

Memo

To: Docketing Division
From: Jill Henry, Rail Specialist, Rail Division
Cc: PUCO Legal Department
Date: 3/18/19

Re: PUCO Case No. 19-652-RR-FED- In the Matter of a Request for the Installation of Active Warning Devices at the CSX Transportation Inc. Grade Crossing, DOT#155-764X, on Jerry City Road/TR 23 in Wood County, Ohio.

On October 30, 2018, the Ohio Rail Development Commission (ORDC) authorized funding for CSX Transportation, Inc. (CSX) to install lights and gates at Jerry City Road/TR 23, DOT#155-764X in Wood County, Ohio. The crossing was surveyed, on May 18, 2018, and was found to warrant the upgrade. The electric utility provider for this crossing is Toledo Edison- First Energy Corp.

The project will be paid for with federal funds and is actual cost. The plans and estimates for the project in the amount of \$353,051.00 have been approved with the actual reimbursable amount limited to \$339,824.02. Construction may commence at once. **Staff requests a Finding & Order with completion of the project in nine months.** Staff requests that the following language be incorporated in the Finding & Order:

It is expected that all work necessary for FHWA acceptance of the warning devices will be completed by the in-service due date and that the railroad will be responsible for this work. This work includes, but is not limited to:

- Any ancillary work to make the warning devices function as designed and visible to the roadway user, and
- MUTCD compliance, including minor roadway work if necessary.

Please serve the following parties of record:

CSX Transportation, Inc.
Amanda DeCesare
CSX Public Projects
500 Meijer Drive
Suite 305
Florence, KY 41042

Ohio Rail Development Commission
Cathy Stout
Safety Manager
1980 West Broad Street
Mail Stop #3140
Columbus, OH 43223

Milton Township
Trustees
19441 Mermill Road
Rudolph, OH 43462

Toledo Edison- First Energy Corp.

**OHIO RAIL DEVELOPMENT COMMISSION
INTER-OFFICE COMMUNICATION**

TO: Randall Schumacher, Chief, Rail Division, PUCO

FROM: Cathy Stout, Manager, Safety Section, ORDC

BY: Don Damron, ORDC

SUBJECT: Wood County, TR 23 Jerry City Rd.
DOT# 155764X
PID# 108568

DATE: February 27, 2019

The Public Utilities Commission of Ohio (PUCO) established a diagnostic survey at the subject location on 5/18/2018. The Ohio Rail Development Commission (ORDC) attended the review. The Diagnostic Team recommended the improvement of warning devices to flashing lights and roadway gates. Copies of the diagnostic review form and the plan and estimate are attached.

PE has already been provided by the CSX. ORDC accepts the crossing layout plan and the cost estimates as provided. **Please issue a 9-month construction-only order for the project outlined above.** This authorization is made with the stipulation and understanding that an approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit.

It is expected that all work necessary for FHWA acceptance of the warning devices will be completed by the in-service due date and that the railroad will be responsible for this work. This work includes, but is not limited to:

- any ancillary work to make warning devices function as designed and visible to the roadway user, and
- MUTCD compliance – including minor roadway work if necessary.

Thank you for your assistance with these matters.

Attachment: Diagnostic Review
Plan & Estimate

c: Jill Henry, Rail Specialist, PUCO
ORDC Project Manager (file)



OHIO RAIL DEVELOPMENT COMMISSION

Mail Stop #3140, 1980 West Broad Street, Columbus OH 43223

John R. Kasich, Governor • James G. Bradley, Chairman

February 27, 2019

Amanda DeCesare
Project Manager – Public Projects
CSX Transportation
500 Meijer Drive, Suite 305
Florence, KY 41042

RE: Grade Crossing Warning Device Improvement – Construction Authorization
Wood County, TR 23, Jerry City Rd.
DOT# 155764X
PID# 108568
CSX ACCT. CODE: OH1280

Dear Ms. DeCesare:

The plan and estimate dated 1/11/2019 for the referenced project has been reviewed and is acceptable. **Please note that the railroad must provide ORDC with a plan stamped by a professional engineer licensed in the State of Ohio prior to acceptance and close out of the project.** CSX Transportation may proceed with the construction of the proposed grade crossing warning system in accordance with the abbreviated plan.

The estimate of \$353,051.00 is acceptable. Reimbursement of eligible actual cost is limited to \$339,824.02. Fuel cells system components are not included in the reimbursement amount and if installed are to be installed at CSX expense. This authorization is made with the stipulation and understanding that the approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit. Additional costs must be approved in writing by the Ohio Rail Development Commission (ORDC) prior to being incurred. Emergency verbal authorizations by ORDC may be permitted and will be confirmed by ORDC in writing within ten (10) business days of the verbal approval.

This authorization is contingent upon CSX Transportation accepting the following instructions:

1. CSX's project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to Don Damron, ORDC, don.damron@dot.ohio.gov, or cell phone at 614-917-8466; and to the Public Utilities Commission of Ohio at jill.henry@puco.ohio.gov. The CSX project foreman will also notify the same of any stops and re-starts of the work activity and of the date work was completed for the project.
2. CSX will arrange for utilities to be located at the project site by the Ohio Utilities Protection Service (OUPS) prior to any construction activities at the site. Utilities that are not participating members of the service must be contacted directly by CSX.



www.rail.ohio.gov

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY

3. The CSX project foremen will notify Don Damron at 614-917-8466 (cell phone) or don.damron@dot.state.oh.us (email) of any changes in the scope of work, cost overruns, material changes, etc. which are not included in the approved plan and estimate and secure approval of same before the work is performed.

4. CSX will furnish two (2) copies of each partial bill to ORDC. Please find the enclosed ODOT Purchase Order to reference when billing.

5. CSX will furnish two (2) copies of the final all-inclusive bill to ORDC stating the exact dates of starting and completing work, the initial and final dates of construction and location where the accounts may be audited.

Thank you for your assistance with these matters.

Sincerely,

A handwritten signature in black ink, appearing to read "Donald J. Damron", written in a cursive style.

Donald J. Damron
Project Manager

C: Randall Schumacher, Chief, Rail Division, PUCO
Jill Henry, Rail Specialist, PUCO
ORDC (file)

R.R. NORTH TO PERRY

STA. 8908+46

2934 FT.

60 FT.

60 FT.

2861 FT.

OH. POWER 30' V.O.H.C.
(TOLEDO EDISON)

U.G. FIBER LINE (CENTURY LINK)

U.G. FIBER MARKER

U.G. FIBER LINE (CENTURY LINK)

OH. POWER 30' V.O.H.C.
(TOLEDO EDISON)

APPROACH LENGTHS TABLE		SOUTHBOUND	NORTHBOUND
DC, AFO, TYPE C, MOTION, CWT, OR OTHER		M/L CWT	M/L CWT
STANDARD MINIMUM WARNING TIME IN SECONDS		25	25
ROADWAY GATE TIME IN SECONDS		5	5
CLEARANCE TIME IN SECONDS		1	1
DOT TRAFFIC LIGHT SIMULTANEOUS PREEMPT TIME IN SECONDS*		0	0
DESIGNED WARNING TIME FOR TRAINS AT TIME TABLE SPEED		31 SEC.	31 SEC.
DOT TRAFFIC LIGHT ADVANCE PREEMPT TIME IN SECONDS *		0	0
CONTROL EQUIPMENT DECISION TIME IN SECONDS		6	5
DESIGNED DETECTION TIME FOR TRAINS AT TIME TABLE SPEED		37 SEC.	36 SEC.
TIME TABLE MAXIMUM TRAIN SPEED IN MILES PER HOUR		50	50
BUFFER SPEED IN MILES PER HOUR		5	5
TOTAL WARNING SYSTEM DESIGN SPEED IN MILES PER HOUR		55	55
APPROACH DISTANCE TO ISLAND EDGE IN FEET		2934	2861
HALF WIDTH OF ISLAND IN FEET		60	60
APPROXIMATE MILE POSTS FOR APPROACH CIRCUIT		169.21	168.09

*AUTHORIZING AGENCY, NONE
*DATE OF REQUIREMENT, NONE
*AMOUNT OF TIME (SEC.), NONE

FILE NAME, BE16864.H01
DATE DRAWN, 12-05-18
DRAWN BY, GAC
CHECKED BY, HMB
SSE#, 18-1017

REVISION DATES
12-14-18

PRODUCED FOR,
CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

PRODUCED BY,
Signal South
12276 SAN JOSE BLVD.
JACKSONVILLE, FL 32223

LEGEND
CSX ROW-----
R/R POLELINE-----
GAS-----
FIBER OPTIC-----

GUARD RAIL-----
O.H. POWER-----
FENCE-----
WATER-----
SEWER-----

METER SERVICE
POLE
FIRE PLUG
SEWER CAP
GAS VENT

GPS COORDINATES
41°15'19" N
83°51'53" W
ELEV. 710'
M.P. BE-168.64

STREET NAME, CR 23 (JERRY CITY ROAD)
CITY & STATE, CUSTAR, (WOOD), OH
DOT, 155764X
PROJECT #, OH2018712
OP #, OH1280

PROPOSED CROSSING LAYOUT
SCALE = 20:1

ESTIMATE SUBJECT TO REVISION AFTER: 6/9/2019
CITY: Custar **COUNTY:** Wood
DESCRIPTION: TR 23 (Jerry City Rd.) - Installation of FLS&G.

DOT NO.: 155764X
STATE: OH

REGION: Louisville **SUB-DIV:** Toledo
AGENCY PROJECT NUMBER: PID # 108568

MILE POST: BE-168.64

PRELIMINARY ENGINEERING:

212	Contracted & Administrative Engineering Services	\$	9,000
	Subtotal	\$	9,000

CONSTRUCTION ENGINEERING/INSPECTION:

212	Contracted & Administrative Engineering Services	\$	5,000
	Subtotal	\$	5,000

FLAGGING SERVICE: (Contract Labor)

70	Labor (Conductor-Flagman)	0	Days @	\$ 350.00	\$	-
50	Labor (Foreman/Inspector)	0	Days @	\$ 504.00	\$	-
70	Additive 153.20% (Transportation Department)				\$	-
50	Additive 149.90% (Engineering Department)				\$	-
230	Expenses (Engineering Department)	0	Days @	\$ 75.00	\$	-
230	Expenses (Transportation Department)	0	Days @	\$ 45.00	\$	-
	Subtotal				\$	-

SIGNAL & COMMUNICATIONS WORK: \$ 339,051

TRACK WORK: \$ -

PROJECT SUBTOTAL: \$ 353,050.62

900 **CONTINGENCIES:** 0.00% \$ -

PROJECT TOTAL: ***** \$ 353,050.62

CURRENT AUTHORIZED BUDGET: ***** \$ -

TOTAL SUPPLEMENT REQUESTED: ***** **\$ 353,050.62**

DIVISION OF COST:

Agency	100.00%	\$	353,051
Railroad	0.00%	\$	-
		\$	353,051

NOTE: Estimate is based on FULL CROSSING CLOSURE during work by Railroad Forces.

This estimate has been prepared based on site conditions, anticipated work duration periods, material prices, labor rates, manpower and resource availability, and other factors known as of the date prepared. The actual cost for CSXT work may differ based upon the agency's requirements, their contractor's work procedures, and/or other conditions that become apparent once construction commences or during the progress of the work

Office of Chief Engineer Public Projects--Jacksonville, Florida

Estimated prepared by: SE

Approved by: A/JD CSXT Public Project Group

DATE: 01/11/19 REVISED: 12/11/18 DATE: 01/16/19

CSX TRANSPORTATION

Outside Party Estimate

Install GCP4000 6X6 and FLSG at CR 23 (Jerry City Rd.)

Custar, Ohio

DOT: 155764X

OP: OH1280

CSX Project: OH2018712

Summary

Material	\$100,101
Sales Tax	\$7,207
Labor:	
Construction Labor (183 man-days)	\$64,980
Shop Labor (8 man-days)	\$3,040
Subsistence (0 man-days)	\$0
Railroad.Engineering,.Construction.....	\$9,747
Railroad Engineering, Preliminary	\$5,272
Additives to Construction Labor	\$97,405
Additives to Shop Labor	\$4,557
Additives to Track Labor	\$0
Additives to Engineering	\$0
Equipment Expense (0 work days)	\$0
Waste Management (37 work days)	\$420
Contract Engineering	\$26,116
Freight	\$7,206
Poleline Removal	\$0
AC Power Service	\$5,000
Salvage	\$0
VAC TRUCK	\$8,000

TOTAL ESTIMATE COST	\$339,051
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Date: 01/10/2019

Estimated By: Michael Vorwaller

Note: This estimate should be considered void one year from date of estimate.

CSX TRANSPORTATION

Signal Project Estimation

Shop Material List for CSX Project: OH2018712 (Effective: 01/10/2019)
BE 168.64 - CR 23 (Jerry City Rd.)

CATALOG_NUM	QTY	Unit Price	COST	SHORT_DESC
020.0017120.1	6	11.31	67.86	BLOCK TERMINAL 12 POST SINGLE STRIP AAR 14.1.6 WITH 1 AAR 14.1.11 WASHER AND 1 AAR 14.1.11 CLAMP NUT TORQUED ONTO EACH TERMINAL AT 40 IN/LBS, 12 AAR 14.1.11 WASHERS AND 24 AAR 14.1.11 BINDING NUTS UNASSEMBLED SAFE 023390-11X TDH 800-0001
020.0017125.1	6	3.20	19.20	BLOCK TERMINAL 2 POST AAR 14.1.8 WITH 1 AAR 14.1.11 WASHER AND 1 AAR 14.1.11 CLAMP NUT TORQUED ONTO EACH TERMINAL AT 40 IN/LBS, 2 AAR 14.1.11 WASHERS AND 4 AAR 14.1.11 BINDING NUTS UNASSEMBLED SAFE 023612-1X TDH 800-0002
020.0018234.1	1	77.88	77.88	CABLE CONVERTER PROTOCOL/MEDIA WAYSIDE ACCESS GATEWAY (WAG) 25 PIN MALE TO 25 PIN MALE NULL 20FT LONG, SAFETRAN P/N Z706-02027-0020
020.0021965.1	1	8.96	8.96	EXTRACTOR DWG 59688-4 TERMINAL GRS CAT P3-308 REF 18 1/16" STEEL WIRE COVERED W/INSULATING TUBING BILMAR 59688
020.0022651.1	2	106.70	213.40	PLUGBOARD KIT TYPE B1 OR ST1 RELAY ASSEMBLY WITH 12 EACH 14-10 CRIMP TERMINALS, 1 EACH VOLT/CURRENT (3E) AND (1E) TEST TERMINALS, INSULATORS AND CLIPS CSX REF NO C30 ALSTOM 59686-5 GR1, SAFETRAN P/N 420000-78X
020.0025595.1	1	20.41	20.41	WRENCH DWG 55393-3 GR1 "E" TERMINAL POST NUT GRS CAT P3-320 REF G NATIONAL ELEC GATE P/N EDG-5951
020.0053360.1	3	387.88	1163.64	CHARGER BATTERY ELC 12/20 D 20 AMP 10-19.9 VDC ROTARY SW VOLTAGE ADJ W/ 10' TEMP COMPENSATION PROBE 0.1 TO 0.25 V RIPPLE AT BATTERY TERMINALS 120V/240V AC INPUT ONLY NRS P/N 22290-10
020.0055602.1	2	11.39	22.78	RELAY POTTER BRUMFIELD KHAU17D12-12V 160 OHMS CONTACTS 4FB CSX REFERENCE N41 SOC 1389 NEUTRAL NON-VITAL 12VDC USE WITH SOCKET BASE 020.0056514.1
020.0056514.1	2	6.27	12.54	SOCKET RELAY POTTER & BRUMFIELD 27E894 NEWARK 46F3583 DIN RAIL MOUNT 15 PIN NO GROUNDING LUG FOR PB TYPE KHAU 4FB NON VITAL RELAY (020.2901190.1)
020.0064060.1	1	16.12	16.12	PLATE RELAY MOUNTING FOR 2 EACH TYPE KHAU OR OCTAL RELAY SOCKETS ON GRS B1 SIZE PLATE W/FOUR RUBBER GROMMETS ORDER TYPE KHAU (020.0056514.1) OR OCTAL (020.0056515.1) RELAY SOCKETS SEPARATELY CSX SS700 REF C49 AND C46 PTMW P/N 66501380
020.0167501.1	26	37.91	985.66	ARRESTER HYBRID LOW VOLTAGE,2, 0-30V DC OR 0-24V AC RATED AT 15 AMP COMPLETE WITH FAIL SAFE OPEN MECHANISM, FUSED SEMICONDUCTOR, TEST EYE WITH NUT, 6" BLUE LEAD, SEE SS382 BOURNS P/N 1675-01
020.0660077.1	1	617.00	617.00	ARRESTER GE 9L10KAC213L FOR 240 VOLT SINGLE PHASE 3 WIRE CIRCUIT PROTECTOR INCLUDES LINE TO LINE AND LINE TO GROUND PROTECTION
020.0770060.1	8	15.17	121.36	ARRESTER US&S N451552-0201 TRACK SERIES RED LABEL USGA 250V DC 175V AC W/O BASE (DO NOT USE ON AC CIRCUITS FOR NEW WORK, SEE SS382) US&S RSE-17A1
020.0770105.1	2	22.06	44.12	ARRESTER HARMON 202217-000 AGE-1 TRACK AIR GAP EQUALIZER 18 VOLT
020.1000354.1	1	6456.23	6456.23	HOUSE SIGNAL 6FT X 6FT WITH PTC UPGRADE PTMW P/N 91000354
020.1940055.1	1	14.50	14.50	CONTAINER TUBE HOLDER CIRCUIT PRINT PLAN 24" SCHD 20 4" PVC PIPE WITH SOLID PVC CAP GLUED ONE END AND VENTED PVC CAP VENT MUST BE NON CORROSIVE NON CONDUCTIVE MATERIAL REMOVABLE ON OTHER END CONTAINER MUST BE CLEANED OF ALL MILL MARK
020.2503073.1	1	1091.71	1091.71	MODULE SAFETRAN VHF COMMUNICATOR (A80276-3) USED WITH KEYDOWN CAPABILITY SAFETRAN P/N 8000-80276-0003
020.2503079.1	2	484.90	969.80	MODULE SAFETRAN GROUND FAULT DETECTOR (A80297-2) USED WITH REMOTE MONITORING & ALARM REPORTING W/WAMS SAFETRAN P/N 8000-80297-0002
020.2503081.1	1	69.04	69.04	MODULE SAFETRAN ECHELON TERMINATION UNIT (A80078) USE WITH REMOTE MONITORING & ALARM REPORTING W/WAMS SAFETRAN P/N 8000-80078-0001
020.2503090.1	1	1087.41	1087.41	CONVERTER PROTOCOL/MEDIA WAYSIDE ACCESS GATEWAY (WAG) RS-485, RS-432 AND SAFETRAN ECHELON LAN COMMUNICATIONS PROTOCOL USE WITH SAFETRAN GCP-4000 HIGHWAY CROSSING SYSTEMS SAFETRAN P/N 9000-53457-0002
020.2503200.1	1	1089.40	1089.40	KIT SAFETRAN GCP-4000 ILOD PKG. FOR USE WITH SEAR-III INCLUDES: 2 EA A80271 INTEL LIGHT OUT DETECTOR 2 EA A80078 ECHELON TERMINATIONS BURCO PACKAGE #131-0886
020.2503210.1	1	11070.54	11070.54	PREDICTOR SAFETRAN GCP-4000 2-TRK DUAL CASE W/RECORDER INCL 2 EA A80403 CPU II+ (1 MAIN/1 STBY) 2 EA A80418 TRACK MODULES (1 MAIN/1 STBY) 2 EA A80405 SSCC-III A89468 TRANSFER A80407-3 DISPLAY & A80410 SEAR-III SAFETRAN P/N 82A0-80465-002C0
020.3430130.1	1	409.74	409.74	RELAY SAFETRAN 400023 500 OHMS CONTACTS 6FB HEAVY DUTY CSX REFERENCE S7
020.3652615.1	1	61.32	61.32	RESISTOR ADJUSTABLE 0.340 TO 3.00 OHMS 2.24A 15W SAFETRAN 029602-8AX
020.3430110.1	2	363.23	726.46	RELAY SAFETRAN 400004 500 OHMS CONTACTS 4FB-2F-1B CSX REFERENCE S3 SOC 1252 NEUTRAL (REPLACES GRS 56001-783 GR2 TYPE B1 CAT A62-277 REF B8)
020.4200340.1	8	1.74	13.92	LINK TEST ASSEMBLY 1" CENTERS YELLOW INSULATOR ON OFFSET LINK DOES NOT REQUIRE BRASS TEST NUT, TDH SOLUTIONS P/N 800-0112
020.4200350.1	10	1.89	18.90	LINK TEST ASSEMBLY 2-3/8" CENTERS YELLOW INSULATOR ON OFFSET LINK DOES NOT REQUIRE BRASS TEST NUT, TDH SOLUTIONS P/N 800-0114
020.4201045.1	400	0.15	60.00	NUT HEX CLAMP (FLAT NUT) AAR 14.1.11-7 14-24 NS-2 THD FLAT BRASS NICKEL PLATED FOR AAR BINDING POST W/14-24 THD SAFETRAN 023832 TDH SOLUTIONS 800-0006 MIN/MULT ORDER QTY 400
020.8000067.1	2	14.21	28.42	LOCK AMERICAN H10SIGRA CSX SIGNAL PADLOCK WITH BLACK CHROME SHACKLE W/O KEY USE ON VITAL SWITCH AND SIGNAL EQUIPMENT
022.8005160.1	1	465.18	465.18	KIT CDMA AND VHF RADIO MATERIAL FOR USE WITH CSX COMMUNICATIONS HIGHWAY CROSSING (CDMA) INSTALLATIONS KIT INCLUDES ANTENNAS, MOUNTING, CABLING, AND CDMA AMPLIFIER TESSCO P/N 397722
028.1120501.1	3	314.80	944.40	SOLID STATE RELAY DEVICE, VOLTAGE MONITOR, EXTENDED TEMPERATURE RANGE OF -40C to +70C (BENDER P/N VME420-DW-1)

CSX TRANSPORTATION

Signal Project Estimation

Shop Material List for CSX Project: OH2018712 (Effective: 01/10/2019)
BE 168.64 - CR 23 (Jerry City Rd.)

[illegible]

Total Cost: \$	27,967.90
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CSX TRANSPORTATION

Signal Project Estimation

Field Material List for CSX Project: OH2018712 (Effective: 01/10/2019)
BE 168.64 - CR 23 (Jerry City Rd.)

