

30

FILE

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

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

February 27, 2007
CX0116818

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

06-1326-RR-FED

RE: Norfolk Southern's Cincinnati Line Regarding the Modification of Automatic Grade Crossing Warning Devices at Burnett Road in Clark County, Ohio, DOT: 527 974S, Milepost CJ-180.95

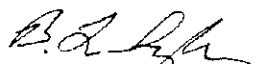
Dear Ms. Kirkland:

Attached for your 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 2 Date Processed 3.5.07

RECEIVED-DOCKETING DIV
2007 MAR -5 AM 10:11
PUCO



27-Feb-07

Detailed Estimate for Grade Crossing Warning Devices

City/State: SPRINGFIELD, OH
MilePost: CJ-180.95
State Proj. No.:
S&E Proj. No.: 10.0992
Man Days: 140

Road: BURNETT RD.
DOT/AAR: 527974S
County: CLARK
AFE: F10099
File Number: 061-10.0904

Purchases - Others	
Meals and Lodging:	\$13,172.54
Rental of Equipment:	\$28,798.00
(2 Trucks, 1 Backhoe w/ Trailer	
Construction Supervision Vehicle:	\$2,303.84
Purchases - Other Total:	\$44,274.38
Material And Additives	
Material Cost:	\$100,012.00
Sales and Use Tax:	\$0.00
Material Handling Freight:	\$5,000.58
Material Total:	\$105,012.58
Labor And Additives	
Labor Cost:	\$33,880.00
(4 man crew at \$968.00 a day for: 35 days)	
Payroll Tax & Overheads:	\$33,422.62
Preliminary Engineering:	\$11,782.46
Construction Supervision:	\$9,564.32
Labor Total:	\$88,649.40
Project Cost:	\$237,936.36
Track Removal	\$9,397.00
Scrap / Salvage Credit:	\$0.00
Project Total:	\$247,333.36

Estimated on: 27-Feb-07

Estimated by: n5s2v

Estimate valid for 1 year from date of estimate

NORFOLK SOUTHERN RAILWAY COMPANY

WESTERN REGION - LAKE DIVISION

**SPRINGFIELD, CLARK COUNTY, OH - ESTIMATE FOR THE REMOVAL OF ABANDONED
SIDING FROM THE BURNETT RD. GRADE XING. AT MP CJ-180.95, DOT NO. 527 974S.**

MATERIAL	QUANTITY	UNIT	UNIT COST	AMOUNT
ASPHALT, INSTALLED	60	TONS	75.00	4,500
GRAVEL	50	TONS	8.00	400
TOTAL (INCLUDES 5% INVENTORY OR TAX ADDITIVES)				5,145

LABOR

REMOVE EXISTING CROSSING SURFACE	LUMP SUM	500
REMOVE TRACK, INSTALL GRAVEL	LUMP SUM	700
TRAFFIC CONTROL	LUMP SUM	500
TOTAL		1,700

SALVAGE

RAIL	0.0	TON	70.00	0
SMALL SCRAP	0.0	TON	70.00	0
TOTAL (CREDIT)				0

COMPOSITE LABOR ADDITIVE 103.06%	1,752
USE OF EQUIPMENT	800
GRAND TOTAL	\$9,397

**Estimate based on full closure of road during construction. All paving, except that
done following track removal, to be done by others.**

**OFFICE OF CHIEF ENGINEER, BRIDGES AND STRUCTURES - ATLANTA, GEORGIA
DECEMBER 19, 2006**

FILE: 120-1-OH PND



Norfolk Southern Railway
Highway Crossing Signalization Program - Material List

Do not substitute items without permission from S & E Engineering

City:	SPRINGFIELD
Road:	BURNETT RD.
Mile Post:	CJ-180.95
Drawing Number:	82111810
State Project Number:	
County:	CLARK
A A R Number:	527974S
Project Number:	10.0992
File Number:	061-10.0904
New File Number:	CX0116818
A F E Number:	F10099
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.: 10.0992

AFE No.: F10099

Drawing No.: 82111810

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 Date Quan.	Quantity Installed Date Quan.	Quantity Date 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 STRAN.						
1	165-006505-4	EA	\$1,051.54	\$1,051.54	AC SERVICE, COMPLETE LESS METER BASE, ASSEMBLED ON 30' POLE						
3	670-119241-4	EA	\$32.80	\$98.40	ARRESTOR, LIGHTNING HEAVY DUTY CLEAR VIEW SAFETRAN 022585-1X						
13	105-871901-4	EA	\$161.57	\$2,100.41	BATTERY, GNB 265AH MODEL 50A11 SINGLE CELL 2.25 VOLTS						
2	670-980689-4	EA	\$71.71	\$143.42	BRACKET HIGH WIND, (RIGID 3), WIG-191036, WALRUS TUSK TYPE						
2	670-561375-4	EA	\$1,197.90	\$2,395.80	BRACKET, GATE SAVER, NEG386102GS, SPRING LOADED SWING AWAY ADAPTER FOR FIBERGLASS/ALUMINUM GATES, USE WITH GATE 28' AND LESS						
1	670-356949-4	EA	\$97.00	\$97.00	CABLE, 10' GENERATOR HOOK UP, SERRMI P/N 40524, FEMALE CONNECTOR						
500	465-292862-4	LF	\$1.04	\$520.00	CABLE, U-2-6 TWISTED, S-23 OKONITE 113-12-3933 SOLID TINNED CONDUCTOR						
100	465-292945-4	LF	\$1.35	\$135.00	CABLE, U-5-14, S-54 OKONITE 206-14-6885						
350	465-292929-4	LF	\$3.05	\$1,067.50	CABLE, U.G. 5 COND. NO. 6 AWG SOLID COPPER CABLE TO MEET NS CORP. SPEC. FOR SIGNAL						
300	465-939422-4	LF	\$2.55	\$765.00	CABLE, UG 12 CONDUCTOR NO 14 AWG SOLID EACH CONDUCTOR WITH 5/64 IN INSULATION 10 MIL						
100	465-791835-4	FT	\$2.22	\$222.00	CABLE, UG AC ENTRANCE 3C#6-7X OKONITE FMFPL 094-078 TR W/G 1 X 8 7X W010 BRZ TAPE 600V PRODUCT CODE 206-11-6070						
2	670-064643-4	EA	\$3,459.04	\$6,918.08	CANTILEVER, W/T/F ARM 22' W/WALKWAY KIT SAFTRAN #071274-22NS2						
80	165-544477-4	FT	\$2.55	\$204.00	CONDUIT, 4"x10" PVC, SCHEDULE 80 BELL CONNECTOR AT ONE END, 1/2 PT. GLUE IN KIT 670-123288-4						
4	670-090450-4	EA	\$50.38	\$201.52	CONNECTOR, WELDED FAR RAIL HARMON A1000-2W						
4	670-488646-4	EA	\$41.62	\$166.48	CONNECTOR, WELDED NEAR RAIL HARMON A1000-1W						
2	670-794453-4	EA	\$854.03	\$1,708.06	COUNTERWEIGHT PKAGE, 25-31 GATE STAN S- MECH ONLY, STAINLESS TO INCLUDE HUB, SUPPORT ARMS						

APPROVED BY STATE

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CAR NUMBER

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Tuesday, February 27, 2007 8:38 AM

Page: 2 of 5

Location: SPRINGFIELD

OH

S&E Proj. No.: 10.0992

AFE No.: F10099

Drawing No.: 82111810

Store No.:

P.O. Number:

Date Required:

Date Shipped:

Vendor: Intertail Engineering, INC

Qty.	Class-Item-CD	U	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Date Quan.	Quantity Date Installed Quan.	Quantity Date Returned (Credit)	Special Instructions
10	670-760012-4	EA	\$40.02	\$400.20	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					
1	670-000004-4	EA	\$700.00	\$700.00	FCC LICENSE FOR MONITOR/RADIO					
2	670-000003-4	EA	\$255.85	\$511.70	FILLSTONE #57, QUANTITY IS BASED ON TRUCK LOAD PLUS DELIVERY COST					
2	670-744631-4	EA	\$2,706.00	\$5,412.00	FOUNDATION, C/LS FOR SAFETRAIN MODEL "WT/F" ARMS 12' TO 30' SINGLE MAST, DIXIE# S-10-3WS-C, 5'10" CR 02-205902					
2	670-015231-4	EA	\$423.50	\$847.00	FOUNDATION, DIXIE, S-2 GATE 5'6" ASSEMBLED					
2	670-263738-4	EA	\$331.87	\$663.74	GATE, ARM FIBERGLASS-ALUMINUM 25-31 FT. INCLUDES GATE GUARD FOR GATE LIGHT CABLE. 076600-320017, NEG P/N 8002-4NFS/CG					
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	\$256.93	\$256.93	KIT, HARDWARE SUPPLIES REQUIRED X'ING PKAGES. WEB CONNECTORS FOR SHUNT(BEA) TAPE, AMPS, P/GUM PAINT, SLEEVES, TAGS, GLUE, 100 EA WHITE TAGS, JNE CAN BLUE MARKING PAINT ETC...					
2	670-719126-4	EA	\$473.73	\$947.46	LAMP ASSY, 4" JURY INSIDE LANE LIGHT, USE WITH W OR WT/F CANT, 1W (FRONT) IND. 20" BKGRD, FLX-12 W/BULB STRAN# 042003-480XNS					
2	670-142763-4	EA	\$849.42	\$1,698.84	LAMP ASSY, 12" LIGHT, 2 WAY IND. FOR MTG ON THE TIP OF WT/F CANTILEVER ARM, SAFETRAIN P/N 042003-488XNS					
2	670-816589-4	EA	\$551.10	\$1,102.20	LAMP ASSY, 5" MAST MTG. 1W IND. 20" BKGRD, (BACK) LTS.FLX 12W/BULB STRAN # 042003-001493					
2	670-167654-4	EA	\$716.73	\$1,433.46	LAMP ASSY, FLX 12" LIGHT UNIT, USE WITH W & WT/F MAST, 1W (FRONT) INDICATION FOR WT/F CANTILEVER MAIN MAST, SAFETRAIN P/N 042003-489XNS					
6	166-643647-4	EA	\$4.30	\$25.80	LAMP, 18 WATT 10 VOLT S-11 SC BAY 18S11/1SC CLEAR RMY SIGNAL LU-71463 GE					
3	670-440826-4	EA	\$1.01	\$3.03	LINK, SAFETRAIN 024620-1X INSL TESTING COMP 1 IN CENTER SIGNAL CIRCUITS CR 02-286662					

