


Norfolk Southern Corporation
Communications and Signal Department
1200 Peachtree Street, N.E., Box 123
Atlanta, Georgia 30309

RECEIVED-DOCKETING DIV

2007 APR 24 AM 9:37

PUCO

B. L. Sykes
Chief Engineer
C&S Engineering
404/529-2105

April 10, 2007
CX0118222

Ms. Susan Kirkland
Ohio DOT
1980 W. Broad St.
Columbus, OH 43223

06-1326-RR-7CP

RE: Norfolk Southern's Cincinnati Line Regarding the Modification of Automatic Grade Crossing Warning Devices at Wittenberg Street in Clark County, Ohio, DOT: 523 488N, Milepost CJ-183.46

Dear Ms. Kirkland:

Attached for our review and approval are 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.

If you have any questions, please call Mike Rappatta at 404-582-6377.

Sincerely,



B. L. Sykes

Enclosure(s)

BLS/rhr/gbb/mlr/rjs

e/cy: Mr. R. S. Noe, NS Corporation
Ms. Susan Arduini, ORDC
Mr. Tim Perkins, ORDC
Ms. Bonnie Johrendt, PUCO
Mr. George Martin, PUCO
Ms. P. A. Gray, NS Corporation

Cy: Docketing Division (w/plans, estimate and material list)

This is to certify that the images appearing are an accurate and complete reproduction of a case file document delivered in the regular course of business.

Technician



Date Processed

4/24/07



09-Apr-07

Detailed Estimate for Grade Crossing Warning Devices

City/State: SPRINGFIELD, OH

Road: WITTENBERG ST.

MilePost: CJ-183.46

DOT/AAR: 523488N

State Proj. No.:

County: CLARK

S&E Proj. No.: 10.1202

AFE: F10091

Man Days: 136

File Number: 061-10.1040

Purchases - Others	
Meals and Lodging:	\$12,796.19
Rental of Equipment:	\$27,975.20
(2 Trucks, 1 Backhoe w/ Trailer and 1 Pipe-Pusher for 34 Days)	
Construction Supervision Vehicle:	\$2,238.02
Purchases - Other Total:	\$43,009.41
Material And Additives	
Material Cost:	\$109,974.00
Sales and Use Tax:	\$0.00
Material Handling Freight:	\$5,498.69
Material Total:	\$115,472.69
Labor And Additives	
Labor Cost:	\$32,912.00
(4 man crew at \$968.00 a day for: 34 days)	
Payroll Tax & Overheads:	\$32,467.69
Preliminary Engineering:	\$12,573.96
Construction Supervision:	\$9,291.06
Labor Total:	\$87,244.71
Project Cost:	\$245,726.81
Scrap / Salvage Credit:	\$0.00
Project Total:	\$245,726.81

Estimated on: 09-Apr-07

Estimated by: n5s2v

Estimate valid for 1 year from date of estimate



Norfolk Southern Railway

Highway Crossing Signalization Program - Material List

Do not substitute items without permission from S & E Engineering

City:	SPRINGFIELD
Road:	WITTENBERG ST.
Mile Post:	CJ-183.46
Drawing Number:	82111834
State Project Number:	
County:	CLARK
A A R Number:	523488N
Project Number:	10.1202
File Number:	061-10.1040
New File Number:	CX0118222
A F E Number:	F10091
Store Number:	
Supervisor:	D.M. FRANCIS
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	

Location: SPRINGFIELD

OH

S&E Proj. No.: 10.1202

AFE No.: F10091

Drawing No.: 82111834

Store No.:

P.O.Number:

Date Required:

Date Shipped:

Vendor: SW Signal Engineering Company

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed Date Date Date Quan. Quan. Quan.			Quantity Returned (Credit)	Special Instructions
3	670-360693-4	EA	\$5.04	\$15.12	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						
2	165-021628-4	EA	\$7.91	\$15.82	ARRESTER, LIGHTNING CLEARVIEW W/O BASE USS PART N451552-0201 SAFETRAN PART @022485-28X CR02-025565						
2	165-021636-4	EA	\$17.85	\$35.70	ARRESTER, LIGHTNING 3 POST PORCELAIN BASE SSC#022485-33X						
33	670-119241-4	EA	\$32.80	\$1,082.40	ARRESTOR, LIGHTNING HEAVY DUTY CLEAR VIEW SAFETRAN 022585-1X						
20	105-871901-4	EA	\$161.57	\$3,231.40	BATTERY, GNB 265AH MODEL 50A11 SINGLE CELL 2.25 VOLTS						
10	670-005125-4	EA	\$2.54	\$25.40	BLOCK, TERMINAL BAKELITE FOR MOUNTING LIGHTING ARRESTOR EQUALIZER OR RESISTANCE UNIT						
2	670-052960-4	EA	\$7.14	\$14.28	BLOCK, TERMINAL MULTIUNIT OF 6 WITH CONNECTORS HARMON 0250094-000						
4	670-980689-4	EA	\$71.71	\$286.84	BRACKET HIGH WIND, (RIGID 3'), WIG- 191036, WALRUS TUSK TYPE						
4	670-561375-4	EA	\$1,197.90	\$4,791.60	BRACKET, GATE SAVER, NEG385102GS, SPRING LOADED SWING AWAY ADAPTER FOR FIBERGLASS/ALUMINUM GATES, USE WITH GATE 28' AND LESS						
1	670-015819-4	EA	\$33.68	\$33.68	BRACKET, RELAY FOR WALL MTG. TWO ST1 OR B1 PLUG-IN RELAYS SAFETRAN# 420000-52X						
2	165-001612-4	EA	\$7.48	\$14.96	BREAKER, 20 AMP 120-240V SQUARE D Q0120 SINGLE POLE						
1	165-000432-4	EA	\$16.13	\$16.13	BREAKER, 30 AMP, 120 TO 240V AC MAX SINGLE POLE, SQ.D Q0130						
1	670-491449-4	EA	\$29.39	\$29.39	BUSS STRIP 36" COPPER, ERCO P/N B2700HC36						
1	670-356949-4	EA	\$97.00	\$97.00	CABLE, 10' GENERATOR HOOK UP, SERRMI P/N 40524. FEMALE CONNECTOR						
300	465-292862-4	LF	\$1.04	\$312.00	CABLE, U-2-6 TWISTED, S-23 OKONITE 113-12-3933 SOLID TINNED CONDUCTOR						
500	465-292929-4	LF	\$3.05	\$1,525.00	CABLE, U.G. 5 COND. NO. 6 AWG SOLID COPPER CABLE TO MEET NS CORP. SPEC. FOR SIGNAL						

APPROVED BY STATE

APPROVED BY RAILROAD

CAR NUMBER

SEAL NUMBER

Location: SPRINGFIELD

OH

S&E Proj. No.: 10.1202

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Drawing No.: 82111834

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Vendor: SW Signal Engineering Company

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed Date Date Date Quan. Quan. Quan.			Quantity Returned (Credit)	Special Instructions
800	465-939422-4	LF	\$2.55	\$2,040.00	CABLE, UG 12 CONDUCTOR NO 14 AWG SOLID EACH CONDUCTOR WITH 5/64 IN INSULATION 10 MIL						
300	465-791835-4	FT	\$2.22	\$666.00	CABLE, UG AC ENTRANCE 3C#6-7X OKONITE FMPF-L 094-078 TR W/G 1 X 8 7X W010 BRZ TAPE 600V PRODUCT CODE 206-11- 6070						
1	670-155602-4	EA	\$704.00	\$704.00	CHARGER, BATTERY CRAGG MODEL 40 EC-12V 40 AMP TEMP COMPENSATED						
180	165-544477-4	FT	\$2.55	\$459.00	CONDUIT, 4"x10' PVC, SCHEDULE 80 BELL CONNECTOR AT ONE END, 1/2 PT. GLUE IN KIT 670-123298-4						
2	670-090450-4	EA	\$50.38	\$100.76	CONNECTOR, WELDED FAR RAIL HARMON A1000-2W						
2	670-486646-4	EA	\$41.62	\$83.24	CONNECTOR, WELDED NEAR RAIL HARMON A1000-1W						
1	670-356626-4	EA	\$2,727.29	\$2,727.29	CONTROLLER, S.S.C. IIIA 40A SOLID STATE S'TRAN PART#9000- 91160-0001						
4	670-793404-4	EA	\$838.37	\$3,353.48	COUNTERWEIGHT PKAGE, 17-24' GATE S'TRAN S- MECH ONLY, STAINLESS, TO INCLUDE HUB, SUPPORT ARMS						
8	670-760012-4	EA	\$40.02	\$320.16	COVER, FOR 1 WAY FLASHING LIGHT ASSY. 18 OZ. BLACK VINYL COATED NYLON. ===TO COVER 2 LAMPS===						
1	670-986650-4	EA	\$375.69	\$375.69	DISPOSAL, CONSTRUCTION DEBRIS AND CLEANING X'ING EQUIPMENT CONTAINER						
4	670-228165-4	EA	\$10.73	\$42.92	EQUALIZER, SAFETRAN 022700-1X LESS BASE, MODERN NO. 700-1 SHUNT ARRESTER TRACK CIRCUITS CR 02-197950						
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, QUANTITY IS BASED ON TRUCK LOAD PLUS DELIVERY COST						
4	670-015231-4	EA	\$423.50	\$1,694.00	FOUNDATION, DIXIE, S-2 GATE 5'6" ASSEMBLED						
4	670-470146-4	EA	\$140.24	\$560.96	GATE GUARD, FLEX TIP, MARCUM MODEL RAC-230RFK						
4	670-257031-4	EA	\$297.88	\$1,191.52	GATE, ARM FIBERGLASS-ALUMINUM 17-24 FT., INCLUDES GATE GUARD FOR GATE LIGHT CABLE, NEG P/N 8002- 244NFS/CG						
1	670-730154-4	EA	\$43.57	\$43.57	INDUCTOR, SIMULATED TRACK SAFETRAN 8V617-2000						

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							Date Quan.	Date Quan.	Date Quan.		
1	670-477991-4	EA	\$317.90	\$317.90	KIT, GROUNDING ASSY FOR AL V/S INCLUDES 8 GRD RDS,200'#4WIRE,12 4 WIRE ONE-SHOTS. ERICO SBK206						
1	670-123298-4	EA	\$256.93	\$256.93	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...						
4	670-764166-4	EA	\$907.65	\$3,630.60	LAMP ASSY, 5" MAST MTG. 2W IND. 20" BKGRD, FLX-12 W/BULB S'TRAN #042003-487XNS						
12	165-643547-4	EA	\$4.30	\$51.60	LAMP, 18 WATT 10 VOLT S-11 SC BAY 18S11/1SC CLEAR RWY SIGNAL UJ-71463 GE						
48	670-440826-4	EA	\$1.01	\$48.48	LINK, SAFETRAN 024620-1X INSL TESTING COMP 1 IN CENTER SIGNAL CIRCUITS CR 02-286662						
7	255-590880-4	EA	\$16.12	\$112.84	LOCK, AMERICAN LOCK MODEL H-10KA KEYED ALIKE TO PRIVATE KEYWAY D456 AND STAMPED "NS SIG"						
4	670-637778-4	EA	\$1,031.41	\$4,125.64	MAST, 5" ALUMINUM 13'10" WITH DOUBLE JCT. BOX BASE. S'TRAN P# 070519-11AX.						
4	670-850933-4	EA	\$3,352.65	\$13,410.60	MECHANISM, GATE MODEL S-60, WITH DEFROSTER AND MINI TRACKSIDE SENSOR S'TRAN # 0740007-X002B3						
2	000-000000-4	EA	\$5,000.00	\$10,000.00	MIS. UNDERGROUND BORING						
4	670-001347-4	EA	\$63.27	\$253.08	PACKAGE, HARDWARE SIGN 5 IN. MOUNTING, SERRMI A1250-5, HARMON @200965-000, OR						
1	255-646807-4	EA	\$10.38	\$10.38	PADLOCK, SAFETRAN PART NO. 030399-29X SCREW TYPE FOR CIR CONTROLLER AND BTY. BOX						
1	670-644144-4	EA	\$201.40	\$201.40	PANEL, SAFETRAN# 91042-19 CABLE TERMINATION PANEL WITH 19 STRAPPED AAR TERMINALS						
3	670-514605-4	EA	\$8.45	\$25.35	PINNACLE, W-C SECT 1-11, 4'& 5" REF K1 110-8 OR SAFETRAN NO. @036045-503X						
6	670-555609-4	EA	\$45.12	\$270.72	PLUGBOARD, TYPE B-1 GRS A62-506 OR HARMON @7062-506 OR						
1	670-427136-4	EA	\$93.49	\$93.49	POWER OFF LAMP INDICATOR FOR SHELTER, SAFETRAN P/N 051958-5						
1	165-018469-4	EA	\$148.50	\$148.50	PROTECTOR, 28VDC LPC 10593-1						

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1	165-902002-4	EA	\$308.00	\$308.00	PROTECTOR, SURGE 120/240VAC, ERICO P/N EPD120/240TDFL						
4	466-002899-4	EA	\$22.06	\$88.24	REEL, CABLE DISPOSABLE FOR CROSSING SIGNAL PACKAGES						
1	670-742096-4	EA	\$41.80	\$41.80	RELAY INTERFACE PROBE, ULTRATECH PN 16031-00						
2	670-456936-4	EA	\$150.00	\$300.00	RELAY RACK, SWING, FARADAY SHELTER FOR ONE RELAY, SSFETRAN P/N T15331						
6	670-707995-4	EA	\$313.67	\$1,882.02	RELAY, TYPE B1, NEV LINE, 900 OHMS,.008 AMPERES GRS A62- 308 OR SAFETRAN @400003						
1	670-215166-4	EA	\$21.98	\$21.98	RELAY,(AC INTERRUPT FOR SEARII)POTTER & BRUMFIELD 120V AC KUMP-14A18-120 SAFETRAN P/N T18354						
1	670-218934-4	EA	\$20.62	\$20.62	RELAY,(AC INTERRUPT FOR SEARII)POTTER & BRUMFIELD 12V DC KUMP-14D18-12 SAFETRAN P/N T18353						
2	670-790627-4	EA	\$23.45	\$46.90	RESISTOR ADJUSTABLE 0.63 OHM MINIMUM RESIST 0.068- OHM, ITEM 248 S-500 SAFETRAN P/N 029602-1X						
2	435-805560-4	EA	\$6.25	\$12.50	SAND, 25LB BAG FOR CABLE ENTRANCE INTO THE SHELTER						
1	670-816502-4	EA	\$4,903.75	\$4,903.75	SEARII AUTOMATED INSPECTOR SYSTEM KIT, w/ 1-iLOD,1- eBELL, 2-GTS, WITHOUT MTSS, 1-GFT,1-VHFC, 2- RECORDER INTERFACE MODULE, 1-ECHELON CONNECTOR						
1	670-306005-4	EA	\$1,094.78	\$1,094.78	SEARII I/O PANEL UNIT, SAFETRAN P/N A80258						
1	670-111783-4	EA	\$516.00	\$516.00	SEARII, (GFT) - GROUND FAULT DETECTOR, SAFETRAN P/N A80297, 1 PER TWO SETS OF BATTERY						
2	670-108211-4	EA	\$50.50	\$101.00	SEARII, (GTS) - GATE TIP SENSOR, SAFETRAN P/N A80281, 1 / GATE TIP						
1	670-281280-4	EA	\$7,006.00	\$7,006.00	SHELTER BARE 6X6, ALUMN, FARADAY, W/CABLE CHUTES BEHIND TERMINAL BOARD, W/GEN. CONN. W/ADJUSTABLE PIERS, ,SAFTETRAN P/N 058400-66-78A						
1	670-471572-4	EA	\$3.00	\$3.00	SHIELD, GROUND SERRMI P/N 61278 FOR GROUNDING A RH 4 POST TERMINAL BLOCK DIRECTLY TO FARADAY SHIELD						