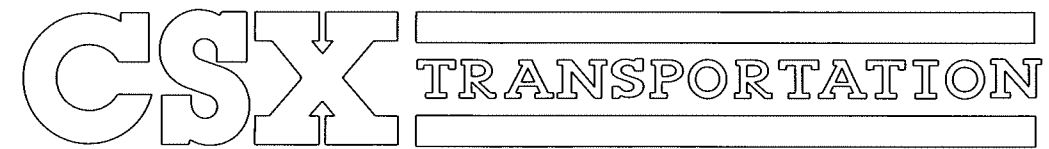
CATALOG_NUM	QTY	Unit Price	COST	SHORT_DESC
014.8006169.1	2	9.80	19.60	SIGN PERMANENT EMERGENCY NOTIFICATION (VEHICLE BLOCKING RD CRSSNG) ALUM BLADE WHI HIGH INTENSITY PRISMATIC LTRS ON BLU BACKGROUND COMPLETE W/DOT ID AND MP PER CSX DWG 2719 ENTER DOT ID & MP IN REQ NOTE TO SUPPLIER USE 014.8006170.1
020.0010447.1	2	9.92	19.84	BOX GROUND ROD CONNECTION ENCLOSURE COMPLETE WITH 7" COVER TWO HEX HEAD 3/8" SS BOLTS AND 10" X 9" ENCLOSURE WITH 2 KNOCKOUTS FOR GROUND WIRE ENTRY AND EXIT PENCELL P/N PE-6HDHK-BLA
020.1020095.1	2	1732.18	3464.36	PLATFORM HIGHWAY CROSSING ACCESS FOUNDATION COMPLETE WITH HANDRAILS, ASSEMBLING HARDWARE, JUNCTION BOX MOUNTING PLATE, SEE SS235 PROGRESS RAIL P/N 9453001320
020.0013686.1	2	78.94	157.88	BOOTLEG KIT CSX RAIL CONN W/15 FT 3/16 IN BDSTRAND 6/64 IN JKT 2 TK CONN ERICO SBPAC3-A/2 CLIP ERICO SBA248A 4 RL PT CDWELD STPL 3/8 X 1 3/4 IN 2 ERICO SBA2363 SLVES 2 RAYCHEM OR AMP 6 IN TUBIN 2 PLEXICO 3408 DWG&WILSON P/N BLTS-8-80B
020.0013908.1	400	7.19	2876.00	CABLE UG COMPOSITE 19 CONDUCTOR INCLUDES 13 CONDUCTOR #14 AWG SOLID AND 6 CONDUCTOR #6 AWG SOLID CSX SS360 SHOW LENGTH ON EACH REEL FURNISH IN 1000 FT LENGTHS OKONITE P/N 206-11-6283
020.0025145.1	1	365.31	365.31	SHUNT ENCLOSURE WAYSIDE MOUNT ASSEMBLY COMPLETE WITH LOCK AND LABELS, DOES NOT INCLUDE ARRESTERS, SEE SS227 INTERRAIL P/N IRS-SEC8
020.0053220.1	150	2.60	390.00	CABLE POWER UG 3 COND NO 6 AWG - SHOW LENGTH ON EACH REEL - FURNISH IN 1000 FT LENGTHS - OKOSEAL 45 MM PVC JACKET, OKONITE 112-10-3854
020.0055421.1	6	23.59	141.54	BRACKET SIGN 4" OR 5" MAST W/1/2" U-BOLT FOR ALL SIGNS REQUIRING 5/16" BOLT L&W P/N 7A1041-1X1
020.0056674.1	2	6146.16	12292.32	SIGNAL 0220-L GCWD GATE ASSY DWG SS222 INCLS 18 FBRGL ARM W/3 LIGHTS 2-WAY MAIN IND 12" LIGHTS 24" BACKGND S HOODS LED LAMPS 5" ALUM MAST JCT BOX BASE XNG SIGN & PINNACLE SAFE P/N 074000-0220-L
020.0056823.1	1	17.57	17.57	TAPE UG RED CABLE MARKER IMPRINT TO READ "CAUTION BURIED SIGNAL CABLE BELOW CSX TRANSPORTATION" REEF IND INC TERRATAPE 0911456 1000 ROLL
020.0057275.1	400	1.21	484.00	WIRE UG TRACK TWISTED PAIR NO. 6 AWG SOLID CONDUCTOR WITH ONE RED AND ONE BLACK NEOPRENE JACKET SHOW LENGTH ON EACH REEL FURNISH IN 1050 FT REELS OKONITE P/N 150-12-3933
020.1040322.1	20	118.29	2365.80	BATTERY SAFT SPL165, 165 AH POCKET PLATE NICKEL CADMIUM BATTERY FEATURING ULTRA LOW MAINTENANCE, GAS RECOMBINATION TECHNOLOGY
020.1040324.1	9	183.65	1652.85	BATTERY SAFT SPL250, 250 AH POCKET PLATE NICKEL CADMIUM BATTERY FEATURING ULTRA LOW MAINTENANCE, GAS RECOMBINATION TECHNOLOGY
020.1040540.1	2	31.00	62.00	TRAY BATTERY FIBER CO 82687-1-P 12" WIDTH 24" LONG CSX DWG 82687 USE IN 4X6 HOUSE SEE SS390
020.1040550.1	3	45.39	136.17	TRAY BATTERY FIBER CO 82687-3-P 12" WIDTH 38" LENGTH CSX DWG 82687 FOR USE WITH FLOODED (NON-VALVE REGULATED) CELLS SS390
020.1150750.1	500	1.05	525.00	BOND STRAND 3/16" DIA 7 STRANDS OF 19 STR EACH 6 WITH 12 STRS TINNED OUTER WIRES AROUND 7 NOT TINNED THE 6 TWISTED AROUND 1 CENTER STRAND OF 19 STRS NOT TINNED WITH 6/64" PVC FLORESCENT ORANGE JACKET INSULATION ERICO SBS8TINS664
020.1304014.1	25	6.45	161.25	KIT BOND, CADWELD PLUS WEB OF RAIL BOND 3/16 DIA. 4" LARGE TAB STYLE 100 EACH INCLUDES 5 EA. 4-1/2" COMBO GRINDING/CLEANING WHEEL, NEW MOLDS (L & R), PACKAGE OF 100, ERICO P/N SBTBBU4ACWPW2
020.1360014.1	1	841.60	841.60	PACKAGE FOREMANS CARE FOR ALUMINUM TYPICAL BOM FOR USE ON ALL MAJOR HIGHWAY CROSSING SIGNAL PROJECTS INCL GROUNDING MATERIALS BOOTLEGS BITS CASE WIRE DUCT SEAL AMP TERMINALS TAPE NO-OX-ID GREASE PADLOCKS TAGS PAINT PAINT BRUSHES
020.1360016.1	1	24.41	24.41	PACKAGE SAFETY FOR BURCO CONTAINERS COMPLETE WITH ONE EACH SAFETY LOCK TAG 3-1/4" X 4-1/4" DOUBLE SIDED RED WITH WHITE LETTERS AND ONE EACH SIGNAL H10 PADLOCK (020.8000067.1) BURCO P/N 846-0003
020.1360104.1	1	1559.40	1559.40	LAYOUT AC METER SERVICE WITH 30' POLE CSX DWG SS351 SH 2 ITEMS 1 TO 40 W/100A LOAD CTR WITH UP TO #2 AWG WIRE CAPABILITY -INCLUDES 2P70A BREAKER-P/N 212-0009
020.0054073.1	2	269.41	538.82	BRACKET ASSY GATE ARM CONVERSION INCLS BRKT MTG HDWARE ALUM CAST ADAPTER 8 OF 3 COND SO CORD
020.3901895.1	2	99.35	198.70	TIP FLEX HWY CROSSING GATE 24 IN LONG ENGINEERING GRADE RED & WHITE STRIPES W/2 MTG BOLTS & INSTALL INSTRUCTIONS ONE SMALL & ONE LARGE RIBBED ADAPTERS USE W/FIBERGLASS GATE ARMS TIP MADE BY MARCUM DEVELOPMENT CO, MARCUM P/N RAC-230RFK
020.3920200.1	2	176.01	352.02	BELL GCWD ELECTRONIC 4" OR 5" MAST 8 TO 13 VOLTS DC GSI PN EB-3-360-5 ASC PN 81848
020.3930010.1	2	3.70	7.40	KIT GATE ARM WARNING STICKER KIT INCLUDES 1-EA 5"X3" STICKER 1-EA 5"X3" PADLOCK TAG 2-EA 11"X3" STICKER PER SS222
020.4200340.1	25	1.74	43.50	LINK TEST ASSEMBLY 1" CENTERS YELLOW INSULATOR ON OFFSET LINK DOES NOT REQUIRE BRASS TEST NUT, TDH SOLUTIONS P/N 800-0112
020.4200900.1	6	0.18	1.08	CONNECTOR SHEATHING AMP 329860 FOR NO. 14 WIRE
020.4201042.1	20	0.13	2.60	NUT HEX BINDING (RSA NUT) AAR 14.1.11-6 14-24 NS-2 THD CONE SHAPE BRASS NICKLE PLATED FOR AAR BINDING POST W/14-24 THD SAFETRAN 023831 TDH SOLUTIONS 800-0005
020.4201043.1	150	0.09	13.50	NUT HEX CLAMP (FLAT NUT) AAR 14.1.11-7 14-24 NS-2 THD FLAT BRASS NICKEL PLATED FOR AAR BINDING POST W/14-24 THD SAFETRAN 023832 TDH SOLUTIONS 800-0006
020.4201044.1	100	0.08	8.00	WASHER AAR 14.1.11 ROUND COPPER NICKEL PLATED FOR AAR NO 14 BINDING POST SAFETRAN 023834 TDH SOLUTIONS 800-0007
020.7300030.1	2	187.08	374.16	BRACKET BELL FITS SAFETRAN JUNCTION BOX MOUNT, 5" BENT ALUM PIPE, TDH SOLUTIONS P/N 730-0030
020.9999991.1	1	100.00	100.00	BLOCKING AND BRACING FOR PROJECTS BURCO DIST
250.0001836.1	1	15.05	15.05	BREAKER CIRCUIT SQ D QO260
250.0012228.1	3	3.80	11.40	TAPE BLACK ELECTRIC 3/4" X 66' 3M "SUPER 33 PLUS"

Field Material List for CSX Project: OH2018712 (Effective: 01/10/2019)
BE 168.64 - CR 23 (Jerry City Rd.)

[illegible]

Total Cost: \$ 62,745.68

Consumable Material List for CSX Project: OH2018712 (Effective: 01/10/2019)
BE 168.64 - CR 23 (Jerry City Rd.)



RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

TOLEDO SUBDIVISION

GRADE CROSSING

PROJECT NUMBER: OH2018712

OP: OH1280

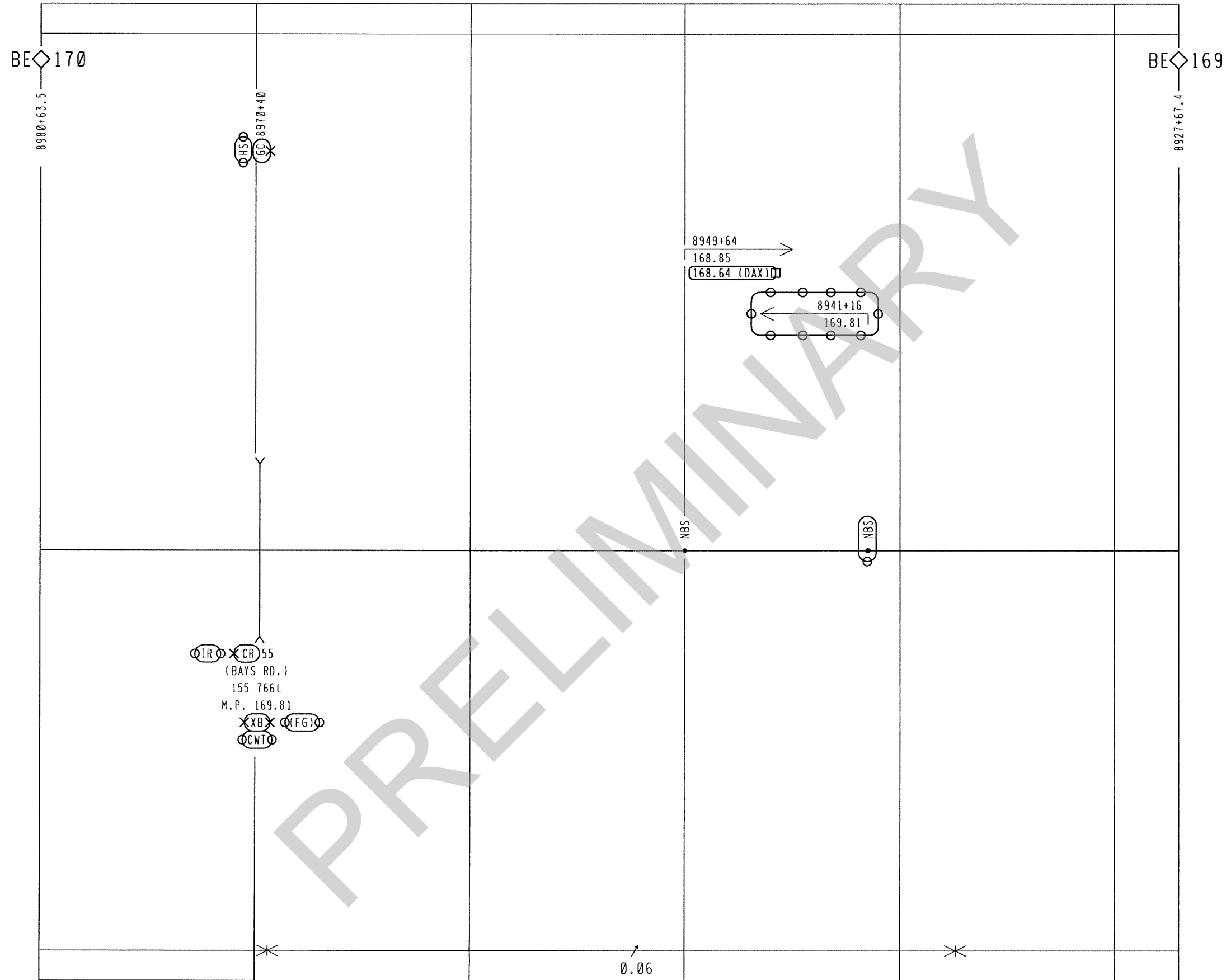
BOOK 1 OF 1



Signal South

Signal South

11276 SAN JOSE BLVD. SUITE 525
JACKSONVILLE, FLORIDA 32223
TEL. 904-240-1020



THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 12-26-18
CSX PROJECT # 0H2018713

□□□ = IN

0H2018712 18-1017CSX SSE/CRC/CCV 12-27-18

Signal South

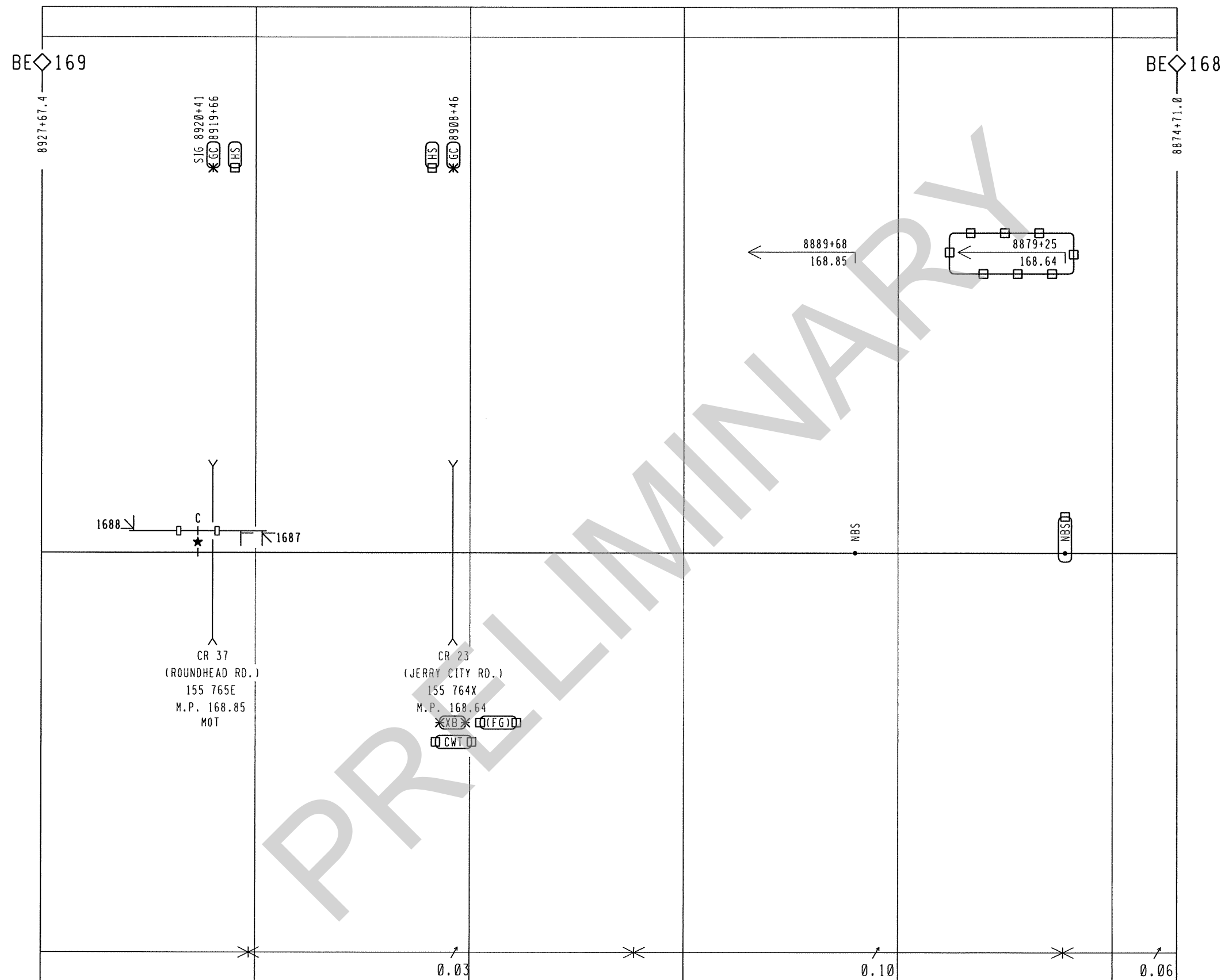
○○○ = IN

××× = OUT

0H2018713 18-1018CSX SSE/CRC/ 12-26-18

Signal South

REVISIONS	01-28-02 SWE				TRACK PLAN				CSX TRANSPORTATION			
	0H199040				HORIZONTAL SCALE,				RAIL TRANSPORT GROUP ENGINEERING			
09-24-13 XRL	0H2012000				1 INCH = 500 FEET				COMMUNICATIONS AND SIGNALS			
	DESIGNED	DIGITIZED	CHECKED	DATE	NEXT FILE	NEXT SH	FILE	SHEET	DESIGNED	DIGITIZED	CHECKED	DATE
	ORS/JSH	ORS/JSH	ORS/BGS	08/06/90	BE16800	T01	BE16900	T01	ORS/JSH	ORS/JSH	ORS/BGS	08/06/90

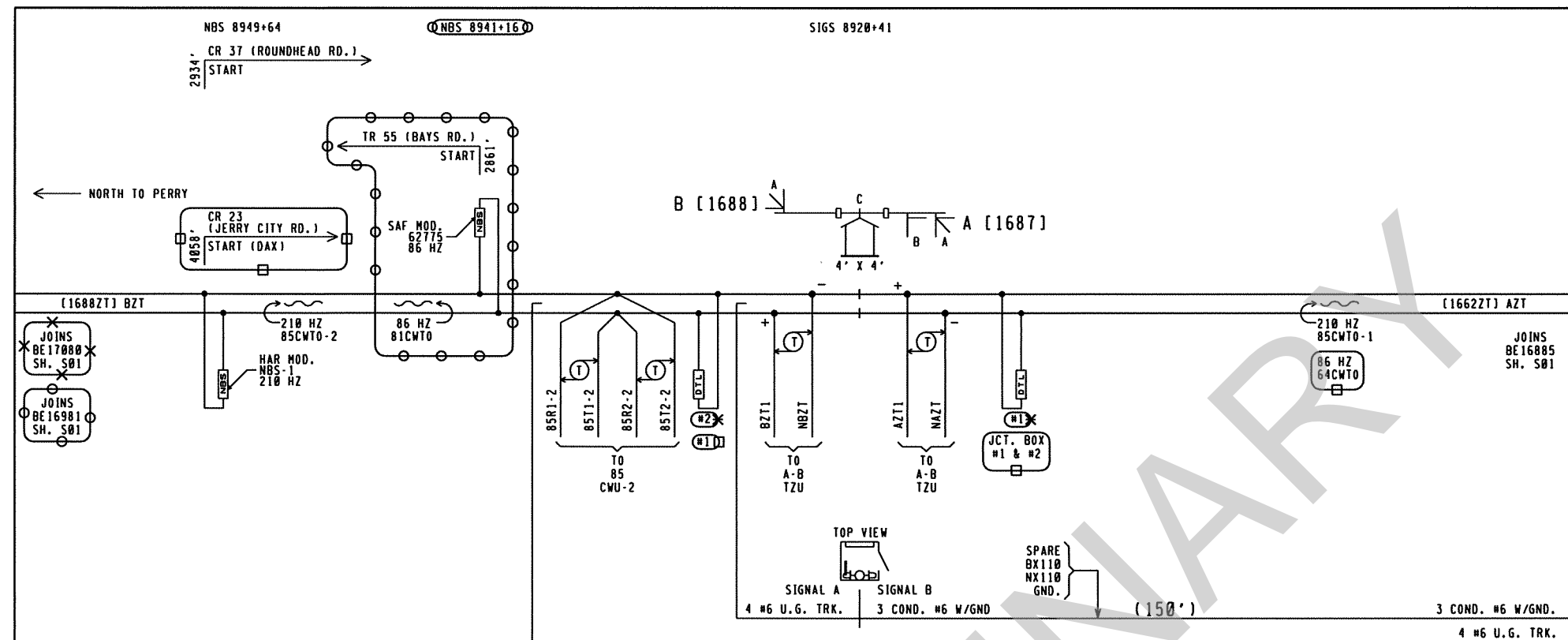


□□□ = IN
*** = OUT

0H2010712
18-1017CSX
SSE/CRC/CCV
12-27-18
Signal South

★ = SIGNAL MOUNTED ON TOP OF HOUSE

REVISIONS	01-28-02 SNE 0H199040	TRACK PLAN HORIZONTAL SCALE: 1 INCH = 500 FEET				CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
	09-24-13 XRL 0H2012000	DESIGNED ORS/TJF	DIGITIZED ORS/TJF	CHECKED ORS/BGS	DATE 08/06/90	NEXT FILE BE16700	NEXT SH T01	FILE BE16800	SHEET T01



REVISIONS

01-28-02 SWE	0H1999040
12-26-02 SAF 0H1999087	
08-05-03 SAF 0H20000520	
09-24-13 XRL	0H2012080, 0H2012080A

NOTES:

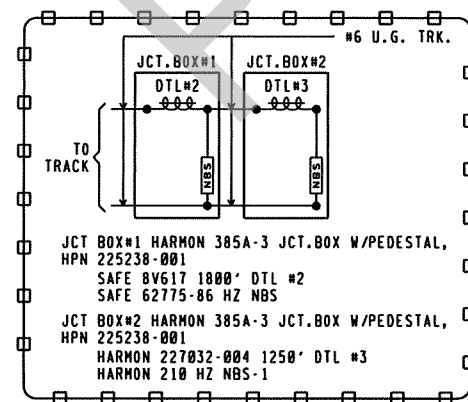
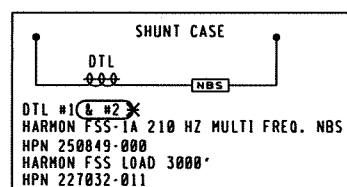
- HOUSE MOUNTED SIGNALS ARE LABELED "A" AND "B". "B" SIGNAL IS ON THE FRONT DOOR SIDE OF HOUSE MOUNTED MAST ASSEMBLY.
- LOCATION SPECIFIC TRACK AND SIGNAL NOMENCLATURE IS SHOWN IN BRACKETS AND APPEARS ON SIGNAL NUMBER PLATES ONLY.

RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

SIGNALS 1687/1688

TRACK AND SIGNAL PLAN
CUSTAR, OH M.P. BE-168.87

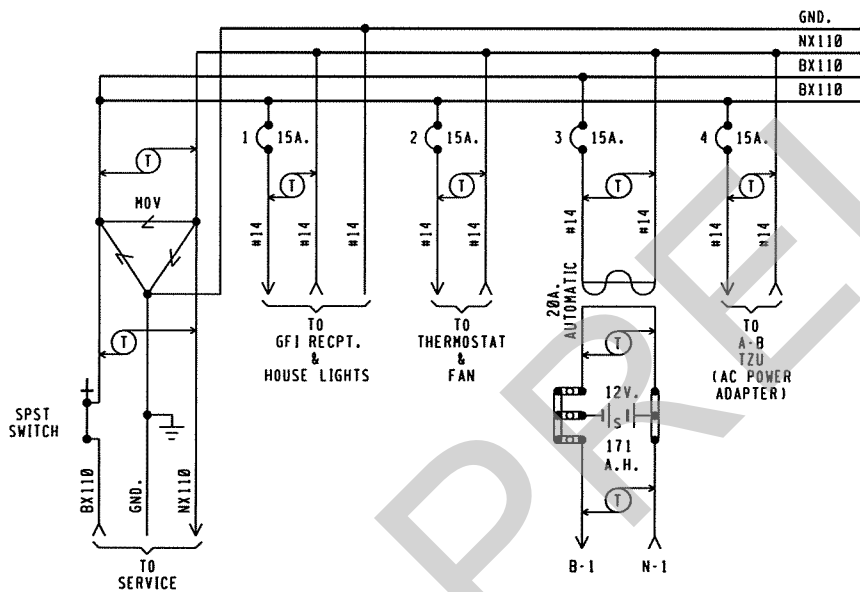
DESIGNED SWE	DIGITIZED SWE	CHECKED SWE	DATE 11-01-99
NEXT FILE BE16887	NEXT SH E01	FILE BE16887	SHEET S01

THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 12-26-18
CSX PROJECT # 0H2018713☐ = IN
*** = OUT0H2018712
18-1017CSX

Signal South

0H2018713
18-1018CSX

Signal South



NOTES:

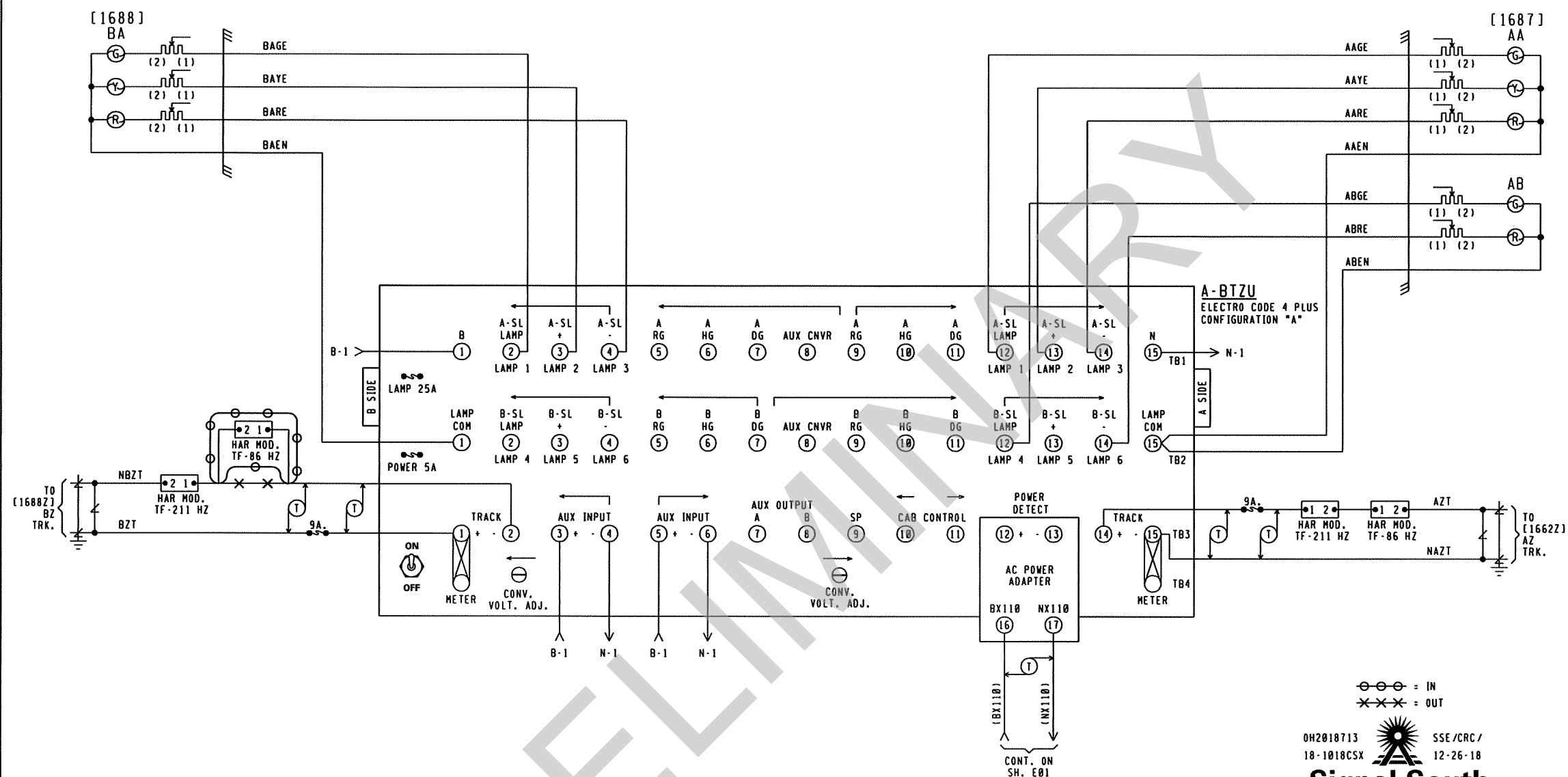
- 1 - REFERENCES ARE PER SCMS-13.
- 2 - ARRESTERS AND BATTERY LINE ARE PER SCMS-22.
- 3 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
- 4 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
- 5 - BATTERY AH CAPACITY SHOWN IS THE MINIMUM REQUIRED.
- 6 - WIRING
 - A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
 - B - 110-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
 - C - ALL TRACK WIRES TO BE #10 FLEX.
 - D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.

