

# Memo

**To:** Docketing Division

**From:** Thomas Persinger, Rail Project Specialist, Rail Division

**Cc:** PUCO Legal Department

**Date:** 9-15-2022

**Re:** PUCO Case No. 22-879-RR-FED- In the Matter of a Request for the Installation of Active Warning Devices at the Columbus and Ohio River Railroad Grade Crossing, DOT# 151-993D at East Main Street in Licking County, Ohio.

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On February 8, 2021, the Ohio Rail Development Commission (ORDC) authorized funding for Columbus and Ohio River Railroad (CUOH) to install lights and gates at East Main Street (DOT#151993D) in Licking County, Ohio. The crossing was surveyed, on October 24, 2019, and was found to warrant the upgrade. The electric utility provider for this crossing is AEP Ohio.

The project will be paid for with federal funds and is actual cost. The plans and estimates for the project in the amount of \$287,580.00 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:**

Columbus and Ohio River Railroad  
Jared Rishel  
AVP Engineering Northern Region  
Genesee & Wyoming Inc.  
47849 Paper Mill Road  
Coshocton, OH 43812

Alfred Benesch & Company  
Benjamin Biesterveld  
G&W Consultant  
4614 Red Fox Road  
Oshkosh, WI 54904

Ohio Rail Development Commission  
Alan Bell  
Manager, Grade Crossing Programs  
1980 West Broad Street  
Mail Stop #3140  
Columbus, OH 43223

City of Newark  
Brian Moorhead  
City Engineer  
40 West Main Street  
Newark, OH 43055

AEP Ohio

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

**TO:** John Williams, Director, Transportation Department, PUCO

**FROM:** Allen Bell, Manager, Safety Section, ORDC

**BY:** Greg Gronbach, Project Manager, Safety Section, ORDC

**SUBJECT:** Construction Authorization for LIC CUOH East Main St DOT# 151993D  
PID# 114046

**DATE:** September 15, 2022

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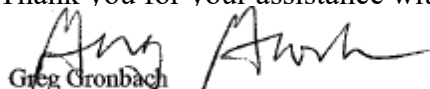
The Public Utilities Commission of Ohio (PUCO) established a diagnostic survey at the subject location on October 24, 2019. The Ohio Rail Development Commission (ORDC) attended the review. The Diagnostic Team recommended the improvement of warning devices to flashing lights and roadway gates. Copies of the diagnostic review form and the plan and estimate are attached.

PE has already been provided by the 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.

  
Greg Gronbach  
Project Manager

Attachment: Diagnostic Review  
Letter Agreement  
PE Authorization  
Plan, Estimate & Material List  
Construction Authorization

c: Jill Henry, Rail Chief, PUCO

Tom Persinger, Rail Specialist, PUCO  
Heather Hamilton, ORDC  
ORDC (file)



## Rail Development Commission

Mike DeWine, Governor  
Jon Husted, Lt. Governor

Scott Corbitt, Chair

September 15, 2022

Mr. Len Wagner  
President & Legal Official (SVP)  
Genesee & Wyoming/CUOH  
201 N. Penn Street  
Punxsutawney, PA 15767

RE: Construction Authorization for LIC CUOH East Main St DOT# 151993D PID# 114046

Dear Mr. Wagner:

The plan dated November 29, 2021, and estimate dated August 10, 2022, for the referenced project is acceptable. Genesee & Wyoming/CUOH may proceed with the construction of the proposed grade crossing warning system in accordance with the abbreviated plan. Construction may include but is not limited to circuitry design, installation of service poles, procurement of materials and signal construction.

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. Reimbursement of eligible actual cost is limited to \$287,580.00. Additional costs must be approved in writing by the Ohio Rail Development Commission (ORDC) prior to being incurred. Emergency verbal authorizations by ORDC may be permitted and will be confirmed by ORDC in writing within ten (10) business days of the verbal approval.

This authorization is contingent upon Genesee & Wyoming/CUOH accepting the following instructions:

1. Genesee & Wyoming/CUOH's project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to Greg Gronbach, ORDC, email [Gregory.Gronbach@dot.ohio.gov](mailto:Gregory.Gronbach@dot.ohio.gov), and to the Public Utilities Commission of Ohio at [thomas.persinger@puco.ohio.gov](mailto:thomas.persinger@puco.ohio.gov). Genesee & Wyoming/CUOH's 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. Genesee & Wyoming/CUOH 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 Genesee & Wyoming/CUOH.
3. Genesee & Wyoming/CUOH's project foremen will notify Mr. Gronbach at 614-745-6760 (telephone) or [Gregory.Gronbach@dot.ohio.gov](mailto:Gregory.Gronbach@dot.ohio.gov) (email) of any changes in the scope of work,



cost overruns, material changes, etc. which are not included in the approved plan and estimate and secure approval of same before the work is performed.

4. 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. Genesee & Wyoming/CUOH will furnish two (2) copies of each partial bill to ORDC. Please find the enclosed ODOT Purchase Order to reference when billing.
6. Genesee & Wyoming/CUOH 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.

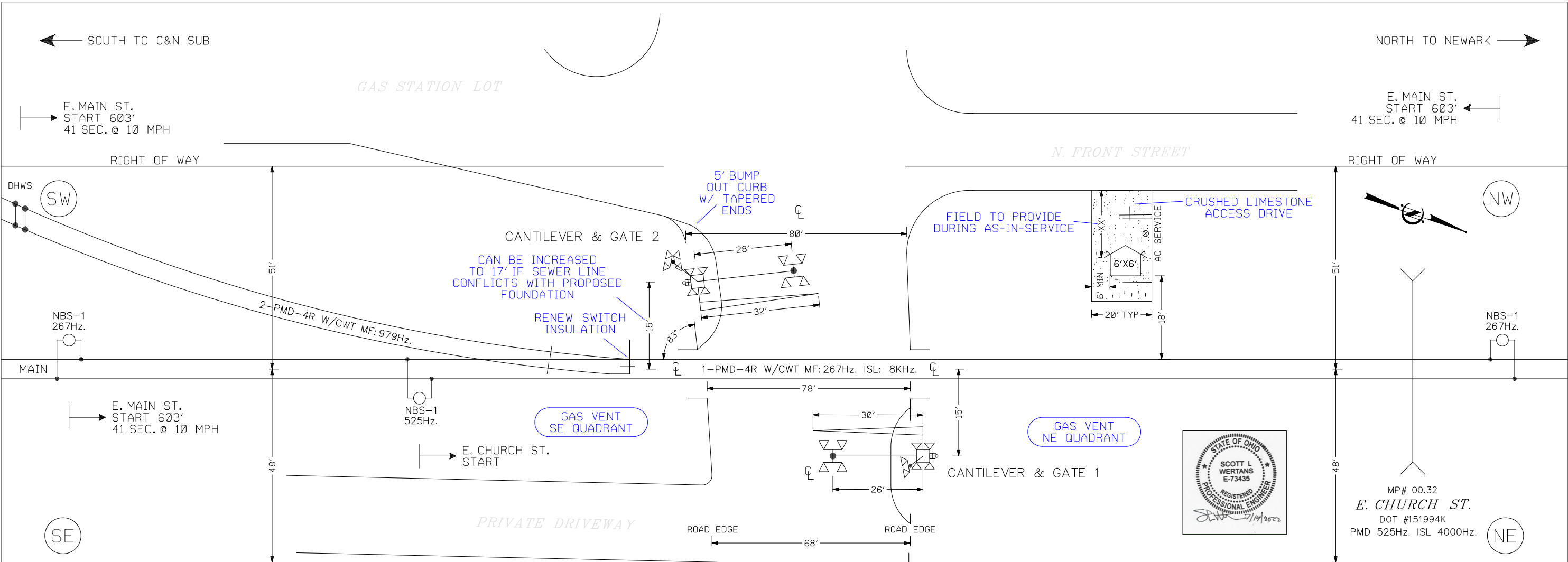
Thank you for your assistance with these matters.

Sincerely,

  
Greg Gronbach  
Project Manager

C: John Williams, Director, Transportation Department, PUCO  
Jill Henry, Rail Chief, PUCO  
Tom Persinger, Rail Specialist, PUCO  
Heather Hamilton, ORDC  
ORDC (file)





APPROACH DISTANCE CALCULATION		
	SOUTH	NORTH
ACTUAL PRIME CROSSING WARNING TIME	30 SEC	30 SEC
TIME FOR CROSSING CLEARANCE DISTANCE > 35'	+ 7 SEC	+ 7 SEC
TRAFFIC PRE-EMPTION TIME	+ 0 SEC	+ 0 SEC
TOTAL CALCULATED DESIGN WARNING TIME	37 SEC	37 SEC
EQUIPMENT RESPONSE TIME	+ 4 SEC	+ 4 SEC
BUFFER TIME	+ 0 SEC	+ 0 SEC
TOTAL WARNING TIME FOR APPROACH DISTANCE CALCULATION	41 SEC	41 SEC
CALCULATED AT MAXIMUM TRAIN SPEED	x 10 MPH	x 10 MPH
RATIO OF FEET PER SECOND TO MILES PER HOUR	x 1.470	x 1.470
APPROACH LENGTH (ROUNDED UP TO THE NEXT FOOT)	603 FEET	603 FEET



JOB #1411  
DATE: 11-29-21  
DRAWING NO. 00.22-CUOH-02



MP# 00.22  
**E. MAIN STREET**  
DOT #151993D  
PMD 267Hz. ISL 7100Hz.

○ = NOTE

LEGEND:

- ⊗ - LOCATION OF AC SERVICE
- - UTILTIY POLE

PRELIMINARY

NOT FOR CONSTRUCTION

THIS DRAWING IS PROVIDED FOR REFERENCE ONLY.  
ACTUAL CONDITIONS AND FINAL DESIGN ARE  
THE RESPONSIBILITY OF THE DESIGN-BUILD VENDOR.

- NOTES:
- MATERIAL & INSTALLATION TO BE IN ACCORDANCE WITH MUTCD, STATE AND RAILROAD STANDARDS.
  - ALL DIMENSIONS ARE APPROXIMATE AND MAY VARY DUE TO ACTUAL FIELD CONDITIONS. VENDOR TO VERIFY ALL CONDITIONS.
  - FLASHING LIGHT SIGNALS & GATE LIGHTS TO BE LIGHT EMITTING DIODE ASSEMBLIES (LED)
  - SEE APPROACH CIRCUIT DISTANCE CALCULATION TABLE FOR PLANNED WARNING TIME AND TRAIN SPEED PER TRACK.
  - BEWARE OF OVERHEAD WIRES.
  - APPROACH DISTANCES ARE TO BE MEASURED FROM THE TERMINATIONS TO CLOSEST SET OF TRACK LEADS AT CROSSING.
  - CONDUIT MUST BE BORED.
  - VENDOR IS RESPONSIBLE TO LOCATE AND PROTECT ALL UTILITIES WITHIN LIMITS OF CONSTRUCTION
  - CAMERA SYSTEM TO BE SUPPLIED BY VENDOR AND INSTALLED BY RR.
  - ENSURE ALL DITCHES ALONG THE TRACKS IN ALL FOUR QUADRANTS HAVE POSITIVE DRAINAGE FLOW TO 100' FROM THE HIGHWAY.
  - CHURCH ST. CROSSING SIGNALS ARE POWERED FROM MAIN ST. SIGNALS VIA THE POLELINE.
  - REMOVE 4 SPANS OF POLE LINE.
  - A BUMP OUT CURB IS REQUIRED IN THE SW QUAD TO SET THE SIGNAL 8' INTO THE STREET FROM EDGE OF THE ROAD. WARNING DEVICE TO BE 4.25' FROM CURB FACE. INSTALL 6" HIGH CURB 20' FROM CENTER OF MAST SOUTH. ENSURE CURB TERMINATES 10' FROM NEAR RAIL.
  - A BUMP OUT CURB IS REQUIRED IN THE NE QUAD TO SET THE SIGNAL 5' INTO THE STREET FROM EDGE OF THE ROAD. WARNING DEVICE TO BE 4.25' FROM CURB FACE. 6" HIGH CURB ISLAND TO EDGE OF ROAD. ENSURE CURB TERMINATES 10' FROM NEAR RAIL. FINISH CURB ISLAND WITH TOPSOIL AND GRASS SEEDS.
  - BELLS TO STOP RINGING WHEN GATES BECOME HORIZONTAL.
  - FOUR GAUGE RODS TO BE REMOVED AND REPLACED WITH 16 NEW TIES.
  - RENEW SWITCH INSULATION AND REPLACE TWO WYE IJS WITH 136RE 19'-6 FACTORY ASSEMBLED INSULATED JOINTS.
  - SWITCH POINT 4' SOUTH OF END OF CROSSING SURFACE.
  - BUNGALOW ACCESS DRIVE OFF OF FRONT STREET FOR SAFETY DUE TO LESS TRAFFIC.

NOTE	DATE	NOTES

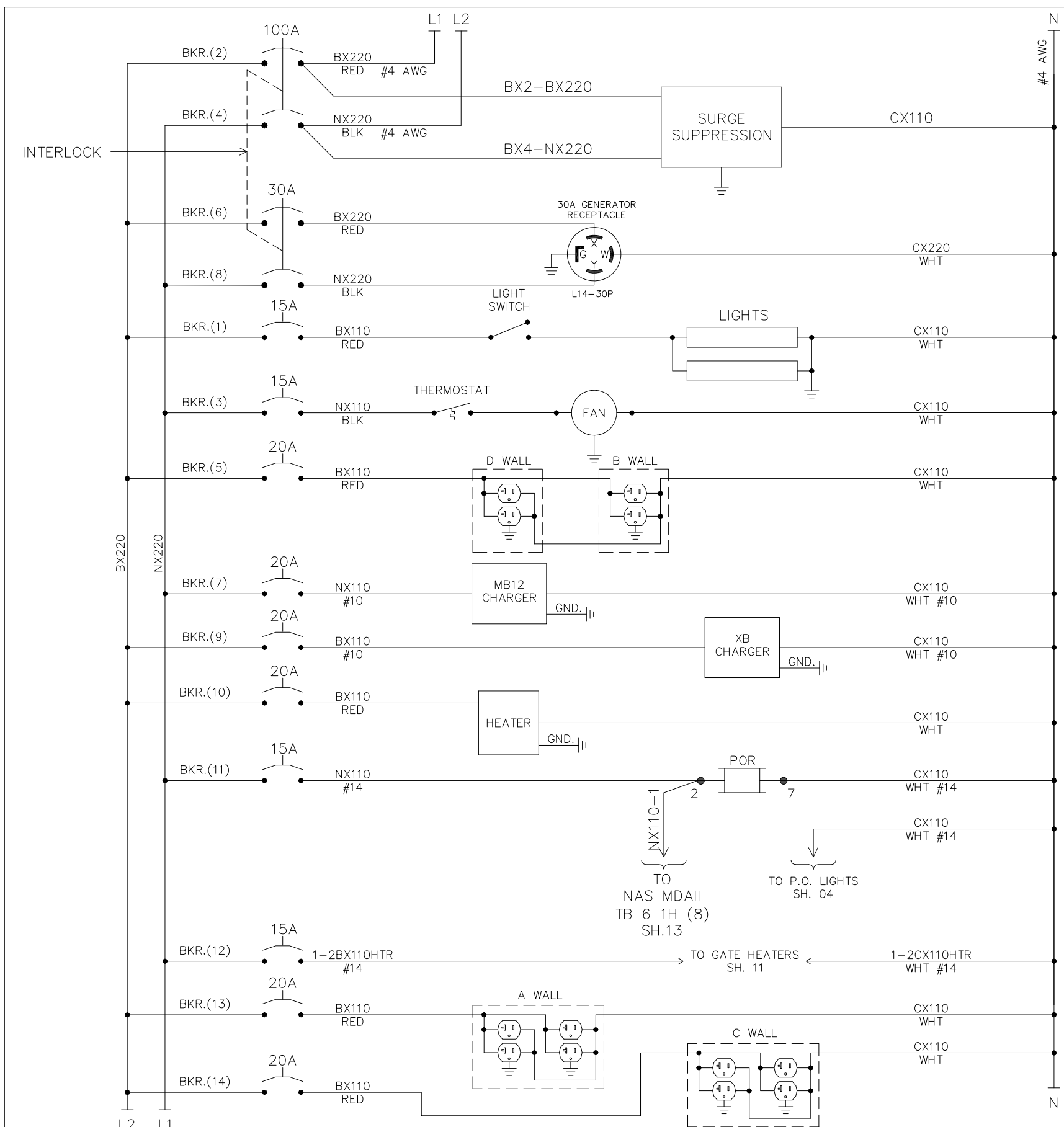
REV.	DATE	REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEMS MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.



