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Partner

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August 7, 2024

VIA ELECTRONIC FILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
400 North Street
Harrisburg, PA 17120

***Re: Application of the Department of Transportation of the Commonwealth of Pennsylvania for approval to alter three (3) public at-grade crossings by the installation of new railroad warning devices where State Route 2006 (Chestnut Street) (DOT 592 142 Y), State Route 2008 (Franklin Street) (DOT 592 143 F), and Cherry Street (DOT 592 144 M) all cross, at grade, a single track of Norfolk Southern Railway Company in the City of Reading, Berks County all in accordance with the Federal Grade Crossing Program and the allocation of costs thereto.
Docket No. A-2023-3039131***

Dear Secretary Chiavetta:

Enclosed please find Norfolk Southern Railway Company's Cost Estimate, Situation Plans and Circuitry Plans for Chestnut Street, Franklin Street and Cherry Street for Commission review and approval in the above-referenced matter. Copies have been served upon all interested parties of record for review and comment within 20 days of service. Thank you.

Sincerely yours,

Benjamin C. Dunlap, Jr.

BCD:klg
Enclosures
cc: All Parties of Record

Chestnut Street
DOT 592 142 Y



Detailed Estimate for Grade Crossing Warning Devices

City/State: READING, PA

Road: CHESTNUT STREET

MilePost: HP-58.07

DOT/AAR: 592142Y

State Proj. No.: MPMS: 106140

County: BERKS

S&E Proj. No.: 19.5999

File Number: 061-19.0195

Man Days: 288

Purchases - Others		
Meals and Lodging:	\$51,628.49	
Rental of Equipment:	\$70,575.96	
(2 Trucks, 1 Backhoe w/ Trailer and 1 Pipe-Pusher for 48 Days)		
Construction Supervision Vehicle:	\$10,795.75	
Purchases - Other Total:		\$133,000.20
Material And Additives		
Material Cost:	\$134,166.00	
Sales and Use Tax:	\$10,733.00	
Material Handling Freight:	\$13,416.64	
Material Total:		\$158,315.64
Labor And Additives		
Labor Cost:	\$121,536.00	
(6 man crew at \$2,532.00 a day for: 48 days)		
Payroll Tax & Overheads:	\$103,621.59	
Preliminary Engineering:	\$26,848.75	
Construction Supervision:	\$35,500.67	
Labor Total:		\$287,507.01
	Project Cost:	\$578,822.85
	Scrap / Salvage Credit:	\$0.00
	Project Total:	\$578,823.00

Estimated on: 15-Jul-24

Estimated by: gagof

Estimate valid for 1 year from date of estimate

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
							Date Quan.	Date Quan.	Date Quan.		
3	670-360693-4	EA	\$6.05	\$18.15	AAR/DOT NUMBER PLATE/DECAL, ORDER 3 PER PROJECT. 60 DAY LEAD TIME. SUPPLIED BY S'TRAN.						
1	165-006505-4	EA	\$1,452.55	\$1,452.55	AC SERVICE, COMPLETE LESS METER BASE, ASSEMBLED ON 30' POLE						
27	670-001196-4	EA	\$48.27	\$1,303.29	ARRESTER, LIGHTNING SOLID STATE ERICO P/N EPD2050F						
20	105-002620-4	EA	\$248.79	\$4,975.80	BATTERY, NICAD 340AH, MODEL SPL340						
1	670-503047-4	EA	\$214.50	\$214.50	BELL, CROSSING ELECTRONIC GENERAL SIGNAL, EB-3-360-5 CR 02-044350						
4	670-980689-4	EA	\$93.50	\$374.00	BRACKET HIGH WIND, (RIGID 3'), WIG- 191036, WALRUS TUSK TYPE						
2	670-561375-4	EA	\$1,197.90	\$2,395.80	BRACKET, GATE SAVER, NEG385102GS, SPRING LOADED SWING AWAY ADAPTER FOR FIBERGLASS/ALUMINUM GATES, USE WITH GATE 38' AND LESS						
500	465-939422-4	LF	\$3.01	\$1,505.00	CABLE, UG 12 CONDUCTOR NO 14 AWG SOLID EACH CONDUCTOR WITH 5/64 IN INSULATION 10 MIL						
350	465-292862-4	LF	\$1.36	\$476.00	CABLE, UG 2-6 TWISTED, S-23 OKONITE 113-12-3933 SOLID TINNED CONDUCTOR						
500	465-292929-4	LF	\$4.12	\$2,060.00	CABLE, UG 5 COND. NO. 6 AWG SOLID COPPER CABLE TO MEET NS CORP. SPEC. FOR SIGNAL						
350	465-791835-4	FT	\$3.97	\$1,389.50	CABLE, UG AC ENTRANCE 3C#6-7X OKONITE FMPF-L 094-078 TR W/G 1 X 8 7X W010 BRZ TAPE 600V PRODUCT CODE 206-11-6070						
2	670-010671-4	EA	\$1,234.78	\$2,469.56	CHARGER, BATTERY CRAGG MODEL 40 DTC-12V, 40 AMP, P/N 520940						
2	670-664917-4	EA	\$71.49	\$142.98	CONNECTOR KIT, WELDED FAR RAIL, CONSISTING OF RUBBER HOSE PROPERLY DRILLED, BONDSTRAND, 1 SPLICING SLEEVE, 1 REDUCING SLEEVE, 3 CLAMPS, 1 TRACK CLIP, 1 WEB WELDED TRACK CONNECTOR, 1 WELD METAL, SAFETRAN 111359-2X						
2	670-632520-4	EA	\$57.38	\$114.76	CONNECTOR KIT, WELDED NEAR RAIL, CONSISTING OF RUBBER HOSE PROPERLY DRILLED, BONDSTRAND, SPLICING SLEEVE, 1 REDUCING SLEEVE, 5 CLAMPS, 1 TRACK CLIP, 1 WEB WELDED TRACK CONNECTOR, 1 WELD METAL, SAFETRAN 111359-1X						

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
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Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
							Date Quan.	Date Quan.	Date Quan.		
2	670-794453-4	EA	\$1,345.92	\$2,691.84	COUNTERWEIGHT PKAGE, 25-31'GATE S'TAN S- MECH ONLY, STAINLESS TO INCLUDE HUB, SUPPORT ARMS						
4	670-760012-4	EA	\$41.80	\$167.20	COVER, FOR 1 WAY FLASHING LIGHT ASSY. 18 OZ. BLACK VINYL COATED NYLON. =====TO COVER 2 LAMPS=====						
1	670-986650-4	EA	\$355.00	\$355.00	DISPOSAL, CONSTRUCTION DEBRIS AND CLEANING X'ING EQUIPMENT CONTAINER						
2	670-228165-4	EA	\$14.13	\$28.26	EQUALIZER, SAFETRAN 022700-1X LESS BASE, MODERN NO. 700-1 SHUNT ARRESTER TRACK CIRCUITS CR 02-197950						
1	670-000004-4	EA	\$910.00	\$910.00	FCC LICENSE FOR MONITOR/RADIO						
2	670-001486-4	EA	\$1.34	\$2.68	FERRITE BEAD (USED IN INSTALLATION OR RCL LOCATIONS) IPN: Z590-00016-0000						
6	670-000003-4	EA	\$255.85	\$1,535.10	FILL/STONE #57, QUANTITY IS BASED ON TRUCK LOAD PLUS DELIVERY COST						
2	670-015231-4	EA	\$613.80	\$1,227.60	FOUNDATION, DIXIE,S-2 GATE 2'6"X2'6"X5'6" ASSEMBLED						
2	670-005374-4	EA	\$459.25	\$918.50	GATE ARM, ALUMI-LITE (HIGH WIND), 27-33 FT, ARM ASSEMBLY, INCLUDES GATE GUARD FOR GATE LIGHT CABLE. HIGH INTENSITY VERTICAL STRIPES.						
1	670-275809-4	EA	\$23,050.40	\$23,050.40	GCP4000 - 1 TRK (2TC) - REDUNDANT (INCL. 2 TRK CHASSIS A80465, 2 TRK MODS. A80418, 2-SSCC A80405, 2 CPU A80403, 1 SEAR A80410, 1 DISPLAY A80407, 1 TRANS MOD. A80468)						
1	670-018333-4	KT	\$2,510.92	\$2,510.92	KIT, FOREMAN CROSSING SIGNAL (INCLUDES 10-757356, 10-841068, 2-899801, 2-904890, 50-917900, 32-840003, 1-003360, 1-809007, 2-754202, 55-938285, 2-204244, 2-656656, 50-917869, 1-005458, 2-810339, 1-447991, 2-805560, 1-330382, 1-986008, 100 WHITE TAGS AND						
2	670-092155-4	EA	\$181.50	\$363.00	LAMP ASSY, LED GATE ARM KIT (INCLUDES 3 LAMPS COMPLETE WITH CABLES AND MTG. HARDWARE) RECO #: 9298-1120						
2	670-005058-4	EA	\$1,892.88	\$3,785.76	LAMP ASSY, LED, 5" MAST BACK TO BACK LIGHTS (IPN: 042003-L487XNS)						
2	670-637778-4	EA	\$1,424.91	\$2,849.82	MAST, 5" ALUMINUM 13'10" WITH DOUBLE JCT. BOX BASE. S'TRAN P# 070519-11AX.						
2	670-521147-4	EA	\$3,850.87	\$7,701.74	MECHANISM, GATE MODEL S-40, WITH CONTACT HEATER, COMPLETE W/RELAY S'TRAN # 074000-W00090						

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
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Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
							Date Quan.	Date Quan.	Date Quan.		
1	000-000333-4	EA	\$15,107.00	\$15,107.00	MISC ASPHALT SURFACE REPLACEMENT						
5	670-000002-4	EA	\$527.05	\$2,635.25	MISC. EXPENSE, CONCRETE WORK						
8	670-000001-4	EA	\$726.23	\$5,809.84	MISC. EXPENSE, MATERIAL/FILL						
5	000-000018-4	EA	\$1,000.00	\$5,000.00	MISC. EXPENSE, ROADWAY WORK BY MUNICIPAL FORCES						
1	000-000000-4	EA	\$7,000.00	\$7,000.00	MISC. EXPENSE, UNDERGROUND BORING						
2	670-001347-4	EA	\$74.55	\$149.10	PACKAGE, HARDWARE SIGN 5 IN. MOUNTING, SERRMI A1250-5, HARMON @200965-000, OR						
3	670-018542-4	EA	\$47.30	\$141.90	PADLOCK, ABLOY 5/16" X 1" SHACKLE CLEARANCE KEYED FOR C&S DEPT USE; INCLUDES ETCHING;						
1	255-646807-4	EA	\$34.76	\$34.76	PADLOCK, SAFETRAN PART NO. 030399-29X SCREW TYPE FOR CIR CONTROLLER AND BTY. BOX						
1	670-514605-4	EA	\$13.56	\$13.56	PINNACLE, W-C SECT 1-11, 4" & 5" REF K1 110-8 OR SAFETRAN NO. @035045-503X						
1	670-024229-4	EA	\$27,977.58	\$27,977.58	SHELTER, 6X6 ALUMN FARADAY SHIELD PTMW 91000779A, 2000W HEATER, NO AC. WITH HEAVY DUTY HASP, ADJUSTABLE PIERS, 1 EQUIPMENT RACK, 2 SHELVES AND						
2	670-586967-4	EA	\$44.51	\$89.02	SHUNT COVER W/LAG SCREWS, 19"X19", SERRMI #40271, ORDER 1 PER SHUNT						
2	670-016315-4	EA	\$700.70	\$1,401.40	SHUNT, MULTI-FREQ. #250849-005 FSS-1F ALSTOM NARROW BAND (430, 525, 645, 790, 970)						
2	670-016346-4	EA	\$154.53	\$309.06	SIGN, X-BUCK, HI-INTENSIVE REFLECTIVE FRT. & BACK FOR ALL STATES, SAFETRAN# 035200-91X						
2	670-393331-4	EA	\$30.58	\$61.16	SIGN, CROSSING ENS MALFUNCTION ASSEMBLY FOR 4" AND 5" MAST, SAFETRAN #T17215						
34	670-018188-4	EA	\$42.56	\$1,447.04	TERMINAL BLOCK, THRU POST WITH HARDWARE LESS LIGHTNING ARRESTER. SIEMENS P/N NYK: 023275-17X.						

Total Material: \$134,166.38

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
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SH. NO.	CONTENTS	REV. NO.
NX1	INDEX SHEET	1
1	LAYOUT	1
2	PROFILE	1
3	CABLE PLAN	1
4	LOAD CENTER	1
5	CHARGERS & BATTERIES	1
6	GCP4000 CHASSIS & MODULE LAYOUT	1
7	GCP4000 PROGRAMMING	1
8	GCP4000 PROGRAMMING	1
9	CONNECTORS FOR TRACK MODULES	1
10	CPU MODULE & SEAR II HOOK-UPS	1
11	SEAR II PROGRAMMING	1
12	BACKHAUL EQUIPMENT	1
13	SSCC#1 MODULE HOOK-UP	1
14	SSCC#2 MODULE HOOK-UP	1
15	SIGNAL "A" S-40 GATE & FLASHER CIRCUITS	1
16	SIGNAL "B" S-40 GATE & FLASHER CIRCUITS	1
17	BACKBOARD 1A	1
18	BACKBOARD 1B	1
19	SIDE A LAYOUT & RACK PLACEMENT	1
20	SIDE C LAYOUT	1
21	SIDE B LAYOUT & TOP VIEW	1

REVISIONS

1	06-28-23	MST	PRS	JMW
NEW PLAN DRAWN ACCOUNT OF CHESTNUT STREET				
PROJECT: #19.5999				
IN SERVICE: XX-XX-XX				
PER: XXX			XXX	XXX

IN SERVICE _____ SIGNED _____ DATE _____


S&E ENGINEERING COPY

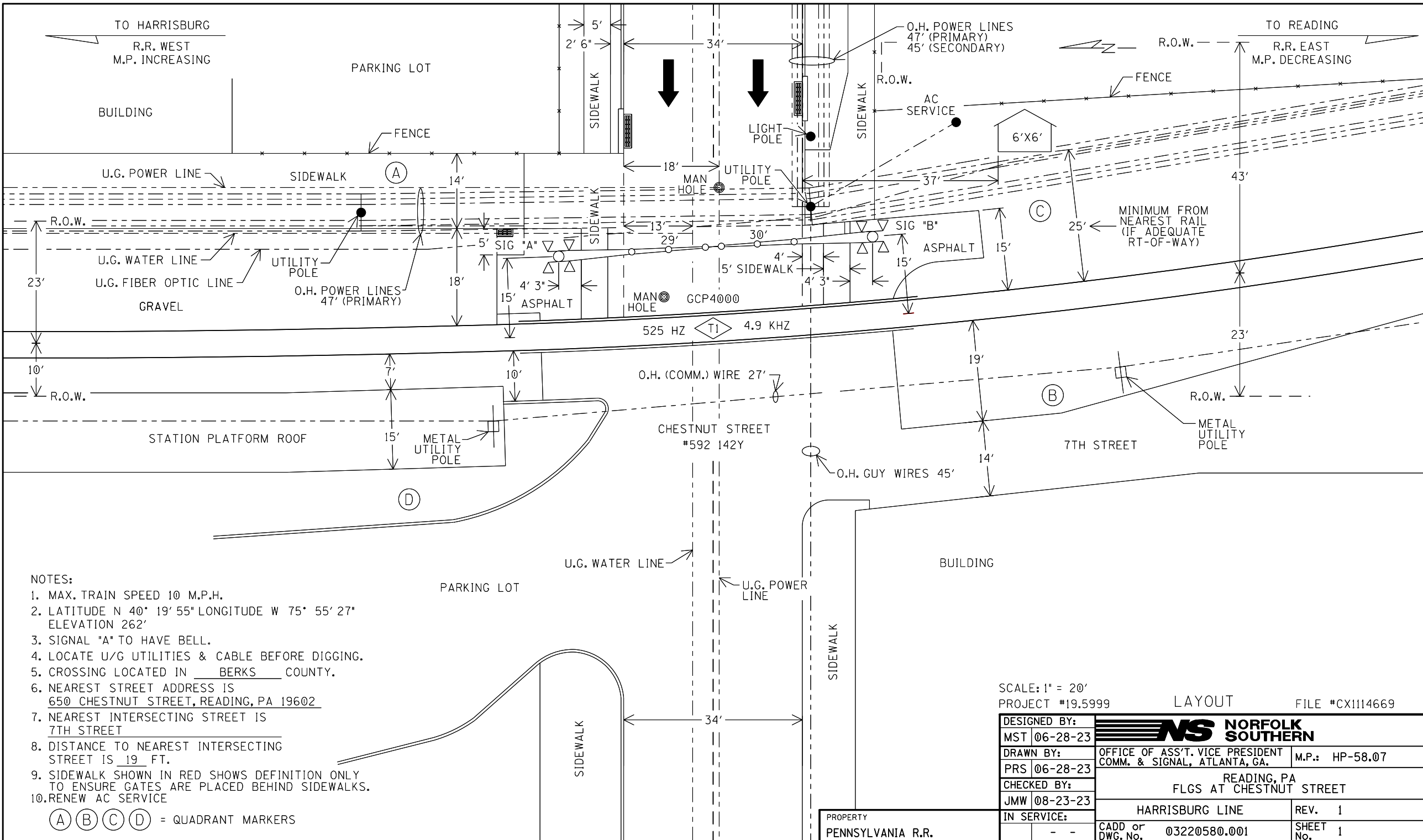
CONSTRUCTION OFFICE COPY
RETURN TO S&E ENG. AFTER COMPLETION

FIELD COPY
RETURN TO CASE AFTER COMPLETION

PROJECT ENGINEER COPY

PROPERTY
PENNSYLVANIA R.R.

DESIGNED BY:			
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.:	HP-58.07
DRAWN BY:	READING, PA		
PRC 06-28-23	FLGS AT CHESTNUT STREET		
CHECKED BY:	HARRISBURG LINE		
JMW 08-23-23	REV. 1		
IN SERVICE:	CADD or DWG. No.	03220580.NX1	SHEET No. INDEX 1



- NOTES:
1. MAX. TRAIN SPEED 10 M.P.H.
 2. LATITUDE N 40° 19' 55" LONGITUDE W 75° 55' 27" ELEVATION 262'
 3. SIGNAL "A" TO HAVE BELL.
 4. LOCATE U/G UTILITIES & CABLE BEFORE DIGGING.
 5. CROSSING LOCATED IN BERKS COUNTY.
 6. NEAREST STREET ADDRESS IS 650 CHESTNUT STREET, READING, PA 19602
 7. NEAREST INTERSECTING STREET IS 7TH STREET
 8. DISTANCE TO NEAREST INTERSECTING STREET IS 19 FT.
 9. SIDEWALK SHOWN IN RED SHOWS DEFINITION ONLY TO ENSURE GATES ARE PLACED BEHIND SIDEWALKS.
 10. RENEW AC SERVICE

(A) (B) (C) (D) = QUADRANT MARKERS

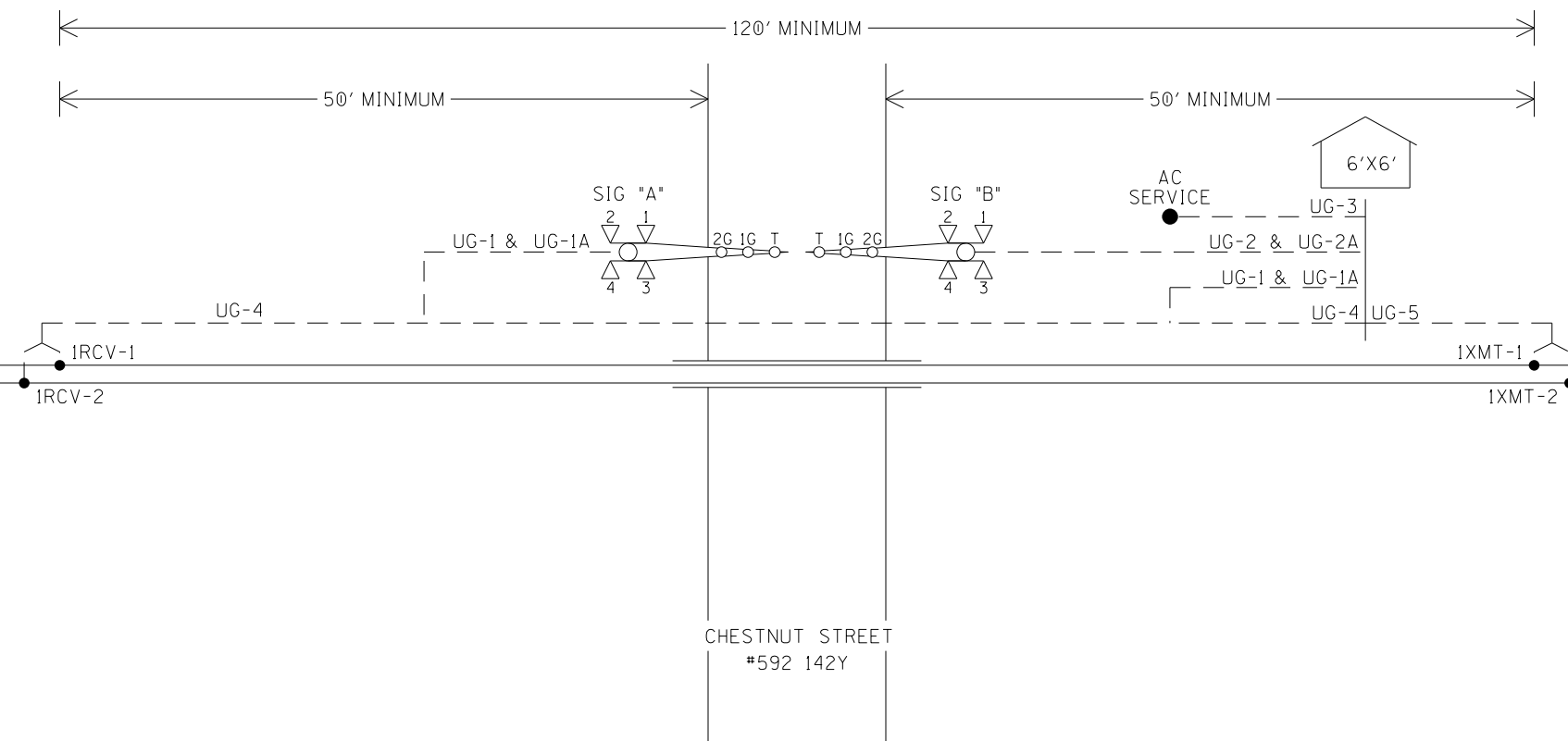
SCALE: 1" = 20'
 PROJECT #19,5999 LAYOUT FILE #CX1114669

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA FLGS AT CHESTNUT STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	REV. 1	
JMW 08-23-23	SHEET 1	
IN SERVICE:	CADD or DWG. No. 03220580.001	No. 1

PROPERTY
 PENNSYLVANIA R.R.

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

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

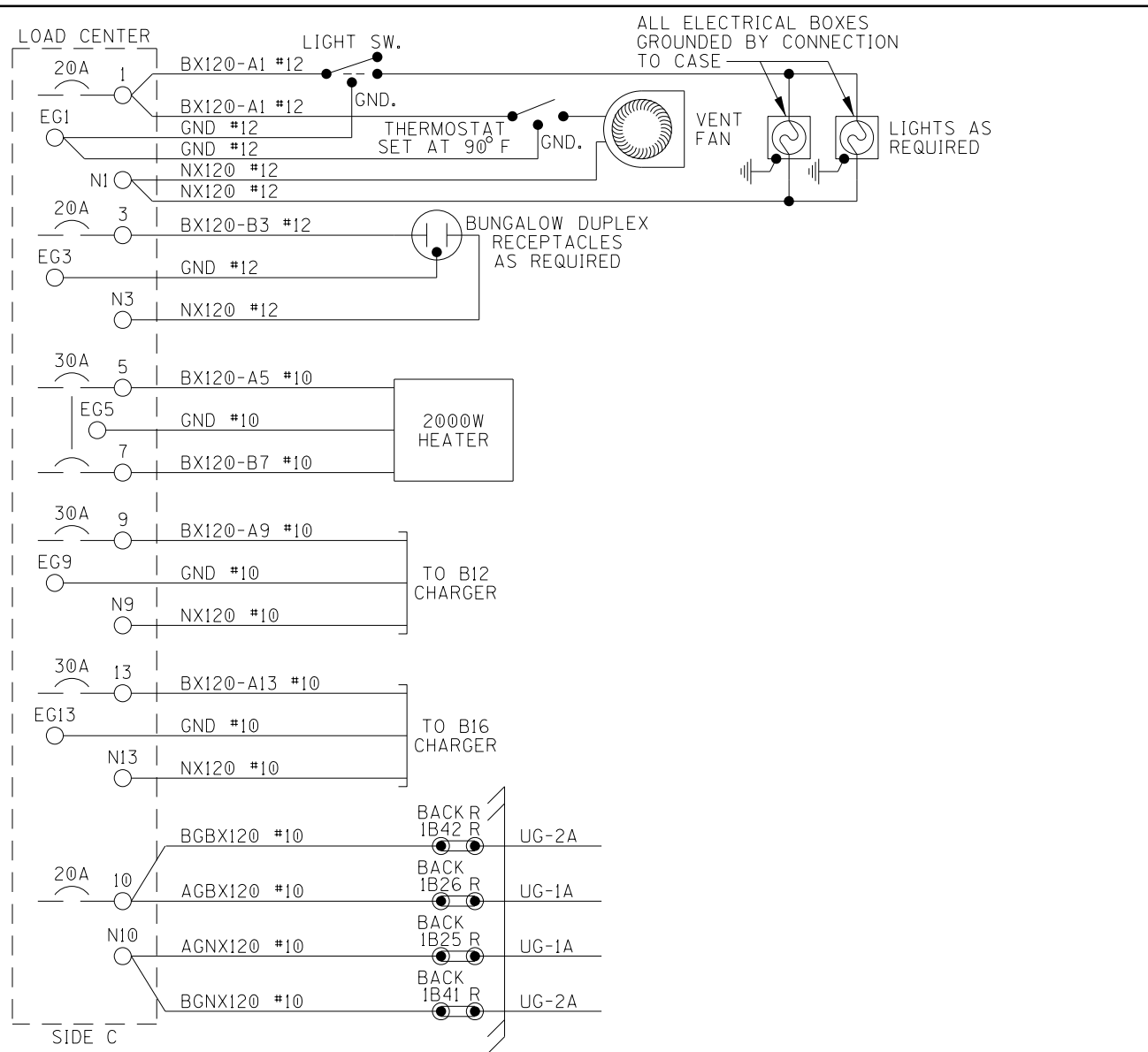
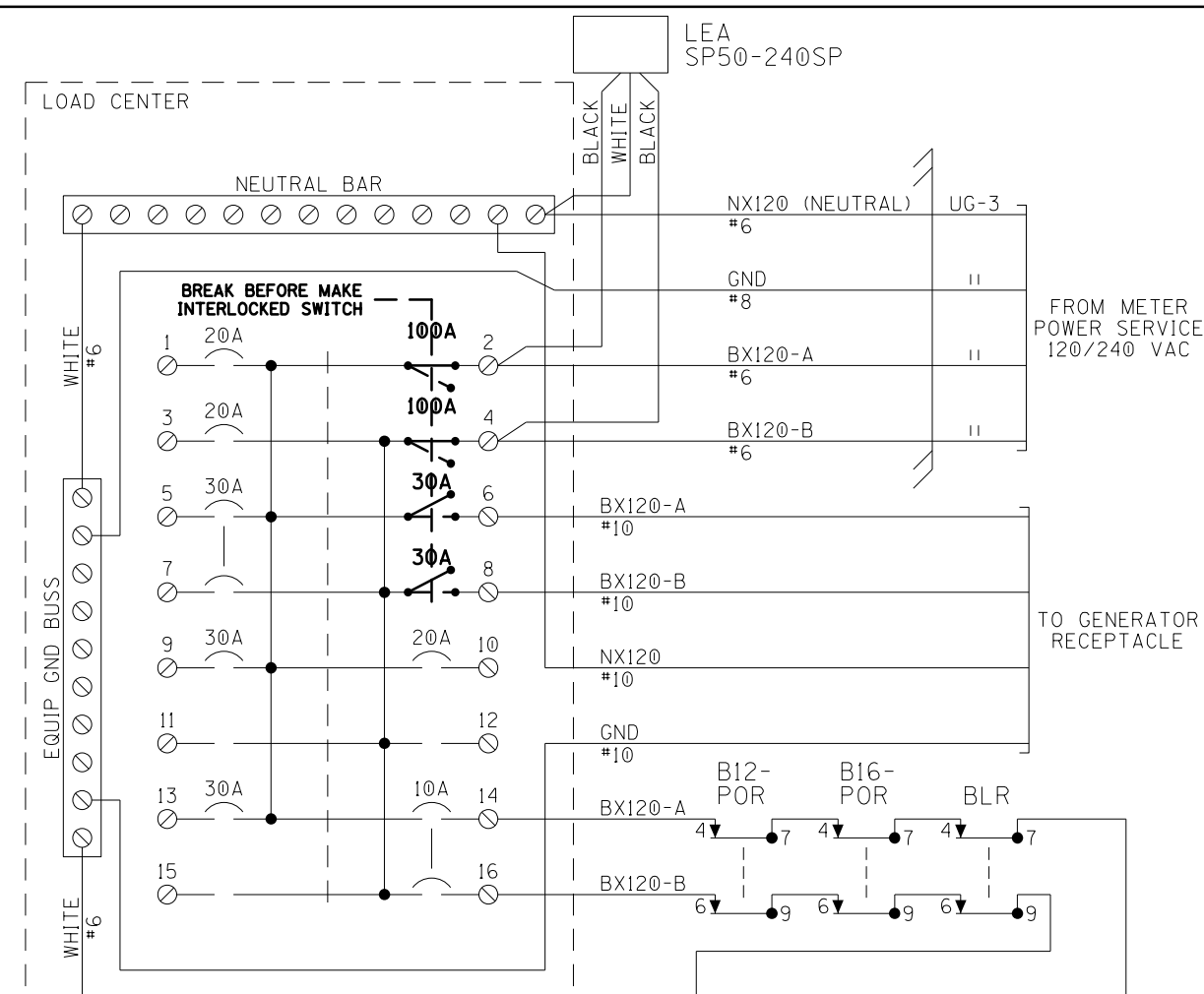


UG-1-5CUG #6 AEC AEZ AEB B16-A N16-A	UG-1A-12CUG #14 AXG NAXG AXX IAXX ACD XGP1 AGBX120 AGNX120 SPARE SPARE SPARE SPARE	UG-2A-12CUG #14 BXG NBXG BXX IBXX BGD XGP1 XCP BCBX120 BGNX120 SPARE SPARE SPARE	UG-3-3CUG #6 W/#8 GND BX120-A BX120-B NX120 GND	UG-4-TW. PR. #6 IRCV-1 IRCV-2	UG-5-TW. PR. #6 1XMT-1 1XMT-2
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CABLE PLAN

DESIGNED BY: MST 06-28-23		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY: PRS 06-28-23		READING, PA FLGS AT CHESTNUT STREET	
CHECKED BY: JMW 08-23-23	HARRISBURG LINE		REV. 1
IN SERVICE: - -	CADD or DWG. No. 03220580.003	SHEET 3 No.	

PROPERTY
PENNSYLVANIA R.R.



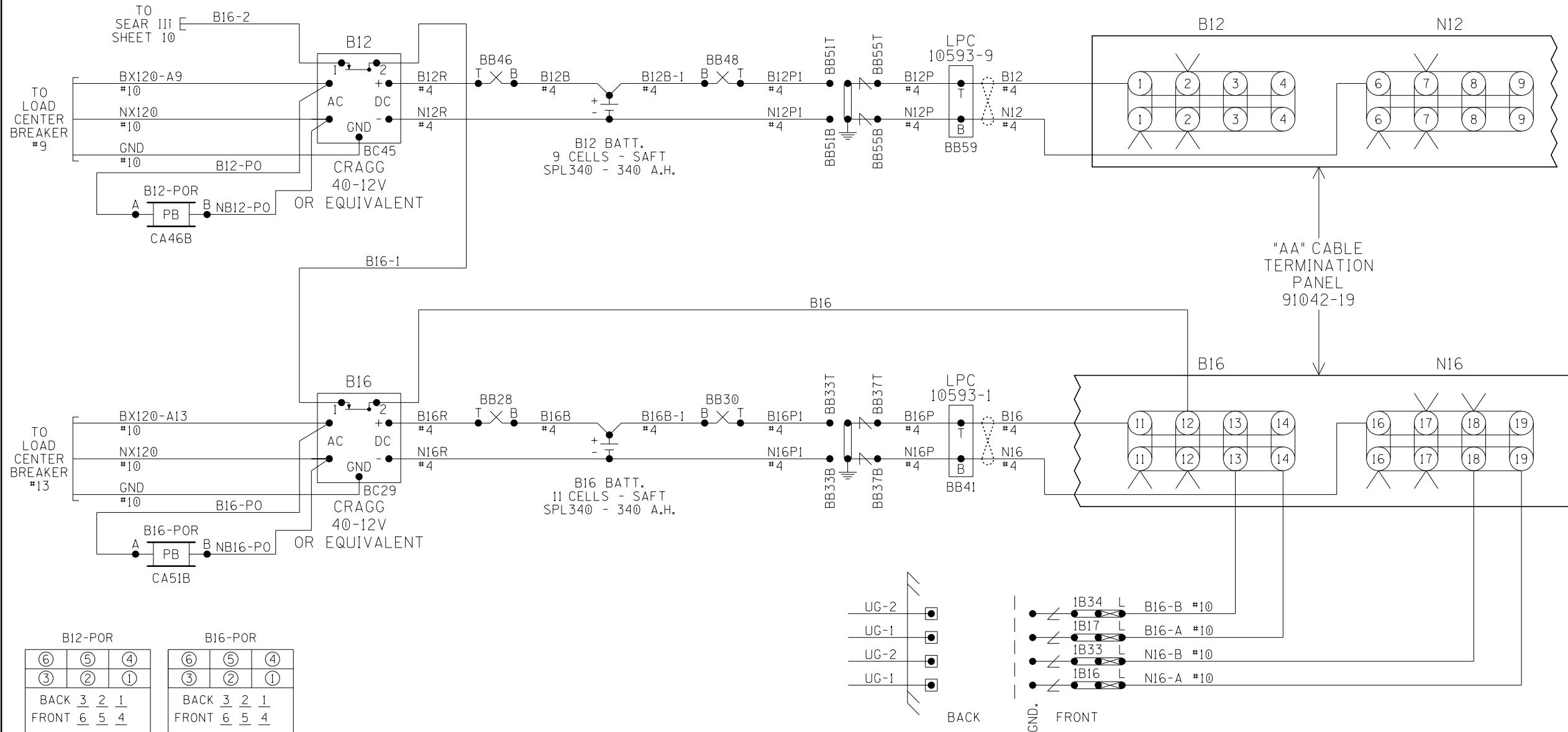
- NOTES:
1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
 2. ALL AC WIRING TO LOAD CENTER TO BE IN METALLIC CONDUIT WITH NO EXPOSED TERMINALS. ALL AC 120V AND 240V EQUIPMENT TO BE PROPERLY GROUNDED.
 3. ● = INSULATED NUTS TO BE USED ON ALL TERMINALS OF 120VAC AND ABOVE.