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SEAL NUMBER

Tuesday, February 27, 2007 8:38 AM

Page: 3 of 5

Location: SPRINGFIELD

OH

S&E Proj. No.: 10.0992

AFE No.: F10099

Drawing No.: 8211810

Store No.:

P.O. Number:

Date Required:

Date Shipped:

Vendor: Interroll Engineering, INC

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Date Quan.	Quantity Date Installed	Quantity Date Returned	Quantity Returned (Credit)	Special Instructions
6	255-590880-4	EA	\$16.12	\$96.72	LOCK, AMERICAN LOCK MODEL H-10KA KEYS ALIKE TO PRIVATE KEYWAY D456 AND STAMPED "NS SIG"						
2	670-637778-4	EA	\$1,031.41	\$2,062.82	MAST, 5' ALUMINUM 1310" WITH DOUBLE JCT. BOX BASE. STRAN P# 070519-11AX.						
2	670-201210-4	EA	\$4,990.00	\$9,980.00	MAST, W/T/F ARMS, 12 W/LADDER KIT FOR 21'-30", PN 071271-30NS						
2	670-850933-4	EA	\$3,352.65	\$6,705.30	MECHANISM, GATE MODEL S-60, WITH DEFROSTER AND MINI TRACKSIDE SENSOR STRAN # 0740007-X002B3						
2	670-001355-4	EA	\$72.59	\$145.18	PACKAGE, HARDWARE SIGN 12 IN. (USE WITH W/T/F MAST) MOUNTING, SERRMI A1250-8, HARMON @180004/0007,						
2	670-514605-4	EA	\$8.45	\$16.90	PINNACLE, W-C SECT 1-11, 4" & 5" REF K1 110-8 OR SAFETRAN NO. @035045-503X						
1	670-555609-4	EA	\$45.12	\$45.12	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	165-902002-4	EA	\$308.00	\$308.00	PROTECTOR, SURGE 120/240VAC, ERICO P/N EPD120/240TDFL						
5	465-002899-4	EA	\$22.06	\$110.30	REEL, CABLE DISPOSABLE FOR CROSSING SIGNAL PACKAGES						
1	670-742096-4	EA	\$41.80	\$41.80	RELAY INTERFACE PROBE, ULTRATECH PN 16031-00						
1	670-707995-4	EA	\$313.67	\$313.67	RELAY, TYPE B1, NEV LINE, 900 OHMS, .008 AMPERES GRS A62-308 OR SAFETRAN @400003						
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 MTS, 1-GFT, 1-VHFC, 2-RECORDER INTERFACE MODULE, 1-ECHOLON CONNECTOR						
1	670-085658-4	EA	\$373.00	\$373.00	SEARII, (ILOD) - INTELLIGENT LAMP OUT DETECTOR, SAFETRAN P/N A80271, 1 / 20 AMP SSCC, 2 / 40 AMP SSCC						
1	670-281280-4	EA	\$7,006.00	\$7,006.00	SHELTER BARE 6X6, ALUMIN, FARRADAY, W/CABLE CHUTES BEHIND TERMINAL BOARD, W/GEN. CONN. W/ADJUSTABLE PIERS, SAFETRAN P/N 058400-66-78A						
2	670-588697-4	EA	\$37.68	\$75.36	SHUNT COVER W/LAG SCREWS, 19"X19", SERRMI #40271, ORDER 1 PER SHUNT						

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CAR NUMBER

SEAL NUMBER

Tuesday, February 27, 2007 8:36 AM

Page: 4 of 5

Location: SPRINGFIELD

OH

S&E Proj. No.: 10.0992

AFE No.: F10099

Drawing No.: 82111810

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 Date Quen.	Quantity Date Quen.	Quantity Date Quen.	Quantity Returned (Credit)	Special Instructions
2	670-645460-4	EA	\$596.03	\$1,192.06	SHUNT, MULTI-FREQ. #62775-8621 SAFETRAN NARROW BAND						
2	670-397239-4	EA	\$40.23	\$80.46	SIGN CROSSING MALFUNCTION ASSEMBLY FOR 12" MAST, SAFETRAN #T17216						
2	670-806648-4	EA	\$56.42	\$112.84	SIGN, X-BUCK, LESS HARDWARE, SAFETRAN 035200-X CR 02-490546						
1	670-330382-4	RL	\$15.68	\$15.68	TAPE, THOR 3" DURATEC, ORANGE 1000' LENGTHS, "WARNING STOP DIGGING"						
3	670-478560-4	EA	\$19.47	\$58.41	TERMINAL BLOCK, ERICO 4 POST P/N B2700A2C1WH W/HARDWARE LESS LIGHTNING ARRESTOR						
1	610-065626-4	EA	\$17.55	\$17.55	ULTRA-TECH 15206-01 CONNECTIVITY BLOCK FOR GRS B1 RELAY						
4	670-007238-4	EA	\$129.46	\$517.84	UNIT, THE INSTALLATION AND WIRING OF A DEVICE WHICH REQUIRE A MINIMUM OF FOUR WIRE CONNECT.						
250	465-999111-4	LF	\$0.29	\$72.50	WIRE, NO.10, 1 CONDUCTOR, CASE, FLEXIBLE 37 STRAND, 3/64 IN. INSULATION-ORDER EXT.AMT. NEEDED CR 02-620502						
1	670-255598-4	EA	\$33,124.18	\$33,124.18	WIRED RACK, 6X6 FARADAY, 40AMP DOUBLE TRK SSCCIIIA, GCP 3000D2, 2 CRAGG CHARGER, 2 RELAY RACKS, SAFETRAN P/N 40A 2TRK, 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: \$100,011.55

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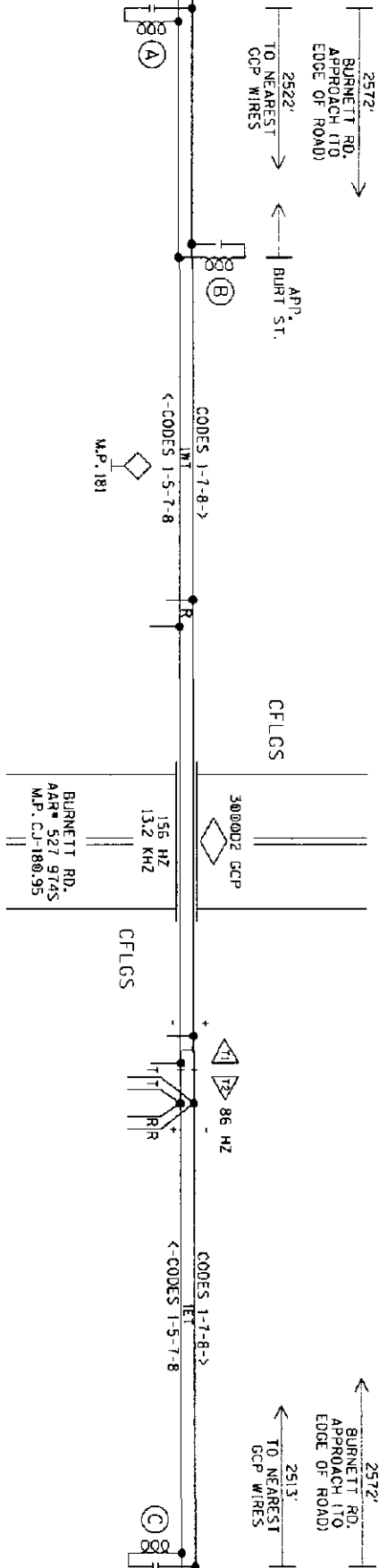
Page: 5 of 5

TO CP 248
(R.R. WEST)

TO CP 138
(R.R. EAST)

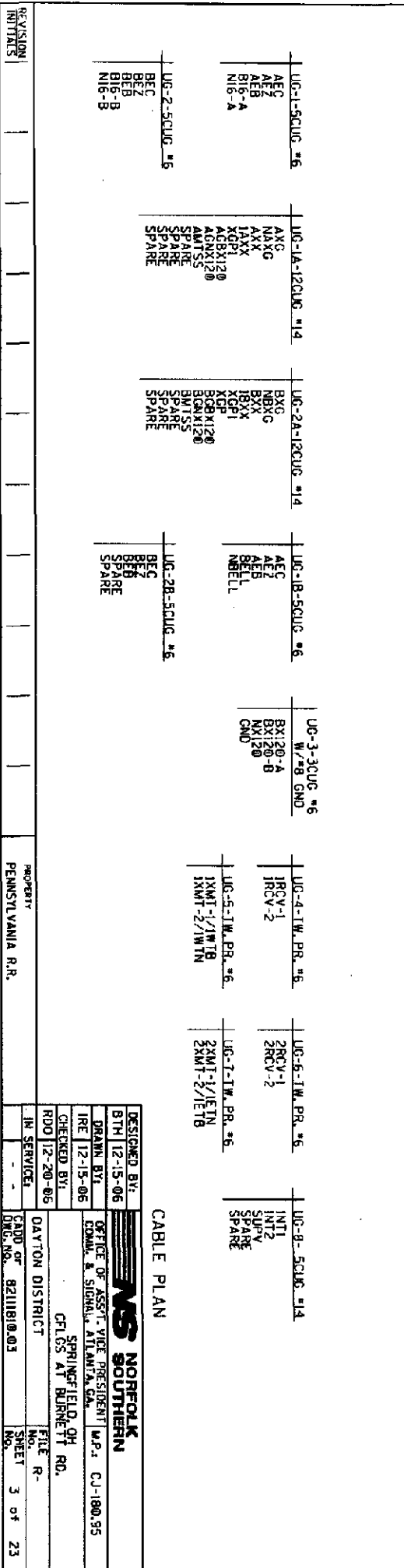
START 679'
MILEPOST 299'
74'
83' GEO REPEATER