APPROVED BY STATE

APPROVED BY RAILROAD

CAR NUMBER

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Location: SPRINGFIELD

OH

S&E Proj. No.: 10.1202

AFE No.: F10091

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Store No.:

P.O.Number:

Date Required:

Date Shipped:

Vendor: SW Signal Engineering Company

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed Date Quan. Date Quan. Date Quan.			Quantity Returned (Credit)	Special Instructions
1	670-472200-4	EA	\$3.00	\$3.00	SHIELD, GROUND SERRMI PART NO. 61278 FOR GROUNDING A LH 4 POST TERMINAL BLOCK DIRECTLY TO FARADAY SHIELD						
2	670-586967-4	EA	\$37.68	\$75.36	SHUNT COVER W/LAG SCREWS, 19"X19", SERRMI #40271, ORDER 1 PER SHUNT						
2	670-775391-4	EA	\$438.32	\$876.64	SHUNT, MULTI-FREQ. #62780-1543 SAFETRAN NARROW BAND- LOW LOADING						
4	670-393331-4	EA	\$37.43	\$149.72	SIGN CROSSING MALFUNCTION ASSEMBLY FOR 4" AND 5" MAST, SAFETRAN #T17215						
4	670-806648-4	EA	\$56.42	\$225.68	SIGN, X-BUCK, LESS HARDWARE, SAFETRAN 035200-X CR 02-490546						
1	670-506709-4	EA	\$32.77	\$32.77	STRIP BUSS, 48" COPPER, ERICO P/N B2700HC48						
1	670-330382-4	RL	\$15.68	\$15.68	TAPE, THOR 3" DURATEC, ORANGE 1000' LENGTHS. "WARNING STOP DIGGING"						
56	670-478560-4	EA	\$19.47	\$1,090.32	TERMINAL BLOCK, ERICO 4 POST P/N B2700A2C1WH W/HARDWARE LESS LIGHTNING ARRESTOR						
6	165-917984-4	EA	\$4.84	\$29.04	TERMINAL, TEST, TYPE B GRS A62-515 OR HARMON @32118- 001 OR						
6	610-065626-4	EA	\$17.55	\$105.30	ULTRA-TECH 15206-01 CONNECTIVITY BLOCK FOR GRS B1 RELAY						
13	670-007238-4	EA	\$129.46	\$1,682.98	UNIT, THE INSTALLATION AND WIRING OF A DEVICE WHICH REQUIRE A MINIMUM OF FOUR WIRE CONNECT-						
1	670-255408-4	EA	\$27,694.19	\$27,694.19	WIRED RACK, 6X6 FARADAY, 40AMP SINGLE TRK SSCCIIIA, GCP 3000D2, 2 CRAGG CHARGER, 2 RELAY RACKS, SAFTRAN P/N 40A 1TRK ,USE WITH I/S 670-281280-4 W/CABLE CHUTES BEHIND THE FARADAY SHIELD						
1	450-986008-4	EA	\$24.84	\$24.84	WRENCH, TEST POST TYPE B DWG 55393-3, GR.1						

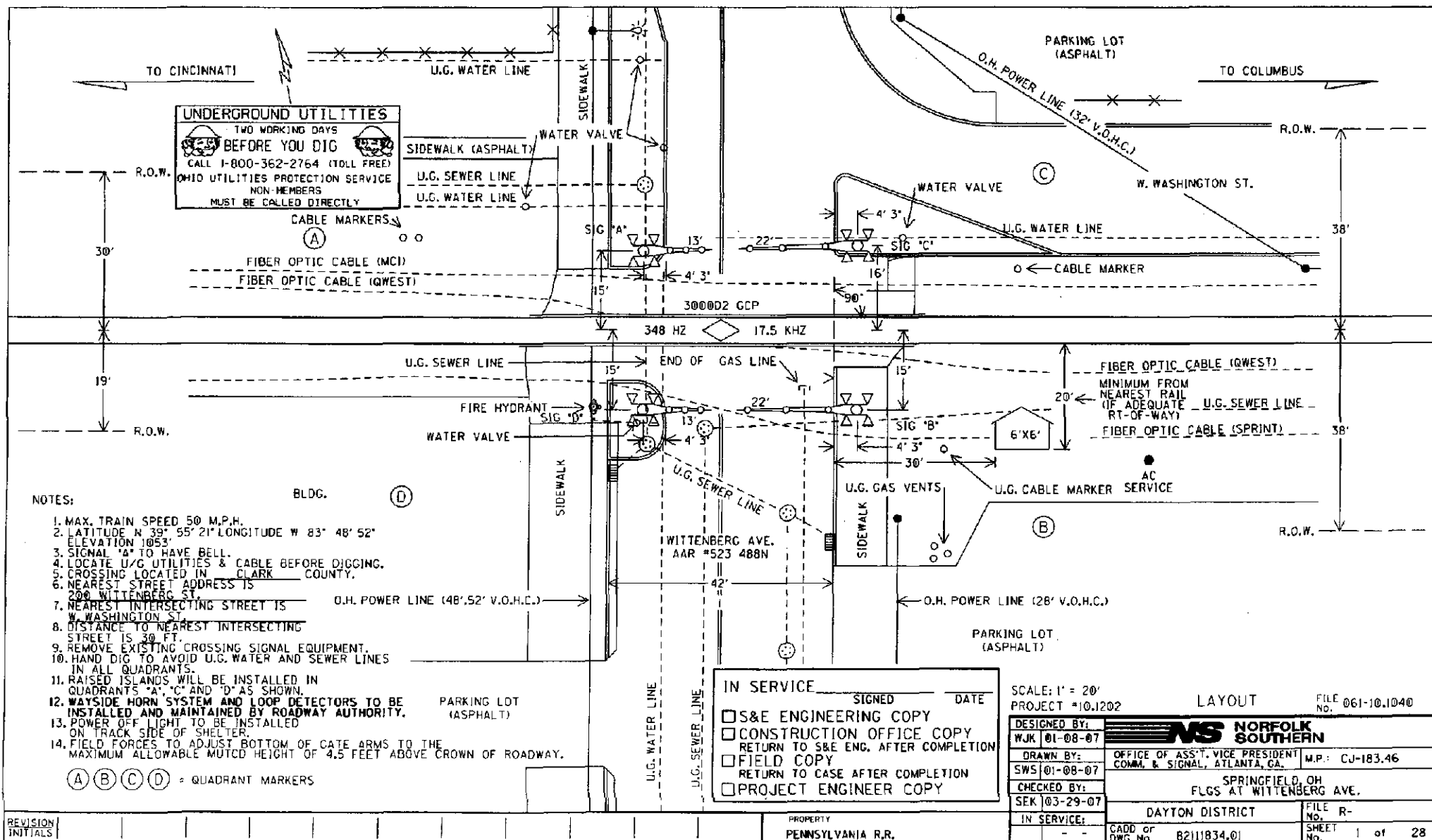
Total Material: \$109,973.87

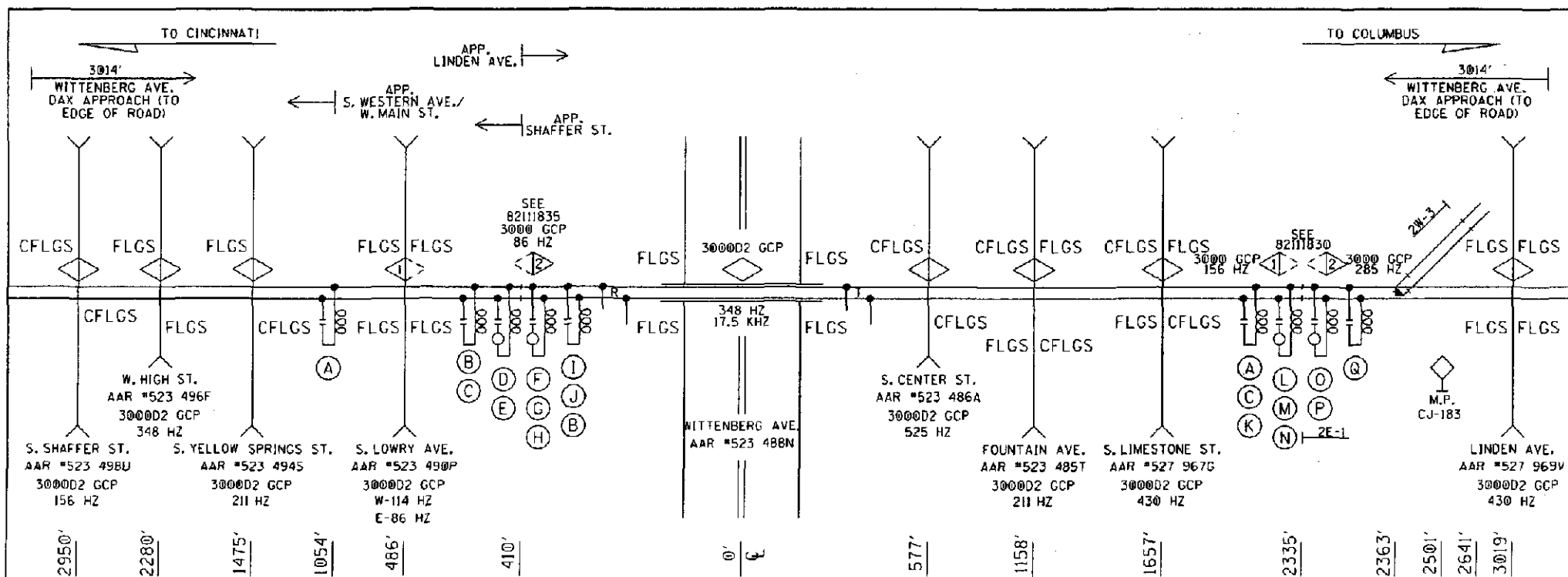
APPROVED BY STATE

APPROVED BY RAILROAD

CAR NUMBER

SEAL NUMBER





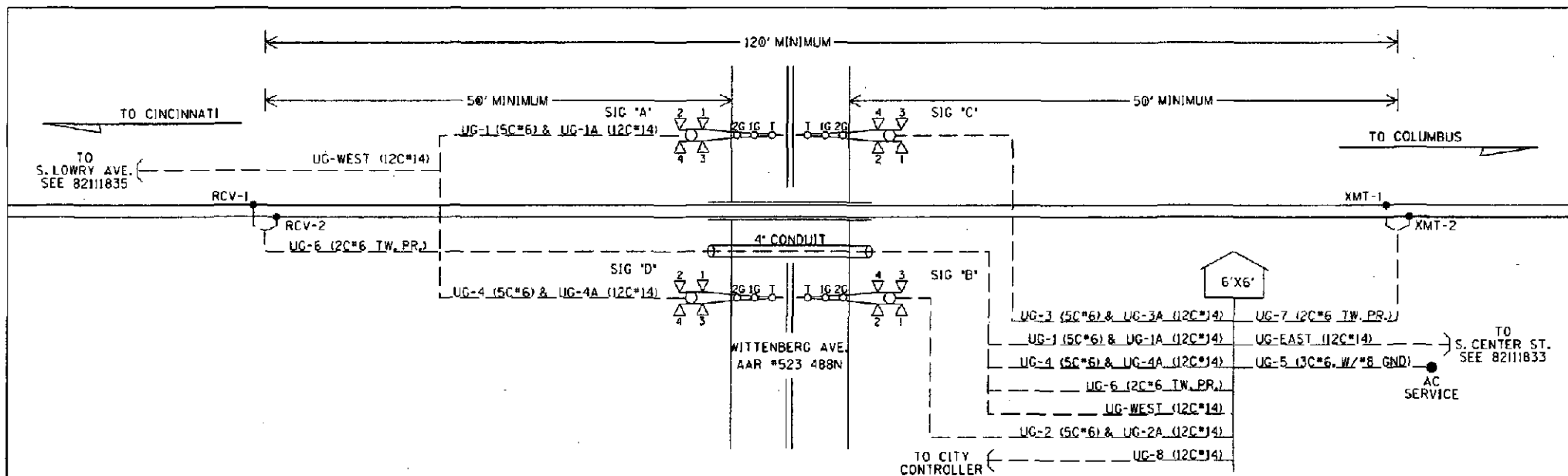
- | | | |
|---|---|---|
| (A) - MF-NBS 62780-8621 (86HZ) | (G) - MF-NBS 62780-1543 (348HZ)
W/8V617-2000 | (M) - MF-NBS 62780-1543 (430HZ)
W/8V617-1500 |
| (B) - MF-NBS 62780-8621 (156HZ) | (H) - MF-NBS 62780-5297 (525HZ)
W/8V617-0800 | (N) - MF-NBS 62780-8621 (156HZ)
W/8V617-2800 |
| (C) - MF-NBS 62780-1543 (348HZ) | (I) - MF-NBS 62780-1543 (211HZ) | (O) - MF-NBS 62780-1543 (285HZ)
W/8V617-2400 |
| (D) - MF-NBS 62780-8621 (114HZ)
W/8V617-3000 | (J) - MF-NBS 62780-1543 (430HZ) | (P) - MF-NBS 62775-3497 (430HZ)
W/8V617-1000 |
| (E) - MF-NBS 62780-1543 (211HZ)
W/8V617-1200 | (K) - MF-NBS 62780-5297 (525HZ) | (Q) - MF-NBS 62775-8621 (86HZ) |
| (F) - MF-NBS 62780-8621 (86HZ)
W/8V617-2800 | (L) - MF-NBS 62780-1543 (211HZ)
W/8V617-0400 | |

PROFILE

DESIGNED BY:	 NORFOLK SOUTHERN		
WJK 01-08-07			
DRAWN BY:	COMM. & SIGNAL, ATLANTA, GA.		M.P.: CJ-183,46
SWS 01-08-07			
CHECKED BY:	SPRINGFIELD, OH		
SEK 03-29-07	FLGS AT WITTENBERG AVE.		
IN SERVICE:	DAYTON DISTRICT		FILE R-
	CADD OR CIRCLING	8211834.02	SHEET 4 of 28

REVISION
INITIALS

PROPERTY
PENNSYLVANIA R.R.



