

Memo

To: Docketing Division
From: Jill Henry, Chief, Rail Division
Cc: PUCO Legal Department
Date: 6/13/2022

Re: PUCO Case No. 22-581-RR-FED- In the Matter of a Request for the Installation of Active Warning Devices at the Norfolk Southern Railway Crossing, Walter Street, DOT#505-147X, in Columbiana County, Ohio.

On February 17, 2022, the Ohio Rail Development Commission (ORDC) authorized funding for Norfolk Southern Railway to install lights and gates at Walter Street, DOT#505-147X, in Columbiana County, Ohio. The crossing was surveyed, on July 21, 2021, and found to warrant the upgrades. The electric utility provider for this crossing is AEP-Ohio.

The project will be paid for with federal funds and is actual cost. The plans and estimates in the amount of \$402,613.00 have been approved. Construction may commence at once. **Staff requests a Finding & Order with completion of the project in nine months.** Staff requests that the following language be incorporated in the Finding & Order:

It is expected that all work necessary for FHWA acceptance of the warning devices will be completed by the in-service due date and that the railroad will be responsible for this work. This work includes, but is not limited to:

- **Any ancillary work to make the warning devices function as designed and visible to the roadway user, and**
- **MUTCD compliance, including minor roadway work if necessary.**

Please serve the following parties of record:

Norfolk Southern Railway Company
Kurt Young
Public Projects Engineer
650 West Peachtree Street NW
BOX 41
Atlanta, GA 30308

Norfolk Southern Railway Company
Cayela Wimberly
Director Grade Crossing Safety
650 West Peachtree Street NW
BOX 41
Atlanta, GA 30308

Eastman & Smith LTD.
Casey Talbott
Attorney for Norfolk Southern
One SeaGate 24th Floor
P.O. Box 10032
Toledo, OH 43699-0032

Ohio Rail Development Commission
Allen Bell
Manager, Grade Crossing Safety Program
1980 West Broad Street
Mail Stop #3140
Columbus, OH 43223

City of East Liverpool
Gregory Bricker
Mayor
126 West Sixth Street
East Liverpool, OH 43920

AEP-Ohio

**OHIO RAIL DEVELOPMENT COMMISSION
INTER-OFFICE COMMUNICATION**

TO: John Williams, Transportation Director, PUCO
FROM: Allen Bell, Manager, Safety Section, ORDC
BY: James Tucker, Project Manager, ORDC J.T.
SUBJECT: Columbiana County, Walter Street.
DOT #505-147X, PID 115878
DATE: May 17, 2022

The Public Utilities Commission of Ohio (PUCO) established a diagnostic survey at the subject location on July 21, 2021. The Ohio Rail Development Commission (ORDC) attended the review. The Diagnostic Team recommended the improvement of warning devices to flashing lights and roadway gates. Copies of the diagnostic review form and the plan and estimate are attached

PE has already been provided by the railroad. ORDC approves the site plans and estimates as provided. Please issue a construction-only order for the project outlined above for nine months. This construction authorization is made with the stipulation and understanding that any field work needs prior approval before the work begins. This authorization is made with the stipulation and understanding that an approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit.

It is expected that all work necessary for FHWA acceptance of the warning devices will be completed by the in-service due date and that the railroad will be responsible for this work. This work includes, but is not limited to:

- any ancillary work to make warning devices function as designed and visible to the roadway user, and
- MUTCD compliance – including minor roadway work if necessary.

Thank you for your assistance with these matters.

Attachment: Diagnostic Review
PE Authorization
Plan & Estimate
Letter Agreement

c: Jill Henry, Rail Division Chief, PUCO
ORDC Project Manager (file)



Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Scott Corbitt, Chair

May 17, 2022

Mr. Kurt Young
Public Projects Engineer
1200 Peach Street NE, Box 123
Atlanta, Ga. 30309

RE: Warning Device Improvements
Columbiana County, Walter Street, DOT#505-147X
PID#115878, RR Ref #10.3458

Dear Mr. Young:

The plan dated April 4, 2022, and estimate dated April 7, 2022, for the referenced project has been reviewed and is acceptable. **Please note that the railroad must provide ORDC with a plan stamped by a professional engineer licensed in the State of Ohio prior to acceptance and close out of the project.** Norfolk Southern (NS) may proceed with the construction of the proposed light and gates in accordance with the abbreviated plan. This authorization is made with the stipulation and understanding that the approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit. Reimbursement of eligible actual cost from ORDC is limited to \$402,613.00 Additional costs must be approved in writing by the Ohio Rail Development Commission (ORDC) prior to being incurred. Emergency verbal authorizations by ORDC may be permitted and will be confirmed by ORDC in writing within ten (10) business days of the verbal approval.

This authorization is contingent upon NS accepting the following instructions:

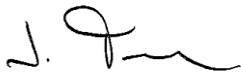
1. NS's project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to James Tucker, ORDC, email james.tucker@dot.ohio.gov and to the Public Utilities Commission of Ohio at jill.henry@puco.ohio.gov. NS's project foreman will also notify the same of any stops and re-starts of the work activity and of the date work was completed for the project.
2. NS will arrange for utilities to be located at the project site by the Ohio Utilities Protection Service (OUPS) prior to any construction activities at the site. Utilities that are not participating members of the service must be contacted directly by NS.



3. NS's project foremen will notify James Tucker at 614-398-6897 (telephone) or james.tucker@dot.ohio.gov (email) of any changes in the scope of work, cost overruns, material changes, etc. which are not included in the approved plan and estimate and secure approval of same before the work is performed.
4. Open cut of roadways is not permitted except in unusual circumstances and must be coordinated with the local highway authority and preapproved by ORDC.
5. NS shall send copies of each partial bill to ORDC.Invoice@dot.ohio.gov. Please find the enclosed ODOT Purchase Order to reference when billing.
6. NS will furnish two (2) copies of the final all-inclusive bill to ORDC stating the exact dates of starting and completing work, the initial and final dates of construction and location where the accounts may be audited.
7. This installation will include any ancillary work to make the warning devices function as designed and meet MUTCD.

Thank you for your assistance with these matters.

Sincerely,




James Tucker
Project Manager

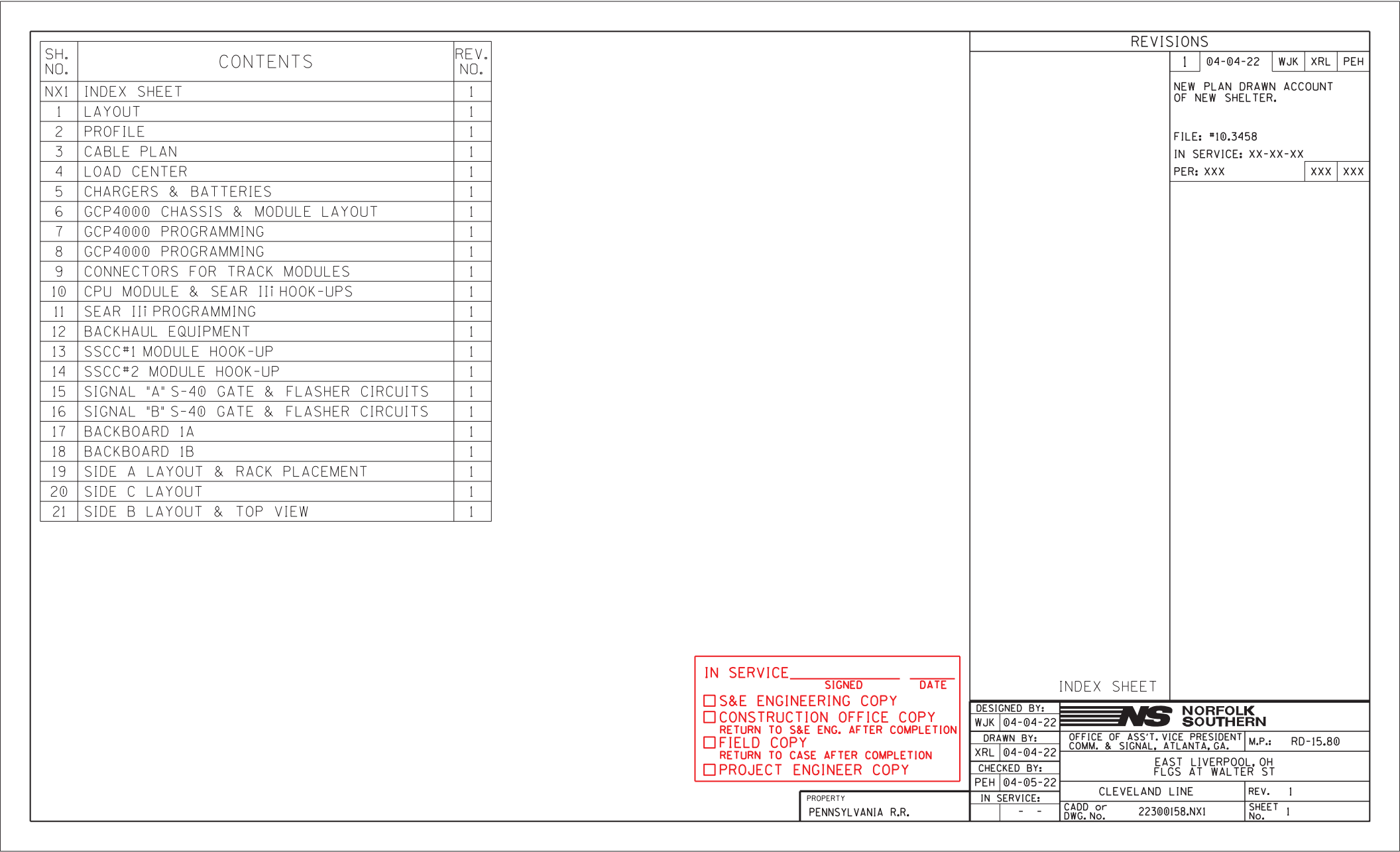
C: John Williams, Director, Transportation Department, PUCO
Jill Henry, Rail Division Chief, PUCO
Heather Hamilton, ORDC
ORDC (file)

SH. NO.	CONTENTS	REV. NO.
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14	SSCC#2 MODULE HOOK-UP	1
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21	SIDE B LAYOUT & TOP VIEW	1

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.

REVISIONS				
1	04-04-22	WJK	XRL	PEH
NEW PLAN DRAWN ACCOUNT OF NEW SHELTER.				
FILE: *10.3458				
IN SERVICE: XX-XX-XX				
PER: XXX		XXX	XXX	
INDEX SHEET				
DESIGNED BY:	WJK	04-04-22	 NORFOLK SOUTHERN	
DRAWN BY:	XRL	04-04-22	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: RD-15.80
CHECKED BY:	PEH	04-05-22	EAST LIVERPOOL, OH FLGS AT WALTER ST	
IN SERVICE:	-	-	CLEVELAND LINE	REV. 1
			CADD or DWG. No. 22300158.NX1	SHEET 1 No.



TO CLEVELAND
WEST
M.P. INCREASING

O.H. COMM. (25', 35' V.O.H.C.)

O.H. POWER (25' V.O.H.C.)

TO CP ROCHESTER
EAST
M.P. DECREASING



(A)

FILL REQUIRED
36'
SIG. "A"
15'
5'
10'
19'

(C)

4000 GCP

267 HZ T2 15.2 KHZ

4000 GCP

267 HZ T1 13.2 KHZ

MAIN #2

14'

MAIN #1

NOTES:

1. MAX. TRAIN SPEED 40 M.P.H.
2. LATITUDE N 40° 38' 08" LONGITUDE W 80° 32' 19" ELEVATION 714'
3. SIGNAL "A" TO HAVE BELL.
4. LOCATE U/G UTILITIES & CABLE BEFORE DIGGING.
5. CROSSING LOCATED IN COLUMBIANA COUNTY.
6. NEAREST STREET ADDRESS IS 162 ST GEORGE ST
7. NEAREST INTERSECTING STREET IS ETRUJA ST
8. DISTANCE TO NEAREST INTERSECTING STREET IS 351 FT.
9. THE OVERHEAD UTILITY LINE IN QUADRANT "B" WILL INTERFERE WITH GATE OPERATION FOR SIGNAL "B". RAISING OR RELOCATION WILL BE REQUIRED.
10. BERM WALLS ARE TO MEET MUTCD CLEARANCE REQUIREMENTS.

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

(D)

AC SERVICE

6'X6' HOUSE

BERM WALL

FILL REQUIRED

30'

WALTER ST. #505 147X

20' 7' 15' FILL REQUIRED BERM WALL SIG. "B" 10' 20' 28' 50'

(B)

ACCESS RD

17'

SCALE: 1" = 20'
PROJECT #10.3458

LAYOUT

FILE CX1114581

DESIGNED BY: WJK 04-04-22	NS NORFOLK SOUTHERN	
DRAWN BY: XRL 04-04-22	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: RD-15.80
CHECKED BY: PEH 04-05-22	EAST LIVERPOOL, OH FLGS AT WALTER ST	
IN SERVICE:	CLEVELAND LINE	REV. 1
- -	CADD or DWG. No. 22300158.001	SHEET 1 No.

PROPERTY
PENNSYLVANIA R.R.

TO CLEVELAND
WEST
M.P. INCREASING

TO CP ROCHESTER
EAST
M.P. DECREASING

2058'
TO NEAREST
GCP WIRES

APP.
CENTRAL AVE.