LATITUDE: 40.0591966		LONGITUDE: -82.3972000	
COLUMBUS AND OHIO RIVER RAILROAD			
AUTOMATIC WARNING DEVICES AT			
E. MAIN STREET			
NEWARK, (LICKING), OH			
LOCATION PLAN			
DOT# 151993D		MILE 00.22	
SUBDIVISION: MT VERNON		PG. 02 OF 18	



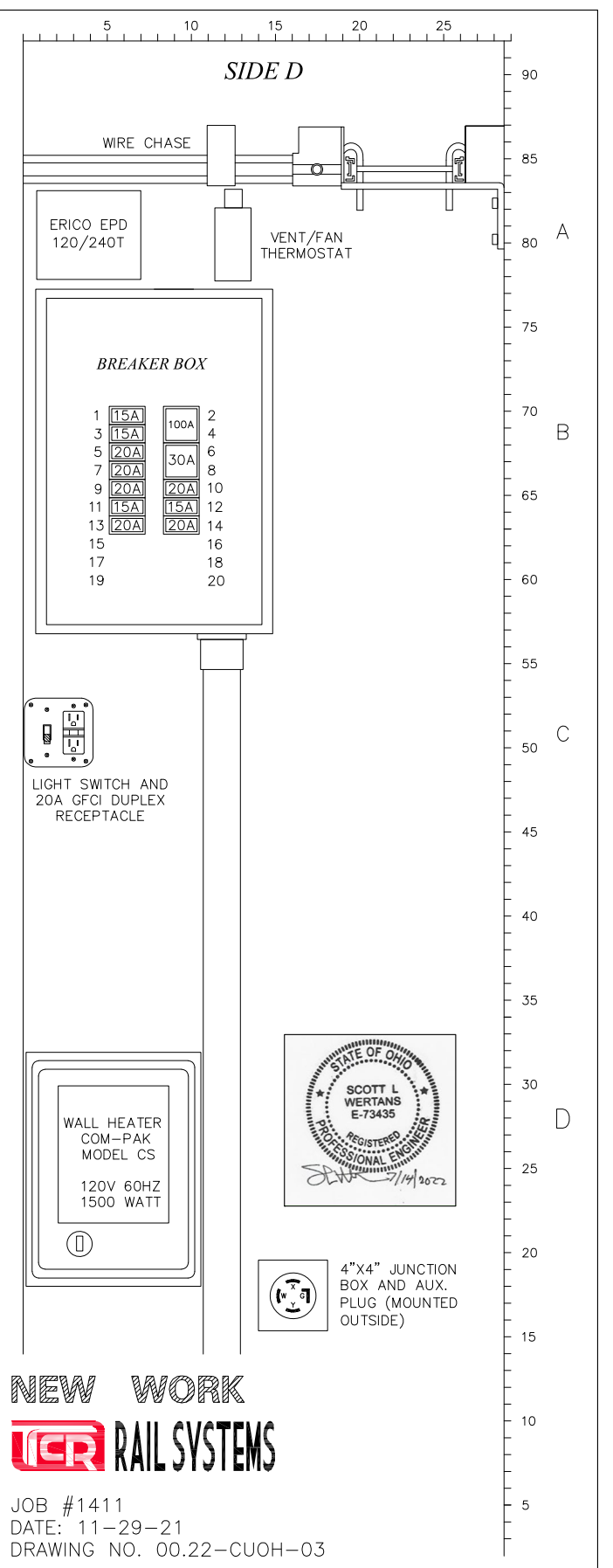
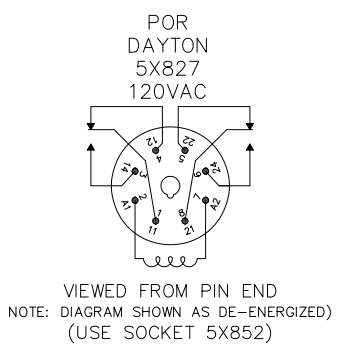


**BREAKER BOX**

100A EPD 120/240T

L1	1. LIGHTS	2. 240VAC SERVICE & SURGE PROTECTOR	L1
L2	3. THERM./FAN	4. 240VAC SERVICE & SURGE PROTECTOR	L2
L1	5. B & D WALL RECPT.	6. GENERATOR PLUG	L1
L2	7. MB12 CHARGER	8. GENERATOR PLUG	L2
L1	9. XB CHARGER	10. HEATER	L1
L2	11. POR & P.O. LIGHTS	12. GATE HEATERS	L2
L1	13. A WALL RECPT.	14. C WALL RECPT.	L1
L2	15.	16.	L2
L1	17.	18.	L1
L2	19.	20.	L2

- NOTES:
- USE THE FOLLOWING COLOR CODE:  
GRN - GREEN - SAFETY EQUIPMENT GROUND  
WHT - WHITE - CX110 (NEUTRAL)  
BLK - BLACK - NX220 (L2)  
RED - RED - BX220 (L1)  
EXCEPTIONS TO THE ABOVE COLOR CODE ARE THE PRE-WIRED, SEALED ARRESTER UNITS MOUNTED ON THE BREAKER BOX WHICH HAVE TWO BLACK AND ONE WHITE WIRE EACH.
  - THE MB12 CHARGER AND XB CHARGER AC POWER WIRES WHICH USES A TWO CONDUCTOR SJO CABLE THAT HAS ONE BLACK WIRE AND ONE WHITE WIRE.
  - MINIMUM WIRE SIZE  
15 AMP - NO. 14 AWG THHN OR THWN SOLID  
20 AMP - NO. 12 AWG THHN OR THWN SOLID  
30 AMP - NO. 10 AWG THHN OR THWN SOLID
  - GROUND FAULT INTERRUPT (GFCI) MUST BE USED ON ALL CIRCUITS SERVING CONVENIENCE OUTLETS AND ANY EQUIPMENT OUTSIDE THE BUNGALOW. RECEPTACLE MOUNTED GFCI MAY BE USED INSTEAD OF BREAKER TYPE.
  - ALL GROUND WIRES ON THIS SHEET RUN TO BREAKER BOX GROUND BUS.



NOTE	DATE	NOTES

REV.	DATE	REVISIONS

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**NEW WORK**  
**TCR RAIL SYSTEMS**

JOB #1411  
DATE: 11-29-21  
DRAWING NO. 00.22-CUOH-03

LATITUDE: 40.0591966      LONGITUDE: -82.3972000

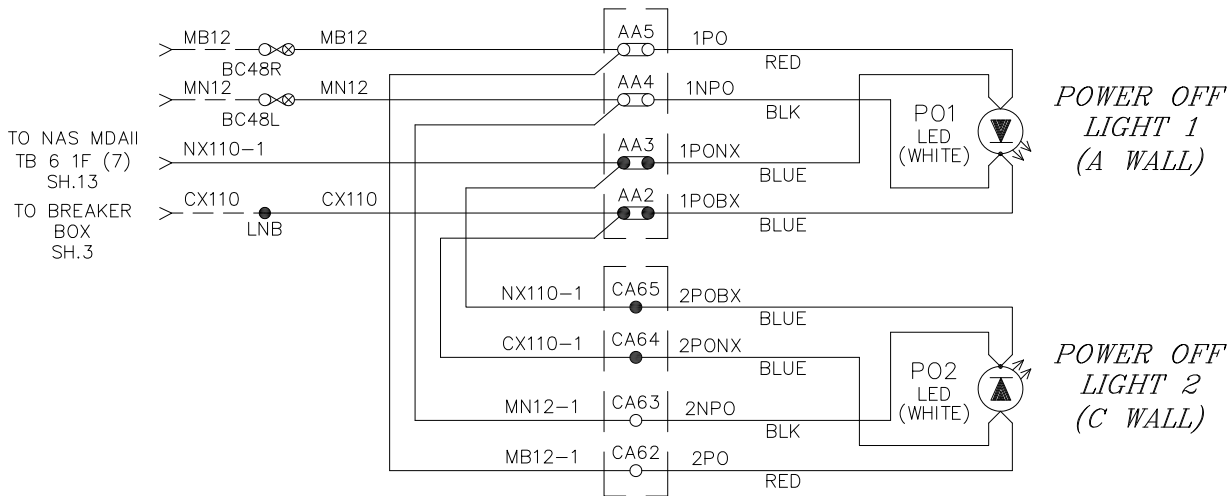
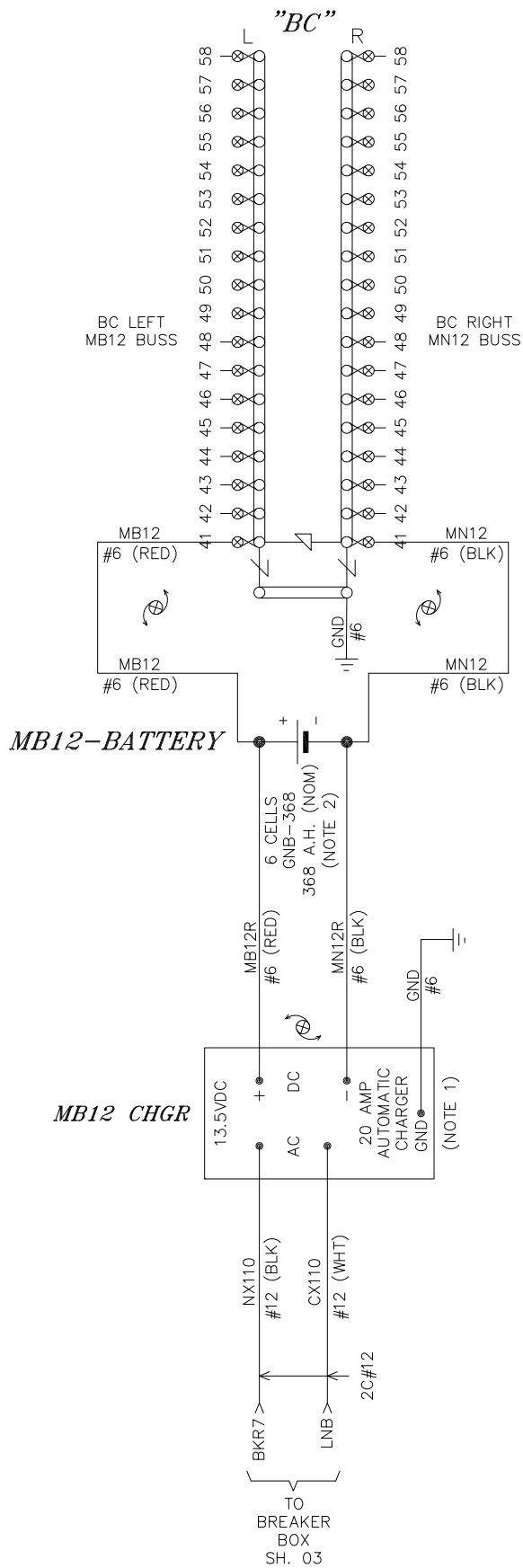
**COLUMBUS AND OHIO RIVER RAILROAD**  
AUTOMATIC WARNING DEVICES AT  
E. MAIN STREET  
NEWARK, (LICKING), OH  
AC POWER DISTRIBUTION

DOT# 151993D      MILE 00.22

SUBDIVISION: MT VERNON      PG. 03 OF 18

NEW WORK  
ICR RAIL SYSTEMS

JOB #1411  
DATE: 11-29-21  
DRAWING NO. 00.22-CUOH-04

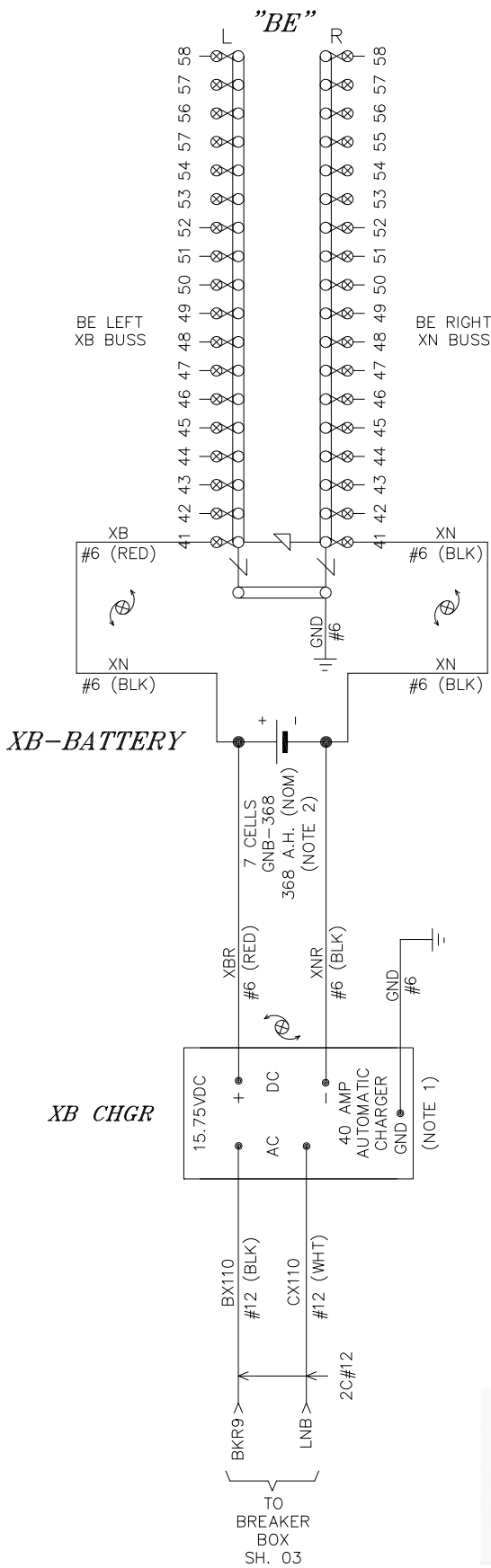


LEGEND:

- ⊗ - TEST TERMINAL
- △ - EQUALIZER
- ∠ - ARRESTER TO GROUND
- ⊗ - TWISTED WIRE 2 TURNS PER FOOT
- - INSULATED NUT

NOTES:

- USE 120 VOLT SETTING.
- USE 1/4" TERMINALS AT BATTERY CONNECTIONS.



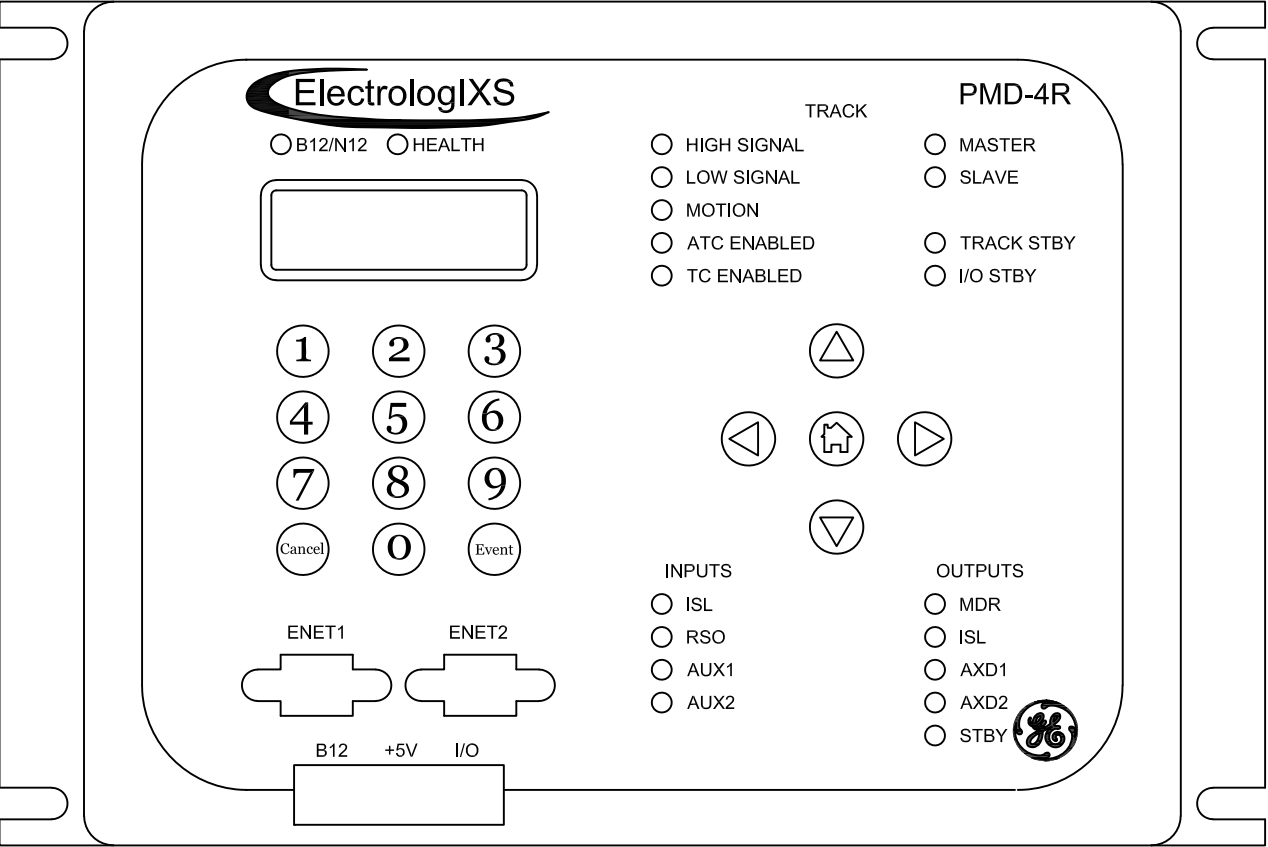
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REV.	DATE	REVISIONS

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COLUMBUS AND OHIO RIVER RAILROAD			
AUTOMATIC WARNING DEVICES AT			
E. MAIN STREET			
NEWARK, (LICKING), OH			
BATTERY AND P. O. CIRCUITS			
DOT# 151993D		MILE 00.22	
SUBDIVISION: MT VERNON		PG. 04 OF 18	



PMD-4/4R Power Connectors

PMD-4R/4R J1 PIN OUTS	
1	2
B12	N12

PMD-4R J16, J17, and J18 Connectors

PMD-4R J16 PIN OUTS									
1	2	3	4	5	6	7	8	9	10
TX+	N/C	TX-	N/C	RX+	N/C	RX-	N/C	MDR+ Out	MDR- Out

PMD-4R J17 PIN OUTS									
1	2	3	4	5	6	7	8	9	10
ISL+ Out	ISL- Out	N/C	AXO1+ Out	AXO1- Out	N/C	AXO2+ Out	AXO2- Out	N/C	ISL+ In

PMD-4R J18 PIN OUTS									
1	2	3	4	5	6	7	8	9	10
ISL- In	N/C	RSO+ In	RSO- In	N/C	AUX1+ In	AUX1- In	N/C	AUX2+ In	AUX2- In

PMD-4/4R Front Panel Fuses

F7 - 10A MAIN POWER FUSE
F1 - 7.5A +5 VOLT POWER FUSE
F3 - 3A INPUT OUTPUT MODULE FUSE

PMD-4R Right Side Fuses

F5 - 4A Sandby XTI Fuse
F6 - 4A Normal XTI Fuse
F2 - 3A Normal/Standby Module Fuse

PMD-4 Right Side Fuses

F4 - 4A XTI Fuse

BALLAST COMPENSATION

I	FREQ	BC
1	86 Hz	122
2	114 Hz	125
3	151 Hz	129
4	156 Hz	129
5	172 Hz	130
6	210 Hz	133
7	211 Hz	133
8	267 Hz	137
9	285 Hz	138
10	326 Hz	141
11	348 Hz	142
12	392 Hz	143
13	430 Hz	145
14	452 Hz	145
15	522 Hz	147
16	525 Hz	147
17	560 Hz	148
18	630 Hz	148
19	645 Hz	149
20	686 Hz	149
21	753 Hz	149
22	790 Hz	149
23	816 Hz	149
24	881 Hz	149
25	970 Hz	150
26	979 Hz	150

PMD-4R J19 Connectors

PMD-4R J19 PIN OUTS					
1	2	3	4	5	6
MS+	MS-	MS+	MS-	STBY- Out	STBY+ Out



JOB #1411  
DATE: 11-29-21  
DRAWING NO. 00.22-CUOH-05

PROGRAM INFORMATION

\* FIELD ADJUSTMENT TO BE MADE ACCORDING TO THE PMD-4R INSTRUCTION MANUAL.

