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REVISIONS				
1	06-28-23	MST	PRS	JMW
NEW PLAN DRAWN ACCOUNT OF FRANKLIN STREET				
PROJECT: *19.6000				
IN SERVICE: XX-XX-XX				
PER: XXX			XXX	XXX

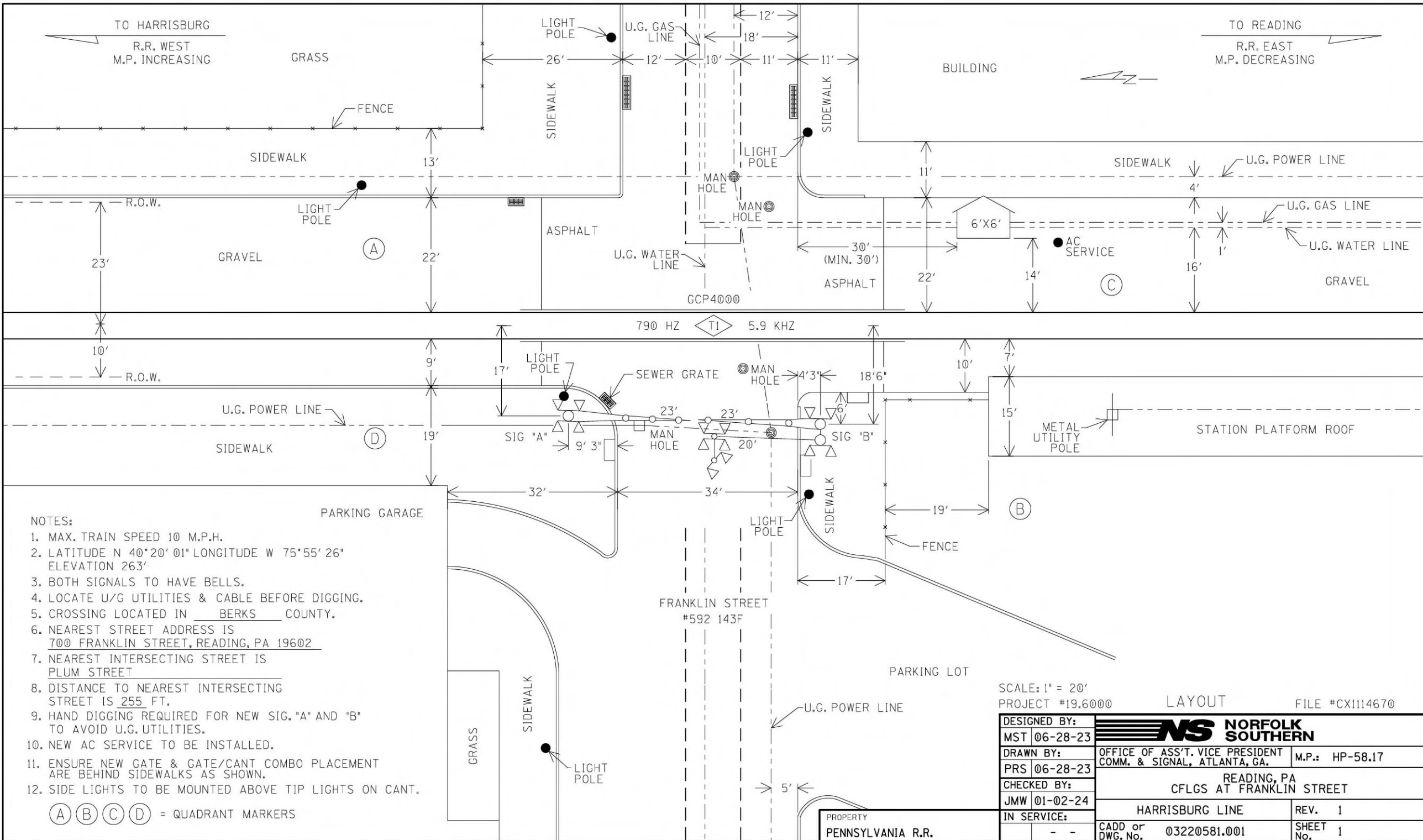
DESIGNED BY:			
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.:	HP-58.17
DRAWN BY:	READING, PA		
PRS 06-28-23	CFLGS AT FRANKLIN STREET		
CHECKED BY:	HARRISBURG LINE		
JMW 01-02-24	REV. 1		
IN SERVICE:	CADD or DWG. No.	03220581.NX1	SHEET INDEX 1

A-2023-3039131

**CERTIFIED CORRECT PLANS**  
  
 Professional Engineer  
 Approved by Bureau of Technical Utility Services  
**PA PUBLIC UTILITY COMMISSION**  
 ATTEST   
 Secretary

IN SERVICE \_\_\_\_\_ SIGNED \_\_\_\_\_ DATE \_\_\_\_\_  
 S&E ENGINEERING COPY  
 CONSTRUCTION OFFICE COPY  
 RETURN TO S&E ENG. AFTER COMPLETION  
 FIELD COPY  
 RETURN TO CASE AFTER COMPLETION  
 PROJECT ENGINEER COPY

PROPERTY  
 PENNSYLVANIA R.R.



- NOTES:
1. MAX. TRAIN SPEED 10 M.P.H.
  2. LATITUDE N 40°20'01" LONGITUDE W 75°55'26" ELEVATION 263'
  3. BOTH SIGNALS TO HAVE BELLS.
  4. LOCATE U/G UTILITIES & CABLE BEFORE DIGGING.
  5. CROSSING LOCATED IN BERKS COUNTY.
  6. NEAREST STREET ADDRESS IS 700 FRANKLIN STREET, READING, PA 19602
  7. NEAREST INTERSECTING STREET IS PLUM STREET
  8. DISTANCE TO NEAREST INTERSECTING STREET IS 255 FT.
  9. HAND DIGGING REQUIRED FOR NEW SIG. "A" AND "B" TO AVOID U.G. UTILITIES.
  10. NEW AC SERVICE TO BE INSTALLED.
  11. ENSURE NEW GATE & GATE/CANT COMBO PLACEMENT ARE BEHIND SIDEWALKS AS SHOWN.
  12. SIDE LIGHTS TO BE MOUNTED ABOVE TIP LIGHTS ON CANT.
- (A) (B) (C) (D) = QUADRANT MARKERS

SCALE: 1" = 20'  
 PROJECT #19,6000 LAYOUT FILE #CX1114670

DESIGNED BY:	MST 06-28-23	
DRAWN BY:	PRS 06-28-23	
CHECKED BY:	JMW 01-02-24	
IN SERVICE:	-	
<b>NS NORFOLK SOUTHERN</b>		
OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		
READING, PA CFLGS AT FRANKLIN STREET		
HARRISBURG LINE		REV. 1
CADD or DWG. No. 03220581.001		SHEET 1
		No. 1

PROPERTY  
PENNSYLVANIA R.R.

TO HARRISBURG  
R.R. WEST  
M.P. INCREASING

TO READING  
R.R. EAST  
M.P. DECREASING

600'  
TO NEAREST  
GCP WIRES

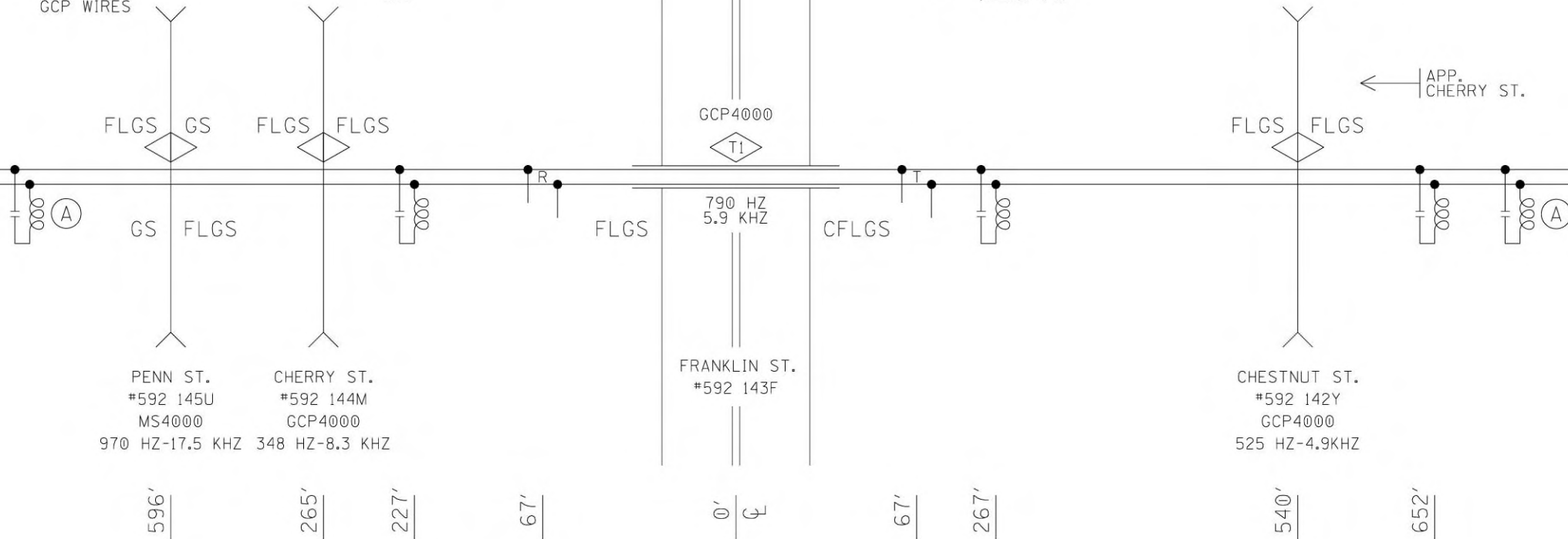
APP.  
CHESTNUT  
ST.

APP.  
PENN. ST.

600'  
TO NEAREST  
GCP WIRES

APP.  
CHERRY ST.

M.P.  
HP-58



(A) - MF-NBS FSS-1F 250849-005 (790HZ)

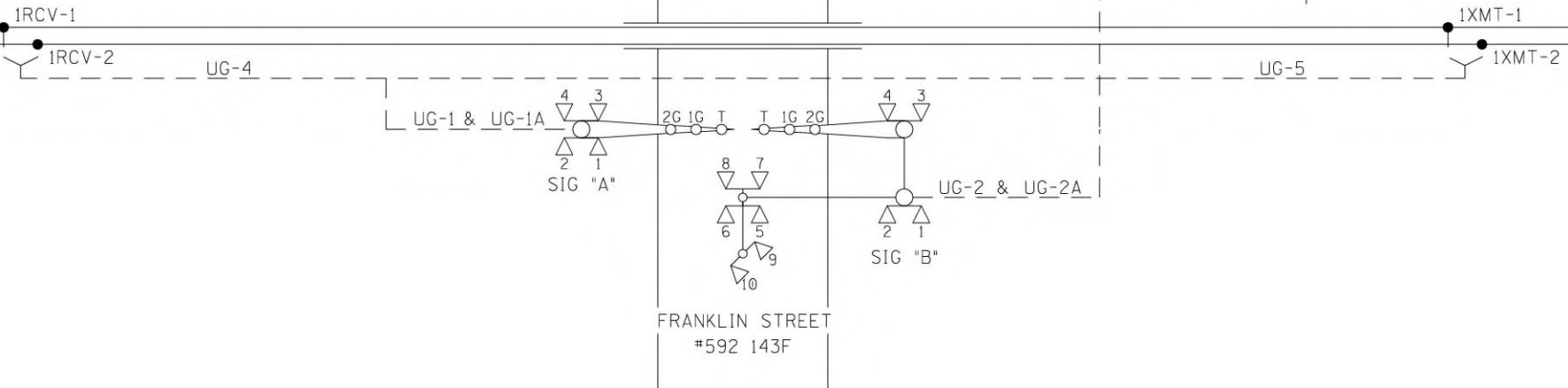
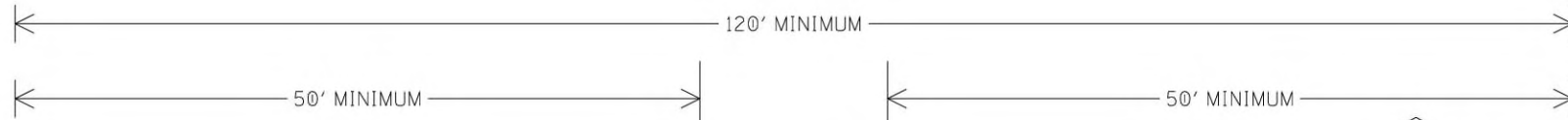
PROFILE

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA CFLGS AT FRANKLIN STREET	
PRS 06-28-23		
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24	CADD or DWG. No. 03220581.002	SHEET 2
IN SERVICE:	- -	

PROPERTY  
PENNSYLVANIA R.R.

