

Memo

To: Docketing Division
From: Tom Persinger, Rail Specialist, Rail Division
Cc: PUCO Legal Department
Date: 6/13/2022

Re: PUCO Case No. 22-0588-RR-FED In the Matter of a Request for the Installation of Active Warning Devices at the Wheeling & Lake Erie Railroad Grade Crossing, DOT# 472676K, at Ravenna Road in Portage County, Ohio.

On March 21, 2022, the Ohio Rail Development Commission (ORDC) authorized funding for Wheeling & Lake Erie Railroad (WE) to install lights and gates at Ravenna Road (DOT#472676K) in Portage County, Ohio. The crossing was surveyed, on August 10th, 2021, and was found to warrant the upgrade. The electric utility provider for this crossing is First Energy-Ohio Edison.

The project will be paid for with federal funds and is actual cost. The plans and estimates for the project in the amount of \$307,388.32 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:

Wheeling & Lake Erie Railway Company
Tim Andrews
Signals & Communications Supervisor
100 E. First Street
Brewster, Ohio 44613

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

Ohio Department of Transportation
District #3
Jamie Lowry
District Railroad Coordinator
906 Clark Ave.
Ashland, OH 44805

First Energy – Ohio Edison

City of Streetsboro
Bill Miller
Service Director
2094 State Route 303
Streetsboro, OH 44241

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

TO: John Williams, Transportation Director, PUCO

FROM: Allen Bell, Manager, Safety Section, ORDC

BY: James Tucker, Project Manager, ORDC J.T.

SUBJECT: Portage County, Ravenna Road.
DOT #472-676K, PID 116026

DATE: May 18, 2022

The Public Utilities Commission of Ohio (PUCO) established a diagnostic survey at the subject location on August 10, 2021. 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 approves the site plans and estimates as provided. Please issue a construction-only order for the project outlined above for nine months. This construction authorization is made with the stipulation and understanding that any field work needs prior approval before the 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.

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

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

Thank you for your assistance with these matters.

Attachment: Diagnostic Review
PE Authorization
Plan & Estimate
Letter Agreement

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



Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Scott Corbitt, Chair

May 18, 2022

Mr. Tim Andrews
Wheeling & Lake Erie Railway
100 East First Street
Brewster, Ohio 44613

RE: Warning Device Improvements
Portage County, Ravenna Road.
DOT#472-676K, PID# 116026

Dear Mr. Andrews:

The plan dated February 22, 2022, and estimate dated April 8, 2022, for the referenced project has been reviewed and is acceptable. **Please note that the railroad must provide ORDC with a plan stamped by a professional engineer licensed in the State of Ohio prior to acceptance and close out of the project.** Wheeling & Lake Erie (WLE) may proceed with the construction of 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. Reimbursement of eligible actual cost is limited to \$307,388.32. 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 WLE accepting the following instructions:

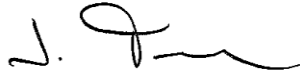
1. WLE's project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to James Tucker, ORDC, email James.tucker@dot.ohio.gov and to the Public Utilities Commission of Ohio at Jill.henry@puco.ohio.gov. WLE's project foreman will also notify the same of any stops and re-starts of the work activity and of the date work was completed for the project.
2. WLE 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 WLE. **If it is known that there are utilities that need to be relocated, WLE needs to start that coordination work as soon as possible to avoid project delays.**



3. WLE's project foremen will notify James Tucker at James.tucker@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. WLE shall send copies of each partial bill to ORDC.Invoice@dot.ohio.gov. Please find the enclosed ODOT Purchase Order to reference when billing.
6. WLE 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.

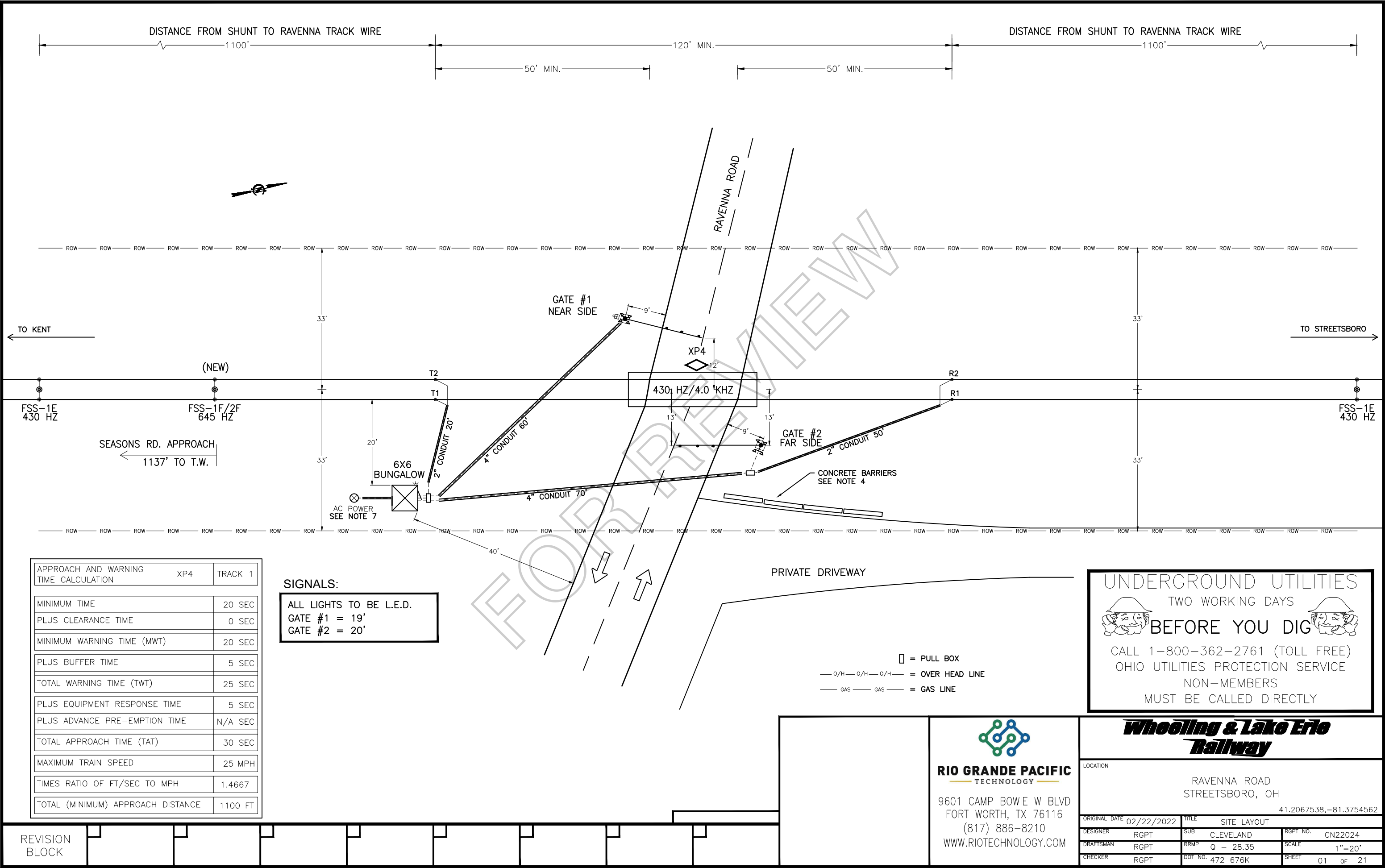
Thank you for your assistance with these matters.

