

Memo

To: Docketing Division
From: Jill Henry, Rail Specialist, Rail Division
Cc: PUCO Legal Department
Date: 5/14/2020

Re: PUCO Case No. 20-1035-RR-FED- In the Matter of a Request for the Installation of Active Warning Devices at the CSX Transportation Inc. Grade Crossing, DOT#513-733M, on Baker Road/TR 25 in Hancock County, Ohio.

On May 23, 2019, the Ohio Rail Development Commission (ORDC) authorized funding for CSX Transportation, Inc. (CSX) to install lights and gates at Baker Road/TR 25, DOT# 513-733M in Hancock County, Ohio. The crossing was surveyed, on June 26, 2019, and was found to warrant the upgrade. The electric utility provider for this crossing is Hancock Wood Electric Cooperative.

The project will be paid for with federal funds and is actual cost. The plans and estimates for the project in the amount of \$265,357.00 have been approved. 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
3131A Spring Grove Avenue
Cincinnati, OH 45225

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

Hancock County Engineer
Douglas Cade
County Engineer
1900 Lima Avenue
Findlay, OH 45840

Jackson Township, Hancock County
Trustees
15744 County Road 26
Arlington, OH 45814

Hancock Wood Electric Cooperative
1399 Business Park Drive South
PO Box 190
North Baltimore, OH 45872-0190

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

TO: Randall Schumacher, Chief, Motor Carrier & Rail Enforcement, PUCO

FROM: Cathy Stout, Manager, Safety Section, ORDC

BY: Don Damron

SUBJECT: TR 25, Baker Rd. in Hancock County
DOT# 513733M; PID# 111178
CSX ACCT. CODE: OH1357

DATE: May 5, 2020

The Ohio Rail Development Commission (ORDC) established a diagnostic survey at the subject location on June 6, 2019. The Public Utilities Commission of Ohio (PUCO) 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 railroad. ORDC accepts the site plans and estimates as provided. Please issue a construction-only order for the project outlined above. ORDC recommends a nine (9) month construction timeline. 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: CSX Construction Authorization
Plan, Estimate & Material List
Diagnostic Review Team Survey
ORDC Letter Agreement
State of Ohio Purchase Orders
PE Authorization

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



Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Mark Policinski, Chair

May 5, 2020

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

RE: TR 25, Baker Rd. Hancock County – Construction Authorization
DOT #513-733M; PID# 111178
CSX ACCT. CODE: OH1357

Dear Ms. DeCesare:

The plan and estimate (FAE) dated 3/12/2020 for the referenced crossing for the installation of FLS&G, has been reviewed and is acceptable. CSX Transportation may proceed with the construction of the proposed grade crossing warning system in accordance with the abbreviated plan.

The cost estimate of \$265,357.00 is acceptable and the total reimbursement is limited to \$265,357.00. 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. Please note that CSX 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.

This authorization is contingent upon CSX accepting the following instructions:

1. The CSX 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, email don.damron@dot.ohio.gov, mobile: 614-917-8466, and to the Public Utilities Commission of Ohio at Jill.henry@puc.state.oh.us. 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.

3. The CSX project foremen will notify Don Damron at (614) 917-8466 or by email at don.damron@dot.ohio.gov 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. Open cut of roadways is *not permitted* except in unusual circumstances and must be coordinated with the local highway authority and preapproved by ORDC.
5. CSX will furnish two (2) copies of each partial bill to ORDC. Please find the enclosed ODOT Purchase Order to reference when billing.
6. 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.
7. This installation will include any ancillary work to make the warning devices function as designed and meet MUTCD.

Thank you for your assistance with these matters.

Sincerely,



Donald J Damron
Project Manager

C: Randall Schumacher, Chief, Motor Carrier & Rail Enforcement, PUCO
Jill Henry, Rail Specialist, PUCO
Heather Hamilton, ORDC
ORDC (file)



ESTIMATE SUBJECT TO REVISION AFTER: 3/10/2021**DOT NO.:** 513733M**CITY:** Arlington**COUNTY:** Hancock**STATE:** OH**DESCRIPTION:** Baker Rd.(TR 25) - Installation of flashing light signals and gates, with a bell.**ZONE:** Great Lakes**SUB-DIV:** Toledo Branch**MILE POST:** QT-52.06**AGENCY PROJECT NUMBER:** PID # 111178**PRELIMINARY ENGINEERING:**

212	Contracted & Administrative Engineering Services	\$	11,000
	Subtotal	\$	11,000

CONSTRUCTION ENGINEERING/INSPECTION:

212	Contracted & Administrative Engineering Services	\$	6,000
	Subtotal	\$	6,000

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: \$ 248,357**TRACK WORK:** \$ -**PROJECT SUBTOTAL:** \$ 265,357.16900 **CONTINGENCIES:** 0.00% \$ -**PROJECT TOTAL:** ***** \$ 265,357.16**CURRENT AUTHORIZED BUDGET:** ***** \$ -**TOTAL SUPPLEMENT REQUESTED:** ***** **\$ 265,357.16****DIVISION OF COST:**

Agency	100.00%	\$	265,357
Railroad	0.00%	\$	-
		\$	265,357

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/D CSXT Public Project Group

DATE: 03/10/20 REVISED: 01/00/00 DATE: 03/12/20

CSX TRANSPORTATION

Outside Party Estimate

Install GCP4000 6X6 and FLSG at TR 25 (Baker Rd.)

Arlington, Ohio

DOT: 513733M

OP: OH1357

CSX Project: OH2020859

Summary

Material	\$63,091
Sales Tax	\$4,543
Labor:	
Construction Labor (110 man-days)	\$46,990
Shop Labor (7 man-days)	\$2,975
Subsistence (0 man-days)	\$0
Railroad Engineering, Construction	\$7,049
Railroad Engineering, Preliminary	\$1,696
Additives to Construction Labor	\$70,438
Additives to Shop Labor	\$4,460
Additives to Track Labor	\$0
Additives to Engineering	\$0
Equipment Expense (0 work days)	\$0
Waste Management (22 work days)	\$264
Contract Engineering	\$18,867
Freight	\$4,985
Poleline Removal	\$0
AC Power Service	\$15,000
Salvage	\$0
VAC TRUCK	\$8,000

TOTAL ESTIMATE COST	\$248,357
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Date: 03/05/2020

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: OH2020859 (Effective: 03/05/2020)
QT 52.06 - Baker Rd.

CATALOG_NUM	QTY	Unit Price	COST	SHORT_DESC
020.0017120.1	6	11.35	68.10	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	1	107.16	107.16	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	25	37.91	947.75	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	622.01	622.01	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	16.03	128.24	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	22.14	44.28	ARRESTER HARMON 202217-000 AGE-1 TRACK AIR GAP EQUALIZER 18 VOLT
020.1000354.1	1	6404.26	6404.26	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
020.4200340.1	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	210	1.89	396.90	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	984.03	984.03	KIT 4G CELL AND VHF ANTENNA CROSSING HOUSE INSTALL FOR REMOTE MONITORING - REPLACE TESSCO 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)

Total Cost: \$ 27,954.46

CSX TRANSPORTATION

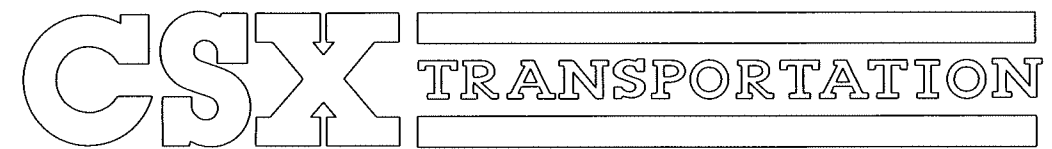
Signal Project Estimation

Field Material List for CSX Project: OH2020859 (Effective: 03/05/2020)
QT 52.06 - Baker 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	10.40	20.80	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-6HDK-BLA
020.0013475.1	16	2.89	46.24	CONNECTOR TRACK "CHICKEN HEAD" WITH 3/16" BOND STRAND SLEEVE USE J-GROOVE NICOPRESS TOOL MIN ORDER 100 ERICO P/N SBPAC3ACSX DWIGHT & WILSON P/N S8PT
020.0013686.1	2	79.58	159.16	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	7.24	2896.00	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	2	368.28	736.56	SHUNT ENCLOSURE WAYSIDE MOUNT ASSEMBLY COMPLETE WITH LOCK AND LABELS, DOES NOT INCLUDE ARRESTERS, SEE SS227 INTERRAIL P/N IRS-SEC8
020.0053220.1	100	2.50	250.00	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	28.22	169.32	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	6207.51	12415.02	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	17.71	17.71	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	1.14	456.00	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	185.81	1672.29	BATTERY SAFT SPL250, 250 AH POCKET PLATE NICKEL CADMIUM BATTERY FEATURING ULTRA LOW MAINTENANCE, GAS RECOMBINATION TECHNOLOGY
020.1040540.1	2	31.25	62.50	TRAY BATTERY FIBER CO 82687-1-P 12" WIDTH 24" LONG CSX DWG 82687 USE IN 4X6 HOUSE SEE SS390
020.1040550.1	3	45.76	137.28	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	300	1.09	327.00	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	20	6.51	130.20	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	850.29	850.29	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	24.61	24.61	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
020.1360105.1	1	1390.71	1390.71	LAYOUT AC METER SERVICE WITH 35' 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 212-0010
020.2500615.1	2	318.71	637.42	SHUNT SAFETRAN 62775-156 NARROW BAND 156HZ
020.3901895.1	2	100.16	200.32	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	1	177.44	177.44	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	0.19	1.14	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	1	188.60	188.60	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	44.98	44.98	BREAKER CIRCUIT SQ D QO260
250.0012228.1	3	3.80	11.40	TAPE BLACK ELECTRIC 3/4" X 66' 3M "SUPER 33 PLUS"
360.0006100.1	1	33.60	33.60	STOOL STEP WOOD 14"X 20" SIGNAL MAINTAINERS CSXT DRAWING SKSS91-01

Consumable Material List for CSX Project: OH2020859 (Effective: 03/05/2020)
QT 52.06 - Baker Rd.

Total Cost:	\$ 6,339.63
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RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