2058'
TO NEAREST
GCP WIRES

FLGS

GCP4000

T2

267 HZ
15.2 KHZ

T1

267 HZ
13.2 KHZ

FLGS

WALTER ST.
#505 147X

1320'

MAIN #2

MAIN #1


(A) - MF-NBS FSS-1A 250849-000 (267HZ)

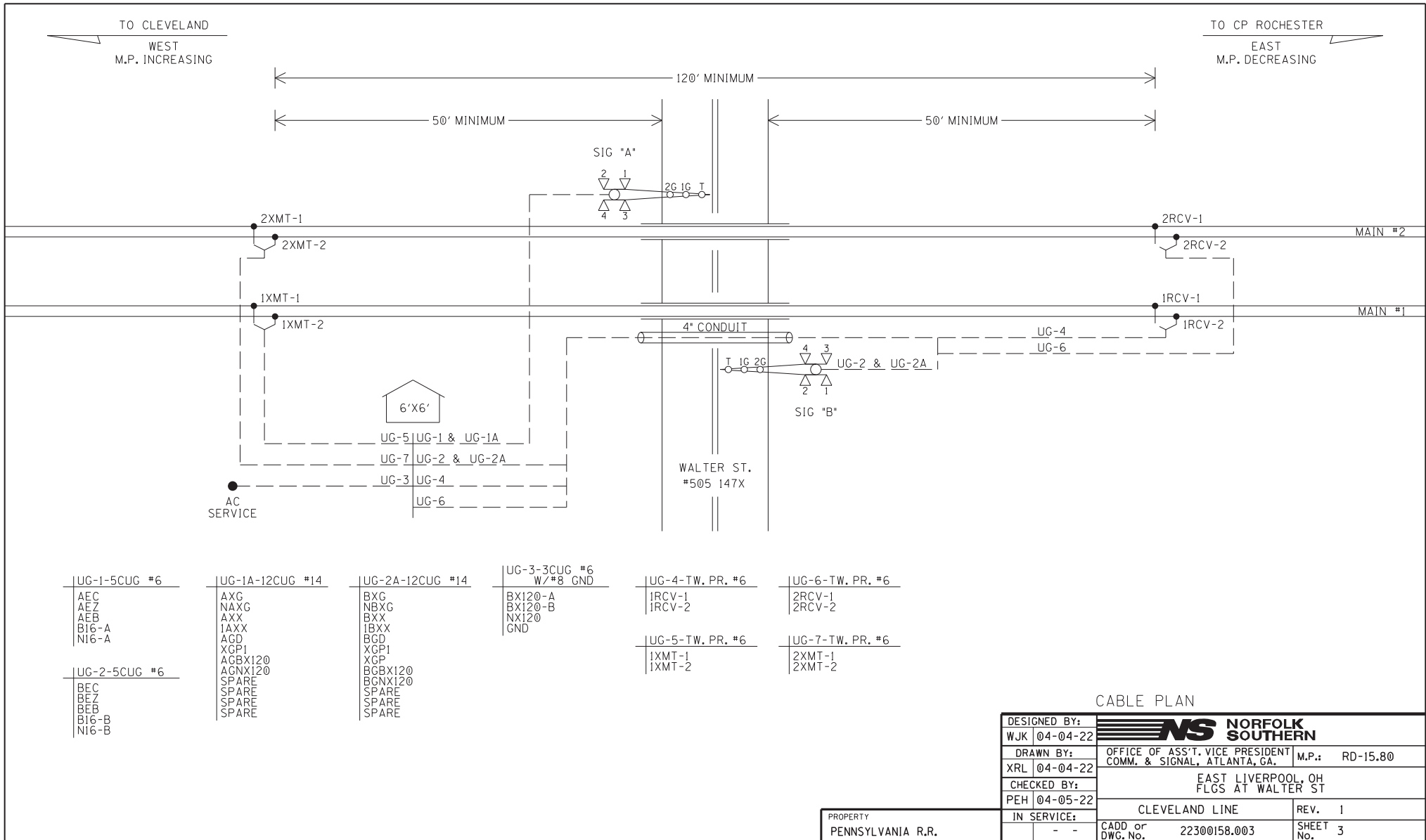
(B) - MF-NBS 62775-3497 (525HZ)

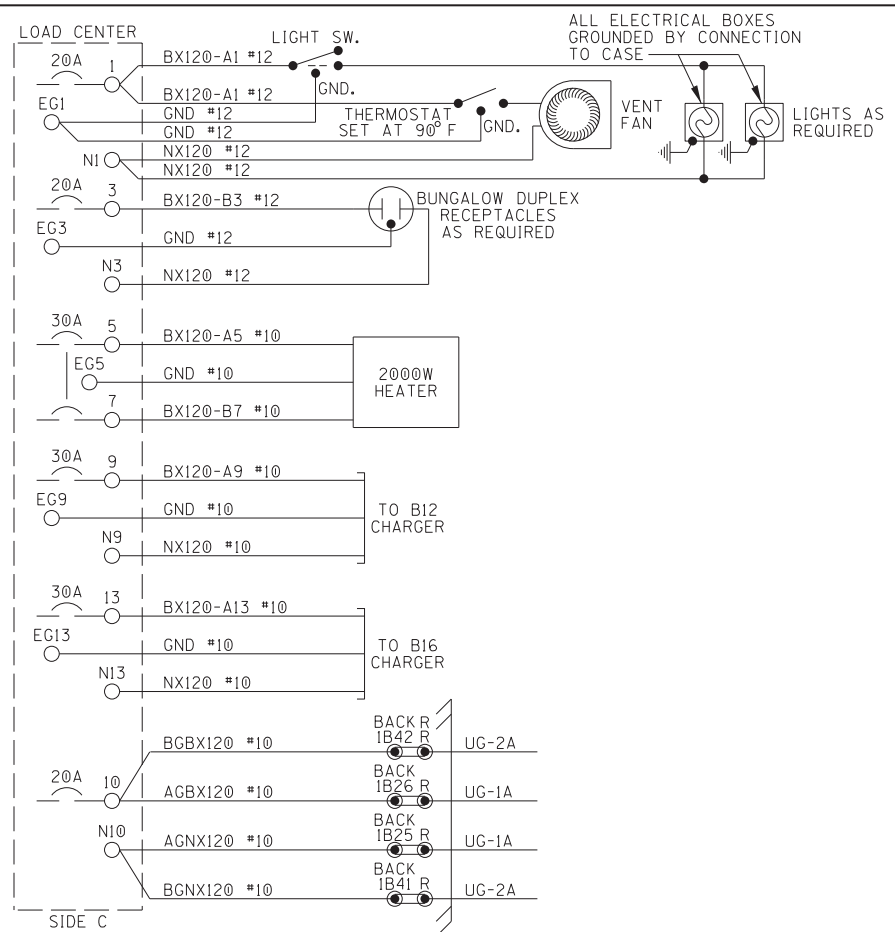
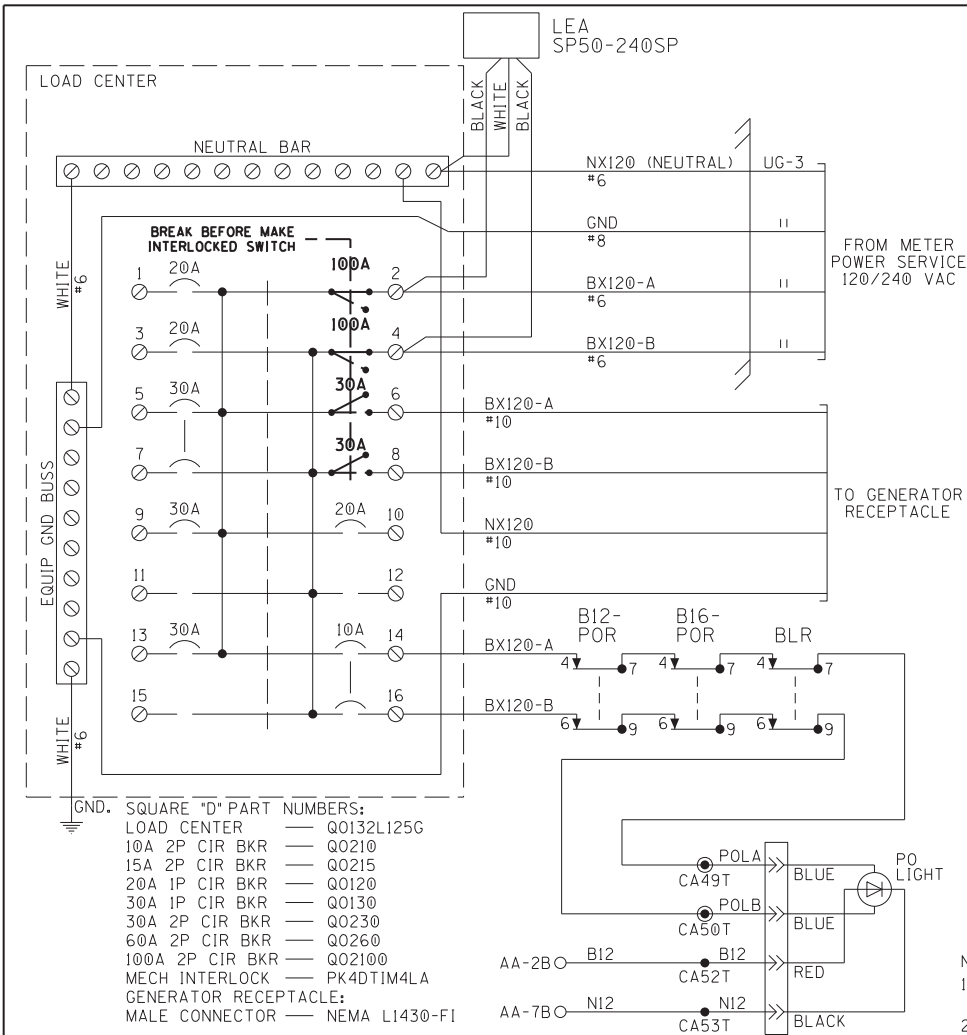
* = EXISTING

PROFILE

PROPERTY
PENNSYLVANIA R.R.

DESIGNED BY:	WJK 04-04-22	 NORFOLK SOUTHERN	
DRAWN BY:	XRL 04-04-22		
CHECKED BY:	PEH 04-05-22	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	
IN SERVICE:	- -	EAST LIVERPOOL, OH FLGS AT WALTER ST	
		CLEVELAND LINE	REV. 1
		CADD or DWG. No.	22300158.002
			SHEET 2