Sincerely,



James Tucker
Project Manager

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



APPROACH AND WARNING TIME CALCULATION	XP4	TRACK 1
MINIMUM TIME	20 SEC	
PLUS CLEARANCE TIME	0 SEC	
MINIMUM WARNING TIME (MWT)	20 SEC	
PLUS BUFFER TIME	5 SEC	
TOTAL WARNING TIME (TWT)	25 SEC	
PLUS EQUIPMENT RESPONSE TIME	5 SEC	
PLUS ADVANCE PRE-EMPTION TIME	N/A SEC	
TOTAL APPROACH TIME (TAT)	30 SEC	
MAXIMUM TRAIN SPEED	25 MPH	
TIMES RATIO OF FT/SEC TO MPH	1.4667	
TOTAL (MINIMUM) APPROACH DISTANCE	1100 FT	

SIGNALS:
ALL LIGHTS TO BE L.E.D.
GATE #1 = 19'
GATE #2 = 20'

UNDERGROUND UTILITIES

TWO WORKING DAYS

BEFORE YOU DIG

CALL 1-800-362-2761 (TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE

NON-MEMBERS

MUST BE CALLED DIRECTLY

Whoollin & Lake Erie
Railway

LOCATION			RAVENNA ROAD STREETSBORO, OH		
			41.2067538,-81.3754562		
ORIGINAL DATE	02/22/2022	TITLE	SITE LAYOUT		
DESIGNER	RGPT	SUB	CLEVELAND	RGPT NO.	CN22024
DRAFTSMAN	RGPT	RRMP	Q - 28.35	SCALE	1"=20'
CHECKER	RGPT	DOT NO.	472 676K	SHEET	01 of 21

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TECHNOLOGY

9601 CAMP BOWIE W BLVD
FORT WORTH, TX 76116
(817) 886-8210
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REVISION
BLOCK

CONSTRUCTION NOTES

- 1.) INSTALL NEW 6' X 6' BUNGALOW IN SOUTHWEST QUADRANT.
- 2.) INSTALL (2) NEW FLASHING LIGHTS WITH GATES.
- 3.) INSTALL GATE #2 PARALLEL WITH TRACK.
- 4.) REALIGN CONCRETE BARRIERS.
- 5.) MOVE CULVERT ON SOUTH SIDE APPROX. 10' SOUTH
- 6.) APPROACH OVERLAPS SEASONS ROAD.
- 7.) METER POLE LOCATION SHOWN ON THE PLAN IS SUBJECT TO CHANGE WITHIN RAILROAD RIGHT-OF-WAY IF UNDERGROUND OBSTRUCTIONS PREVENT THE INSTALLATION OF THE POLE IN THE LOCATION SHOWN.
- 8.) BUNGALOW AND SIGNAL LOCATIONS SHOWN ON THE PLAN ARE SUBJECT TO CHANGE WITHIN RAILROAD RIGHT-OF-WAY IF UNDERGROUND OBSTRUCTIONS PREVENT THE INSTALLATION OF THE BUNGALOW/SIGNALS IN THE LOCATION SHOWN.

FOR REVIEW

									 RIO GRANDE PACIFIC TECHNOLOGY 9601 CAMP BOWIE W BLVD FORT WORTH, TX 76116 (817) 886-8210 WWW.RIO TECHNOLOGY.COM		Whoelling & Lake Erie Railway		
											LOCATION RAVENNA ROAD STREETSBORO, OH 41.2067538,-81.3754562		
									ORIGINAL DATE 02/22/2022		TITLE CONSTRUCTION NOTES		
									DESIGNER RGPT		SUB CLEVELAND		RGPT NO. CN22024
									DRAFTSMAN RGPT		RRMP Q - 28.35		SCALE N.T.S.
									CHECKER RGPT		DOT NO. 472 676K		SHEET 01A of 21

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CROSSING SIGNAL ALIGNMENT

LEGEND

Ⓐ	GATE #1 FRONT MAST LIGHTS
Ⓑ	GATE #1 BACK MAST LIGHTS
Ⓒ	GATE #2 FRONT MAST LIGHTS
Ⓓ	GATE #2 BACK MAST LIGHTS

ALIGNMENT

FRONT LIGHTS
ADJUST LIGHT UNIT VERTICALLY TO ALIGN AXIS OF BEAM 5FT. 6IN. ABOVE PAVEMENT AT SELECTED ALIGNMENT DISTANCE. BOTH LAMPS SHOULD BE ALIGNED TO SAME POINT.

ADJUST LIGHT UNIT HORIZONTALLY TO ALIGN AXIS OF BEAM TO CENTER OF APPROACH LANE IN APPROACH TO SIGNAL AT SELECTED ALIGNMENT DISTANCE, MAINTAINING VERTICAL ALIGNMENT. BOTH LAMPS SHOULD BE ALIGNED TO SAME POINT.

BACK LIGHTS
ADJUST LIGHT UNIT VERTICALLY TO ALIGN AXIS OF BEAM 5 FT. 6 IN. ABOVE PAVEMENT AT A POINT 50 FT. IN APPROACH TO THE SIGNAL ON OPPOSITE SIDE OF TRACK.

ADJUST LIGHT UNIT HORIZONTALLY TO ALIGN AXIS OF BEAM TO A POINT 50 FT. IN APPROACH TO THE SIGNAL ON OPPOSITE SIDE OF TRACK AND IN CENTER OF APPROACH TRAVEL WAY.