GND. SQUARE "D" PART NUMBERS:

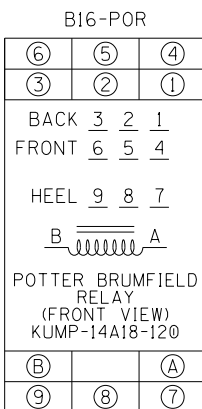
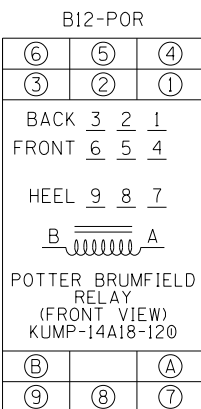
LOAD CENTER	Q0132L125G
10A 2P CIR BKR	Q0210
15A 2P CIR BKR	Q0215
20A 1P CIR BKR	Q0120
30A 1P CIR BKR	Q0130
30A 2P CIR BKR	Q0230
60A 2P CIR BKR	Q0260
100A 2P CIR BKR	Q02100
MECH INTERLOCK	PK4DTIM4LA
GENERATOR RECEPTACLE:	
MALE CONNECTOR	NEMA L1430-FI

LOAD CENTER

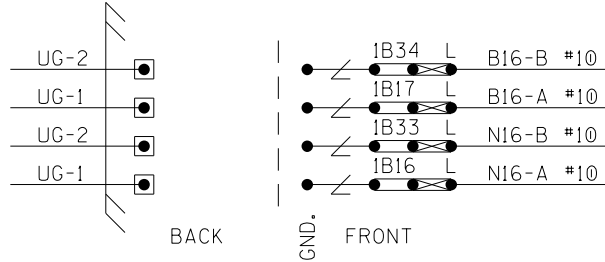
DESIGNED BY:	MST 06-28-23	
DRAWN BY:	PRS 06-28-23	
CHECKED BY:	JMW 08-23-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: HP-58.07
IN SERVICE:	- -	READING, PA FLGS AT CHESTNUT STREET
PROPERTY	PENNSYLVANIA R.R.	HARRISBURG LINE
		CADD or DWG. No. 03220580.004
		REV. 1
		SHEET 4



"AA" CABLE
TERMINATION
PANEL
91042-19



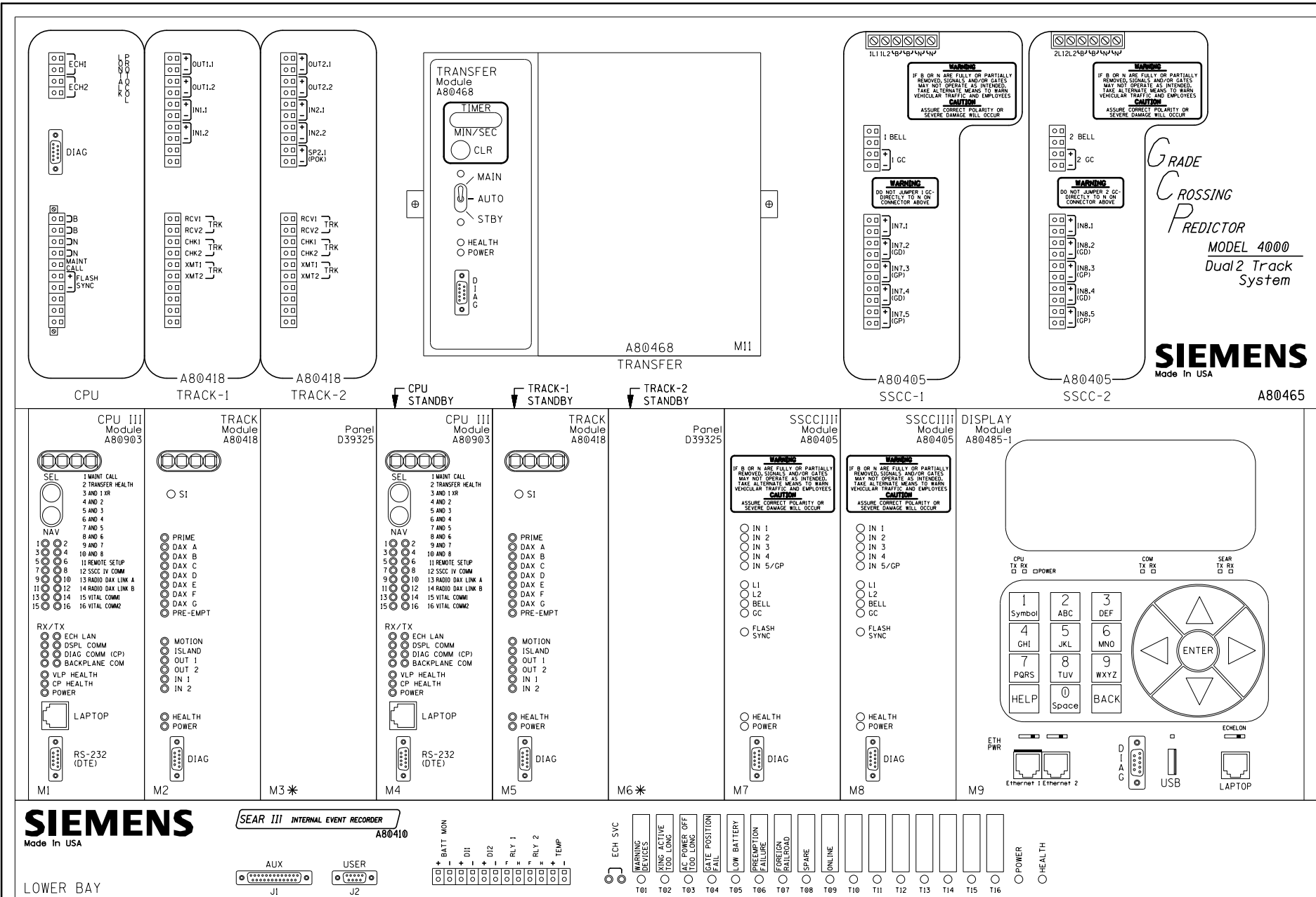
- NOTES:
- ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
 - = TWIST



CHARGERS & BATTERIES

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA FLGS AT CHESTNUT STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 08-23-23	CADD or DWG. No. 03220580.005
IN SERVICE:	- -	SHEET 5

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).

GRADE CROSSING PREDICTOR
MODEL 4000
Dual 2 Track System

SIEMENS
Made In USA

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

GCP4000 CHASSIS & MODULE LAYOUT

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA FLGS AT CHESTNUT STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 08-23-23	
JMW 08-23-23	CADD or DWG. No. 03220580.006	SHEET 6
PROPERTY	IN SERVICE:	
PENNSYLVANIA R.R.	-	

Program Report

Location and SIN

DOT Number: 592142Y
 Milepost Number: HP-58.07
 Site Name: CHESTNUT STREET

SIN: 755059000303

MCF and Template Selection

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

Template = 1A:6 Trk Bi

Check Numbers

Office Check No. (DT 4,6,0): 35C1C9D6
 Office Check Number: 35C1C9D6
 Config. Check Number: 74F6D45C
 (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 = SCCC3i
 SCCC-2 Slot = SCCC3i
 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 = 525 Hz
 Track 1: Approach Distance = 700 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 = 4.9 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

T1 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

SSCC-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

SSCC-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-58.07
DRAWN BY:	READING, PA		
PRS 06-28-23	FLGS AT CHESTNUT STREET		
CHECKED BY:	HARRISBURG LINE		
JMW 08-23-23	REV.	1	
PROPERTY	IN SERVICE:	CADD or DWG. No.	03220580.007
PENNSYLVANIA R.R.	- -	SHEET	7

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

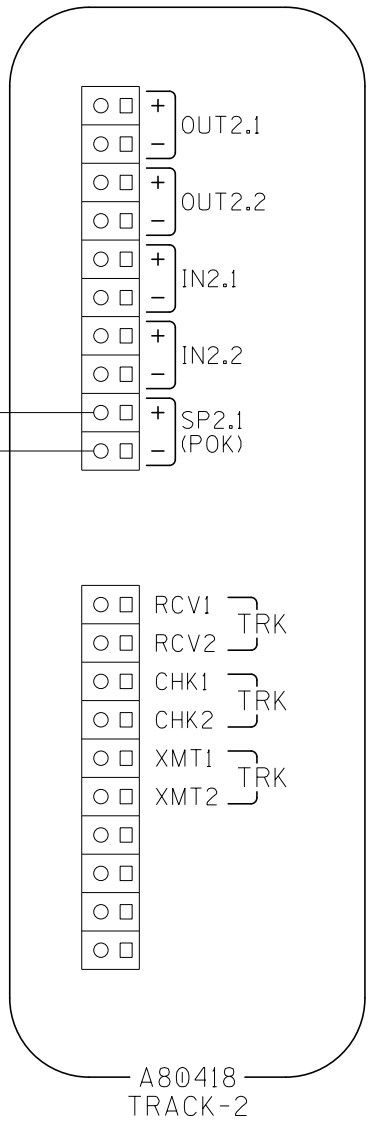
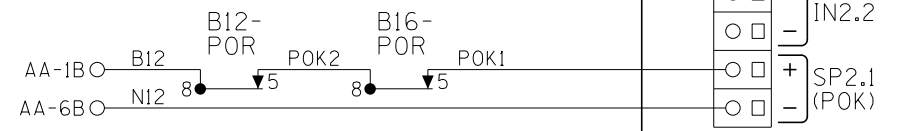
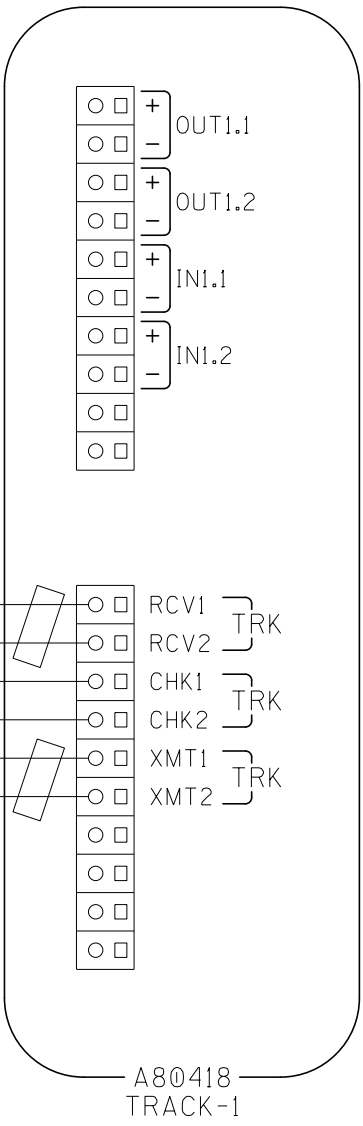
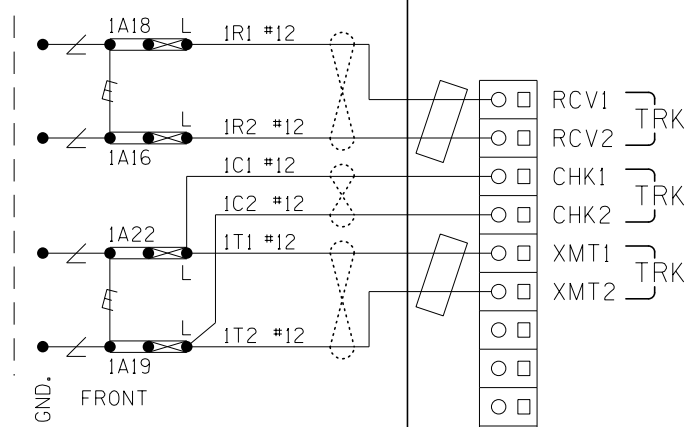
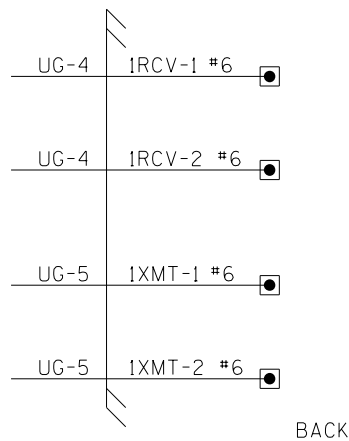
Configuration Package File

 Filename: 03220580.pac

GCP4000 PROGRAMMING

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	
JMW 08-23-23	REV. 1	
IN SERVICE:	CADD or DWG. No. 03220580.008	SHEET No. 8

PROPERTY
 PENNSYLVANIA R.R.



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

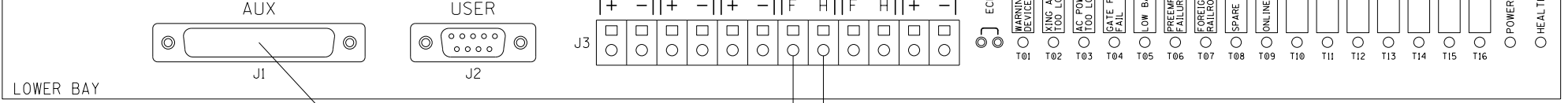
CONNECTORS FOR TRACK MODULES

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23		SHEET 9
IN SERVICE:	CADD or DWG. No. 03220580.009	No.
PROPERTY PENNSYLVANIA R.R.		

SIEMENS
Made In USA

SEAR III INTERNAL EVENT RECORDER

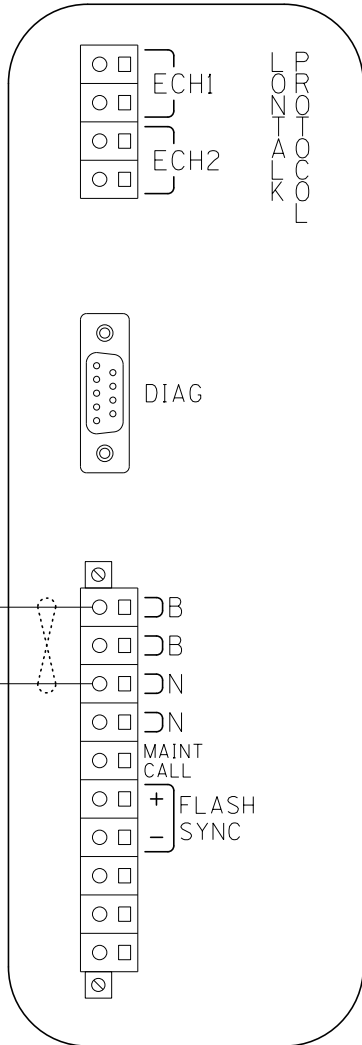
A80410



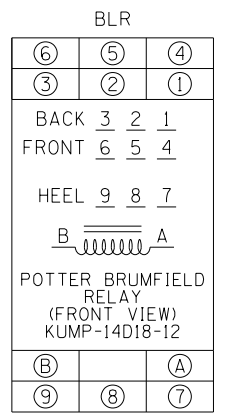
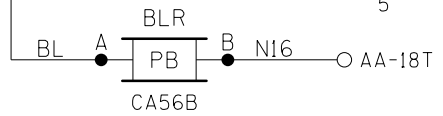
LOWER BAY

TO RADIO SHEET 12

TO SHEET 5



CPU



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

CPU MODULE & SEAR III HOOK-UP

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA FLGS AT CHESTNUT STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 08-23-23	SHEET 10
IN SERVICE:	CADD or DWG. No. 03220580.010	No. 10

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	CHESTNUT STREET
MILEPOST	HP-58.07
DOT#	592-142Y
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	7.550.590.003.03.01
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:

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

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

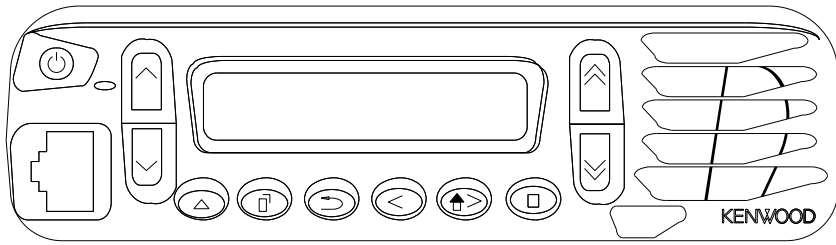
TO CONFIGURE SEAR III PRESS SITE SETUP KEY.
USE ARROW KEYS TO MAKE SELECTION,
PRESS ENTER AFTER SELECTION HAS BEEN MADE.

SEAR III PROGRAMMING

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	
JMW 08-23-23	REV. 1	SHEET 11
IN SERVICE:	CADD or DWG. No. 03220580.011	

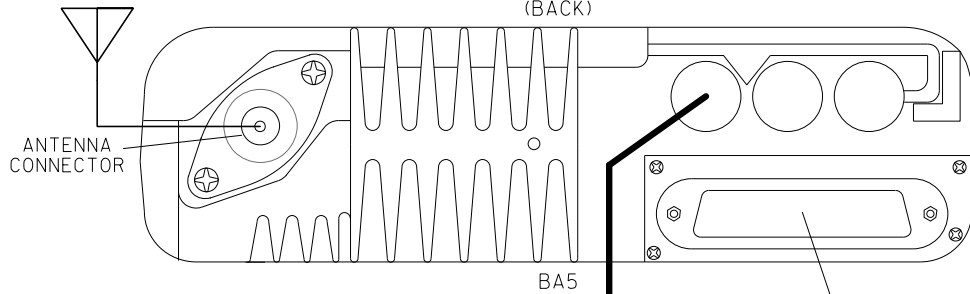
PROPERTY
PENNSYLVANIA R.R.

(FRONT)



KENWOOD RADIO NX-700H
OR EQUIVALENT

(BACK)



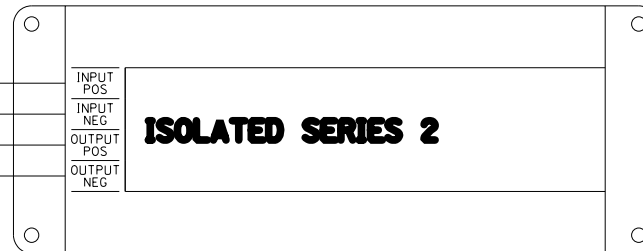
ANTENNA
CONNECTOR

BA5

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

CABLE - KENWOOD
P/N E30-7520-15

AA-2B ○ B12
AA-7B ○ N12
B12
N12



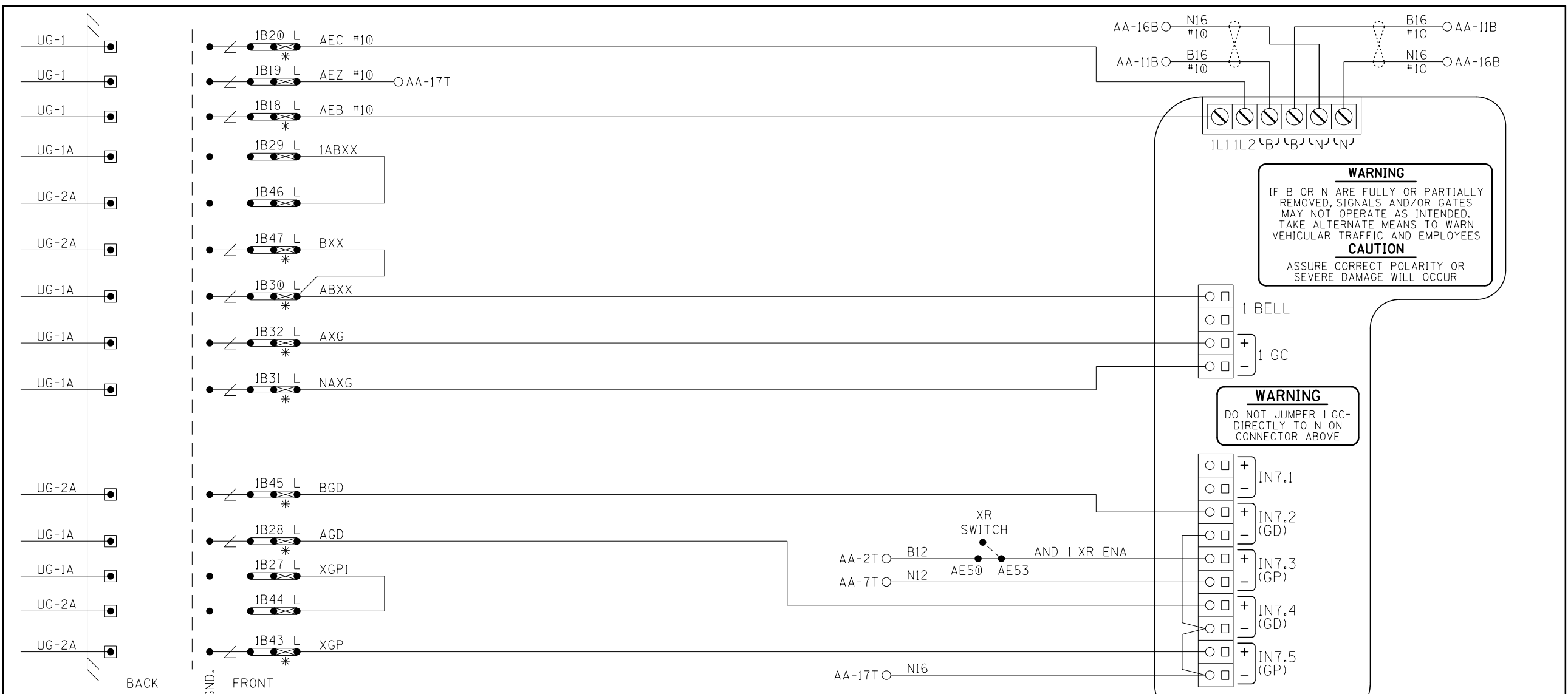
BB5

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

BACKHAUL EQUIPMENT


DESIGNED BY: MST 06-28-23		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY: PRS 06-28-23		READING, PA FLGS AT CHESTNUT STREET	
CHECKED BY: JMW 08-23-23	HARRISBURG LINE		REV. 1
IN SERVICE: - -	CADD or DWG. No. 03220580.012	SHEET 12 No.	

PROPERTY
PENNSYLVANIA R.R.




WARNING
 IF B OR N ARE FULLY OR PARTIALLY REMOVED, SIGNALS AND/OR GATES MAY NOT OPERATE AS INTENDED. TAKE ALTERNATE MEANS TO WARN VEHICULAR TRAFFIC AND EMPLOYEES
CAUTION
 ASSURE CORRECT POLARITY OR SEVERE DAMAGE WILL OCCUR

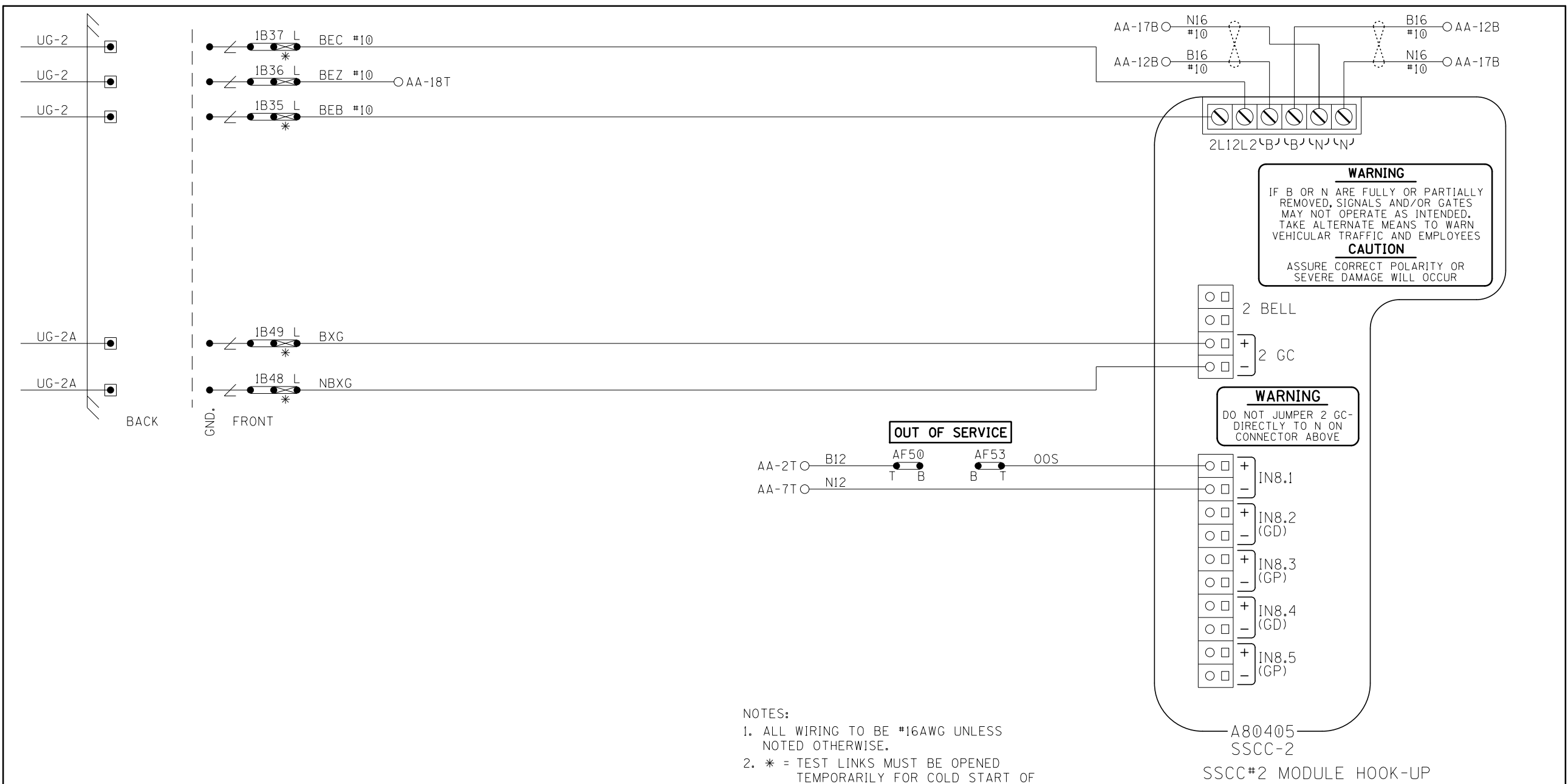
WARNING
 DO NOT JUMPER 1 GC-DIRECTLY TO N ON CONNECTOR ABOVE


- 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-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23	CADD or DWG. No. 03220580.013	SHEET 13
IN SERVICE:	- -	

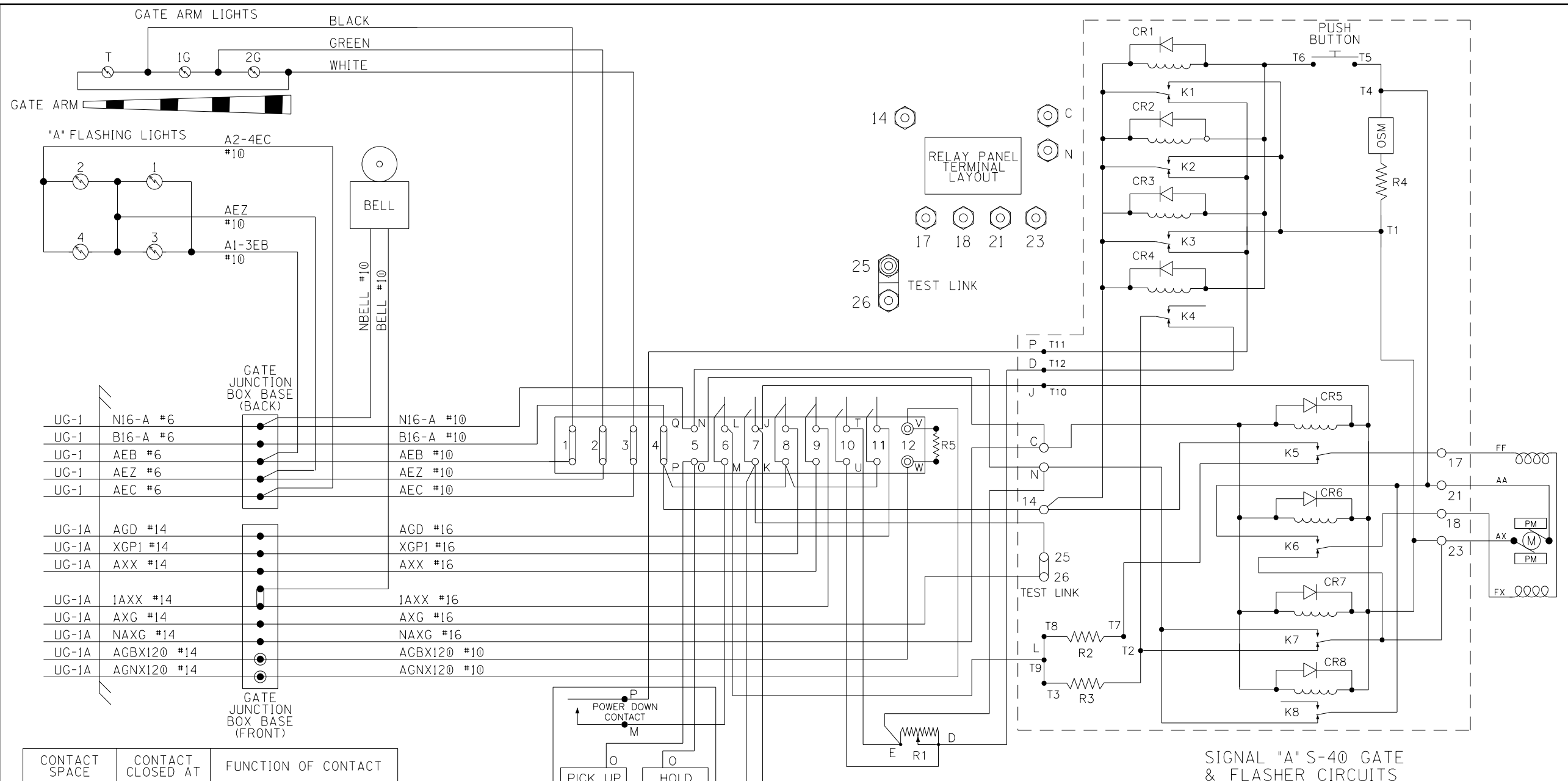
PROPERTY
 PENNSYLVANIA R.R.



- 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

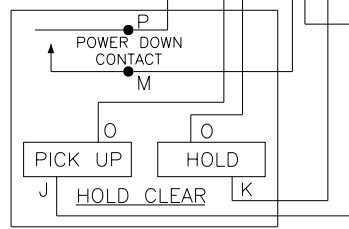
PROPERTY
PENNSYLVANIA R.R.

DESIGNED BY:	 NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23	CADD or DWG. No. 03220580.014	SHEET 14
IN SERVICE:	- -	



UG-1	N16-A #6	N16-A #10
UG-1	B16-A #6	B16-A #10
UG-1	AEB #6	AEB #10
UG-1	AEZ #6	AEZ #10
UG-1	AEC #6	AEC #10
UG-1A	AGD #14	AGD #16
UG-1A	XGP1 #14	XGP1 #16
UG-1A	AXX #14	AXX #16
UG-1A	1AXX #14	1AXX #16
UG-1A	AXG #14	AXG #16
UG-1A	NAXG #14	NAXG #16
UG-1A	AGBX120 #14	AGBX120 #10
UG-1A	AGNX120 #14	AGNX120 #10

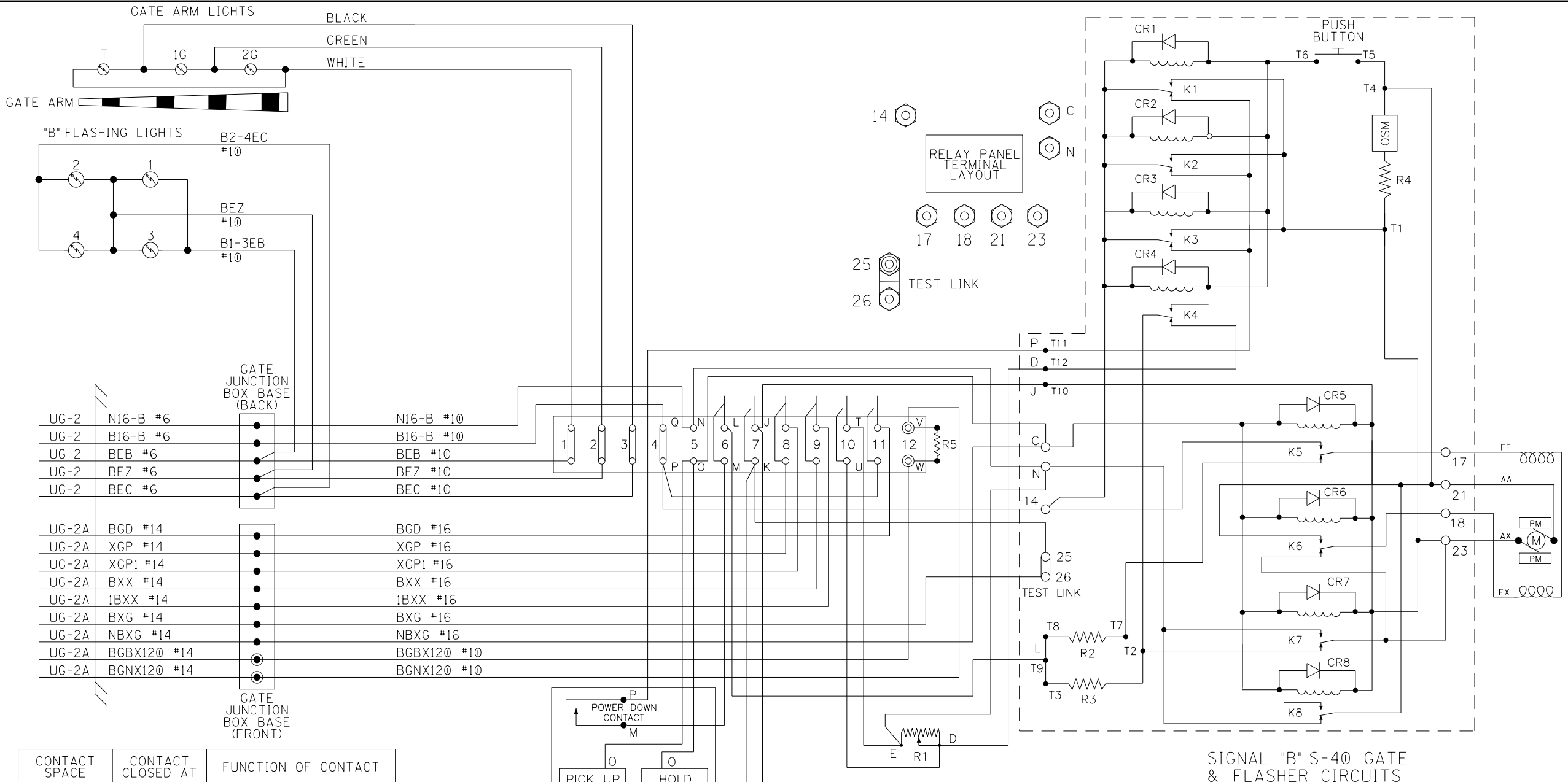
CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
(6) L-M	45° - 90°	POWER DOWN CONTROL
(7) J-K	0° - 89°	POWER UP CONTROL
(8)	83° - 90°	FLASHING LGT. CONTROL
(9)	5° - 90°	BELL CONTROL
(10) T-U	0° - 5°	HORIZONTAL SNUB
(11)	0° - 5°	GATE DOWN INDICATION



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

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA FLGS AT CHESTNUT STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 08-23-23	SHEET 15
IN SERVICE:	CADD or DWG. No. 03220580.015	

PROPERTY
 PENNSYLVANIA R.R.