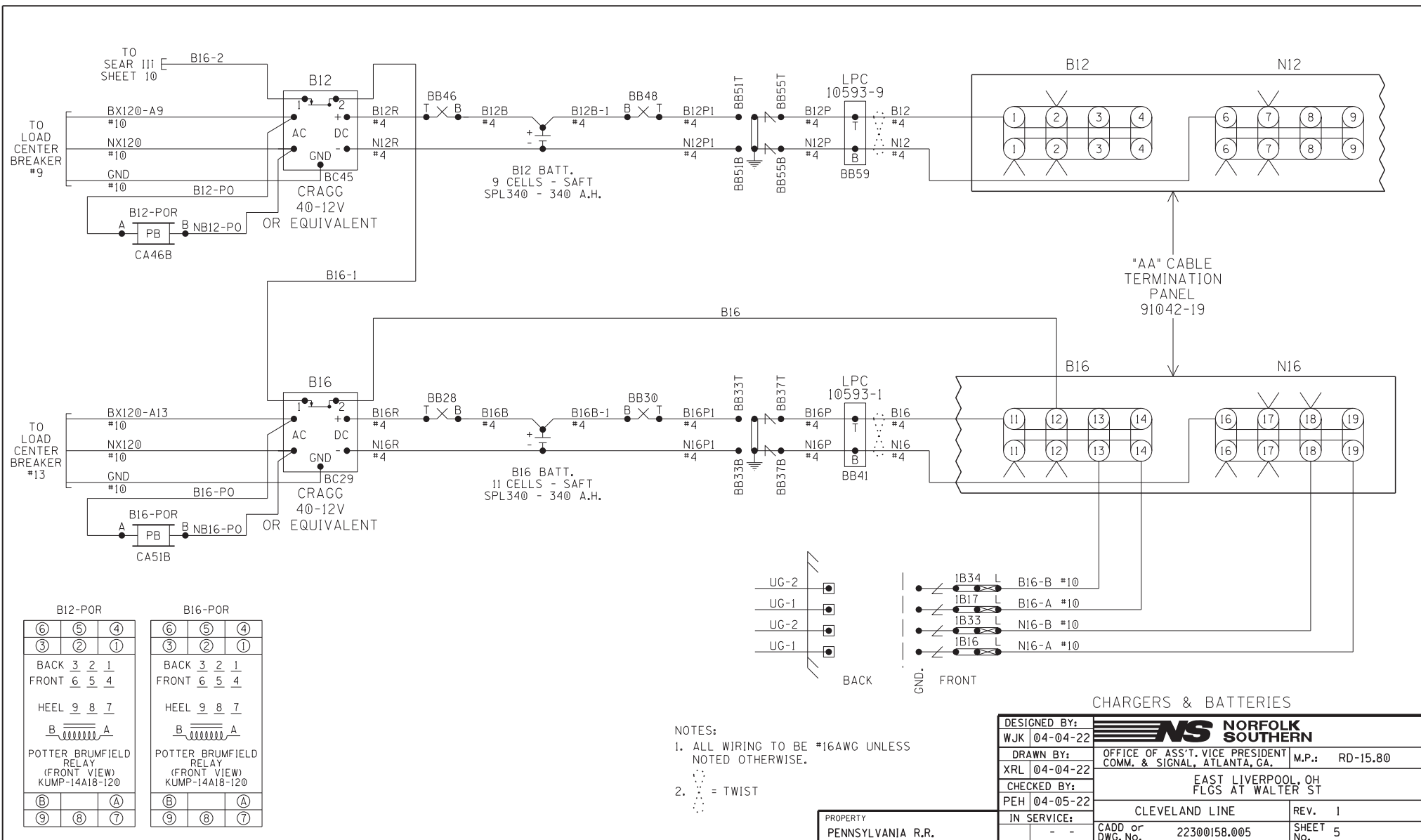


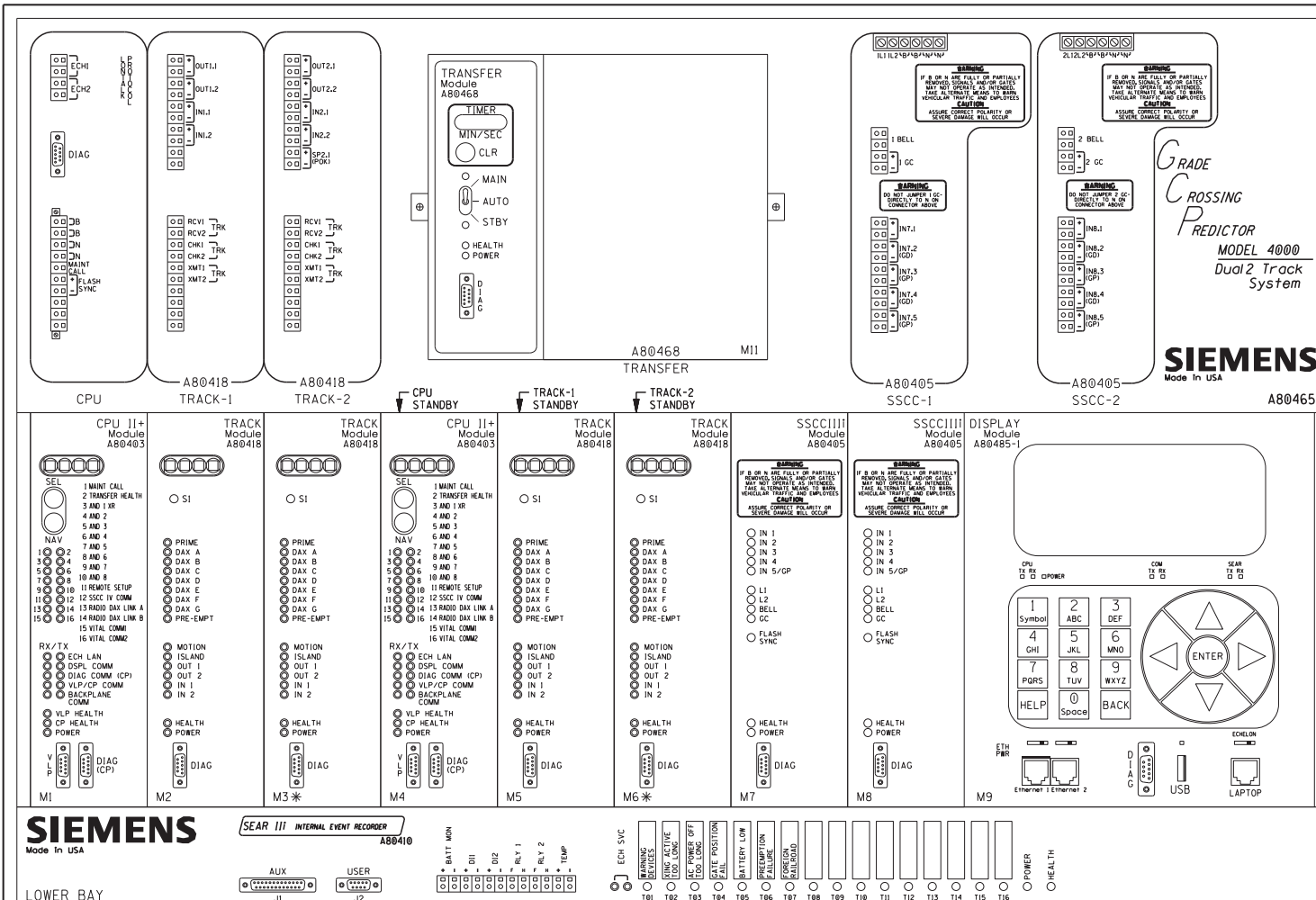
NOTES:

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:	WJK 04-04-22		
DRAWN BY:	XRL 04-04-22		
CHECKED BY:	PEH 04-05-22	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	
IN SERVICE:	- -	EAST LIVERPOOL, OH FLGS AT WALTER ST	
PROPERTY	PENNSYLVANIA R.R.	CLEVELAND LINE	REV. 1
		CADD or DWG. No. 22300158.004	SHEET 4





WARNING
REMOVAL OF THE SSCC-1 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 SSCC-1 MODULE OR SEVERE DAMAGE WILL OCCUR.

REFER TO DETAILED INSTRUCTIONS ON THE SSCC-1 BEFORE APPLYING POWER TO THE POWER CONNECTOR(S).

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

GCP4000 CHASSIS & MODULE LAYOUT

DESIGNED BY: WJK 04-04-22	NS NORFOLK SOUTHERN	
DRAWN BY: XRL 04-04-22	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: RD-15.80
CHECKED BY: PEH 04-05-22	EAST LIVERPOOL, OH FLGS AT WALTER ST	
IN SERVICE: - -	CLEVELAND LINE	REV. 1
PROPERTY PENNSYLVANIA R.R.	CADD or DWG. No. 22300158.006	SHEET No. 6

Program Report

Location and SIN

DOT Number: 505147X
Milepost Number: RD-15.80
Site Name: WALTER ST

SIN: 755003616216

MCF and Template Selection

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

Template = 1A:6 Trk BI

Check Numbers

Office Check No. (DT 4.6.0): 6045824B
Office Check Number: 6045824B
Config. Check Number: 678E80D9
(Based on MCF Revision 021)

Comments

Program

BASIC: module configuration
Track 1 Slot = Track
Track 2/R10 1 Slot = Track
Track 3 Slot = Not Used
Track 4 Slot = Not Used
Track 5/R10 2 Slot = Not Used
Track 6/R10 3 Slot = Not Used
SSCC-1 Slot = SSCC31
SSCC-2 Slot = SSCC31
SEAR Used = Yes

BASIC: MS/GCP operation
Track 1: MS/GCP Operation = Yes
Track 2: MS/GCP Operation = Yes

BASIC: island operation
Track 1: Island Used = Internal
Track 2: 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: Vital Comms links
Vital Comms link 1 Used = No
Vital Comms 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

PREDICTORS: track 2

Track 2: Prime Used = Yes
Track 2: Dax A Used = No
Track 2: Dax B Used = No
Track 2: Dax C Used = No
Track 2: Dax D Used = No
Track 2: Dax E Used = No
Track 2: Dax F Used = No
Track 2: Dax G Used = No

GCP: track 1

Track 1: GCP Freq Category = Other
Track 1: GCP Frequency = 267 Hz
Track 1: Approach Distance = 2058 ft
Track 1: Uni/Bi/Sim-Bidirnl = Bidirnl
Track 1: GCP Transmit Level = Medium
Track 1: Island Connection = Isl1
Track 1: Island Distance = 125 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 = On
Track 1: Post Joint Detn Time = 15 sec
Track 1: Adv Appr Predn = No
Track 1: CancelPickup 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: Bidirnl Dax Passthru = No
Track 1: False Act on Train Stop = No
Track 1: EX Limiting Used = Yes
Track 1: EZ Correction Used = Yes

GCP: track 2

Track 2: GCP Freq Category = Other
Track 2: GCP Frequency = 267 Hz
Track 2: Approach Distance = 2058 ft
Track 2: Uni/Bi/Sim-Bidirnl = Bidirnl
Track 2: GCP Transmit Level = Medium
Track 2: Island Connection = Isl2
Track 2: Island Distance = 125 ft
Track 2: Computed Distance = 9999 ft
Track 2: Linearization Steps = 100

GCP: track 2 enhanced det

Track 2: Inbound PS Sensitivity = Off
Track 2: Speed Limiting Used = Yes
Track 2: Outbound False Act Lvl = Normal
Track 2: Outbound PS Timer = 20 sec
Track 2: Trailing Switch Logic = On
Track 2: Post Joint Detn Time = 15 sec
Track 2: Adv Appr Predn = No
Track 2: CancelPickup Delay = This Isl

GCP: track 2 prime

Track 2: Prime Warning Time = 30 sec
Track 2: Prime Offset Distance = 0 ft
Track 2: Switch MS EZ Level = 10
Track 2: Prime MS/GCP Mode = Pred
Track 2: Prime Pickup Delay = 15 sec
Track 2: Prime UAX = Not Used

GCP: track 2 pos start

Track 2: Positive Start = Off
Track 2: Sudden Shnt Det Used = No
Track 2: Low EZ Detection Used = No

GCP: track 2 MS Control

Track 2: MS/GCP CtrlIP Used = No
Track 2: MS Sensitivity Level = 0
Track 2: Compensation Level = 1300
Track 2: Warn Time-Ballast Comp = High
Track 2: Low EX Adjustment = 39
Track 2: Bidirnl Dax Passthru = No
Track 2: False Act on Train Stop = No
Track 2: EX Limiting Used = Yes
Track 2: EZ Correction Used = Yes

ISLAND: track 1

Track 1: IslFrequency = 13.2 kHz
Track 1: Pickup Delay (2s +) = 0 sec
Track 1: IslEnable IP Used = No

ISLAND: track 2

Track 2: IslFrequency = 15.2 kHz
Track 2: Pickup Delay (2s +) = 0 sec
Track 2: IslEnable 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 XR Track 2 = 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
T2 OOS Control = OOS Input 1

ADVANCED: track wrap circuits

Wrap LOS Timer = 5 sec
Track 1 Wrap Used = No
Track 2 Wrap Used = No

ADVANCED: trk 1 overrides

Track 1: AllPredictors Override Used = No


ADVANCED: trk 2 overrides

Track 2: AllPredictors Override Used = No

ADVANCED: OR logic

OR 1 Used = No
OR 2 Used = No
OR 3 Used = No
OR 4 Used = No

GCP4000 PROGRAMMING

DESIGNED BY:			
WJK 04-04-22	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: RD-15.80
DRAWN BY:	EAST LIVERPOOL, OH FLGS AT WALTER ST		
XRL 04-04-22	CLEVELAND LINE		
CHECKED BY:	REV. 1		
PEH 04-05-22	CADD or DWG. No. 22300158.007		
IN SERVICE:	SHEET 7		
- -	No.		

PROPERTY

PENNSYLVANIA R.R.

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
SSCC1+2 GPs Coupled = Yes
Min Activation = 0 sec
Rmt Activation Cancel = 2 min
BellOn Gate Rising = No
Mute BellOn Gate Down = No
SSCCIV 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 NeutralTest = Off
Aux-1 Xng CtrlUsed = 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 NeutralTest = Off
Aux-2 Xng CtrlUsed = No

OUTPUT: assignment page 1
OUT 1.1 = Not Used
OUT 1.2 = Not Used
OUT 2.1 = Not Used
OUT 2.2 = Not Used

INPUT: assignment page 1
IN 1.1 = Not Used
IN 1.2 = Not Used
IN 2.1 = Not Used
IN 2.2 = Not Used

I0: 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 = General
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

