

March 10, 2011  
CX0123601

**Re: Norfolk Southern's Cincinnati Line, regarding the installation of automatic grade crossing warning devices at Davis Road in Madison County, London, Ohio, DOT: 527-992P, Milepost CJ-168.10.**

Susan Kirkland, Supervisor  
Ohio Rail Development Commission  
50 West Broad Street, Room 1520  
Columbus, Ohio 43215

Attention: Susan Arduini

Dear Ms. Kirkland:

Attached for your review and approval are electronic copies of the detailed cost estimate, material list and engineering plans for this crossing.

Although we cannot give you an exact date of installation at this time we can provide our average installation time, which is 9.1 months after authorization from the state. After this project is authorized, we will order material and schedule for installation once we have received approvals from ODOT's District Office.

A copy of this package has been filed on Ohio's Public Utilities Commission Docketing Information System. AC service for this location is existing and will not delay the installation of the crossing.

If you have any questions or concerns, please contact Mike Rappatta at 404-582-6377 or [mike.rappatta@nscorp.com](mailto:mike.rappatta@nscorp.com).

Sincerely,



M. L. Rappatta

**Detailed Estimate for Grade Crossing Warning Devices**

City/State: LONDON, OH

Road: DAVIS RD.

MilePost: CJ-168.1

DOT/AAR: 527992P

State Proj. No.:

County: MADISON

S&amp;E Proj. No.: 10.0985

File Number:

Man Days: 112

<b>***Purchases - Others***</b>		
Meals and Lodging:	\$15,052.80	
Rental of Equipment:	\$20,384.00	
(2 Trucks, 1 Backhoe w/ Trailer and 1 Pipe-Pusher for 28 Days)		
Construction Supervision Vehicle:	\$5,560.23	
Purchases - Other Total:		\$40,997.03
<b>***Material And Additives***</b>		
Material Cost:	\$87,380.00	
Sales and Use Tax:	\$0.00	
Material Handling Freight:	\$4,369.00	
Material Total:		\$91,749.00
<b>***Labor And Additives***</b>		
Labor Cost:	\$31,360.00	
(4 man crew at \$1,120.00 a day for: 28 days)		
Payroll Tax & Overheads:	\$41,658.62	
Preliminary Engineering:	\$10,449.12	
Construction Supervision:	\$17,567.87	
Labor Total:		\$101,035.61
Project Cost:		\$233,781.64
Scrap / Salvage Credit:		\$0.00
<b>Project Total:</b>		<b>\$233,782.00</b>

Estimated on: 10-Mar-11

Estimated by: n5s2v

**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:	LONDON
Road:	DAVIS RD.
Mile Post:	CJ-168.1
Drawing Number:	82111680
State ProjectNumber:	
County:	MADISON
A A R Number:	527992P
Project Number:	10.0985
File Number:	
New File Number:	CX0123601
A F E Number:	F32961
Store Number:	
Supervisor:	D.R. DRAKE
Tax Code:	3500
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 Date Quan.	Quantity Date Quan.	Quantity Date Quan.	Quantity Returned (Credit)	Special Instructions
3	670-360693-4	EA	\$5.50	\$16.50	AAR/DOT NUMBER PLATE/DECAL, ORDER 3 PER PROJECT. 60 DAY LEAD TIME. SUPPLIED BY S'TRAN.						
1	165-006505-4	EA	\$1,051.54	\$1,051.54	AC SERVICE, COMPLETE LESS METER BASE, ASSEMBLED ON 30' POLE						
13	105-288384-4	EA	\$261.39	\$3,398.07	BATTERY,GNB 368AH MODEL 50G15 SINGLE CELL 2.25 VOLTS, FOR USE WITH CROSSINGS DESIGNED AFTER 09/09						
1	001-000011-4	EA	\$5,000.00	\$5,000.00	BERM WALL						
2	670-980689-4	EA	\$78.58	\$157.16	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						
1	670-356949-4	EA	\$57.37	\$57.37	CABLE, 10' GENERATOR HOOK UP, SERRMI P/N 40524. FEMALE CONNECTOR						
350	465-939422-4	LF	\$2.74	\$959.00	CABLE, UG 12 CONDUCTOR NO 14 AWG SOLID EACH CONDUCTOR WITH 5/64 IN INSULATION 10 MIL						
350	465-292862-4	LF	\$1.27	\$444.50	CABLE, UG 2-6 TWISTED, S-23 OKONITE 113-12-3933 SOLID TINNED CONDUCTOR						
350	465-292929-4	LF	\$3.84	\$1,344.00	CABLE, UG 5 COND. NO. 6 AWG SOLID COPPER CABLE TO MEET NS CORP. SPEC. FOR SIGNAL						
350	465-791835-4	FT	\$3.31	\$1,158.50	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						
80	165-544477-4	FT	\$2.19	\$175.20	CONDUIT, 4"x10' PVC, SCHEDULE 80 BELL CONNECTOR AT ONE END, 1/2 PT. GLUE IN KIT 670-123298-4						
2	670-664917-4	EA	\$61.53	\$123.06	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	\$51.89	\$103.78	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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Location: LONDON				OH	S&E Proj. No.: 10.0985	AFE No.: F32961	Drawing No.: 82111680				
Store No.:				P.O.Number:		Date Required:	Date Shipped:	Vendor: Interrail Engineering, INC			
Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
2	670-793404-4	EA	\$1,212.73	\$2,425.46	COUNTERWEIGHT PKAGE, 17-24'GATE S'TRAN S- MECH ONLY, STAINLESS, TO INCLUDE HUB, SUPPORT ARMS		Date Quan.	Date Quan.	Date Quan.		
4	670-760012-4	EA	\$39.64	\$158.56	COVER, FOR 1 WAY FLASHING LIGHT ASSY. 18 OZ. BLACK VINYL COATED NYLON. ====TO COVER 2 LAMPS=====						
1	670-986650-4	EA	\$339.81	\$339.81	DISPOSAL, CONSTRUCTION DEBRIS AND CLEANING X'ING EQUIPMENT CONTAINER						
1	670-000004-4	EA	\$700.00	\$700.00	FCC LICENSE FOR MONITOR/RADIO						
4	670-000003-4	EA	\$255.85	\$1,023.40	FILL/STONE #57, QUANITY IS BASED ON TRUCK LOAD PLUS DELIVERY COST						
2	670-015231-4	EA	\$577.50	\$1,155.00	FOUNDATION, DIXIE,S-2 GATE 2'6"X2'6"X5'6" ASSEMBLED						
2	670-257031-4	EA	\$418.55	\$837.10	GATE ARM, FIBERGLASS-ALUMINUM, 17-24 FT, INCLUDES GATE GUARD FOR GATE LIGHT CABLE. HIGH INTENSITY VERTICAL STRIPES. NEG P/N 8003-244NFS/CG, SSC T18115						
1	670-675667-4	EA	\$31,985.09	\$31,985.09	GCP 4000 1 TRK, REDUNDANT, (2TRK CHASSIS), WIRED RACK EQUIPMENT FOR 6X8 FARADAY, 2 EA SSCCIII, 2 EA 40 AMP CRAIG CHARGER, WITH SEAR Ili, SAFETRAN 003131-1X						
1	670-135634-4	EA	\$204.75	\$204.75	GEO, A53252 TRACK NOISE SUPPRESSION FILTER, SAFETRAN P/N 9000-53252-0001						
1	670-477991-4	EA	\$317.90	\$317.90	KIT, GROUNDING ASSY FOR AL I/S INCLUDES 8 GRD RDS,200'#4WIRE,12 4 WIRE ONE-SHOTS. ERICO SBK206						
1	670-123298-4	EA	\$309.31	\$309.31	KIT, HARDWARE SUPPLIES REQUIRED X'ING P'CKAGES. WEB CONNECTORS FOR SHUNT(8EA) TAPE, AMPS,P'GUM PAINT,SLEEVES,TAGS,GLUE, 100 EA WHITE TAGS, )NE CAN BLUE MARKING PAINT ETC...						
2	670-764166-4	EA	\$1,244.13	\$2,488.26	LAMP ASSY, 5" MAST MTG. 2W IND. 20" BKGRD, FLX-12 W/BULB S'TRAN #042003-487XNS						
6	165-643547-4	EA	\$5.98	\$35.88	LAMP, 18 WATT 10 VOLT S-11 SC BAY 18S11/1SC CLEAR RWY SIGNAL UJ-71463 GE						
4	255-590880-4	EA	\$17.08	\$68.32	LOCK, AMERICAN LOCK MODEL H-10KA KEYED ALIKE TO PRIVATE KEYWAY D456 AND STAMPED "NS SIG"						
2	670-637778-4	EA	\$1,019.15	\$2,038.30	MAST, 5" ALUMINUM 13'10" WITH DOUBLE JCT. BOX BASE. S'TRAN P# 070519-11AX.						

