

RECEIVED-DOCKETING DIV

2006 DEC -7 PM 3:55

PUCO

November 30, 2006
061-10.1068

Norfolk Southern Corporation
Communications and Signal Department
1200 Peachtree Street, N.E.
Atlanta, Georgia 30309-3579
404/529-1216

Ms. Susan Kirkland, Supervisor
Ohio Rail Development Comm.
50 W. Broad St., Room 1520
Columbus, OH, 43215-0899

RE: In the Matter of the Implementation of the 2006 Federal Crossing Protection Program,
Case No. 06-115Z-RR-FED

1152

Dear Ms. Kirkland:

Regarding PUCO Order dated September 22, 2006, regarding the above case for the installation of automatic grade crossing warning devices at Stitt Road, Lucas County, Ohio, DOT: 475 230N, Milepost IW-117.17.

Installation of this project shall be completed within the time limit as specified in the State's order. 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. Since this project is authorized, we will order material and schedule for installation once we have received approvals from ODOT's district office.

An extra copy of this letter is included with the enclosures. Please date stamp this extra copy and forward to Mr. R. S. Noe, Assistant General Attorney, Norfolk Southern Corporation, Three Commercial Place, Norfolk, Virginia, 23510.

Upon receipt of this material, please initial, date and confirm via fax to 404-527-2901.

Sincerely,

B. L. Sykes
B. L. Sykes

Enclosure(s)

BLS/rhr/cp/rjs

Cc: Mr. R. S. Noe, NS Corporation, Norfolk, VA
Ms. Bonnie Johrendt, PUCO (w/plans, estimate and material list)
Mr. G. Martin - PUCO (w/plans, estimate and material list)
✓ 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 DB Date Processed 12/8/06



30-Nov-06

Detailed Estimate for Grade Crossing Warning Devices

City/State: MAUMEE, OH
MilePost: IW-117.17
State Proj. No.:
S&E Proj. No.: 10.0035
Man Days: 112

Road: STITT RD.
DOT/AAR: 475230N
County: LUCAS
AFE: F10026
File Number: 061-10.1068

Purchases - Others		
Meals and Lodging:	\$10,538.04	
Rental of Equipment:	\$23,038.40	
(2 Trucks, 1 Backhoe w/ Trailer and 1 Pipe-Pusher for 28 Days)		
Construction Supervision Vehicle:	\$1,843.07	
Purchases - Other Total:		\$35,419.51
Material And Additives		
Material Cost:	\$70,307.00	
Sales and Use Tax:	\$0.00	
Material Handling Freight:	\$3,515.34	
Material Total:		\$73,822.34
Labor And Additives		
Labor Cost:	\$27,104.00	
(4 man crew at \$968.00 a day for: 28 days)		
Payroll Tax & Overheads:	\$26,738.10	
Preliminary Engineering:	\$8,572.14	
Construction Supervision:	\$7,651.46	
Labor Total:		\$70,065.70
Project Cost:		\$179,307.55
Scrap / Salvage Credit:		\$0.00
Project Total:		\$179,307.55

Estimated on: 30-Nov-06

Estimated by: ndr3j

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:	MAUMEE
Road:	STITT RD.
Mile Post:	IW-117.17
Drawing Number:	DLTH11717
State ProjectNumber:	
County:	LUCAS
A A R Number:	475230N
Project Number:	10.0035
File Number:	061-10.1068
A F E Number:	F10026
Store Number:	
Supervisor:	R.B. BRIGGS
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 Installed 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 S'TRAN.				
1	165-006505-4	EA	\$1,051.54	\$1,051.54	AC SERVICE, COMPLETE LESS METER BASE, ASSEMBLED ON 30' POLE				
13	105-871901-4	EA	\$161.57	\$2,100.41	BATTERY,GNB 265AH MODEL 50A11 SINGLE CELL 2.25 VOLTS				
200	670-065723-4	EA	\$2.97	\$594.00	BOND, HEAD 6 1/2"x3/16", SIGNAL ERICO PRODUCTS CATA SBS24882, CR 02-067252				
600	670-065872-4	LF	\$0.45	\$270.00	BONDSTRAND, 3/16 IN WIRE 4/64 IN PVC INSULATION OUTER WIRES TINNED ONLY, ALSO USED TO MAKE 4 AND 6 HOLD LONG BONDS.				
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, NEG385102GS, 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				
300	465-292862-4	LF	\$1.04	\$312.00	CABLE, U-2-6 TWISTED, S-23 OKONITE 113-12-3933 SOLID TINNED CONDUCTOR				
300	465-292929-4	LF	\$3.05	\$915.00	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				
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				
100	165-544477-4	FT	\$2.55	\$255.00	CONDUIT, 4"x10' PVC, SCHEDULE 80 BELL CONNECTOR AT ONE END, 1/2 PT. GLUE IN KIT 670-123298-4				
400	670-918555-4	EA	\$3.70	\$1,480.00	CONNECTOR, WEB TRACK 1IN X 4IN LONG, FOR SHUNT CONN TO RAIL, INCLUDES WELD METAL & MOLDS (ERICO #SBTB4A)				
2	670-090450-4	EA	\$50.38	\$100.76	CONNECTOR,WELDED FAR RAIL HARMON A1000-2W				
2	670-486546-4	EA	\$41.62	\$83.24	CONNECTOR,WELDED NEAR RAIL HARMON A1000-1W				

APPROVED BY STATE APPROVED BY RAILROAD CAR NUMBER SEAL NUMBER

Location: MAUMEE			OH	S&E Proj. No.: 10.0035	AFE No.: F10026	Drawing No.: DLTH11717	Vendor: Interrail Engineering, INC		
Store No.:			P.O. Number:		Date Required:	Date Shipped:			
Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed Date Quan.	Quantity Returned (Credit)	Special Instructions
2	670-793404-4	EA	\$838.37	\$1,676.74	COUNTERWEIGHT PKAGE, 17-24'GATE S'TRAN S- MECH ONLY, STAINLESS, TO INCLUDE HUB, SUPPORT ARMS				
4	670-760012-4	EA	\$40.02	\$160.08	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				
6	670-000003-4	EA	\$255.85	\$1,535.10	FILL/STONE #57, QUANTITY IS BASED ON TRUCK LOAD PLUS DELIVERY COST				
2	670-015231-4	EA	\$423.50	\$847.00	FOUNDATION,DIXIE,S-2 GATE 5'6" ASSEMBLED				
2	670-257031-4	EA	\$297.88	\$595.76	GATE, ARM FIBERGLASS-ALUMINUM 17-24 FT., INCLUDES GATE GUARD FOR GATE LIGHT CABLE, NEG P/N 8002-244NFS/CG				
3	640-547339-4	EA	\$216.94	\$650.82	JOINT, INSL 115RE 6H 1" BOLTS 3M IRJ 1338,DRLD 6-6-7 3/8-6-6				
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 P'CKAGES. WEB CONNECTORS FOR SHUNT(8EA) TAPE, AMPS,P'GUM PAINT,SLEEVES,TAGS,GLUE, 100 EA WHITE TAGS, JNE CAN BLUE MARKING PAINT ETC...				
2	670-764166-4	EA	\$907.65	\$1,815.30	LAMP ASSY, 5" MAST MTG. 2W IND. 20" BKGRD, FLX-12 W/BULB S'TRAN #042003-487XNS				
6	165-643547-4	EA	\$4.30	\$25.80	LAMP, 18 WATT 10 VOLT S-11 SC BAY 18S11/1SC CLEAR RWY SIGNAL UJ-71463 GE				
4	255-590880-4	EA	\$16.12	\$64.48	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 13'10" WITH DOUBLE JCT. BOX BASE. S'TRAN P# 070519-11AX.				
2	670-850933-4	EA	\$3,352.65	\$6,705.30	MECHANISM, GATE MODEL S-60, WITH DEFROSTER AND MINI TRACKSIDE SENSOR S'TRAN # 0740007-X00283				
5	670-000007-4	EA	\$307.02	\$1,535.10	MISC. EXPENSE FOR TRACK WORK (I.E. INS JTS, RODS, ETC.)				
4	670-000001-4	EA	\$316.23	\$1,264.92	MISC. MATERIAL				

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
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Location: MAUMEE		OH	S&E Proj. No.: 10.0035		A/E No.: F10026	Drawing No.: DLTH11717		Vendor: Interrail Engineering, INC	
Store No.:		P.O. Number:		Date Required:		Date Shipped:			
Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed Date Quan.	Quantity Returned (Credit)	Special Instructions
2	670-001347-4	EA	\$63.27	\$126.54	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	670-514605-4	EA	\$8.45	\$8.45	PINNACLE, W-C SECT 1-11, 4"x5" REF K1 110-8 OR SAFETRAN NO. @035045-503X				
1	165-902002-4	EA	\$308.00	\$308.00	PROTECTOR, SURGE 120/240VAC, ERICO P/N EPD120/240TDFL				
4	465-002899-4	EA	\$22.06	\$88.24	REEL, CABLE DISPOSABLE FOR CROSSING SIGNAL PACKAGES				
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-ILQD, 1-eBELL, 2-GTS, WITHOUT MTSS, 1-GFT, 1-VHFC, 2- RECORDER INTERFACE MODULE, 1-ECHELON CONNECTOR				
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, SAFETRAN P/N 058400-66-78A				
2	670-586967-4	EA	\$37.68	\$75.36	SHUNT COVER W/LAG SCREWS, 19"X19", SERRMI #40271, ORDER 1 PER SHUNT				
4	670-792699-4	EA	\$37.40	\$149.60	SHUNT, HARDWIRE SERRMI A1000-5				
2	670-393331-4	EA	\$37.43	\$74.86	SIGN CROSSING MALFUNCTION ASSEMBLY FOR 4" AND 5" MAST, SAFETRAN #T17215				
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"				
1	670-258957-4	EA	\$25,580.50	\$25,580.50	WIRED RACK, 6X6 FARADAY, 20AMP SINGLE TRK SSCCIIIA, GCP3000D2, 2 CRAGG CHARGER, 2 RELAY RACKS, SAFETRAN P/N 20A 1TRK, USE WITH I/S 670-281280-4 W/CABLE CHUTES BEHIND THE FARADAY SHIELD				
Total Material: \$70,306.73									
APPROVED BY STATE		APPROVED BY RAILROAD				CAR NUMBER	SEAL NUMBER		