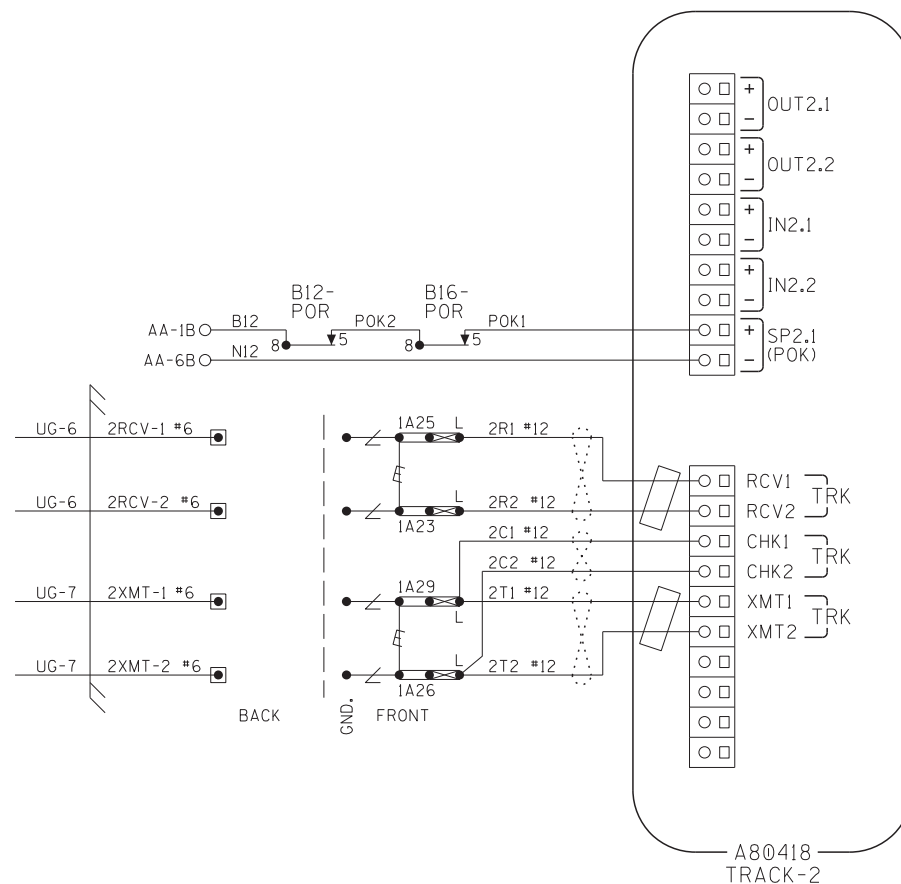
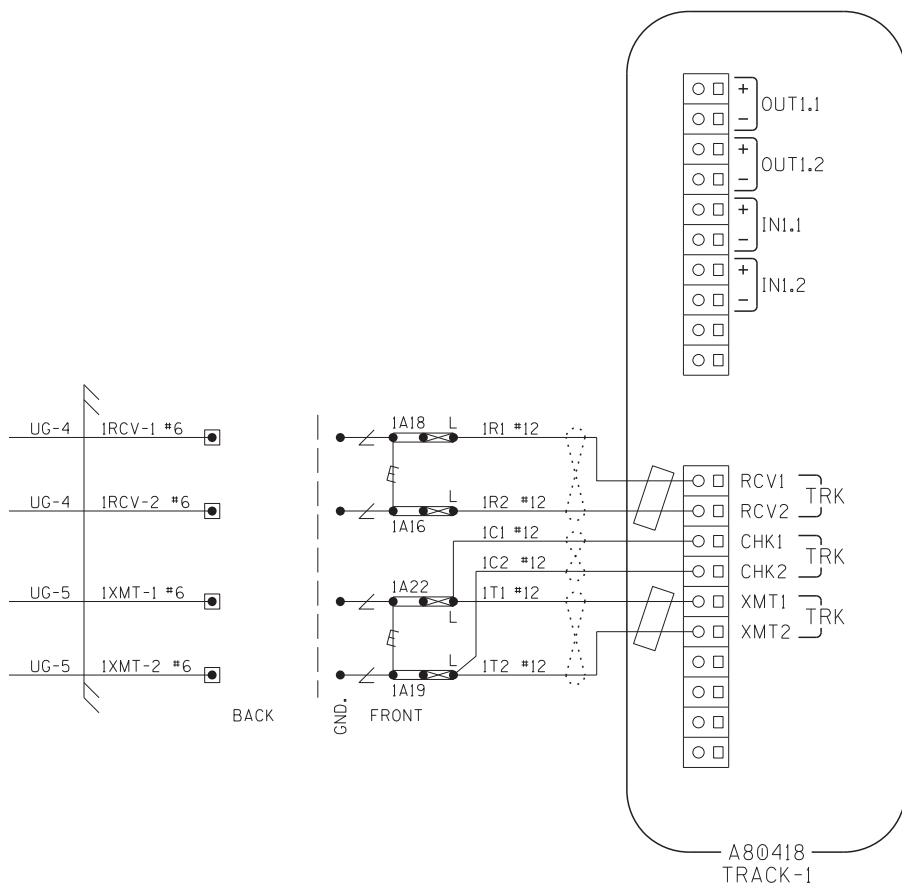
Configuration Package File

Filename: 22300158.pac

GCP4000 PROGRAMMING


DESIGNED BY:			
WJK 04-04-22			
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: RD-15.80
XRL 04-04-22			
CHECKED BY:	EAST LIVERPOOL, OH FLGS AT WALTER ST		
PEH 04-05-22			
IN SERVICE:	CLEVELAND LINE		REV. 1
	CADD or DWG. No.	22300158.008	SHEET 8 No.

PROPERTY
PENNSYLVANIA R.R.



NOTES:

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

2.  = TWIST

3.  = FERRITE BEAD

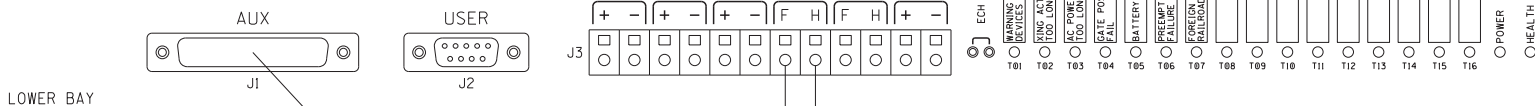
CONNECTORS FOR TRACK MODULES

DESIGNED BY: WJK 04-04-22	NS NORFOLK SOUTHERN	
DRAWN BY: XRL 04-04-22	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: RD-15.80
CHECKED BY: PEH 04-05-22	EAST LIVERPOOL, OH FLGS AT WALTER ST	
IN SERVICE:	CLEVELAND LINE	REV. 1
PROPERTY PENNSYLVANIA R.R.	CADD or DWG. No. 22300158.009	SHEET 9 No.

SIEMENS
Made In USA

SEAR III INTERNAL EVENT RECORDER

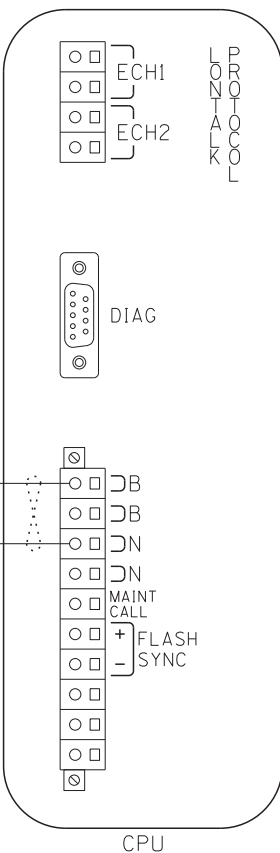
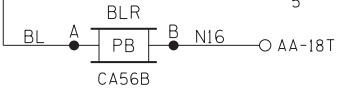
A80410



LOWER BAY

TO
RADIO
SHEET 12


B16-2 TO
SHEET 5

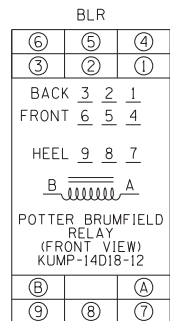


AA-1B B12
#10


AA-6B N12
#10

NOTES:

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



CPU MODULE & SEAR III HOOK-UP

DESIGNED BY: WJK 04-04-22	 NORFOLK SOUTHERN	
DRAWN BY: XRL 04-04-22	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: RD-15.80
CHECKED BY: PEH 04-05-22	EAST LIVERPOOL, OH FLGS AT WALTER ST	
IN SERVICE:	CLEVELAND LINE	REV. 1
PROPERTY PENNSYLVANIA R.R.	CADD or DWG. No. 22300158.010	SHEET 10 No.

SITE SET UP PROCEDURE	
FUNCTION	LED DISPLAY
DATE/TIME	
AUTOMATIC DST ADJUSTMENT	NO
TIMEZONE	OTHER (USER SET)
GMT OFFSET	+00:00
SITE NAME	WALTER ST.
MILEPOST	RD-15.80
DOT#	505 147X
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	7,550.036.162.03.01
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?	NO
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%
PREEMPTION?	NO
INTERNAL CROSSING CONTROLLERS?	2
EXTERNAL CROSSING CONTROLLERS?	0
VHF COMMUNICATOR?	NO
*** DTMF ACTIVATION?	NO
*** ACTIVATION CODE?	(1-999)
*** ACTIVATION TIMEOUT?(SECONDS)	(30-600)
ILOD MODULES?	0
*** VHF VOICE CHANNEL?	(1-8)
*** VHF DATA CHANNEL?	(1-8)
USE CELL MODEM	1
NON-CRITICAL FEATURE?	
CROSSING ACTIVE ALARM TIME?(MIN)	(0-60)
POWER OFF ALARM TIME?(MIN)	(0-60)


NOTES:

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

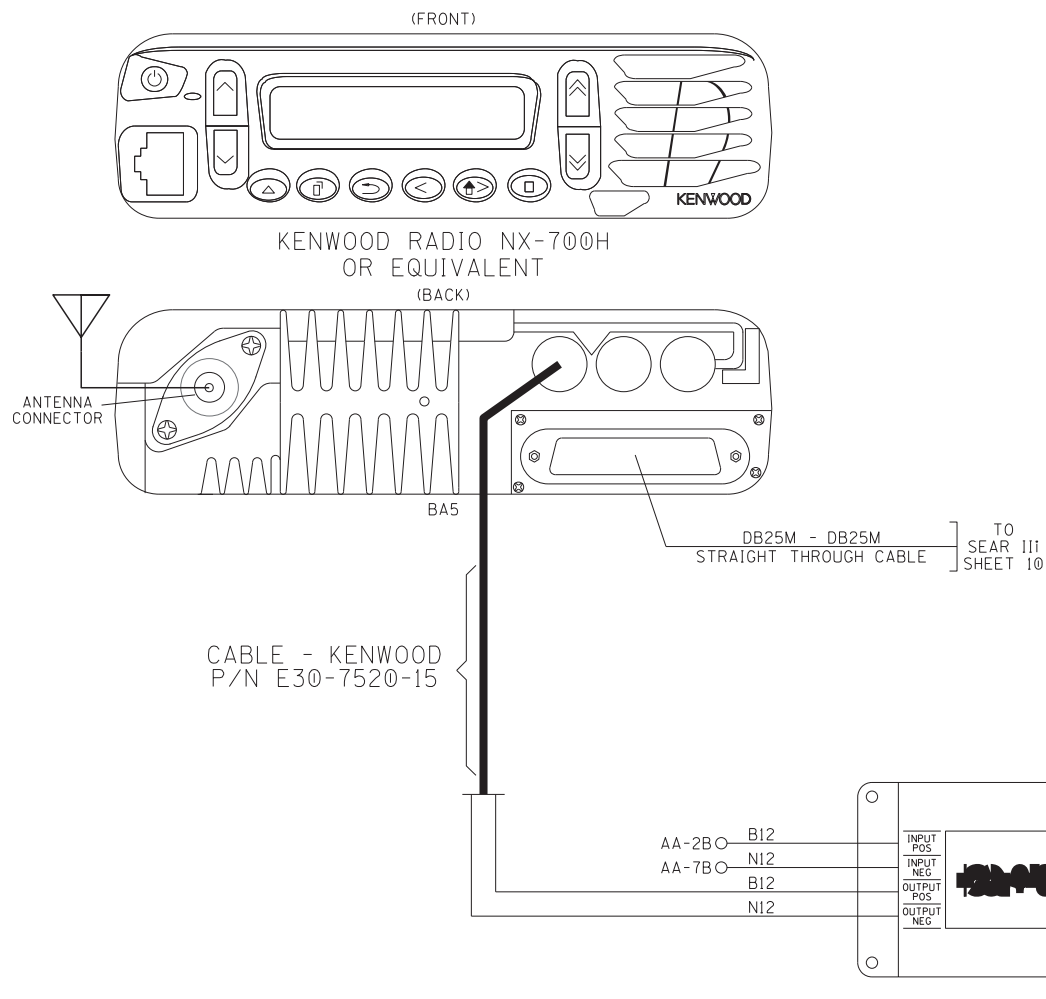
PROGRAM MENU QUESTIONS	PROGRAM
EDIT DIGITAL INPUTS	NO
EDIT BATTERIES	NO
EDIT RELAYS	NO
EDIT TEST LEDS	NO
EDIT VHF SETTINGS	NO
GCP4K ATCS SUBNODE	16

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

SEAR III PROGRAMMING

DESIGNED BY: WJK 04-04-22	 NORFOLK SOUTHERN	
DRAWN BY: XRL 04-04-22	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: RD-15.80
CHECKED BY: PEH 04-05-22	EAST LIVERPOOL, OH FLGS AT WALTER ST	
IN SERVICE:	CLEVELAND LINE	REV. 1
- -	CADD or DWG. No. 22300158.011	SHEET 11 No.


PROPERTY
PENNSYLVANIA R.R.