TO HARRISBURG  
R.R. WEST  
M.P. INCREASING

TO PHILADELPHIA  
R.R. EAST  
M.P. DECREASING



FRANKLIN STREET  
#592 143F

UG-1-5CUG #6  
AEC  
AEZ  
AEB  
B16-A  
N16-A

UG-2-5CUG #6  
BEC  
BEZ  
BEB  
B16-B  
N16-B

UG-1A-12CUG #14  
AXG  
NAXG  
AXX  
IAXX  
AGD  
XGP1  
AGBX120  
AGNX120  
SPARE  
SPARE  
SPARE  
SPARE

UG-2A-12CUG #14  
BXG  
NBXG  
BXX  
IBXX  
BGD  
XGP1  
XGP  
BGBX120  
BGNX120  
SPARE  
SPARE  
SPARE

UG-3-3CUG #6  
W/#8 GND  
BX120-A  
BX120-B  
NX120  
GND

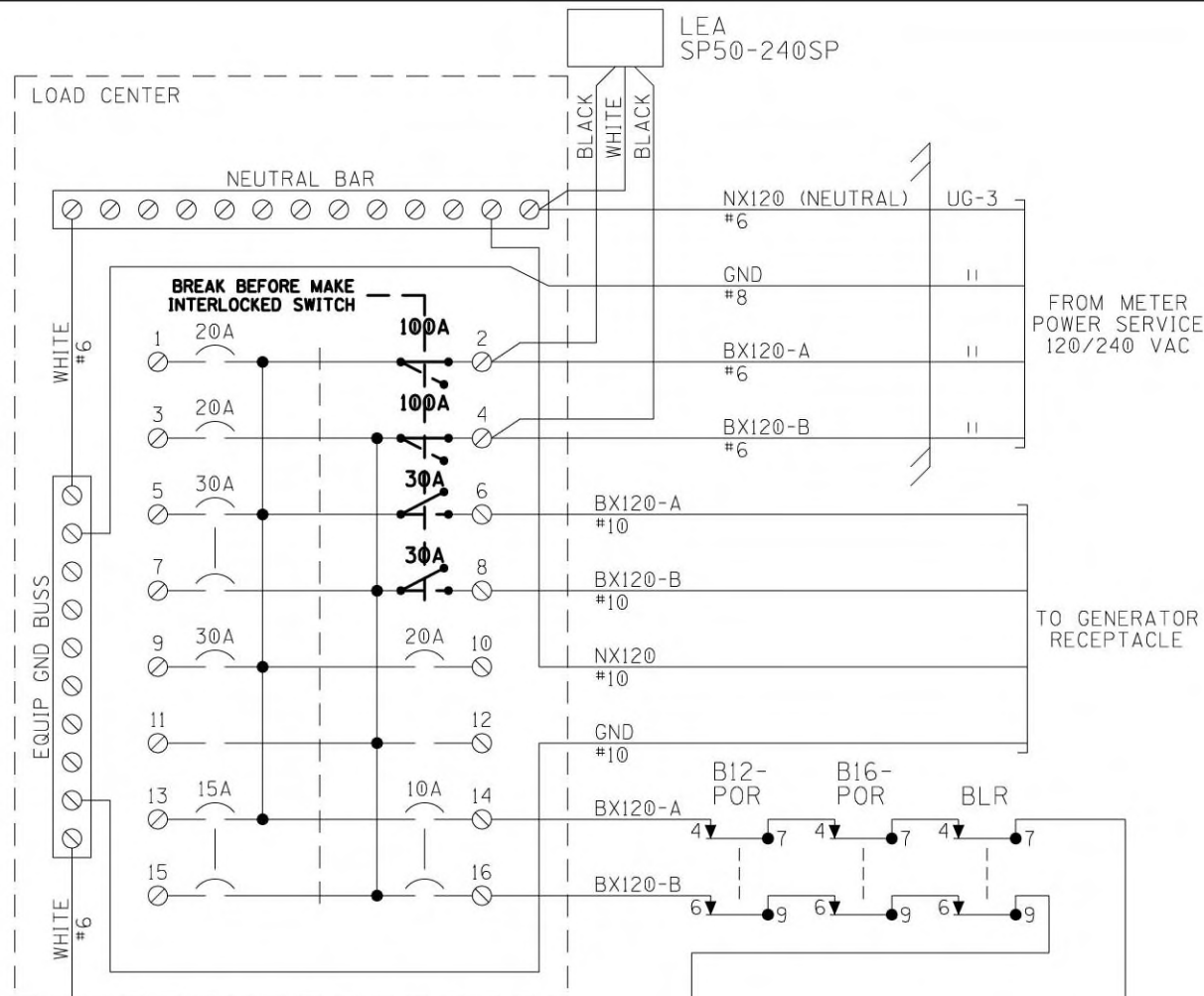
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1RCV-1  
1RCV-2

UG-5-TW. PR. #6  
1XMT-1  
1XMT-2

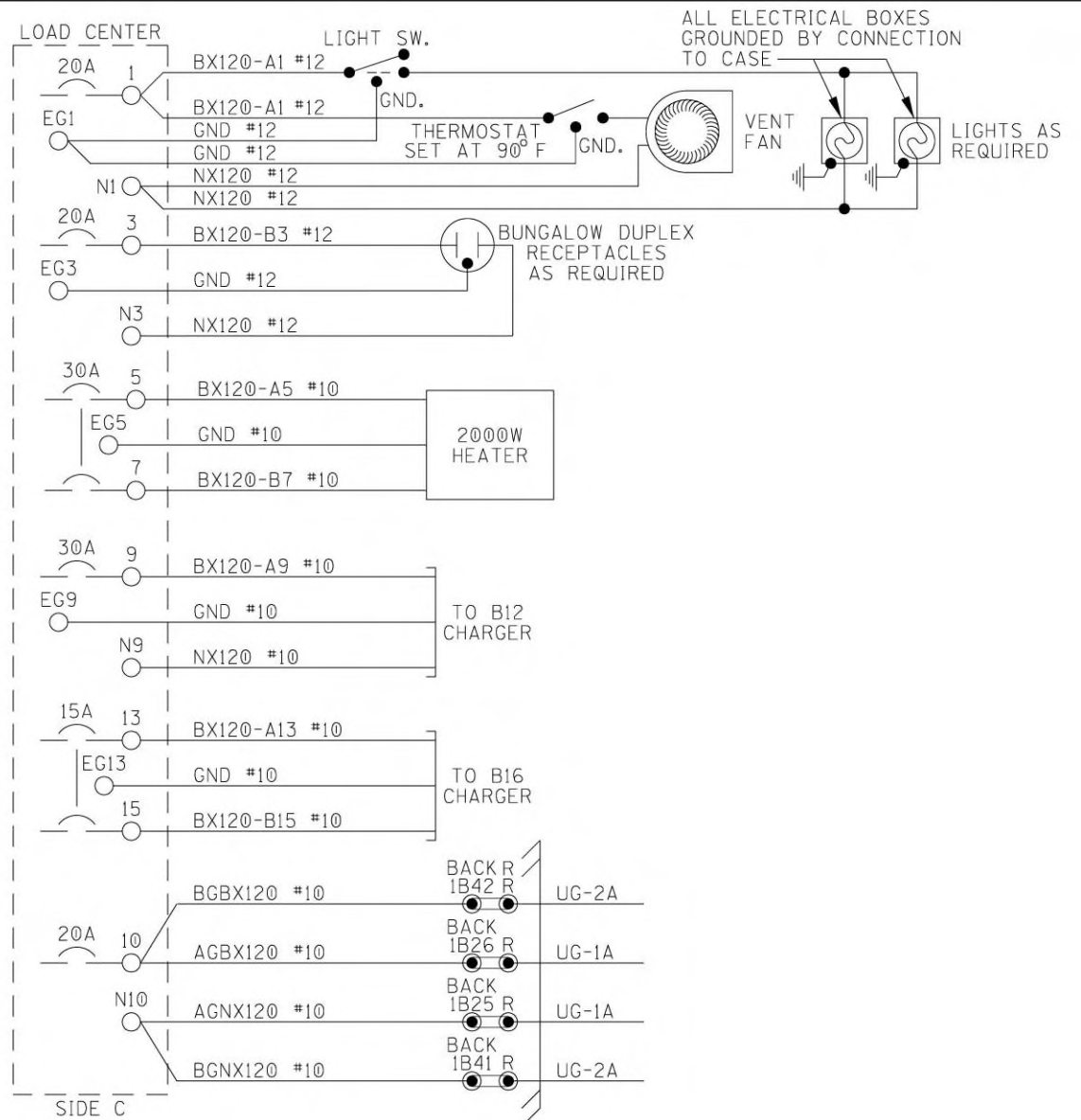
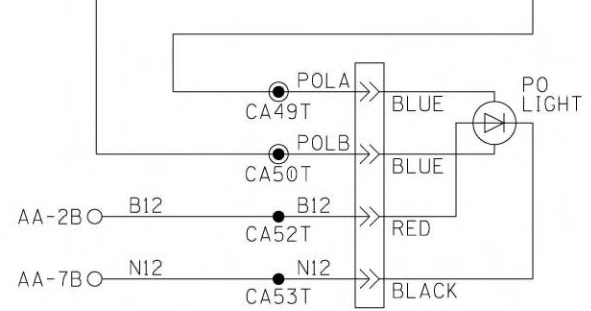
CABLE PLAN

DESIGNED BY:	<b>NS NORFOLK SOUTHERN</b>	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24	CADD or DWG. No. 03220581.003	SHEET 3
IN SERVICE:	- -	

PROPERTY  
PENNSYLVANIA R.R.



- GND. SQUARE "D" PART NUMBERS:
- LOAD CENTER — Q0132L125G
  - 10A 2P CIR BKR — Q0210
  - 15A 2P CIR BKR — Q0215
  - 20A 1P CIR BKR — Q0120
  - 30A 1P CIR BKR — Q0130
  - 30A 2P CIR BKR — Q0230
  - 60A 2P CIR BKR — Q0260
  - 100A 2P CIR BKR — Q02100
  - MECH INTERLOCK — PK4DTIM4LA
  - GENERATOR RECEPTACLE:
  - MALE CONNECTOR — NEMA L1430-FI

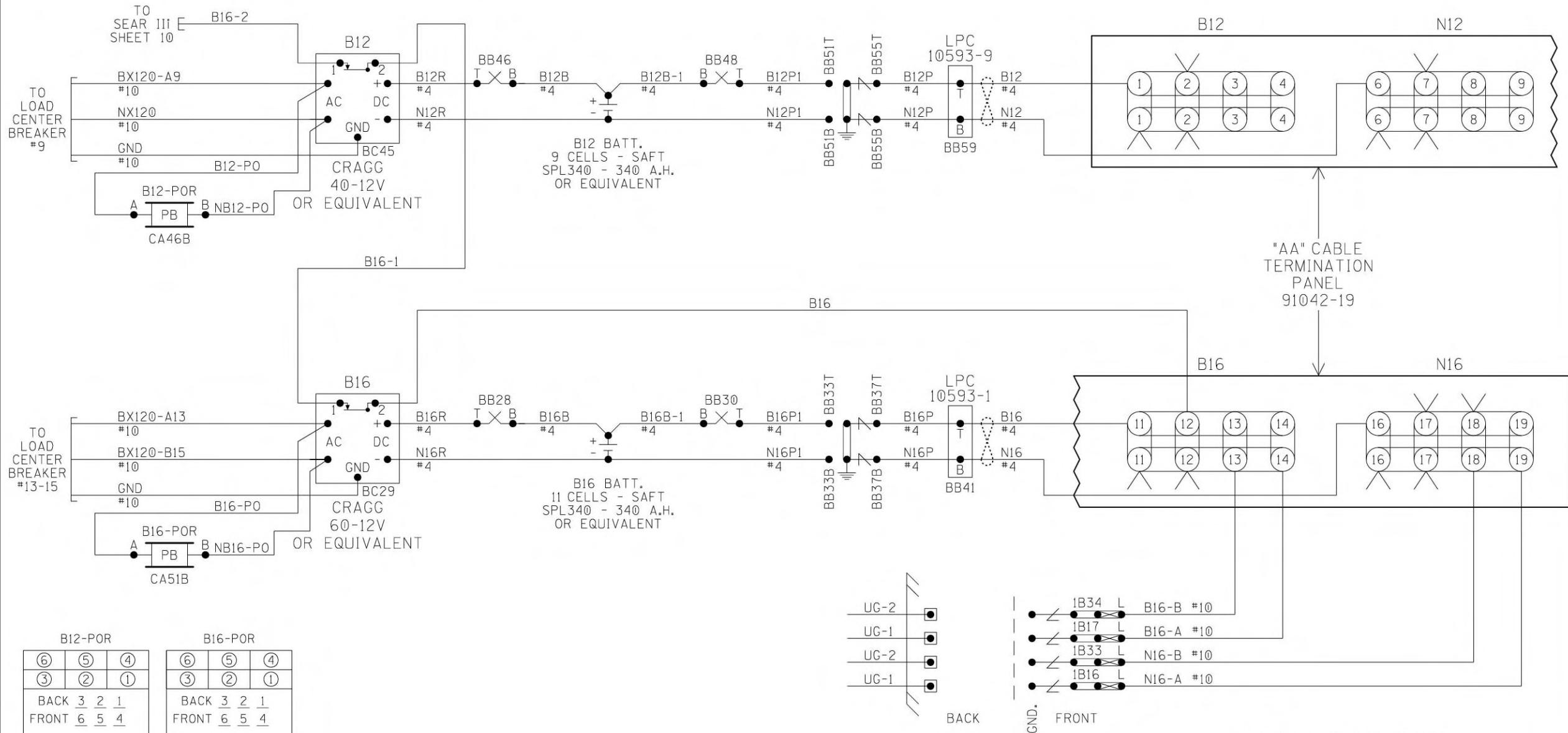


- NOTES:
1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
  2. ALL AC WIRING TO LOAD CENTER TO BE IN METALLIC CONDUIT WITH NO EXPOSED TERMINALS. ALL AC 120V AND 240V EQUIPMENT TO BE PROPERLY GROUNDED.
  3. ● = INSULATED NUTS TO BE USED ON ALL TERMINALS OF 120VAC AND ABOVE.

