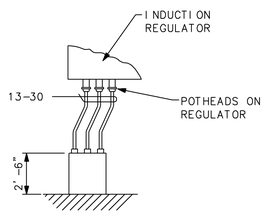


SCALE 1/4"=1'-0"



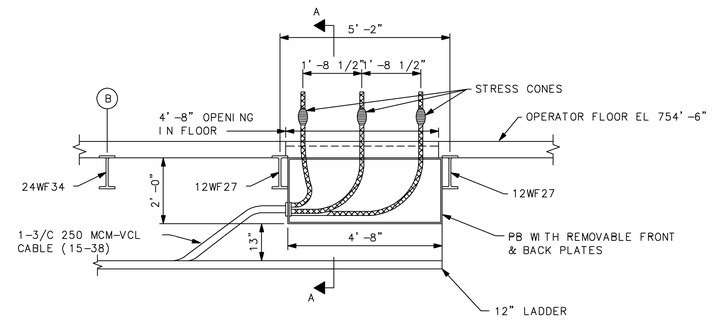
SECTION B-B

SCALE 1/4"=1'-0"



SECTION C-C

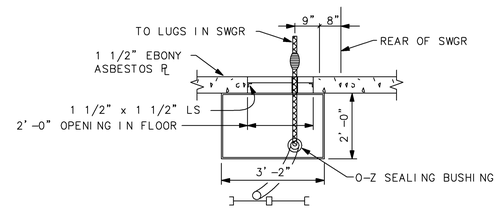
SCALE 1/4"=1'-0"



FRONT EL MAIN SWGR CUBICLE UNIT 18 PULL BOX

(SHOWN WITH FRONT PLATE REMOVED)

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



SECTION A-A

DETAIL A

MAIN POWER BUS SWGR PULL BOX CUBICLE UNIT 18

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

NOTES

1. FOR A LIST OF DRAWINGS SEE CF121100
2. FOR ABBREVIATIONS AND SYMBOLS SEE CF121101
3. FOR DRAWING & CABLE SCHEDULE SEE DWG CD112890

CADAM DRAWING DO NOT REVISE MANUALLY

SYM	ZONE	DESCRIPTION	APP/DATE
M	2	BASELINE SYMBOL ADDED DRAWING IS NOW UNDER CONFIGURATION CONTROL	NYMA/RT/TFM HS
	1	OBSOLETES AND SUPERSEDES DWG. CD-112891 REV "B" DATED 10/23/80 NO CHANGE	DPB/JAW 07/19/96