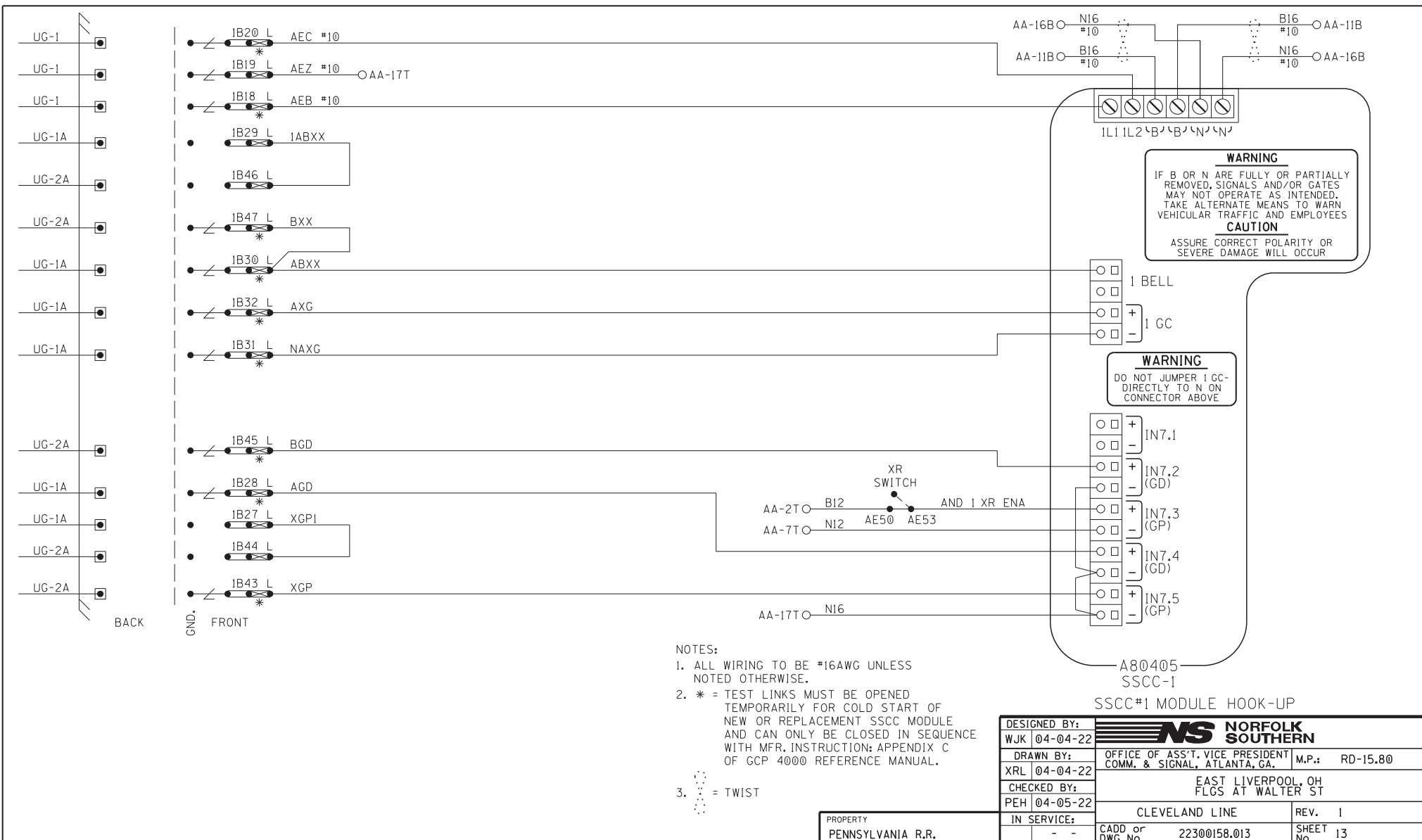


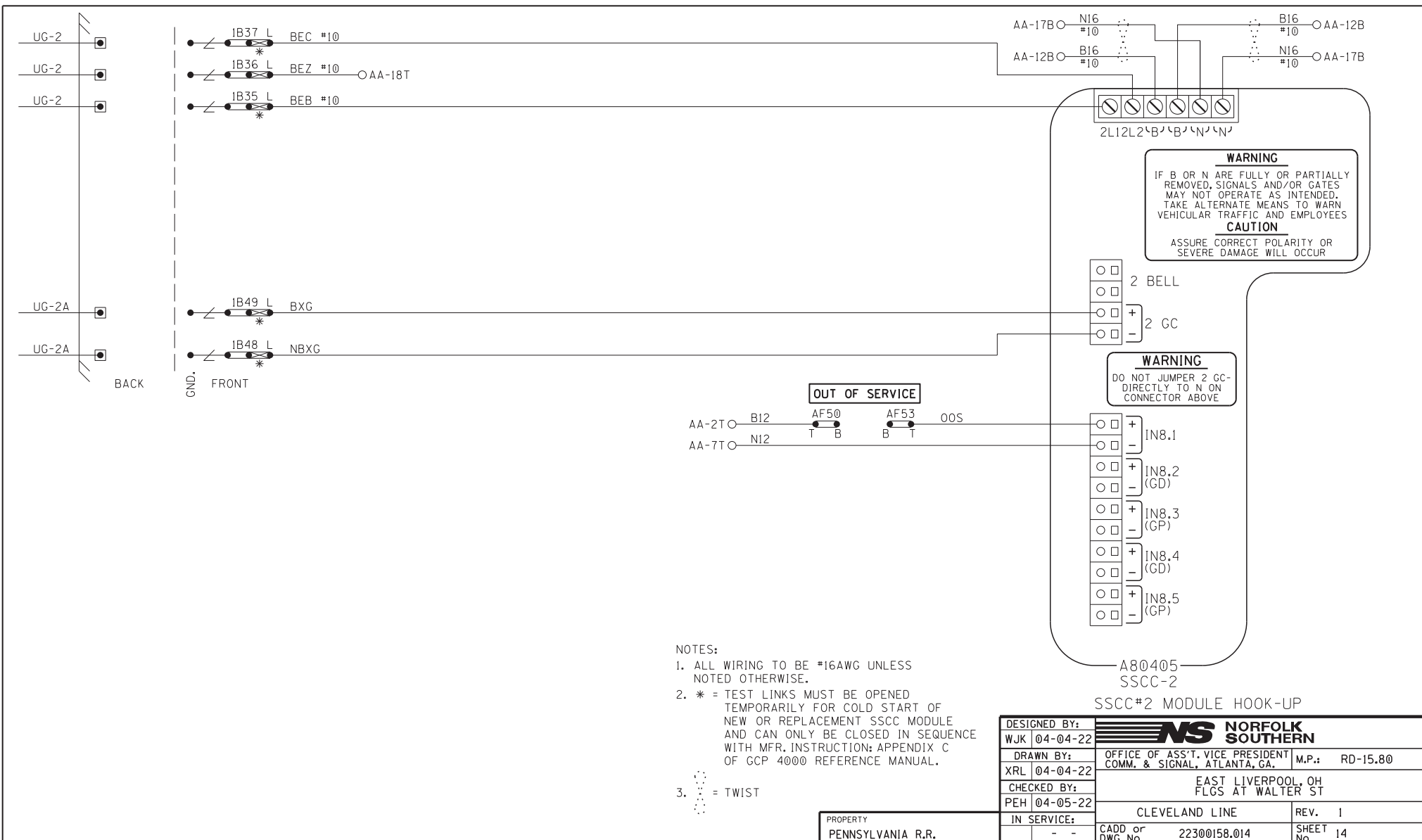
NOTE:
1. ALL WIRING TO BE #10AWG UNLESS
NOTED OTHERWISE.

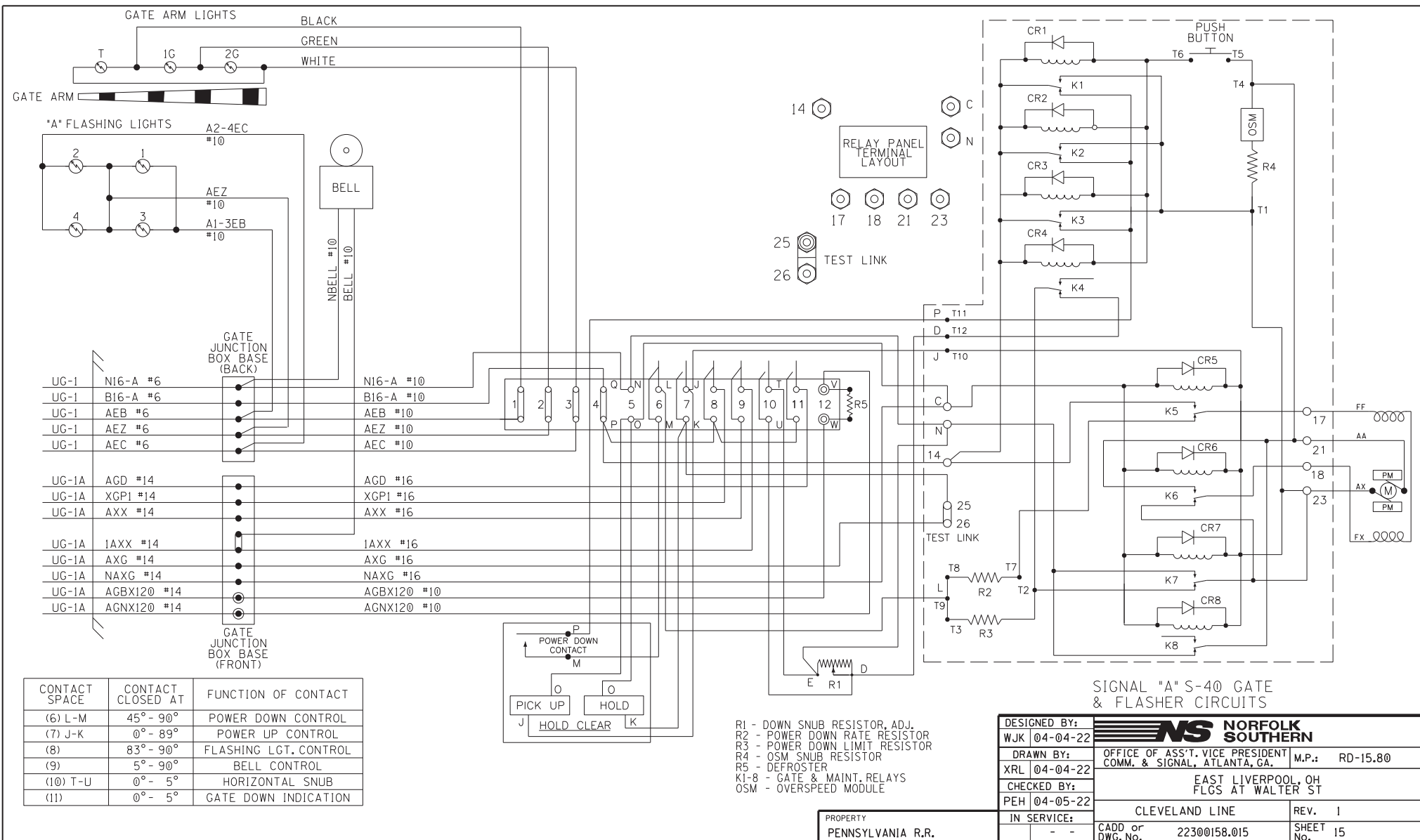
PROPERTY
PENNSYLVANIA R.R.

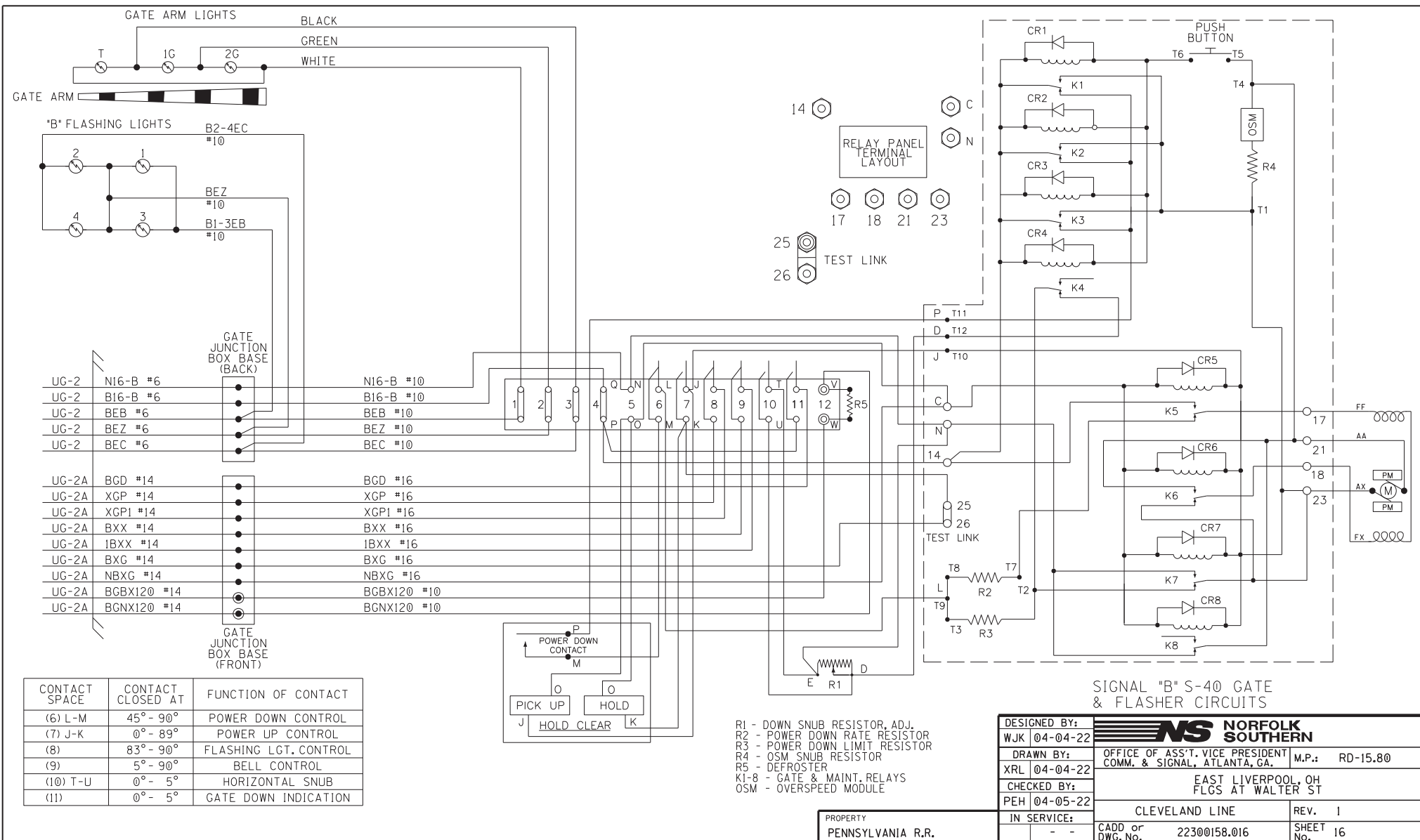
BACKHAUL EQUIPMENT

DESIGNED BY: WJK 04-04-22	 NORFOLK SOUTHERN		
DRAWN BY: XRL 04-04-22	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: RD-15.80
CHECKED BY: PEH 04-05-22	EAST LIVERPOOL, OH FLGS AT WALTER ST		
IN SERVICE:	CLEVELAND LINE		REV. 1
- -	CADD or DWG. No.	22300158.012	SHEET 12 No.