PROPERTY  
PENNSYLVANIA R.R.

LOAD CENTER

DESIGNED BY:	MST 06-28-23	
DRAWN BY:	PRG 06-28-23	CHECKED BY:
IN SERVICE:	JMW 01-02-24	
OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		
READING, PA CFLGS AT FRANKLIN STREET		
HARRISBURG LINE	REV. 1	
CADD or DWG. No. 03220581.004	SHEET 4	



B12-POR

6	5	4	
3	2	1	
BACK	3	2	1
FRONT	6	5	4
HEEL	9	8	7
B  A			
POTTER BRUMFIELD RELAY (FRONT VIEW) KUMP-14A18-120			
B		A	
9	8	7	

B16-POR

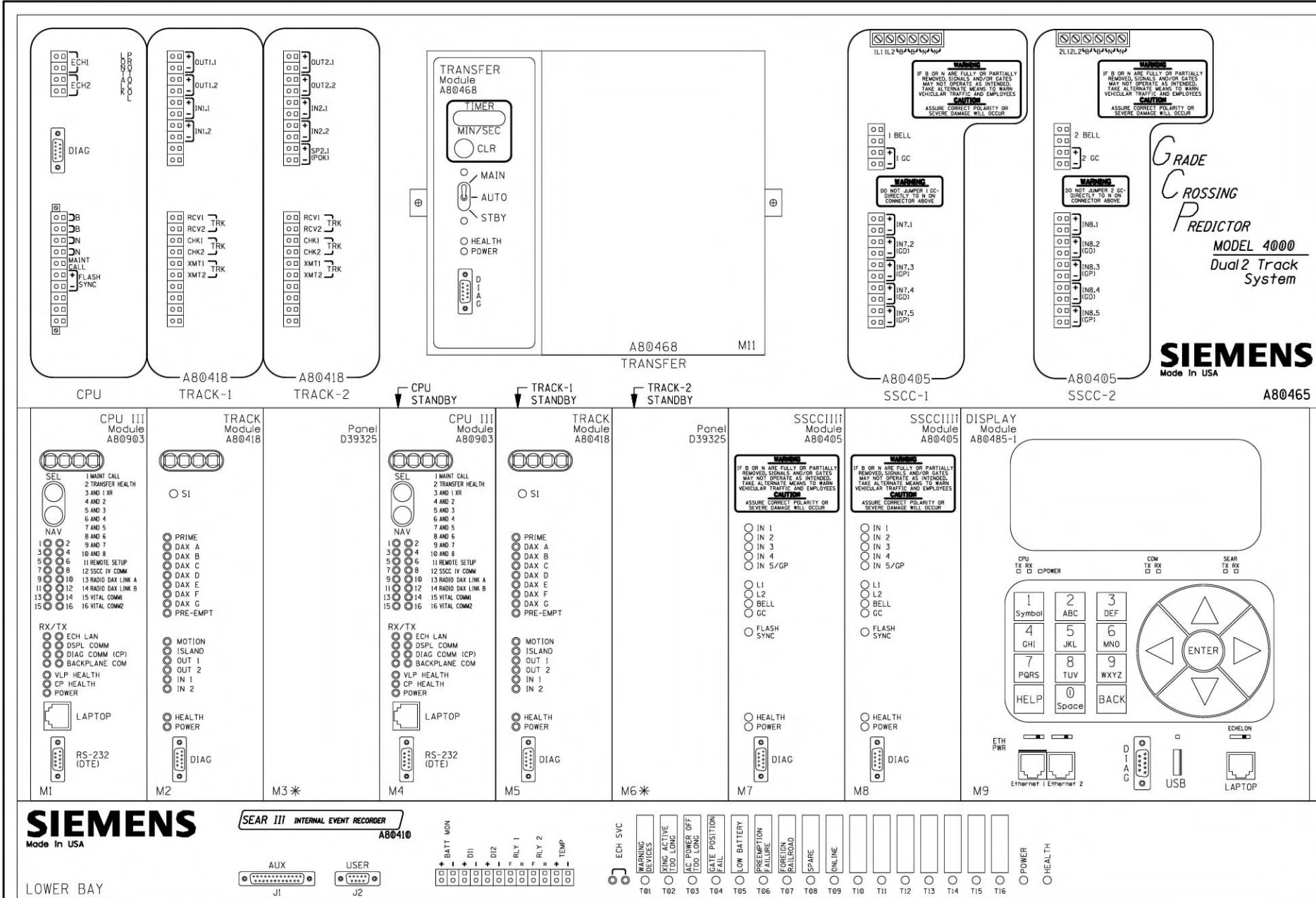
6	5	4	
3	2	1	
BACK	3	2	1
FRONT	6	5	4
HEEL	9	8	7
B  A			
POTTER BRUMFIELD RELAY (FRONT VIEW) KUP-14A15-240			
B		A	
9	8	7	

- NOTES:
- ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
  - = TWIST

CHARGERS & BATTERIES

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24		SHEET 5
IN SERVICE:	CADD or DWG. No. 03220581.005	

PROPERTY PENNSYLVANIA R.R.



**WARNING**  
REMOVAL OF THE SSSCCIII MODULE WILL CAUSE THE GATE(S) TO DROP WITHOUT GATE DELAY AND FLASHING LIGHTS WILL NOT ACTIVATE.

**CAUTION**  
ENSURE CORRECT POLARITY OF B AND N FOR SSSCCIII MODULE OR SEVERE DAMAGE WILL OCCUR.  
REFER TO DETAILED INSTRUCTIONS ON THE SSSCCIII BEFORE APPLYING POWER TO THE POWER CONNECTOR(S).

\* = MAIN & STANDBY MAY USE RIO IN TRACK 2 SLOTS (M3 & M6)

GCP4000 CHASSIS & MODULE LAYOUT

DESIGNED BY:	<b>NS NORFOLK SOUTHERN</b>	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA CFLGS AT FRANKLIN STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 01-02-24	
IN SERVICE:	CADD or DWG. No. 03220581.006	SHEET 6

PROPERTY  
PENNSYLVANIA R.R.

Program Report

Location and SIN

DOT Number: 592143F  
 Milepost Number: HP-58.17  
 Site Name: FRANKLIN STREET

SIN: 755048701703

MCF and Template Selection

MCF Name: GCP-T6X-02-1.mcf  
 MCF Revision: 021  
 MCF CRC: 6076E435

Template = 1A:6 Trk B1

Check Numbers

Office Check No. (DT 4.6.0): 1F85E18C  
 Office Check Number: 1F85E18C  
 Config. Check Number: 6CE8B9E3  
 (Based on MCF Revision 021)

Program

BASIC: module configuration  
 Track 1 Slot = Track  
 Track 2/RIO 1 Slot = Not Used  
 Track 3 Slot = Not Used  
 Track 4 Slot = Not Used  
 Track 5/RIO 2 Slot = Not Used  
 Track 6/RIO 3 Slot = Not Used  
 SCCC-1 Slot = SCCC31  
 SCCC-2 Slot = SCCC31  
 SEAR Used = Yes

BASIC: MS/GCP operation  
 Track 1: MS/GCP Operation = Yes

BASIC: island operation  
 Track 1: Island Used = Internal

BASIC: preemption  
 Preempt Logic = No

BASIC: radio Dax links  
 Radio DAX link A Used = No  
 Radio DAX link B Used = No

BASIC: VitalComms links  
 VitalComms link 1 Used = No  
 VitalComms link 2 Used = No

PREDICTORS: track 1  
 Track 1: Prime Used = Yes  
 Track 1: Dax A Used = No  
 Track 1: Dax B Used = No  
 Track 1: Dax C Used = No  
 Track 1: Dax D Used = No  
 Track 1: Dax E Used = No  
 Track 1: Dax F Used = No  
 Track 1: Dax G Used = No

GCP: track 1  
 Track 1: GCP Freq Category = Standard  
 Track 1: GCP Frequency = 790 Hz  
 Track 1: Approach Distance = 600 ft  
 Track 1: Uni/Bi/Sim-Bidirnl = Bidirnl  
 Track 1: GCP Transmit Level = Medium  
 Track 1: Island Connection = Isl1  
 Track 1: Island Distance = 134 ft  
 Track 1: Computed Distance = 9999 ft  
 Track 1: Linearization Steps = 100

GCP: track 1 enhanced det  
 Track 1: Inbound PS Sensitivity = Off  
 Track 1: Speed Limiting Used = Yes  
 Track 1: Outbound False Act Lvl = Normal  
 Track 1: Outbound PS Timer = 20 sec  
 Track 1: Trailing Switch Logic = 0n  
 Track 1: Post Joint Detn Time = 15 sec  
 Track 1: Adv Appr Predn = No  
 Track 1: Cancel Pickup Delay = This Isl

GCP: track 1 prime  
 Track 1: Prime Warning Time = 30 sec  
 Track 1: Prime Offset Distance = 0 ft  
 Track 1: Switch MS EZ Level = 10  
 Track 1: Prime MS/GCP Mode = Pred  
 Track 1: Prime Pickup Delay = 15 sec  
 Track 1: Prime UAX = Not Used

GCP: track 1 pos start  
 Track 1: Positive Start = Off  
 Track 1: Sudden Shnt Det Used = No  
 Track 1: Low EZ Detection Used = No

GCP: track 1 MS Control  
 Track 1: MS/GCP CtrlIP Used = No  
 Track 1: MS Sensitivity Level = 0  
 Track 1: Compensation Level = 1300  
 Track 1: Warn Time-Ballast Comp = High  
 Track 1: Low EX Adjustment = 39  
 Track 1: Bidirn Dax Passthru = No  
 Track 1: False Act on Train Stop = No  
 Track 1: EX Limiting Used = Yes  
 Track 1: EZ Correction Used = Yes

ISLAND: track 1  
 Track 1: Isl Frequency = 5.9 kHz  
 Track 1: Pickup Delay (2s +) = 0 sec  
 Track 1: Isl Enable IP Used = No

AND: track Anding  
 AND 1 XR Used = Yes  
 AND 2 Used = No  
 AND 3 Used = No  
 AND 4 Used = No  
 AND 5 Used = No  
 AND 6 Used = No  
 AND 7 Used = No  
 AND 8 Used = No

AND: AND 1 XR  
 AND 1 XR Track 1 = Prime  
 AND 1 Enable Used = Yes  
 AND 1 Enable Pickup = 5 sec  
 AND 1 Enable Drop = 0 sec  
 AND 1 Wrap Used = No

ADVANCED: MS restart  
 MS/GCP Restart Used = No

ADVANCED: out of service  
 OOS Control = Display+OOS IPs  
 OOS Timeout = Yes  
 OOS Timeout = 1 hrs

ADVANCED: out of service 2  
 TI OOS Control = OOS Input 1

ADVANCED: track wrap circuits  
 Wrap LOS Timer = 5 sec  
 Track 1 Wrap Used = No

ADVANCED: trk 1 overrides  
 Track 1: All Predictors Override Used = No

ADVANCED: OR logic  
 OR 1 Used = No  
 OR 2 Used = No  
 OR 3 Used = No  
 OR 4 Used = No

