



Norfolk Southern Corporation
1200 Peachtree Street, NE
Box 123
Atlanta, GA 30309

Date: November 10, 2015
DOCKET # A-2013-2374997

Commonwealth of Pennsylvania
Pennsylvania Public Utility Commission
ATTN: Rosemary Chiavetta
400 North St., 2nd Floor
Harrisburg, PA 17120

RECEIVED

NOV 10 2015

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

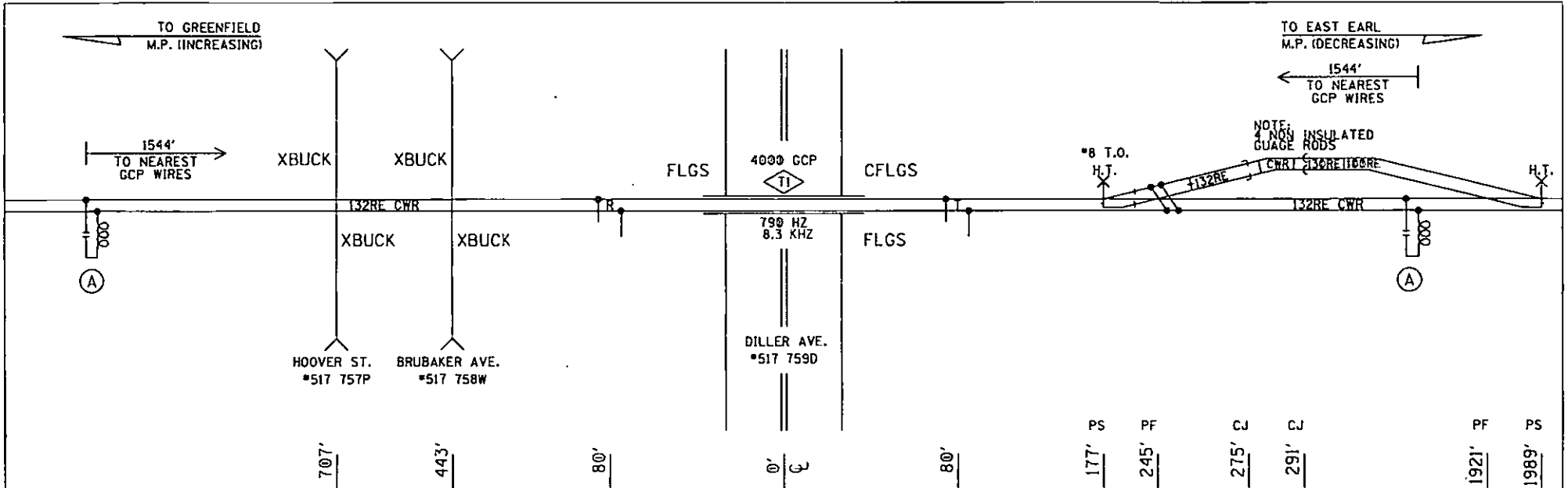
Dear Ms. Chiavetta:

Attached for your review, is one copy of the engineering for this proposed crossing modification / installation. Should you have any questions concerning this project, please contact STEPHEN KLINGER at 404-529-1234.

Sincerely,


A handwritten signature in black ink, appearing to be 'SK', with a long horizontal line extending to the right.