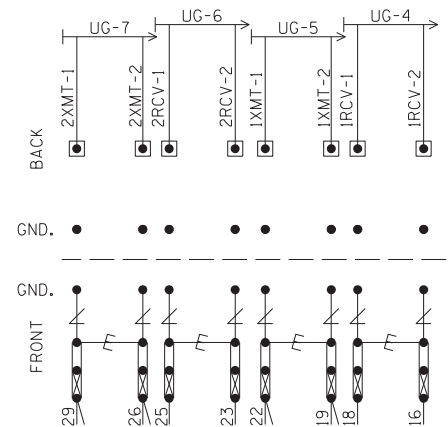
"1A"

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.  = 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.

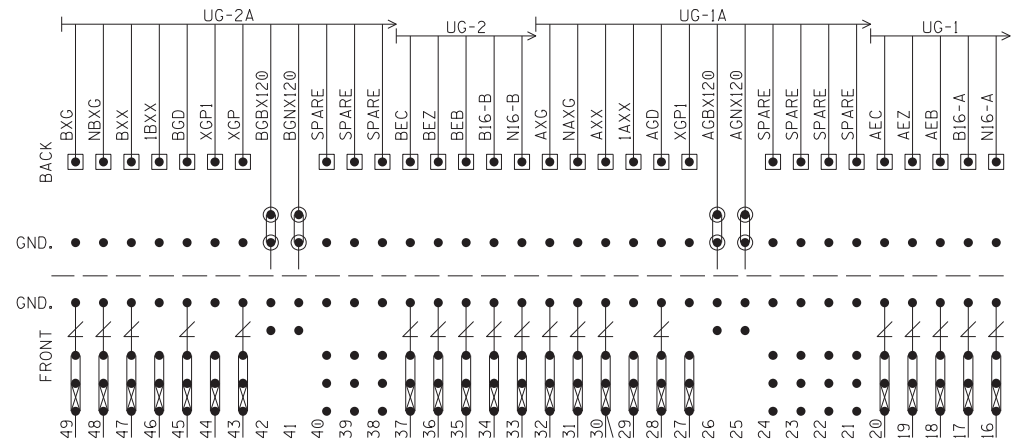
PROPERTY
PENNSYLVANIA R.R.



BACKBOARD 1A

DESIGNED BY: WJK 04-04-22	 NORFOLK SOUTHERN	
DRAWN BY: XRL 04-04-22	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: RD-15.80
CHECKED BY: PEH 04-05-22	EAST LIVERPOOL, OH FLGS AT WALTER ST	
IN SERVICE: - -	CLEVELAND LINE	REV. 1
	CADD or DWG. No. 22300158.017	SHEET 17 No.

"1B"




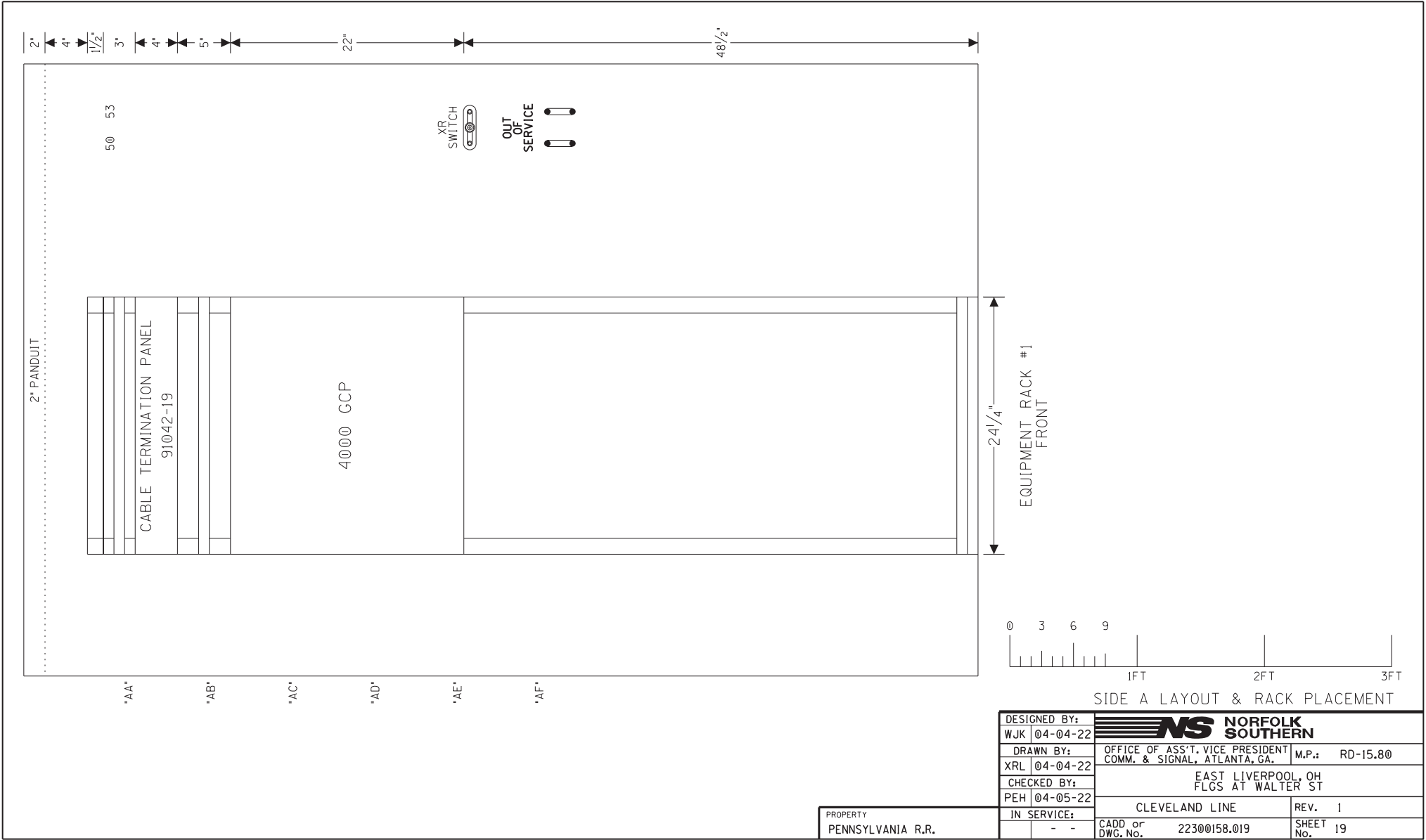
NOTES:

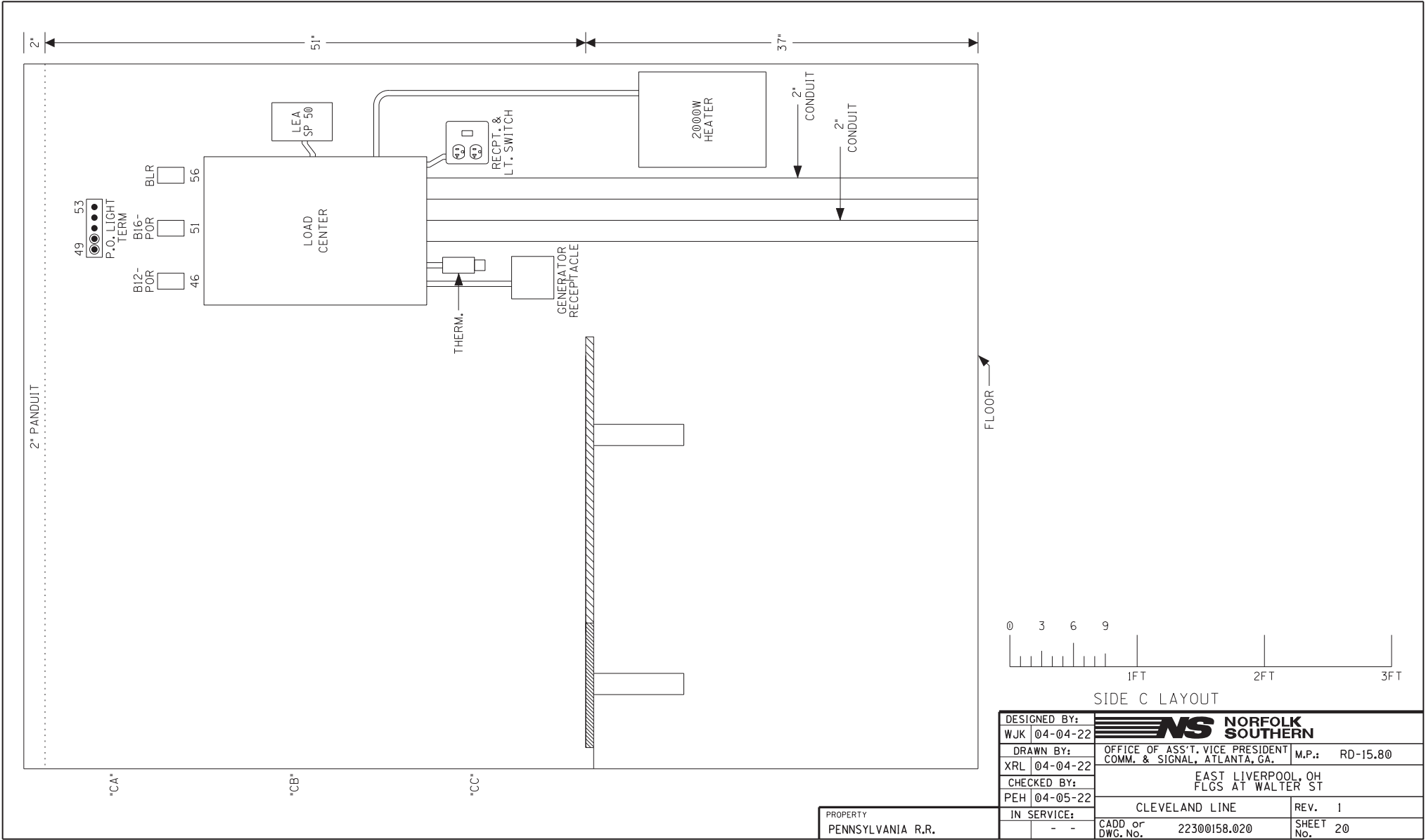
1. GND. ● = THROUGH GROUND POST ON EACH TERMINAL BLOCK TO FARADAY SHIELD
2. ● = INSULATED NUTS TO BE USED ON ALL 120VAC AND ABOVE TERMINALS

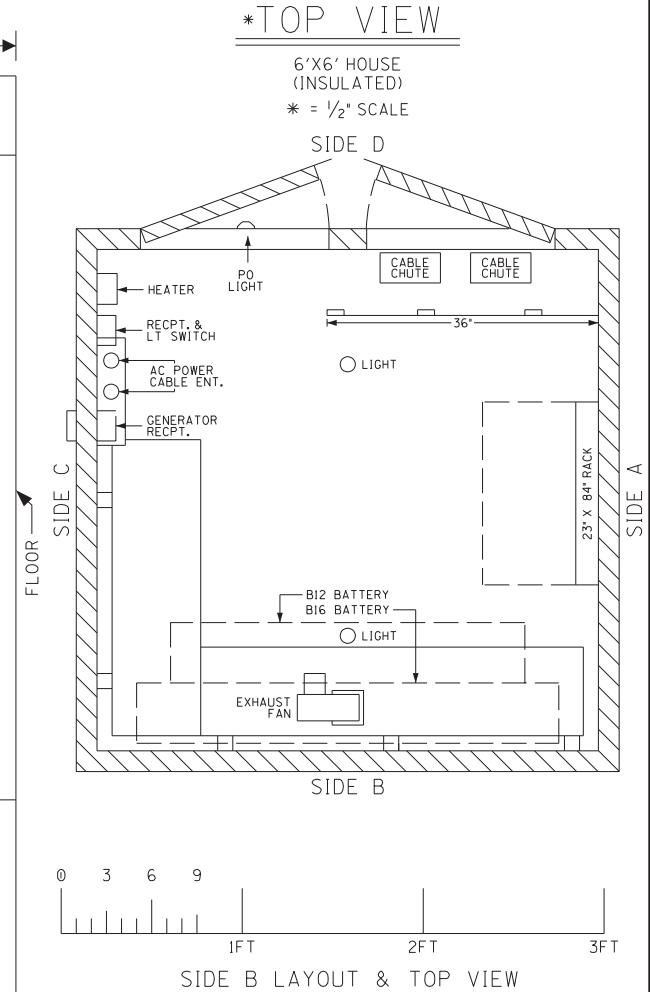
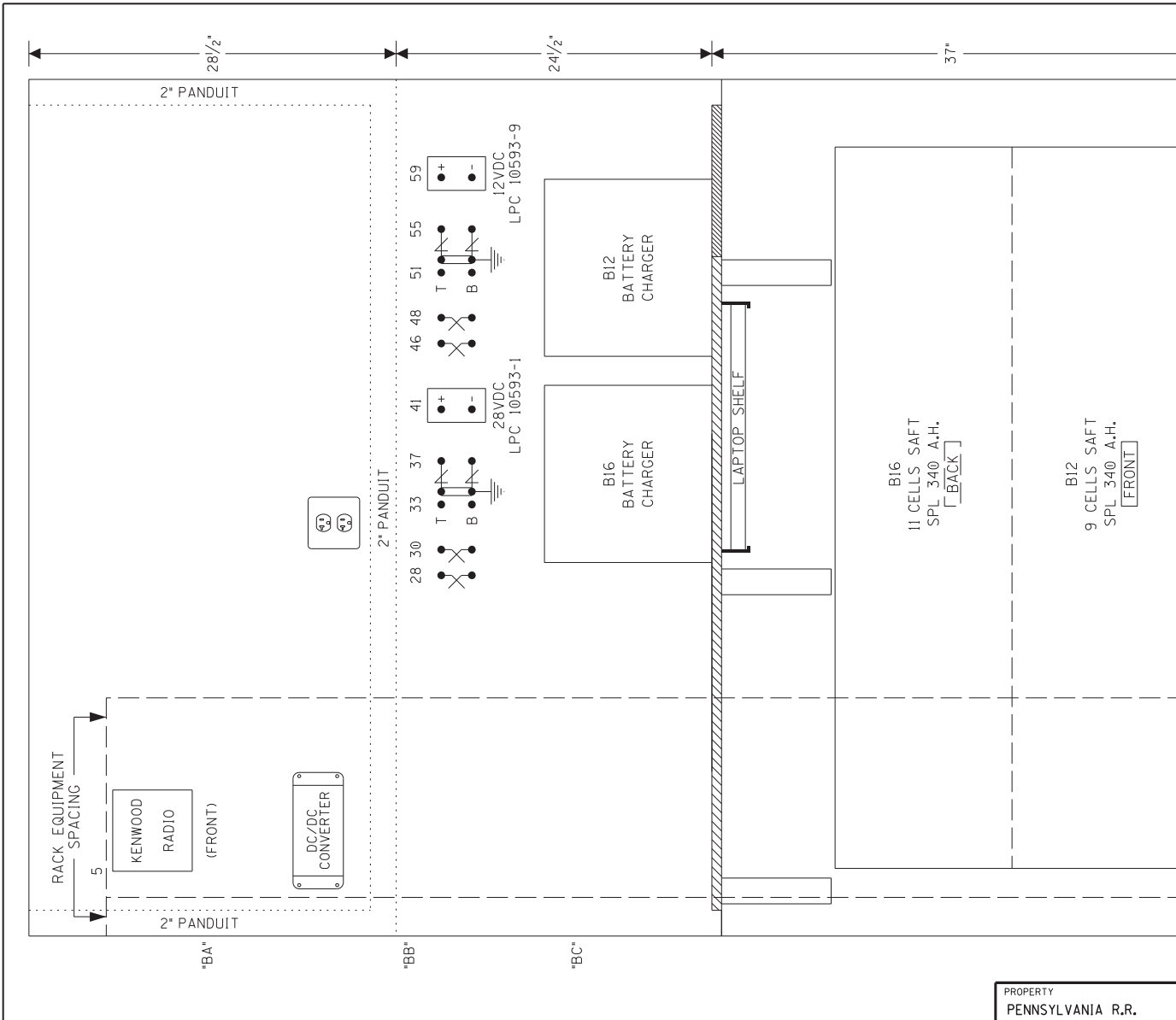
SEE FARADAY SHIELD SHOP DRAWING DETAIL FOR HOW THIS PORTION OF THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