ADVANCED: internal I/O 1  
 Pass Thrus = No  
 Int.1 Sets = Not Used  
 Int.1 Set by = Not Used  
 Int.2 Sets = Not Used  
 Int.2 Set by = Not Used  
 Int.3 Sets = Not Used  
 Int.3 Set by = Not Used  
 Int.4 Sets = Not Used  
 Int.4 Set by = Not Used

ADVANCED: internal I/O 2  
 Int.5 Sets = Not Used  
 Int.5 Set by = Not Used  
 Int.6 Sets = Not Used  
 Int.6 Set by = Not Used  
 Int.7 Sets = Not Used  
 Int.7 Set by = Not Used  
 Int.8 Sets = Not Used  
 Int.8 Set by = Not Used

ADVANCED: internal I/O 3  
 Int.9 Sets = Not Used  
 Int.9 Set by = Not Used  
 Int.10 Sets = Not Used  
 Int.10 Set by = Not Used  
 Int.11 Sets = Not Used  
 Int.11 Set by = Not Used  
 Int.12 Sets = Not Used  
 Int.12 Set by = Not Used

ADVANCED: internal I/O 4  
 Int.13 Sets = Not Used  
 Int.13 Set by = Not Used  
 Int.14 Sets = Not Used  
 Int.14 Set by = Not Used  
 Int.15 Sets = Not Used  
 Int.15 Set by = Not Used  
 Int.16 Sets = Not Used  
 Int.16 Set by = Not Used

ADVANCED: site options  
 Daylight Savings = On  
 Units = Standard  
 Maint CallRpt IP Used = No  
 Emergency Activate IP = No  
 EZ/EX Logging = Change  
 EZ/EX Point Change = 3

SSCC  
 Gates Used = Yes  
 SSSC1+2 GPs Coupled = Yes  
 Min Activation = 0 sec  
 Rmt Activation Cancel = 2 min  
 BellOn Gate Rising = No  
 Mute BellOn Gate Down = No  
 SSSCIV Controller Used = No


SSCC: 1  
 SSSC-1 Activation = AND 1 XR  
 SSSC-1 Gate Delay = 6 sec  
 SSSC-1 Number of GPs = 1  
 SSSC-1 Number of GDs = 2  
 SSSC 1: Flash Rate = 40  
 SSSC 1: Low Battery Detection = No  
 SSSC 1: Flash Sync = master  
 SSSC 1: Invert Gate Output = No  
 SSSC 1: Lamp Neutral Test = Off  
 Aux-1 Xng Ctrl Used = No

SSCC: 2  
 SSSC-2 Activation = AND 1 XR  
 SSSC-2 Gate Delay = 6 sec  
 SSSC-2 Number of GPs = 0  
 SSSC-2 Number of GDs = 0  
 SSSC 2: Flash Rate = 40  
 SSSC 2: Low Battery Detection = No  
 SSSC 2: Flash Sync = slave  
 SSSC 2: Invert Gate Output = No  
 SSSC 2: Lamp Neutral Test = Off  
 Aux-2 Xng Ctrl Used = No

OUTPUT: assignment page 1  
 OUT 1.1 = Not Used  
 OUT 1.2 = Not Used

INPUT: assignment page 1  
 IN 1.1 = Not Used  
 IN 1.2 = Not Used

GCP4000 PROGRAMMING

DESIGNED BY:			
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT	COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA		
PRS 06-28-23	CFLGS AT FRANKLIN STREET		
CHECKED BY:	HARRISBURG LINE		
JMW 01-02-24	REV. 1	SHEET 7	
PROPERTY	IN SERVICE:	CADD or DWG. No.	03220581.007
PENNSYLVANIA R.R.	- -		

IO: assignment SSCC  
 OUT GC 1 = Gate Output 1  
 OUT GC 2 = Gate Output 2  
 IN 7.1 = Not Used  
 IN 7.2 = GD 1.2  
 IN 7.3 = AND 1 XR Enable  
 IN 7.4 = GD 1.1  
 IN 7.5 = GP 1.1  
 IN 8.1 = Out Of Service IP 1  
 IN 8.2 = Not Used  
 IN 8.3 = Not Used  
 IN 8.4 = Not Used  
 IN 8.5 = Not Used

SEAR  
 SEAR Subnode = 3  
 DI 1 = Not Used  
 DI 2 = Not Used  
 Rly 1 = General1  
 Rly 2 = Not Used

SEAR: inputs  
 SP 2.1 = POK 1  
 SP 3.1 = Not Used  
 SP 4.1 = Not Used  
 SP 5.1 = Not Used  
 SP 6.1 = Not Used

SEAR: slot 1-4 inputs  
 IN 1.1 = Not Used  
 IN 1.2 = Not Used  
 IN 2.1 = Not Used  
 IN 2.2 = Not Used  
 IN 3.1 = Not Used  
 IN 3.2 = Not Used  
 IN 4.1 = Not Used  
 IN 4.2 = Not Used

SEAR: inputs slot 5  
 IN 5.1 = Not Used  
 IN 5.2 = Not Used

SEAR: inputs slot 6  
 IN 6.1 = Not Used  
 IN 6.2 = Not Used


SEAR: slot 7-8 inputs  
 IN 7.1 = Not Used  
 IN 8.2 = Not Used  
 IN 8.3 = Not Used  
 IN 8.4 = Not Used  
 IN 8.5 = Not Used

SITE: programming  
 Radio Subnode = 1  
 Field Password = Off  
 Low Battery Enabled = Off

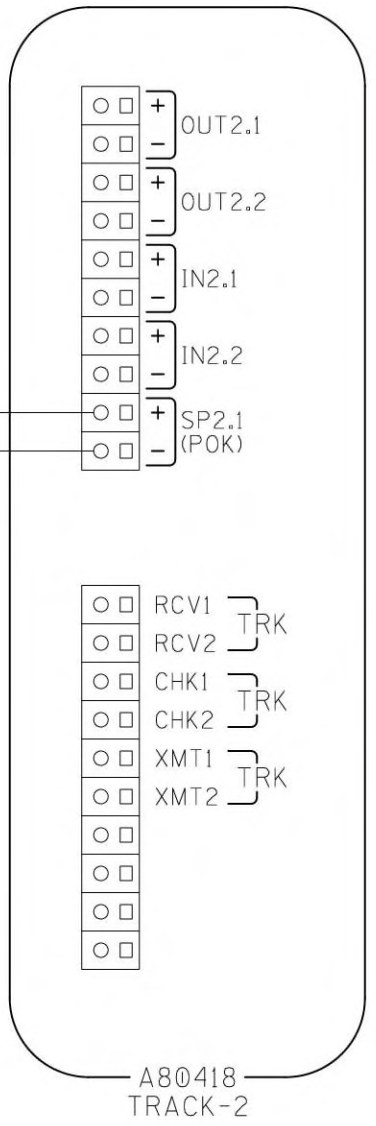
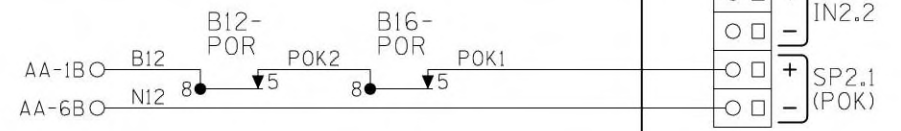
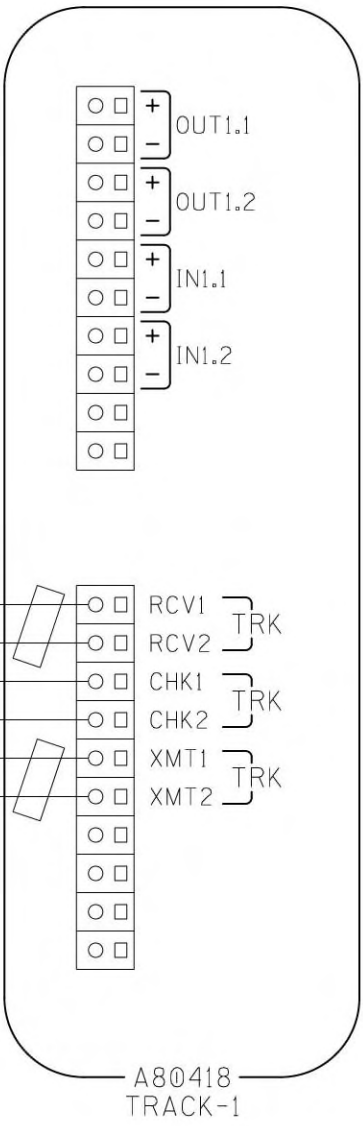
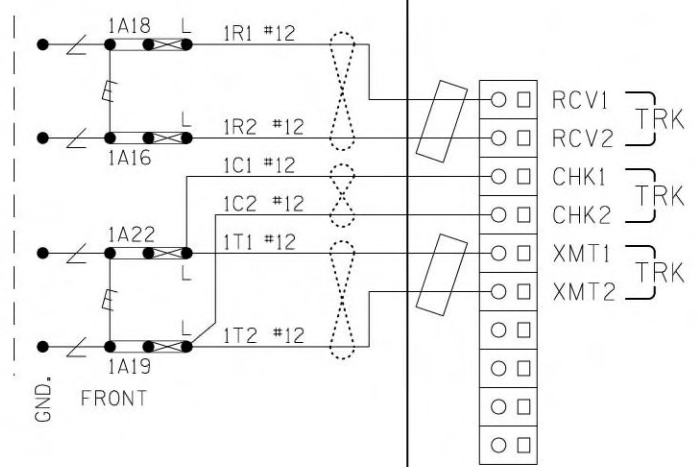
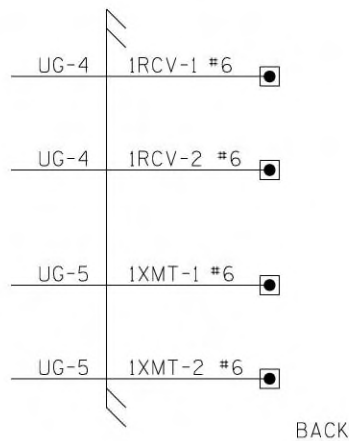
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

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GCP4000 PROGRAMMING


DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	
JMW 01-02-24	REV. 1	
IN SERVICE:	CADD or DWG. No. 03220581.008	SHEET 8 No. 8

PROPERTY  
 PENNSYLVANIA R.R.



- NOTES:
1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
  2.  = TWIST
  3.  = FERRITE BEAD

CONNECTORS FOR TRACK MODULES

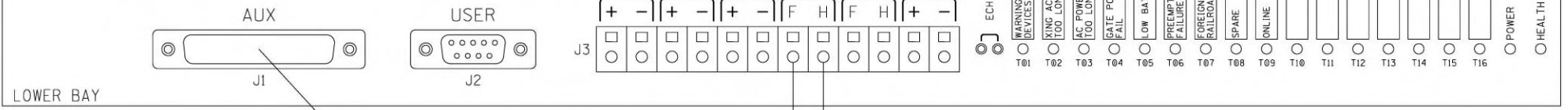
DESIGNED BY:	 <b>NORFOLK SOUTHERN</b>	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA CFLGS AT FRANKLIN STREET	
PRS 06-28-23		
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24		SHEET 9
IN SERVICE:	CADD or DWG. No. 03220581.009	No.

PROPERTY  
PENNSYLVANIA R.R.

**SIEMENS**  
Made In USA

**SEAR III INTERNAL EVENT RECORDER**

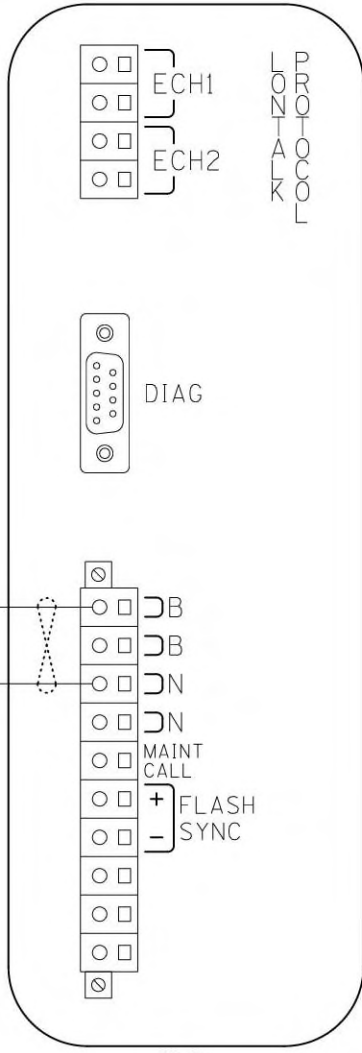
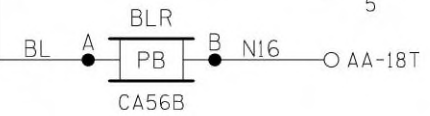
A80410



LOWER BAY

TO RADIO SHEET 12

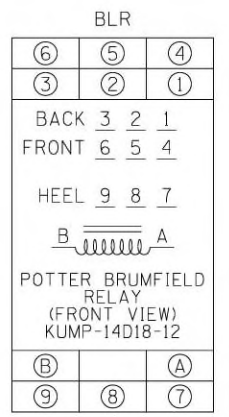
TO SHEET 5



AA-1B B12 #10  
AA-6B N12 #10

- NOTES:  
1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.