PROGRAMMING & SETUP

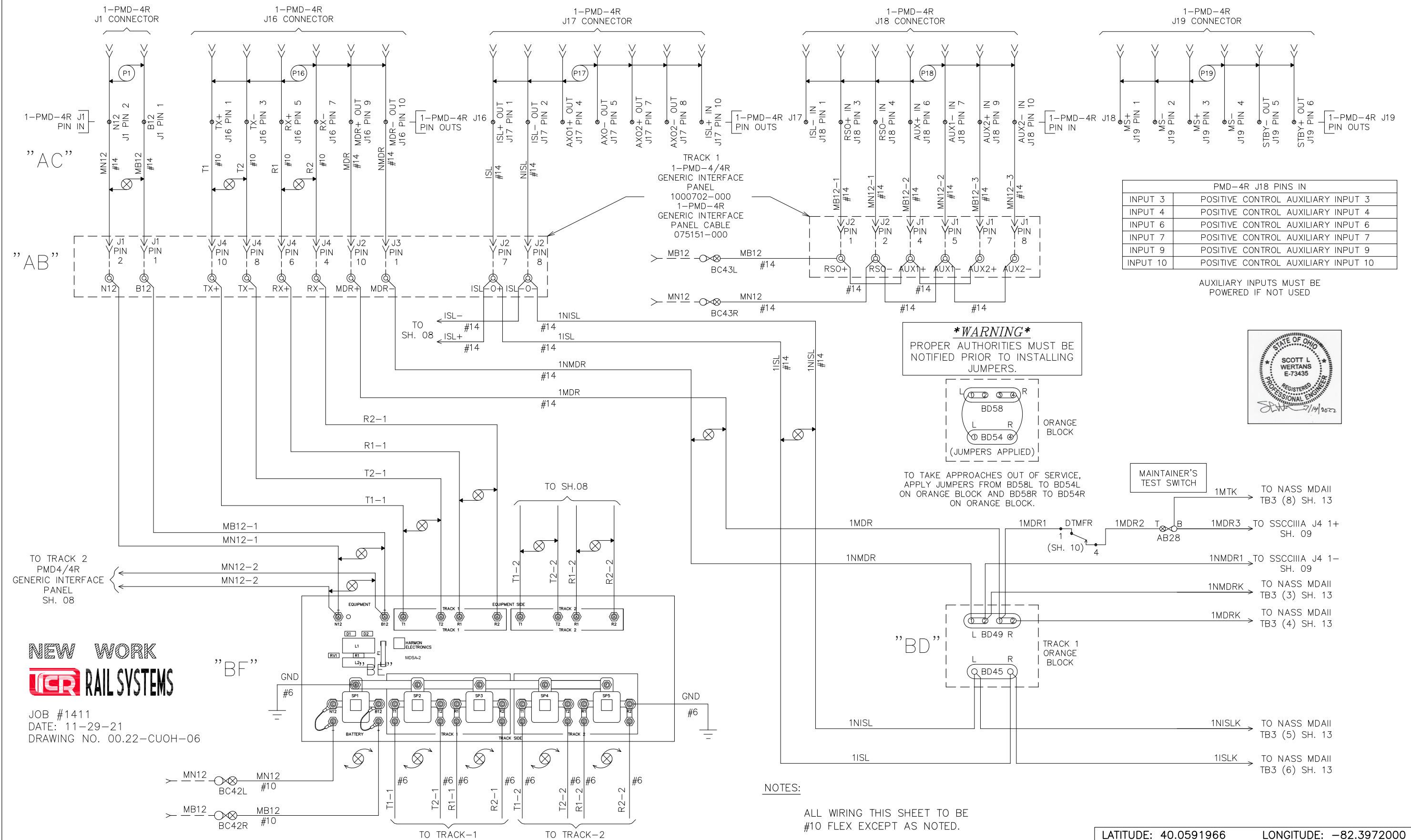
CHASSIS ID	3	WARNING TIME CRC	12B24E16
LOCATION	E. MAIN STREET		
MILEPOST	00.22		
DOT NO.	151993D		
DATE	____/____/____		
OPERATING PROGRAM	VER. ____	CRC	____
EXECUTIVE SOFTWARE PROGRAM			
	VER. ____	CRC.	____
A PROCESSOR	7.21 Bld0217C	D9863857	
B PROCESSOR	7.21 Bld0217C	94B80C99	
C PROCESSOR	7.21 Bld0217C	D73DAB0E	
APPLICATION PROGRAM			
NAME	pmd-4r md[cw]v	CHECKSUM	3362 CRC DBCD
TRACK SETUP			
APPROACH FREQUENCY	267 Hz.		
MASTER/SLAVE OPERATION	MASTER __X__	SLAVE	
TRANSMITTER CHECK VALUE (-7.0 TO 13.0 OHMS)			*
APPROACH DIRECTION MODE	UNI ____	BI	_X_
LUMPED IMPEDANCE ADJUSTMENT VALUE (-9 TO +9)			*
AUTO RX	DISABLED	ENABLED	_X_
FALSE SHUNT DETECT SETTING			
DISABLED	_X_	ENABLED RX	____ TIME (MIN) ____
APPROACH RELEASE SETTING			
DISABLED	_X_	ENABLED RX	____ TIME (MIN) ____
LOS TIME (SECONDS)			15 SEC.
APPROACH MAINTENANCE			
PHASE COMPENSATION VALUE (0 TO 10 DEGREES)			*
BALLAST COMPENSATION VALUE (50 TO 250)			137
ISLAND SETUP			
ISLAND TYPE	EXTERNAL	INTERNAL	X
ISLAND SETUP (WHEN INTERNAL IS SELECTED)			
ISLAND FREQUENCY (KHz)			
_0 _4.0 _4.4 _4.9 _5.4 _5.9 _6.4 _7.1 _7.7 _X_ 8.0			
ISLAND LOS (SECONDS)	_5	_X_ 2.0	_4.0
ISLAND FAULT SETTING	_1	_X_ 2	

ETHERNET PORTS:  
ENET1 = 192.168.0.11  
ENET2 = 192.168.1.12

NOTE	DATE	NOTES	REV.	DATE	REVISIONS	LATITUDE: 40.0591966 LONGITUDE: -82.3972000	
						COLUMBUS AND OHIO RIVER RAILROAD	
						AUTOMATIC WARNING DEVICES AT	
						E. MAIN STREET	
						NEWARK, (LICKING), OH	
						TRACK 1 PMD-4R PROGRAMMING AND SETUP	
						DOT# 151993D	MILE 00.22
						SUBDIVISION: MT VERNON	PG. 05 OF 18

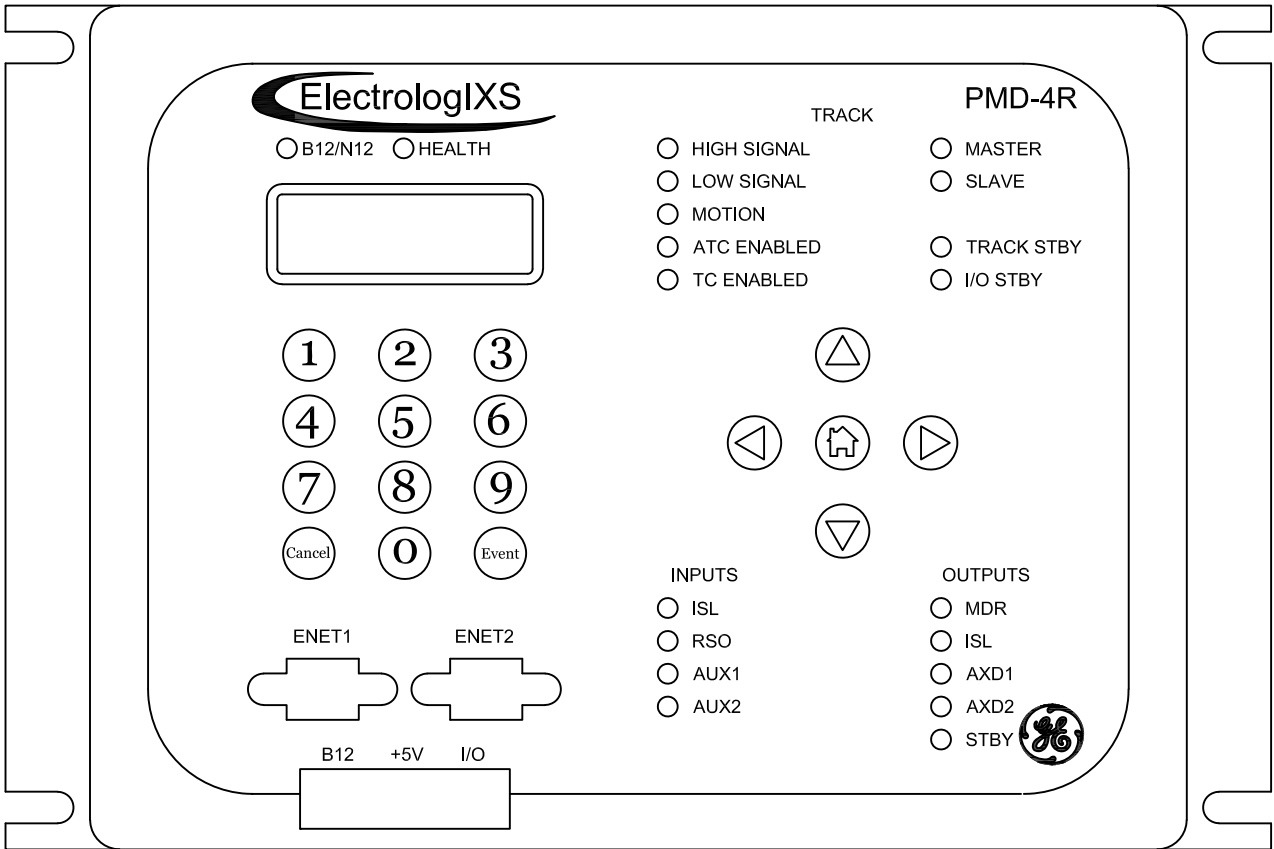
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2-PMD-4R



PMD-4/4R Power Connectors

PMD-4R/4R J1 PIN OUTS	
1	2
B12	N12

PMD-4R J16, J17, and J18 Connectors

PMD-4R J16 PIN OUTS									
1	2	3	4	5	6	7	8	9	10
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PMD-4R J17 PIN OUTS									
1	2	3	4	5	6	7	8	9	10
ISL+ Out	ISL- Out	N/C	AXO1+ Out	AXO1- Out	N/C	AXO2+ Out	AXO2- Out	N/C	ISL+ In

PMD-4R J18 PIN OUTS									
1	2	3	4	5	6	7	8	9	10
ISL- In	N/C	RSO+ In	RSO- In	N/C	AUX1+ In	AUX1- In	N/C	AUX2+ In	AUX2- In

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F3 - 3A INPUT OUTPUT MODULE FUSE

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PMD-4 Right Side Fuses

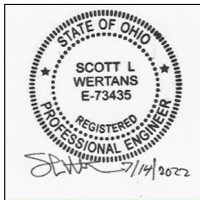
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23	816 Hz	149
24	881 Hz	149
25	970 Hz	150
26	979 Hz	150

PMD-4R J19 Connectors

PMD-4R J19 PIN OUTS					
1	2	3	4	5	6
MS+	MS-	MS+	MS-	STBY- Out	STBY+ Out



NEW WORK



JOB #1411  
DATE: 11-29-21  
DRAWING NO. 00.22-CUOH-07

PROGRAM INFORMATION

\* FIELD ADJUSTMENT TO BE MADE ACCORDING TO THE PMD-4R INSTRUCTION MANUAL.

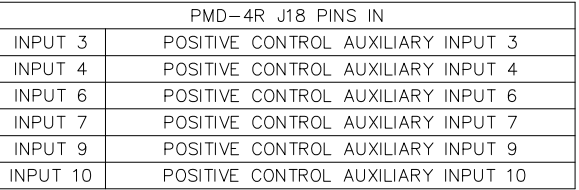
PROGRAMMING & SETUP		
CHASSIS ID	3	WARNING TIME CRC 12B24E16
LOCATION	E. MAIN STREET	
MILEPOST	00.22	
DOT NO.	151993D	
DATE	____/____/____	
OPERATING PROGRAM	VER. ____	CRC ____
EXECUTIVE SOFTWARE PROGRAM		
	VER. ____	CRC. ____
A PROCESSOR	7.21 Bld0217C	D9863857
B PROCESSOR	7.21 Bld0217C	94B80C99
C PROCESSOR	7.21 Bld0217C	D73DAB0E
APPLICATION PROGRAM		
NAME pmd-4r md[cw]v	CHECKSUM 3362	CRC DBCD
TRACK SETUP		
APPROACH FREQUENCY	979 Hz.	_____
MASTER/SLAVE OPERATION	MASTER __X__	SLAVE _____
TRANSMITTER CHECK VALUE (-7.0 TO 13.0 OHMS)		*
APPROACH DIRECTION MODE	UNI __X__	BI ____
LUMPED IMPEDANCE ADJUSTMENT VALUE (-9 TO +9)		*
AUTO RX	DISABLED _____	ENABLED __X__
FALSE SHUNT DETECT SETTING		
DISABLED __X__	ENABLED RX ____	TIME (MIN) ____
APPROACH RELEASE SETTING		
DISABLED __X__	ENABLED RX ____	TIME (MIN) ____
LOS TIME (SECONDS)		15 SEC.
APPROACH MAINTENANCE		
PHASE COMPENSATION VALUE (0 TO 10 DEGREES)		*
BALLAST COMPENSATION VALUE (50 TO 250)		150
ISLAND SETUP		
ISLAND TYPE	EXTERNAL X	INTERNAL
ISLAND SETUP (WHEN INTERNAL IS SELECTED)		
ISLAND FREQUENCY (KHz)		
__X_0 __4.0 __4.4 __4.9 __5.4 __5.9 __6.4 __7.1 __7.7 __8.0		
ISLAND LOS (SECONDS)	__5 __X_2.0 __4.0	
ISLAND FAULT SETTING	__1 __X_2	

ETHERNET PORTS:  
ENET1 = 192.168.0.11  
ENET2 = 192.168.1.12

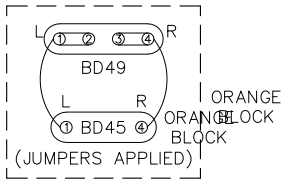
NOTE	DATE	NOTES	REV.	DATE	REVISIONS	LATITUDE: 40.0591966 LONGITUDE: -82.3972000	
						COLUMBUS AND OHIO RIVER RAILROAD	
						AUTOMATIC WARNING DEVICES AT	
						E. MAIN STREET	
						NEWARK, (LICKING), OH	
						TRACK 2-PMD-4R PROGRAMMING AND SETUP	
						DOT# 151993D	MILE 00.22
						SUBDIVISION: MT VERNON	PG. 07 OF 18

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEMS MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.





**\*WARNING\***  
PROPER AUTHORITIES MUST BE  
NOTIFIED PRIOR TO INSTALLING  
JUMPERS.



TO TAKE TRACK 2 APPROACHES OUT OF SERVICE, APPLY JUMPERS FROM BD49L TO BD45L ON ORANGE BLOCK AND BD49R TO BD45R ON ORANGE BLOCK.



TO NASS MDALL  
TB3 (16) SH. 13

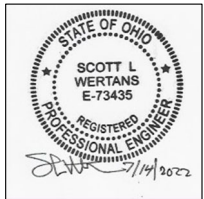
SSCCIIIA J4 2+  
SH. 09

SSCIIIA J4 2-  
SH. 09

TB3 (11) SH. 13

1B3 (12) SH. 13

**NEW WORK**  
**TCR RAIL SYSTEMS**



JOB #1411  
DATE: 11-29-21  
DRAWING NO. 00.22-CUOH-08

LATITUDE: 40.0591966      LONGITUDE: -82.3972000

COLUMBUS AND OHIO RIVER RAILROAD  
AUTOMATIC WARNING DEVICES AT  
E. MAIN STREET  
NEWARK, (LICKING), OH  
TRACK 2-PMD-4R CROSSING CONTROL CIRCUITS  
DOT# 151993D MILE 00.22

SUBDIVISION: MT VERNON

PG. 08 OF 18

ALL WIRING THIS SHEET TO BE  
#10 FLEX EXCEPT AS NOTED.