Total Material: \$70,306.73

APPROVED BY STATE

APPROVED BY RAILROAD

CAR NUMBER

SEAL NUMBER

TO WATERVILLE
(R.R. WEST)

TO TOLEDO
(R.R. EAST)

UNDERGROUND UTILITIES

TWO WORKING DAYS

BEFORE YOU DIG

CALL 1-800-362-2764 (TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE

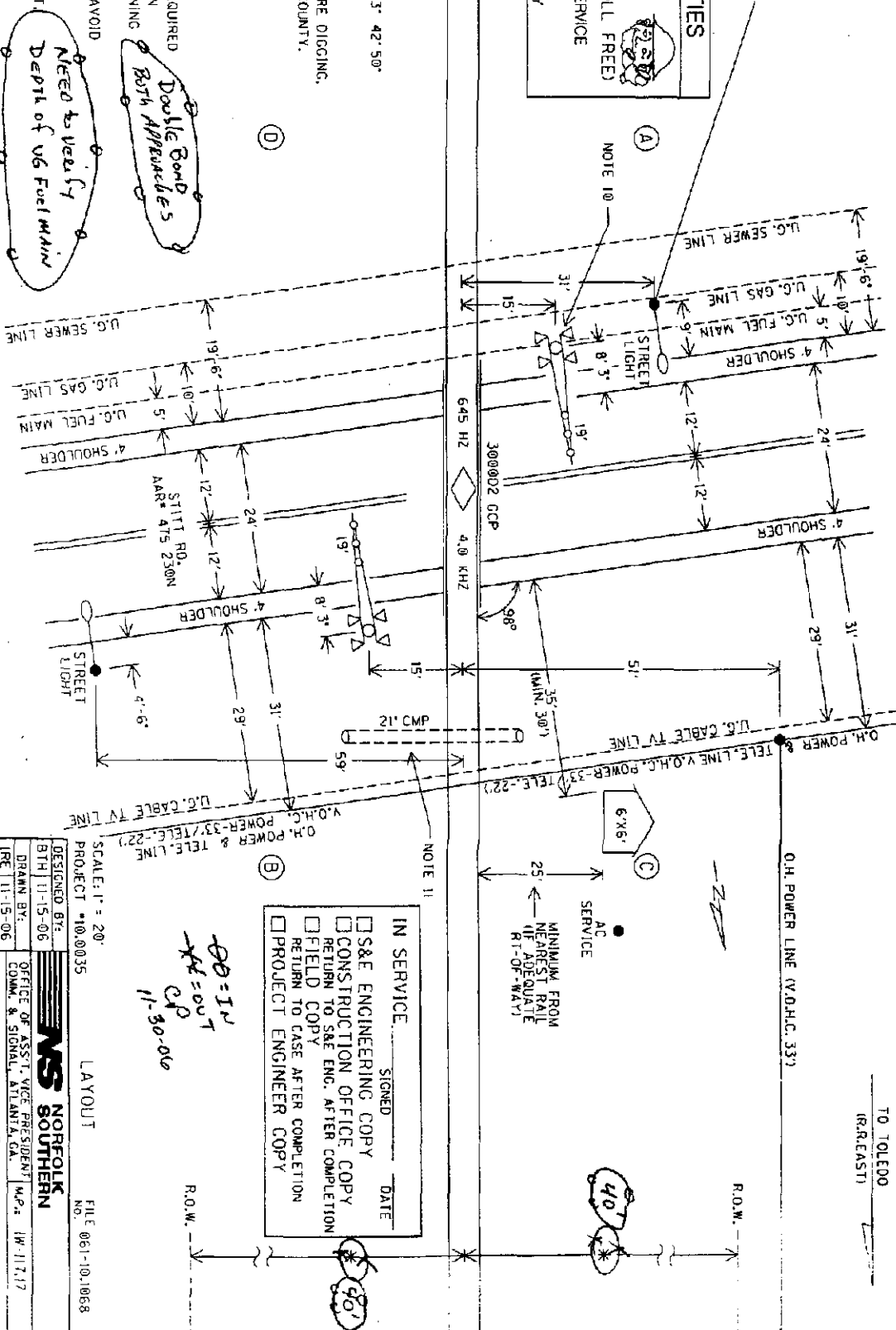
NON-MEMBERS
MUST BE CALLED DIRECTLY

NOTES:

1. MAX. TRAIN SPEED 35 M.P.H.
2. LATITUDE N 41° 32' 13" LONGITUDE W 83° 42' 50" ELEVATION 632'
3. SIGNAL "A" TO HAVE BELL.
4. LOCATE U/G UTILITIES & CABLE BEFORE DIGGING.
5. CROSSING LOCATED IN LUCAS COUNTY.
6. NEAREST STREET ADDRESS IS 1221 STILT RD.
7. NEAREST INTERSECTING STREET IS BLACK ROAD
8. DISTANCE TO NEAREST INTERSECTING STREET IS 29 FT.
9. 10 CUBIC YARDS OF FILL MATERIAL REQUIRED IN QUADRANTS "A" & "B" & 25 YARDS IN QUADRANT "C" FOR PLACEMENT OF WARNING DEVICES AND EQUIPMENT HOUSE.
10. SET FOUNDATION IN QUADRANT "A" TO AVOID U.G. UTILITY CONFLICT. HAND DIGGING WILL BE REQUIRED.
11. EXTEND CMP IN QUADRANT "B" BY 10 FT. FOR PLACEMENT OF WARNING DEVICE.

(A) (B) (C) (D) = QUADRANT MARKERS
* - OFFICE VERIFY DISTANCES

Double Bond Both Approaches
Need to Verify Depth of UG Fuel Main

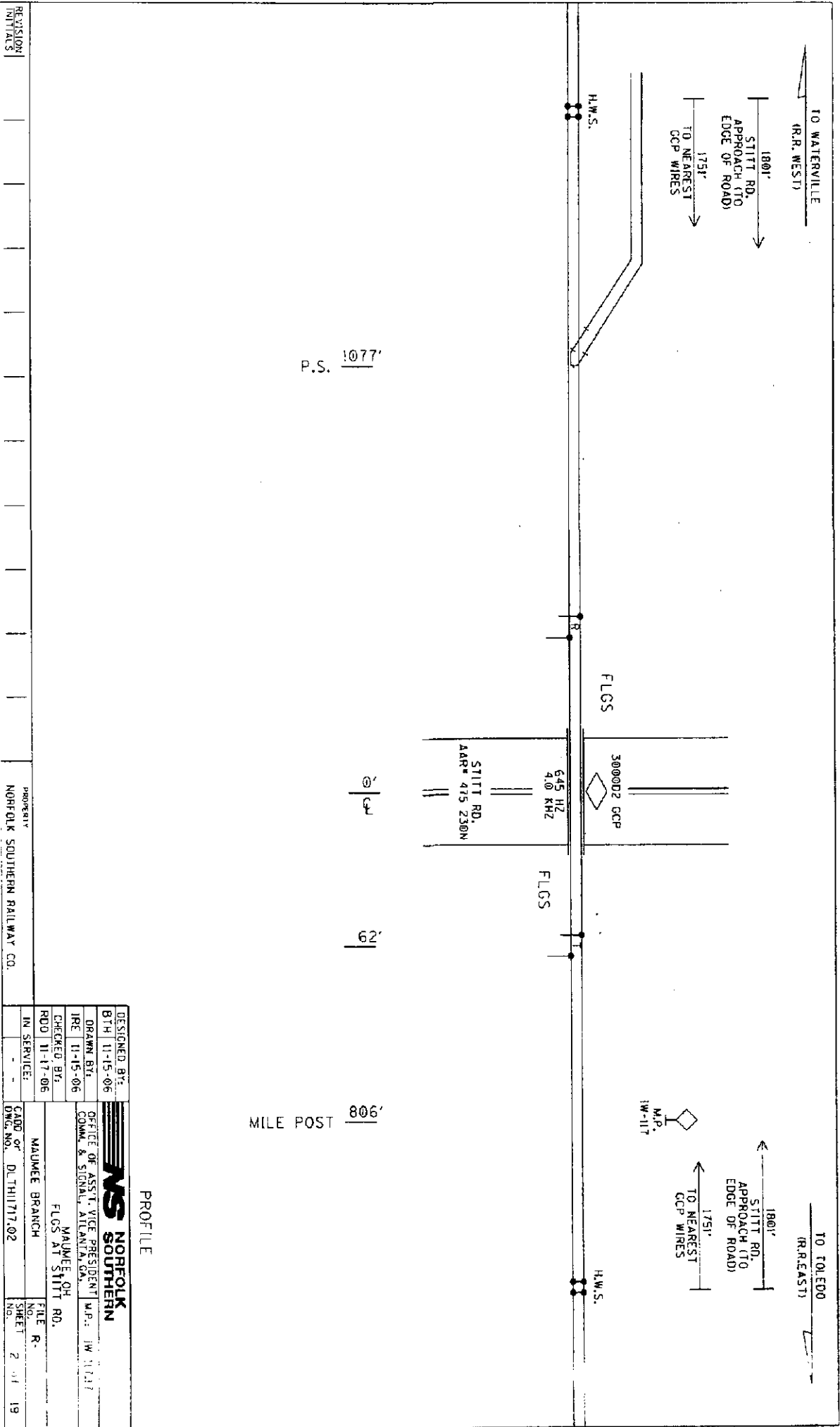


IN SERVICE		SIGNED	DATE
☐	S&E ENGINEERING COPY		
☐	CONSTRUCTION OFFICE COPY		
☐	RETURN TO S&E ENG. AFTER COMPLETION		
☐	FIELD COPY		
☐	RETURN TO CASE AFTER COMPLETION		
☐	PROJECT ENGINEER COPY		