REVISIONS

CENTRAL PROCESS SYSTEMS BASELINE CONFIGURATION DOCUMENT

NASA — NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, LEWIS RESEARCH CENTER, CLEVELAND, OHIO

SYNC MTR AUX CONT SYSTEM BUILDING 64

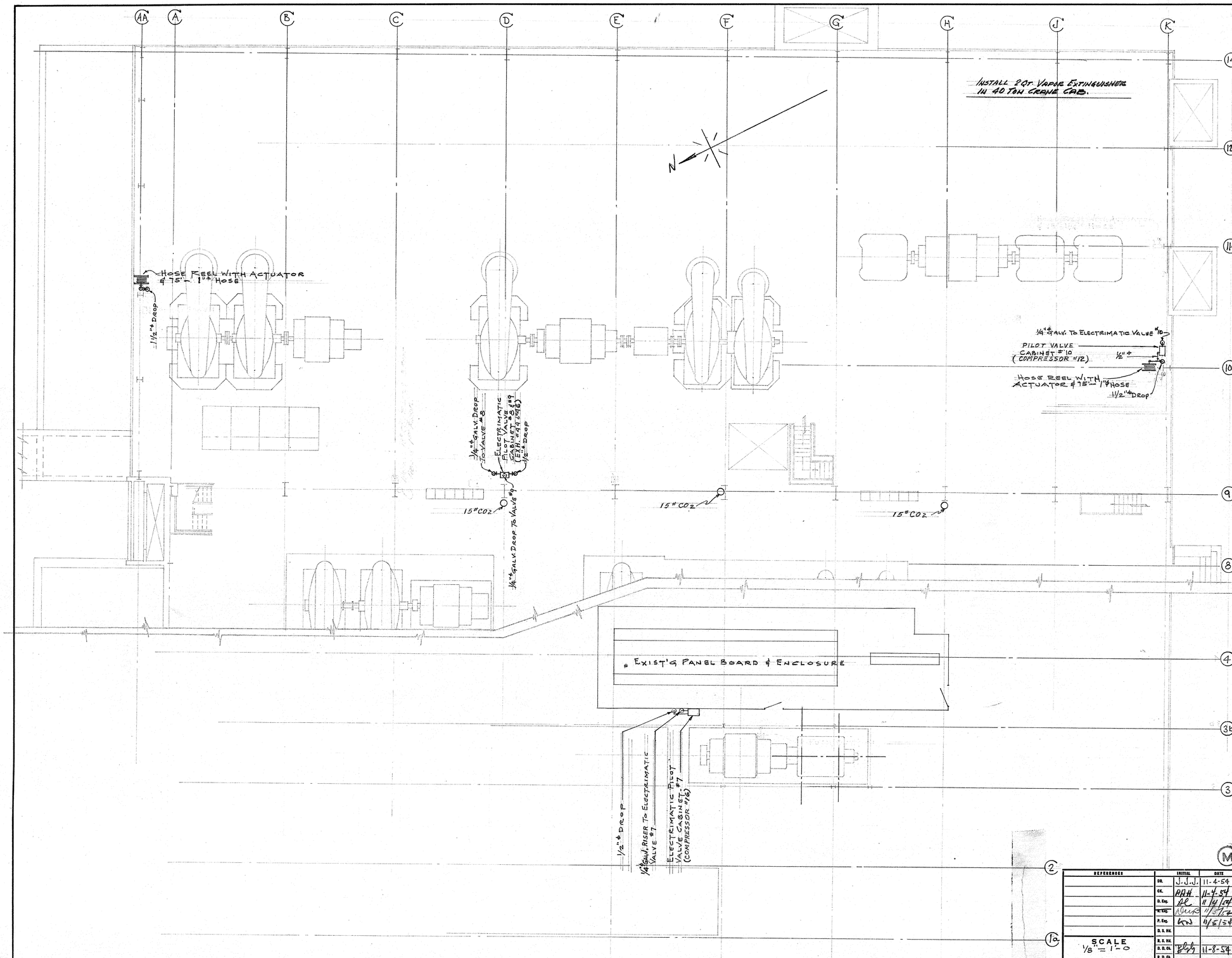
EQUIPMENT LAYOUT OPERATING FLOOR

CONTRACT CONTRACTOR	NAS3-27186 CLEVELAND,OHIO
TASK ORDER	7301
APPROVED	RT/TFM/HS
LEWIS RESEARCH CENTER	
DR. / CHK. / DES.	
DES.BR.CH. / DES.ENG. / DES.P.ENG. DPB	
FAC./SYS.MGR. JAM / ENG.BR.CH. JAW / ENG.DIV.CH. DRC	
RES.ENG. / RES.BR.CH. / RES.DIV.CH.	
OFFICIAL DATE	07/19/96

SIZE	DRAWING NUMBER	REV.	STAT	BLDG/CODE
F	CF-112891	X		64/
SCALE: NONE		SHEET	OF	

CAD GROUP DRAW | CAD SUBGROUP CP-DCS | NO. OF CADAM MODELS 02 | CADAM UNITS INCHES

DRAWING NUMBER CF-112891 REV. X STAT



GENERAL NOTES

1. FOR GENERAL NOTES SEE DWG. CD-112878
2. WORK THIS DRAWING WITH DRAWINGS NOS. CD-112877 & CD-112878

REFERENCES		INITIAL	DATE
	DR.	J.J.J.	11-4-54
	CK.	RAH	11-4-54
	D. Eng.	Al	11/4/54
	R. Eng.	[illegible]	11/5/54
	P. Eng.	KN	11/5/54
	D. S. Hd.		
SCALE 1/8" = 1'-0	R. S. Hd.		
	D. D. Ch.	[illegible]	11-8-54
	R. D. Ch.		