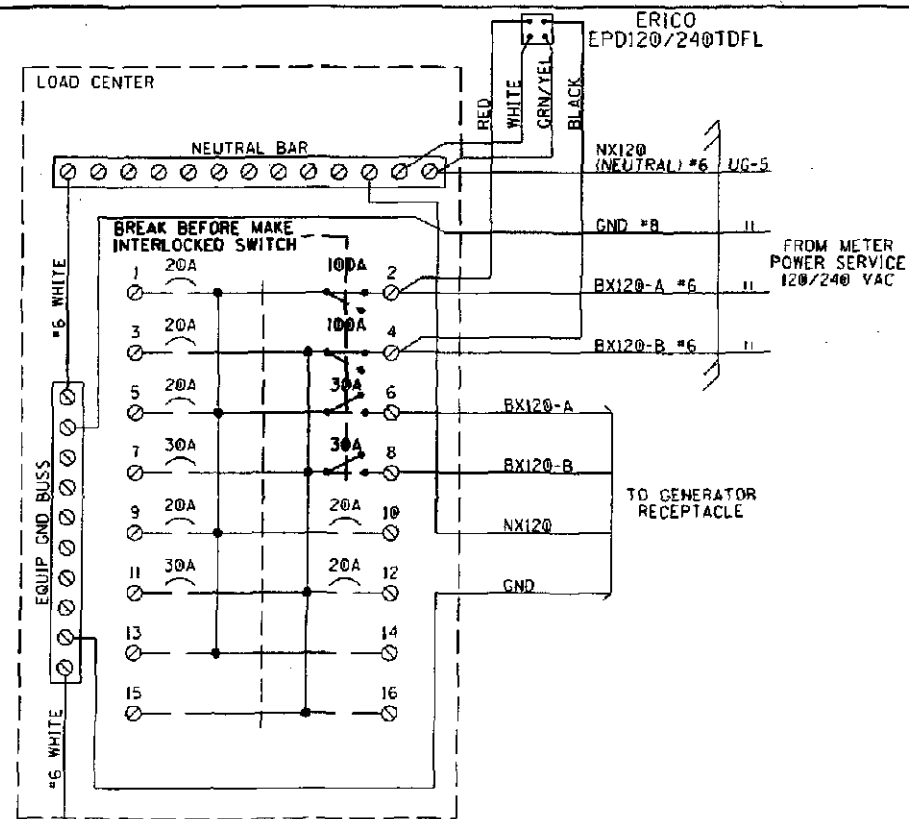
UG-1-5CUG #6	UG-3-5CUG #6	UG-1A-12CUG #14	UG-3A-12CUG #14	UG-5-3CUG #6 W/*8 GND	UG-6-TW, PR. #6	UG-8-12CUG #14	UG-WEST-12CUG #14	UG-EAST-12CUG #14
AEC AEZ AEB B16-A N16-A	CEC CEZ CEB B16A-C N16A-C	AXC NAXC AXX IAXX XGP3 AGBX120 AGNX120 AMTSS SPARE SPARE SPARE SPARE	CXC NCXC CXX ICXX XGP2 XGP1 CCBX120 CCNX120 CMTSS SPARE SPARE SPARE SPARE	BX120-A BX120-B NX120 GND	RCV-1 RCV-2 UG-7-TW, PR. #6 XMT-1 XMT-2	INT1 INT2 SUPV HORN1 HORN2 HSUPV VD1 NVD SPARE SPARE SPARE SPARE	WWDAX NWWDX LODAX NL0DAX WCDAX NWC0AX WFDAX NWF0AX WLIDAX NWLIDAX SPARE SPARE	EWDX NEWDX LODAX NL0DAX WCDAX NWC0AX WFDAX NWF0AX WLIDAX NWLIDAX SPARE SPARE
UG-2-5CUG #6	UG-4-5CUG #6	UG-2A-12CUG #14	UG-4A-12CUG #14					
BEC BEZ BEB B16-B N16-B	DEC DEZ DEB B16A-D N16A-D	BXC NBXC BXX IBXX XGP3 XGP2 BGBX120 BGNX120 BMTSS SPARE SPARE SPARE	DXC NDXC DXX IDXX XGP1 XGP DGBX120 DCNX120 DMTSS SPARE SPARE SPARE					

CABLE PLAN

DESIGNED BY: WJK 01-08-07	NS NORFOLK SOUTHERN	
DRAWN BY: SWS 01-08-07	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-183.46
CHECKED BY: SEK 03-29-07	SPRINGFIELD, OH FLGS AT WITTENBERG AVE.	
IN SERVICE:	DAYTON DISTRICT	FILE R-
	CADD OF DWG. No. 82111834.03	SHEET 3 of 28

REVISION
INITIALS

PROPERTY
PENNSYLVANIA R.R.



NOTE: ALL AC WIRING IS TO BE IN METALLIC CONDUIT WITH NO EXPOSED TERMINALS. ALL AC 120V AND 240V EQUIPMENT IS TO BE PROPERLY GROUNDED.

SQUARE "D" PART NUMBERS:

LOAD CENTER — Q0116L125C

10A 1P CIR BKR — Q0110

20A 1P CIR BKR — Q0120

30A 1P CIR BKR — Q0130

30A 2P CIR BKR — Q0230

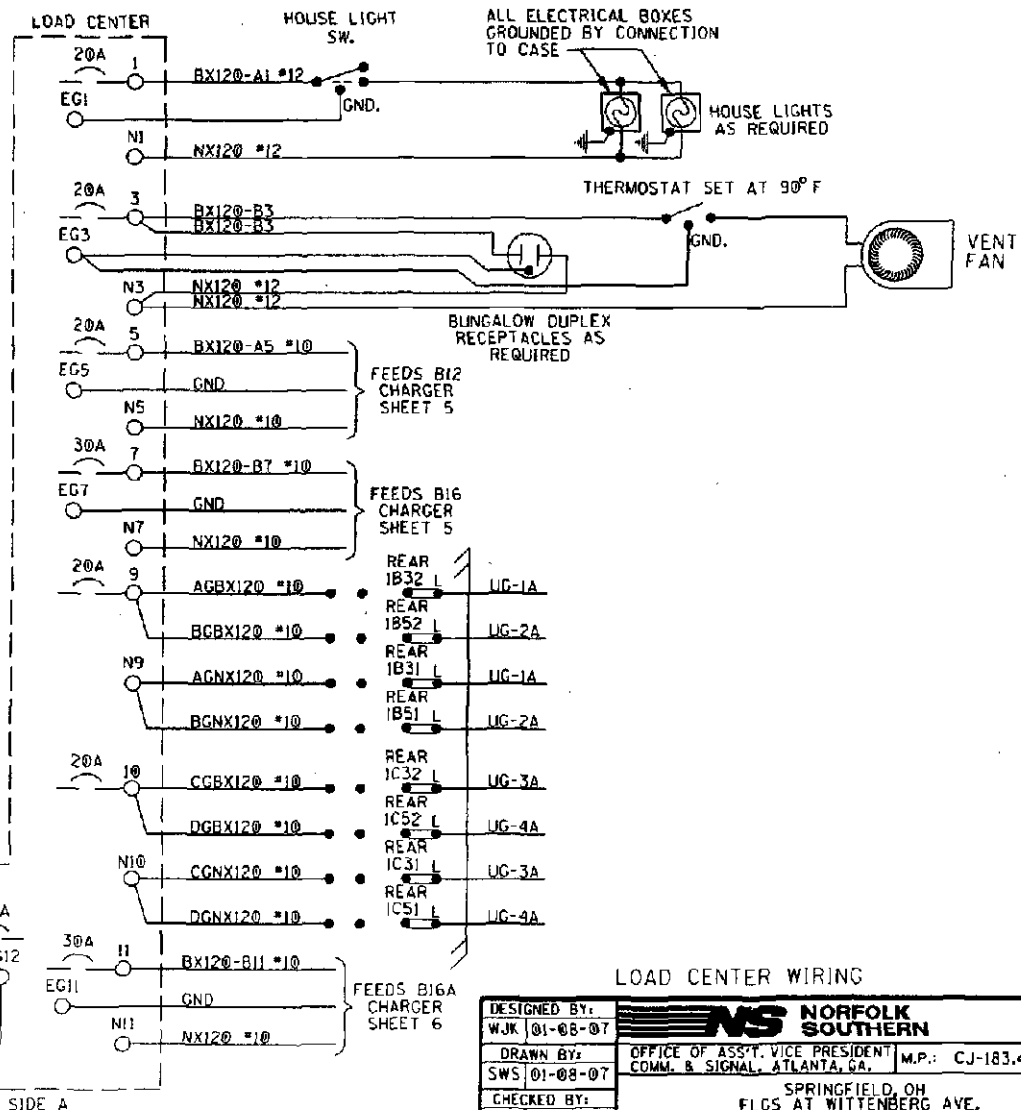
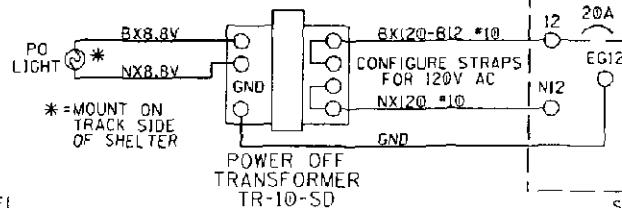
60A 2P CIR BKR — Q0260