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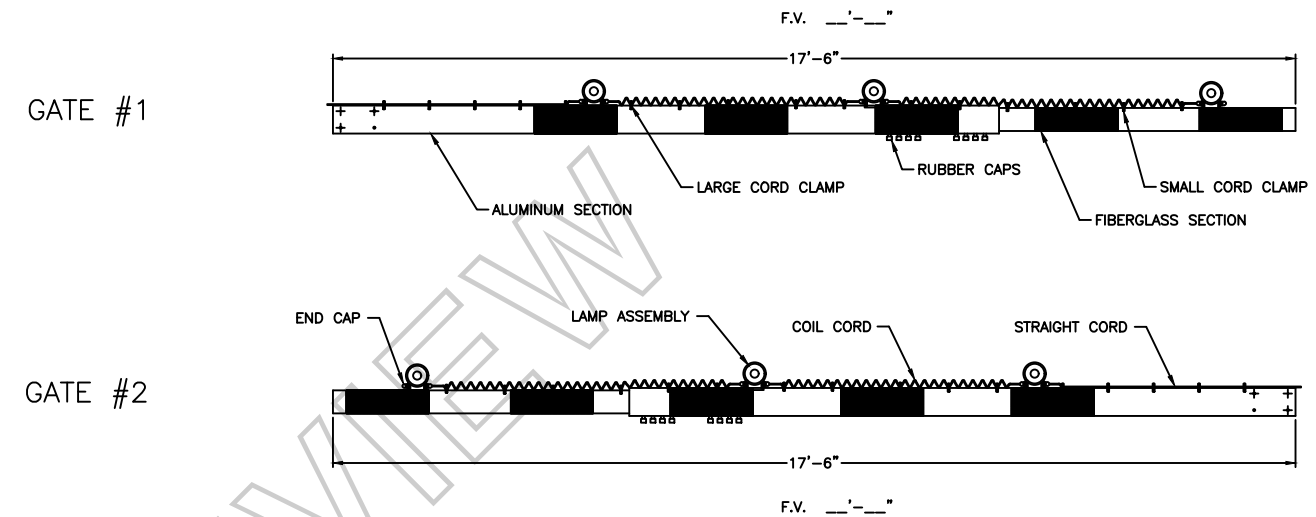
Whoollin & Lake Erie
Railway

LOCATION		
RAVENNA ROAD STREETSBORO, OH		
41.2067538,-81.3754562		
ORIGINAL DATE	02/22/2022	TITLE CROSSING SIGNAL ALIGNMENT
DESIGNER	RGPT	SUB CLEVELAND RGPT NO. CN22024
DRAFTSMAN	RGPT	RRMP Q - 28.35 SCALE N.T.S.
CHECKER	RGPT	DOT NO. 472 676K SHEET 02 of 21

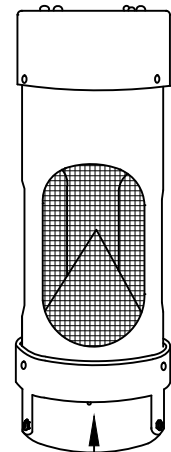
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BLOCK

SITE LAYOUT NOTES

1.) CROSSING IS LOCATED: LATITUDE 41.2067538
LONGITUDE -81.3754562



ELECTRONIC CROSSING BELL
GSI MODEL EB-3-360-5



THIS SIDE FACING-
ROADWAY

GATE #2

ALUMINUM SECTION

END CAP

LAMP ASSEMBLY

The diagram shows a cross-section of a gate assembly. A horizontal line represents the top surface. Below it, a thick black rectangular block is labeled 'ALUMINUM SECTION'. To the left of this block, a small circle with a dot in the center is labeled 'END CAP'. To the right of the aluminum section, a wavy line represents a seal or gasket, labeled 'LAMP ASSEMBLY'. The entire assembly is shown in a simplified, schematic style.



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Railway

LOCATION
RAVENNA ROAD
STREETSBORO, OH
41.2067538, -81.3754562

ORIGINAL DATE	02/22/2022	TITLE	SITE LAYOUT NOTES
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 28.35
CHECKER	RGPT	DOT NO.	472 676K
		SHEET	03 OF 21



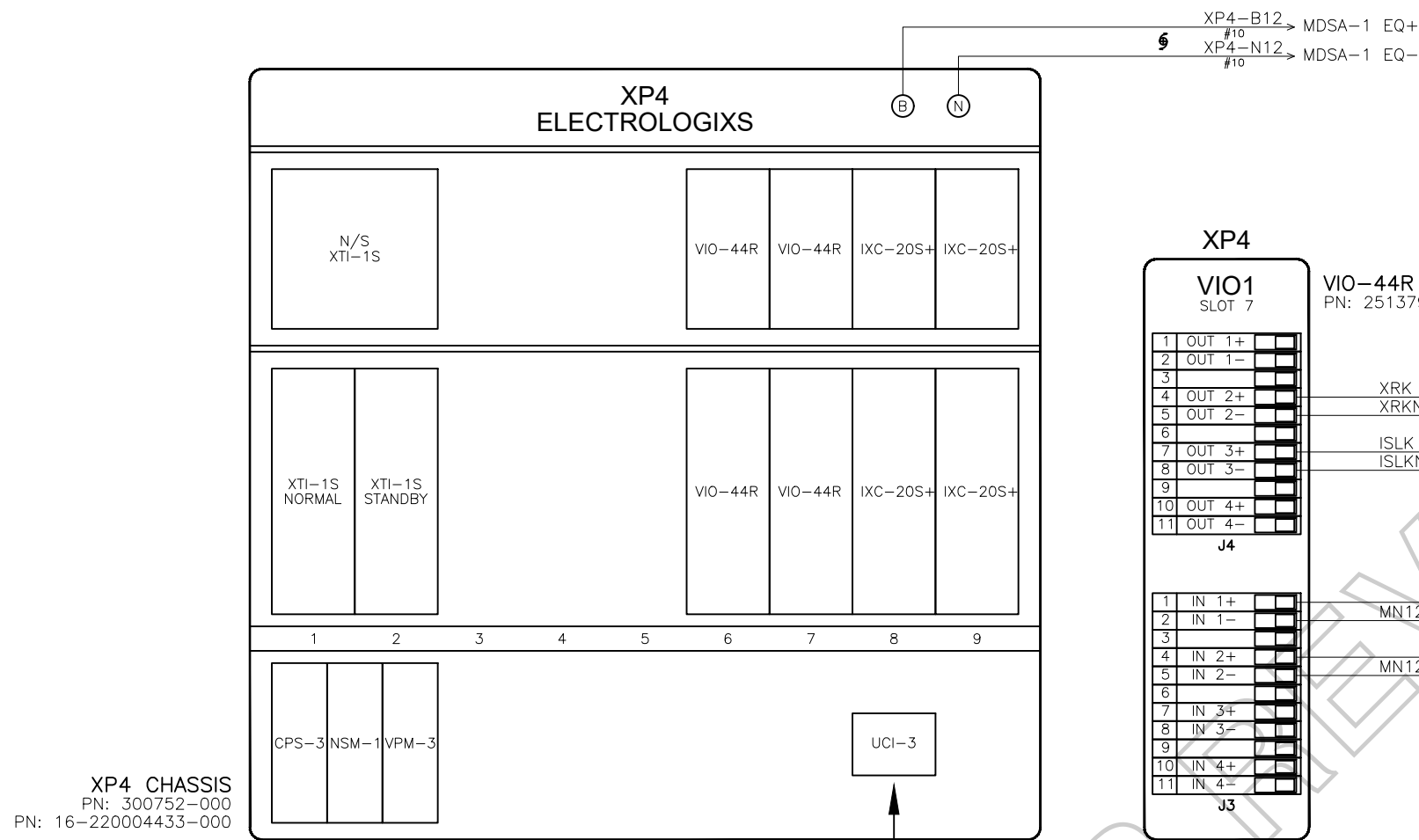
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LOCATION
RAVENNA ROAD
STREETSBORO, OH
41.2067538, -81.3754562