Stephen J. Klinger



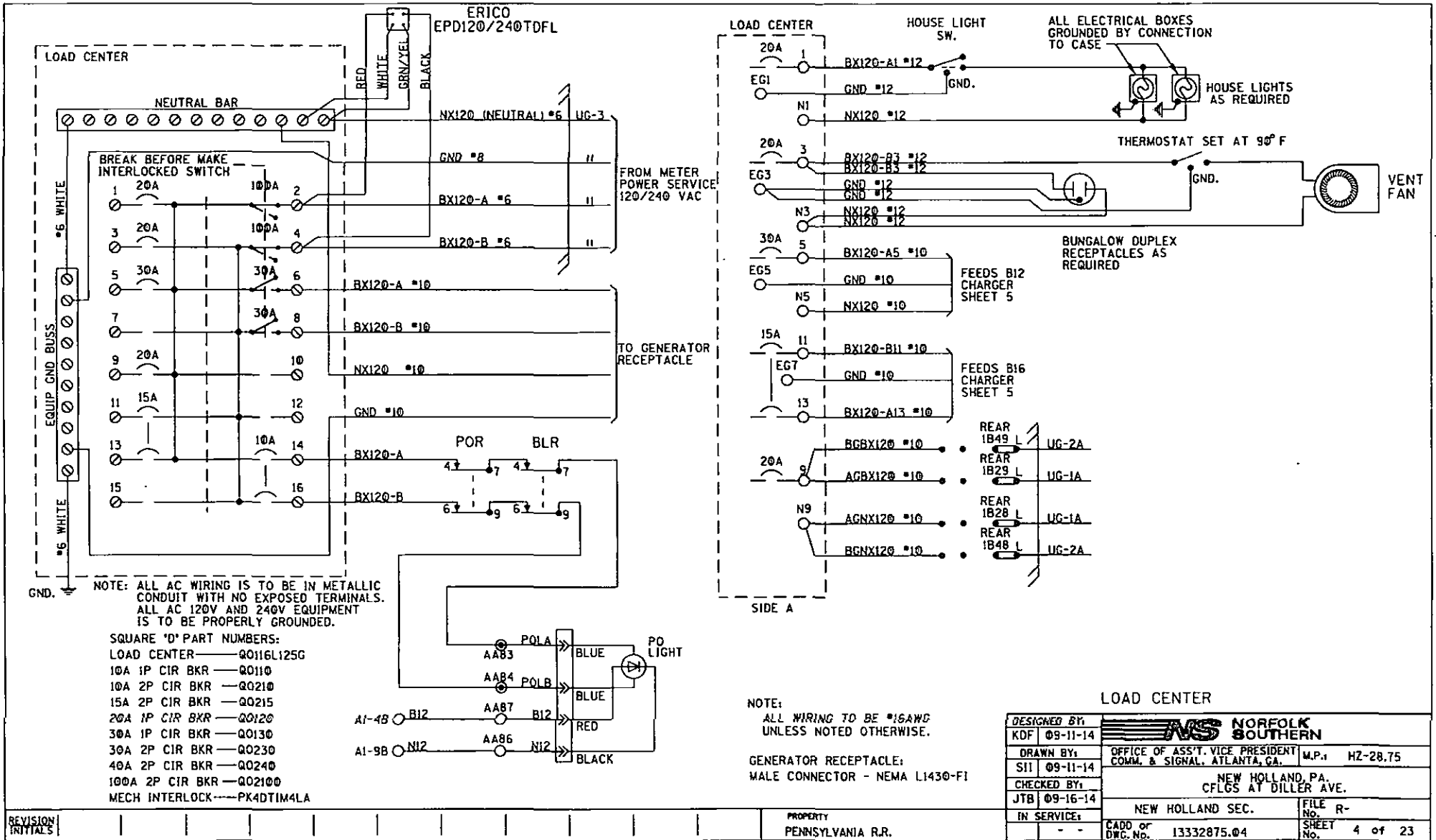
Ⓐ - MF-NBS 62775-3497 (790HZ)

PROFILE

| | | |
|------------------------------|---|---|
| DESIGNED BY: KDF 09-11-14 |  NORFOLK SOUTHERN | |
| DRAWN BY: SII 09-11-14 | | OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. |
| CHECKED BY: JTB 09-16-14 | NEW HOLLAND, PA. CFLGS AT DILLER AVE. | |
| IN SERVICE: | NEW HOLLAND SEC. | FILE No. R- |
| | CADD of DWG. No. 13332875.02 | SHEET No. 2 of 23 |

REVISION
INITIALS

PROPERTY
PENNSYLVANIA R.R.



Program Report

Location and SIN

DOT Number: 517759D
 Milepost Number: HZ-28.75
 Site Name: DILLER AVE

SIN: 755058302016

MCF and Template Selection

MCF Name: GCP-T6X-02-1.mcf
 MCF Revision: 021
 MCFORC: 6016E435

Template = 1A:6 Trk B1

Check Numbers

Office Check No. (DT 4.6.0): 6F15AA39
 Office Check Number: 6F15AA39
 Config Check Number: 10400850
 (Based on MCF Revision 021)

Program

BASIC: module configuration

Track 1 Slot 1 Track
 Track 2 RLO Slot = Not Used
 Track 3 Slot = Not Used
 Track 4 Slot = Not Used
 Track 5 RLO 2 Slot = Not Used
 Track 6 RLO 3 Slot = Not Used
 Slot 7 Slot = SCCC1
 SEAR Slot = SCCC1
 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: 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

GCP: track 1

Track 1: GCP Freq Category = Standard
 Track 1: GCP Frequency = 790 Hz
 Track 1: Propagation Distance = 1544 ft
 Track 1: Adv B Sim-Bidrn = Bidrn
 Track 1: GCP Transmit Level = Medium
 Track 1: Island Connection = Isl
 Track 1: Island Distance = 160 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 Frasn = 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 ops 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 Ctrl Use = No
 Track 1: MS Sensitivity Level = 0
 Track 1: Compensation Level = 1300
 Track 1: Warn Time-Balast Comb = High
 Track 1: Adv EX Adjustment = 39
 Track 1: Bidrn Dax Pass Thru = No
 Track 1: False Act on Train Stop = No
 Track 1: EZ 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 1 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

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

4000 GCP PROGRAMMING SETUP

| | | |
|--------------|--|----------------|
| DESIGNED BY: |  NORFOLK SOUTHERN | |
| KDF 09-11-14 | OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. | M.P.: HZ-28.75 |
| DRAWN BY: | NEW HOLLAND, PA. CFLGS AT DILLER AVE. | |
| SII 09-11-14 | NEW HOLLAND SEC. | |
| CHECKED BY: | FILE No. R- | |
| JTB 09-16-14 | SHEET 7 of 23 | |
| IN SERVICE: | CADD or DWG. No. 13332875.07 | |

REVISION
INITIALS

PROPERTY
PENNSYLVANIA R.R.