CHANGE NO.	REVISION	DATE	CK.-APP.
A 1	BROUGHT UP TO DATE	3/17/77	RJS EWW JRR

P.S.L. EXPANSION OF AIR FACILITIES
CO_2 PIPING

CO_2 PIPING EXTENSION IN THE EQUIPMENT BUILDING ADDITION

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS
LEWIS FLIGHT PROPULSION LABORATORY
CLEVELAND, OHIO

DWG. NO. CD-112899

NOTES:

1. SEE DRAWING CF121100 FOR DRAWING LIST OF REVISIONS.

CONTRACT

DRAWING SCHEDULE	
CD112890	DRAWING AND CABLE SCHEDULES, LOCATION PLAN AND ONE LINE DIAGRAM FOR MG SET AND AUXILIARIES
CD112891	EQUIPMENT LAYOUT – OPERATING FLOOR PLAN
CD112892	EQUIPMENT AND CABLE RACKING LAYOUT BASEMENT AND 2ND MEZZANINE FLOOR PLAN
CD112893	EQUIPMENT LAYOUT CONTROL ROOM AND 1ST MEZZANINE FLOOR PLAN
CD112894	CABLE TUNNEL RACKING AND CABLING
CD112895	CABLE RACKING SECTIONS AND DETAILS
CD112896	VARIABLE FREQUENCY MG SET AUXILIARIES LAYOUT AND CONNECTIONS
CD112897	LIQUID RHEOSTAT ENCLOSURE AND GRATING
CD112898	LIQUID RHEOSTAT ENCLOSURE AND GRATING DETAILS
CD112268	PIPING FOR LIQUID RHEOSTAT

REFERENCE

DRAWING SCHEDULE			
NUMBER	CHANGE NO.	DATE	TITLE
CD112214	A	1-20-54	FLOOR PLANS, SECTIONS AND DETAILS
CD112215	NONE	12-22-53	STAIR NO. 2 AND FLOOR SLOTS DETAILS
CD112220	B	10-5-54	GROUNDING SYSTEM

NO OF			
CABLE NO	FROM	TO	SPARES
VA2	AUX SWGR UNIT 2	VF SWGR UNIT 2	1
VA3	AUX SWGR UNIT 3	VF SWGR UNIT 3	1
VA4	AUX SWGR UNIT 4	VF SWGR UNIT 4	1
VA5	AUX SWGR UNIT 7	VF SWGR UNIT 5	1
VA6	AUX SWGR UNIT 5	VF SWGR UNIT 6	1
VA7	AUX SWGR UNIT 6	VF SWGR UNIT 7	1
VA10	AUX SWGR UNIT 8	VF SWGR UNIT 8	1
C20	MAIN 13.8 KV SWGR UNIT 7	MAIN 13.8 KV SWGR UNIT 6	3
C21	MAIN 13.8 KV SWGR UNIT 7	MAIN 13.8 KV SWGR UNIT 13	1
C22	MAIN 13.8 KV SWGR UNIT 1	MAIN 13.8 KV SWGR UNIT 4	2
C23	MAIN 13.8 KV SWGR UNIT 6	MAIN 13.8 KV SWGR UNIT 4	2

CABLE SCHEDULE

NACA COND OR CABLE NO				CONDUIT		CABLE					REMARKS
				KIND	SIZE INCHES	CONDUCTORS		CIRCUIT VOLTAGE	INSULATION		
						REQ'D	AWG MCM		TYPE	VOLTAGE	
12-200	UNIT SUBSTATION 3	250 HP MOTOR STARTER	150KW MG SET 250HP MOTOR	STEEL	4	3-1/C	500	480	VC-BRAID	600	
13-30	INDUCTION REG J4	2400V SWGR CUB 22	2400V FEEDER	———	———	6-1/C	1000	2400	VCL	5000	
13-31	TRANSFORMER J4	2400V SWGR CUB 19	LOW VOLTAGE TAP	———	———	3-1/C	1000	2400	VCL	5000	
13-32	2400V SWGR CUB. 18	VFMG SET 5000HP MOTOR	2400V FEEDER	———	———	6-1/C	1000	2400	VC-PVC	5000	
15-38	MAIN BUS SWGR CUB. 18	AUX POWER TRANSF J4	POWER SUPPLY TO 2400V BUS	———	———	1-3/C	250	13,800	VCL	15,000	
15-39	VFMG SET 4650VKA GEN	13.8KV VF SWGR CUB. 15	VF BUS 2 FEEDER	———	———	3-1/C	250	13,800	VC-PVC	15,000	