TOLEDO BRANCH SUBDIVISION

GRADE CROSSING

PROJECT NUMBER: OH2020859

OP: OH1357

BOOK 1 OF 1



Signal South

Signal South

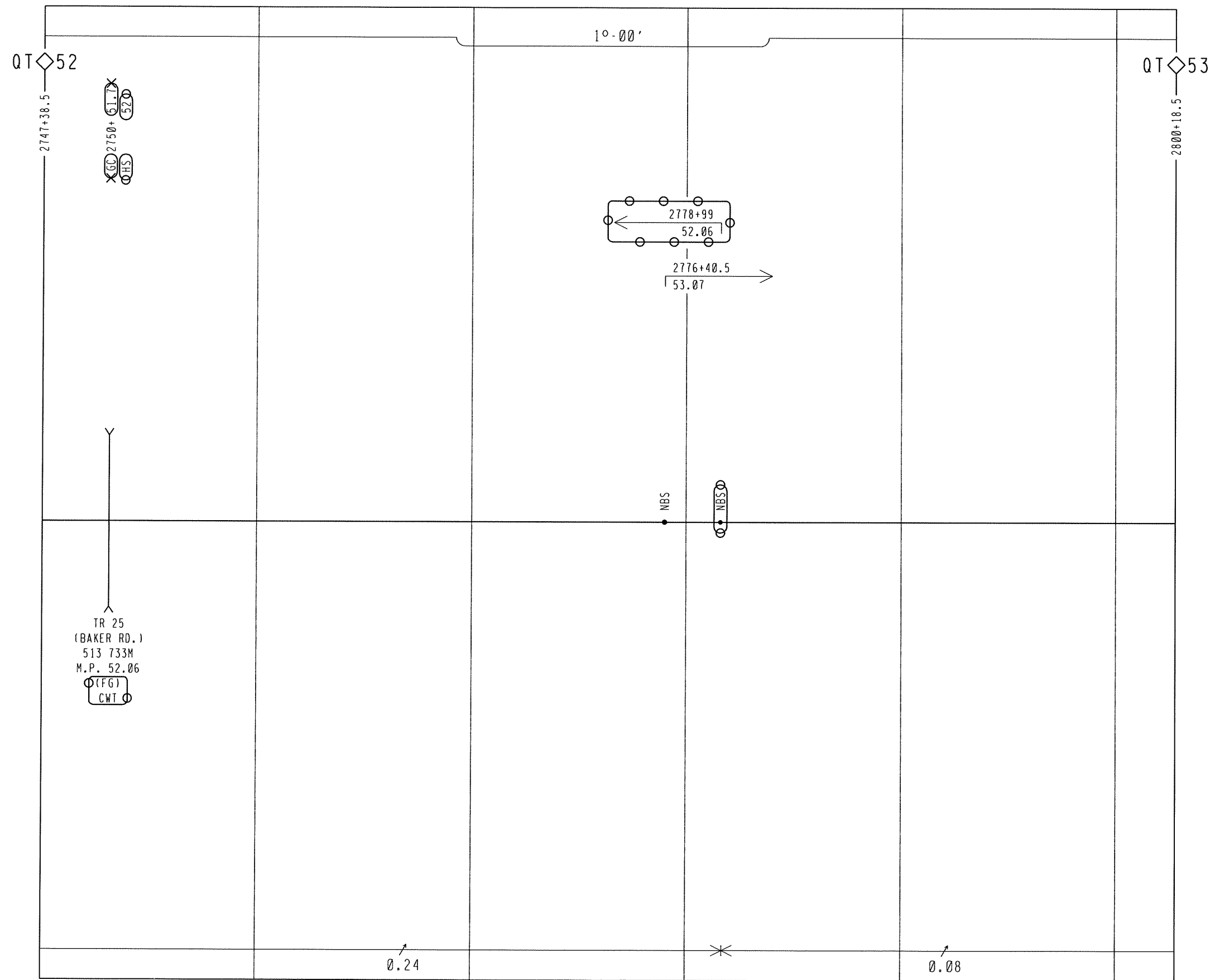
12276 SAN JOSE BLVD. SUITE 525
JACKSONVILLE, FLORIDA 32223
TEL. 904-240-1020

PRELIMINARY



Signal South

DESIGNED	DIGITIZED	CHECKED	DATE	NEXT FILE	NEXT SH	FILE	SHEET
PRS/TDF	PRS/TDF	PRS/SAF	12-11-18	QT05300	T01	QT05200	T01



⊖⊖⊖ = IN
××× = OUT

0H2020859
20-1330CSX

SSE/WGM/CCV
02-25-20



Signal South

REVISIONS
12-11-18 PRS
0H2017315



PRELIMINARY

TRACK PLAN HORIZONTAL SCALE: 1 INCH = 500 FEET							
DESIGNED PRS/TDF	DIGITIZED PRS/TDF	CHECKED PRS/SAF	DATE 12-11-18	NEXT FILE 0T05400	NEXT SH T01	FILE 0T05300	SHEET T01

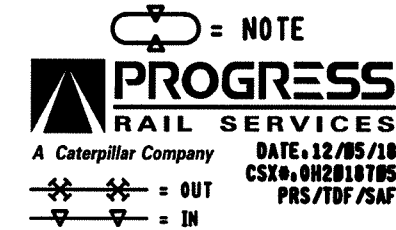
CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

INDEX
CONTENTS

SH. NO.		REVISION NO.								
		1	2	3	4	5	6	7	8	9
I01	TITLE, NOTES, INDEX & REVISIONS	/	/	/						
S01	TRACK & SIGNAL PLAN	/	/							
P01	ELECTROLOGIXS PROGRAM	/								
E01	POWER DISTRIBUTION (6'X6' HOUSE)	/								
E02	ELECTROLOGIXS MODULE CONFIGURATION	/								
E03	POWER DISTRIBUTION (XING HOUSE)	/		/						
C01	ELECTROLOGIXS CIRCUITS	/		/						
C02	ELECTROLOGIXS TRACK CIRCUITS	/		/						
C03	SIGNAL LIGHTING CIRCUITS	/								
C04	CROSSING DETECTION CIRCUITRY (XING HOUSE)	/								
C05	DETECTION DEVICE PROGRAM #SCWU-1 (XING HOUSE)	/								
C06	DETECTION DEVICE PROGRAM #SCWU-2 (XING HOUSE)	/								
C07	CROSSING WARNING DEVICE (XING HOUSE)	/								
C08	CROSSING WARNING DEVICE CIRCUITRY (XING HOUSE)	/								
C09	RECORDER CIRCUITS (XING HOUSE)	/								
C10	RECORDER PROGRAM (XING HOUSE)	/								

 = DESIGN COMPLETED
 = REVISION COMPLETED

THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 08-15-13
CSX PROJECT # 0H2013052






0H2013352 HAS ALREADY
BEEN AS-IN-SERVICED
AS 0H2017315



PRELIMINARY

REVISIONS				
REV. NO.	PROJECT NO.	DESIGN DATE	IN SERVICE DATE	REVISION DATE
1	0H2013052	08-15-13		
TO BE COMPLETED ON A.I.S.				
2	0H2018705	12-05-18		
TO BE COMPLETED ON A.I.S.				
3	0H2020859	02-25-20		


THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 12-15-18
CSX PROJECT # 0H2018705

 = NOTE
 = IN
 = OUT

0H2020859
20-1330CSX

SSE/WGM/CCV
02-25-20

Signal South


RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

SIGNALS 510 & 511 &
CR 26 (HOUCKTOWN RD.) 513732F
TITLE, NOTES, INDEX & REVISIONS
ARLINGTON, OH N.P. QT-51.06

DESIGNED PRS/SAF	DIGITIZED PRS/TMS	CHECKED PRS/JTV	DATE 08-15-13
DRAWING -----	SHEET NO -----	FILE QT05106	SHEET 101

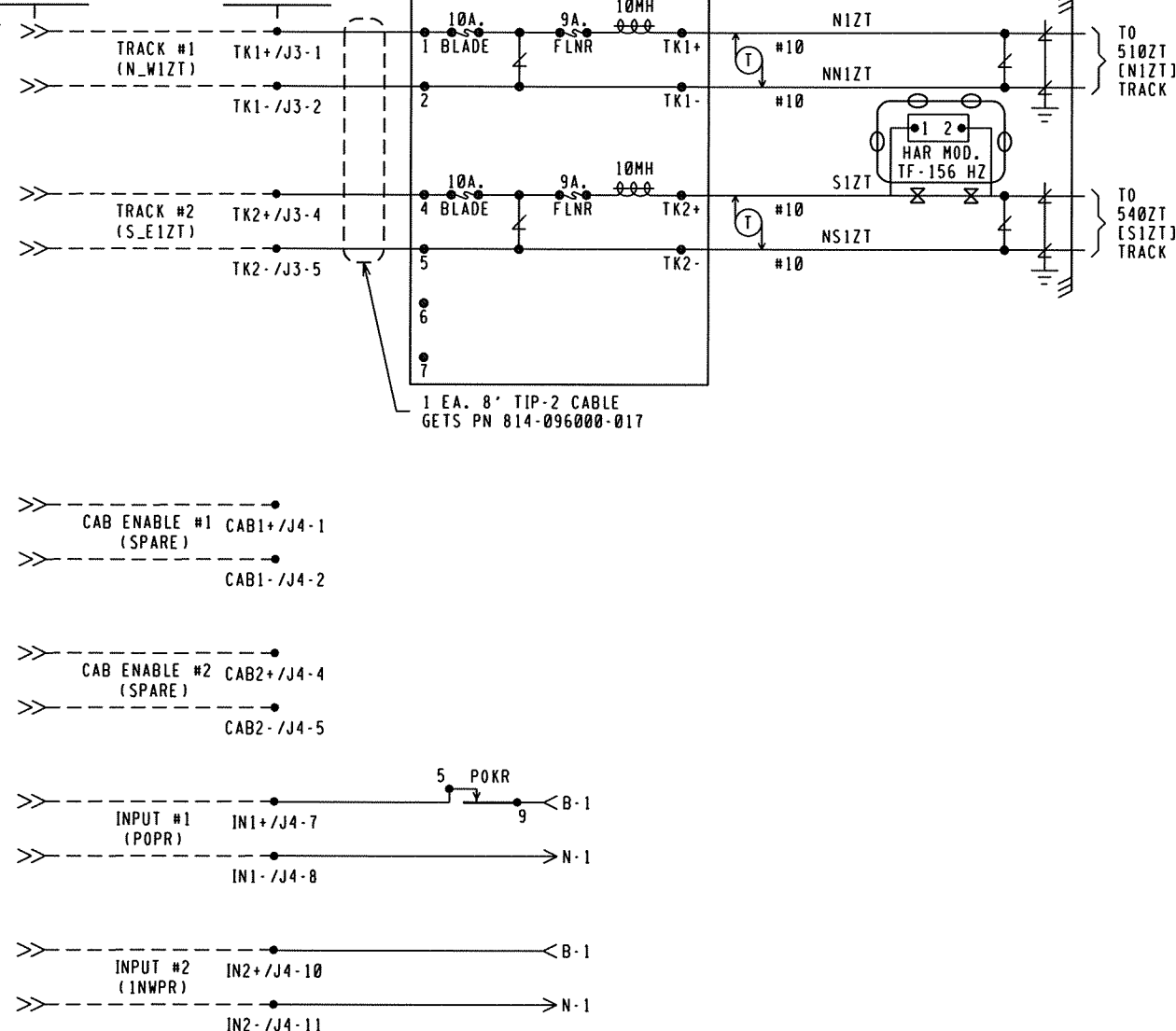
DESIGN DATE 08-15-13 REV. NO. 1

02-25-20 12-05-18 2 3

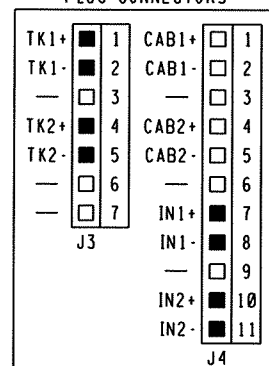
ELECTROLOGIXS
VITAL TRACK
INTERFACE CONNECTOR
SLOT 1

VTI-2S
PERSONALITY
MODULE
SLOT 1

TIP-2



VTI-2S
PERSONALITY MODULE
SLOT 1
PLUG CONNECTORS



NOTES.

- = INTERNAL CONNECTION
- [] = TAGGING PURPOSE ONLY

0H2020859 20-1330CSX SSE/WGM/CCV 02-25-20

Signal South

CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
SIGNALS 510 & 511 & CR 26 (HOUCTOWN RD.) 513732F ELECTROLOGIXS TRACK CIRCUITS ARLINGTON, OH M.P. 0T-51.06			
DESIGNED PRS/SAF	DIGITIZED PRS/TMS	CHECKED PRS/JTW	DATE 08-15-13
DESIGN DATE 002-25-200	REV. NO. 030	DRAWING 002-25-200	SHEET NO 002-25-200

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		1	2	3	4	5	6	7
I01	TITLE, NOTES, INDEX AND REVISIONS	X	X	X	X	X		
S01	LOCATION PLAN	X	X	X	X	X		
E01	POWER DISTRIBUTION	X	X	X	X			
C01	TRACK AND CONDUIT LAYOUT	X	X	X				
C02	COMMUNICATION TERMINAL BOARD, RADIO, TAPE RECORDER, AND MODEM CIRCUITS	X	X	X				
C03	HBD HOUSE AND COMMERCIAL POWER LAYOUT	X	X	X				
C04	HBD EQUIPMENT RACK	X	X	X				
C05	RIGHT AND LEFT WALL LAYOUTS, SHELVES AND COMMUNICATIONS	X	X	X	X			
C06	TERMINAL BOARD LAYOUT	X	X	X				
C07	GROUND APPLICATION FOR HBD HOUSE	X	X	X				
C08	HBD PROTECTIVE RAMP (METAL)	X	X	X				

