Public Utilities Commission of Ohio

Memo

To: Docketing Division

From: Jill Henry, Chief, Rail Division

Cc: PUCO Legal Department

Date: 1/25/2021

Re: PUCO Case No. 21-0072-RR-FED- In the Matter of a Request for the Installation of Active Warning Devices and a New Crossing Surface at the Columbus & Ohio River Railroad Crossing, DOT#151-773X, Pleasant Valley Road/CR 408 in Muskingum County, Ohio.

On February 3, 2020, the Ohio Rail Development Commission (ORDC) authorized funding for the Columbus & Ohio River Railroad (CUOH) to install lights and gates and a new crossing surface at the Pleasant Valley Road/CR 408 (DOT#510-773X) grade crossing in Muskingum County, Ohio. The crossing was surveyed, on July 9, 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 $290,110.00 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 & Ohio River Railroad
Len Wagner
Senior Vice-President
Northern Region/Genesee & Wyoming Inc.
201 N. Penn Street
Punxsutawney, PA 15767

Columbus & Ohio River Railroad
Jared Rishel
AVP Engineering Northern Region
Genesee & Wyoming Inc.
4349 Easton Way
Suite 110
Columbus, OH 43219

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

Muskingum County Engineer
Mark Eicher
County Engineer
155 Rehl Road
Zanesville, OH 43701

AEP Ohio

OHIO RAIL DEVELOPMENT COMMISSION
INTER-OFFICE COMMUNICATION

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

FROM: **Cathy Stout, Manager, Safety Section, ORDC**

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

SUBJECT: **MUS CUOH CR408 Pleasant Valley Rd DOT# 151773H PID# 111140**

DATE: **December 1, 2020**

The Ohio Rail Development Commission (ORDC) established a diagnostic survey at the subject location on July 9, 2020. The Public Utilities Commission of Ohio (PUCO) attended the review. The Diagnostic Team recommended the improvement of warning devices to flashing lights and roadway gates with a new roadway surface. 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 Specialist, PUCO
ORDC Project Manager (file)

Ohio | Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Scott Corbitt, Chair

December 1, 2020

Len Wagner NE Region
Genesee & Wyoming/CUOH
201 N. Penn St
Punxsutawney, PA 15767

RE: Construction Authorization
MUS CUOH CR408 Pleasant Valley Rd DOT# 151773H PID# 111140

Dear Mr. Wagner:

The plan dated August 11, 2020 and estimate dated October 5, 2020 for the referenced project is acceptable. Genesee & Wyoming/CUOH may proceed with the construction of the proposed grade crossing warning system and roadway surface in accordance with the abbreviated plan. Construction may include but is not limited to circuitry design, installation of service poles, procurement of materials, signal and roadway surface 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 $290,110.00. 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 , and to the Public Utilities Commission of Ohio at Jill.henry@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 Greg Gronbach at 614-745-6760 (telephone) or 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 Specialist, PUCO
Heather Hamilton, ORDC
ORDC (file)

COLUMBUS & OHIO RIVER RAILROAD

PLEASANT VALLEY ROAD
NASHPORT, (MUSKINGUM), OHIO
DOT# 151 773H MILEPOST# 91.95

INDEX

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 SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED PROFESSIONAL ENGINEER
10/14/20

The Columbus & Ohio River Rail Road Company
47849 Papermill Road
Coshocton, Ohio 43812
740-622-8092

TITLE AND INDEX

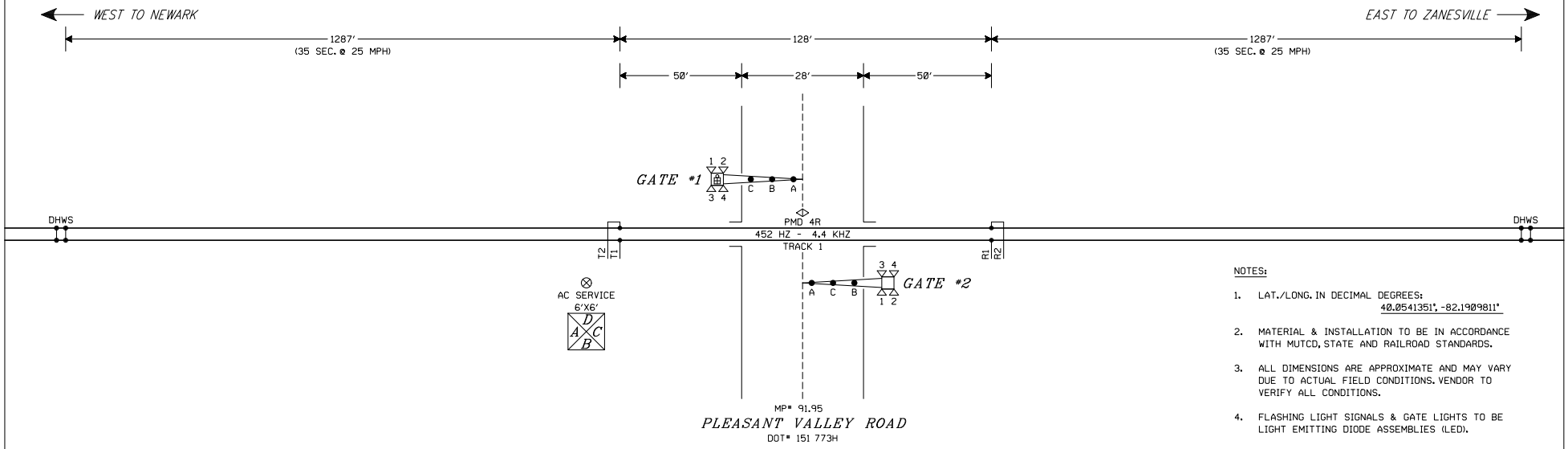
COLUMBUS & OHIO RIVER RAILROAD

DRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 08-11-20

PLEASANT VALLEY ROAD
NASHPORT, (MUSKINGUM), OHIO
DOT# 151 773H MILEPOST# 91.95

SHEET
00 OF 12

CUOH091_95x00.dgn



LEGEND:

- ⊗ - TEST TERMINAL
- ◿ - EQUALIZER
- ∠ - ARRESTOR TO GROUND
- TWISTED WIRE 2 TURNS PER FOOT
- ● - INSULATED NUT
- PVC SCHEDULE 80 CONDUIT
- ⊗ - LOCATION OF AC SERVICE

APPROACH DISTANCE CALCULATION

	TRACK 1
ACTUAL PRIME CROSSING WARNING TIME	30 SEC
TIME FOR CROSSING CLEARANCE DISTANCE > 35'	+ 1 SEC
TRAFFIC PRE-EMPTION TIME	+ 0 SEC
TOTAL CALCULATED DESIGN WARNING TIME	31 SEC
EQUIPMENT RESPONSE TIME	+ 4 SEC
BUFFER TIME	+ 0 SEC
TOTAL WARNING TIME FOR APPROACH DISTANCE CALCULATION	35 SEC
CALCULATED AT MAXIMUM TRAIN SPEED	× 25 MPH
RATIO OF FEET PER SECOND TO MILES PER HOUR	× 1.47
APPROACH LENGTH (ROUNDED UP TO THE NEXT FOOT)	1287 FEET

NOTES:

1. LAT./LONG. IN DECIMAL DEGREES: 40.0541351°, -82.1909811°
2. MATERIAL & INSTALLATION TO BE IN ACCORDANCE WITH MUTCD, STATE AND RAILROAD STANDARDS.
3. ALL DIMENSIONS ARE APPROXIMATE AND MAY VARY DUE TO ACTUAL FIELD CONDITIONS. VENDOR TO VERIFY ALL CONDITIONS.
4. FLASHING LIGHT SIGNALS & GATE LIGHTS TO BE LIGHT EMITTING DIODE ASSEMBLIES (LED).
5. BEWARE OF OVERHEAD WIRES.
6. SEE APPROACH CIRCUIT DISTANCE CALCULATION TABLE FOR PLANNED WARNING TIME AND TRAIN SPEED PER TRACK.
7. APPROACH DISTANCES ARE TO BE MEASURED FROM THE TERMINATIONS TO CLOSEST SET OF TRACK LEADS AT CROSSING.
8. CONDUIT MUST BE BORED.
9. VENDOR IS RESPONSIBLE TO LOCATE AND PROTECT ALL UTILITIES WITHIN LIMITS OF CONSTRUCTION.
10. CAMERA SYSTEM TO BE SUPPLIED BY VENDOR AND INSTALLED BY RR.
11. ENSURE ALL DITCHES ALONG THE TRACKS IN ALL FOUR QUADRANTS HAVE POSITIVE DRAINAGE FLOW TO 100' FROM THE HIGHWAY.
12. 2' SHOULDER ON BOTH SIDES OF HIGHWAY.
13. JOINTED RAIL, ALL APPROACHES.
14. GATE DELAY: 4 SECONDS MINIMUM.
15. MAIN ELECTRICAL PANEL TO ACCOUNT FOR 240VAC/100A AC SERVICE.
16. GATE LENGTHS:
    GATE #1: 18'
    GATE #2: 18'
17. ALL ARRESTORS ARE AIRGAP TYPE ONLY.

REVISIONS

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STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED PROFESSIONAL ENGINEER
12/4/20

The Columbus & Ohio River Rail Road Company
47849 Papermill Road
Coshocton, Ohio 43812
740-622-8092

CROSSING TRACK LAYOUT

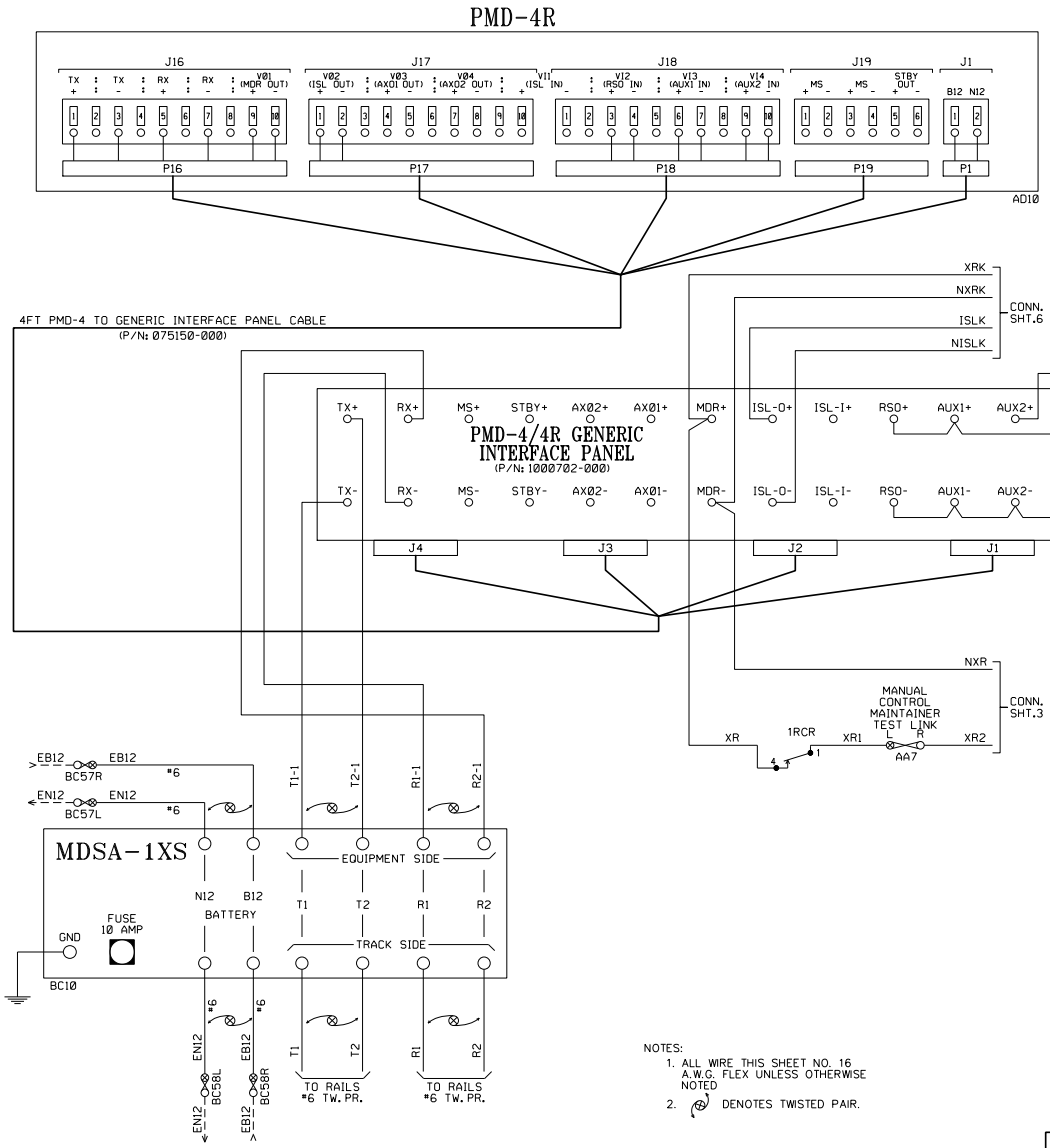
COLUMBUS & OHIO RIVER RAILROAD

DRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 08-11-20

PLEASANT VALLEY ROAD
NASHPORT, (MUSKINGUM), OHIO
DOT# 151 773H MILEPOST# 91.95

SHEET
01 OF 12

CUOH091_95x01.dgn



NOTE:
DL = DEFAULT LEVEL
NA = NON APPLICABLE

PMD-4R SETUP PARAMETERS	
APPLICATION INFO	
APPLICATION	PMD-4R_MD(CW)OOS
APPLICATION CHECKSUM	8A68
APPLICATION CRC	9169
CHASSIS ID	7
MDR1 SETTINGS	
MDR1 WARNING TIME (SEC)	31
MDR1 CW OR MD	CW
MDR1 AP TIME	NA
MDR1 AUX RECOVERY DELAY	5 (DL)
FREQUENCY	
APPROACH TRACK FREQUENCY (HZ)	452 HZ
BASIC APPROACH SETTINGS	
MASTER/SLAVE	MASTER
TRANSMITTER GAIN	200
TCA	FIELD ADJUST
DIRECTION MODE UNI/BI	BI
LIA	FIELD ADJUST
APPROACH LENGTH	1287 FT
AUTO RX ENABLE/DISABLE	ENABLED
ADVANCE APPROACH SETTINGS	
FALSE SHUNT	DISABLED
FALSE SHUNT RX	80
FALSE SHUNT DELAY	10
APPROACH RELEASE	DISABLED
APPROACH RELEASE RX	80
APPROACH RELEASE DELAY	10
LOSS OF SHUNT TIME (LOS)	16
APPROACH SETTING	NORMAL
ISLAND SETTINGS	
ISLAND TYPE INTERNAL/EXTERNAL	INTERNAL
ISLAND ENABLED	ENABLED
ISLAND DISABLE TIMEOUT	2 HR
ISLAND FREQUENCY (HZ)	4.4 KHZ
ISLAND LOSS OF SHUNT (LOS)	4
ISLAND FAULT DELAY	2
TRANSMITTER GAIN	0

CONSTANT WARNING KEY NUMBER
XXXX-XXXX-XXXX

SHOP TO PROVIDE
WHEN INSTALLED

NOTES:
1. ALL WIRE THIS SHEET NO. 16 A.W.G. FLEX UNLESS OTHERWISE NOTED
2. DENOTES TWISTED PAIR.