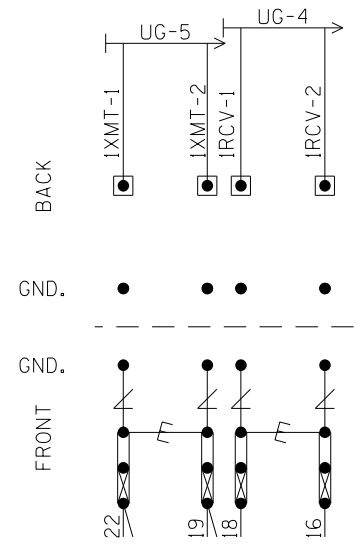


CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
(6) L-M	45° - 90°	POWER DOWN CONTROL
(7) J-K	0° - 89°	POWER UP CONTROL
(8)	83° - 90°	FLASHING LGT. CONTROL
(9)	5° - 90°	BELL CONTROL
(10) T-U	0° - 5°	HORIZONTAL SNUB
(11)	0° - 5°	GATE DOWN INDICATION

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

DESIGNED BY: MST 06-28-23		
DRAWN BY: PRS 06-28-23		
CHECKED BY: JMW 08-23-23	READING, PA FLGS AT CHESTNUT STREET	
IN SERVICE: - -	HARRISBURG LINE	REV. 1
PROPERTY PENNSYLVANIA R.R.	CADD or DWG. No. 03220580.016	SHEET No. 16

"1A"



NOTES:

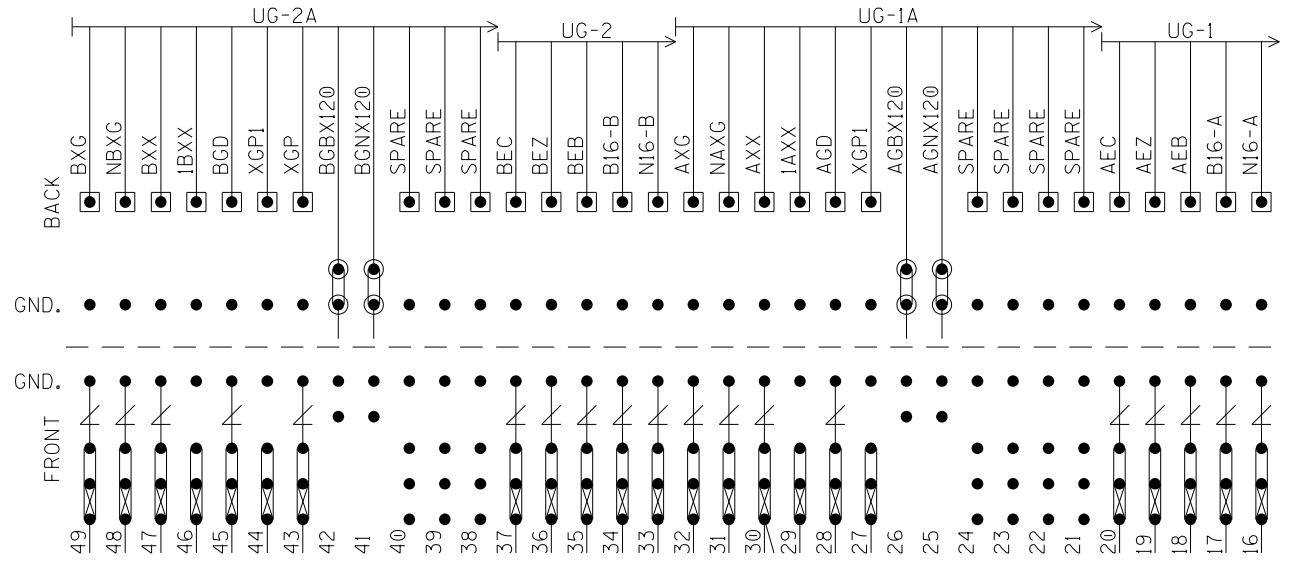
1. E = HEAVY DUTY EQUALIZER (022700-1X)
2. Z = ERICO LIGHTNING ARRESTER (EPD2050F)
3. GND. ● = THROUGH GROUND POST ON EACH TERMINAL BLOCK TO FARADAY SHIELD
4. X = TEST LINK
5. INSTALL TEST LINKS ON ALL TRACK WIRES AND ON ALL LOW VOLTAGE UNDERGROUND CABLE TERMINATIONS.

BACKBOARD 1A

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23	CADD or DWG. No. 03220580.017	SHEET 17
IN SERVICE:	- -	

PROPERTY
PENNSYLVANIA R.R.

"1B"

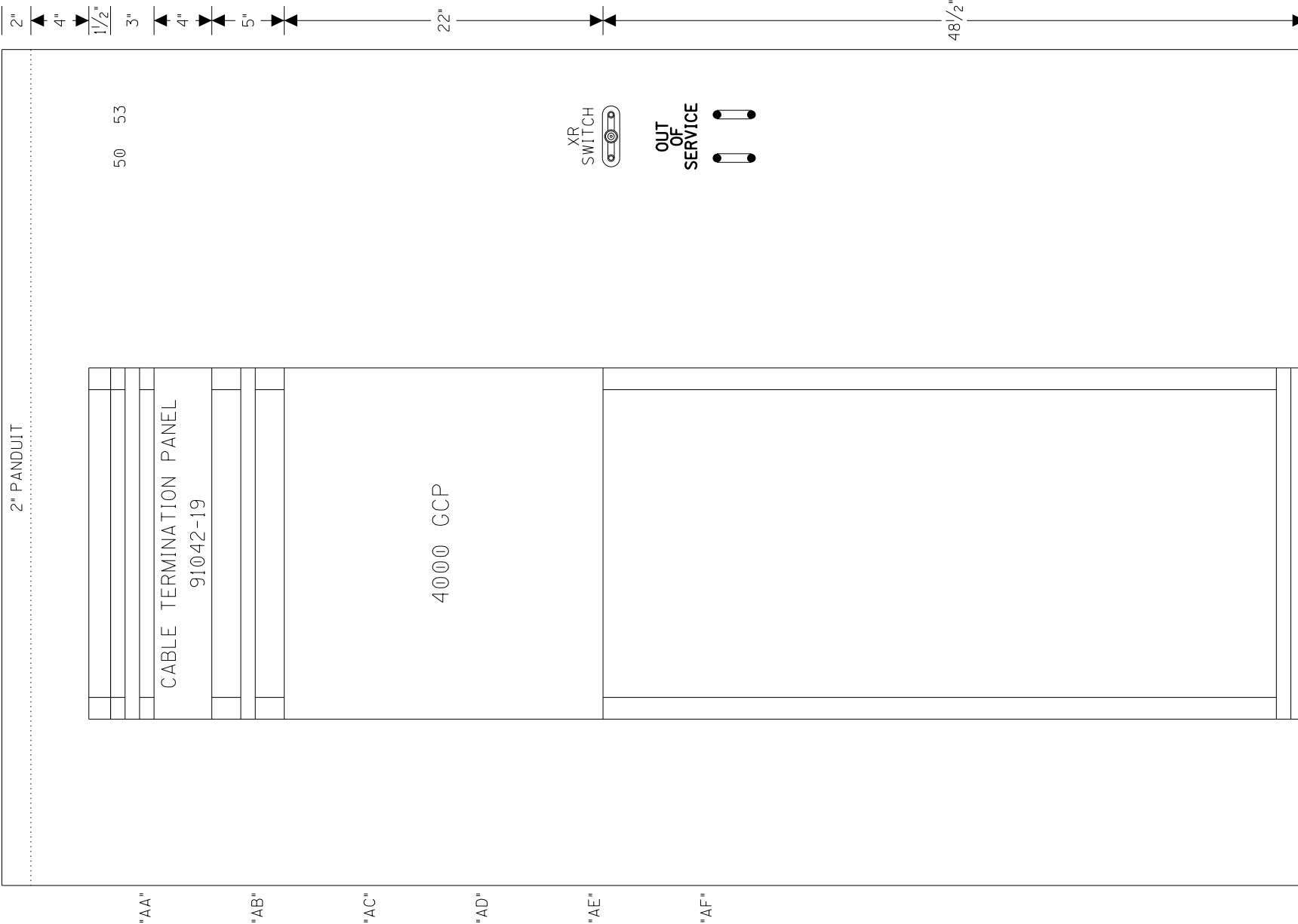


NOTES:

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

BACKBOARD 1B

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	
JMW 08-23-23	REV. 1	
IN SERVICE:	CADD or DWG. No. 03220580.018	SHEET No. 18
PROPERTY	PENNSYLVANIA R.R.	



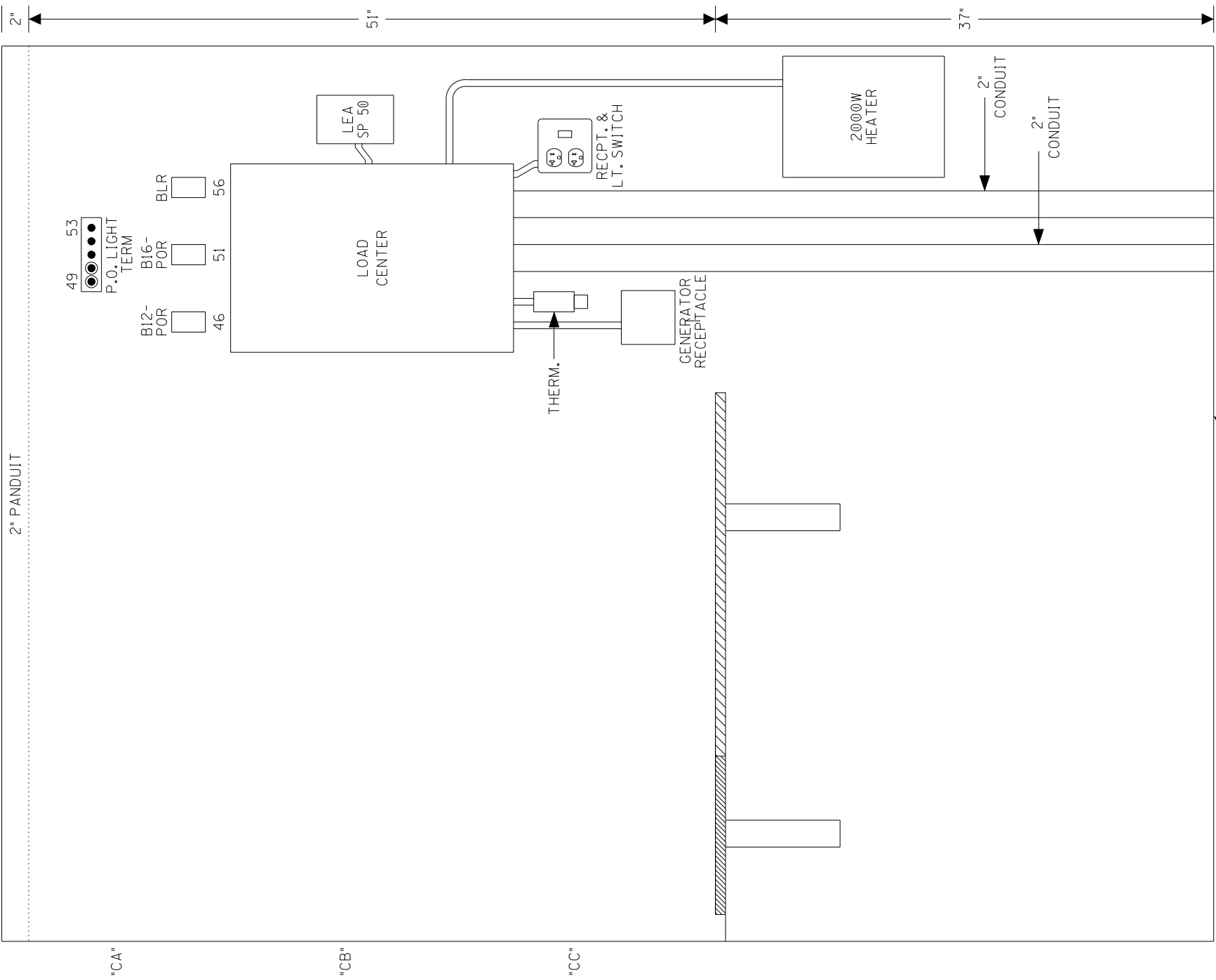
24 1/4"
EQUIPMENT RACK #1
FRONT



SIDE A LAYOUT & RACK PLACEMENT

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23	CADD or DWG. No. 03220580.019	SHEET No. 19
IN SERVICE:	- -	

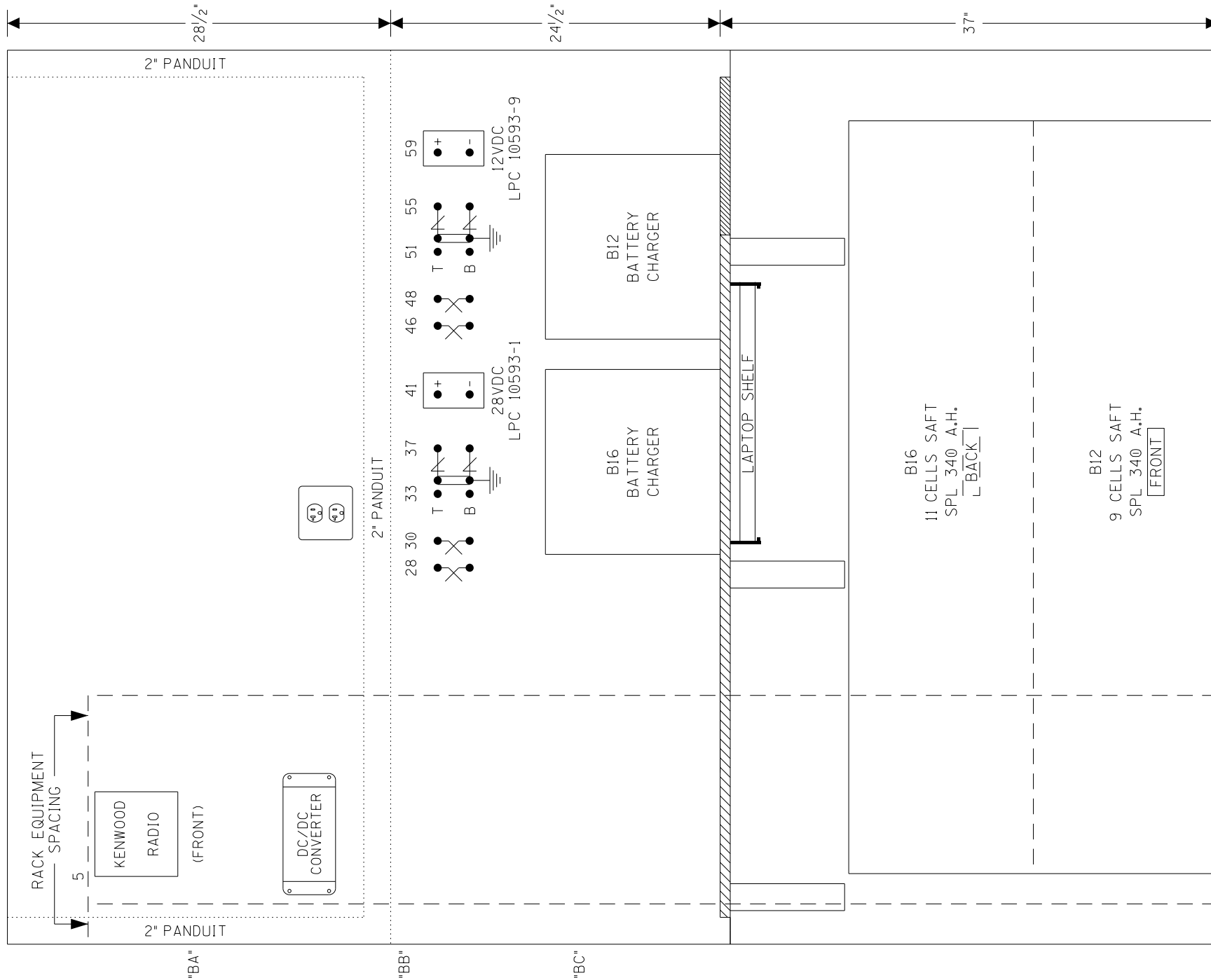
PROPERTY
PENNSYLVANIA R.R.



SIDE C LAYOUT

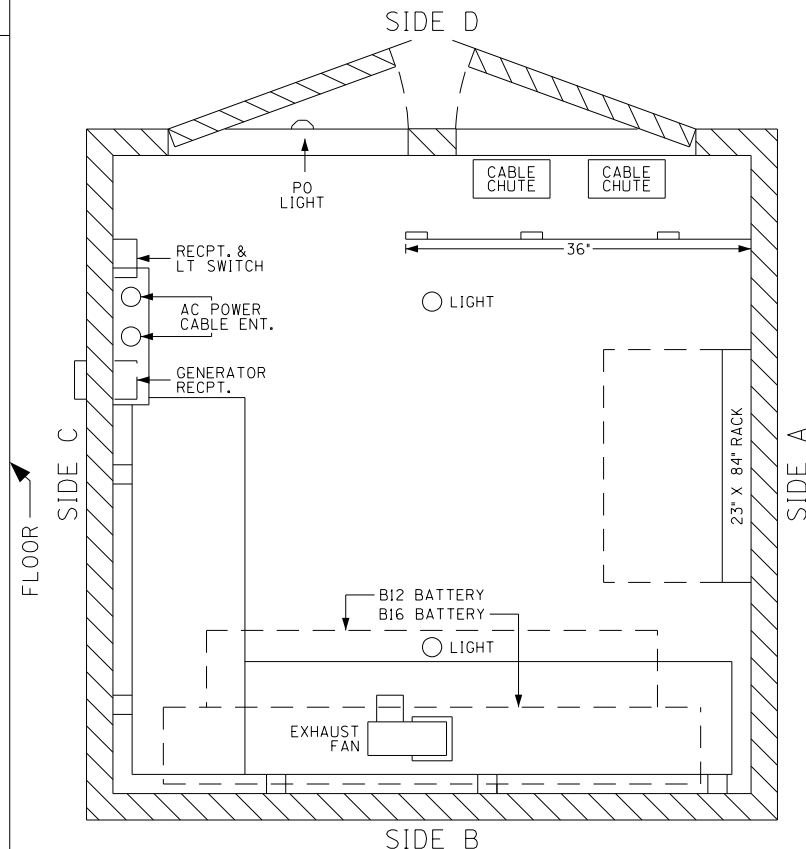
DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23	CADD or DWG. No. 03220580.020	SHEET 20
IN SERVICE:	- -	No.

PROPERTY
PENNSYLVANIA R.R.



***TOP VIEW**

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



SIDE B LAYOUT & TOP VIEW

DESIGNED BY: MST 06-28-23	NS NORFOLK SOUTHERN	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY: PRS 06-28-23		READING, PA FLGS AT CHESTNUT STREET	
CHECKED BY: JMW 08-23-23	HARRISBURG LINE		REV. 1
IN SERVICE: - -	CADD or DWG. No. 03220580.021	SHEET No. 21	

PROPERTY
PENNSYLVANIA R.R.

**Franklin Street
DOT 592 143 F**



Detailed Estimate for Grade Crossing Warning Devices

City/State: READING, PA

Road: FRANKLIN STREET

MilePost: HP-58.17

DOT/AAR: 592143F

State Proj. No.: MPMS: 106140

County: BERKS

S&E Proj. No.: 19.6000

File Number:

Man Days: 312

Purchases - Others		
Meals and Lodging:	\$55,930.87	
Rental of Equipment:	\$76,457.28	
(2 Trucks, 1 Backhoe w/ Trailer and 1 Pipe-Pusher for 52 Days)		
Construction Supervision Vehicle:	\$11,695.40	
Purchases - Other Total:		\$144,083.55
Material And Additives		
Material Cost:	\$144,490.00	
Sales and Use Tax:	\$11,559.00	
Material Handling Freight:	\$14,449.00	
Material Total:		\$170,498.00
Labor And Additives		
Labor Cost:	\$131,664.00	
(6 man crew at \$2,532.00 a day for: 52 days)		
Payroll Tax & Overheads:	\$112,256.73	
Preliminary Engineering:	\$28,996.17	
Construction Supervision:	\$38,459.05	
Labor Total:		\$311,375.95
	Project Cost:	\$625,957.50
	Scrap / Salvage Credit:	\$0.00
	Project Total:	\$625,957.00

Estimated on: 15-Jul-24

Estimated by: gagof

Estimate valid for 1 year from date of estimate

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
							Date Quan.	Date Quan.	Date Quan.		
3	670-360693-4	EA	\$6.05	\$18.15	AAR/DOT NUMBER PLATE/DECAL, ORDER 3 PER PROJECT. 60 DAY LEAD TIME. SUPPLIED BY S'TRAN.						
1	165-006505-4	EA	\$1,452.55	\$1,452.55	AC SERVICE, COMPLETE LESS METER BASE, ASSEMBLED ON 30' POLE						
27	670-001196-4	EA	\$48.27	\$1,303.29	ARRESTER, LIGHTNING SOLID STATE ERICO P/N EPD2050F						
20	105-002620-4	EA	\$248.79	\$4,975.80	BATTERY, NICAD 340AH, MODEL SPL340						
2	670-503047-4	EA	\$214.50	\$429.00	BELL, CROSSING ELECTRONIC GENERAL SIGNAL, EB-3-360-5 CR 02-044350						
2	670-980689-4	EA	\$93.50	\$187.00	BRACKET HIGH WIND, (RIGID 3'), WIG- 191036, WALRUS TUSK TYPE						
1	670-811781-4	EA	\$524.74	\$524.74	BRACKET, OFFSET HIGHWAY/PEDESTRIAN SAFTRAN 076227-44X FOR S-20 OR S-40 COMBO GATE MECH W/HARDWARE & PLUG RETAINER						
2	670-561375-4	EA	\$1,197.90	\$2,395.80	BRACKET, GATE SAVER, NEG385102GS, SPRING LOADED SWING AWAY ADAPTER FOR FIBERGLASS/ALUMINUM GATES, USE WITH GATE 38' AND LESS						
500	465-939422-4	LF	\$3.01	\$1,505.00	CABLE, UG 12 CONDUCTOR NO 14 AWG SOLID EACH CONDUCTOR WITH 5/64 IN INSULATION 10 MIL						
350	465-292862-4	LF	\$1.36	\$476.00	CABLE, UG 2-6 TWISTED, S-23 OKONITE 113-12-3933 SOLID TINNED CONDUCTOR						
500	465-292929-4	LF	\$5.03	\$2,515.00	CABLE, UG 5 COND. NO. 6 AWG SOLID COPPER CABLE TO MEET NS CORP. SPEC. FOR SIGNAL						
350	465-791835-4	FT	\$3.97	\$1,389.50	CABLE, UG AC ENTRANCE 3C#6-7X OKONITE FMPF-L 094-078 TR W/G 1 X 8 7X W010 BRZ TAPE 600V PRODUCT CODE 206-11-6070						
1	670-073679-4	EA	\$5,687.40	\$5,687.40	CANTILEVER, WT/F ARM 26' W/WALKWAY KIT SAFTRAN #071274-26NS2						
1	670-010671-4	EA	\$1,234.78	\$1,234.78	CHARGER, BATTERY CRAGG MODEL 40 DTC-12V, 40 AMP, P/N 520940						
1	670-010672-4	EA	\$1,364.86	\$1,364.86	CHARGER, BATTERY CRAGG MODEL 60 DTC-12V, 60 AMP, P/N 520960						

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
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Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
							Date Quan.	Date Quan.	Date Quan.		
2	670-664917-4	EA	\$71.49	\$142.98	CONNECTOR KIT, WELDED FAR RAIL, CONSISTING OF RUBBER HOSE PROPERLY DRILLED, BONDSTRAND, 1 SPLICING SLEEVE, 1 REDUCING SLEEVE, 3 CLAMPS, 1 TRACK CLIP, 1 WEB WELDED TRACK CONNECTOR, 1 WELD METAL, SAFETRAN 111359-2X						
2	670-632520-4	EA	\$57.38	\$114.76	CONNECTOR KIT, WELDED NEAR RAIL, CONSISTING OF RUBBER HOSE PROPERLY DRILLED, BONDSTRAND, SPLICING SLEEVE, 1 REDUCING SLEEVE, 5 CLAMPS, 1 TRACK CLIP, 1 WEB WELDED TRACK CONNECTOR, 1 WELD METAL, SAFETRAN 111359-1X						
1	670-793404-4	EA	\$1,245.20	\$1,245.20	COUNTERWEIGHT PKAGE, 17-24'GATE S'TRAN S- MECH ONLY, STAINLESS, TO INCLUDE HUB, SUPPORT ARMS						
1	670-315874-4	EA	\$1,375.33	\$1,375.33	COUNTERWEIGHT, KIT 25'- 32' STAINLESS FOR S-MECH ON GATE/CANT COMBOS W/ARMS AND HUBS SAFETRAN 070755-2532AX						
7	670-760012-4	EA	\$41.80	\$292.60	COVER, FOR 1 WAY FLASHING LIGHT ASSY. 18 OZ. BLACK VINYL COATED NYLON. =====TO COVER 2 LAMPS=====						
1	670-986650-4	EA	\$355.00	\$355.00	DISPOSAL, CONSTRUCTION DEBRIS AND CLEANING X'ING EQUIPMENT CONTAINER						
2	670-228165-4	EA	\$15.72	\$31.44	EQUALIZER, SAFETRAN 022700-1X LESS BASE, MODERN NO. 700-1 SHUNT ARRESTER TRACK CIRCUITS CR 02-197950						
1	670-000004-4	EA	\$900.00	\$900.00	FCC LICENSE FOR MONITOR/RADIO						
2	670-001486-4	EA	\$1.34	\$2.68	FERRITE BEAD (USED IN INSTALLATION OR RCL LOCATIONS) IPN: Z590-00016-0000						
6	670-000003-4	EA	\$255.85	\$1,535.10	FILL/STONE #57, QUANTITY IS BASED ON TRUCK LOAD PLUS DELIVERY COST						
1	670-744631-4	EA	\$3,270.80	\$3,270.80	FOUNDATION, CFLS FOR SAFETRAN MODEL "WT/F" ARMS 12' TO 30' SINGLE MAST, DIXIE# DP4B-SM12-26-4, 5'10" CR 02-205902						
1	670-015231-4	EA	\$613.80	\$613.80	FOUNDATION, DIXIE,S-2 GATE 2'6"X2'6"X5'6" ASSEMBLED						
2	670-005377-4	EA	\$328.35	\$656.70	GATE ARM, ALUMINUM, 17-24 FT, ARM ASSEMBLY, INCLUDES GATE GUARD FOR GATE LIGHT CABLE. HIGH INTENSITY VERTICAL STRIPES.						

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
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Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
							Date Quan.	Date Quan.	Date Quan.		
1	670-275809-4	EA	\$23,050.40	\$23,050.40	GCP4000 - 1 TRK (2TC) - REDUNDANT (INCL. 2 TRK CHASSIS A80465, 2 TRK MODS. A80418, 2-SSCC A80405, 2 CPU A80403, 1 SEAR A80410, 1 DISPLAY A80407, 1 TRANS MOD. A80468)						
1	670-324266-4	EA	\$413.36	\$413.36	GUARD, HIGH WIND LIGHT DEFLECTOR FOR COMBO CANTILEVER GATE SAFETRAN 076203-66X1						
1	670-018333-4	KT	\$2,510.92	\$2,510.92	KIT, FOREMAN CROSSING SIGNAL (INCLUDES 10-757356, 10-841068, 2-899801, 2-904890, 50-917900, 32-840003, 1-003360, 1-809007, 2-754202, 55-938285, 2-204244, 2-656656, 50-917869, 1-005458, 2-810339, 1-447991, 2-805560, 1-330382, 1-986008, 100 WHITE TAGS AND						
2	670-092155-4	EA	\$181.50	\$363.00	LAMP ASSY, LED GATE ARM KIT (INCLUDES 3 LAMPS COMPLETE WITH CABLES AND MTG. HARDWARE) RECO #: 9298-1120						
1	670-005055-4	EA	\$1,012.06	\$1,012.06	LAMP ASSY, LED, 12" MAST 1 WAY BACK LIGHTS (FRONT ON COMBO CANT.) (IPN: 042003-L481XNS)						
3	670-005057-4	EA	\$1,008.69	\$3,026.07	LAMP ASSY, LED, 4" CANT JURY ARM MAST (FRONT OR BACK) (IPN: 042003-L001534)						
1	670-005066-4	EA	\$1,019.80	\$1,019.80	LAMP ASSY, LED, 5" MAST 1 WAY BACK LIGHTS (IPN: 042003-L001493)						
1	670-005058-4	EA	\$1,892.88	\$1,892.88	LAMP ASSY, LED, 5" MAST BACK TO BACK LIGHTS (IPN: 042003-L487XNS)						
1	670-512140-4	EA	\$11,145.41	\$11,145.41	MAST, 12" CANTILEVER/GATE COMBO, FOR 21'-30' WT/F ARMS, GATE OFFSET TOWARD TRACK, INCL. LADDER KIT (IPN: 071292-30NS)						
1	670-637778-4	EA	\$1,424.91	\$1,424.91	MAST, 5" ALUMINUM 13'10" WITH DOUBLE JCT. BOX BASE. S'TRAN P# 070519-11AX.						
1	670-297772-4	EA	\$260.58	\$260.58	MAST, NEW NSW CANTI TIP 4" DI. 45 L EXTENSION FOR EXTRA TIP LT. UNIT SAFETRAN # 071443-35X						
2	670-521147-4	EA	\$3,850.87	\$7,701.74	MECHANISM, GATE MODEL S-40, WITH CONTACT HEATER, COMPLETE W/RELAY S'TRAN # 074000-W00090						
5	670-000002-4	EA	\$527.05	\$2,635.25	MISC. EXPENSE, CONCRETE WORK						
5	670-000014-4	EA	\$1,500.08	\$7,500.40	MISC. EXPENSE, CURB WORK (BY ROAD AUTHORITY)						
8	670-000001-4	EA	\$726.23	\$5,809.84	MISC. EXPENSE, MATERIAL/FILL						

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
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Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
							Date Quan.	Date Quan.	Date Quan.		
1	000-000000-4	EA	\$7,000.00	\$7,000.00	MISC. EXPENSE, UNDERGROUND BORING						
1	670-051028-4	EA	\$123.45	\$123.45	PACKAGE, BRACKET & BOLTS FOR MTG. X-BUCK OR TRK. SIGN TO WNS 12" CANTILEVER MAST 670-289773, 670-293664 SAFETRAN# 035025-20 X						
1	670-792650-4	EA	\$41.11	\$41.11	PACKAGE, HARDWARE SIGN 4 IN. MOUNTING, SERRMI A1250-4, HARMON @180005/0008,						
1	670-001347-4	EA	\$74.55	\$74.55	PACKAGE, HARDWARE SIGN 5 IN. MOUNTING, SERRMI A1250-5, HARMON @200965-000, OR						
3	670-018542-4	EA	\$47.30	\$141.90	PADLOCK, ABLOY 5/16" X 1" SHACKLE CLEARANCE KEYED FOR C&S DEPT USE; INCLUDES ETCHING;						
1	255-646807-4	EA	\$34.76	\$34.76	PADLOCK, SAFETRAN PART NO. 030399-29X SCREW TYPE FOR CIR CONTROLLER AND BTY. BOX						
2	670-514605-4	EA	\$13.56	\$27.12	PINNACLE, W-C SECT 1-11, 4"& 5" REF K1 110-8 OR SAFETRAN NO. @035045-503X						
1	670-024229-4	EA	\$27,977.58	\$27,977.58	SHELTER, 6X6 ALUMN FARADAY SHIELD PTMW 91000779A, 2000W HEATER, NO AC. WITH HEAVY DUTY HASP, ADJUSTABLE PIERS, 1 EQUIPMENT RACK, 2 SHELVES AND						
2	670-586967-4	EA	\$44.51	\$89.02	SHUNT COVER W/LAG SCREWS, 19"X19", SERRMI #40271, ORDER 1 PER SHUNT						
2	670-016315-4	EA	\$700.70	\$1,401.40	SHUNT, MULTI-FREQ. #250849-005 FSS-1F ALSTOM NARROW BAND (430, 525, 645, 790, 970)						
2	670-016346-4	EA	\$154.53	\$309.06	SIGN, X-BUCK, HI-INTENSIVE REFLECTIVE FRT. & BACK FOR ALL STATES, SAFETRAN# 035200-91X						
2	670-393331-4	EA	\$30.58	\$61.16	SIGN, CROSSING ENS MALFUNCTION ASSEMBLY FOR 4" AND 5" MAST, SAFETRAN #T17215						
34	670-018188-4	EA	\$42.56	\$1,447.04	TERMINAL BLOCK, THRU POST WITH HARDWARE LESS LIGHTNING ARRESTER. SIEMENS P/N NYK: 023275-17X.						