[illegible][illegible]

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JOB #1411  
DATE: 11-29-21  
DRAWING NO. 00.22-CUOH-09

[illegible]





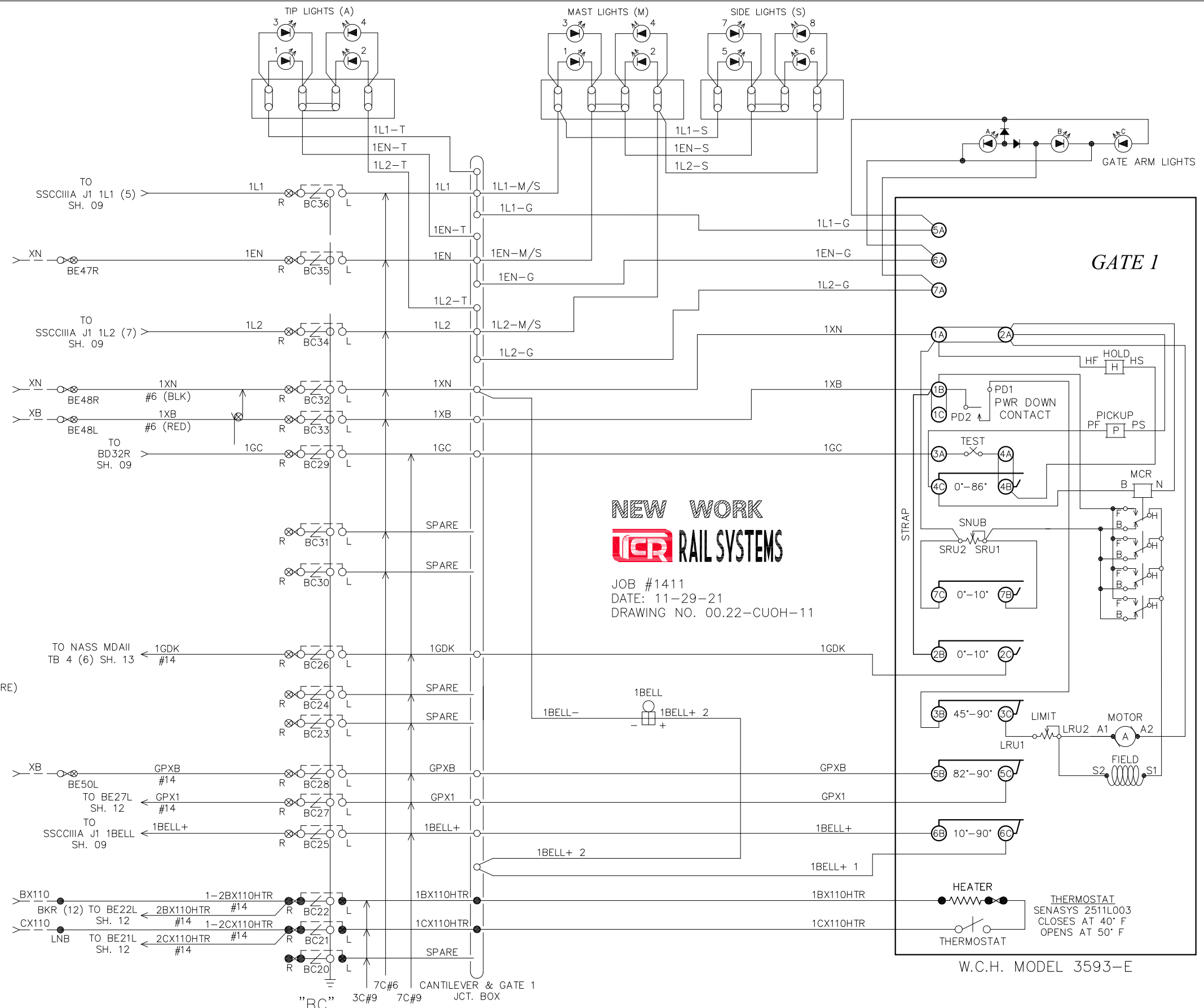
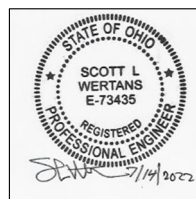
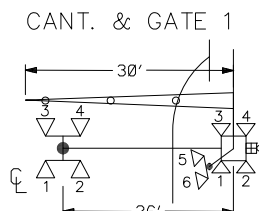
1. GATE MECHANISM SHOWN IN CLEAR POSITION.
2. ALL WIRING THIS SHEET IS #10 FLEX UNLESS OTHERWISE NOTED.
3. ADD STRAP FROM 1B TO 2B FOR 1GDK CIRCUIT.
4. ● = INSULATED NUT.

CONTACT	CLOSED	FUNCTION
2	0° – 10°	GATE DOWN
3	45° – 90°	POWER DOWN
4	0° – 86°	POWER UP
5	82° – 90°	GATE CLEAR
6	10° – 90°	BELL
7	0° – 10°	SNUB

1L1-T — 1XB  
 1L1-M — 1XN/1BELL-  
 1L1-G — 1GC  
 1EN-T — GPXB  
 1EN-M — GPX1  
 1EN-G — 1GDK  
 1L2-T — 1BELL+  
 1L2-M — 1BELL+ 1/1BELL+ 2 (#10 WIRE)  
 1L2-G — 1BX110HTR  
 — 1CX110HTR

10-BELL+

3C#9 (1 SPARE)  
 7C#9 (2 SPARES)  
 7C#6 (2 SPARES)

[illegible][illegible]

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LATITUDE: 40.0591966		LONGITUDE: -82.3972000	
<b>COLUMBUS AND OHIO RIVER RAILROAD</b> AUTOMATIC WARNING DEVICES AT E. MAIN STREET NEWARK, (LICKING), OH			
CANT. 1 / GATE 1 CONTROL AND LIGHTING CIRCUITS		DOT# 151993D	
		MILE 00.22	
SUBDIVISION: MT VERNON		PG. 11 OF 18	

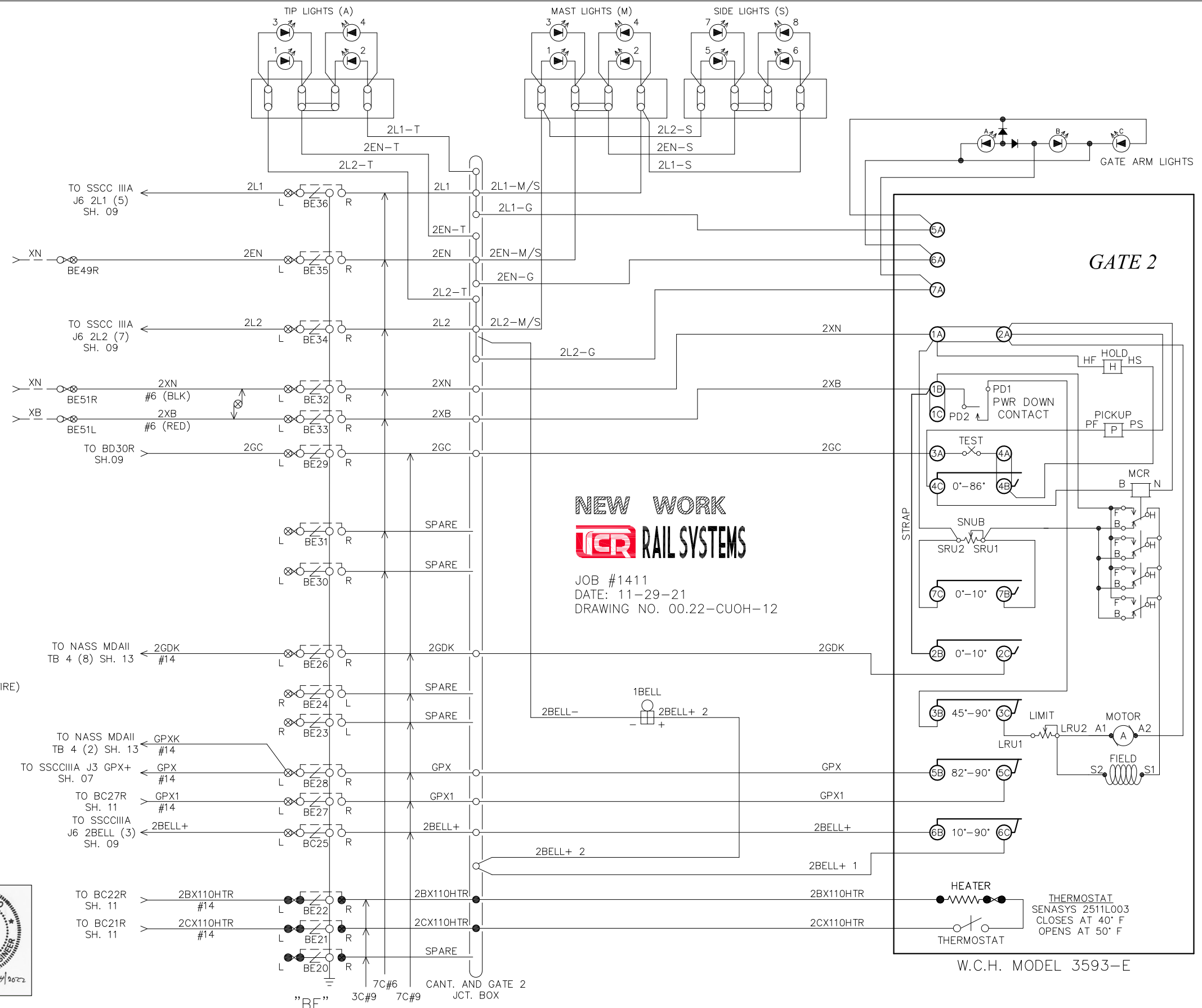
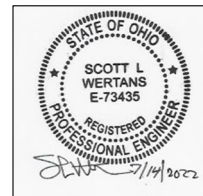
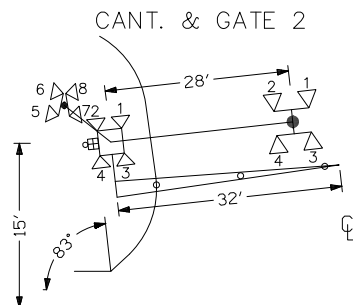
1. GATE MECHANISM SHOWN IN CLEAR POSITION.
2. ALL WIRING THIS SHEET IS #10 FLEX UNLESS OTHERWISE NOTED.
3. ADD STRAP FROM 1B TO 2B FOR 2GDK CIRCUIT.
4. ● = INSULATED NUT.

CONTACT	CLOSED	FUNCTION
2	0° – 10°	GATE DOWN
3	45° – 90°	POWER DOWN
4	0° – 86°	POWER UP
5	82° – 90°	GATE CLEAR
6	10° – 90°	BELL
7	0° – 10°	SNUB

2L1-T —  
 2L1-M —  
 2L1-G —  
 2EN-T —  
 2EN-M —  
 2EN-G —  
 2L2-T —  
 2L2-M —  
 2L2-G —

— 2XB  
 — 2XN/2BELL—  
 — 2GC  
 — GPX  
 — GPX1  
 — 2GDK  
 — 2BELL+  
 — 2BELL+ 1/2BELL+ 2 (#10 WIRE)  
 — 2BX110HTR  
 — 2CX110HTR

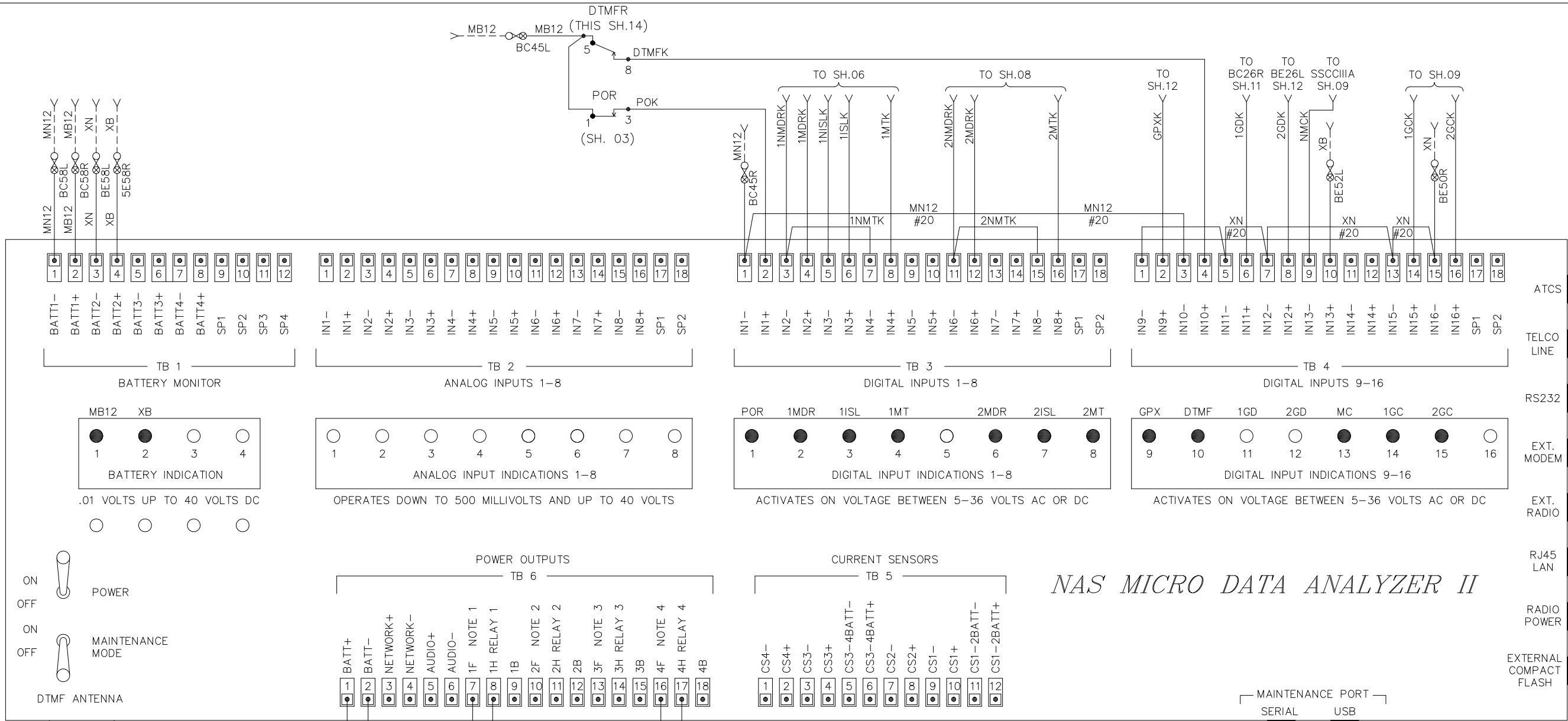
3C#9 (1 SPARE)  
 7C#9 (2 SPARES)  
 7C#6 (2 SPARES)

[illegible][illegible]

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LATITUDE: 40.0591966		LONGITUDE: -82.3972000	
<b>COLUMBUS AND OHIO RIVER RAILROAD</b> AUTOMATIC WARNING DEVICES AT E. MAIN STREET NEWARK, (LICKING), OH CANT. 2 / GATE 2 CONTROL AND LIGHTING CIRCUITS DOT# 151993D MILE 00.22			
SUBDIVISION: MT VERNON		PG. 12 OF 18	



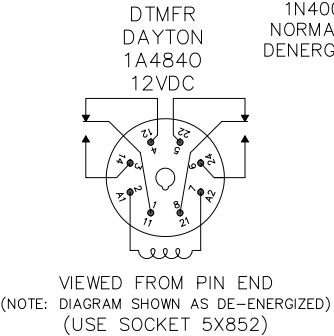
NAS MICRO DATA ANALYZER II

- NOTES:
- RELAY 1 SHOULD REMAIN ENERGIZED BY THE RECORDER EXCEPT FOR THE FOLLOWING CONDITIONS:
    - THERE IS A POWER OFF CONDITION, (I.E. DIGITAL INPUT 1 IS DOWN FOR 30 SECONDS)
    - THERE ARE LOW BATTERY CONDITIONS FOR AT LEAST 5 MINUTES, (I.E. MB12 BATTERIES ARE 10.8 VOLTS OF LESS OR XB BATTERIES ARE 13.0 VOLTS OR LESS).
    - THERE ARE HIGH BATTERY CONDITIONS FOR AT LEAST 5 MINUTES, (I.E. MB12 BATTERIES ARE GREATER THAN 14.8 VOLTS OR XB BATTERIES ARE GREATER THAN 17.0 VOLTS).
  - RELAY 2 IS USED TO RELAY PO INFORMATION TO AN OPTIONAL RTU AND SHOULD REMAIN ENERGIZED BY THE RECORDER EXCEPT FOR THE FOLLOWING CONDITIONS:
    - THERE IS A POWER OFF CONDITION, (I.E. DIGITAL INPUT 1 IS DOWN FOR 30 SECONDS).
  - RELAY 3 IS USED TO RELAY GATE DOWN INFORMATION TO A RTU AND SHOULD REMAIN DE-ENERGIZED BY THE RECORDER EXCEPT FOR THE FOLLOWING CONDITION:
    - ALL GATES ARE DOWN, (I.E. DIGITAL INPUTS 11 & 12 ARE DOWN).
  - RELAY 4 IS USED FOR DTMF CROSSING CONTROL, (NORMALLY DE-ENERGIZED).



NOTE:  
ALL WIRE THIS SHEET NO. 14  
FLEX UNLESS OTHERWISE NOTED.