A-BTZU		ELECTRO CODE 4 PLUS CONFIGURATION "A"		FRONT VIEW
TRACK CHOKE 9HP		TRACK CHOKE 9HP		
211SRP LAMP CONVERTER		211SRP LAMP CONVERTER		
7K RECEIVER				
2R TRACK CONVERTER				
214 FILTER				
215D AUXILIARY I/O (B)				
216B TEST/DISPLAY				
230 PROCESSOR (210A/220A)				
230 PROCESSOR (210B/220B)				
212 MAIN CHOPPER CONTROL				
213AX COLOR LIGHT LAMP DRIVER				
213AX COLOR LIGHT LAMP DRIVER				
2R TRACK CONVERTER				
7K RECEIVER				

NO CHANGES
0H2018712 SSE/CRC/ 12-27-18
18-1017CSX
Signal South

4'X 4' RELAY HOUSE

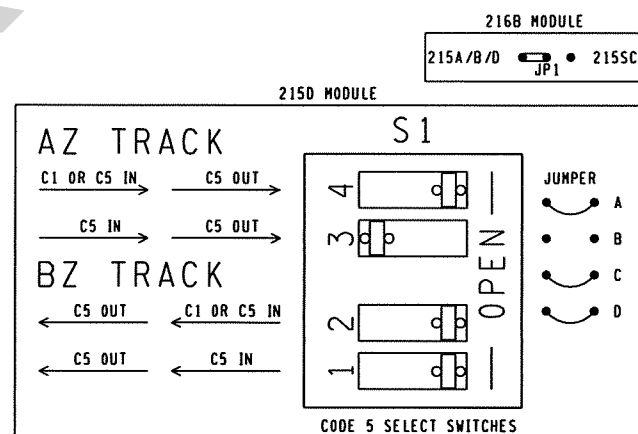
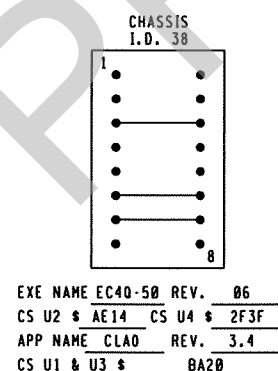
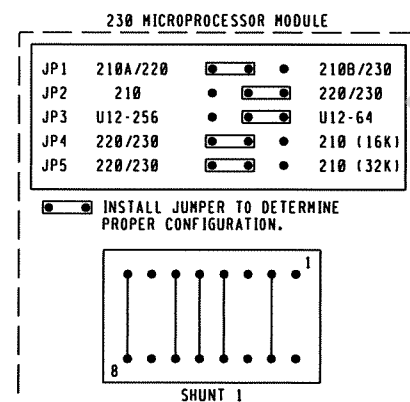
REVISIONS		CSX TRANSPORTATION	
01-28-02 SWE	0H1999040	RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS	
08-05-03 SAF	0H20000520	SIGNALS 1687/1688	
09-24-13 XRL	0H2012080, 0H2012080A	POWER DISTRIBUTION CUSTAR, OH H.P. BE-168.87	
NO CHANGES		DESIGNED SWE	DIGITIZED SWE
0H2018713 SSE/CRC/ 12-26-18 18-1018CSX Signal South		CHECKED SWE	DATE 11-01-99
		NEXT FILE BE16887	SHEET E01



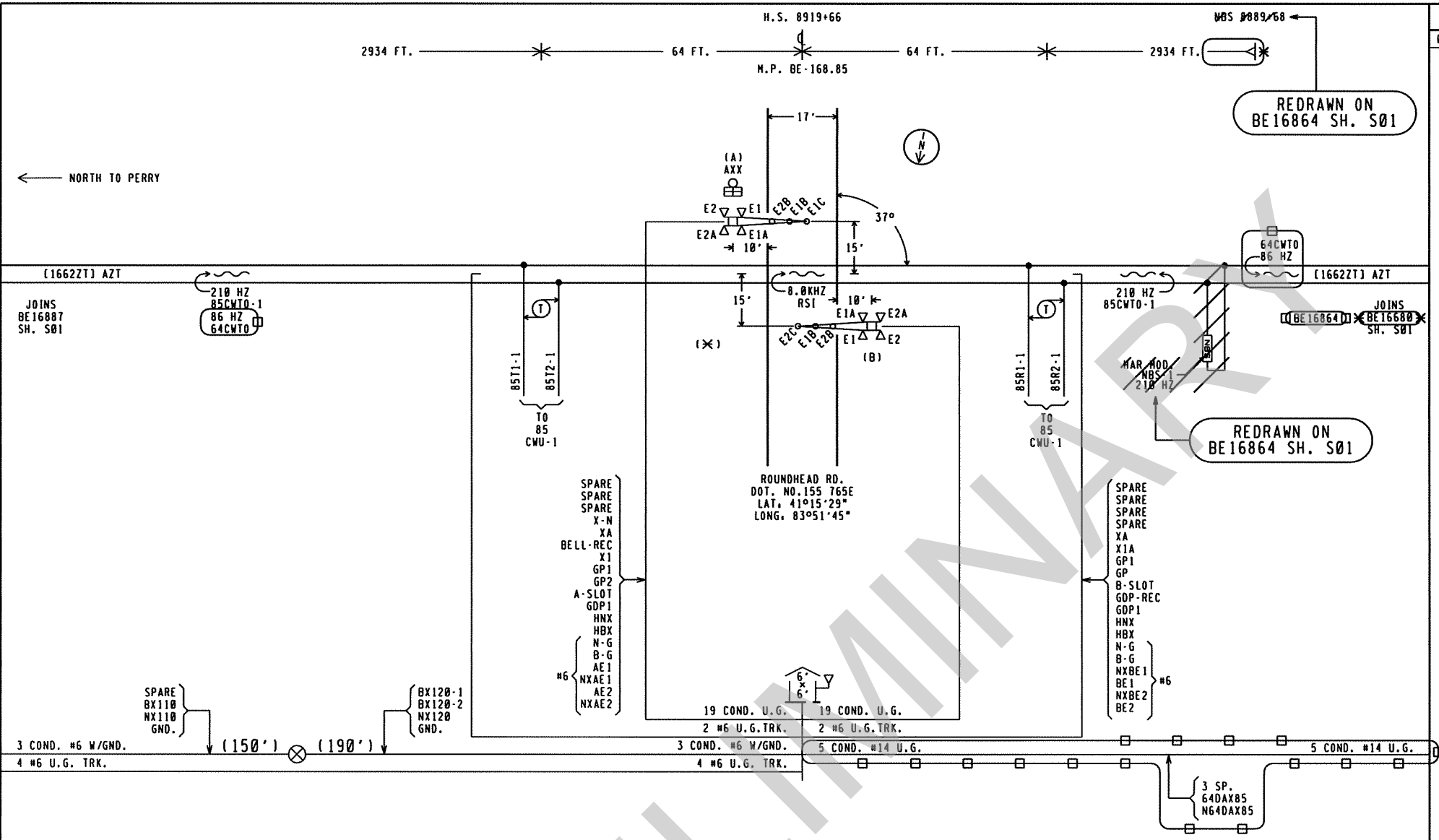
Signal South

NOTE:

1. SIGNAL LIGHT RESISTORS ARE 3 OHM VARIABLE, 15 WATT, AND MOUNTED IN SIGNAL HEADS.
2. LOCATION SPECIFIC SIGNAL NOMENCLATURE IS SHOWN IN BRACKETS AND APPEARS ON SIGNAL NUMBER PLATES ONLY.
3. AC POWER ADAPTER - HARMON PART # 262677-000.



REVISIONS		RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS	
01-20-02 SWE	0H1999040	SIGNALS 1687/1688	
08-05-03 SAF	0H20000520	POWER DISTRIBUTION CUSTAR, OH H.P. BE-168.87	
09-24-13 XRL	0H2012080, 0H2012080A	DESIGNED SWE	DIGITIZED SWE
10-20-14 XRL	0H2013041	CHECKED SWE	DATE 11-01-99
NO CHANGES 0H2018712 18-1017CSX SSE/CRC/ 12-27-18 Signal South		NEXT FILE	SHEET C01
		NEXT SH	FILE BE16887




REVISIONS	
09-24-13 XRL	0H2012080, 0H2012080A

APPROACH LENGTHS TABLE		
	NORTHWARD ML MOT	SOUTHWARD ML MOT
DC, AFO, TYPE C, MOTION, CWT, OR OTHER	25	25
STANDARD MINIMUM WARNING TIME IN SECONDS	5	5
ROADWAY GATE TIME IN SECONDS	3	3
CLEARANCE TIME IN SECONDS	0	0
DOT TRAFFIC LIGHT SIMULTANEOUS PREEMPT TIME IN SECONDS*	33 SEC.	33 SEC.
DESIGNED WARNING TIME FOR TRAINS AT TIME TABLE SPEED	0	0
DOT TRAFFIC LIGHT ADVANCE PREEMPT TIME IN SECONDS *	4	4
CONTROL EQUIPMENT DECISION TIME IN SECONDS	37 SEC.	37 SEC.
DESIGNED DETECTION TIME FOR TRAINS AT TIME TABLE SPEED	50	50
TIME TABLE MAXIMUM TRAIN SPEED IN MILES PER HOUR	5	5
BUFFER SPEED IN MILES PER HOUR	55	55
TOTAL WARNING SYSTEM DESIGN SPEED IN MILES PER HOUR	2934	2934
APPROACH DISTANCE TO ISLAND EDGE IN FEET	64	64
HALF WIDTH OF ISLAND IN FEET	169.41	168.28
APPROXIMATE MILE POSTS FOR APPROACH CIRCUIT		

*AUTHORIZING AGENCY, NONE
*DATE OF REQUIREMENT, NONE
*AMOUNT OF TIME (SEC.), NONE

- NOTES:
- 12" LED MAXIMUM CURRENT 1.7A AT 10 VOLTS
LED GATE ARM LIGHTS .3A MAXIMUM.
 - GATE LENGTH (A) 19' (B) 19'
 - (X) = LOCATION OF CROSSING HOUSE
 - (N) = APPROXIMATE COMPASS NORTH.
 - TRANSMITTER LEADS FOR MOTION
OR PREDICTOR EQUIPMENT SHOULD BE
CONNECTED ON THE BUNGALOW OR SHORT
LEAD SIDE OF THE CROSSING.
 - ISLAND TRACK LEADS SHOULD BE CONNECTED
50 FEET FROM ROAD EDGE BUT ON NARROW
ROADS (20' OR LESS) ISLAND LENGTH
SHALL BE 120 FEET.
 - WARNING SYSTEM APPROACH CIRCUIT
DISTANCES ARE TO BE MEASURED FROM THE
ISLAND TRACK CONNECTIONS.



TRANSPORTATION

RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

CR 37 (ROUNDHEAD RD.) 155765E

TRACK AND SIGNAL PLAN
CUSTAR, OH M.P. BE-168.85

DESIGNED XRL/CSW	DIGITIZED XRL/CSW	CHECKED XRL	DATE 10-08-12
NEXT FILE BE16885	NEXT SH E01	FILE BE16885	SHEET S01

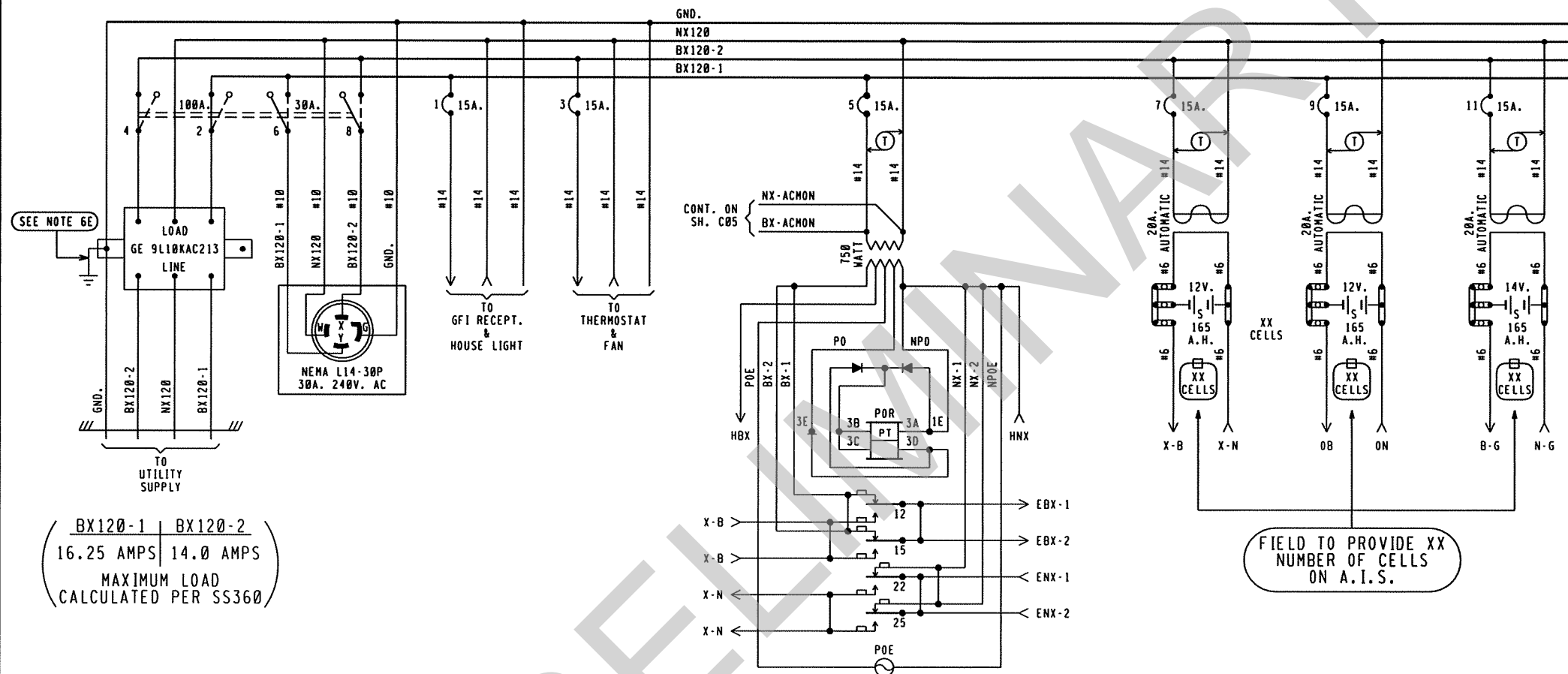
□□□ = IN
*** = OUT

0H2018712
18-1017CSX
SSE/CRC/CCV
12-27-18

Signal South

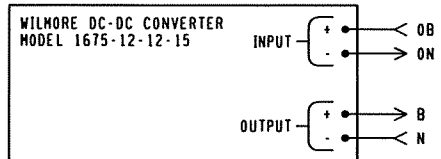
TOP ROW									
64DAXR				XR		XPR		GPR	
12			B8	12	FB	22	F	12	B
15			C30	15	FB	25	F	15	B
22				22				22	B
23	F			23				25	
25	F			25	F			32	F
32				32				35	B
35				35					

EOR				POR				DTMFR			
12	FB		B81	12	FB		B62	9	B	11	N41
15	FB		C30	15	FB		C30	10	F	12	C48
32	FB			22	FB						C49
35	FB			25	FB						
				32	F						
				35							



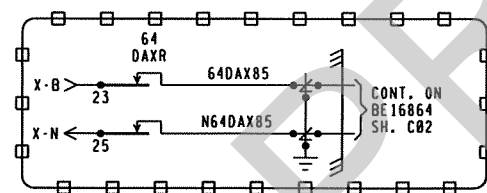
(BX120-1 | BX120-2)
 16.25 AMPS | 14.0 AMPS
 MAXIMUM LOAD
 CALCULATED PER SS360

- NOTES.
- REFERENCES ARE PER SCMS-13.
 - ARRESTERS ARE PER SS302.
 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
 - WIRING
 - A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
 - B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
 - C - ALL TRACK WIRES TO BE #10 FLEX.
 - D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
 - E - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.



6'X 6' RELAY HOUSE W/ FARADAY SHIELD


REVISIONS 09-24-13 XRL 0H2012080, 0H2012080A		 RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS	
= NOTE = IN 0H2010712 18-1017CSX Signal South		CR 37 (ROUNDHEAD RD.) 155765E POWER DISTRIBUTION CUSTAR, OH M.P. BE-160.85	
DESIGNED XRL	DIGITIZED XRL	CHECKED XRL	DATE 10-00-12
NEXT FILE BE16085	NEXT SH C01	FILE BE16085	SHEET E01




**STANDBY SYSTEM
CABINET SWITCHES**

**MASTER/SLAVE SWITCHES ARE LOCATED
IN THE UPPER BAY OF CABINET**

MASTER/SLAVE

MASTER

S1
TRACK 1

SLAVE

MASTER

S2
TRACK 2

SLAVE

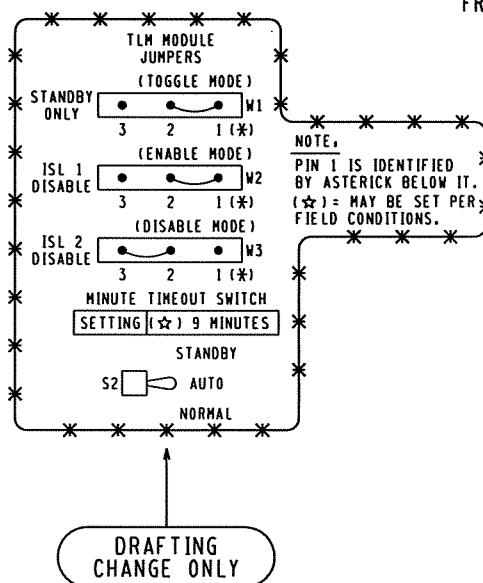
THESE SWITCHES ARE LOCATED ON MOTHERBOARD

SYSTEM CONFIGURATION


S5 & S6 DIP SWITCH POSITIONS				
SWITCH #	1	2	3	4
SWITCH POSITION	ON	OFF	OFF	OFF
APPROACH.	NORMAL	(NOT USED)		

FREQUENCY SELECT

TRACK 1	S3 & S4 DIP SWITCH POSITIONS 210 HZ				
	SWITCH #	1	2	3	4
	SWITCH POSITION	OFF	ON	ON	OFF
TRACK 2	S7 & S8 DIP SWITCH POSITIONS 210 HZ				
	SWITCH #	1	2	3	4
	SWITCH POSITION	OFF	ON	ON	OFF



85CWU HXP-3R2 MODULES REQUIRED	
(NOT INSTALLED) RHM MODULE (RECORDER MEMORY)	TLM MODULE (TRANSFER LOGIC)
SIM MODULE (SERIAL INTERFACE) STANDBY	TRM MODULE TRK.1 (TRANSCIVER)
SIM MODULE (SERIAL INTERFACE) NORMAL	RSI MODULE TRK.1 (ISLAND)
TRM MODULE TRK.1 (TRANSCIVER)	RYD MODULE (RELAY DRIVE)
RSI MODULE TRK.1 (ISLAND)	TRM MODULE TRK.2 (TRANSCIVER)
RYD MODULE (RELAY DRIVE)	RSI MODULE TRK.2 (ISLAND)
TRM MODULE TRK.2 (TRANSCIVER)	NOT INSTALLED
RSI MODULE TRK.2 (ISLAND)	CPU MODULE (CENTRAL PROCESSOR UNIT)
NOT INSTALLED	(NOT INSTALLED) AXD MODULE

REVISIONS 09-24-13 XRL 0H2012080, 0H2012080A		CSX TRANSPORTATION RAIL TRAFFIC GROUP ENGINEERING COMMUNICATIONS AND SIGNALS									
○ = NOTE □ = IN * * * = OUT		CR 37 (ROUNDHEAD RD.) 155765E CROSSING DETECTION CIRCUITRY CUSTAR, OH N.P. BE-168.85									
0H2018712 18-1817CSX	 Signal South	SSE/CRC/CCV 12-27-18	<table border="1"> <tr> <td>DESIGNED XRL/CSW</td> <td>DIGITIZED XRL/CSW</td> <td>CHECKED XRL</td> <td>DATE 07-08-13</td> </tr> <tr> <td>NEXT FILE BE16885</td> <td>NEXT SH C02</td> <td>FILE BE16885</td> <td>SHEET C01</td> </tr> </table>	DESIGNED XRL/CSW	DIGITIZED XRL/CSW	CHECKED XRL	DATE 07-08-13	NEXT FILE BE16885	NEXT SH C02	FILE BE16885	SHEET C01
DESIGNED XRL/CSW	DIGITIZED XRL/CSW	CHECKED XRL	DATE 07-08-13								
NEXT FILE BE16885	NEXT SH C02	FILE BE16885	SHEET C01								