Total Material: \$144,490.03

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
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SH. NO.	CONTENTS	REV. NO.
NX1	INDEX SHEET	1
1	LAYOUT	1
2	PROFILE	1
3	CABLE PLAN	1
4	LOAD CENTER	1
5	CHARGERS & BATTERIES	1
6	GCP4000 CHASSIS & MODULE LAYOUT	1
7	GCP4000 PROGRAMMING	1
8	GCP4000 PROGRAMMING	1
9	CONNECTORS FOR TRACK MODULES	1
10	CPU MODULE & SEAR II HOOK-UPS	1
11	SEAR III PROGRAMMING	1
12	BACKHAUL EQUIPMENT	1
13	SSCC#1 MODULE HOOK-UP	1
14	SSCC#2 MODULE HOOK-UP	1
15	CANTILEVER FLASHER LIGHTS	1
16	SIGNAL "A" S-40 GATE & FLASHER CIRCUITS	1
17	SIGNAL "B" S-40 GATE & FLASHER CIRCUITS	1
18	BACKBOARD 1A	1
19	BACKBOARD 1B	1
20	SIDE A LAYOUT & RACK PLACEMENT	1
21	SIDE C LAYOUT	1
22	SIDE B LAYOUT & TOP VIEW	1

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

IN SERVICE _____ SIGNED _____ DATE _____


S&E ENGINEERING COPY

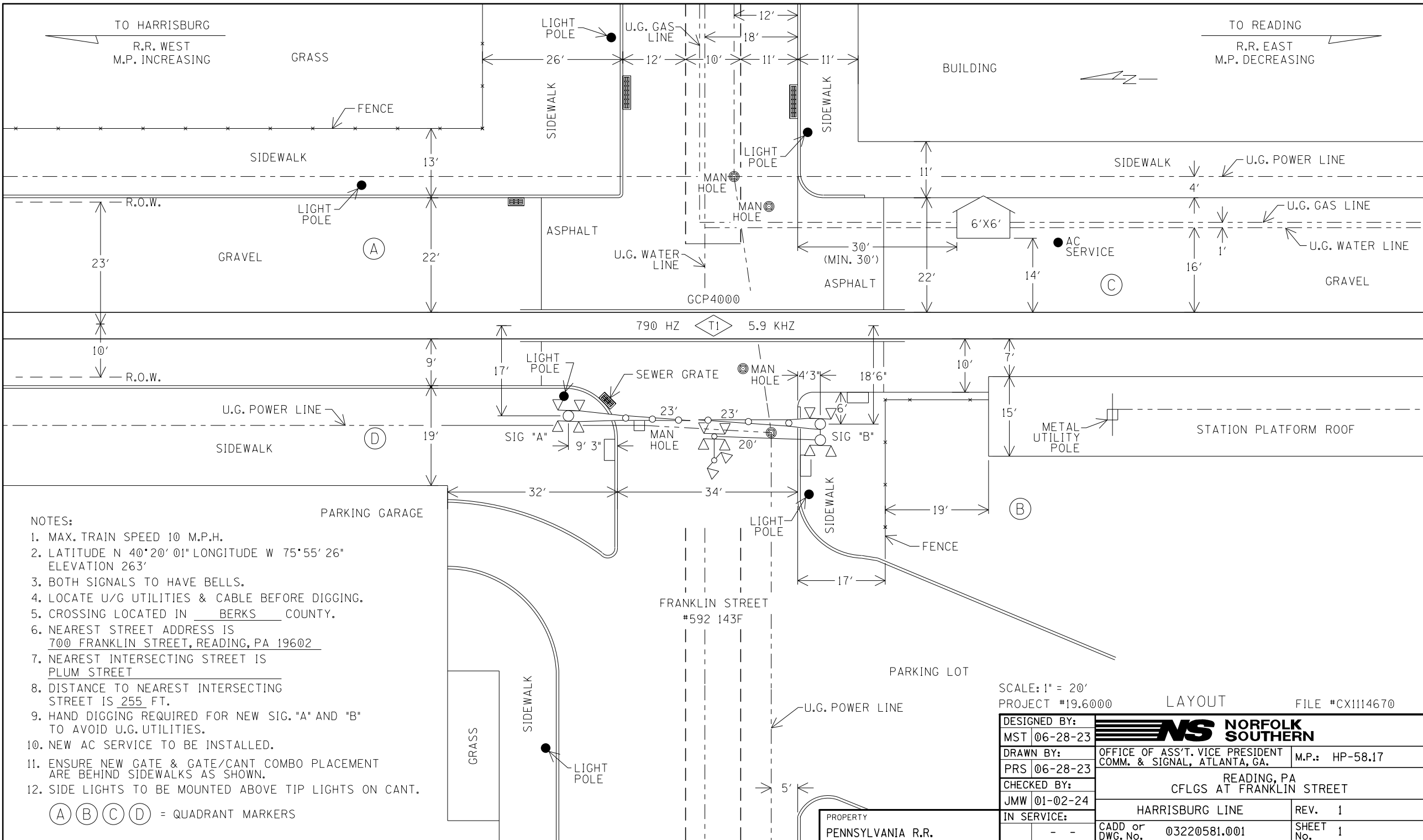
CONSTRUCTION OFFICE COPY
RETURN TO S&E ENG. AFTER COMPLETION

FIELD COPY
RETURN TO CASE AFTER COMPLETION

PROJECT ENGINEER COPY

PROPERTY
PENNSYLVANIA R.R.

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 No. INDEX 1



- 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:	-	
NS NORFOLK SOUTHERN		
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 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

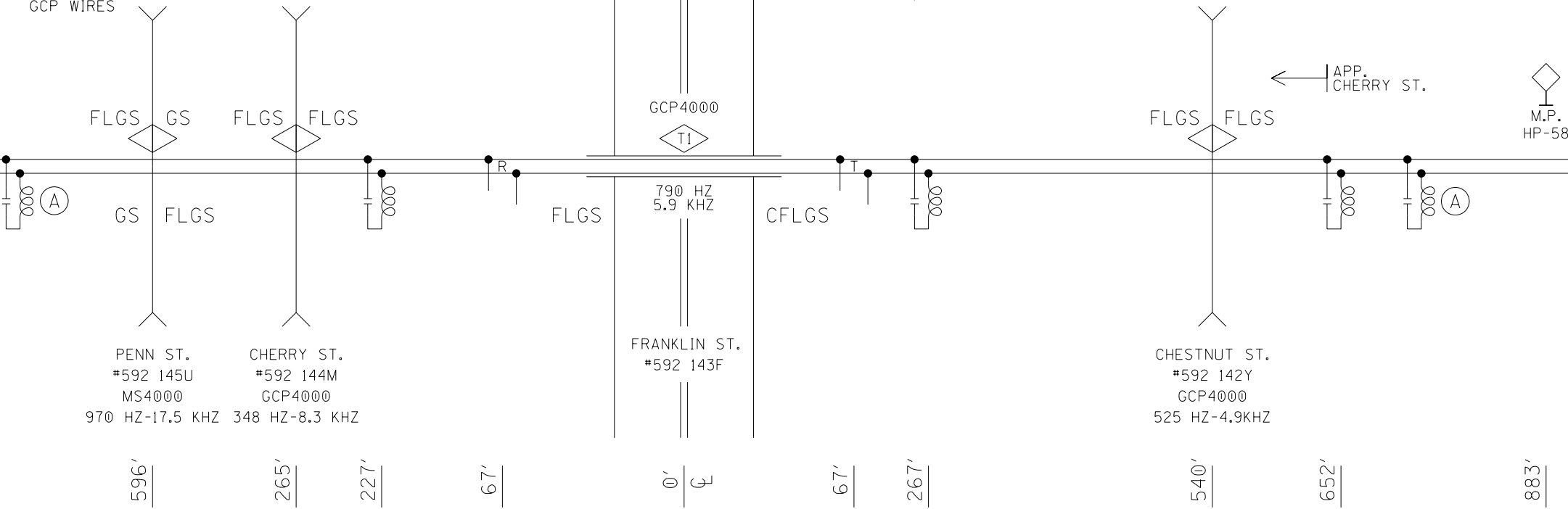
APP.
CHESTNUT
ST.

APP.
PENN. ST.

600'
TO NEAREST
GCP WIRES

APP.
CHERRY ST.

M.P.
HP-58



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

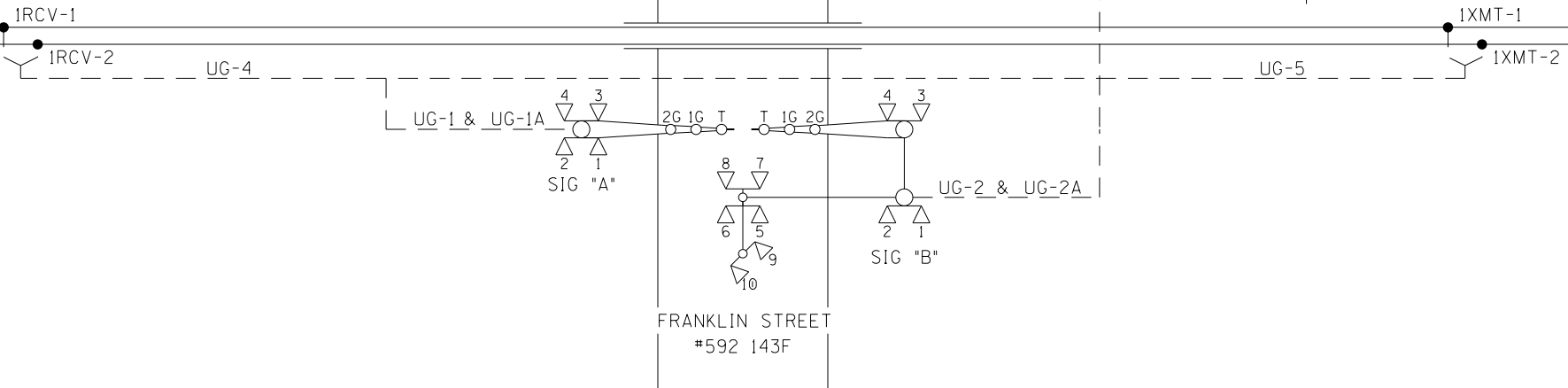
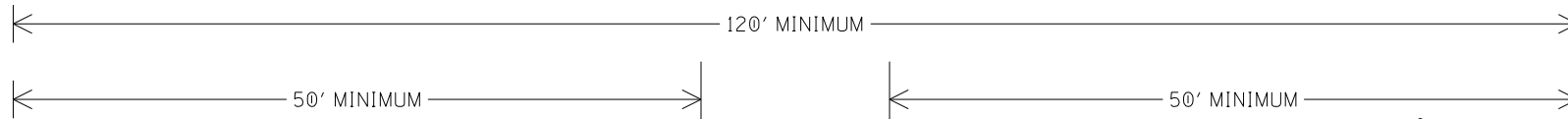
PROFILE

DESIGNED BY:	NS NORFOLK SOUTHERN	
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 2
IN SERVICE:	CADD or DWG. No. 03220581.002	No.

PROPERTY
PENNSYLVANIA R.R.

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

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



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
ACD
XGP1
AGBX120
AGNX120
SPARE
SPARE
SPARE
SPARE

UG-2A-12CUG #14

BXG
NBXG
BXX
IBXX
BGD
XGP1
XCP
BCBX120
BGNX120
SPARE
SPARE
SPARE

UG-3-3CUG #6
W/#8 GND

BX120-A
BX120-B
NX120
GND

UG-4-TW. PR. #6

1RCV-1
1RCV-2

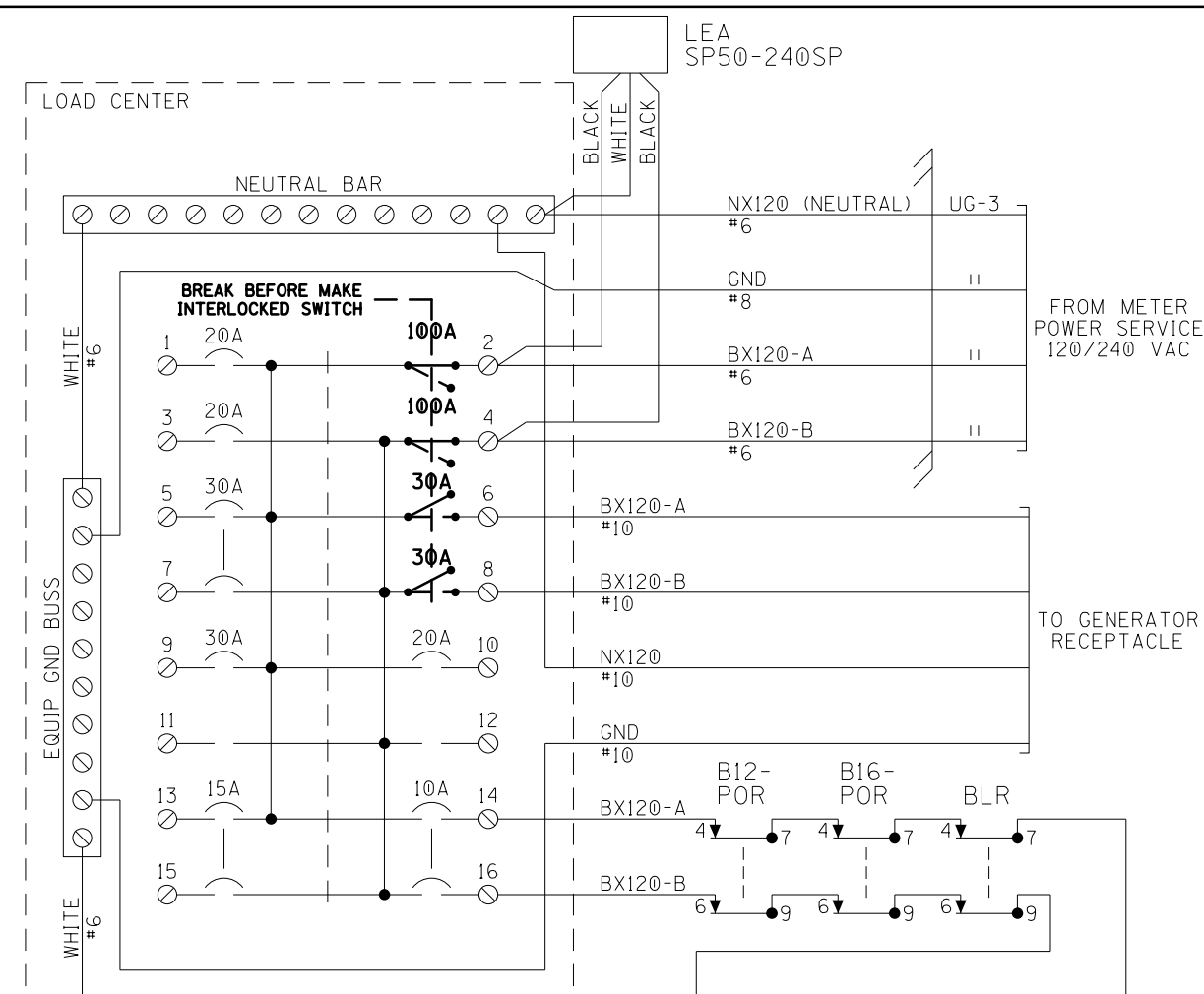
UG-5-TW. PR. #6

1XMT-1
1XMT-2

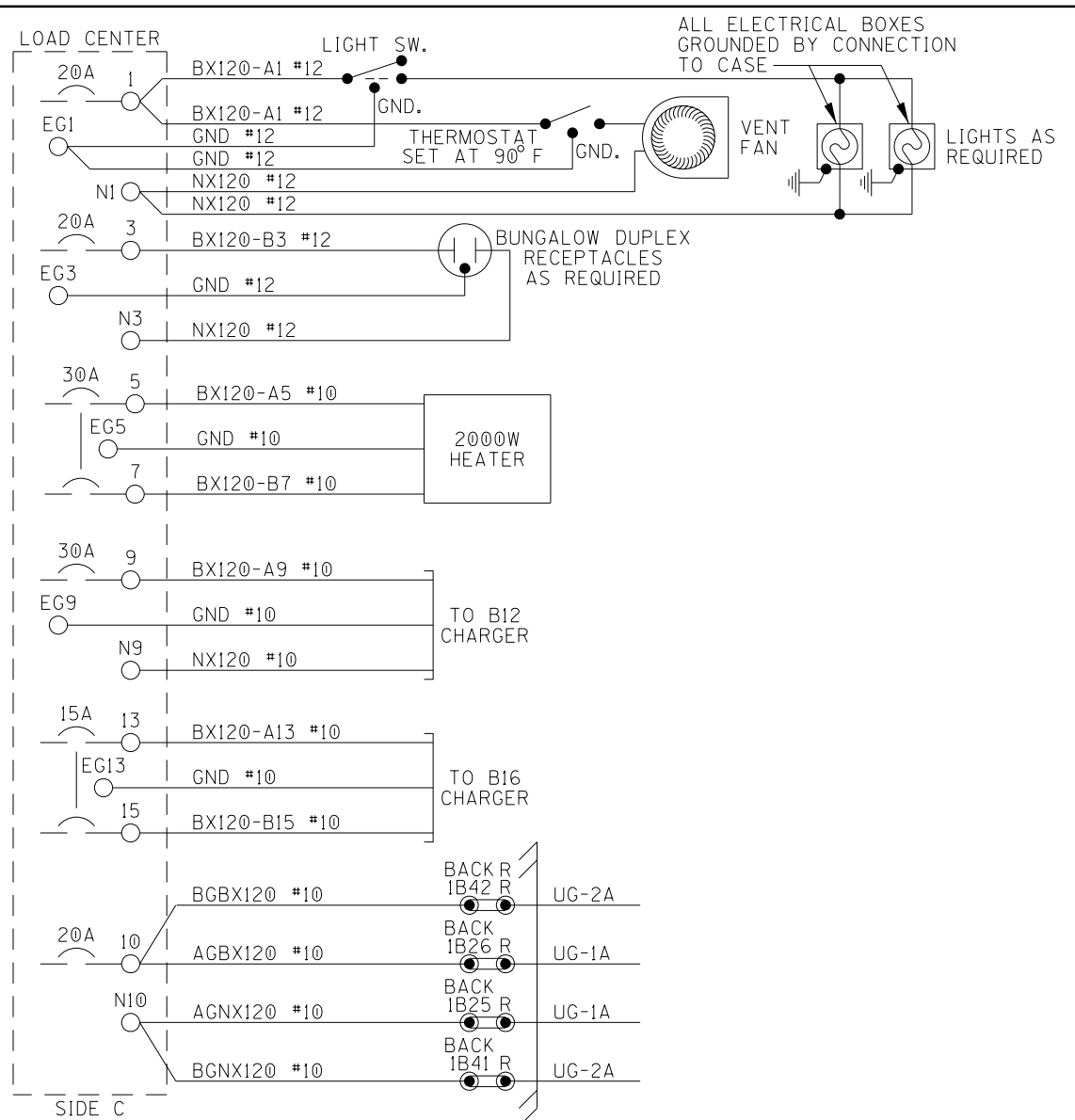
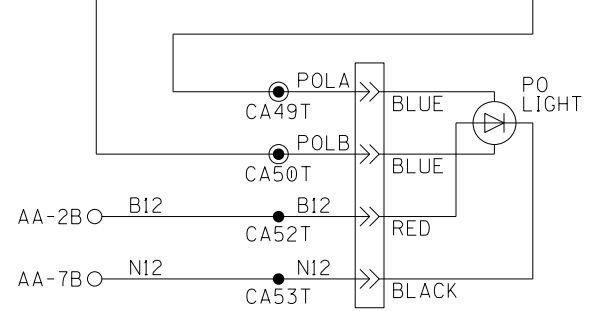
CABLE PLAN

DESIGNED BY:	NS NORFOLK SOUTHERN	
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.



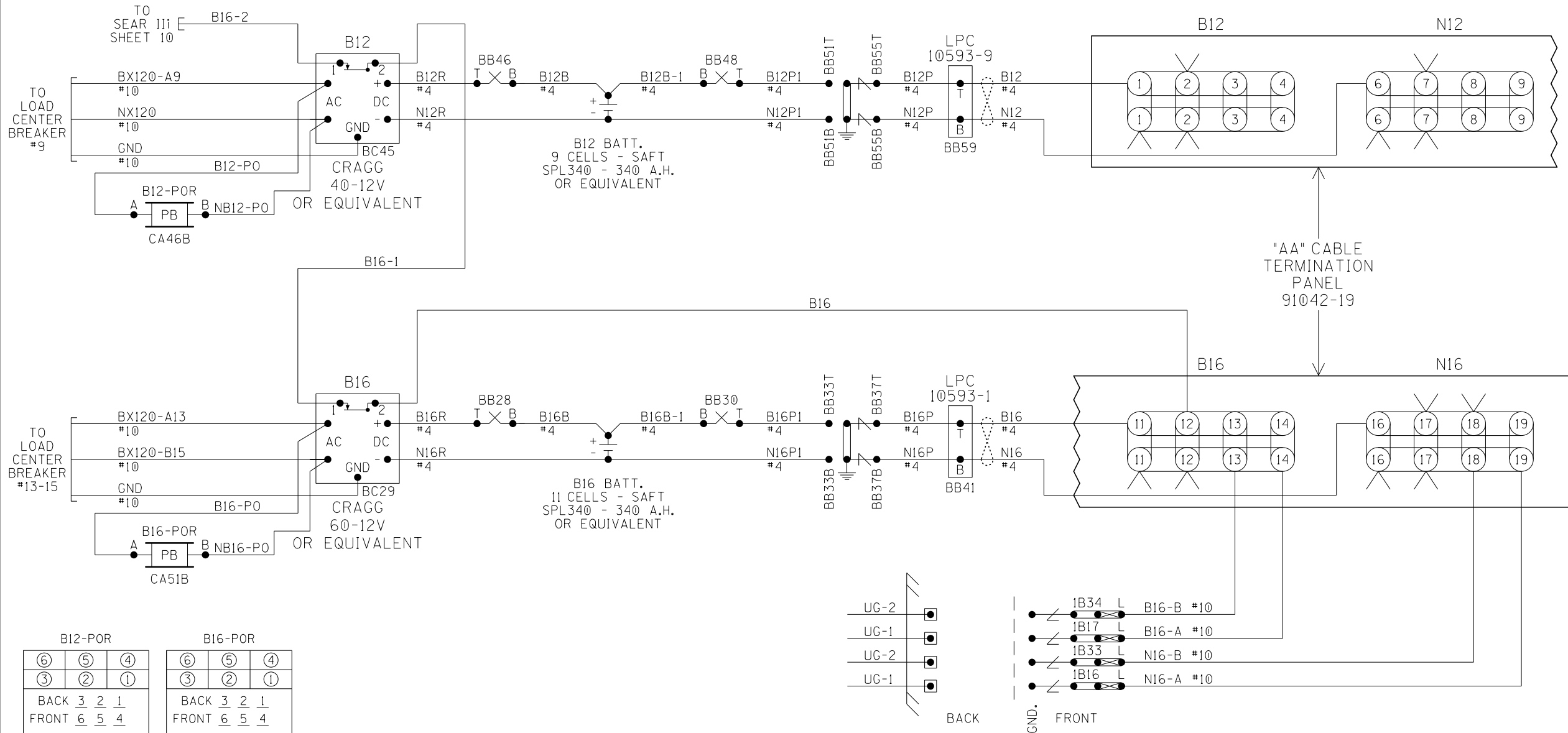
- GND. SQUARE "D" PART NUMBERS:
- LOAD CENTER — Q0132L125G
 - 10A 2P CIR BKR — Q0210
 - 15A 2P CIR BKR — Q0215
 - 20A 1P CIR BKR — Q0120
 - 30A 1P CIR BKR — Q0130
 - 30A 2P CIR BKR — Q0230
 - 60A 2P CIR BKR — Q0260
 - 100A 2P CIR BKR — Q02100
 - MECH INTERLOCK — PK4DTIM4LA
 - GENERATOR RECEPTACLE:
 -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

LOAD CENTER

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



"AA" CABLE
TERMINATION
PANEL
91042-19

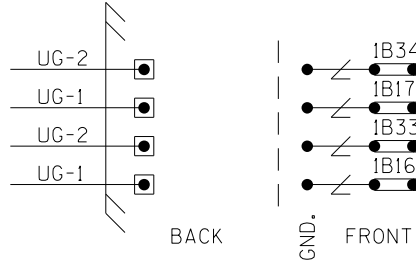
B12-POR

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	

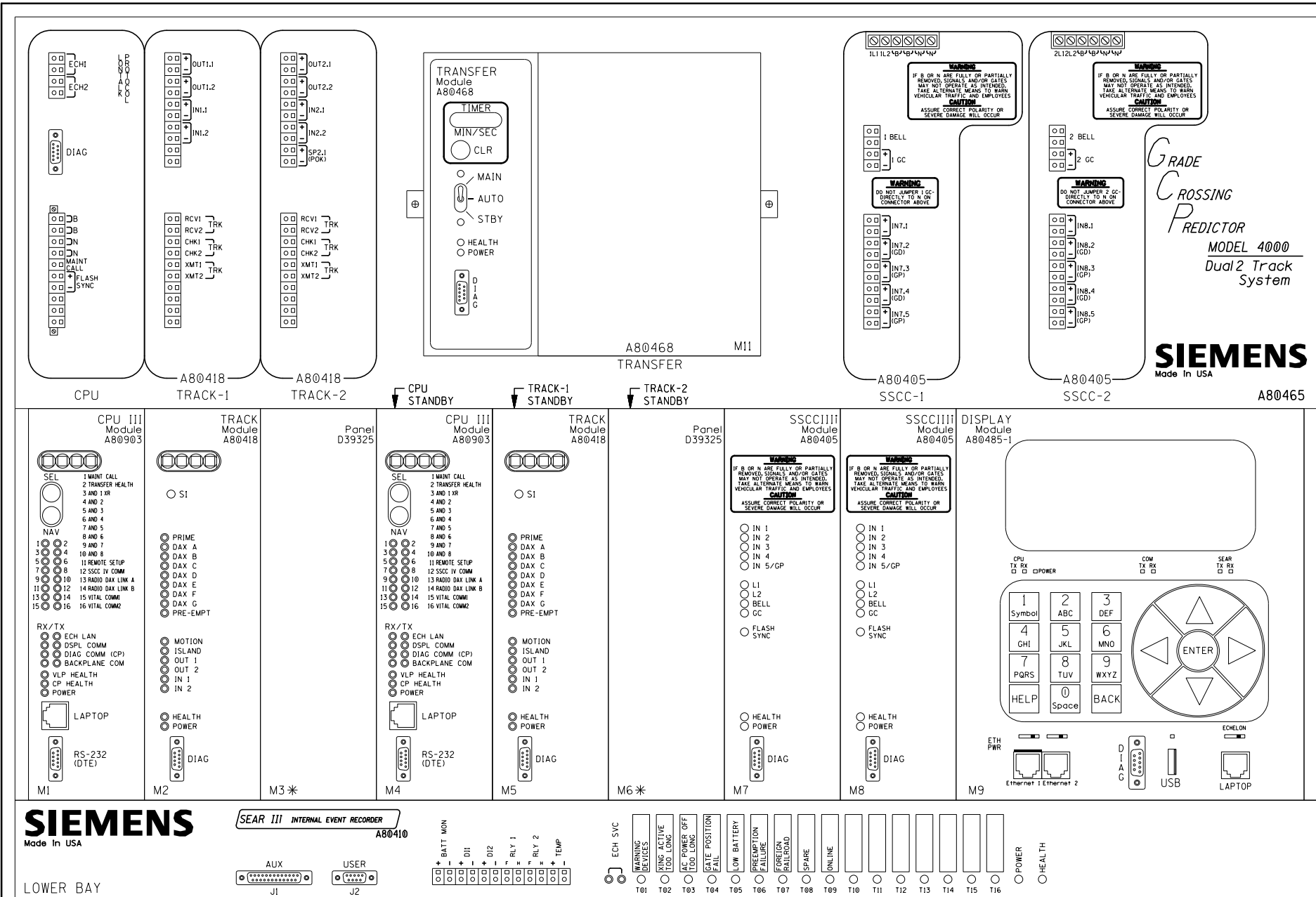
- NOTES:
- ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
 - = TWIST



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.

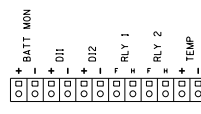
CAUTION
ENSURE CORRECT POLARITY OF B AND N FOR SSSCCIII MODULE OR SEVERE DAMAGE WILL OCCUR.
REFER TO DETAILED INSTRUCTIONS ON THE SSSCCIII BEFORE APPLYING POWER TO THE POWER CONNECTOR(S).

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

SIEMENS
Made In USA

SEAR III INTERNAL EVENT RECORDER
A80410

LOWER BAY



GCP4000 CHASSIS & MODULE LAYOUT

DESIGNED BY:	NS NORFOLK SOUTHERN	
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	
JMW 01-02-24	CADD or DWG. No. 03220581.006	SHEET 6
PROPERTY	IN SERVICE:	
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 Bi

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 = SCCC3i
 SCCC-2 Slot = SCCC3i
 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

T1 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 = 0n
 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

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

SSCC: 2

SSCC-2 Activation = AND 1 XR
 SSCC-2 Gate Delay = 6 sec
 SSCC-2 Number of GPs = 0
 SSCC-2 Number of GDs = 0
 SSCC 2: Flash Rate = 40
 SSCC 2: Low Battery Detection = No
 SSCC 2: Flash Sync = slave
 SSCC 2: Invert Gate Output = No
 SSCC 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	
PROPERTY	IN SERVICE:	CADD or DWG. No.	03220581.007
PENNSYLVANIA R.R.	- -	SHEET	7

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

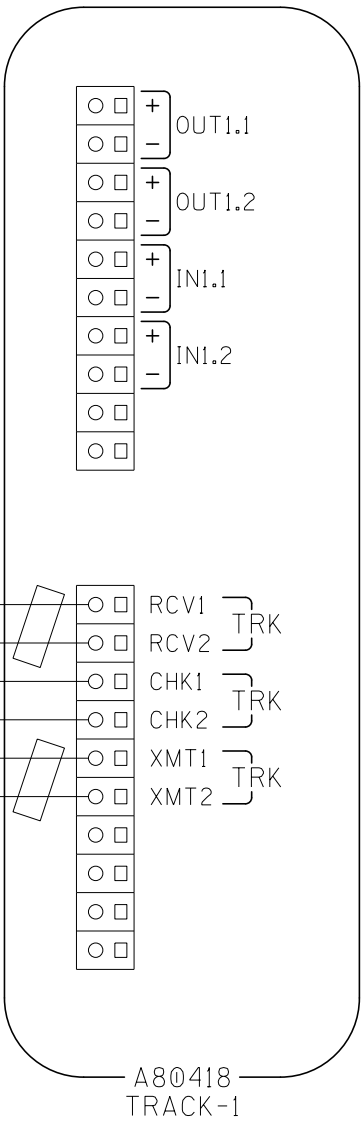
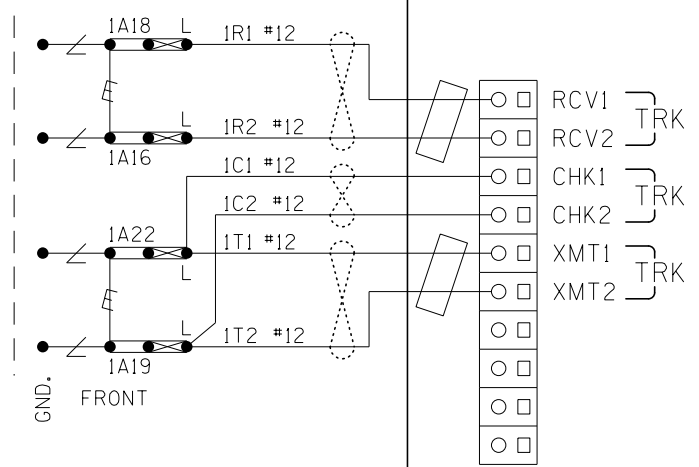
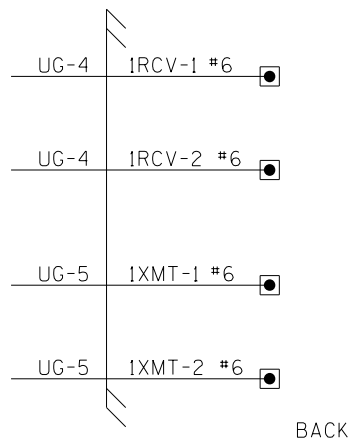
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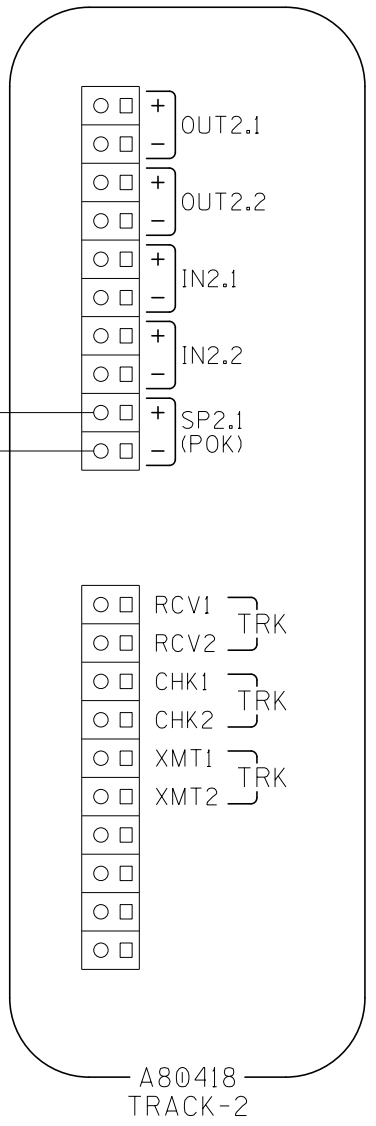
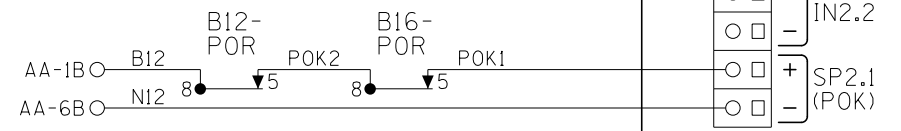
GCP4000 PROGRAMMING

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	REV. 1
JMW 01-02-24	CADD or DWG. No. 03220581.008	SHEET 8
IN SERVICE:	- -	

PROPERTY
 PENNSYLVANIA R.R.



A80418
TRACK-1



A80418
TRACK-2

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

CONNECTORS FOR TRACK MODULES

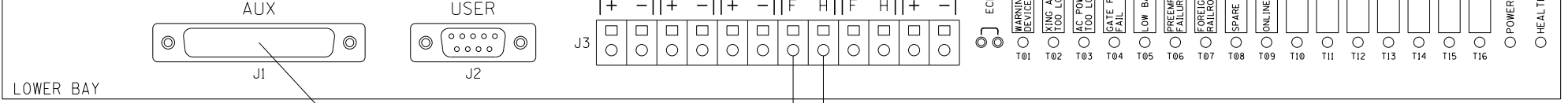
DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24		SHEET 9
IN SERVICE:	CADD or DWG. No. 03220581.009	No.

PROPERTY
PENNSYLVANIA R.R.