100A 2P CIR BKR — Q02100

MECH INTERLOCK — PK4DT1M4LA

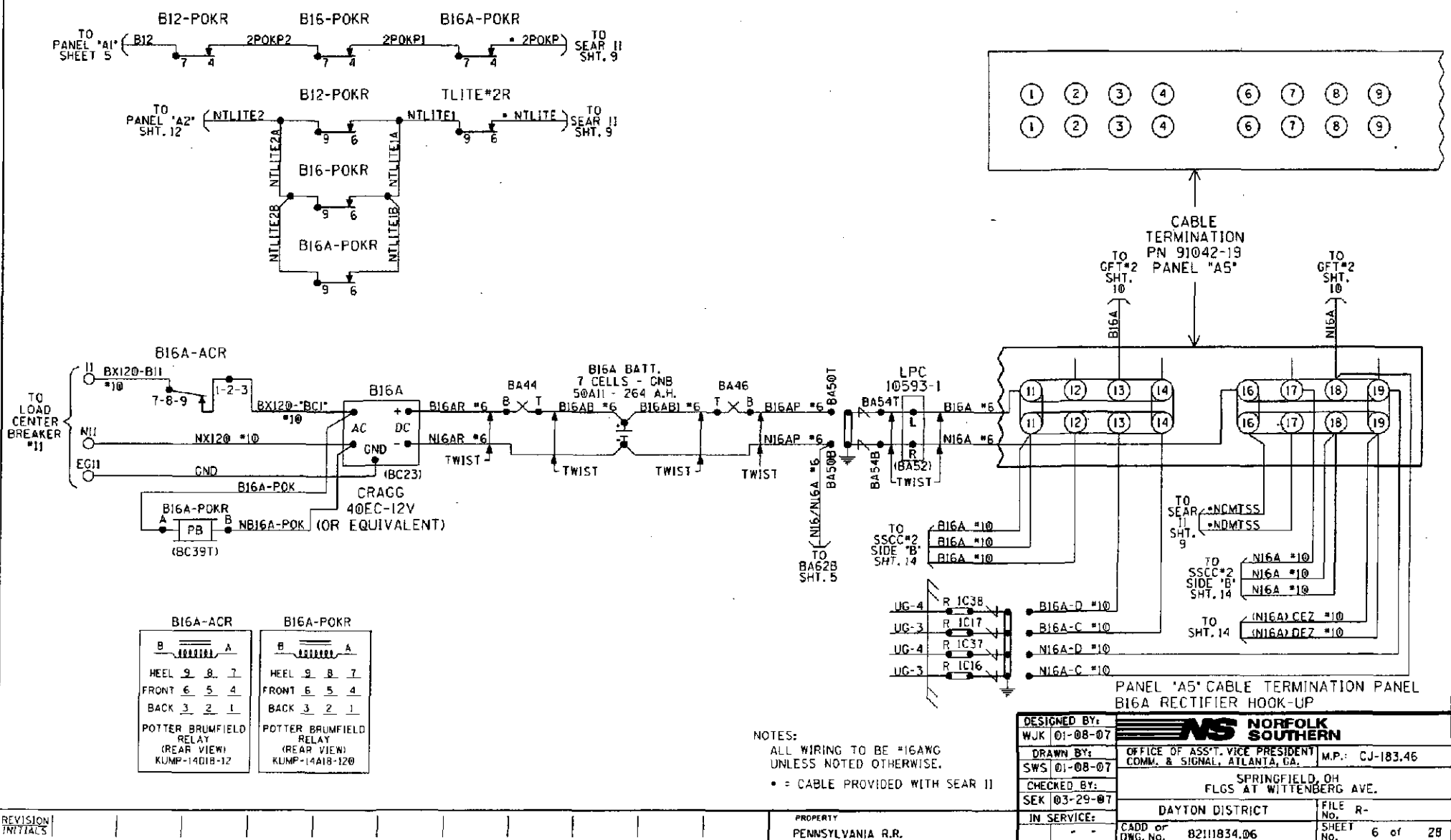
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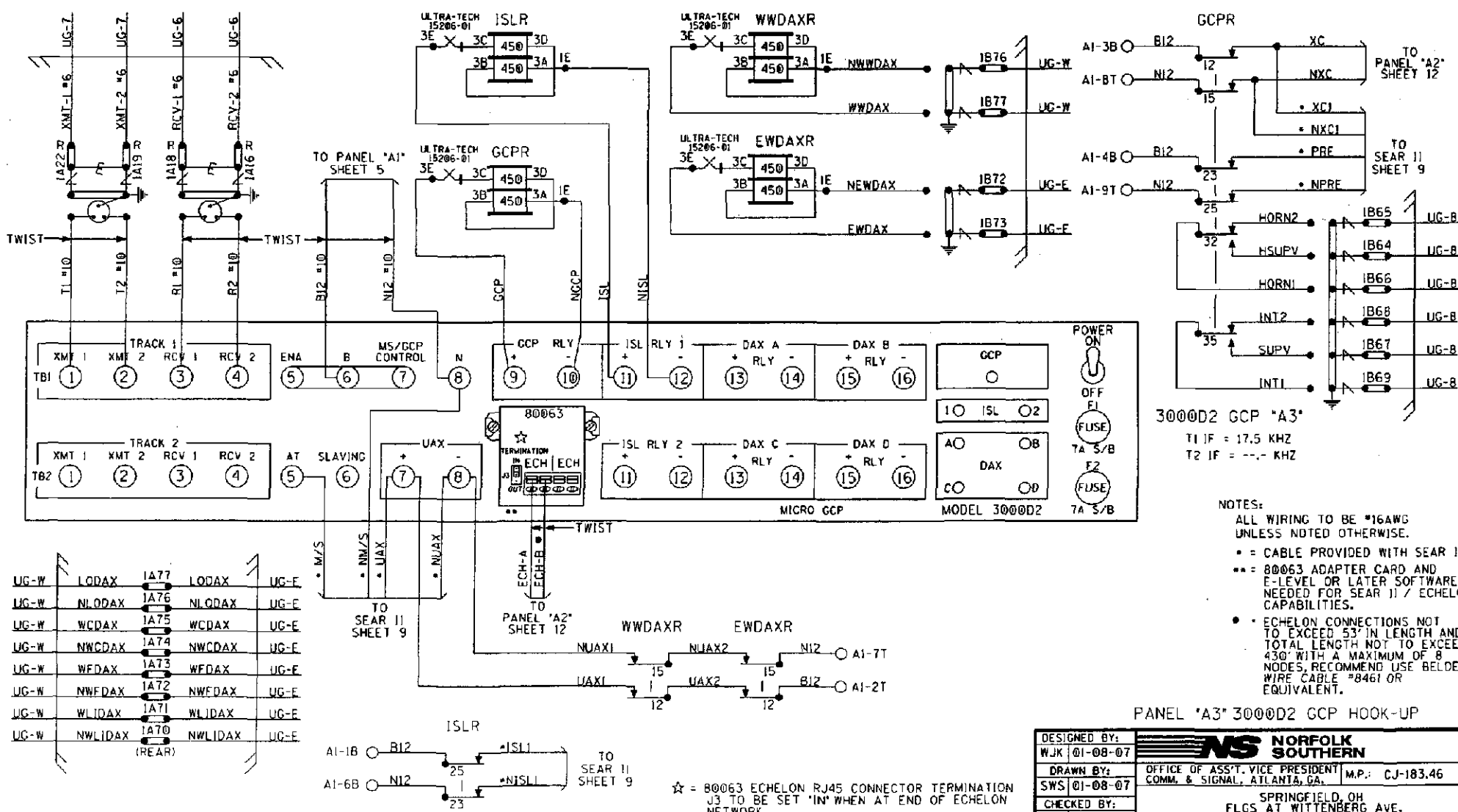
MALE CONNECTOR - NEMA L1430-F1



LOAD CENTER WIRING

DESIGNED BY:	 NORFOLK SOUTHERN		
WJK 01-08-07			
DRAWN BY:		OFFICE OF ASS'T. VICE PRESIDENT	M.P.: CJ-183.46
SWS 01-08-07		COMM. & SIGNAL, ATLANTA, GA.	
CHECKED BY:		SPRINGFIELD, OH	
SEK 03-29-07	FLCS AT WITTENBERG AVE.		
IN SERVICE:	DAYTON DISTRICT	FILE R-	
- -	CADD or DWG. No. 82111834.04	SHEET 4 of 28	





3000D2 PROGRAMMING CHART (LEVEL: J)

NUMBER OF TRACK TRANSCEIVERS	1
T1: FREQUENCY	348Hz
T2: FREQUENCY	---Hz
T1: UNIDIRECTIONAL/BIDIRECTIONAL	B1
T2: UNIDIRECTIONAL/BIDIRECTIONAL	---
T1: XMIT LEVEL (MAX/MED)	MAX
T2: XMIT LEVEL (MAX/MED)	---
T1: PREDICTOR/MOTION SENSOR	PRED
T2: PREDICTOR/MOTION SENSOR	----
T1: WARNING TIME	36 Sec
T2: WARNING TIME	-- Sec
T1: APPROACH DISTANCE	2249 Ft
T2: APPROACH DISTANCE	---- Ft
UAX1 PICKUP DELAY (UAX) (0 = OFF)	25 Sec
ENA/UAX2 DELAY (0 = ENA)	-- Sec
T1: ISLAND DISTANCE	172 Ft
T2: ISLAND DISTANCE	--- Ft
NUMBER OF DAX'S	0 E0
DAX A TRACK ASSIGNMENT (T1/T2)	---
DAX A DISTANCE (0 = PREEMPT)	Ft
DAX A WARNING TIME	Sec
DAX B TRACK ASSIGNMENT (T1/T2)	---
DAX B DISTANCE (0 = PREEMPT)	Ft
DAX B WARNING TIME	Sec
DAX C TRACK ASSIGNMENT (T1/T2)	---
DAX C DISTANCE (0 = PREEMPT)	Ft
DAX C WARNING TIME	Sec
DAX D TRACK ASSIGNMENT (T1/T2)	---
DAX D DISTANCE (0 = PREEMPT)	Ft
DAX D WARNING TIME	Sec
SLAVING (MASTER/SLAVE)	MASTER
PASSWORD ENABLED	NO
RECORDER INSTALLED	NO

EXPANDED PROGRAMMING

T1: SWITCH TO MS (ENTER EZ VALUE)	10 %
T2: SWITCH TO MS (ENTER EZ VALUE)	-- %
T1: TRANSFER DELAY MS TO GCP (0 = OFF)	0 Sec
T2: TRANSFER DELAY MS TO GCP (0 = OFF)	-- Sec
T1: TRANSFER MS TO GCP PRIME (ON/OFF)	---
T2: TRANSFER MS TO GCP PRIME (ON/OFF)	---
T1: TRANSFER MS TO GCP DAX A (ON/OFF)	---
T2: TRANSFER MS TO GCP DAX A (ON/OFF)	---
T1: TRANSFER MS TO GCP DAX B (ON/OFF)	---
T2: TRANSFER MS TO GCP DAX B (ON/OFF)	---
T1: TRANSFER MS TO GCP DAX C (ON/OFF)	---
T2: TRANSFER MS TO GCP DAX C (ON/OFF)	---
T1: TRANSFER MS TO GCP DAX D (ON/OFF)	---
T2: TRANSFER MS TO GCP DAX D (ON/OFF)	---
T1: PRIME PREDICTION OFFSET (0 = OFF)	0 Ft
T2: PRIME PREDICTION OFFSET (0 = OFF)	-- Ft
PICKUP DELAY PRIME	15 Sec
PICKUP DELAY DAX A	-- Sec
PICKUP DELAY DAX B	-- Sec
PICKUP DELAY DAX C	-- Sec
PICKUP DELAY DAX D	-- Sec
T1: ENHANCED DETECTION (ON/OFF)	OFF
T2: ENHANCED DETECTION (ON/OFF)	---
BACK-TO-BACK T1 AND T2 (NO/YES)	---
T1: STATION STOP TIMER	-- Sec
T2: STATION STOP TIMER	-- Sec
T1: NUMBER OF TRACK WIRES (4/6)	4
T2: NUMBER OF TRACK WIRES (4/6)	-
T1: LOW EX ADJUSTMENT	0
T2: LOW EX ADJUSTMENT	--
T1: LOW EZ DETECTION	OFF
T2: LOW EZ DETECTION	---
T1: LOW EZ DETECTION TIMER (ON/OFF)	-- Min
T2: LOW EZ DETECTION TIMER (ON/OFF)	-- Min
T1: POSITIVE START (EZ LEVEL) (0 = OFF)	0
T2: POSITIVE START (EZ LEVEL) (0 = OFF)	--
T1: POSITIVE START TIMEOUT (0 = NONE)	-- Min
T2: POSITIVE START TIMEOUT (0 = NONE)	-- Min
SET AT OPERATION (NORMAL/DIAGNOSTIC)	NORMAL
DIAGNOSTIC MESSAGES (ON/OFF)	ON
DAX MESSAGES (ON/OFF)	ON
ADVANCE PREEMPT TIMER (0 = OFF)	0
T1: MOTION SENSING LEVEL (0 = NORMAL)	0 %
T2: MOTION SENSING LEVEL (0 = NORMAL)	-- %

* = 1ST SLOT AT LEFT END OF BAY

MODEL 3000D2 GCP MODULE ASSEMBLIES

MODULES POSITION	UPPER BAY										LOWER BAY									
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20
MODULE NUMBERS	B0211-1(1) * ISL	B0211-1(2) ISL	B0012 T/R 1	B0012 T/R 2	B0013 RLY DRY	B0214 PROCS	B0255 REC-INTF	B0016 (1) DAX	B0016 (2) DAX	B0020 +80017	B0211-1(1) * ISL	B0211-1(2) ISL	B0012 T/R 1	B0012 T/R 2	B0013 RLY DRY	B0214 PROCS	B0255 REC-INTF	B0016 (1) DAX	B0016 (2) DAX	B0020 +80017
MODULES USED	x		x		x	x	x			x	x		x		x	x				x

NOTES:

1 - SEE IPI INSTRUCTION AND INSTALLATION MANUAL FOR B0211 ISLAND CALIBRATION PROCEDURE.

2 - TOGGLE SWITCH ON MOTHER BOARD:
UP = DUAL FREQ.
DOWN = SINGLE FREQ.

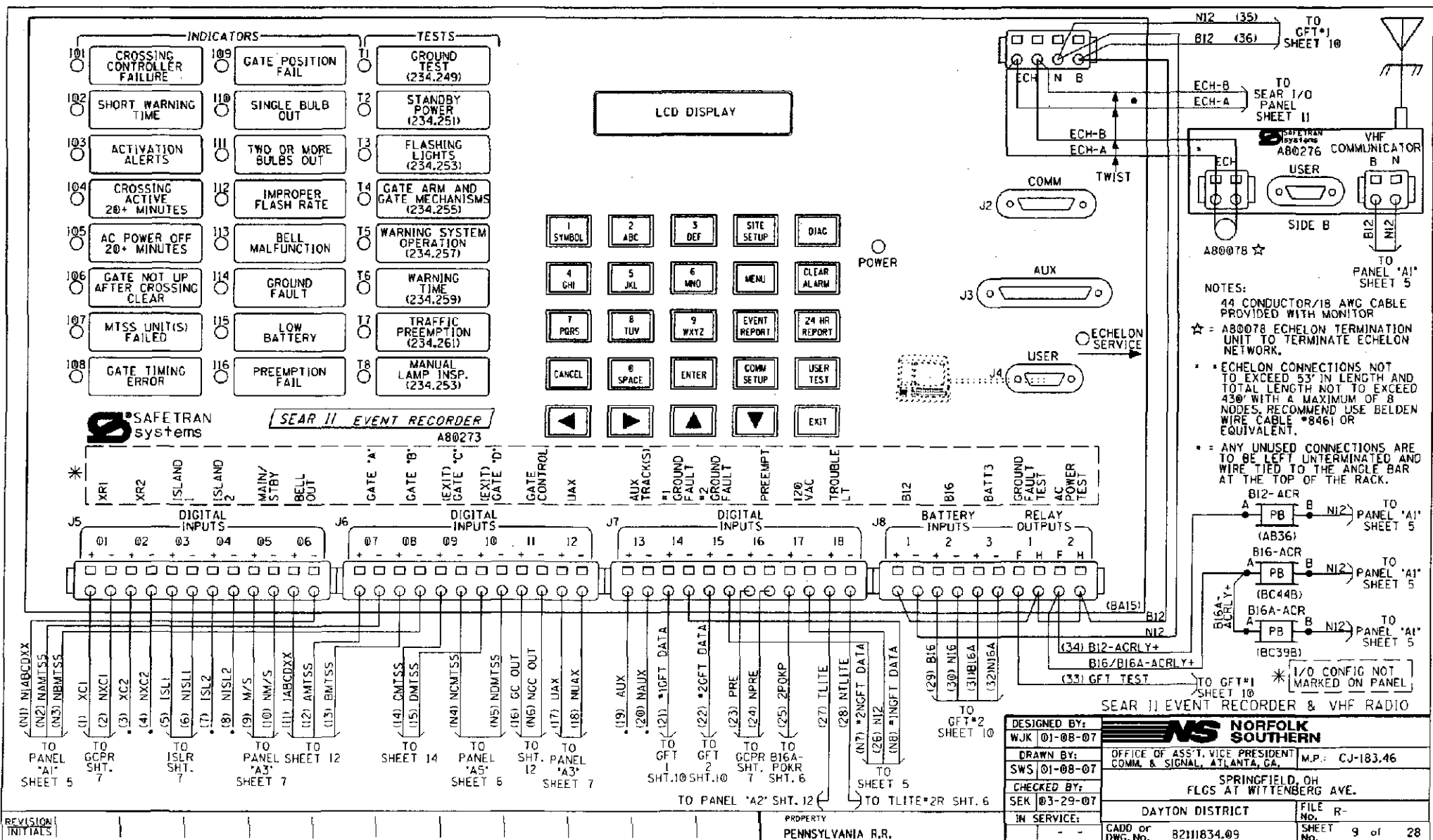
** = B0214 & B0255 (WITH JUMPER) CARDS AND E-LEVEL OR LATER SOFTWARE NEEDED FOR SEAR II / ECHELON CAPABILITIES.