OPERATING FREQUENCY - 160.215	
CODE	DESCRIPTION
993 *	ACTIVATE CROSSING W/70 SEC TIMER
993 #	DE-ACTIVATE CROSSING XXX* CODE
9931 *	ACTIVATE CROSSING
9931 #	DE-ACTIVATE CROSSING



NEW WORK  
TCR RAIL SYSTEMS

JOB #1411  
DATE: 11-29-21  
DRAWING NO. 00.22-CUOH-13

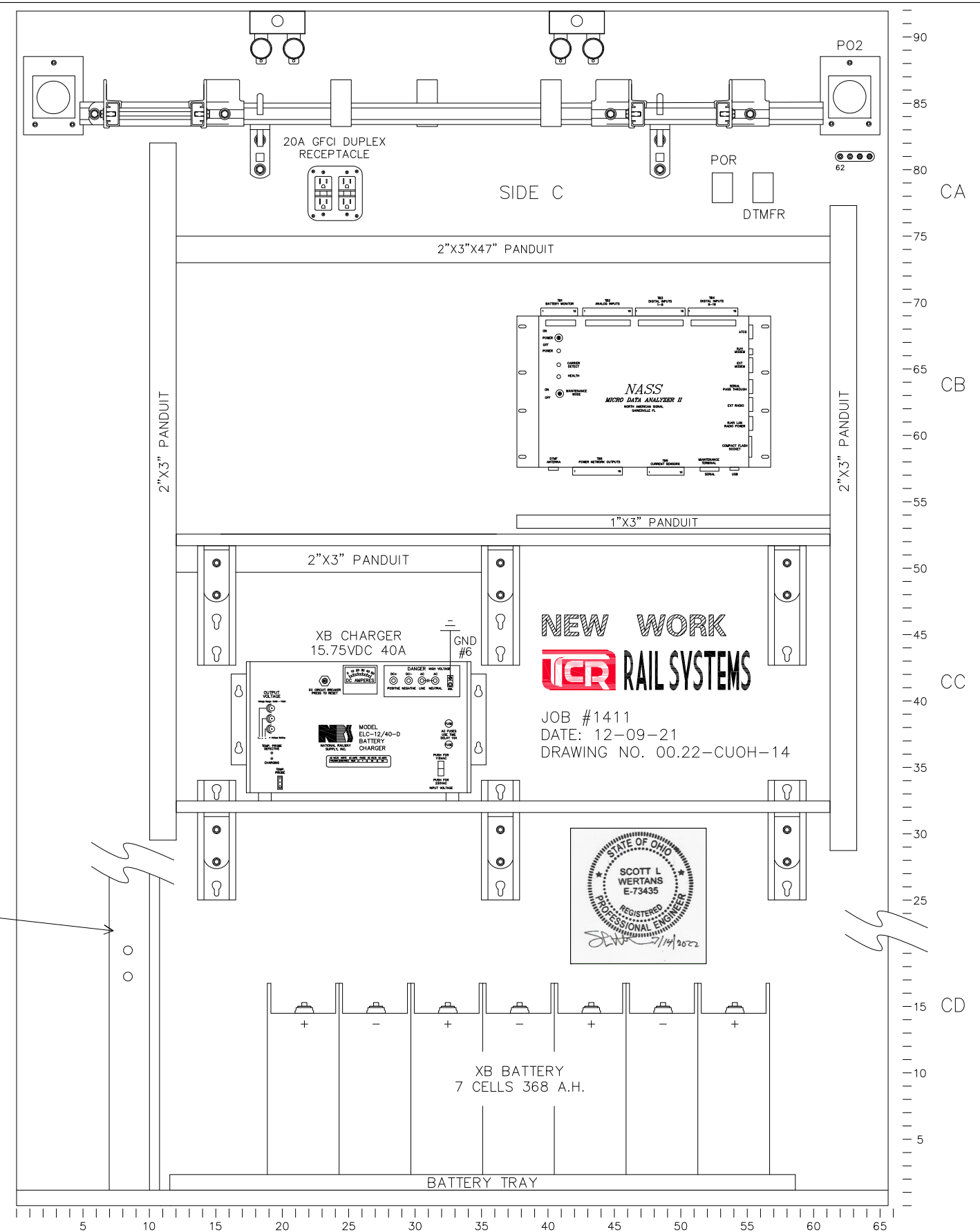
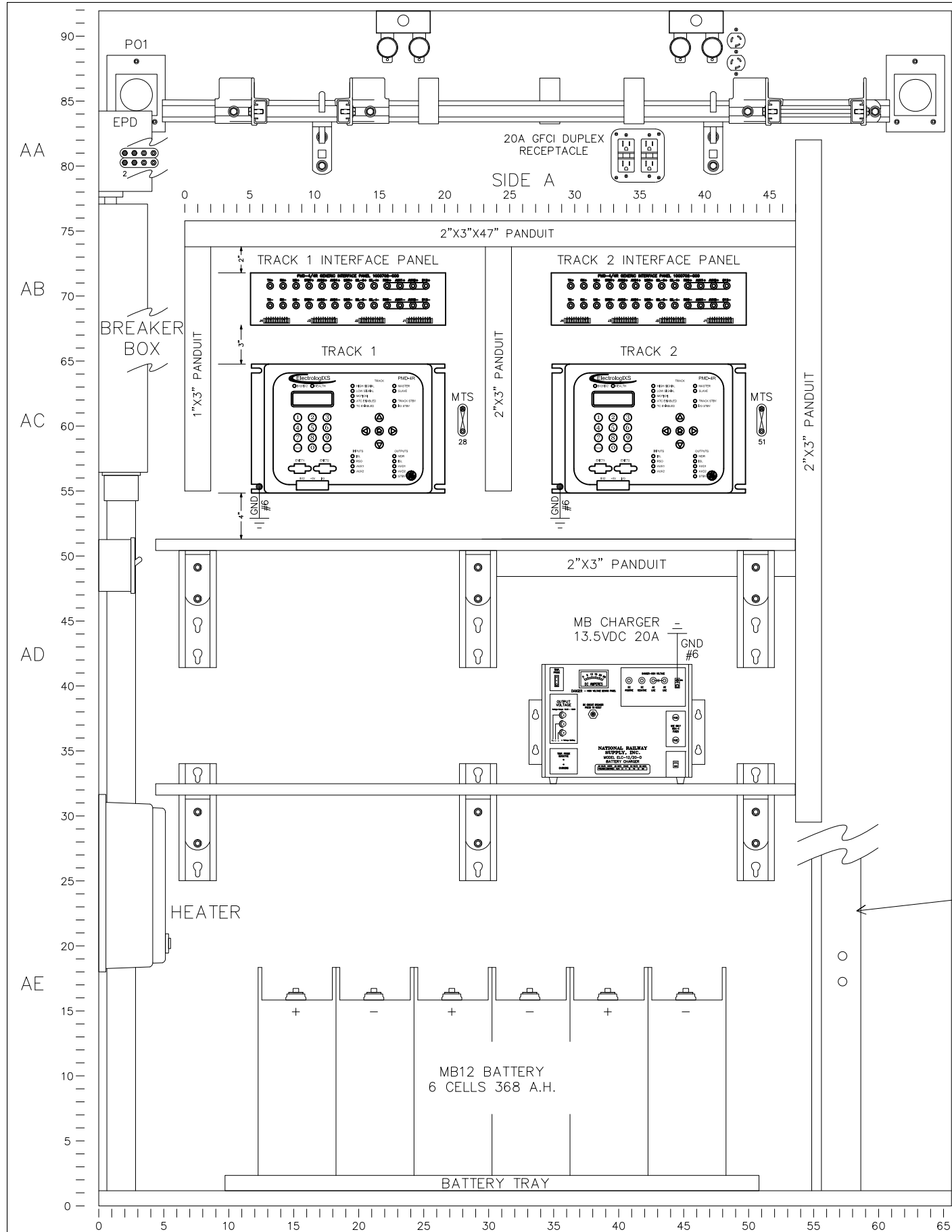
NOTE	DATE	NOTES

REV.	DATE	REVISIONS

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LATITUDE: 40.0591966		LONGITUDE: -82.3972000	
COLUMBUS AND OHIO RIVER RAILROAD			
AUTOMATIC WARNING DEVICES AT			
E. MAIN STREET			
NEWARK, (LICKING), OH			
RECORDER CIRCUITS			
DOT# 151993D		MILE 00.22	
SUBDIVISION: MT VERNON		PG. 13 OF 18	

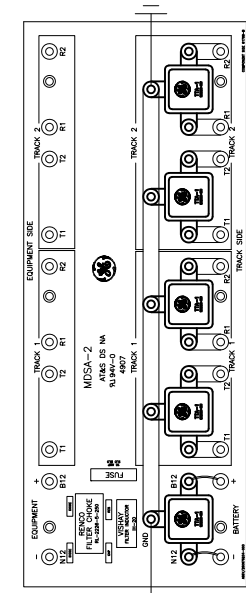
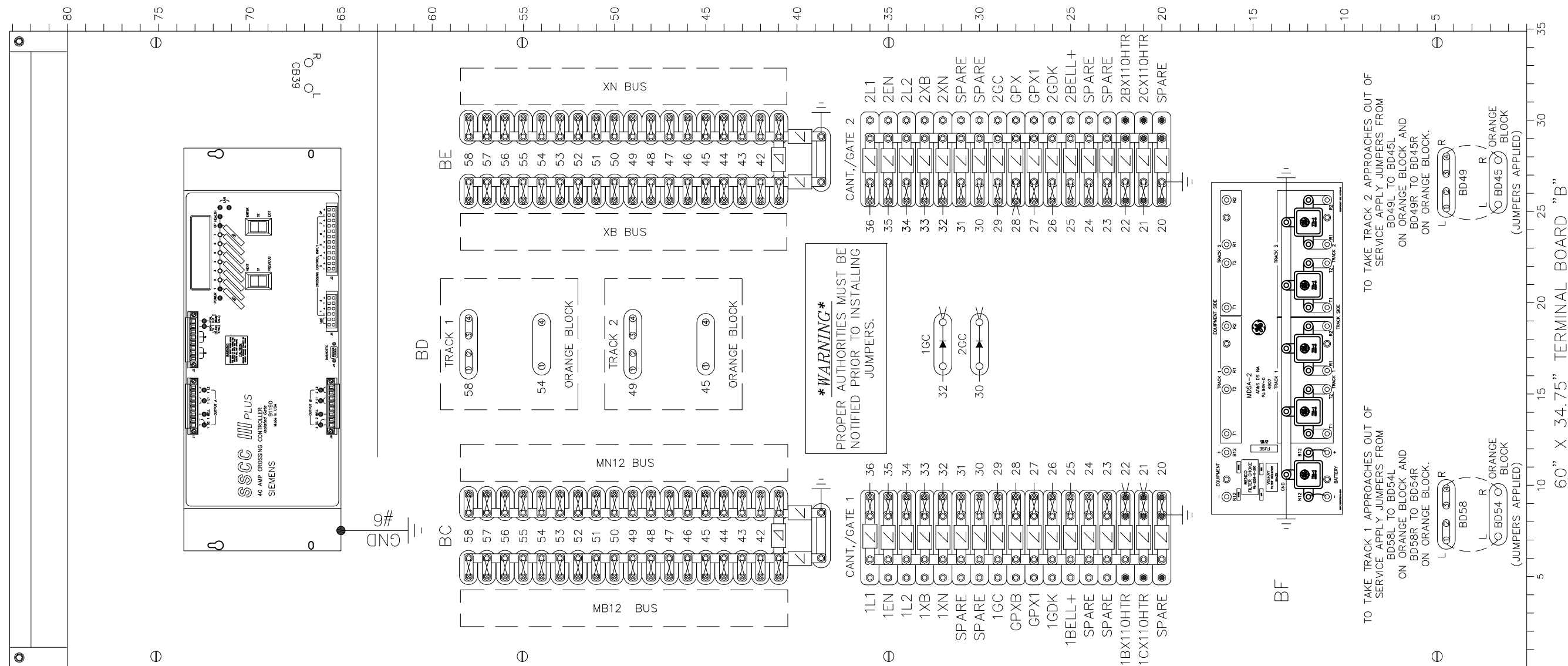
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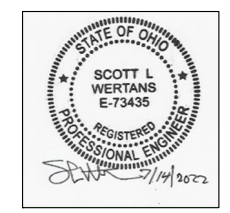
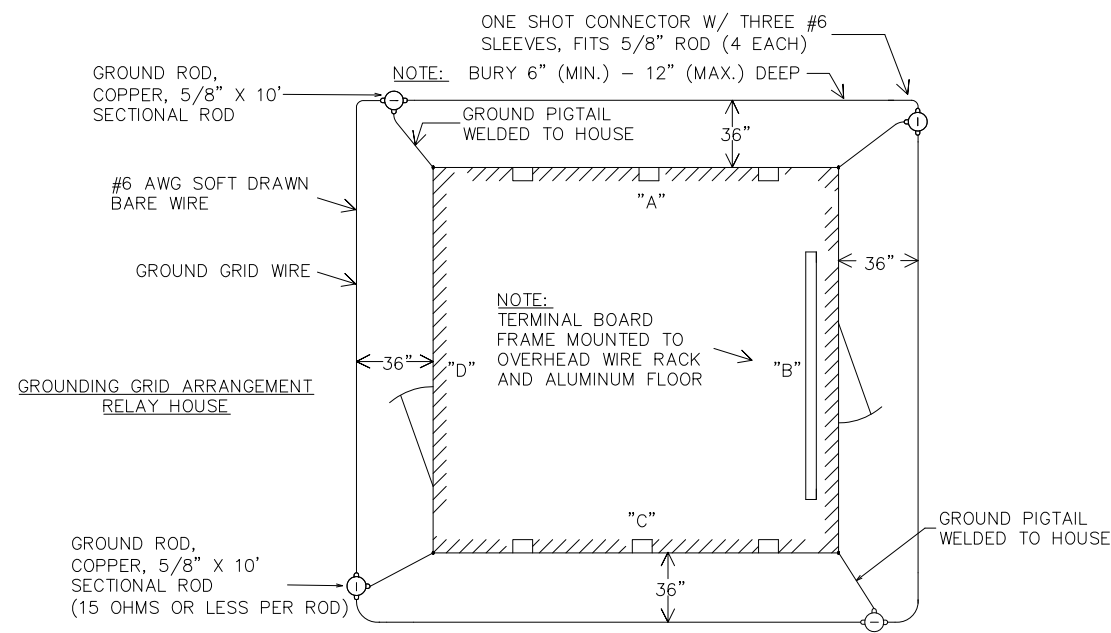
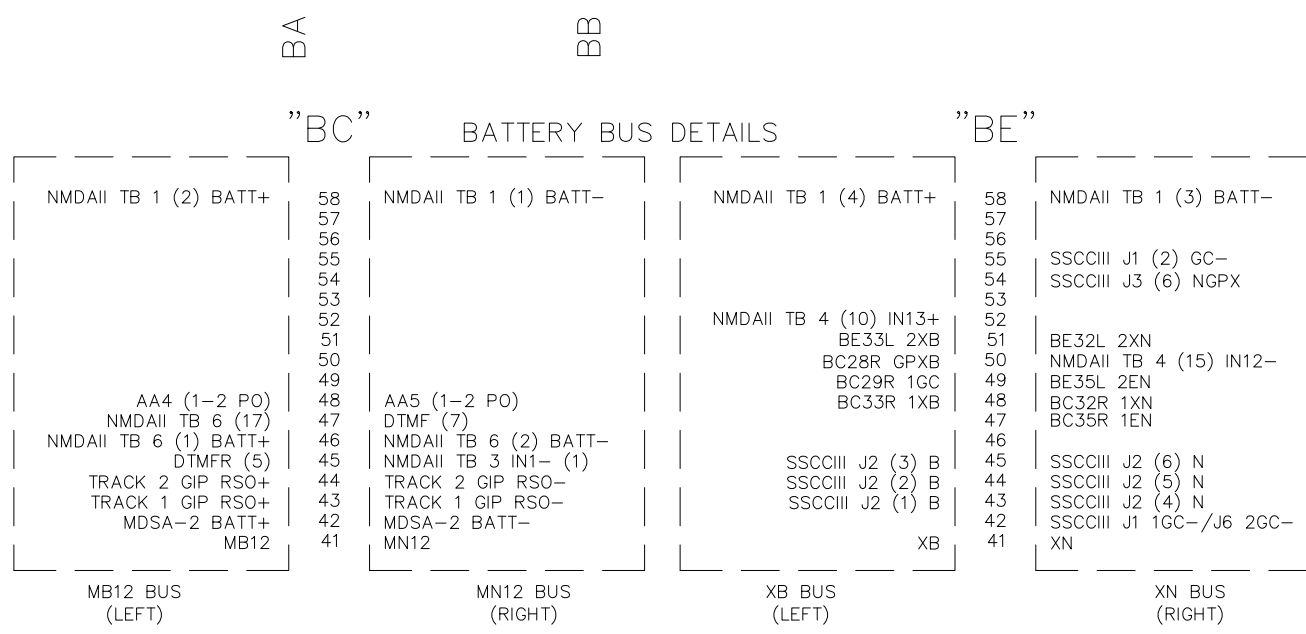
LATITUDE: 40.0591966      LONGITUDE: -82.3972000  
**COLUMBUS AND OHIO RIVER RAILROAD**  
 AUTOMATIC WARNING DEVICES AT  
 E. MAIN STREET  
 NEWARK, (LICKING), OH  
 HOUSE LAYOUT, SIDES A AND C  
 DOT# 151993D      MILE 00.22  
 SUBDIVISION: MT VERNON      PG. 14 OF 18





TO TAKE TRACK 1 APPROACHES OUT OF  
SERVICE APPLY JUMPERS FROM  
BD58L TO BD54L  
ON ORANGE BLOCK AND  
BD58R TO BD54R  
ON ORANGE BLOCK.