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
2	670-850933-4	EA	\$3,886.16	\$7,772.32	MECHANISM, GATE MODEL S-60, WITH DEFROSTER AND MINI TRACKSIDE SENSOR S'TRAN # 0740007-X002B3		Date Quan.	Date Quan.	Date Quan.		
1	000-000000-4	EA	\$5,000.00	\$5,000.00	MISC. EXPENSE, UNDERGROUND BORING						
2	670-001347-4	EA	\$44.58	\$89.16	PACKAGE, HARDWARE SIGN 5 IN. MOUNTING, SERRMI A1250-5, HARMON @200965-000, OR						
1	670-514605-4	EA	\$11.04	\$11.04	PINNACLE, W-C SECT 1-11, 4" & 5" REF K1 110-8 OR SAFETRAN NO. @035045-503X						
1	165-902002-4	EA	\$294.80	\$294.80	PROTECTOR, SURGE 120/240VAC, ERICO P/N EPD120/240TDFL						
4	465-002899-4	EA	\$36.06	\$144.24	REEL, CABLE DISPOSABLE FOR CROSSING SIGNAL PACKAGES						
2	435-805560-4	EA	\$3.45	\$6.90	SAND, 25LB BAG FOR CABLE ENTRANCE INTO THE SHELTER						
1	670-027556-4	EA	\$2,629.77	\$2,629.77	SEARIII, ACCESSORY PACKAGE, W/2-ILOD, 1-E-BELL, 2-GTS, 1-GFT, 1-VHFC, WITHOUT MTSS/SEAR UNIT						
1	670-749325-4	EA	\$226.97	\$226.97	SHELF, FOLDING, FOR LAPTOP USE IN FARADAY 6X8 SHELTER, SAFETRAN 052852-128X						
1	670-755523-4	EA	\$9,358.99	\$9,358.99	SHELTER, 6'X8' ALUMN FARADAY W/CABLE CHUTES BEHIND TERMINAL BOARD, W/1EA EQUIPMENT RACK, W/GEN RECEPTICAL, BREAKER BOX GFI OUTLET FOR LAPTOP SHELF SAFETRAN 058400-68-85						
2	670-586967-4	EA	\$25.79	\$51.58	SHUNT COVER W/LAG SCREWS, 19"X19", SERRMI #40271, ORDER 1 PER SHUNT						
2	670-652773-4	EA	\$472.80	\$945.60	SHUNT, MULTI-FREQ. #62775-1543 SAFETRAN NARROW BAND						
2	670-393331-4	EA	\$37.43	\$74.86	SIGN CROSSING MALFUNCTION ASSEMBLY FOR 4" AND 5" MAST, SAFETRAN #T17215						
2	670-016346-4	EA	\$143.23	\$286.46	SIGN, X-BUCK, HI-INTENSIVE REFLECTIVE FRT. & BACK FOR ALL STATES, SAFETRAN# 035200-91X						
1	670-330382-4	RL	\$15.68	\$15.68	TAPE, THOR 3" DURATEC, ORANGE 1000' LENGTHS. "WARNING STOP DIGGING"						

Total Material: \$87,379.99

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
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UNDERGROUND UTILITIES  
TWO WORKING DAYS  
BEFORE YOU DIG  
CALL 1-800-362-2764 TOLL FREE  
OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY

NOTES:

1. MAX. TRAIN SPEED 50 M.P.H.
2. LATITUDE N 39° 53' 25" LONGITUDE W 83° 31' 46"  
ELEVATION 1141'
3. SIGNAL "A" TO HAVE BELL.
4. LOCATE U/G UTILITIES & CABLE BEFORE DIGGING.
5. CROSSING LOCATED IN MADISON COUNTY.
6. NEAREST STREET ADDRESS IS  
2955 DAVIS RD.
7. NEAREST INTERSECTING STREET IS  
NORTH TO PLATSBURG RD.
8. DISTANCE TO NEAREST INTERSECTING  
STREET IS 5280 FT.
9. PLACE SIGNAL "B" TO AVOID U.G. FIBER IN AREA.  
HAND DIGGING REQUIRED.
10. 10 YARDS OF FILL REQUIRED IN QUADS "A" FOR PROPER SIGNAL PLACEMENT.
11. 20'X4' BERM WALL AND 10 YARDS OF FILL REQUIRED IN QUAD "B".  
FOR PROPER HOUSE PLACEMENT

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

REVISION  
INITIALS

PROPERTY  
PENNSYLVANIA R.R.

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


SCALE: 1" = 20'  
PROJECT #10.0985

LAYOUT

FILE  
No. CX0123601

DESIGNED BY: JNM 02-23-11	<b>NS NORFOLK SOUTHERN</b>	
DRAWN BY: IRE 02-23-11	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-168.10
CHECKED BY: DBS 02-25-11	LONDON, OH FLGS AT DAVIS RD.	
IN SERVICE: - -	DAYTON DISTRICT	FILE R- SHEET 1 of 22
	CADD or DWG. No. 82111680.01	

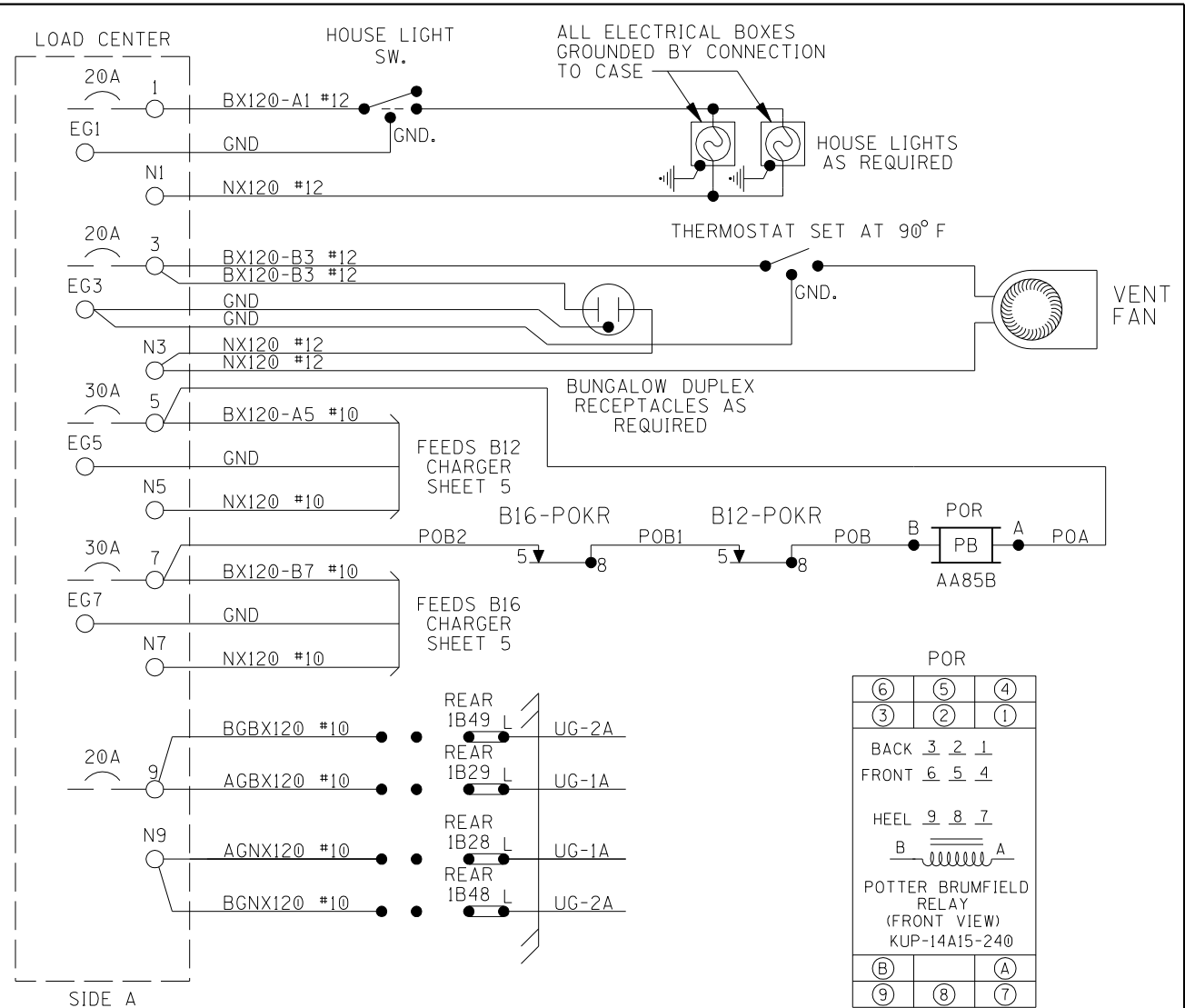


DESIGNED BY:		 <b>NORFOLK SOUTHERN</b>	
JNM	02-23-11		
DRAWN BY:		OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-168.10
IRE	02-23-11	LONDON, OH FLGS AT DAVIS RD.	
CHECKED BY:			
DBS	02-25-11		
IN SERVICE:		DAYTON DISTRICT	FILE No. R-
	- -	CADD or DWG. No. 82111680.02	SHEET No. 2 of 22

[illegible]