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 SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED PROFESSIONAL ENGINEER
12/4/20

The Columbus & Ohio River Rail Road Company
47849 Papermill Road
Coshocton, Ohio 43812
740-622-8092

PMD-4R CIRCUITRY & PROGRAM

COLUMBUS & OHIO RIVER RAILROAD

DRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 08-11-20

PLEASANT VALLEY ROAD
NASHPORT, (MUSKINGUM), OHIO
DOT# 151 773H MILEPOST# 91.95

SHEET
02 OF 12

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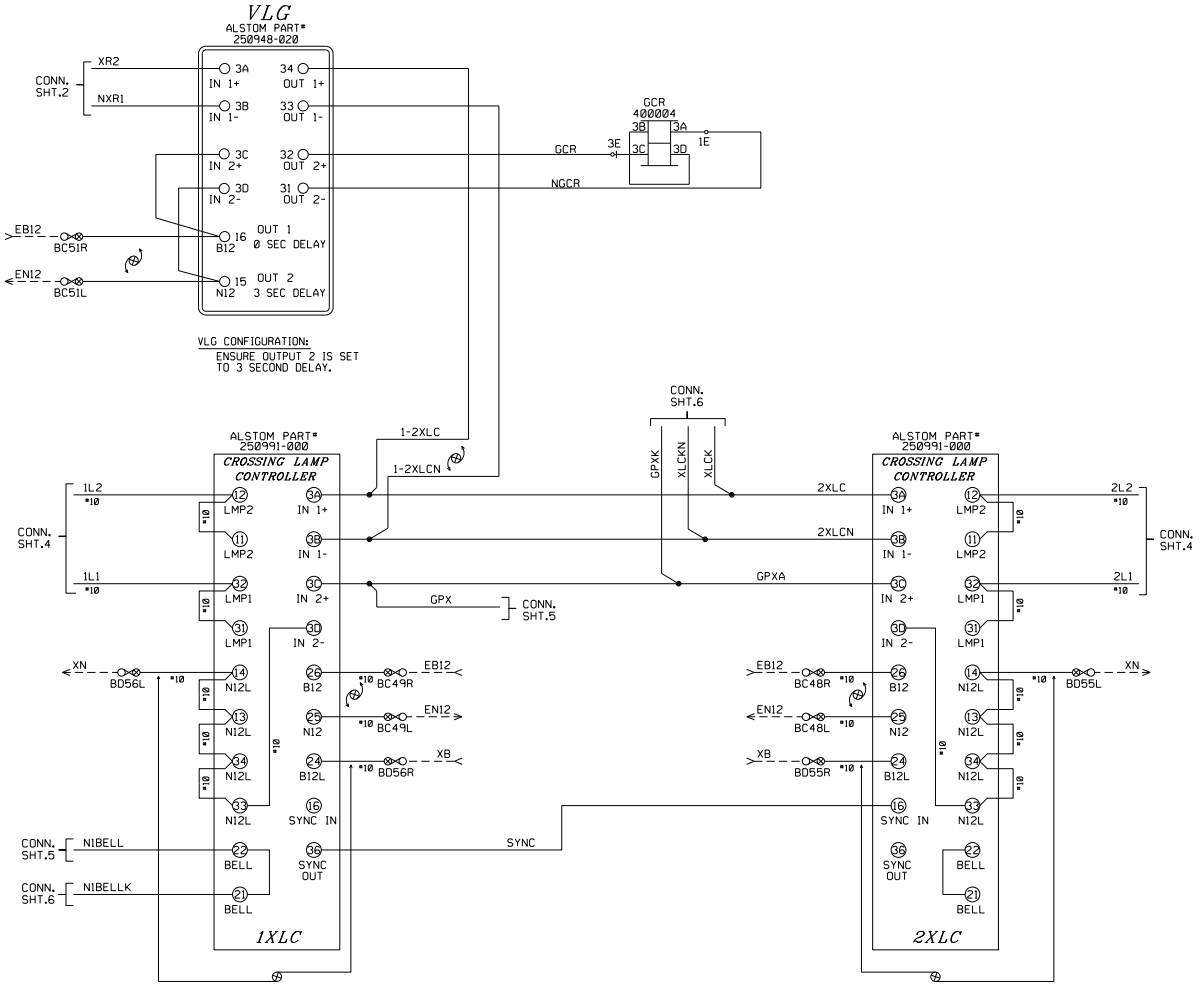

LEGEND:

-TEST TERMINAL
-EQUALIZER
-ARRESTOR TO GROUND
-TWISTED WIRE 2 TURNS PER FOOT
-INSULATED NUT

NOTE:

1. ALL WIRING IN THE BUNGALOW IS #16 AWG FLEX UNLESS OTHERWISE NOTED.

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 SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED PROFESSIONAL ENGINEER
10/6/20

The Columbus & Ohio River Rail Road Company
47849 Papermill Road
Coshocton, Ohio 43812
740-622-8092

CROSSING CONTROLLER

COLUMBUS & OHIO RIVER RAILROAD

DRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 08-11-20

PLEASANT VALLEY ROAD
NASHPORT, (MUSKINGUM), OHIO
DOT# 151 773H MILEPOST# 91.95

SHEET
03 OF 12

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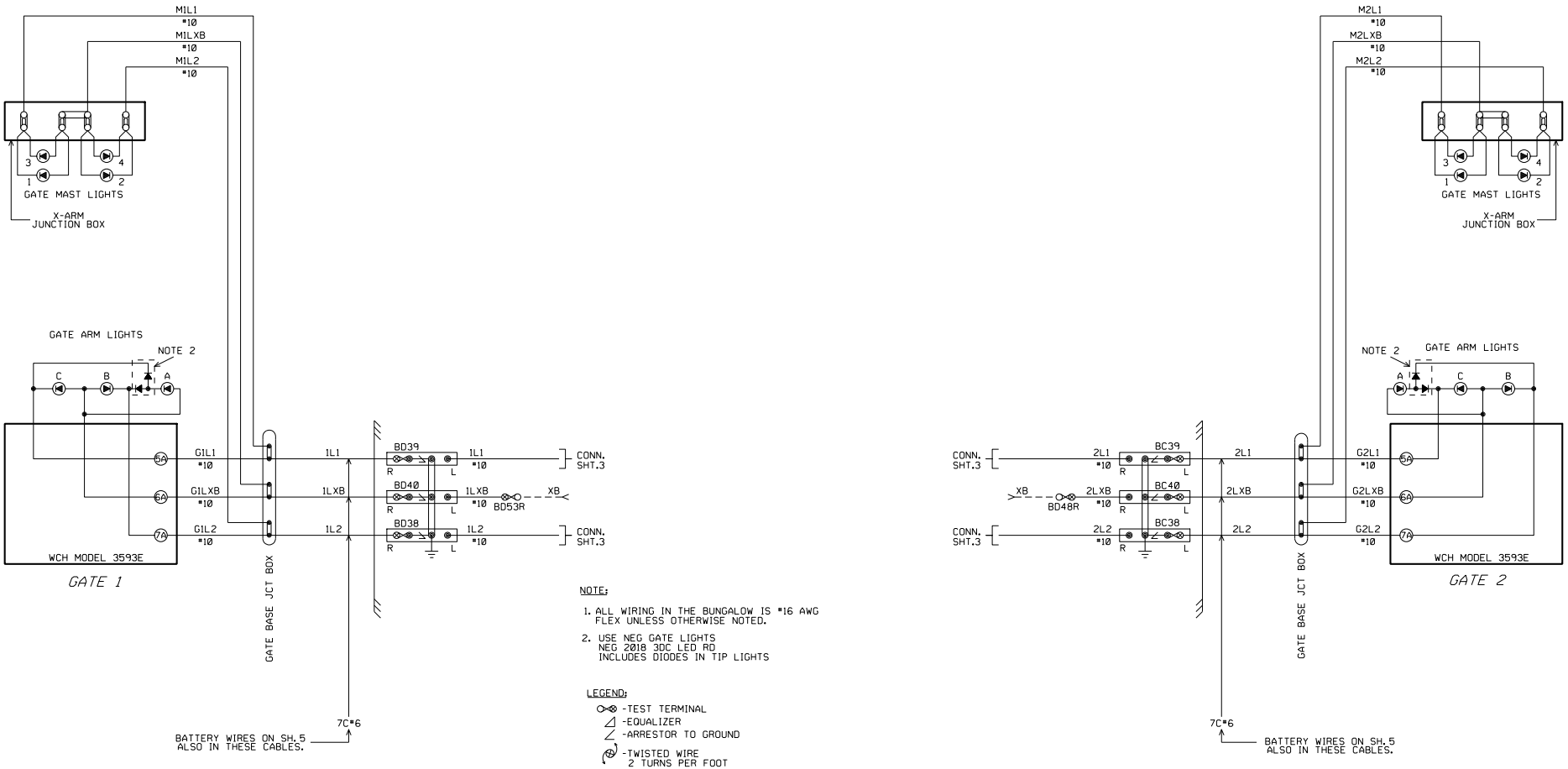

REVISIONS

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STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED PROFESSIONAL ENGINEER
12/4/20

The Columbus & Ohio River Rail Road Company
47849 Papermill Road
Coshocton, Ohio 43812
740-622-8092

GATE LIGHTING CIRCUITRY

COLUMBUS & OHIO RIVER RAILROAD

DRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 08-11-20

PLEASANT VALLEY ROAD
NASHPORT, (MUSKINGUM), OHIO
DOT# 151 773H MILEPOST# 91.95

SHEET
04 OF 12

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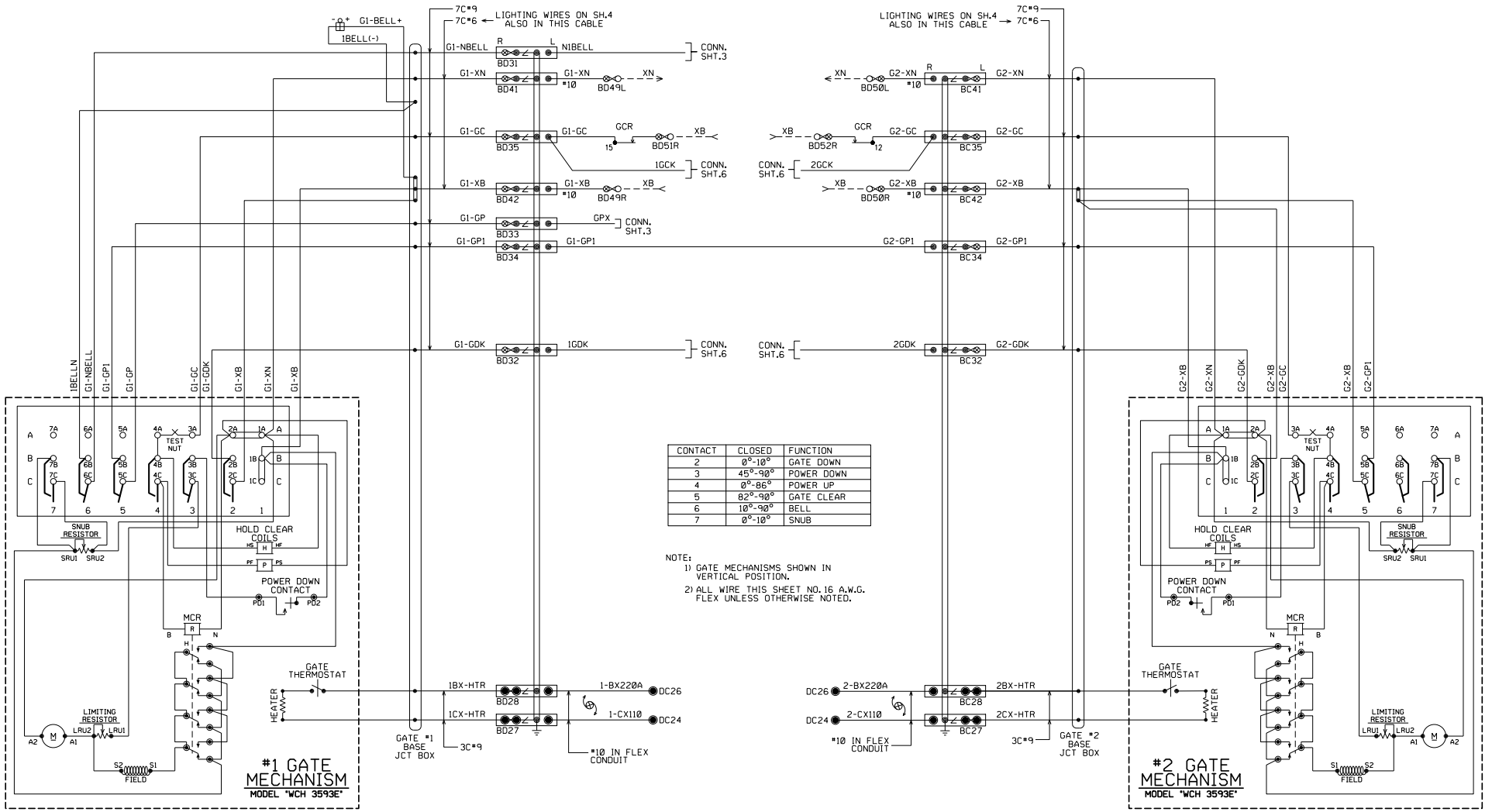

CONTACT	CLOSED	FUNCTION
2	0°-10°	GATE DOWN
3	45°-90°	POWER DOWN
4	0°-86°	POWER UP
5	82°-90°	GATE CLEAR
6	10°-90°	BELL
7	0°-10°	SNUB

NOTE:
1) GATE MECHANISMS SHOWN IN VERTICAL POSITION.
2) ALL WIRE THIS SHEET NO. 16 A.W.G. FLEX UNLESS OTHERWISE NOTED.

REVISIONS

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STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED PROFESSIONAL ENGINEER
12/4/20

The Columbus & Ohio River Rail Road Company
47849 Papermill Road
Coshocton, Ohio 43812
740-622-8092

GATE MECH CIRCUITRY

COLUMBUS & OHIO RIVER RAILROAD

DRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 08-11-20

PLEASANT VALLEY ROAD
NASHPORT, (MUSKINGUM), OHIO
DOT# 151 773H MILEPOST# 91.95

SHEET 05 OF 12

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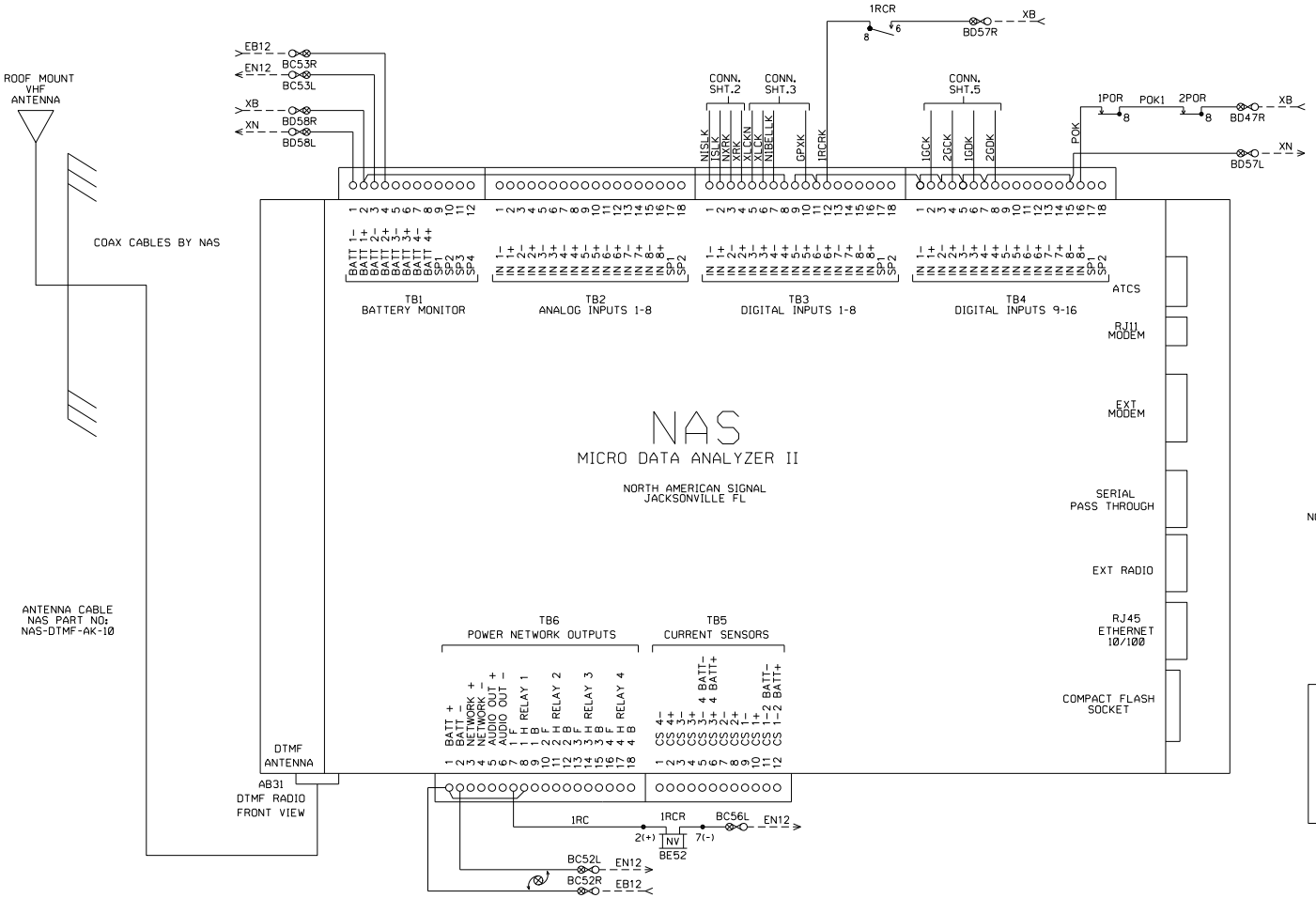
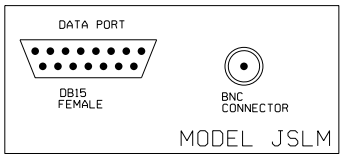


NOTES:
1) TO ACTIVATE CROSSING ENTER: 773#
2) TO DEACTIVATE CROSSING ENTER: 773*
3) RAILROAD FREQUENCIES: 161.385 CH. #085-085



MOUNTED INTERNAL ON MDA UNIT

NOTES:
1. ALL WIRE THIS SHEET NO. 16 A.W.G. FLEX UNLESS OTHERWISE NOTED.
2. DENOTES TWISTED WIRE PAIR.
3. DENOTES TEST TERMINAL.