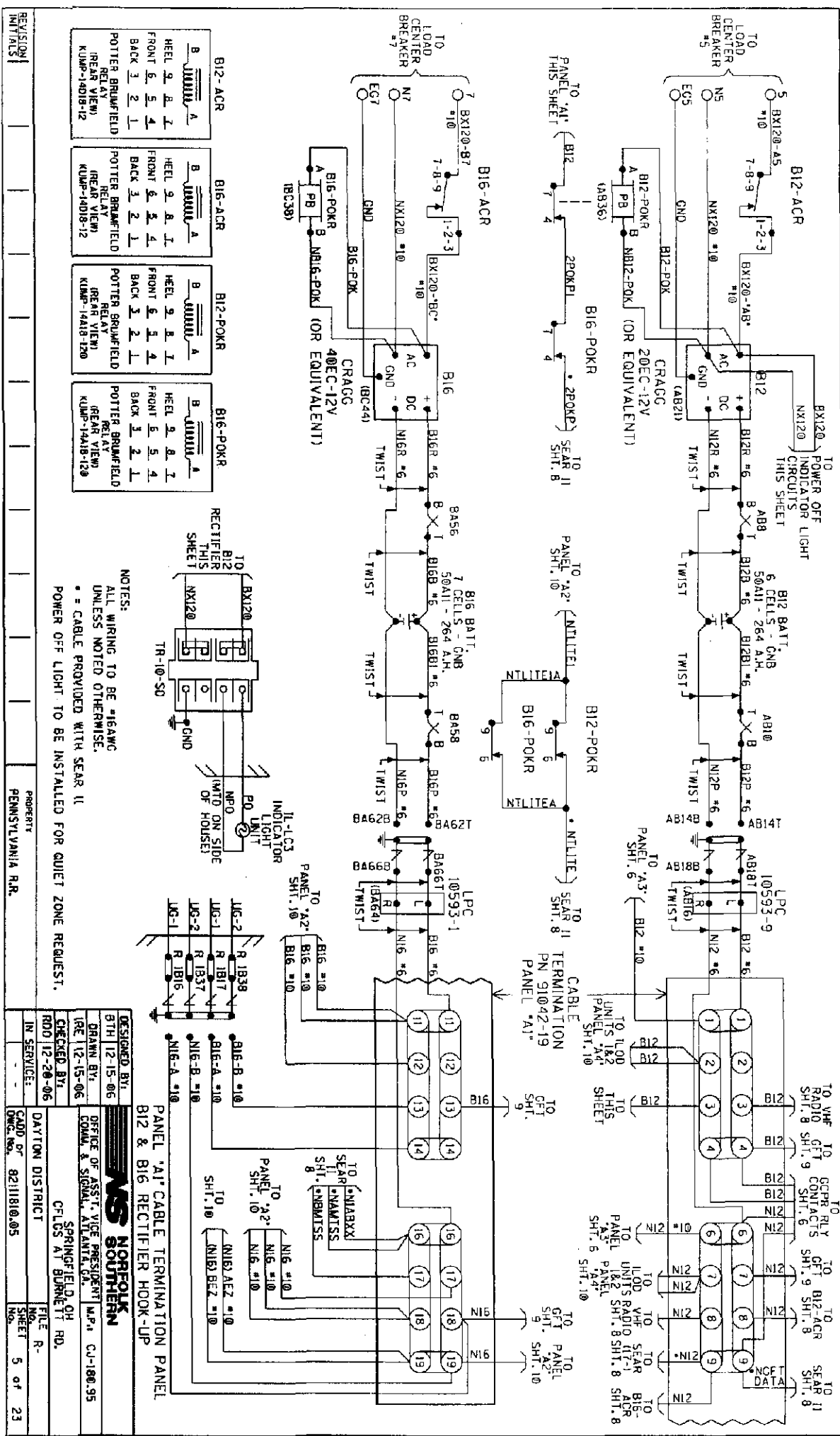
- (A) - MF-NBS 62775-1543 (156HZ)
- (B) - MF-NBS 62775-1543 (285HZ)
(PROPOSED FREQUENCY)
- (C) - MF-NBS 62775-8621 (86HZ)

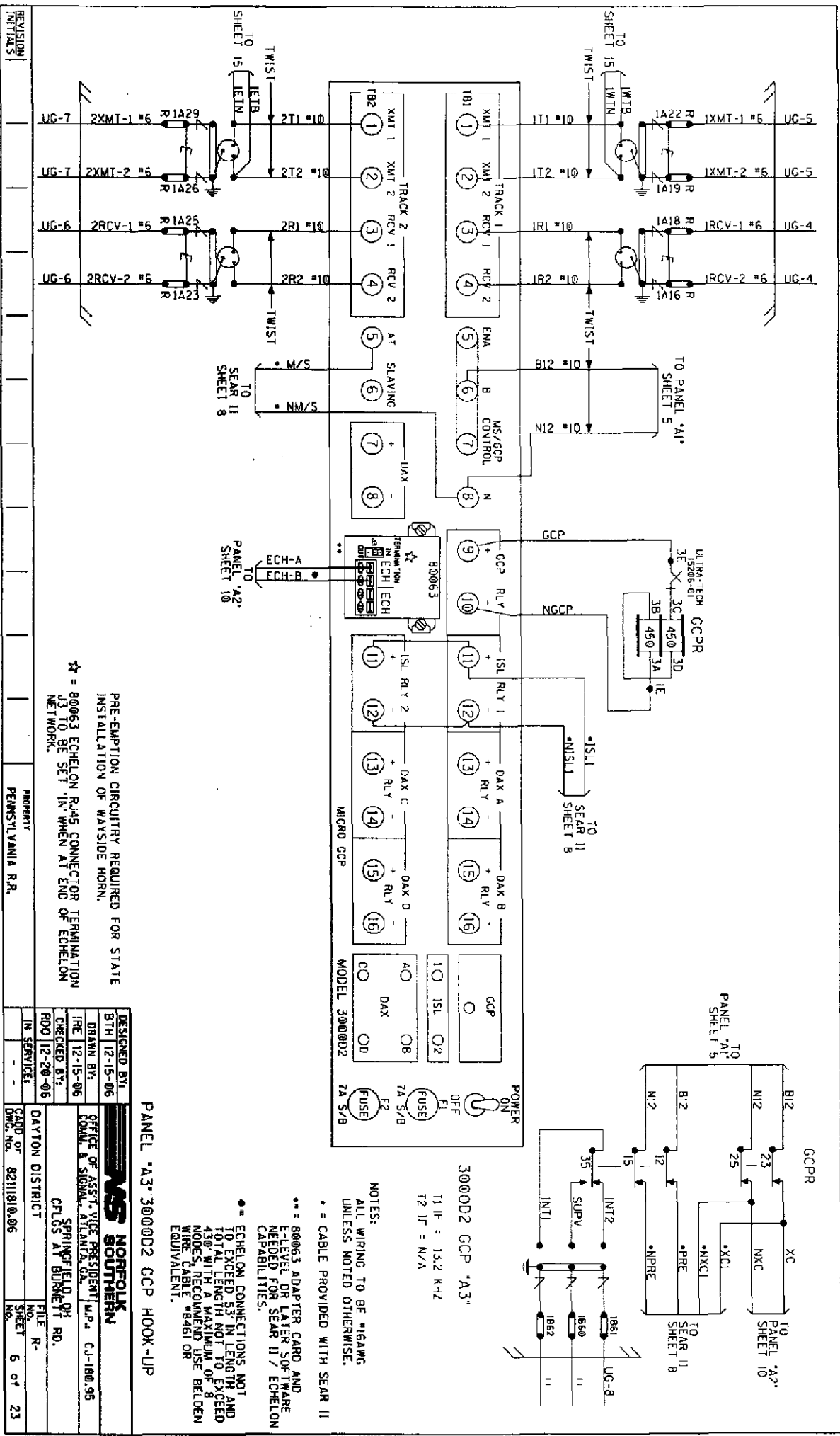


PROFILE

DESIGNED BY:	BTM 12-15-06	OFFICE OF ASS'T. VICE PRESIDENT	M.P.A. CJ-180.95
DRAWN BY:	IRE 12-15-06	COMM. & SIGNAL, ATLANTA, GA.	
CHECKED BY:	RDO 12-20-06	SPRINGFIELD, OH	
IN SERVICE:		CFLGS AT BURNETT RD.	
DAYTON DISTRICT			
FILE NO.		FILE R-	
DRG. NO.	8211810.02	SHEET	2 of 23

[illegible]





REVISION	INITIALS	PROPERTY	DESIGNED BY	DRAWN BY	CHECKED BY	IN SERVICE	DATE	FILE NO.	SHEET NO.
		PENNSYLVANIA R.R.	BTH 12-15-06	WPA 12-15-06	WPA 12-15-06				
			OFFICE OF ASST. VICE PRESIDENT	WPA 12-15-06	WPA 12-15-06				
			COMM. & SIGNALS DIVISION	WPA 12-15-06	WPA 12-15-06				
			SPRINGFIELD, OHIO	WPA 12-15-06	WPA 12-15-06				
			FILE NO. R-1	WPA 12-15-06	WPA 12-15-06				
			DAYTON DISTRICT	WPA 12-15-06	WPA 12-15-06				
			CAD. NO. 8211810.06	WPA 12-15-06	WPA 12-15-06				

PRE-EMPTION CIRCUITRY REQUIRED FOR STATE
INSTALLATION OF WAYSIDE HORN.