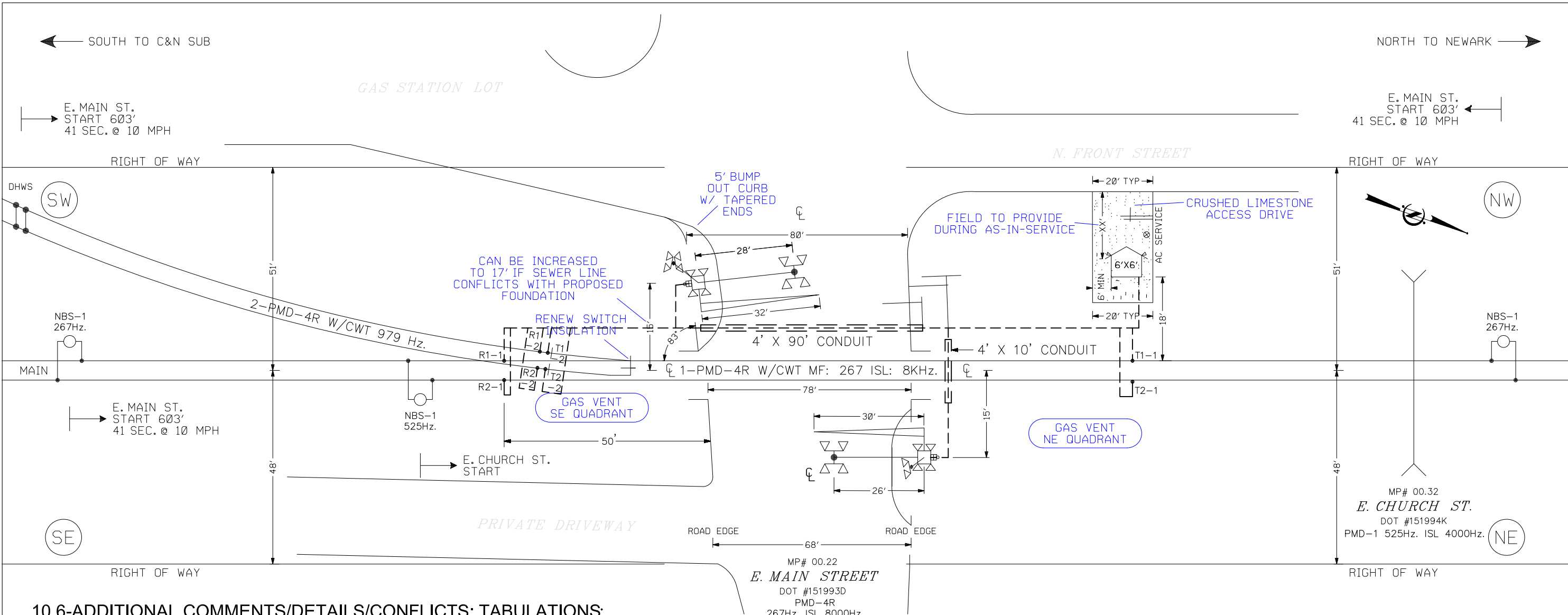
DATE	TIME	LOCATION	OFFICIALS	REMARKS
10/10/2023	14:30	CLUB	BD54 (JUMPERS APPLIED)	BD45 (JUMPERS APPLIED)



**NEW WORK**  
**TCR RAIL SYSTEMS**

JOB #1411  
DATE: 11-29-21  
DRAWING NO. 00.22-CUOH-15

[illegible]



10.6-ADDITIONAL COMMENTS/DETAILS/CONFLICTS: TABULATIONS:

551' from switch point south to HWS on Main Track.  
Four gauge rods are to be removed and replaced with 16 new ties.  
Switch points 4' south of end of crossing surface.  
Renew switch insulation and replace two wye IJs with 136RE 19'-6' factory assembled insulated joints.  
Church St. Crossing signals are powered from Main St. signals via the poleline.

10.7-NE QUADRANT:

Existing cantilever and proposed cant./gate combo set in street 5' from existing curb.  
Install new 6' curbaround proposed warning device, terminate east end at driveway apron, west side shall be 10' from near rail. Fill area between existing and proposed curbs with concrete.  
Streelight with overhead wire from across tracks. Wire is inline with existing curb.  
Gas vent pipe and 8" C.S. marked with yellow paint on sidewalk.

10.8-NW QUADRANT:

Signal poleline to be removed.  
Existing case, battery well and meter pole, all to be removed.  
Proposed 6'X6' house location.  
Existing 'No Left Turn' automatic warning device with rail sticks as bollards, all to be removed.

10.9-SE QUADRANT:

Gas vent pipe.

10.10-SW QUADRANT:

Existing cantilever and proposed cant./gate combo set in the street 8' from existing road edge.  
Install 6" curb island the following boundaries: built around north and west sides of proposed warning device, towards Speedway driveway, north edge of sidewalk, and 10' from near rail but exclude sewer catch basin.  
Fill proposed roughly 'L' shaped curb island with concrete.  
Signal pole with wire spans, rail sticks around cantilever, battery well and other equipment.  
Sewer catch basin at edge of road.

CABLE RUN TABULATIONS

HOUSE TO AC SERVICE ----- 3/C#6  
HOUSE TO GATE NO. 1 ----- 3/C#9, 7/C#6, 7/C#9  
HOUSE TO GATE NO. 2 ----- 3/C#9, 7/C#6, 7/C#9  
HOUSE TO TI-1/T2-1 ----- #6 TW. PR.  
HOUSE TO R1-1/R2-1 ----- #6 TW. PR.  
HOUSE TO TI-2/T2-2 ----- #6 TW. PR.  
HOUSE TO R1-2/R2-2 ----- #6 TW. PR.

**PRELIMINARY**  
**NOT FOR CONSTRUCTION**  
THIS DRAWING IS PROVIDED FOR REFERENCE ONLY.  
ACTUAL CONDITIONS AND FINAL DESIGN ARE  
THE RESPONSIBILITY OF THE DESIGN-BUILD VENDOR.



○ = NOTE

LEGEND:  
⊗ - LOCATION OF AC SERVICE  
○ - UTILITY POLE



JOB #1411  
DATE: 11-29-21  
DRAWING NO. 00.22-CUOH-16

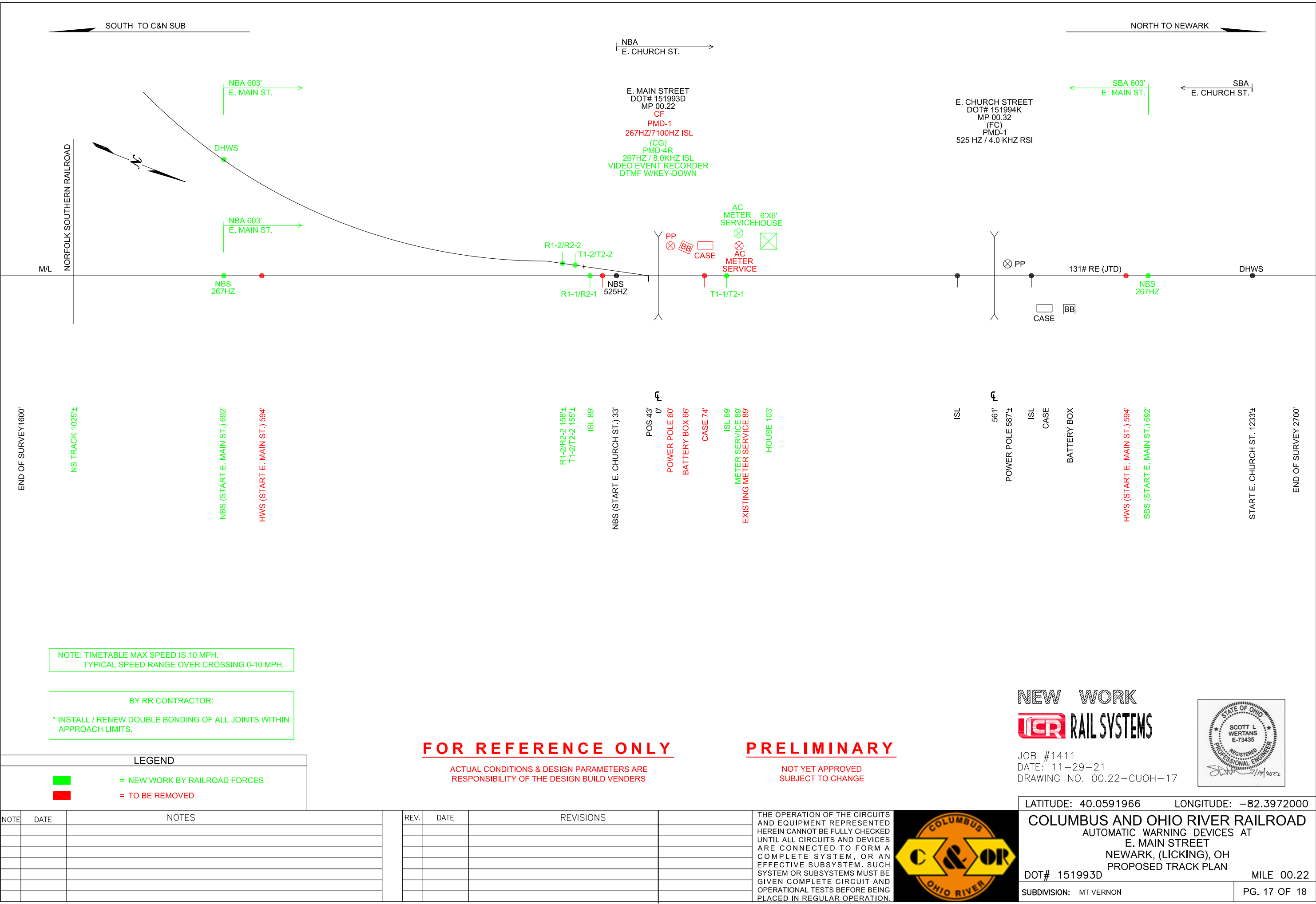
NOTE	DATE	NOTES

REV.	DATE	REVISIONS

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LATITUDE: 40.0591966 LONGITUDE: -82.3972000	
COLUMBUS AND OHIO RIVER RAILROAD AUTOMATIC WARNING DEVICES AT E. MAIN STREET NEWARK, (LICKING), OH SITE LAYOUT PLAN	
DOT# 151993D	MILE 00.22
SUBDIVISION: MT VERNON	PG. 16 OF 18



NOTE: TIMETABLE MAX SPEED IS 10 MPH.  
TYPICAL SPEED RANGE OVER CROSSING 0-10 MPH.

BY RR CONTRACTOR:  
\* INSTALL / RENEW DOUBLE BONDING OF ALL JOINTS WITHIN  
APPROACH LIMITS.

LEGEND	
<div></div>	= NEW WORK BY RAILROAD FORCES
<div></div>	= TO BE REMOVED

NOTE	DATE	NOTES

**FOR REFERENCE ONLY**  
ACTUAL CONDITIONS & DESIGN PARAMETERS ARE  
RESPONSIBILITY OF THE DESIGN BUILD VENDERS

REV.	DATE	REVISIONS

**PRELIMINARY**  
NOT YET APPROVED  
SUBJECT TO CHANGE

THE OPERATION OF THE CIRCUITS  
AND EQUIPMENT REPRESENTED  
HEREIN CANNOT BE FULLY CHECKED  
UNTIL ALL CIRCUITS AND DEVICES  
ARE CONNECTED TO FORM A  
COMPLETE SYSTEM, OR AN  
EFFECTIVE SUBSYSTEM. SUCH  
SYSTEM OR SUBSYSTEMS MUST BE  
GIVEN COMPLETE CIRCUIT AND  
OPERATIONAL TESTS BEFORE BEING  
PLACED IN REGULAR OPERATION.



NEW WORK  
**TCR RAIL SYSTEMS**

JOB #1411  
DATE: 11-29-21  
DRAWING NO. 00.22-CUOH-17

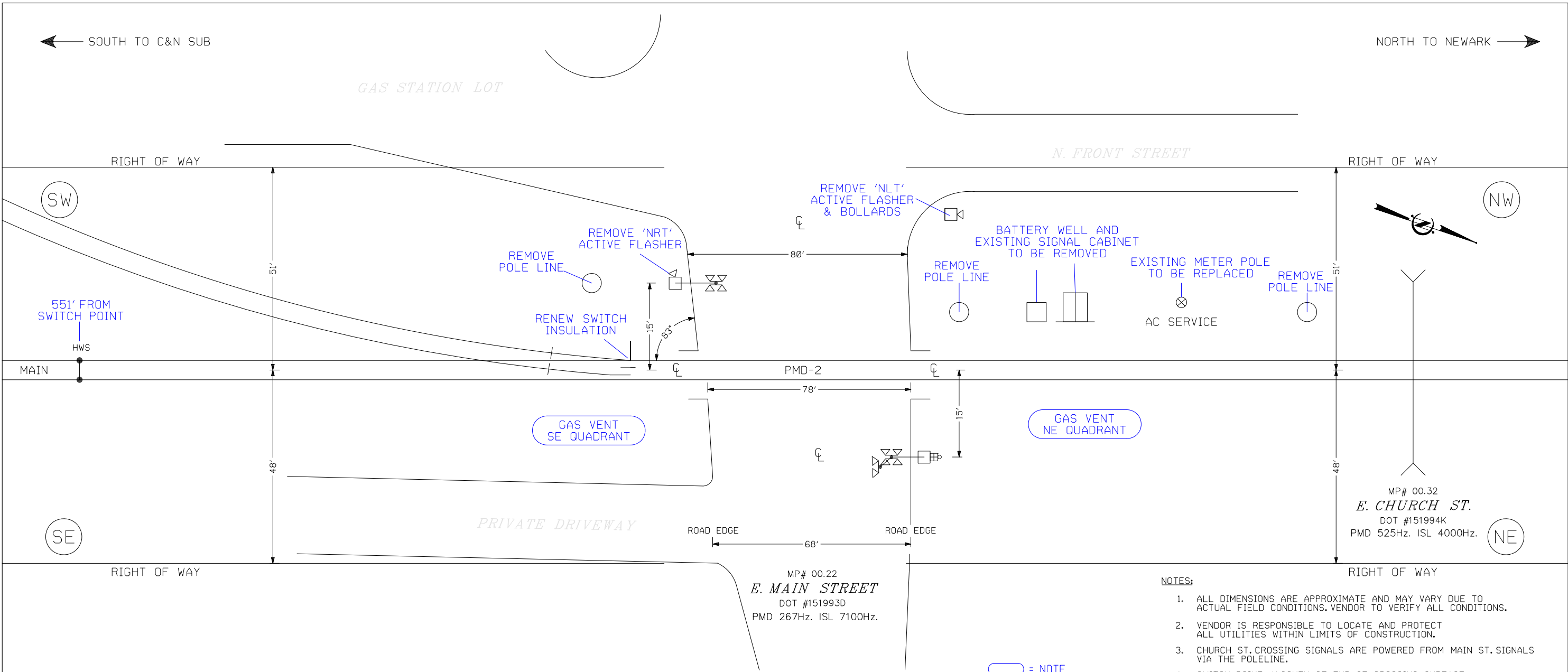


LATITUDE: 40.0591966      LONGITUDE: -82.3972000

**COLUMBUS AND OHIO RIVER RAILROAD**  
AUTOMATIC WARNING DEVICES AT  
E. MAIN STREET  
NEWARK, (LICKING), OH  
PROPOSED TRACK PLAN

DOT# 151993D      MILE 00.22

SUBDIVISION: MT VERNON      PG. 17 OF 18



- NOTES:
- 1. ALL DIMENSIONS ARE APPROXIMATE AND MAY VARY DUE TO ACTUAL FIELD CONDITIONS.VENDOR TO VERIFY ALL CONDITIONS.
  - 2. VENDOR IS RESPONSIBLE TO LOCATE AND PROTECT ALL UTILITIES WITHIN LIMITS OF CONSTRUCTION.
  - 3. CHURCH ST. CROSSING SIGNALS ARE POWERED FROM MAIN ST. SIGNALS VIA THE POLELINE.
  - 4. SWITCH POINT 4' SOUTH OF END OF CROSSING SURFACE.

○ = NOTE

- LEGEND:
- ⊗ - LOCATION OF AC SERVICE
  - - UTILTIY POLE

**PRELIMINARY**  
**NOT FOR CONSTRUCTION**  
THIS DRAWING IS PROVIDED FOR REFERENCE ONLY.  
ACTUAL CONDITIONS AND FINAL DESIGN ARE  
THE RESPONSIBILITY OF THE DESIGN-BUILD VENDOR.