SIEMENS
Made In USA

SEAR III INTERNAL EVENT RECORDER

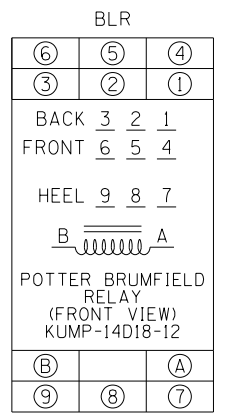
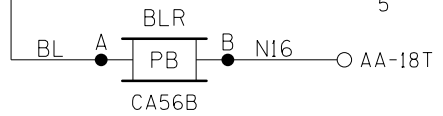
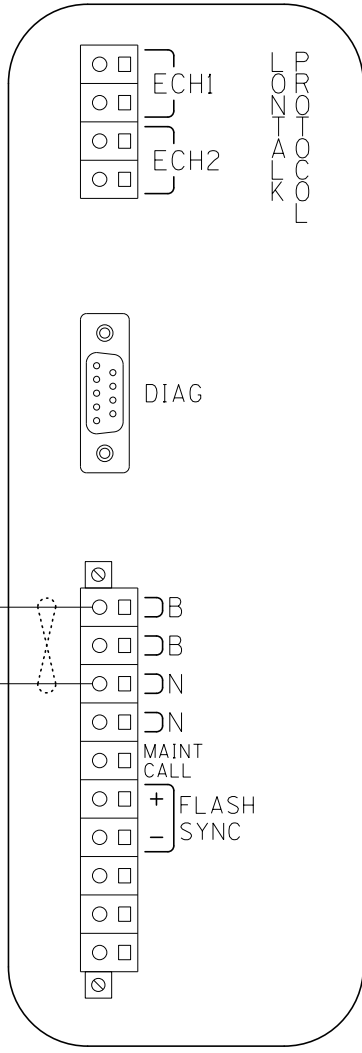
A80410



LOWER BAY

TO RADIO SHEET 12

TO SHEET 5



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

CPU MODULE & SEAR III HOOK-UP

DESIGNED BY:	NS NORFOLK SOUTHERN	
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:

- # = NOT DISPLAYED IF SITE TYPE = NO COMMUNICATION
- ★ = USE DEFAULT SETTINGS
- * = ONLY DISPLAYED IF CROSSING CONFIGURATION = SPLIT GATE
- ** = ONLY DISPLAYED IF BATTERY BANKS = 1,2 OR 3
- *** = ONLY DISPLAYED IF VHF COMMUNICATOR = YES
- **** = 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

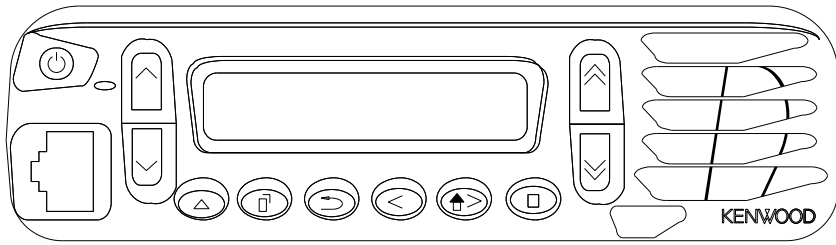
TO CONFIGURE SEAR III PRESS SITE SETUP KEY.
USE ARROW KEYS TO MAKE SELECTION,
PRESS ENTER AFTER SELECTION HAS BEEN MADE.

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:	- -	

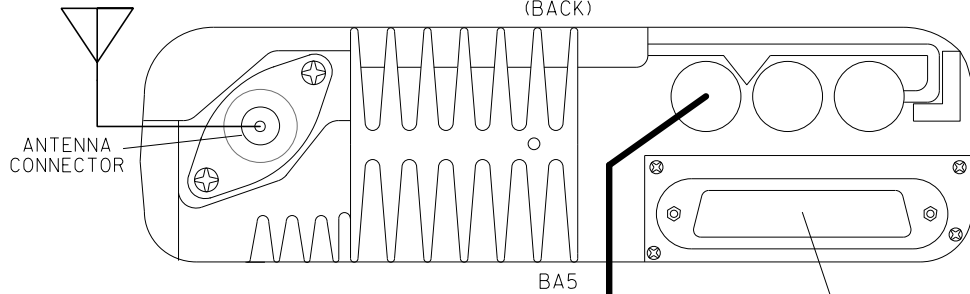
PROPERTY
PENNSYLVANIA R.R.

(FRONT)



KENWOOD RADIO NX-700H
OR EQUIVALENT

(BACK)



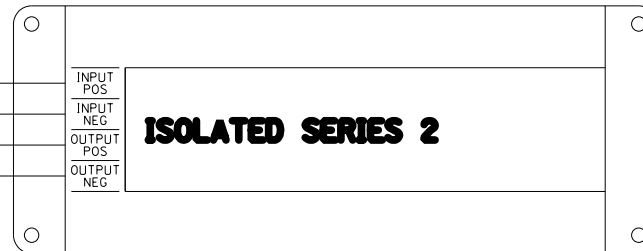
ANTENNA
CONNECTOR

BA5

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

CABLE - KENWOOD
P/N E30-7520-15

AA-2B ○ B12
AA-7B ○ N12
 ○ B12
 ○ N12



BB5

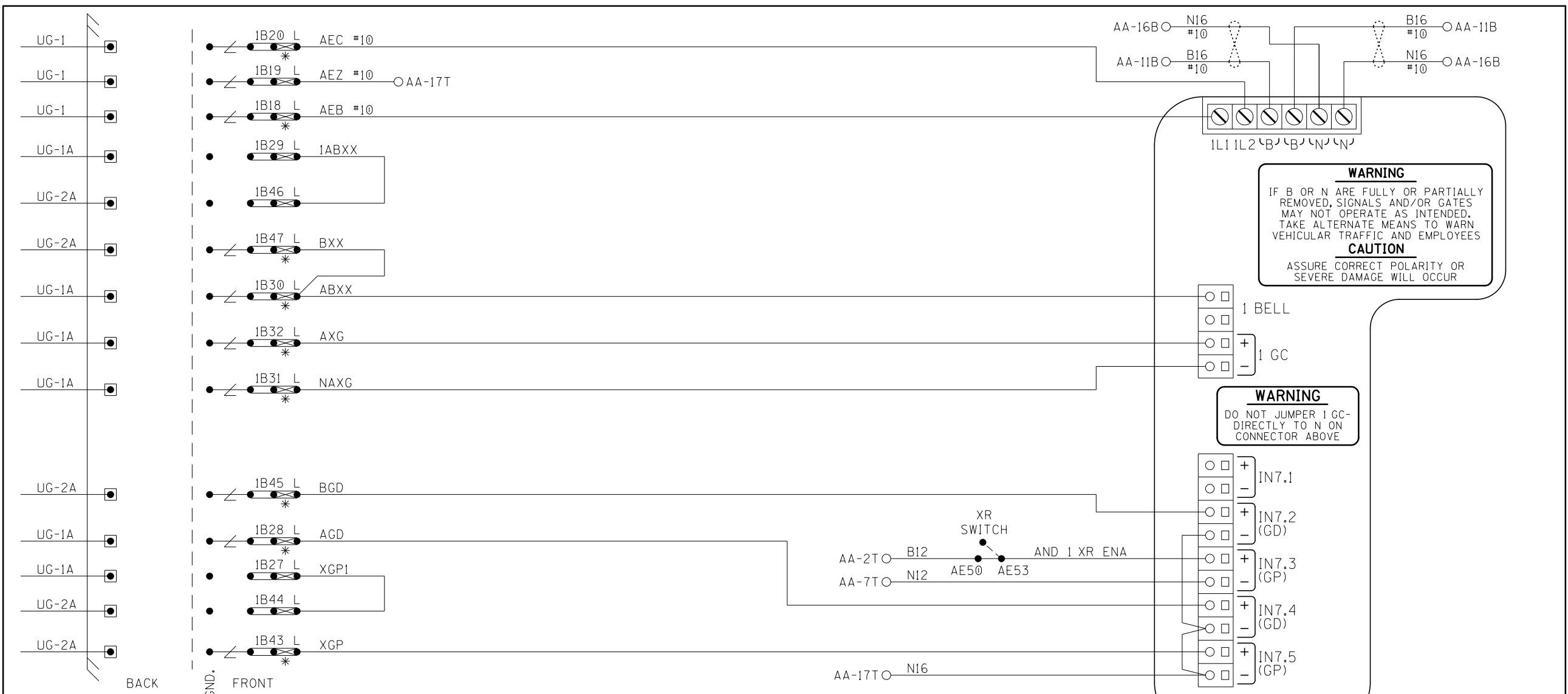
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
- 1. ALL WIRING TO BE #10AWG UNLESS NOTED OTHERWISE.

PROPERTY
PENNSYLVANIA R.R.


BACKHAUL EQUIPMENT

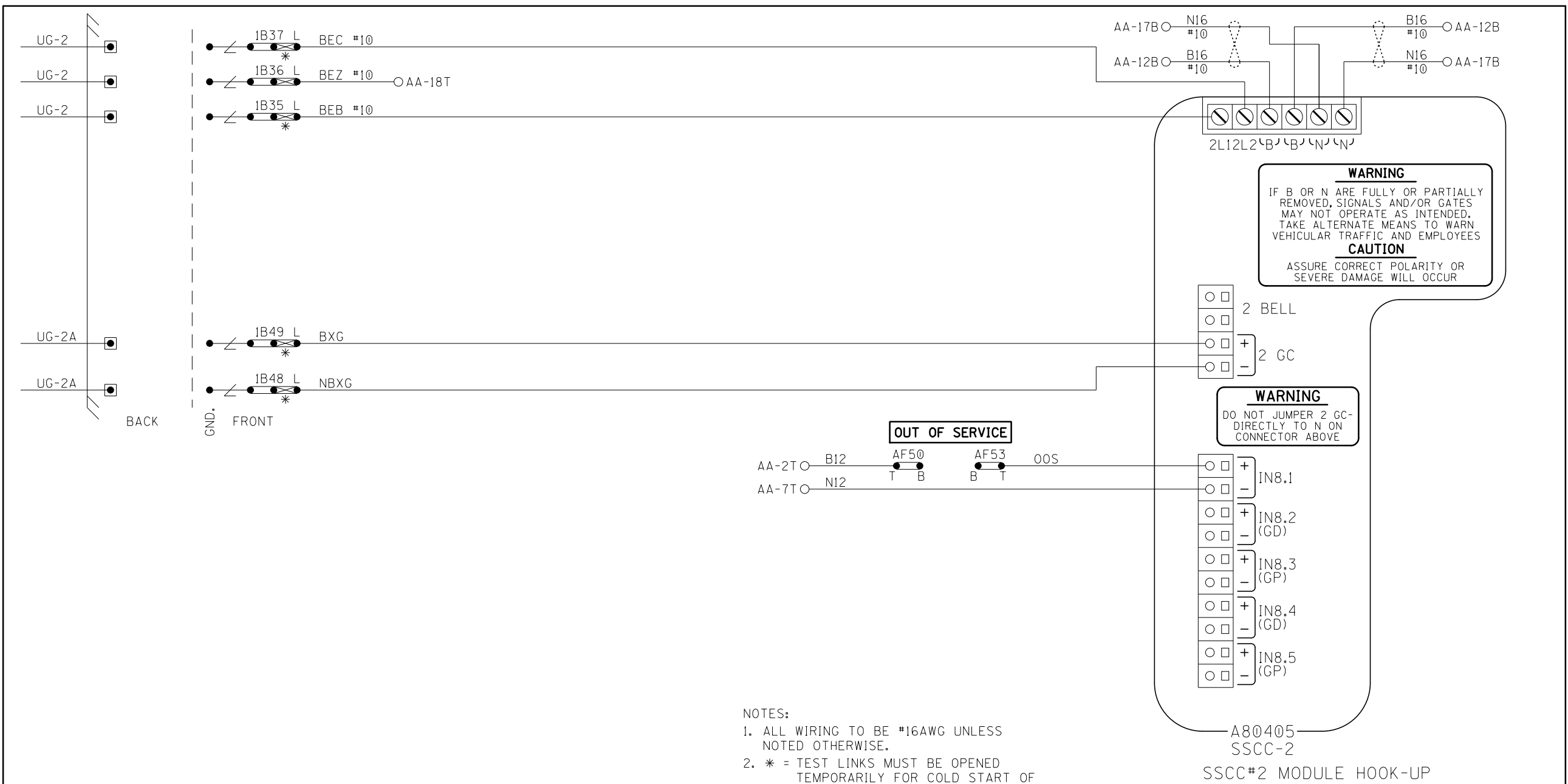
DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24	CADD or DWG. No. 03220581.012	SHEET No. 12
IN SERVICE:	- -	



- 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

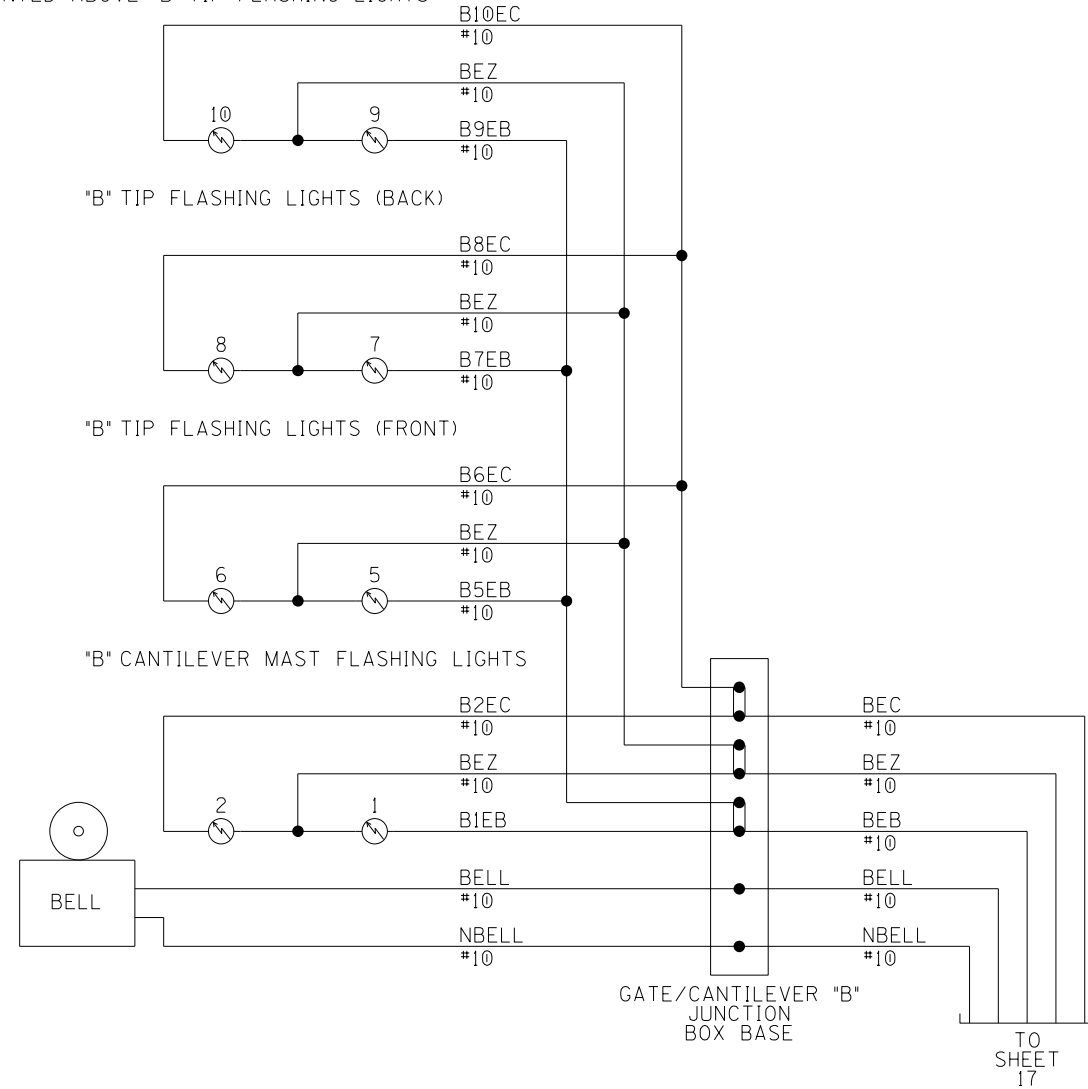
DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24	CADD or DWG. No. 03220581.013	SHEET 13
IN SERVICE:	- -	
PROPERTY PENNSYLVANIA R.R.		



SSCC#2 MODULE HOOK-UP

DESIGNED BY: MST 06-28-23		
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
PROPERTY PENNSYLVANIA R.R.	CADD or DWG. No. 03220581.014	SHEET No. 14

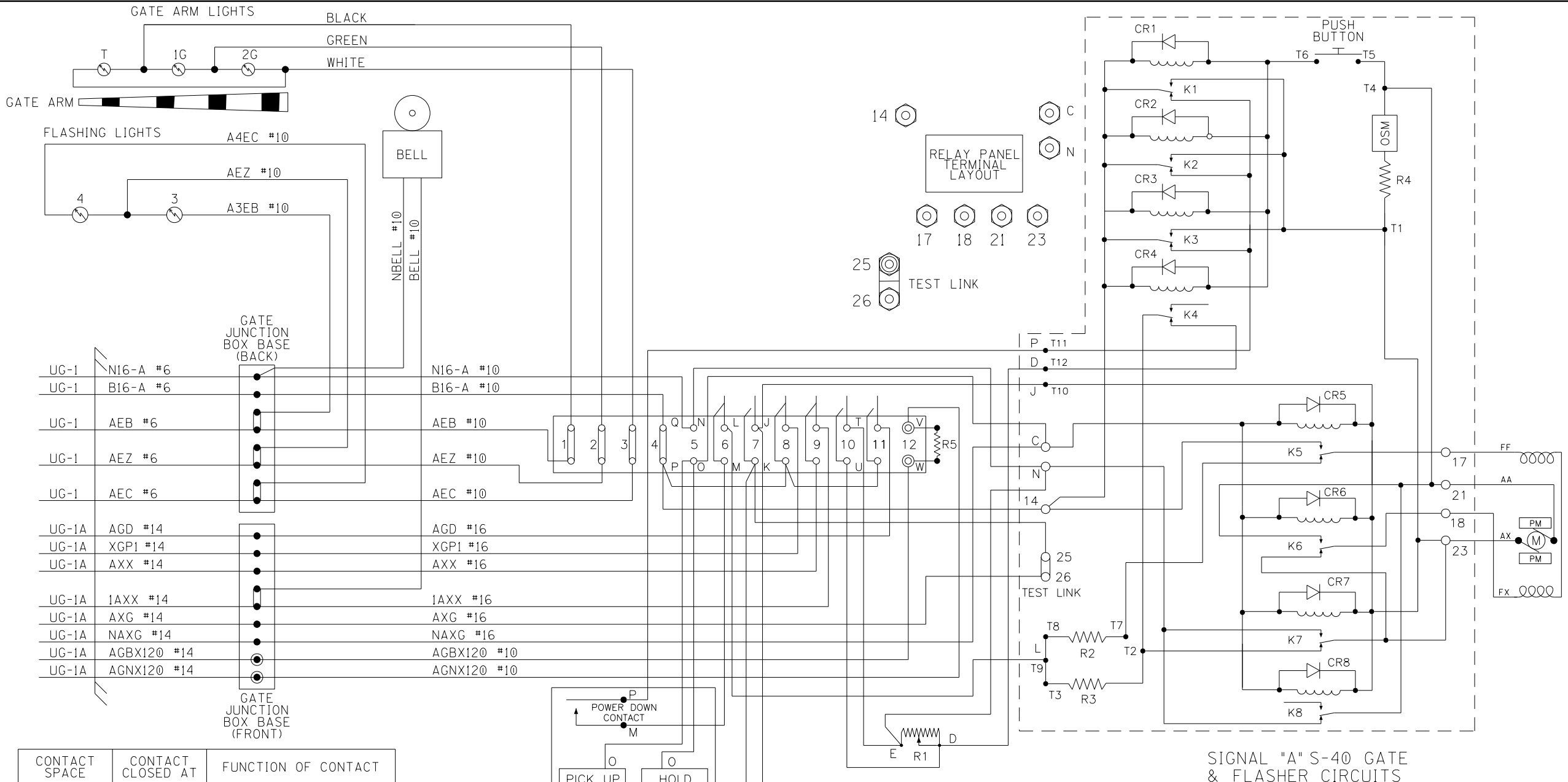
"B" FLASHING TOP SIDE LIGHTS
TO BE MOUNTED ABOVE "B" TIP FLASHING LIGHTS



CANTILEVER FLASHER LIGHTS

DESIGNED BY:	NS NORFOLK SOUTHERN	
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.



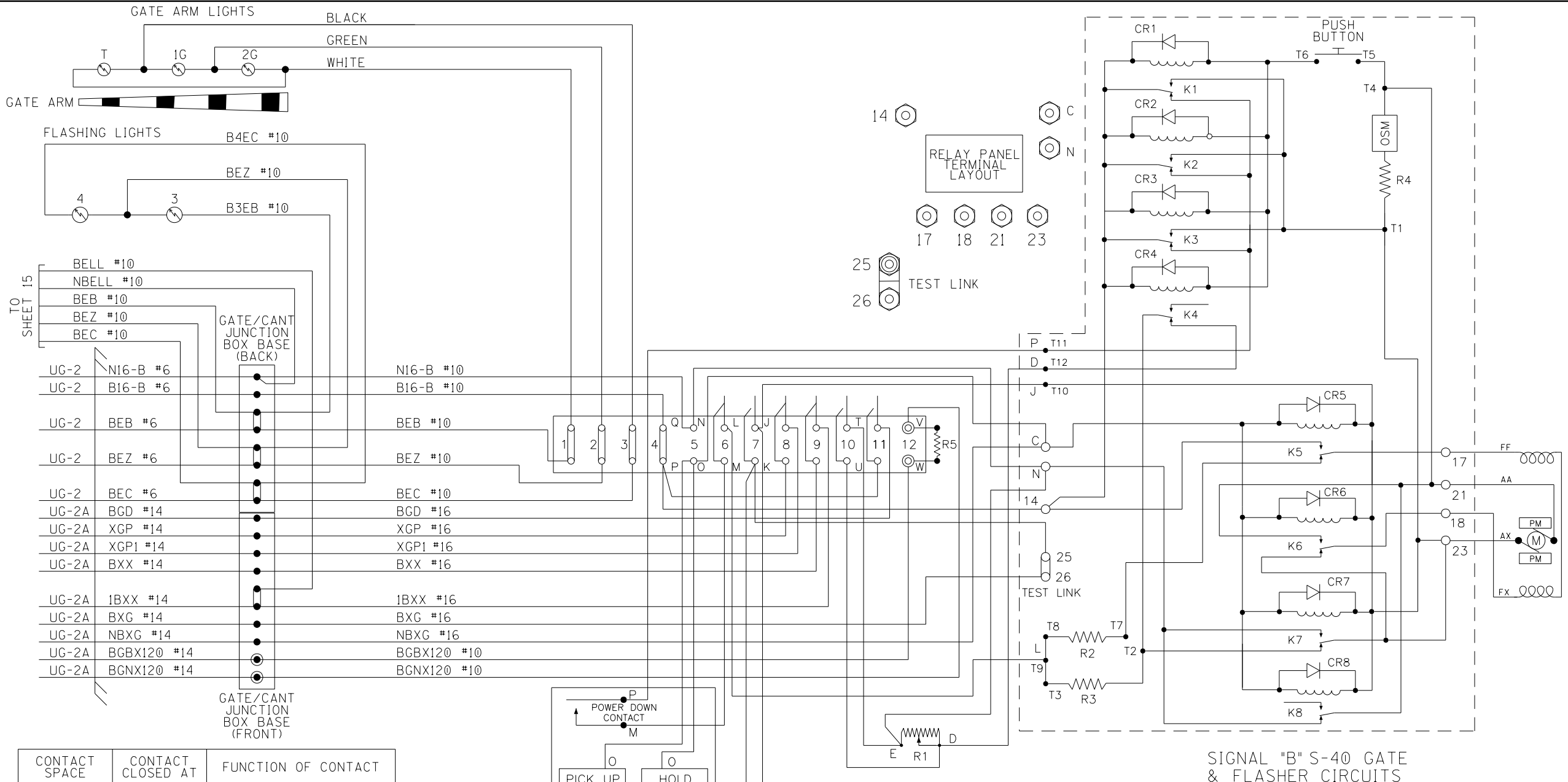
CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
(6) L-M	45° - 90°	POWER DOWN CONTROL
(7) J-K	0° - 89°	POWER UP CONTROL
(8)	83° - 90°	FLASHING LGT. CONTROL
(9)	5° - 90°	BELL CONTROL
(10) T-U	0° - 5°	HORIZONTAL SNUB
(11)	0° - 5°	GATE DOWN INDICATION

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		
DRAWN BY: PRS 06-28-23		
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



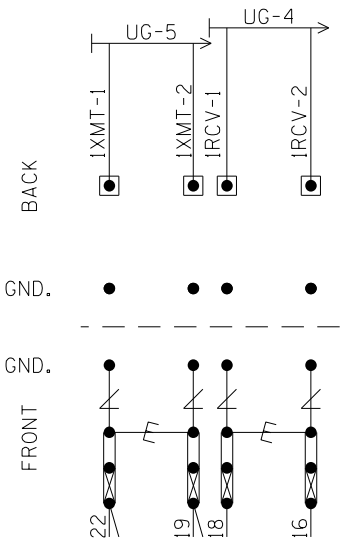
CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
(6) L-M	45° - 90°	POWER DOWN CONTROL
(7) J-K	0° - 89°	POWER UP CONTROL
(8)	83° - 90°	FLASHING LGT. CONTROL
(9)	5° - 90°	BELL CONTROL
(10) T-U	0° - 5°	HORIZONTAL SNUB
(11)	0° - 5°	GATE DOWN INDICATION

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




DESIGNED BY:	NS NORFOLK SOUTHERN	
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 17
IN SERVICE:	CADD or DWG. No. 03220581.017	

PROPERTY
 PENNSYLVANIA R.R.

"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.

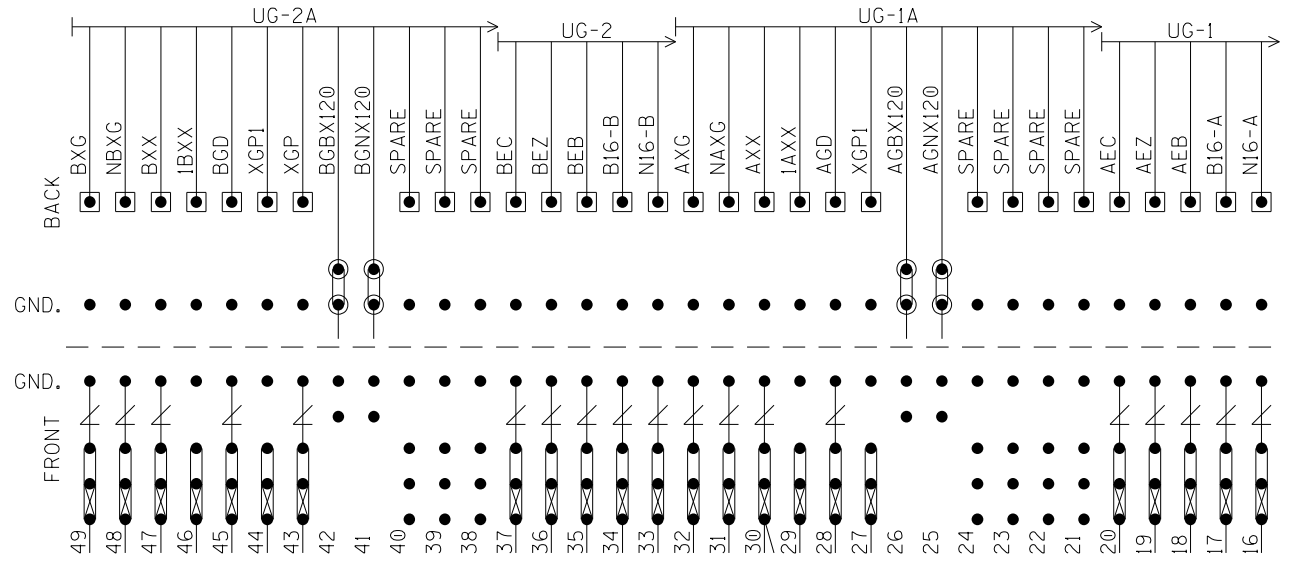
SEE FARADAY SHIELD SHOP DRAWING DETAIL FOR HOW THIS PORTION OF THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

BACKBOARD 1A

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. 03220581.018	SHEET 18
IN SERVICE:	- -	

PROPERTY
PENNSYLVANIA R.R.

"1B"



BACKBOARD 1B

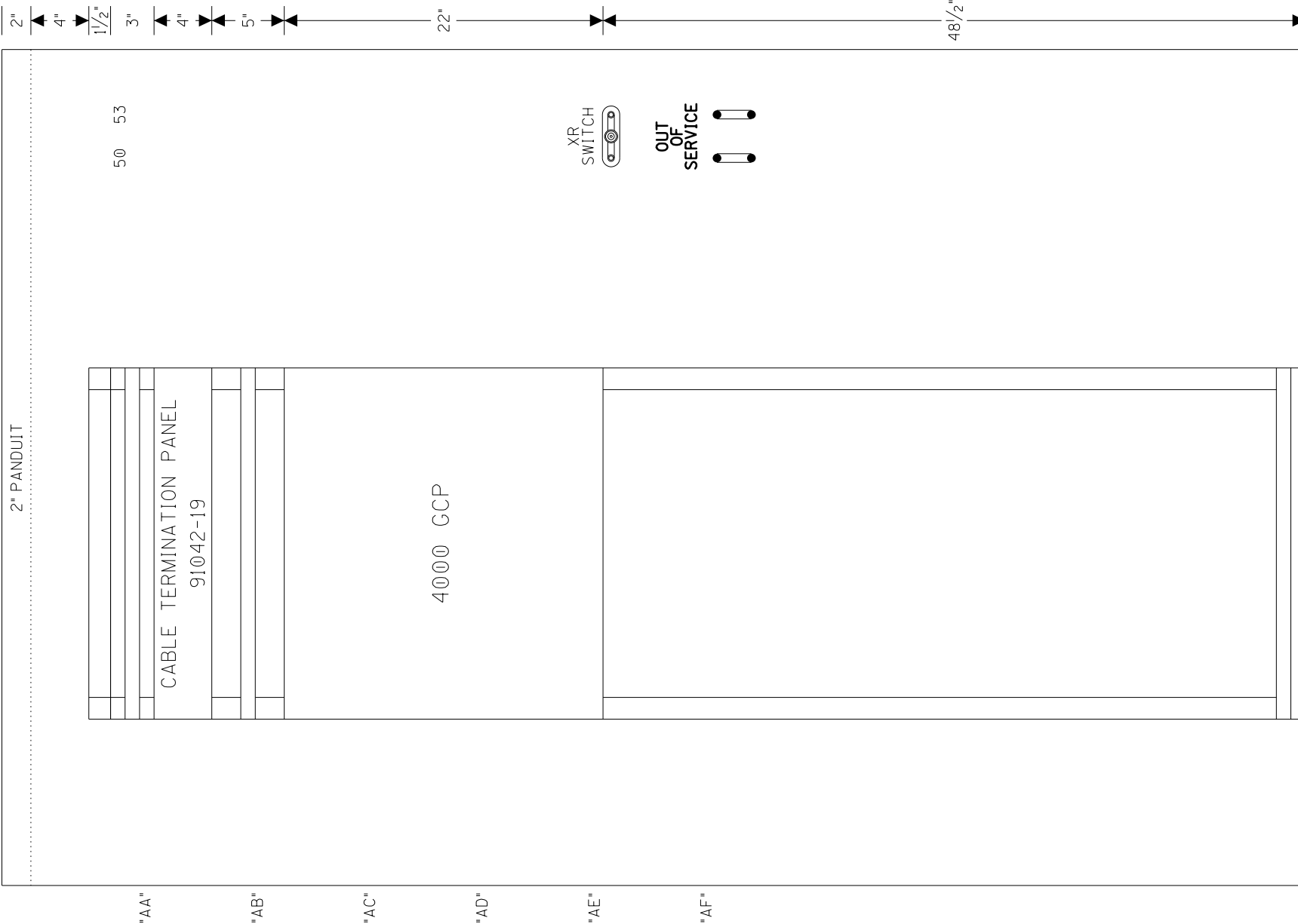
SEE FARADAY SHIELD SHOP DRAWING DETAIL FOR HOW THIS PORTION OF THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

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:	- -	
NS NORFOLK SOUTHERN		
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



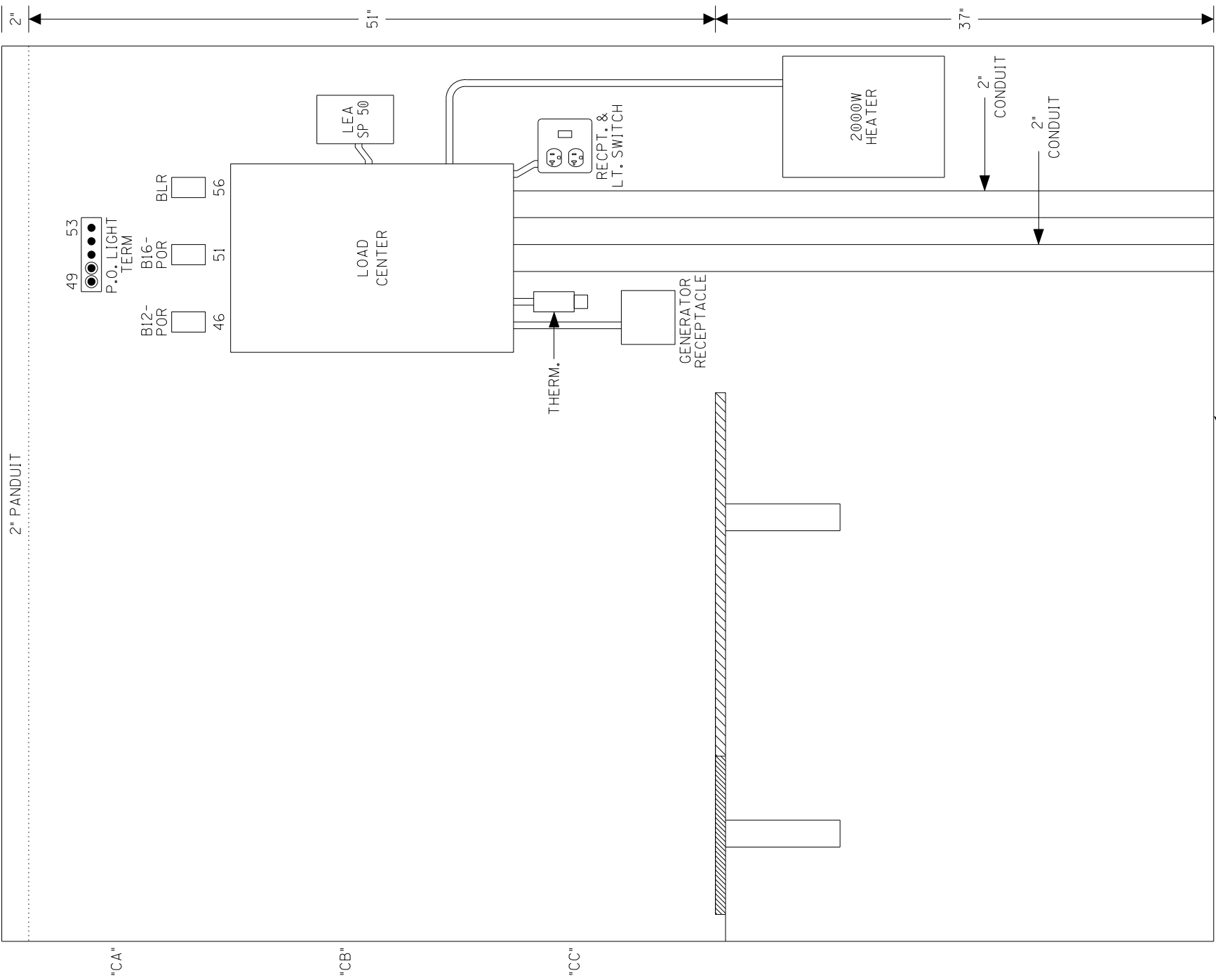
24 1/4"
EQUIPMENT RACK #1
FRONT



SIDE A LAYOUT & RACK PLACEMENT

PROPERTY
PENNSYLVANIA R.R.