☆ = 80063 ECHOLON R445 CONNECTOR TERMINATION
J3 TO BE SET 'IN' WHEN AT END OF ECHOLON
NETWORK.

PANEL 'A3' 3000D2 GCP HOOK-UP

- NOTES:
- ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
 - * = CABLE PROVIDED WITH SEAR II
 - ** = 80063 ADAPTER CARD AND LEVEL OR LATER SOFTWARE NEEDED FOR SEAR II / ECHOLON CAPABILITIES.
 - = ECHOLON CONNECTIONS NOT TO EXCEED 33' IN LENGTH AND TOTAL LENGTH NOT TO EXCEED 430' WITH A MAXIMUM OF 8 NODES. RECOMMEND USE BELDEN WIRE CABLE #8461 OR EQUIVALENT.

300002 PROGRAMMING CHART		LEVEL: 0
NUMBER OF TRACK TRANSCEIVERS	2	
T1: FREQUENCY	156Hz	
T2: FREQUENCY	86Hz	
T1: UNIDIRECTIONAL/BIDIRECTIONAL	UNI	
T2: UNIDIRECTIONAL/BIDIRECTIONAL	UNI	
T1: XM1 LEVEL (MAX/MED)	MED	
T2: XM1 LEVEL (MAX/MED)	MED	
T1: PREDICTOR/MOTION SENSOR	PRED	
T2: PREDICTOR/MOTION SENSOR	PRED	
T1: WARNING TIME	30 Sec	
T2: WARNING TIME	30 Sec	
T1: APPROACH DISTANCE	25.2 Ft	
T2: APPROACH DISTANCE	25.3 Ft	
UAX1 PICKUP DELAY (UAX) (0 = OFF)	0 Sec	
ENA/UAX2 DELAY (0 = ENA)	0 Sec	
T1: ISLAND DISTANCE	157 Ft	
T2: ISLAND DISTANCE	0 Ft	
NUMBER OF DAX'S	0 Ed	
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/SLAVED	MASTER	
PASSWORD ENABLED	NO	
RECORDER INSTALLED	NO	

(1)	(1)
(1)	(2)
(2)	(2)
(2)	(2)
(2)	(2)
(2)	(2)
(2)	(2)
(3)	(3)
(3)	(3)
(3)	(3)
(4)	(4)
(4)	(4)
(5)	(5)
(5)	(5)

1 - SEE IPI INSTRUCTION AND
INSTALLATION MANUAL FOR
80211 ISLAND CALIBRATION
PROCEDURE.

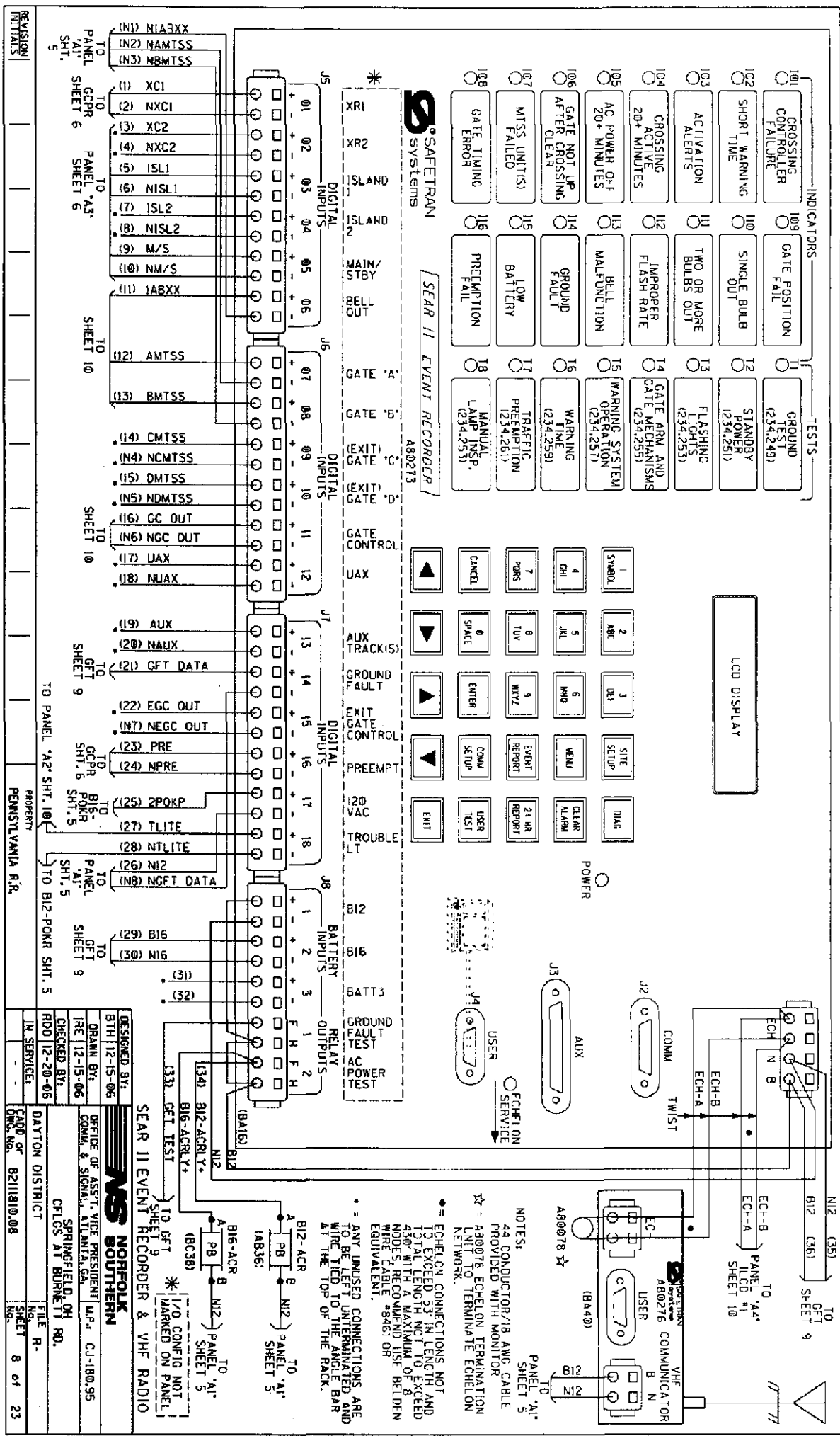
80214 & 80255 (WITH JUMPER)
CARDS AND E-LEVEL OR LATER
SOFTWARE NEEDED FOR SEAR II /
ECHELON CAPABILITIES.

MODEL 300002 GCP MODULE ASSEMBLIES

MODEL 300002 CCP MODULE ASSEMBLIES												
UPPER BAY												
MODULES POSITION		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11
MODULE NUMBERS		80211-13.2KHZ(1) *										
		80211-f(2) ISL										
		80012 T/R 1										
		80012 T/R 2										
		80013 RLY DRV										
		80214 PROC5										
		80255 REC-INTF										
		80016 (1) DAX										
		80016 (2) DAX										
		80020 +80017										
LOWER BAY												
MODULES USED		X	X	X	X	X	X	X	X	X	X	X

JOHN W. NORTON
NORTON SOUTHERN

2) AVAILABLE WHEN TRANSFER DELAY MS TO CCP AND DAX DISTANCE IS GREATER THAN ZERO	12: MOTION SENSING LEVEL (0 = NORMAL)	0	%
3) AVAILABLE WHEN ENHANCED DETECTION IS ON			
4) AVAILABLE WHEN LOW E2 DETECTION IS ON			
5) AVAILABLE WHEN POSITIVE START IS ON			
REVISION			
INITIALS			
PRIORITY PENNSYLVANIA R.R.			
DESIGNED BY: BTJ-12-15-06			
DRAWN BY: IRE-12-15-06			
CHECKED BY: RDO-12-20-06			
IN SERVICE: - -			
DAYTON DISTRICT			
CADD OF 8211810.07			
SHEET 7 of 23			
 NORFOLK SOUTHERN OFFICE OF SIGNAL, ATLANTA, GA. CPLES AT BURNETT RD. MP# CJ-180.95 FILE R-			

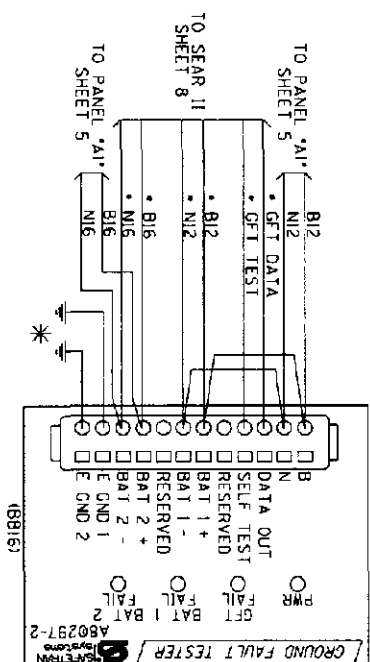


SITE SET UP PROCEDURE	
FUNCTION	LED DISPLAY
DATE	- - -
TIME	- - -
DAYLIGHT SAVINGS TIME	YES
TIME ZONE	EST
SITE NAME	BURNETT RD.
DOT NUMBER	527 9745
MILEPOST	CJ-180.95
TESTER TYPE	CROSSING
DATE FORMAT	MM-DD-YYYY
TEMP FORMAT	FAHRENHEIT
SITE TYPE	NO COMMUNICATION
SITE ATCS	7.550.234.018.03.01
OFFICE ATCS ADDRESS	2.000.00.0000
POLL ID	1
OFFICE FB/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	7 BULBS
CURR 1: LAMP SET UP	7 BULBS
CURR 2: LAMP SET UP	7 BULBS