REVISIONS

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STATE OF OHIO SCOTT L WERTANS E-73435 REGISTERED PROFESSIONAL ENGINEER 12/4/20

The Columbus & Ohio River Rail Road Company
47849 Papermill Road
Coshocton, Ohio 43812
740-622-8092

DATA RECORDER CIRCUITRY

COLUMBUS & OHIO RIVER RAILROAD

DRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 08-11-20

PLEASANT VALLEY ROAD
NASHPORT, (MUSKINGUM), OHIO
DOT# 151 773H MILEPOST# 91.95

SHEET 06 OF 12

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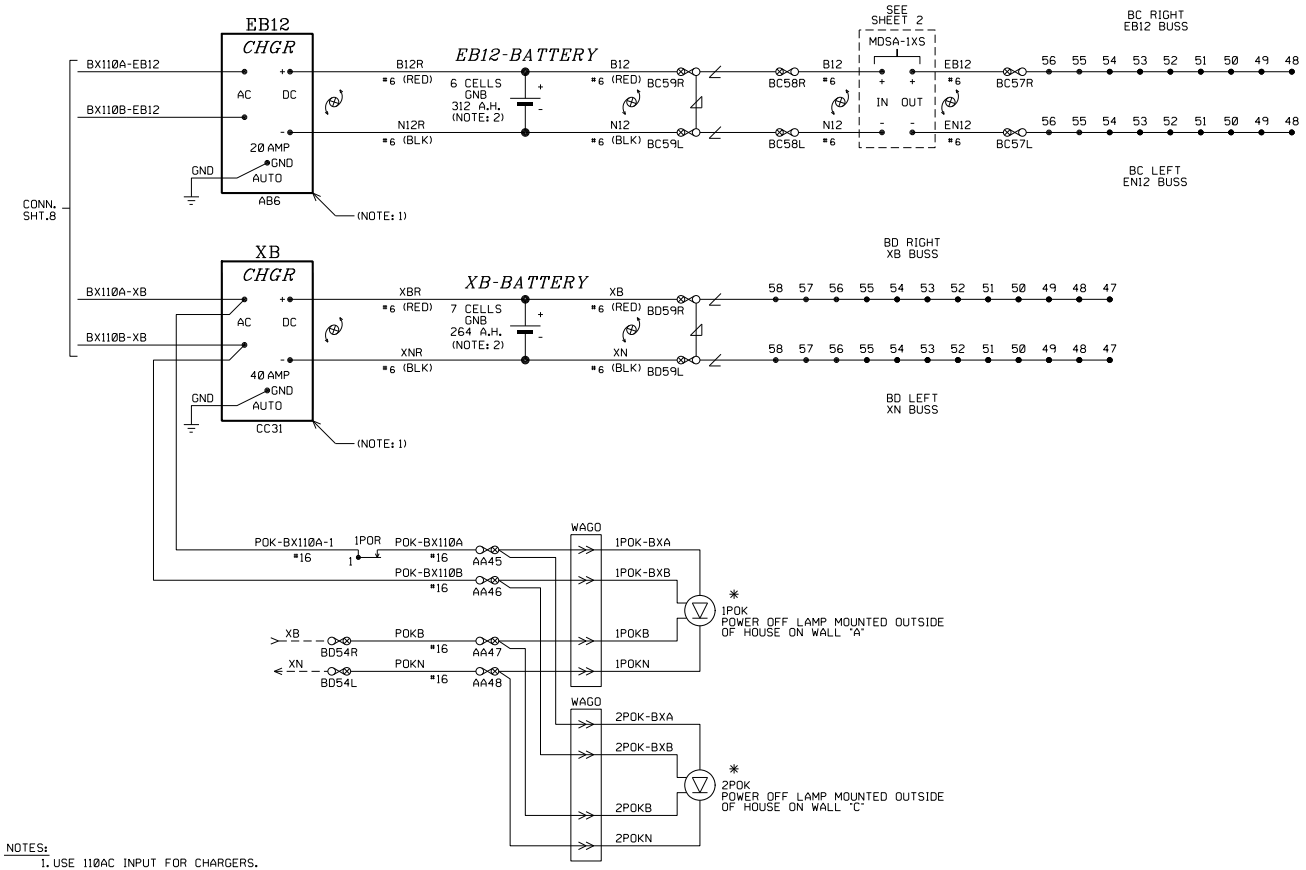

NOTES:

1. USE 110AC INPUT FOR CHARGERS.
2. USE 1/4" TERMINALS AT BATTERY CONNECTIONS.
3. ALL WIRING IN THE BUNGALOW IS #16 AWG FLEX UNLESS OTHERWISE NOTED.

LEGEND:

- -TEST TERMINAL
- -EQUALIZER
- -ARRESTOR TO GROUND
- -TWISTED WIRE 2 TURNS PER FOOT
- -INSULATED NUT
- * - LIGHTS ARE 12VDC, 4-WIRE LED. (P/N: LC2-001WB-WG4) VELCORP GEMS

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 SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

STATE OF OHIO SCOTT L WERTANS E-73435 REGISTERED PROFESSIONAL ENGINEER 12/4/20

The Columbus & Ohio River Rail Road Company
47849 Papermill Road
Coshocton, Ohio 43812
740-622-8092

DC POWER DISTRIBUTION

COLUMBUS & OHIO RIVER RAILROAD

DRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 08-11-20

PLEASANT VALLEY ROAD
NASHPORT, (MUSKINGUM), OHIO
DOT# 151 773H MILEPOST# 91.95

SHEET 07 OF 12

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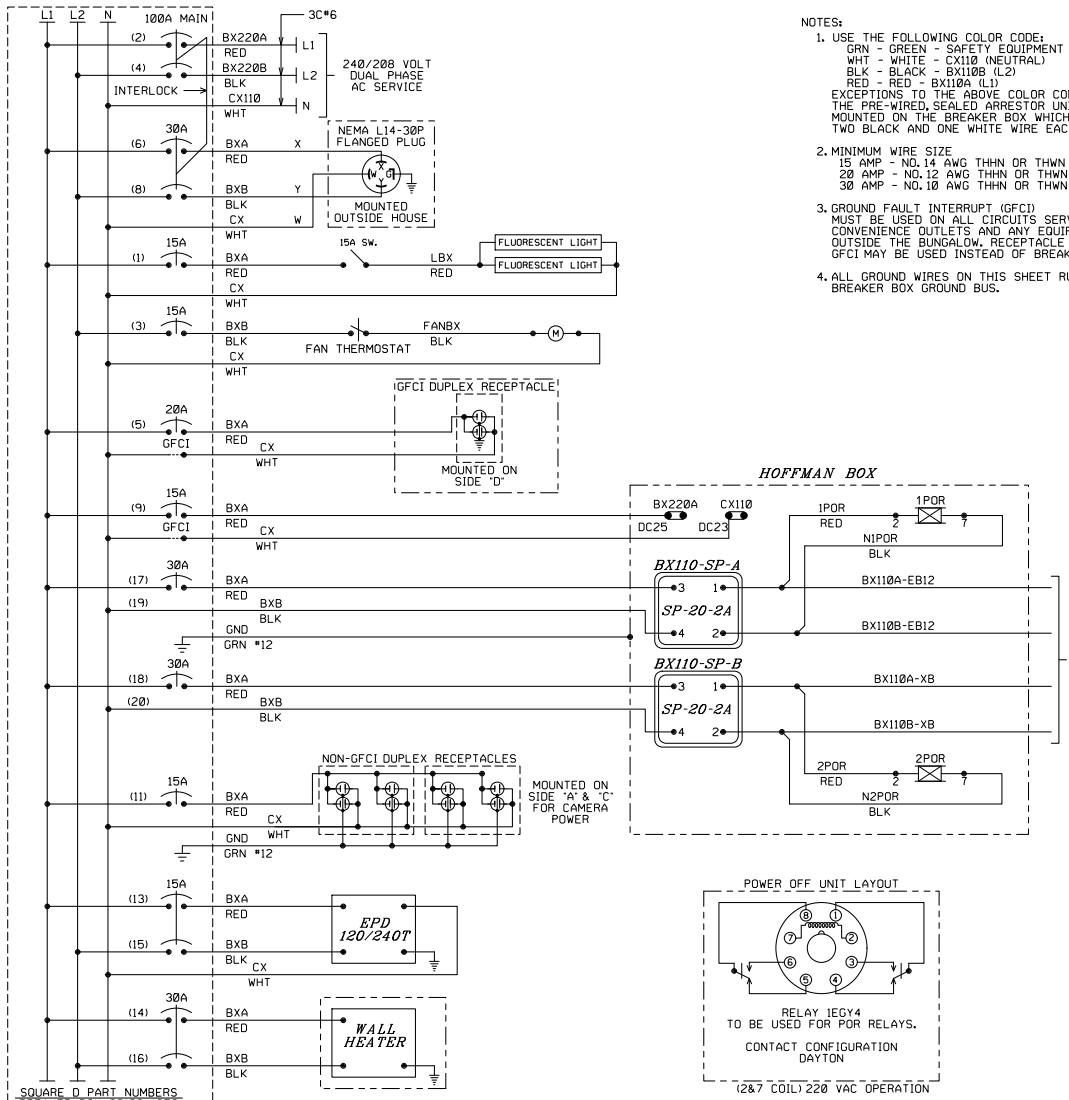
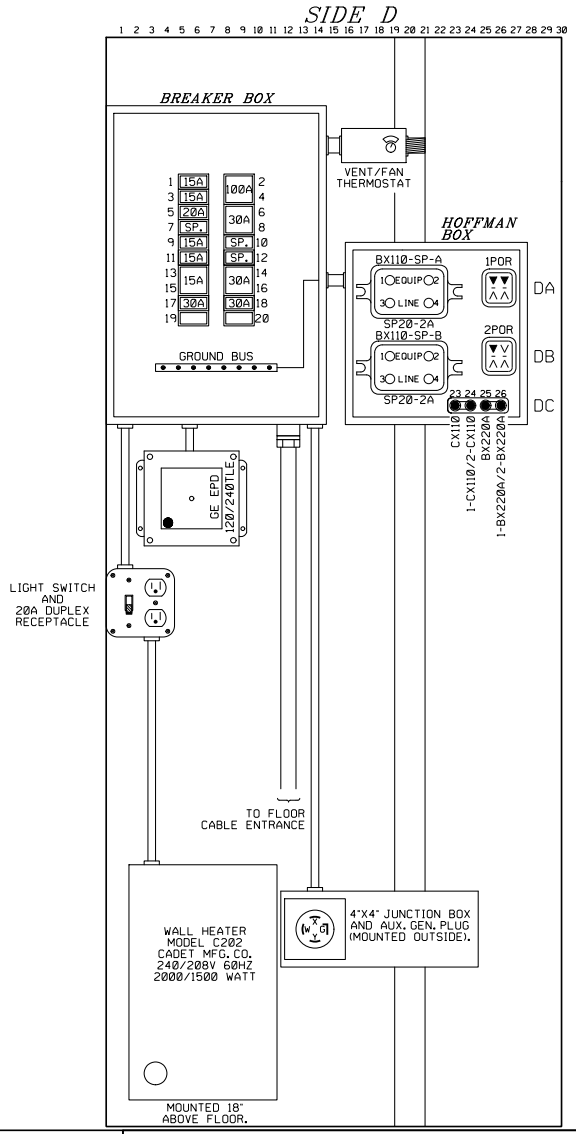


NOTES:

1. USE THE FOLLOWING COLOR CODE:
   GRN - GREEN - SAFETY EQUIPMENT GROUND
   WHT - WHITE - CX110 (NEUTRAL)
   BLK - BLACK - BX110B (L2)
   RED - RED - BX110A (L1)
   EXCEPTIONS TO THE ABOVE COLOR CODE ARE THE PRE-WIRED, SEALED ARRESTOR UNITS MOUNTED ON THE BREAKER BOX WHICH HAVE TWO BLACK AND ONE WHITE WIRE EACH.
2. 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
3. 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.
4. ALL GROUND WIRES ON THIS SHEET RUN TO BREAKER BOX GROUND BUS.