NOTES

- = FOR MATERIAL REFERENCE SEE PLAN S-1002
- ⊗

 = DENOTES TWISTED PAIR
- GROUND IN ACCORDANCE WITH CS-9001-A

REVISIONS

1	DIVISION				
PLAN DRAWN ACCOUNT OF INSTALLATION OF SERVO HBD 9000 SYSTEMS.					
WO/AFE NO: IN SERVICE: 2-13-91 PER: JHB					
2	7-18-95	DMR	RDT	SAB JST	SAB HEI
PLAN REVISED ACCOUNT OF WARNING DEVICES ADDED AT ALGER ROAD (C.R. 24).					
WO/AFE NO: 41617 IN SERVICE: 2-13-96 PER: PJR					
3	06-18-13	XRL	OH2012059		
4	12-11-18	PRS	OH2017315		



RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

HOT BOX DETECTOR

TITLE, NOTES, INDEX AND REVISIONS
ARLINGTON, OH M.P. 0T-51.10

DESIGNED XRL/CSW	DIGITIZED XRL/CSW	CHECKED XRL/XRL	DATE 07-30-12
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REV. NO. X4X	DRAWING 8122-0511	SHEET NO 1	FILE 0T05110	SHEET 101
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Q50

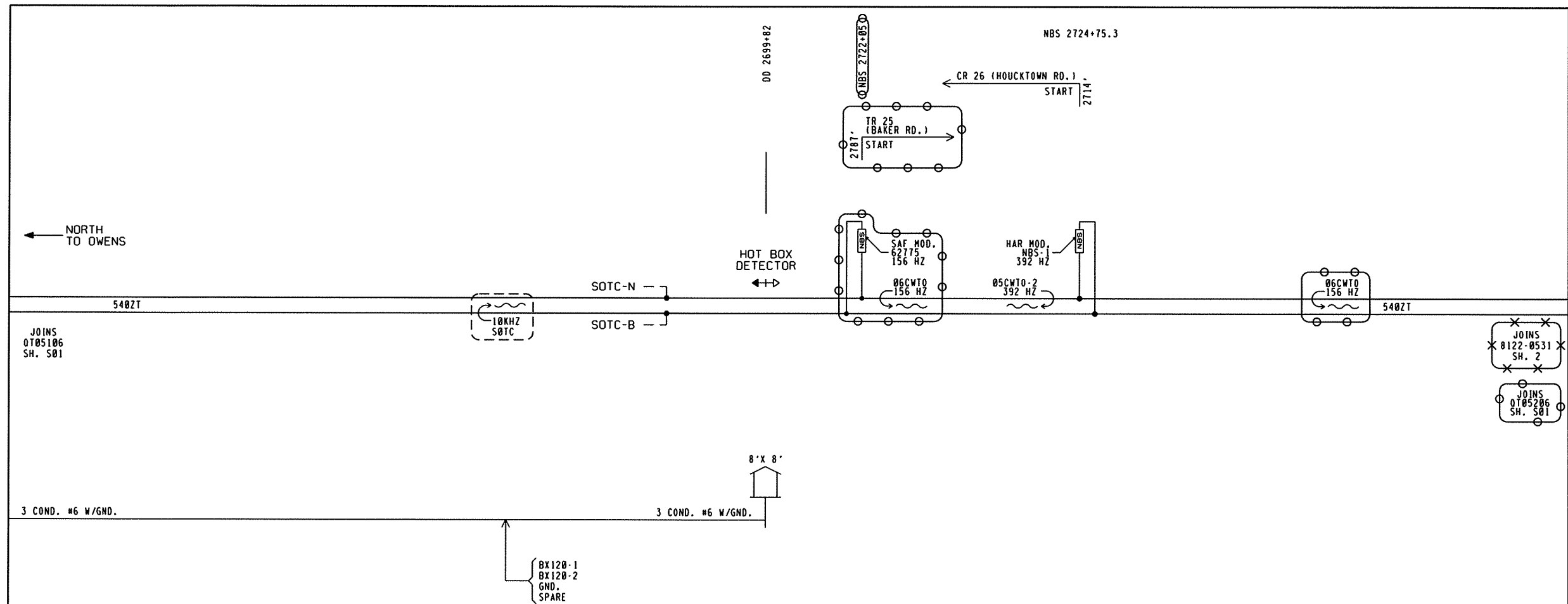
⊗⊗⊗ = IN
*** = OUT

0H2020059
20-1330CSX



SSE/WGM/CCV
02-25-20
Signal South

PRELIMINARY



NOTES

- = FOR MATERIAL REFERENCE SEE PLAN S-1002
- ⊗ = DENOTES TWISTED PAIR
- GROUND IN ACCORDANCE WITH CS-9001-A

- (---) = EXISTING
- = IN
- = OUT

0H2020859
20-1330CSX



SSE/WGM/CCV
02-25-20
Signal South

CSX TRANSPORTATION			
RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
HOT BOX DETECTOR			
LOCATION PLAN ARLINGTON, OH M.P. 0T-51.10			
DESIGNED CSX	DIGITIZED XRL	CHECKED CSX	DATE 06-18-13
REV. NO. X4X	DRAWING 8122-0511	SHEET NO 2	SHEET S01

Q50

PRELIMINARY

REVISIONS

REV. NO.	PROJECT NO.	DESIGN DATE	IN SERVICE DATE	REVISION DATE
1	0H2020859	02-25-20		

TO BE COMPLETED ON A.I.S.

CSX

TRANSPORTATION

RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

TR 25 (BAKER RD.) 513733M

INDEX AND REVISIONS
ARLINGTON, OH M.P. QT-52.06

DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 02-25-20
DRAWING	SHEET NO	FILE QT05206	SHEET 101

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SH. NO.		REVISION NO.								
		1	2	3	4	5	6	7	8	9
I01	INDEX AND REVISIONS	✓								
S01	TRACK AND SIGNAL PLAN	✓								
P01	MINIMUM PROGRAM STEPS REPORT CWE-06	✓								
E01	POWER DISTRIBUTION	✓								
C01	DETECTION DEVICE CONSIST CWE-06	✓								
C02	DETECTION CIRCUITRY CWE-06	✓								
C03	DETECTION CIRCUITRY CWE-06	✓								
C04	CROSSING WARNING DEVICE GATE CIRCUITRY	✓								
C05	CROSSING WARNING DEVICE LIGHT CIRCUITRY	✓								
C06	CROSSING WARNING DEVICE CIRCUITRY	✓								
C07	SEAR II: CONFIGURATION & FUNCTIONS	✓								

✓

 = PLANS SENT TO FIELD (DISTRIBUTED)


✗

 = PLANS AS-IN-SERVICED (UP TO DATE)

○ = NOTE

NEW WORK

0H2020859
20-1330CSX



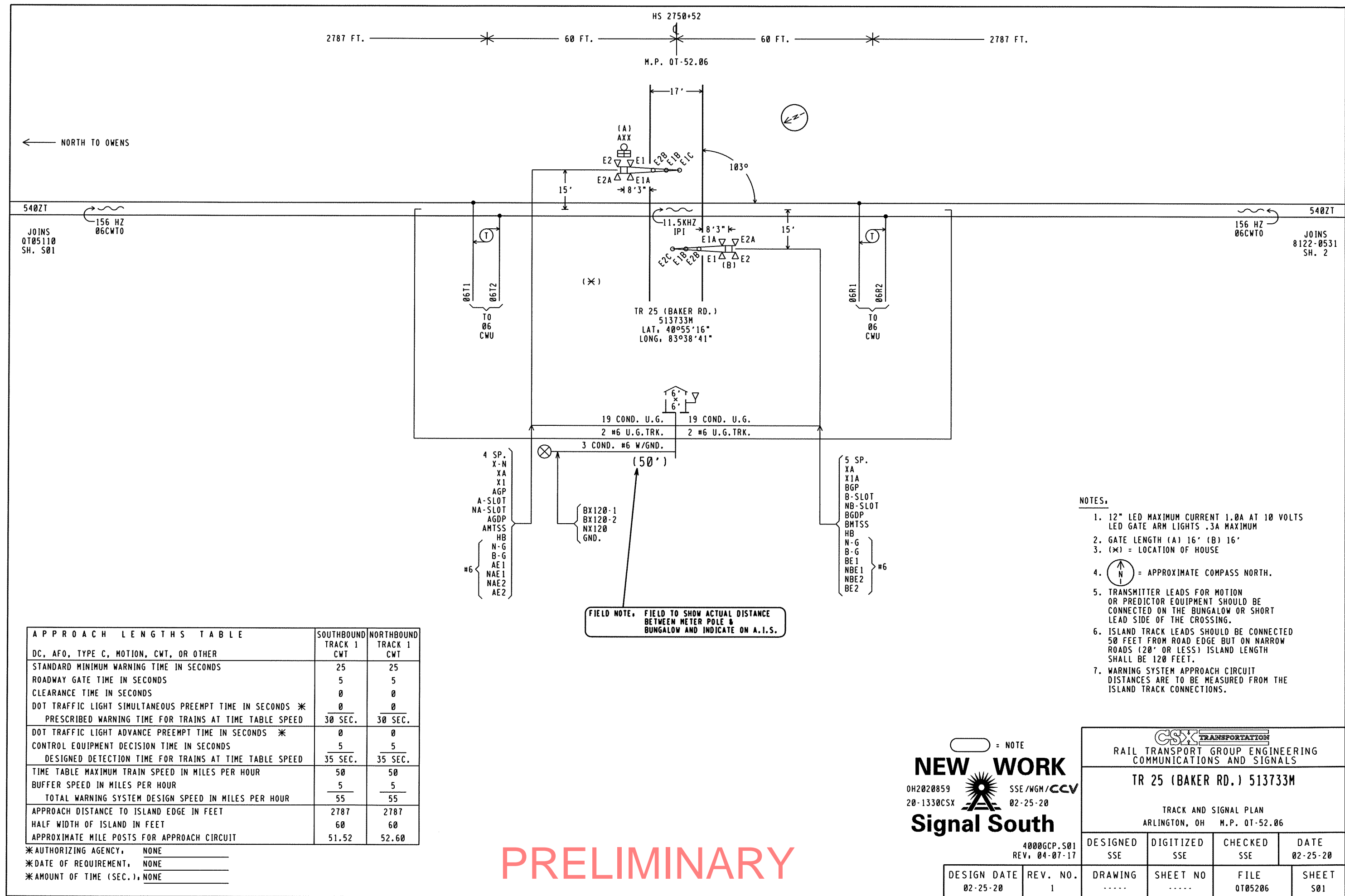
Signal South

SSE /WGM/CCV
02-25-20

4000GCP.101
REV. 09-04-15

DESIGN DATE	REV. NO.
02-25-20	1

PRELIMINARY



Minimum Program Steps Report

Location and SIN

DOT Number: 513733M
Milepost Number: QT-52.06
Site Name: TR 25 (BAKER RD)

SIN: 712543105916 *

* Parameter is part of office check number calculation.

MCF and Template Selection

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

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

* Parameter is part of office check number calculation.

Minimum Program Steps

MS4000 configuration

Track 1 : GCP Frequency = 156 Hz (OCCN,TCN) (Hidden) *
Track 1 : Isl Frequency = 11.5 kHz (OCCN) (Hidden) *

MS4000 Predictor

Track 1 : Prime Warning Time = 30 sec (OCCN) (Hidden) *

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

GCP, track 1

Track 1 : GCP Frequency = 156 Hz (OCCN,TCN) *
Track 1 : Approach Distance = 2787 ft (OCCN,TCN) *
Track 1 : GCP Transmit Level = High (Set in Field,TCN)

GCP, track 1 prime

Track 1 : Prime Warning Time = 30 sec (OCCN) *

ISLAND, track 1

Track 1 : Isl Frequency = 11.5 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) *

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 = 156 Hz (OCCN,TCN) (Hidden) *

Express, MS4000 Predictor
Track 1 : Prime Warning Time = 30 sec (OCCN) (Hidden) *

* Parameter is part of office check number calculation.