BACKBOARD 1B

DESIGNED BY: WJK 04-04-22	 NORFOLK SOUTHERN	
DRAWN BY: XRL 04-04-22	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: RD-15.80
CHECKED BY: PEH 04-05-22	EAST LIVERPOOL, OH FLGS AT WALTER ST	
IN SERVICE: - -	CLEVELAND LINE	REV. 1
PROPERTY PENNSYLVANIA R.R.	CADD or DWG. No. 22300158.018	SHEET 18 No.







DESIGNED BY: WJK 04-04-22	NORFOLK SOUTHERN	
DRAWN BY: XRL 04-04-22	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: RD-15.80
CHECKED BY: PEH 04-05-22	EAST LIVERPOOL, OH FLGS AT WALTER ST	
IN SERVICE:	CLEVELAND LINE	REV. 1
- -	CADD or DWG. No. 22300158.021	SHEET 21 No.

PROPERTY
PENNSYLVANIA R.R.



07-Apr-22

Detailed Estimate for Grade Crossing Warning Devices

City/State: EAST LIVERPOOL, OH

Road: WALTER STREET

MilePost: RD-15.8

DOT/AAR: 505147X

State Proj. No.: PID 115878

County: COLUMBIANA

S&E Proj. No.: 10.3458

File Number:

Man Days: 198

Purchases - Others		
Meals and Lodging:	\$29,690.97	
Rental of Equipment:	\$40,587.45	
(2 Trucks, 1 Backhoe w/ Trailer and 1 Pipe-Pusher for 33 Days)		
Construction Supervision Vehicle:	\$6,208.52	
Purchases - Other Total:		\$76,486.94
Material And Additives		
Material Cost:	\$131,429.00	
Sales and Use Tax:	\$10,514.00	
Material Handling Freight:	\$13,142.92	
Material Total:		\$155,085.92
Labor And Additives		
Labor Cost:	\$69,894.00	
(6 man crew at \$2,118.00 a day for: 33 days)		
Payroll Tax & Overheads:	\$59,591.62	
Preliminary Engineering:	\$21,138.93	
Construction Supervision:	\$20,416.04	
Labor Total:		\$171,040.59
	Project Cost:	\$402,613.45
	Scrap / Salvage Credit:	\$0.00
	Project Total:	\$402,613.00

Estimated on: 07-Apr-22

Estimated by: ndr3j

Estimate valid for 1 year from date of estimate



Highway Crossing Signalization Program - Material List

Do not substitute items without permission from S & E Engineering

City:	EAST LIVERPOOL
Road:	WALTER STREET
Mile Post:	RD-15.8
Drawing Number:	22300158
State ProjectNumber:	PID 115878
County:	COLUMBIANA
A A R Number:	505147X
Project Number:	10.3458
File Number:	
New File Number:	CX1114581
WBS:	F-07854
Store Number:	S805
Supervisor:	J.B. JOHNS
Tax Code:	
Vendor to supply the following copies after pricing: 1 Set - Material Management with original Invoice 2 Sets - with plans shipped in car with material 1 Set - S&E Gen. Supt. Construction w/copy of invoice	

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
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.						
31	670-001196-4	EA	\$47.30	\$1,466.30	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 GENERL SIGNAL, EB-3-360-5 CR 02-044350						
2	670-980689-4	EA	\$74.80	\$149.60	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						
700	465-292862-4	LF	\$1.39	\$973.00	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	\$731.50	\$1,463.00	CHARGER, BATTERY CRAGG MODEL 40 DTC-12V, 40 AMP, P/N 520940						
4	670-664917-4	EA	\$71.49	\$285.96	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						
4	670-632520-4	EA	\$57.38	\$229.52	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						
2	670-793404-4	EA	\$1,245.20	\$2,490.40	COUNTERWEIGHT PKAGE, 17-24'GATE S'TRAN S- MECH ONLY, STAINLESS, TO INCLUDE HUB, SUPPORT ARMS						

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
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						
4	670-228165-4	EA	\$13.71	\$54.84	EQUALIZER, SAFETLAN 022700-1X LESS BASE, MODERN NO. 700-1 SHUNT ARRESTER TRACK CIRCUITS CR 02-197950						
2	670-015231-4	EA	\$613.80	\$1,227.60	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.						
1	670-280654-4	EA	\$28,681.82	\$28,681.82	GCP4000 - 2 TRK (2TC) - REDUNDANT (INCL. 2 TRK CHASSIS A80465, 4 TRK MODS. A80418, 2-SSCC A80405, 2 CPU A80403, 1 SEAR A80410, 1 DISPLAY A80407, 1 TRANS MOD. A80468)						
1	670-018333-4	KT	\$1,107.52	\$1,107.52	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	\$176.00	\$352.00	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'TLAN 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'TLAN # 074000-W00090						
4	670-001347-4	EA	\$72.38	\$289.52	PACKAGE, HARDWARE SIGN 5 IN. MOUNTING, SERRMI A1250-5, HARMON @200965-000, OR						
2	670-018542-4	EA	\$47.30	\$94.60	PADLOCK, ABLOY 5/16" X 1" SHACKLE CLEARANCE KEYED FOR C&S DEPT USE; INCLUDES ETCHING;						
1	255-646807-4	EA	\$32.92	\$32.92	PADLOCK, SAFETLAN 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 SAFETLAN NO. @035045-503X						

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
4	465-002899-4	EA	\$46.37	\$185.48	REEL, CABLE DISPOSABLE FOR CROSSING SIGNAL PACKAGES						
1	670-024229-4	EA	\$24,778.41	\$24,778.41	SHELTER, 6X6 ALUMN FARADAY SHIELD PTMW 91000779A, 2000W HEATER, NO AC. WITH HEAVY DUTY HASP, ADJUSTABLE PIERS, 1 EQUIPMENT RACK, 2 SHELVES AND						
4	670-586967-4	EA	\$29.68	\$118.72	SHUNT COVER W/LAG SCREWS, 19"X19", SERRMI #40271, ORDER 1 PER SHUNT						
4	670-868658-4	EA	\$796.95	\$3,187.80	SHUNT, MULTI-FREQ. #250849-000 FSS-1A ALSTOM NARROW BAND (86, 114, 151, 210, 267)						
2	670-554843-4	EA	\$82.69	\$165.38	SIGN, 2 TRACK SIGN, HIGH INTENSITY, SAFETRAIN #035207-2HX						
2	670-016346-4	EA	\$154.53	\$309.06	SIGN, X-BUCK, HI-INTENSIVE REFLECTIVE FRT. & BACK FOR ALL STATES, SAFETRAIN# 035200-91X						
2	670-393331-4	EA	\$30.58	\$61.16	SIGN, CROSSING ENS MALFUNCTION ASSEMBLY FOR 4" AND 5" MAST, SAFETRAIN #T17215						
38	670-018188-4	EA	\$42.35	\$1,609.30	TERMINAL BLOCK, THRU POST WITH HARDWARE LESS LIGHTNING ARRESTER. SIEMENS P/N NYK: 023275-17X.						

Total Material: \$97,402.44

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
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Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Scott Corbitt, Chair

February 17, 2022

Mr. Kurt Young
Norfolk Southern
Administrator Grade Crossing Program
1200 Peachtree Street NE, Box 123
Atlanta, Ga. 30324

RE: Grade Crossing Warning Device Improvements
Columbiana County, Walter Street, DOT# 505-147X, PID# 115878.

Dear Mr. Young:

A diagnostic review was held at the above grade crossing on July 21, 2021. As a result of the review, the crossing will be upgraded to flashing lights and roadway gates.

Norfolk Southern (NS) is authorized to proceed with the site plans and cost estimates (PE) or bid package for this project. This authorization is made with the stipulation and understanding that any field work needs prior approval before work begins. This authorization is made with the stipulation and understanding that an approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit.

The diagnostic review form is attached. Please note any recommendations (page 7), if any, made by the team regarding requirements for this location. Any minor roadway work necessary for MUTCD compliance should be incorporated into the PE and such costs will flow through the railroad reimbursement process.

The Project Manager for this project is James Tucker. James can be reached at (614) 398-6897, or james.tucker@dot.ohio.gov, if you have any questions.

Sincerely,

Project Manager

C: John Williams, Director, Transportation Department, PUCO
Jill Henry, Rail Division Chief, PUCO
Heather Hamilton, ORDC
ORDC (file)





Public Utilities Commission

Mike DeWine, Governor
Jenifer French, Chair

Commissioners

M. Beth Trombold
Lawrence K. Friedeman
Dennis P. Deters
Daniel R. Conway

December 13, 2021

Norfolk Southern Railway
Mr. Kurt Young
Administrator Highway Grade Crossing Improvements
1200 Peachtree Street
Atlanta, GA 30309-3597

RE: Walter Street, DOT#505-147X
Columbiana County
Hereinafter referred to as the "Projects"

Dear Mr. Young:

The Public Utilities Commission of Ohio (PUCO) has identified and the Ohio Rail Development Commission (ORDC) surveyed, on July 21, 2021, the above mentioned grade crossing for warning device upgrades. The location has been approved for lights and gates.

The Projects shall comply with Agreement No. 17450, dated December 19, 2012, entered into by the State of Ohio and Norfolk Southern Railway Company (RAILROAD). Furthermore, the RAILROAD shall comply with all applicable state and federal laws governing grade crossing safety programs.

Preliminary engineering (PE) and construction costs shall be borne one hundred percent (100%) by ORDC. Reimbursable costs will be limited by ORDC based upon approved estimates and bid tabulations, if applicable. These limits will be quantified by the ORDC in its construction authorization to the RAILROAD and may be amended by the ORDC based upon revised estimates and bid tabulations. Additional costs must be approved in writing by the ORDC prior to being incurred. Emergency verbal authorizations by ORDC may be permitted but must be confirmed in writing within ten (10) business days of the verbal approval.

The RAILROAD shall complete plans and estimates for the Projects within ninety (90) days after the RAILROAD is notified of authorization to proceed unless otherwise agreed by ORDC/PUCO and the RAILROAD.

The RAILROAD shall not commence construction prior to PUCO's Order and ORDC's construction authorization. The RAILROAD shall provide written notification of the construction start date to PUCO and ORDC no later than five (5) business days prior to such date.

Please indicate your acceptance of the terms and conditions of this Letter of Agreement by signing and returning one (1) copy to Ms. Jill Henry, Chief, Rail Division, Public Utilities Commission of Ohio, 180 E. Broad Street, Columbus, Ohio 43215-3793 or by email at jill.henry@puco.ohio.gov.