2. = TWIST



CPU MODULE & SEAR III HOOK-UP

DESIGNED BY:	<b>NS NORFOLK SOUTHERN</b>	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA CFLGS AT FRANKLIN STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 01-02-24	SHEET 10
IN SERVICE:	- -	CADD or DWG. No. 03220581.010

PROPERTY  
PENNSYLVANIA R.R.

SITE SET UP PROCEDURE	
FUNCTION	LED DISPLAY
DATE/TIME	
AUTOMATIC DST ADJUSTMENT	NO
TIMEZONE	OTHER (USER SET)
GMT OFFSET	+00:00
SITE NAME	FRANKLIN STREET
MILEPOST	HP-58.17
DOT#	592-143F
TESTER TYPE	CROSSING
DATE FORMAT	MM-DD-YYYY
TEMP. FORMAT	FARENHEIT
INDICATE HOLD (SEC)	0
INDICATE REFRESH (SEC)	60
GEO CTL PERIOD (SEC)	0
SITE ATCS ADDRESS	7.550.487.017.03.01
SITE TYPE	COLLECTOR
# OFFICE ATCS ADDRESS	2.550.01.3876
# POLL ID	1
# MODE	GEN/ATCS
# WAMS XID	DISABLED
# OFFICE COMM DEVICE	RAILLOGIC
# RAILLOGIC PORT	AUX
# OUR RADIO ID	REMEDY STATES REMOTE RADIO ID
# DEST RADIO ID	REMEDY STATES RADIO ID
# MAX RETRIES	3
# RETRY WAIT	5
# NXT PKT DELAY	3
# MUTE TIMER	10
★ USER PORT BAUD	57600
★ USER PORT DATA BITS	8
★ USER PORT PARITY	NONE
★ USER PORT STOP BITS	1
★ USER PORT FLOW CONTROL	NONE
AUX PORT BAUD	19200
★ AUX PORT DATA BITS	8
★ AUX PORT PARITY	NONE
★ AUX PORT STOP BITS	1
★ AUX PORT FLOW CONTROL	NONE


CONTROL SYSTEM CONFIGURATION MENU QUESTIONS	
THE QUESTION	SELECT FROM MENU OPTION
RESET NAMES AND MODULES?	YES
RAILROAD NUMBER?	550
CROSSING CONFIGURATION?	NORMAL
AND1 USED AS XR?	YES
AND2 USED AS XR?	NO
AND3 USED AS XR?	NO
AND4 USED AS XR?	NO
AND5 USED AS XR?	NO
AND6 USED AS XR?	NO
AND7 USED AS XR?	NO
AND8 USED AS XR?	NO
* XR CONTROLLED BY FOREIGN RR?	(AND1, AND2, AND3, AND4 AND5, AND6, AND7, AND8)
ENTRANCE GATES?	2
85% VOLTAGE RELAY OUT?	YES
BATTERY BANKS?	2
BATT MON USED?	NO
** LOW BATTERY 1 PERCENTAGE?	85
** LOW BATTERY 2 PERCENTAGE?	85
** LOW BATTERY 3 PERCENTAGE?	(85-95)
PREEMPTION?	NO
INTERNAL CROSSING CONTROLLERS?	2
EXTERNAL CROSSING CONTROLLERS?	0
VHF COMMUNICATOR?	NO
*** DTMF ACTIVATION?	(NO, YES)
*** ACTIVATION CODE?	(1-999)
*** ACTIVATION TIMEOUT?(SECONDS)	(30-600)
ILOD MODULES?	(0-4)
**** VHF VOICE CHANNEL?	(1-8)
**** VHF DATA CHANNEL?	(1-8)
USE CELL MODEM NON-CRITICAL FEATURE?	NO
CROSSING ACTIVE ALARM TIME?(MIN)	20
POWER OFF ALARM TIME?(MIN)	20

- NOTES:
1. # = NOT DISPLAYED IF SITE TYPE = NO COMMUNICATION
  2. ★ = USE DEFAULT SETTINGS
  3. \* = ONLY DISPLAYED IF CROSSING CONFIGURATION = SPLIT GATE
  4. \*\* = ONLY DISPLAYED IF BATTERY BANKS = 1,2 OR 3
  5. \*\*\* = ONLY DISPLAYED IF VHF COMMUNICATOR = YES
  6. \*\*\*\* = ONLY DISPLAYED IF DTMF ACTIVATION = YES

PROGRAM MENU QUESTIONS	PROGRAM
EDIT DIGITAL INPUTS	NO
EDIT BATTERIES	NO
EDIT RELAYS	NO
EDIT TEST LEDS	NO
EDIT VHF SETTINGS	NO
GCP4K ATCS SUBNODE	16

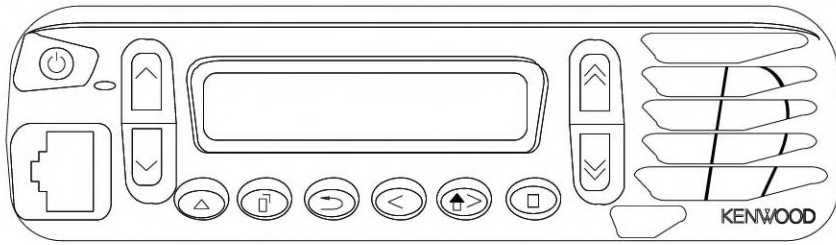
TO CONFIGURE SEAR III PRESS SITE SETUP KEY.  
USE ARROW KEYS TO MAKE SELECTION,  
PRESS ENTER AFTER SELECTION HAS BEEN MADE.

SEAR III PROGRAMMING

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24	CADD or DWG. No. 03220581.011	SHEET No. 11
IN SERVICE:	- -	

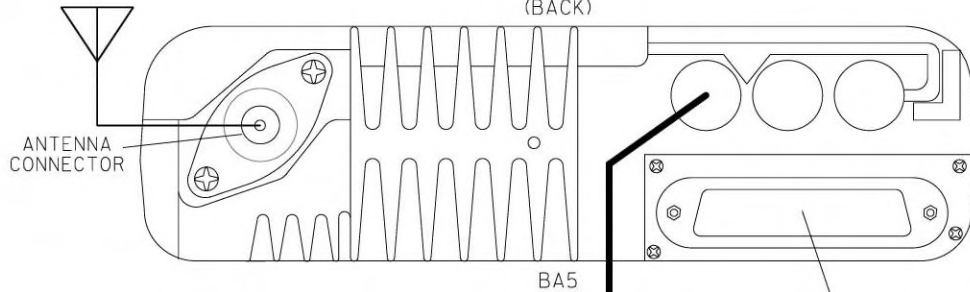
PROPERTY  
PENNSYLVANIA R.R.

(FRONT)



KENWOOD RADIO NX-700H  
OR EQUIVALENT

(BACK)

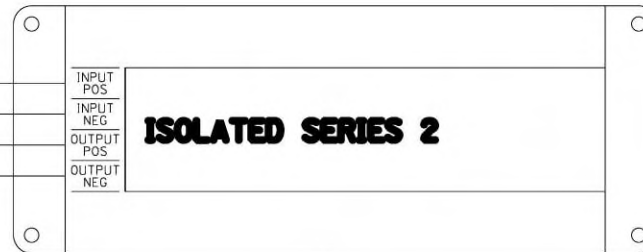


BA5

DB25M - DB25M  
STRAIGHT THROUGH CABLE } TO  
SEAR III  
SHEET 10

CABLE - KENWOOD  
P/N E30-7520-15

AA-2B O B12  
AA-7B O N12  
B12  
N12



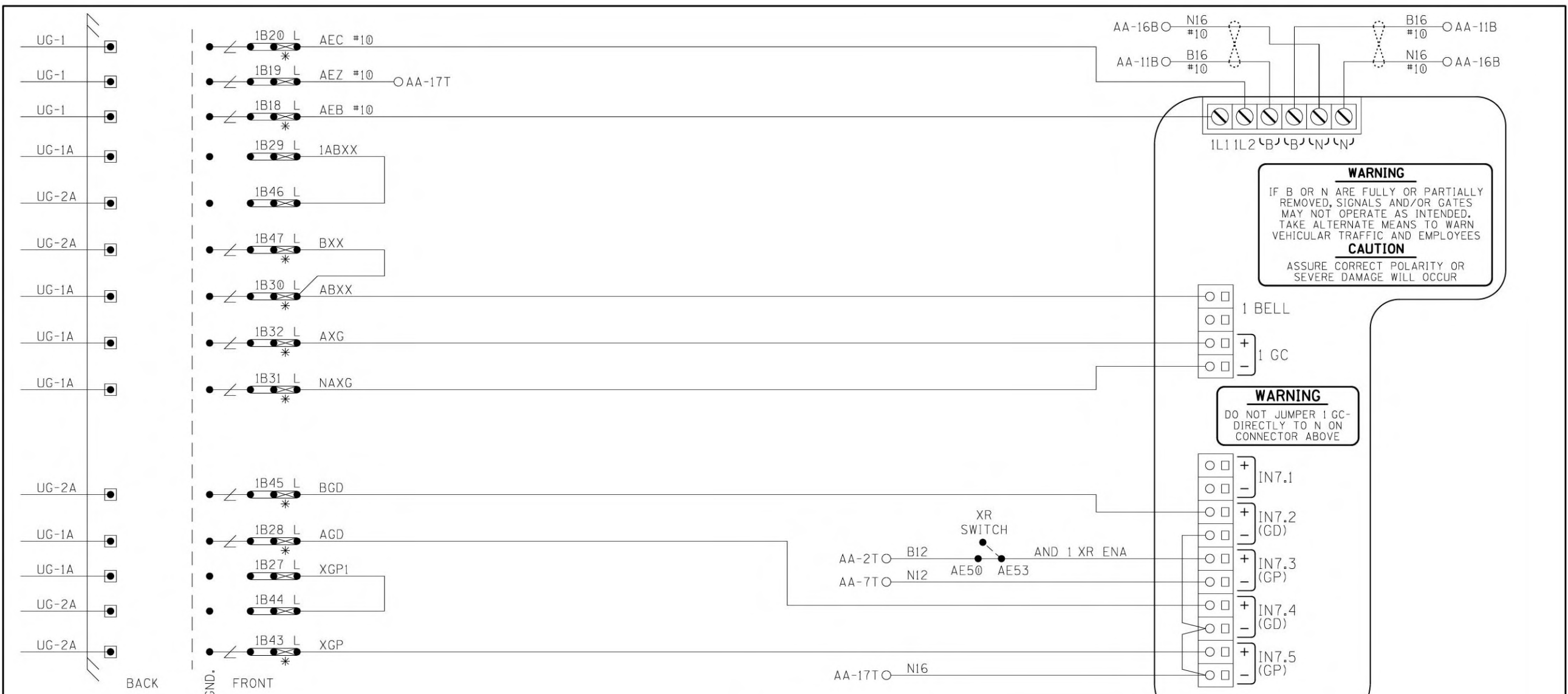
BB5


NOTE:  
1. ALL WIRING TO BE #10AWG UNLESS  
NOTED OTHERWISE.

BACKHAUL EQUIPMENT


DESIGNED BY:	<b>NS NORFOLK SOUTHERN</b>	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24	CADD or DWG. No. 03220581.012	SHEET No. 12
IN SERVICE:	- -	

PROPERTY  
PENNSYLVANIA R.R.