NEW WORK  
**TCR RAIL SYSTEMS**



JOB #1411  
DATE: 11-29-21  
DRAWING NO. 00.22-CUOH-18

"DRAWING NOT TO SCALE"

LATITUDE: 40.0591966 LONGITUDE: -82.3972000

**COLUMBUS AND OHIO RIVER RAILROAD**  
AUTOMATIC WARNING DEVICES AT  
E. MAIN STREET  
NEWARK, (LICKING), OH  
EXISTING CROSSING LAYOUT

DOT# 151993D MILE 00.22

SUBDIVISION: MT VERNON

PG. 18 OF 18

NOTE	DATE	NOTES

REV.	DATE	REVISIONS

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# BASIS OF DESIGN



Region:	NORTHERN
Railroad:	COLUMBUS & OHIO RIVER RAILROAD
Subdivision:	MT. VERNON
Supervisor:	TODD HENSLEY
Railroad No.:	21CUOH04R

Location Name:	E. MAIN STREET
City, (County), ST:	NEWARK, (LICKING), OH
MP:	0.22
DOT #:	151993D
Prepared By:	TODD SOVANN
Date Prepared:	8/6/2021

## Warning Time Calculation

### Notes to User:

- 1) If any standard values are changed, please provide justification
- 2) Clearance maximum measured distance along highway from crossing stop line, warning device or 12 feet perpendicular (which ever is furthest) to 6 feet beyond far rail. (*Railroad-Highway Grade Crossing Handbook - Revised Second Edition 2007*)

### Clearance Time Calculation

Clearance Distance	100	ft
Clearance time	7	s

### Approach Length Calculation

Base Warning Time	30	sec	
Plus Clearance Time	7	sec	(Linked to calc above)
Equals Planned Warning Time	37	sec	
Plus Time for Traffic Preemption	0	sec	
Equals Total Design Warning Time	37	sec	
Plus Equipment Response Time	4	sec	
Plus Buffer Time	0	sec	
Plus Additional Time	0	sec	(Provide explanation)
Equals Total Warning Time	41	sec	
Times Maximum Design Train Speed	10	mph	
Times Ratio of fps to mph	1.470	fps/mph	
Equals Approach Circuit Length	603	ft	(Rounded up to nearest foot)

# Force Account Estimate

Estimate to Complete

Railroad:	The Columbus & Ohio River Rail Road Company (CUOH)	Region:	NORTHERN
Agency:	ORDC	State:	OH
DOT #:	151993D	COUNTY:	Licking
ROADWAY:	East Main Street	CITY:	Newark
DESCRIPTION:	Install Cantilever/Gate combo w/gate offset, 2 bells, sidelights on dollarm on both warning devices - back-to-back in SW quad and 1-way in NE. New 6'x6 bungalow w/PMD-4R w/generic interface panel (CWT). Wye track - Uni-direction PMD-4R w/CWT, varmit guards, Remove 4 gauge rods with 16 ties.		
AGENCY PROJECT NUMBER:	PID# 114046	ESTIMATE SUBJECT TO REVISION AFTER:	02/06/23

## PRELIMINARY ENGINEERING:

Contracted & Administrative Engineering Services	\$	14,800
<b>Subtotal</b>	<b>\$</b>	<b>14,800</b>

## CONSTRUCTION & CLOSEOUT:

Contracted & Administrative Engineering Services	\$	12,100
<b>Subtotal</b>	<b>\$</b>	<b>12,100</b>

## FLAGGING SERVICE:

Contracted or Railroad Flagmen Services	10 Days	\$	14,000
<b>Subtotal</b>		<b>\$</b>	<b>14,000</b>

## UTILITY WORK:

Power Service	\$	5,000
Other	\$	-
<b>Subtotal</b>	<b>\$</b>	<b>5,000</b>

## CONTRACT WORK:

Outside Services	\$	-
Design & Labor & Material	\$	241,680
<b>Subtotal</b>	<b>\$</b>	<b>241,680</b>

## RAILROAD TRACK:

Labor & Material	\$	-
<b>Subtotal</b>	<b>\$</b>	<b>-</b>

## RAILROAD SIGNAL & COMMUNICATION:

Labor & Material	\$	-
<b>Subtotal</b>	<b>\$</b>	<b>-</b>

## PROJECT SUBTOTAL:

		<b>\$</b>	<b>287,580</b>
Public Project Admin:	0.00%	\$	-
Contingencies:	0.00%	\$	-

## PROJECT TOTAL:

	*****	<b>\$</b>	<b>287,580</b>
--	-------	-----------	----------------

## CURRENT AUTHORIZED BUDGET:

	*****	<b>\$</b>	<b>-</b>
--	-------	-----------	----------

## TOTAL SUPPLEMENT REQUESTED:

	*****	<b>\$</b>	<b>287,580</b>
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## DIVISION OF COST:

Agency	100.00%	\$	287,580
Railroad	0.00%	\$	-

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

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 the railroad 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.

Estimated prepared by: BPB Approved by: Public Project Department  
DATE: 02/09/21 REVISED: 08/10/22 DATE: 08/10/22

HOUSE MATERIAL LIST		
DESCRIPTION	QTY. REQ	UNIT
TCR HOUSE,6' X 6' (S01310001)	1	EA
SURGE PROTECTOR, <b>EPD PRIMARY 120/240V 85kA</b> , ERICO #EPD120/240TDFL	1	EA
POWER OFF INDICATOR, 2 Eye LED White, 4 Wire Pigtail, White Velcorp Gems #LC2-001WB-W	2	EA
Plan Tube w/ End Cap	1	EA
HOUSE DECAL	1	EA
Relay, Non-Vital 12VDC 8 Pin DPDT Dayton #1A484 (use socket #5X852)	1	EA
Relay, Non-Vital 120VAC 8 Pin DPDT Dayton #5X827 (use socket #5X852)	1	EA
Socket, Relay Non-Vital 8 Pin, Dayton #5X852	2	EA
PMD-4R, CROSSING CONTROLLER, PREDICTOR MODE, SINGLE TRACK REDUNDANT, #300911-031	2	EA
GENERIC INTERFACE PANEL	2	EA
CROSSING CONTROLLER, SIEMENS SSCC <b>IIIA, 40 AMP</b> , 19" MOUNT, #9000-91160-1101	1	EA
<b>NBS</b>	2	EA
NAS MDA II UNIT W/ DTMF #MDA 040601-00-DTMF	1	EA
MDSA -2, MOTION DETECTOR SURGE ARRESTER FOR TWO TRACK #250675-100	1	EA
4 POST ERICO BLOCK #SBB2700A2B	34	EA
ARRESTER, HEAVY DUTY SIEMENS #4000-44615-001X	38	EA
EQUALIZER, HEAVY DUTY SIEMENS #4000-44700-001X	2	EA
TERMINAL BLOCK, 12 Single Post, 1x12 Rebel Railway	1	EA
TERMINAL BLOCK, 6 DOUBLE POST , 2x6 Rebel Railway Supply #220-0100	9	EA
TERMINAL BLOCK, 2-3/8" Single Block Rebel Railway	6	EA
Nut, AAR Clamp, Flat (AAR SPEC #10707 #14-24 HEX)	200	EA
Nut, AAR Shoulder Type, Binding (AAR SPEC #10706 #14-24 HEX)	400	EA
Washer, AAR Beveled, Flat 1/4" Stud(AAR SPEC #10708)	800	EA
INSULATED NUT, FOR RR TERMINAL BLOCK POST #013986-000	12	EA
Test Link, 1" Offset w/ Gold Nut, Clamp Nut L&W #9A2205-7X (order in quantities of 50)	88	EA
Test Link, 2-3/8" Straight, w/ Gold Nut L&W #9A2211-X (order in quantities of 50)	2	EA
Connector Link, 2-3/8" Straight L&W #9A2201 (order in quantities of 50)	4	EA
Connector Link, 1" Straight L&W #9A2200 (order in quantities of 50)	48	EA
GROUND BUSS STRAP, 36"L, 1" CENTERS L&W #9A2216-36	3	EA
Ground Bolt Assembly, w/ Bolt, star washers, copper flat washer, nuts	1	EA
Wire, 1c#14, TC Blue, #152-11-3024	600	FT
Wire, 1c#10 TC Blue, #152-11-3038	300	FT
Bondstrand, Black, 3/16" w/ 4/64" PVC Jacket, Erico #SBS8LINSUL 500 ft reel	30	FT
Bondstrand, Red, 3/16" w/ 4/64" PVC Jacket, Erico #SBS8TINRD 500 ft reel	30	FT
Green Wire #6 (Equipment Grounding)	30	FT

HOUSE MATERIAL LIST		
DESCRIPTION	QTY. REQ	UNIT
RING TERMINAL, #12-#10 AWG, 1/4" STUD, YELLOW (CLEAR NYLON), INSULATED. KATCO #C530-14 (MOLEX)	75	EA
RING TERMINAL, #16-#14 AWG, 1/4" STUD, BLUE (CLEAR NYLON), INSULATED. KATCO #B525-14 (MOLEX 01)	75	EA
RING TERMINAL, #6 AWG, 1/4" STUD, INSULATED. KATCO #E660-14	4	EA
RING TERMINAL, #6 AWG, 1/4" STUD, NON-INSULATED. KATCO #E360-14	4	EA
BATTERY CHARGER NRS 12/20	1	EA
BATTERY CHARGER NRS 12/40	1	EA
BATTERY, 368 AH, VRLA GNB ABSOLYTE MAINTENANCE FREE, SEALED, GNB #50-G15	13	EA
BATTERY TRAY, 12" X 38" FIBER CO INC	2	EA
COVER, PANDUIT 2" GRAY #88197241	30	FT
PANDUIT DUCT, 2" X 3", GRAY, TYPE G SLOT #95032476	30	FT
COVER, PANDUIT 3" GRAY #88197247	30	FT
PANDUIT DUCT, 3" X 3", GRAY TYPE G SLOT #95032477	30	FT
Zip Tie, 7.4 Inch, White, #PLT2S-M Graybar #88199653 (BAG OF 1000)	30	EA
Zip Tie, 11.5 Inch, White, #PLT3S-M, Graybar #88199677 (BAG OF 1000)	30	EA
TAG, SLEEVE , for wire identification, BRADY HX-375-2-WT-2, GRAYBAR #25784247 (approx 300 per job includi	150	EA
BOX, FLUSH MOUNT 13-1/4" H x 9" W x 6" D, With 1/2" DIA Hole, 32 terminals ( OLD #S01660051 L&W #3A7120-	1	CEL
CAMERA SECURITY SYSTEM	1	EA
ITEMS BELOW SHIP WITH PROJECT		
CABLE CHUTES	1	LOT
AC POWER PIPE EXTENSION WITH 1-1/2" SEALTIGHT 3 FT, WITH SEALTIGHT COUPLINGS	1	LOT
PICTURES OF WIRED HOUSE	1	LOT
FIELD TAGS	1	LOT
HOUSE STICKER ENS SIGNS	1	LOT
SIGNAL MATERIAL LIST		
Mast, 5" FOR DOLL ARM ON CANTILEVERS	2	EA
Bracket, 36" Alum Standoff w/5" MTG (AKA: JURY MAST) (S01130010)	2	EA
COMBO CANTILEVER ASSEMBLY, 28 FT ARM, WITH DOLL ARM FOR MECH	1	EA
COMBO CANTILEVER ASSEMBLY, 26 FT ARM, WITH DOLL ARM FOR MECH	1	EA
ADDITIONAL CANTILEVER COSTS	2	EA
Crossarm Assembly, 1 Way, 4" Mount, Flasher WCH #960-83-4-UA, Unassembled	3	EA
Crossarm Assembly, 2 Way, 12" Tab Mount, Cantilever WCH #960-58-SCL-UA	2	EA
Crossarm Assembly, 2 Way, 4" Mount, Cantilever Arm, #960-51-4-UA, Unassembled	2	EA
Signal Head Assembly, 12", includes Housing, Hood, Background WCH #985-869	22	EA
Signal LED, 12" RG6 30/15 Deflection GE #RTFB.101 BV3-H7	22	EA
Sign, Railroad Crossing	4	EA

HOUSE MATERIAL LIST		
DESCRIPTION	QTY. REQ	UNIT
ENS SIGN	2	EA
Extension Bracket, Sign Mounting, (S01620020)	8	EA
AAR CLAMP, SADDLE BRACKET, 4-5" (OLD S01610001)	8	EA
12" U-BOLT ASSEMBLY	4	EA
STUD ASSEMBLY, 1/2"-13 X 2" THREADED BOTH ENDS, FOR MOUNT MAIN MAST CANTILEVER LIGHT	4	EA
WASHER, FLAT SS, 1/2"	8	EA
WASHER, LOCK SS, 1/2"	8	EA
NUT, HEX HEAD SS, 1/2-13	8	EA
CAP SCREW, HEX HEAD SS, 1/2"-13 x 1-1/2"	8	EA
CAP SCREW, HEX HEAD SS, 5/8"-11 x 3-1/2" (RR CROSSING SIGN TO OFFSET BRACKET)	4	EA
CAP SCREW, HEX HEAD SS, 5/8"-11 x 2-1/2" (OFFSET BRACKET TO AAR SADDLE )	4	EA
NUT, HEX HEAD SS, 5/8"-11 SS #HNCS-58	8	EA
WASHER, LOCK SS, 5/8" #LWS-58	8	EA
WASHER, FLAT SS, 5/8" x 1" DIA	8	EA
CAP SCREW, HEX HEAD SS, 3/8"-16 x 1" (ENS TO AAR SADDLE)	4	EA
NUT, HEX HEAD SS, 3/8"-16	4	EA
WASHER, LOCK SS, 3/8"	4	EA
WASHER, FLAT SS, 3/8"	4	EA
GATE MECHANISM, MODEL 3593-E-131, W/ 28 FT CW KIT, ADAPTER WCH #M-10-TCRE-28-A	2	EA
GATE ARM, 19-32 FT ALUM-POLY, GENERAL SIGNALS #SG-1932	2	EA
LAMP KIT, GATE ARM STRAIGHT DIODE STYLE NEG #NEG-2018-3DCLED-LC	2	EA
Bell, Electronic GSI #EB-3-3605	2	EA
Wire, 1c#10 TEFZEL BLACK CUSA	400	FT
CORD, #10 AWG, 3 COND, Black SWOO-10-3-BLK-250CN Graybar #88301953 250 ft Reel	100	FT
Test Link, 1" Straight w/ Gold Nut, Clamp Nut L&W #9A2205-1X (order in quantities of 50)	30	EA
High Wind Support Bracket, (S01520020)	2	EA
FOUNDATION, PIP SINGLE 7 FT, INCLUDES REBAR, LASHING WIRE, BOLT HARDWARE	2	EA
GROUND MATERIAL LIST		
PICTURES OF WIRED HOUSE AND LOADED TRUCK	1	LOT
FIELD TAGS	1	LOT
Cable, 3c#6, Direct Burial, 600 V, Copper Tape, #206-11-6243	100	FT
Cable, 2c#6, Twist Black/Red, Direct Burial, 600 V, #150-12-3933	500	FT
Cable, 7c#6, Direct Burial, 600 V, Copper Tape, #206-11-6247	300	FT
Cable, 7c#9, Direct Burial, 600 V, Copper Tape, #206-11-6927	300	FT
Wire, #6 Bare Copper Soft Drawn, Solid Graybar #22061327	120	FT

HOUSE MATERIAL LIST		
DESCRIPTION	QTY. REQ	UNIT
GROUND ROD, 5/8" x 8 FT Copper, South Atlantic #C588	5	EA
Ground Rod One-Shot, 5/8" rod, Horz Tee, Wire to GR Rod Erioco, #SBNT1161G	5	EA
Bond, 6-1/2" Head Bond, Cadweld, 3/16" Dia. XS Style ERICO #SBS24882	60	EA
Rail Welding Matertial SB25	120	e
TRACK CONNECTOR, Cadweld, 3/16" x 1" Tab x 4" L, w/ compression sleeve on end, ERICO #SBTBBU4A	4	EA
SLEEVE, COMPRESSION #A2363J, 3/16" BONSTRAND TO #6 SOLID	4	EA
SLEEVE, CONDUCTOR ERICO #SBS12C (FOR USE WITH HAMMER DIE SBD50. MAKING FIELD WEB BONDS	120	EA
Bondstrand, Black, 3/16" w/ 4/64" PVC Jacket, Erico #SBS8LINSUL 500 ft reel	200	FT
RAIL CLIP, HAMMER ON ERICO #A248B	20	EA
DUCT SEAL, 5 LB BRICK OIL BASED, PANDUIT # DS5, #89021273	2	EA
LOCK, SIGNAL STYLE HEXAGON #030399-16X	5	EA
INSULATED RAIL JOINT GLUED PLUG	2	EA
INSULATED RAIL JOINT WELD KITS	4	EA
SWITCH INSULATION (RODS 2 GAUGE PLATE 1)	1	lot
RAILROAD TIES	16	
POLE, 30 ft wooden, Power Drop	1	EA
Meter Socket Box, 125 AMP, 4 Terminal, Milbank #UAP8435-XL-TG-HSP	1	EA
BREAKER, Meter Service Box, 60 AMP, SQ D QO260, GRAYBAR #88242840	1	EA
LOAD CENTER, #QO612L100RB, 100A 120/240V 1 Phase Raintight NEMA 3R Main Lug Load Center, 6 Single Pole/12 Tandem MFR #: QO612L100RB, GB #88243006	1	EA
HUB KIT, Meter Service Box, 2" Threaded, Milbank #A7517, Graybar #89053321	2	EA
SERVICE ENTRANCE CAP, PVC Type, #SE-CAP-2, Graybar #93172051	1	EA
CONDUIT, PVC SCH 80 - 2", 10 FT Length, #PVC-80-2, Graybar #88215740 {30 Ft needed per drop}	301	FT
CONDIUT OFFSET, 2" PVC, #2-METER-OFFSET, Graybar #96027896	2	EA
LOCKNUT, 2", Zinc RDG., T&B #LN-106, Graybar #88254154	2	EA
BUSHING, Insualted 2", T&B #BU-506, Graybar #88253849	2	EA
STRAP, Conduit 2", 2 hole T&B #HS-106, Graybar #88254105	6	EA
GUY WIRE ANCHOR, 4 Ft	1	EA
EYE BOLT, 10" L x 5/8 dia.	1	EA
GUY WIRE GRIP, Alum Deadend , to lash guy wire to eyebolt and anchor	2	EA
GUY WIRE, 5/16", 500 Ft Spool	30	FT
Wire, 2-2-4 TRIPLEX UD, 600V, Alum Graybar #22108305 {30 Ft needed per drop}	30	FT



## Rail Development Commission

Mike DeWine, Governor  
Jon Husted, Lt. Governor

Scott Corbitt, Chair

February 8, 2021

Mr. Len Wagner  
President & Legal Official (SVP)  
Genesee & Wyoming/CUOH  
201 N. Penn Street  
Punxsutawney, PA 15767

RE: PE Authorization for LIC CUOH East Main St DOT# 151993D PID# 114046

Dear Mr. Wagner:

A diagnostic review was held at the above grade crossing on October 24, 2019. The crossing has been recommended for the installation of lights and gates at the Genesee & Wyoming/CUOH grade crossing DOT# 151993D.