PANEL "A3" 3000D2 GCP SET-UP

DESIGNED BY:	WJK 01-08-07	NORFOLK SOUTHERN	
DRAWN BY:	SWS 01-08-07	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-183.46
CHECKED BY:	SEK 03-29-07	SPRINGFIELD, OH FLGS AT WITTENBERG AVE.	
IN SERVICE:	-	DAYTON DISTRICT	FILE R-
		CADD OF DWG. No. 8211834.08	SHEET 8 of 28

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SITE SET UP PROCEDURE	
FUNCTION	LED DISPLAY
DATE	- -
TIME	:
DAYLIGHT SAVINGS TIME	YES
TIME ZONE	EST
SITE NAME	WITTENBERG AVE.
DOT NUMBER	523 488N
MILEPOST	CJ-183.46
TESTER TYPE	CROSSING
DATE FORMAT	MM-DD-YYYY
TEMP FORMAT	FAHRENHEIT
SITE TYPE	NO COMMUNICATION
SITE ATCS	7.RRR.LLL.GGG.03.01
*** OFFICE ATCS ADDRESS	2.550.01.9100
*** POLL ID	1
*** OFFICE F8/F9	YES
*** OFFICE COMM DEVICE	SPREAD SPECTRUM RADIO
*** DIAL MODEM PORT	AUX/COMM
*** PHONE NUMBER	(OFFICE NUMBER)
*** INIT STRING	(LEAVE BLANK)
*** BACKUP SITE ADDRESS 1	
*** BACKUP SITE ADDRESS 2	
*** FIELD COMM	
**** USER PORT	BAUD 57600, N, 8, 1, NONE
**** AUX PORT	BAUD 9600, N, 8, 1, NONE
**** COMM PORT	BAUD 9600, N, 8, 1, NONE

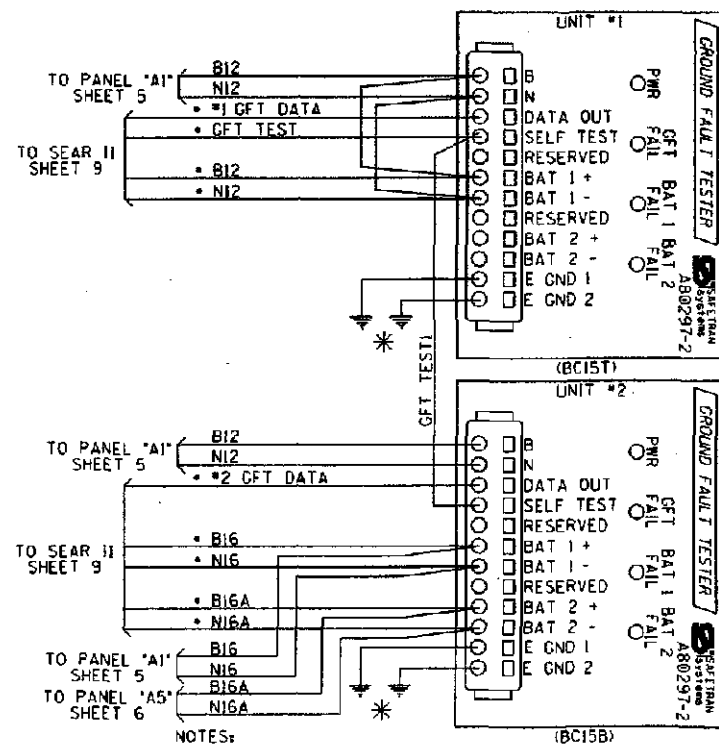
VERIFY NUMBER OF BULBS: SENSOR #1	
CURR 1: LAMP SET UP	8 BULBS
CURR 2: LAMP SET UP	8 BULBS

VERIFY NUMBER OF BULBS: SENSOR #2	
CURR 1: LAMP SET UP	8 BULBS
CURR 2: LAMP SET UP	8 BULBS

CONTROL SYSTEM CONFIGURATION MENU QUESTIONS	
THE QUESTION	SELECT FROM MENU OPTION
RESET NAMES AND MODULES?	YES
NUMBER OF TRACKS?	1
NUMBER OF XR INPUTS?	1
CONSTANT WARNING DEVICE	GCP
CROSSING CONTROLLER?	SSCC III (A, PLUS)
MAIN / STANDBY	YES
AUXILIARY TRACKS?	0
AUX TRACK	(SET IF AUX TRACKS = YES)
GATES?	2
EXIT GATES?	2
UAX?	1
BATTERY BANKS?	3
PREEMPTION?	NORMAL
ILOD MODULES?	2
LAMP TYPE?	NORMAL
AUTO INSPECTIONS?	YES
BELL SENSOR?	** 1
BELL SENSOR INPUT 7	** YES
BELL SENSOR INPUT 8	** NO
BELL SENSOR INPUT 9	** NO
BELL SENSOR INPUT 10	** NO
BELL ON?	GATES LOWERING
GATE TIP SENSORS?	YES
GROUND FAULT DETECTORS?	YES
CHANNEL 1	161.475 MHZ
CHANNEL 2	NONE
FULL APPROACH MOVE ALARMS	ACTIVATE
SSCC ATCS ADDRESS	7.RRR.LLL.GGG.07.01

VERIFY THE BATTERY SUPPLY VOLTAGES	
B12 BATTERY VOLTAGE AT INPUT DC1	VOLT 1: .
B16 BATTERY VOLTAGE AT INPUT DC2	VOLT 2: .
B16A BATTERY VOLTAGE AT INPUT DC3	VOLT 3: .

* = CONNECT 'E GND 1' AND 'E GND 2' TO INDEPENDENT GROUND POINTS ON SIDE A AND SIDE B.

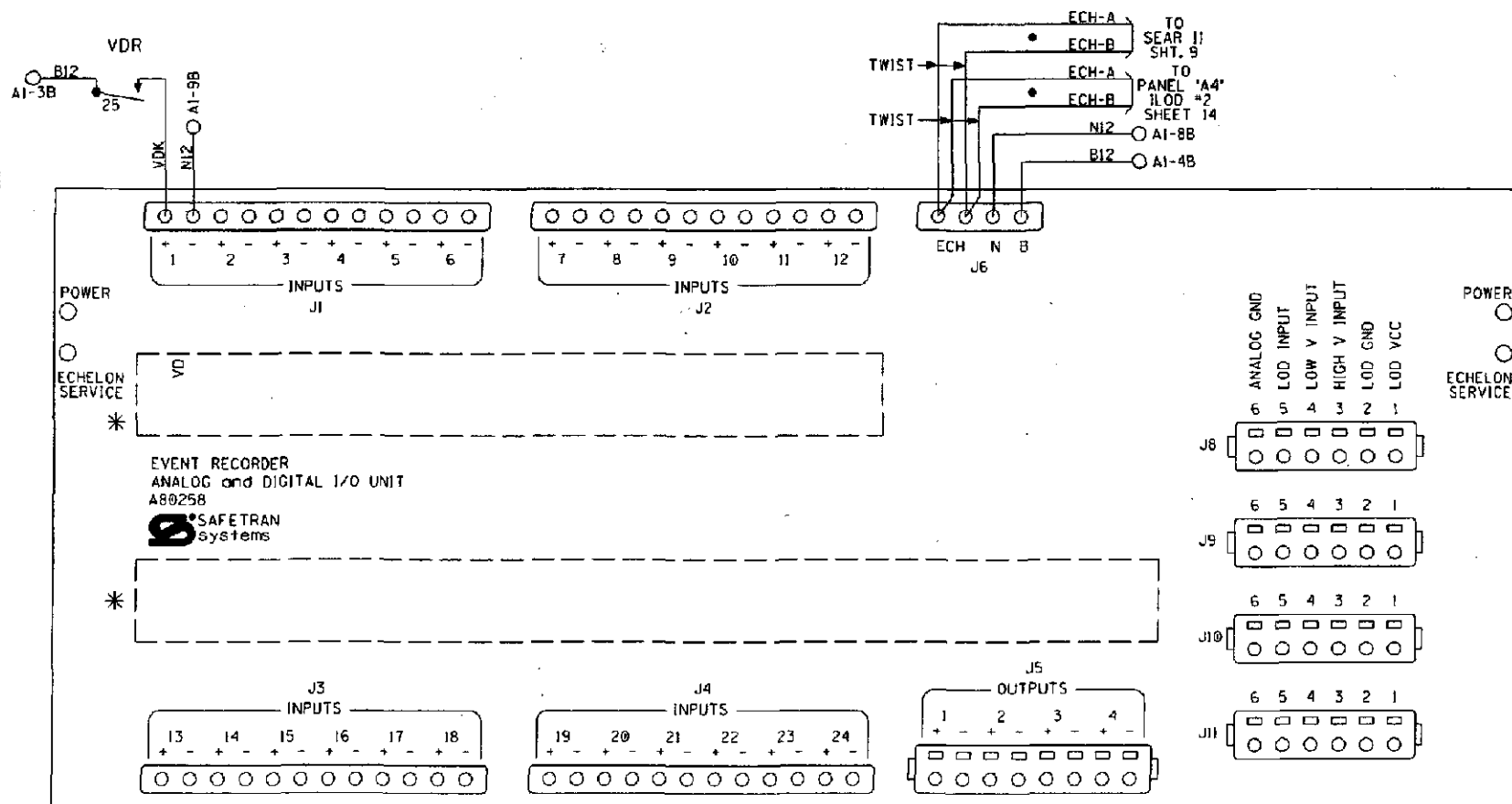


SEAR II SET UP CHART & GROUND FAULT TESTERS

DESIGNED BY:	WJK 01-08-07	
DRAWN BY:	SWS 01-08-07	
CHECKED BY:	SEK 03-29-07	
IN SERVICE:	-	
FILE NO.:	R-	
CADD OF DRG. No.	82111834.10	SHEET No. 10 of 28

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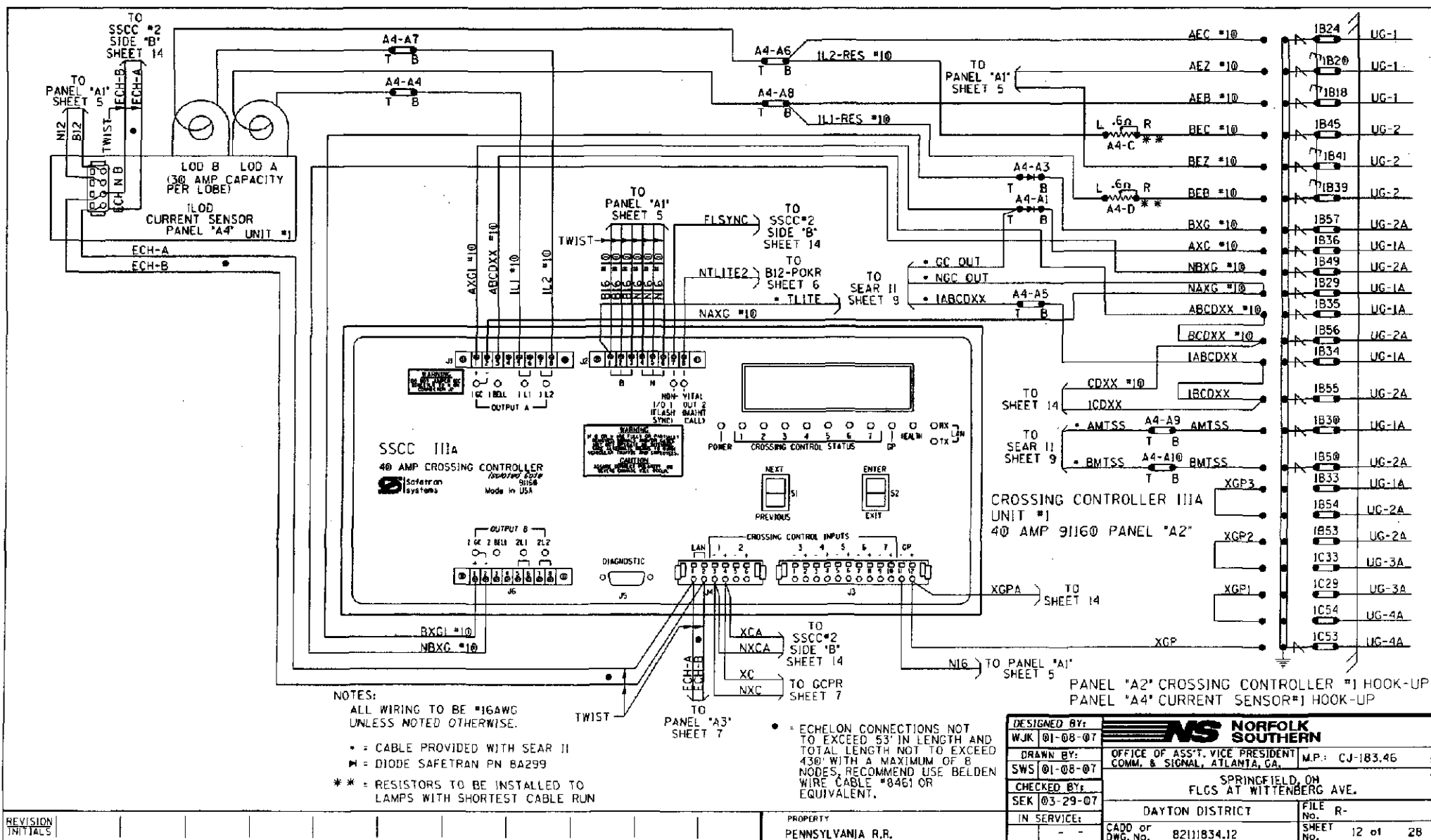
SIDE B

SEAR ANALOG AND DIGITAL
I/O UNIT A80258

DESIGNED BY:	WJK 01-08-07	NS NORFOLK SOUTHERN	
DRAWN BY:	SWS 01-08-07	OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-183.46
CHECKED BY:	SEK 03-29-07	SPRINGFIELD, OH FLCS AT WITTENBERG AVE.	
IN SERVICE:	- -	DAYTON DISTRICT	FILE R-
		CADD or DWG. No. 82111834.11	SHEET No. 11 of 28

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PROGRAM	
FLASHER RATE	40
1 GC DELAY	4 SEC.
2 GC DELAY	4 SEC.
BELL-ON GATE RISING	OFF
MIN ACTIVATION TIME	0 SEC.
ENABLE INPUTS	1 THRU 1
ENABLE OUTPUTS	A AND B
TIME	
DATE	
DAYLIGHT SAVINGS	ON
PASSWORD	DISABLED
SET TO DEFAULT	SKIP