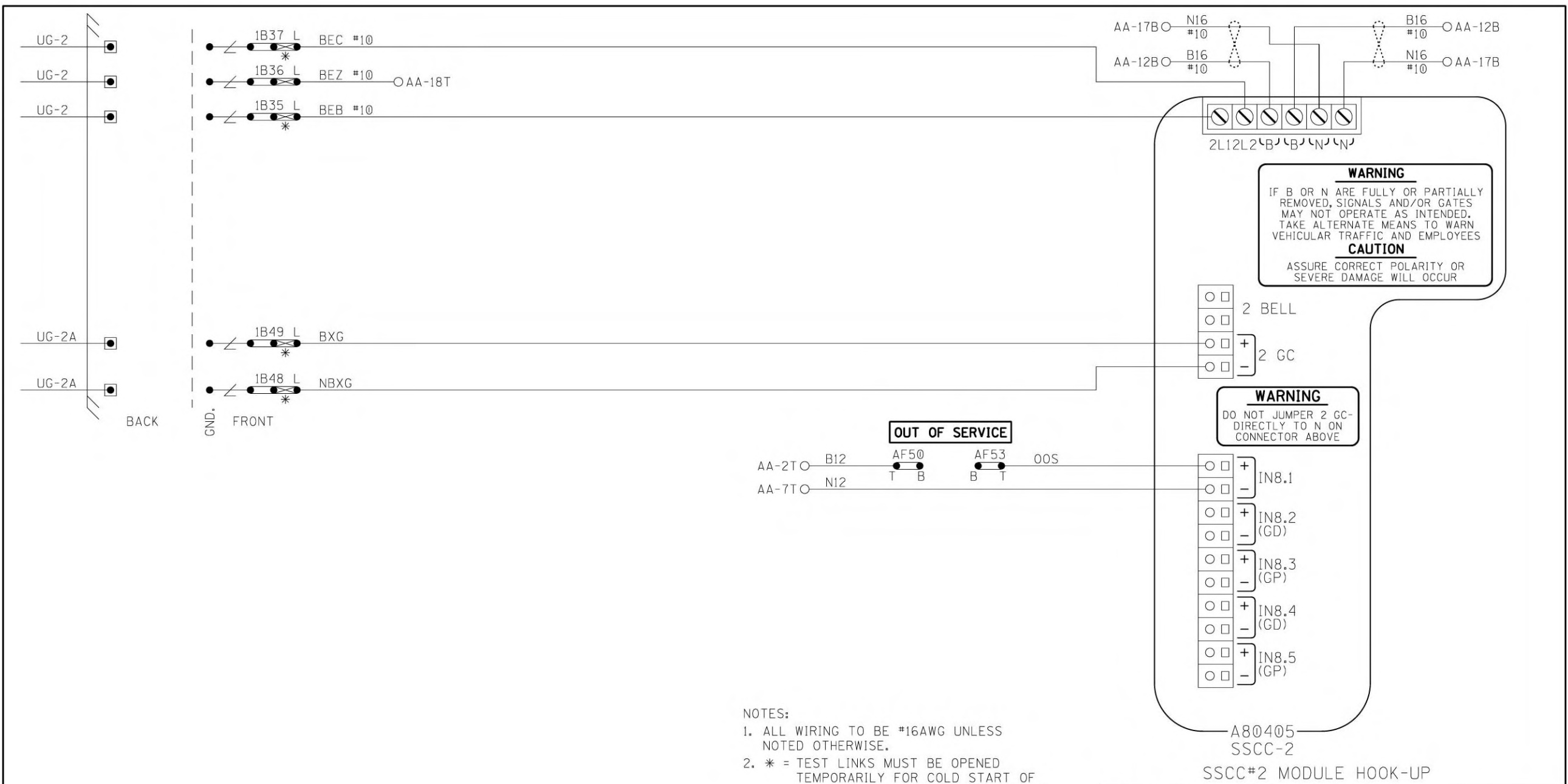



- NOTES:
1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
  2. \* = TEST LINKS MUST BE OPENED TEMPORARILY FOR COLD START OF NEW OR REPLACEMENT SSSC MODULE AND CAN ONLY BE CLOSED IN SEQUENCE WITH MFR. INSTRUCTION; APPENDIX C OF GCP 4000 REFERENCE MANUAL.
  3.  = TWIST

SSCC#1 MODULE HOOK-UP


DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24	CADD or DWG. No. 03220581.013	SHEET 13
IN SERVICE:	- -	

PROPERTY  
PENNSYLVANIA R.R.

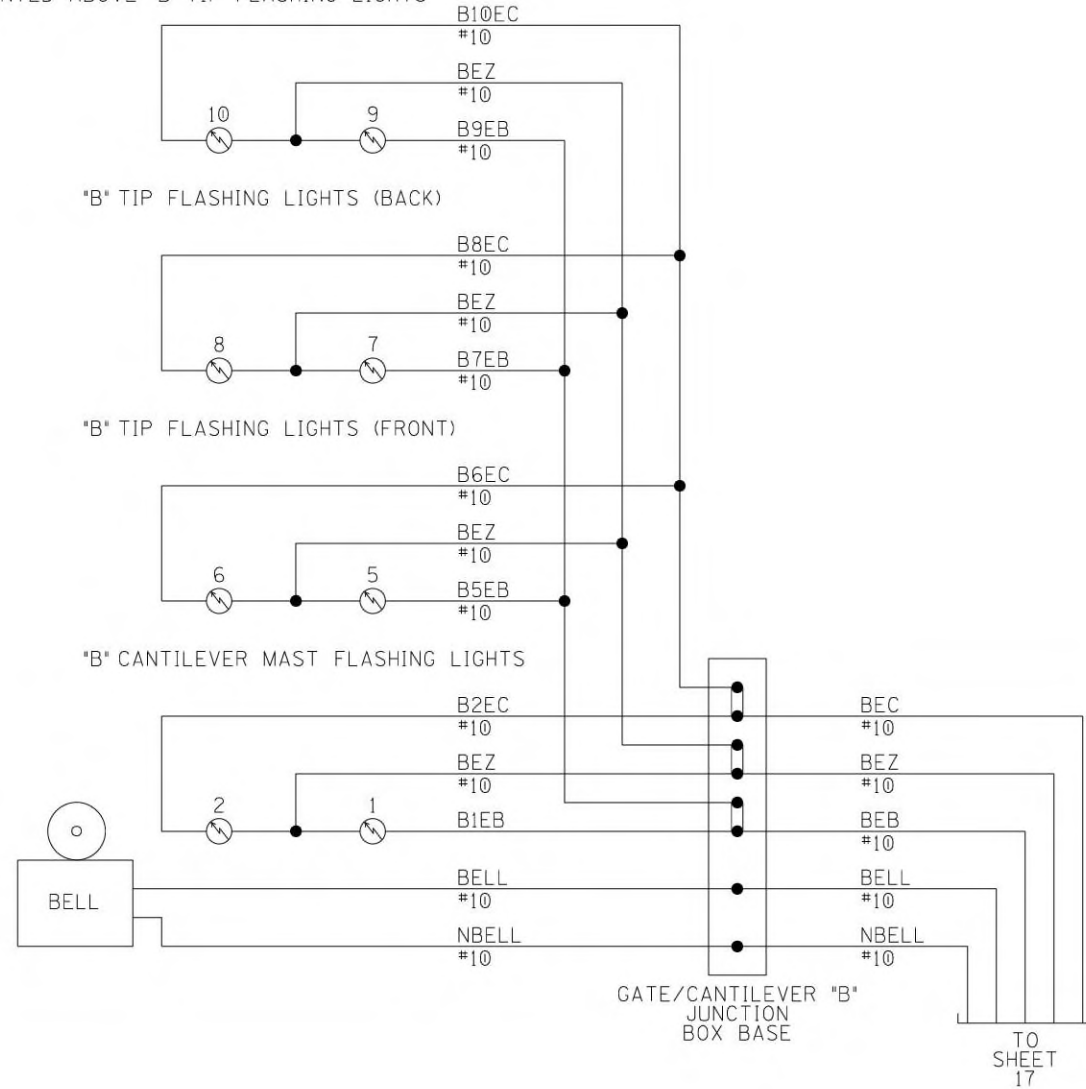


- NOTES:
1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
  2. \* = TEST LINKS MUST BE OPENED TEMPORARILY FOR COLD START OF NEW OR REPLACEMENT SSCC MODULE AND CAN ONLY BE CLOSED IN SEQUENCE WITH MFR. INSTRUCTION; APPENDIX C OF GCP 4000 REFERENCE MANUAL.
  3.  = TWIST

PROPERTY  
PENNSYLVANIA R.R.

DESIGNED BY:	 <b>NORFOLK SOUTHERN</b>	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24	CADD or DWG. No. 03220581.014	SHEET 14
IN SERVICE:	- -	

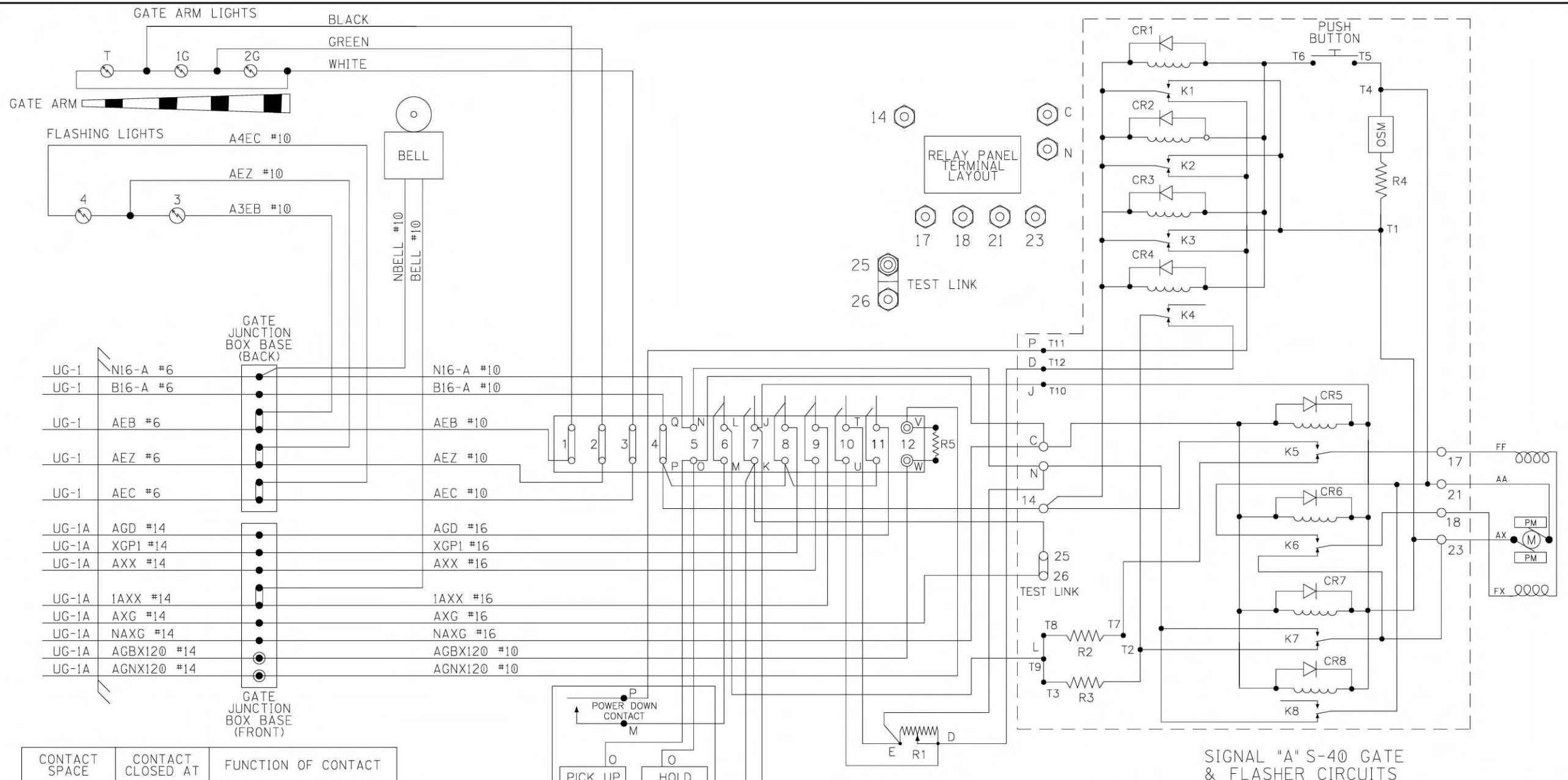
"B" FLASHING TOP SIDE LIGHTS  
TO BE MOUNTED ABOVE "B" TIP FLASHING LIGHTS



CANTILEVER FLASHER LIGHTS

DESIGNED BY:	<b>NS NORFOLK SOUTHERN</b>	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24	CADD or DWG. No. 03220581.015	SHEET No. 15
IN SERVICE:	- -	

PROPERTY  
PENNSYLVANIA R.R.