Sincerely,



John Williams
Director of Transportation
Public Utilities Commission of Ohio



Matthew Dietrich
Executive Director
Ohio Rail Development Commission

Norfolk Southern Railway Company

By 

Title VP ATC

Date 12-16-21

Date December 20, 2021

Crossing at a glance: 505147X

ORDC Notes:

Please Sign In

Jim Tucker

ORDC

Name	Title	Organization
	614-398-6897	
	Phone Number	Email
		Signature

Gregory Bricker Mayor East Liverpool

Name	Title	Organization
	Phone Number	Email
		Signature

Joe Johns C45 SUPERVISOR NS

Name	Title	Organization
	412 3020279	
	Phone Number	Email
		Signature

Garrett Bedell NS

Name	Title	Organization
	Phone Number	Email
		Signature

Kevin Lesh PUCO

Name	Title	Organization
Bill Cowan	Planning Director	East Liverpool
	Phone Number	Email
		Signature

Name	Title	Organization
	330 385 5397	
	Phone Number	Email
		Signature

Name	Title	Organization
	Phone Number	Email
		Signature

Name	Title	Organization
William Jones	FIRE Chief	East Liverpool Fire Dept.
	Phone Number	Email
		Signature

Name	Title	Organization
	330.385.1117	
	Phone Number	Email
		Signature

Name	Title	Organization
	Phone Number	Email
		Signature

Reason for Request: **formula**
(e.g. formula, accident, constituent, etc.)

Date: 7/21/2021

Location Data			
Street or Road Name:		Walter Street	
County:	Columbiana	Township:	
City (in or near):	East Liverpool	Railroad Name:	NS
		US DOT No.:	505147X
		RR Milepost:	15.8
Safety Data (Obtain crash reports, if possible)			
	Initial Information (from database)		Revised
Number & dates of vehicle crashes in previous 5 years:	n/a		
Number & dates of pedestrian/bicycle crashes in previous 5 years:	n/a		
Hazard Ranking:	1452	Date Run:	06/11/2021

Existing Traffic Control Devices			
Type of Warning Devices	Installed?		Quantity/Comments
HIGHWAY			
Advance Warning Signs (condition?)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	1 needs replaced.
'Stop' Signs	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
'Stop Ahead' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Pavement Markings (condition?)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Dynamic Envelope Markings (condition?)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Illumination	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'No Turn' Signs (highway/passive)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Barriers/fencing (pedestrian/bicycle)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
LOOK Sign	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Do Not Stop On Track Sign	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
RAILROAD			
Crossbucks	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2 - fair
Crossbucks – assembly with Stop	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Crossbucks – assembly with Yield	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Mast-Mounted Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Cantilever Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
Side Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
LED or Incandescent Lights? Size?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Automatic Gates	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
Bells	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number:
Sidewalk/Pedestrian Gate Arms	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
'No Turn' Signs (railroad/active)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Is crossing flagged by train crew?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
OTHER	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Railroad Data		
Type of Train: <input checked="" type="checkbox"/> Freight <input type="checkbox"/> Intercity Passenger <input type="checkbox"/> Transit <input type="checkbox"/> Shared Use Transit <input type="checkbox"/> Commuter <input type="checkbox"/> Tourist/Other		
Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day		6
<1 per day? Trains per week		
Day thru trains	7	3
Night thru trains	3	3
Switching	4	0
Total number of tracks		
Number of main tracks	2	
Number of other tracks		
Maximum train speed	40	
Typical train speed	30-40	
Amtrak		
Are there other track(s) crossing this same roadway within 100ft of this crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If yes, Crossing DOT# (if different) _____		
If yes, distance _____ (take measurement between track centerlines at closest point along roadway)		
If multiple tracks, can two trains occupy crossing at the same time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Can one train block the motorists' view of another train at the crossing? <input checked="" type="checkbox"/> Yes (explain below) <input type="checkbox"/> No		
Can one or more tracks be eliminated through the crossings? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Comments:		
Circuitry: <input type="checkbox"/> Constant Warning Time <input type="checkbox"/> Motion Detection <input type="checkbox"/> AFO <input type="checkbox"/> PTC <input type="checkbox"/> DC <input type="checkbox"/> Other _____		

Roadway Data		
Local Highway Authority:		East Liverpool
Roadway Characteristics	Initial Information (from database)	Revised
Average Daily Traffic	93 (2010)	
Highway Paved	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Roadway Surface: <input checked="" type="checkbox"/> Blacktop <input type="checkbox"/> Gravel <input type="checkbox"/> Concrete Other _____		
Roadway width (paved/travelled way): <u>18</u> ft		
Number of Highway Lanes	<u>2</u>	
Urban or Rural		
Vehicle Speed: _____ MPH	<u>25</u>	
School Bus Operation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Amount _____		
Location of nearby schools: <u>East Liverpool High = 1.5 mile west</u>		
Hazardous Materials Trucks: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Amount (from FRA) _____ LHA verified/changed?		
Shoulders: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is the Shoulder Surfaced? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, shoulder width: _____ ft.		
Is there existing guardrail along the roadway in crossing vicinity? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Crossing Angle <input type="checkbox"/> 0-29° <input type="checkbox"/> 30-59° <input checked="" type="checkbox"/> 60-90° Measured in _____ Quadrant?		
Quadrant <u>NW</u> Curb & Gutter:	Quadrant <u>SE</u> Curb & Gutter:	
<input type="checkbox"/> Functional (Curb height = 4" or more)	<input type="checkbox"/> Functional (Curb height = 4" or more)	
<input type="checkbox"/> Non-functional (Curb height = less than 4")	<input type="checkbox"/> Non-functional (Curb height = less than 4")	
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None	
Is there a nearby intersection that could cause queuing over the crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If yes, distance _____		
Is this intersection signalized? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Are there signals currently interconnected with the existing crossing warning devices? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Is there a 'Do Not Stop on Track' sign? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is a roadway improvement project (e.g. widening, turn lanes, nearby new or upgraded traffic signal, sidewalk) planned at or near this location in the foreseeable future? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If yes:		
Improvement type _____ Lead Agency _____ Timeline/completion _____		

Pedestrian & Bicycle Data

Regular pedestrian usage: ☒ Yes ☐ No Volumes: ☒ Occasional ☐ <20 ☐ 20-60 ☐ >60

Is sidewalk present in the approach? ☐ Yes ☒ No Quadrants:

Does crossing surface accommodate pedestrians? ☐ Yes ☒ No

Both sides of roadway? ☐ Yes ☒ No If no, which side is paved?

Pedestrian generators in close proximity (e.g. schools, sports/entertainment venues)? ☒ Yes ☐ No

Comments: Grocery store

Regular bicycle usage: ☒ Yes ☐ No

☒ Roadway ☐ Dedicated Lane (on street) ☐ Dedicated Path (off street) ☐ Shared Use (pedestrian/bicycle) Path
☐ Bikes must use sidewalk

Future plans for pedestrian or bicycle routes? ☐ Yes ☒ No

Comments:

Utility Information

Is commercial power available? ☒ Yes ☐ No

Utility Provider (Company Name) AEP

Nearest Available Power Source _____

What other utilities are present? ☒ Gas ☒ Cable ☒ Telephone ☐ Fiber Optic Cable (add locations to sketch)
☐ Petroleum ☒ Water ☒ Sanitary Sewer ☐ Other

Comments:

Surface

Surface review form completed? ☐ Yes ☒ No

Sight Preview (REFER TO TABLES)

If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table 1) ☐ Yes ☒ No 960

Is stopping sight distance adequate? (See Table 2) ☐ Yes ☒ No If no, which quadrant? SE 180

When considering recommendations for bicycle treatments:

Bicycle sight distance adequate? ☒ Yes ☐ No If no, which quadrant? _____ 470

When considering recommendations for pedestrian treatments:

Pedestrian sight distance adequate? ☒ Yes ☐ No If no, which quadrant? _____ 710

Potential Red Flags / Project Challenges

Traffic Signal Preemption (include traffic signal intersection name and LHA with jurisdiction over traffic signal, if known):

N/A

Crossing Consolidation or Closure:

N/A

Real Estate or ROW:

N/A

Culvert / Drainage / Ballast Conditions:

N/A

Roadway and/or Sidewalks:

N/A

Circuitry (e.g. reaches out to other crossings, specific needs, etc.):

Central Ave

Environmental:

N/A

Utilities:

unknown

Other:

Potential Closure

Is it the consensus of the Diagnostic Review Team that this is a potential closure project?

NO

Explain reasons: only way in or out of the area.

Diagnostic Team Recommendations

☐ No improvements needed

Quadrants Needed

☒ Install/upgrade active devices

☐ Automatic Flashing Lights (AFLS)

☐ AFLS / Cants

☒ AFLS / Gates

Both @ 8'3"

☐ AFLS / Gates / Cants

☒ Bells / number

1

☐ Upgrade circuitry / type

☐ Sidelights

☒ LED Upgrades

12" LED

☐ Guardrail Needed

☐ Install/Replace curb

☐ Bungalow placement & offset from rail & highway

☐ Other (define)

Comments:

☐ Install/upgrade traffic signal preemption

Other (define): LHA will trim all vegetation within their Right of Way to help with new gate visibility.

Diagnostic Team Recommendations (cont.)

PEDESTRIAN/BICYCLE Treatments (additional, not included above)

☐ Crossing Surface (specify)

☐ Sidewalk (specify)

☐ Detectable warning surfaces

☐ LOOK Sign (R15-8)

☐ Stop lines

☐ Illumination

☐ Dynamic envelop markings

☐ Channelization

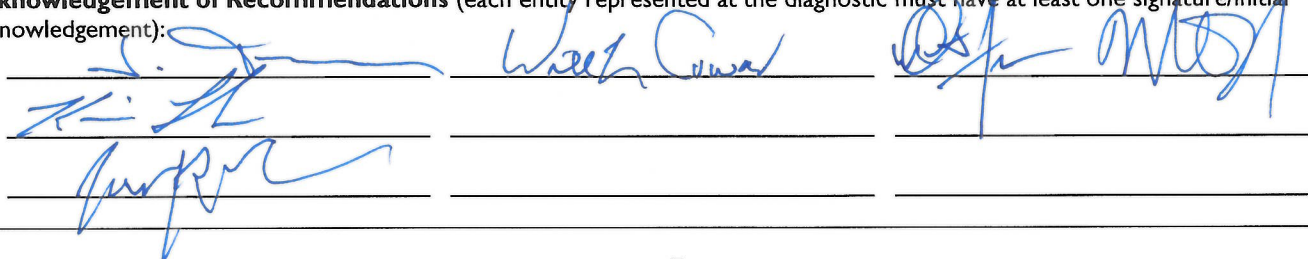
☐ Path delineation

☐ Fencing/barriers

☐ Other

Comments:

Acknowledgement of Recommendations (each entity represented at the diagnostic must have at least one signature/initial acknowledgement):



Field Sketch (optional)

Include utilities as marked by OUPS and LHA; include ROW boundaries as indicated by railroad and LHA.

Clearing Sight Distances

Maximum Authorized Train Speed	Distance (dT) Along Railroad from Crossing (ft)
1 - 10	240
15	360
20	480
25	600
30	720
35	840
40	960
45	1080
50	1200
55	1320
60	1440
65	1560
70	1680
75	1800
80	1920
85	2040
90	2160

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

Notes:

All calculated distances are rounded up to the next higher 5-foot increment.

Distances indicated are for 65-ft double bottom semi-tractor trailers and level single track 90 degree crossings; and may need to be adjusted for multiple tracks, skewed crossings or approaches on grades.

Clearing Sight Distance is to be measured in each vehicle travel direction at non-gated crossings as viewed from a point 25 feet from centerline of nearest track in the center of whichever travel lane is nearest the direction along track being measured.

Stopping Sight Distances

Highway Vehicle Speed	Distance (dH) Along Roadway from Crossing (ft)
0	n/a
5	50
10	70
15	105
20	135
25	180
30	225
35	280
40	340
45	410
50	490
55	570
60	660
65	760
70	865

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

Notes:

All calculated distances are rounded up to the next higher 5-foot increment.

Distances indicated are for 65-ft double bottom semi-tractor trailers on dry level pavements.

Stopping Sight Distance is to be measured on each roadway approach to crossing from stop bar.

Bicycle & Pedestrian Clearing Sight Distances

Clearing Sight Distance from Stop Position*											
Crossing of one track								Crossing 2 Tracks		Crossing 3 Tracks	
Train Speed	Car	Single-unit Truck	Bus	WB-50 Semitruck	65-foot Double Truck	Pedestrian ¹	Bicyclist ²	Pedestrian ¹	Bicyclist ²	Pedestrian ¹	Bicyclist ²
10	105	185	200	225	240	120	100	180	120	240	140
20	205	365	400	450	485	240	200	360	240	480	270
25	255	455	500	560	605	300	250	450	290	590	340
30	310	550	600	675	725	360	290	530	350	710	410
40	410	730	795	895	965	480	390	710	470	950	540
50	515	910	995	1,120	1,205	590	490	890	580	1180	670
60	615	1,095	1,195	1,345	1,445	710	580	1060	700	1420	810
70	715	1,275	1,395	1,570	1,680	830	680	1240	810	1650	940
80	820	1,460	1,590	1,790	1,925	950	780	1420	930	1890	1080
90	920	1,640	1,790	2,015	2,165	1060	870	1590	1040	2120	1210

*A single track, 90-degree, level crossing

¹ Walking 3.5 feet per second across tracks 15 feet apart, with a 2-second reaction time to reach a decision point 10 feet before the center of the first track, and clearing 10 feet beyond the centerline of the second track.

² Bicycling 8 miles per hour across tracks 15 feet apart, from a stopped position 10 feet before the center of the first track with an acceleration of 2.5 feet per second, and clearing 10 feet beyond the centerline of the second track on a bike of 6 feet length.

**This foregoing document was electronically filed with the Public Utilities
Commission of Ohio Docketing Information System on**

6/13/2022 11:50:03 AM

in

Case No(s). 22-0581-RR-FED

Summary: Application In the Matter of a Request for the Installation of Active Warning Devices at the Norfolk Southern Railway Crossing, Walter Street, DOT# 505-147X, in Columbiana County, Ohio. electronically filed by Mr. Thomas Persinger on behalf of PUCO/Rail Division