

Memo

To: Docketing Division

From: Jill Henry, Rail Specialist, Rail Division

Cc: PUCO Legal Department

Date: 7/24/18

Re: PUCO Case No. 17-2468-RR-STP- In the Matter of a Request for the Installation of Active Warning Devices at the CSX Transportation Inc. Railroad Crossing on Hartneck Road (DOT#141-915U) in Medina County, Liverpool Township, Ohio.

On December 6, 2017, Commission Staff (PUCO), Liverpool Township, Medina County, and CSX Transportation, Inc. (CSX) entered into a stipulation agreement (attached) whereby active warning devices would be installed at Hartneck Road (DOT#141-915U).

On January 3, 2018, the Commission issued a Finding and Order approving the project, requiring plans and estimates by April 3, 2018 and ordering project completion by January 3, 2019.

On April 12, 2018, CSX filed with the Rail Division plans and estimates for the projects.

The plans and estimates submitted by CSX have been reviewed and authorization is recommended. (See attached documentation.)



Public Utilities Commission

Asim Z. Haque, Chairman

Commissioners

M. Beth Trombold
Thomas W. Johnson
Lawrence K. Friedeman
Daniel R. Conway

July 24, 2018

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

Re: Hartneck Road (DOT#141-915U), CSX
Transportation, Inc.

Dear Ms. Decesare:

CSX Transportation, Inc. (CSX) is now authorized to proceed with field construction for the above referenced project. This authorization is contingent upon accepting the following:

- 1) CSX will make any adjustments to the plans noted in the field report docketed July 24, 2018 (Attached).
- 2) CSX will furnish e-mail, fax, or phone notification five (5) working days prior to the date work will start at the project site. Notification to be made to Jill Henry, PUCO, at E-MAIL jill.henry@puco.ohio.gov, or PHONE 614-466-0435.
- 3) CSX will arrange for utilities to be relocated and/or dropped (as soon as possible) at the project site through the applicable utility company.
- 4) 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 OUPS service must be contacted directly by CSX.
- 5) CSX's project foreman will notify the PUCO Railroad Inspector of any changes in the scope of work, cost overruns, material changes, etc. which are not included in the approved plan and estimates and secure approval of same before the work is performed.
- 6) CSX will furnish three (3) copies of each partial bill to the PUCO.

- 7) CSX will furnish three (3) copies of the final-inclusive bill to PUCO stating that exact dates of starting and completing work, the initial and final dates of construction and location where the accounts may be audited.
- 8) CSX will furnish as-built detailed circuit plans directly to the PUCO.
- 9) CSX is to schedule and complete the subject project by January 3, 2019. If any extraordinary circumstances unique to this project occur, please notify the Commission's rail staff immediately.

Thank you for your cooperation in this matter.

Sincerely,



Jill Henry
Rail Specialist
PUCO Railroad Division

Enclosure

cc: File

**PUBLIC UTILITIES COMMISSION OF OHIO
TRANSPORTATION DEPARTMENT
RAIL DIVISION**

Date of Assignment: April 12, 2018

Subject: Plans and estimates review for active warning devices at Hartneck Road/CR 114 (141-915U), CSX Transportation, Inc., Medina County.

DOT #: 141-915U

FINDINGS

On April 12, 2018, the plans and estimates for the above mentioned crossing were received from CSX Transportation, Inc. (CSX). They were reviewed by Jill Henry, PUCO Rail Specialist, and Shawn Zurfle, FRA/PUCO Field Investigator.

Hartneck Road is a rural roadway traveling east/west and intersecting a single track of CSX traveling North/South. Existing warning devices include pavement markings, advanced warning signs, stop signs and crossbucks.

SUMMARY AND CONCLUSIONS

We reviewed the plans and estimates for the crossing. The plans and estimates appear to be fundamentally correct. Construction authorization is granted for this project with the following conditions:

- 1) The bungalow to be placed in the NW quadrant needs to be placed as far back as possible to try and meet the 25' Ohio Manual of Uniform Traffic Control Devices (OMUTCD) placement recommendation. **If this condition cannot be met onsite then contact should be made to the PUCO for clarification.**

Jill Henry
PUCO Rail Specialist
Date: July 23, 2018

**CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE**

Page 1

ACCT. CODE : 709 - OH1213

ESTIMATE SUBJECT TO REVISION AFTER: 10/8/2018	DOT NO.: 141915U
CITY: Valley City	COUNTY: Medina
STATE: OH	
DESCRIPTION: Hartneck Rd.(CR 114) - Installation of active warning devices.	

DIVISION: Great Lakes	SUB-DIV: Cleveland	MILE POST: BJA-142.34
AGENCY PROJECT NUMBER: Case No. 17-2468-RR-STP		

PRELIMINARY ENGINEERING:

212	Contracted & Administrative Engineering Services	\$	3,500
	Subtotal	\$	3,500

CONSTRUCTION ENGINEERING/INSPECTION:

212	Contracted & Administrative Engineering Services	\$	1,500
	Subtotal	\$	1,500

SIGNAL & COMMUNICATIONS WORK:

210	Material - Field & Consumables	All STEEL OR CAST COMPONENTS MUST BE BUY AMERICA COMPLIANT	\$	77,773
220	Material - Shop		\$	23,482
60	Construction Labor		\$	61,940
65	Shop Labor		\$	2,660
230	Per Diem		\$	24,450
200	RR Engineering,Preliminary		\$	5,605
200	RR Engineering,Construction		\$	9,291
60	Additives to Construction Labor		\$	73,622
65	Additives to Shop Labor		\$	3,162
241	Waste Management		\$	396
212	Contract Engineering		\$	16,603
211	Freight		\$	7,275
216	AC Power Service		\$	5,000
900	Other		\$	11,500
	Subtotal		\$	322,759

PROJECT SUBTOTAL

900	<u>CONTINGENCIES:</u>	\$	-
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GRAND TOTAL *****	\$	327,759
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DIVISION OF COST:

	Agency	90.00%	\$	294,983
	Railroad	10.00%	\$	32,776
	TOTAL *****		\$	327,759

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 Assistant Chief Engineer Public Projects--Jacksonville, Florida

Estimated prepared by: BSE	Approved by: AJD	CSXT Public Project Group
DATE: 4/11/2018	REVISED:	DATE: 4/11/2018

MATERIAL ESTIMATE - HARTNECK RD. (CR 114) 141915U

CSX Project #: ENG-00089
 OP #: OH1213
 Revision #: 1
 Estimate Type: Outside Party (GCWD)
 Task Code Prefix: 210 - OP Highway Crossings
 Effective Date: 3/28/2018

Total Material Costs: \$101,255.21

Type	Milepost	City or Location Name	County	State	Description
House	BJA 142.3400	Hartneck Rd. (CR 114)	Medina	OH	INSTALL CFLS&G w/ GCP-4000 (BJA-142.34)

SHOP MATERIAL:

Catalog Number:	Unit Cost:	Quantity:	Total Cost:	Description:
020-0017120	\$11.52	6	\$69.12	BLOCK TERMINAL 12 POST SINGLE STRIP AAR 14.1.6 WITH 1 AA
020-0017125	\$3.26	6	\$19.56	BLOCK TERMINAL 2 POST AAR 14.1.8 WITH 1 AAR 14.1.11 WASH
020-0018234	\$67.38	1	\$67.38	CABLE CONVERTER PROTOCOL/MEDIA WAYSIDE ACCESS GATEWAY
020-0021965	\$8.96	1	\$8.96	EXTRACTOR DWG 59688-4 TERMINAL GRS CAT P3-308 REF 18 1
020-0022651	\$106.70	1	\$106.70	PLUGBOARD KIT TYPE B1 OR ST1 RELAY ASSEMBLY WITH 12 E
020-0025595	\$20.72	1	\$20.72	WRENCH DWG 55393-3 GR1 "E" TERMINAL POST NUT GRS CAT
020-0053360	\$387.88	3	\$1,163.64	CHARGER BATTERY ELC 12/20 S 20 AMP 10-19.9 VDC ROTARY S
020-0055602	\$11.39	2	\$22.78	RELAY POTTER BRUMFIELD KHAU17D12-12V 160 OHMS CONTA
020-0056514	\$6.27	2	\$12.54	SOCKET RELAY POTTER & BRUMFIELD 27E894 NEWARK 46F35E
020-0064060	\$16.12	1	\$16.12	PLATE RELAY MOUNTING FOR 2 EACH TYPE KHAU OR OCTAL R
020-0167501	\$38.51	24	\$924.24	ARRESTER HYBRID LOW VOLTAGE, 2, 0-30V DC OR 0-24V AC RA
020-0660077	\$603.13	1	\$603.13	ARRESTER GE 9L10KAC213 FOR 240 VOLT SINGLE PHASE 3 WIF
020-0770060	\$15.46	8	\$123.68	ARRESTER US&S N451552-0201 TRACK SERIES RED LABEL USC
020-0770105	\$22.40	2	\$44.80	ARRESTER HARMON 202217-000 AGE-1 TRACK AIR GAP EQUALI
020-1940055	\$20.24	1	\$20.24	CONTAINER CIRCUIT PRINT 24" SCHEDULE 20 4" PVC PIPE WITH
020-2503073	\$1,091.71	1	\$1,091.71	MODULE SAFETRAN VHF COMMUNICATOR (A80276-3) USED WIT
020-2503079	\$492.48	2	\$984.96	MODULE SAFETRAN GROUND FAULT DETECTOR (A80297-2) US
020-2503081	\$69.04	1	\$69.04	MODULE SAFETRAN ECHELON TERMINATION UNIT (A80078) US
020-2503090	\$1,081.54	1	\$1,081.54	CONVERTER PROTOCOL/MEDIA WAYSIDE ACCESS GATEWAY (
020-2503200	\$909.80	1	\$909.80	KIT SAFETRAN GCP-4000 ILOD PKG. FOR USE WITH SEAR-III INC
020-2503220	\$14,073.70	1	\$14,073.70	PREDICTOR SAFETRAN GCP-4000 2-TRACK DUAL CASE W/REC
020-3430130	\$409.74	1	\$409.74	RELAY SAFETRAN 400023 500 OHMS CONTACTS 6FB HEAVY DU
020-3652615	\$61.32	1	\$61.32	RESISTOR ADJUSTABLE 0.340 TO 3.00 OHMS 2.24A 15W SAFET
020-4200340	\$1.74	8	\$13.92	LINK TEST ASSEMBLY 1" CENTERS COMPLETE WITH INSULATE
020-4200350	\$2.06	14	\$28.84	LINK TEST ASSEMBLY 2-3/8" CENTERS COMPLETE WITH INSULA
020-4201045	\$0.15	300	\$45.00	NUT HEX CLAMP (FLAT NUT) AAR 14.1.11-7 14-24 NS-2 THD FLAT
020-8000067	\$15.18	2	\$30.36	LOCK AMERICAN H10SIGRA CSX SIGNAL PADLOCK WITH BLACK
022-8005160	\$513.88	1	\$513.88	KIT CDMA AND VHF RADIO MATERIAL FOR USE WITH CSX COMI
028-1120501	\$314.80	3	\$944.40	SOLID STATE RELAY DEVICE, VOLTAGE MONITOR, EXTENDED 1
			\$23,481.82	

FIELD MATERIAL:

Catalog Number:	Unit Cost:	Quantity:	Total Cost:	Description:
N/A	\$28,000.00	1	\$28,000.00	GATE & CANT COMBO - ESTIMATE ONLY
014-8006169	\$10.62	2	\$21.24	SIGN PERMANENT EMERGENCY NOTIFICATION (VEHICLE BLOC
020-0010447	\$9.83	2	\$19.66	BOX GROUND ROD CONNECTION ENCLOSURE COMPLETE WITI
020-0013686	\$68.90	4	\$275.60	BOOTLEG KIT CSX RAIL CONN W/15 FT 3/16 IN BDSTRAND 6/64 I
020-0013908	\$6.36	400	\$2,544.00	CABLE UG COMPOSITE 19 CONDUCTOR INCLUDES 13 CONDUCT
020-0014605	\$2,990.00	1	\$2,990.00	FOUNDATION CONCRETE GCWD 5' - 10" SECT PRECAST ASSY E
020-0025145	\$371.02	2	\$742.04	SHUNT ENCLOSURE INTERRAIL P/N IRS-SE8A WAYSIDE MOUNT
020-0052475	\$11.20	4	\$44.80	ARM EXTENSION 10-1/2" ALUM WITH 3/8" DIAMETER MOUNTING
020-0053220	\$2.29	150	\$343.50	CABLE POWER UG 3 COND NO 6 AWG, SHOW LENGTH ON EACH
020-0054074	\$175.39	2	\$350.78	BRACKET CONVERSION GATE ARM W/HDW 4SS BOLTS NUTS AI
020-0055421	\$23.93	2	\$47.86	BRACKET SIGN 4" OR 5" MAST W/1/2" U-BOLT FOR ALL SIGNS RI
020-0055424	\$76.17	2	\$152.34	BRACKET SIGN 10" MAST W/SPLIT BOLTS FOR ALL SIGNS REQL