Check Numbers

Office Check Number: 493A6610
Config. Check Number: 7A4BE9E3
(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

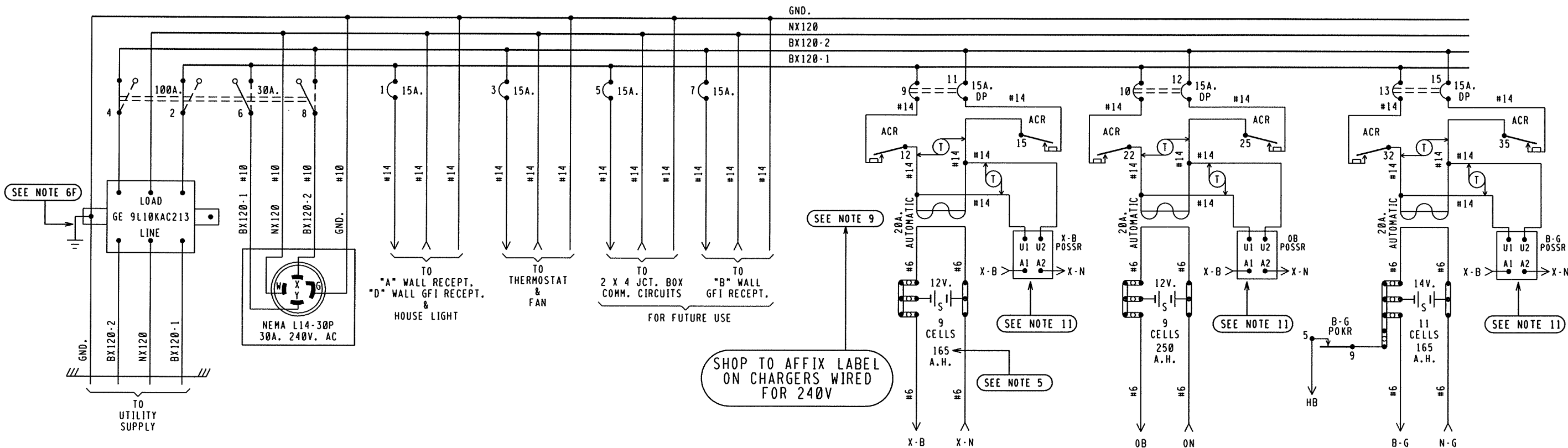
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NEW WORK
0H2020859 SSE/WGM/CCV
20-1330CSX 02-25-20
Signal South

CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS					
TR 25 (BAKER RD.) 513733M					
MINIMUM PROGRAM STEPS REPORT CWE-06 ARLINGTON, OH M.P. QT-52.06					
DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 02-25-20		
DESIGN DATE 02-25-20	REV. NO. 1	DRAWING	SHEET NO	FILE QT05206	SHEET P01

PRELIMINARY

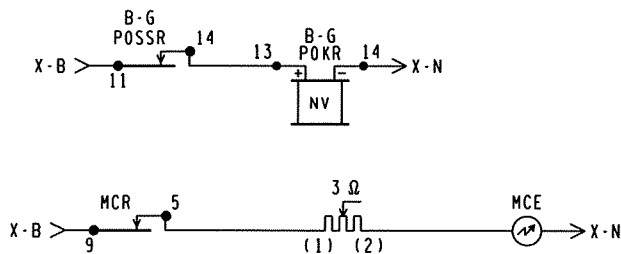
TOP ROW											
ACR				MCR							
12	B	B77		9	F	11	N41				
15	B	C30		10	F	12	C48				
22	B						C49				
25	B			B-G POKR							
32	B			9	F	11	N41				
35	B			10	F	12	C48				



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

NOTES:

- REFERENCES ARE PER SCMS-13.
- ARRESTERS ARE PER SS382.
- 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
 - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
 - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
 - ALL TRACK WIRES TO BE #10 FLEX.
 - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
 - ALL BATTERY OUTPUTS TO BE #6 PER SS360.
 - 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.
- LABEL ALL PRIMARY POWER WIRES WITH RED TAGS.
- CHARGERS WIRED FOR 240VAC
- CIRCUIT BREAKERS PANEL- 00124L125G (24 SPACES)
- 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				
11	F	21	F	N70	11	F	21	F	N70	11	F	21	F	N70

WALL/DIN RAIL MOUNTED

NEW WORK
0H2020859
20-1330CSX
SSE/WGM/CCV
02-25-20
Signal South

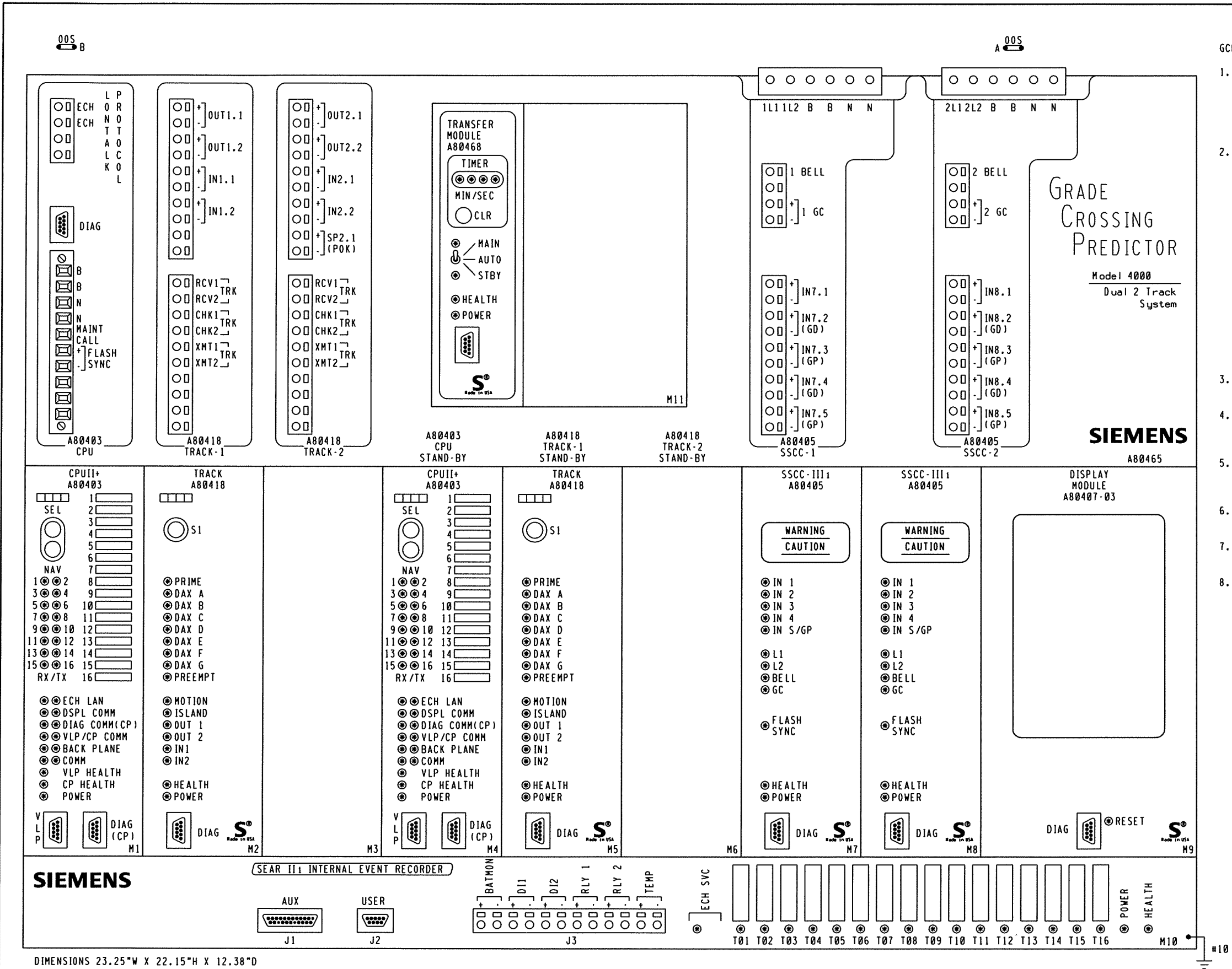
6'X 6' PTC CROSSING HOUSE

CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
TR 25 (BAKER RD.) 513733M			
POWER DISTRIBUTION ARLINGTON, OH M.P. 0T-52.06			
DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 02-25-20
DRAWING	SHEET NO	FILE 0T05206	SHEET E01

4000GCP.E01
REV. 01-24-17

DESIGN DATE 02-25-20	REV. NO. 1
-------------------------	---------------

PRELIMINARY



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.

NEW WORK

0H2020859

20-1330CSX



SSE/WGM/CCV

02-25-20

Signal South

RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS

TR 25 (BAKER RD.) 513733M

DETECTION DEVICE CONSIST CWE-06 ARLINGTON, OH M.P. 0T-52.06

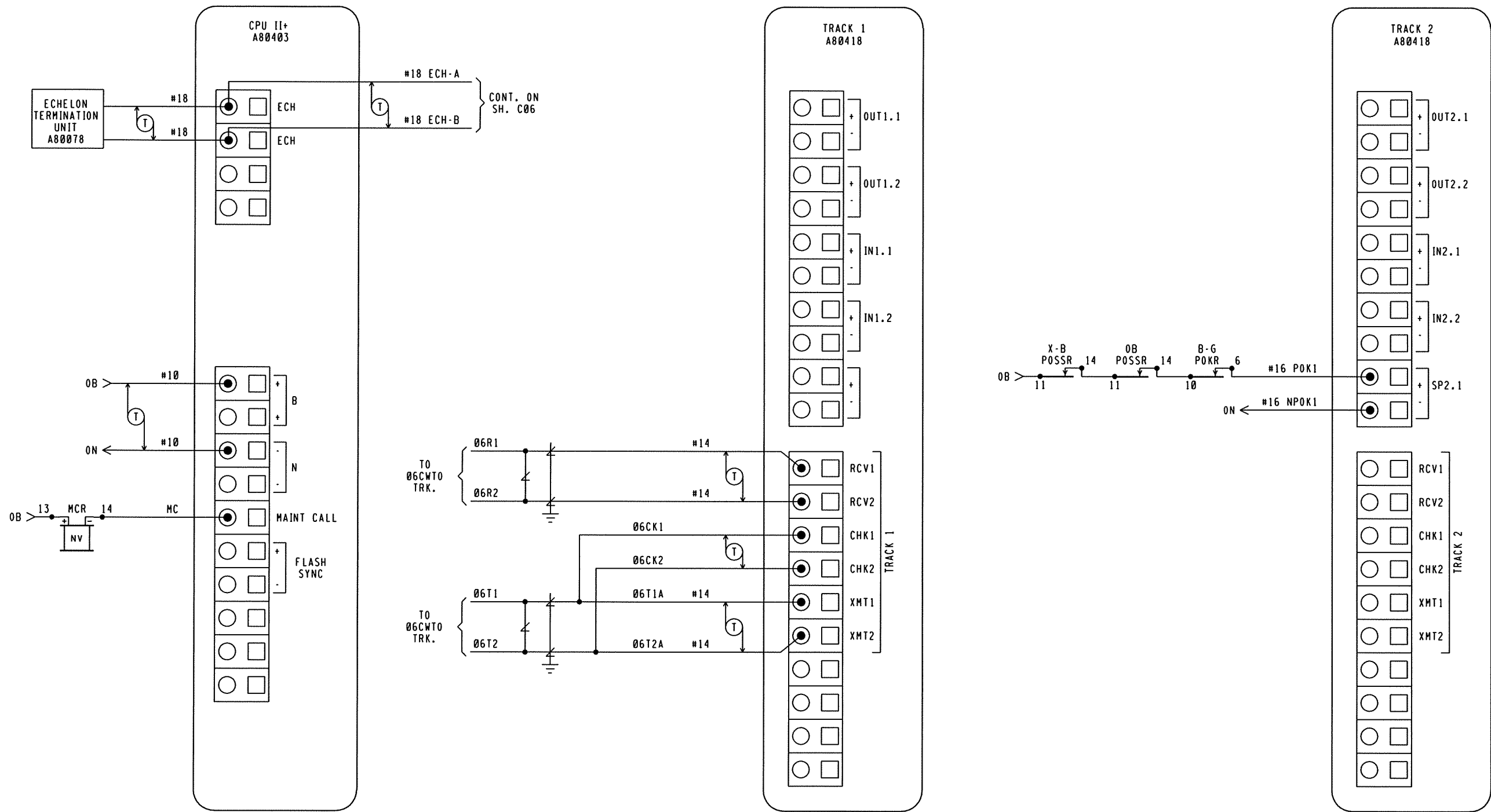
4000GCP.C01
REV. 09-04-15

DESIGN DATE
02-25-20

REV. NO.
1

DESIGNED	DIGITIZED	CHECKED	DATE
SSE	SSE	SSE	02-25-20
DRAWING	SHEET NO	FILE	SHEET
.....	0T05206	C01

PRELIMINARY



NOTE:
ECHOLON 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.