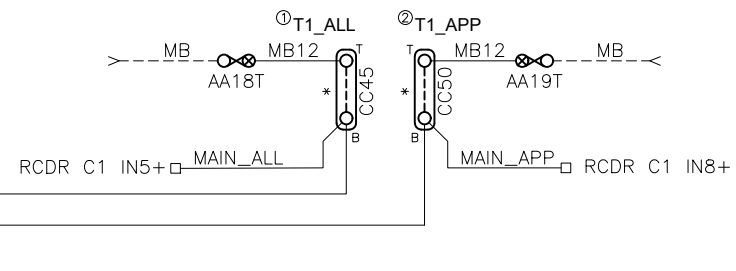
ORIGINAL DATE	02/22/2022	TITLE	SITE LAYOUT NOTES
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 28.35
CHECKER	RGPT	DOT NO.	472 676K
		SHEET	03 OF 21



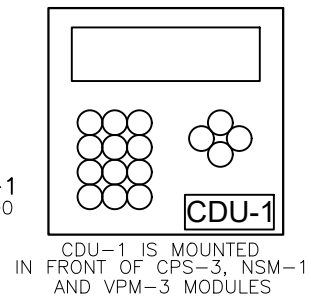
* PLACE JUMPER TO TAKE DESIGNATED FUNCTION OUT OF SERVICE

① "ALL" = HIGHWAY GRADE CROSSING WARNING SYSTEM REMOVED FROM SERVICE & NON-FUNCTIONAL.

② "APP" = ISLAND FUNCTION ONLY. HIGHWAY GRADE CROSSING WARNING SYSTEM APPROACHES REMOVED FROM SERVICE & NON-FUNCTIONAL.



CDU-1
PN: 251124-000



CHASSIS ID IS LOCATED BEHIND UCI-3

NOTE: ALL WIRING THIS SHEET #16 AWG UNLESS NOTED OTHERWISE.

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Whooling & Lake Erie
Railway

LOCATION RAVENNA ROAD STREETSBORO, OH 41.2067538,-81.3754562		
ORIGINAL DATE 02/22/2022	TITLE XP4/VIO CIRCUITS	
DESIGNER RGPT	SUB CLEVELAND	RGPT NO. CN22024
DRAFTSMAN RGPT	RRMP Q - 28.35	SCALE N.T.S.
CHECKER RGPT	DOT NO. 472 676K	SHEET 04 of 21

ADJUSTMENT NAME		MDR1				MDR2			
NAME		HIGHWAY CROSSING				HIGHWAY CROSSING			
WARNING TIME		25 SEC				25 SEC			
CW/MD		MD				CW			
AP TIME		00 SEC				00 SEC			
CWE-WT		00 SEC				00 SEC			
AUX RECOVERY DELAY		05 SEC				05 SEC			
		TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4
TRACK ASSIGNED		ASSIGN				ASSIGN			
OFFSET DISTANCE		0 FT				0 FT			
MD RESTART		*				*			
SUDDEN SHUNT ZONE		*				*			
POSITIVE START	PSEN	DISABLE				DISABLE			
	PSRX	NA				NA			
	PST	NA				NA			
POST JOINT DETECT	PJEN	DISABLE				DISABLE			
	PJRX	NA				NA			
	PJDT	NA				NA			

BASIC TRACK SETUP				
	TK1	TK2	TK3	TK4
FREQUENCY	430 HZ			
MASTER/SLAVE	MASTER			
RX ADJUST	100			
TCA	*			
DIRECTION MODE	BI			
LIA	*			
ADVANCED APR. CAL	INACTIVE			
NBS COMP RX	*			
TRK ISLAND ASSIGN	ISL1			
APPROACH LENGTH	1100 FT			
AUTO RX	ENABLE			

IXC SETUP				
CROSSING TEST MODE	OFF			
FLASH RATE	55FPM			
	IXC-1	IXC-2	IXC-3	IXC-4
VOLTAGE REGULATION	ON			
L1 VOLTAGE	* 10.0			
L2 VOLTAGE	* 10.0			
GATE 1 DELAY	3 SEC			
GATE 2 DELAY	3 SEC			

ADVANCED TRACK SETUP				
	TK1	TK2	TK3	TK4
MOTION DET TIMER	MDEN	DISABLE		
	MDTT	10 MIN		
FALSE SHUNT	FSEN	DISABLE		
	FSRX	NA		
	FST	NA		
APPROACH RELEASE	AREN	DISABLE		
	ARRX	NA		
	ART	NA		
LOS TIME		16 SEC		
IJ-LOS TIME		5 SEC		
NRML_SHHTR_VRSHRT		NRML *		

ISLAND SETUP				
	TK1	TK2	TK3	TK4
ENABLE/DISABLE	ENABLE			
FREQUENCY	4.0 KHZ			
LOSS OF SHUNT	4 SEC			
FAULT DELAY	1			

SHUNT RECORDS									
APPROACH 1 (EAST)		NO SHUNT		100% SHUNT		50% SHUNT		LIA ADDED	
		RX	PHASE	RX	PHASE		RX	PHASE	± 1 to ±9
Track 1	Normal								
	Standby								
Track 2	Normal								
	Standby								
APPROACH 2 (WEST)									
Track 1	Normal								
	Standby								
Track 2	Normal								
	Standby								

INITIAL VALUES WHEN PLACED IN SERVICE

APPLICATION SOFTWARE INFORMATION	
NAME	*
REV.	1
CHECKSUM	*
CRC	*
CHASSIS ID	*
LOCATED BEHIND UCI-3	CHASSIS ID
	1 2 3 4 5 6 7 8 ⦿ ⦿ ⦿ ⦿ ⦿ ⦿ ⦿ ⦿ □ □ □ □ □ □ □ □