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

SSCC
 Gates Used = Yes
 SSCC-2 GPs Coupled = Yes
 Min Activation = 0 sec
 Min Activation Cancel = 1 min
 Bell on Gate Rising = No
 Auto Bell on 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 GPs = 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 Ctr 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 GPs = 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 Ctr 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

IO: assignment SSCC
 OUT 0.1 = Gate Output 1
 OUT 0.2 = Gate Output 2
 I 1.1 = Not Used
 I 1.2 = Not Used
 I 1.3 = AND 1 XR Enable
 I 1.4 = Not Used
 I 1.5 = Not Used
 I 1.6 = Not Used
 I 1.7 = Not Used
 I 1.8 = Not Used
 I 1.9 = Not Used
 I 1.10 = Not Used

SEAR
 Subnode = 3
 OUT 1 = Not Used
 OUT 2 = Not Used
 IN 1 = General
 IN 2 = Not Used

SEAR: Inputs
 IN 2.1 = Not Used
 IN 2.2 = Not Used
 IN 2.3 = Not Used
 IN 2.4 = Not Used

SEAR: slot 1-4 Inputs
 IN 1.1 = Not Used
 IN 1.2 = Not Used
 IN 1.3 = Not Used
 IN 1.4 = Not Used
 IN 1.5 = Not Used
 IN 1.6 = Not Used
 IN 1.7 = Not Used
 IN 1.8 = 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 7.2 = Not Used
 IN 7.3 = Not Used
 IN 7.4 = Not Used
 IN 7.5 = Not Used

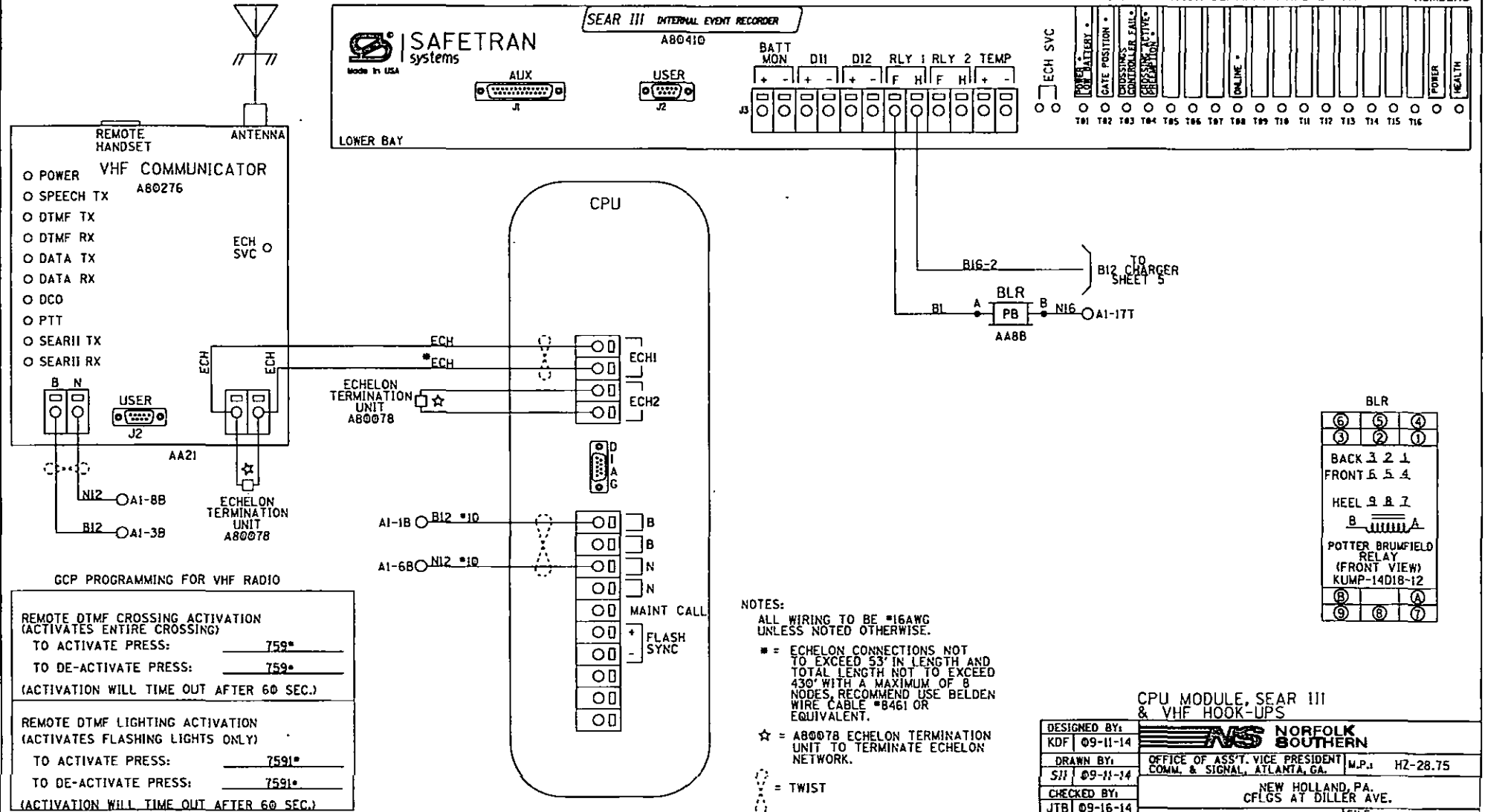
SITE: programming
 Radio Subnode = 1
 Field Password = Off
 Low Battery Enabled = Off
 Configuration Package File
 Filename: 13332875.pac