HXP-3R2 APPLICATION DESIGN CARD

OPTION 90 (CABINET #) CABINET #					
PASSWORD(_ * _)(SEE MANUAL 100052-001 AAO 1-27)		TRACK 1	TRACK 2	DEFAULT	
APPROACH LENGTH ADJUSTMENT		2934'	2923'	9,999 FT.	
WARNING TIME ADJUSTMENT		33 SEC.	33 SEC.	99 SEC.	
LUMPED IMPEDANCE ADJUSTMENT (LIA)		*	*	0	
TRANSMITTER CHECK ADJUSTMENT (TC)		*	*	0	
MOTION DETECT RESTART (MD RESTART)		0 ☆	0 ☆	99%	
OPTION 1 TRACK ENABLE (TK-ENA)		UP	UP	UP (ALWAYS ENABLED)	
OPTION 2 TRACK FREQUENCY (TK F0)		STRAP ◇	STRAP ◇	0 HZ	
OPTION 3 CONSTANT WARNING/MOTION (CW/MD)		C	C	d (Motion)	
OPTION 4 UNI/BIDIRECTIONAL (UNI-BI)		b	b	b (bi)	
OPTION 5 NARROW BAND COMPENSATION (NBS-C)		⊗	⊗	9,999 FT.	
OPTION 6 CWE WARNING TIME (CWEWT)		80 SEC.	80 SEC.	80 SEC.	
OPTION 7 LOSS OF SHUNT TIME (LOS)		16 SEC.	16 SEC.	16 SEC.	
OPTION 8 LOS W/JOINTS NEAR ISLAND (IJ-LOS)		5 SEC. **	5 SEC. **	5 SEC.	
OPTION 9 BALLAST COMPENSATION (BC)		*	*	FREQUENCY DEPENDANT ⊙	
OPTION 10 PHASE COMPENSATION ADJUSTMENT (P-COMP)		-***-	-***-	0°	
AX OPTIONS Δ		OPTION 11 AX DRIVE #1	OPTION 12 AX DRIVE #2	OPTION 13 AX DRIVE #3	DEFAULT
ITEM 1	TRACK ASSIGNMENT (TK-ASN)	1	1	1	1
ITEM 2	OFFSET DISTANCE TRACK 1 (OF-TK1) [1135']	⊗0000*	0000'	0000'	0 FT.
ITEM 3	OFFSET DISTANCE TRACK 2 (OF-TK2)	N/A	N/A	N/A	N/A
ITEM 4	WARNING TIME (WT) [31']	⊗99 SEC.	99 SEC.	99 SEC.	99 SEC.
ITEM 5	MOTION DETECT RESTART (MD-RST)	99 %	99 %	99 %	99 %
ITEM 6	CONSTANT WARNING/MOTION (CW/MD) [C']	⊗d	d	d	d (Motion)
ITEM 7	CLEAR JOINTS LOS (CJ-LOS)	00 SEC.	00 SEC.	00 SEC.	0 SEC.
ITEM 8	POST JOINT DETECTION (PJ-DET)	15 SEC.	15 SEC.	15 SEC.	15 SEC.
ITEM 9	POST JOINT RX (PJ-RX)	15	15	15	15
ITEM 10	POSITIVE START	dn	dn	dn	dn
OPTION 17 MDR DRIVE OR AX RELAY DRIVE SELECTION (MDR-AX)		⊙	N/A	dn (STATUS ONLY) ⊙	
OPTION 17 SUB-MENU		TRACK 1	TRACK 2	DEFAULT	
ITEM 1	MDR-AX OFFSET DISTANCE TRK. 1(OF-TK1) & TRK. 2(OF-TK2)	0000'	11'	0 FT. = CONFIGURED AS MDR	
ITEM 2	MDR-AX CLEAR JOINT LOS TIME (CJ-LOS)	00 SEC.	33 SEC.	0 SEC.	
ITEM 3	MDR-AX POST JOINT DETECTION TIME (PJ-DET)	15 SEC.	15 SEC.	15 SEC.	
ITEM 4	POST JOINT RX (PJ-RX)	15	15	15 (0 = DISABLE)	
OPTION 18 MOTION DETECTOR TIMER (MD-THR)		10 MIN.	10 MIN.	10 MIN. (0 = DISABLE)	
OPTION 19 MINIMUM WARNING TIME WITH ADVANCED PREEMPTION (MIN-WT)		00 SEC.	00 SEC.	00 SEC. (0 = DISABLE)	
OPTION 20 FALSE SHUNT TIMER ADJUSTMENT (FS-THR)					
ITEM 1	FALSE SHUNT RX (FS-RX)	0	0	0, 0 = DISABLE	
ITEM 2	FALSE SHUNT TIMER ADJUSTMENT (FS-TM)	10	10	10	
OPTION 21 POSITIVE START RX & TIMER ADJUSTMENT (POS-ST)					
ITEM 1	POSITIVE START RX (POS-RX)	0	0	0, 0 = DISABLE	
ITEM 2	POSITIVE START TIMER (POS-TM)	10	10	10	
OPTION 22 APPROACH RELEASE RX (AR-TM)					
ITEM 1	APPROACH RELEASE RX (AR-RX)	0	0	0, 0 = DISABLE	
ITEM 2	APPROACH RELEASE TIMER (AR-TM)	10	10	10	
OPTION 47 AUTO RX ADJUSTMENT (ATO-RX)		dn	dn	dn = DISABLE	
OPTION 48 PREDICTIVE FILTER ENABLE/DISABLE (PF-ENA)		dn	dn	UP = ENABLE	
OPTION 49 RESET LOCAL PARAMETERS TO DEFAULT SETTINGS (RESET)				PAGE 3-14 & 3-41	
OPTION 50 RECORDER PRINTER CONTROL (PRNTR)				PAGE 1-47 & 3-41	
OPTION 51 CLOCK ADJUSTMENT (CLOCK)				PAGE 3-32	
OPTION 70 LOCAL SERIAL I/O PORT ADJUSTMENT (LSP)					
ITEM 1	BAUD RATE	38.4	⬆	PAGE 1-47 & 3-42	
ITEM 2	DBITS (DATA BITS)	8	⬆	PAGE 1-47 & 3-42	
ITEM 3	PA (PARITY)	NO(=NO. PARITY)	⬆	PAGE 1-47 & 3-42	
OPTION 90 CABINET NUMBER DISPLAY (CAB)		*		PAGE 1-47 & 3-41	
OPTION 91 HXP-3 OPERATING PROGRAM VERSION NUMBER (VERS)		*		VERSION 35.0	
OPTION 99 RESET PASSWORD TIMER (TIMER)		⬆		PAGE 3-30	

NOTE:

* = ENTRY TO BE DONE ON AS-IN-SERVICE.
 ☆ = NORMALLY SET AT "0" SEE MANUAL 100052-001 AAO PG. 1-46 & 3-41.

◇ = THE WORD STRAP IS DISPLAYED WHEN FREQUENCY SELECT DIP SWITCHES USED TO SELECT A STANDARD FREQUENCY.

⊗ = ADJUSTMENT NECESSARY ONLY WHEN AX RELAY DRIVE MODULE USED.

** = ADJUSTMENT NECESSARY IF INSULATED JOINTS ARE LOCATED NEAR ISLAND CIRCUIT.

-***- = ADJUSTMENT NECESSARY ONLY IF VERY POOR BALLAST CONDITIONS NEED TO BE COMPENSATED.

⊙ = OPTION 17 SUB-MENU USED ONLY WHEN AX RELAY DRIVE OPERATION IS SELECTED. ENTERING AN OFFSET DISTANCE VALUE OTHER THAN ZERO ASSIGNS A MDR AS AN AX DRIVE.

△ 1. WHEN AXD MODULES ARE NOT INSTALLED, THEIR ASSOCIATED OPTIONS AND ADJUSTMENTS ARE NOT DISPLAYED.
 2. PROGRAM UNUSED AX OPTION(S) SAME AS OPTION 11. IF AX OPTION 12 OR 13 IS USED IN FUTURE THEN REPROGRAM AS APPLICABLE.

⊙ = FREQUENCY DEPENDANT, RANGE BETWEEN 50-250 TO BE SUPPLIED ON AS-IN-SERVICE.

⬆ = OPTIONS 50-99 ARE NON-VITAL AND NOT REQUIRED FOR INITIAL SETUP. SEE MANUAL 100052-001 AAO. FOR OPTIONS 49 TO 99 SEE PAGES AS LISTED IN DEFAULT COLUMN.

⊕ = SET CORRECT LOCAL TIME AND DATE. TIME OF DAY SHOULD BE SYNCHRONIZED WITH TIME SHOWN BY EXTERNAL EVENT RECORDER.

REVISIONS

09-24-12 XRL 0H2012000, 0H2012000A

⊕ = IN
 *** = OUT

0H2018712 SSE/CRC/CCV
18-1017CSX 12-27-18

Signal South

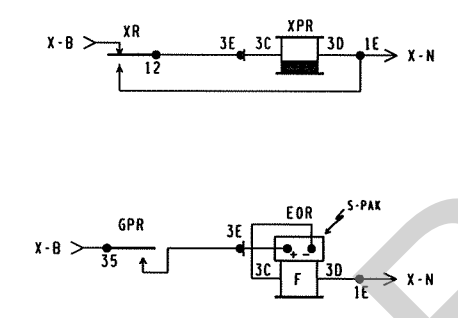
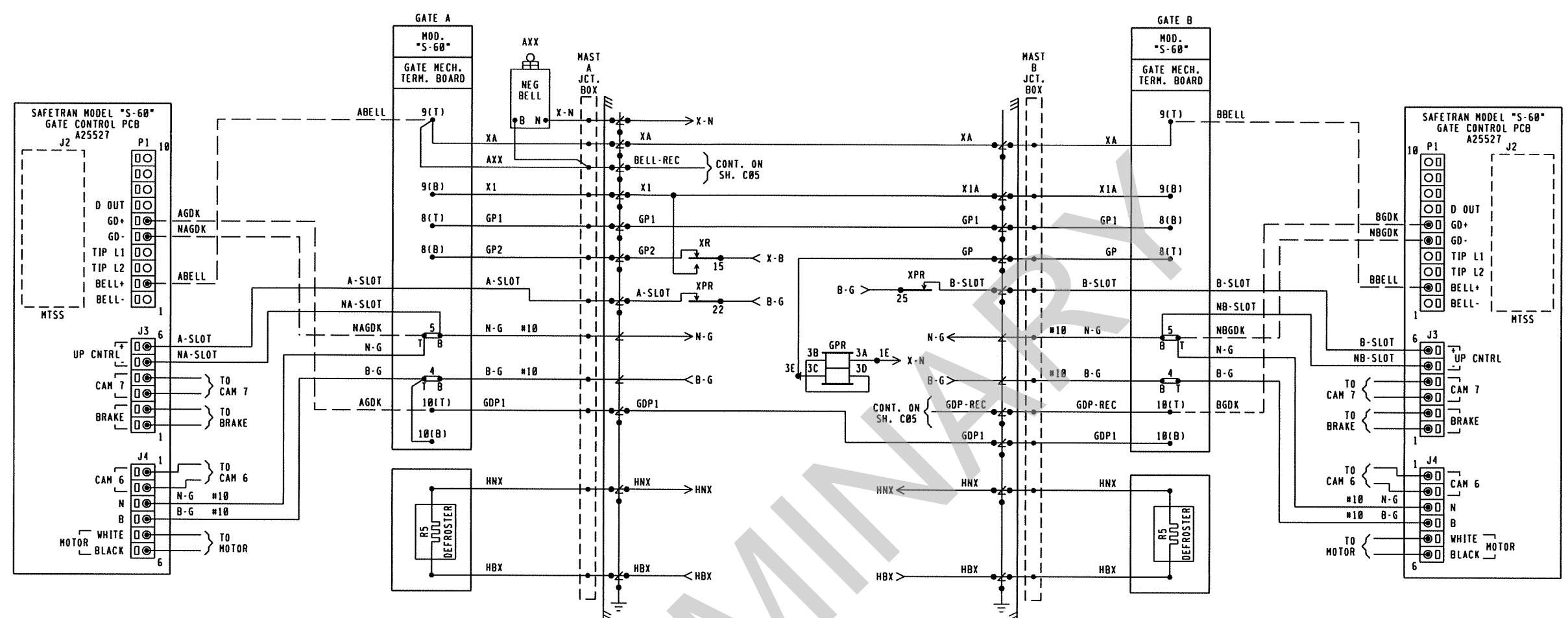
CSX TRANSPORTATION

RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

CR 37 (ROUNDHEAD RD.) 155765E

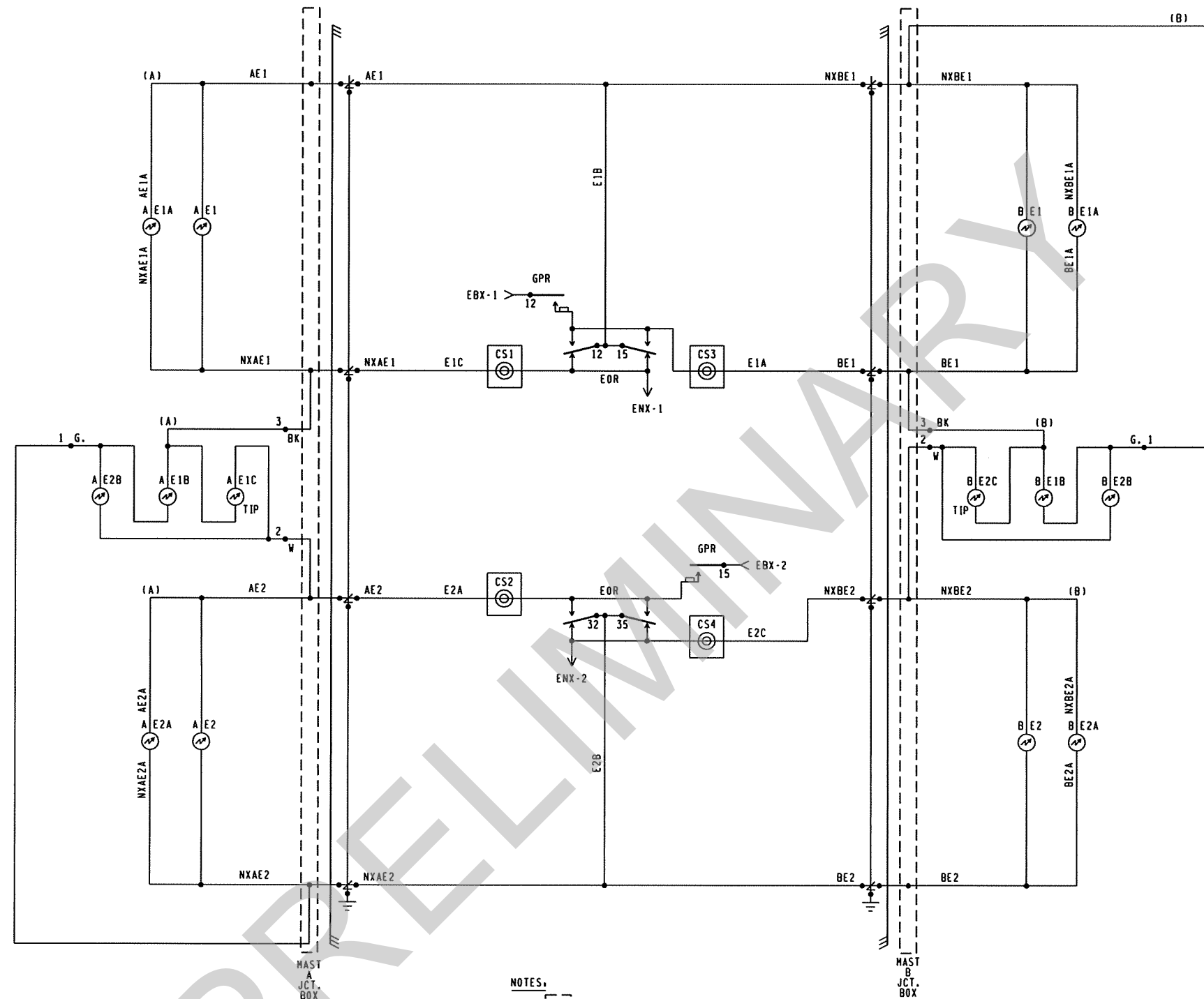
DETECTION DEVICE PROGRAM
CUSTAR, OH M.P. BE-168.85

DESIGNED XRL/CSW	DIGITIZED XRL/CSW	CHECKED XRL	DATE 07-08-13
NEXT FILE BE16885	NEXT SH C03	FILE BE16885	SHEET C02



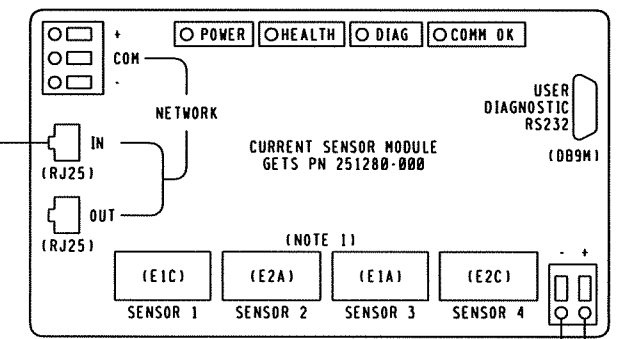
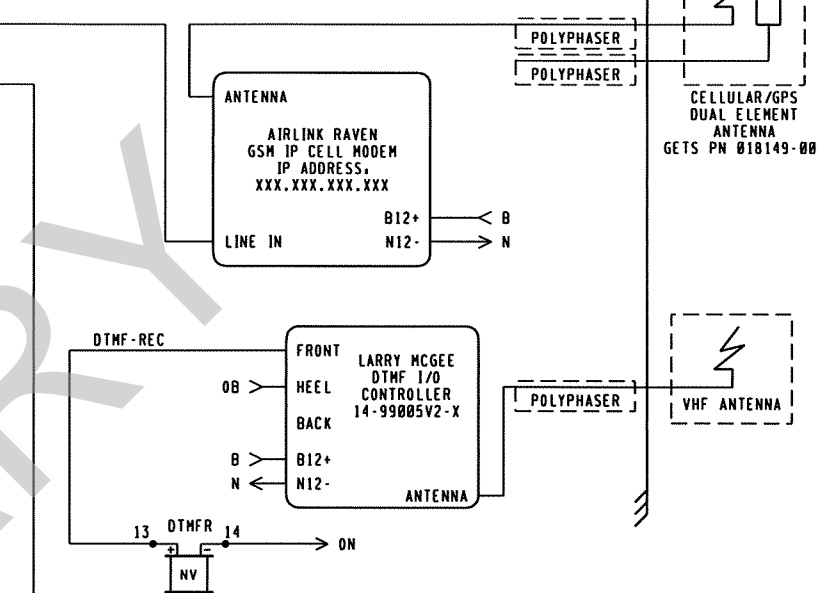
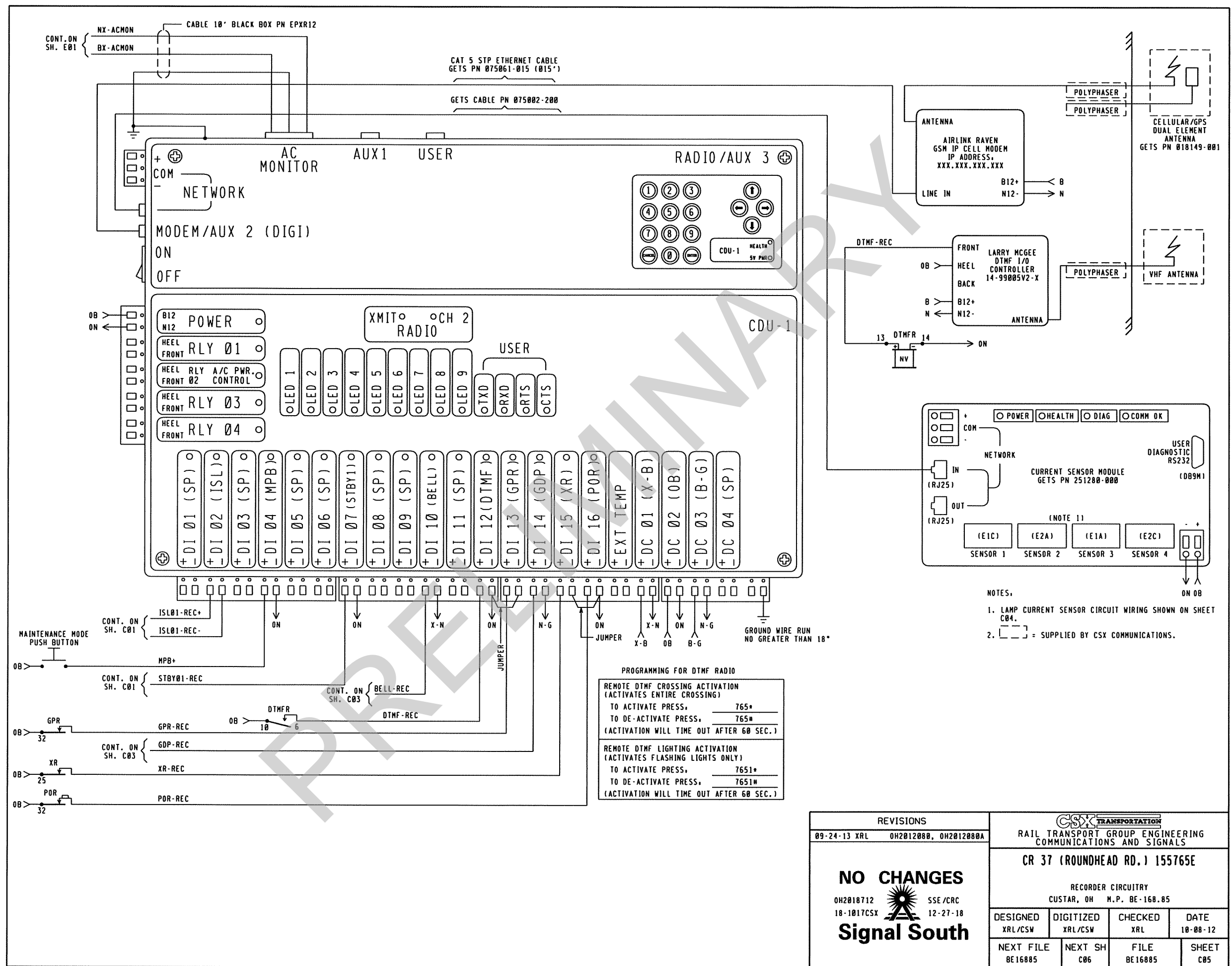
NOTES:
1. = TERMINAL IN JCT. BOX BASE

REVISIONS		CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
09-24-13 XRL 0H2012080, 0H2012080A		CR 37 (ROUNDHEAD RD.) 155765E			
NO CHANGES 0H2018712 SSE/CRC 18-1017CSX 12-27-18 Signal South		CROSSING WARNING GATE CIRCUITRY CUSTAR, OH M.P. BE-160.85			
DESIGNED XRL/CSW	DIGITIZED XRL/CSW	CHECKED XRL	DATE 10-08-12		
NEXT FILE BE16885	NEXT SH C04	FILE BE16885	SHEET C03		



- NOTES:
1. [] = TERMINAL IN JCT. BOX
 2. WHEN 7 OR MORE LIGHTS ON A SINGLE STRUCTURE REFER TO SS-382 FOR REQUIRED ARRESTER RATING.

REVISIONS				CSX TRANSPORTATION			
09-24-13	XRL	0H2012080, 0H2012080A		RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
NO CHANGES 0H2018712 SSE/CRC 18-1017CSX 12-27-18 Signal South				CR 37 (ROUNDHEAD RD.) 155765E			
				CROSSING WARNING LIGHT CIRCUITRY CUSTAR, OH M.P. BE-160.85			
DESIGNED	DIGITIZED	CHECKED	DATE	DESIGNED	DIGITIZED	CHECKED	DATE
XRL/CSW	XRL/CSW	XRL	10-08-12	XRL/CSW	XRL/CSW	XRL	10-08-12
NEXT FILE	NEXT SH	FILE	SHEET	NEXT FILE	NEXT SH	FILE	SHEET
BE16085	C05	BE16085	C04	BE16085	C05	BE16085	C04




NOTES:
1. LAMP CURRENT SENSOR CIRCUIT WIRING SHOWN ON SHEET C04.
2. [] = SUPPLIED BY CSX COMMUNICATIONS.

PROGRAMMING FOR DTMF RADIO

REMOTE DTMF CROSSING ACTIVATION
(ACTIVATES ENTIRE CROSSING)
TO ACTIVATE PRESS, 765*
TO DE-ACTIVATE PRESS, 765#
(ACTIVATION WILL TIME OUT AFTER 60 SEC.)

REMOTE DTMF LIGHTING ACTIVATION
(ACTIVATES FLASHING LIGHTS ONLY)
TO ACTIVATE PRESS, 7651*
TO DE-ACTIVATE PRESS, 7651#
(ACTIVATION WILL TIME OUT AFTER 60 SEC.)