DRAWING NO.	TITLE
CD113020	LOCATION PLAN DRAWINGS & CABLE SCHEDULES
CD113046	PANEL INTERCONNECTIONS-MAIN 13.8 KV SWGR UNITS 1, 7 & 14
CD113047	PANEL INTERCONNECTIONS-MAIN 13.8 KV SWGR UNITS 4, 6 & 13
CD113048	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 1, 2 & 8
CD113049	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 3, 4 & 5
CD113050	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 6, 7 & 13
CD113051	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 10, 11 & 12
CD113052	PANEL INTERCONNECTIONS-VF SWAG UNITS 9, 2.4 KV SWGR UNITS 2, 9, 4 & 10
CD113053	PANEL INTERCONNECTIONS AUXILIARY PANEL 1, 2 & 3
CD113054	PANEL INTERCONNECTIONS AUXILIARY PANEL 4, 5, 6 & 7
CD113055	PANEL INTERCONNECTIONS AUXILIARY PANEL 8, 9, 10 & 11
CD112221	BASEMENT LIGHTING & RECEPTACLES
CHG B DATED 5-5-55	
CD112222	MEZZANINE & TUNNEL LIGHTING & RECEPTACLES
CHG B DATED 5-5-55	
CD112245	TELEPHONE & INTERCOMMUNICATION-CONTROL ROOM & DETAILS
CHG B DATED 5-5-55	
CD112248	TELEPHONE & INTERCOMMUNICATION-LAYOUT BASMT FLOOR SHEET 1
CHG B DATED 5-5-55	
CD112279	KEY PLAN & EQUIPMENT LOCATION
CHG B DATED 4-21-55	

CABLE NUMBER	FROM	TO	FOR	REQ'D	CONDUCTORS AWG	NO IN CABLE	REMARKS
11-101	MCC 6 PANEL T3	TRANSF J4 CONT CABINET		2/C	19/25	2/C	
11-103	MCC 6 PANEL T3	2400 V SWGR UNIT 22		4/C	19/25	4/C	
12-202	POWER PANEL P1	AIR COMPRESSOR 3		3/C	19/25	4/C	
12-203	AUX SWGR UNIT 12	VFMG 2 MOTOR HEATERS		3/C	19/25	4/C	
12-204	AUX SWGR UNIT 12	VFMG 2 GEN HEATERS		3/C	19/25	4/C	
12-206	ELECTROLYTE CIRC PUMP MOTOR	LIQ RHEO 2 CONTROL CABINET		3/C	19/25	4/C	
12-207	POWER PANEL P2	LIQ RHEO 2 CONTROL CABINET	440 V POWER FEED	3/C	19/25	4/C	3/4" CONDUIT
12-208	MCC 6	POWER PANEL P2	440 V POWER FEED	3-1/C	2/0		
A 11	AUX SWGR UNIT 1	AUX SWGR UNIT 12		7/C	19/25	8/C	
S 20	2.4 KV SWGR UNIT 19	2.4 KV SWGR UNIT 2		10/C	19/25	12/C	
S 21	2.4 KV SWGR UNIT 22	DISPATCH TERM CAB 29		8/C	19/25	8/C	
S 22	2.4 KV SWGR UNIT 22	J4 REGULATOR TERMINAL STRIPS		10/C	19/25	12/C	
S 23	2.4 KV SWGR UNIT 22	BATTERY PANEL	125 VDC CONTROL POWER	2-1/C	6	---	
A 17	AUX SWGR UNIT 9	AUX SWGR UNIT 12		3/C	19/25	4/C	
C 16	MAIN 13.8 KV SWGR 18	MAIN 13.8 KV SWGR 14		1/C	19/25	2/C	