REVISIONS					

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STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED
PROFESSIONAL ENGINEER
12/4/20

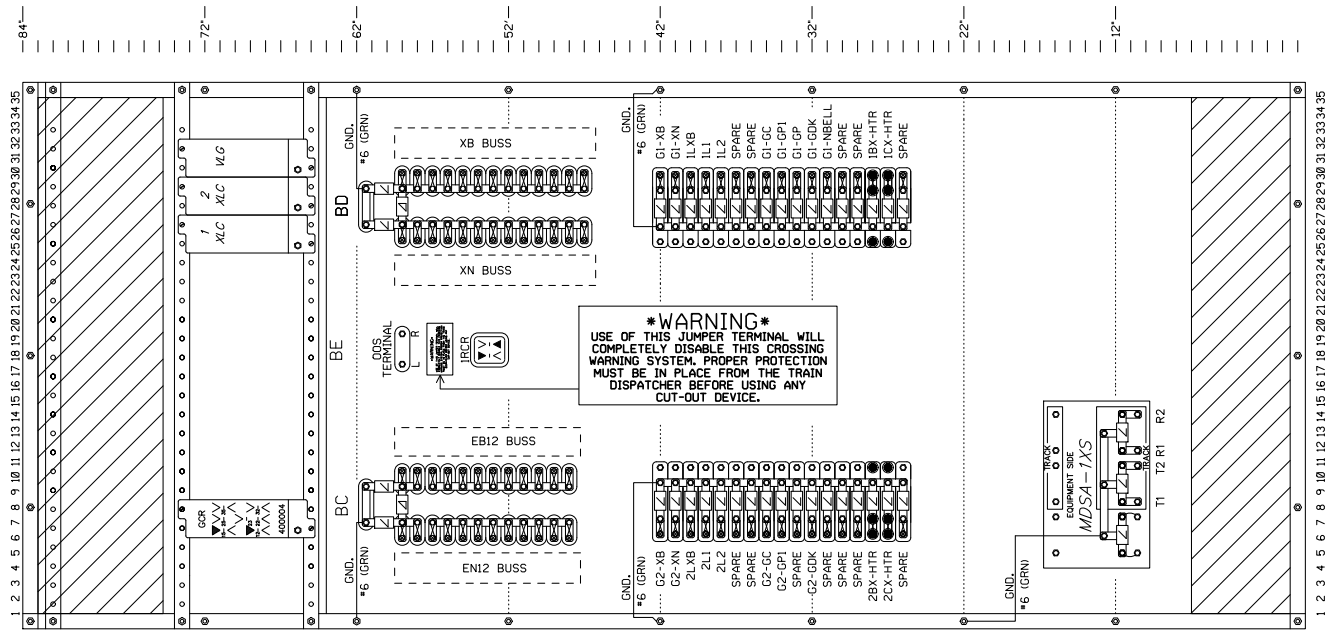
The Columbus & Ohio River Rail Road Company
47849 Papermill Road
Coshocton, Ohio 43812
740-622-8092

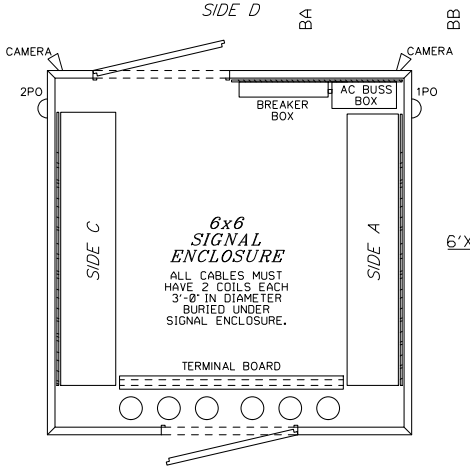
SIDE D DETAIL - AC POWER DISTRIBUTION

COLUMBUS & OHIO RIVER RAILROAD

DRAWN: PRS DESIGNED: MST CHECKED: JMW DATE: 08-11-20	PLEASANT VALLEY ROAD NASHPORT, (MUSKINGUM), OHIO DOT# 151 773H MILEPOST# 91.95	SHEET 08 OF 12

CUOH091_95x08.dgn

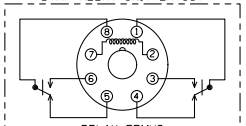




6'X6' SIGNAL ENCLOSURE LAYOUT

"NOT TO SCALE"

DTMF RELAY UNIT LAYOUT



RELAY 5EMH3
TO BE USED FOR IRCR RELAY.
OPERATING VOLTAGE = 12 VDC
CONTACT CONFIGURATION
DAYTON

BATTERY BUSS DETAILS

ROW BC

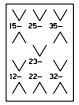
B12 BATT(-)	59	B12 BATT(+)
MDSA-1XS IN-	58	MDSA-1XS IN+
MDSA-1XS OUT-	57	MDSA-1XS OUT+
1RCR_7(-)	56	AC24
	55	
GIP-N12	54	GIP-B12
MDA II TB1 BATT 2(-)	53	MDA II TB1 BATT 2(+)
MDA II TB6 BATT-	52	MDA II TB6 BATT+
VLG-N12	51	VLG-B12
	50	
1XLC-25	49	1XLC-26
2XLC-25	48	2XLC-26
EN12 BUSS (LEFT)		EB12 BUSS (RIGHT)

ROW BD

XB BATT(-)	59	XB BATT(+)
MDA II TB1 BATT 1(-)	58	MDA II TB1 BATT 1(+)
MDA II TB4 IN 8(-)	57	1RCR_6
1XLC-14	56	1XLC-24
2XLC-14	55	2XLC-24
AA48	54	AA47
	53	BD40L
	52	GCR_13
	51	GCR_16
BC41R	50	BC42R
BD41L	49	BD42L
	48	BC40R
	47	2POR_8
XN BUSS (LEFT)		XB BUSS (RIGHT)

RELAY CROSS REFERENCE

ALSTOM	SIEMENS
A62-277	400004



400004

▼ = CONTACT USED

⋁ = CONTACT NOT USED

NOTE: NO EQUIPMENT ALLOWED IN SHADED AREAS.

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 SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED
PROFESSIONAL ENGINEER
10/14/20

The Columbus & Ohio River Rail Road Company
47849 Papermill Road
Coshocton, Ohio 43812
740-622-8092

SIDE B DETAIL - TERMINAL BOARD

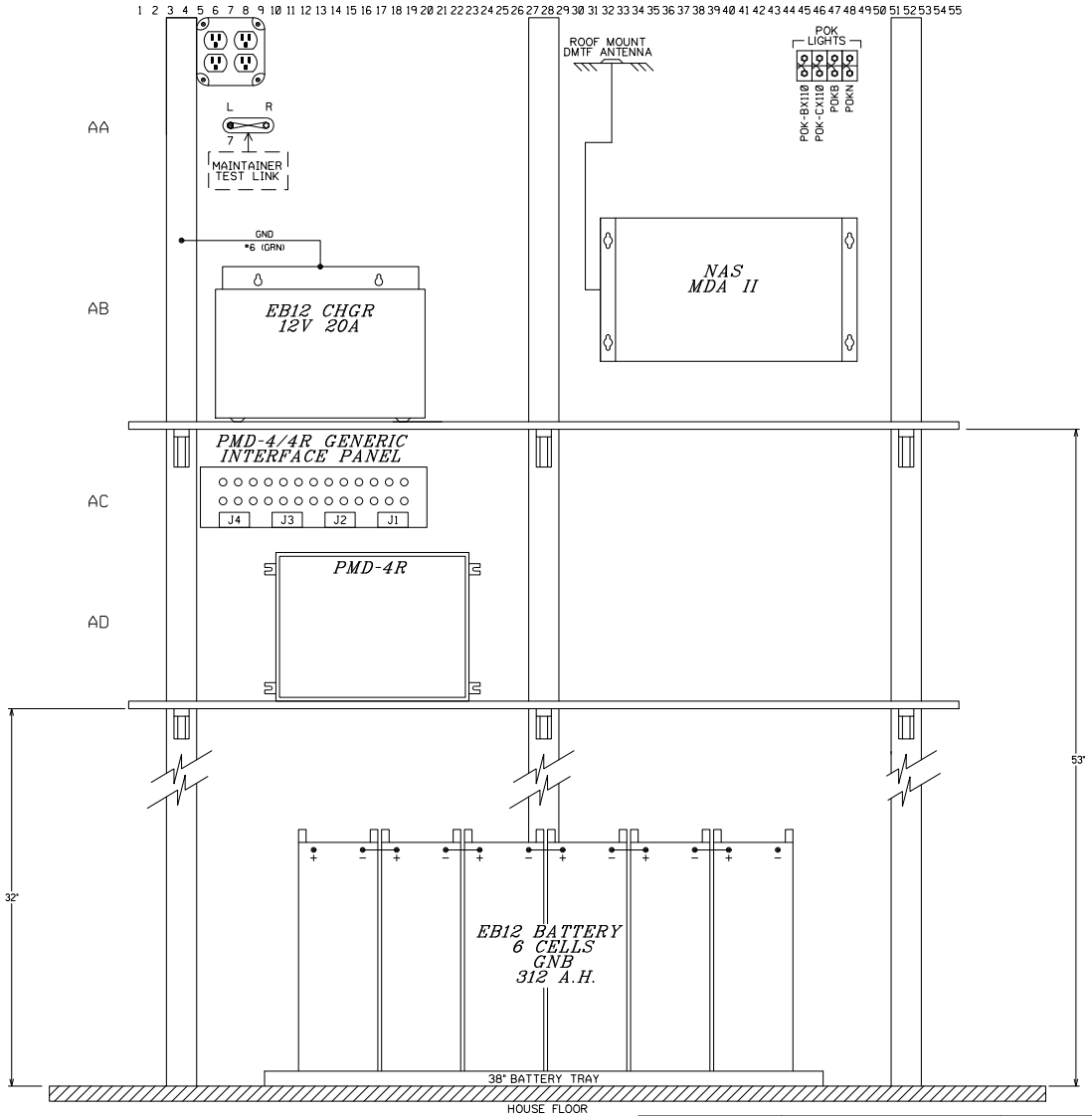
COLUMBUS & OHIO RIVER RAILROAD

DRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 08-11-20

PLEASANT VALLEY ROAD
NASHPORT, (MUSKINGUM), OHIO
DOT# 151 773H MILEPOST# 91.95

SHEET
Ø9 OF 12

CUOH091_95x09.dgn



SIDE A

SIDE A DETAIL

REVISIONS

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47849 Papermill Road
Coshocton, Ohio 43812
740-622-8092

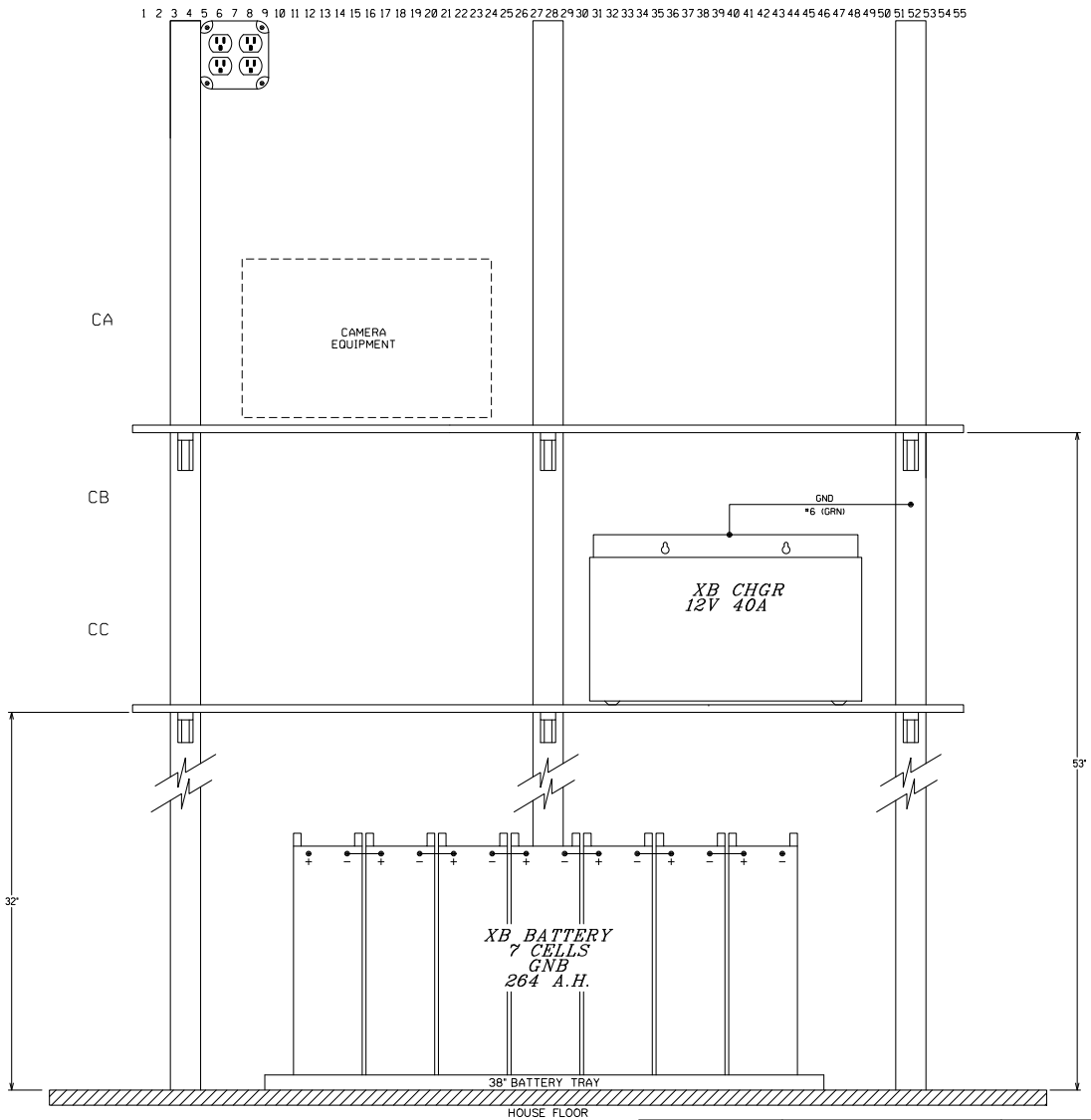
COLUMBUS & OHIO RIVER RAILROAD

DRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 08-11-20

PLEASANT VALLEY ROAD
NASHPORT, (MUSKINGUM), OHIO
DOT# 151 773H MILEPOST# 91.95

SHEET
10 OF 12

CUOH091_95x10.dgn



SIDE C

SIDE C DETAIL

COLUMBUS & OHIO RIVER RAILROAD

REVISIONS

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STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED PROFESSIONAL ENGINEER
9/14/20

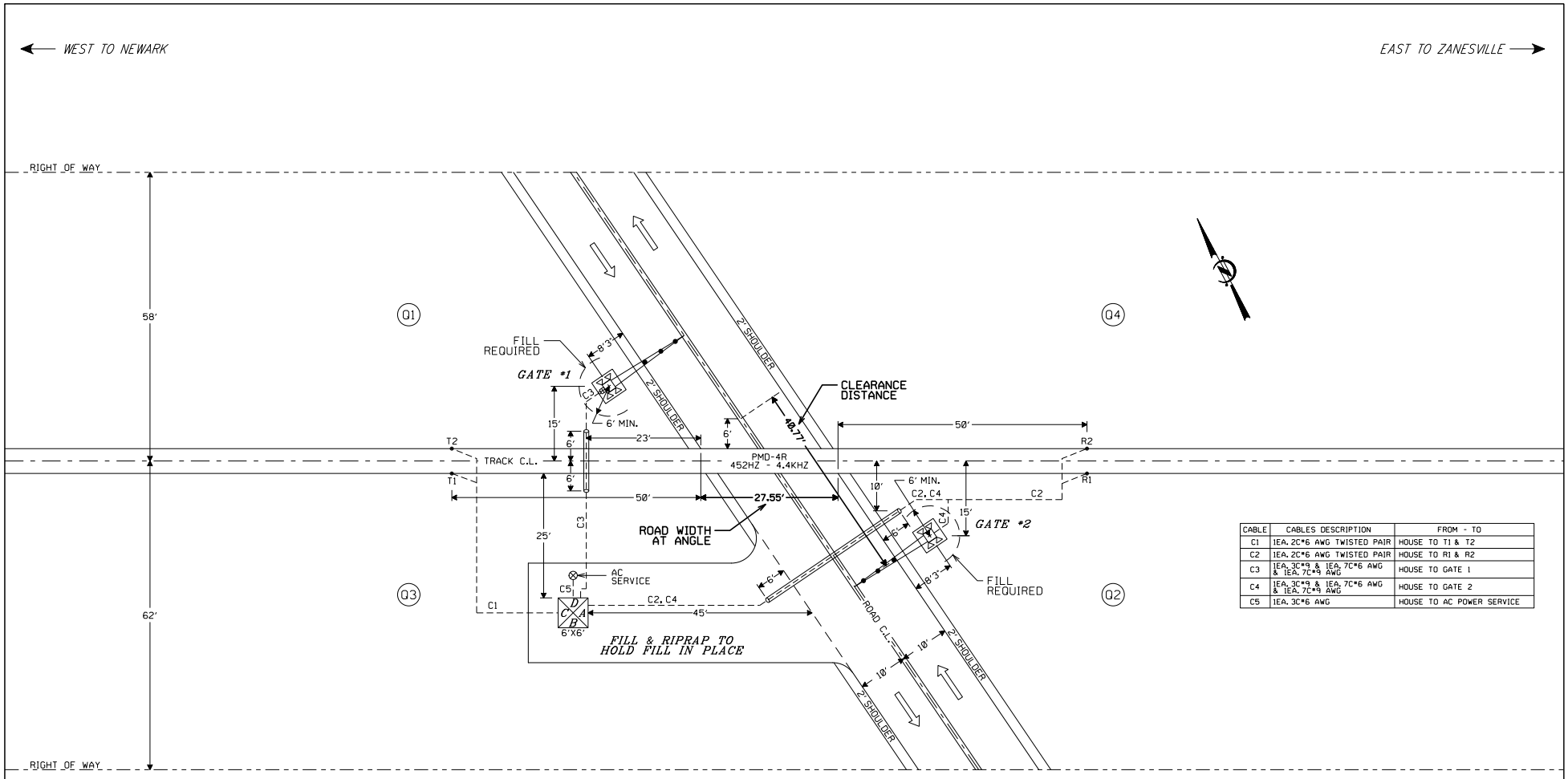
The Columbus & Ohio River Rail Road Company
47849 Papermill Road
Coshocton, Ohio 43812
740-622-8092

DRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 08-11-20

PLEASANT VALLEY ROAD
NASHPORT, (MUSKINGUM), OHIO
DOT# 151 773H MILEPOST# 91.95

SHEET
11 OF 12

CUOH091_95x11.dgn



CABLE	CABLES DESCRIPTION	FROM - TO
C1	1EA. 2C*6 AWG TWISTED PAIR	HOUSE TO T1 & T2
C2	1EA. 2C*6 AWG TWISTED PAIR	HOUSE TO R1 & R2
C3	1EA. 3C*9 & 1EA. 7C*6 AWG & 1EA. 7C*9 AWG	HOUSE TO GATE 1
C4	1EA. 3C*9 & 1EA. 7C*6 AWG & 1EA. 7C*9 AWG	HOUSE TO GATE 2
C5	1EA. 3C*6 AWG	HOUSE TO AC POWER SERVICE

LEGEND:
- PVC SCHEDULE 80 CONDUIT
- UNDERGROUND CABLE
- LOCATION OF AC SERVICE
Q1 Q2 Q3 Q4 = QUADRANT MARKERS

SCALE: 1" = 20'
0' 5' 10' 20'

REVISIONS

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STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED PROFESSIONAL ENGINEER
12/4/20

The Columbus & Ohio River Rail Road Company
47849 Papermill Road
Coshocton, Ohio 43812
740-622-8092

TRACK AND CABLE LAYOUT

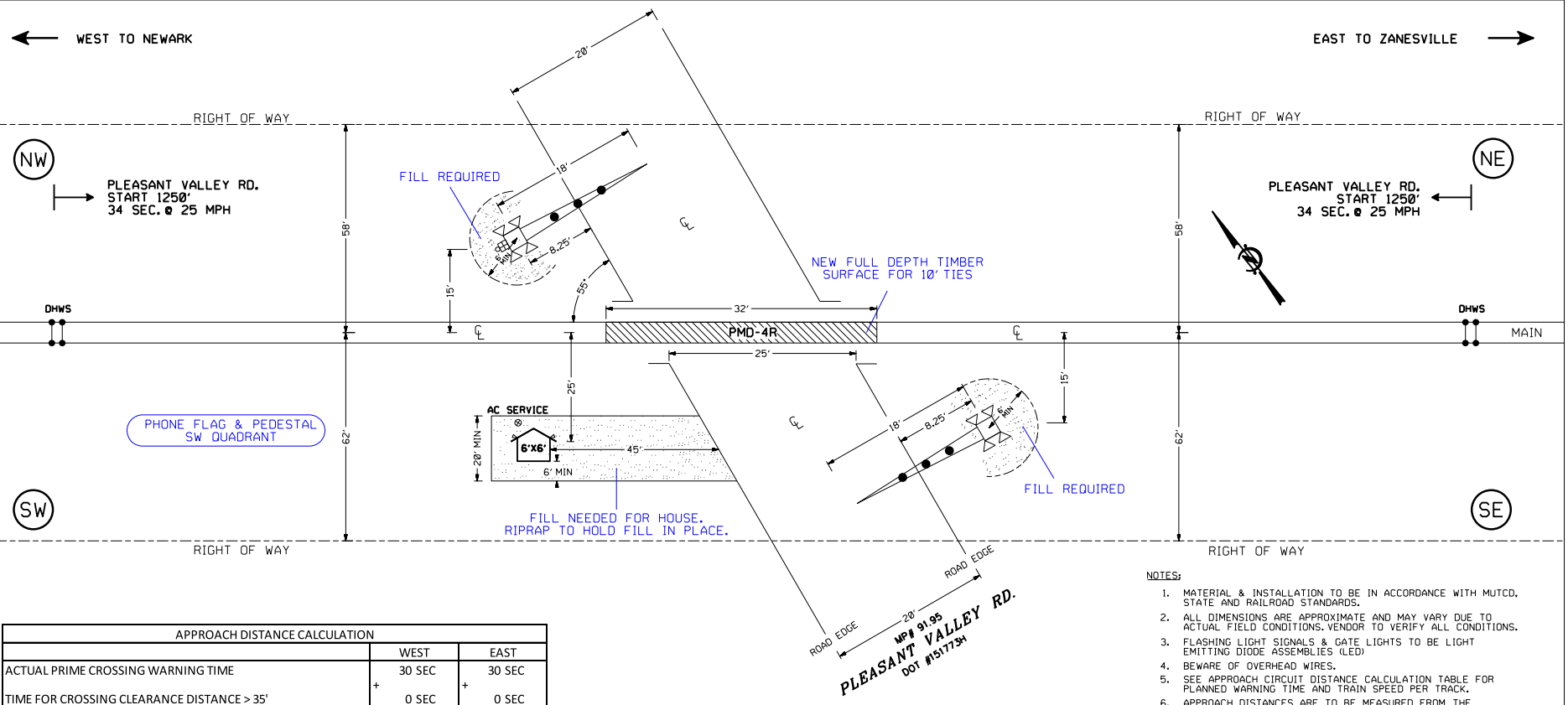
COLUMBUS & OHIO RIVER RAILROAD

DRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 08-11-20

PLEASANT VALLEY ROAD
NASHPORT, (MUSKINGUM), OHIO
DOT# 151 773H MILEPOST# 91.95

SHEET 12 OF 12

CUOH091.95x12.dgn



APPROACH DISTANCE CALCULATION	WEST	EAST
ACTUAL PRIME CROSSING WARNING TIME	30 SEC	30 SEC
+ TIME FOR CROSSING CLEARANCE DISTANCE > 35'	+ 0 SEC	+ 0 SEC
+ TRAFFIC PRE-EMPTION TIME	+ 0 SEC	+ 0 SEC
TOTAL CALCULATED DESIGN WARNING TIME	30 SEC	30 SEC
+ EQUIPMENT RESPONSE TIME	+ 4 SEC	+ 4 SEC
+ BUFFER TIME	+ 0 SEC	+ 0 SEC
TOTAL WARNING TIME FOR APPROACH DISTANCE CALCULATION	34 SEC	34 SEC
x CALCULATED AT MAXIMUM TRAIN SPEED	x 25 MPH	x 25 MPH
x RATIO OF FEET PER SECOND TO MILES PER HOUR	x 1.470	x 1.470
APPROACH LENGTH (ROUNDED UP TO THE NEXT FOOT)	1250 FEET	1250 FEET

= NOTE

LEGEND:

⊗ - LOCATION OF AC SERVICE

NOTES:

1. MATERIAL & INSTALLATION TO BE IN ACCORDANCE WITH MUTCD, STATE AND RAILROAD STANDARDS.
2. ALL DIMENSIONS ARE APPROXIMATE AND MAY VARY DUE TO ACTUAL FIELD CONDITIONS. VENDOR TO VERIFY ALL CONDITIONS.
3. FLASHING LIGHT SIGNALS & GATE LIGHTS TO BE LIGHT EMITTING DIODE ASSEMBLIES (LED)
4. BEWARE OF OVERHEAD WIRES.
5. SEE APPROACH CIRCUIT DISTANCE CALCULATION TABLE FOR PLANNED WARNING TIME AND TRAIN SPEED PER TRACK.
6. APPROACH DISTANCES ARE TO BE MEASURED FROM THE TERMINATIONS TO CLOSEST SET OF TRACK LEADS AT CROSSING.
7. CONDUIT MUST BE BORED.
8. VENDOR IS RESPONSIBLE TO LOCATE AND PROTECT ALL UTILITIES WITHIN LIMITS OF CONSTRUCTION
9. CAMERA SYSTEM TO BE SUPPLIED BY VENDOR AND INSTALLED BY RR.
10. ENSURE ALL DITCHES ALONG THE TRACKS IN ALL FOUR QUADRANTS HAVE POSITIVE DRAINAGE FLOW TO 100' FROM THE HIGHWAY.
11. 2' SHOULDER ON BOTH SIDES OF HIGHWAY.
12. JOINTED RAIL. ALL APPROACHES.

PRELIMINARY

NOT FOR CONSTRUCTION

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

benesch
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Alfred Benesch & Company
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Naperville, IL 60563
630-577-9100
Job No. 210401.54

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"DRAWING NOT TO SCALE"

REVISIONS

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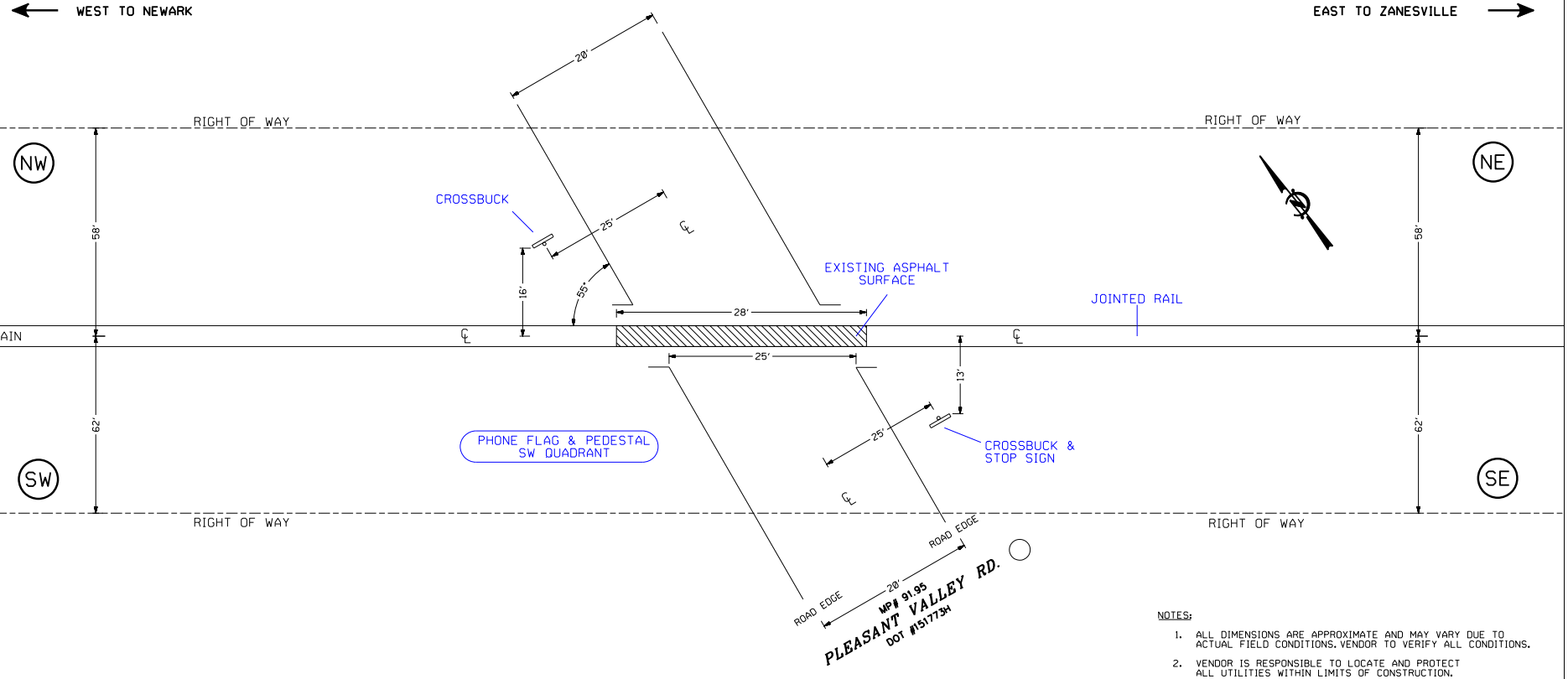
PROPOSED CROSSING LAYOUT

COLUMBUS & OHIO RIVER RAILROAD

DRAWN: TCS
DESIGNED: TCS
CHECKED: BPB
DATE: 02/05/20

PLEASANT VALLEY RD.
NASHPORT, (MUSKINGUM), OHIO
DOT#151773H MILEPOST#91.95

DRAWING NO.
CUOH09195.H01
SHEET 01 OF 01



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. 2' SHOULDER ON BOTH SIDES OF HIGHWAY.

= NOTE

LEGEND:

⊗ - LOCATION OF AC SERVICE

○ - UTILTIY POLE

PRELIMINARY

NOT FOR CONSTRUCTION

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"DRAWING NOT TO SCALE"

EXISTING CROSSING LAYOUT

COLUMBUS & OHIO RIVER RAILROAD

REVISIONS

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DRAWN: TCS DESIGNED: TCS CHECKED: BPB DATE: 02/05/20	PLEASANT VALLEY RD. NASHPORT, (MUSKINGUM), OHIO DOT#151773H MILEPOST#91.95	DRAWING NO. CUOH09195.H02 SHEET 01 OF 01