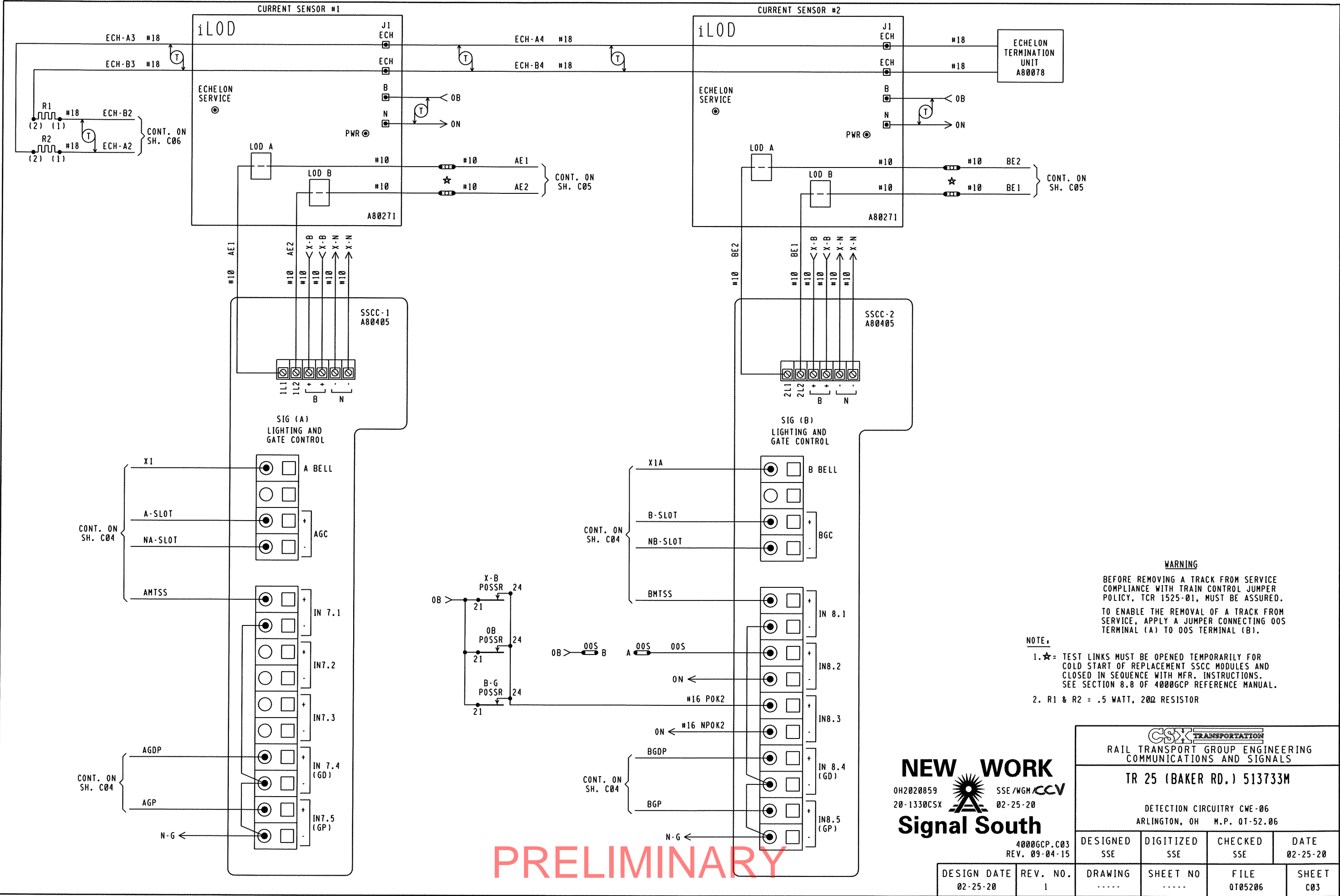
NEW WORK
0H2020859 SSE/WGM/CCV
20-1330CSX 02-25-20
Signal South

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

TR 25 (BAKER RD.) 513733M

DETECTION CIRCUITRY CWE-06
ARLINGTON, OH M.P. 0T-52.06

DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 02-25-20
DESIGN DATE 02-25-20	REV. NO. 1	DRAWING	SHEET C02



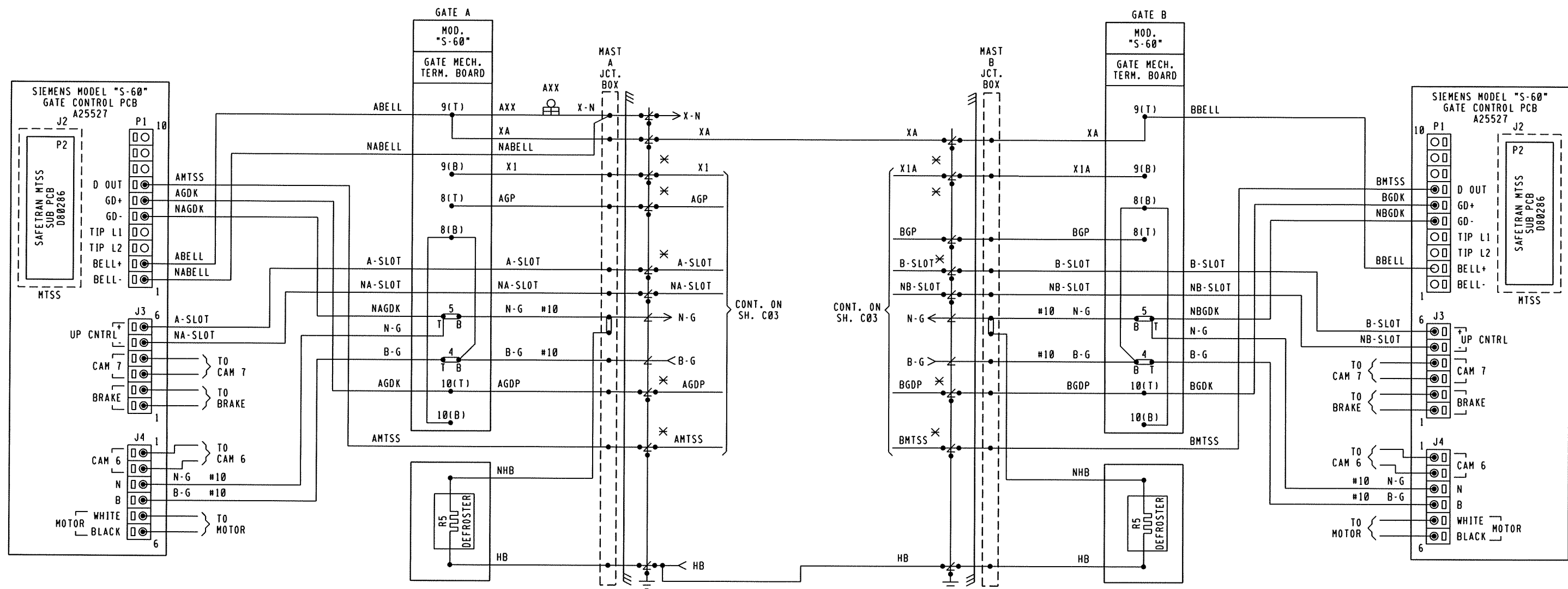
WARNING
BEFORE REMOVING A TRACK FROM SERVICE COMPLIANCE WITH TRAIN CONTROL JUMPER POLICY, TCR 1525-01, MUST BE ASSURED. TO ENABLE THE REMOVAL OF A TRACK FROM SERVICE, APPLY A JUMPER CONNECTING 00S TERMINAL (A) TO 00S TERMINAL (B).

NOTE:
1. ★ = TEST LINKS MUST BE OPENED TEMPORARILY FOR COLD START OF REPLACEMENT SSCC MODULES AND CLOSED IN SEQUENCE WITH MFR. INSTRUCTIONS. SEE SECTION 8.8 OF 4000GCP REFERENCE MANUAL.
2. R1 & R2 = .5 WATT, 20Ω RESISTOR

NEW WORK
0H2020859 SSE/WGM/CCV
20-1330CSX 02-25-20
Signal South

CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS					
TR 25 (BAKER RD.) 513733M					
DETECTION CIRCUITRY CWE-06 ARLINGTON, OH M.P. 0T-52.06					
DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 02-25-20		
DRAWING	SHEET NO	FILE 0T05206	SHEET C03		

DESIGN DATE 02-25-20	REV. NO. 1
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PRELIMINARY

NEW WORK
0H2020859 SSE/WGM/CCV
20-1330CSX 02-25-20
Signal South

4000GCP.C04
REV. 09-04-15

DESIGN DATE
02-25-20

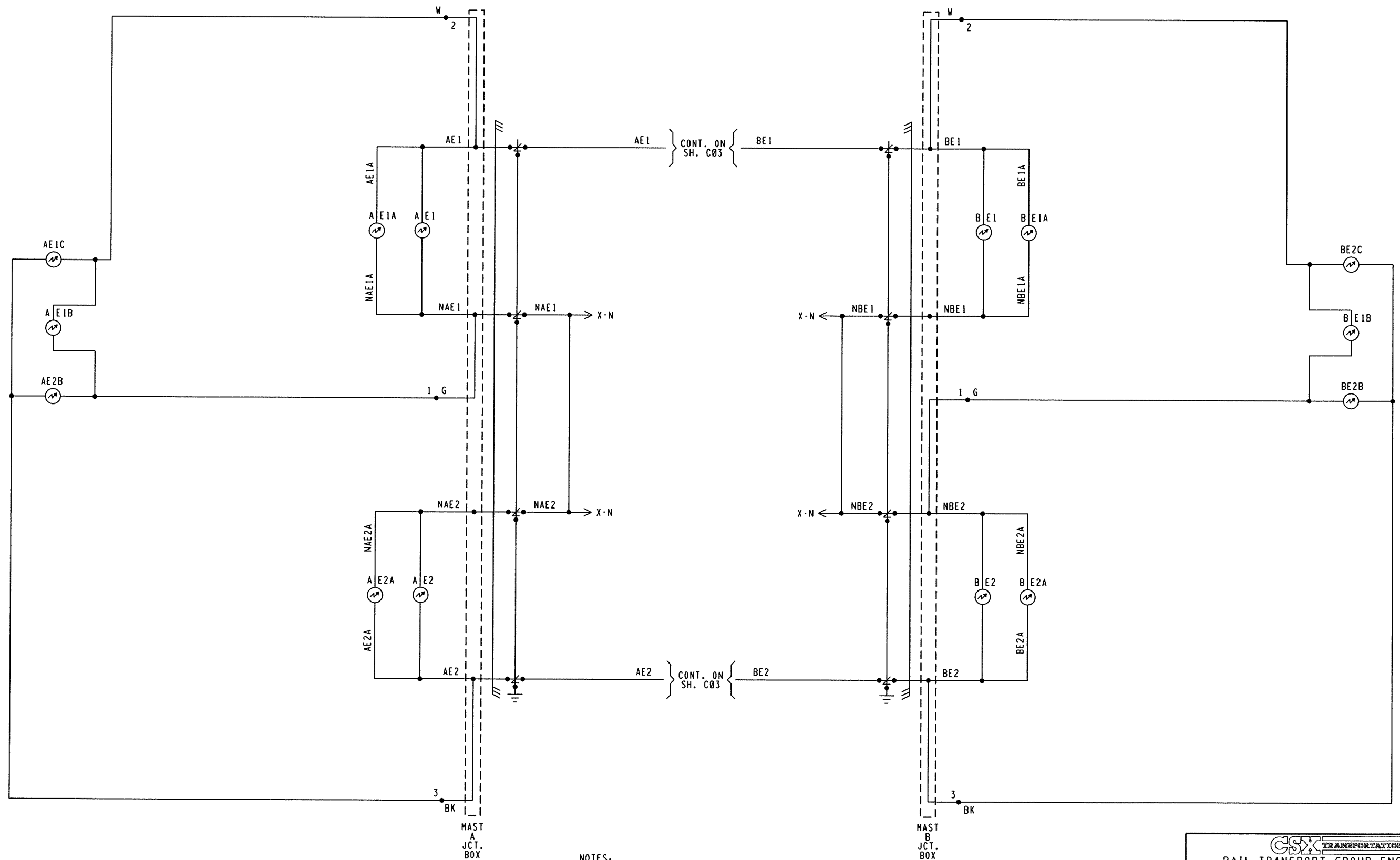
REV. NO.
1

DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 02-25-20
DRAWING	SHEET NO	FILE QT05206	SHEET C04

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

TR 25 (BAKER RD.) 513733M

CROSSING WARNING DEVICE GATE CIRCUITRY
ARLINGTON, OH M.P. QT-52.06



NOTES.