90' IN
40' OUT
11-30-06

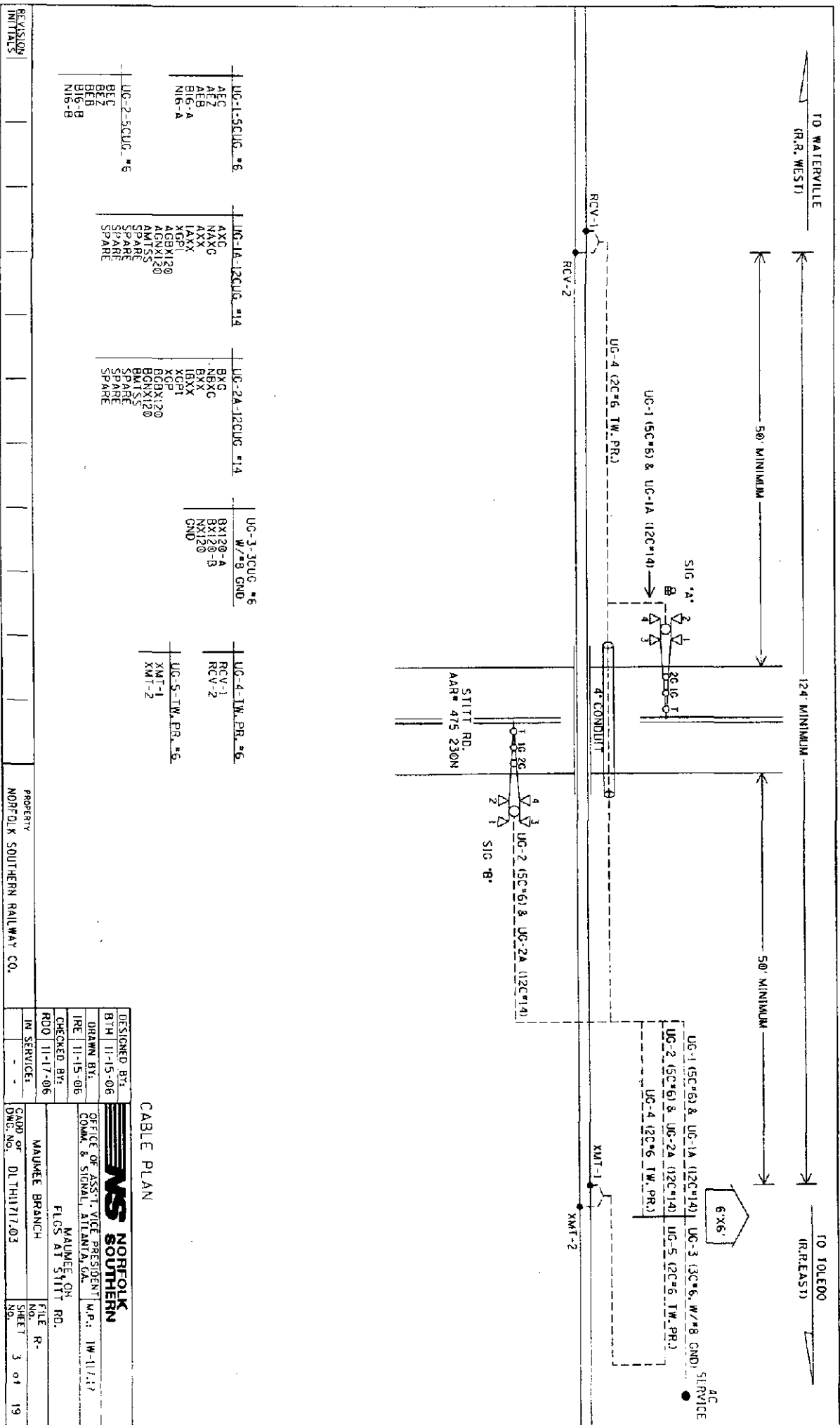
PROPERTY
NORFOLK SOUTHERN RAILWAY CO.

DESIGNED BY:	BTM 11-15-06	OFFICE OF ASST. VICE PRESIDENT	FILE NO. 061-10.1068
DRAWN BY:	IRE 11-15-06	COMM. & SIGNAL, ATLANTA, GA.	
CHECKED BY:	RDD 11-17-06	MAUMEE BRANCH	
IN SERVICE:		FILE NO.	
CADD NO.	DLTH117.01	SHEET	1 of 19



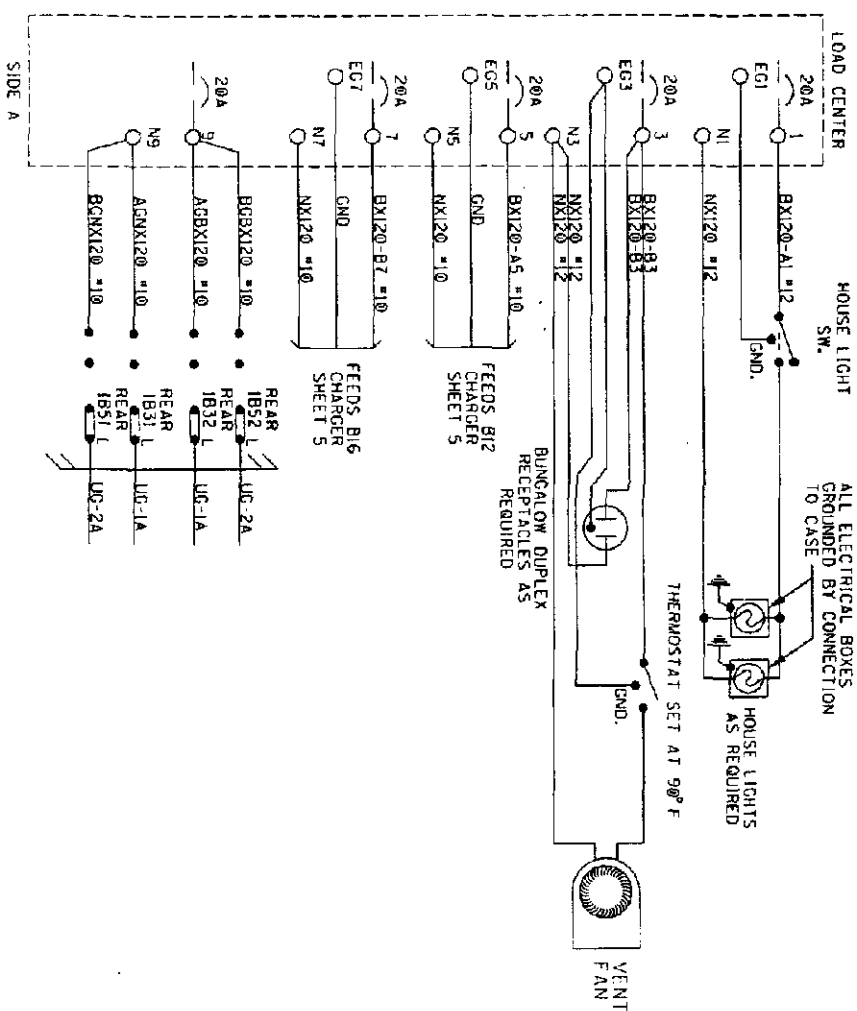
PROFILE

DESIGNED BY:	BTM 11-15-06	NS NORFOLK SOUTHERN OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. MAUMEE, OH FLGS AT STITT RD. MAUMEE BRANCH	FILE NO. R- SHEET 2 of 19
DRAWN BY:	IRE 11-15-06		
CHECKED BY:	RDO 11-17-06		
IN SERVICE:	-		
CADD or DWG. NO.	D.T.H11717.02		



CABLE PLAN

DESIGNED BY:	BTM 11-15-06
DRAWN BY:	IRE 11-15-06
CHECKED BY:	RDO 11-17-06
IN SERVICE:	
MADE BY:	MADE BY
FILE NO.:	FILE NO.
SHEET NO.:	3 of 19
DATE:	11-17-06
PROJECT:	MADE BY
LOCATION:	MADE BY
SCALE:	MADE BY
REVISIONS:	MADE BY



MECH INTERLOCK ----PK4DTIM4LA

[illegible]