GENERATOR RECEPTACLE:  
MALE CONNECTOR - NEMA L1430-FI

POR

⑥	⑤	④
③	②	①

BACK    3   2   1


FRONT   6   5   4

HEEL    9   8   7

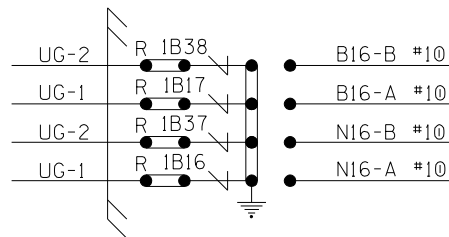
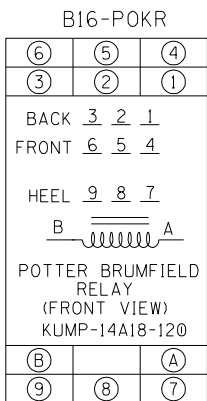
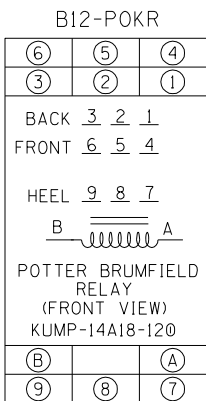
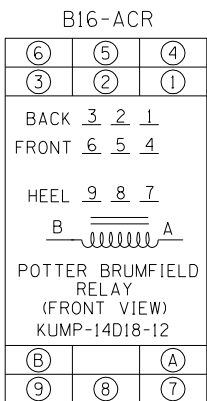
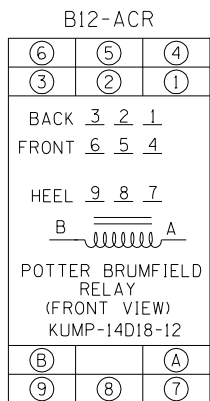
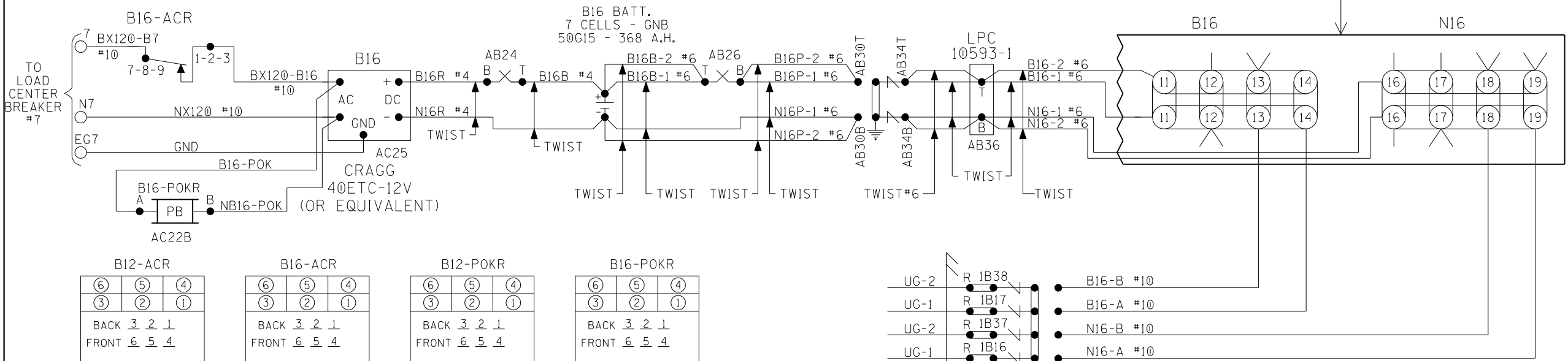
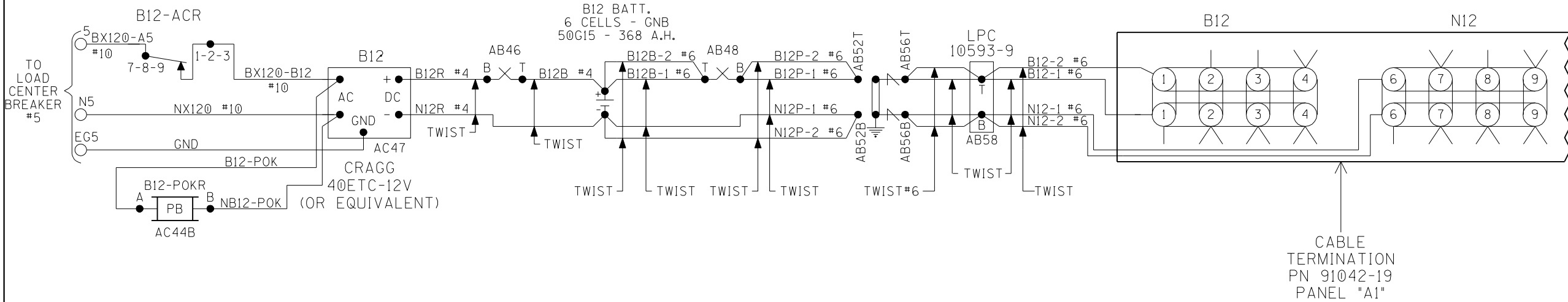
POTTER BRUMFIELD  
RELAY  
(FRONT VIEW)  
KUP-14A15-240

(B)		(A)
⑨	⑧	⑦

DESIGNED BY:		 <b>NORFOLK SOUTHERN</b>			
JNM	02-23-11				
DRAWN BY:		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-168.10		
IRE	02-23-11	LONDON, OH FLGS AT DAVIS RD.			
CHECKED BY:					
DBS	02-25-11	DAYTON DISTRICT <table border="1" data-bbox="2381 1383 2588 1395"> <tr> <td>FILE No.</td> <td>R-</td> </tr> </table>		FILE No.	R-
FILE No.	R-				
IN SERVICE:					
	- -	CADD or DWG. No. 82111680.04	SHEET No. 4 of 22		


REVISION  
INITIALS

PROPERTY  
PENNSYLVANIA R.R.



PANEL "A1" CABLE TERMINATION PANEL  
B12 & B16 RECTIFIER HOOK-UP

NOTE:  
ALL WIRING TO BE #16AWG  
UNLESS NOTED OTHERWISE.

DESIGNED BY:	JNM 02-23-11		
DRAWN BY:	IRE 02-23-11	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-168.10
CHECKED BY:	DBS 02-25-11	LONDON, OH FLGS AT DAVIS RD.	
IN SERVICE:	- -	DAYTON DISTRICT	FILE R-
		CADD or DWG. No. 82111680.05	SHEET 5 of 22

REVISION  
INITIALS

PROPERTY  
PENNSYLVANIA R.R.



Location and SIN

DOT Number: 527992P  
Milepost Number: CJ-168.10  
Site Name: DAVIS RD

SIN: 755023405516

## 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): 28B7545E  
Office Check Number: 28B7545E  
Config. Check Number: 22D0BAFE  
(Based on MCF Revision 021)

Program

```

BASIC: module configuration
Track 1 Slot = Track
Track 2 /RIO 1 Slot = Not Used
Track 4 Slot = Not Used
Track 5 /RIO 2 Slot = Not Used
Track 6 /RIO 3 Slot = Not Used
SSCC-1 Slot = SSCC3i
SSCC-2 Slot = SSCC3i
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 = 285 Hz
Track 1: Approach Distance = 2573 ft
Track 1: Uni/Bi/Sim-Bidirnl = Bidirnl
Track 1: GCP Transmit Level = Medium
Track 1: Island Connection = Isl1
Track 1: Island Distance = 122 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/ECP 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 IMS Control
Track 1: MS/GCP CtrlRIP 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: EX Correction Used = Yes
```

```
ISLAND: track 1
Track 1: IslFrequency = 4.0 kHz
Track 1: Pickup Delay (2s +) = 0 sec
Track 1: 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 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
00S Control = Display+00S IPs
00S Timeout = Yes
00S Timeout = 1 hrs
```

ADVANCED: out of service 2  
TI 00S Control= 00S Input 1

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


ADVANCED: trk 1 overrides  
Track 1: AllPredictors Override Used = No

```

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

```

## 4000 GCP PROGRAMMING SETUP

DESIGNED BY:		 <b>NORFOLK SOUTHERN</b>	
JNM	02-23-11		
DRAWN BY:		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-168.10
IRE	02-23-11	LONDON, OH FLCS AT DAVIS RD.	
CHECKED BY:			
DBS	02-25-11	DAYTON DISTRICT	
IN SERVICE:			
	- -	CADD or DWG. No. 82111680.07	FILE No. R-  SHEET No. 7 of 22

[illegible]

ADVANCED: internal I/O 1  
Pass Thrus = No  
IN 1.1 Sets = Not Used  
IN 1.1 Set by = Not Used  
IN 1.2 Sets = Not Used  
IN 1.2 Set by = Not Used  
IN 1.3 Sets = Not Used  
IN 1.3 Set by = Not Used  
IN 1.4 Sets = Not Used  
IN 1.4 Set by = Not Used

ADVANCED: internal I/O 2  
IN 2.1 Sets = Not Used  
IN 2.1 Set by = Not Used  
IN 2.2 Sets = Not Used  
IN 2.2 Set by = Not Used  
IN 2.3 Sets = Not Used  
IN 2.3 Set by = Not Used  
IN 2.4 Sets = Not Used  
IN 2.4 Set by = Not Used