1. [Symbol] = 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
 0H2020859 SSE/WGM/CCV
 20-1330CSX 02-25-20
Signal South

CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
TR 25 (BAKER RD.) 513733M			
CROSSING WARNING DEVICE LIGHT CIRCUITRY ARLINGTON, OH M.P. QT-52.06			
DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 02-25-20
DRAWING	SHEET NO	FILE QT05206	SHEET C05

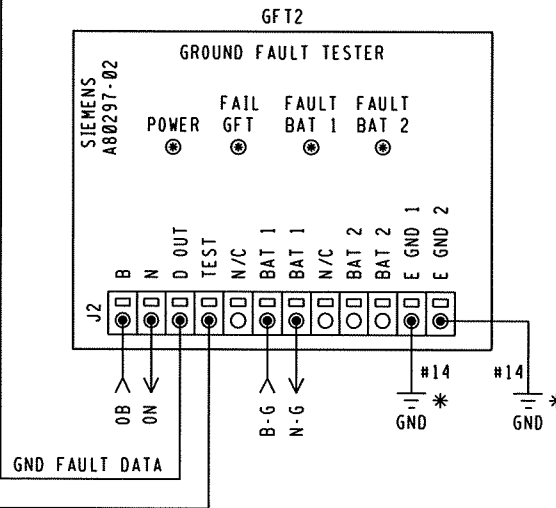
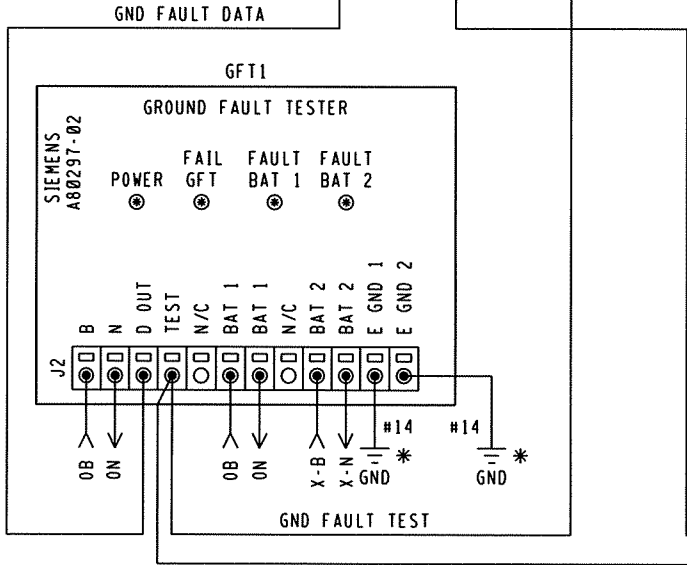
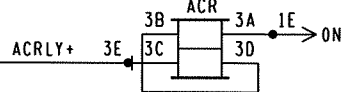
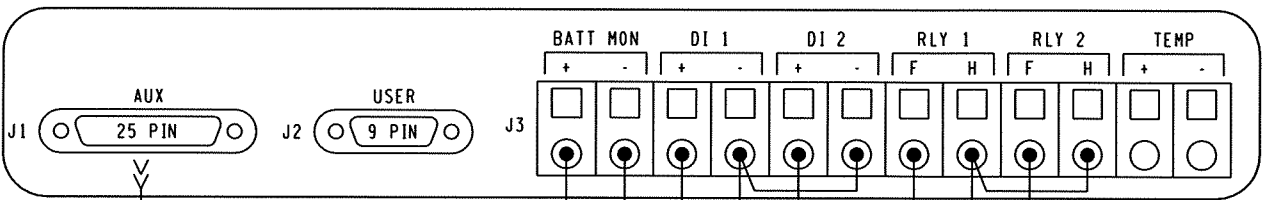
DESIGN DATE 02-25-20	REV. NO. 1
-------------------------	---------------

PRELIMINARY

WAYSIDE ACCESS GATEWAY CONFIGURATION	
SITE ATCS ADDRESS	7.125.431.059.07.01 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--7RRLLGGGSS
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

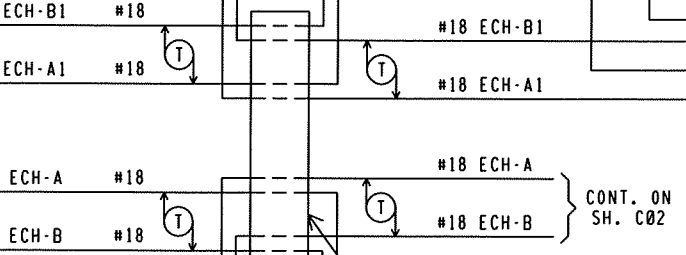
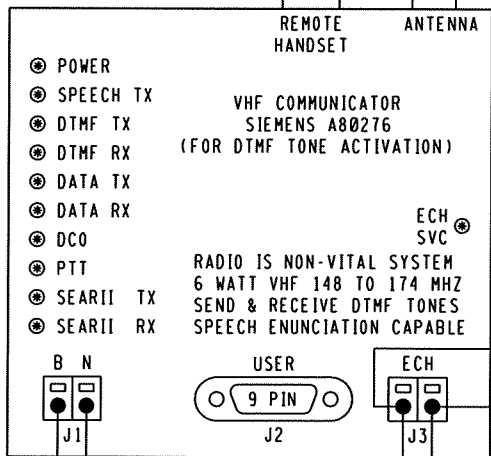
NOTE TO INSPECTOR,
AT INSTALLATION OF WAG,
OR UPDATE OF THE
CONFIGURATION, OR UPDATE
OF THE EXECUTIVE PROGRAM,
MARK-UP CONFIGURATION
TABLE FOR AS IN SERVICE
PLANS

SEAR II: INTERNAL EVENT RECORDER I/O

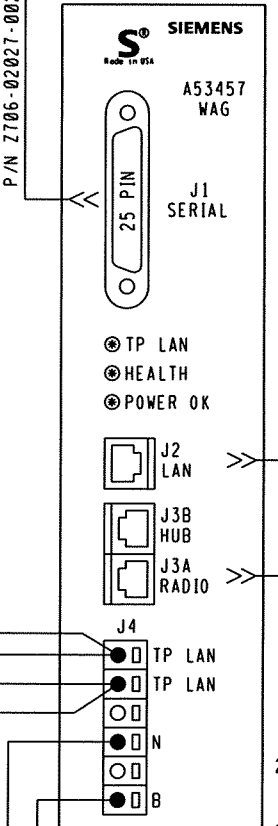
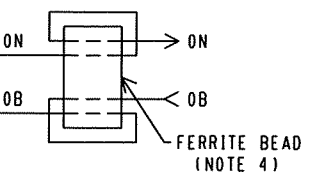


** POLYPHASE SURGE PROTECTOR
100 TO 512 MHZ
MODEL# VHF 150HN

** SHIELDED COAXIAL
CABLE TO ANTENNA



FERRITE BEAD
(NOTE 4)



** RJ45 10/100-BASE-T ETHERNET
CONNECTION TO
CSX NETWORK

** ISOLATED DC POWER
FROM RADIO PORT TO
POWER PACKET DATA
MODEM

- 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, 733#

TO DE-ACTIVATE PRESS, 733*

(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
Signal South

CSX TRANSPORTATION			
RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
TR 25 (BAKER RD.) 513733M			
CROSSING WARNING DEVICE CIRCUITRY ARLINGTON, OH M.P. 0T-52.06			
DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 02-25-20
DESIGN DATE 02-25-20	REV. NO. 1	DRAWING	SHEET C06

PRELIMINARY

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	TR 25 (BAKER RD.)	
MILEPOST	0T-52.06	
DOT NUMBER	513733M	
TESTER TYPE	CROSSING	
DATE FORMAT	MM-DD-YYYY	
TEMP FORMAT	FAHRENHEIT	
INDICATE HOLD (SEC)	0	
INDICATE REFRESH (SEC)	60	
SITE ATCS ADDRESS	7.125.431.059.99.01 (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	7.125.431.059.07.01 (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

NOTE 7

MENU → CONFIGURATION →	
MODULES → ADD MODULE	
MODULE TYPE	WAG
MODULE NAME	DEFAULT
WAG ECHELON NODE	7

NOTE,
REFER TO WAG INSTALLATION AND
SETUP IN APPENDIX "A" GCP4000 SYTEM
CUT OVER, TEST PROCEDURE AND CHECK
OFF SHEET.

MEASURE BATTERY VOLTAGE AT INPUT		
BATTERY VOLTAGE	OB	12 VOLTS
BATTERY VOLTAGE	X-B	12 VOLTS
BATTERY VOLTAGE	B-G	14 VOLTS

NOTE 6

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

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

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 ACTVATION*	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
ACTIVATION CODE	733	
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 checked="" type="checkbox"/> 2 <input 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"/>	

NOTE

NEW WORK

0H2020859 SSE/WGM/CCV
20-1330CSX 02-25-20

Signal South

4000GCP.C07
REV. 09-04-15

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

TR 25 (BAKER RD.) 513733M

SEAR II: CONFIGURATION & FUNCTIONS
ARLINGTON, OH M.P. 0T-52.06

DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 02-25-20
DRAWING -----	SHEET NO -----	FILE 0T05206	SHEET C07

DESIGN DATE 02-25-20	REV. NO. 1
-------------------------	---------------

REVISIONS

1	7-18-95
NEW PLAN DRAWN ACCOUNT WARNING DEVICES ADDED AT ALGER ROAD (C.R. 24).	
WO/AFE NO: 41617 IN SERVICE: 2-13-96 PER: PJR	
2	12-11-18 PRS OH2017315

VAM CED

AAR/DOT*513734U



INDIANAPOLIS DIVISION TOLEDO BRANCH

ARLINGTON, OHIO
ALGER ROAD (C.R. 24)

TITLE, NOTES, INDEX AND REVISIONS

PHILADELPHIA, PA. APPROVED: *[Signature]* PE CAD
CHIEF ENGINEER - C&S

ISSUE DATE: 7-18-95 8122-0531

REV. 2 SHEET 1 OF 10

HX3000G1.T08

INDEX

SH. NO.	CONTENTS	REVISION NO.						
		1	2	3	4	5	6	7
1	TITLE, NOTES, INDEX AND REVISIONS	✓	✓	✓				
2	LOCATION PLAN	✓	✓	✓				
3	POWER DISTRIBUTION	✓	✓	✓				
4	3000D2 SAFETRAK GRADE CROSSING PREDICTOR CIRCUITS	✓	✓					
5	GATE CONTROL, LIGHTING CIRCUITS AND CABLE TERMINATIONS	✓						
6	GATE MECHANISM TYPICALS	✓						
7	RELAY RACK AND CONNECTIONS - HOUSE LAYOUT	✓	✓					
8	RIGHT SIDE OF HOUSE	✓						
9	LEFT SIDE OF HOUSE	✓						
10	TERMINAL BOARD ARRANGEMENT	✓	✓					

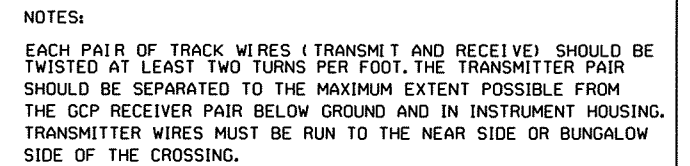
NOTES

- = FOR MATERIAL REFERENCE SEE PLAN S-1002
- ⊗ = DENOTES TWISTED PAIR
- GROUND IN ACCORDANCE WITH CS-9001-A

C&S CAD



PRELIMINARY



WARNING DEVICES TO BE INSTALLED IN
ACCORDANCE WITH THE M.U.T.C.D.