VERIFY NUMBER OF BULBS: SENSOR #2	7 BULBS
CURR 1: LAMP SET UP	7 BULBS
CURR 2: LAMP SET UP	7 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?	NO
AUX TRACK	(SET IF AUX TRACKS = YES)
GATES?	2
EXIT GATES?	0
UAX?	NOT INSTALLED
BATTERY BANKS?	2
PREDICTION?	NORMAL
MOD 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	7.550.234.018.07.01



VERIFY THE BATTERY SUPPLY VOLTAGES	
BI2 BATTERY VOLTAGE	VOLT 1:
AT INPUT DC1	
BI6 BATTERY VOLTAGE	VOLT 2:
AT INPUT DC2	

NOTES:

ALL WIRING TO BE *ISAWC
UNLESS NOTED OTHERWISE

* = CABLE PROVIDED WITH SEAR II

** = 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.

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

SEAR II SET UP CHART & GROUND FAULT TESTER

DESIGNED BY:	BTH 12-15-06	OFFICE OF ASST. VICE PRESIDENT	W.P. CJ-180.95
DRAWN BY:	IRE 12-15-06	COMM. & SIGNAL, ATLANTA, GA.	
CHECKED BY:	RDO 12-20-06	SPRINGFIELD, OH	
IN SERVICE:		CFLS AT BURNETT RD.	
DAYTON DISTRICT		FILE R-	
CADD OF	8211810.09	SHEET	9 of 23

PROGRAM	
FLASHER RATE	40
1 CC DELAY	4 SEC.
2 CC 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

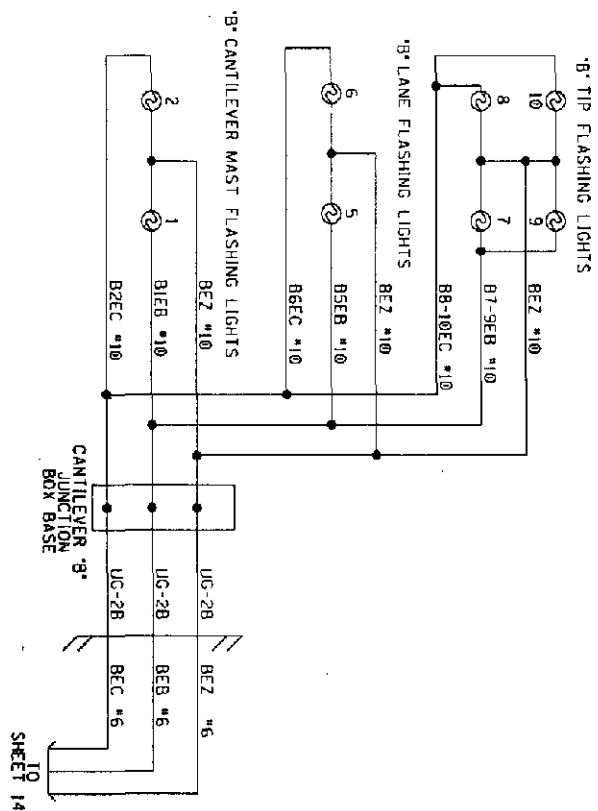
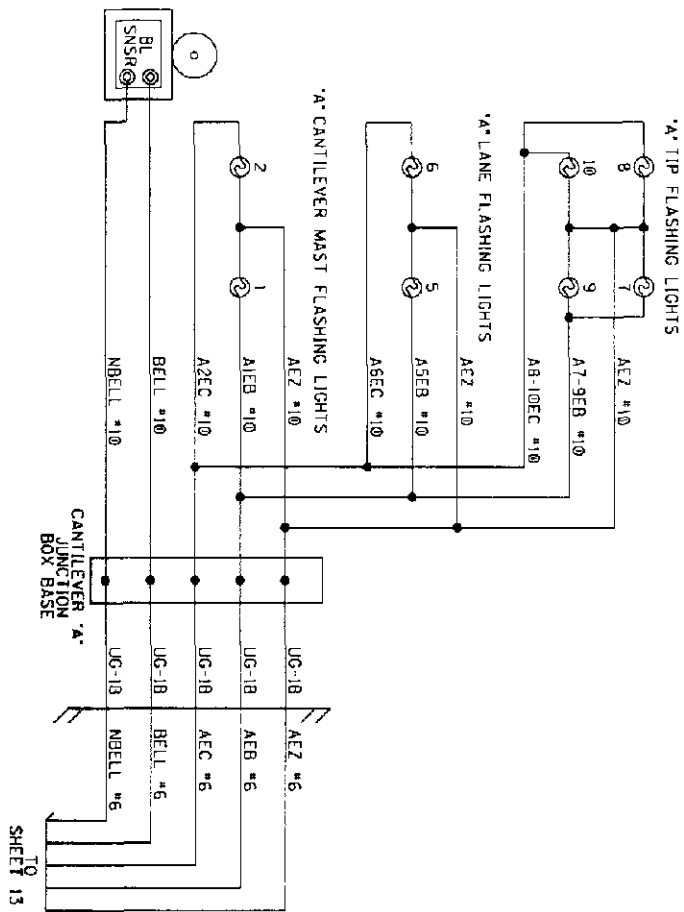
SETUP LAMP VOLTAGE	
SETUP OUTPUT 1L1 XX.X VOLTS	
SETUP OUTPUT 1L2 XX.X VOLTS	
SETUP OUTPUT 2L1 XX.X VOLTS	
SETUP OUTPUT 2L2 XX.X VOLTS	

CONFIGURE	
1: 0 SEC.	
2: 0 SEC.	
3: 0 SEC.	
4: 0 SEC.	
5: 0 SEC.	
6: 0 SEC.	
7: 0 SEC.	
LOS TIMERS	
AICS ADDRESS	755023401807
LOW BATTERY	DISABLED
AUX I/O	IN OUTPUT

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

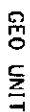
PANEL "A2" CROSSING CONTROLLER SET-UP CHART

DESIGNED BY: BTM 12-15-06		DRAWN BY: IRE 12-15-06		CHECKED BY: RDO 12-20-06		IN SERVICE: -	
OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		NORFOLK SOUTHERN		SPRINGFIELD, OH		DAYTON DISTRICT	
U.P.: C-180.95		CPGS AT BURNETT RD.		FILE R-NO.		SHEET 11 of 23	
PROPERTY		PENNSYLVANIA R.R.		CADD OF		Dwg. No. 8211810.11	
REVISION INITIALS							

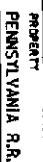


CANTILEVER FLASHER LIGHTS

DESIGNED BY:	BTH	12-15-06
DRAWN BY:	IRE	12-15-06
CHECKED BY:	RDO	12-20-06
IN SERVICE:	-	-
NPS NO FOLK SOUTHERN		
OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.J.	CJ-180-95
SPRINGFIELD OH CFLCS AT BURNETT RD.		
DAYTON DISTRICT	FILE R-	
CADD or SHEET NO.	NO.	SHEET 12 of 23
DWG. NO.	82111810.12	



GED WAGO
CONN.

[illegible]

CODED TRACK OPERATING PARAMETERS

SLOT 2 (M2)		
PROPERTY	VALUE	UNITS
VCO VOLTAGE	2100	mV
RECEIVE	TRUE	
TRANSMIT	TRUE	
CODE 5	ALTERNATING	
EC4 COMPATIBILITY	EC4 PLUS	
NON-VITAL CHANGE	2	CYCLES
VITAL CHANGE	2	CYCLES
SHUNT DROP	2	CYCLES
SHUNT PICK	5	CYCLES
CURRENT LIMIT	10000	mA

CODED TRACK OPERATING PARAMETERS

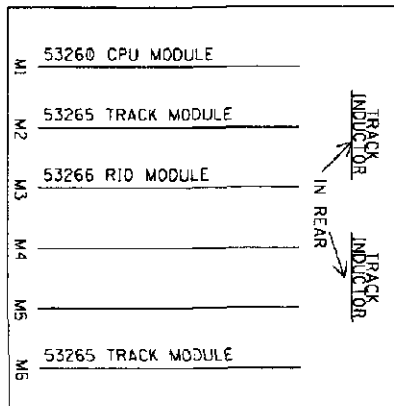
SLOT 6 (M6)		
PROPERTY	VALUE	UNITS
VCO VOLTAGE	2100	mV
RECEIVE	TRUE	
TRANSMIT	TRUE	
CODE 5	ALTERNATING	
EC4 COMPATIBILITY	EC4 PLUS	
NON-VITAL CHANGE	2	CYCLES
VITAL CHANGE	2	CYCLES
SHUNT DROP	2	CYCLES
SHUNT PICK	5	CYCLES
CURRENT LIMIT	10000	mA

RIO OPERATING PARAMETERS

SLOT 3 (M3)		
PROPERTY	VALUE	UNITS
VP DEBOUNCE	20	ms

GEO™
REPEATER UNIT A53245

MCF NAME: GEORCQ 004



MODULE SOFTWARE VERSIONS

53260 CPU: GE000_31 MEF CRC: 2617
 53265 TRACK: TR0010 MEF CRC: B116
 53266 I/O: R100104 MEF CRC: 7AA

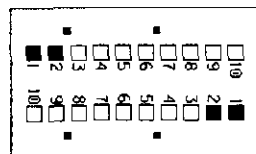
SETUP VITAL OPTIONS

VITAL USER OPTIONS		
USER OPTION	VALUE	UNITS
EWLNMPROPT	ENABLED	N/A
WMLNMPROPT	ENABLED	N/A
WALX-C6	DISABLED	N/A
EAUX-C6	DISABLED	N/A
VITAL USER TIMERS		
ETGSMC	1	SEC
EWLWFD	20	SEC
WTCGNC	1	SEC
WMLWFD	20	SEC

NON-VITAL USER OPTIONS

NON-VITAL USER OPTIONS		
OPTIONS	WEST TRACK (SLOT 2)	EAST TRACK (SLOT 6)
CODE 5	WBK OFF	EBK OFF
	WBK ON	EBK ON
	WBK ON TRACK	EBK ON TRACK
	WBK REPEAT	EBK REPEAT
AUX BLOCK	1WMLAUXBK OFF	1ELAUXBK OFF