LOAD CENTER WIRING

EVANS NORFOLK
SOUTHERN

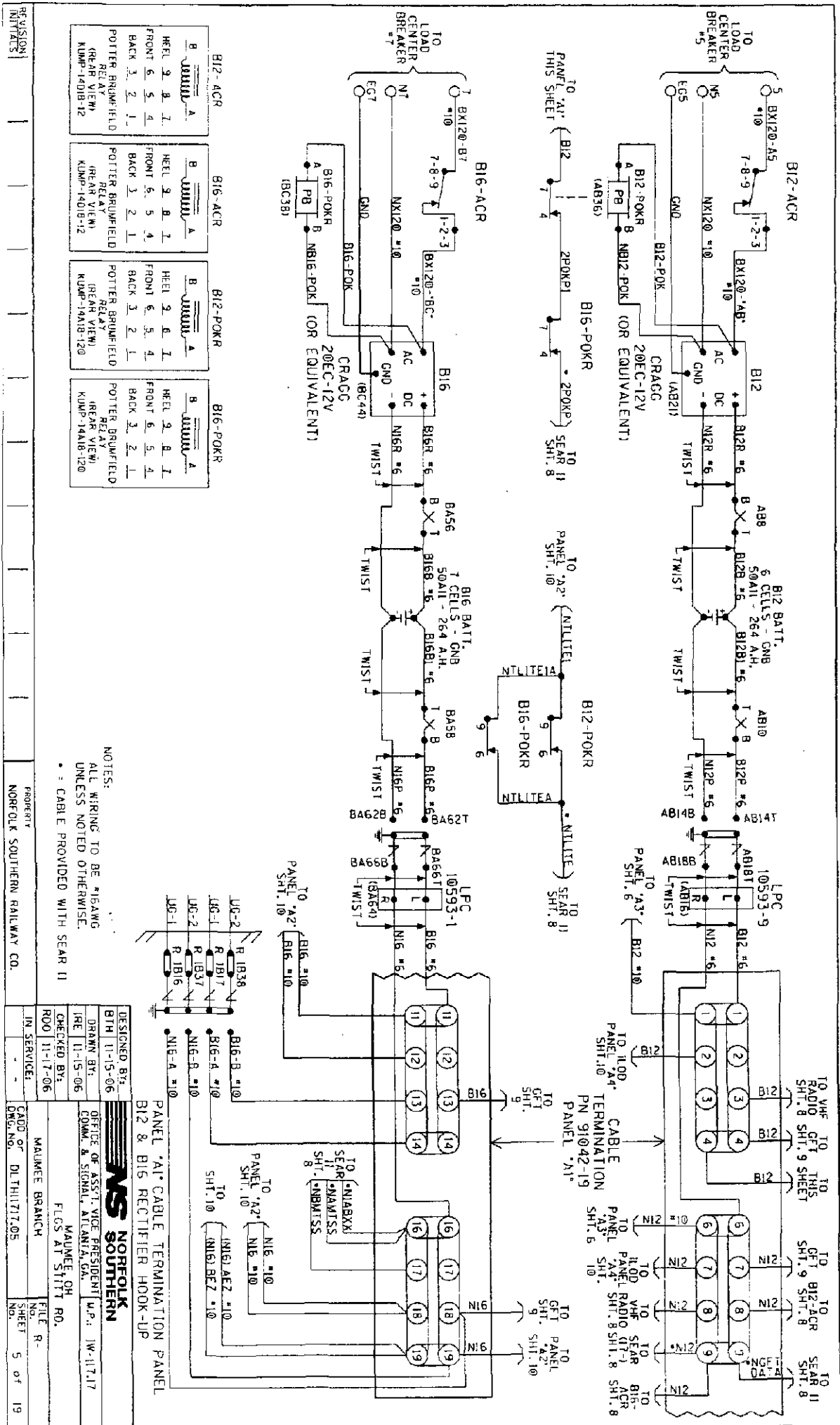
SIGNAL, ATLANTA, GA.

MAUMEE, OH

FILED

NO.	2115
-----	------

OLTH11717.0A	NO.
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REVISION
INITIALS

PROPERTY
NORFOLK SOUTHERN RAILWAY CO.

DESIGNED BY:		DATE: 11-15-06	
DRAWN BY:		DATE: 11-15-06	
CHECKED BY:		DATE: 11-17-06	
IN SERVICE:		DATE: 11-17-06	
CADD OF:		DATE: 11-17-06	
MAINTENANCE BRANCH		FILE NO. R-	
SHEET 6 of 19			

☆ = 80063 ECHOLON R/A5 CONNECTOR TERMINATION
IS TO BE SET "IN" WHEN AT END OF ECHOLON
NETWORK.

PANEL "A3" 30000D2 CCP HOOK-11P

- = ECHOLON CONNECTIONS NOT TO EXCEED 55 IN LENGTH AND TOTAL LENGTH SHALL NOT EXCEED 400 FT. IN ANY ONE OF THESE NODES. RECOMMEND USE BELDEN WIRE CABLE #861 OR EQUIVALENT.
- = CABLE PROVIDED WITH SEAR II
- = 80063 ADAPTER CARD AND E-LEVEL OR LATER SOFTWARE CAPABILITIES.

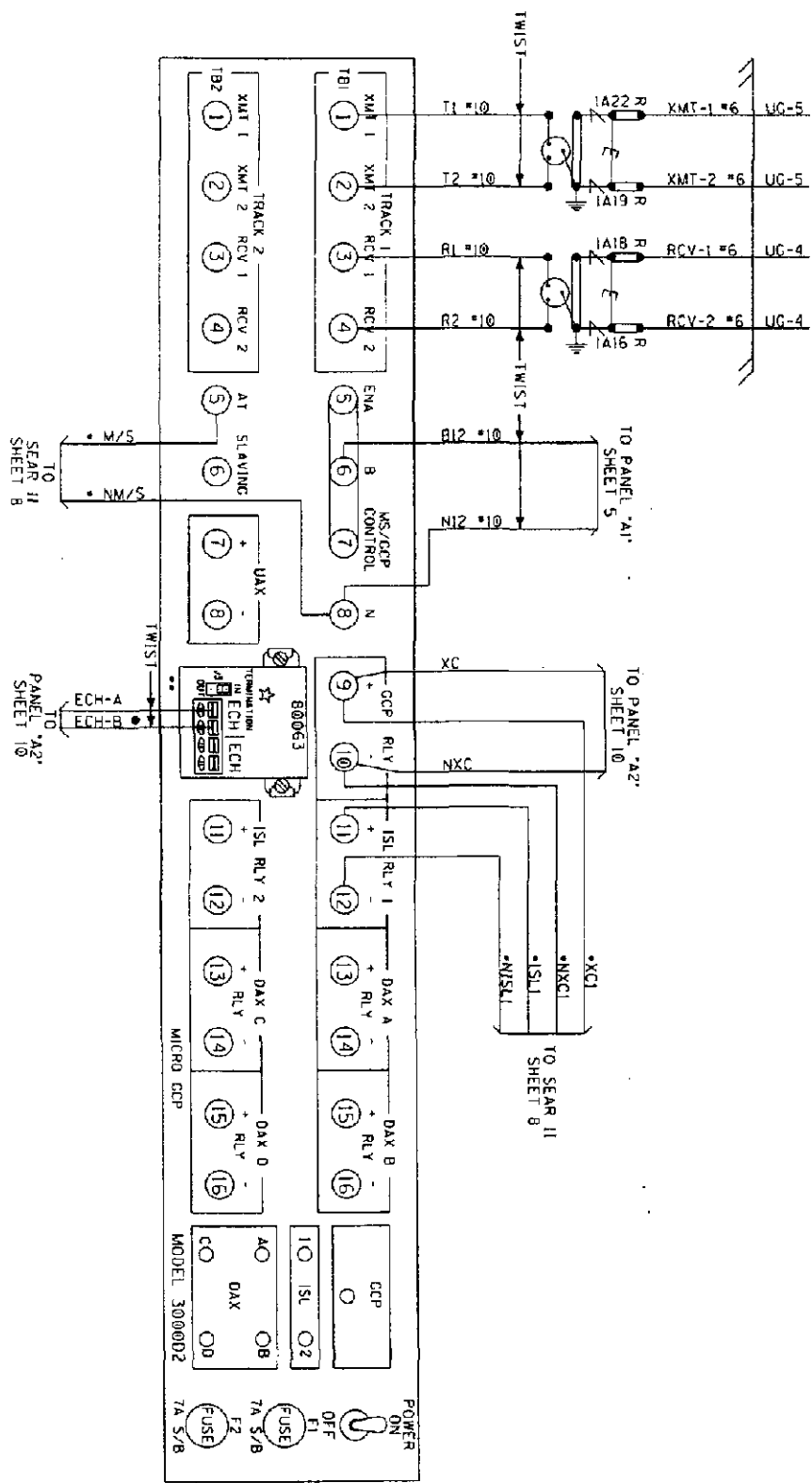
NOTES:

ALL WIRING TO BE #16AWG.

UNLESS NOTED OTHERWISE.

30000D2 CCP "A3"

T1 IF = 4.0 KHZ
T2 IF = N/A



EXPANDED PROGRAMMING

300002 PROGRAMMING CHART	(LEVEL 2)
NUMBER OF TRACK TRANSCEIVERS	1
T1: FREQUENCY	645H2
T2: FREQUENCY	---H2
T1: UNIDIRECTIONAL/BIDIRECTIONAL	81
T2: UNIDIRECTIONAL/BIDIRECTIONAL	---
T1: XMIT LEVEL (MAX/MED)	MED
T2: XMIT LEVEL (MAX/MED)	---
T1: PREDICTOR/MOTION SENSOR	PRED
T2: PREDICTOR/MOTION SENSOR	---
T1: WARNING TIME	30 Sec
T2: WARNING TIME	---
T1: APPROACH DISTANCE	151 FT
T2: APPROACH DISTANCE	---
UAX1 PICKUP DELAY (UAX1 = OFF)	0 Sec
UAX2 PICKUP DELAY (UAX2 = ENA)	---
T1: ISLAND DISTANCE	124 FT
T2: ISLAND DISTANCE	---
NUMBER OF DAX'S	0 ED
DAX A TRACK ASSIGNMENT (11/12)	---
DAX A DISTANCE (0 = PREEMPT)	FT
DAX A WARNING TIME	Sec
DAX B TRACK ASSIGNMENT (11/12)	---
DAX B DISTANCE (0 = PREEMPT)	FT
DAX B WARNING TIME	Sec
DAX C TRACK ASSIGNMENT (11/12)	---
DAX C DISTANCE (0 = PREEMPT)	FT
DAX C WARNING TIME	Sec
DAX D TRACK ASSIGNMENT (11/12)	---
DAX D DISTANCE (0 = PREEMPT)	FT
DAX D WARNING TIME	Sec
SLAVING (MASTER/SLAVE)	MASTER
PASSWORD ENABLED	NO
RECORDER INSTALLED	NO