Factory Wired Instrument Shelter

ITEM DESCRIPTION		O.E.M.	LN Item #	QTY	U/M
Alum. 6' x 6, Shelter GETS Crossing		PTMW	9485000019	1	EA
Camera Material 5 Cam,17" Mon, 12 TB HD Package	Quote #Q003CNFQ	Anixter	9409011494	1	EA
Power Off Light, LED, 4 Wire		GRAYBAR	9430500215	2	EA
PMD-4R, Redundant Motion, Generic Upgrade Panel, & Generic Interface Panel Cable 4ft		ALSTOM	9409011753	1	EA
Surge Arrestor. MDSA-1XS		ALSTOM	9409012002	1	EA
Vital Logic Gate (VLG)		ALSTOM	9409010265	1	EA
Plugboard Kit For VLG		ALSTOM	9409010275	1	EA
Crossing Lamp Controller (XLC)		ALSTOM	9409010266	2	EA
Plugboard Kit For XLC		ALSTOM	9409010204	2	EA
ST-1 Relay Socket w/Test Posts, (22) 20-16 Flags		SIEMENS	9429000150	1	EA
Terminal Flag #10-#14		REBEL RAILWAY	9422022500	30	EA
Relay, ST-1, 4FB-2F-1B, 500ohm	A62-277	SIEMENS	94400004	1	EA
Lightning Arrester, Clearview		SIEMENS	9409020353	38	EA
Heavy Duty Equalizer		SIEMENS	9409020300	2	EA
AC Line Surge Protector, Model SP20-2A		SIEMENS	9409010617	2	EA
Panduit Duct, 2' X 3', 2 inch		GRAYBAR	9422040105	30	FT
Panduit Cover, 2' X 3', 2 inch		GRAYBAR	9422040106	30	FT
Panduit Duct, 2' X 3', 3 inch		GRAYBAR	9422040103	18	FT
Panduit Cover, 2' X 3', 3 inch		GRAYBAR	9422040108	18	FT
#10 TC Blue Flex Wire		GRAYBAR	9450030600	600	FT
#14 TC Blue Flex Wire		OKONITE	9422010213	700	FT
#10/12 AMP Eyelets		GRAYBAR	9422020300	150	EA
#14/16 AMP Eyelets		GRAYBAR	9422020342	150	EA
#6 AWG THHN Strand Red		GRAYBAR	9422001183	100	FT
#6 AWG THHN Strand Black		GRAYBAR	9422001184	100	FT
#6 AWG THHN Strand Green		GRAYBAR	9422001180	12	FT
#10 AWG THHN Solid Red		GRAYBAR	9422001177	10	FT
#10 AWG THHN Solid White		GRAYBAR	9422001179	10	FT
Recorder, Micro Data Analyzer II w/ DTMF		N A Signal	9409010705	1	EA
Insulated Nut		TWINCO	9409050504	16	EA
Relay, NV, 12VAC, 2FB (8 PINS)		GRAINGER	9409020273	1	EA
Relay, NV, 120VAC, 2FB (8 PINS)		Allied Electronics	9409020328	2	EA
Socket, Relay (8 PINS) OCT Screw		Allied Electronics	9409020329	3	EA
Battery Charger, 12V / 20A		NRS	9409080111	1	EA
Battery Charger, 12V / 40A		NRS	9409080113	1	EA
4 Post Terminal Block w/ Hardware		ERICO	9409020380	34	EA
Buss Strap Grd Assy.		ERICO	9465000106	3	FT
Tags, Slip On		GRAYBAR	9422990050	0.25	Roll
Stick-On Stencil		Cadillac Sign Co.	9400000078	2	EA
Test Link, 1" Offset w/Gold Nut		REBEL RAILWAY	9409021104	82	EA
Terminal Block, 2 x 6 w/flat nut only		GEXPRO	9473000102	8	EA
Terminal Block, 2 post 2-3/8" w/flat nut only		TWINCO	9473000104	4	EA
1/4" Bevel Washer		WURTH SNIDER	9473000700	100	EA
1/4-24 Clamp Nut Nickel		WURTH SNIDER	9473000705	50	EA
#6 Non-Insulated Terminal Eye 1/4 stud		GRAYBAR	9422020200	30	EA
#6 Non-Insulated Terminal Eye 5/16 stud		GRAYBAR	9422020210	8	EA
Binding (Barrel) Nuts		WURTH SNIDER	9401037900	150	EA
Maintainer Test Switch, 3 post test terminal		L&W	9410002070	1	EA
Strap, Solid, 1" Centers		TWINCO	9473000110	5	EA
Strap, Solid, 2-3/8" Centers		L&W	9473000120	4	EA
Buss Strap, 1" Centers 36 Hole		TWINCO	9473005100	2	EA
Circuit Plan Holder		Village Supplies	9401001050	1	EA

Gate/Flasher Material

ITEM DESCRIPTION		O.E.M.	LN Item #	QTY	U/M
12" Head w/24" Background & Hood (Painted AL)					
Terminal For LED Hook-up **(For larger RDG & GE LED)**		WCH	9451000610	4	EA
12" LED Highway Crossing Light (HD)		GE Lighting	9451000523	4	EA
Alum. Mast, 5" x 16' Base Hole 0 Degrees & Main Hole 90 Degrees right		Progress	9413022506	1	EA
Signal Mast Grounding w/ 72" pigtail #6 solid		Erico	9413040011	1	EA
JCT. Box Base, 5" W/2"NPT Cap		Progress	9420001102	1	EA
2-Way Cross Arm Assembly Less Heads (Gate Flasher)		Progress	9451050304	1	EA
5" Crossarms Assembly Mounting Kit		Progress	9451080005	1	EA
Railroad Crossing Sign, HI		Progress	9460001104	1	EA
5" Mounting Kit for Railroad Crossing Signs w/Extension Bracket		Progress	9460005050	1	EA
Gate **3593E** Mechanism Assembly, including the 5" Mast Mounting Hardware, Flex					
Conduit, with fittings, **Long Arm Supports** & Counterweight kit for 25' - 28' Arms W/Gate Heater		W-C-H	9450010189	1	EA
Gate Heater Thermostat (To Be mounted inside gate mech IORY Projects)		SENASYS	9450020612	1	EA
Insulated Nut		TWINCO	9409050504	4	EA
Test Link, 1" Offset w/Gold Nut		L&W	9409021104	18	EA
Wiring Harness 18'6" Bell		Progress	9454100133	1	EA
Wiring Harness 12' Light		Progress	9454100135	1	EA
Wiring Harness 8' Mech (STD)		Progress	9454100136	1	EA
Gate Arm Wind Bracket, 36"		NEG	9450030203	1	EA
Conversion Bracket Plain w/hardware		NEG	9459001132	1	EA
Gate/Flasher Pallet		J&J Pallet	9441001350	1	EA
12" Head w/24" Background & Hood (Painted AL)					
Terminal For LED Hook-up **(For larger RDG & GE LED)**		WCH	9451000610	4	EA
12" LED Highway Crossing Light (HD)		GE Lighting	9451000523	4	EA
Pinnacle 5" End Cap		Progress	9463100105	1	EA
Alum. Mast, 5" x 16' Base Hole 0 Degrees & Main Hole 90 Degrees right		Progress	9413022506	1	EA
Signal Mast Grounding w/ 72" pigtail #6 solid		Erico	9413040011	1	EA
JCT. Box Base, 5" W/2"NPT Cap		Progress	9420001102	1	EA
2-Way Cross Arm Assembly Less Heads (Gate Flasher)		Progress	9451050304	1	EA
5" Crossarms Assembly Mounting Kit		Progress	9451080005	1	EA
Railroad Crossing Sign, HI		Progress	9460001104	1	EA
5" Mounting Kit for Railroad Crossing Signs w/Extension Bracket		Progress	9460005050	1	EA
Gate **3593E** Mechanism Assembly, including the 5" Mast Mounting Hardware, Flex					
Conduit, with fittings, **Long Arm Supports** & Counterweight kit for 25' - 28' Arms W/Gate Heater		W-C-H	9450010189	1	EA
Gate Heater Thermostat (To Be mounted inside gate mech IORY Projects)		SENASYS	9450020612	1	EA
Insulated Nut		TWINCO	9409050504	4	EA
Test Link, 1" Offset w/Gold Nut		L&W	9409021104	18	EA
Wiring Harness 12' Light		Progress	9454100135	1	EA
Wiring Harness 8' Mech (STD)		Progress	9454100136	1	EA
Gate Arm Wind Bracket, 36"		NEG	9450030203	1	EA
Conversion Bracket Plain w/hardware		NEG	9459001132	1	EA
Gate/Flasher Pallet		J&J Pallet	9441001350	1	EA

Ground Material

ITEM DESCRIPTION		O.E.M.	LN Item #	QTY	U/M
Insulated Terminal Wrench, 1/2" / Triangle		GRAYBAR	9473000518	1	EA
Plugboard Terminal Wrench		SIEMENS	9473000508	1	EA
Battery Tray (12" x 38")		FIBER CO	9409060108	2	EA
Battery Tray (12" x 24")		FIBER CO	9409060102	2	EA
Battery, 264 Amp Hour		GNB	9429005100	7	EA
Battery, 312 Amp Hour		GNB	9429005145	6	EA
Electronic Bell, 5" MTG.		GSI	9465000154	1	EA
Gate Arm Light Kit w/LED Bulbs and wire, 3 per set		NEG	9450030494	2	EA
G&W, Lamp Cord Mounting Clamps	**All G&W**	RECO	9450030560	2	EA
G&W, Lamp Cord Mounting Clamps	**All G&W**	RECO	9450030561	2	EA
G&W Gate Arm 30' or Less, NON-HWP, 16' Al Base sec (H	**Needs Mid Section**	NEG	9450030266	2	EA
G&W Gate Arm 30' or Less, NON-HWP, 16' Fg 2nd sec (H	**Needs Base Section**	NEG	9450030267	2	EA
48" Tall Galv. Steel Gate Foundation w/32" Square Base w/4" Entrance Pipe welded on bottom c		Progress	9417002040	2	EA
5" Jct. Box Base Shroud		Progress	9454030094	2	EA
Track Cable, #6 Tw. Pr. (150-12-3933)		GRAYBAR	9422001106	275	FT
Signal Cable, 7/C # 6 AWG (206-11-6247)		GRAYBAR	9422001580	300	FT
Signal Cable, 7/C #14 AWG (206-11-6887)		GRAYBAR	9422001574	300	FT
AC Meter, 3/C # 9 AWG.(206-11-6923)		GRAYBAR	9422001539	300	FT
AC Cable, 3/C # 6 AWG w/GRD (206-11-6070)		GRAYBAR	9422001218	100	FT
Railroad Emergency Contact Sign - Reference Spec Prior to Ordering **(SEE ENS TAB)**		Saf-Ti-Co	9400000079	2	EA
5" Mounting Kit for Railroad Crossing Signs w/Extension Bracket		Progress	9460005050	2	EA
Hex. Railroad Lock		SIEMENS	9463001200	5	EA
Copperweld Ground Rod, 5/8" X 8'		Erico	9409050512	6	EA
Cadweld One Shot, 5/8" (HALO) Triple		Erico	9410001231	4	EA
Cadweld One Shot, 5/8" (SIGNAL) Single		Erico	9410000274	2	EA
Cadweld Rail Bonds, 3/16" x 7-1/2" XS		Erico	9410002990	140	EA
Track Connector, Web		Erico	9410003013	140	EA
Track Connector, Web, 4"		Erico	9410003011	8	EA
Track Connection Kits		Progress	9410002051	2	EA
Track Wire Retainer Clip, Erico #SBA248B		Erico	9410006111	8	EA
4" PVC Sch. 80 Conduit		B&S	TBD	65	FT
Hose, Red Ruber 3/4 Inch Hose (15' Per Track Connection Pair)		Grainger	9469023011	30	FT
AC Meter Base, Breaker Box, W.H. & Pole		Commercial	TBD	1	EA
Dress Stone		Local	N/A	1	EA
Fill		Local	N/A	1	EA
Sleeve, 3/16 - 3/16 & 3/16 - #6 Tinned		Erico	9410001010	8	EA
Duct Seal		Local	9410000502	10	LB
Bond Strand, Erico# SBS8TLINS664		ERICO	9422030010	75	FT
No Oxide Grease		SIEMENS	9410006010	1	EA
Anti-Seize - Silver Grade 4 OZ		Bearing Head	9410006020	1	EA
#6 Bare Copper		Grainger	9422000010	50	FT

Force Account Estimate

Estimate to Complete

Railroad:	Columbus & Ohio River Rail Road (CUOH)	**Region:**	NORTHERN
Agency:	ORDC	**State:**	OH
DOT #:	151773H	**COUNTY:**	Muskingum
ROADWAY:	CR 408 / Pleasant Valley	**CITY:**	Nashport
DESCRIPTION:	Installation of Flashing Lights and Gates, new 6x6 bungalow, PMD-4R w/CWT and generic interface panel, camera system. Install full timber surface. RR Surface Vendor to provide traffic control and paving. One track through crossing.		
AGENCY PROJECT NUMBER:	PID 111140	**ESTIMATE SUBJECT TO REVISION AFTER:**	**04/03/21**

PRELIMINARY ENGINEERING:				
Contracted & Administrative Engineering Services			$	13,700
Subtotal			**$**	**13,700**
CONSTRUCTION & CLOSEOUT:				
Contracted & Administrative Engineering Services			$	18,400
Subtotal			**$**	**18,400**
FLAGGING SERVICE:				
Contracted or Railroad Flagmen Services	15	Days	$	21,000
Subtotal			**$**	**21,000**
UTILITY WORK:				
Power Service			$	20,000
Other			$	-
Subtotal			**$**	**20,000**
CONTRACT WORK:				
Outside Services			$	20,000
Design & Labor & Material			$	197,010
Subtotal			**$**	**217,010**
RAILROAD TRACK:				
Labor & Material			$	-
Subtotal			**$**	**-**
RAILROAD SIGNAL & COMMUNICATION:				
Labor & Material			$	-
Subtotal			**$**	**-**
PROJECT SUBTOTAL:			**$**	**290,110**
Public Project Admin:	**0.00%**		$	-
Contingencies:	**0.00%**		$	-
PROJECT TOTAL:	**********		**$**	**290,110**
CURRENT AUTHORIZED BUDGET:	**********		**$**	**352,040**
TOTAL SUPPLEMENT REQUESTED:	**********		**$**	**(61,930)**

DIVISION OF COST:

Agency	100.00%	$	290,110
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: 02/11/20 **REVISED:** 10/05/20 **DATE:** 10/05/20

Ohio | Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Mark Policinski, Chair

May 8, 2020

Len Wagner NE Region
Genesee & Wyoming/CUOH
201 N. Penn St
Punxsutawney, PA 15767

RE: PE Submitted RR Solicit Bids
MUS CR408 Pleasant Valley Rd DOT# 151773H PID# 111140

Dear Mr. Wagner:

The plan and estimate transmitted May 6, 2020, for the referenced project has been reviewed and is acceptable. Genesee & Wyoming/CUOH may proceed with soliciting bids for the proposed grade crossing warning system in accordance with the abbreviated plan. 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.

A construction authorization will be sent once the bid documents have been received and approved. No field work may be started without a construction authorization from this office.

Sincerely,

Greg Gronbach
Project Manager

Ohio Railroad Development Commission

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

RAILROAD/HIGHWAY GRADE CROSSING SITE SURVEY

RAILROAD NAME: Columbus & Ohio River Railroad

LOCATION: Nashport, Ohio

PROJECT#: RR# 19CUOH20R PID# 111140

SURVEYED BY: Mike Forte DATE: 2/27/2020

ROADWAY: CR 408, Pleasant Valley Rd. DOT#: 151 773H

SUBDIVISION: Cambridge MILEPOST: 91.95

REGION: Northern SPEED: 25 mph

LATITUDE: 40.0541351 LONGITUDE: -82.1909811

NEAREST ADDRESS: 6900 Pleasant Valley Rd., Nashport, OH 43830

REVISED:

PROJECT SCOPE (PER AGENCY ORDER/DRTS FINDINGS):

Flashing lights and gates (also new crossing surface)

RAILROAD CONCERNS/SCOPE ADJUSTMENTS:

SURVEY ATTENDEES:

Name	Title	Company	Email/Phone
Mike Forte	Sr. Construction Rep.	Benesch	740-817-1521
Todd Hensly	Signal Supervisor	OHCR	740-502-7214
Jeremy Hammond	Director of Engineering	OHCR	740-295-4009

SECTION 1 - EXISTING WARNING DEVICES

1.1 - EXISTING WARNING DEVICES/CONTROL EQUIPMENT

Signage	Quantity	Description	Reuse/ Replace
Crossbucks	2		Replace
Stop Signs	2		Remove
Yield Signs			
Track Signs			
SORS			
ENS/DOT	2		Replace
NLT/NRT			
Equipment	**Quantity**	**Description (Mast size, lens size, orientation etc.)**	**Reuse/ Replace**
Flashing Lights			
Flashing Lights and Gates			
Cantilevers*			
Cant/Gate Combo			
Bells			
Bridge Signals			
Signal Enclosure			
Highway/Rail grade crossing warning equipment type			
DAXing for Adjacent Xings			

*Include sketch of bolt hole pattern and spacing with measurements if existing cantilever is to be reused.