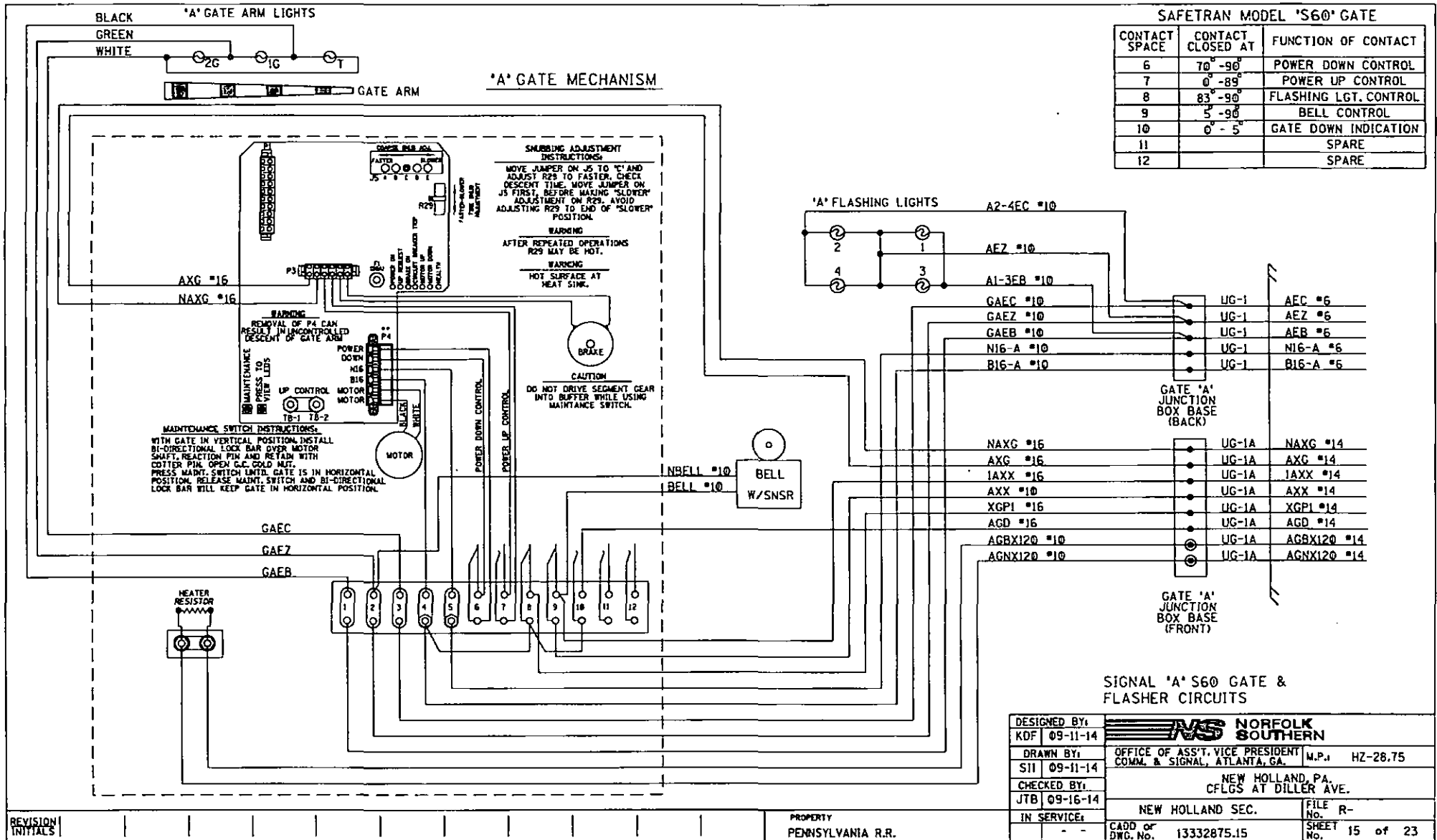
4000 GCP PROGRAMMING SETUP

| | | |
|------------------------------|---|-------------------|
| DESIGNED BY: KDF 09-11-14 |  | |
| DRAWN BY: SII 09-11-14 | OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. | M.P.: HZ-28.75 |
| CHECKED BY: JTB 09-16-14 | NEW HOLLAND, PA. CFLGS AT DILLER AVE. | |
| IN SERVICE: - - | NEW HOLLAND SEC. | FILE No. R- |
| | CADD or DWG. No. 13332875.08 | SHEET No. 8 of 23 |

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INITIALS

PROPERTY
PENNSYLVANIA R.R.