(---) = EXISTING
 ○—○—○ = IN
 ×—×—× = OUT
 042020859
 20-1330CSX
 SSE/WGN/CCV
 02-25-20
Signal South

ALGER ROAD (C.R. 24)

ARLINGTON, OHIO

HIGHWAY CROSSING
LOCATION PLAN

ISSUE DATE: 7-18-95

8122-0531

DMR
REV. 2

REV. 2

SHEET 2

HX3000G1.T0B

PRELIMINARY

1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9		1	2	3	4	5	6	7	8	9	30	1	2	3	4	5	6	7	8	9	40	1	2	3	4	5	6	7	8	9	50	1	2	3	4	5	6	7	8	9	60	1	2	3
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SH. NO.	INDEX CONTENTS	REVISION NO.								
		1	2	3	4	5	6	7	8	9
I01	TITLE, NOTES, INDEX & REVISIONS	X	Ø							
S01	TRACK & SIGNAL PLAN	X								
P01	ELECTROLOGIXS PROGRAM	X								
E01	POWER DISTRIBUTION	X								
E02	ELECTROLOGIXS MODULE CONFIGURATION	X								
E03	ELECTROLOGIXS XP4 MODULE LAYOUT	X								
C01	ELECTROLOGIXS CIRCUITS	X								
C02	ELECTROLOGIXS TRACK CIRCUITS	X	Ø							
C03	SIGNAL LIGHTING CIRCUITS	X								
C04	ELECTROLOGIXS I/O CIRCUITS	X								
C05	XP4 CROSSING DETECTION & I/O CIRCUITS	X								
C06	XP4 SET UP INFORMATION	X								

 = DESIGN COMPLETED
 = REVISION COMPLETED = NOTE
Ø-Ø-Ø = IN
X-X-X = OUT

0H2020859
20-1330CSX



SSE/WGM/CCV
02-25-20

Signal South

PRELIMINARY

REVISIONS				
REV. NO.	PROJECT NO.	DESIGN DATE	IN SERVICE DATE	REVISION DATE
1	0H2017315	08-15-13	07-16-18	12-11-18
2	0H2020859	02-25-20		

TO BE COMPLETED
ON A.I.S.

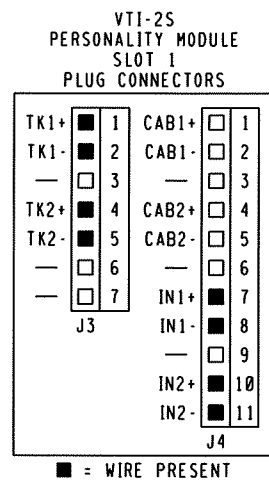
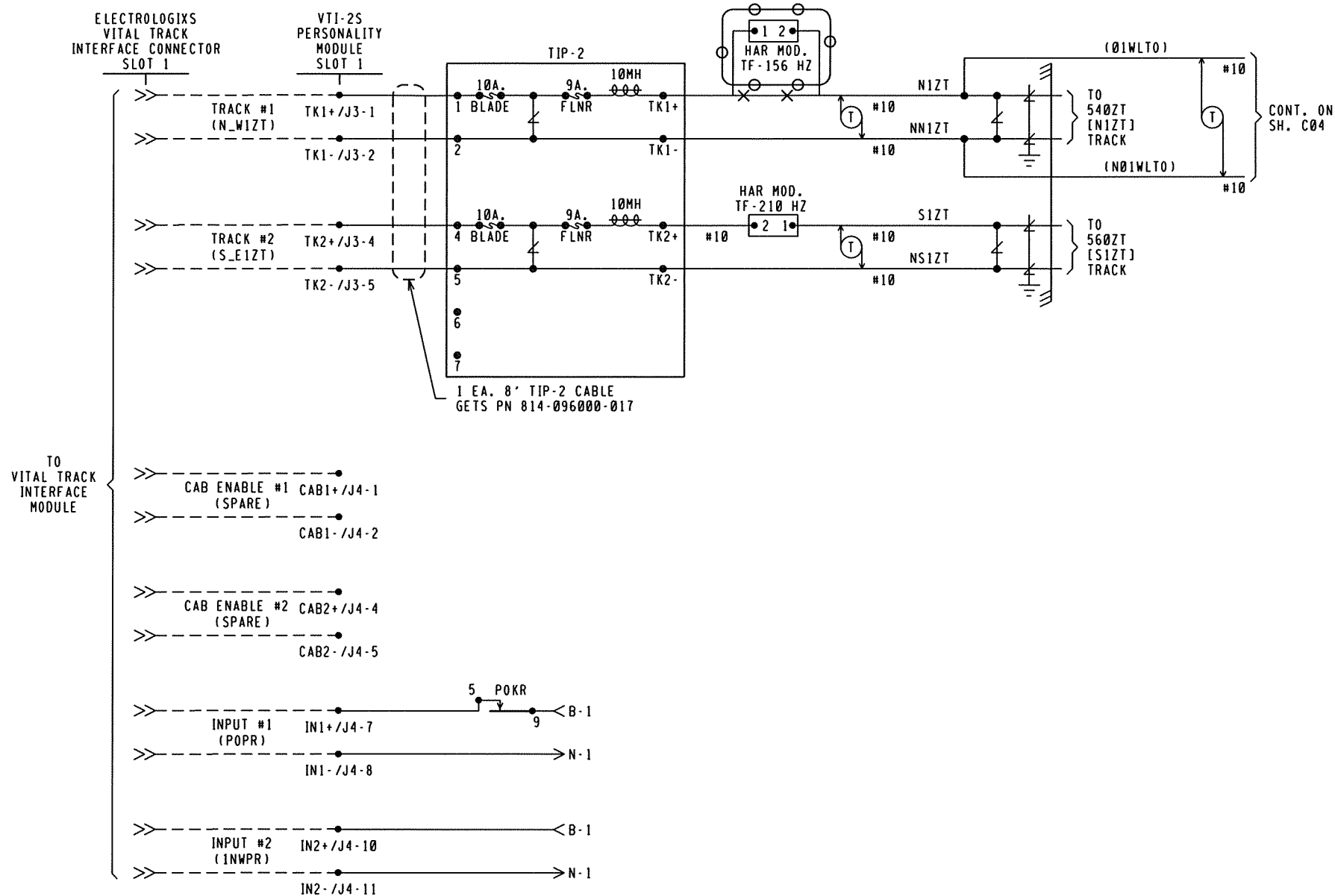
CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
SIGNALS 540 & 541			
TITLE, NOTES, INDEX & REVISIONS ARLINGTON, OH M.P. 0T-54.00			
DESIGNED PRS/SAF	DIGITIZED PRS/TMS	CHECKED PRS/JTW	DATE 08-15-13
DRAWING	SHEET NO	FILE 0T05400	SHEET 101

DESIGN DATE
Ø-Ø-Ø

REV. NO.
Ø1

Ø2-25-20

Ø2



NOTES:

1. ---- = INTERNAL CONNECTION
2. [] = TAGGING PURPOSE ONLY

⊙ ⊙ ⊙ = IN
× × × = OUT

0H2020859
20-1330CSX



SSE/WGM/CCV
02-25-20

Signal South

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

SIGNALS 540 & 541

ELECTROLOGIX TRACK CIRCUITS
ARLINGTON, OH M.P. 0T-54.00

DESIGNED PRS/SAF	DIGITIZED PRS/TMS	CHECKED PRS/JTW	DATE 08-15-13
.....
DRAWING	SHEET NO	FILE	SHEET
.....	QT05400	C02

DESIGN DATE
X-25-20

REV. NO.
X1

02-25-20

020

PRELIMINARY



Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Mark Policinski, Chair

January 7, 2020

Ms. Amanda DeCesare
CSX Transportation, Inc.
3131A Spring Grove Ave
Cincinnati, OH 45225

RE: Authorization for Engineering, Plans and Estimates for Grade Crossing Warning Device Upgrade
Hancock County, TR 25, Baker Rd.; DOT# 513-733M; PID# 111178

Dear Ms. DeCesare:

A diagnostic review was held at the above grade crossing on 6/26/2019. The crossing has been recommended for an upgrade to automatic flashing lights and gates with 1 bell.

CSX is authorized to proceed with the engineering design, plans and cost estimates 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. Please note that CSX 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.

The ORDC is not requesting that the PUCO issue an Order at this time. After ORDC receives and approves the engineering design, plans and cost estimates, a construction-only Order will be requested from PUCO. Please submit the preliminary engineering to ORDC within 90 days of receipt of this letter.

The diagnostic review form is attached. Please note any recommendations made by the team about requirements for this crossing. Minor roadway work necessary for MUTCD compliance should be incorporated into the plans/estimates and such costs will flow through the CSX 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.ohio.gov, if you have any questions.

Sincerely,

Donald J. Damron
Project Manager

Copies: Randall Schumacher, Chief, Rail Division, PUCO
Jill Henry, Rail Specialist, PUCO
Heather Hamilton, ORDC and ORDC (file)

Attachments: 3 (Diagnostic Review Team Survey, letter agreement, purchase order)





Public Utilities Commission

Mike DeWine, Governor
Sam Randazzo, Chairman

Commissioners

M. Beth Trombold
Lawrence K. Friedeman
Dennis P. Deters
Daniel R. Conway

October 17, 2019

Ms. Amanda DeCesare
CSX Transportation, Inc.
500 Meijer Drive, Ste. 305
Florence, KY 41042

RE: Baker Road/TR 25
DOT#513-733M,
Hancock County
Hereinafter referred to as the "Project"

Dear Ms. DeCesare:

The Public Utilities Commission of Ohio (PUCO) has identified and the Ohio Rail Development Commission (ORDC) surveyed, on June 26, 2019, the above mentioned grade crossing for warning device upgrades. The location has been approved for flashing lights and roadway gates.

The Projects shall comply with Agreement No. 17427, dated May 3, 2013, entered into by the State of Ohio and CSX Transportation (RAILROAD). Furthermore, the RAILROAD shall comply with all applicable state and federal laws governing grade crossing safety programs.

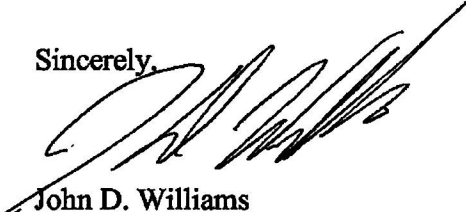
Reimbursable costs will be limited by ORDC based upon approved estimates and bid tabulations, if applicable. These limits will be quantified by the ORDC in its construction authorization to the RAILROAD and may be amended by the ORDC based upon revised estimates and bid tabulations. Additional costs must be approved in writing by the ORDC prior to being incurred. Emergency verbal authorizations by ORDC may be permitted but must be confirmed in writing within ten (10) business days of the verbal approval.

The RAILROAD shall complete plans and estimates for the Projects within ninety (90) days after the RAILROAD is notified of authorization to proceed unless otherwise agreed by ORDC/PUCO and the RAILROAD.

The RAILROAD shall not commence construction prior to PUCO's Order and ORDC's construction authorization. The RAILROAD shall provide written notification of the construction start date to PUCO and ORDC no later than five (5) business days prior to such date.

Please indicate your acceptance of the terms and conditions of this Letter of Agreement by signing and returning one (1) copy to Ms. Jill Henry, Rail Specialist, Rail Division, Public Utilities Commission of Ohio, 180 E. Broad Street, Columbus, Ohio 43215-3793.

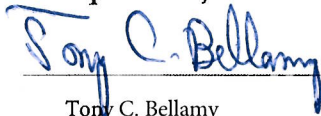
Sincerely,



John D. Williams
Director of Transportation
Public Utilities Commission of Ohio

CSX Transportation, Inc.