SETUP LAMP VOLTAGE	
SETUP OUTPUT 1L1 XX.X VOLTS	
SETUP OUTPUT 1L2 XX.X VOLTS	
SETUP OUTPUT 2L1 XX.X VOLTS	
SETUP OUTPUT 2L2 XX.X VOLTS	

CONFIGURE	
LOS TIMERS	1: 0 SEC.
	2: 0 SEC.
	3: 0 SEC.
	4: 0 SEC.
	5: 0 SEC.
	6: 0 SEC.
	7: 0 SEC.
ATCS ADDRESS	7RRRLLLGG07
LOW BATTERY	DISABLED
AUX I/O	FLASH SYNC OUT

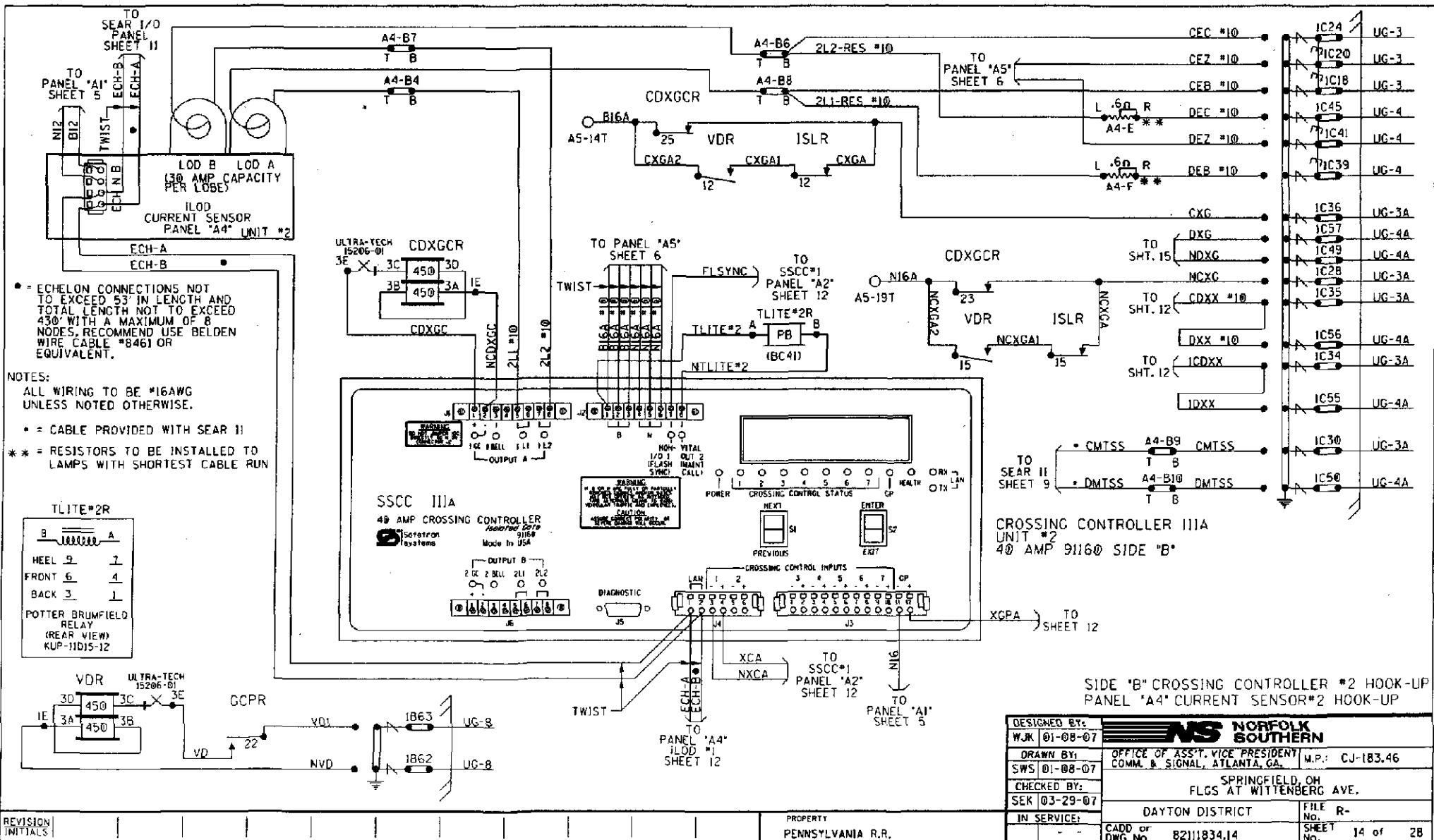
TEST CONFIGURE	
LAMP TEST CANCEL TIMER	5 MIN.
LAMP TEST DELAY TIMER	30 SEC.
LAMP TEST ON TIMER	15 SEC.

PANEL 'A2' CROSSING CONTROLLER #1
SET-UP CHART

DESIGNED BY:	 NORFOLK SOUTHERN	
WJK 01-08-07	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-183.46
DRAWN BY:	SPRINGFIELD, OH	
SWS 01-08-07	FLGS AT WITTENBERG AVE.	
CHECKED BY:	DAYTON DISTRICT	
SEK 03-29-07	FILE No. R-	
IN SERVICE:	CADD OF DWG. No. 82111834.13	SHEET No. 13 of 28

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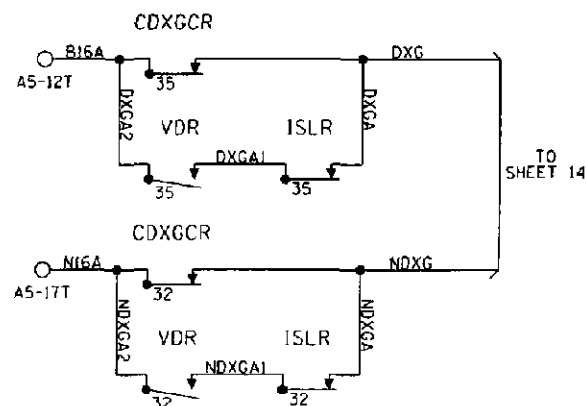


PROGRAM	
FLASHER RATE	40
1 GC DELAY	10 SEC.
2 GC DELAY	10 SEC.
BELL-ON GATE RISING	OFF
MIN ACTIVATION TIME	0 SEC.
ENABLE INPUTS	1 THRU 1
ENABLE OUTPUTS	A
TIME	
DATE	
DAYLIGHT SAVINGS	ON
PASSWORD	DISABLED
SET TO DEFAULT	SKIP

SETUP LAMP VOLTAGE	
SETUP OUTPUT 1L1 XX.X VOLTS	
SETUP OUTPUT 1L2 XX.X VOLTS	
SETUP OUTPUT 2L1 XX.X VOLTS	
SETUP OUTPUT 2L2 XX.X VOLTS	

CONFIGURE	
LOS TIMERS	1: 0 SEC.
	2: 0 SEC.
	3: 0 SEC.
	4: 0 SEC.
	5: 0 SEC.
	6: 0 SEC.
	7: 0 SEC.
ATCS ADDRESS	7RRRL1GGG07
LOW BATTERY	DISABLED
AUX I/O	FLASH SYNC IN

TEST CONFIGURE	
LAMP TEST CANCEL TIMER	5 MIN.
LAMP TEST DELAY TIMER	30 SEC.
LAMP TEST ON TIMER	15 SEC.



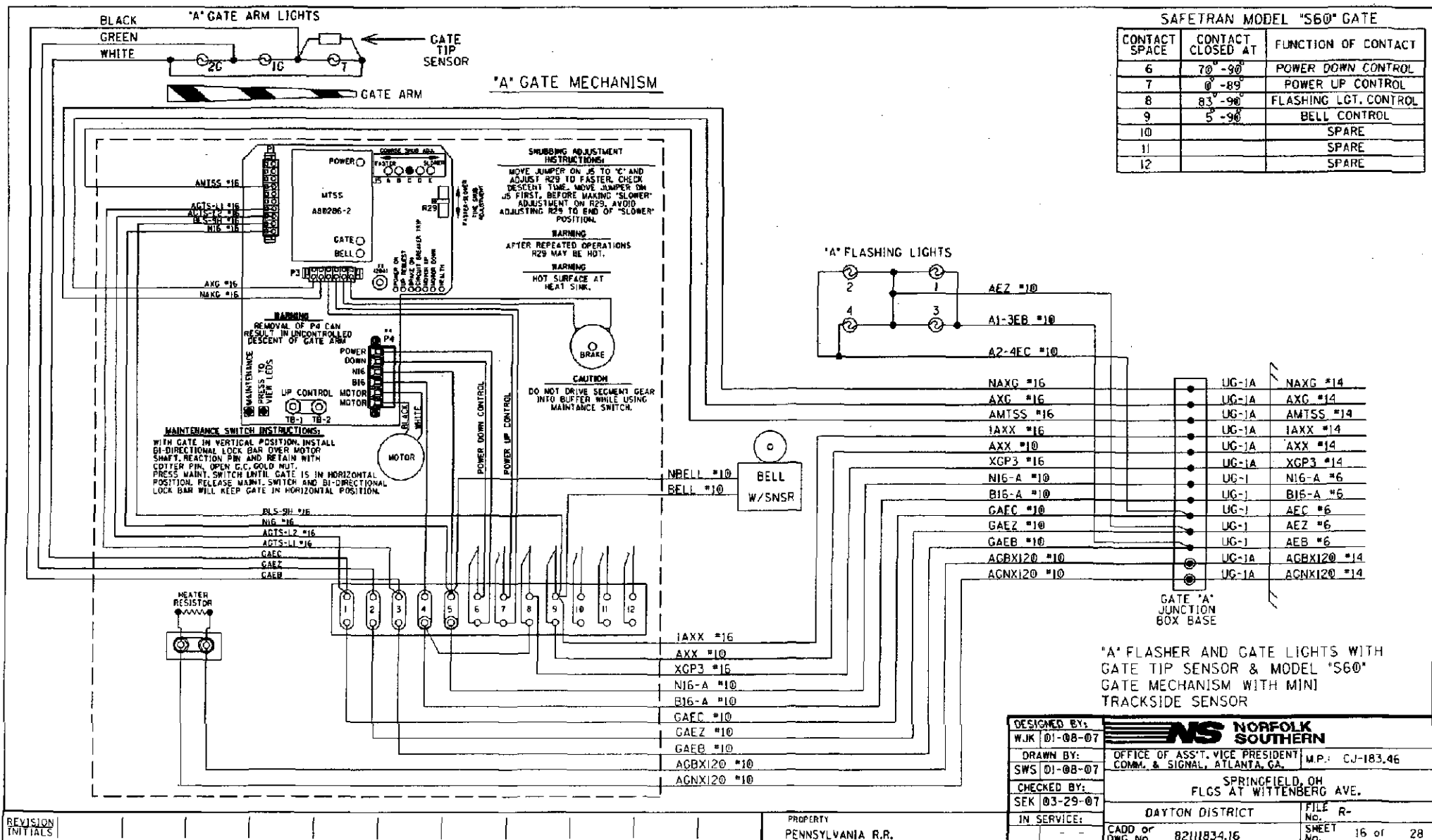
NOTES:
ALL WIRING TO BE #16AWG
UNLESS NOTED OTHERWISE.

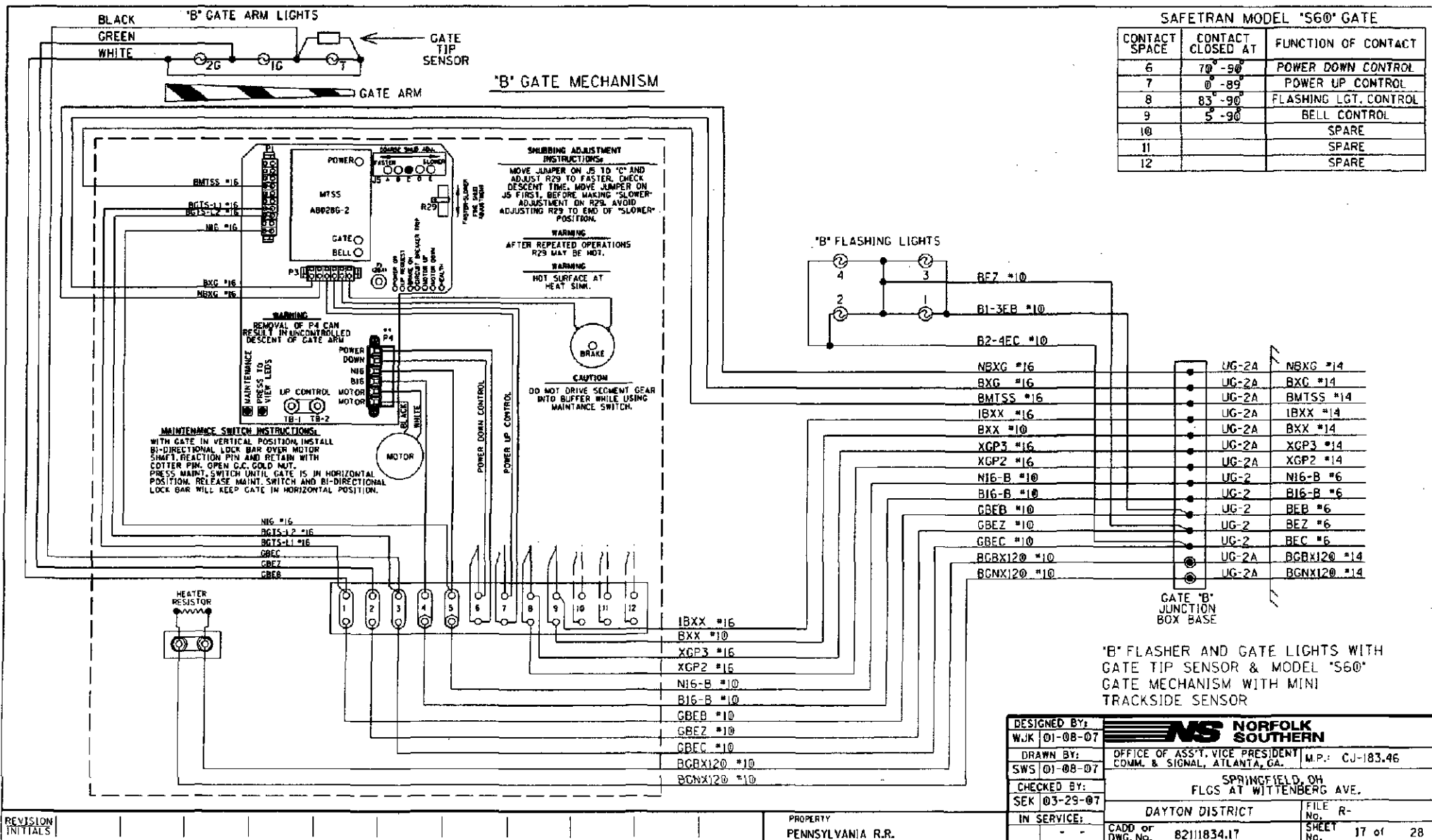
SIDE "B" CROSSING CONTROLLER #2
SET-UP CHART