MATERIAL ESTIMATE - HARTNECK RD. (CR 114) 141915U

FIELD MATERIAL CONTINUED:

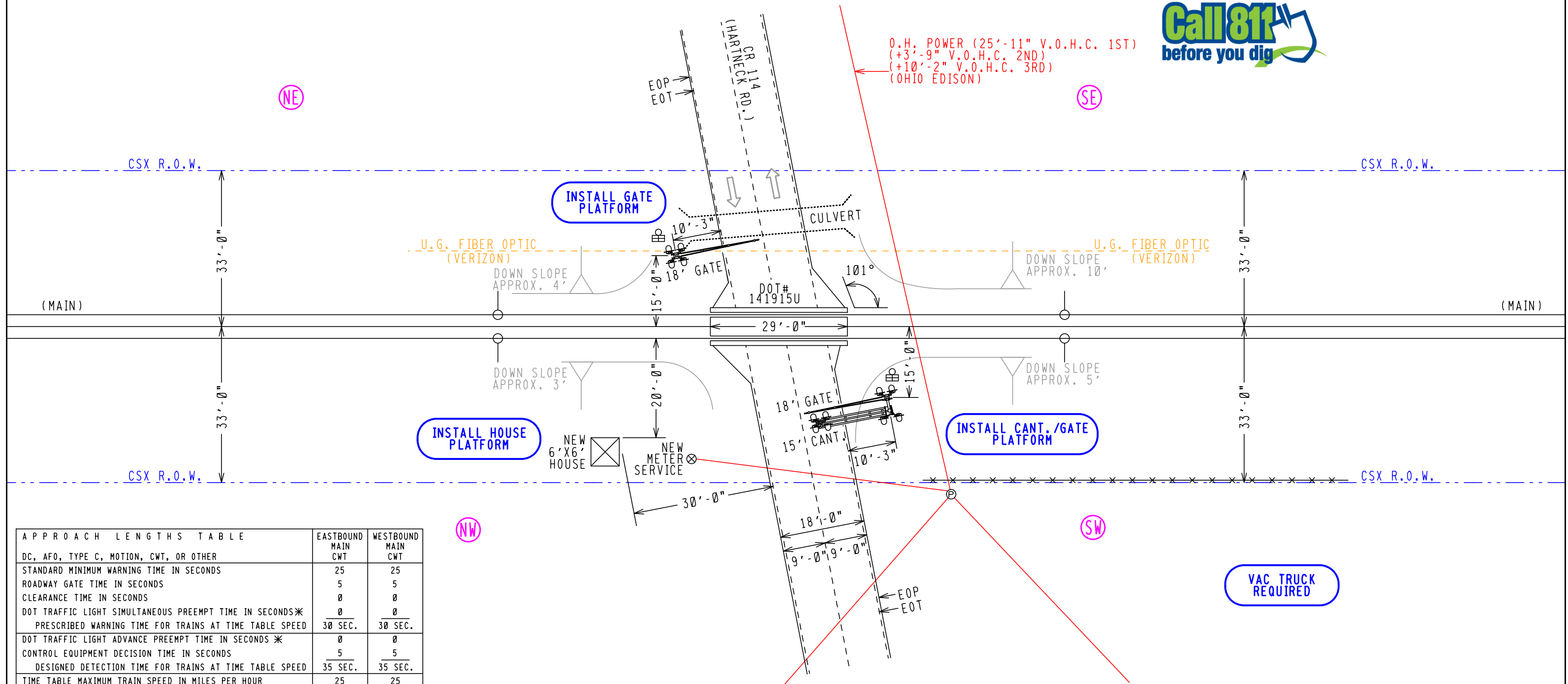
Catalog Number:	Unit Cost:	Quantity:	Total Cost:	Description:
020-0056421	\$23.96	4	\$95.84	BRACKET SIGN 4" OR 5" MAST FOR ALL SIGNS REQUIRING 5/8" I
020-0056424	\$81.95	4	\$327.80	BRACKET SIGN 10" MAST W/SPLIT BOLTS FOR ALL SIGNS REQL
020-0056674	\$6,142.30	1	\$6,142.30	SIGNAL 0220-L GCWD GATE ASSY DWG SS222 INCLS 18 FBRGL
020-0056823	\$17.77	6	\$106.62	TAPE UG RED CABLE MARKER IMPRINT TO READ "CAUTION BU
020-0057275	\$0.69	500	\$345.00	WIRE UG TRACK TWISTED PAIR NO. 6 AWG SOLID CONDUCTOR
020-1040322	\$127.92	20	\$2,558.40	BATTERY SAFT SPL165, 165 AH POCKET PLATE NICKEL CADMIL
020-1040324	\$186.48	9	\$1,678.32	BATTERY SAFT SPL250, 250 AH POCKET PLATE NICKEL CADMIL
020-1040540	\$31.36	4	\$125.44	TRAY BATTERY FIBER CO 82687-1-P 12" WIDTH 24" LONG CSX D
020-1040550	\$45.92	1	\$45.92	TRAY BATTERY FIBER CO 82687-3-P 12" WIDTH 38" LENGTH CS>
020-1150750	\$1.00	500	\$500.00	BOND STRAND 3/16" DIA 7 STRANDS OF 19 STR EACH 6 WITH 12
020-1304014	\$5.40	24	\$129.60	KIT BOND, CADWELD PLUS WEB OF RAIL BOND 3/16 DIA. 4" LAR
020-1360014	\$933.66	1	\$933.66	PACKAGE FOREMANS CARE FOR ALUMINUM TYPICAL BOM FOF
020-1360016	\$24.06	1	\$24.06	PACKAGE SAFETY & SECURMENT WITH 1 EA CAUTION TAG 1 E/
020-1360104	\$1,312.25	1	\$1,312.25	LAYOUT AC METER SERVICE WITH 30' POLE CSX DWG SS351 SI
020-2500645	\$251.82	2	\$503.64	SHUNT SAFETRAN 62775-645 NARROW BAND 645HZ
020-3263640	\$0.28	35	\$9.80	SLEEVE NICOPRESS 14 AWG SOLID COPPER WIRE 1-1/8" LONG
020-3901895	\$100.52	2	\$201.04	TIP FLEX HWY CROSSING GATE 24 IN LONG ENGINEERING GRA
020-3920200	\$178.76	2	\$357.52	BELL GCWD ELECTRONIC 4" OR 5" MAST 8 TO 13 VOLTS DC GSI
020-4101642	\$12,687.00	1	\$12,687.00	PLATFORM ASSY 2 POST FLOOD FOR 8' X 8' & SMALLER HOUS
020-4200340	\$1.74	29	\$50.46	LINK TEST ASSEMBLY 1" CENTERS COMPLETE WITH INSULATEI
020-4200900	\$0.18	10	\$1.80	CONNECTOR SHEATHING AMP 329860 FOR NO. 14 WIRE
020-4201042	\$0.13	40	\$5.20	NUT HEX BINDING (RSA NUT) AAR 14.1.11-6 14-24 NS-2 THD COM
020-4201043	\$0.09	250	\$22.50	NUT HEX CLAMP (FLAT NUT) AAR 14.1.11-7 14-24 NS-2 THD FLAT
020-4201044	\$0.08	200	\$16.00	WASHER AAR 14.1.11 ROUND COPPER NICKEL PLATED FOR AA
020-7300030	\$189.28	2	\$378.56	BRACKET BELL FITS SAFETRAN JUNCTION BOX MOUNT, 5" BEN
020-9400061	\$1,569.00	2	\$3,138.00	GATE FLASHER GROUND ACCESS PLATFORM FOR NEW INSTAI
020-9999991	\$100.00	1	\$100.00	BLOCKING AND BRACING FOR PROJECTS BURCO DIST
250-0001836	\$15.21	1	\$15.21	BREAKER CIRCUIT SQ D QO260
360-0006100	\$35.07	1	\$35.07	STOOL STEP WOOD 14"X 20" SIGNAL MAINTAINERS CSXT DRAW
360-0800145	\$7.54	1	\$7.54	BROOM WAREHOUSE CORN HVY DUTY ID300
			\$67,386.37	

CONSUMABLE MATERIAL:

Catalog Number:	Unit Cost:	Quantity:	Total Cost:	Description:
N/A	\$50.00	10	\$500.00	FILL MATERIAL
N/A	\$800.00	1	\$800.00	WALKWAY ROCK, 10 CUBIC YARDS
020-0017605	\$0.27	500	\$135.00	WIRE CASE 10 AWG FLEX CSX SPEC SS796 OKONITE 112-11-30;
020-0017607	\$0.65	400	\$260.00	WIRE CASE TW PR NO 10 AWG FLEX CSX SPEC SS796 TWIST 2
020-0017625	\$0.44	150	\$66.00	WIRE CASE TW PR NO 14 AWG FLEX CSX SPEC SS796 TWIST 2
020-0017630	\$0.13	200	\$26.00	WIRE CASE NO 16 AWG FLEX CSX SPEC SS796 FURN 1000 FT S
020-0017635	\$0.80	130	\$104.00	WIRE SIGNAL DEL 018 NO 6 COPPER STRANDED SINGLE CONDI
020-0028610	\$0.23	100	\$23.00	TERMINAL RING AMP 35628 YELLOW PLASTI-BOND HVY DUTY 1
020-0053510	\$208.13	1	\$208.13	KIT 240V AC EMERGENCY GENERATOR CABLE AND RECEPTAC
020-1000354	\$6,052.50	1	\$6,052.50	HOUSE SIGNAL 6FT X 6FT WITH PTC UPGRADE PTMW P/N 91000
020-1710045	\$2.42	500	\$1,210.00	CONDUIT SDR 13.5 4" POLYETHYLENE TRENCHLESS TECHNOL
020-2060072	\$442.00	1	\$442.00	FOUNDATION HELICAL SCREW-IN ASSEMBLY 7' X 10", USED FO
020-2060074	\$366.00	1	\$366.00	EXTENSION 10" X 3' USE WITH XING GATE AND SIGNAL MAST HI
020-3261960	\$18.82	2	\$37.64	DECAL (DO NOT ORDER, CALL SIGNAL SHOP) ASSY 5" BLACK P
020-3261970	\$9.41	2	\$18.82	DECAL ASSY 2" BLACK PRESSURE SENSITIVE VINYL PRE-MASK
020-4168917	\$0.50	2	\$1.00	RESISTOR, FIXED .5W, 20W OHM (REPLACEMENT FOR INVENSY
020-4200880	\$0.53	2	\$1.06	CONNECTOR TERMINAL 2-3/8" CENTERS AAR 14.1.15-4 NICKEL I
020-4200892	\$0.37	27	\$9.99	CONNECTOR TERMINAL 1" CENTERS AAR 14.1.15-3 NICKEL PLA
020-4251190	\$0.14	120	\$16.80	TERMINAL RING AMP 35627 BLACK PLASTI-BOND WIRE SIZE 10-
020-4251290	\$0.53	30	\$15.90	TERMINAL WIRE AMP 322051 BLUE WIRE SIZE NO 6 AWG 1/4" S1
020-4251295	\$0.53	6	\$3.18	TERMINAL WIRE AMP 322007 BLUE WIRE SIZE NO 6 AWG 3/8" S1
020-9999992	\$50.00	1	\$50.00	HOUSE, SIGNAL HANDLING CHARGE, BURCO DISTRIBUTION
450-0019212	\$0.40	100	\$40.00	SCREW 10 X 1" SHT METAL PAN HD TYPE A COARSE THREAD P
			\$10,387.02	

Plan view of the bridge deck showing a symmetrical layout. The total width is 1504 FT. on each side of the centerline. The center-to-center distance between the main spans is 60 FT. The centerline is marked with a vertical line and the stationing 291+22.