NOTES (LIST MANUFACTURER/MODEL/QUADRANT IF APPLICABLE) :

_____

_____

_____

_____

1.2 - ARE FOUNDATIONS POURED IN PLACE: NA

1.3 - EXISTING MASTS OF CAST OR ALUMINUM: NA

1.4 - ROOM AT CROSSING TO STORE EQUIPMENT: Yes

If no, specify where equipment can be stored: _____

1.5 - ARE EXISTING CIRCUITRY PLANS AVAILABLE: NA

1.6 – CROSSING EQUIPMENT AND TYPE, passive, relay, solid state: Passive

1.7 – IS THE ROADWAY BEING RELOCATED: No

1.8 – IS THERE A FRA INVENTORY REPORT: Yes

1.9 – EXISTING TRAIN SPEED, Timetable, General Order: 25 mph

SECTION 2 - PROPOSED WARNING DEVICES

2.1 - PROPOSED WARNING DEVICES/CONTROL EQUIPMENT

Signage	Quantity	Description
Crossbucks	2	
Stop Signs		
Yield Signs		
Track Signs		
SORS		
ENS/DOT	2	
NLT/NRT		
Equipment	**Quantity**	**Description (Mast size, lens size, orientation, etc.)**
Flashing Lights		
Flashing Lights and Gates	2	
Cantilevers		
Cant/Gate Combo		
Bells	1	
Bridge Signals		
Signal Enclosure	1	6'x6' in SW quad 45' from highway
Highway/Rail grade crossing warning equipment type		PMD-4R CWT

NOTES:

2.2 - TYPE OF FOUNDATIONS TO BE USED: Galvanized pyramid

2.3 - ARE FOUR QUADRANT GATES TO BE INCLUDED: No

If yes, specify exit gate delay/dwell time:

2.4 - ARE SIDELIGHTS REQUIRED: No

If yes, specify street/distance from track/quadrant:

2.5 - CROSSING CONTROL EQUIPMENT TERMINATION: DHWS

2.6 - ADDITIONAL EQUIPMENT RECOMMENDED: Camera system

2.7 - IS ADDITIONAL FILL MATERIAL REQUIRED: Yes

If yes, specify quadrant/estimate quantity: 80 tons

2.8 – BERM/CRIB WALL/PLATFORM REQUIRED: Rip rap for house fill

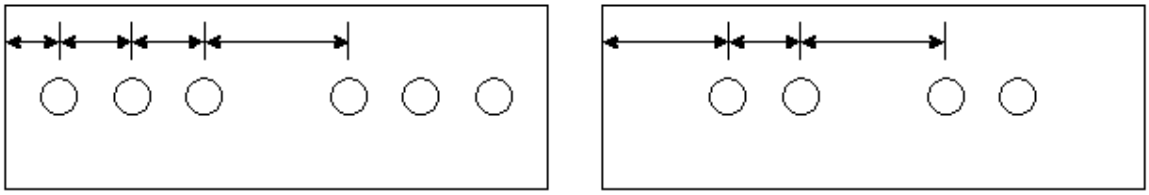
SECTION 3 – TRACK AND RAIL

3.1 - PROPOSED WARNING DEVICES/CONTROL EQUIPMENT

Track	Rail Weight	CWR	JT	Bond Type	Track Speed	Track Control	Rusty Rail	Ballast Condition
Mainline	115 RE		X	Head	25 mph	TWC	No	Good
Siding								
Siding								
Industry								
Storage								

***All joints require new double bonding (Head and Web)

SPECIFY INSULATED JOINT DIMENSIONS AND TYPE:



3.2 - ARE COMP JOINTS PRESENT: No

If yes, show location and sizes on FIELD SKETCH.

3.3 - DO SWITCHES REQUIRE INSULATION: No

If yes, show switches on FIELD SKETCH.

3.4 - ANY SHUNT-TYPE SWITCHES: No

If yes, describe type and show on FIELD SKETCH: _____

3.5 - SHUNT ENHANCEMENT REQUIRED: No

If yes, specify type: _____

3.6 – DO BALLAST CONDITIONS AFFECT INSTALLATION? No

3.7 – HAS A BALLAST STUDY/READING BEEN PERFORMED TO DETERMINE THE BALLAST RESISTANCE? No

If yes, attach a copy of the results. _____

3.8 – HAS A SPECTRUM FREQUENCY ANALYSIS BEEN PERFORMED? No

If yes, attach a copy of the results.

3.9 – IS THE PROPOSED CROSSING LOCATED IN SIGNAL TERRITORY? No

If yes, describe/attach a copy of the plans, CP, Approach signal(s), HWD, DED, and Rock Slide Detection Fences. _____

3.10 – ARE THERE ANY EXISTING TRACK CIRCUITS? No

If yes, describe type/attach a copy of the plans. _____

3.11 – ARE THERE ANY TIE-INS OR MODIFICATIONS TO EXISITING CROSSINGS OR SIGNAL SYSTEMS? No

If yes, describe/attach a copy of the plans. _____

3.12 – ARE THERE ANY OVERLAPS IN APPROACHES WITH EXISTING CROSSINGS? No

If yes, describe/attach a copy of the plans. _____

3.13 – ARE THERE ANY SPECIAL TRAIN MOVES OR REGULAR STOPPING OR SWITCHING IN THE PROPOSED APPROACHES? No

If yes, describe: _____

3.14 – ARE THERE ANY QUIET ZONE REQUIREMENTS IN PROPOSED AREA OF CROSSING? No

If yes, describe: _____

3.15 – ARE THERE ANY ELECTRONIC (e.g. *NO TURN, DO NOT STOP ON TRACK*) SIGNS REQUIRED? No

If yes, describe and show on FIELD SKETCH: _____

3.16 – ARE THERE ANY SPECIAL DPU/STATE SPEED RESTRICTIONS FOR CROSSING? No

If yes, describe: _____

3.17 – ARE THERE DAXing REQUIREMENTS FOR THIS OR ADJACENT CROSSINGS? No

If yes, describe: _____

SECTION 4 – POLELINE

4.1 - ARE RAILROAD POLELINES PRESENT: No

If no, skip to section 5.

4.2 - REMOVE ABANDONED POLELINE: _____

If yes, specify number of spans to be removed: _____

Will Underground conduit/cable be required as a suitable replacement: _____

Will an interim scheme be needed until the suitable replacement is in place? _____

SECTION 5 – PRE-EMPTION

5.1 - PRE-EMPTION CIRCUITRY REQUIRED: No

If no, skip to section 6.

If yes, specify name, distance and direction to intersection: _____

If yes, specify type of, distance and direction to traffic signal controller cabinet: _____

If yes, specify type of interface, relay, electronic, communication protocol, etc.: _____

If yes, specify cable (6 twisted pair), routing and distance to traffic signal controller cabinet: _____

If yes, specify interface names applicable to traffic signal controller cabinet, AP, SP, Isl Occ, GD, GU, and/or Health: _____

5.4 - AUTHORIZING AGENCY: _____

5.5 - ROADWAY TRAFFIC ENGINEER: _____

5.6 - DATE OF REQUIREMENT: _____

SECTION 6 – JOINT RAILROAD

6.1 - IS TRACK LEASED FROM ANOTHER RAILROAD: No

If yes, specify railroad and division of maintenance:

6.2 - DOES ANOTHER RAILROAD OPERATE AT CROSSING: No

6.3 - ANY JOINT FACILITIES WITHIN ONE MILE: No

If yes, specify railroad and division of maintenance:

SECTION 7 – UTILITIES

7.1 - IS COMMERCIAL POWER AVAILABLE: Yes

Specify location of nearest pole: About 500' to the northwest

7.2 - POWER COMPANY NAME/CONTACT INFORMATION: AEP

7.3 - NEW METER SERVICE REQUIRED: Yes

If no, specify existing meter number:

7.4 - EXISTING UTILITY INFORMATION

Company Name	Type of Utility	Phone Number	Conflicts
	Phone		Unknown

7.5 - DESCRIBE ANY OVERHEAD UTILITY CONFLICTS:
None.

7.6 - DESCRIBE ANY UNDERGROUND UTILITY CONFLICTS:
Unknown, underground phone line along west side of highway.

7.7 - UTILITIES PARALLEL TO TRACKS: None observed

7.8 - NEAR COMMERCIAL HIGH-TENSION LINES: No

7.9 - NEAR COMMERCIAL SUBSTATIONS: No

SECTION 8 – OBSTRUCTIONS

8.1 - OBSTRUCTIONS TO VISIBILITY OF DEVICES: None

If no, skip to section 9.

8.2 - SOLUTION FOR OBSTRUCTION (PROVIDE CONTACT INFORMATION FOR OWNER):

SECTION 9 – ROADWAY DATA

9.1 - TYPE OF ROADWAY SURFACE: Asphalt

If different, specify crossing surface type:

9.2 - EXISTING ROADWAY WIDTH: 20’

If present, specify shoulder width: 2’ on both sides of highway

9.3 - PROPOSED ROADWAY WIDTH: NA

If present, specify shoulder width:

9.4 - CROSSING ANGLE: 55°

9.5 - VEHICLE SPEED: 50 mph

9.6 - IS CURBING PRESENT/REQUIRED: No/No

9.7 - ARE SIDEWALKS PRESENT: No

If yes, will they interfere with warning devices:

9.8 - ARE PEDESTRIAN GATES REQUIRED: No

SECTION 10 – SITE INFORMATION

10.1 - ENCROACHMENTS WITHIN RR PROPERTY: None

If yes, describe, photograph, and include on FIELD SKETCH:

10.2 - WILL TOPOGRAPHY AFFECT INSTALLATION: Yes

If yes, describe, photograph, and include on FIELD SKETCH: Fill needed for all equipment

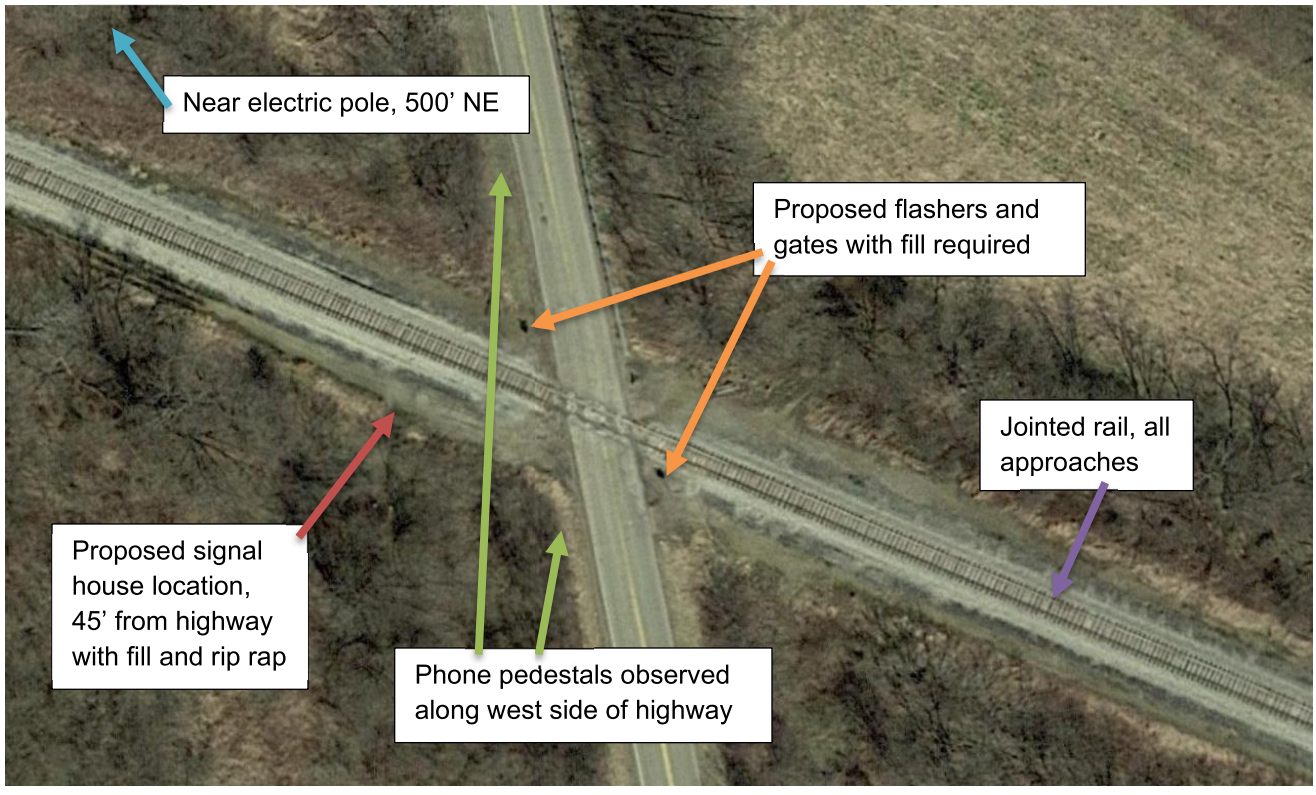
10.2 - WILL DRAINAGE BE AFFECTED: No

If yes, describe, photograph, and include on FIELD SKETCH:

10.3 - CULVERTS BE EXTENDED/RELOCATED/REQUIRED: No

10.4 - CONDUIT LENGTH REQUIRED: Signal Vendor to field verify

10.5 – SITE SKETCH:



10.6 - ADDITIONAL COMMENTS/DETAILS/CONFLICTS:

10.7 - NE QUADRANT:

10.8 - NW QUADRANT:

Phone pedestal. Proposed flasher and gate with required fill.

10.9 - SE QUADRANT:

Proposed flasher and gate with required fill.

10.10 - SW QUADRANT:

Signal house placed 45' off the highway. Fill needed for house with rip rap to hold fill in place. USIC phone utility flag (800-778-9140 phone number) and phone pedestal near highway (see picture).

SECTION 11 – PHOTO LOG

NE Quad viewing west

NE Quad viewing northwest

NE Quad viewing east

SE Quad viewing south

SE Quad viewing northwest, proposed flasher and gate location

SE Quad viewing north

SW Quad viewing south, phone pedestal visible

SW Quad viewing west, proposed house location

SW Quad viewing north

SW Quad viewing east

NW Quad viewing north

NW Quad viewing west

NW Quad viewing south, proposed flasher and gate location

NW Quad viewing east

Northern Region Crossing Information

Railroad: Columbus & Ohio River Railroad Subdivision: Cambridge

Crossing Name: CR 408, Pleasant Valley Rd. Dot #: 151 773H

City, County, Borough, Township: Nashport

MP: 91.95 Existing Length: 28’ Proposed Length: 32’

Existing Rail Section: 115 RE Proposed Rail Section: Two 80’ sticks of 115 RE

Existing Surface: Asphalt New Surface: Full Depth Timber for 10' Ties

Signals: Proposed, install two conduits Insulated Joints Needed: No

Signal Conduit: Yes, see below Welding Mandatory: Yes Number of welds: 4

Drainage: 6” Schedule 40 PVC with holes on south side of crossing; outlet to southeast, avoid proposed light and gate location.

Fouled Ballast: Yes, crib approaches in all 4 quadrants.

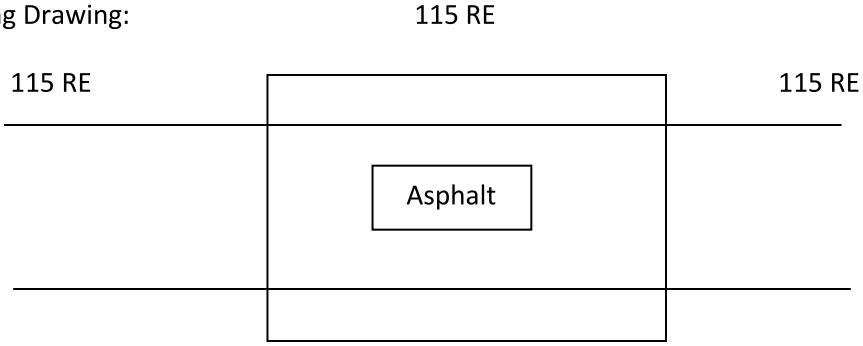
Train Schedule: 2/day and 2/night

Detour Needs: Full road closure, LHA is Muskingum Couth Engineer

Other Information: Install approach ties, each side of crossing: six - 10’ and nineteen - 8’ 6”.

Install two 4” schedule 80 PVC conduits 30” below grade; 40’ long across highway, 10’ across tracks.