REVISIONS		CSX TRANSPORTATION	
09-24-13 XRL	0H2012080, 0H2012080A	RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS	
NO CHANGES 0H2018712 18-1017CSX  Signal South		CR 37 (ROUNDHEAD RD.) 155765E	
		RECORDER CIRCUITRY CUSTAR, OH M.P. BE-168.85	
DESIGNED XRL/CSW	DIGITIZED XRL/CSW	CHECKED XRL	DATE 10-08-12
NEXT FILE BE16885	NEXT SH C06	FILE BE16885	SHEET C05

	DEFAULTS AND/OR STYLE	FIELD RECORD
EVENT ANALYZER EXECUTIVE PROGRAM	VERSION 2.7, COMPILED ON NOV. 11, 2003	VERSION _____, COMPILED ON _____ (FIELD TO ENTER)
CSXT USER PROGRAM (IF LOADED)	VERSION 1.01, COMPILED ON 12-01-03 (MM-DD-YY)	VERSION _____, COMPILED ON _____ (FIELD TO ENTER)
SYSTEM SETTINGS		
DATE & TIME (ENABLE DAYLIGHT SAVINGS TIME = Y (YES))	MM-DD-YY 23:01:59	n/a
MILE POST	XYZ-789.01	BE-168.85
SITE NAME	MAIN ST (SR-17,US-1)	CR 37 (ROUNDHEAD RD.)
DOT NUMBER	123456A	155765E

BATTERY INPUTS	DC 01	DC 02	DC 03	DC 04
CHANNEL	1	2	3	4
BATTERY CHANNEL NAMES	X-B BULB BATTERY	OB ELECTRONIC BATTERY	B-G GATE BATTERY	SPARE
BATTERY CHANNEL I.D.	X-B	OB	B-G	SP
SAMPLE PERIOD	500 ms	500 ms	500 ms	10,000 ms
RESOLUTION	01.0 V	01.0 V	01.0 V	02.0 V

DIGITAL INPUTS	DI 01	DI 02	DI 03	DI 04	DI 05
CHANNEL	1	2	3	4	5
NAME		ISLAND TRACK 1		MAINTENANCE PB	
ID	SP	ISL	SP	MPB	SP
ON NAME		ISL 1 UP		MAINTENANCE PB HI	
OFF NAME		ISL 1 DN		MAINTENANCE PB LOW	
ON DEBOUNCE TIME	1000 ms	100 ms	1000 ms	100 ms	1000 ms
OFF DEBOUNCE TIME	1000 ms	100 ms	1000 ms	100 ms	1000 ms
TOGGLE PERIOD	500 ms	500 ms	500 ms	500 ms	500 ms

DIGITAL INPUTS	DI 06	DI 07	DI 08	DI 09	DI 10
CHANNEL	6	7	8	9	10
NAME		STANDBY 1			BELL
ID	SP	STBY 1	SP	SP	BELL
ON NAME		STANDBY UNIT 1			BELL RINGING
OFF NAME		PRIMARY UNIT 1			BELL NOT RINGING
ON DEBOUNCE TIME	1000 ms	100 ms	1000 ms	1000 ms	100 ms
OFF DEBOUNCE TIME	1000 ms	100 ms	1000 ms	1000 ms	100 ms
TOGGLE PERIOD	500 ms	500 ms	500 ms	500 ms	500 ms

DIGITAL INPUTS	DI 11	DI 12	DI 13	DI 14	DI 15	DI 16
CHANNEL	11	12	13	14	15	16
NAME		DTMF /TEST	GATE VERTICAL	GATE HORIZONTAL	XR	AC POWER OFF
ID	SP	DTMF	GPR	GDP	XR	POR
ON NAME		DTMF ACTIVATED	GATE VERTICAL	GATE HORIZONTAL	XR UP	AC POWER ON
OFF NAME		DTMF DEACTIVATED	GATE NOT VERTICAL	GATE NOT HORIZONTAL	XR DN	AC POWER OFF
ON DEBOUNCE TIME	1000 ms	100 ms	100 ms	100 ms	100 ms	100 ms
OFF DEBOUNCE TIME	1000 ms	100 ms	100 ms	100 ms	100 ms	100 ms
TOGGLE PERIOD	500 ms	500 ms	500 ms	500 ms	500 ms	500 ms

EVENT ANALYZER ETHERNET PORT SETUP	
	IP ADDRESS
ETHERNET DIAGNOSTIC PORT (TOP)	192.168.13.2
ETHERNET REMOTE PORT (BOTTOM)	192.168.13.1

MODULE-DIGITAL 4 QUAD CURRENT SENSOR SERIAL NUMBER: (1303MC00005)				
RESOLUTION (AMPS RMS) : (00.2) ARMS				
AUTOMATICALLY ALLOCATED DIGITAL INPUT	DI 17	DI 18	DI 19	DI 20
DIGITAL 4 QUAD CURRENT SENSOR	1	2	3	4
NAME	E1C	E2A	E1A	E2C
ID	E1C	E2A	E1A	E2C
LIT BULB COUNT ON EACH CIRCUIT	4	4	4	4
CURRENT READING IN AMPS AT APPROXIMATE 10.0 VOLTS BULB VOLTAGE	4.0	4.0	4.0	4.0

CHANNEL	1	2	3	4
NAME	RELAY OUTPUT 01	RELAY OUTPUT 02	RELAY OUTPUT 03	RELAY OUTPUT 04
I.D.	RLY01	RLY02	RLY03	RLY04
ON NAME	ON	ON	ON	ON
OFF NAME	OFF	OFF	OFF	OFF
PULSE DURATION	1000 ms	1000 ms	1000 ms	1000 ms

PORT	USER	AUX 1	MODEM/AUX 2
BAUD RATE	38400	9600	38400
PARITY	N	N	N
DATA BITS	8	8	8
STOP BITS	1	1	1
FLOW CONTROL	NONE	NONE	NONE

REVISIONS		CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
09-24-13 XRL	0H2012000, 0H2012000A	CR 37 (ROUNDHEAD RD.) 155765E			
<div>NO CHANGES</div> <div>0H2018712 SSE/CRC 18-1017CSX 12-27-18</div> <div>Signal South</div>		RECORDER PROGRAM CUSTAR, OH M.P. BE-168.85			
		DESIGNED XRL/CSW	DIGITIZED XRL/CSW	CHECKED XRL	DATE 10-08-12
		NEXT FILE	NEXT SH	FILE BE16885	SHEET C06


INDEX		REVISION NO.									
SH. NO.	CONTENTS	1	2	3	4	5	6	7	8	9	
I01	INDEX AND REVISIONS										
S01	TRACK AND SIGNAL PLAN										
P01	MINIMUM PROGRAM STEPS REPORT CWE-64										
G01	INTERNAL SOFTWARE AND GATES LOGIC DIAGRAMS										
E01	POWER DISTRIBUTION										
C01	DETECTION DEVICE CONSIST CWE-64										
C02	CROSSING DETECTION CIRCUITRY CWE-64										
C03	CROSSING DETECTION CIRCUITRY CWE-64										
C04	CROSSING WARNING DEVICE GATE CIRCUITRY										
C05	CROSSING WARNING DEVICE LIGHT CIRCUITRY										
C06	CROSSING WARNING DEVICE CIRCUITRY										
C07	SEAR II ₁ CONFIGURATION & FUNCTIONS										

 = PLANS SENT TO FIELD (DISTRIBUTED)
 = PLANS AS-IN-SERVICED (UP TO DATE)

= NOTE

NEW WORK

0H2018712
18-1017CSX



Signal South

SSE/CRC/CCV

12-27-18

4000GCP.101

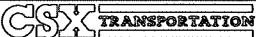
REV. 09-04-15

DESIGN DATE	REV. NO.
12-27-18	1

REVISIONS

REV. NO.	PROJECT NO.	DESIGN DATE	IN SERVICE DATE	REVISION DATE
1	0H2018712	12-27-18		

TO BE COMPLETED ON A.I.S.



RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

CR 23 (JERRY CITY RD.) 155764X

INDEX AND REVISIONS
CUSTAR, OH M.P. BE-168.64

DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 12-27-18
DRAWING	SHEET NO	FILE BE16864	SHEET 101

Minimum Program Steps Report

Location and SIN

DOT Number: 155764X
Milepost Number: BE-168.64
Site Name: CR 23 (JERRY CITY RD)

SIN: 712538401616 *

* Parameter is part of office check number calculation.

MCF and Template Selection

MCF Name: GCP-T6X-02-8.mcf
MCF Revision: 028
MCFCRC: 2D89077E

Template = 1A.6 Trk B1 (OCCN) *

* Parameter is part of office check number calculation.

Minimum Program Steps

MS4000 configuration

Track 1, GCP Frequency = 86 Hz (OCCN,TCN) (Hidden) *
Track 1, Prime UAX = IP (OCCN) (Hidden) *
Track 1, Isl Frequency = 10.0 kHz (OCCN) (Hidden) *
IN 1.1 = T1 Prime UAX (OCCN) (Hidden) *

MS4000 Predictor

Track 1, Prime Warning Time = 31 sec (OCCN) (Hidden) *

BASIC, module configuration
Chassis Type = Dual Two Track (OCCN) *

GCP, track 1
Track 1, GCP Frequency = 86 Hz (OCCN,TCN) *
Track 1, Approach Distance = 2861 ft (OCCN,TCN) *
Track 1, GCP Transmit Level = High (Set in Field,TCN)

GCP, track 1 prime
Track 1, Prime Warning Time = 31 sec (OCCN) *
Track 1, Prime UAX = IP (OCCN) *

ISLAND, track 1
Track 1, Isl Frequency = 10.0 kHz (OCCN) *

ADVANCED, out of service
OOS Control = Display+OOS IPs (OCCN) *

ADVANCED, site options
Daylight Savings = 0n (Set in Field)

SSCC, 1
SSCC-1 Gate Delay = 5 sec (OCCN) *
SSCC-1 Number of GDS = 1 (OCCN) *
SSCC 1, Flash Rate = 55 (OCCN) *

SSCC, 2
SSCC-2 Gate Delay = 5 sec (OCCN) *
SSCC-2 Number of GPs = 1 (OCCN) *
SSCC-2 Number of GDS = 1 (OCCN) *
SSCC 2, Flash Rate = 55 (OCCN) *

INPUT, assignment page 1
IN 1.1 = T1 Prime UAX (OCCN) *

IO, assignment SSCC
IN 7.2 = Not Used (OCCN) *
IN 8.2 = Out Of Service IP 1 (OCCN) *
IN 8.4 = GD 2.1 (OCCN) *
IN 8.5 = GP 2.1 (OCCN) *

SEAR
DI 1 = Gnd Flt Tester 1 (OCCN) *
DI 2 = Gnd Flt Tester 2 (OCCN) *
RI 1 = Ground Fault Test (OCCN) *
RI 2 = AC Control (OCCN) *

SEAR, slot 7-8 inputs
IN 7.1 = TSS 1 (OCCN) *
IN 8.1 = TSS 2 (OCCN) *
IN 8.3 = POK 2 (OCCN) *

Express, MS4000 configuration
Track 1, GCP Frequency = 86 Hz (OCCN,TCN) (Hidden) *
Track 1, Prime UAX = IP (OCCN) (Hidden) *
IN 1.1 = T1 Prime UAX (OCCN) (Hidden) *

Express, MS4000 Predictor
Track 1, Prime Warning Time = 31 sec (OCCN) (Hidden) *

* Parameter is part of office check number calculation.

Check Numbers

Office Check Number: 11004615
Config. Check Number: 5E56B0C7
(Based on MCF Revision 028)

Parameters not part of office check number calculation.

Track 1, GCP Transmit Level = High (Set in Field)
Daylight Savings = 0n (Set in Field)

Comments

<none>

NEW WORK

0H2018712
18-1017CSX



SSE/CRC/CCV
12-27-18

Signal South

4000GCP.P01
REV. 09-04-15

DESIGN DATE
12-27-18

REV. NO.
1

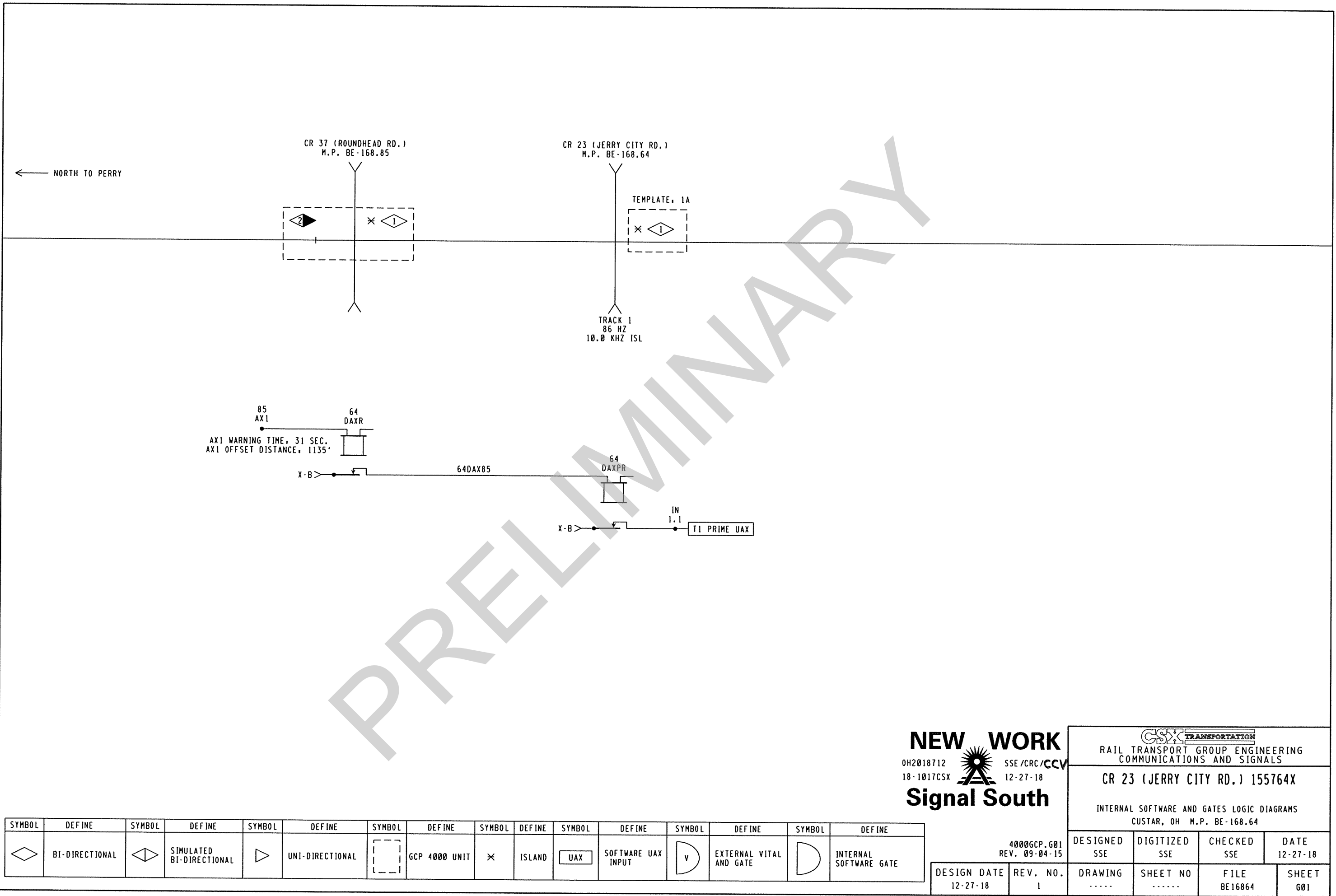
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DRAWING -----	SHEET NO -----	FILE BE16864	SHEET P01



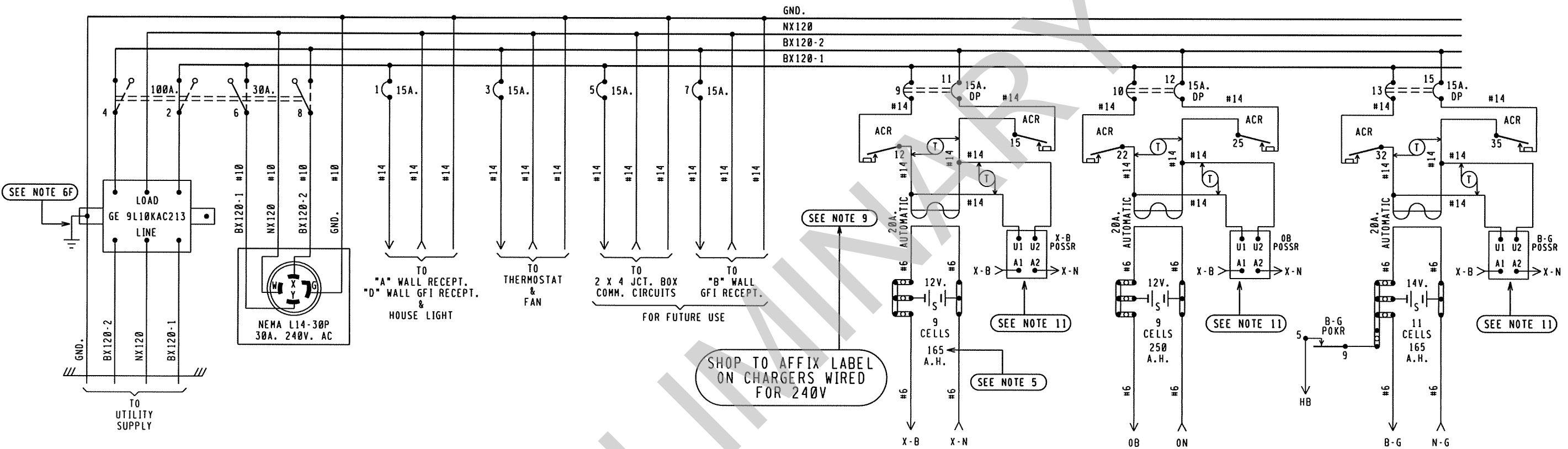
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

CR 23 (JERRY CITY RD.) 155764X

MINIMUM PROGRAM STEPS REPORT CWE-64
CUSTAR, OH M.P. BE-168.64

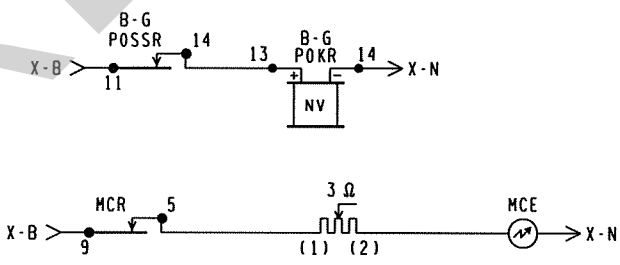


TOP ROW											
ACR				MCR				64DAXPR			
12	B	B77	C30	9	F	11	N41	12		B8	C30
15	B			10		12	C48	15			
22	B						C49	22			
25	B			B-G POKR				23	F		
32	B			9	F	11	N41	25	F		
35	B			10	F	12	C48	32			
								35			



(BX120-1 | BX120-2)
15.4 AMPS | 11.9 AMPS
MAXIMUM LOAD
CALCULATED PER SS360

- NOTES:
- 1 - REFERENCES ARE PER SCMS-13.
 - 2 - ARRESTERS ARE PER SS382.
 - 3 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
 - 4 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
 - 5 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
 - 6 - WIRING
 - A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
 - B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
 - C - ALL TRACK WIRES TO BE #10 FLEX.
 - D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
 - E - ALL BATTERY OUTPUTS TO BE #6 PER SS360.
 - F - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
 - 7 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.
 - 8 - LABEL ALL PRIMARY POWER WIRES WITH RED TAGS.
 - 9 - CHARGERS WIRED FOR 240VAC
 - 10 - CIRCUIT BREAKERS PANEL- 00124L125G (24 SPACES)
 - 11 - SOLID STATE VOLTAGE MONITOR BENDER MOD. VME 420-DW-1 DIN RAIL MOUNTED. OUTPUTS CONFIGURED NORMALLY CLOSED(NC). UNDERVOLTAGE SENSING MINIMUM OF 210 VOLTS AC.



X-B POSSR				OB POSSR				B-G POSSR						
<u>11</u>	<u>F</u>	<u>21</u>	<u>F</u>	<u>N70</u>	<u>11</u>	<u>F</u>	<u>21</u>	<u>F</u>	<u>N70</u>	<u>11</u>	<u>F</u>	<u>21</u>	<u>F</u>	<u>N70</u>

WALL/DIN RAIL MOUNTED

NEW WORK
0H2018712
18-1017CSX
SSE/CRC/CCV
12-27-18
Signal South

6'X 6' PTC CROSSING HOUSE
CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS
CR 23 (JERRY CITY RD.) 155764X
POWER DISTRIBUTION
CUSTAR, OH M.P. BE-168.64
DESIGNED SSE
DIGITIZED SSE
CHECKED SSE
DATE 12-27-18
DRAWING
SHEET NO
FILE BE16864
SHEET E01

GCP 4000 APPLICATION NOTES.

1. THE GRADE CROSSING PREDICTOR (GCP) IS A MODULAR MICROPROCESSOR CONTROLLED SYSTEM THAT IS DEPLOYED TO CONTINUALLY MONITOR THE APPROACHES TO RAILROAD GRADE CROSSINGS AND TO CONTROL THE LAMPS, GATES AND BELLS ASSOCIATED WITH THOSE CROSSINGS. WHEN EQUIPPED WITH THE SEAR II₁ MODULE THE GCP 4000 WILL RECORD EVENTS AND REPORT ALARMS WHEN CONNECTED TO AN OFFICE SYSTEM.

2. THE GCP 4000 GCP (A80465) IS A TWO TRACK REDUNDANT UNIT CAPABLE OF DRIVING 4 INDEPENDENT FLASHER AND GATE SIGNALS AND RECORDING EVENTS AND REPORTING ALARMS. THIS A80465 INCLUDES THE FOLLOWING MODULES.

SLOT	MODULE	FUNCTION	PART NO.
M1	CPU-II+	MAIN	A80403
M2	TRACK-1	MAIN	A80418
M3	PANEL	NONE	D39325
M4	CPU-II+	STANDBY	A80403
M5	TRACK-1	STANDBY	A80418
M6	PANEL	NONE	D39325
M7	SSCC-III ₁	A SIGNAL	A80405
M8	SSCC-III ₁	B SIGNAL	A80405
M9	DISPLAY MODULE		A80407-03
TOP CENTER	TRANSFER UNIT		A80468
LOWER BAY	SEAR II ₁	RECORDER	A80410

3. EACH TRACK MODULE HAS TWO PROGRAMMABLE INPUTS AND TWO PROGRAMMABLE OUTPUTS.

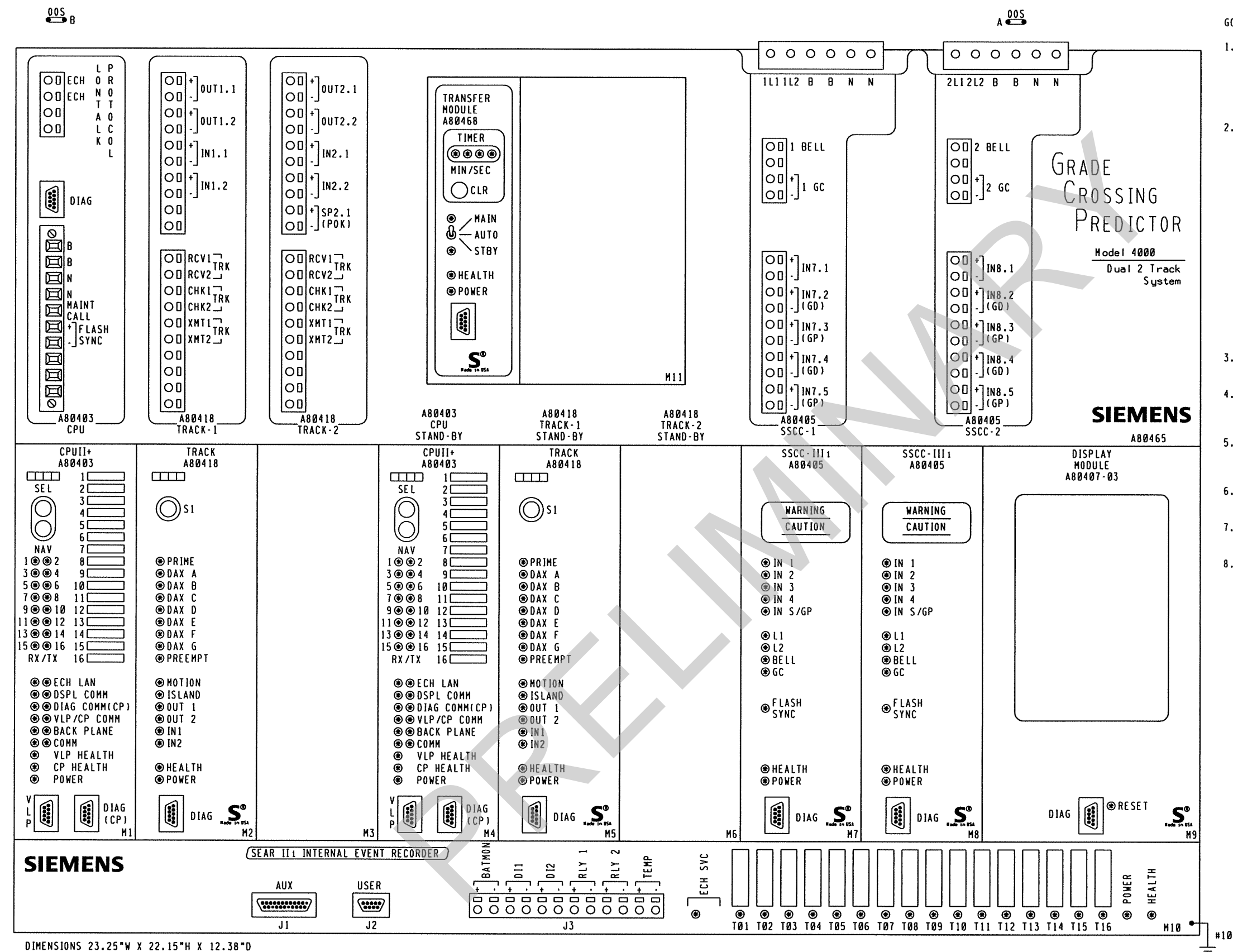
4. THE SEAR II₁ INTERNAL EVENT RECORDER HAS INPUTS FOR ONE BATTERY MONITOR, TWO NON-VITAL INPUTS AND TWO PROGRAMMABLE RELAY DRIVES (HEEL/FRONT).

5. LOCATED ON THE FRONT OF EACH MODULE THERE ARE LED LIGHTS TO INDICATE THE ACTIVITY OF CERTAIN FUNCTIONS OCCURRING INSIDE THE GCP.

6. BETWEEN SLOT 1 & 2 THERE IS A CHASSIS IDENTIFICATION CHIP (CIC) SOCKET AND AN ECD CONNECTOR (DB-25 FEMALE).

7. UPON THE FAILURE OF A MODULE IN SLOTS M1-M3 THE AUTOMATIC TRANSFER UNIT SWITCHES TO THE STANDBY MODULES IN SLOTS M4-M6.