UCN: 636A1D10
 SIN: 7000000000000000
 CRC: 67D26205



KEYING FINGERS: ■ = CUT
 ■ = USED
 □ = NOT USED

GEO REPEATER CONNECTOR PINOUTS

PIN	J4	J5
1	VR01 +	1WML
2	VR01 -	1WML
3	VR02 +	1EWL
4	VR02 -	1EWL
5	VR03 +	
6	VR03 -	
7	VR04 +	
8	VR04 -	
9	VR01 +	1WML
10	VR01 -	1WML
11	VR02 +	1EWL
12	VR02 -	1EWL
13	VR03 +	
14	VR03 -	
15	VR04 +	
16	VR04 -	
17	VR01 +	1WML
18	VR01 -	1WML
19	VR02 +	1EWL
20	VR02 -	1EWL
21	VR03 +	
22	VR03 -	
23	VR04 +	
24	VR04 -	
25	VR01 +	1WML
26	VR01 -	1WML
27	VR02 +	1EWL
28	VR02 -	1EWL
29	VR03 +	
30	VR03 -	
31	VR04 +	
32	VR04 -	

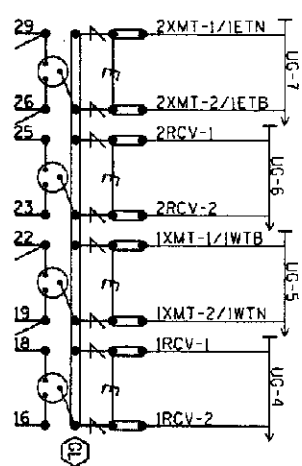
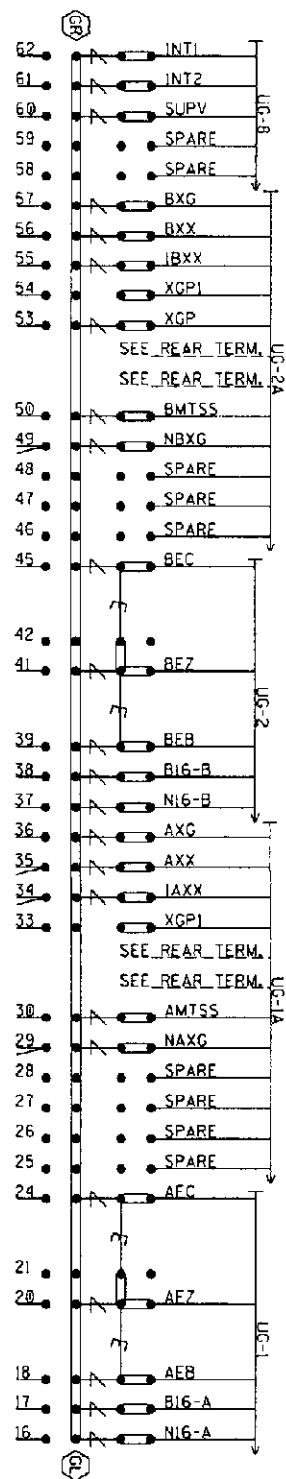
FIELD TO RELOCATE
 GEO EQUIPMENT FROM
 EXISTING HOUSE.

GEO USER OPTIONS AND
OPERATING PARAMETERS

DESIGNED BY: BTM 12-15-06		OFFICE OF ASS'T. VICE PRESIDENT	
DRAWN BY: JRE 12-15-06		COMM. & SIGNAL, ATLANTA, GA.	
CHECKED BY: RDO 12-20-06		SPRINGFIELD, MO.	
IN SERVICE: DAYTON DISTRICT		FILE R-16	
CAD OF: DRG. NO. 8211810.16		SHEET 16 OF 23	

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.

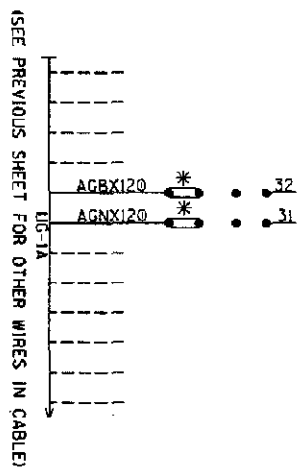
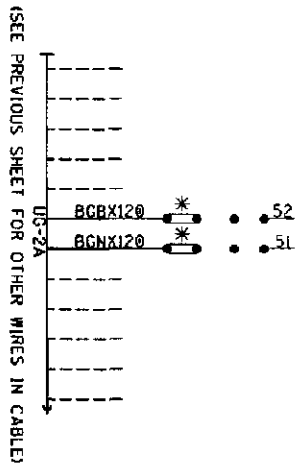
REVISION	INITIALS	PROPERTY	DATE	BY	CHKD	APPD	FILE NO.	SHEET	OF
		PENNSYLVANIA R.R.					DAYTON DISTRICT	17	23

-E- = Heavy Duty Equolizer (022100-1X)
 Clear View
 L = Lightning Arrestor (022585-1X)
 -G- = LPC-10580-51
 -G- = TERMINALS GROUNDED TO SHIELD.
 4 POST BLOCKS USE EITHER -
 CR - SERIAL PART NO. 61278
 GL - SERIAL PART NO. 61278-1.

DESIGNED BY:	BTM 12-15-06
DRAWN BY:	OFFICE OF ASST. VICE PRESIDENT
CHKD BY:	COMM. & SIGNAL, ATLANTA, GA.
APPD BY:	SPRINGFIELD, OH
FILE NO.:	CFLCS AT BURNETT RD.
DATE OF	DAYTON DISTRICT
FILE NO.	NO. 82118/0.17
SHEET	17 of 23

BACKBOARD DETAIL - 1A & 1B

REAR VIEW OF LEFT TWO ROWS TERMINAL BOARD I
 "1B" "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:	BTM 12-15-06	OFFICE OF ASST. VICE PRESIDENT	MP-2 CJ-100.95
DRAWN BY:	IRE 12-15-06	COMM. & SIGNAL, ATLANTA, GA.	
CHECKED BY:	RDO 12-20-06	SPRINGFIELD, OH	
IN SERVICE:		CFL 55 AT BUNKER RD.	
DAYTON DISTRICT		FILE R-	
CAD OF	8211810.18	SHEET 18 OF 23	
PROPERTY	PENNSYLVANIA R.R.		

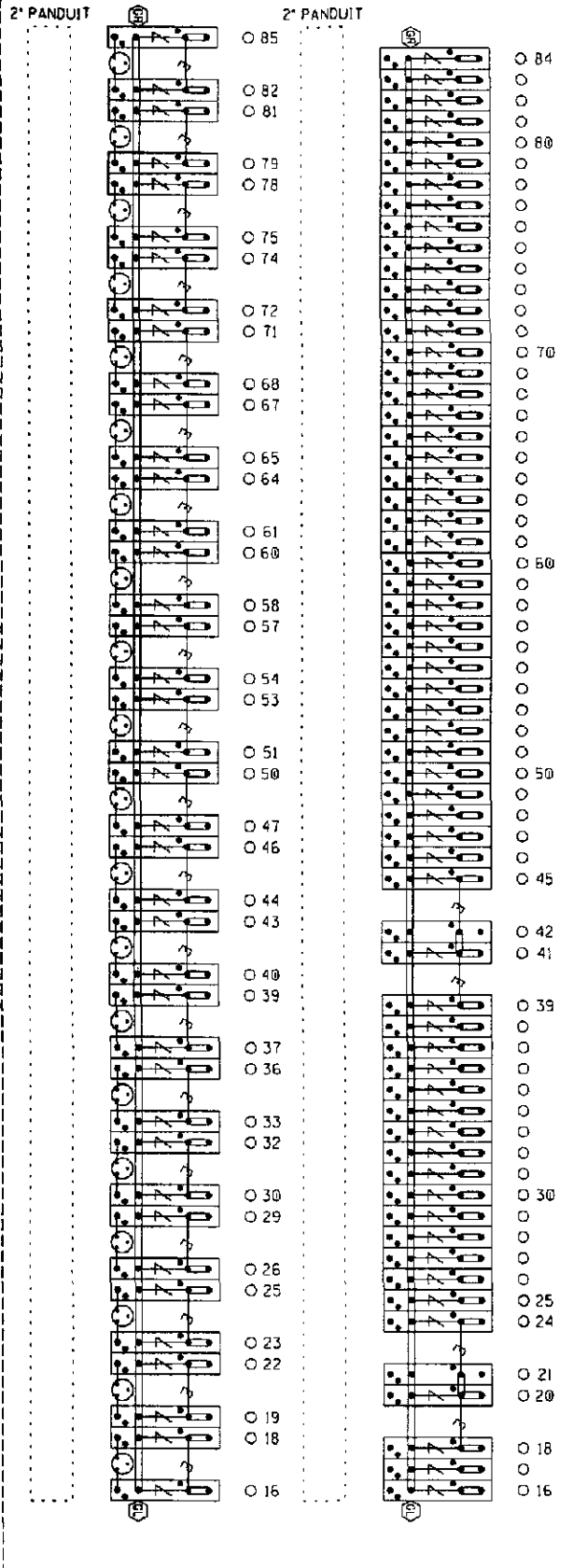
TERMINAL BOARD 1 LEFT HALF

"1A"

"1B"

2" PANDUIT

2" PANDUIT



AREA BELOW IS SCALED WITH AS=75

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.

= 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.



CR = TERMINAL GROUND TO SHIELD.
GL = 4 POST BLOCKS USE EITHER -
CL - SERMI PART NO. 61278-1.

CR = Heavy Duty Equalizer
(022700-1X)
GL = Light Duty Equalizer
(022565-1X)
CL = LPC-10560-51

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

REVISION
INITIALS

PROPERTY
PENNSYLVANIA R.R.