By



Tony C. Bellamy

Title Director Project Management - Public Projects

Date

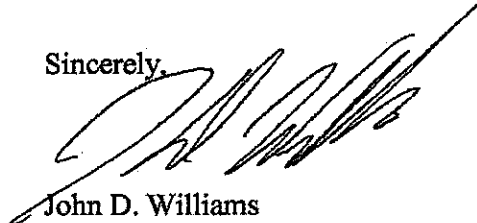
11/11/19

Matthew Dietrich
Executive Director
Ohio Rail Development Commission

Date

Please indicate your acceptance of the terms and conditions of this Letter of Agreement by signing and returning one (1) copy to Ms. Jill Henry, Rail Specialist, Rail Division, Public Utilities Commission of Ohio, 180 E. Broad Street, Columbus, Ohio 43215-3793.

Sincerely,



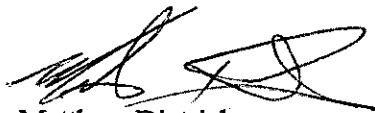
John D. Williams
Director of Transportation
Public Utilities Commission of Ohio

CSX Transportation, Inc.

By _____

Title _____

Date _____



Matthew Dietrich
Executive Director
Ohio Rail Development Commission

Date 10-25-19

Diagnostic review team survey
HAN TR 25 / Baker Rd 513 733M
6/26/19

Sign in sheet

name	org	email	phone #
Glenka Logan	ORDC	genna.logan@dot.ohio.gov	N/A
Don Damron	ORDC	don.damron@dot.ohio.gov	
Joe Castillo	CSX	Joseph-Castillo@CSX.com	
Tim Flessner	PUCO	timothy.flessner@puc.ohio.gov	
Steve Dickinson	CSX	stephen.dickinson@CSX.com	
Dale Cornwell	Trustee Jackson Twp		419-721-2460
Brian Miller	Trustee Jackson Twp		419-420-2500
Rick Stacy	Trustee Jackson Twp		419-721-4071

Reason for Request: **Formula**
(e.g. formula, accident, constituent, etc.)

Date: 7/26/2019

Location Data			
Street or Road Name:		TR 25 / Baker Road	
County:	Hancock	Township:	Jackson
City (in or near):		US DOT No.:	513733M
near Arlington		Railroad Name:	CSX
		RR Milepost:	52.060
Safety Data (Obtain crash reports, if possible)			
	Initial Information (from database)		Revised
Number & dates of vehicle crashes in previous 5 years:			
Number & dates of pedestrian/bicycle crashes in previous 5 years:			
Hazard Ranking:	1500	Date Run:	03/18/2019

Existing Traffic Control Devices			
Type of Warning Devices	Installed?		Quantity/Comments
HIGHWAY			
Advance Warning Signs (condition?)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
'Stop' Signs	<input type="checkbox"/> Yes	<input checked="" 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	
Dynamic Envelope Markings (condition?)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Illumination	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'No Turn' Signs (highway/passive)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Barriers/fencing (pedestrian/bicycle)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
LOOK Sign	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Do Not Stop On Track Sign	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
RAILROAD			
Crossbucks	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Crossbucks – assembly with Stop	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Crossbucks – assembly with Yield	<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	
LED or Incandescent Lights? Size?	<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/Pedestrian Gate Arms	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
'No Turn' Signs (railroad/active)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Is crossing flagged by train crew?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
OTHER	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Railroad Data		
Type of Train: <input checked="" type="checkbox"/> Freight <input type="checkbox"/> Intercity Passenger <input type="checkbox"/> Transit <input type="checkbox"/> Shared Use Transit <input type="checkbox"/> Commuter <input type="checkbox"/> Tourist/Other		
Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	11	8-14/DAY + SEASONAL GRAIN
<1 per day? Trains per week	-	
Day thru trains	3	5
Night thru trains	7	7 NIGHT IS HIGHER THAN DAY ←
Switching	1	2
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks	-	
Maximum train speed	50	OK
Typical train speed	50-50	OK
Amtrak	-	
Are there other track(s) crossing this same roadway within 100ft of this crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If yes, Crossing DOT# (if different) _____		
If yes, distance _____ (take measurement between track centerlines at closest point along roadway)		
If multiple tracks, can two trains occupy crossing at the same time? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Can one train block the motorists' view of another train at the crossing? <input type="checkbox"/> Yes (explain below) <input checked="" type="checkbox"/> No		
Can one or more tracks be eliminated through the crossings? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Comments:		
Circuitry: <input type="checkbox"/> Constant Warning Time <input type="checkbox"/> Motion Detection <input type="checkbox"/> AFO <input type="checkbox"/> PTC <input type="checkbox"/> DC <input type="checkbox"/> Other _____		

MP 53.07 CROSSING } SHOULD NOT OVERLAP CIRCUITS
 MP 51.05 CROSSING }

Roadway Data		
Local Highway Authority: Jackson Township		
Roadway Characteristics	Initial Information (from database)	Revised
Average Daily Traffic	139	✓ OK
Highway Paved	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No RECENTLY PAVED	<input type="checkbox"/> Yes <input type="checkbox"/> No
Roadway Surface: <input checked="" type="checkbox"/> Blacktop <input type="checkbox"/> Gravel <input type="checkbox"/> Concrete Other _____		
Roadway width (paved/travelled way): <u>18</u> ft		
Number of Highway Lanes	2	✓
Urban or Rural	Rural - Local	✓
Vehicle Speed: <u>n/a</u> MPH		55 MPH
School Bus Operation: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No Amount <u>2 AM / 2 PM</u>		
Location of nearby schools: RIVERDALE / ARLINGTON: CROSSING IS BETWEEN SCHOOL DISTRICTS		
Hazardous Materials Trucks: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Amount (from FRA) <u>5%</u> LHA verified/changed?		
Shoulders: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is the Shoulder Surfaced? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, shoulder width: _____ ft.		
Is there existing guardrail along the roadway in crossing vicinity? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Crossing Angle <input type="checkbox"/> 0-29° <input type="checkbox"/> 30-59° <input checked="" type="checkbox"/> 60-90° Measured in _____ Quadrant?		
Quadrant _____	Curb & Gutter:	Quadrant _____ Curb & Gutter:
<input type="checkbox"/> Functional (Curb height = 4" or more)		<input type="checkbox"/> Functional (Curb height = 4" or more)
<input type="checkbox"/> Non-functional (Curb height = less than 4")		<input type="checkbox"/> Non-functional (Curb height = less than 4")
<input checked="" type="checkbox"/> None		<input checked="" type="checkbox"/> None
Is there a nearby intersection that could cause queuing over the crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If yes, distance _____		
Is this intersection signalized? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Are there signals currently interconnected with the existing crossing warning devices? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is there a 'Do Not Stop on Track' sign? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No RECENTLY REPAVED		
If yes:		
Improvement type _____ Lead Agency _____ Timeline/completion _____		

Pedestrian & Bicycle Data	
Regular pedestrian usage:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Volumes: <input type="checkbox"/> Occasional <input type="checkbox"/> <20 <input type="checkbox"/> 20-60 <input type="checkbox"/> >60
Is sidewalk present in the approach?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Quadrants:
Does crossing surface accommodate pedestrians?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Both sides of roadway?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If no, which side is paved?
Pedestrian generators in close proximity (e.g. schools, sports/entertainment venues)?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Comments:	GOLF COURSE LOCATED ON WEST SIDE OF U.S. 68 MAY GENERATE ADDITIONAL SEASONAL TRAFFIC
Regular bicycle usage:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Roadway <input type="checkbox"/> Dedicated Lane (on street) <input type="checkbox"/> Dedicated Path (off street) <input type="checkbox"/> Shared Use (pedestrian/bicycle) Path <input type="checkbox"/> Bikes must use sidewalk	
Future plans for pedestrian or bicycle routes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Comments:	

Utility Information	
Is commercial power available?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Utility Provider (Company Name)	AEP
Nearest Available Power Source	AT SITE.
What other utilities are present?	<input type="checkbox"/> Gas <input type="checkbox"/> Cable <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> Fiber Optic Cable (add locations to sketch) <input type="checkbox"/> Petroleum <input type="checkbox"/> Water <input type="checkbox"/> Sanitary Sewer <input type="checkbox"/> Other
Comments:	2 FIBER LINES PARALLEL TO EAST SIDE OF TRACKS PHONE LINE ALONG NORTH SIDE OF ROAD

Surface	
Surface review form completed?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Sight Preview (REFER TO TABLES)	
If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table 1)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Is stopping sight distance adequate? (See Table 2)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, which quadrant? _____
When considering recommendations for bicycle treatments:	
Bicycle sight distance adequate?	<input type="checkbox"/> Yes <input type="checkbox"/> No If no, which quadrant? _____
When considering recommendations for pedestrian treatments:	
Pedestrian sight distance adequate?	<input type="checkbox"/> Yes <input type="checkbox"/> No If no, which quadrant? _____

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

Culvert / Drainage / Ballast Conditions:

CULVERT IN SW/SE QUADRANTS MAY IMPACT LOCATION OF GATE MECH AND ITS OFFSET.

Roadway and/or Sidewalks:

NA

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

NA

Environmental:

NA

Utilities:

NA

Other:

Potential Closure

Is it the consensus of the Diagnostic Review Team that this is a potential closure project? **NO**

Explain reasons: **ROADWAY IS TOO BUSY TO CLOSE ROAD.**

Diagnostic Team Recommendations

☐ No improvements needed

Quadrants Needed

☒ Install/upgrade active devices

☐ Automatic Flashing Lights (AFLS)

☐ AFLS / Cants

☒ AFLS / Gates

☐ AFLS / Gates / Cants

☒ Bells / number

ONE

☐ Upgrade circuitry / type

☐ Sidelights

☐ LED Upgrades

☐ Guardrail Needed

☐ Install/Replace curb

☐ Bungalow placement & offset from rail & highway

NW QUAD

☐ Other (define)

Comments:

☐ Install/upgrade traffic signal preemption

Other (define):

Diagnostic Team Recommendations (cont.)

PEDESTRIAN/BICYCLE Treatments (additional, not included above)

☐ Crossing Surface (specify)

☐ Sidewalk (specify)

☐ Detectable warning surfaces

☐ LOOK Sign (R15-8)

☐ Stop lines

☐ Illumination

☐ Dynamic envelop markings

☐ Channelization

☐ Path delineation

☐ Fencing/barriers

☐ Other

Comments:

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

QAD **D.A.C.** **BAM**
R.A.S. **J.M.C.** **TF**

Field Sketch (optional)

Include utilities as marked by OUPS and LHA; include ROW boundaries as indicated by railroad and LHA.

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.

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.

Bicycle & Pedestrian Clearing Sight Distances

Clearing Sight Distance from Stop Position*											
Crossing of one track								Crossing 2 Tracks		Crossing 3 Tracks	
Train Speed	Car	Single-unit Truck	Bus	WB-50 Semitruck	65-foot Double Truck	Pedestrian ¹	Bicyclist ²	Pedestrian ¹	Bicyclist ²	Pedestrian ¹	Bicyclist ²
10	105	185	200	225	240	120	100	180	120	240	140
20	205	365	400	450	485	240	200	360	240	480	270
25	255	455	500	560	605	300	250	450	290	590	340
30	310	550	600	675	725	360	290	530	350	710	410
40	410	730	795	895	965	480	390	710	470	950	540
50	515	910	995	1,120	1,205	590	490	890	580	1180	670
60	615	1,095	1,195	1,345	1,445	710	580	1060	700	1420	810
70	715	1,275	1,395	1,570	1,680	830	680	1240	810	1650	940
80	820	1,460	1,590	1,790	1,925	950	780	1420	930	1890	1080
90	920	1,640	1,790	2,015	2,165	1060	870	1590	1040	2120	1210

*A single track, 90-degree, level crossing

¹ Walking 3.5 feet per second across tracks 15 feet apart, with a 2-second reaction time to reach a decision point 10 feet before the center of the first track, and clearing 10 feet beyond the centerline of the second track.

² Bicycling 8 miles per hour across tracks 15 feet apart, from a stopped position 10 feet before the center of the first track with an acceleration of 2.5 feet per second, and clearing 10 feet beyond the centerline of the second track on a bike of 6 feet length.

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

5/15/2020 9:19:14 AM

in

Case No(s). 20-1035-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#513-733M, on Baker Road/TR 25 in Hancock County, Ohio electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division