8. THE GCP 4000 GCP (A80465) MAY USE RIO MODULES IN SLOTS M3 AND M6.



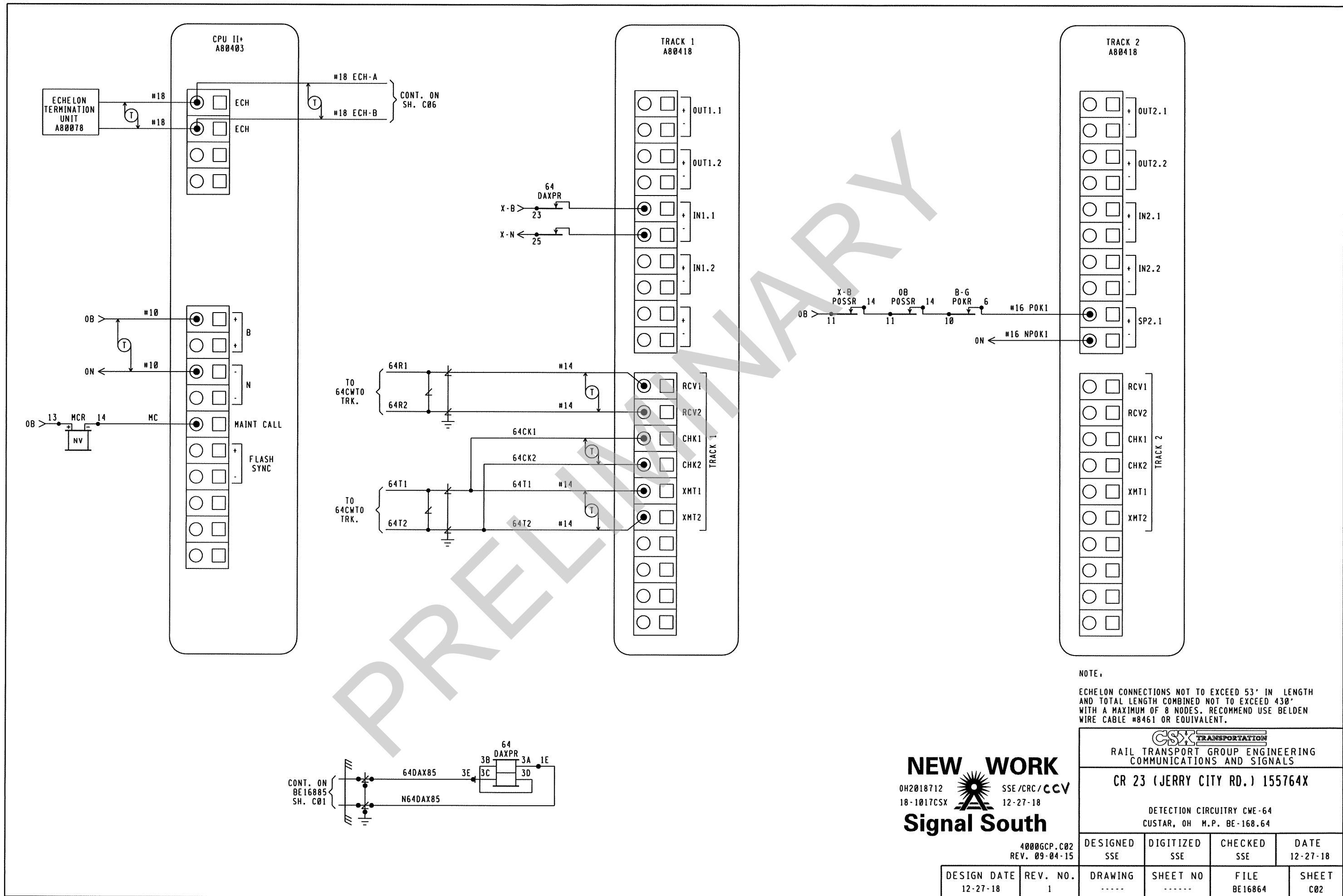
DIMENSIONS 23.25"W X 22.15"H X 12.38"D

NEW WORK
0H2018712
18-1017CSX
SSE/CRC/CCV
12-27-18
Signal South

4000GCP.C01
REV. 09-04-15

DESIGN DATE
12-27-18
REV. NO.
1

CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
CR 23 (JERRY CITY RD.) 155764X			
DETECTION DEVICE CONSIST CWE-64 CUSTAR, OH M.P. BE-168.64			
DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 12-27-18
DRAWING -----	SHEET NO -----	FILE BE16864	SHEET C01

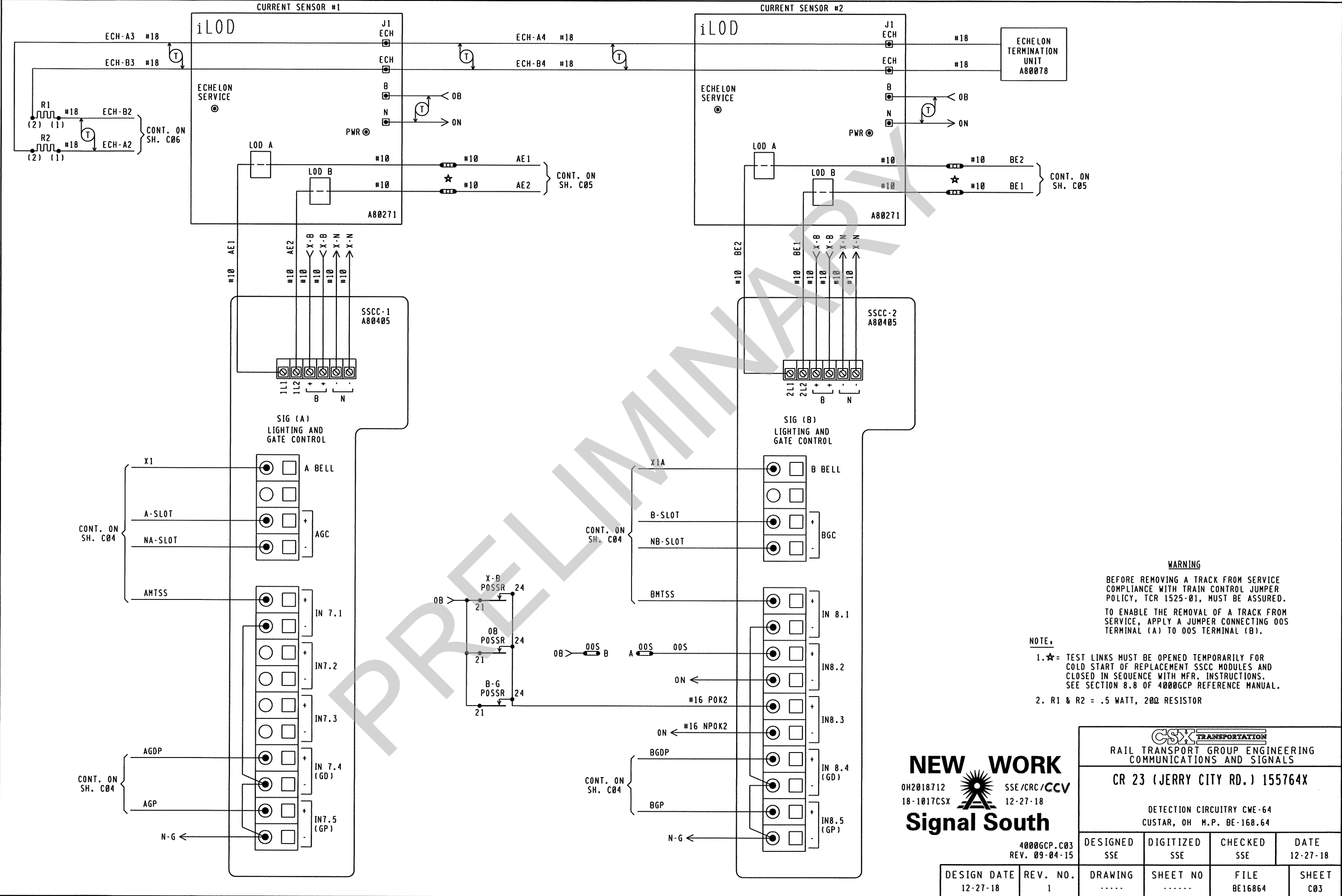


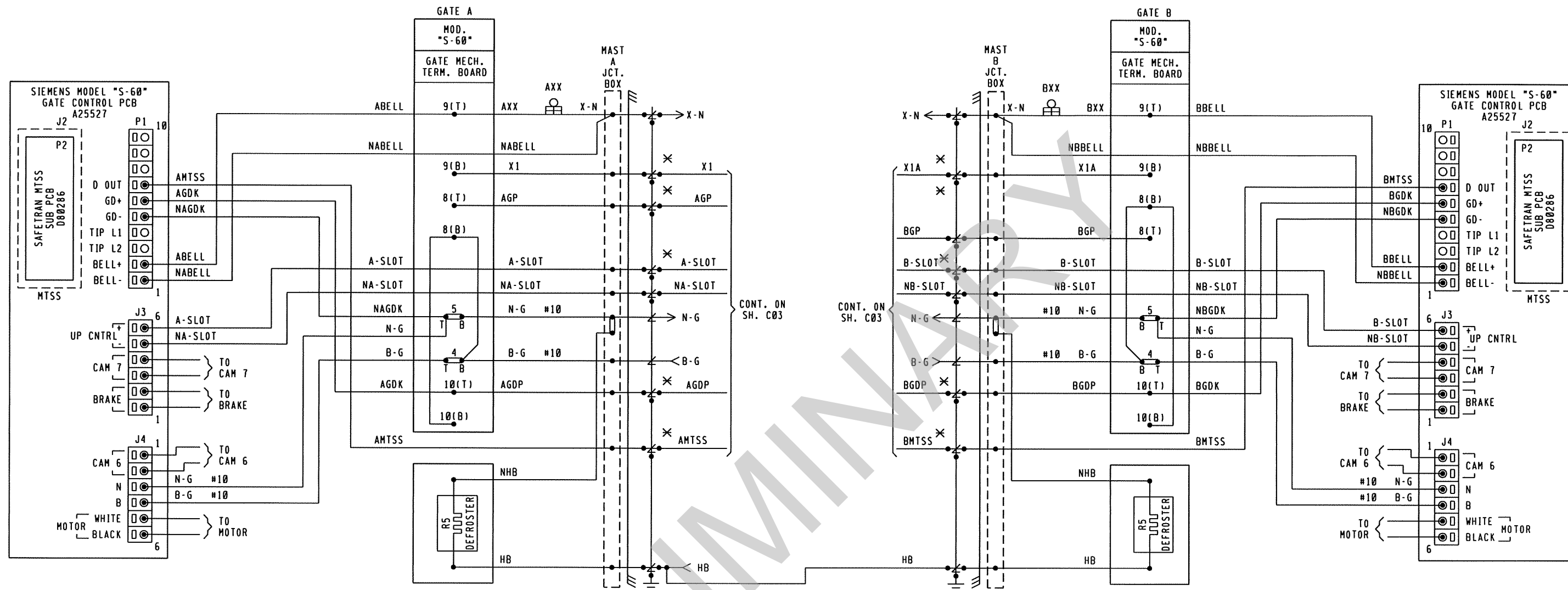
NOTE,
ECHELON CONNECTIONS NOT TO EXCEED 53' IN LENGTH
AND TOTAL LENGTH COMBINED NOT TO EXCEED 430'
WITH A MAXIMUM OF 8 NODES. RECOMMEND USE BELDEN
WIRE CABLE #8461 OR EQUIVALENT.

NEW WORK
0H2018712 SSE/CRC/ccv
18-1017CSX 12-27-18
Signal South

4000GCP.C02
REV. 09-04-15

DESIGN DATE 12-27-18	REV. NO. 1	DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 12-27-18
DRAWING ----	SHEET NO -----	FILE BE16864	SHEET C02		

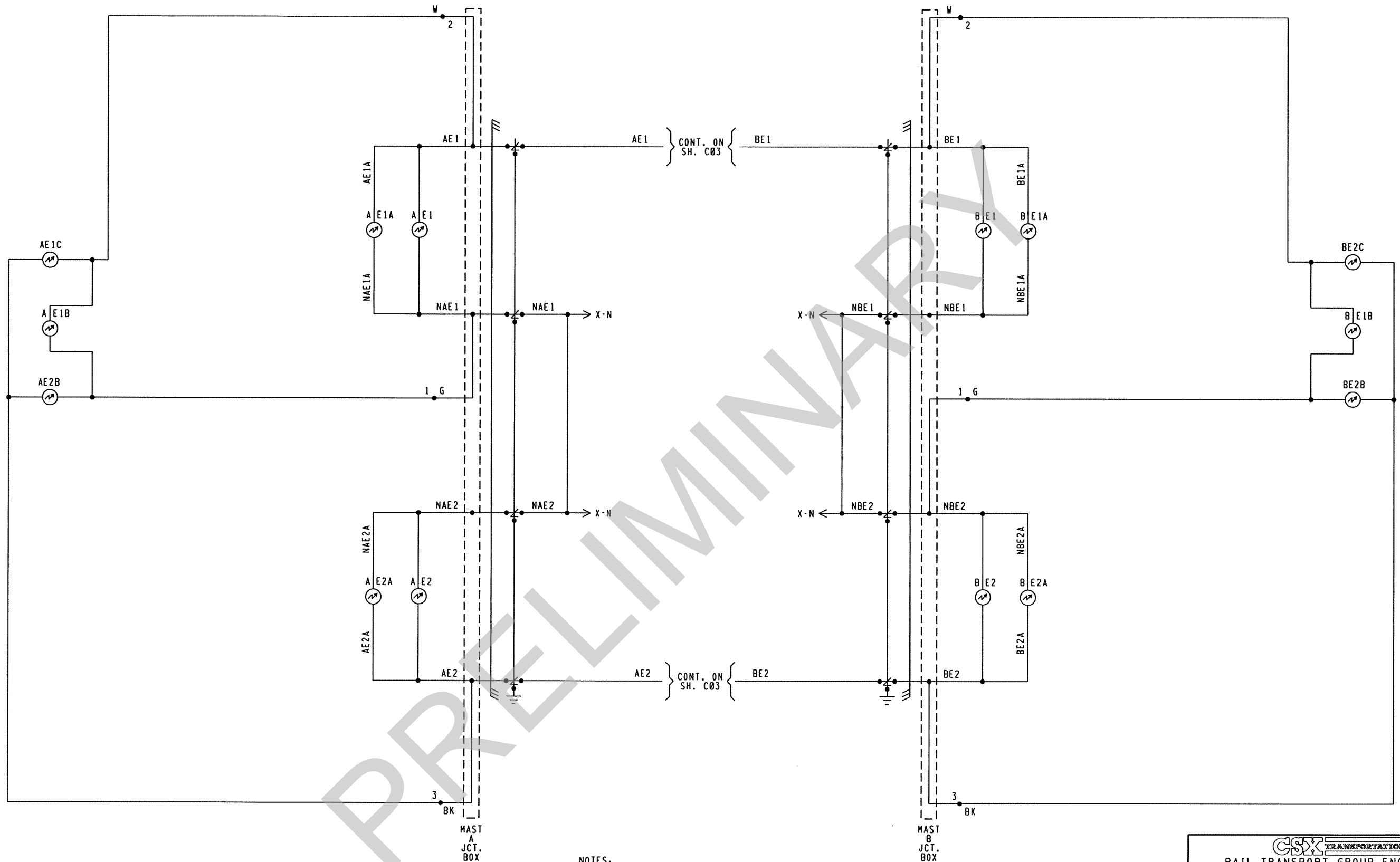





- NOTES:
1. ✕ = TEST LINKS MUST BE OPEN TEMPORARILY FOR COLD START OF REPLACEMENT SSCC MODULES AND CLOSED IN SEQUENCE WITH MFR. INSTRUCTIONS. SEE SECTION 8.8 OF 4000GCP REFERENCE MANUAL.
 2. [Symbol] = TERMINAL IN JCT. BOX BASE
 3. ALL WIRING #16 UNLESS NOTED OTHERWISE.

NEW WORK
 0H2018712
 18-1017CSX
 SSE/CRC/ccv
 12-27-18
Signal South

CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
CR 23 (JERRY CITY RD.) 155764X			
CROSSING WARNING DEVICE GATE CIRCUITRY CUSTAR, OH M.P. BE-168.64			
DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 12-27-18
DESIGN DATE 12-27-18	REV. NO. 1	DRAWING	SHEET NO
		FILE BE16864	SHEET C04



NOTES.

1.  = TERMINAL IN JUNCTION BOX
2. WHEN 7 OR MORE LIGHTS ON A SINGLE STRUCTURE REFER TO SS382 FOR REQUIRED ARRESTERING
3. FEEDS TO ALL BUSES AND LIGHT CIRCUITS ARE #10 FLEX
4. UNLESS NOTED ALL OTHER WIRING #16
5. CABLING SPECIFICATIONS SHOWN ON SH. S01

NEW WORK
 0H2018712 SSE/CRC/CCV
 18-1017CSX 12-27-18
Signal South

4000GCP.C05
 REV. 09-04-15

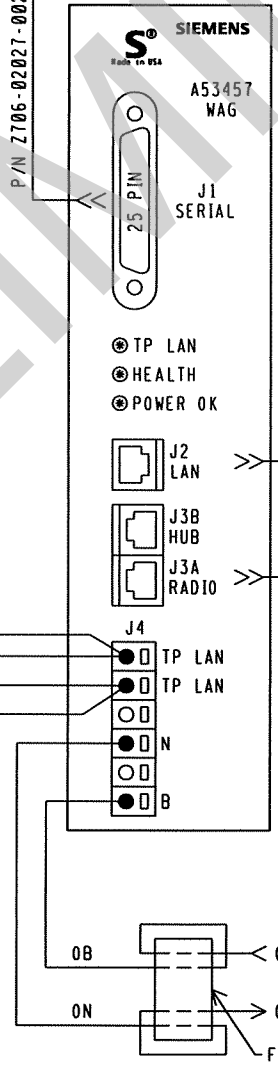
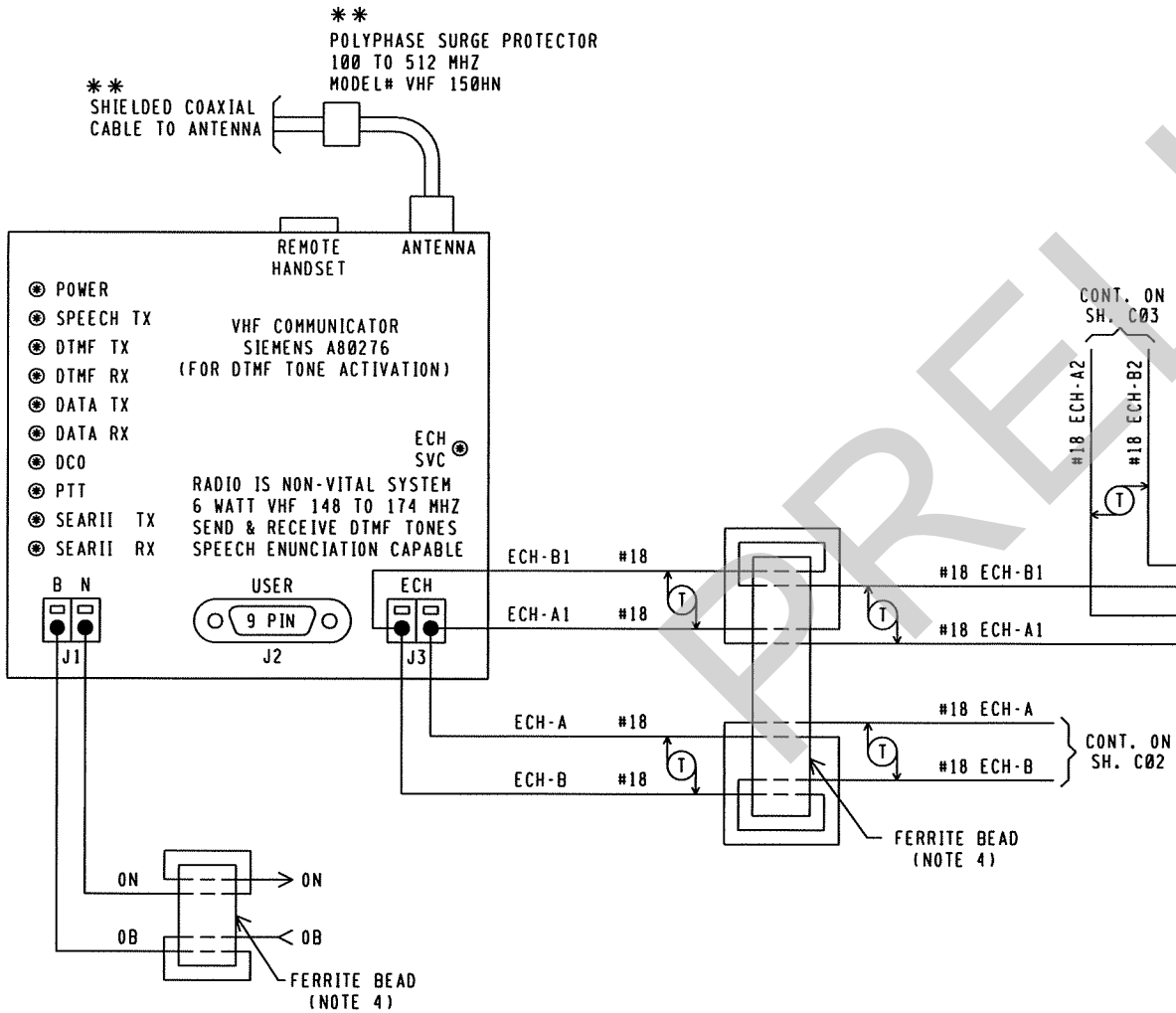
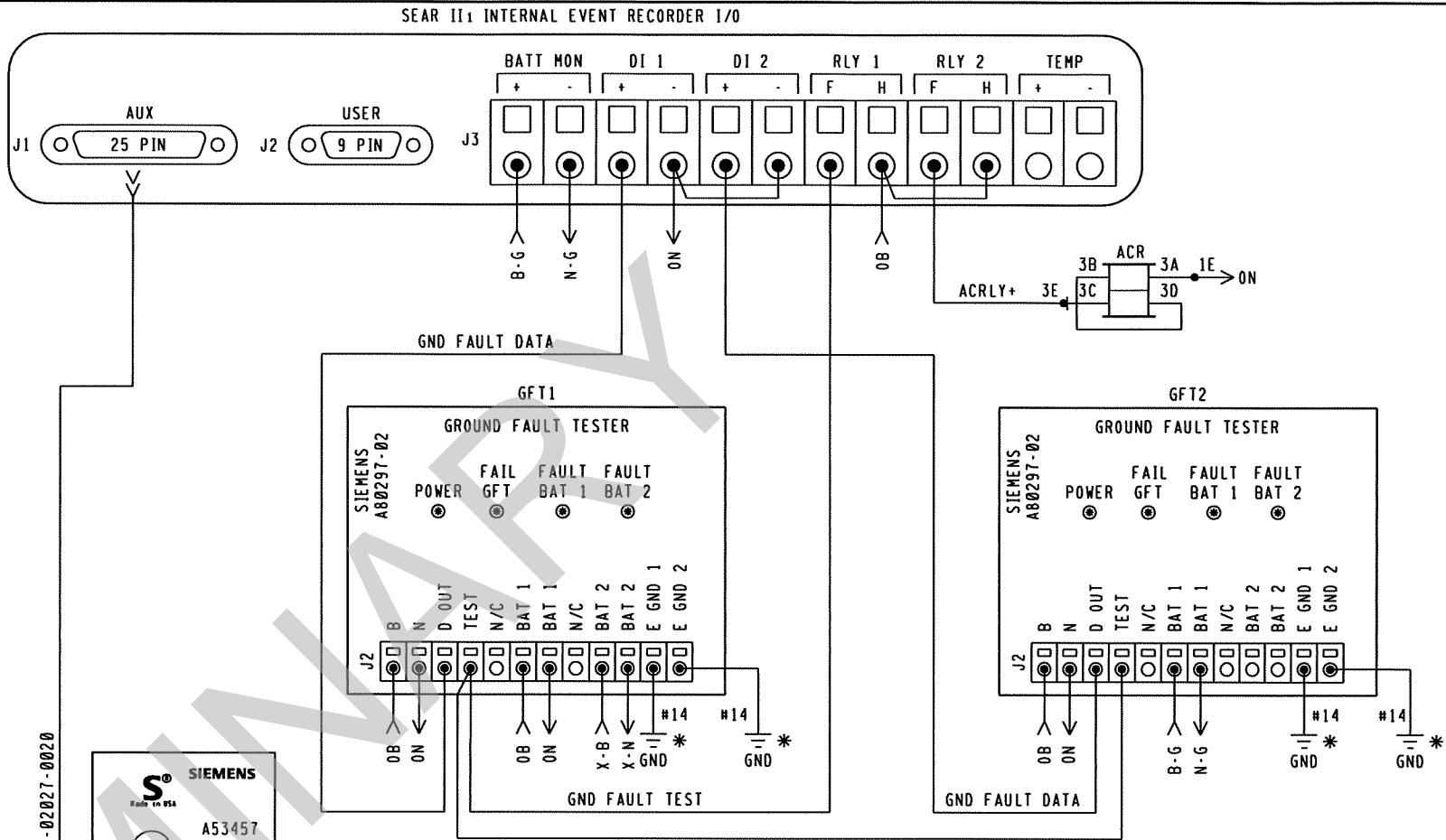
DESIGN DATE
 12-27-18

REV. NO.
 1

CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
CR 23 (JERRY CITY RD.) 155764X			
CROSSING WARNING DEVICE LIGHT CIRCUITRY CUSTAR, OH M.P. BE-168.64			
DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 12-27-18
DRAWING	SHEET NO	FILE BE16864	SHEET C05

WAYSIDE ACCESS GATEWAY CONFIGURATION	
SITE ATCS ADDRESS	7.125.384.016.07.01 7.125.LLL.GGG.SS.DD
SERIAL INTERFACE	38,400,NONE,8,1/NOFLOW
SERIAL FORMAT	RAW
WAG TEST MODE	DISABLED
ECHOLON ADDRESS	01.07
UDP PORTS	5000, 5001, 5002, 5003
ROUTE TABLE EXPIRY	5400 SEC
BROADCAST MEDIUM	IP ETHERNET
TCP PORTS	23, 10023, 6001, 6002
DHCP SERVER	DISABLED
IP ADDRESS	192.168.13.1
TYPE 7 ROUTE LENGTH	12--7RRLLGGSS
IP NETWORK MASK	255.255.255.0
WAG CIRCUIT ID	DISABLE
ROUTING REGION DOMAIN 1	OCGSERVER1.JAX.COM
ATCS SERVER UDP PORT NUMBER	6001
TELNET NUMBERS	WAG 6002, SERIAL 10023
DEFAULT GATEWAY IP	192.168.013.031

NOTE TO INSPECTOR,
AT INSTALLATION OF WAG,
OR UPDATE OF THE
CONFIGURATION, OR UPDATE
OF THE EXECUTIVE PROGRAM,
MARK-UP CONFIGURATION
TABLE FOR AS IN SERVICE
PLANS



- COMM NOTES.
- WAG J3A PINOUTS.
4 & 5 = +12VDC RADIO OUT
7 & 8 = GND RADIO RETURN
 - WAG AND SEARII: ECHOLON COMM THROUGH GCP4000 LONTALK PROTOCOL CONNECTION
 - REFER TO WAG INSTALLATION AND SETUP IN APPENDIX "A" GCP4000 SYSTEM CUT OVER TEST PROCEDURE AND CHECK OFF SHEET.