- ⦿ = TAB INTACT
● = TAB PUNCHED OUT

EXECUTIVE INFORMATION		
VPM-3	VERSION	PART NUMBER
CROSSING SOFTWARE	*	083024-726

NOTES:
* = FIELD ADJUSTMENT
NA = NOT APPLICABLE

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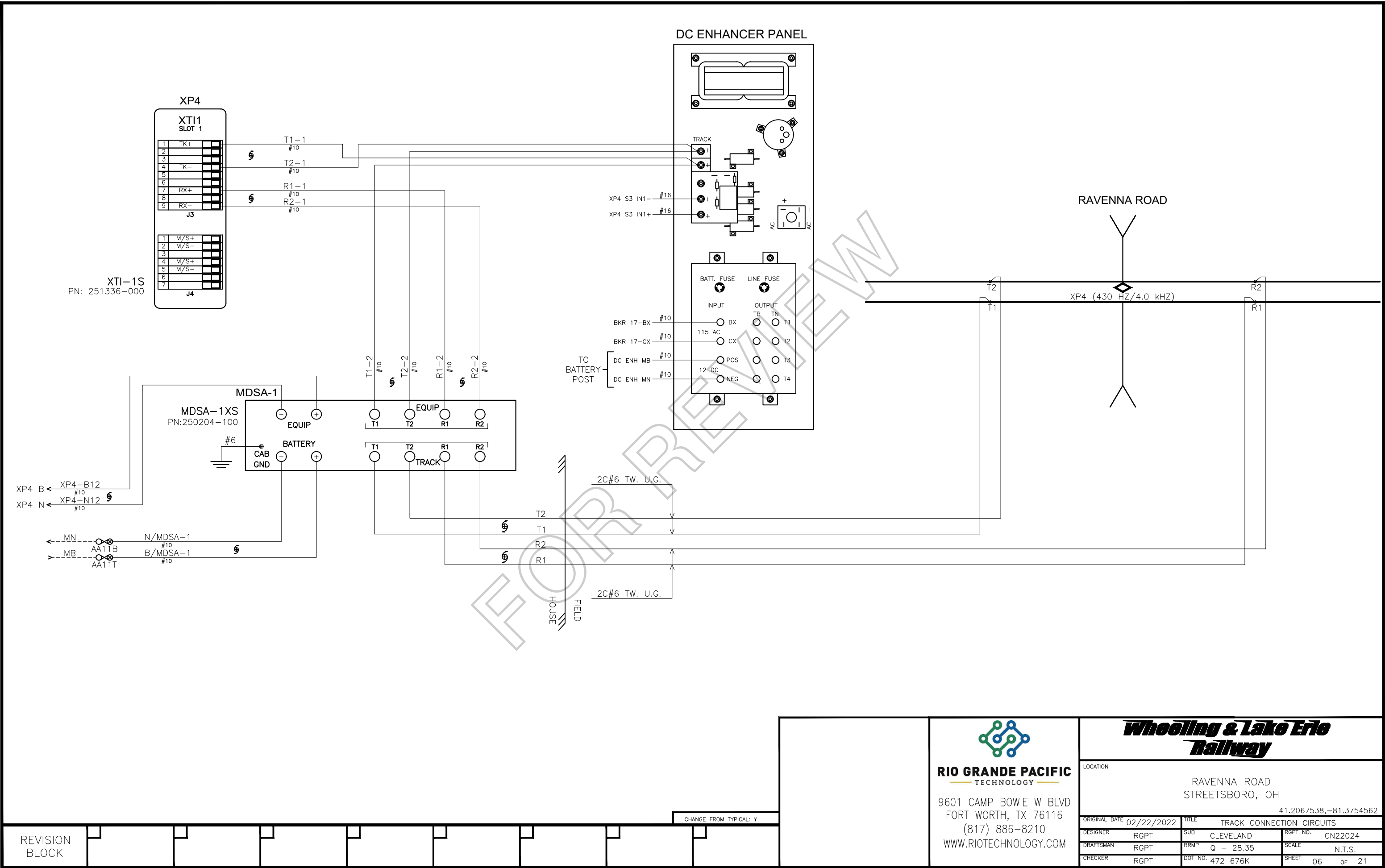


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Railway

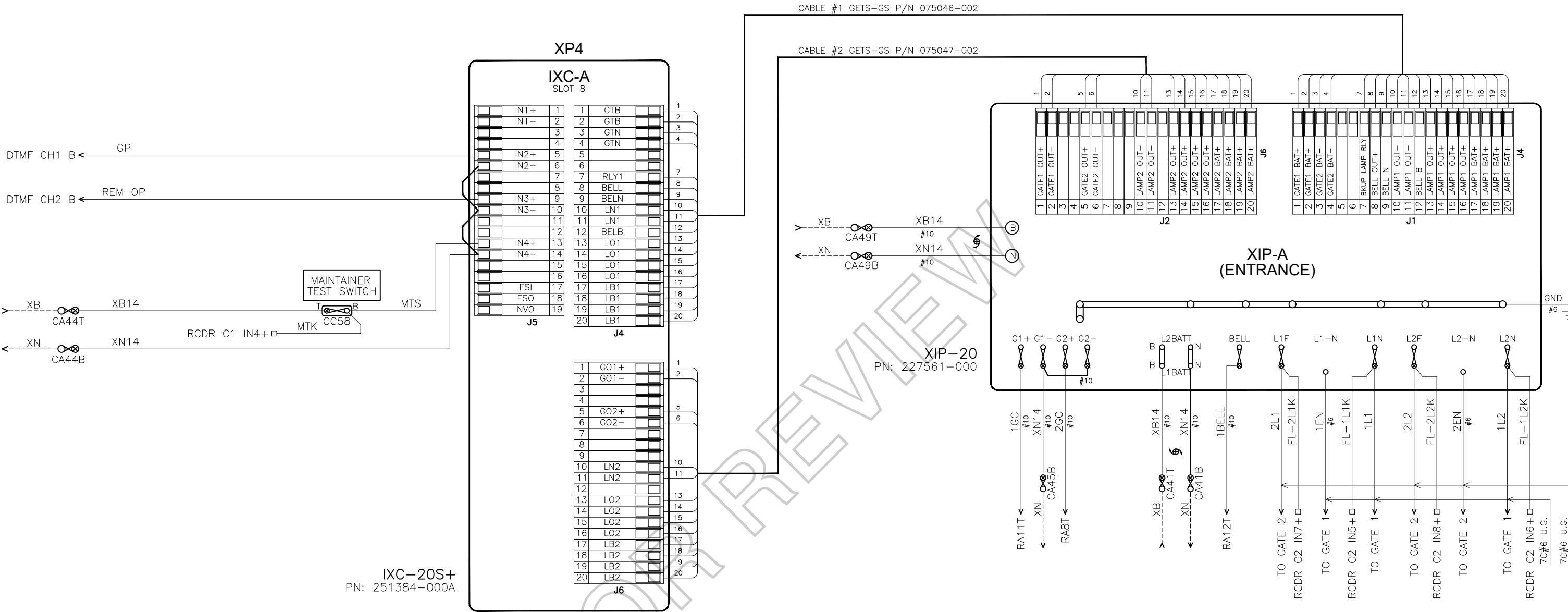
LOCATION		
RAVENNA ROAD STREETSBORO, OH		
41.2067538,-81.3754562		
ORIGINAL DATE	02/22/2022	TITLE XP4 SETUP SHEET
DESIGNER	RGPT	SUB CLEVELAND
DRAFTSMAN	RGPT	RGPT NO. CN22024
CHECKER	RGPT	RRMP Q - 28.35
		SCALE N.T.S.
		SHEET 05 of 21