T1: SWITCH TO MS (ENTER E2 VALUE)	10 %
T2: TRANSFER DELAY MS TO GCP (0 = OFF)	0 Sec
T2: TRANSFER DELAY MS TO GCP (0 = OFF)	---
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)	---
PICKUP DELAY DAX A	15 Sec
PICKUP DELAY DAX B	---
PICKUP DELAY DAX C	---
PICKUP DELAY DAX D	---
T1: ENHANCED DETECTION (ON/OFF)	OFF
T2: ENHANCED DETECTION (ON/OFF)	---
BACK-TO-BACK T1 AND T2 (NO/YES)	---
T1: STATION STOP TIMER	10 Sec
T2: STATION STOP TIMER	---
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 E2 DETECTION	OFF
T2: LOW E2 DETECTION	---
T1: LOW E2 DETECTION TIMER (ON/OFF)	10 Min
T2: LOW E2 DETECTION TIMER (ON/OFF)	---
T1: POSITIVE START (E2 LEVEL) (0 = OFF)	0
T2: POSITIVE START (E2 LEVEL) (0 = OFF)	---
T1: POSITIVE START TIMEOUT (0 = NONE)	---
T2: POSITIVE START TIMEOUT (0 = NONE)	---
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 300002 GCP MODULE ASSEMBLIES

UPPER BAY												LOWER BAY											
MODULES POSITION	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21		
MODULE NUMBERS	80211-4.0KHZ(1)*	80211-f(2) ISL	80012 T/R 1	80012 T/R 2	80013 RLY DRV	80214 PROCS	80255 REC-INTF	80016 (1) DAX	80016 (2) DAX	80020 +80017	80211-4.0KHZ(1)*	80211-f(2) ISL	80012 T/R 1	80012 T/R 2	80013 RLY DRV	80214 PROCS	80255 REC-INTF	80016 (1) DAX	80016 (2) DAX	80020 +80017	80028 XFRTMR		
MODULES USED	X		X		X	X	X	X		X	X		X		X	X	X	X		X	X		

NOTES:

1 - SEE IP1 INSTRUCTION AND INSTALLATION MANUAL FOR 80211 ISL AND CALIBRATION PROCEDURE.

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

** = 80214 & 80255 WITH JUMPER CARDS AND E2 LEVEL OR WATER SOFTWARE NEEDED FOR SENS II / ECHOLON CAPABILITIES.

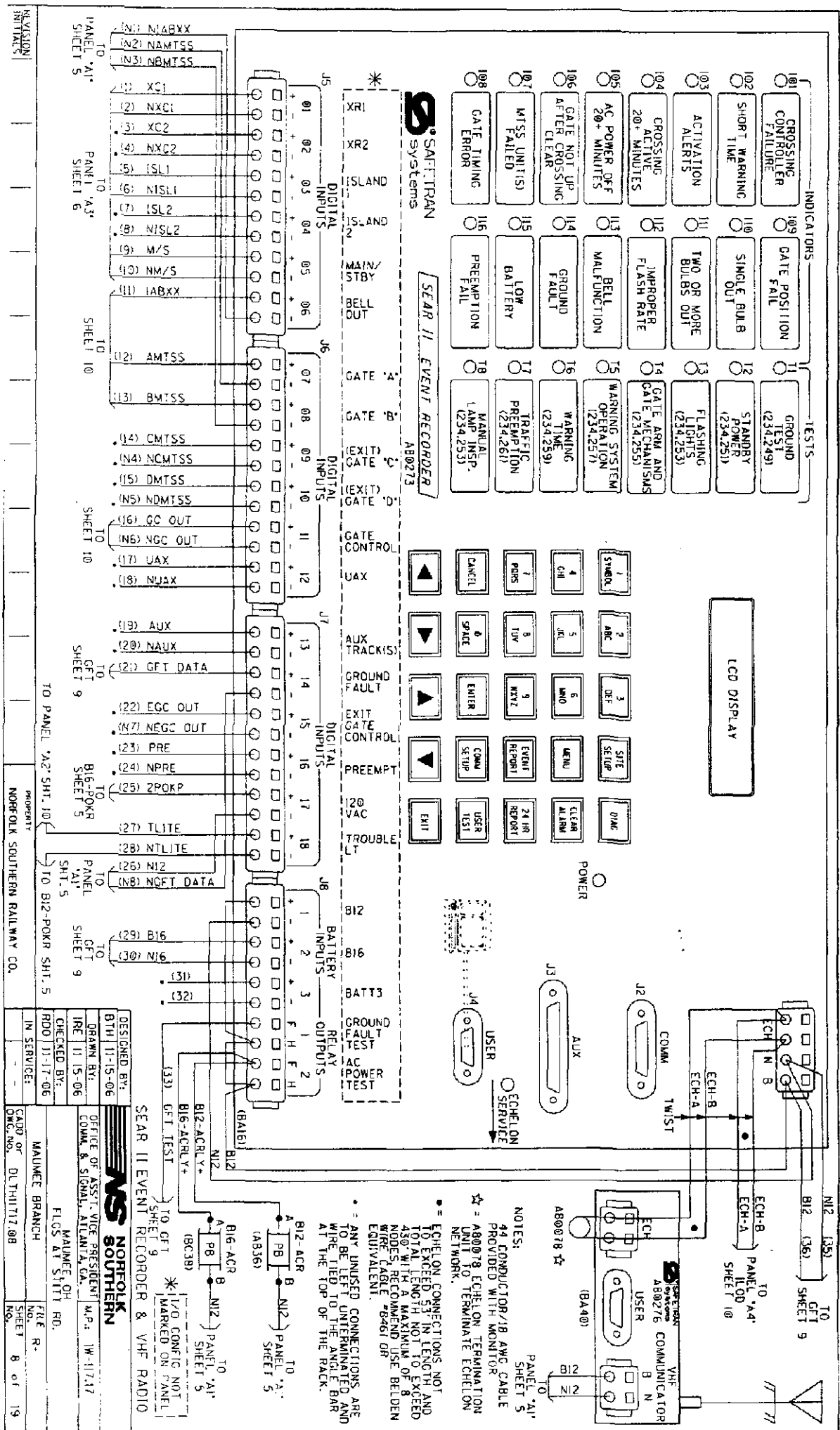
PANEL "A3" 300002 GCP SET-UP

- 300002 PROGRAMMING NOTES:
- 1) AVAILABLE WHEN "TRANSFER DELAY MS TO GCP" AND "PRIME PREDICTION OFFSET" IS ON
 - 2) AVAILABLE WHEN "TRANSFER DELAY MS TO GCP" AND DAX DISTANCE IS GREATER THAN ZERO
 - 3) AVAILABLE WHEN "ENHANCED DETECTION" IS ON
 - 4) AVAILABLE WHEN "LOW E2 DETECTION" IS ON
 - 5) AVAILABLE WHEN "POSITIVE START" IS ON

REVISION INITIALS

PROPERTY NORFOLK SOUTHERN RAILWAY CO.

DESIGNED BY:	BTH 11-15-06	OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	W.D. 10-11-11
DRAWN BY:	IRE 11-15-06	MAINE BRANCH	FILE R-
CHECKED BY:	RDO 11-17-06	FLOS AT STITT RD.	SHEET 7 of 19
IN SERVICE:			



SITE SET UP PROCEDURE	
FUNCTION	LED DISPLAY
DATE	-
TIME	-
DAYLIGHT SAVINGS TIME	YES
TIME ZONE	EST
SITE NAME	STITT RD.
DOT NUMBER	475 230N
MILEPOST	1W-117.17
TESTER TYPE	CROSSING
DATE FORMAT	MM-DD-YYYY
TEMP FORMAT	FAHRENHEIT
SITE TYPE	NO COMMUNICATION
SITE ATCS	7ARRILL.CCG.03.01
OFFICE ATCS ADDRESS	2,000,000,0000
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

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?	SCGC 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
PREEMPTION?	NO
ILOD MODULES?	1
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 DNR	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	7ARRILL.CCG.07.01

VERIFY THE BATTERY SUPPLY VOLTAGES

B12 BATTERY VOLTAGE AT INPUT DC1	VOLT 1:
B16 BATTERY VOLTAGE AT INPUT DC2	VOLT 2:

TO PANEL 'A' SHEET 5

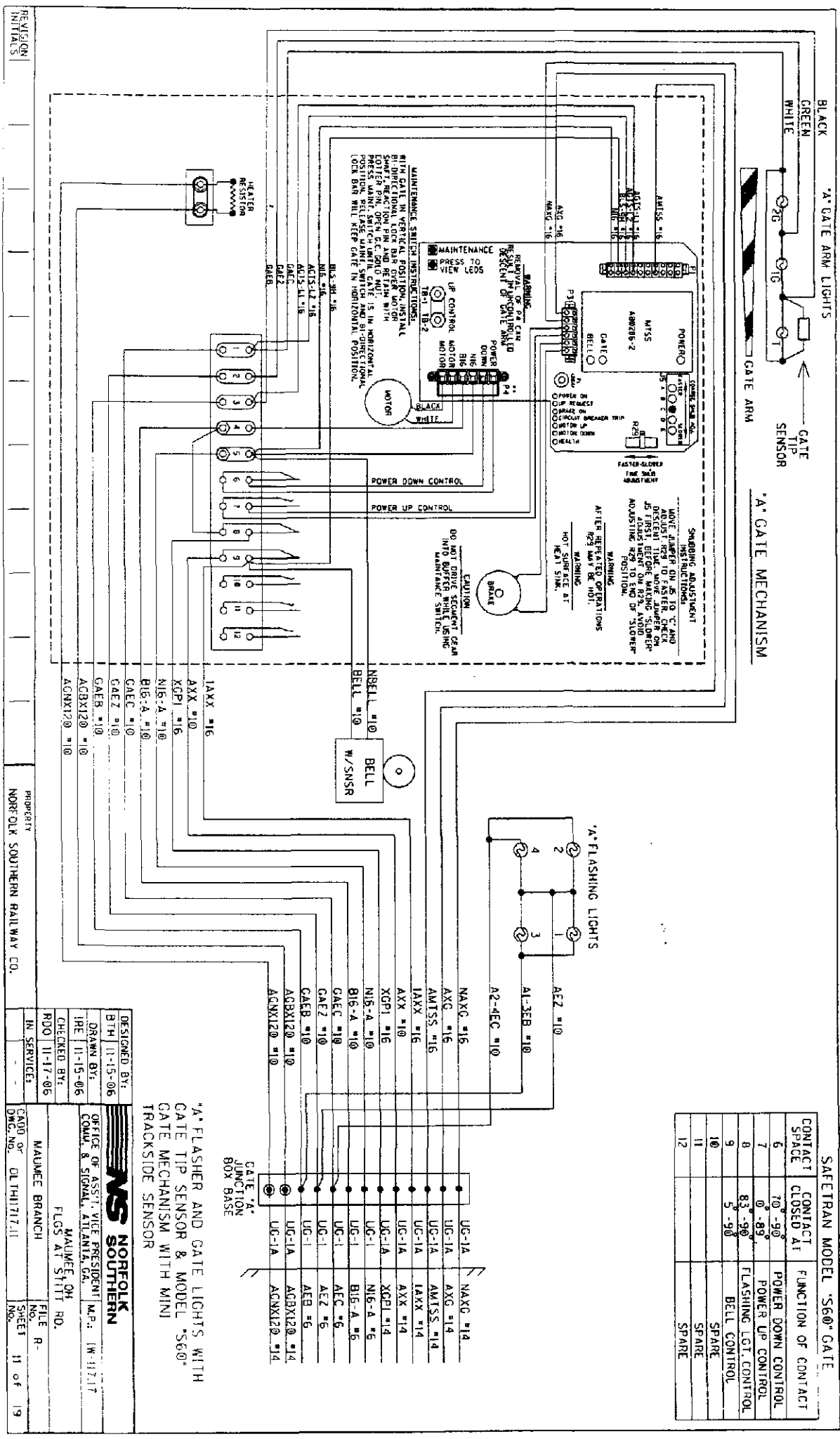
TO SEAR II SHEET 8

TO PANEL 'A' SHEET 5

NOTES:

- ALL WIRING TO BE #16AWG 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 'E' GND 1' AND 'E' GND 2' TO INDEPENDENT GROUND POINTS ON SIDE A AND SIDE B.

REVISION INITIALS		PROPERTY	NORFOLK SOUTHERN RAILWAY CO.						
<table border="1"> <tr> <td>VERIFY NUMBER OF BULBS</td> <td></td> </tr> <tr> <td>CURR 1: LAMP SET UP</td> <td>8 BULBS</td> </tr> <tr> <td>CURR 2: LAMP SET UP</td> <td>8 BULBS</td> </tr> </table>				VERIFY NUMBER OF BULBS		CURR 1: LAMP SET UP	8 BULBS	CURR 2: LAMP SET UP	8 BULBS
VERIFY NUMBER OF BULBS									
CURR 1: LAMP SET UP	8 BULBS								
CURR 2: LAMP SET UP	8 BULBS								
DESIGNED BY:	DATE:	OFFICE OF ASST. VICE PRESIDENT	FILE NO.						
DRANN BY:	11-15-06	COMM. & SIGNAL, ATLANTA, GA.	1W 117.17						
CHECKED BY:	11-15-06	MAINEE BRANCH	FILE R-						
IN SERVICE:	11-17-06	FLOS AT STITT RD.	SHEET 9 OF 19						
DRAWN BY:		DATE: 11/17/09							



SAFETRAN MODEL 'S60' GATE		
CONTACT SPACE	CONTACT	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		SPARE
11		SPARE
12		SPARE

DESIGNED BY:
BTH 11-15-06

DRAWN BY:
IHE 11-15-06

CHECKED BY:
RDO 11-17-06

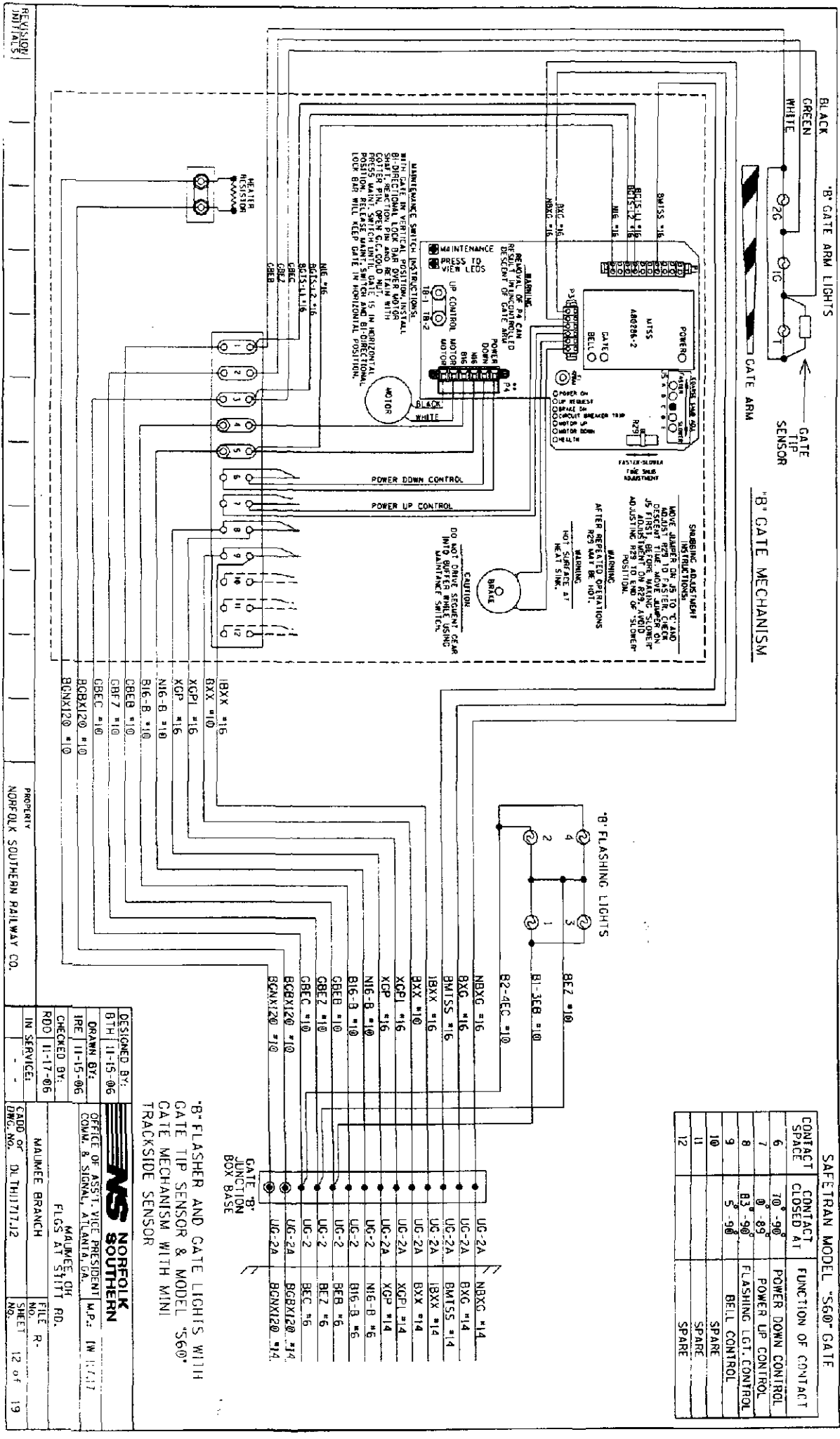
IN SERVICE:
MAJUEE BRANCH

NORFOLK SOUTHERN

OFFICE OF ASST. VICE PRESIDENT
COMM. & SIGNAL, ATLANTA, GA.

MAJUEE, OH
FLGS AT STITT RD.

FILE R-
SHEET 11 of 19



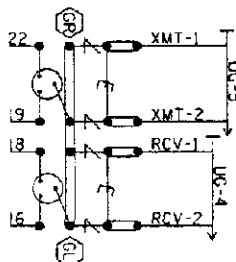
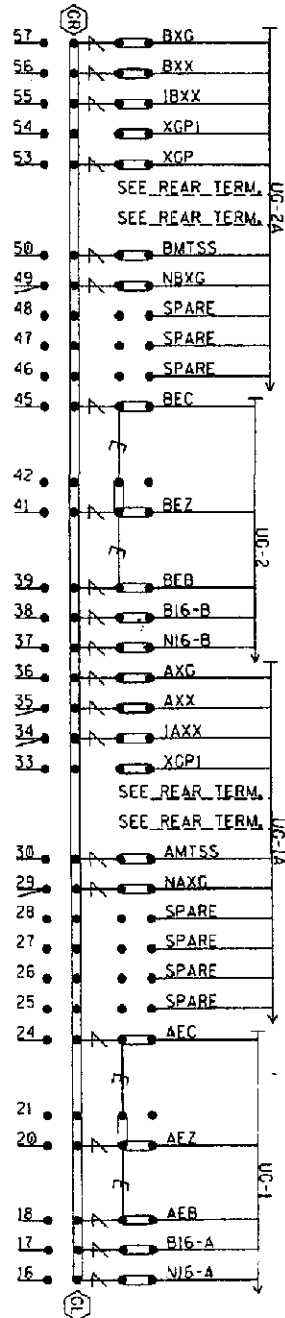
LEFT TWO ROWS TERMINAL BOARD 1

"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.