Ohio Utilities Protection Service
Call 811
before you dig



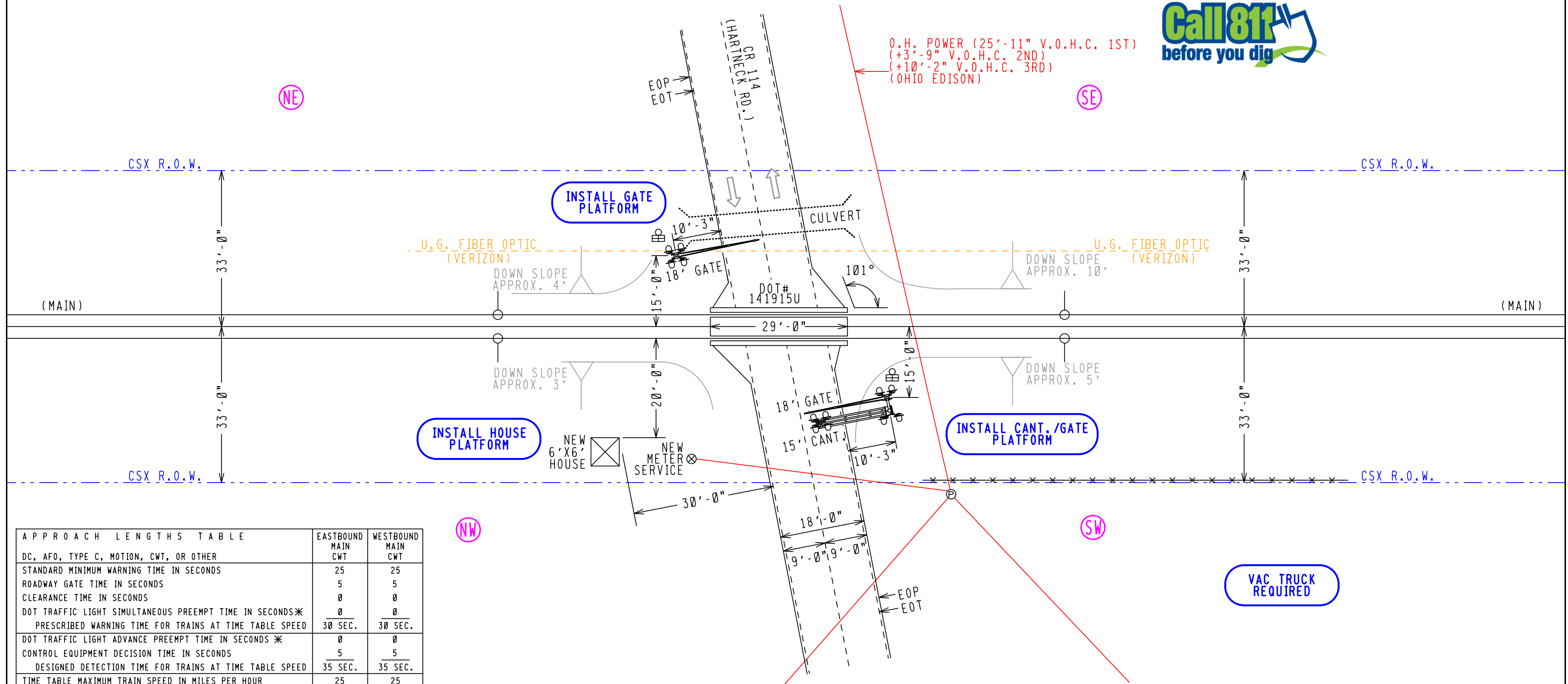
APPROACH LENGTHS TABLE	EASTBOUND MAIN CWT	WESTBOUND MAIN CWT
DC, AFO, TYPE C, MOTION, CWT, OR OTHER		
STANDARD MINIMUM WARNING TIME IN SECONDS	25	25
ROADWAY GATE TIME IN SECONDS	5	5
CLEARANCE TIME IN SECONDS	0	0
DOT TRAFFIC LIGHT SIMULTANEOUS PREEMPT TIME IN SECONDS*	0	0
PREScribed WARNING TIME FOR TRAINS AT TIME TABLE SPEED	30 SEC.	30 SEC.
DOT TRAFFIC LIGHT ADVANCE PREEMPT TIME IN SECONDS *	0	0
CONTROL EQUIPMENT DECISION TIME IN SECONDS	5	5
DESIGNED DETECTION TIME FOR TRAINS AT TIME TABLE SPEED	35 SEC.	35 SEC.
TIME TABLE MAXIMUM TRAIN SPEED IN MILES PER HOUR	25	25
BUFFER SPEED IN MILES PER HOUR	5	5
TOTAL WARNING SYSTEM DESIGN SPEED IN MILES PER HOUR	30	30
APPROACH DISTANCE TO ISLAND EDGE IN FEET	1504	1504
HALF WIDTH OF ISLAND IN FEET	60	60
APPROXIMATE MILE POSTS FOR APPROACH CIRCUIT	142.60	142.01

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

FILE NAME, BJA14234.H01	REVISION DATES	PRODUCED FOR,	PRODUCED BY,	LEGEND,	GUARD RAIL	METER SERVICE	GPS COORDINATES	STREET NAME, CR 114 (HARTNECK RD.)	
DATE DRAWN, 01-19-18	03-26-18	 RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS	 A Caterpillar Company	CSX ROW -- -- --	0.H. POWER	POLE	N41°14'42"	CITY & STATE, VALLEY CITY, (MEDINA), OH	
DRAWN BY, TDF	04-11-18			R/R POLELINE	FENCE x x x x x	FIRE PLUG	W81°53'55"	DOT, 141915U	PROPOSED TRACK LAYOUT
CHECKED BY, SAF	- -			GAS -- -- -- --	WATER -- -- -- --	SEWER CAP	ELEV, 896'	PROJECT #, 0H2017301	
PRS #, CSX180003	- -			FIBER OPTIC -- -- --	SEWER -- -- -- --	GAS VENT	M.P. BJA-142.34	OP #, 0H1213	

Plan view of the bridge showing a 1504 FT. approach on the left, a 60 FT. approach on the right, and a central 291+22 section with a 60 FT. approach on the right.

Ohio Utilities Protection Service
Call 811
before you dig

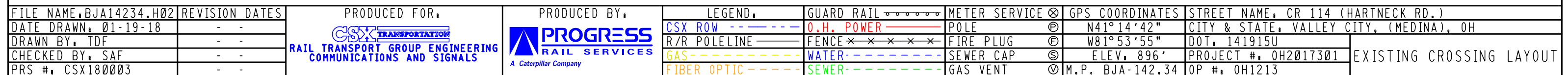


APPROACH LENGTHS TABLE	EASTBOUND MAIN CWT	WESTBOUND MAIN CWT
DC, AFO, TYPE C, MOTION, CWT, OR OTHER		
STANDARD MINIMUM WARNING TIME IN SECONDS	25	25
ROADWAY GATE TIME IN SECONDS	5	5
CLEARANCE TIME IN SECONDS	0	0
DOT TRAFFIC LIGHT SIMULTANEOUS PREEMPT TIME IN SECONDS*	0	0
PREScribed WARNING TIME FOR TRAINS AT TIME TABLE SPEED	30 SEC.	30 SEC.
DOT TRAFFIC LIGHT ADVANCE PREEMPT TIME IN SECONDS *	0	0
CONTROL EQUIPMENT DECISION TIME IN SECONDS	5	5
DESIGNED DETECTION TIME FOR TRAINS AT TIME TABLE SPEED	35 SEC.	35 SEC.
TIME TABLE MAXIMUM TRAIN SPEED IN MILES PER HOUR	25	25
BUFFER SPEED IN MILES PER HOUR	5	5
TOTAL WARNING SYSTEM DESIGN SPEED IN MILES PER HOUR	30	30
APPROACH DISTANCE TO ISLAND EDGE IN FEET	1504	1504
HALF WIDTH OF ISLAND IN FEET	60	60
APPROXIMATE MILE POSTS FOR APPROACH CIRCUIT	142.60	142.01

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

FILE NAME, BJA14234.H01	REVISION DATES	PRODUCED FOR,	PRODUCED BY,	LEGEND,	GUARD RAIL	METER SERVICE	GPS COORDINATES	STREET NAME, CR 114 (HARTNECK RD.)	
DATE DRAWN, 01-19-18	03-26-18	 RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS	 A Caterpillar Company	CSX ROW -- -- --	0.H. POWER	POLE	N41°14'42"	CITY & STATE, VALLEY CITY, (MEDINA), OH	
DRAWN BY, TDF	04-11-18			R/R POLELINE	FENCE x x x x x	FIRE PLUG	W81°53'55"	DOT, 141915U	PROPOSED TRACK LAYOUT
CHECKED BY, SAF	- -			GAS -- -- -- --	WATER -- -- -- --	SEWER CAP	ELEV, 896'	PROJECT #, 0H2017301	
PRS #, CSX180003	- -			FIBER OPTIC -- -- --	SEWER -- -- -- --	GAS VENT	M.P. BJA-142.34	OP #, 0H1213	

Q



CR 63
(MYRTLE HILL RD.)
START

CR 63
← (MYRTLE HILL RD.)
START

SR 303
(CENTER RD.)
START

CR 114
(HARTNECK RD.)
DOT# 141915U
M.P. 142.34
XB

④

NBS
●
970 Hz



6' X 6'
HOUSE

14	CWU
----	-----

CR 63
(MYRTLE HILL RD.)
DOT# 141914M
M.P. 142.14
(FG)
GCP-4000
14CWU-970 HZ/10.0-KHZ
RECORDER
DWG# BJA14214

HOUSE 978, —

1000 1000, —

Q

METER 1093, —

151 1130, —

JUSTICE POST 1153, —

SR 303 (CENTER RD.) START 1550' —
MIIFPOST 1612' —

...) START 1550' —
... WILFPOST 1612' —

RATI. JOINT / DOUBIE BONDED 2055' —

E 0 S /CR 63 (MYRTIE HTII RD) START 2454' —

FILE NAME, BJA14234.H03	REVISION DATES	PRODUCED FOR,	PRODUCED BY,	LEGEND,	GUARD RAIL	METER SERVICE	GPS COORDINATES	STREET NAME, CR 114 (HARTNECK RD.)	
DATE DRAWN, 01-19-18	- -	 RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS	 A Caterpillar Company	CSX ROW	O.H. POWER	POLE	N41°14'42"	CITY & STATE, VALLEY CITY, (MEDINA), OH	
DRAWN BY, RS	- -			R/R POLELINE	FENCE	FIRE PLUG	W81°53'55"	DOT, 141915U	EXISTING TRACK LAYOUT
CHECKED BY, SAF	- -			GAS	WATER	SEWER CAP	ELEV, 896'	PROJECT #, 0H2017301	
PRS #, CSX180003	- -			FIBER OPTIC	SEWER	GAS VENT	M.P. BJA-142.34	OP #, 0H1213	