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Whooling & Lake Erie Railway			
LOCATION			
RAVENNA ROAD STREETSBORO, OH			
41.2067538, -81.3754562			
ORIGINAL DATE	02/22/2022	TITLE	TRACK CONNECTION CIRCUITS
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 28.35
CHECKER	RGPT	DOT NO.	472 676K
		RGPT NO.	CN22024
		SCALE	N.T.S.
		SHEET	06 of 21



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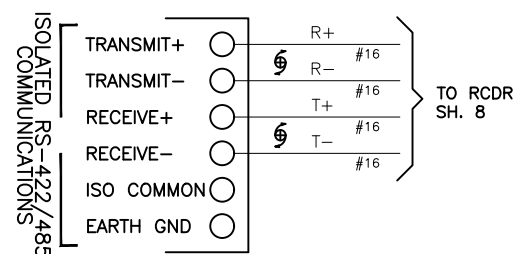
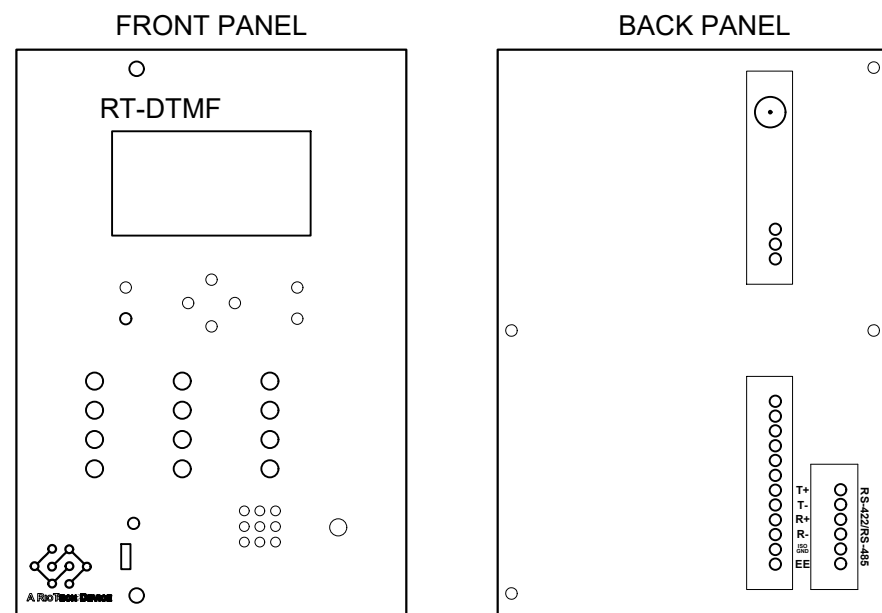


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Whooling & Lake Erie
Railway

LOCATION RAVENNA ROAD STREETSBORO, OH 41.2067538,-81.3754562		
ORIGINAL DATE 02/22/2022	TITLE ENTRANCE GATE CONTROL CIRCUIT	
DESIGNER RGPT	SUB CLEVELAND	RGPT NO. CN22024
DRAFTSMAN RGPT	RRMP Q - 28.35	SCALE N.T.S.
CHECKER RGPT	DOT NO. 472 676K	SHEET 07 of 21