ADVANCED: internal I/O 3  
IN 3.1 Sets = Not Used  
IN 3.1 Set by = Not Used  
IN 3.2 Sets = Not Used  
IN 3.2 Set by = Not Used  
IN 3.3 Sets = Not Used  
IN 3.3 Set by = Not Used  
IN 3.4 Sets = Not Used  
IN 3.4 Set by = Not Used

ADVANCED: internal I/O 4  
IN 4.1 Sets = Not Used  
IN 4.1 Set by = Not Used  
IN 4.2 Sets = Not Used  
IN 4.2 Set by = Not Used  
IN 4.3 Sets = Not Used  
IN 4.3 Set by = Not Used  
IN 4.4 Sets = Not Used  
IN 4.4 Set by = Not Used

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  
SSCC1+2 GPs Coupled = Yes  
Min Activation = 0 sec  
Rmt Activation Cancel = 2 min  
Bell On Gate Rising = No  
Mute Bell On Gate Down = No  
SSCCIV Controller Used = No

SSCC: 1  
SSCC-1 Activation = AND 1 XR  
SSCC-1 Gate Delay = 4 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 = On  
Aux-1 Xng Ctrl Used = No

SSCC: 2  
SSCC-2 Activation = AND 1 XR  
SSCC-2 Gate Delay = 4 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 = On  
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

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 = CP 1.1  
IN 8.1 = Not Used  
IN 8.2 = Out Of Service IP 1  
IN 8.3 = Not Used  
IN 8.4 = Not Used  
IN 8.5 = Not Used

SEAR  
SEAR Subnode = 3  
DT 1 = Gnd Flt Tester 1  
DT 2 = Not Used  
Rly 1 = Ground Fault Test  
Rly 2 = AC Control

SEAR: inputs  
IN 2.1 = POK 1  
IN 3.1 = Not Used  
IN 4.1 = Not Used  
IN 5.1 = Not Used  
IN 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 = TSS 1  
IN 8.1 = TSS 2  
IN 8.3 = POK 2  
IN 8.4 = Not Used  
IN 8.5 = Not Used


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

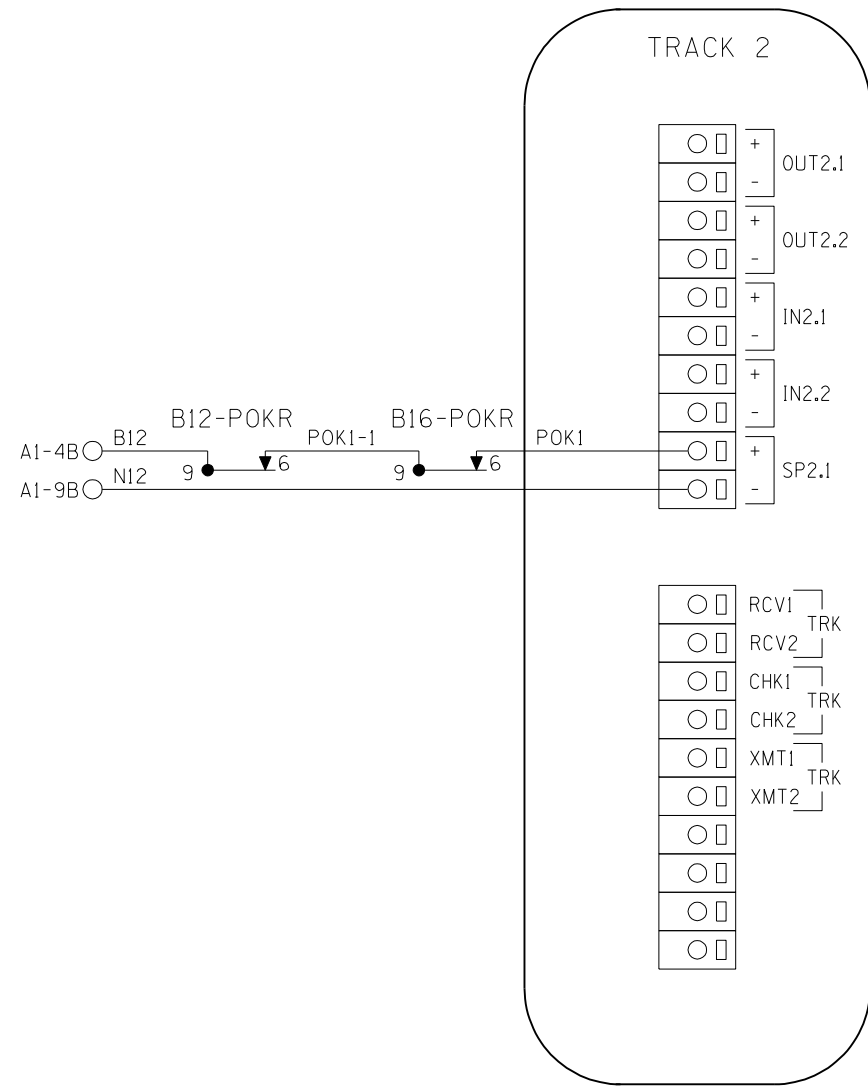
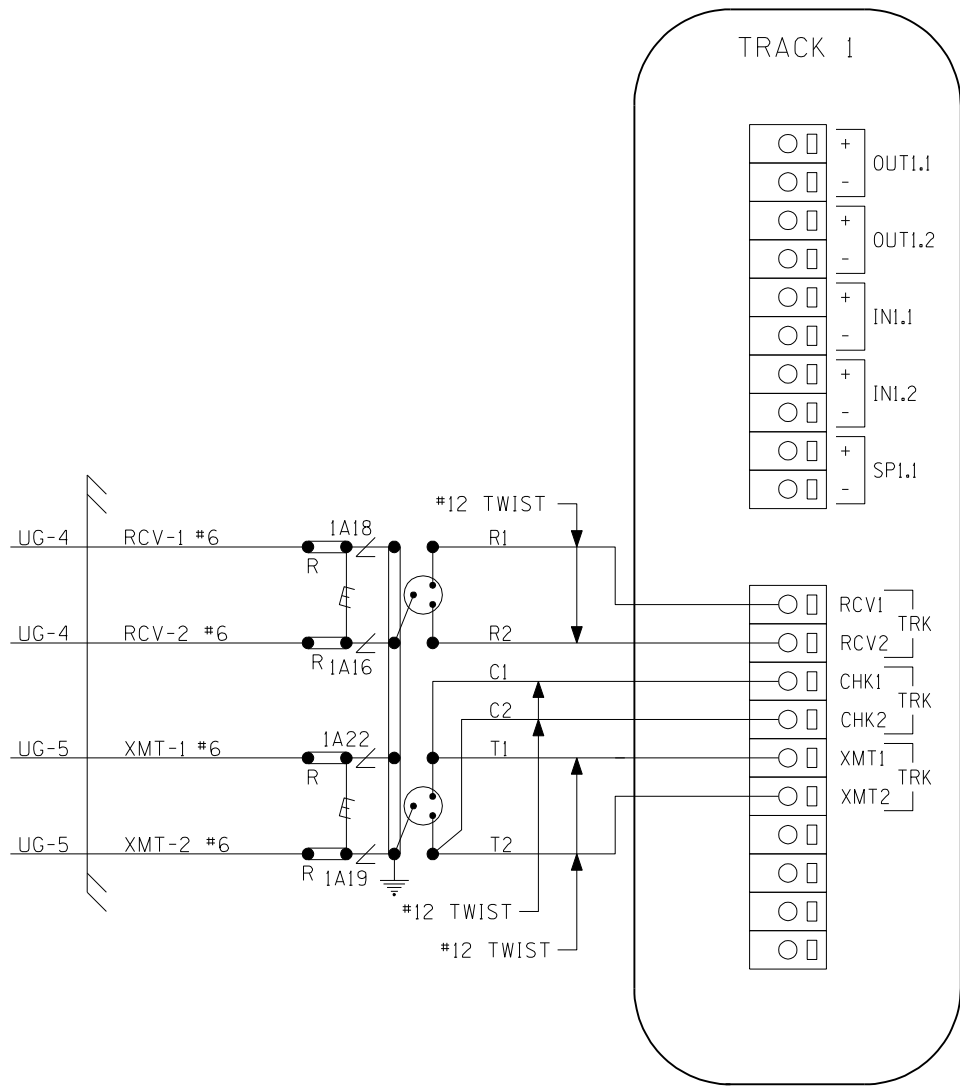
Configuration Package File  
-----  
Filename: 82111680.pac

4000 GCP PROGRAMMING SETUP

REVISION  
INITIALS


PROPERTY  
PENNSYLVANIA R.R.