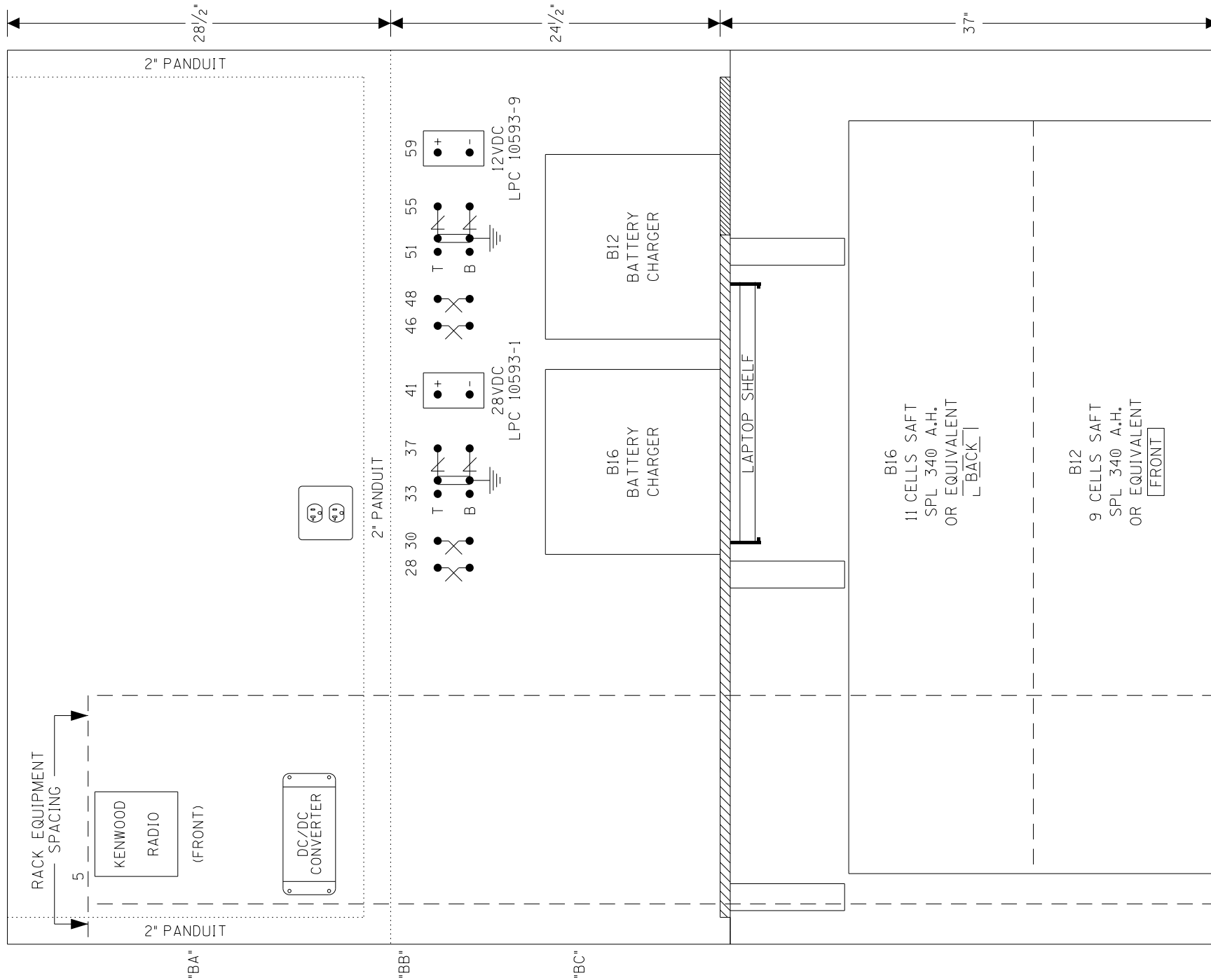
DESIGNED BY: MST 06-28-23		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY: PRS 06-28-23		READING, PA CFLGS AT FRANKLIN STREET	
CHECKED BY: JMW 01-02-24	HARRISBURG LINE		REV. 1
IN SERVICE: - -	CADD or DWG. No. 03220581.020	SHEET 20 No.	



SIDE C LAYOUT

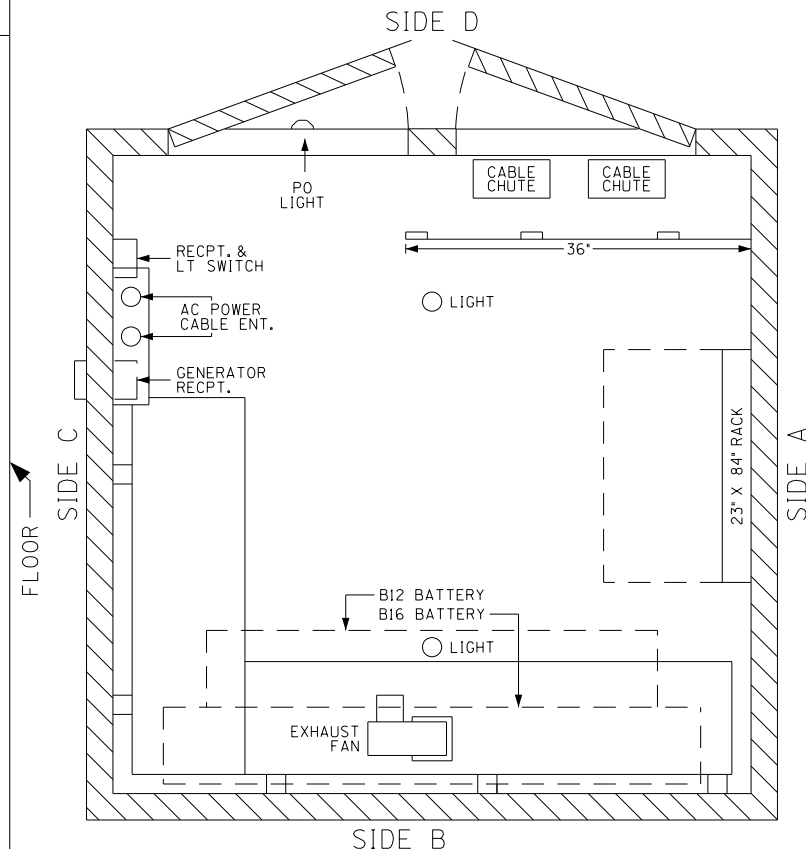
DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.17
DRAWN BY:	READING, PA	
PRS 06-28-23	CFLGS AT FRANKLIN STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 01-02-24	CADD or DWG. No. 03220581.021	SHEET No. 21
IN SERVICE:	- -	

PROPERTY
PENNSYLVANIA R.R.



***TOP VIEW**

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



SIDE B LAYOUT & TOP VIEW

DESIGNED BY:	NS NORFOLK SOUTHERN	
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.

Cherry Street
DOT 592 144 M



Detailed Estimate for Grade Crossing Warning Devices

City/State: READING, PA

Road: CHERRY ST

MilePost: HP-58.23

DOT/AAR: 592144M

State Proj. No.: MPMS: 106140

County: BERKS

S&E Proj. No.: 19.6001

File Number:

Man Days: 288

Purchases - Others		
Meals and Lodging:	\$51,628.49	
Rental of Equipment:	\$70,575.96	
(2 Trucks, 1 Backhoe w/ Trailer and 1 Pipe-Pusher for 48 Days)		
Construction Supervision Vehicle:	\$10,795.75	
Purchases - Other Total:		\$133,000.20
Material And Additives		
Material Cost:	\$133,255.00	
Sales and Use Tax:	\$10,660.00	
Material Handling Freight:	\$13,325.54	
Material Total:		\$157,240.54
Labor And Additives		
Labor Cost:	\$121,536.00	
(6 man crew at \$2,532.00 a day for: 48 days)		
Payroll Tax & Overheads:	\$103,621.59	
Preliminary Engineering:	\$26,753.09	
Construction Supervision:	\$35,500.67	
Labor Total:		\$287,411.35
	Project Cost:	\$577,652.09
	Scrap / Salvage Credit:	\$0.00
	Project Total:	\$577,652.00

Estimated on: 15-Jul-24

Estimated by: gagof

Estimate valid for 1 year from date of estimate

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
							Date Quan.	Date Quan.	Date Quan.		
3	670-360693-4	EA	\$6.05	\$18.15	AAR/DOT NUMBER PLATE/DECAL, ORDER 3 PER PROJECT. 60 DAY LEAD TIME. SUPPLIED BY S'TRAN.						
1	165-006505-4	EA	\$1,452.55	\$1,452.55	AC SERVICE, COMPLETE LESS METER BASE, ASSEMBLED ON 30' POLE						
27	670-001196-4	EA	\$48.27	\$1,303.29	ARRESTER, LIGHTNING SOLID STATE ERICO P/N EPD2050F						
20	105-002620-4	EA	\$248.79	\$4,975.80	BATTERY, NICAD 340AH, MODEL SPL340						
1	670-503047-4	EA	\$214.50	\$214.50	BELL, CROSSING ELECTRONIC GENERAL SIGNAL, EB-3-360-5 CR 02-044350						
4	670-980689-4	EA	\$93.50	\$374.00	BRACKET HIGH WIND, (RIGID 3'), WIG- 191036, WALRUS TUSK TYPE						
2	670-561375-4	EA	\$1,197.90	\$2,395.80	BRACKET, GATE SAVER, NEG385102GS, SPRING LOADED SWING AWAY ADAPTER FOR FIBERGLASS/ALUMINUM GATES, USE WITH GATE 38' AND LESS						
500	465-939422-4	LF	\$3.01	\$1,505.00	CABLE, UG 12 CONDUCTOR NO 14 AWG SOLID EACH CONDUCTOR WITH 5/64 IN INSULATION 10 MIL						
350	465-292862-4	LF	\$1.36	\$476.00	CABLE, UG 2-6 TWISTED, S-23 OKONITE 113-12-3933 SOLID TINNED CONDUCTOR						
500	465-292929-4	LF	\$5.03	\$2,515.00	CABLE, UG 5 COND. NO. 6 AWG SOLID COPPER CABLE TO MEET NS CORP. SPEC. FOR SIGNAL						
350	465-791835-4	FT	\$3.97	\$1,389.50	CABLE, UG AC ENTRANCE 3C#6-7X OKONITE FMPF-L 094-078 TR W/G 1 X 8 7X W010 BRZ TAPE 600V PRODUCT CODE 206-11-6070						
2	670-010671-4	EA	\$1,234.78	\$2,469.56	CHARGER, BATTERY CRAGG MODEL 40 DTC-12V, 40 AMP, P/N 520940						
2	670-664917-4	EA	\$71.49	\$142.98	CONNECTOR KIT, WELDED FAR RAIL, CONSISTING OF RUBBER HOSE PROPERLY DRILLED, BONDSTRAND, 1 SPLICING SLEEVE, 1 REDUCING SLEEVE, 3 CLAMPS, 1 TRACK CLIP, 1 WEB WELDED TRACK CONNECTOR, 1 WELD METAL, SAFETRAN 111359-2X						
2	670-632520-4	EA	\$57.38	\$114.76	CONNECTOR KIT, WELDED NEAR RAIL, CONSISTING OF RUBBER HOSE PROPERLY DRILLED, BONDSTRAND, SPLICING SLEEVE, 1 REDUCING SLEEVE, 5 CLAMPS, 1 TRACK CLIP, 1 WEB WELDED TRACK CONNECTOR, 1 WELD METAL, SAFETRAN 111359-1X						

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
-------------------	----------------------	------------	-------------

Location: READING

PA

S&E Proj. No.: 19.6001

AFE No.: F-08089

Drawing No.: 03220582

Store No.: S805

P.O.Number:

Date Required:

Date Shipped:

Vendor: Progress Rail Services

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
							Date Quan.	Date Quan.	Date Quan.		
2	670-794453-4	EA	\$1,345.92	\$2,691.84	COUNTERWEIGHT PKAGE, 25-31'GATE S'TAN S- MECH ONLY, STAINLESS TO INCLUDE HUB, SUPPORT ARMS						
4	670-760012-4	EA	\$41.80	\$167.20	COVER, FOR 1 WAY FLASHING LIGHT ASSY. 18 OZ. BLACK VINYL COATED NYLON. =====TO COVER 2 LAMPS=====						
1	670-986650-4	EA	\$355.00	\$355.00	DISPOSAL, CONSTRUCTION DEBRIS AND CLEANING X'ING EQUIPMENT CONTAINER						
2	670-228165-4	EA	\$14.13	\$28.26	EQUALIZER, SAFETRAN 022700-1X LESS BASE, MODERN NO. 700-1 SHUNT ARRESTER TRACK CIRCUITS CR 02-197950						
1	670-000004-4	EA	\$910.00	\$910.00	FCC LICENSE FOR MONITOR/RADIO						
6	670-000003-4	EA	\$255.85	\$1,535.10	FILL/STONE #57, QUANTITY IS BASED ON TRUCK LOAD PLUS DELIVERY COST						
2	670-015231-4	EA	\$613.80	\$1,227.60	FOUNDATION, DIXIE,S-2 GATE 2'6"X2'6"X5'6" ASSEMBLED						
2	670-005378-4	EA	\$408.65	\$817.30	GATE ARM, ALUMINUM, 25-31 FT, ARM ASSEMBLY, INCLUDES GATE GUARD FOR GATE LIGHT CABLE. HIGH INTENSITY VERTICAL STRIPES.						
1	670-275809-4	EA	\$23,050.40	\$23,050.40	GCP4000 - 1 TRK (2TC) - REDUNDANT (INCL. 2 TRK CHASSIS A80465, 2 TRK MODS. A80418, 2-SSCC A80405, 2 CPU A80403, 1 SEAR A80410, 1 DISPLAY A80407, 1 TRANS MOD. A80468)						
1	670-018333-4	KT	\$2,510.92	\$2,510.92	KIT, FOREMAN CROSSING SIGNAL (INCLUDES 10-757356, 10-841068, 2-899801, 2-904890, 50-917900, 32-840003, 1-003360, 1-809007, 2-754202, 55-938285, 2-204244, 2-656656, 50-917869, 1-005458, 2-810339, 1-447991, 2-805560, 1-330382, 1-986008, 100 WHITE TAGS AND						
2	670-092155-4	EA	\$181.50	\$363.00	LAMP ASSY, LED GATE ARM KIT (INCLUDES 3 LAMPS COMPLETE WITH CABLES AND MTG. HARDWARE) RECO #: 9298-1120						
2	670-005058-4	EA	\$1,892.88	\$3,785.76	LAMP ASSY, LED, 5" MAST BACK TO BACK LIGHTS (IPN: 042003-L487XNS)						
2	670-637778-4	EA	\$1,424.91	\$2,849.82	MAST, 5" ALUMINUM 13'10" WITH DOUBLE JCT. BOX BASE. S'TRAN P# 070519-11AX.						
2	670-521147-4	EA	\$3,850.87	\$7,701.74	MECHANISM, GATE MODEL S-40, WITH CONTACT HEATER, COMPLETE W/RELAY S'TRAN # 074000-W00090						
1	000-000333-4	EA	\$15,107.00	\$15,107.00	MISC ASPHALT SURFACE REPLACEMENT						
5	670-000002-4	EA	\$527.05	\$2,635.25	MISC. EXPENSE, CONCRETE WORK						

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
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Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
							Date Quan.	Date Quan.	Date Quan.		
6	670-000001-4	EA	\$726.23	\$4,357.38	MISC. EXPENSE, MATERIAL/FILL						
5	000-000018-4	EA	\$1,000.00	\$5,000.00	MISC. EXPENSE, ROADWAY WORK BY MUNICIPAL FORCES						
1	000-000000-4	EA	\$7,000.00	\$7,000.00	MISC. EXPENSE, UNDERGROUND BORING						
2	670-001347-4	EA	\$74.55	\$149.10	PACKAGE, HARDWARE SIGN 5 IN. MOUNTING, SERRMI A1250-5, HARMON @200965-000, OR						
3	670-018542-4	EA	\$47.30	\$141.90	PADLOCK, ABLOY 5/16" X 1" SHACKLE CLEARANCE KEYED FOR C&S DEPT USE; INCLUDES ETCHING;						
1	255-646807-4	EA	\$34.76	\$34.76	PADLOCK, SAFETRAN PART NO. 030399-29X SCREW TYPE FOR CIR CONTROLLER AND BTY. BOX						
1	670-514605-4	EA	\$13.56	\$13.56	PINNACLE, W-C SECT 1-11, 4"& 5" REF K1 110-8 OR SAFETRAN NO. @035045-503X						
1	670-024229-4	EA	\$27,977.58	\$27,977.58	SHELTER, 6X6 ALUMN FARADAY SHIELD PTMW 91000779A, 2000W HEATER, NO AC. WITH HEAVY DUTY HASP, ADJUSTABLE PIERS, 1 EQUIPMENT RACK, 2 SHELVES AND						
2	670-586967-4	EA	\$44.51	\$89.02	SHUNT COVER W/LAG SCREWS, 19"X19", SERRMI #40271, ORDER 1 PER SHUNT						
2	670-016312-4	EA	\$795.86	\$1,591.72	SHUNT, MULTI-FREQ. #250849-004 FSS-1E ALSTOM NARROW BAND (211, 285, 348, 430, 525)						
2	670-016346-4	EA	\$154.53	\$309.06	SIGN, X-BUCK, HI-INTENSIVE REFLECTIVE FRT. & BACK FOR ALL STATES, SAFETRAN# 035200-91X						
2	670-393331-4	EA	\$30.58	\$61.16	SIGN, CROSSING ENS MALFUNCTION ASSEMBLY FOR 4" AND 5" MAST, SAFETRAN #T17215						
34	670-018188-4	EA	\$42.56	\$1,447.04	TERMINAL BLOCK, THRU POST WITH HARDWARE LESS LIGHTNING ARRESTER. SIEMENS P/N NYK: 023275-17X.						

Total Material: \$133,255.36

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
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SH. NO.	CONTENTS	REV. NO.
NX1	INDEX SHEET	1
1	LAYOUT	1
2	PROFILE	1
3	CABLE PLAN	1
4	LOAD CENTER	1
5	CHARGERS & BATTERIES	1
6	GCP4000 CHASSIS & MODULE LAYOUT	1
7	GCP4000 PROGRAMMING	1
8	GCP4000 PROGRAMMING	1
9	CONNECTORS FOR TRACK MODULES	1
10	CPU MODULE & SEAR II HOOK-UPS	1
11	SEAR II PROGRAMMING	1
12	BACKHAUL EQUIPMENT	1
13	SSCC#1 MODULE HOOK-UP	1
14	SSCC#2 MODULE HOOK-UP	1
15	SIGNAL "A" S-40 GATE & FLASHER CIRCUITS	1
16	SIGNAL "B" S-40 GATE & FLASHER CIRCUITS	1
17	BACKBOARD 1A	1
18	BACKBOARD 1B	1
19	SIDE A LAYOUT & RACK PLACEMENT	1
20	SIDE C LAYOUT	1
21	SIDE B LAYOUT & TOP VIEW	1

REVISIONS				
1	06-28-23	MST	PRS	JMW
NEW PLAN DRAWN ACCOUNT OF CHERRY STREET				
PROJECT: #19.6001				
IN SERVICE: XX-XX-XX				
PER: XXX			XXX	XXX

IN SERVICE _____ SIGNED _____ DATE _____


S&E ENGINEERING COPY

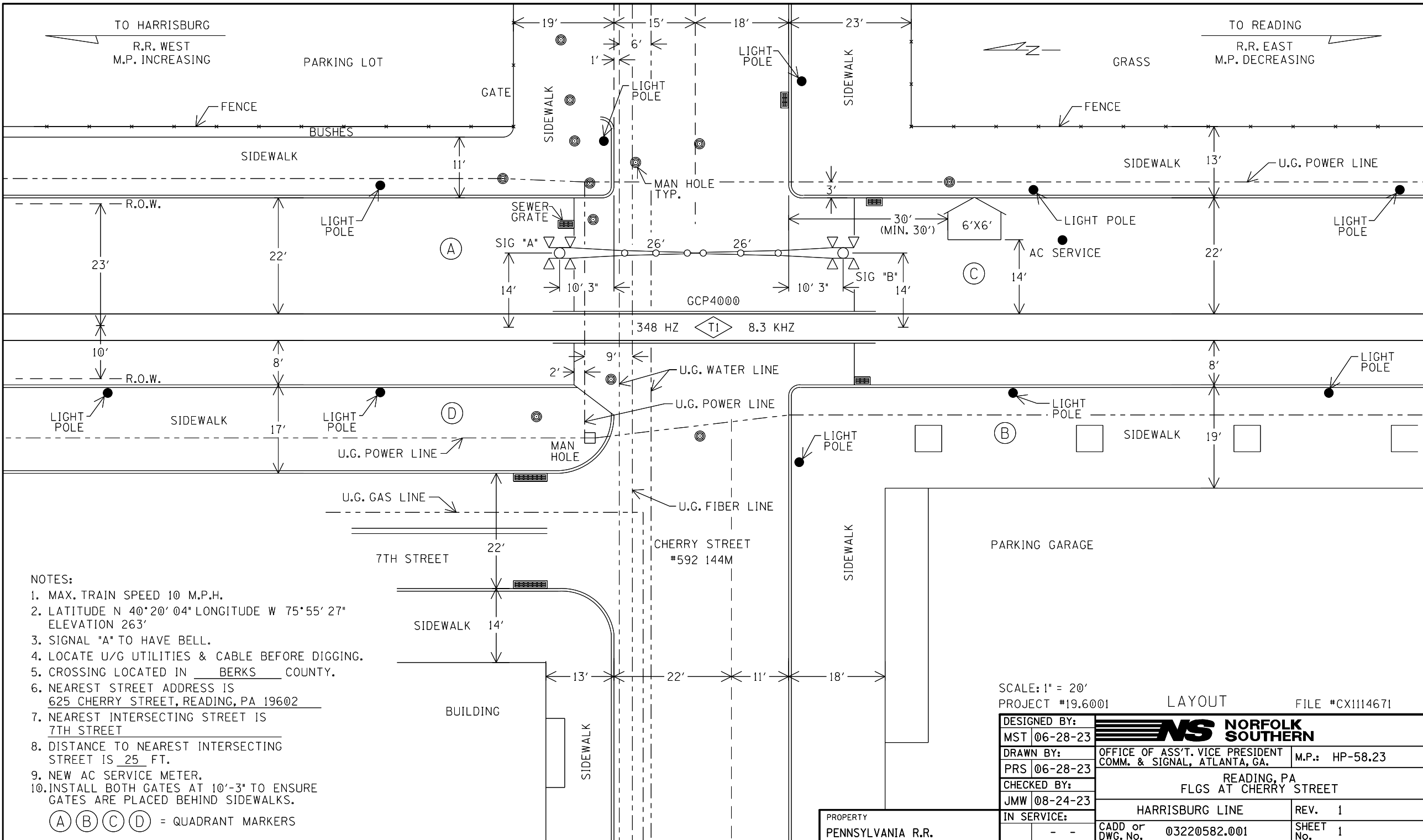
CONSTRUCTION OFFICE COPY
RETURN TO S&E ENG. AFTER COMPLETION

FIELD COPY
RETURN TO CASE AFTER COMPLETION

PROJECT ENGINEER COPY

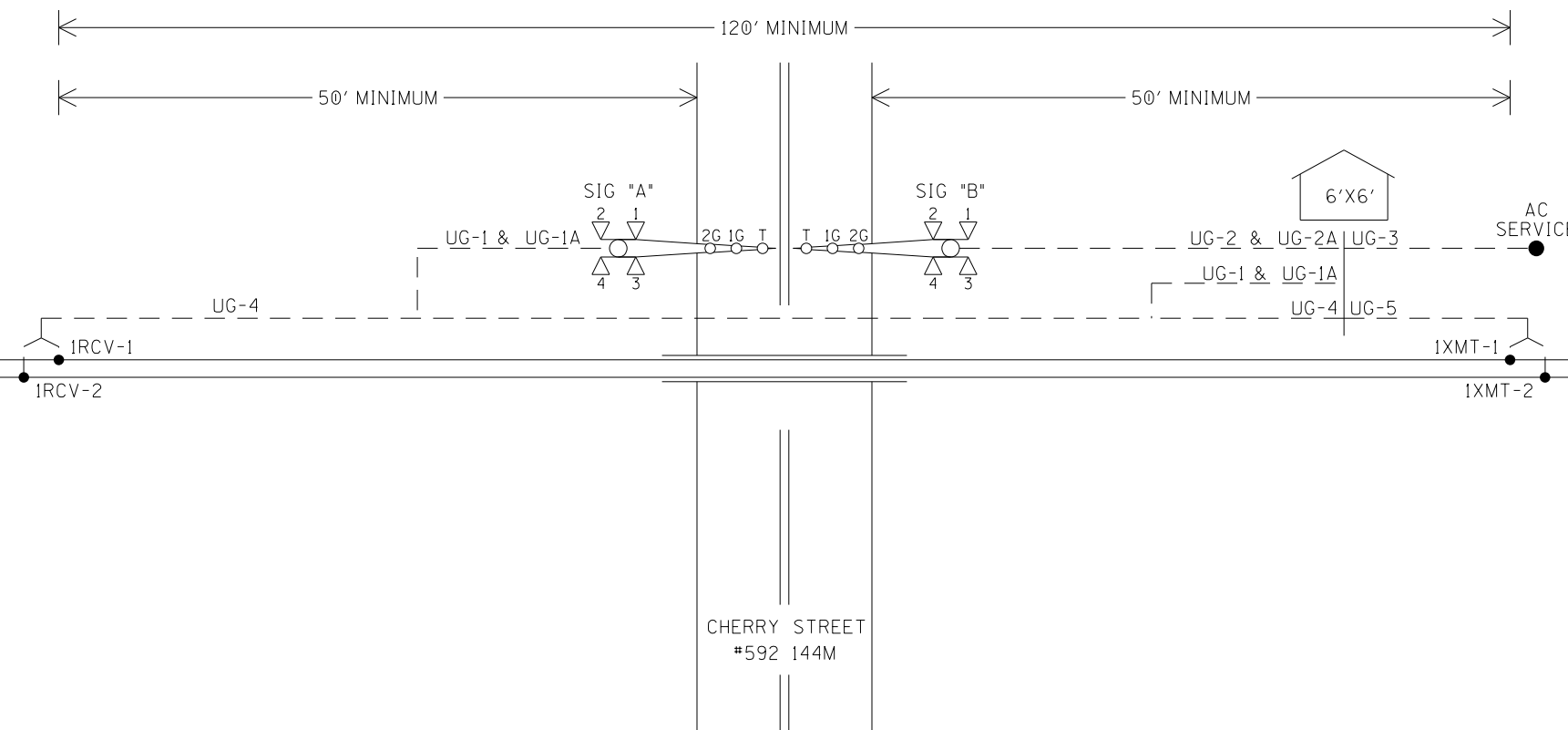
PROPERTY
PENNSYLVANIA R.R.

DESIGNED BY:			
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.:	HP-58.23
DRAWN BY:	READING, PA		
PRS 06-28-23	FLGS AT CHERRY STREET		
CHECKED BY:	HARRISBURG LINE		
JMW 08-24-23	REV. 1		
IN SERVICE:	CADD or DWG. No.	03220582.NX1	SHEET No. INDEX 1



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

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

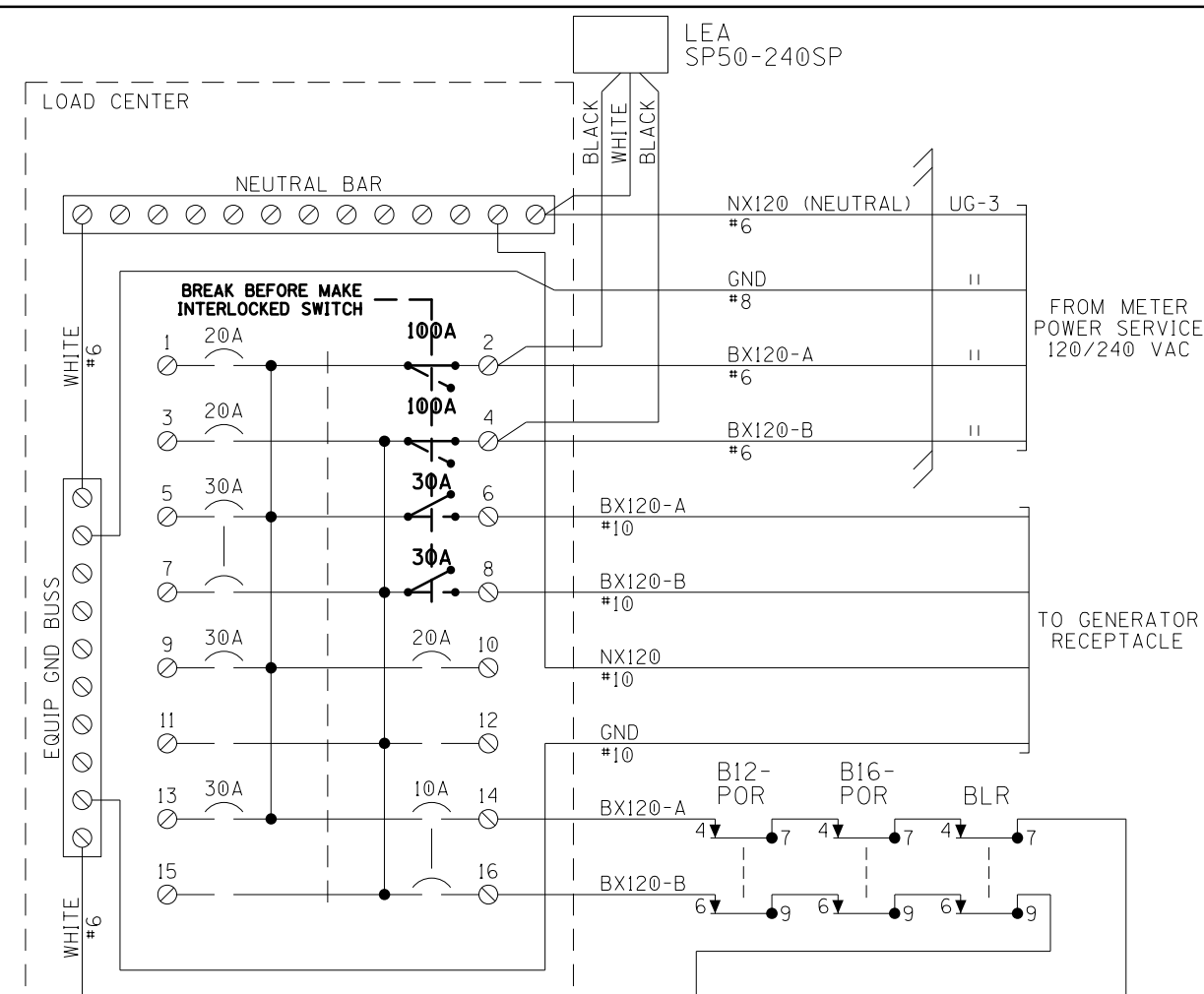


UG-1-5CUG #6 AEC AEZ AEB B16-A N16-A	UG-1A-12CUG #14 AXG NAXG AXX IAXX ACD XGP1 AGBX120 AGNX120 SPARE SPARE SPARE SPARE	UG-2A-12CUG #14 BXG NBXG BXX IBXX BGD XGP1 XCP BCBX120 BGNX120 SPARE SPARE	UG-3-3CUG #6 W/#8 GND BX120-A BX120-B NX120 GND	UG-4-TW. PR. #6 IRCV-1 IRCV-2	UG-5-TW. PR. #6 1XMT-1 1XMT-2
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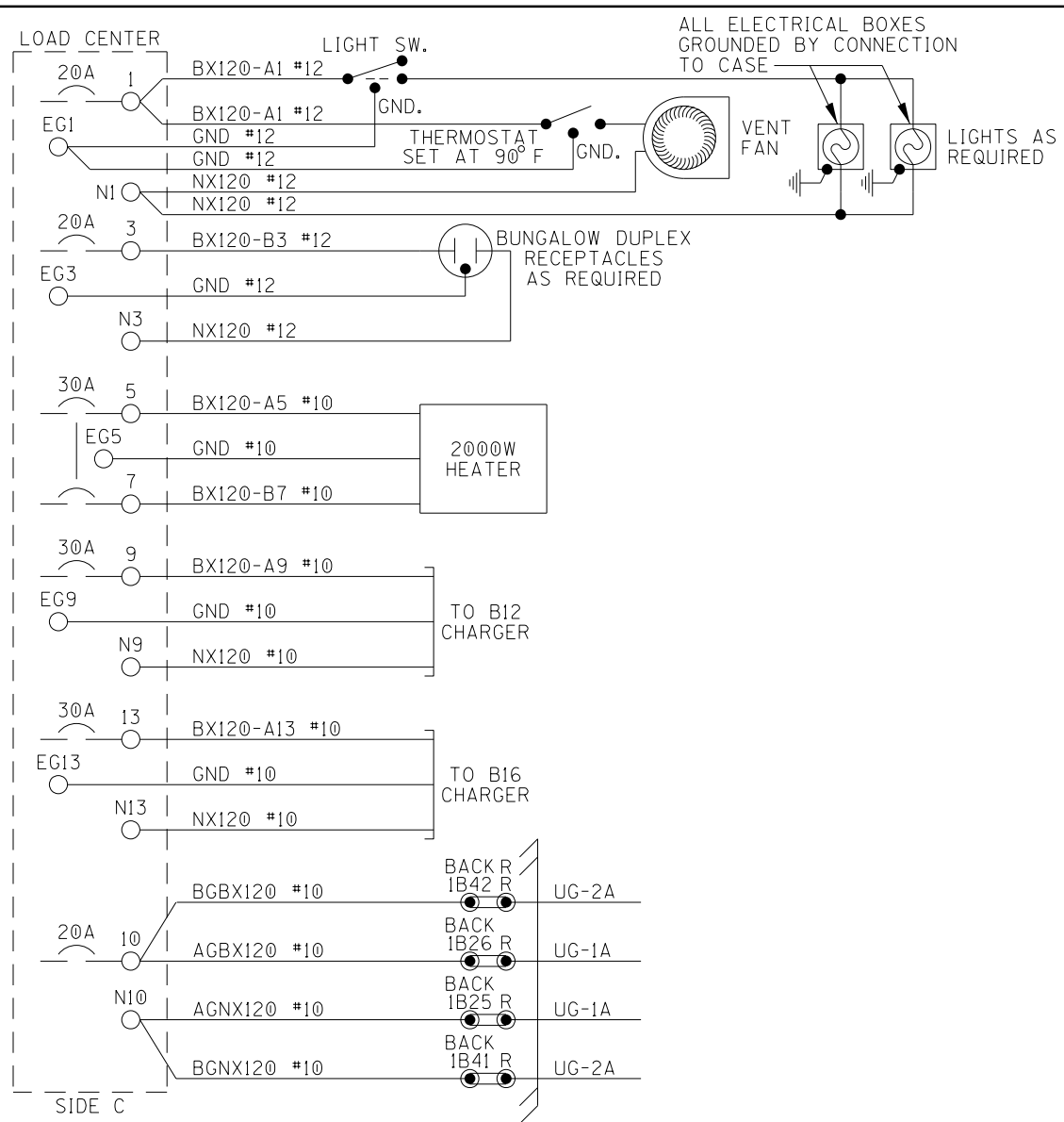
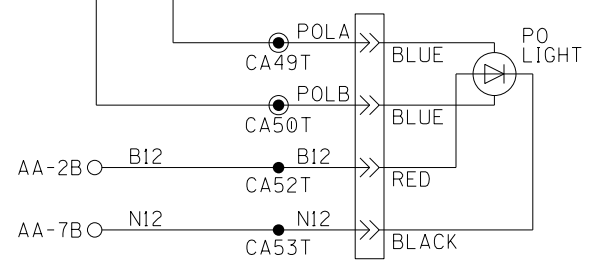
CABLE PLAN