BJA  142

CR 114
(HARTNECK RD.)
START

CR 63
(MYRTLE HILL RD.)
START

CR 114
(HARTNECK RD.)
← START

CR 63
(MYRTLE HILL RD.)
← START |

SR 303
(CENTER RD.)
START

131# CWR

NBS
●
645HZ

NBS
●
970HZ

6'X6'
HOUSE

HOUSE
CR 114
(HARTNECK RD.)
DOT# 141915U
M.P. 142.34
(CFG)
GCP-4000
34CWU-645 HZ/13.2-KHZ
RECORDER
DWG# BJA14234

ISL 60' —
HOUSE 37' —
METER 19' —
0' — 6

6' X 6'
HOUSE

CR 63
(MYRTLE HILL RD.)
DOT# 141914M
M.P. 142.14
(FG)
GCP-4000
14CWU-970 HZ/10.0-KHZ
RECORDER
DWG# BJA14214

HOUSE 978' —
ISL 1008' —
1064' — 
METER 1093' —
ISL 1130' —
WHISTLE POST 1153' —

NBS
452Hz

NBS
●
645HZ

NBS
●
70HZ

SR 303 (CENTER RD.) START 1550' —

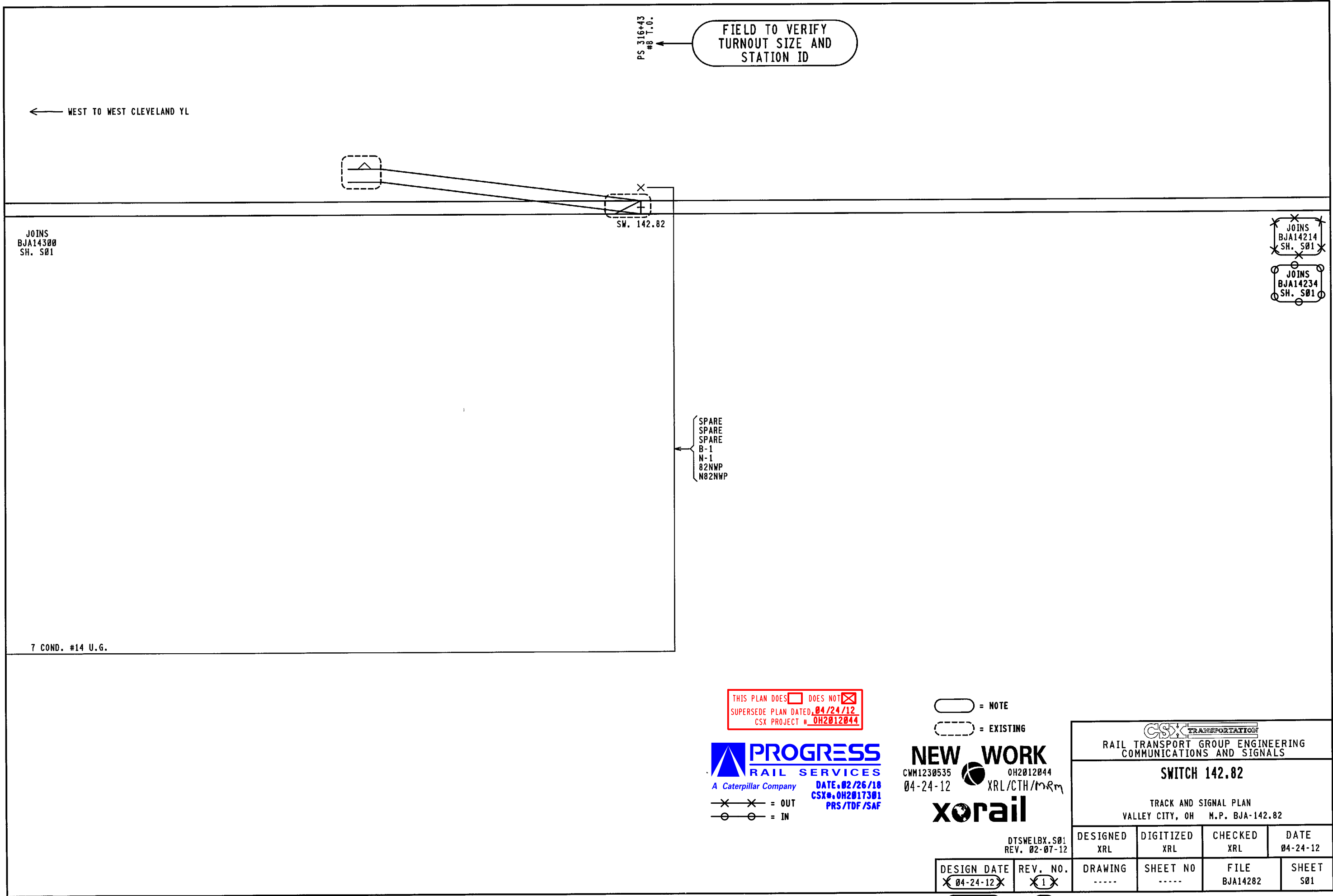
CR 114 (HARTNECK RD.) START 1564'—

MILEPOST 1612' —
RAIL JOINT/DOUBLE BONDED 2055' —

E.O.S./CR 63 (MYRTLE HILL RD.) SIARI 2454'—

DESIGN AGAINST
0H2012044 AFE.A39512

FILE NAME, BJA14234.H04	REVISION DATES	PRODUCED FOR,	PRODUCED BY,	LEGEND,	GUARD RAIL	METER SERVICE	GPS COORDINATES	STREET NAME, CR 114 (HARTNECK RD.)	
DATE DRAWN, 01-19-18	- -	 RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS	 A Caterpillar Company	CSX ROW - - - - -	O.H. POWER - - - - -	POLE	N41°14'42"	CITY & STATE, VALLEY CITY, (MEDINA), OH	
DRAWN BY, RS	- -			R/R POLELINE - - - - -	FENCE x x x x x	FIRE PLUG	W81°53'55"	DOT, 141915U	PROPOSED TRACK LAYOUT
CHECKED BY, SAF	- -			GAS - - - - -	WATER - - - - -	SEWER CAP	ELEV, 896'	PROJECT #, 0H2017301	
PRS #, CSX180003	- -			FIBER OPTIC - - - - -	SEWER - - - - -	GAS VENT	M.P. BJA-142.34	OP #, 0H1213	



THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 04/24/12
CSX PROJECT # 0H2012044

PROGRESS
RAIL SERVICES
A Caterpillar Company
DATE: 02/26/18
CSX# 0H2017301
PRS/TDF/SAF

✕ ✕ = OUT
○ ○ = IN

○ = NOTE
○ = EXISTING

NEW WORK
CWM1230535 0H2012044
04-24-12 XRL/CTH/mrm
xorail

DTSWELBX.S01
REV. 02-07-12

DESIGN DATE
04-24-12

REV. NO.
1

DESIGNED
XRL

DIGITIZED
XRL

CHECKED
XRL

DATE
04-24-12

DRAWING

SHEET NO

FILE
BJA14282

SHEET
S01

02-26-18

020

CSX TRANSPORTATION			
RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
SWITCH 142.82			
TRACK AND SIGNAL PLAN VALLEY CITY, OH M.P. BJA-142.82			
DESIGNED XRL	DIGITIZED XRL	CHECKED XRL	DATE 04-24-12
DESIGN DATE 04-24-12	REV. NO. 1	DRAWING -----	SHEET NO -----
FILE BJA14282		SHEET S01	

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S01	TRACK AND SIGNAL PLAN									
P01	MINIMUM PROGRAM STEPS REPORT CWE-34									
E01	POWER DISTRIBUTION									
C01	DETECTION DEVICE CONSIST CWE-34									
C02	DETECTION CIRCUITRY CWE-34									
C03	DETECTION CIRCUITRY CWE-34									
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)

THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 04/24/12
CSX PROJECT # 0H2012044

 = NOTE


A Caterpillar Company
NEW WORK
DATE: 02/26/18
CSX# 0H2017301
PRS/TDF/SAF

DESIGN DATE
02-26-18

REV. NO.
1

REVISIONS				
REV. NO.	PROJECT NO.	DESIGN DATE	IN SERVICE DATE	REVISION DATE
1	0H2017301	02-26-18		

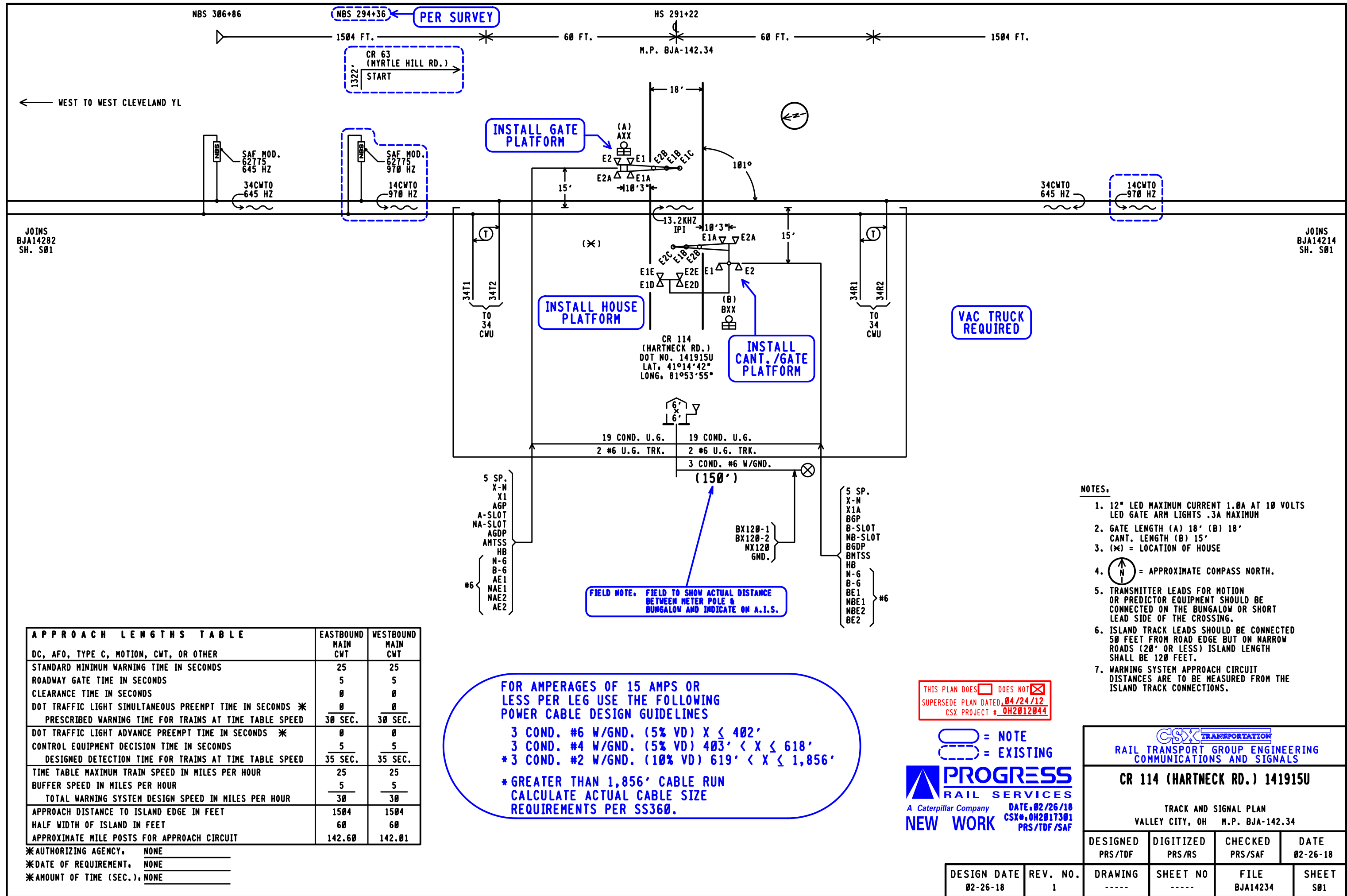
TO BE COMPLETED ON A.I.S.


RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

CR 114 (HARTNECK RD.) 141915U

INDEX AND REVISIONS
VALLEY CITY, OH M.P. BJA-142.34

DESIGNED PRS/TDF	DIGITIZED PRS/RS	CHECKED PRS/SAF	DATE 02-26-18
DRAWING -----	SHEET NO -----	FILE BJA14234	SHEET I01



APPROACH LENGTHS TABLE	EASTBOUND MAIN CWT	WESTBOUND MAIN CWT
DC, AFO, TYPE C, MOTION, CWT, OR OTHER		
STANDARD MINIMUM WARNING TIME IN SECONDS	25	25
ROADWAY GATE TIME IN SECONDS	5	5
CLEARANCE TIME IN SECONDS	0	0
DOT TRAFFIC LIGHT SIMULTANEOUS PREEMPT TIME IN SECONDS *	0	0
PRESCRIBED WARNING TIME FOR TRAINS AT TIME TABLE SPEED	30 SEC.	30 SEC.
DOT TRAFFIC LIGHT ADVANCE PREEMPT TIME IN SECONDS *	0	0
CONTROL EQUIPMENT DECISION TIME IN SECONDS	5	5
DESIGNED DETECTION TIME FOR TRAINS AT TIME TABLE SPEED	35 SEC.	35 SEC.
TIME TABLE MAXIMUM TRAIN SPEED IN MILES PER HOUR	25	25
BUFFER SPEED IN MILES PER HOUR	5	5
TOTAL WARNING SYSTEM DESIGN SPEED IN MILES PER HOUR	30	30
APPROACH DISTANCE TO ISLAND EDGE IN FEET	1504	1504
HALF WIDTH OF ISLAND IN FEET	60	60
APPROXIMATE MILE POSTS FOR APPROACH CIRCUIT	142.60	142.01

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

Minimum Program Steps Report

Location and SIN

DOT Number: 141915U
Milepost Number: BJA-142.34
Site Name: CR 114 (HARTNECK RD)

SIN: 712543702716 *

* Parameter is part of office check number calculation.

MCF and Template Selection

MCF Name: GCP-T6X-02-6.mcf
MCF Revision: 26
MCFCRC: 494D2656

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

* Parameter is part of office check number calculation.

Minimum Program Steps

MS4000 configuration
Track 1 : GCP Frequency = 645 Hz (OCCN,TCN) (Hidden) *
Track 1 : Isl Frequency = 13.2 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 = 645 Hz (OCCN,TCN) *
Track 1 : Approach Distance = 1504 ft (OCCN,TCN) *
Track 1 : Island Distance = 120 ft (Set in Field,TCN)

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

ISLAND: track 1
Track 1 : Isl Frequency = 13.2 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) *
Rly 1 = Ground Fault Test (OCCN) *
Rly 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 = 645 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: 3447EC2B
Config. Check Number: 3A3DC033
(Based on MCF Revision 26)

Parameters not part of office check number calculation:

Track 1 : Island Distance = 120 ft (Set in Field)
Daylight Savings = 0n (Set in Field)

Comments

<none>

THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED: 04/24/12
CSX PROJECT #: 0H2012044

PROGRESS
RAIL SERVICES
A Caterpillar Company
NEW WORK
DATE: 02/26/18
CSX #: 0H2017301
PRS/TDF/SAF

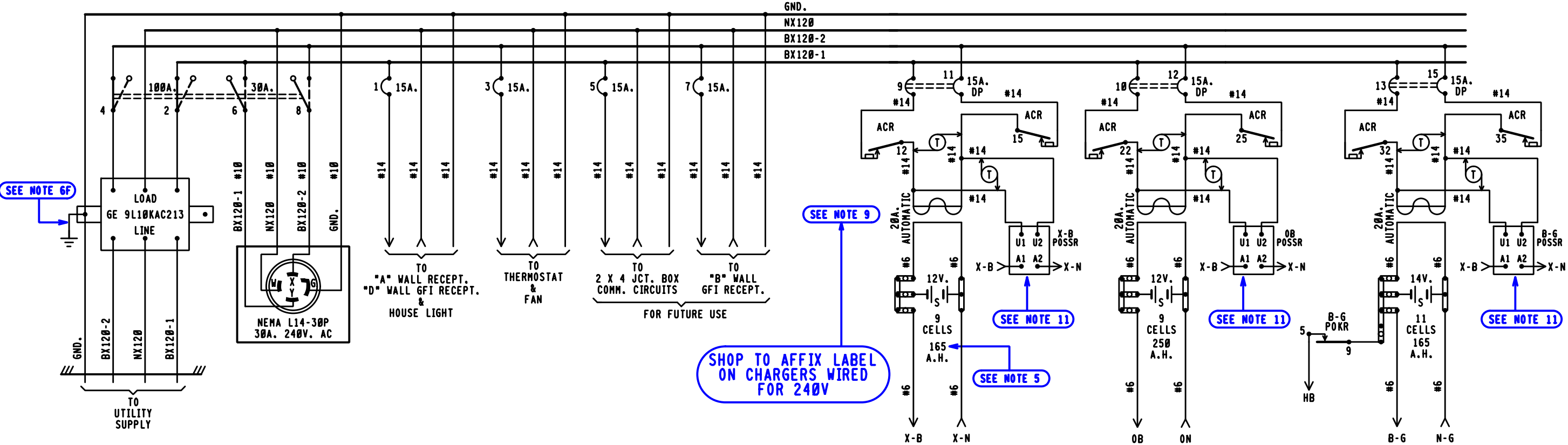
CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