Existing Crossing Drawing:



Northern Region Crossing Information

Purchasing Material: Contractor

“Ship To” Address: 6900 Pleasant Valley Rd., Nashport, OH 43830

Delivery Method: Truck

Unloading Party: Contractor

Point of Contact: Tyler Conkle, 740-610-7752

PHOTO LOG

NW Quad viewing south

SE Quad viewing north

BASIS OF DESIGN

Region:	NORTHERN
Railroad:	COLUMBUS & OHIO RIVER RAILROAD
Subdivision	CAMBRIDGE
Supervisor	TODD HENSLEY
Railroad No.	19CUOH20R

Location Name:	PLEASANT VALLEY RD.
City, (County), ST:	NASHPORT, (MUSKINGUM), OH
MP.	91.95
DOT #	151773H
Prepared By:	TODD SOVANN
Date Prepared:	4/30/2020

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	32	ft
Clearance time	**0**	s

Approach Length Calculation

Base Warning Time	30	sec	
Plus Clearance Time	0	sec	*(Linked to calc above)*
Equals Planned Warning Time	30	sec	
Plus Time for Traffic Preemption	0	sec	
Equals Total Design Warning Time	30	sec	
Plus Equipment Response Time	4	sec	
Plus Buffer Time	0	sec	
Plus Additional Time	0		*(Provide explanation)*
Equals Total Warning Time	34	sec	
Times Maximum Design Train Speed	25	mph	
Times Ratio of fps to mph	1.470	fps/mph	
Equals Approach Circuit Length	**1250**	ft	*(Rounded up to nearest foot)*

Ohio | Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Mark Policinski, Chair

February 3, 2020

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

RE: PE Authorization Grade Crossing Warning Device Improvements
Muskingum County CR408/Pleasant Valley Rd DOT# 151773H PID# 111140

Dear Mr. Wagner:

A diagnostic review was held at the above grade crossing on July 9, 2019. The crossing has been recommended for the installation of lights and gates, with a new roadway surface.

Genesee & Wyoming/OSRR 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. Mr. 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: Randall Schumacher, Chief, Motor Carrier & Rail Enforcement, PUCO
Jill Henry, Rail Specialist, PUCO
Heather Hamilton, ORDC
ORDC (file)

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

Ohio | Public Utilities Commission
Mike DeWine, Governor
Sam Randazzo, Chairman

October 15, 2019

Columbus & Ohio River Railroad
Mr. Jacob Smith
Director of Public Projects
Genesee& Wyoming Railroad Services, Inc.
13901 Sutton Park Drive STE 345
Jacksonville, FL 32224

Re: Muskingum County, Pleasant Valley Road/CR 408, DOT#151-773H, hereinafter referred to as the "Project"

Dear Mr. Smith:

The Public Utilities Commission of Ohio (PUCO) has identified and the Ohio Rail Development Commission (ORDC) surveyed, on July 9, 2019, the above mentioned grade crossing for warning device upgrades. The location has been approved for flashing lights and roadway gates and a surface reconstruction.

The Project shall comply with Agreement No. 009-A, dated May 28, 2001, and Reconstruction Agreement #11635, dated July 11, 2002, entered into by the State of Ohio and Columbus & Ohio River Railroad (RAILROAD). Furthermore, the RAILROAD shall comply with all applicable state and federal laws governing grade crossing safety programs.

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

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

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

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

Sincerely,

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

Columbus & Ohio River Railroad

By _____

Title Pres. / Gen. Mgr.

Date 10/30/19

Matthew Dietrich
Executive Director
Ohio Rail Development Commission

Date _____

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

Sincerely,

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

Columbus & Ohio River Railroad

By _____

Title _____

Date _____

Matthew Dietrich
Executive Director
Ohio Rail Development Commission

Date 10-25-19

CR 408 / Pleasant Valley (DOT #151773H), Muskingum County, Columbus & Ohio River Railroad
7/9/2019

Crossing at a glance: Rank 1422

ORDC Notes: Constituent reported 8/28/2018 - No lights and gates - Heavily wooded area

Please Sign In

Name	Title	Organization	
Greg Gronbach	Project Manager	ORDC	
Phone Number	Email	Signature	
614-745-6760	gregory.gronbach@dot.ohio.gov		
Todd Hensley		Columbus & Ohio River Railroad	
740-502-7214	ghensley@gwrr.com		
Shawn Zurfley		PUCO	
330-417-2590	shawn.zurfley@puco.ohio.gov		
Mark Eicher		Muskingum County	
740-819-2769	meicher@mceo.org		

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

Date: 7/9/2019

Street or Road Name:	CR 408 Pleasant Valley		
County: Muskingum	Township:	US DOT No.:	151773H
City (in or near): near Nashport	Railroad Name: CUOH	RR Milepost:	91.950

	Initial Information (from database)	Revised
Number & dates of vehicle crashes in previous 5 years:	n/a	
Number & dates of pedestrian/bicycle crashes in previous 5 years:		
Hazard Ranking: 1422	Date Run: 03/18/2019	

Type of Warning Devices	Installed?		Quantity/Comments
HIGHWAY			
Advance Warning Signs (condition?)	☒ Yes	☐ No	POOR- FAST COVERED IN VEG
'Stop' Signs	☒ Yes	☐ No	
'Stop Ahead' Signs	☐ Yes	☒ No	
Pavement Markings (condition?)	☒ Yes	☐ No	POOR
Dynamic Envelope Markings (condition?)	☐ Yes	☒ No	
Illumination	☐ Yes	☒ No	
'No Turn' Signs (highway/passive)	☐ Yes	☒ No	
Barriers/fencing (pedestrian/bicycle)	☐ Yes	☒ No	
LOOK Sign	☐ Yes	☒ No	
Do Not Stop On Track Sign	☐ Yes	☒ No	
RAILROAD			
Crossbucks	☒ Yes	☐ No	2
Crossbucks – assembly with Stop	☒ Yes	☐ No	2
Crossbucks – assembly with Yield	☐ Yes	☒ No	
Mast-Mounted Flashing Lights	☐ Yes	☒ No	
Cantilever Flashing Lights	☐ Yes	☒ No	Number: Length:
Side Lights	☐ Yes	☒ No	
LED or Incandescent Lights? Size?	☐ Yes	☒ No	
Automatic Gates	☐ Yes	☒ No	Number: Length:
Bells	☐ Yes	☒ No	Number:
Sidewalk/Pedestrian Gate Arms	☐ Yes	☒ No	Number: Length:
'No Turn' Signs (railroad/active)	☐ Yes	☒ No	
Is crossing flagged by train crew?	☐ Yes	☒ No	
OTHER	☒ Yes	☐ No	2 BUCK GNS SIGNS

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	4
<1 per day? Trains per week	-	
Day thru trains	0 2	
Night thru trains	2 2	
Switching	0	
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks	-	
Maximum train speed	25	
Typical train speed	0-25	
Amtrak	-	
Are there other track(s) crossing this same roadway within 100ft of this crossing? ☐ Yes ☑ No		
If yes, Crossing DOT# (if different) N/A		
If yes, distance N/A (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 NONE		

Local Highway Authority:	Muskingum County	
Roadway Characteristics	**Initial Information (from database)**	**Revised**
Average Daily Traffic	721	
Highway Paved	☑ Yes ☐ No	☐ Yes ☐ No
Roadway Surface: ☑ Blacktop ☐ Gravel ☐ Concrete Other_____		
Roadway width (paved/travelled way): 20 ft		
Number of Highway Lanes	2	
Urban or Rural	Rural - Minor Collector	
Vehicle Speed: 25 MPH 55		
School Bus Operation: ☒ Yes ☑ No Amount 4 DAY		
Location of nearby schools: CREAMER RD ELEMENTARY 5 MI EAST		
Hazardous Materials Trucks: ☑ Yes ☐ No Amount (from FRA) 7% LHA verified/changed?		
Shoulders: ☐ Yes ☒ No		
Is the Shoulder Surfaced? ☐ Yes ☒ No If yes, shoulder width: _____ft.		
Is there existing guardrail along the roadway in crossing vicinity? ☒ Yes ☐ No		SE QUAD
Crossing Angle ☐ 0-29° ☐ 30-59° ☑ 60-90° Measured in _____ Quadrant?		

Quadrant NE Curb & Gutter:	Quadrant SW Curb & Gutter:
☐ Functional (Curb height = 4" or more)	☐ Functional (Curb height = 4" or more)
☐ Non-functional (Curb height = less than 4")	☐ Non-functional (Curb height = less than 4")
☒ None	☒ None

Is there a nearby intersection that could cause queuing over the crossing? ☐ Yes ☒ No
If yes, distance N/A
Is this intersection signalized? ☐ Yes ☒ No
Are there signals currently interconnected with the existing crossing warning devices? ☐ Yes ☒ No
Is there a 'Do Not Stop on Track' sign? ☐ Yes ☒ 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? ☐ Yes ☒ No
If yes: Improvement type_____ Lead Agency_____ Timeline/completion_____

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

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

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:

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:

Is commercial power available? ☐ Yes ☒ No

Utility Provider (Company Name) AEP

Nearest Available Power Source ___ ½ MILE TO THE WEST

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

Comments:
NONE

Surface review form completed? ☒ Yes ☐ No SURFACE WON'T HOLD A CIRCUIT.

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? _____

Traffic Signal Preemption (include traffic signal intersection name and LHA with jurisdiction over traffic signal, if known): NONE
Crossing Consolidation or Closure: NO
Real Estate or ROW: NO
Culvert / Drainage / Ballast Conditions: NO
Roadway and/or Sidewalks: NO
Circuitry (e.g. reaches out to other crossings, specific needs, etc.): NO
Environmental: NO
Utilities: NO
Other:

Pedestrian Closure
Is it the consensus of the Diagnostic Review Team that this is a potential closure project? NO
Explain reasons: BUSY TRUCK ROUTE

Diagnostic Team Recommendations	
☐ **No improvements needed**	Quadrants Needed
☒ **Install/upgrade active devices**	
☐ Automatic Flashing Lights (AFLS)	
☐ AFLS /Cants	
☒ AFLS / Gates	
☐ AFLS / Gates / Cants	
☐ Bells / number	
☐ Upgrade circuitry / type	
☐ Sidelights	
☐ LED Upgrades	
☐ Guardrail Needed	
☐ Install/Replace curb	
☒ Bungalow placement & offset from rail & highway	[redacted] [redacted] SW QUAD
☒ Other (define)	
Comments: - COUNTY TO REFRESH [redacted] PAVEMENT MARKING + STOP BARS. - COUNTY TO TRIM VEGITATION AT ADV. WARNING SIGN TO EAST.	
☐ Install/upgrade traffic signal preemption	
Other (define):	

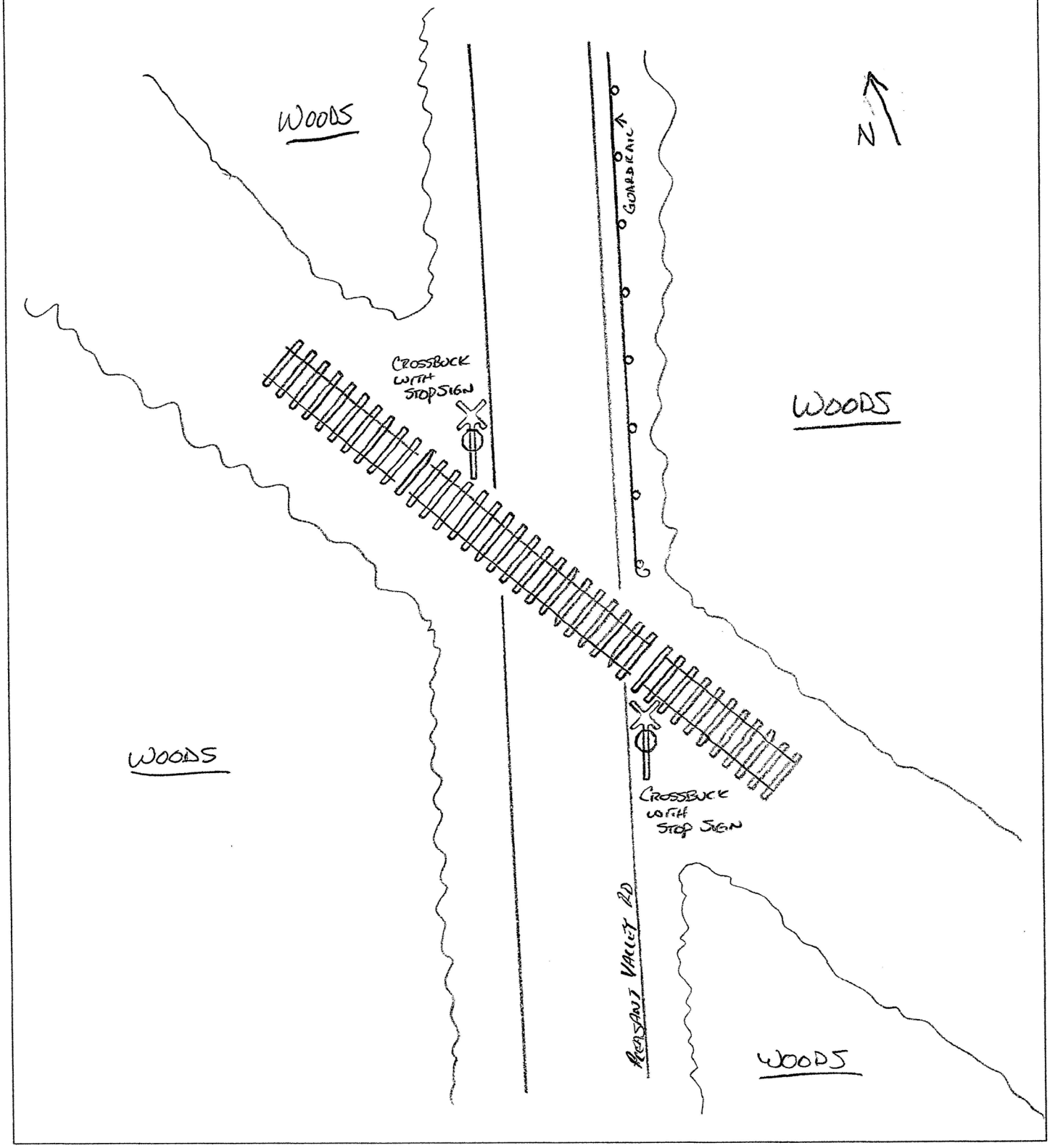
Diagnostic Team Recommendations (cont'd)	
PEDESTRIAN/BICYCLE Treatments (additional, not included above)	
☐ Crossing Surface (specify)	☐ Sidewalk (specify)
☐ Detectable warning surfaces	☐ LOOK Sign (R15-8)
☐ Stop lines	☐ Illumination
☐ Dynamic envelop markings	☐ Channelization
☐ Path delineation	☐ Fencing/barriers
☐ Other	
Comments:	

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

LPG	GPH	

Field Sketch (optional)

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



Clearing Sight Distances

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

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

Notes:

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

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

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

Stopping Sight Distances

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

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

Notes:

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

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

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

Bicycle & Pedestrian Clearing Sight Distances

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

*A single track, 90-degree, level crossing

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

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

County: MJS Route: PLEASANT VALLEY DR DOT#: 151773H

Surface type ☐ Rubber seal and asphalt ☐ Timber and asphalt ☒ Asphalt ☐ Composite ☐ Concrete panel ☐ Full-depth timber ☐ Full-depth rubber ☐ Other _____	Condition ☐ Good ☐ Fair ☒ Poor Comments: LARGE PATCHED AREAS CRUMBLING AREAS.

Is the surface good and sufficient? Yes / (No)

Vehicle type (cars, trucks, etc.): CARS, TRUCK, DUMP TRUCKS, SEMI, FARM

Surface conditions:

Can vehicles cross at posted speed? NO

Local observations/driver behaviors: STOP AND PROCEED SLOWLY

Relevant crash history: ND

Do existing surface conditions have negative effects on the current or proposed warning devices?
Explain: POOR SURFACE MAY NOT HOLD A CIRCUIT.

Comments:

Form completed by: G. GRONBACH Date: 6/27/19

Summary: Application In the Matter of a Request for the Installation of Active Warning Devices and a New Crossing Surface at the Columbus & Ohio River Railroad Crossing, DOT#151-773X, Pleasant Valley Road/CR 408 in Muskingum County, Ohio. electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division