DESIGNED BY:	 <b>NORFOLK SOUTHERN</b>		
JNM 02-23-11			
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: CJ-168.10
IRE 02-23-11			
CHECKED BY:	LONDON, OH FLGS AT DAVIS RD.		
DBS 02-25-11			
IN SERVICE:	DAYTON DISTRICT		FILE R-
- -	CADD or DWG. No. 82111680.08		SHEET No. 8 of 22



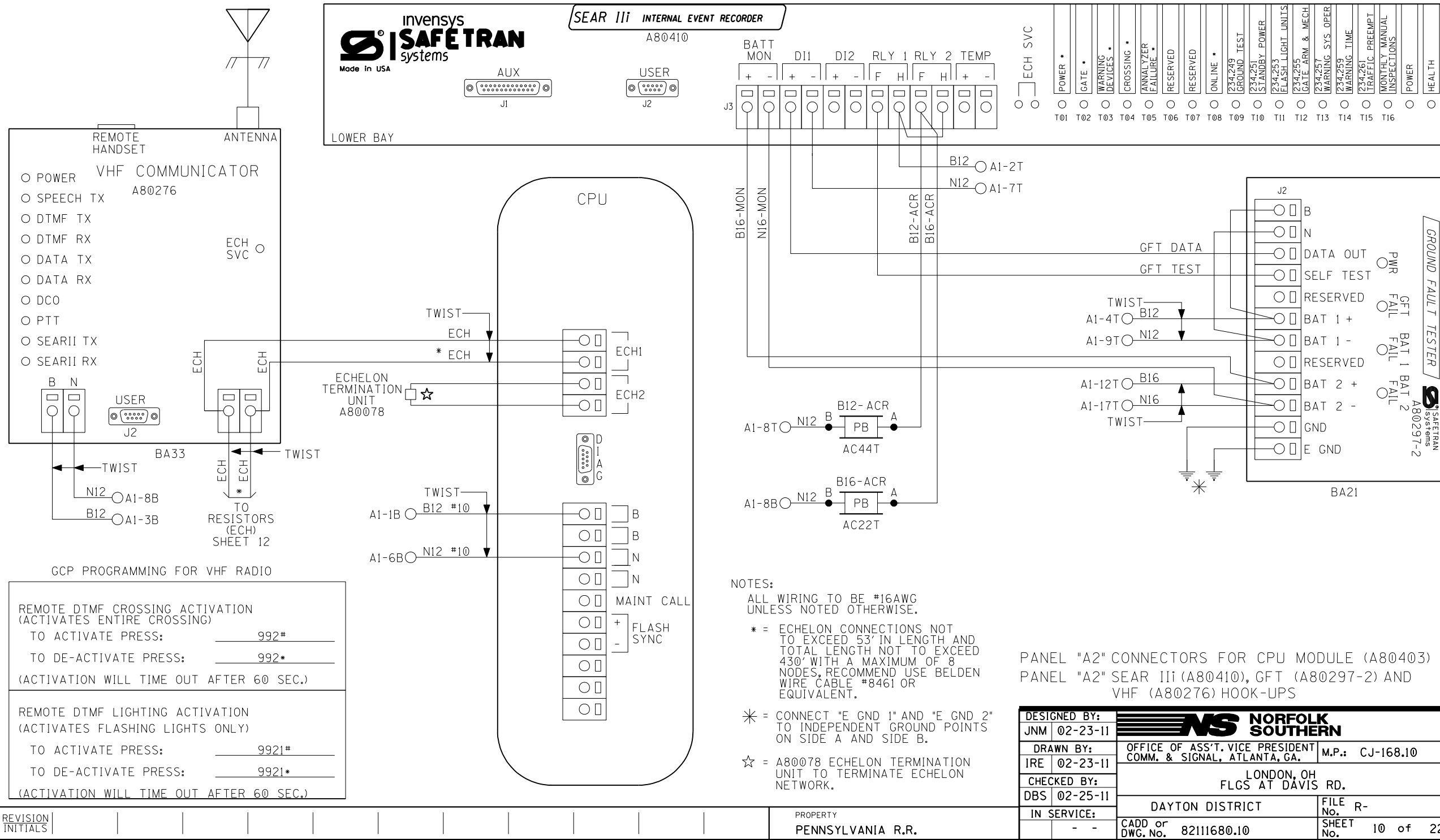
PANEL "A2" CONNECTORS FOR MODULES (A80418)

NOTE:  
ALL WIRING TO BE #16AWG  
UNLESS NOTED OTHERWISE.

DESIGNED BY:	JNM 02-23-11	 <b>NORFOLK SOUTHERN</b>	
DRAWN BY:	IRE 02-23-11	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-168.10
CHECKED BY:	DBS 02-25-11	LONDON, OH FLGS AT DAVIS RD.	
IN SERVICE:	- -	DAYTON DISTRICT	FILE NO. R-
		CADD or DWG. No. 82111680.09	SHEET No. 9 of 22

REVISION  
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PROPERTY  
PENNSYLVANIA R.R.





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

SITE SET UP PROCEDURE	
FUNCTION	LED DISPLAY
DATE/TIME	
AUTOMATIC DST ADJUSTMENT	YES
TIME ZONE	EST
SITE NAME	DAVIS RD.
MILEPOST	CJ-168.10
DOT #	527992P
TESTER TYPE	CROSSING
DATE FORMAT	MM-DD-YYYY
TEMP FORMAT	FAHRENHEIT
INDICATE HOLD (SEC)	0
INDICATE REFRESH (SEC)	60
SITE ATCS	7.550.234.055.03.01
SITE TYPE	NO COMMUNICATION
*** OFFICE ATCS ADDRESS	2.550.00.0000
*** PRIMARY HOP ADDR	7.RRR.LLL.GGG.XX.XX
*** BACKUP HOP ADDR 1	7.RRR.LLL.GGG.XX.XX
*** BACKUP HOP ADDR 2	7.RRR.LLL.GGG.XX.XX
*** POLL ID	1
*** MODE	GEN/ATCS
*** WAMS XID	DISABLED
*** OFFICE COMM DEVICE	MCM (ECHELON)
*** RADIO ATCS ADDR	7.RRR.LLL.GGG.01.01
*** PHONE #	(OFFICE NUMBER)
*** INIT STRING	
*** FIELD COMM	NONE
**** USER PORT	BAUD 57600, N, 8, 1, NONE
**** AUX PORT	BAUD 9600, N, 8, 1, NONE

VERIFY NUMBER OF BULBS: SENSOR #1

CURR 1: LAMP SET UP	4 BULBS
CURR 2: LAMP SET UP	4 BULBS

VERIFY NUMBER OF BULBS: SENSOR #2

CURR 1: LAMP SET UP	4 BULBS
CURR 2: LAMP SET UP	4 BULBS

CONTROL SYSTEM CONFIGURATION MENU QUESTIONS

THE QUESTION	SELECT FROM MENU OPTION
RESET NAMES AND MODULES?	YES
RAILROAD NUMBER	550
CROSSING CONFIGURATION	NORMAL
AND 1 USED AS XR?	YES
AND 2 USED AS XR?	NO
AND 3 USED AS XR?	NO
AND 4 USED AS XR?	NO
AND 5 USED AS XR?	NO
AND 6 USED AS XR?	NO
AND 7 USED AS XR?	NO
AND 8 USED AS XR?	NO
* XR CONTROLLED BY FOREIGN RR	
ENTRANCE GATES	2
* GATES CONTROLLED BY FOREIGN RR	
GATE POSITION FAIL TIME (SECONDS)	20
BATTERY BANKS	2
BATTERY MON USED	YES
INTERNAL CROSSING CONTROLLERS	2
EXTERNAL CROSSING CONTROLLERS	0
VHF COMMUNICATOR	YES
DTMF ACTIVATION	YES
**** ACTIVATION CODE	992
ACTIVATION TIMEOUT (SECONDS)	60
ILOD MODULES	2
ANY LED BULBS USED	NO
AUTO INSPECTIONS	NO
BELL SENSORS	1
** BELL SENSOR TSS1	YES
** BELL SENSOR TSS2	NO
** BELL SENSOR TSS3	NO
** BELL SENSOR TSS4	NO
** BELL SENSOR TSS5	NO
** BELL SENSOR TSS6	NO
** BELL SENSOR TSS7	NO
** BELL SENSOR TSS8	NO

CONTROL SYSTEM CONFIGURATION MENU QUESTIONS (CONT.)

BELL ON	GATES LOWERING
GFT'S	YES
BATTERIES ON GFT1	2
GATE TIP SENSORS	YES
RTU	NO
VHF VOICE CHANNEL	2
VHF DATA CHANNEL	2
USE CELL MODEM NON-CRITICAL FEATURE	NO
FULL APPROACH MOVES ALARM	ACTIVATE

PROGRAM MENU QUESTIONS

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

NOTES:

\* = DISPLAYED IF CROSSING CONFIGURATION IS SPLIT GATE

\*\* = OPTIONS: IF BELL SENSOR = 0,  
THEN BELL FIELDS ARE NOT USED.

\*\*\* = IF SITE TYPE = NO COMMUNICATION,  
THEN THESE OPTIONS ARE NOT  
DISPLAYED

\*\*\*\* = THESE SETTINGS SHOULD BE LEFT  
AT THE DEFAULT SETTING.

\*\*\*\*\* = USE LAST 3 NUMBERS FROM DOT NUMBER


SEAR III PROGRAMMING SETUP

DESIGNED BY:  
JNM 02-23-11

DRAWN BY:  
IRE 02-23-11

CHECKED BY:  
DBS 02-25-11

IN SERVICE:  
- -

 **NORFOLK SOUTHERN**

OFFICE OF ASS'T. VICE PRESIDENT  
COMM. & SIGNAL, ATLANTA, GA. M.P.: CJ-168.10

LONDON, OH  
FLGS AT DAVIS RD.