CR 114 (HARTNECK RD.) 141915U

MINIMUM PROGRAM STEPS REPORT CWE-34
VALLEY CITY, OH M.P. BJA-142.34

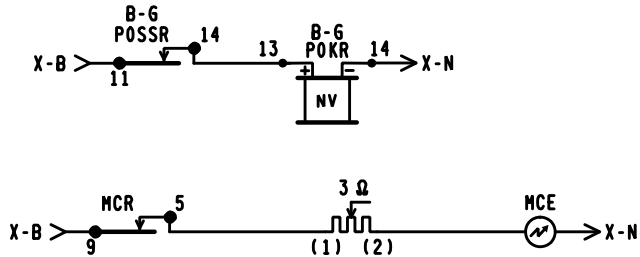
DESIGNED PRS/TDF	DIGITIZED PRS/RS	CHECKED PRS/SAF	DATE 02-26-18
DESIGN DATE 02-26-18	REV. NO. 1	DRAWING -----	SHEET P01

	<u>ACR</u>		<u>MCR</u>											
	<u>12</u>	<u>B</u>	<u>B77</u>	<u>9</u>								<u>F</u>	<u>11</u>	<u>N41</u>
	<u>15</u>	<u>B</u>		<u>10</u>								<u>—</u>	<u>12</u>	
	<u>22</u>	<u>B</u>	<u>C30</u>											<u>C49</u>
	<u>25</u>	<u>B</u>												
	<u>32</u>	<u>B</u>	<u>B-G POKR</u>											
	<u>35</u>	<u>B</u>		<u>9</u>								<u>F</u>	<u>11</u>	<u>N41</u>
			<u>10</u>	<u>F</u>	<u>12</u>	<u>C48</u>								



BX120-1	BX120-2
11.0 AMPS	11.0 AMPS
MAXIMUM LOAD CALCULATED PER SS360	

- NOTES:
- 1 - REFERENCES ARE PER SCMS-13.
 - 2 - ARRESTERS ARE PER SS302.
 - 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- Q0124L125G (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-6 POSSR				
11	F	21	F	N70	11	F	21	F	N70	11	F	21	F	N70

WALL/DIN RAIL MOUNTED

THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 04/24/12
CSX PROJECT # 0H2012044

PROGRESS
RAIL SERVICES
A Caterpillar Company
NEW WORK
DATE: 02/26/18
CSX # 0H2017301
PRS/TDF/SAF

6'X 6' PTC CROSSING HOUSE

CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
CR 114 (HARTNECK RD.) 141915U			
POWER DISTRIBUTION VALLEY CITY, OH M.P. BJA-142.34			
DESIGNED PRS/TDF	DIGITIZED PRS/RS	CHECKED PRS/SAF	DATE 02-26-18
DRAWING -----	SHEET NO -----	FILE BJA14234	SHEET E01

DESIGN DATE 02-26-18	REV. NO. 1
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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		A89468
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.

THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 04/24/12
CSX PROJECT # 0H2012044

PROGRESS
RAIL SERVICES
A Caterpillar Company
DATE: 02/26/18
CSX # 0H2017301
NEW WORK
PRS/TDF/SAF

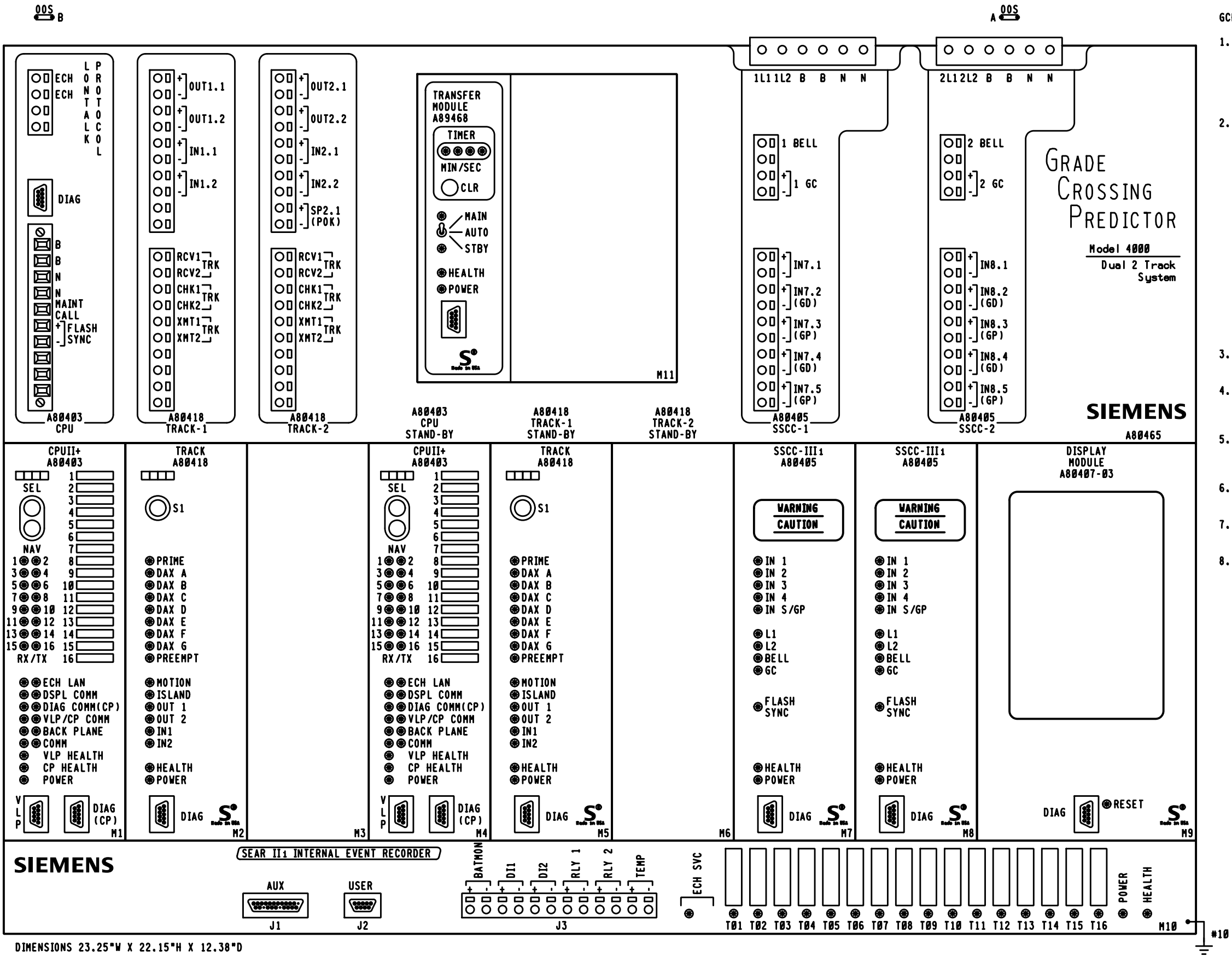
CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