GCP PROGRAMMING FOR VHF RADIO

REMOTE DTMF CROSSING ACTIVATION (ACTIVATES ENTIRE CROSSING)

TO ACTIVATE PRESS, 764#

TO DE-ACTIVATE PRESS, 764*

(ACTIVATION WILL TIME OUT AFTER 60 SEC.)

- NOTES.
- ALL WIRING #16 UNLESS NOTED OTHERWISE.
 - * = EARTH GROUND REF. TERMINALS REQUIRED FOR DETECTION. DO NOT JUMPER TERMINALS. MUST BE CONNECTED TO DIFFERENT POINTS OF BUNGALOW.
 - ** = TO BE PROVIDED BY COMMUNICATIONS
 - LOOP WIRE THROUGH FERRITE BEAD TWICE.

NEW WORK

0H2018712 18-1017CSX

SSE/CRC/CcV 12-27-18

Signal South

RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
CR 23 (JERRY CITY RD.) 155764X			
CROSSING WARNING DEVICE CIRCUITRY CUSTAR, OH M.P. BE-168.64			
DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 12-27-18
DESIGN DATE 12-27-18	REV. NO. 1	DRAWING -----	SHEET C06

DEFAULTS AND/OR STYLE		FIELD RECORD
SEAR II: EXECUTIVE PROGRAM	VERSION: 9V725A01	VERSION: _____
APPLICATION PROGRAM (IF LOADED)	VERSION: 9V864A01	VERSION: _____
SITE SET UP MENU		
FUNCTION	LED DISPLAY	
DATE/TIME	XX-XX-XXXX XX:XX:XX	
AUTOMATIC DST ADJUSTMENT	YES	
TIME ZONE	EASTERN	
SITE NAME	CR 23 (JERRY CITY RD.)	
MILEPOST	BE-168.64	
DOT NUMBER	155764X	
TESTER TYPE	CROSSING	
DATE FORMAT	MM-DD-YYYY	
TEMP FORMAT	FAHRENHEIT	
INDICATE HOLD (SEC)	0	
INDICATE REFRESH (SEC)	60	
SITE ATCS ADDRESS	7.125.384.016.99.01 (7.RRR.LLL.GGG.99.01)	
SITE TYPE	COLLECTOR	
OFFICE ADDRESS	2.125.00.0000 (2.RRR.NN.DDDD)	
POLL ID	1	
MODE	GEN/ATCS	
WAMS XID	DISABLED	
OFFICE COMM. DEVICE	<input checked="" type="checkbox"/> WAG (ECHELON) <input type="checkbox"/> DIRECT (RS232) <input type="checkbox"/> MCM (ECHELON) <input type="checkbox"/> MCM (RS232) <input type="checkbox"/> DIAL MODEM <input type="checkbox"/> S200 RADIO (RS422)	
RADIO ATCS ADDR	7.125.384.016.07.01 (7.RRR.LLL.GGG.NN.01)	
FIELD COMM. DEVICE	<input type="checkbox"/> WAG (ECHELON) <input checked="" type="checkbox"/> NONE <input type="checkbox"/> VHF COMM. (ECHELON) <input type="checkbox"/> VHF COMM. (RS232) <input type="checkbox"/> SPREAD-SPECTRUM (RS232)	
USER PORT BAUD	57,600	
USER PORT DATA BITS	8	
USER PORT PARITY	NONE	
USER PORT STOP BITS	1	
USER PORT FLOW CONTROL	NONE	
AUX PORT BAUD	38,400	
AUX PORT DATA BITS	8	
AUX PORT PARITY	NONE	
AUX PORT STOP BITS	1	
AUX PORT FLOW CONTROL	NONE	

NOTE TO INSPECTOR,
AT IN SERVICE OF SEAR II: OR UPDATE
OF ITS INTERNAL EXECUTIVE PROGRAM
OR ITS CSXT APPLICATION PROGRAM,
NOTE THE VERSION NUMBER OF EACH
PROGRAM MUST IN THE BLANK FIELDS.

INSPECTOR NOTE,
CURRENT VALUES MAY VARY DEPENDANT ON FIELD
CONDITIONS, MARK UP PER ACTUAL READINGS FOR
IN-SERVICE REVISION.

LIT BULB COUNT ON EACH CIRCUIT	NO.	TYPE OF BULB	CURRENT READING IN AMP. AT APPROX. 10.0 V ARRAY VOLTAGE
CURRENT SENSOR (1) AE1, LAMP SET UP	4	<input type="checkbox"/> BULBS <input checked="" type="checkbox"/> LED	2.6
CURRENT SENSOR (1) AE2, LAMP SET UP	4	<input type="checkbox"/> BULBS <input checked="" type="checkbox"/> LED	2.6
CURRENT SENSOR (2) BE1, LAMP SET UP	4	<input type="checkbox"/> BULBS <input checked="" type="checkbox"/> LED	2.6
CURRENT SENSOR (2) BE2, LAMP SET UP	4	<input type="checkbox"/> BULBS <input checked="" type="checkbox"/> LED	2.6

INSPECTOR NOTE,
VHF RADIO CHANNEL AND DATA
CHANNEL = ENGINEERING CHANNEL.
CHOOSE PROPER FREQUENCY FROM
VHF RADIO CHANNELS.

VHF RADIO CHANNELS			
1	161.130	5	161.550
2	160.710	6	160.785
3	160.560	7	160.785
4	160.860	8	160.785

PROGRAM MENU SELECT

EDIT DIGITAL INPUTS	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT BATTERIES	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT RELAYS	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT TEST LED'S	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT IL0D1 SENSOR	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT IL0D2 SENSOR	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT IL0D3 SENSOR	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT IL0D4 SENSOR	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT VHF SETTINGS	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
GCP4K ATCS SUBNODE	16

★STAR = OPTIONS SHOWN DEPENDANT ON
NUMBER OF IL0DS SELECTED

CONTROL SYSTEM CONFIGURATION MENU QUESTIONS	
OPTION	SELECTION
RESET NAMES / MODULES	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
RAILROAD NUMBER	125
CROSSING CONFIGURATION	NORMAL <input checked="" type="checkbox"/> SPLIT GATE <input type="checkbox"/> EXTERNAL ENTRANCE GATE CONTROLLER(S) <input type="checkbox"/>
AND1 USED AS XR	NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>
AND2 USED AS XR	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
AND3 USED AS XR	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
AND4 USED AS XR	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
AND5 USED AS XR	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
AND6 USED AS XR	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
AND7 USED AS XR	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
AND8 USED AS XR	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
ENTRANCE GATES*	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/>
GATE POSITION FAIL*	20 SECS.
BATTERY BANKS*	1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/>
BATT MON USED*	NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>
OB RESOLUTION*	0.2 <input type="checkbox"/> 0.5 <input type="checkbox"/> 1.0 <input checked="" type="checkbox"/>
X-B RESOLUTION*	0.2 <input type="checkbox"/> 0.5 <input type="checkbox"/> 1.0 <input checked="" type="checkbox"/> NOT PRESENT <input type="checkbox"/>
X-B2 RESOLUTION*	0.2 <input type="checkbox"/> 0.5 <input type="checkbox"/> 1.0 <input type="checkbox"/> NOT PRESENT <input checked="" type="checkbox"/>
BATT MON RESOLUTION*	0.2 <input type="checkbox"/> 0.5 <input type="checkbox"/> 1.0 <input checked="" type="checkbox"/> NOT PRESENT <input type="checkbox"/>
INTERNAL CROSSING CONTROLLERS*	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/>
EXTERNAL CROSSING CONTROLLERS*	0 <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/>
VHF COMMUNICATOR*	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
DTMF ACTIVATION*	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
ACTIVATION CODE	764
ACTIVATION TIMEOUT	(60 SEC)
IL0D MODULES*	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>
ANY LED BULBS USED*	NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>
AUTO INSPECTIONS*	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
BELL SENSORS*	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>
BELL SENSOR TSS 1*	NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>
BELL SENSOR TSS 2*	NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>
BELL SENSOR TSS 3*	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
BELL SENSOR TSS 4*	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
BELL SENSOR TSS 5*	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
BELL SENSOR TSS 6*	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
BELL SENSOR TSS 7*	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
BELL SENSOR TSS 8*	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
BELL ON*	GATES LOWERING <input checked="" type="checkbox"/> GATES MOVING <input type="checkbox"/> ALWAYS <input type="checkbox"/>
GFT'S	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
BATTERIES ON GFT1	1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/>
GATE TIP SENSORS*	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
RTU	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
VHF VOICE CHANNEL	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/>
VHF DATA CHANNEL	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/>
USE NON-CRITICAL FEATURE*	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
FULL APPROACH MOVE ALARMS*	ACTIVATE <input checked="" type="checkbox"/> DO NOT ACTIVATE <input type="checkbox"/>
ENABLE PASSWORD	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>

NOTES.

- OPTION AVAILABLE IF VHF COMMUNICATOR = YES
LAST 3 DIGITS OF DOT NUMBER.
- OPTION AVAILABLE IF IL0DS.
- OPTION AVAILABLE IF BELL SENSORS.
- OPTION AVAILABLE IF GATES.
- OPTION AVAILABLE IF VHF RADIO.
- ONLY YES IN SPECIAL CIRCUMSTANCES.
- SELECT "MENU" THEN "CONFIGURATION" FROM SEAR II
INTERFACE KEYPAD TO ACCESS MODULE CONFIGURATION
MENU.
- BATTERY BANKS* = NUMBER OF BANKS EXCLUDING
THE BANK APPLIED TO THE BAT MON SEAR INPUT
- YES ON INITIAL SETUP

NOTE

NEW WORK

0H2018712
18-1017CSX

SSE/CRC/CCV
12-27-18

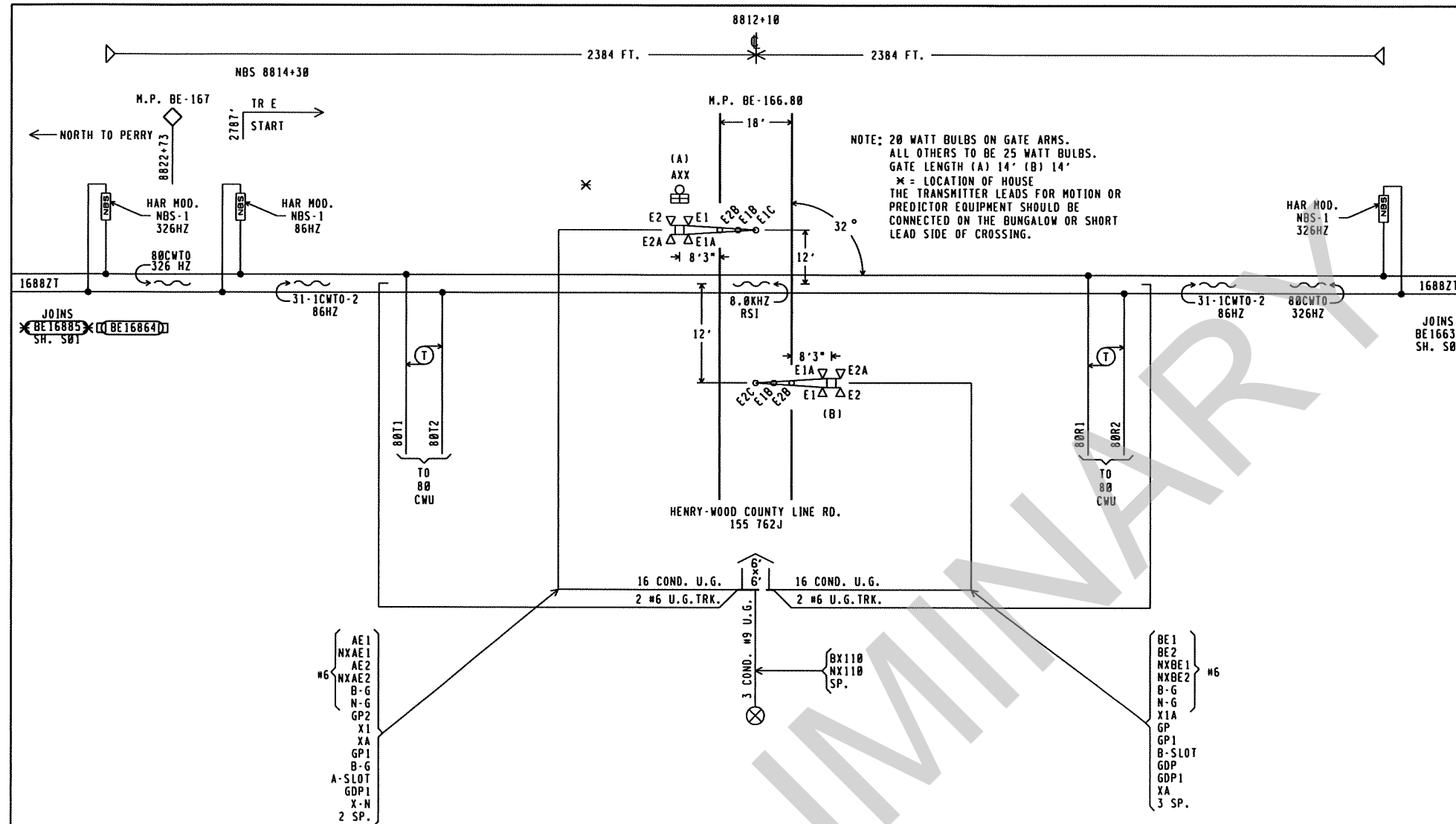
Signal South

4000GCP.C07
REV. 09-04-15

DESIGN DATE
12-27-18

REV. NO.
1

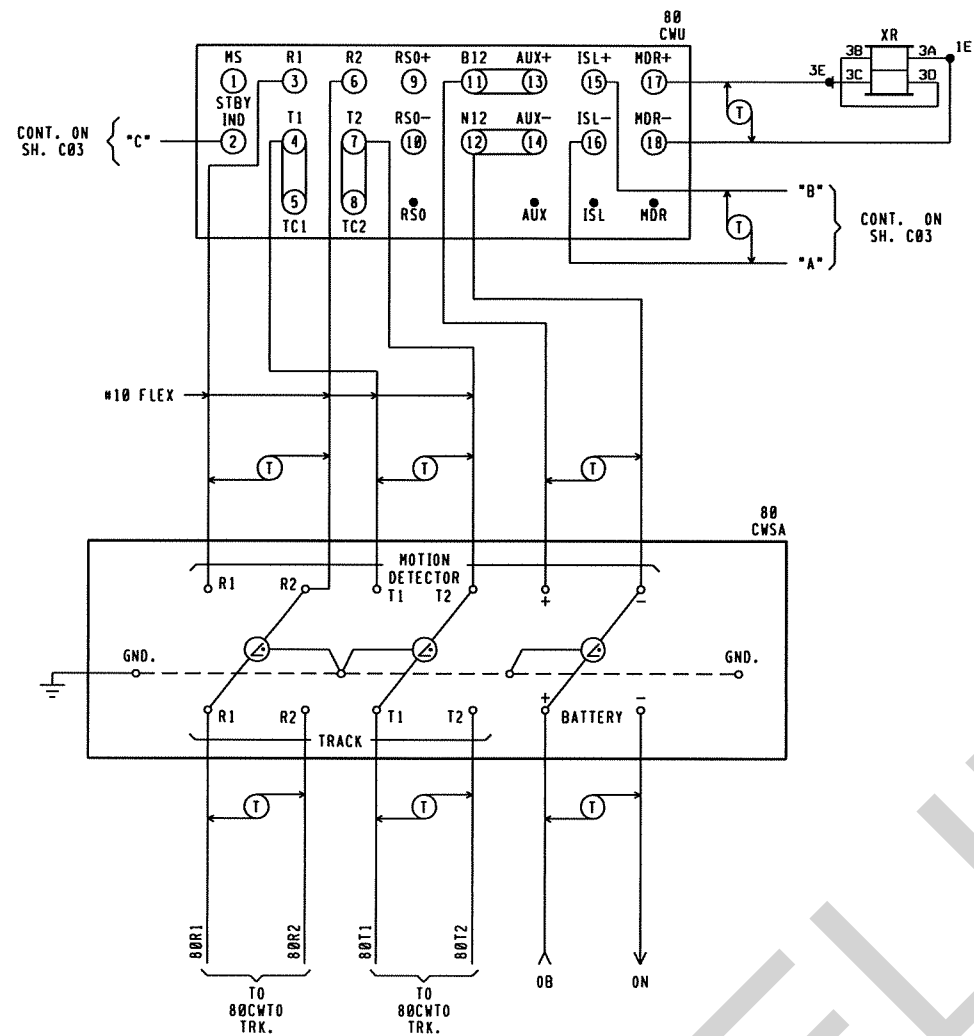
CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
CR 23 (JERRY CITY RD.) 155764X			
SEAR II: CONFIGURATION & FUNCTIONS CUSTAR, OH M.P. BE-168.64			
DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 12-27-18
DESIGN DATE 12-27-18	REV. NO. 1	DRAWING -----	SHEET NO -----
FILE BE16864	SHEET C07		



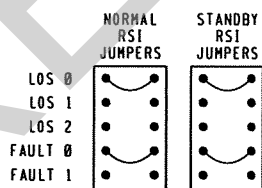
REVISIONS	
12-26-02	SAF 0H1999087
08-05-03	SAF 0H2000052D
08-12-11	XRL 0H2011051
09-24-13	XRL 0H2012080
10-28-14	XRL 0H2013041

□□□ = IN
 *** = OUT
 0H2018712 SSE/CRC/CCV
 18-1017CSX 12-27-18
Signal South

CSX TRANSPORTATION			
RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
HENRY-WOOD COUNTY LINE RD. 155762J			
TRACK AND SIGNAL PLAN DESHLER, OH M.P. BE-166.80			
DESIGNED SAF/MKN	DIGITIZED SAF/MKN	CHECKED SAF/SWS	DATE 7-1-99
NEXT FILE BE16680	NEXT SH E01	FILE BE16680	SHEET S01



CABINET SWITCHES					
THESE SWITCHES ARE LOCATED ON MOTHERBOARD					
MASTER/SLAVE					
MASTER			SLAVE		
S1					
SYSTEM CONFIGURATION					
S6 & S7 DIP SWITCH POSITIONS					
SWITCH	1	2	3	4	
SWITCH POSITION	ON	OFF	OFF	OFF	
APPROACH	NORMAL	(NOT USED)			
FREQUENCY SELECT					
S2 & S3 DIP SWITCH POSITIONS					
SWITCH	1	2	3	4	5
SWITCH POSITION	OFF	ON	OFF	ON	OFF
S4 & S5 DIP SWITCH POSITIONS					
SWITCH	1	2	3	4	5
SWITCH POSITION	OFF	ON	OFF	ON	OFF



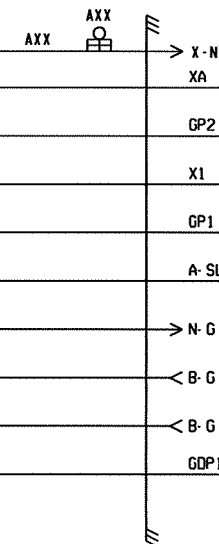
REVISIONS		CSX TRANSPORTATION			
12-26-02 SAF 0H1999087		RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
08-05-03 SAF 0H20000520		HENRY-WOOD COUNTY LINE RD. 155762J			
08-12-11 XRL 0H2011051		CIRCUITS			
		DESHLER, OH M.P. BE-166.80			
DESIGNED	DIGITIZED	CHECKED	DATE		
SAF/MKN	SAF/MKN	SAF/SWS	7-1-99		
NEXT FILE	NEXT SH	FILE	SHEET		
BE16680	C02	BE16680	C01		

NO CHANGES

0H2018712 SSE/CRC
18-1017CSX 12-27-18

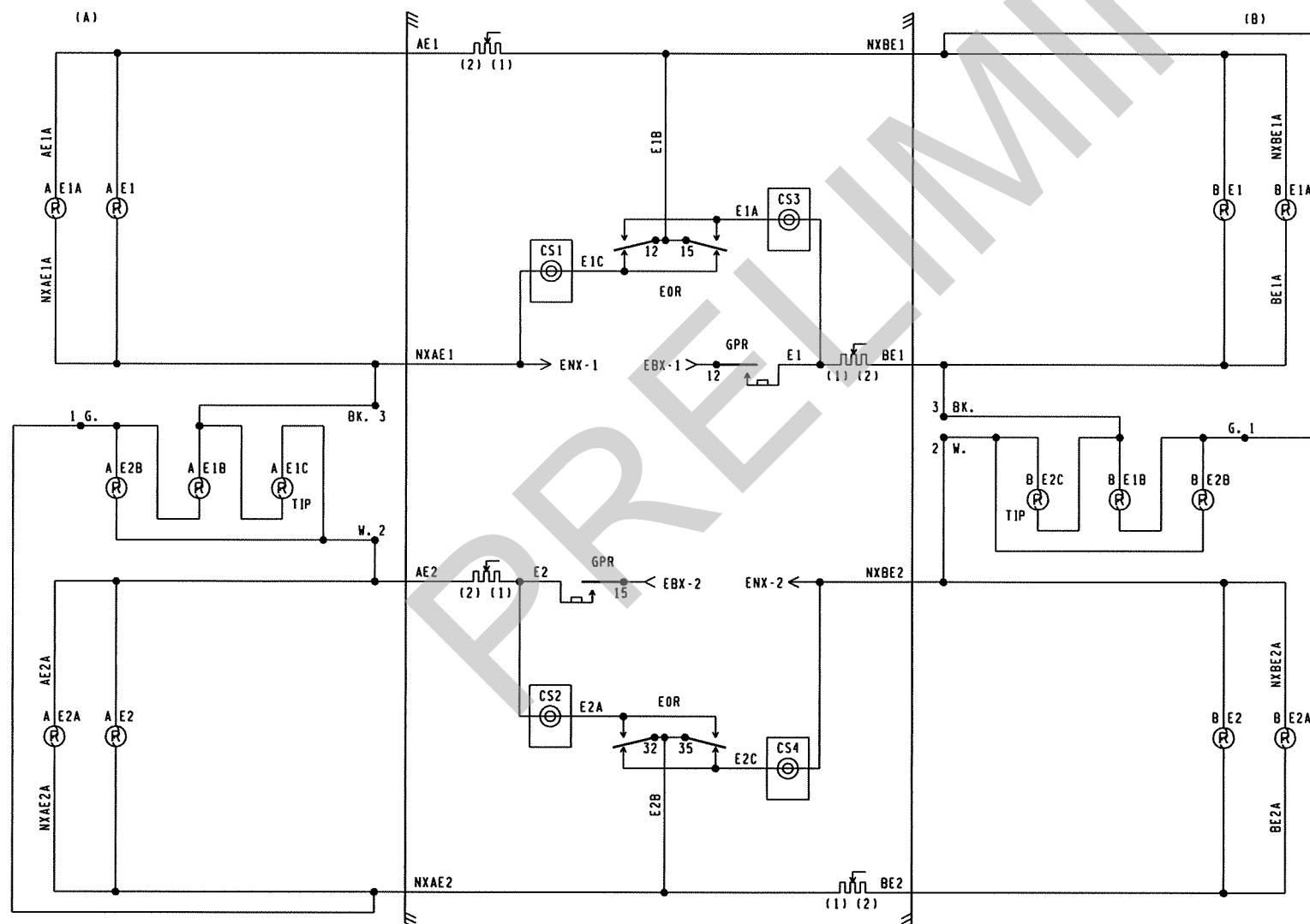
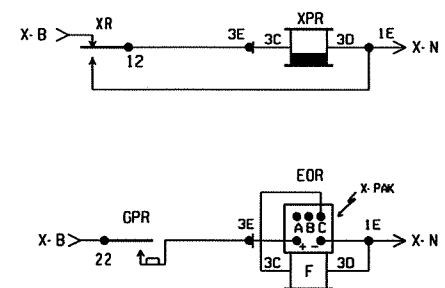
Signal South

GATE A			
TYPE USED AT THIS LOCATION (MARKED W/"X")			
GATE MECH. TYPE	3593B	MOD. 75	3567
6B	4C	B7	9(H)
5B	2B	C6	8(H)
6C	4B	C7	9(F)
5C	2C	B6	8(F)
1A	1B	A1	K
2B	5A, 6A	A4	N
1B	3B	A2	Q
		B4	12(H)
		C4	12(F)



CONT. ON SH. C03

GATE B			
TYPE USED AT THIS LOCATION (MARKED W/"X")			
GATE MECH. TYPE	MOD. 75	3567	3593B
9(H)	B7	4C	6B
9(F)	C7	4B	6C
8(H)	C6	2B	5B
8(F)	B6	2C	5C
K	A1	1B	1A
N	A4	5A, 6A	2B
Q	A2	3B	1B
12(H)	B4		
12(F)	C4		