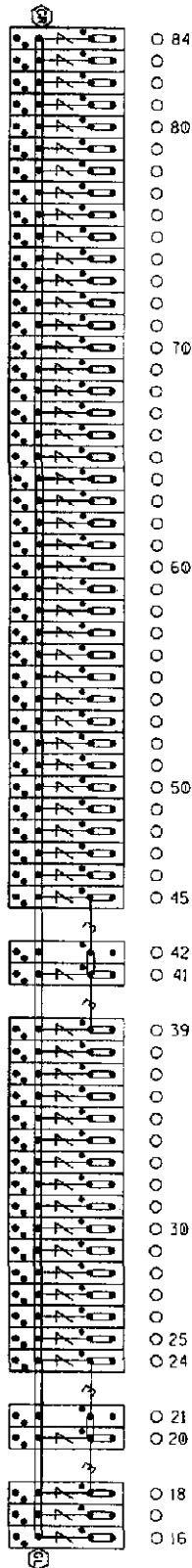
DESIGNED BY:	BTJ 12-15-06	OFFICE OF ASST. VICE PRESIDENT	FILE NO.
DRAWN BY:	IRE 12-15-06	COMM. & SIGNAL, ATLANTA, GA.	NO.
CHECKED BY:	ROD 12-20-06	SPRINGFIELD, OH	SHEET
IN SERVICE:		CS AT BURNETT RD.	19 of 25
		DAYTON DISTRICT	
		CADD OR	
		DWG. NO.	

NORFOLK SOUTHERN

TERMINAL BOARD 1 RIGHT HALF

"1C"

2" PANDUIT



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-175

= 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 -
CR - SERMI PART NO. 61278
CL - SERMI PART NO. 61278-1.



= Lightning Arrester
(022585-1X)
LPC-10560-SI



= Heavy Duty Equalizer
(022700-1X)



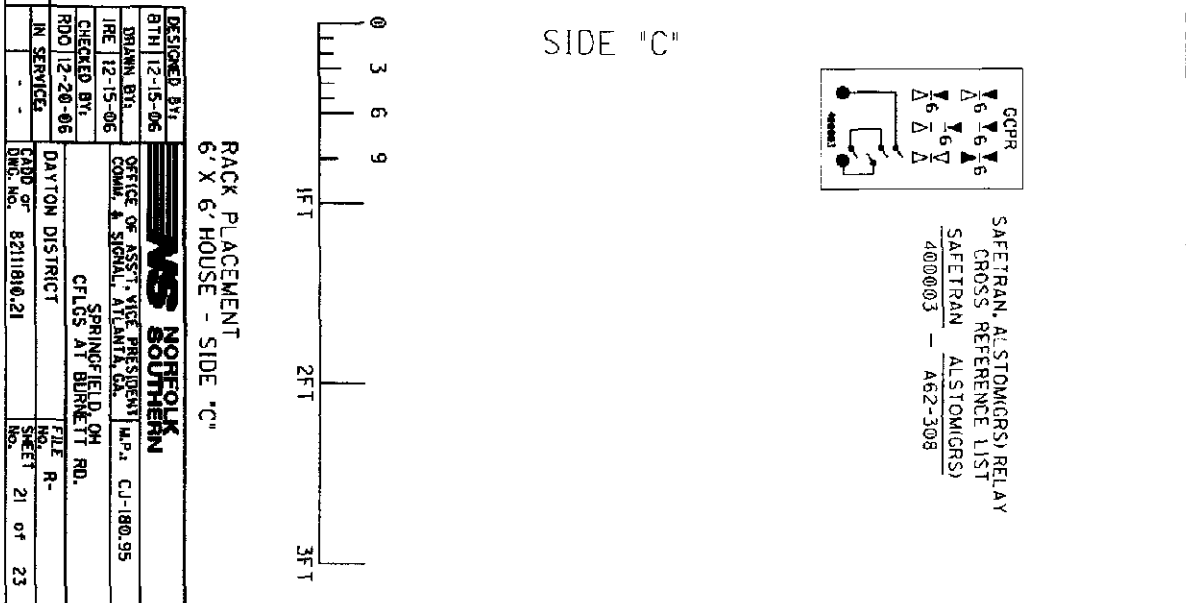
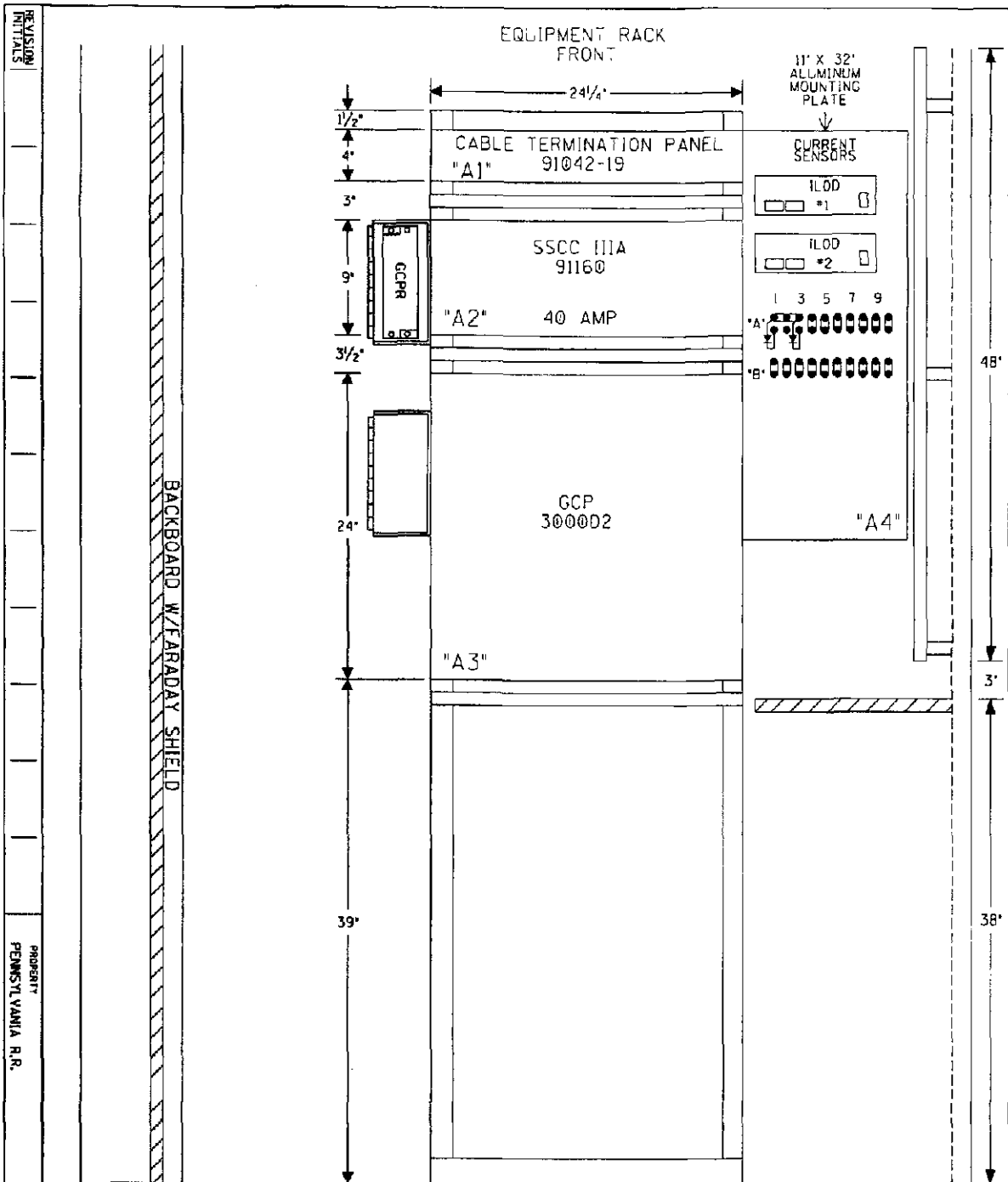
Clear View
(022585-1X)