CR 114 (HARTNECK RD.) 141915U

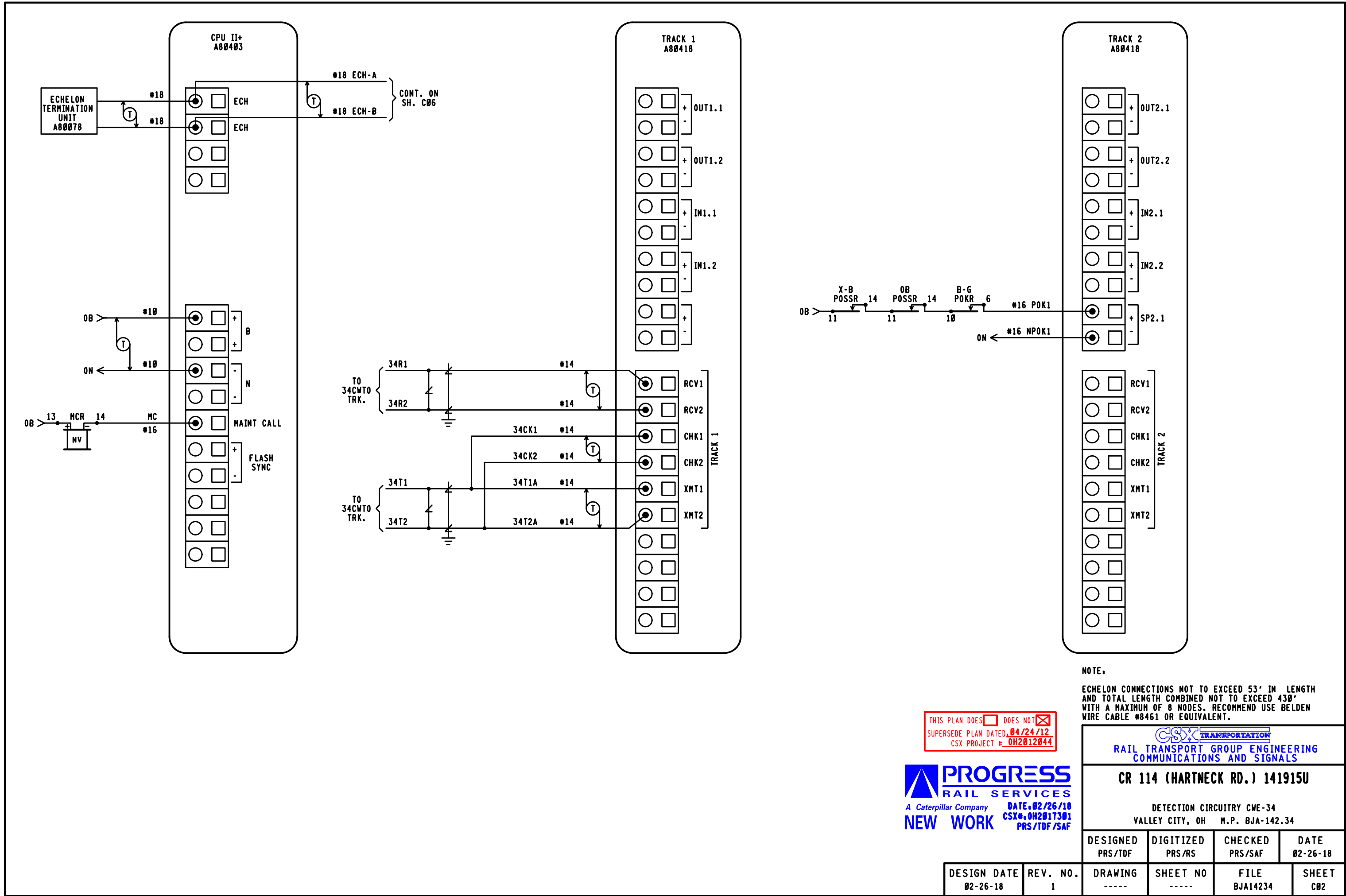
DETECTION DEVICE CONSIST CWE-34
VALLEY CITY, OH M.P. BJA-142.34

DESIGNED PRS/TDF	DIGITIZED PRS/RS	CHECKED PRS/SAF	DATE 02-26-18
DRAWING -----	SHEET NO -----	FILE BJA14234	SHEET C01

DESIGN DATE 02-26-18	REV. NO. 1
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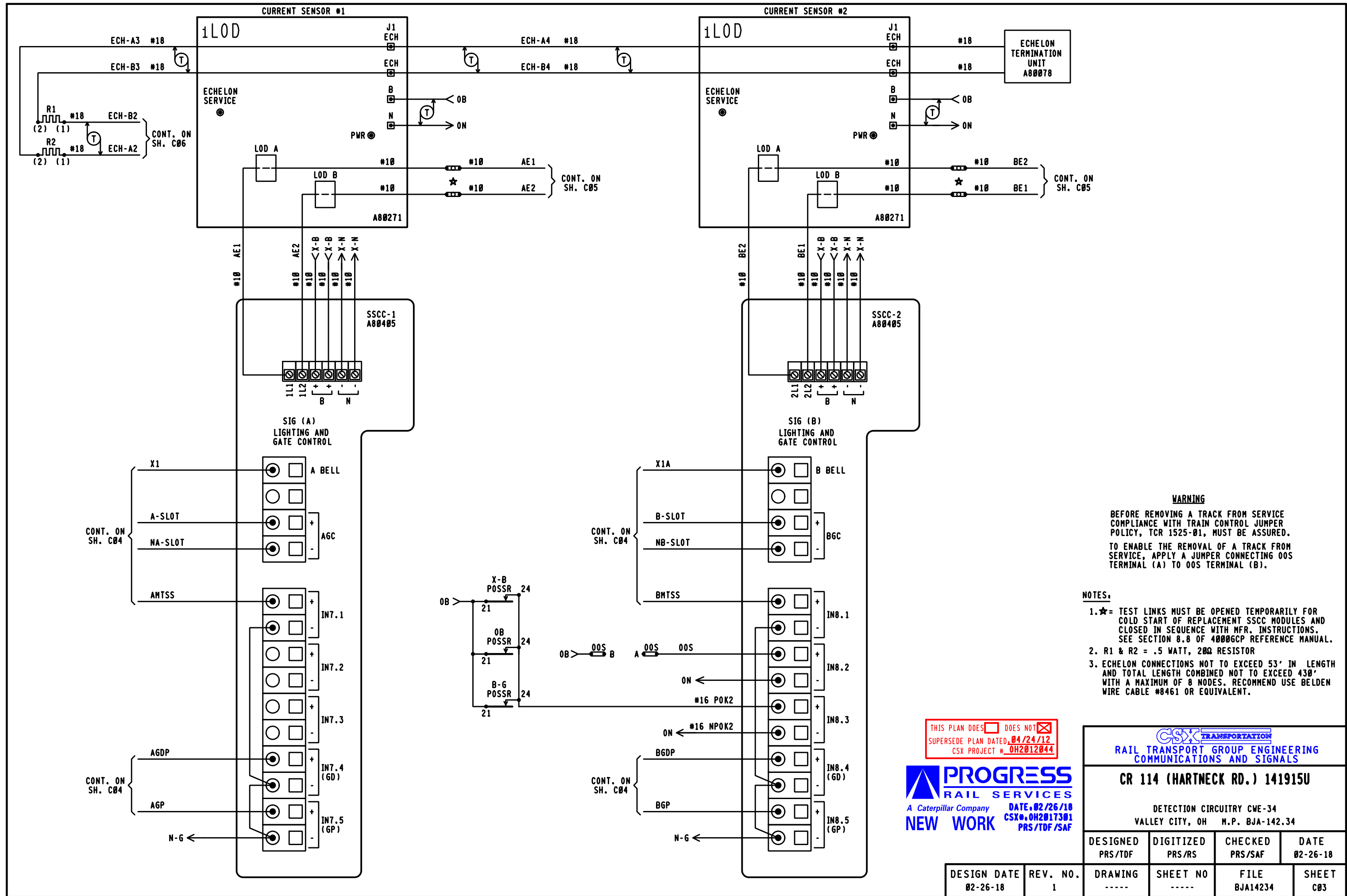
DIMENSIONS 23.25"W X 22.15"H X 12.38"D

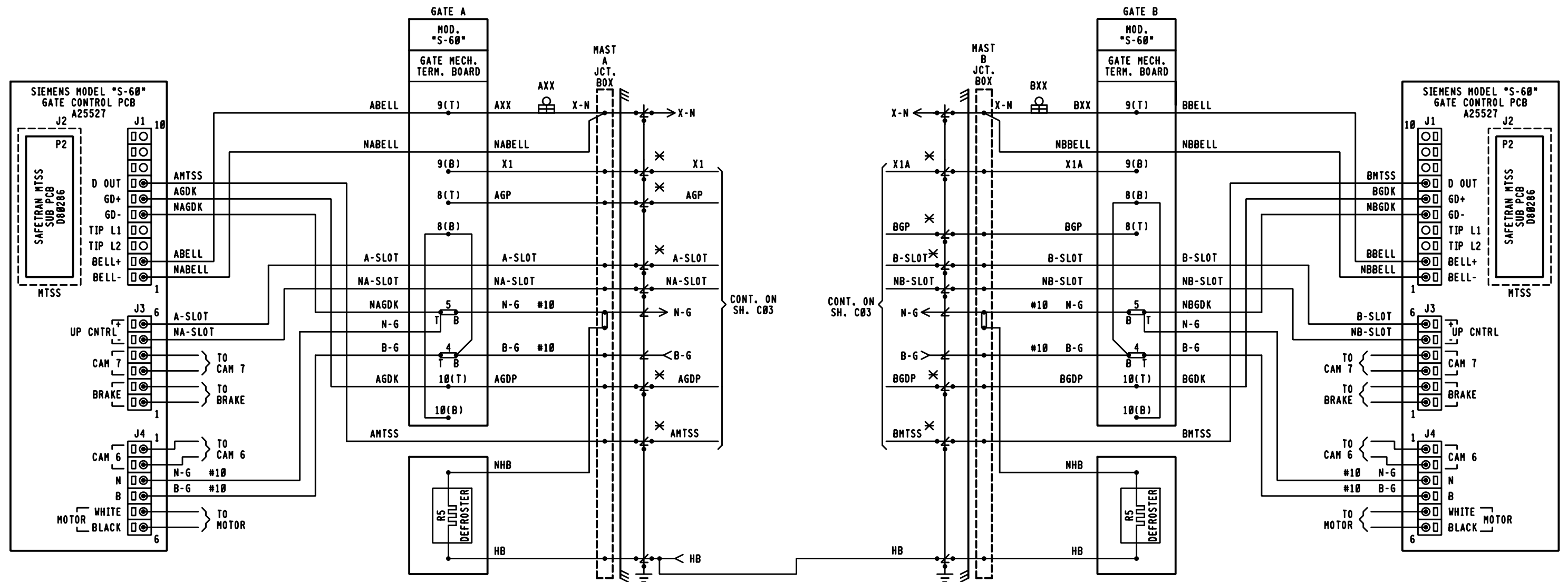


THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 04/24/12
CSX PROJECT # 0H2012044

PROGRESS
RAIL SERVICES
A Caterpillar Company
NEW WORK
DATE: 02/26/18
CSX # 0H2017301
PRS/TDF/SAF

CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
CR 114 (HARTNECK RD.) 141915U			
DETECTION CIRCUITRY CWE-34 VALLEY CITY, OH M.P. BJA-142.34			
DESIGNED PRS/TDF	DIGITIZED PRS/RS	CHECKED PRS/SAF	DATE 02-26-18
DESIGN DATE 02-26-18	REV. NO. 1	DRAWING -----	SHEET C02





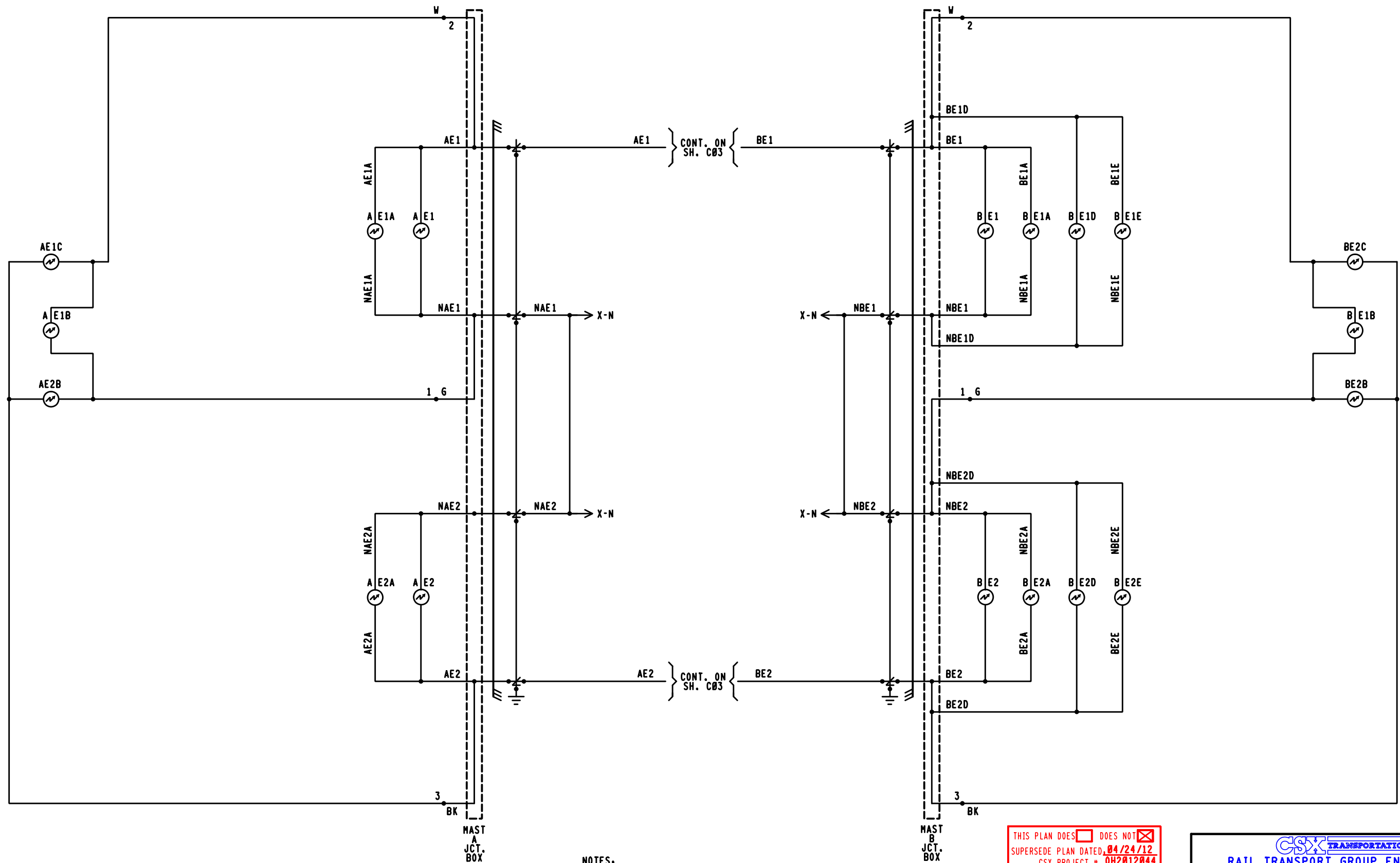
- NOTES:
- ✕ = TEST LINKS MUST BE OPEN TEMPORARILY FOR COLD START OF REPLACEMENT SSCC MODULES AND CLOSED IN SEQUENCE WITH MFR. INSTRUCTIONS. SEE SECTION 8.8 OF 40006CP REFERENCE MANUAL.
 - ⬢ = TERMINAL IN JCT. BOX BASE
 - ALL WIRING #16 UNLESS NOTED OTHERWISE.
 - HLVA2-1675-01 HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.

THIS PLAN DOES ☐ DOES NOT ☒
 SUPERSEDE PLAN DATED 04/24/12
 CSX PROJECT # 0H2012044

PROGRESS
 RAIL SERVICES
 A Caterpillar Company
 NEW WORK
 DATE: 02/26/18
 CSX # 0H2017301
 PRS/TDF/SAF

CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
CR 114 (HARTNECK RD.) 141915U			
CROSSING WARNING DEVICE GATE CIRCUITRY VALLEY CITY, OH H.P. BJA-142.34			
DESIGNED PRS/TDF	DIGITIZED PRS/RS	CHECKED PRS/SAF	DATE 02-26-18
DRAWING -----	SHEET NO -----	FILE BJA14234	SHEET C04

DESIGN DATE 02-26-18	REV. NO. 1
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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
6.  = HLVA2-1675-01 HYBRID LOW VOLTAGE ARRESTER, UNLESS NOTED.

THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 04/24/12
CSX PROJECT # 0H2012044

PROGRESS
RAIL SERVICES
A Caterpillar Company
NEW WORK
DATE: 02/26/18
CSX # 0H2017301
PRS/TDF/SAF

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

CR 114 (HARTNECK RD.) 141915U

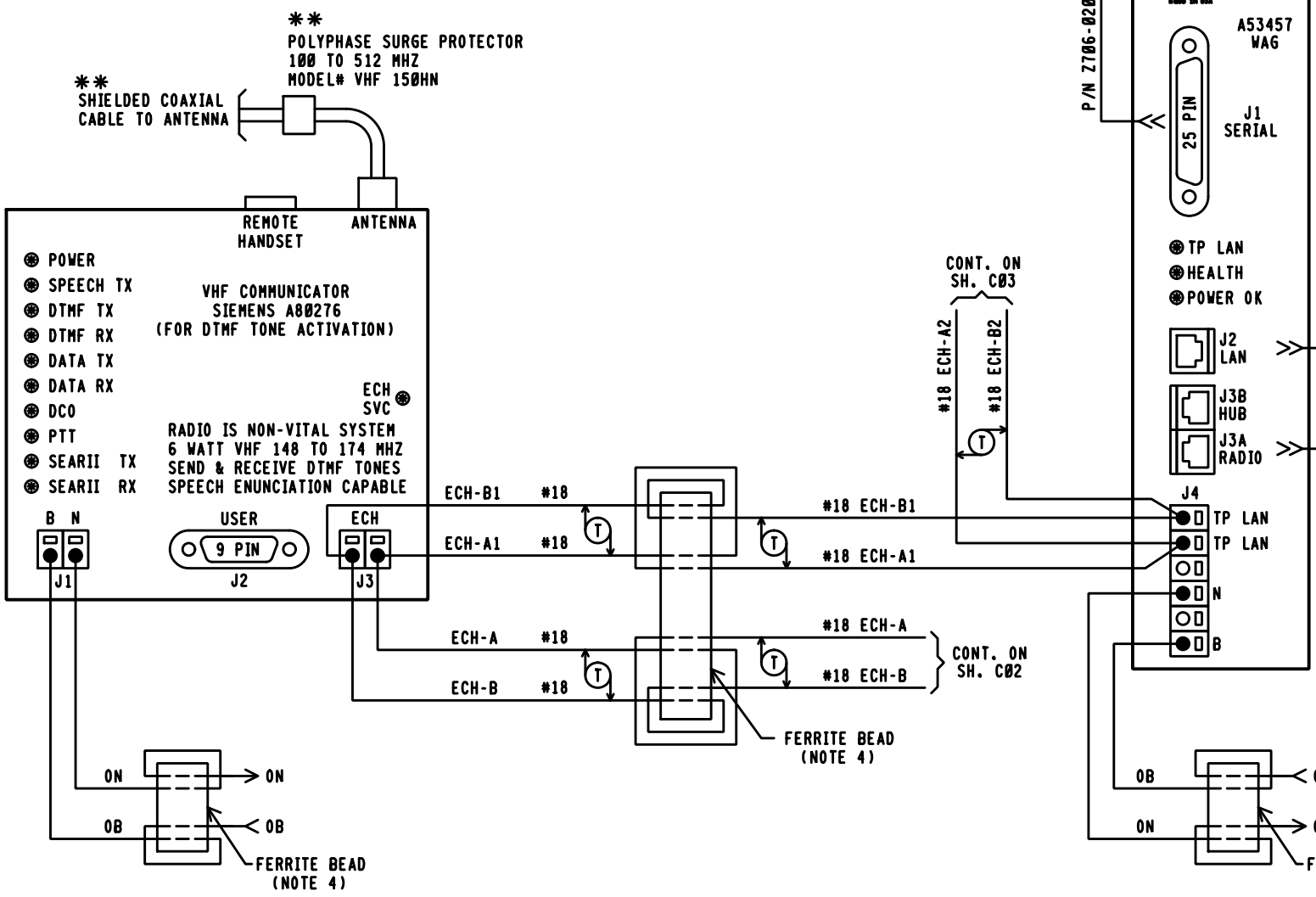
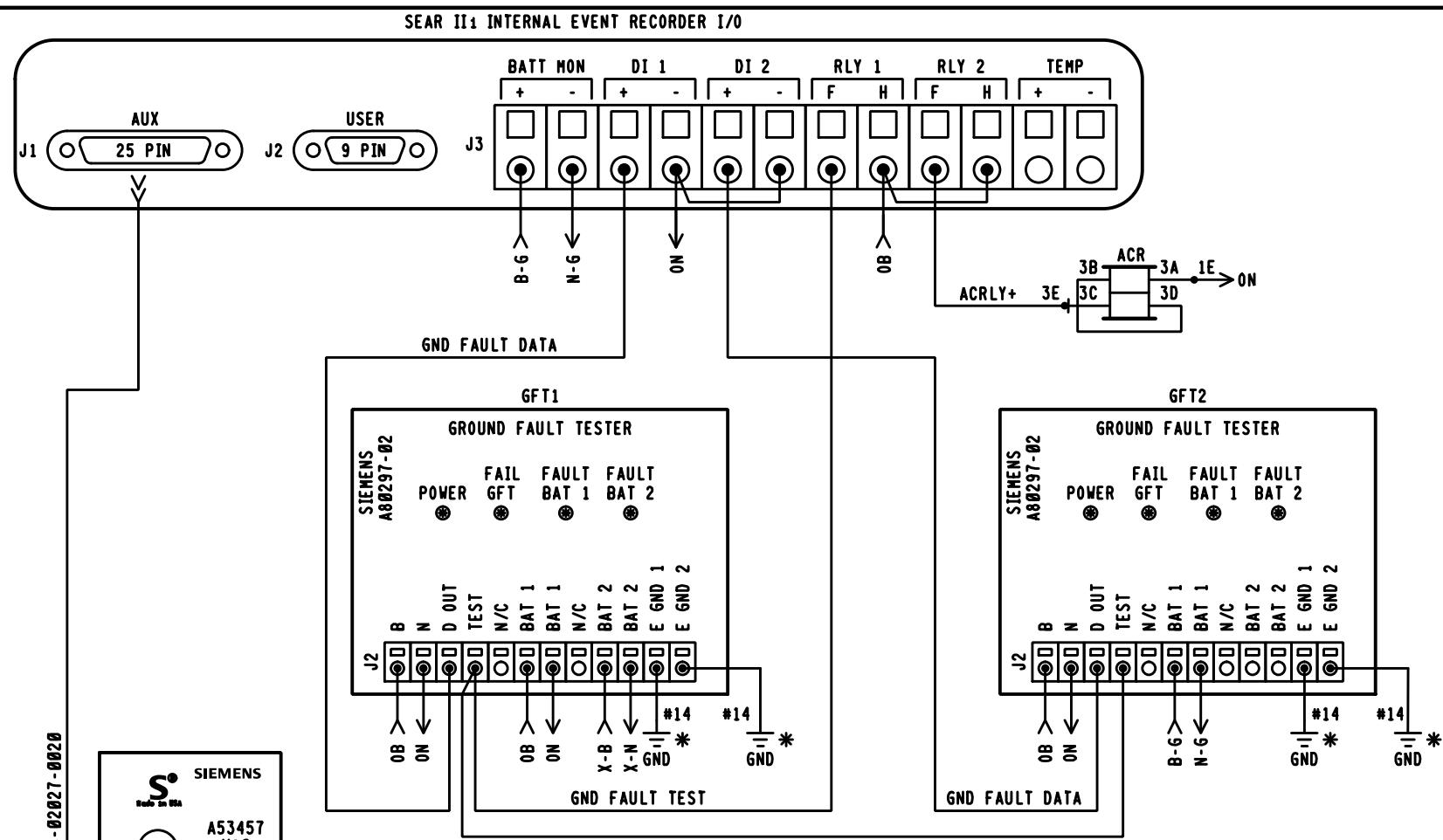
CROSSING WARNING DEVICE LIGHT CIRCUITRY
VALLEY CITY, OH H.P. BJA-142.34

DESIGNED PRS/TDF	DIGITIZED PRS/RS	CHECKED PRS/SAF	DATE 02-26-18
DRAWING -----	SHEET NO -----	FILE BJA14234	SHEET C05

DESIGN DATE 02-26-18	REV. NO. 1
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WAYSIDE ACCESS GATEWAY CONFIGURATION	
SITE ATCS ADDRESS	7.125.437.027.07.01 7.125.LLL.666.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--7RRLLL666SS
IP NETWORK MASK	255.255.255.0
WAG CIRCUIT ID	DISABLE
ROUTING REGION DOMAIN 1	0C6SERVER1.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



TP LAN
HEALTH
POWER OK

J2 LAN

J3B HUB

J3A RADIO

J4 TP LAN
TP LAN
N
B

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

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

- COMM NOTES.
- WAG J3A PINOUTS:
4 & 5 = +12VDC RADIO OUT
7 & 8 = GND RADIO RETURN
 - WAG AND SEARII₁ 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.

THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 04/24/12
CSX PROJECT # 0H2012044

PROGRESS
RAIL SERVICES
A Caterpillar Company
DATE: 02/26/18
CSX # 0H2017301
PRS/TDF/SAF

DESIGN DATE 02-26-18
REV. NO. 1

GCP PROGRAMMING FOR VHF RADIO

REMOTE DTMF CROSSING ACTIVATION
(ACTIVATES ENTIRE CROSSING)

TO ACTIVATE PRESS. 915#

TO DE-ACTIVATE PRESS. 915#

(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.

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

CR 114 (HARTNECK RD.) 141915U

CROSSING WARNING DEVICE CIRCUITRY
VALLEY CITY, OH M.P. BJA-142.34

DESIGNED PRS/TDF	DIGITIZED PRS/RS	CHECKED PRS/SAF	DATE 02-26-18
DRAWING -----	SHEET NO -----	FILE BJA14234	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 114 (HARTNECK RD.)	
MILEPOST	BJA-142.34	
DOT NUMBER	141915U	
TESTER TYPE	CROSSING	
DATE FORMAT	MM-DD-YYYY	
TEMP FORMAT	FAHRENHEIT	
INDICATE HOLD (SEC)	0	
INDICATE REFRESH (SEC)	60	
SITE ATCS ADDRESS	7.125.437.027.99.01 (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	☒ WAG (ECHELON) ☐ DIRECT (RS232) ☐ MCM (ECHELON) ☐ MCM (RS232) ☐ DIAL MODEM ☐ S200 RADIO (RS422)	
RADIO ATCS ADDR	7.125.437.027.07.01 (7.RRR.LLL.GGG.NN.01)	
FIELD COMM. DEVICE	☐ WAG (ECHELON) ☒ NONE ☐ VHF COMM. (ECHELON) ☐ VHF COMM. (RS232) ☐ 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	☐ BULBS ☒ LED	X.X
CURRENT SENSOR (1) AE2, LAMP SET UP	4	☐ BULBS ☒ LED	X.X
CURRENT SENSOR (2) BE1, LAMP SET UP	6	☐ BULBS ☒ LED	X.X
CURRENT SENSOR (2) BE2, LAMP SET UP	6	☐ BULBS ☒ LED	X.X

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	0B	_____ VOLTS
BATTERY VOLTAGE	X-B	_____ VOLTS
BATTERY VOLTAGE	B-6	_____ VOLTS

NOTE 6

PROGRAM MENU SELECT	
EDIT DIGITAL INPUTS	☒ NO ☐ YES
EDIT BATTERIES	☒ NO ☐ YES
EDIT RELAYS	☒ NO ☐ YES
EDIT TEST LED'S	☒ NO ☐ YES
EDIT ILOD1 SENSOR ★	☒ NO ☐ YES
EDIT ILOD2 SENSOR ★	☒ NO ☐ YES
EDIT ILOD3 SENSOR ★	☒ NO ☐ YES
EDIT ILOD4 SENSOR ★	☒ NO ☐ YES
EDIT VHF SETTINGS	☒ NO ☐ YES
GCP4K ATCS SUBNODE	16

★ STAR = OPTIONS SHOWN DEPENDANT ON
NUMBER OF ILODS SELECTED

NOTE 9

CONTROL SYSTEM CONFIGURATION MENU QUESTIONS	
OPTION	SELECTION
RESET NAMES / MODULES	NO ☒ YES ☐
RAILROAD NUMBER	125
CROSSING CONFIGURATION	NORMAL ☒ SPLIT GATE ☐ EXTERNAL ENTRANCE GATE CONTROLLER(S) ☐
AND1 USED AS XR	NO ☐ YES ☒
AND2 USED AS XR	NO ☒ YES ☐
AND3 USED AS XR	NO ☒ YES ☐
AND4 USED AS XR	NO ☒ YES ☐
AND5 USED AS XR	NO ☒ YES ☐
AND6 USED AS XR	NO ☒ YES ☐
AND7 USED AS XR	NO ☒ YES ☐
AND8 USED AS XR	NO ☒ YES ☐
ENTRANCE GATES*	0 ☐ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐
GATE POSITION FAIL*	20 SECS.
BATTERY BANKS*	1 ☐ 2 ☒ 3 ☐
BATT MON USED*	NO ☐ YES ☒
OB RESOLUTION*	0.2 ☐ 0.5 ☐ 1.0 ☒
X-B RESOLUTION*	0.2 ☐ 0.5 ☐ 1.0 ☒ NOT PRESENT ☐
X-B2 RESOLUTION*	0.2 ☐ 0.5 ☐ 1.0 ☐ NOT PRESENT ☒
BATT MON RESOLUTION*	0.2 ☐ 0.5 ☐ 1.0 ☒ NOT PRESENT ☐
INTERNAL CROSSING CONTROLLERS*	0 ☐ 1 ☐ 2 ☒
EXTERNAL CROSSING CONTROLLERS*	0 ☒ 1 ☐ 2 ☐
VHF COMMUNICATOR*	YES ☒ NO ☐
DTMF ACTVATION*	YES ☒ NO ☐
ACTIVATION CODE	915
ACTIVATION TIMEOUT	(60 SEC)
ILOD MODULES*	0 ☐ 1 ☐ 2 ☒ 3 ☐ 4 ☐
ANY LED BULBS USED*	NO ☐ YES ☒
AUTO INSPECTIONS*	YES ☐ NO ☒
BELL SENSORS*	0 ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐
BELL SENSOR TSS 1*	NO ☒ YES ☐
BELL SENSOR TSS 2*	NO ☒ YES ☐
BELL SENSOR TSS 3*	NO ☒ YES ☐
BELL SENSOR TSS 4*	NO ☒ YES ☐
BELL SENSOR TSS 5*	NO ☒ YES ☐
BELL SENSOR TSS 6*	NO ☒ YES ☐
BELL SENSOR TSS 7*	NO ☒ YES ☐
BELL SENSOR TSS 8*	NO ☒ YES ☐
BELL ON*	GATES LOWERING ☒ GATES MOVING ☐ ALWAYS ☐
GFT'S	YES ☒ NO ☐
BATTERIES ON GFT1	1 ☐ 2 ☒
GATE TIP SENSORS*	YES ☐ NO ☒
RTU	NO ☒ YES ☐
VHF VOICE CHANNEL	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐
VHF DATA CHANNEL	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐
USE NON-CRITICAL FEATURE*	NO ☒ YES ☐
FULL APPROACH MOVE ALARMS*	ACTIVATE ☒ DO NOT ACTIVATE ☐
ENABLE PASSWORD	NO ☒ YES ☐

NOTES.