NOTE:
LIGHT RESISTOR IS A 1.5 OHM,
15 WATT, ADJUSTABLE RESISTOR

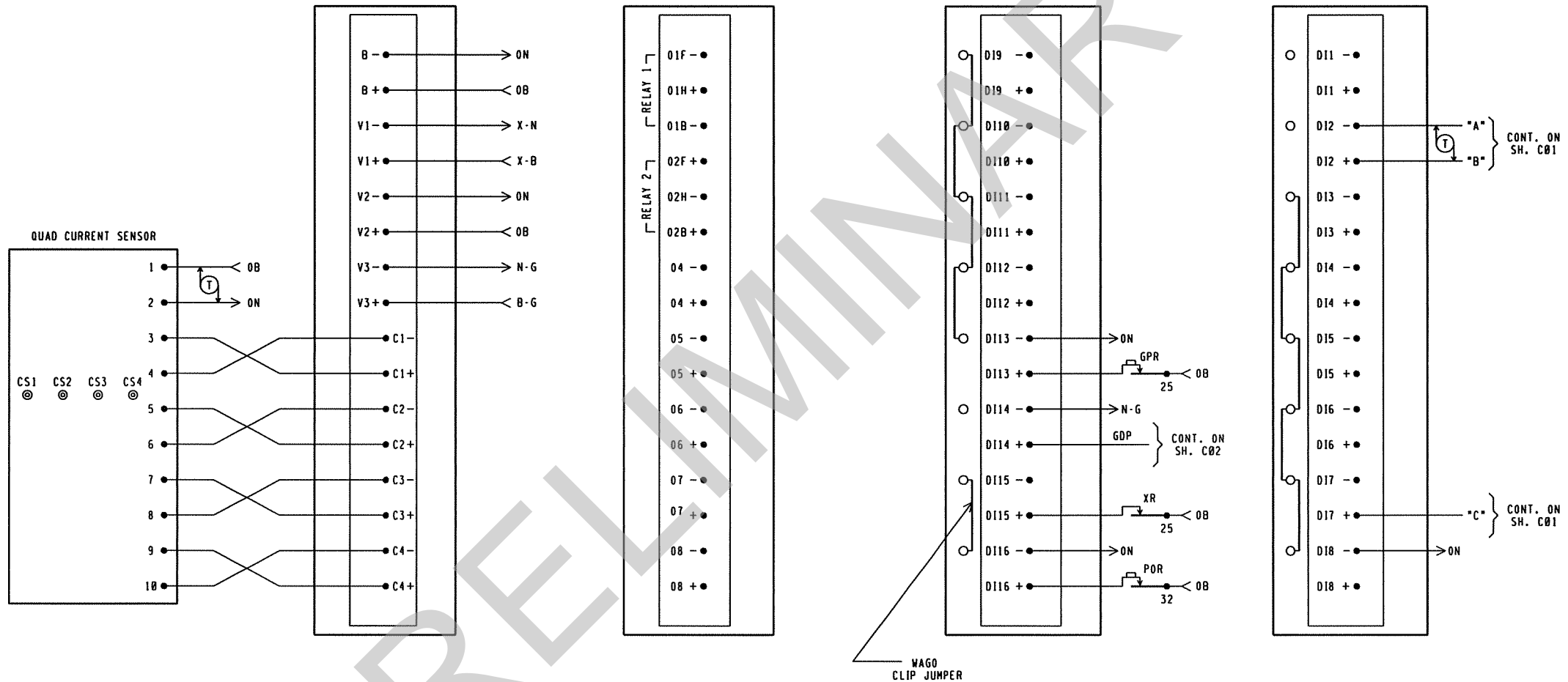
REVISIONS		CSX TRANSPORTATION			
12-26-02 SAF 0H1999087		RAIL TRANSPORT GROUP ENGINEERING			
08-05-03 SAF 0H20000520		COMMUNICATIONS AND SIGNALS			
08-12-11 XRL		HENRY-WOOD COUNTY LINE RD. 155762J			
0H2011051		CIRCUITS			
NO CHANGES		DESHLER, OH M.P. BE-166.80			
0H2018712		DESIGNED		DIGITIZED	
18-1017CSX		SAF/MKN		SAF/MKN	
SSE/CRC		CHECKED		DATE	
12-27-18		SAF/SWS		7-1-99	
Signal South		NEXT FILE		NEXT SH	
		BE16680		C03	
		FILE		SHEET	
		BE16680		C02	

NO CHANGES

0H2018712 SSE/CRC
18-1017CSX 12-27-18

Signal South

RECORDER TERMINAL BOARD



REVISIONS		RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
12-26-02	SAF 0H1999007	HENRY-WOOD COUNTY LINE RD. 155762J			
08-05-03	SAF 0H20000520				
08-12-11	XRL 0H2011051				
NO CHANGES		CIRCUITS			
0H2010712		DESHLER, OH M.P. BE-166.00			
18-1017CSX		DESIGNED	DIGITIZED	CHECKED	DATE
		SAF/MKN	SAF/MKN	SAF/SWS	7-1-99
		NEXT FILE	NEXT SH	FILE	SHEET
		BE16600	C03



OHIO RAIL DEVELOPMENT COMMISSION

Mail Stop #3140, 1980 West Broad Street, Columbus OH 43223

John R. Kasich, Governor • James G. Bradley, Chairman

October 30, 2018

Amanda DeCesare
Project Manager – Public Projects
CSX Transportation
500 Meijer Drive, Suite 305
Florence, KY 41042

RE: Authorization for Plans and Estimates for Grade Crossing Warning Device Upgrade
Wood County, TR 23 Jerry City Rd.
DOT# 155764X
PID# 108568

Dear Ms. DeCesare:

A diagnostic review was held at the above grade crossing on 5/18/2018. The crossing has been recommended for the installation of automatic flashing lights and gates.

CSX Transportation, Inc. is authorized to proceed with the design, site plans and cost estimates (PE) for this project. This authorization is made with the stipulation and understanding that any field work needs prior approval before work begins. This authorization is made with the stipulation and understanding that an approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit.

The ORDC is not requesting that the PUCO issue an Order at this time. When the ORDC receives the PE it will be evaluated and a construction-only Order will be requested from PUCO. Please submit the PE to ORDC within 90 days of receipt of this letter.

The diagnostic review form is attached. Please note any recommendations (page 5), if any, made by the team with regard to requirements for this location. Any minor roadway work necessary for MUTCD compliance should be incorporated into the PE and such costs will flow through the railroad reimbursement process

The ORDC Project Manager for this project is Don Damron. I can be reached at 614-466-2509 (office), or 614-917-8466 (cell), or don.damron@dot.state.oh.us, if you have any questions.

Sincerely,

Donald J. Damron
Project Manager

C: Randall Schumacher, Chief, Rail Division, PUCO
Jill Henry, Rail Specialist, Rail Division, PUCO
ORDC (file)

Attachments: Diagnostic Review Team Survey form dated 5/18/2018
ORDC Letter Agreement dated 10/3/2018



www.rail.ohio.gov

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY



OHIO RAIL DEVELOPMENT COMMISSION

Mail Stop #3140, 1980 West Broad Street, Columbus OH 43223

John R. Kasich, Governor • Mark Policinski, ORDC Chairman

October 2, 2018

CSX Transportation
Ms. Amanda DeCesare
Project Manager – Public Projects
500 Meijer Drive
Suite 305
Florence, KY 41042

Subject: Grade Crossing Warning Device Improvements
Wood County, TR 23/Jerry City Road, DOT # 155764X, PID 108568

Dear Ms. DeCesare:

A diagnostic review was conducted at the subject grade crossing on 5/18/2018. As a result of the review, the devices will be upgraded to automatic flashing lights and roadway gates.

This project shall be completed in compliance with Agreement No. 17427, dated May 3, 2013, entered into by the State of Ohio and CSX Transportation (CSX) and incorporated as if fully rewritten herein. This construction shall also meet the general terms and conditions under the Fixing America's Surface Transportation Act and subsequent amendments and the State of Ohio's Federally Funded Warning Device Program.

Preliminary engineering (PE) and construction costs shall be borne one hundred percent (100%) by ORDC. Reimbursable costs will be limited by the ORDC based on approved estimates and bid tabulations, if applicable. These limits will be quantified by the ORDC in its construction authorization to CSX and may be amended by the ORDC based on revised estimates and bid tabulations.

This Letter Agreement and the approved plans constitute the scope of the project. CSX shall notify ORDC in writing of any changes in the scope of work which are not in the approved plans and estimates and secure approval in writing of same before the work is performed.

PE will not be commenced by CSX prior to ORDC issuing a PE authorization. PE will be submitted by CSX to ORDC within ninety (90) days or other time specified by ORDC in the PE authorization. Construction will not be commenced by CSX prior to ORDC issuing a construction authorization. Construction will be completed by CSX within nine (9) months or other time specified in the time specified by ORDC in the construction authorization.

Please indicate your acceptance of the terms and conditions of this Letter Agreement by signing and returning one (1) copy to me at the address listed above and retain a copy for your files. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be a duplicate original, but all of which taken together shall be deemed to constitute a single Agreement.

Sincerely,

Matthew Dietrich
Executive Director



www.rail.ohio.gov

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY

CSX Transportation:

By: Tony C. Bellamy
Tony C. Bellamy
Title: Director Project Management - Public Projects
Date: 10/19/18

WOO TR23 Jerry City RD 155764X CSX PID 108568

CSXT PUBLIC PROJECTS AGREEMENT COVER SHEET

Prepared by: Nicole S. Henning

Date: October 8, 2018

A. Subject: Custar, Wood Co., OH – DOT No. 155764X

Grade Crossing Warning Device Improvements for Jerry City Road

Louisville Zone, Toledo Subdivision, Milepost BE-168.64, OP TBD

B. Other Agreement Party(s): Ohio Rail Development Commission

C. Type: ☒ Standard pre-approved format
☐ Other (Law approval required)

D. Purpose: ☐ PE Agreement
☐ Construction Agreement
☒ PE/Construction Agreement
☐ Overrun/Supplemental Agreement
☐ Master Agreement Supplement
☐ Temporary Right of Entry
☐ Other –

E. Copies: Number of Originals to be executed: 2

F. Contract Work: Does work require Labor Notification? ☐ Yes ☒ No
Notification completed by
Organization: Date:

G. Funding Sources:

☒ Outside Party Funded - ORDC
\$ TBD CSX Force Account Estimate
☒ Actual cost (Payment in Arrears)
☐ Prepayment
☐ Actual cost not to exceed
☐ Lump sum

☐ CSXT contribution involved
\$Enter Amount Estimated contribution
☐ % of project cost
☐ Lump sum
☐ Not to exceed

Funding Source

☐ Public Improvements capital budget/AFE No:
☐ TSC AFE No:
☐ Other: AFE No.
☐ OE source: On PP OE Outlook

H. Total Agreement Funding:\$ TBD

I. Public Projects Approval: Amanda J. DeCesare: *APD*

Date: 10/11/18

J. For Signature Of:

☒ Tony C. Bellamy

Tony C. Bellamy

Date: 10/19/18

K. Additional Information:

☐ Please forward to Corporate Secretary's Office, J160

- ☐ For Attestation and Corporate Seal
☐ To be notarized
☐ Witness
☐ Other

☒ Upon completion, please return to Amanda J. DeCesare, 500 Meijer Drive, Suite 305, Florence, KY 41042, Project Manager - Public Projects



Diagnostic Review Team Survey

Reason for Survey:

(e.g. formula, accident, constituent, etc.)

Stop Sign

Date: 5/18/2018

Location Data

Street or Road Name: Jerry City Road

Route/Road Number
(i.e. Twp., Co., SR or US) TR 23

US DOT No.: 155764X

County: WOO

Township: Milton Twp.

City:
(In or Near) Near Custar

Railroad
Name: CSX Transportation

Railroad
Division: Louisville

Branch/Line
Name: TOLEDO
SUB.

Nearest RR
Timetable Station: Custar

RR Milepost: 168.64

On-Site Review Team

(Include: Name - Organization - Phone Number - Email)

1. DON DAMRON, ORDC, 614-917-8466, don.damron@dot.ohio.gov
2. Tyler Steffel CSX 419-438-8948 - MAINTAINER Tyler_Steffel@CSX.com
3. Nathan Niner PUCCO 419-340-1011. Nathan.Niner@Pucco.Ohio.gov
4. James Munster WCC 419-354-9460 jamesmunster@cc.wadsworth.us
5. Jay Carter Milton Twp Fire 419-494-4373 miltontownshipfire@gmail.com
6. Stanley Wilhelms Milton Twp Trustee 419-669-2570
7. _____
8. _____
9. _____

Existing Traffic Control Devices

Type of Warning Devices	Installed?		Quantity/Comments	
Advance Warning Signs (condition?)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
'Stop' Signs	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
'Stop Ahead' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Pavement Markings (condition?)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Crossbucks	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Number of Tracks Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Inventory Tags	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Interconnected Highway Traffic Signal	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Mast-Mounted Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Cantilever Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number:	Length:
Side Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Automatic Gates	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number:	Length:
Bells	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number:	
Sidewalk Gate Arms	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
'No Turn' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Illumination	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Is crossing flagged by train crew?	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Other	<input type="checkbox"/> Yes	<input type="checkbox"/> No		

Safety Data (Obtain crash reports, if possible, prior to review)

	Initial Information (from database)	Revised
Number & dates of crashes in previous 5 years	0 <i>TRUCK/TRAIN CRASH 5/2/17 SEE ROADHEAD</i>	<i>TRUCK-TRAILER CRASH W/IN LAST YEAR OR TWO RD. CSX CALLED IT IN.</i>
Hazard Ranking	2223	Date Run: 3/31/2018

Railroad Data

Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	9	<i>10-15 T/DAY</i>
< 1 per day		
Day thru trains	3	
Night thru trains	4	
Daytime switching movements	2	
Nighttime switching movements		
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks		
Maximum train speed	50	<i>OK</i>
Typical train speed	50	<i>OK</i>
Amtrak		

If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table 1) ☒ Yes ☐ No

If multiple tracks, can two trains occupy crossing at the same time? ☐ Yes ☒ No

Can one train block the motorists' view of another train at crossing? ☐ Yes (Explain below) ☒ No

Can one or more tracks be eliminated through the crossing? ☐ Yes ☒ No

Are there other track(s) crossing this same roadway within 100 ft of this crossing? ☐ Yes ☒ No

If yes, Crossing DOT #(if different) _____

If yes, distance _____ (take measurement between track centerlines at closest point along roadway)

Roadway Data

Local Highway Authority: Milton Township

Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic	85 (2007)	<i>125</i>
Highway paved	X Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Roadway Surface: <input checked="" type="checkbox"/> Blacktop <input type="checkbox"/> Gravel <input type="checkbox"/> Concrete <input type="checkbox"/> Other _____		
Roadway width: <i>14</i> ft.		
Number of highway lanes	2	
Urban or Rural	Rural	
Vehicle Speed: <i>55</i> MPH		
School Bus Operation: <input type="checkbox"/> No <input type="checkbox"/> Yes _____ Amount <i>UNKNOWN</i>		
Hazardous Materials Trucks: <input type="checkbox"/> No X Yes <i>.05</i> Amount		
Shoulders: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is the shoulder surfaced? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is there existing guardrail along roadway in crossing vicinity? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is stopping site distance adequate? (See Table 2) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, deficient approach(es) _____		

Quadrant <u>SW</u> Curb and Gutter: <input type="checkbox"/> Functional (Curb height = 4" or more) <input type="checkbox"/> Non-functional (Curb height = Less than 4") <input checked="" type="checkbox"/> None	Quadrant <u>NE</u> Curb and Gutter: <input type="checkbox"/> Functional (Curb height = 4" or more) <input type="checkbox"/> Non-functional (Curb height = Less than 4") <input checked="" type="checkbox"/> None
Pedestrians: <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Is sidewalk present? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is there a nearby intersection that could cause queuing over the crossing? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, Distance _____	
Is this intersection signalized? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Are the signals currently interconnected with the existing crossing warning devices? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is there a 'Do not Stop on Track' sign? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is a roadway improvement project (e.g. widening, turn lanes, nearby new or upgraded traffic signal, sidewalk) planned at or near this location in the foreseeable future? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <u>HUMP WAS REMOVED</u> If yes, Improvement type _____ Lead Agency _____ Timeline/completion - _____	
Is it the consensus of the Diagnostic Review Team that this is a potential closure project? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Explain reasons: _____	
Type of Development	
<input checked="" type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Residential	<input type="checkbox"/> Institutional <input type="checkbox"/> Commercial Location of nearby schools: <u>ON BOARPER BTW. McCOMB SCHOOLS AND BG CITY SCHOOLS</u>
Utility Information	
Is commercial power available? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Utility Provider (Company Name) <u>TOLEDO EDISON</u> Phone Number _____ Nearest Available Power Source <u>AT-SITE</u>	
What other utilities are present? (add locations to sketch) <input type="checkbox"/> Gas <input type="checkbox"/> Cable <input type="checkbox"/> Telephone <input type="checkbox"/> Fiber Optic Cable <input type="checkbox"/> Petroleum <input type="checkbox"/> Water <input type="checkbox"/> Sanitary Sewer <input type="checkbox"/> Other _____	
Is(are) there potential utility conflict(s) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown	
Comments: _____	

Potential Red Flags / Project Challenges

Traffic Signal Preemption (include traffic signal intersection name and LHA with jurisdiction over traffic signal, if known):

NA

Crossing Consolidation or Closure:

NA

Real Estate or ROW:

NA

Culverts / Drainage / Ballast Conditions:

NA

Roadway and/or Sidewalks:

NA

Circuitry (e.g. reaches out to other crossings, specific needs, etc.):

NA

Environmental:

NA

Other:

Diagnostic Team Recommendations

☒ Install/upgrade active devices

☐ Automatic Flashing Lights (AFLS)

☐ AFLS / Cants

☒ AFLS / Gates

☐ AFLS / Gates / Cants

☒ Bells / number

☐ Upgrade circuitry / type

☐ Sidelights

☐ Guardrail Needed

☐ Install/Replace curb

☐ Bungalow placement & offset from rail & highway

☐ Other (define)

Quadrants Needed

CIRCUITRY OVER OS

NO PREFERENCE

Comments:

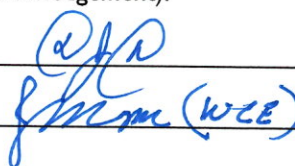
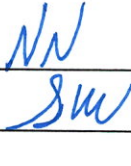
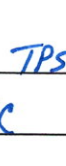

CONSENSUS: UPGRADE TO FLASHING LIGHTS AND GATES

☐ Install/upgrade traffic signal preemption

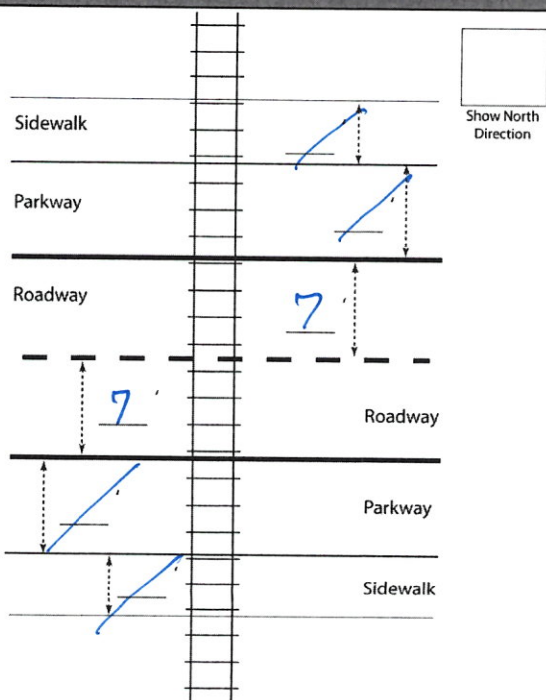
☐ No improvements needed

☐ Other (define)

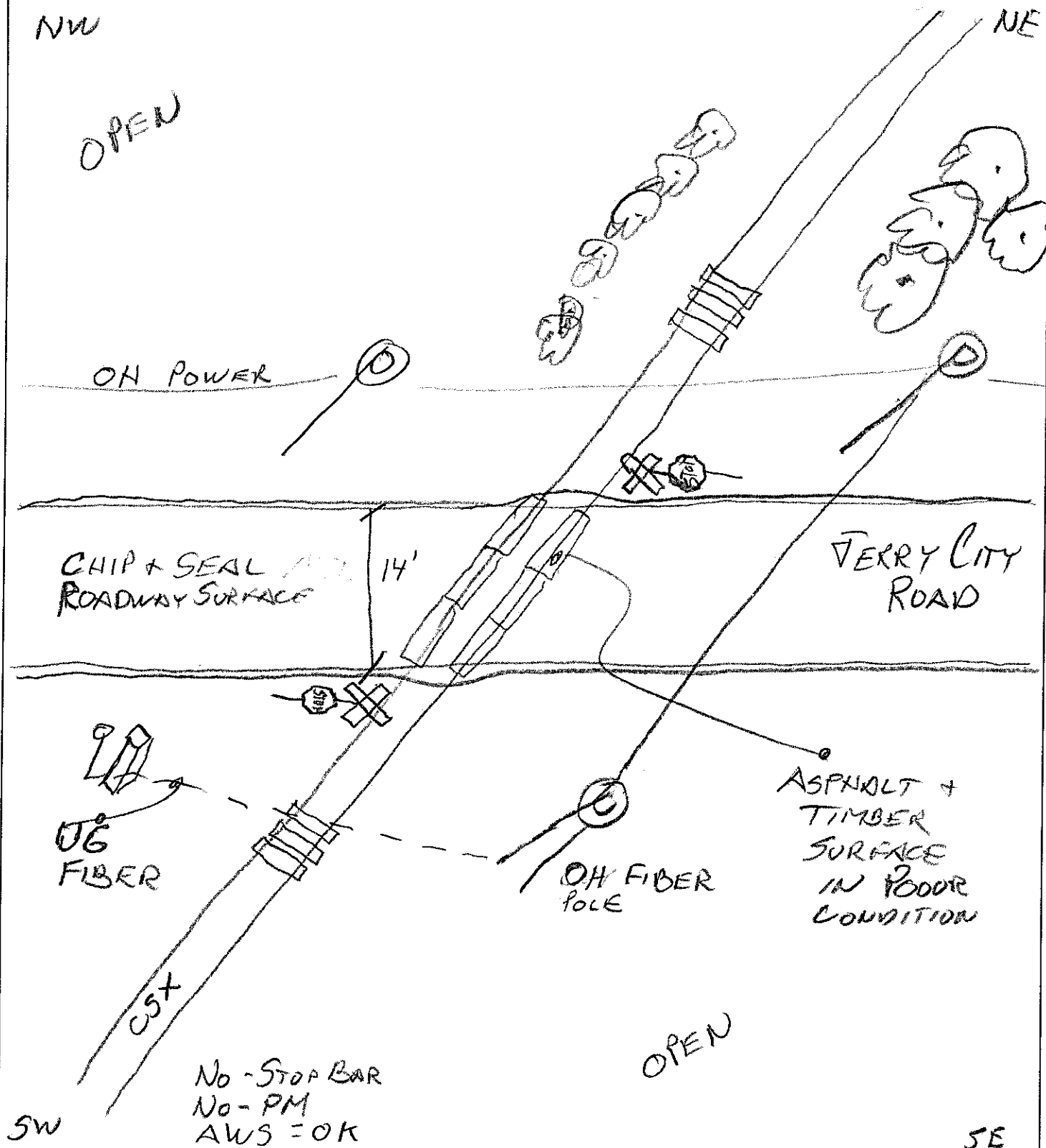
Acknowledgement of Recommendations (each entity represented at the diagnostic must have at least one signature acknowledgement):

Field Dimensions



Field Sketch



Crossing Angle ☐ 0-29° ☒ 30-59° ☐ 60-90° Measured in SW Quadrant?

Sketch by: DJD

5-17-18

Table 1

Clearing Sight Distances

Maximum Authorized Train Speed	Distance (dT) Along Railroad from Crossing (ft)
1 - 10	240
15	360
20	480
25	600
30	720
35	840
40	960
45	1080
50	1200
55	1320
60	1440
65	1560
70	1680
75	1800
80	1920
85	2040
90	2160

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

Notes:

All calculated distances are rounded up to the next higher 5-foot increment.

Distances indicated are for 65-ft double bottom semi-tractor trailers and level single track 90 degree crossings; and may need to be adjusted for multiple tracks, skewed crossings or approaches on grades.

Clearing Sight Distance is to be measured in each vehicle travel direction at non-gated crossings as viewed from a point 25 feet from centerline of nearest track in the center of whichever travel lane is nearest the direction along track being measured.

Table 2

Stopping Sight Distances

Highway Vehicle Speed	Distance (dH) Along Roadway from Crossing (ft)
0	n/a
5	50
10	70
15	105
20	135
25	180
30	225
35	280
40	340
45	410
50	490
55	570
60	660
65	760
70	865

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

Notes:

All calculated distances are rounded up to the next higher 5-foot increment.

Distances indicated are for 65-ft double bottom semi-tractor trailers on dry level pavements.

Stopping Sight Distance is to be measured on each roadway approach to crossing from stop bar.

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

3/18/2019 12:13:56 PM

in

Case No(s). 19-0652-RR-FED

Summary: Application In the Matter of a Request for the Installation of Active Warning Devices at the CSX Transportation Inc. Grade Crossing, DOT#155-764X, on Jerry City Road/TR 23 in Wood County, Ohio. electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division