TERMINAL BOARD 1
RIGHT ROW
FARADAY SHIELD DETAIL - 1C

REVISION
INITIALS

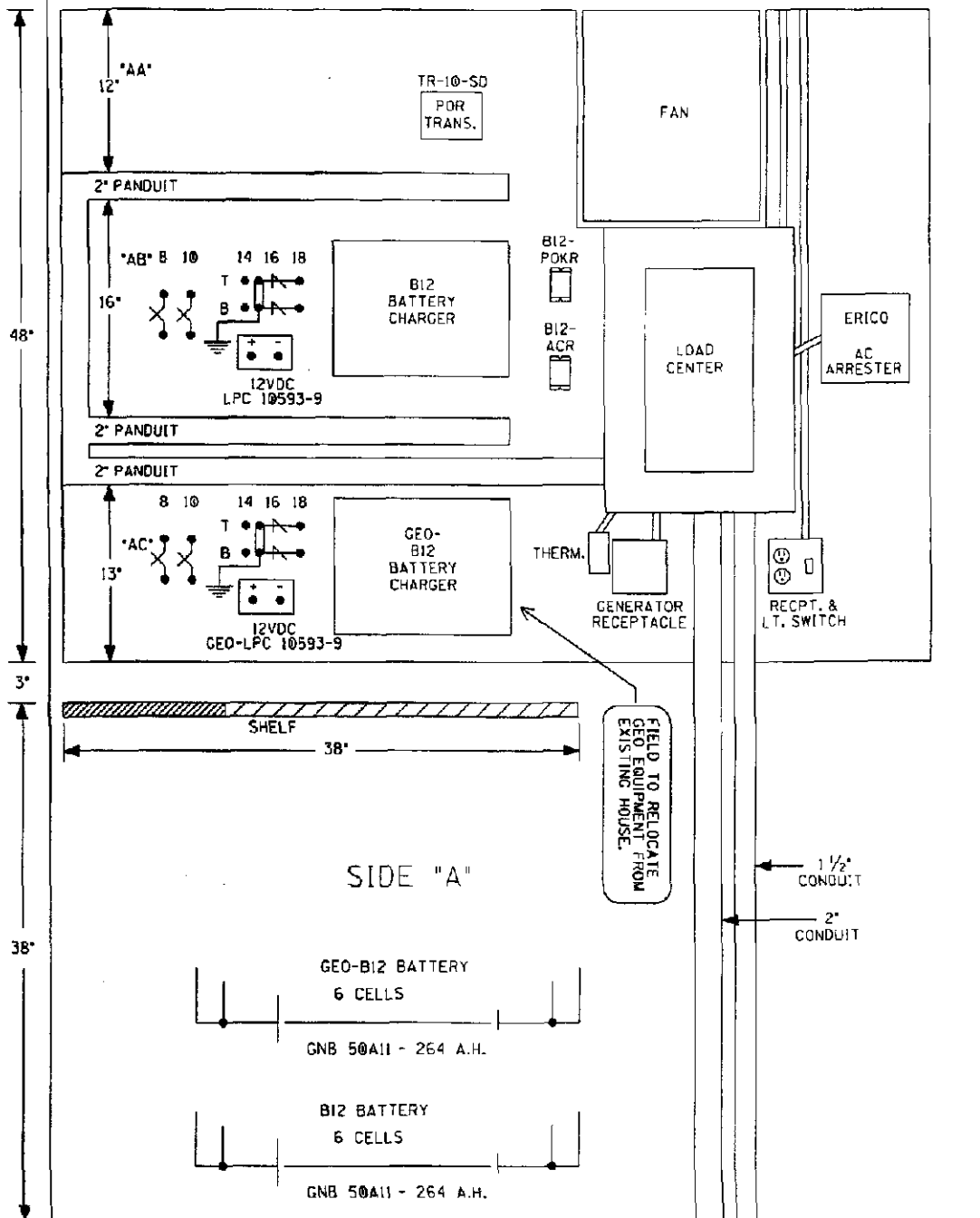
PROPERTY
PENNSYLVANIA R.R.

DESIGNED BY: BTH 12-15-06	OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	W.P. C-180.95
DRAWN BY: JRE 12-15-06	SPRINGFIELD, OH	
CHECKED BY: RDO 12-20-06	CFLGS AT BURNETT RD.	
IN SERVICE:	DAYTON DISTRICT	FILE R- SHEET 20 of 23
	DAVID OF DWG. NO. 8211810.20	



REVISION
INITIALS

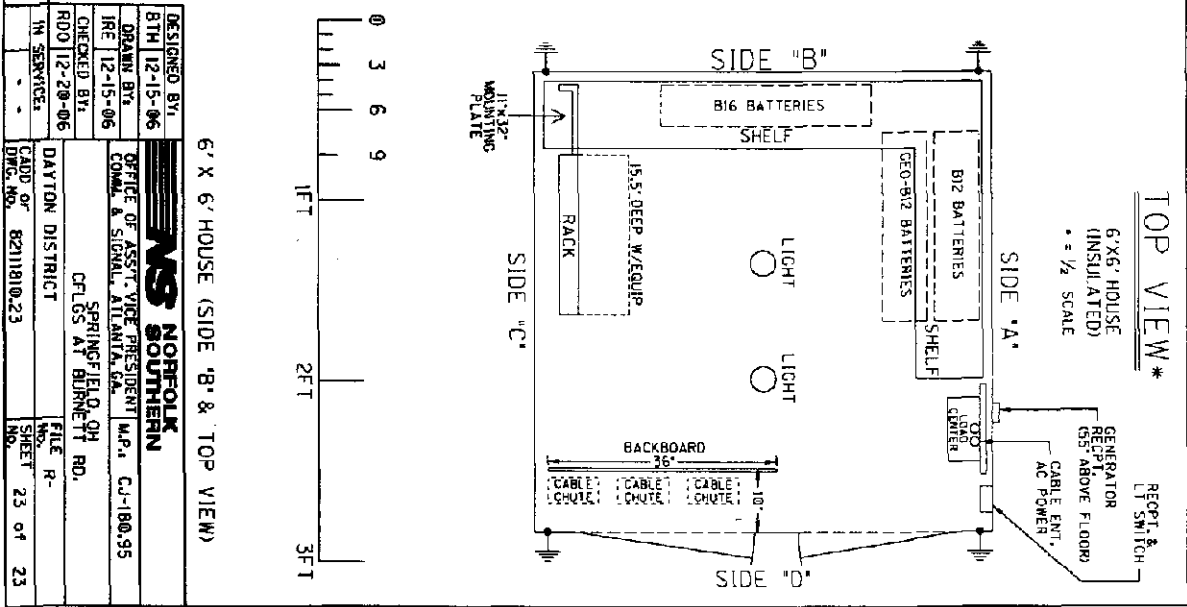
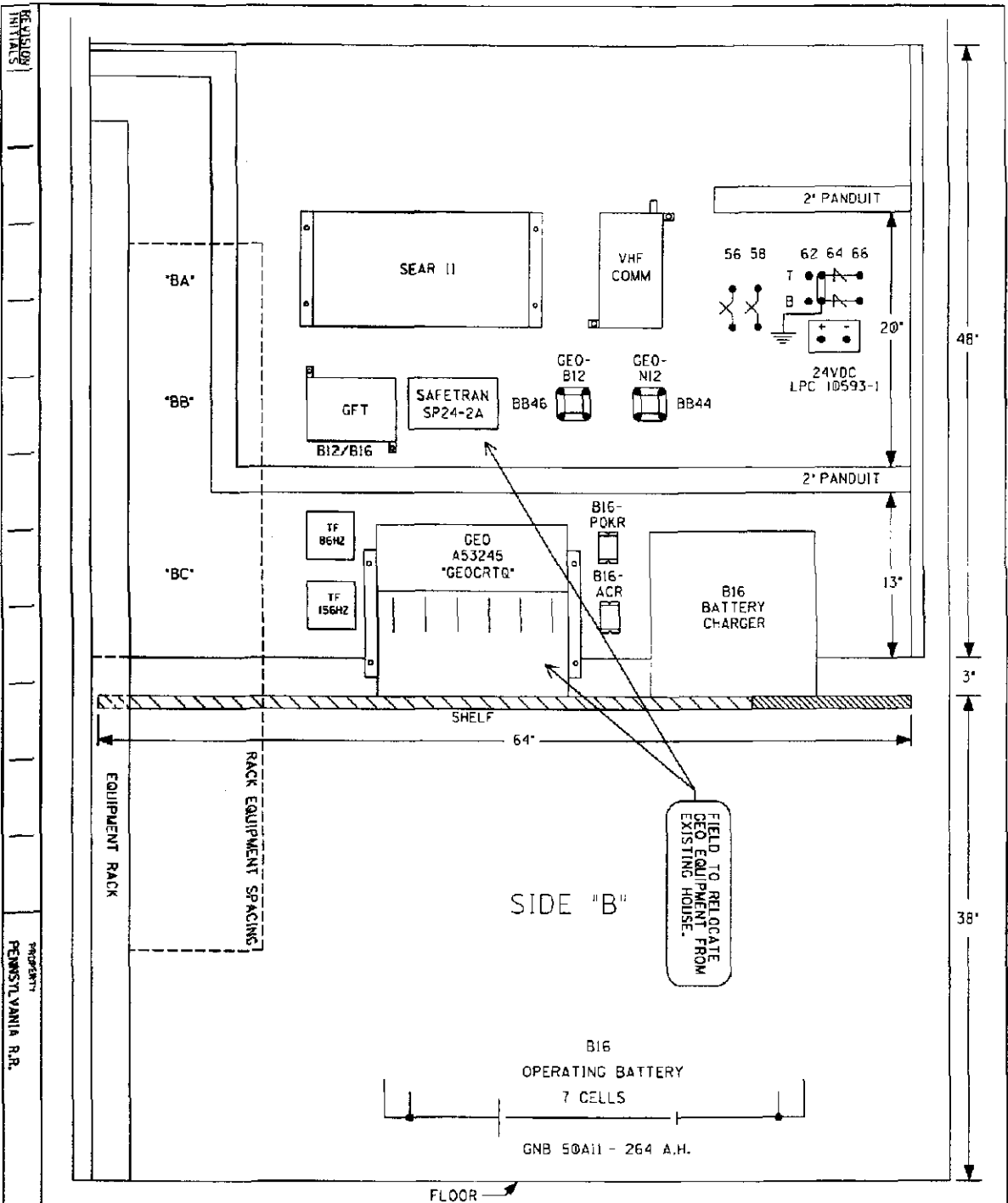
PROPERTY
PENNSYLVANIA R.R.



DESIGNED BY:	BTI 12-15-06	OFFICE OF ASST. VICE PRESIDENT	WPA: CJ-180.95
DRAWN BY:	IRE 12-15-06	COMM. & STORAGE, ATLANTA, GA.	
CHECKED BY:	RDO 12-20-06	SPRINGFIELD, OH	
IN SERVICE:		CFLS AT BURNETT RD.	
		DAYTON DISTRICT	
		CAPO OF	FILE R-
		DWG. NO. 8211810.22	SHEET 22 OF 23

6' X 6' HOUSE - SIDE 'A'





DESIGNED BY: BTH 12-15-06
 DRAWN BY: IRE 12-15-06
 CHECKED BY: RDD 12-20-06
 IN SERVICE: DAYTON DISTRICT
 Dwg. No. 8211810.23

NO. 23 of 23

6' X 6' HOUSE (SIDE 'B' & TOP VIEW)

OFFICE OF ASSIST. VICE PRESIDENT M.P.A. C.J.-180.95
 COMM. & SIGNAL, ATLANTA, GA.
 SPRINGFIELD, OH
 C.F.L.S. AT BURNETT RD.

NO. 23 of 23

NO. 23 of 23

NO. 23 of 23

NO. 23 of 23

NO. 23 of 23

NO. 23 of 23

NO. 23 of 23