DESIGNED BY: MST 06-28-23		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY: PRS 06-28-23		READING, PA FLGS AT CHERRY STREET	
CHECKED BY: JMW 08-24-23	HARRISBURG LINE		REV. 1
IN SERVICE: - -	CADD or DWG. No. 03220582.003	SHEET 3	

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

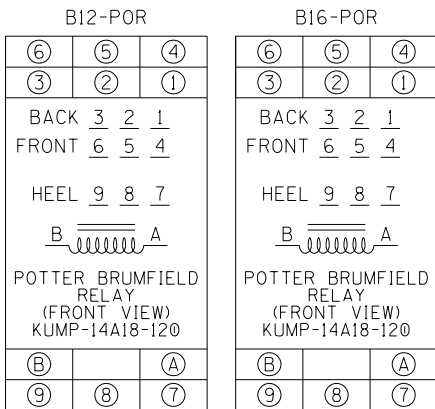
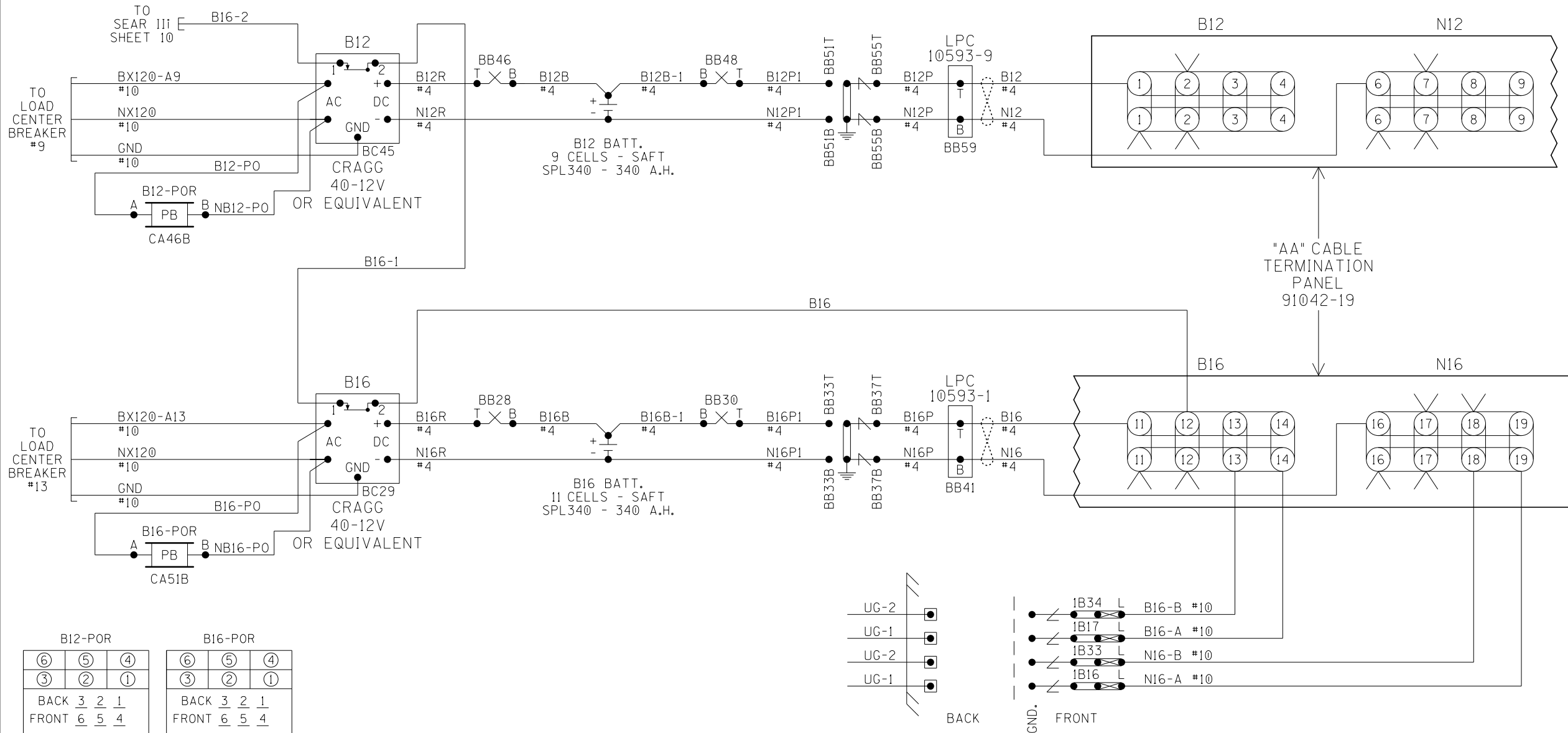
DESIGNED BY:	MST 06-28-23	
DRAWN BY:	PRG 06-28-23	CADD or DWG. No. 03220582.004
CHECKED BY:	JMW 08-24-23	REV. 1
IN SERVICE:	- -	SHEET 4

NORFOLK SOUTHERN

OFFICE OF ASS'T. VICE PRESIDENT
COMM. & SIGNAL, ATLANTA, GA. M.P.: HP-58.23

READING, PA
FLGS AT CHERRY STREET

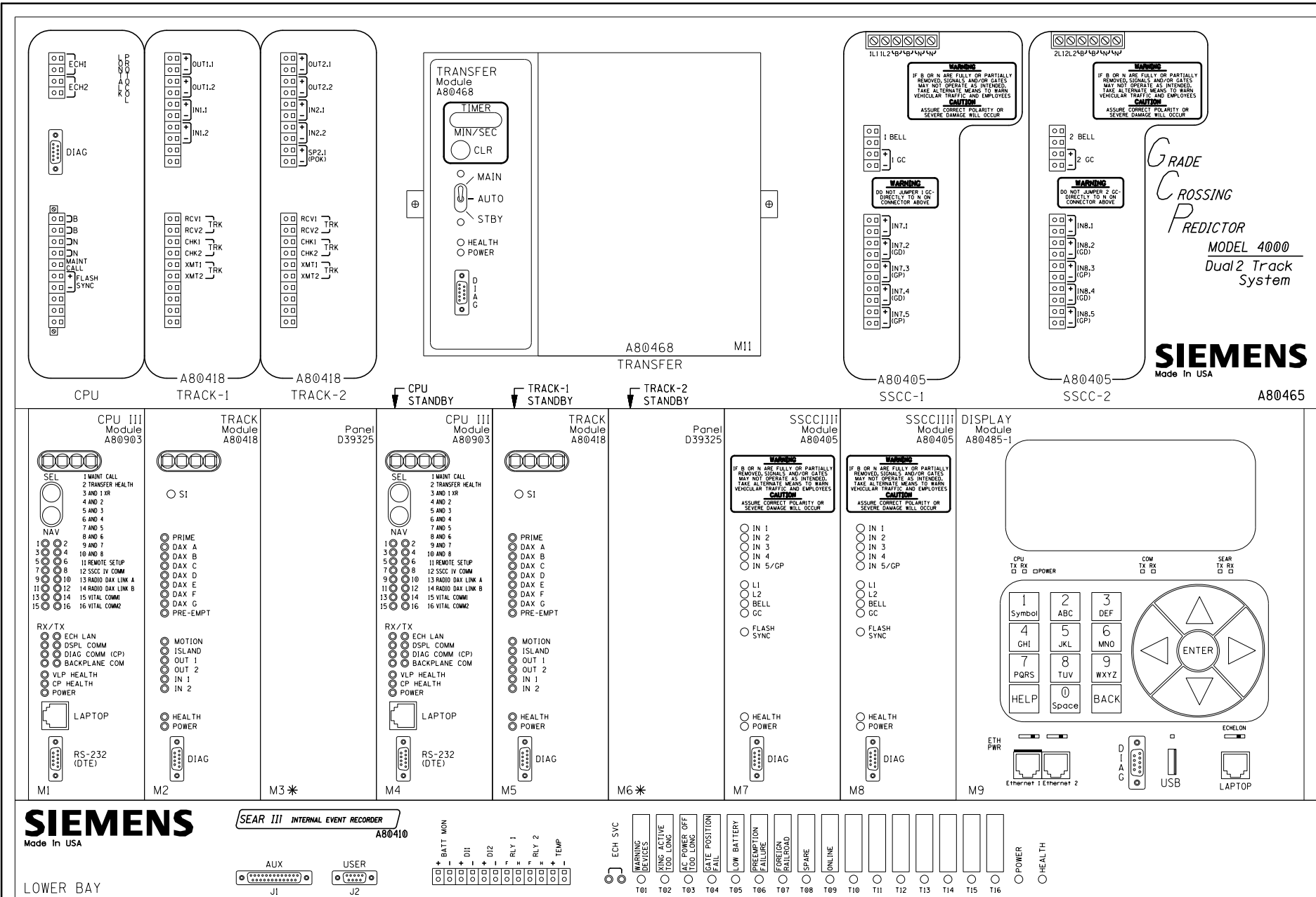
HARRISBURG LINE



- 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-58.23
DRAWN BY:	READING, PA FLGS AT CHERRY STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 08-24-23	CADD or DWG. No. 03220582.005
IN SERVICE:	- -	SHEET 5
PROPERTY PENNSYLVANIA R.R.		



WARNING
REMOVAL OF THE SSCIIIi 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 SSCIIIi MODULE OR SEVERE DAMAGE WILL OCCUR.
REFER TO DETAILED INSTRUCTIONS ON THE SSCIIIi BEFORE APPLYING POWER TO THE POWER CONNECTOR(S).

GRADE CROSSING PREDICTOR
MODEL 4000
Dual 2 Track System

SIEMENS
Made In USA

* = MAIN AND STANDBY MAY USE R10 IN TRACK 2 SLOTS (M3 AND M6)

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY:	READING, PA FLGS AT CHERRY STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	CADD or DWG. No. 03220582.006	
JMW 08-24-23		SHEET 6

Program Report

Location and SIN

DOT Number: 592144M
 Milepost Number: HP-58.23
 Site Name: CHERRY STREET

SIN: 755048701803

MCF and Template Selection

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

Template = 1A:6 Trk Bi

Check Numbers

Office Check No. (DT 4,6,0): 3566BCF5
 Office Check Number: 3566BCF5
 Config. Check Number: 38F0598C
 (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 = SCCC3i
 SCCC-2 Slot = SCCC3i
 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 = 348 Hz
 Track 1: Approach Distance = 850 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 = 8.3 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-58.23
DRAWN BY:	READING, PA FLGS AT CHERRY STREET		
PRS 06-28-23	HARRISBURG LINE		
CHECKED BY:	REV. 1		
JMW 08-24-23	SHEET 7		
PROPERTY	IN SERVICE:	CADD or DWG. No.	03220582.007
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

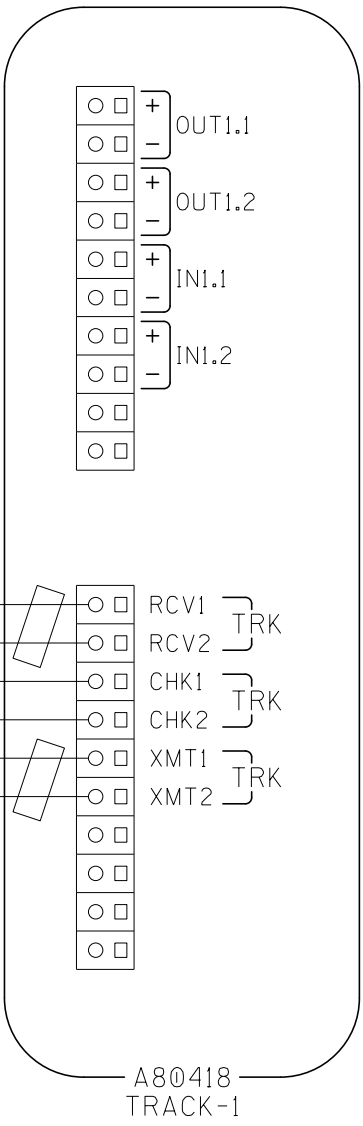
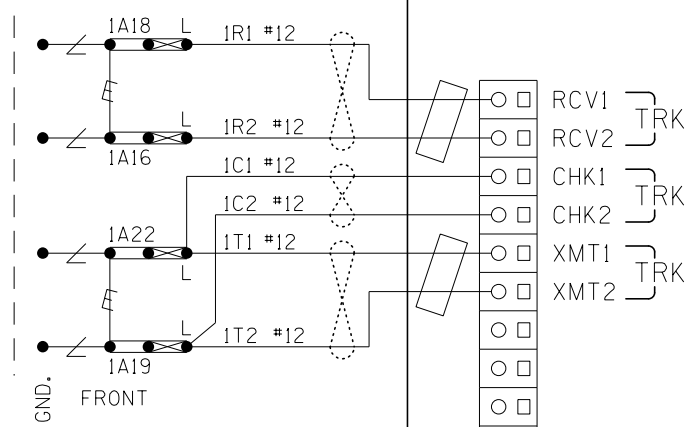
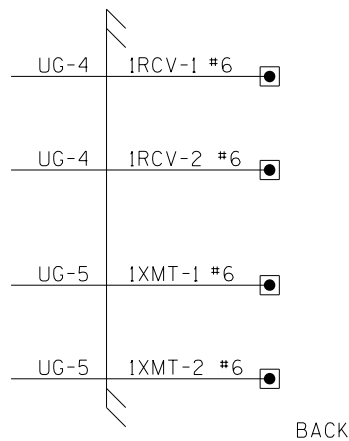
Configuration Package File

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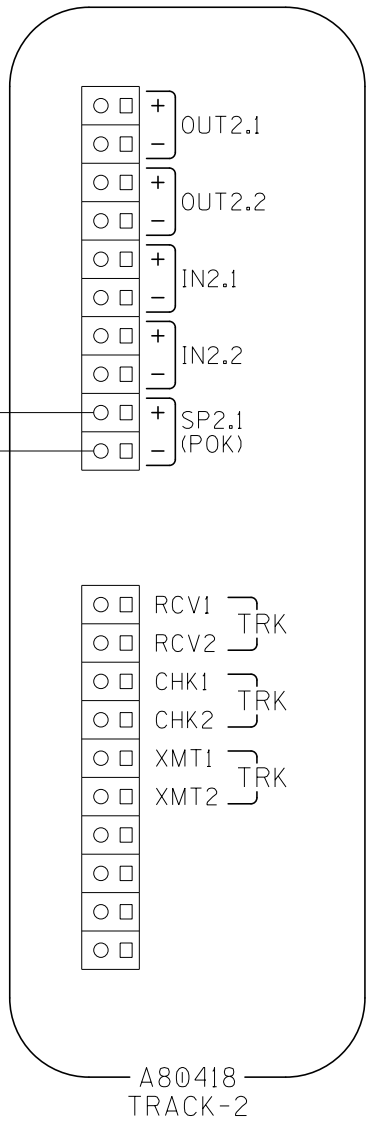
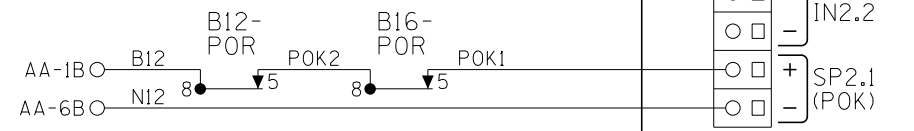
GCP4000 PROGRAMMING

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHERRY STREET	
CHECKED BY:	HARRISBURG LINE	
JMW 08-24-23	REV. 1	
IN SERVICE:	CADD or DWG. No. 03220582.008	SHEET No. 8

PROPERTY
 PENNSYLVANIA R.R.



A80418
TRACK-1



A80418
TRACK-2

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

CONNECTORS FOR TRACK MODULES

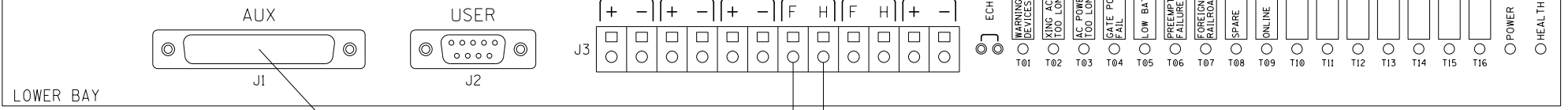
DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHERRY STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-24-23		SHEET 9
IN SERVICE:	CADD or DWG. No. 03220582.009	No.

PROPERTY
PENNSYLVANIA R.R.

SIEMENS
Made In USA

SEAR III INTERNAL EVENT RECORDER

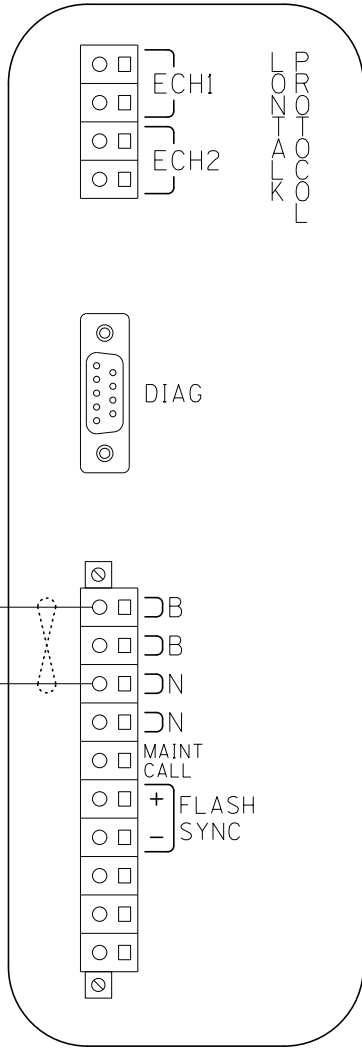
A80410



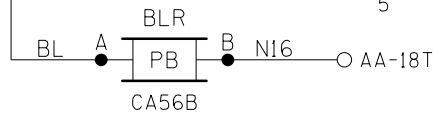
LOWER BAY

TO RADIO SHEET 12

TO SHEET 5



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



BLR

⑥	⑤	④	
③	②	①	
BACK	3	2	1
FRONT	6	5	4
HEEL	9	8	7
POTTER BRUMFIELD RELAY (FRONT VIEW) KUMP-14D18-12			
Ⓑ		Ⓐ	
⑨	⑧	⑦	

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

CPU MODULE & SEAR III HOOK-UP

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY:	READING, PA FLGS AT CHERRY STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 08-24-23	SHEET No. 10
IN SERVICE:	CADD or DWG. No. 03220582.010	

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	CHERRY STREET
MILEPOST	HP-58.23
DOT#	592-144M
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	7.550.487.018.03.01
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:

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

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

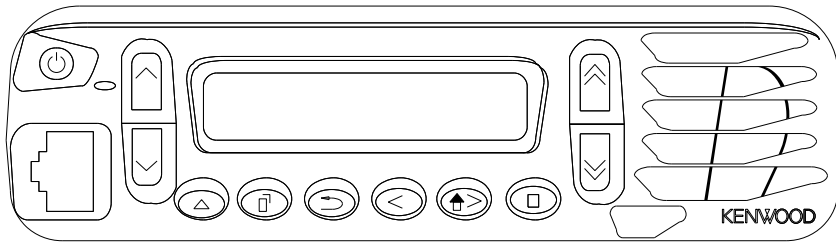
TO CONFIGURE SEAR III PRESS SITE SETUP KEY.
USE ARROW KEYS TO MAKE SELECTION,
PRESS ENTER AFTER SELECTION HAS BEEN MADE.

SEAR III PROGRAMMING

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHERRY STREET	
CHECKED BY:	HARRISBURG LINE	
JMW 08-24-23	REV. 1	SHEET 11
IN SERVICE:	CADD or DWG. No. 03220582.011	

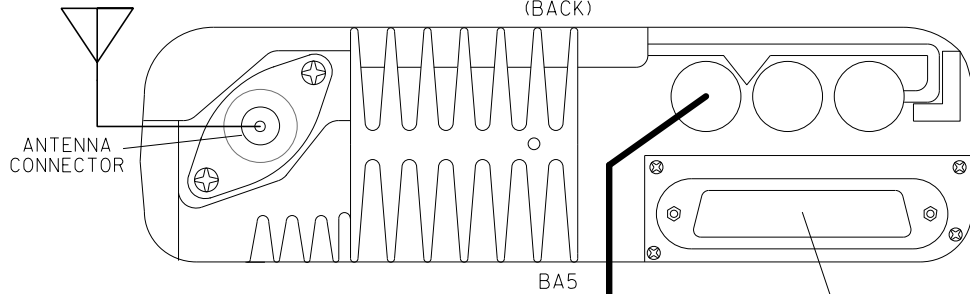
PROPERTY
PENNSYLVANIA R.R.

(FRONT)



KENWOOD RADIO NX-700H
OR EQUIVALENT

(BACK)



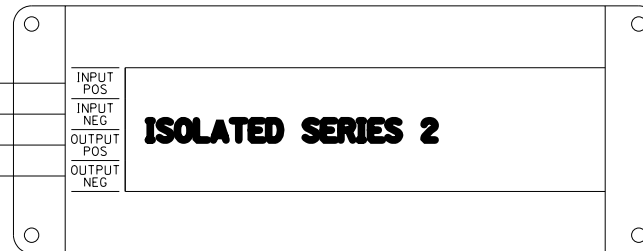
ANTENNA
CONNECTOR

BA5

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

CABLE - KENWOOD
P/N E30-7520-15

AA-2B ○ B12
AA-7B ○ N12
B12
N12



ISOLATED SERIES 2

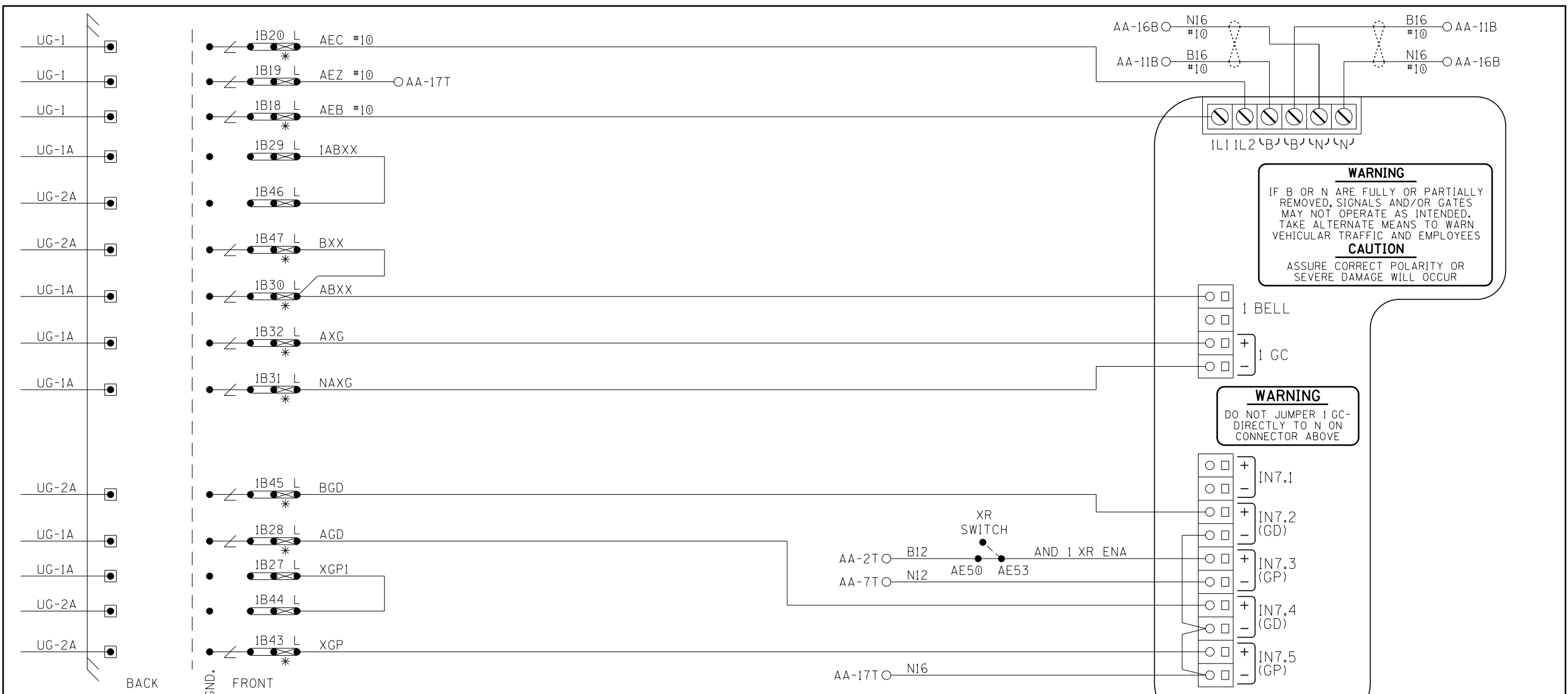
BB5

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

BACKHAUL EQUIPMENT

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY:	READING, PA FLGS AT CHERRY STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	CADD or DWG. No. 03220582.012	
JMW 08-24-23		SHEET No. 12
IN SERVICE:		

PROPERTY
PENNSYLVANIA R.R.

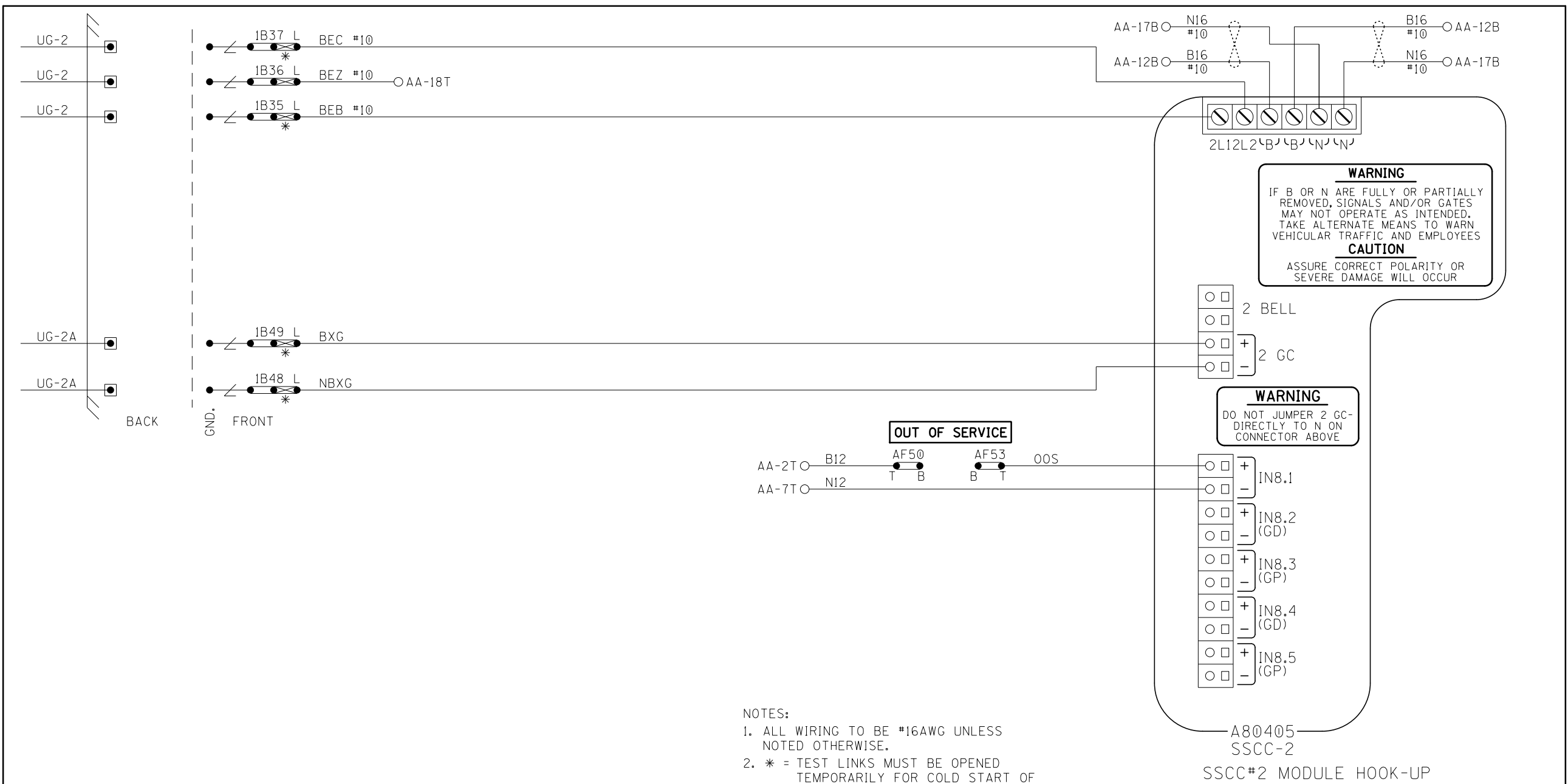



- NOTES:
1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
 2. * = TEST LINKS MUST BE OPENED TEMPORARILY FOR COLD START OF NEW OR REPLACEMENT SSSC MODULE AND CAN ONLY BE CLOSED IN SEQUENCE WITH MFR. INSTRUCTION; APPENDIX C OF GCP 4000 REFERENCE MANUAL.
 3. = TWIST

SSCC#1 MODULE HOOK-UP


DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY:	READING, PA FLGS AT CHERRY STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 08-24-23	
IN SERVICE:	CADD or DWG. No. 03220582.013	SHEET No. 13

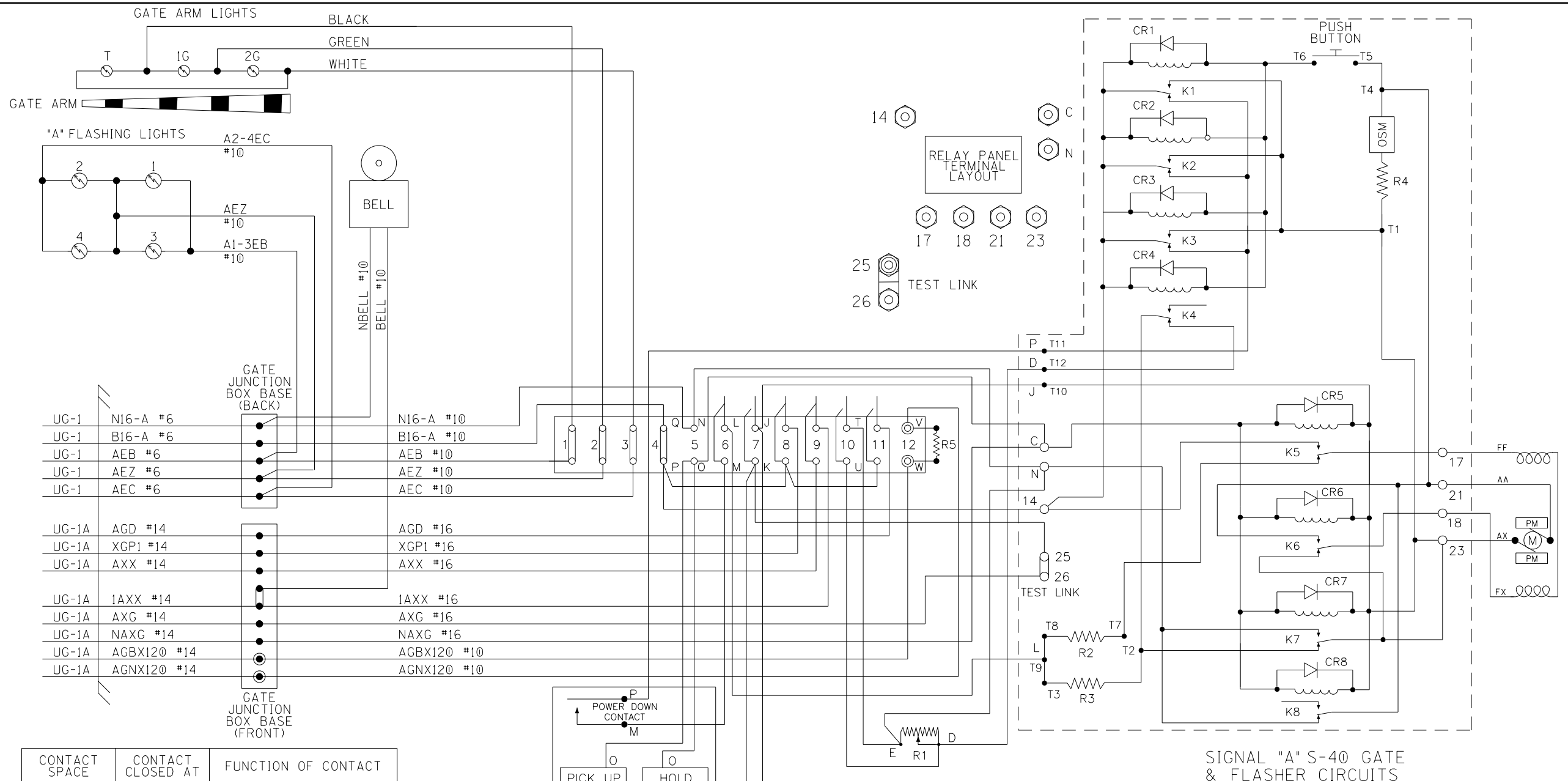
PROPERTY
PENNSYLVANIA R.R.