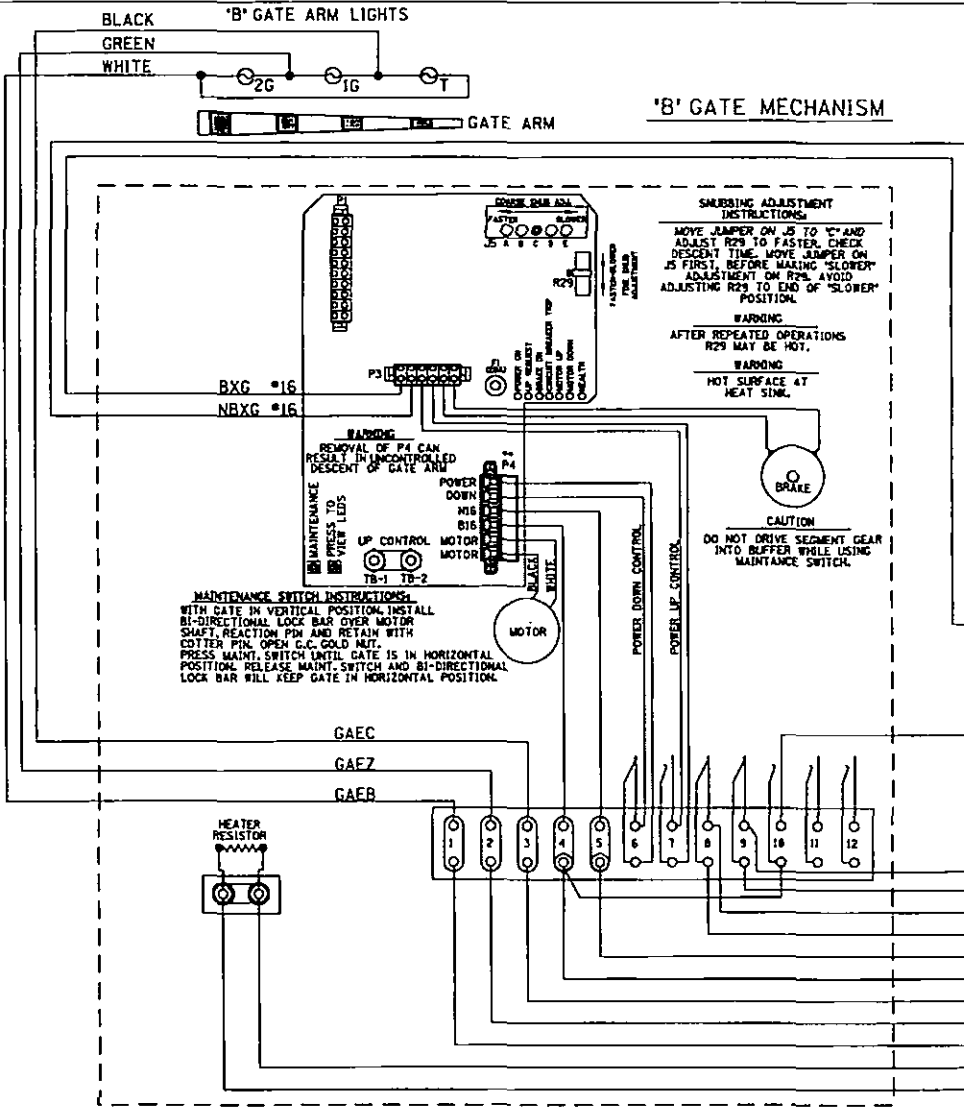




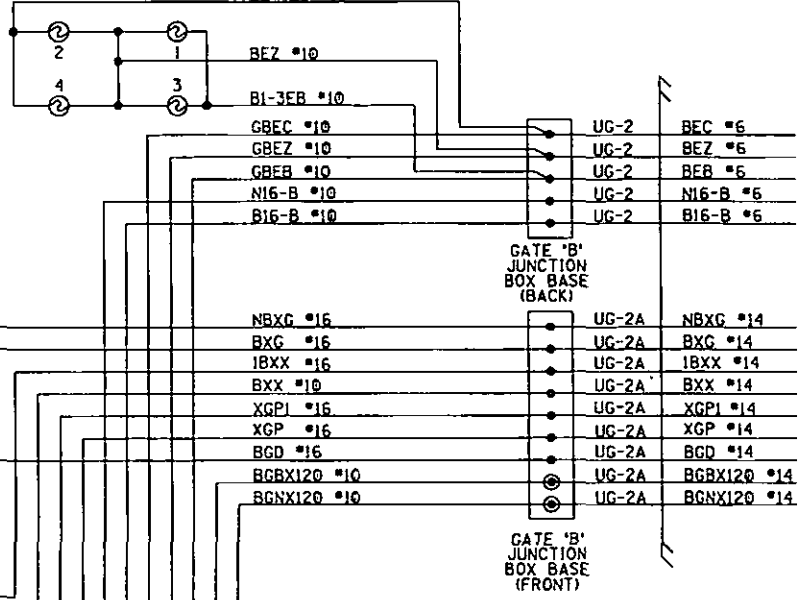
SAFETRAN MODEL 'S60' GATE

| CONTACT SPACE | CONTACT CLOSED AT | FUNCTION OF CONTACT |
|---------------|-------------------|-----------------------|
| 6 | 70° - 90° | POWER DOWN CONTROL |
| 7 | 0° - 89° | POWER UP CONTROL |
| 8 | 83° - 90° | FLASHING LGT. CONTROL |
| 9 | 5° - 90° | BELL CONTROL |
| 10 | 0° - 5° | GATE DOWN INDICATION |
| 11 | | SPARE |
| 12 | | SPARE |

'B' GATE MECHANISM



'B' FLASHING LIGHTS



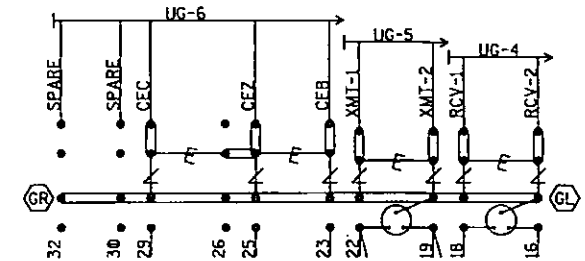
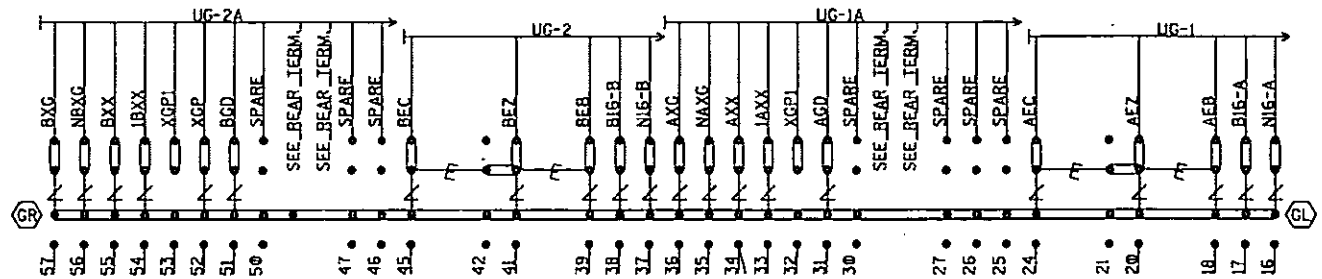
SIGNAL 'B' S60 GATE & FLASHER CIRCUITS

| | | |
|--------------------------------|--|--------------------|
| DESIGNED BY: KDF 09-11-14 | NS NORFOLK SOUTHERN | |
| DRAWN BY: SII 09-11-14 | OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. | M.P. HZ-28.75 |
| CHECKED BY: JTB 09-16-14 | NEW HOLLAND, PA. CFLCS AT DILLER AVE. | |
| IN SERVICE: | NEW HOLLAND SEC. | FILE No. R- |
| | CADD of DWG. No. 13332875.16 | SHEET No. 16 of 23 |

REVISION INITIALS

PROPERTY PENNSYLVANIA R.R.

LEFT TWO ROWS TERMINAL BOARD I
"1A"
"1B"



NOTE: INSTALL TEST LINKS ON ALL TRACK WIRES AND ON ALL LOW VOLTAGE UNDERGROUND CABLE TERMINATIONS.