DAYTON DISTRICT

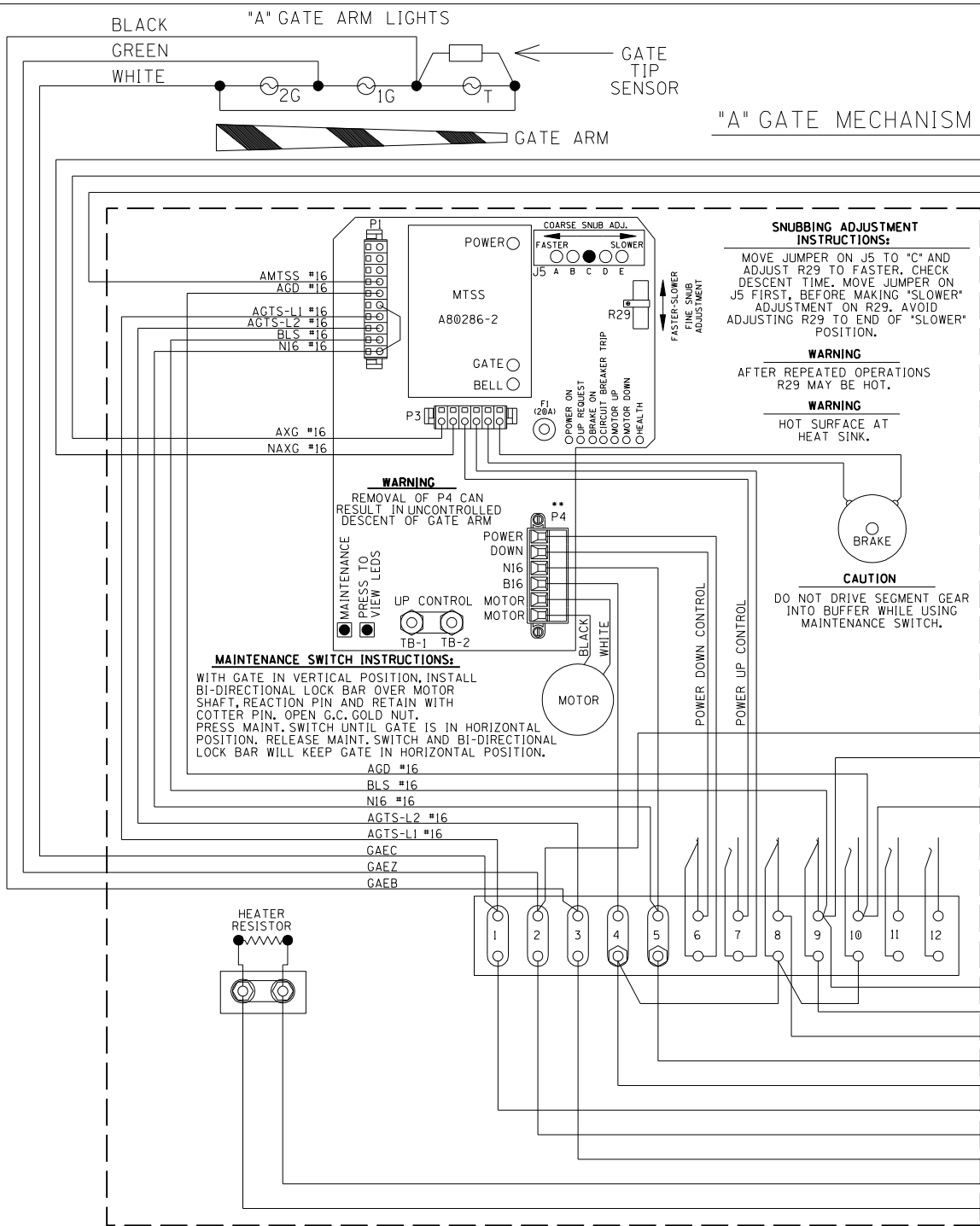
FILE No. R-  
SHEET 11 of 22

CADD or  
DWG. No. 82111680.11

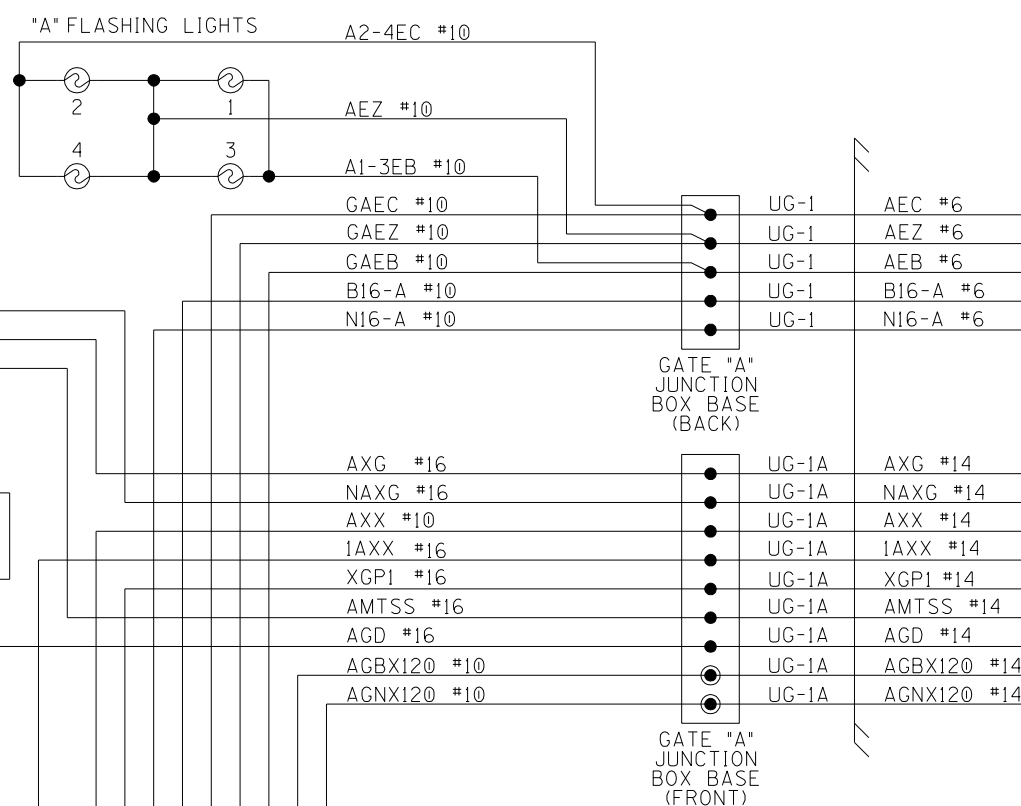
PROPERTY  
PENNSYLVANIA R.R.








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

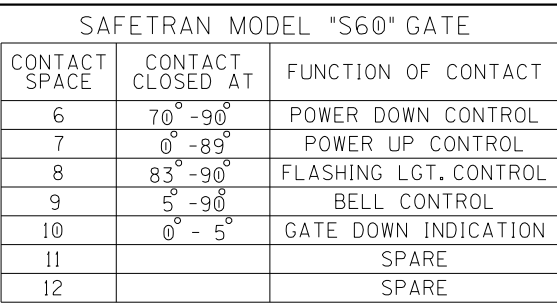



"A" FLASHER AND GATE LIGHTS WITH GATE TIP SENSOR & MODEL "S60" GATE MECHANISM WITH MINI TRACKSIDE SENSOR

REVISION  
INITIALS

PROPERTY  
PENNSYLVANIA R.R.

DESIGNED BY:		
JNM 02-23-11		
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-168.10
IRE 02-23-11		
CHECKED BY:	LONDON, OH FLGS AT DAVIS RD.	
DBS 02-25-11		
IN SERVICE:	DAYTON DISTRICT	FILE R-
- -	CADD or DWG. No. 82111680.14	SHEET No. 14 of 22



DESIGNED BY:			
JNM	02-23-11		
DRAWN BY:		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-168.10
IRE	02-23-11	LONDON, OH FLGS AT DAVIS RD.	
CHECKED BY:			
DBS	02-25-11	DAYTON DISTRICT	FILE No. R-
IN SERVICE:		CADD or DWG. No. 82111680.15	SHEET 15 of 22
	- -		