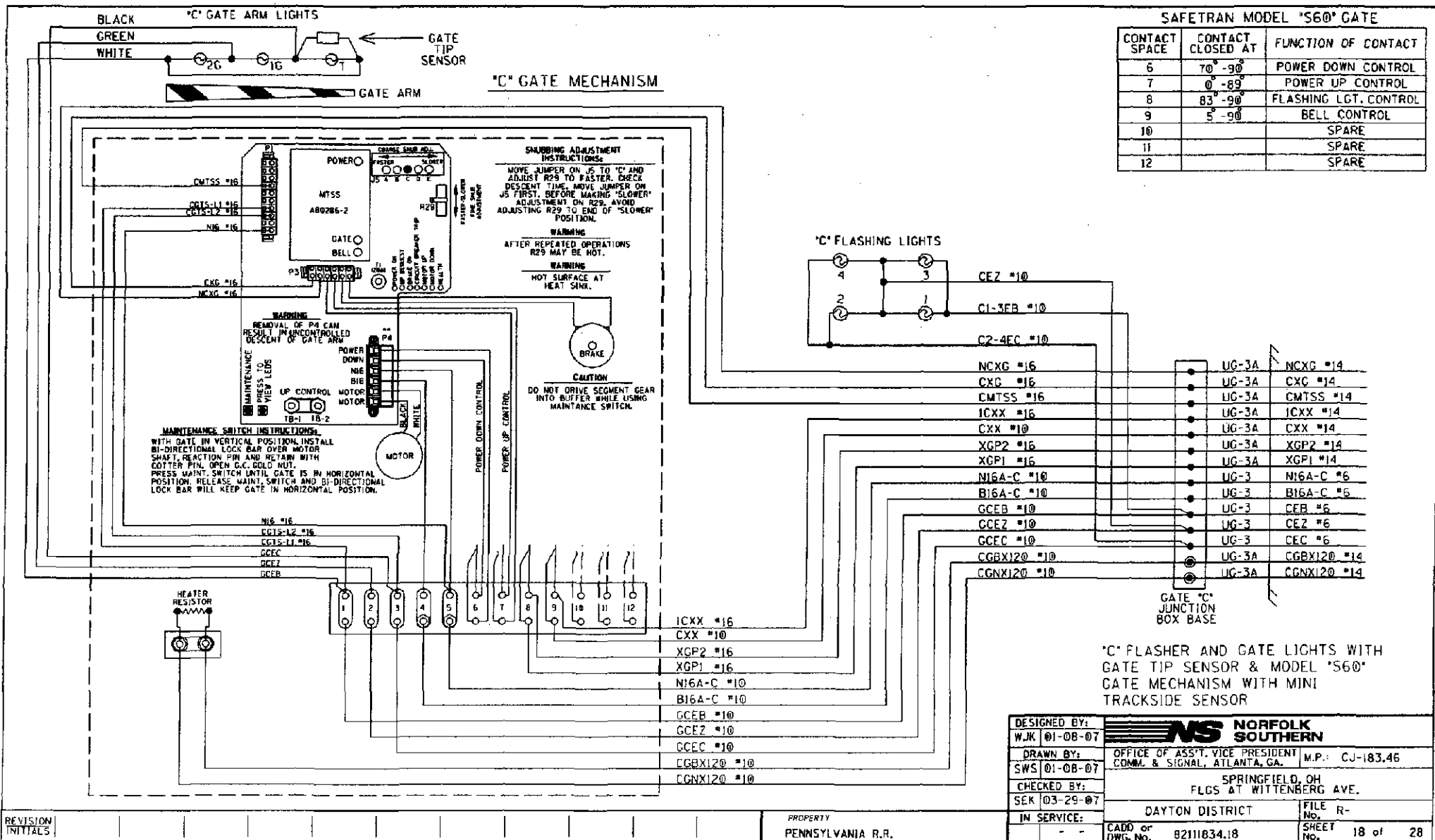
DESIGNED BY:	WJK 01-08-07	NORFOLK SOUTHERN	
DRAWN BY:	SWS 01-08-07		
CHECKED BY:	SEK 03-29-07	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	
IN SERVICE:	-	SPRINGFIELD, OH FLCS AT WITTENBERG AVE.	
		DAYTON DISTRICT	FILE No. R-
		CADD or DWG. No. 82111834.15	SHEET No. 15 of 28

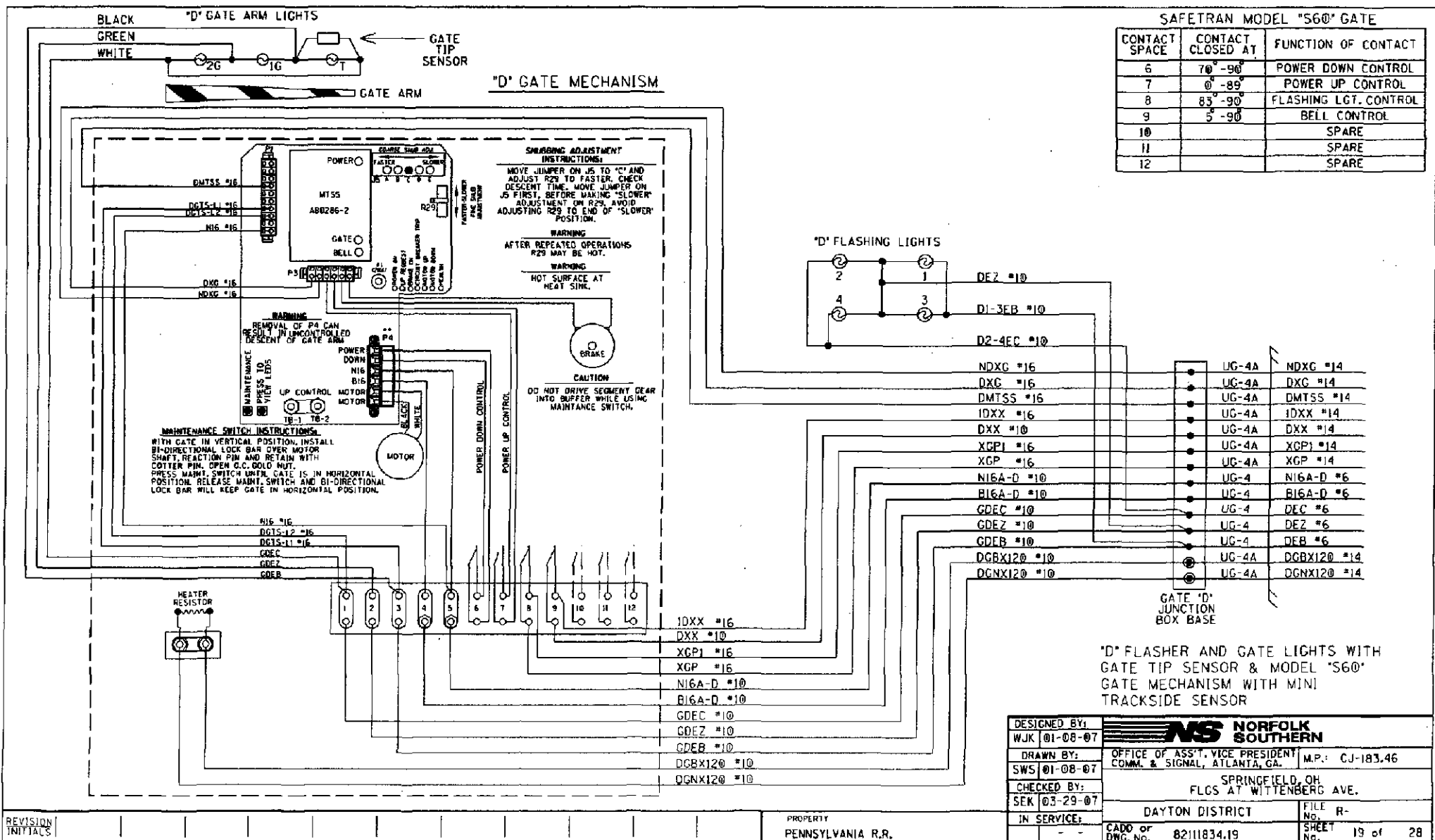
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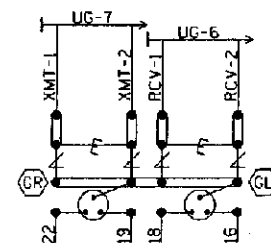
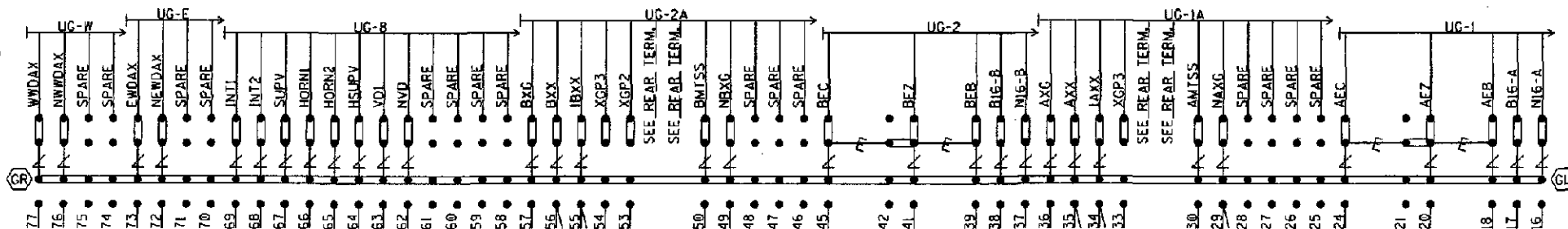




LEFT TWO ROWS TERMINAL BOARD 1

"1A" "1B"

(SEE NEXT SHEET FOR
OTHER WIRES IN CABLES)



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 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.

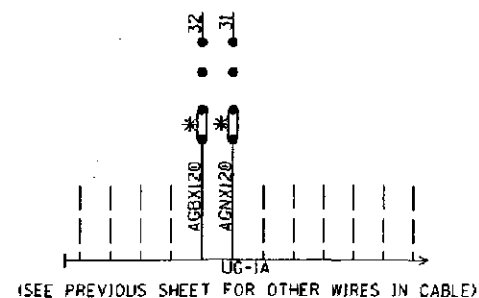
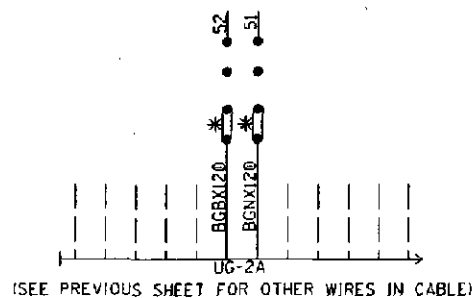
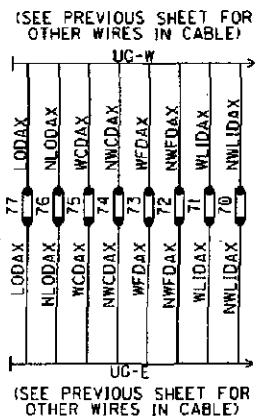
BACKBOARD DETAIL - 1A & 1B

DESIGNED BY: WJK 01-08-07	NS NORFOLK SOUTHERN	
DRAWN BY: SWS 01-08-07	OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-183.46
CHECKED BY: SEK 03-29-07	SPRINGFIELD, OH FLGS AT WITTENBERG AVE.	
IN SERVICE:	DAYTON DISTRICT	FILE NO. R-
	CADD or DWG. No. 82111834.20	SHEET No. 20 of 28

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REAR VIEW OF LEFT TWO ROWS TERMINAL BOARD I
"1A"



NOTE: ALL 120VAC AND ABOVE WILL BE WIRED TO THE REAR OF FARADAY BACKBOARD. INSULATED NUTS MUST BE USED ON ALL TERMINALS.

* = CLOSED DURING WINTER MONTHS

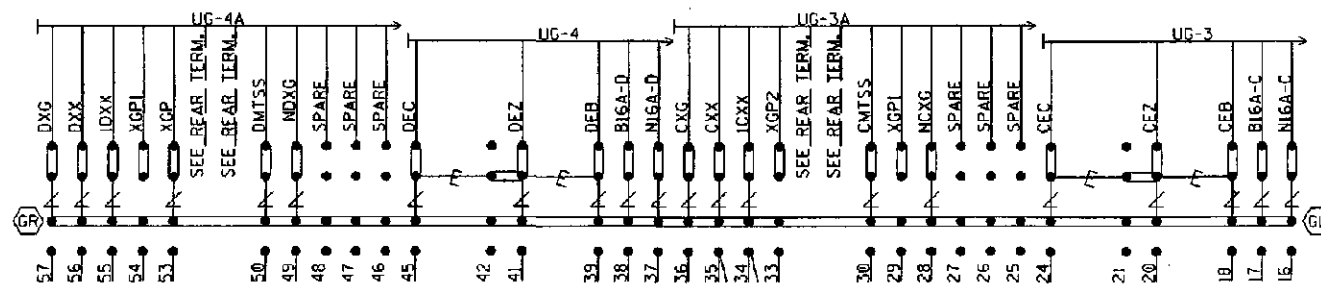
REAR OF FARADAY BACKBOARD
REAR BACKBOARD DETAIL - 1A & 1B

DESIGNED BY:	WJK 01-08-07	NS NORFOLK SOUTHERN	
DRAWN BY:	SWS 01-08-07	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-183.46
CHECKED BY:	SEK 03-29-07	SPRINGFIELD, OH FLCS AT WITTENBERG AVE.	
IN SERVICE:	- -	DAYTON DISTRICT	FILE NO. R-
		CADD or DWG. No. 82111834.21	SHEET 21 of 28

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PENNSYLVANIA R.R.