LEGEND

A – DESIGNATES CABLES TERMINATING IN THE AUXILIARY SWITCHGEAR
C – DESIGNATES CABLES TERMINATING IN THE MAIN 13.8KV SWITCHGEAR
M – DESIGNATES CABLES TERMINATING IN THE MAIN DUPLEX CONTROL SWITCHBOARD
S – DESIGNATES CABLES TERMINATING IN THE 2.4KV SWITCHGEAR
V – DESIGNATES CABLES TERMINATING IN THE VARIABLE FREQUENCY SWITCHGEAR
11 – DESIGNATES 208V POWER CABLES
12 – DESIGNATES 440V POWER CABLES
DIS CONT RM – DESIGNATES DISPATCH CONTROL ROOM
C – DESIGNATES CONDUIT
/C – DESIGNATES CONDUCTOR

CADAM DRAWING DO NOT REVISE MANUALLY

SYM	ZONE	DESCRIPTION	APP/DATE
M	2	BASELINE SYMBOL ADDED DRAWING IS NOW UNDER CONFIGURATION CONTROL	NYMA/RT/TFM HS
	1	OBSOLETES AND SUPERSEDES DWGS CD-112890 10/12/54 CD-112939 REV A 1/10/58 NO CHANGE	DPB/JAW 07/19/96

REVISIONS

CENTRAL PROCESS SYSTEMS
BASELINE CONFIGURATION DOCUMENT

CONTRACT NAS3-27186
CONTRACTOR CLEVELAND,OHIO
TASK ORDER 7301
APPROVED RT/TFM/HS
LEWIS RESEARCH CENTER

DR.	CHK.	DES.
DES.BR.CH.	DES.ENG.	DES.P.ENG. DPB
FAC./SYS.MGR. JAM	ENG.BR.CH. JAW	ENG.DIV.CH. DRC
RES.ENG.	RES.BR.CH.	RES.DIV.CH.

OFFICIAL DATE 07/19/96

NASA
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LEWIS RESEARCH CENTER
CLEVELAND,OHIO

SYNC MTR AUX CONT SYSTEM
BUILDING 64

DRAWING AND CABLE SCHEDULES, LOCATION PLAN FOR M-G SET AND AUX

SIZE	DRAWING NUMBER	REV.	STAT	BLDG/CODE
F	CF-112890	X		64 /

SCALE: NONE SHEET OF

CAD GROUP DRAW CAD SUBGROUP CP-DCS NO. OF CADAM MODELS 01 CADAM UNITS INCHES

DRAWING NUMBER CF-112890 REV. X STAT

NOTES:

1. SEE DRAWING CF121100 FOR DRAWING LIST OF REVISIONS.

CONTRACT

DRAWING SCHEDULE	
CD112890	DRAWING AND CABLE SCHEDULES, LOCATION PLAN AND ONE LINE DIAGRAM FOR MG SET AND AUXILIARIES
CD112891	EQUIPMENT LAYOUT - OPERATING FLOOR PLAN
CD112892	EQUIPMENT AND CABLE RACKING LAYOUT BASEMENT AND 2ND MEZZANINE FLOOR PLAN
CD112893	EQUIPMENT LAYOUT CONTROL ROOM AND 1ST MEZZANINE FLOOR PLAN
CD112894	CABLE TUNNEL RACKING AND CABLING
CD112895	CABLE RACKING SECTIONS AND DETAILS
CD112896	VARIABLE FREQUENCY MG SET AUXILIARIES LAYOUT AND CONNECTIONS
CD112897	LIQUID RHEOSTAT ENCLOSURE AND GRATING
CD112898	LIQUID RHEOSTAT ENCLOSURE AND GRATING DETAILS
CD112268	PIPING FOR LIQUID RHEOSTAT

REFERENCE

DRAWING SCHEDULE			
NUMBER	CHANGE NO.	DATE	TITLE
CD112214	A	1-20-54	FLOOR PLANS, SECTIONS AND DETAILS
CD112215	NONE	12-22-53	STAIR NO. 2 AND FLOOR SLOTS DETAILS
CD112220	B	10-5-54	GROUNDING SYSTEM