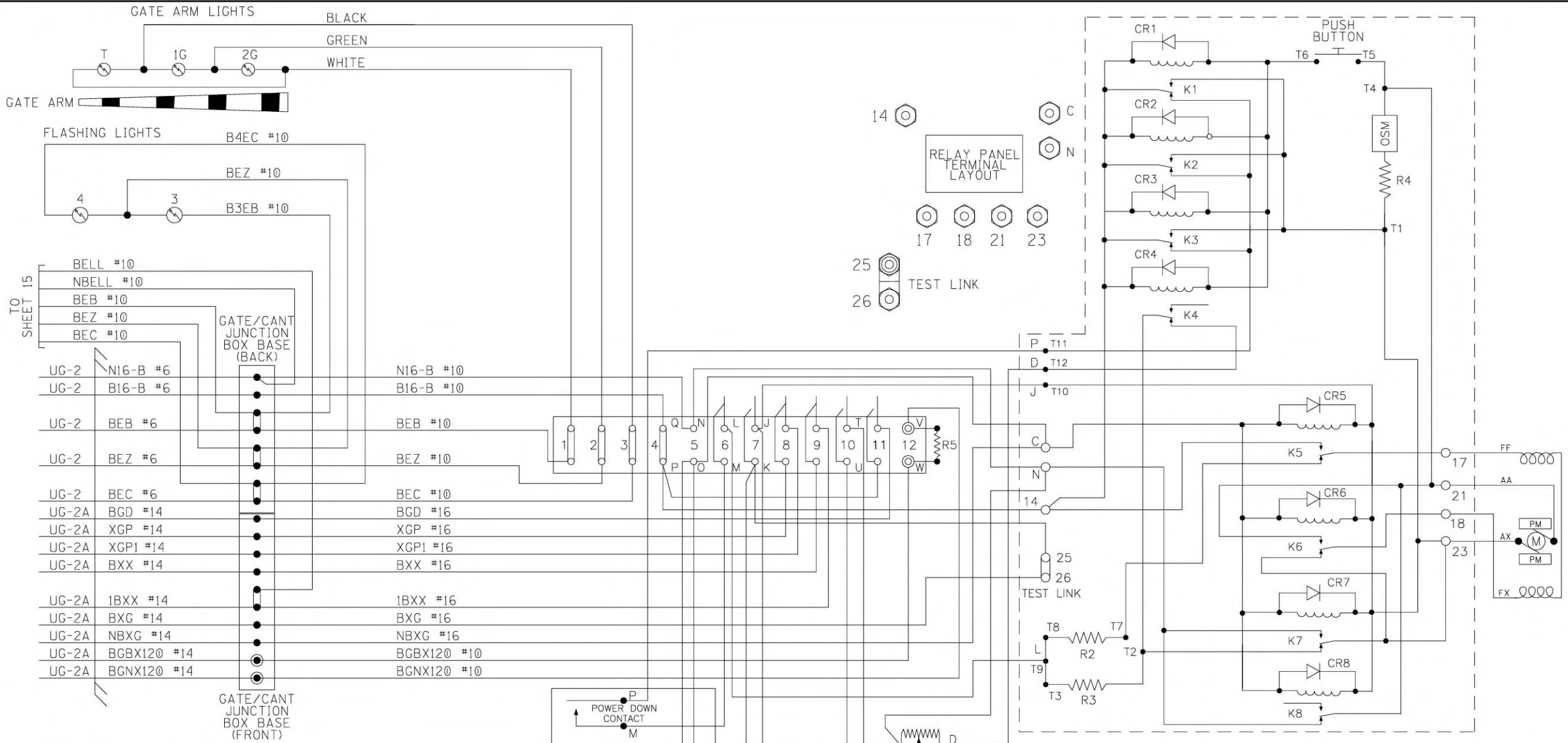
CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
(6) L-M	45° - 90°	POWER DOWN CONTROL
(7) J-K	0° - 89°	POWER UP CONTROL
(8)	83° - 90°	FLASHING LGT. CONTROL
(9)	5° - 90°	BELL CONTROL
(10) T-U	0° - 5°	HORIZONTAL SNUB
(11)	0° - 5°	GATE DOWN INDICATION

R1 - DOWN SNUB RESISTOR, ADJ.  
 R2 - POWER DOWN RATE RESISTOR  
 R3 - POWER DOWN LIMIT RESISTOR  
 R4 - OSM SNUB RESISTOR  
 R5 - DEFROSTER  
 K1-8 - GATE & MAINT. RELAYS  
 OSM - OVERSPEED MODULE

SIGNAL "A" S-40 GATE & FLASHER CIRCUITS

PROPERTY  
PENNSYLVANIA R.R.

DESIGNED BY: MST 06-28-23	<b>NS NORFOLK SOUTHERN</b>	
DRAWN BY: PRS 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
CHECKED BY: JMW 01-02-24	READING, PA CFLGS AT FRANKLIN STREET	
IN SERVICE: - -	HARRISBURG LINE	REV. 1
	CADD or DWG. No. 03220581.016	SHEET No. 16



TO SHEET 15

UG-2	N16-B #6	N16-B #10
UG-2	B16-B #6	B16-B #10
UG-2	BEB #6	BEB #10
UG-2	BEZ #6	BEZ #10
UG-2	BEC #6	BEC #10
UG-2A	BGD #14	BGD #16
UG-2A	XGP #14	XGP #16
UG-2A	XGP1 #14	XGP1 #16
UG-2A	BXX #14	BXX #16
UG-2A	1BXX #14	1BXX #16
UG-2A	BXG #14	BXG #16
UG-2A	NBXG #14	NBXG #16
UG-2A	BGBX120 #14	BGBX120 #10
UG-2A	BGNX120 #14	BGNX120 #10

CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
(6) L-M	45° - 90°	POWER DOWN CONTROL
(7) J-K	0° - 89°	POWER UP CONTROL
(8)	83° - 90°	FLASHING LGT. CONTROL
(9)	5° - 90°	BELL CONTROL
(10) T-U	0° - 5°	HORIZONTAL SNUB
(11)	0° - 5°	GATE DOWN INDICATION

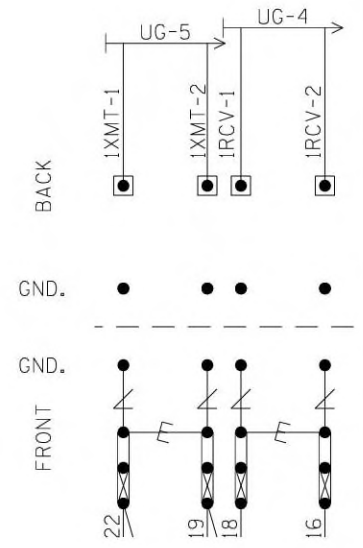
R1 - DOWN SNUB RESISTOR, ADJ.  
R2 - POWER DOWN RATE RESISTOR  
R3 - POWER DOWN LIMIT RESISTOR  
R4 - OSM SNUB RESISTOR  
R5 - DEFROSTER  
K1-8 - GATE & MAINT. RELAYS  
OSM - OVERSPEED MODULE

PROPERTY  
PENNSYLVANIA R.R.




DESIGNED BY: MST 06-28-23	<b>NS NORFOLK SOUTHERN</b>	
DRAWN BY: PRS 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
CHECKED BY: JMW 01-02-24	READING, PA CFLGS AT FRANKLIN STREET	
IN SERVICE:	HARRISBURG LINE	REV. 1
	CADD or DWG. No. 03220581.017	SHEET 17

SIGNAL "B" S-40 GATE & FLASHER CIRCUITS

"1A"




NOTES:

1.  = HEAVY DUTY EQUALIZER (022700-1X)
2.  = ERICO LIGHTNING ARRESTER (EPD2050F)
3. GND. ● = THROUGH GROUND POST ON EACH TERMINAL BLOCK TO FARADAY SHIELD
4.  = TEST LINK
5. INSTALL TEST LINKS ON ALL TRACK WIRES AND ON ALL LOW VOLTAGE UNDERGROUND CABLE TERMINATIONS.

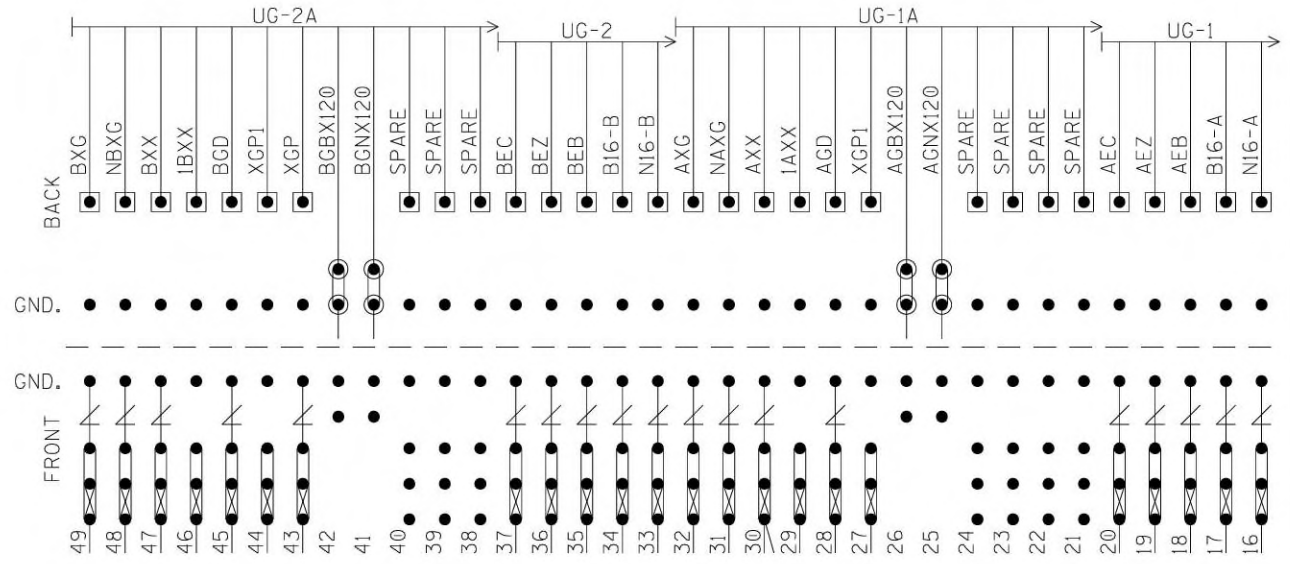
SEE FARADAY SHIELD SHOP DRAWING DETAIL FOR HOW THIS PORTION OF THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

BACKBOARD 1A

PROPERTY  
PENNSYLVANIA R.R.

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	
JMW 01-02-24	CADD or DWG. No. 03220581.018	REV. 1
IN SERVICE:	- -	SHEET No. 18

"1B"



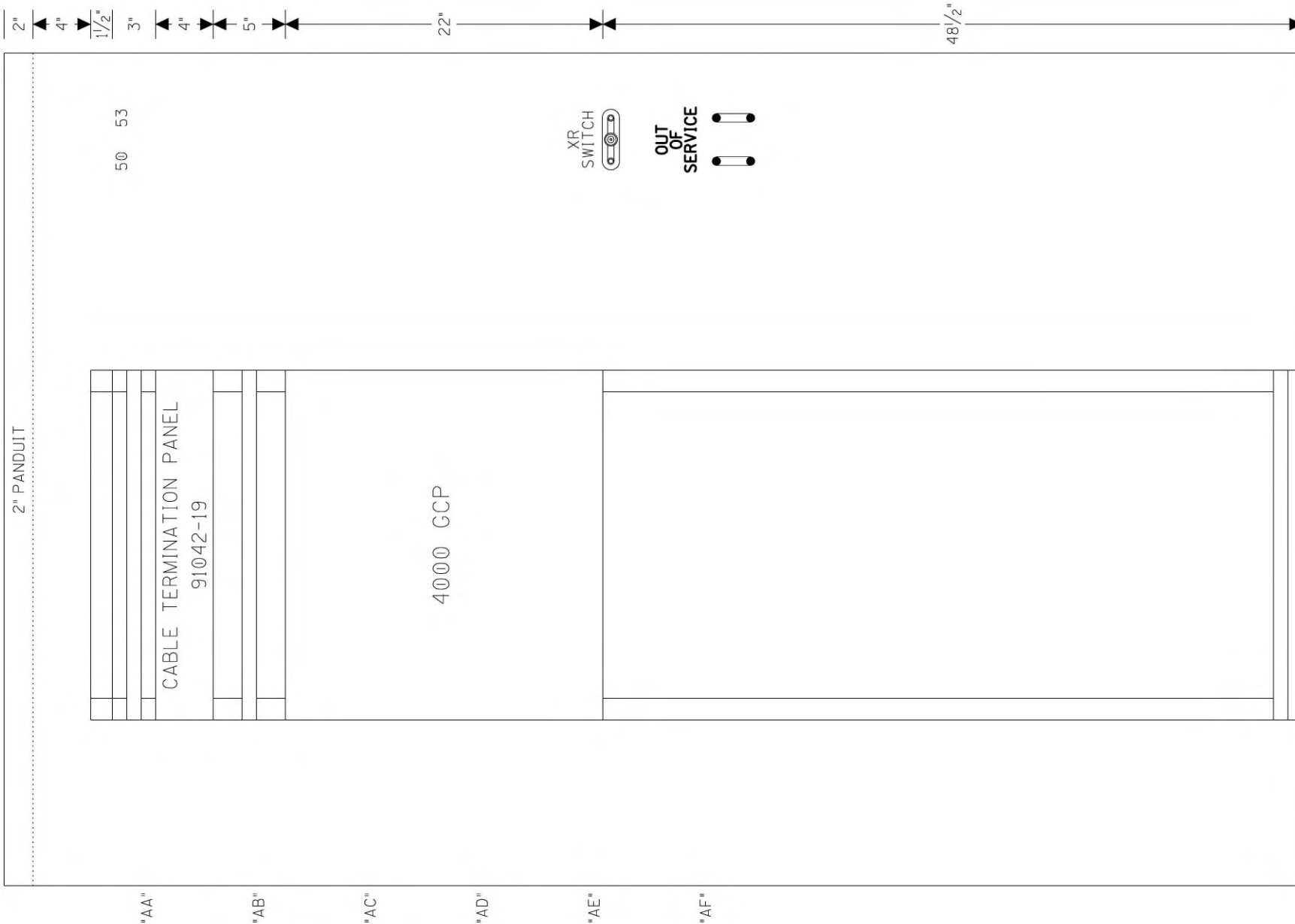
BACKBOARD 1B

SEE FARADAY SHIELD SHOP DRAWING DETAIL FOR HOW THIS PORTION OF THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

- NOTES:
1. GND. ● = THROUGH GROUND POST ON EACH TERMINAL BLOCK TO FARADAY SHIELD
  2. ● = INSULATED NUTS TO BE USED ON ALL 120VAC AND ABOVE TERMINALS

PROPERTY  
PENNSYLVANIA R.R.