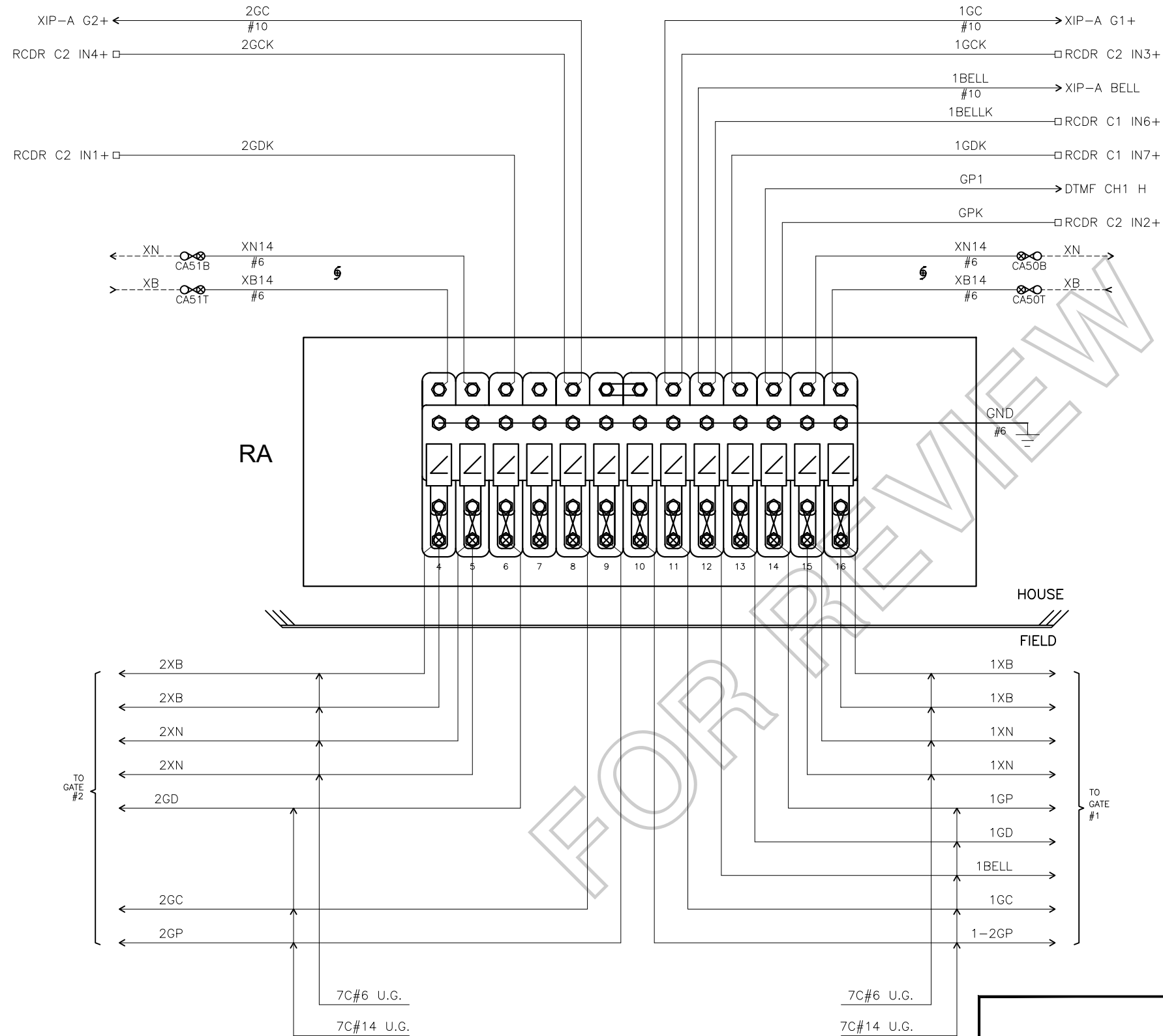


DTMF CONTROLS				
	CHANNEL 1	CHANNEL 2	CHANNEL 3	CHANNEL 4
ACTIVATION CODE	5781#	578#		
DEACTIVATION CODE	5781*	578*		
DTMF RECEIVE DEBOUNCE TIME	25 MS			
RECIEVE TIMEOUT	5000 MS			

CHANNEL SETTINGS				
	CHANNEL 1	CHANNEL 2	CHANNEL 3	CHANNEL 4
CHANNEL TIMEOUT	2 min	2 min		
CHANNEL INVERT	NO	NO	NO	NO

PLAYBACK SETTINGS				
	CHANNEL 1	CHANNEL 2	CHANNEL 3	CHANNEL 4
ACTIVATION RESPONSE	CHANNEL 1 ACTIVE	CHANNEL 2 ACTIVE	CHANNEL 3 ACTIVE	CHANNEL 4 ACTIVE
DEACTIVATION RESPONSE	CHANNEL 1 INACTIVE	CHANNEL 2 INACTIVE	CHANNEL 3 INACTIVE	CHANNEL 4 INACTIVE
TIMEOUT RESPONSE	CHANNEL 1 TIMEOUT	CHANNEL 2 TIMEOUT	CHANNEL 3 TIMEOUT	CHANNEL 4 TIMEOUT
AUDIO RESPONSE TIME	500 MS			
FORCE AUDIO RESPONSE TIME	1000 MS			

RADIO SETTINGS	
FREQUENCY	161.250 MHz
TX POWER	6
SQUELCH ON	-74.3
SQUELCH OFF	-74.3
AAR CHANNEL	76



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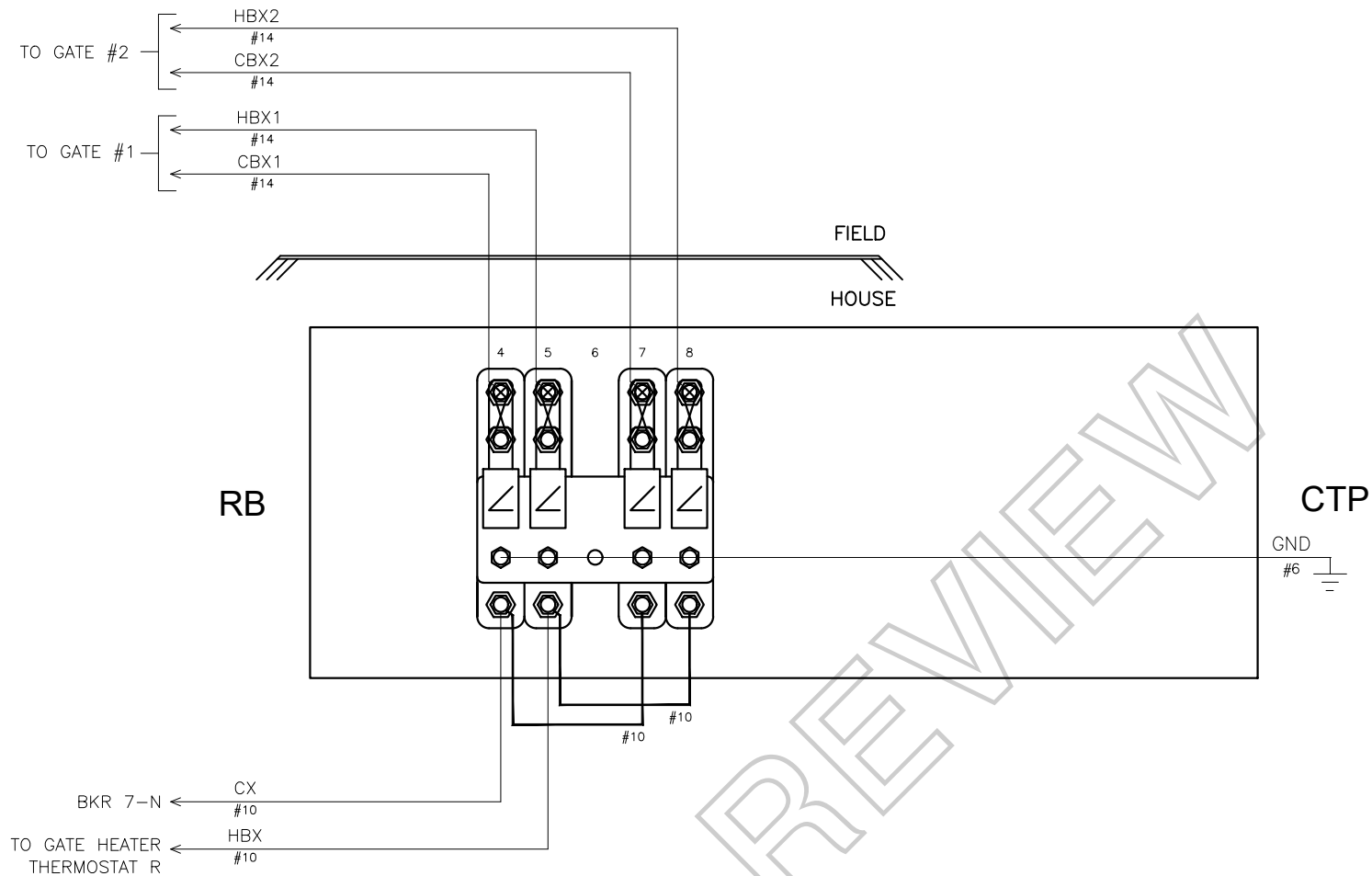