Genesee & Wyoming/CUOH is authorized to proceed with the site plans and cost estimates or bid package 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 the railroad must provide ORDC with a plan stamped by a professional engineer licensed in the State of Ohio prior to acceptance and close out of the project.

The diagnostic review form is attached. Please note any recommendations (page 7), if any, made by the team about requirements for this location. Any minor roadway work necessary for MUTCD compliance should be incorporated into the PE and such costs will flow through the railroad reimbursement process.

The Project Manager for this project is Greg Gronbach. Greg Gronbach can be reached at (614) 745-6760, or Gregory.Gronbach@dot.ohio.gov, if you have any questions.

Sincerely,

  
Greg Gronbach  
Project Manager

C: John Williams, Director, Transportation Department, PUCO  
Jill Henry, Rail Specialist, PUCO  
Heather Hamilton, ORDC  
ORDC (file)



Attachments: 3 (diagnostic review form, letter agreement, purchase order)





## Rail Development Commission

Mike DeWine, Governor  
Jon Husted, Lt. Governor

Scott Corbitt, Chair

November 20, 2020

Len Wagner  
SVP, Northern Region Railroads  
Genesee & Wyoming/CUOH  
400 Meridian Center, Ste. 300  
Rochester, NY 14618

Subject: Grade Crossing Warning Device Improvement  
Licking County, East Main St., DOT# 151993D, PID 114046

Dear Mr. Wagner:

A diagnostic review was conducted at the subject grade crossing on 10/24/2019. As a result of the review, the warning devices will be upgraded to flashing lights and roadway gates; and associated curb work will also be completed.

This project shall be completed in compliance with Agreement No. 0009-A dated May 28, 2001, entered into by the State of Ohio and The Columbus and Ohio River Rail Road Company (CUOH) and incorporated as if fully rewritten herein. This construction shall also meet the general terms and conditions under the Fixing America's Surface Transportation Act and subsequent amendments and the State of Ohio's Federally Funded Warning Device Program.

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

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

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



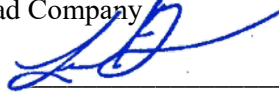
Please indicate your acceptance of the terms and conditions of this Letter Agreement by signing and returning one (1) copy to me at the address listed above and retain a copy for your files. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be a duplicate original,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

Sincerely,



Matthew Dietrich  
Executive Director

The Columbus and Ohio River Rail  
Road Company

By:  \_\_\_\_\_

Title: President \_\_\_\_\_

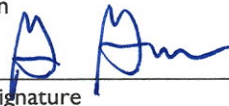



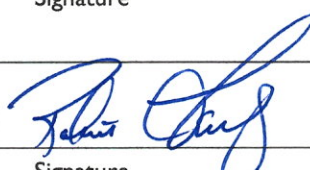
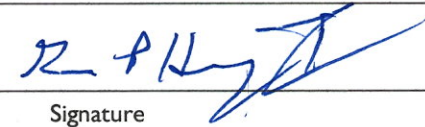


Date: 12/11/2020 \_\_\_\_\_

Main Street (DOT #151993D), City of Newark, Licking County, Columbus & Ohio River Railway  
10/24/2019

Crossing at a glance: Rank 2512

ORDC Notes:

Please Sign In

Greg Gronbach	Project Manager	ORDC
Name	Title	Organization
614-745-6760	gregory.gronbach@dot.ohio.gov	
Phone Number	Email	Signature
Cathy Stout	Safety Program Manager	ORDC
Name	Title	Organization
614-971-8470	catherine.stout@dot.ohio.gov	
Phone Number	Email	Signature
Adil Abdulkadir	Intern	ORDC
Name	Title	Organization
	adil.abdulkadir@dot.ohio.gov	
Phone Number	Email	Signature
Brian Morehead	Engineer	City of Newark
Name	Title	Organization
	bmorehead@newark.ohio.net	
Phone Number	Email	Signature
Robert Farley		PUCO
Name	Title	Organization
740-463-2007	robert.farley@puco.ohio.gov	
Phone Number	Email	Signature
Todd Hensley	Signal Supervisor	CUOH
Name	Title	Organization
740-502-7214	ghensley@gwrr.com	
Phone Number	Email	Signature
BJ Varner		City of Newark
Name	Title	Organization
740-404-4696	bvarner@newarkohio.net	
Phone Number	Email	Signature
1		
Name	Title	Organization
		
Phone Number	Email	Signature

Reason for Request: **Constituent-AOT**  
(e.g. formula, accident, constituent, etc.)

Date: 10/24/2019

### Location Data

Street or Road Name:		Main Street	
County:	Licking	Township:	US DOT No.: 151993D
City (in or near):	Newark	Railroad Name:	RR Milepost: 00.22
		CUOH	

### Safety Data (Obtain crash reports, if possible)

	Initial Information (from database)	Revised
Number & dates of vehicle crashes in previous 5 years:	0	
Number & dates of pedestrian/bicycle crashes in previous 5 years:		
Hazard Ranking:	2512	Date Run: 09/19/2019

### Existing Traffic Control Devices

Type of Warning Devices	Installed?		Quantity/Comments
<b>HIGHWAY</b>			
Advance Warning Signs (condition?)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2 - GOOD
'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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2 - GOOD
Dynamic Envelope Markings (condition?)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Illumination	<input checked="" type="checkbox"/> Yes <input 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		
<b>RAILROAD</b>			
Crossbucks	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2
Crossbucks – assembly with Stop	<input type="checkbox"/> Yes <input checked="" 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Number: 10      Length: 10'
Side Lights	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No		2
LED or Incandescent Lights? Size?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Automatic Gates	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Number:      Length:
Bells	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Number: 1
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		

\* NW QUAD HAS "NO LEFT TURN".  
\* SW QUAD HAS "NO RIGHT TURN".



## Railroad Data

Type of Train: ☒ Freight ☐ Intercity Passenger ☐ Transit ☐ Shared Use Transit ☐ Commuter ☐ Tourist/Other

Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	2	
<1 per day? Trains per week	-	
Day thru trains	1 2	
Night thru trains	0	
Switching	1	
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks	0	
Maximum train speed	10	
Typical train speed	5-10	
Amtrak	-	

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

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

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

Comments:

Circuitry: ☐ Constant Warning Time ☒ Motion Detection ☐ AFO ☐ PTC ☐ DC ☐ Other PMD2

Roadway Data		
Local Highway Authority:		City of Newark
Roadway Characteristics	Initial Information (from database)	Revised
Average Daily Traffic	5,824	
Highway Paved	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Roadway Surface: <input checked="" type="checkbox"/> Blacktop <input type="checkbox"/> Gravel <input type="checkbox"/> Concrete Other _____		
Roadway width (paved/travelled way): <del>200</del> ft 78'		
Number of Highway Lanes	2	
Urban or Rural	Urban - Minor Arterial	
Vehicle Speed: 25 MPH <del>25</del>		
School Bus Operation: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Amount 3		
Location of nearby schools: BUSSED SACRAMENT ELEMENTARY / MIDDLE 1/2 MILE EAST.		
Hazardous Materials Trucks: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Amount (from FRA) 4% LHA verified/changed?		
Shoulders: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is the Shoulder Surfaced? <input type="checkbox"/> Yes <input checked="" 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 NE	Curb & Gutter:	Quadrant SW
<input checked="" 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 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		
If yes:		
Improvement type _____ Lead Agency _____ Timeline/completion _____		



## Pedestrian & Bicycle Data

Regular pedestrian usage: ☒ Yes ☐ No Volumes: ☐ Occasional ☐ <20 ☐ 20-60 ☒ >60

Is sidewalk present in the approach? ☒ Yes ☐ No Quadrants: **BOTH QUADS**

Does crossing surface accommodate pedestrians? ☒ Yes ☐ No

Both sides of roadway? ☒ Yes ☐ No If no, which side is paved?

Pedestrian generators in close proximity (e.g. schools, sports/entertainment venues)? ☒ Yes ☐ No

Comments: **WALKING DISTANCE TO TOWN CENTER AND LOCAL SHOPS.**

Regular bicycle usage: ☒ Yes ☐ No

☒ Roadway ☒ Dedicated Lane (on street) ☐ Dedicated Path (off street) ☐ Shared Use (pedestrian/bicycle) Path  
☐ Bikes must use sidewalk

☒ Future plans for pedestrian or bicycle routes? ☐ Yes ☒ No

Comments:

## Utility Information

☒ Is commercial power available? ☒ Yes ☐ No

☒ Utility Provider (Company Name) **AEP**

Nearest Available Power Source **AT CROSSING**

What other utilities are present? ☒ Gas ☐ Cable ☐ Telephone ☐ Fiber Optic Cable (add locations to sketch)  
☐ Petroleum ☒ Water ☒ Sanitary Sewer ☐ Other

Comments:

## Surface

☒ Surface review form completed? ☐ Yes ☒ No

## Sight Preview (REFER TO TABLES)

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

Is stopping sight distance adequate? (See Table 2) ☒ Yes ☐ No If no, which quadrant? \_\_\_\_\_

When considering recommendations for bicycle treatments:

Bicycle sight distance adequate? ☒ Yes ☐ No If no, which quadrant? \_\_\_\_\_

When considering recommendations for pedestrian treatments:

Pedestrian sight distance adequate? ☒ Yes ☐ 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):

N/A

Crossing Consolidation or Closure:

NO - MAIN ROAD THRU.

Real Estate or ROW:

NO

Culvert / Drainage / Ballast Conditions:

NO

Roadway and/or Sidewalks:

YES

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

YES - CHURCH ST TO NORTH DOTH #151994K

Environmental:

STORM SEWER RELOCATION IN SW QUAD.  
~~###~~

Utilities:

NO

Other:



## Potential Closure

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

Explain reasons:

**MAIN ROAD THRU TOWN.**

## Diagnostic Team Recommendations

<input type="checkbox"/> No improvements needed	Quadrants Needed
<input type="checkbox"/> Install/upgrade active devices	
<input checked="" type="checkbox"/> Automatic Flashing Lights (AFLS)	
<input type="checkbox"/> AFLS / Cants	
<input type="checkbox"/> AFLS / Gates	
<input checked="" type="checkbox"/> AFLS / Gates / Cants	
<input checked="" type="checkbox"/> Bells / number	<b>2</b>
<input type="checkbox"/> Upgrade circuitry / type	
<input checked="" type="checkbox"/> Sidelights	<b>ALLEY ARM - FRONT ST - IN SW QUAD</b>
<input type="checkbox"/> LED Upgrades	
<input type="checkbox"/> Guardrail Needed	
<input checked="" type="checkbox"/> Install/Replace curb	<b>BUMP OUT CURBS IN BOTH QUAD.</b>
<input checked="" type="checkbox"/> Bungalow placement & offset from rail & highway	<b>NW QUAD</b>
<input checked="" type="checkbox"/> Other (define)	
Comments: <b>- RR DESIGN TO LOOK AT ALLEY ARM FOR FRONT FRONT ST, FOR WB IN SW QUAD.</b>	
<input type="checkbox"/> Install/upgrade traffic signal preemption	
Other (define): <b>- BUMP OUT CURBS IN NE + SW QUAD. RELOCATION OF STORM SEWER IN SW QUAD. REMOVE "NRT" IN SW QUAD. REMOVE "NLT" IN NW QUAD.</b>	

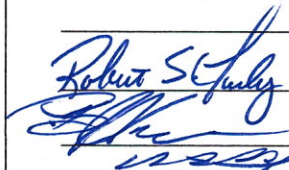

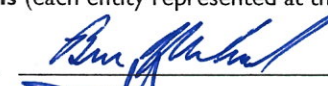
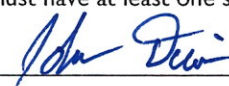
## Diagnostic Team Recommendations (cont.)

### PEDESTRIAN/BICYCLE Treatments (additional, not included above)

<input type="checkbox"/> Crossing Surface (specify)	<input type="checkbox"/> Sidewalk (specify)
<input type="checkbox"/> Detectable warning surfaces	<input type="checkbox"/> LOOK Sign (R15-8)
<input type="checkbox"/> Stop lines	<input type="checkbox"/> Illumination
<input type="checkbox"/> Dynamic envelop markings	<input type="checkbox"/> Channelization
<input type="checkbox"/> Path delineation	<input type="checkbox"/> Fencing/barriers
<input type="checkbox"/> Other	

Comments: **BIKE LANE ON SOUTHSIDE MAP NEEDS MOVES FOR NEW BUMP OUT CURBS.**

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

**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.



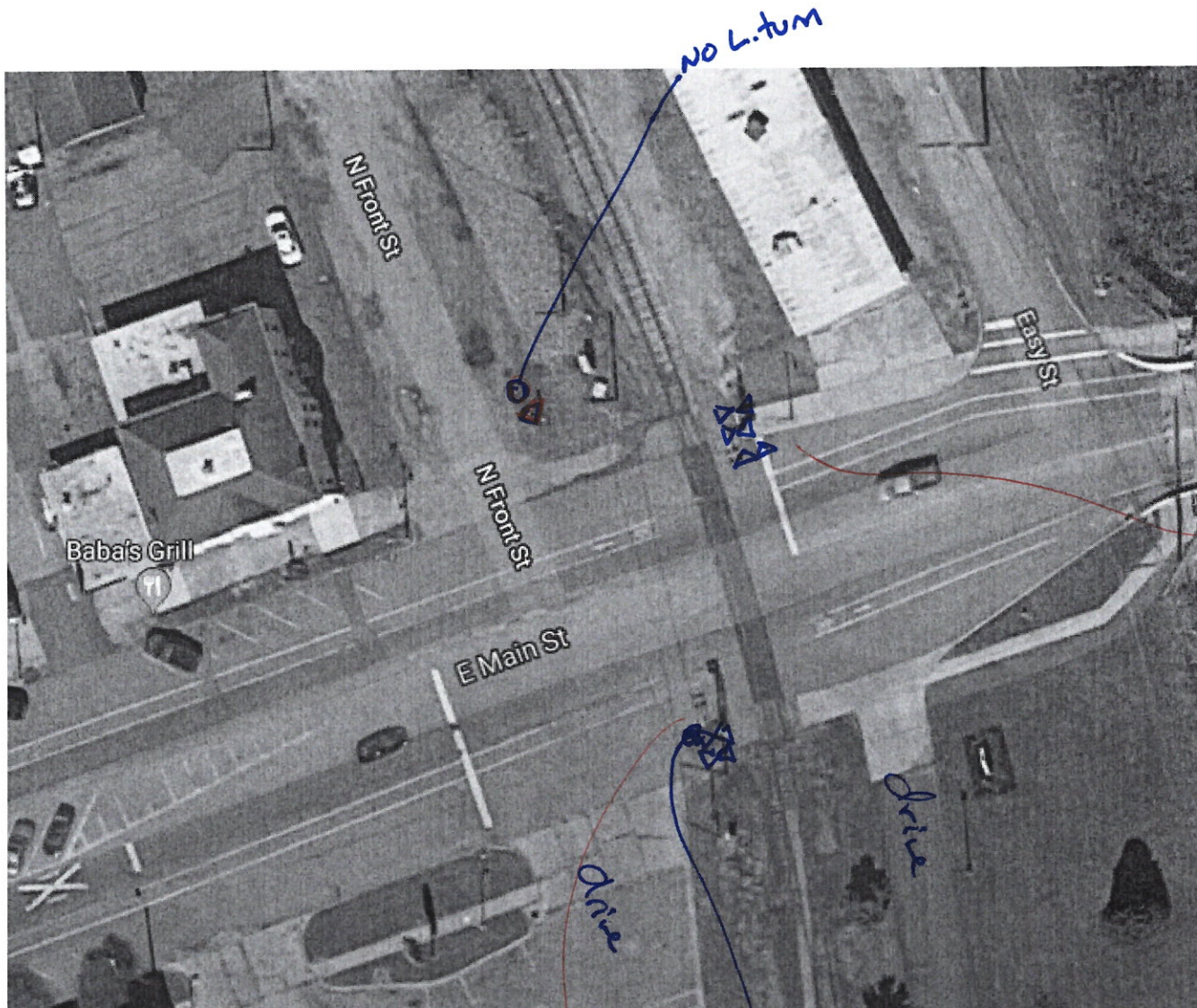
## Bicycle & Pedestrian Clearing Sight Distances

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 <sup>1</sup>	Bicyclist <sup>2</sup>	Pedestrian <sup>1</sup>	Bicyclist <sup>2</sup>	Pedestrian <sup>1</sup>	Bicyclist <sup>2</sup>
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

<sup>1</sup> 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.

<sup>2</sup> 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.



add bump out curb -  
add alley  
arm to  
service front st  
storm drain relocate possible

CMS.

**This foregoing document was electronically filed with the Public Utilities  
Commission of Ohio Docketing Information System on**

**9/16/2022 1:54:43 PM**

**in**

**Case No(s). 22-0879-RR-FED**

Summary: Application In the Matter of a Request for the Installation of Active Warning Devices at the Columbus and Ohio River Railroad Grade Crossing, DOT# 151-993D at East Main Street in Licking County, Ohio. electronically filed by Mr. Thomas Persinger on behalf of PUCO/Rail Division