BACKBOARD DETAIL - 1A & 1B

REVISION	INITIALS	PROPERTY	NO. OF SHEETS	SHEET NO.
		NORFOLK SOUTHERN RAILWAY CO.	13	19

-E = Heavy Duty Equalizer (022700-1X)
 -L = Lightning Arrestor (022585-1X)
 -GL = LPC-10560-51
 -CR = TERMINALS GROUNDED TO SHIELD.
 -GL = 4 POST BLOCKS USE EITHER - CR - SERIAL PART NO. 61278-1, GL - SERIAL PART NO. 61278-1.

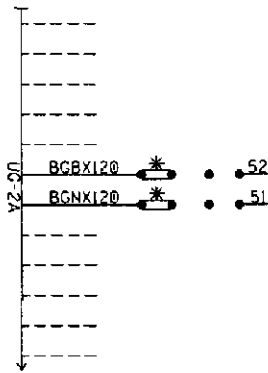
DESIGNED BY:	DATE:	OFFICE OF ASST. VICE PRESIDENT	FILE NO.
BTM	11-15-06	COMM. & SIGNAL, ATLANTA, GA.	1W-117.17
DRAWN BY:	DATE:	CHECKED BY:	DATE:
IRE	11-15-06	RDO	11-17-06
IN SERVICE:	DATE:	MAINTENANCE BRANCH	FILE NO.
		MAUMEE BRANCH	13 of 19

REAR VIEW OF LEFT TWO ROWS TERMINAL BOARD 1

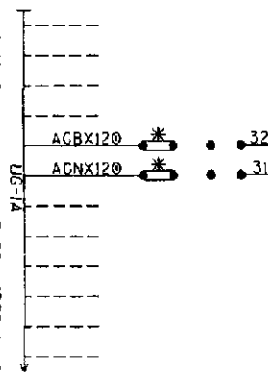
"1B"

"1A"

(SEE PREVIOUS SHEET FOR OTHER WIRES IN CABLE)



(SEE PREVIOUS SHEET FOR OTHER WIRES IN CABLE)



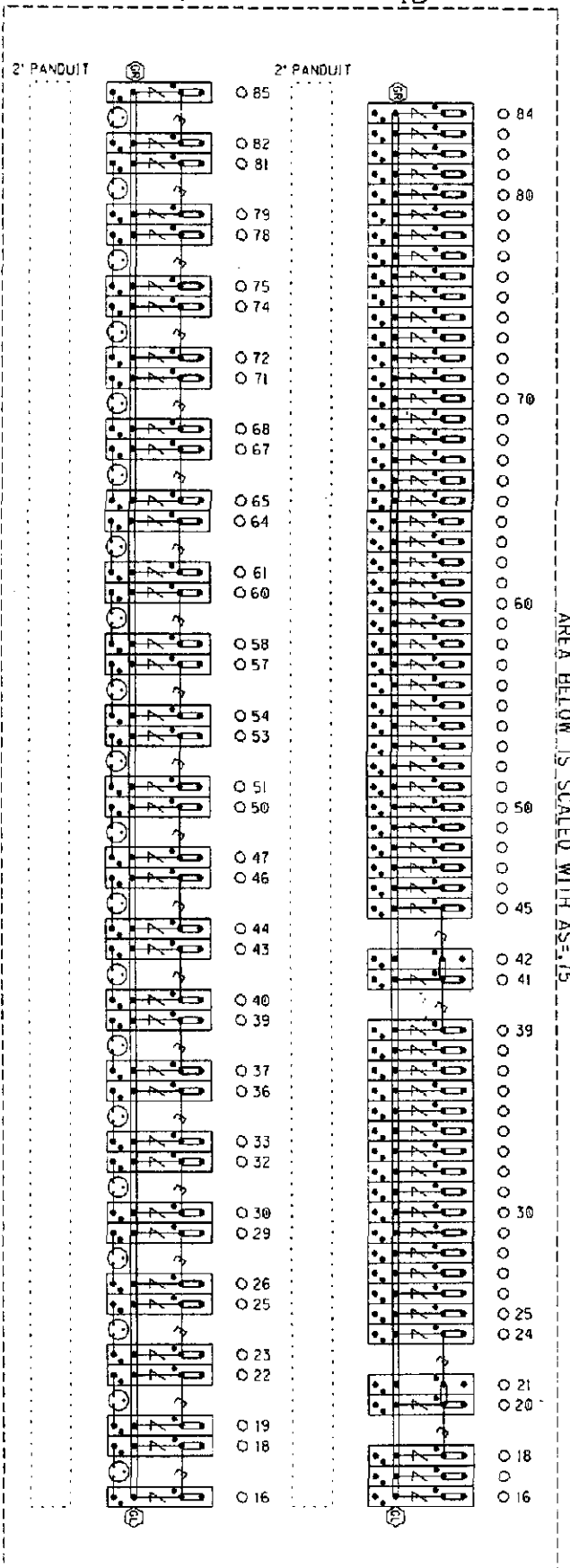
NOTE: ALL 120VAC AND ABOVE WILL BE WIRED TO THE REAR OF FARADAY BACKBOARD. INSULATED NUTS MUST BE USED ON ALL TERMINALS.

* = CLOSED DURING WINTER MONTHS

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

DESIGNED BY:	BTM 11-15-06		OFFICE OF ASST. VICE PRESIDENT	W.P. 11-15-06
DRAWN BY:	IRE 11-15-06		COMM. & SIGNAL, ATLANTA, GA.	
CHECKED BY:	RDO 11-17-06		MAUMEE, OH	FILE R-
IN SERVICE:			MAUMEE BRANCH	SHEET 14 OF 19
PROPERTY		NORFOLK SOUTHERN RAILWAY CO.		
DRAWING NO.		DLTH11717.14		

"1B"



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

INDICATES PLACEMENT
OF PANDUIT

THIS SHEET IS FOR REERENCE 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 - SERIAL PART NO. 61278
 CL - SERIAL PART NO. 61278-1.

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

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

REVISION
INITIALS

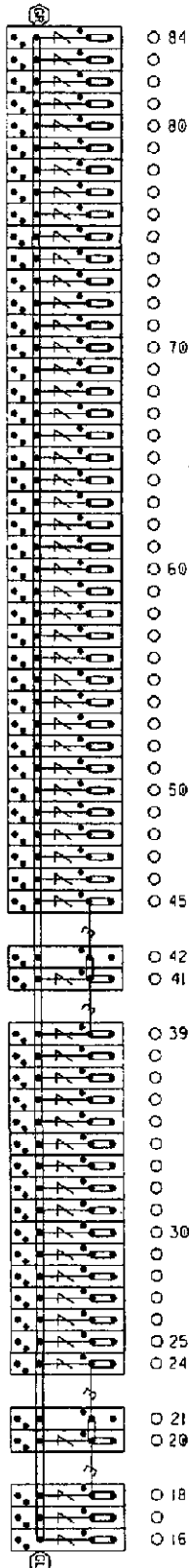
PROPERTY
NORFOLK SOUTHERN RAILWAY CO.

DESIGNED BY:	BTH 11-15-06
DRAWN BY:	IRE 11-15-06
CHECKED BY:	RDO 11-17-06
IN SERVICE:	
CAD/DO ORG. NO.:	
 NORFOLK SOUTHERN OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	
MAINEE BRANCH FLOS AT STITT RD. M.P. 1W-11.111	
FILE NO. R.	
SHEET 15 OF 19	

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-75

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 -
OR - SERIAL PART NO. 61278
CL - SERIAL PART NO. 61278-1.

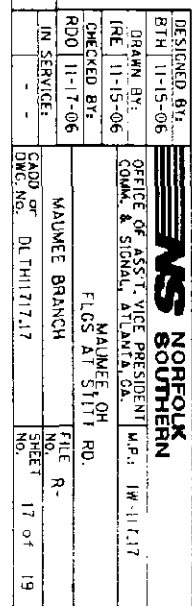
Heavy Duty Equalizer
(022700-1X)
Clear view
Lighting Arrestor
(022585-1X)
LPC-10560-51

REVISION INITIALS

PROPERTY
NORFOLK SOUTHERN RAILWAY CO.