"IC"



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

SEE FARADAY SHIELD DETAILS - IC
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



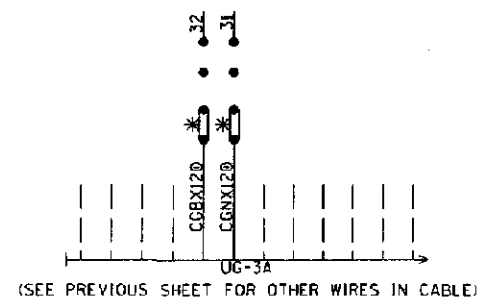
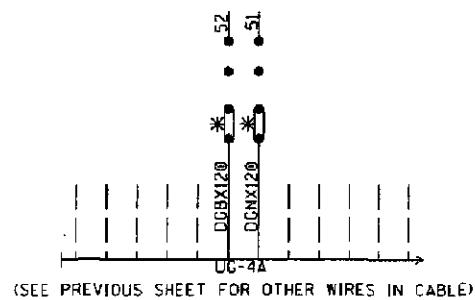
GR = TERMINALS GROUNDED TO SHIELD.
4 POST BLOCKS USE EITHER -
GR - SERMMI PART NO. 61278
GL - SERMMI PART NO. 61278-1.

BACKBOARD DETAIL - IC

DESIGNED BY: WJK 01-08-07	NS NORFOLK SOUTHERN	
DRAWN BY: SWS 01-08-07	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-183.46
CHECKED BY: SEK 03-29-07	SPRINGFIELD, OH FLCS AT WITTENBERG AVE.	
IN SERVICE:	DAYTON DISTRICT	FILE No. R-
	CADD or DWG. No. 82111834.22	SHEET No. 22 of 28

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REAR OF RIGHT ROW TERMINAL BOARD 1
"1C"



NOTE: ALL 120VAC AND ABOVE WILL BE WIRED
TO THE REAR OF FARADAY BACKBOARD.
INSULATED NUTS MUST BE USED ON ALL
TERMINALS.

* = CLOSED DURING WINTER MONTHS

REAR OF FARADAY BACKBOARD
REAR BACKBOARD DETAIL - 1C

REVISION
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PENNSYLVANIA R.R.

DESIGNED BY: WJK 01-08-07	NS NORFOLK SOUTHERN	
DRAWN BY: SWS 01-08-07	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CJ-183.46
CHECKED BY: SEK 03-29-07	SPRINGFIELD, OH FLGS AT WITTENBERG AVE.	
IN SERVICE:	DAYTON DISTRICT	FILE NO. R-
	CADD or DWG. No. 82111834.23	SHEET 23 of 28

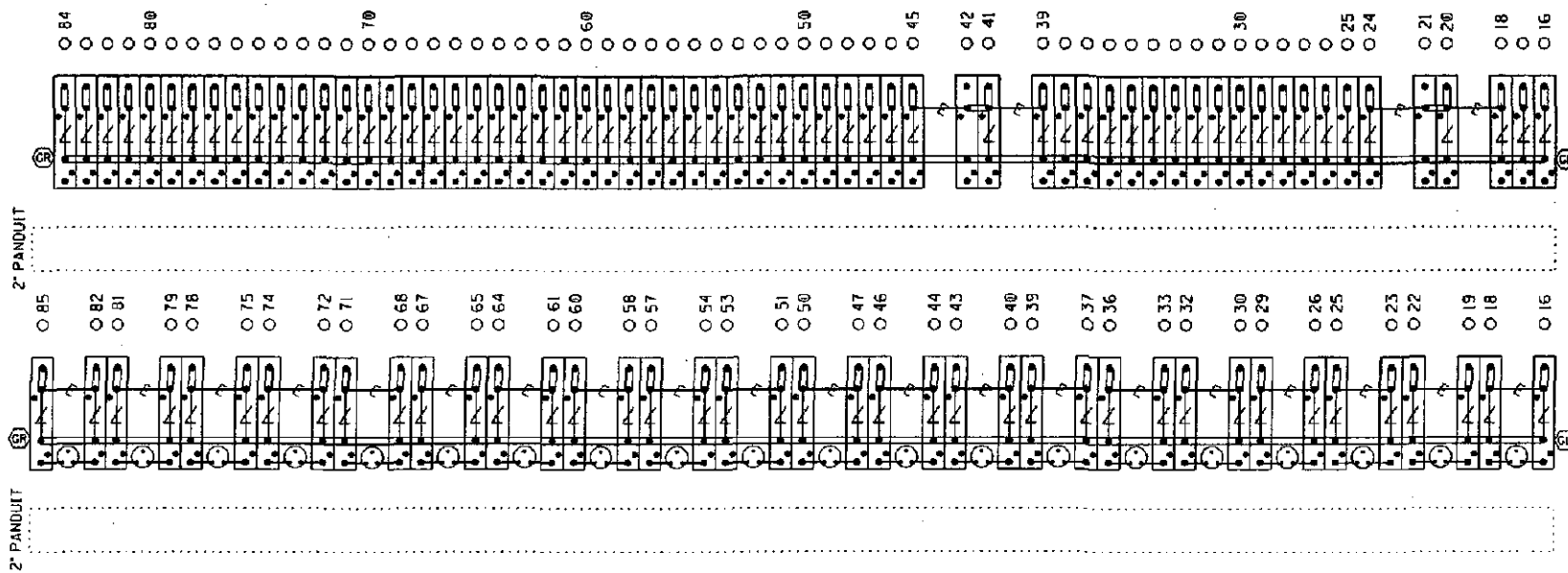
NOTE: IF THE FARADAY SHIELD WOULD EVER NEED TO
BE DRILLED IN THE FIELD, PROPER PRECAUTIONS
MUST BE TAKEN TO INSURE METAL SHAVINGS
DO NOT GET INTO EXISTING TERMINALS/WIRES.

AREA BELOW IS SCALED WITH AS=.75

TERMINAL BOARD 1
LEFT HALF

"B"

"A"



⚡ = Heavy Duty Equalizer
(022700-1X)

Clearview
⚡ = 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.

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.

DESIGNED BY:	WJK 01-08-07	NORFOLK SOUTHERN	
DRAWN BY:	SWS 01-08-07	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P. CU-183.46
CHECKED BY:	SEK 03-29-07	SPRINGFIELD, OH FLGS. AT WITTENBERG AVE.	
IN SERVICE:	- -	DAYTON DISTRICT	FILE NO. R-
		CADD OF DWG. NO. 82111834.24	SHEET No. 24 of 28

REVISION
INITIALS

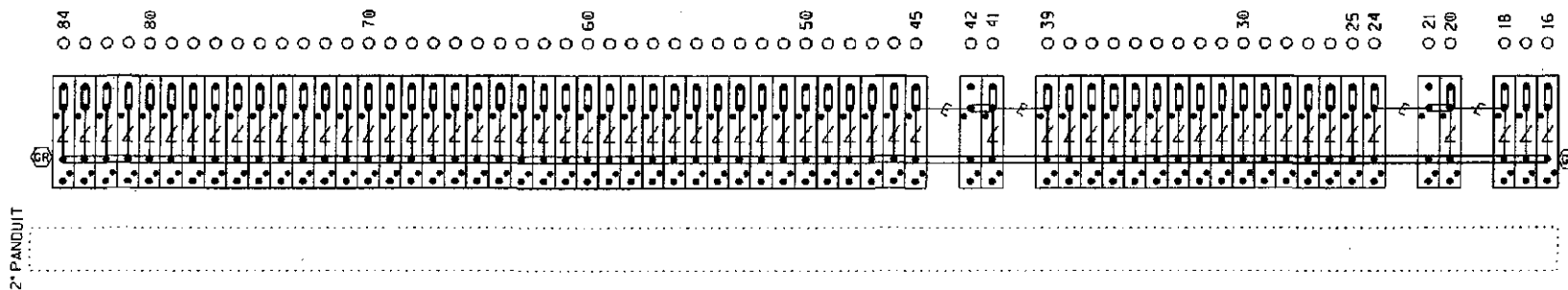
PROPERTY
PENNSYLVANIA R.R.

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

1C



⚡ = Heavy Duty Equalizer
(022700-1X)

Clearview
⚡ = Lightning Arrestor
(022585-1X)

⊙ = LPC-10560-51

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

TERMINAL BOARD 1
RIGHT ROW
FARADAY SHIELD DETAIL - 1C

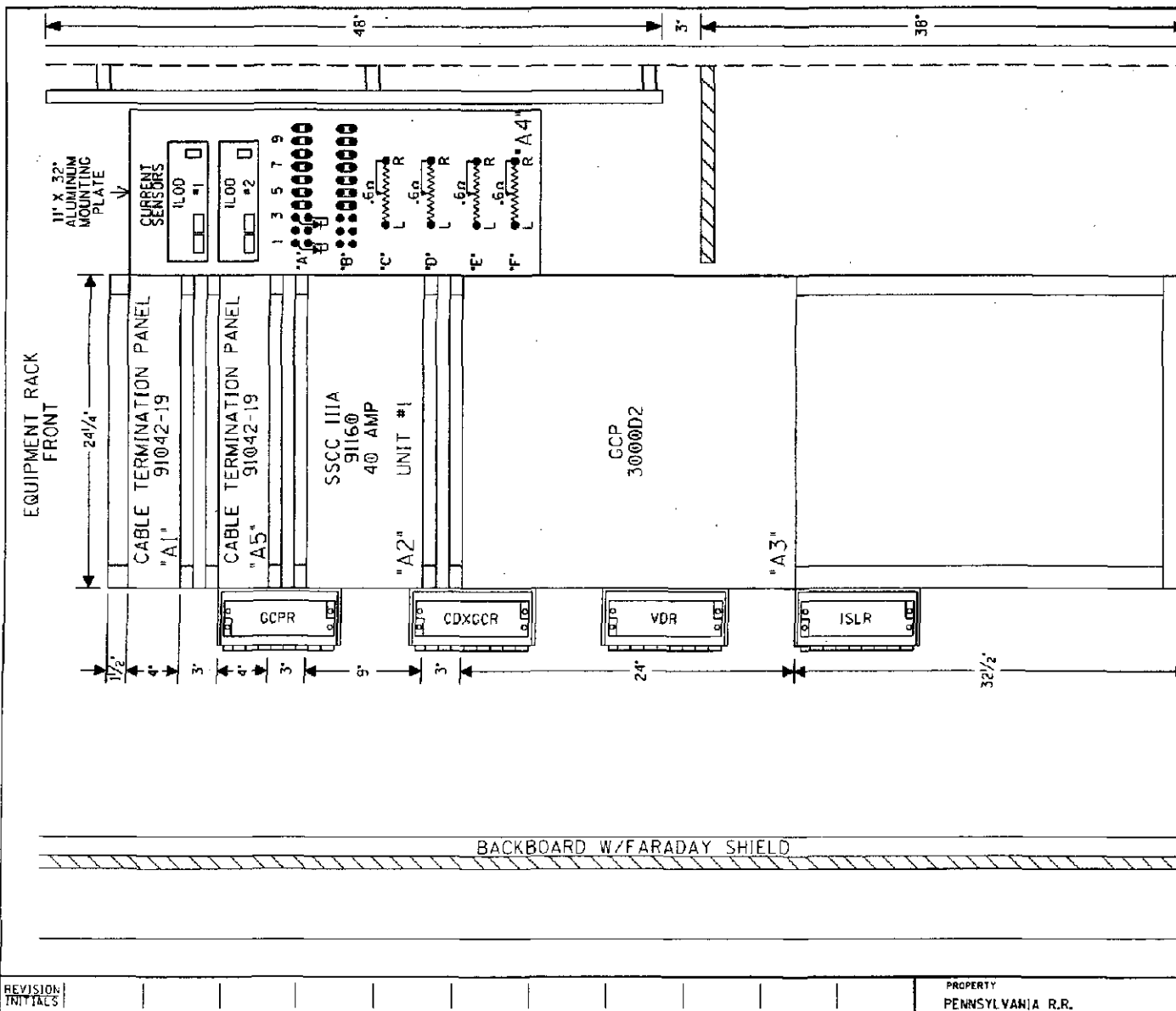
⊙ = INDICATES PLACEMENT
OF PANDUIT

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TO REFLECT HOW THE FARADAY SHIELD
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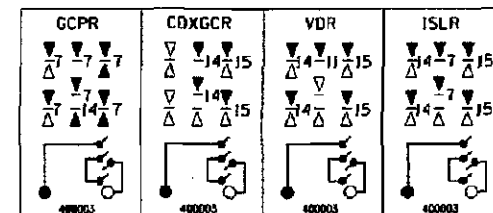
DESIGNED BY:	NS NORFOLK SOUTHERN		
WJK 01-08-07	OFFICE OF ASS'T. VICE PRESIDENT		
DRAWN BY:	COMM. & SIGNAL, ATLANTA, GA.		M.P.: CJ-183.46
SWS 01-08-07	SPRINGFIELD, OH		
CHECKED BY:	FLGS AT WITTENBERG AVE.		
SEK 03-29-07	DAYTON DISTRICT		FILE NO. R-
IN SERVICE:	CADD or		SHEET
- -	DWG. No. 82111834.25		No. 25 of 28

REVISION
INITIALS

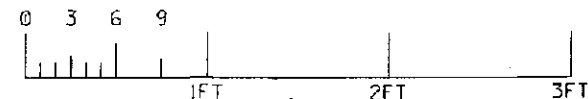
PROPERTY
PENNSYLVANIA R.R.



SAFETRAN, ALSTOM(GRS) RELAY
CROSS REFERENCE LIST
SAFETRAN ALSTOM(GRS)
400003 - A62-308



SIDE "C"



RACK PLACEMENT
6' X 6' HOUSE - SIDE "C"

DESIGNED BY: WJK 01-08-07	NORFOLK SOUTHERN	
DRAWN BY: SWS 01-08-07	OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	W.P.: CJ-183.46
CHECKED BY: SEK 03-29-07	SPRINGFIELD, OH FLCS AT WITTENBERG AVE.	
IN SERVICE:	DAYTON DISTRICT	FILE NO. R-
- -	CADD or DWG. No. 8211834.26	SHEET No. 26 of 28

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