DESIGNED BY:	MST 06-28-23	
DRAWN BY:	PRS 06-28-23	
CHECKED BY:	JMW 01-02-24	
IN SERVICE:	- -	
<b>NS NORFOLK SOUTHERN</b>		
OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: HP-58.17
READING, PA CFLGS AT FRANKLIN STREET		
HARRISBURG LINE		REV. 1
CADD or DWG. No.	03220581.019	SHEET No. 19



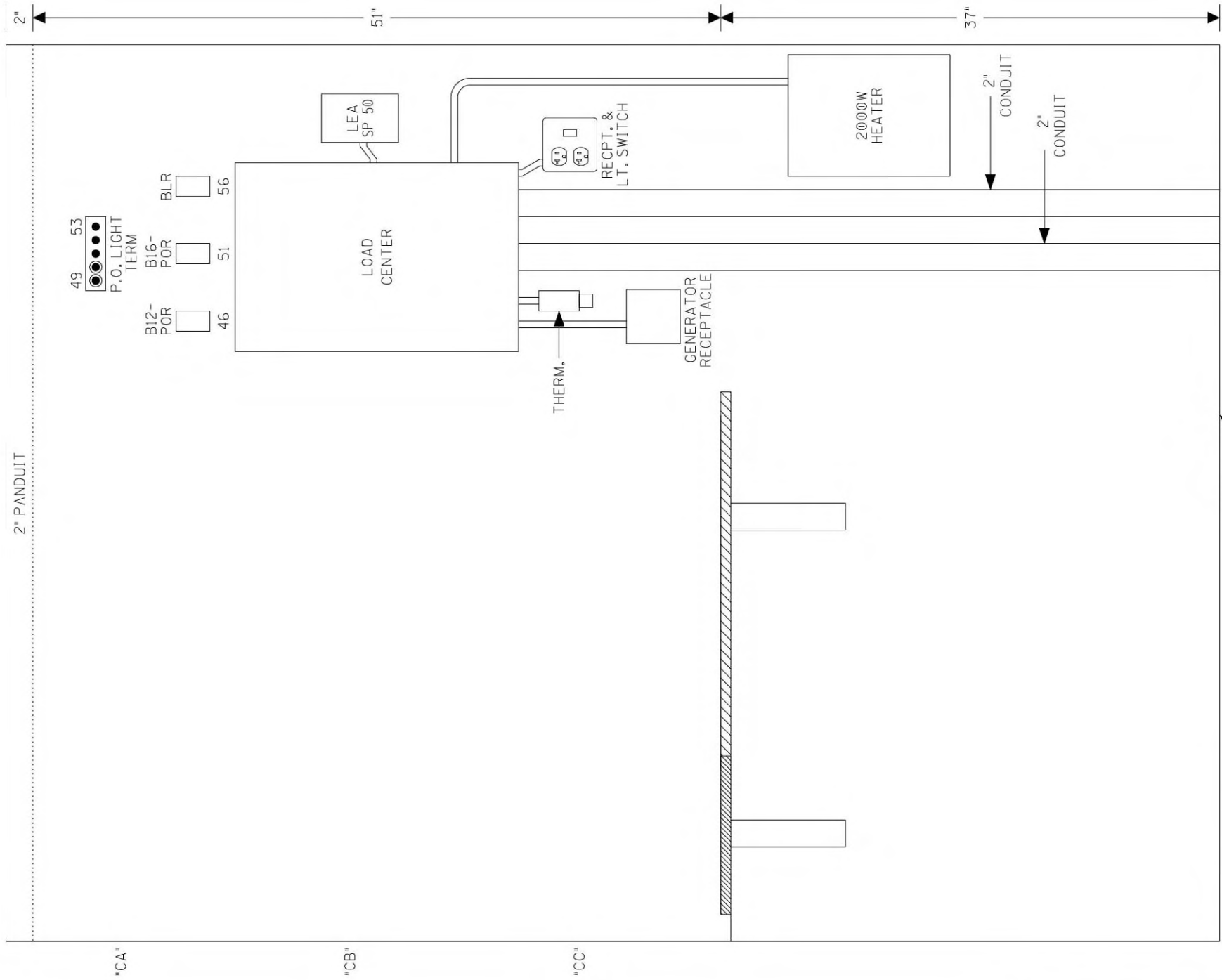
24 1/4"  
EQUIPMENT RACK #1  
FRONT



SIDE A LAYOUT & RACK PLACEMENT

DESIGNED BY:	<b>NS NORFOLK SOUTHERN</b>	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24	CADD or DWG. No. 03220581.020	SHEET No. 20
IN SERVICE:	- -	

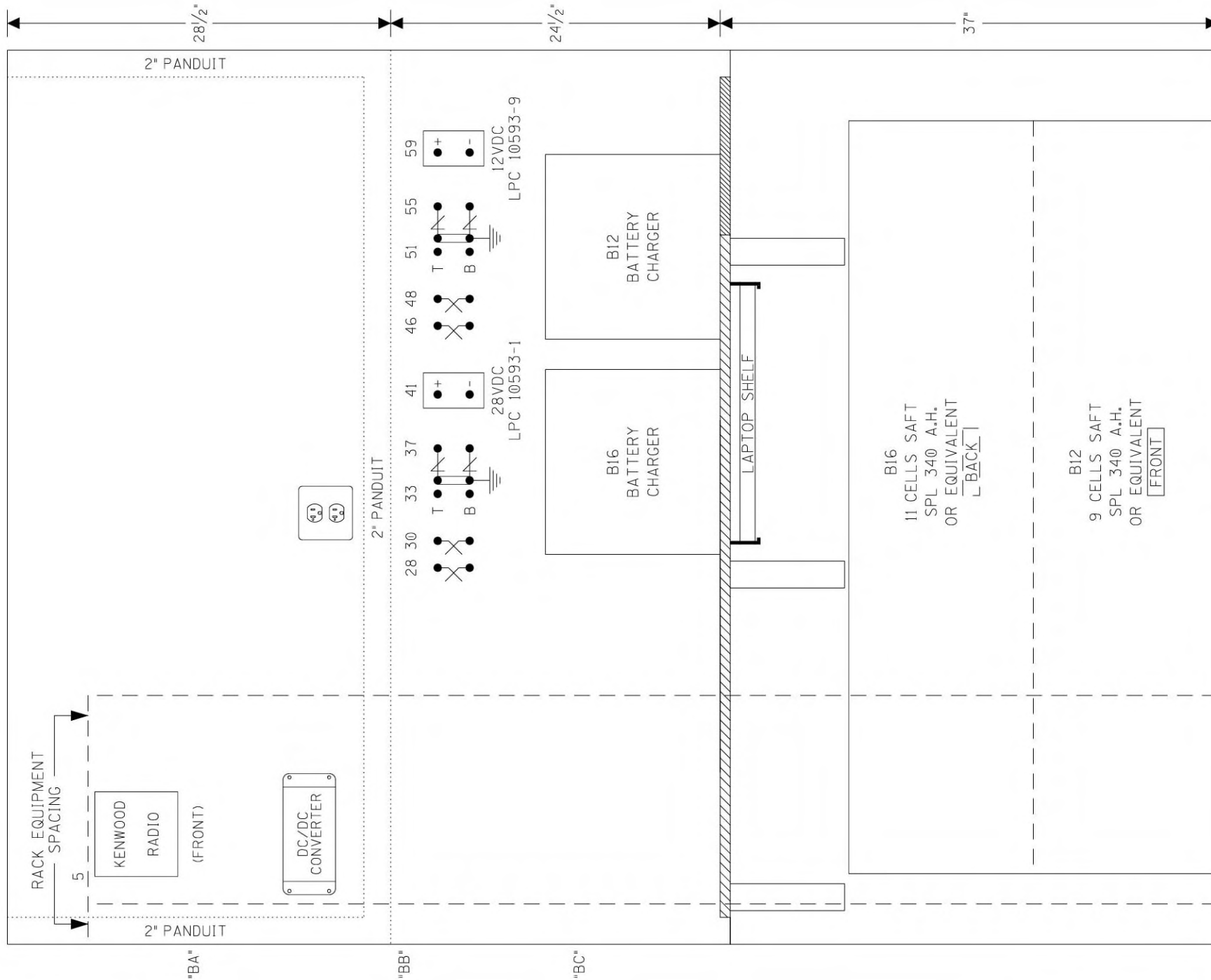
PROPERTY  
PENNSYLVANIA R.R.



SIDE C LAYOUT

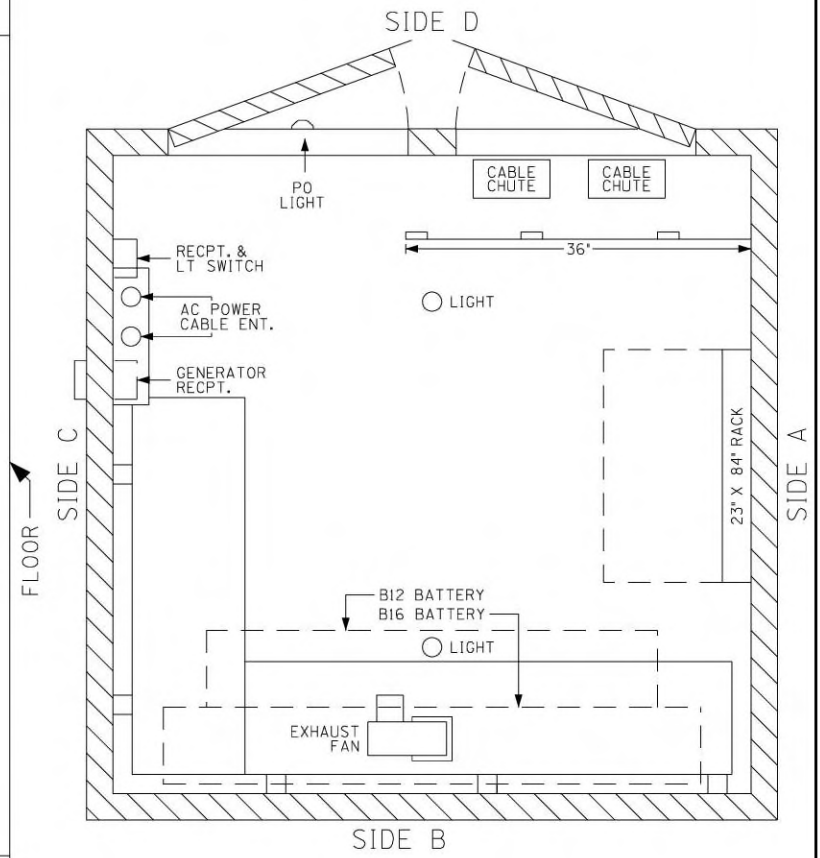
DESIGNED BY:	<b>NS NORFOLK SOUTHERN</b>	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24	CADD or DWG. No. 03220581.021	SHEET 21
IN SERVICE:	- -	No.

PROPERTY  
PENNSYLVANIA R.R.



**\*TOP VIEW**

6'X6' HOUSE  
(INSULATED)  
\* = 1/2" SCALE



SIDE B LAYOUT & TOP VIEW

DESIGNED BY:	<b>NS NORFOLK SOUTHERN</b>	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24	CADD or DWG. No. 03220581.022	SHEET No. 22
IN SERVICE:	- -	

PROPERTY  
PENNSYLVANIA R.R.