- OPTION AVAILABLE IF VHF COMMUNICATOR = YES
LAST 3 DIGITS OF DOT NUMBER.
- OPTION AVAILABLE IF ILODS.
- 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



THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED: 04/24/12
CSX PROJECT # 0H2012044

DESIGN DATE
02-26-18

REV. NO.
1

DESIGNED
PRS/TDF

DIGITIZED
PRS/RS

CHECKED
PRS/SAF

DATE
02-26-18

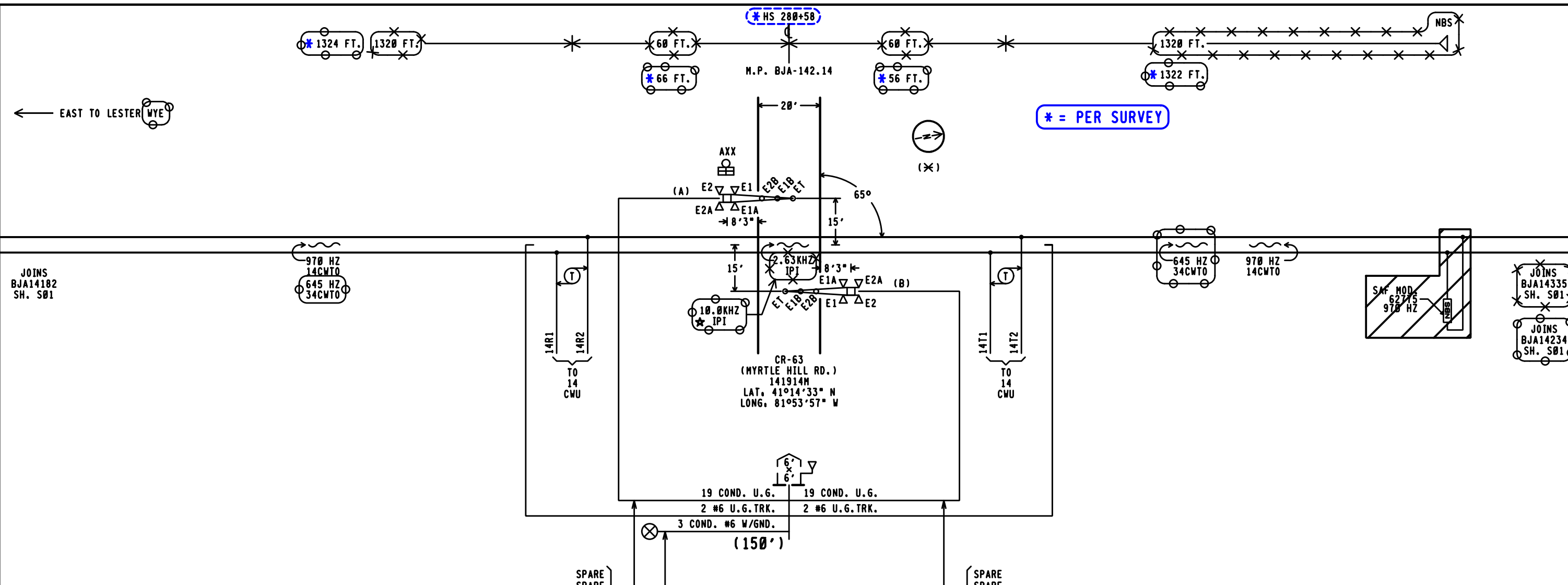
CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

CR 114 (HARTNECK RD.) 141915U

SEAR II: CONFIGURATION & FUNCTIONS
VALLEY CITY, OH M.P. BJA-142.34

FILE
BJA14234

SHEET
C07



APPROACH LENGTHS TABLE	WESTWARD ★ EASTWARD	
	NORTHWARD	SOUTHWARD
DC, AFO, TYPE C, MOTION, CWT, OR OTHER	MAIN CWT	MAIN CWT
STANDARD MINIMUM WARNING TIME IN SECONDS	20	20
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	26 SEC.	26 SEC.
DOT TRAFFIC LIGHT ADVANCE PREEMPT TIME IN SECONDS *	0	0
CONTROL EQUIPMENT DECISION TIME IN SECONDS	5	5
DESIGNED DETECTION TIME FOR TRAINS AT TIME TABLE SPEED	31 SEC.	31 SEC.
TIME TABLE MAXIMUM TRAIN SPEED IN MILES PER HOUR	25	25
BUFFER SPEED IN MILES PER HOUR	5	5
TOTAL WARNING SYSTEM DESIGN SPEED IN MILES PER HOUR	30	30
APPROACH DISTANCE TO ISLAND EDGE IN FEET	1324	1320
HALF WIDTH OF ISLAND IN FEET	66	60
APPROXIMATE MILE POSTS FOR APPROACH CIRCUIT	141.88	142.40

* AUTHORIZING AGENCY, NONE

* DATE OF REQUIREMENT, NONE

* AMOUNT OF TIME (SEC.), NONE

- SPARE
SPARE
SPARE
SPARE
X-N
XA
X1
AGP
A-SLOT
NA-SLOT
AGDP
AMTSS
HB
N-G
B-G
AE1
NAE1
NAE2
AE2

#6
- BX120-1
BX120-2
NX120
GND.
- SPARE
SPARE
SPARE
SPARE
SPARE
XA
X1A
BGP
B-SLOT
NB-SLOT
BGDP
BMTSS
HB
N-G
B-G
BE1
NBE1
NBE2
BE2

#6

PROGRESS RAIL SERVICES

A Caterpillar Company

DATE: 02/26/18

CSX# 0H2017301

PRS/TDF/SAF

NOTES:

- 12" LED MAXIMUM CURRENT 1.7A AT 10 VOLTS LED GATE ARM LIGHTS .3A MAXIMUM
- GATE LENGTH (A) 17' (B) 17'
- (X) = LOCATION OF 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.

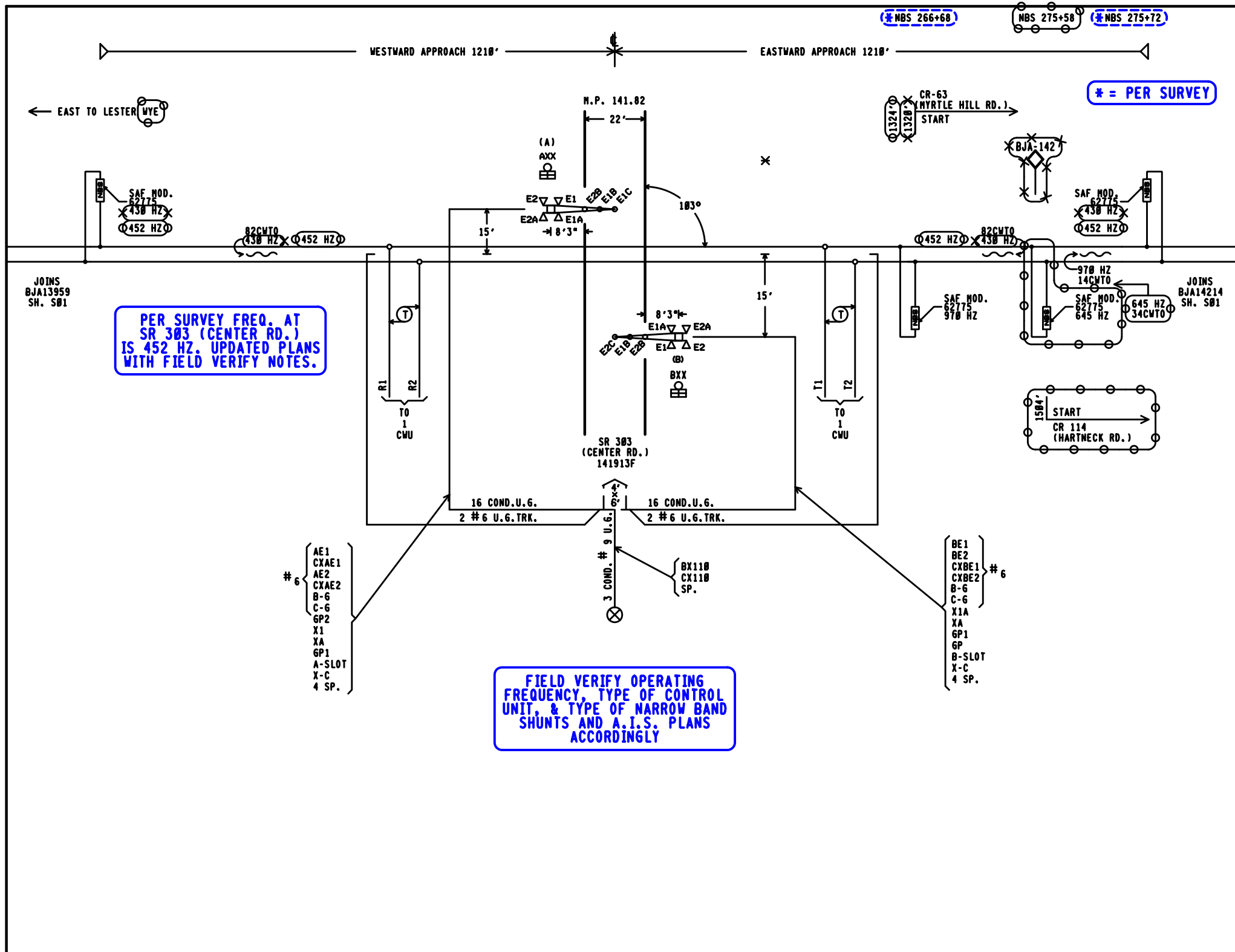
RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS

CR-63 (MYRTLE HILL RD.) 141914M

TRACK AND SIGNAL PLAN

VALLEY CITY, OH M.P. BJA-142.14

DESIGNED SAF/JWR	DIGITIZED SAF/JWR	CHECKED SAF/SWS	DATE 10-01-08
DRAWING	SHEET NO	FILE BJA14214	SHEET S01



*NBS 266+68 NBS 275+58 *NBS 275+72
* = PER SURVEY

PER SURVEY FREQ. AT
SR 303 (CENTER RD.)
IS 452 HZ. UPDATED PLANS
WITH FIELD VERIFY NOTES.

FIELD VERIFY OPERATING
FREQUENCY, TYPE OF CONTROL
UNIT, & TYPE OF NARROW BAND
SHUNTS AND A.I.S. PLANS
ACCORDINGLY

NOTE:
20 WATT BULBS ON GATE ARMS ALL OTHERS
WILL BE 25 WATT BULBS.
X = LOCATION OF HOUSE
LENGTH OF GATE (A) 18' GATE (B) 18'

PROGRESS
RAIL SERVICES
A Caterpillar Company

DATE: 02/26/10
CSX 0H2017301
PRS/TDF/SAF

--- = NOTE
--- = EXISTING
X X = OUT
O O = IN

REVISIONS			
A.I.S. SAFETRAM 8/31/90			
02-05-08 SAF 0H2007043			
05-13-09 SAF 0H2008064, 0H2008065			
05-30-13 XRL 0H2013020			

RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
SR 303 (CENTER RD.) 141913F			
TRACK AND SIGNAL PLAN VALLEY CITY, OH M.P. BJA-141.82			
DESIGNED SAFETRAM	DIGITIZED SAFETRAM	CHECKED SAFETRAM	DATE 6-29-89
DRAWING -----	SHEET NO -----	NEXT SH -----	
NEXT FILE BJA14182	NEXT SH E01	FILE BJA14182	SHEET S01

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7/24/2018 5:39:35 PM

in

Case No(s). 17-2468-RR-STP

Summary: Memorandum In the Matter of a Request for the Installation of Active Warning Devices at the CSX Transportation Inc. Railroad Crossing on Hartneck Road (DOT#141-915U) in Medina County, Liverpool Township, Ohio. electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division