NO OF CABLE NO	FROM	TO	SPARES
VA2	AUX SWGR UNIT 2	VF SWGR UNIT 2	1
VA3	AUX SWGR UNIT 3	VF SWGR UNIT 3	1
VA4	AUX SWGR UNIT 4	VF SWGR UNIT 4	1
VA5	AUX SWGR UNIT 7	VF SWGR UNIT 5	1
VA6	AUX SWGR UNIT 5	VF SWGR UNIT 6	1
VA7	AUX SWGR UNIT 6	VF SWGR UNIT 7	1
VA10	AUX SWGR UNIT 8	VF SWGR UNIT 8	1
C20	MAIN 13.8 KV SWGR UNIT 7	MAIN 13.8 KV SWGR UNIT 6	3
C21	MAIN 13.8 KV SWGR UNIT 7	MAIN 13.8 KV SWGR UNIT 13	1
C22	MAIN 13.8 KV SWGR UNIT 1	MAIN 13.8 KV SWGR UNIT 4	2
C23	MAIN 13.8 KV SWGR UNIT 6	MAIN 13.8 KV SWGR UNIT 4	2

CABLE SCHEDULE

NACA COND OR CABLE NO				CONDUIT KIND	CONDUIT SIZE INCHES	CABLE CONDUCTORS REQ'D	CABLE CONDUCTORS AWG MCM	CABLE CIRCUIT VOLTAGE	CABLE INSULATION TYPE	CABLE INSULATION VOLTAGE	REMARKS
12-200	UNIT SUBSTATION 3	250 HP MOTOR STARTER	150KW MG SET 250HP MOTOR	STEEL	4	3-1/C	500	480	VC-BRAID	600	
13-30	INDUCTION REG J4	2400V SWGR CUB 22	2400V FEEDER	—	—	6-1/C	1000	2400	VCL	5000	
13-31	TRANSFORMER J4	2400V SWGR CUB 19	LOW VOLTAGE TAP	—	—	3-1/C	1000	2400	VCL	5000	
13-32	2400V SWGR CUB. 18	VFMG SET 5000HP MOTOR	2400V FEEDER	—	—	6-1/C	1000	2400	VC-PVC	5000	
15-38	MAIN BUS SWGR CUB. 18	AUX POWER TRANSF J4	POWER SUPPLY TO 2400V BUS	—	—	1-3/C	250	13,800	VCL	15,000	
15-39	VFMG SET 4650VKA GEN	13.8KV VF SWGR CUB. 15	VF BUS 2 FEEDER	—	—	3-1/C	250	13,800	VC-PVC	15,000	

DRAWING NO.	TITLE
CD113020	LOCATION PLAN DRAWINGS & CABLE SCHEDULES
CD113046	PANEL INTERCONNECTIONS-MAIN 13.8 KV SWGR UNITS 1, 7 & 14
CD113047	PANEL INTERCONNECTIONS-MAIN 13.8 KV SWGR UNITS 4, 6 & 13
CD113048	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 1, 2 & 8
CD113049	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 3, 4 & 5
CD113050	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 6, 7 & 13
CD113051	PANEL INTERCONNECTIONS-VARIABLE FREQUENCY SWGR UNITS 10, 11 & 12
CD113052	PANEL INTERCONNECTIONS-VF SWAG UNITS 9.2.4 KV SWGR UNITS 2, 9, 4 & 10
CD113053	PANEL INTERCONNECTIONS AUXILIARY PANEL 1, 2 & 3
CD113054	PANEL INTERCONNECTIONS AUXILIARY PANEL 4, 5, 6 & 7
CD113055	PANEL INTERCONNECTIONS AUXILIARY PANEL 8, 9, 10 & 11
CD112221	BASEMENT LIGHTING & RECEPTACLES
CHG B DATED 5-5-55	
CD112222	MEZZANINE & TUNNEL LIGHTING & RECEPTACLES
CHG B DATED 5-5-55	
CD112245	TELEPHONE & INTERCOMMUNICATION-CONTROL ROOM & DETAILS
CHG B DATED 5-5-55	
CD112248	TELEPHONE & INTERCOMMUNICATION-LAYOUT BASMT FLOOR SHEET 1
CHG B DATED 5-5-55	
CD112279	KEY PLAN & EQUIPMENT LOCATION
CHG B DATED 4-21-55	