SEE FARADAY SHIELD DETAILS - 1A & 1B FOR HOW THIS PORTION OF THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

= Heavy Duty Equalizer (022700-1X)

= Clearview Lightning Arrester (022585-1X)

= LPC-10560-51

= TERMINALS GROUNDED TO SHIELD. 4 POST BLOCKS USE EITHER - GR - SERMMI PART NO. 61278 GL - SERMMI PART NO. 61278-1.

BACKBOARD 1A & 1B

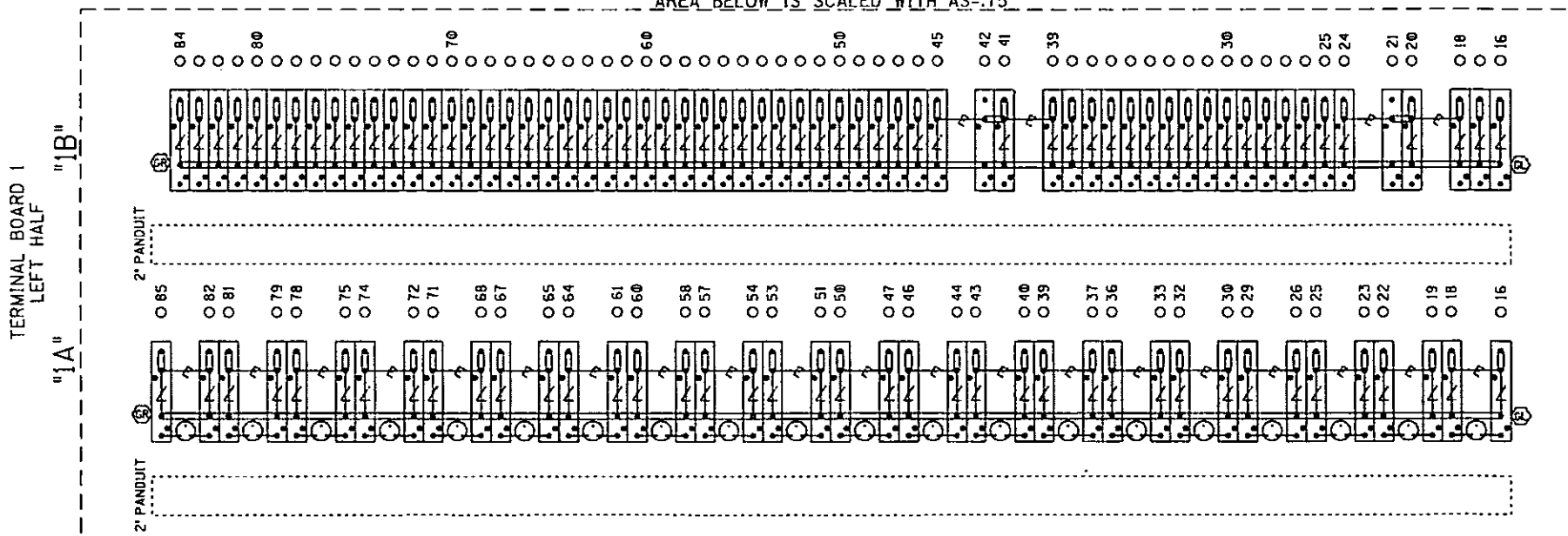
| | | | |
|------------------------------|---------------------------------|--|-----------------|
| DESIGNED BY: KDF 09-11-14 | NORFOLK SOUTHERN | OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. | M.P.J. HZ-28.75 |
| DRAWN BY: SII 09-11-14 | | NEW HOLLAND, PA. CFLGS AT DILLER AVE. | |
| CHECKED BY: JTB 09-16-14 | NEW HOLLAND SEC. | | FILE No. R- |
| IN SERVICE: - - | CADD of DWG. No. 13332875.17 | SHEET 17 of 23 | |

REVISION
INITIALS

PROPERTY
PENNSYLVANIA R.R.

NOTE: IF THE FARADAY SHIELD WOULD EVER NEED TO BE DRILLED IN THE FIELD, PROPER PRECAUTIONS MUST BE TAKEN TO INSURE METAL SHAVINGS DO NOT GET INTO EXISTING TERMINALS/WIRES.

AREA BELOW IS SCALED WITH AS=.75



- = Heavy Duty Equalizer (022700-1X)
- = Clear view Lightning Arrestor (022585-1X)
- = LPC-10560-51

= TERMINALS GROUNDED TO SHIELD.
 = 4 POST BLOCKS USE EITHER --
 GR - SERMMI PART NO. 61278
 GL - SERMMI PART NO. 61278-1.