DESIGNED BY:	BTM 11-15-06
DRAWN BY:	IRE 11-15-06
CHECKED BY:	RDO 11-17-06
IN SERVICE:	
DATE OF ASST. VICE PRESIDENT	11/17/07
COMM. & SIGNAL, ATLANTA, GA.	
MAJMEC BRANCH	
FILE NO.	R-
SHEET NO.	16 of 19

TERMINAL BOARD 1
RIGHT ROW
FARADAY SHIELD DETAIL - 1C

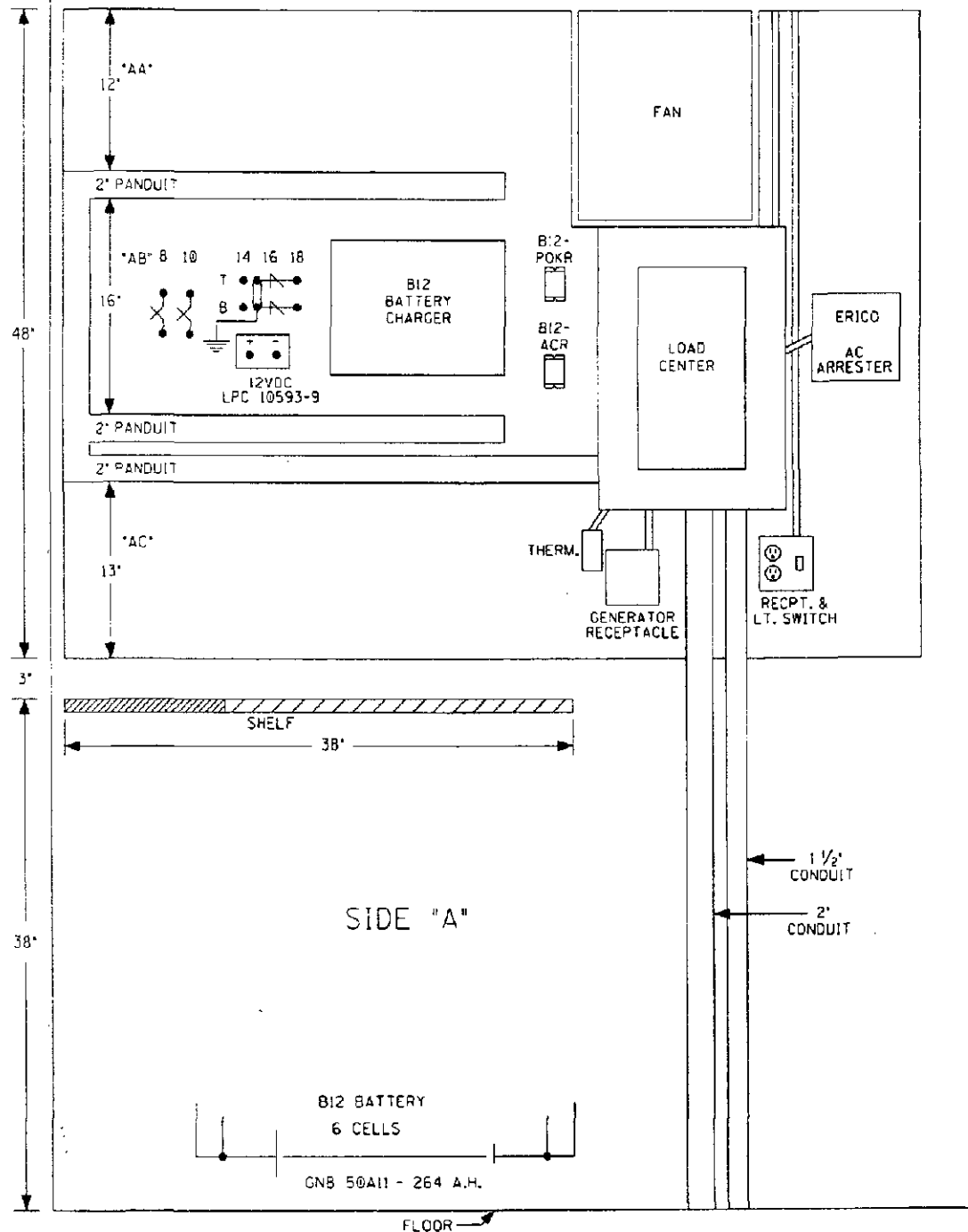


6' X 6' HOUSE - SIDE "C"



REVISION
INITIALS

PROPERTY
NORFOLK SOUTHERN RAILWAY CO.



DESIGNED BY:	BTH 11-15-06	OFFICE OF ASST. VICE PRESIDENT	MAINE BRANCH	FILE R-
DRAWN BY:	IRE 11-15-06	COMM. & SIGNAL, ATLANTA, GA.	FLOS AT STITT RD.	SHEET 18 of 19
CHECKED BY:	RDD 11-17-06			
IN SERVICE:				
DATE OF	DRG. NO. DTH1717A8			

6' X 6' HOUSE - SIDE "A"

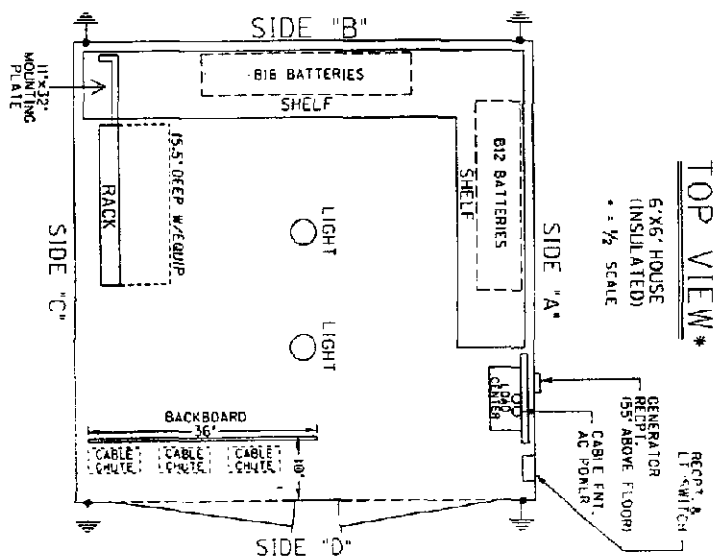
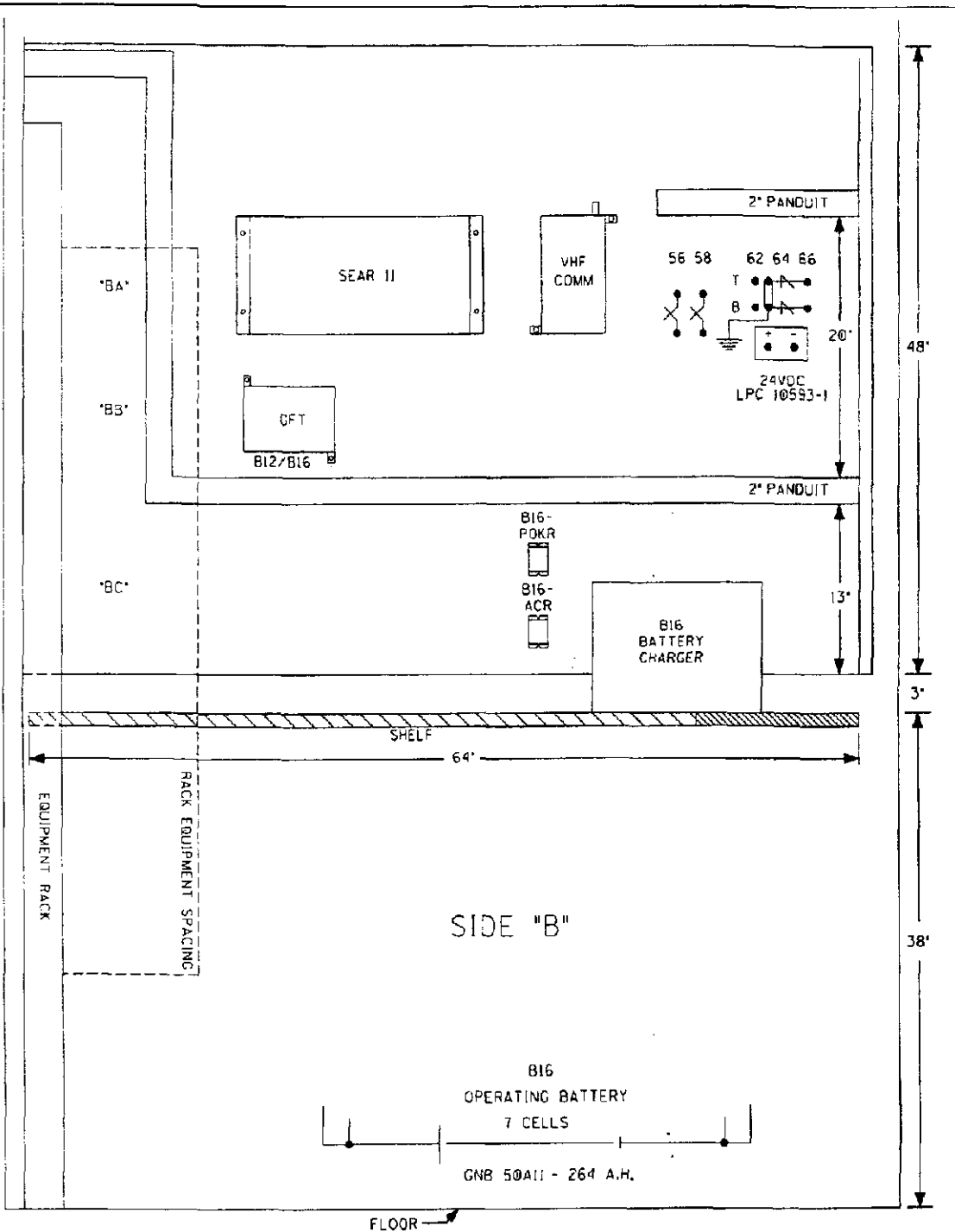


REVISION
INITIALS

PROPERTY
NORFOLK SOUTHERN RAILWAY CO.

DESIGNED BY:	BTH 11-15-06	OFFICE OF ASST. VICE PRESIDENT	MAINE BRANCH	FILE R-
DRAWN BY:	IRE 11-15-06	COMM. & SIGNAL, ATLANTA, GA.	FLOS AT STITT RD.	SHEET 13 OF 19
CHECKED BY:	RDD 11-17-06			
IN SERVICE:				
CADD NO.	DLTH17719			

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



TOP VIEW*

6' X 6' HOUSE
(INSULATED)
• 1/2 SCALE