CABLE NUMBER	FROM	TO	FOR	REQ'D	CONDUCTORS AWG	NO IN CABLE	REMARKS
11-101	MCC 6 PANEL T3	TRANSF J4 CONT CABINET		2/C	19/25	2/C	
11-103	MCC 6 PANEL T3	2400 V SWGR UNIT 22		4/C	19/25	4/C	
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12-203	AUX SWGR UNIT 12	VFMG 2 MOTOR HEATERS		3/C	19/25	4/C	
12-204	AUX SWGR UNIT 12	VFMG 2 GEN HEATERS		3/C	19/25	4/C	
12-206	ELECTROLYTE CIRC PUMP MOTOR	LIQ RHEO 2 CONTROL CABINET		3/C	19/25	4/C	
12-207	POWER PANEL P2	LIQ RHEO 2 CONTROL CABINET	440 V POWER FEED	3/C	19/25	4/C	3/4" CONDUIT
12-208	MCC 6	POWER PANEL P2	440 V POWER FEED	3-1/C	2/0		
A 11	AUX SWGR UNIT 1	AUX SWGR UNIT 12		7/C	19/25	8/C	
S 20	2.4 KV SWGR UNIT 19	2.4 KV SWGR UNIT 2		10/C	19/25	12/C	
S 21	2.4 KV SWGR UNIT 22	DISPATCH TERM CAB 29		8/C	19/25	8/C	
S 22	2.4 KV SWGR UNIT 22	J4 REGULATOR TERMINAL STRIPS		10/C	19/25	12/C	
S 23	2.4 KV SWGR UNIT 22	BATTERY PANEL	125 VDC CONTROL POWER	2-1/C	6	---	
A 17	AUX SWGR UNIT 9	AUX SWGR UNIT 12		3/C	19/25	4/C	
C 16	MAIN 13.8 KV SWGR 18	MAIN 13.8 KV SWGR 14		1/C	19/25	2/C	

LEGEND

A - DESIGNATES CABLES TERMINATING IN THE AUXILIARY SWITCHGEAR
C - DESIGNATES CABLES TERMINATING IN THE MAIN 13.8KV SWITCHGEAR
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11 - DESIGNATES 208V POWER CABLES
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DIS CONT RM - DESIGNATES DISPATCH CONTROL ROOM
C - DESIGNATES CONDUIT
/C - DESIGNATES CONDUCTOR

CADAM DRAWING DO NOT REVISE MANUALLY

SYM	ZONE	DESCRIPTION	APP/DATE
X		2 BASELINE SYMBOL ADDED DRAWING IS NOW UNDER CONFIGURATION CONTROL	NYMA RT/MM HS D.P.B/JAW 07/19/96
		1 OBSOLETES AND SUPERSEDES DWGS CD-112890 10/12/54; NO CHANGE CD-112939 REV A 1/10/58	

REVISIONS

CENTRAL PROCESS SYSTEMS
BASELINE CONFIGURATION DOCUMENT

CONTRACT NAS3-27186
CONTRACTOR nyma CLEVELAND, OHIO
TASK ORDER 7301
APPROVED RT/MM/HS

LEWIS RESEARCH CENTER

DR.	CHK.	DES.
DES.BR.CH.	DES.ENG.	DES.P.ENG. D.P.B.
FAC./SYS.MGR. JAM	ENG.BR.CH. JAW	ENG.DIV.CH. D.R.C.
RES.ENG.	RES.BR.CH.	RES.DIV.CH.

OFFICIAL DATE 07/19/96

NASA — NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, LEWIS RESEARCH CENTER, CLEVELAND, OHIO

SYNC MTR AUX CONT SYSTEM BUILDING 64

DRAWING AND CABLE SCHEDULES, LOCATION PLAN FOR M-G SET AND AUX

SIZE	DRAWING NUMBER	REV.	STAT	BLDG/CODE
F	CF-112890	X		64 /

SCALE: NONE SHEET OF

DRAWING NUMBER CF-112890

CAD GROUP DRAW CAD SUBGROUP CP-DCS NO. OF CADAM MODELS 01 CADAM UNITS INCHES