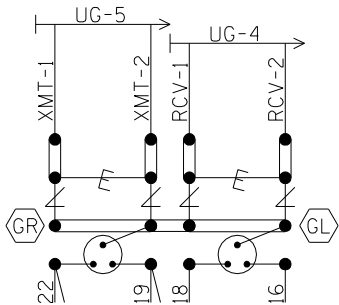
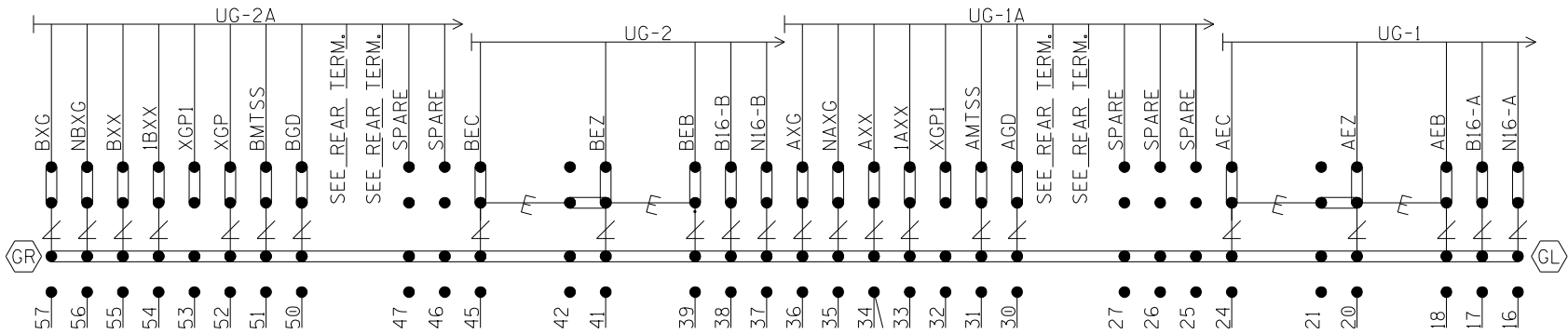
LEFT TWO ROWS TERMINAL BOARD 1

"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.

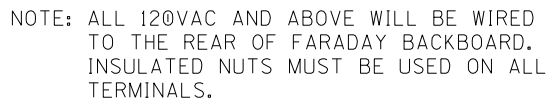
BACKBOARD DETAIL - 1A & 1B

REVISION INITIALS

PROPERTY  
PENNSYLVANIA R.R.


DESIGNED BY:			
JNM	02-23-11		
DRAWN BY:		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	
IRE	02-23-11	M.P.: CJ-168.10	
CHECKED BY:		LONDON, OH FLGS AT DAVIS RD.	
DBS	02-25-11	DAYTON DISTRICT	
IN SERVICE:		FILE R-	
		CADD or DWG. No. 82111680.16	
		SHEET No. 16 of 22	

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PENNSYLVANIA R.R.



DESIGNED BY:		 <b>NORFOLK SOUTHERN</b>	
JNM	02-23-11		
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IRE	02-23-11	LONDON, OH FLGS AT DAVIS RD.	
CHECKED BY:			
DBS	02-25-11		
IN SERVICE:		DAYTON DISTRICT	FILE NO. R-
	- -	CADD or DWG. No. 82111680.17	SHEET 17 of 22 NO.

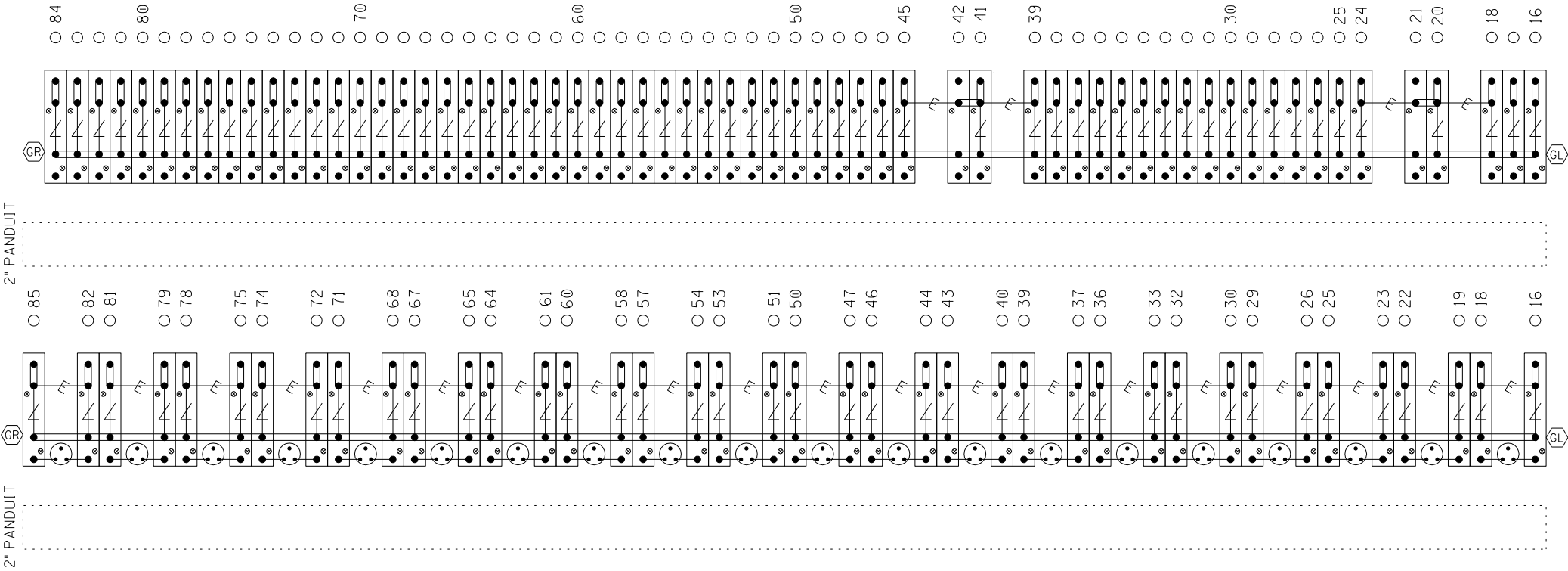
NOTE: IF THE FARADAY SHIELD WOULD EVER NEED TO BE DRILLED IN THE FIELD, PROPER PRECAUTIONS MUST BE TAKEN TO INSURE METAL SHAVINGS DO NOT GET INTO EXISTING TERMINALS/WIRES.

AREA BELOW IS SCALED WITH AS=.75

TERMINAL BOARD 1  
LEFT HALF

"1A"

"1B"



⚡ = 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.

TERMINAL BOARD 1  
LEFT TWO ROWS  
FARADAY SHIELD DETAIL - 1A & 1B




= 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.

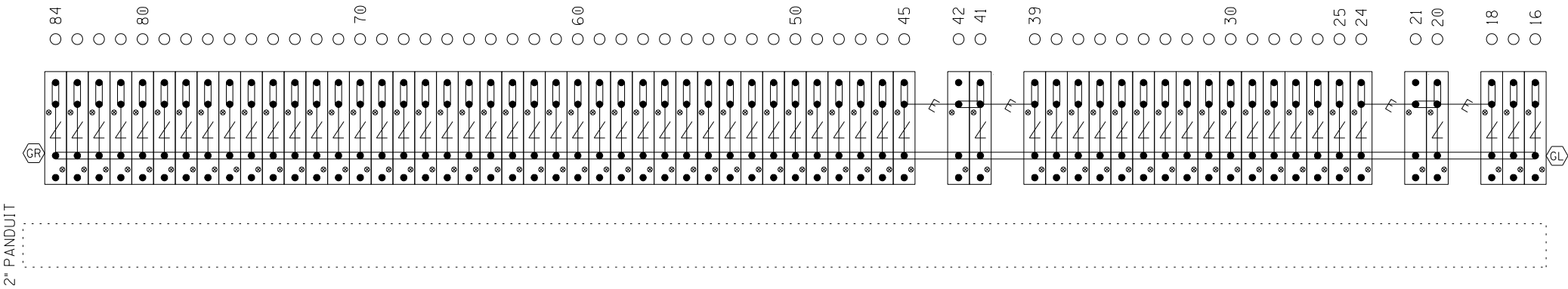
DESIGNED BY:	JNM 02-23-11	 <b>NORFOLK SOUTHERN</b>	
DRAWN BY:	IRE 02-23-11	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-168.10
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IN SERVICE:	- -	DAYTON DISTRICT	FILE NO. R-
		CADD or DWG. No. 82111680.18	SHEET No. 18 of 22



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  
"1C"



⚡ = Heavy Duty Equalizer  
(022700-1X)  
Clearview  
⚡ = Lightning Arrester  
(022585-1X)  
⚡ = LPC-10560-51