- 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:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY:	READING, PA FLGS AT CHERRY STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 08-24-23	SHEET 14
IN SERVICE:	CADD or DWG. No. 03220582.014	



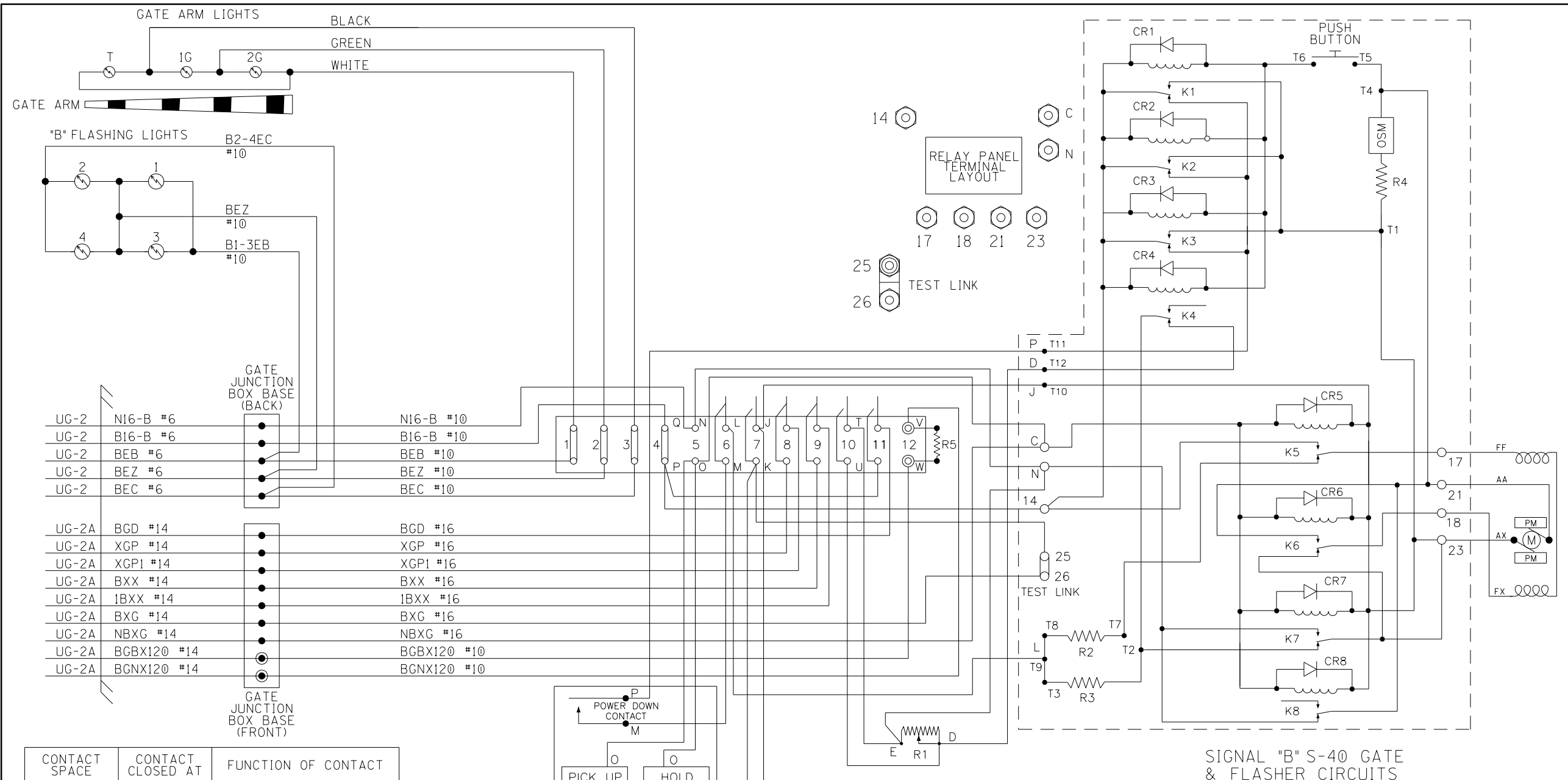
UG-1	N16-A #6	N16-A #10
UG-1	B16-A #6	B16-A #10
UG-1	AEB #6	AEB #10
UG-1	AEZ #6	AEZ #10
UG-1	AEC #6	AEC #10
UG-1A	AGD #14	AGD #16
UG-1A	XGP1 #14	XGP1 #16
UG-1A	AXX #14	AXX #16
UG-1A	1AXX #14	1AXX #16
UG-1A	AXG #14	AXG #16
UG-1A	NAXG #14	NAXG #16
UG-1A	AGBX120 #14	AGBX120 #10
UG-1A	AGNX120 #14	AGNX120 #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

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY:	READING, PA FLGS AT CHERRY STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 08-24-23	SHEET No. 15
IN SERVICE:	CADD or DWG. No. 03220582.015	

PROPERTY
 PENNSYLVANIA R.R.



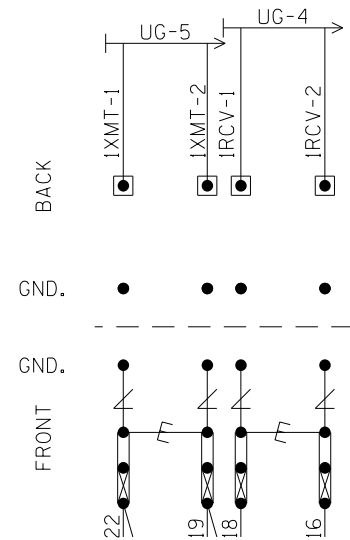
CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
(6) L-M	45° - 90°	POWER DOWN CONTROL
(7) J-K	0° - 89°	POWER UP CONTROL
(8)	83° - 90°	FLASHING LGT. CONTROL
(9)	5° - 90°	BELL CONTROL
(10) T-U	0° - 5°	HORIZONTAL SNUB
(11)	0° - 5°	GATE DOWN INDICATION

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

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY:	READING, PA FLGS AT CHERRY STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 08-24-23	SHEET No. 16
IN SERVICE:	CADD or DWG. No. 03220582.016	

PROPERTY
 PENNSYLVANIA R.R.

"1A"



NOTES:

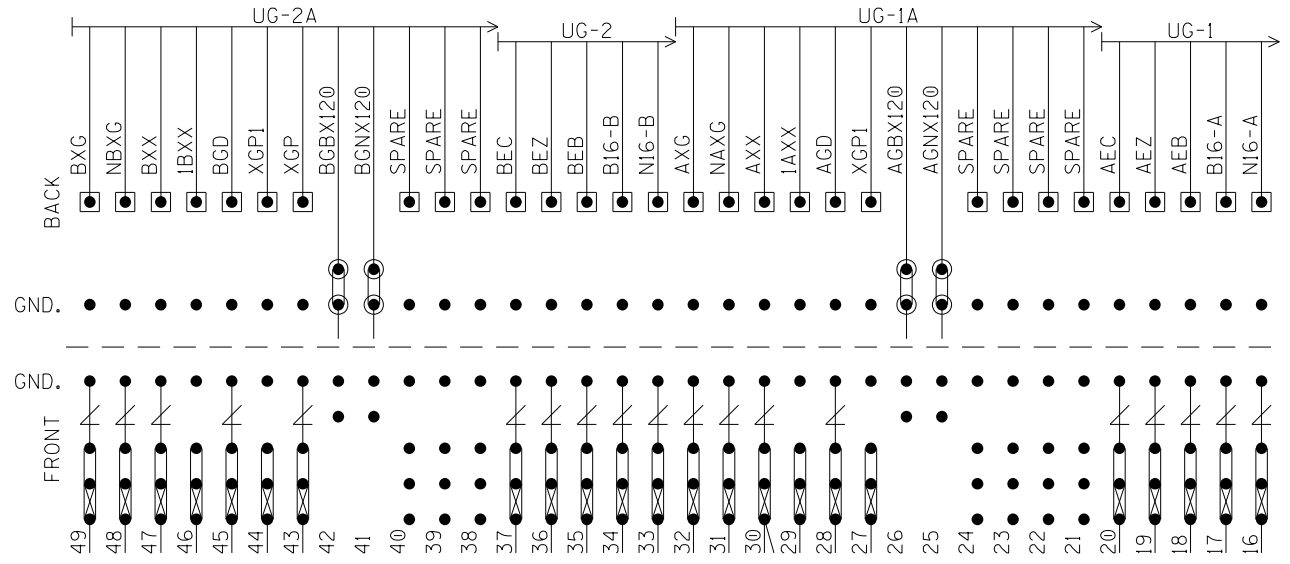
1. E = HEAVY DUTY EQUALIZER (022700-1X)
2. Z = ERICO LIGHTNING ARRESTER (EPD2050F)
3. GND. ● = THROUGH GROUND POST ON EACH TERMINAL BLOCK TO FARADAY SHIELD
4. X = TEST LINK
5. INSTALL TEST LINKS ON ALL TRACK WIRES AND ON ALL LOW VOLTAGE UNDERGROUND CABLE TERMINATIONS.

BACKBOARD 1A

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHERRY STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-24-23		SHEET 17
IN SERVICE:	CADD or DWG. No. 03220582.017	
	- -	

PROPERTY
PENNSYLVANIA R.R.

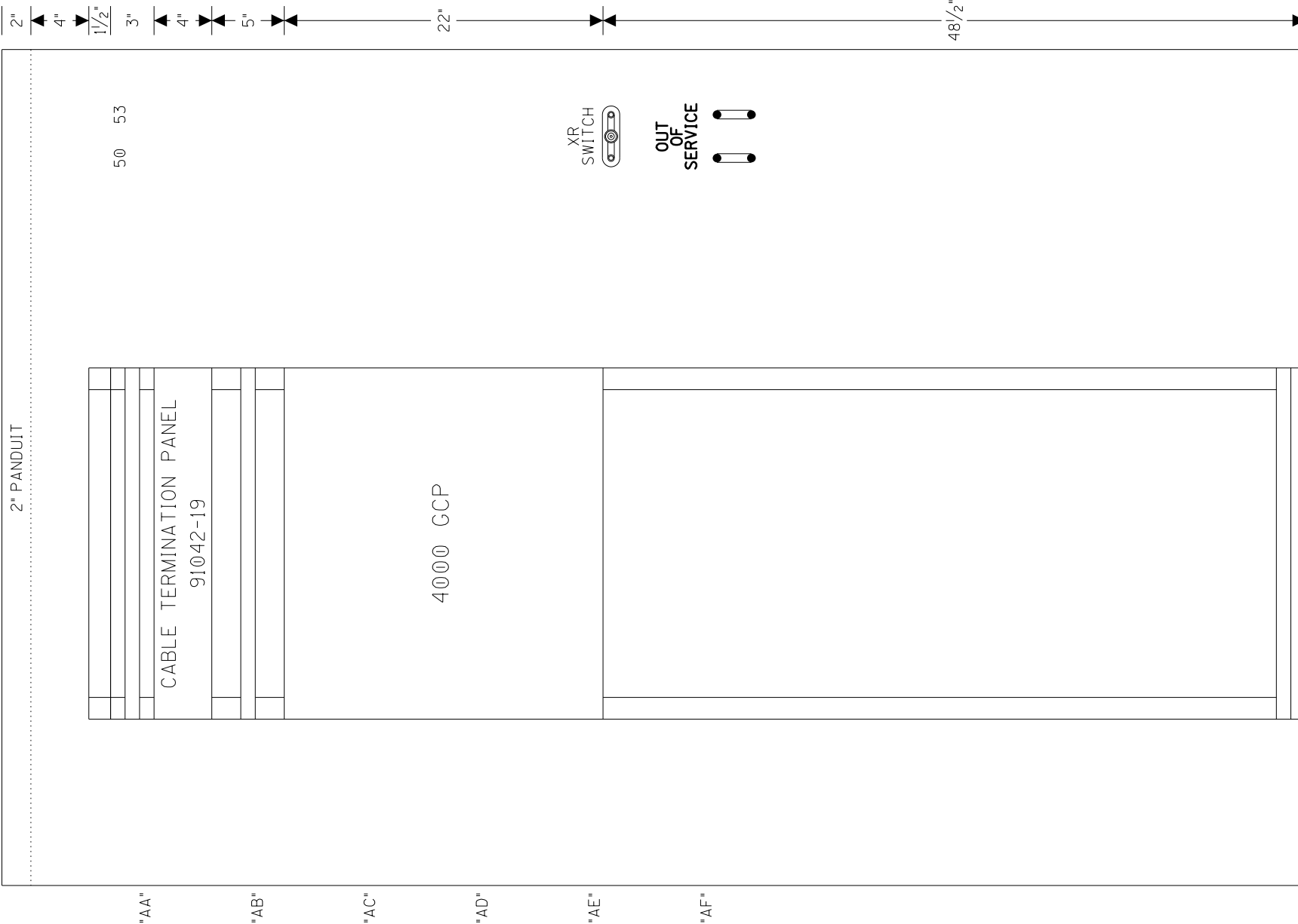
"1B"



- 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

BACKBOARD 1B

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY:	READING, PA FLGS AT CHERRY STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	CADD or DWG. No. 03220582.018	
JMW 08-24-23	PROPERTY	SHEET No. 18
IN SERVICE:	PENNSYLVANIA R.R.	



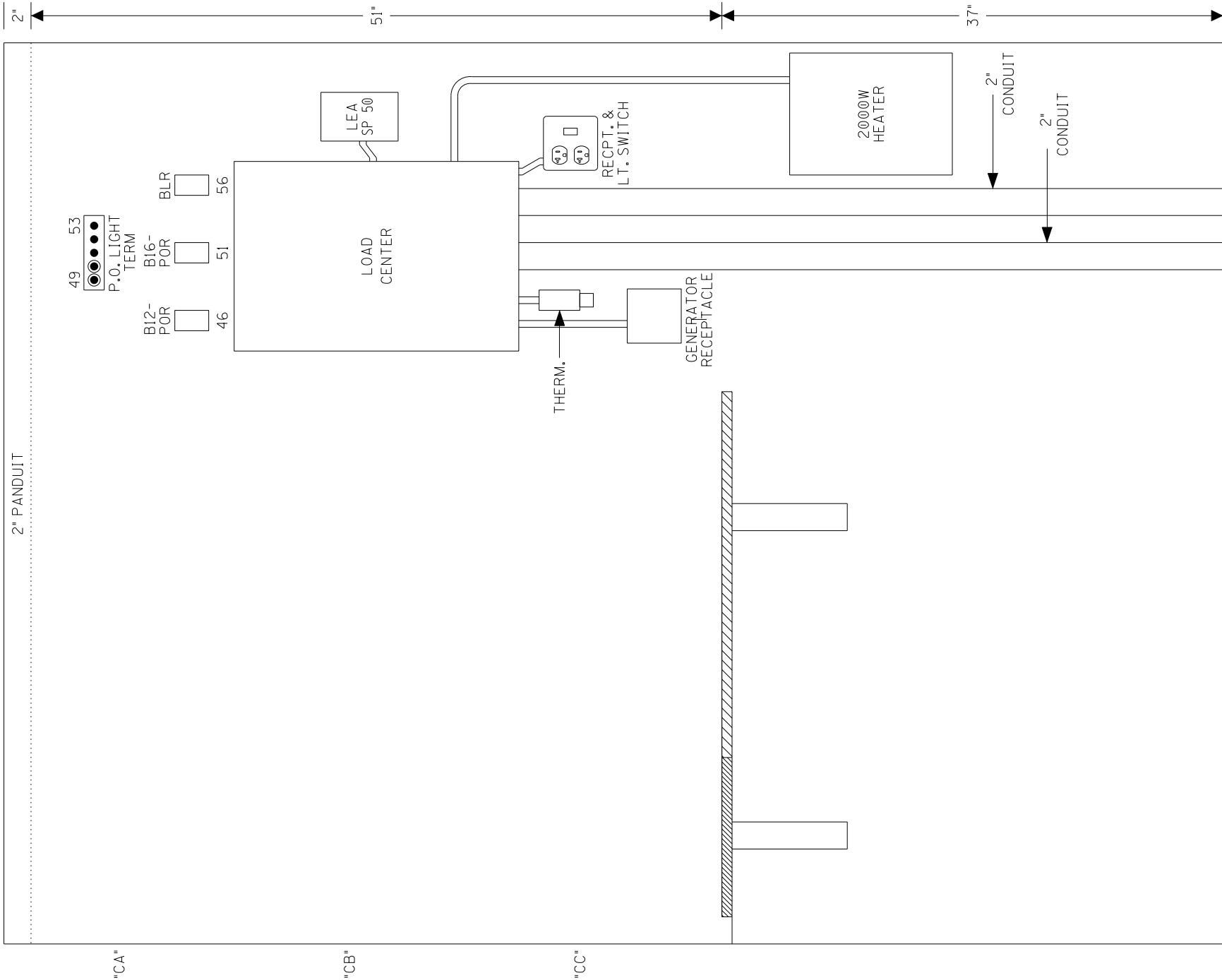
24 1/4"
EQUIPMENT RACK #1
FRONT



SIDE A LAYOUT & RACK PLACEMENT

DESIGNED BY: MST 06-28-23		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY: PRS 06-28-23		READING, PA FLGS AT CHERRY STREET	
CHECKED BY: JMW 08-24-23	HARRISBURG LINE		REV. 1
IN SERVICE: - -	CADD or DWG. No. 03220582.019	SHEET 19 No.	

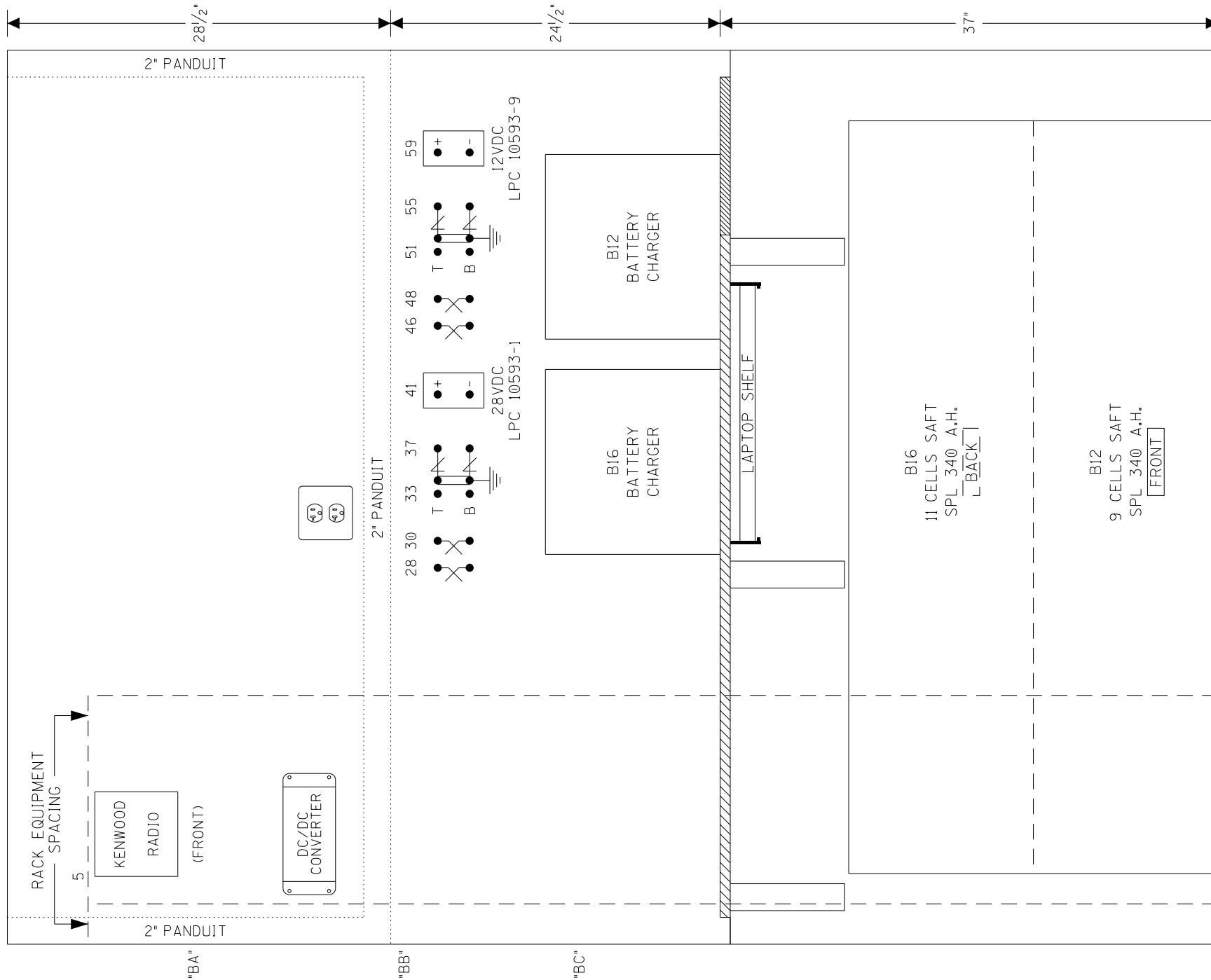
PROPERTY
PENNSYLVANIA R.R.



SIDE C LAYOUT

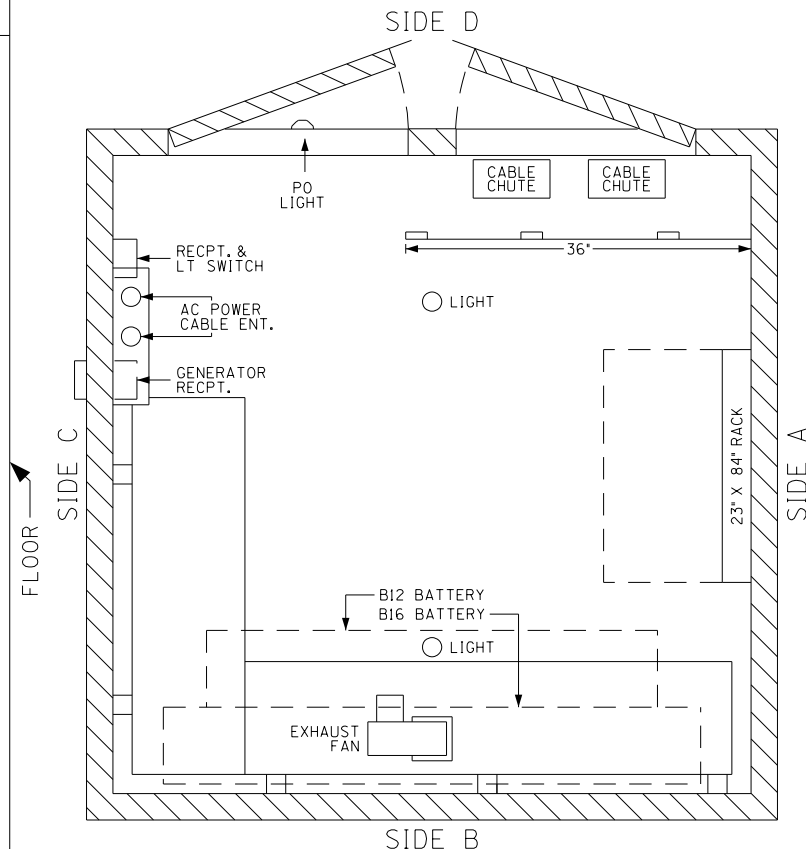
DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHERRY STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-24-23	CADD or DWG. No. 03220582.020	SHEET 20
IN SERVICE:	- -	No.

PROPERTY
PENNSYLVANIA R.R.



***TOP VIEW**

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



SIDE B LAYOUT & TOP VIEW

DESIGNED BY: MST 06-28-23	NS NORFOLK SOUTHERN	
DRAWN BY: PRS 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.23
CHECKED BY: JMW 08-24-23	READING, PA FLGS AT CHERRY STREET	
IN SERVICE: - -	HARRISBURG LINE	REV. 1
	CADD or DWG. No. 03220582.021	SHEET No. 21

PROPERTY
PENNSYLVANIA R.R.

INDEX

SH. NO.	CONTENTS	REVISION NO.						
		1	2	3	4	5	6	7
1	TITLE, NOTES, INDEX, AND REVISIONS	X	X					
2	LOCATION PLAN	X	X					
3	POWER DISTRIBUTION	X	X					
4	DUAL PHASE MOTION DETECTOR SYSTEM - HARMON PMDI CIRCUITS	X						
5	GATE CONTROL, LIGHTING AND POWER SUPPLY CIRCUITS	X						
6								
7								
8								
9								
10								

NOTES

- = FOR MATERIAL REFERENCE SEE PLAN
- ⊗ - DENOTES TWISTED PAIR
- GROUND IN ACCORDANCE WITH CS-9001-A

REV	DATE	CHK BY

C&S CAD

TO BE VOIDED

PROJECT:
#19.6001
RED = IN
YELLOW = OUT
DESIGN: 06-28-23
PROGRESS RAIL
CHECK: 08-24-23
JMW

REVISIONS

1	9-19-84			
NEW PLAN DRAWN ACCORDANT WITH REVISIONS ADDED AT CHERRY ST. FORMERLY PLAN #514C.				
SYSTEM FILE NO: WO/AFE NO: 84041 PFC NO. IN SERVICE: PER:				
2	12-18-90	WEG	WEG	JJM
PLAN REVISED ACCORDANT WITH REVISIONS ADDED AT CHERRY ST. FORMERLY PLAN #514C.				
WO/AFE: 0A327 IN SERVICE: 08-11-98 PER: DDD/SWS				

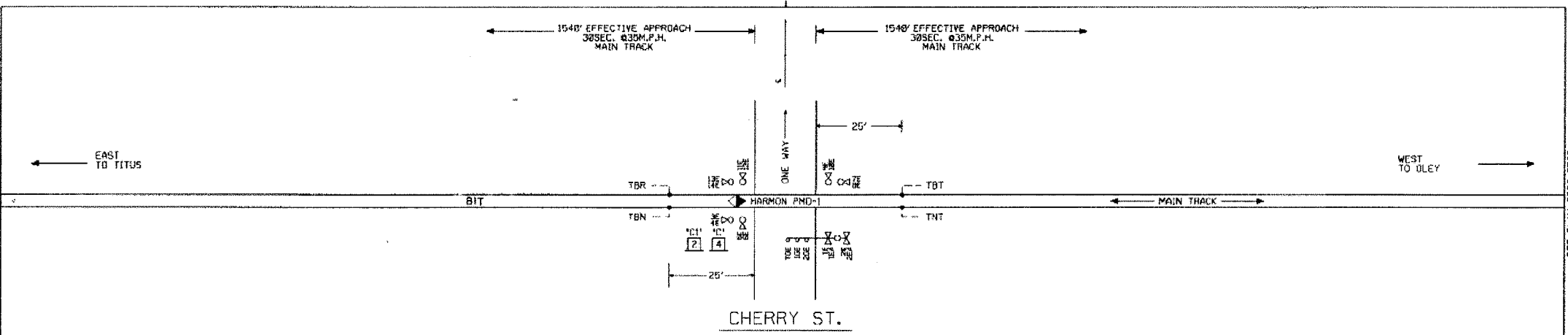


EASTERN REGION HARRISBURG DIVISION
READING, PA. HARRISBURG LINE
CHERRY ST.
TITLE, NOTES, INDEX AND REVISIONS
PHILADELPHIA, PA. APPROVED: *R.H. Keedler*
CHIEF ENGINEER - C&S
ISSUE DATE: SEPTEMBER 11, 1998 0322-0582
REV. 2 09-11-98 SHEET 1 OF 5

NOT CAD E100,101JHXPMDFG1.DGN

SEE PLAN 0322-0581

SEE PLAN 0322-0582



TO BE VOIDED

PROJECT:
#19.6001
RED = IN
YELLOW = OUT
DESIGN: 06-28-23
PROGRESS RAIL
CHECK: 08-24-23
JMW

CABLE EAST

1	SP
2	SP
3	SP
4	SP
5	SP
6	SP
7	SP
8	SP
9	EB-1
10	MEB-1
11	SP
12	SP
13	SP
14	SP
15	SP
16	SP
17	SP
18	SP
19	SP
20	SP
21	SP
22	SP
23	SP
24	SP
25	SP
26	SP
27	SP
28	SP
29	SP
30	SP
31	SP
32	SP
33	SP
34	SP
35	SP
36	SP
37	SP

CABLE 'FC' 37 COND. #12

CABLE WEST

1	SP
2	SP
3	SP
4	SP
5	SP
6	SP
7	SP
8	SP
9	SP
10	SP
11	SP
12	SP
13	SP
14	SP
15	SP
16	SP
17	SP
18	SP
19	SP
20	SP
21	SP
22	SP
23	SP
24	SP
25	SP
26	SP
27	SP
28	SP
29	SP
30	SP
31	SP
32	SP
33	SP
34	SP
35	SP
36	SP
37	SP

CABLE 'CP' 37 COND. #12

REV	DATE	CHK BY

CONRAIL

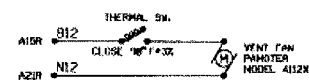
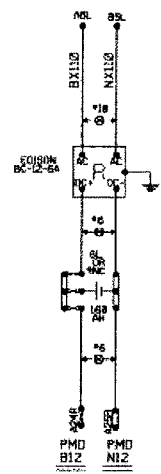
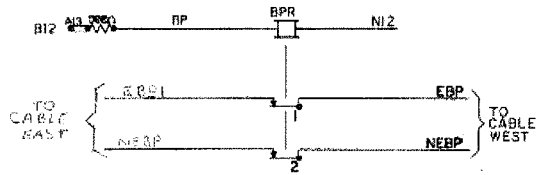
CHERRY ST. READING, PA.

HIGHWAY CROSSING
LOCATION PLAN

ISSUE DATE:	0322-0582
REV. 2	09-11-98 SHEET 2

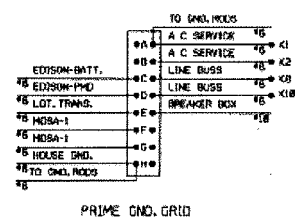
CAD

[[00,10]]HXPMDFG1.DGN



TO BE VOIDED

PROJECT:
#19.6001
RED = IN
YELLOW = OUT
DESIGN: 06-28-23
PROGRESS RAIL
CHECK: 08-24-23
JMW



NOTES:
ALL CASE WIRING #18 EXCEPT AS SHOWN.
⊗ = TWISTED PAIR.
★ = WHEN UNGROUND POWER IS USED REPLACE LINKS WITH FUSE OR ARRESTER EQUIVALENT TO BX110 SIDE OF CIRCUIT.
* = 20A GROUND FAULT CIRCUIT BREAKER

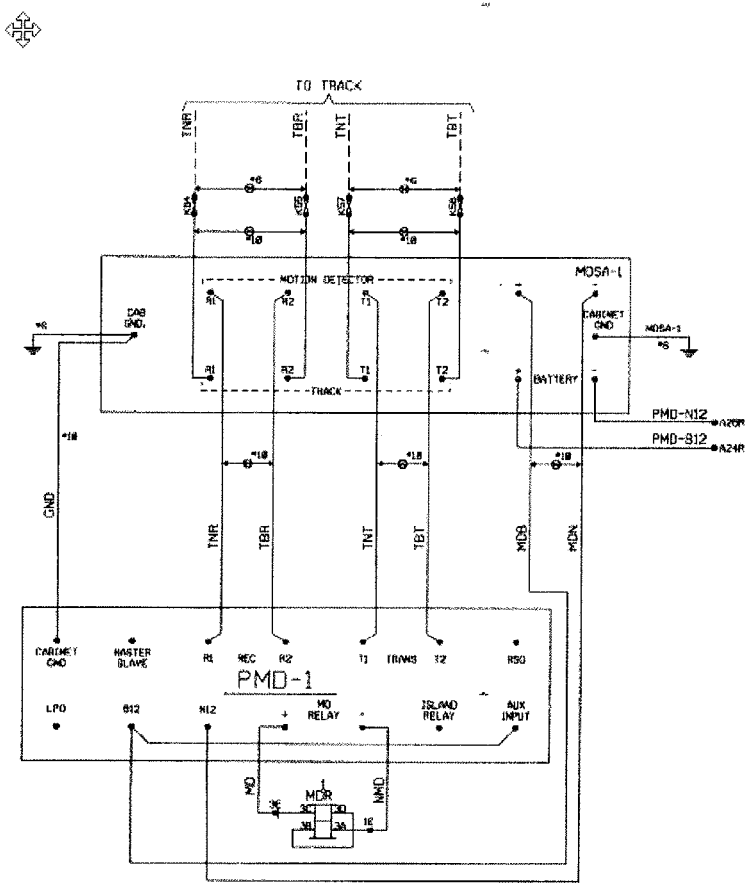
CONRAIL
CHERRY ST. READING, PA.
HIGHWAY CROSSING
POWER DISTRIBUTION

ISSUE DATE: 8322-0582
REV. 2 07-11-78 SHEET 3

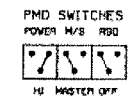
REV	DATE	CHK BY

CMS CAD

[[00,101HXPM01F01.DGN



PMD1 FREQUENCY:
 CH. 1 - 167 KHZ.
 ISLAND FREQUENCY:
 KHZ.
 (WITH STANDARD SUBTONE)



TO BE VOIDED

PROJECT:
 #19.6001
 RED = IN
 YELLOW = OUT
 DESIGN: 06-28-23
 PROGRESS RAIL
 CHECK: 08-24-23
 JMW

REV	DATE	CKD BY

CONRAIL

CHERRY ST. READING, PA.

HIGHWAY CROSSING
 DUAL PHASE MOTION DETECTOR
 HARMON PMD-1

ISSUE DATE:	0322-0582
REV. 1	01-11-98
SHEET 4	

[100,101]HXPMDFG1.DGN

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Department of Transportation Engineering
District 5-0
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Allentown, PA 18101
svottero@pa.gov

s/ Karen L. Gagne

Karen L. Gagne

Date: August 7, 2024