= INDICATES PLACEMENT OF PANDUIT

THIS SHEET IS FOR REFERENCE ONLY, TO REFLECT HOW THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

FARADAY SHIELD 1A & 1B

| | | |
|--------------------------------|--|-----------------|
| DESIGNED BY: KDF 09-11-14 | NORFOLK SOUTHERN | |
| DRAWN BY: SII 09-11-14 | OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. | M.P. HZ-28.75 |
| CHECKED BY: JTB 09-16-14 | NEW HOLLAND, PA. CFLGS AT DILLER AVE. | |
| IN SERVICE: - - | NEW HOLLAND SEC. | FILE No. R- |
| | CADD or DWG. No. 13332875.19 | SHEET 19 of 23 |

REVISION INITIALS

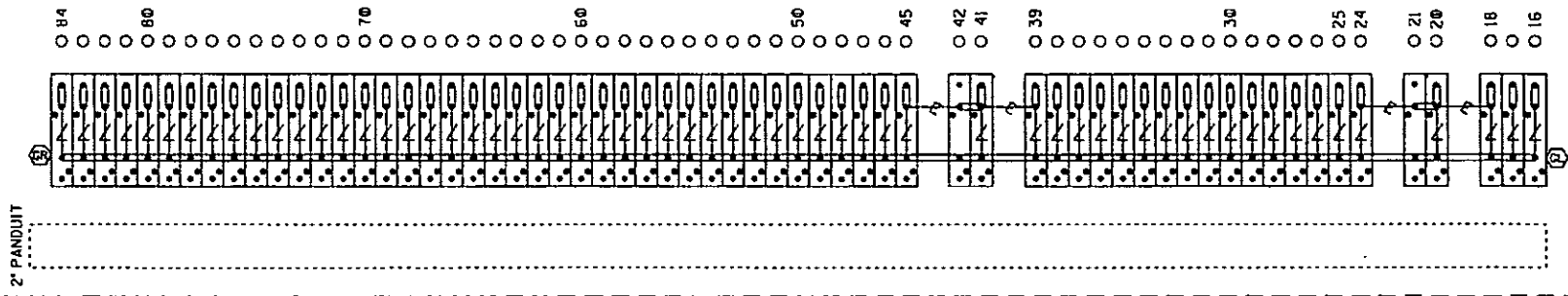
PROPERTY PENNSYLVANIA R.R.

NOTE: IF THE FARADAY SHIELD WOULD EVER NEED TO BE DRILLED IN THE FIELD, PROPER PRECAUTIONS MUST BE TAKEN TO INSURE METAL SHAVINGS DO NOT GET INTO EXISTING TERMINALS/WIRES.

AREA BELOW IS SCALED WITH AS=.75

TERMINAL BOARD 1
RIGHT HALF

11C"



= Heavy Duty Equalizer (022700-1X)

= Clearview Lightning Arrester (022585-1X)

= LPC-10560-51

= TERMINALS GROUNDED TO SHIELD.
 = 4 POST BLOCKS USE EITHER -
 GR - SERMMI PART NO. 61278
 GL - SERMMI PART NO. 61278-1.

FARADAY SHIELD 1C

| | | |
|------------------------------|--|--------------------|
| DESIGNED BY: KDF 09-11-14 | NORFOLK SOUTHERN | |
| DRAWN BY: SII 09-11-14 | OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. | M.P.1 HZ-28.75 |
| CHECKED BY: JTB 09-16-14 | NEW HOLLAND, PA. CFLGS AT DILLER AVE. | |
| IN SERVICE: | NEW HOLLAND SEC. | FILE No. R- |
| | CADD or Dwg. No. 13332875.20 | SHEET No. 20 of 23 |

= INDICATES PLACEMENT OF PANDUIT

THIS SHEET IS FOR REFERENCE ONLY, TO REFLECT HOW THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

REVISION
INITIALS

PROPERTY
PENNSYLVANIA R.R.

NS Project Number: 19.5451

NS File Number: CX0129982

CERTIFICATE OF SERVICE

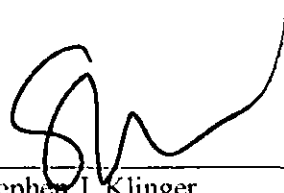
In the Matter of PUC Order # A-2013-2374997

I hereby certify that I have this day served a true copy of the foregoing document upon the participants, listed below, in accordance with the requirements of § 1.54 (*relating to service by participant*).

(See Attached List of names and addresses of participants served)

(Participants should include the Pennsylvania Department of Transportation, the Railroad Company, the County and Municipality where the crossing is located, and any fixed Utility Companies with facilities at the crossing)

Dated this 10 Day of October, 2014



Stephen J. Klinger
Administrator, Grade Crossing Program

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU



USPS TRACKING #



9114 9012 3080 3765 0392 78

Label 400 Jan. 2013
7690-16-000-7948



NORFOLK SOUTHERN

Norfolk Southern Corporation
 Communications and Signal Dept.
 99 Spring St., S.W.
 Atlanta, Georgia 30303

Commonwealth of Pennsylvania
 Pennsylvania Public Utility Commission
 Attn: Rosemary Chiavetta
 400 North St., 2nd Floor
 Harrisburg, PA 17120



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