TERMINAL BOARD 1  
RIGHT ROW  
FARADAY SHIELD DETAIL - 1C

⚡ = INDICATES PLACEMENT  
OF PANDUIT

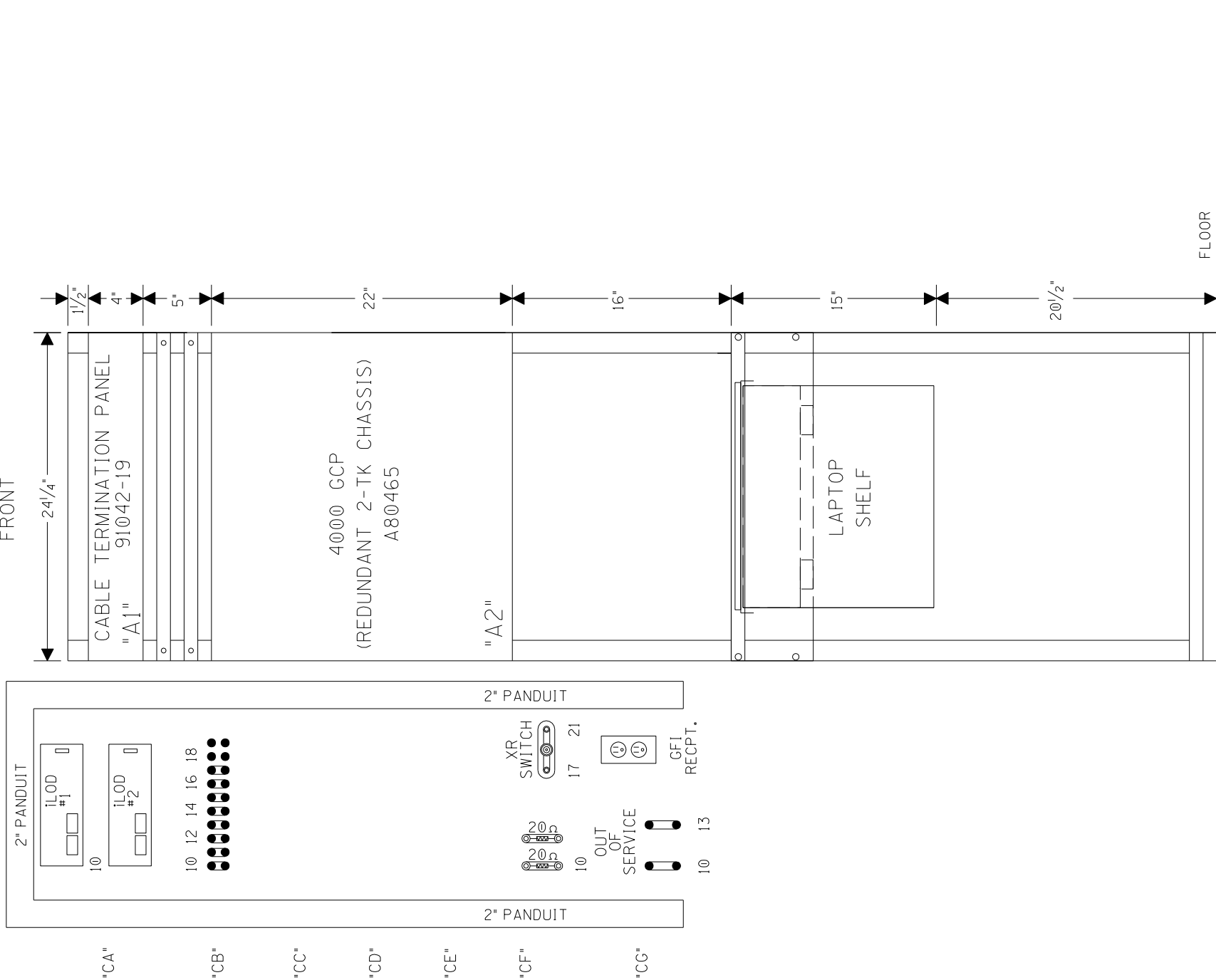
THIS SHEET IS FOR REFERENCE ONLY,  
TO REFLECT HOW THE FARADAY SHIELD  
IS PREDRILLED. ONLY INSTALL AND USE  
THE TERMINALS NEEDED.


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

REVISION  
INITIALS

PROPERTY  
PENNSYLVANIA R.R.

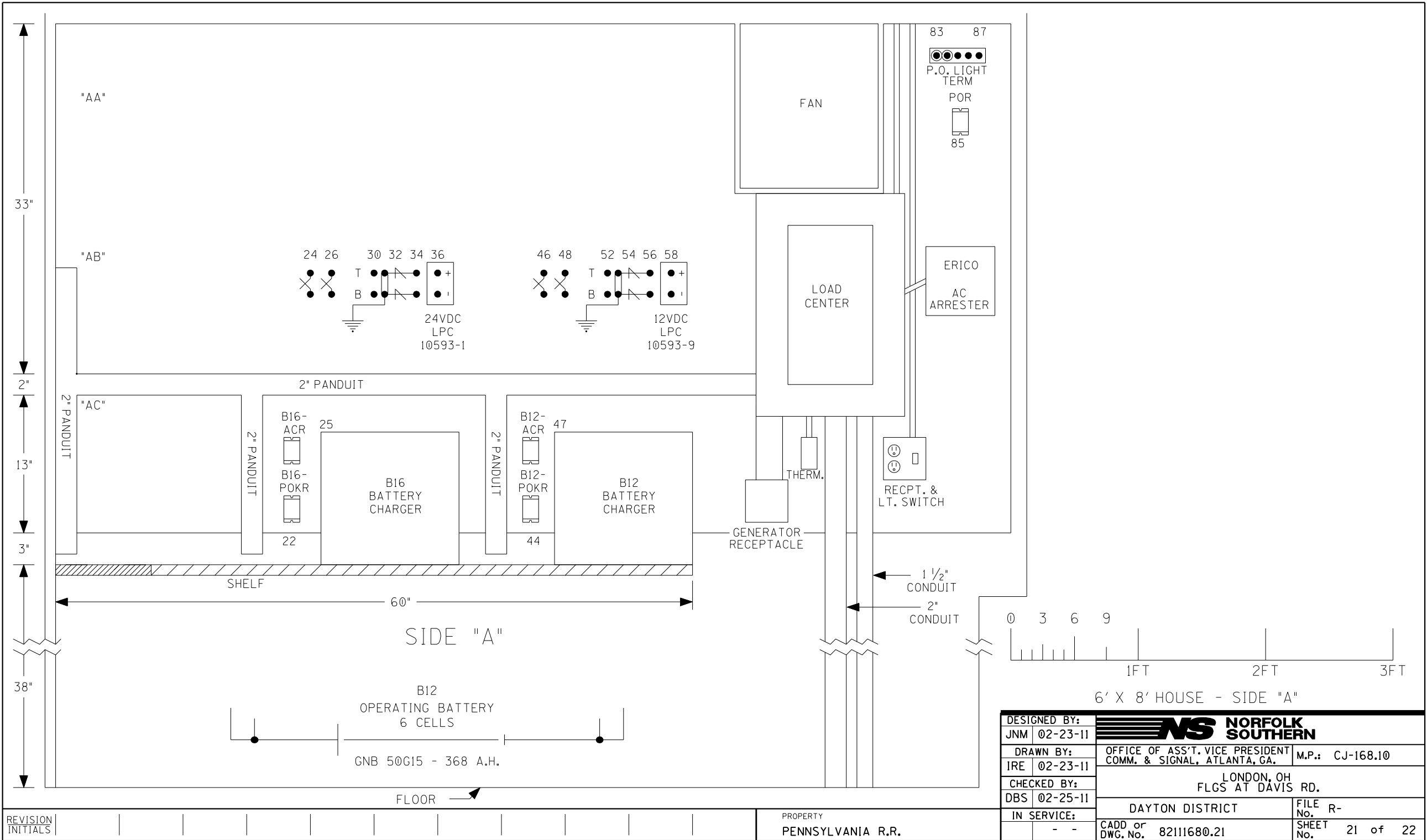
DESIGNED BY:	JNM 02-23-11	<b>NS NORFOLK SOUTHERN</b>	
DRAWN BY:	IRE 02-23-11	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-168.10
CHECKED BY:	DBS 02-25-11	LONDON, OH FLGS AT DAVIS RD.	
IN SERVICE:	- -	DAYTON DISTRICT	FILE R-
		CADD or DWG. No. 82111680.19	SHEET No. 19 of 22



DESIGNED BY:		 <b>NORFOLK SOUTHERN</b>	
JNM	02-23-11		
DRAWN BY:		OFFICE OF ASS'T. VICE PRESIDENT	
IRE	02-23-11	COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-168.10
CHECKED BY:		LONDON, OH	
DBS	02-25-11	FLGS AT DAVIS RD.	
IN SERVICE:		DAYTON DISTRICT	FILE No. R-
	- -	CADD or DWG. No. 82111680.20	SHEET No. 20 of 22

[illegible]

PROPERTY  
PENNSYLVANIA R.R.



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PENNSYLVANIA R.R.



[illegible]

REVISION  
INITIALS



DESIGNED BY:		 <b>NORFOLK SOUTHERN</b>	
RGH	02-12-04		
DRAWN BY:		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-167.45
SWS	02-12-04	COLUMBUS TO SHARONVILLE AUTO SIGNALS 167 E & W	
CHECKED BY:			
RHW	03-10-04	DAYTON DISTRICT	
IN SERVICE:			
EPH	11-03-05	CADD or DWG. No. 82111674.15	FILE No. R-1646 SHEET No. 15 of 16



DATE: 02-23-11  
NS PROJECT #  
10.00985  
IRS/JNM/DBS

PLACEMENT PLAN - SIDE "D"



**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**3/10/2011 1:13:56 PM**

**in**

**Case No(s). 10-3002-RR-FED**

Summary: Correspondence Estimate, material list and design plans for Davis Road, DOT 527-992P, located in London, Madison County, Oh electronically filed by Mr. Michael L Rappatta on behalf of Norfolk Southern Corp