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**Whoollng & Lake Erie
Railway**

LOCATION			RAVENNA ROAD STREETSBORO, OH		
ORIGINAL DATE			41.2067538,-81.3754562		
DESIGNER			ARRESTOR PANEL		
DRAFTSMAN			RGPT		
CHECKER			RGPT		
SUB			CLEVELAND		
RRMP			Q - 28.35		
DOT NO.			N.T.S.		
SHEET			10 of 21		



LEGEND:

 = INSULATED NUT

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**Whooling & Lake Erie
Railway**

LOCATION			RAVENNA ROAD STREETSBORO, OH		
ORIGINAL DATE			41.2067538,-81.3754562		
DESIGNER			CABLE TERMINATION PANEL		
DRAFTSMAN			RGPT		
CHECKER			RGPT		
SUB			CLEVELAND		
RRMP			Q - 28.35		
DOT NO.			N.T.S.		
SHEET			11 of 21		

CONTACT	CLOSED	FUNCTION	TENSION
1B	75-90 DEG.	POWER DOWN	18-28 OZ.
1F	0-70 DEG.	SNUB DOWN	18-28 OZ.
2	0-86 DEG.	POWER UP	18-28 OZ.
3	0-10 DEG.	GATE DOWN	16-24 OZ.
4	82-90 DEG.	GATE CLEAR	16-24 OZ.
5	10-90 DEG.	BELL	16-24 OZ.
6	SPARE	SPARE	16-24 OZ.
7	0-2 DEG.	SNUB	16-24 OZ.

LEGEND:

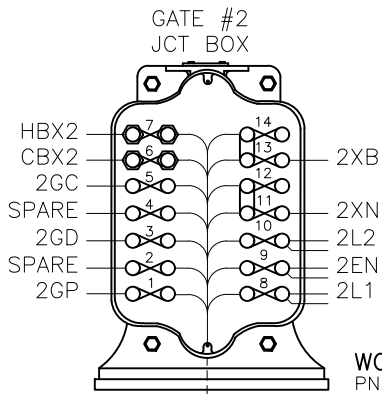
 = INSULATED NUT

NOTES:

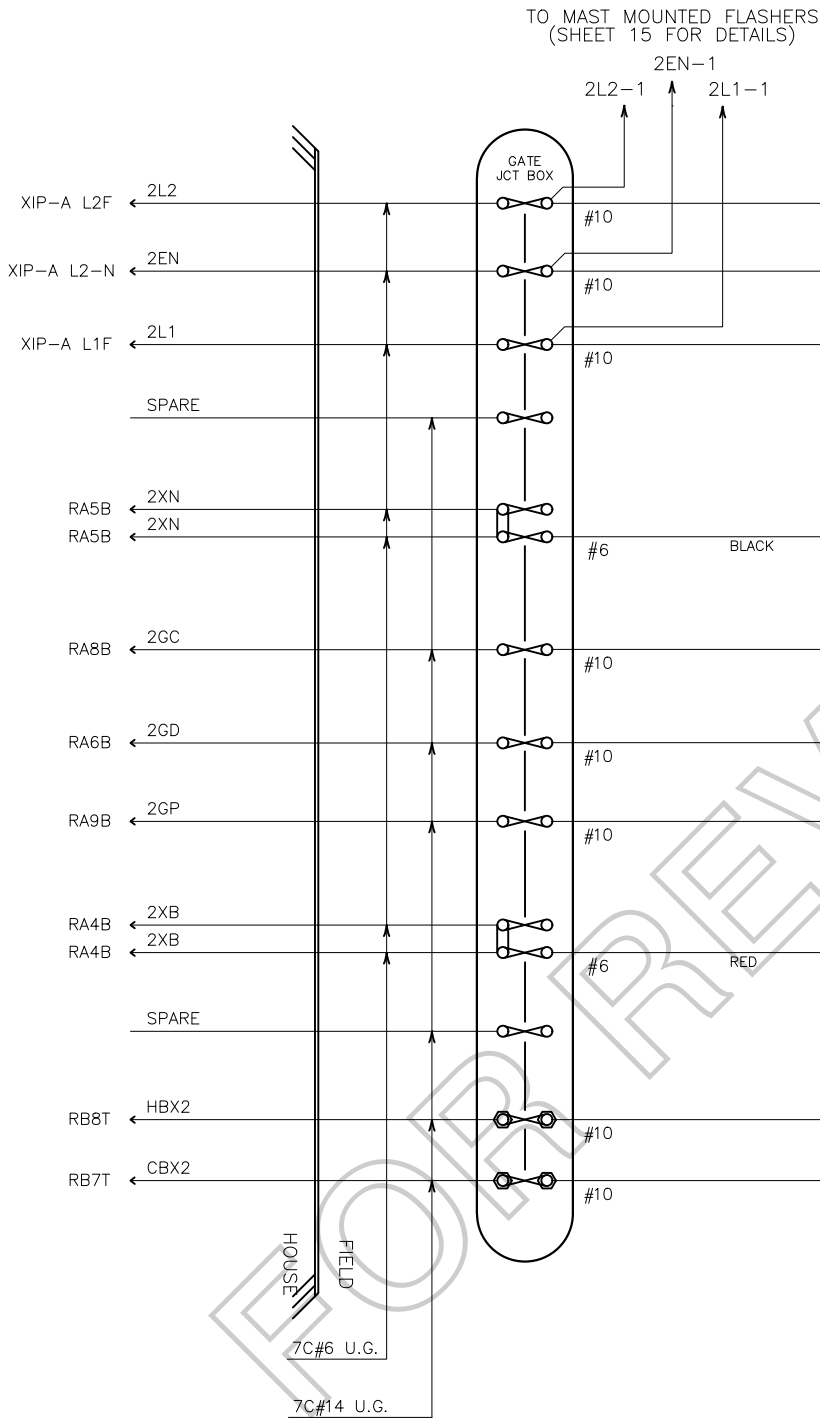
* BELL TO BE ELECTRONIC.
 = INTERNAL GATE WIRES THAT SHARE ELECTRICAL CONNECTIONS WITH OTHER WIRES THAT ARE ASSIGNED THE SAME NUMBER.

REFER TO SHEET 15 FOR GATE ARM LIGHT WIRING

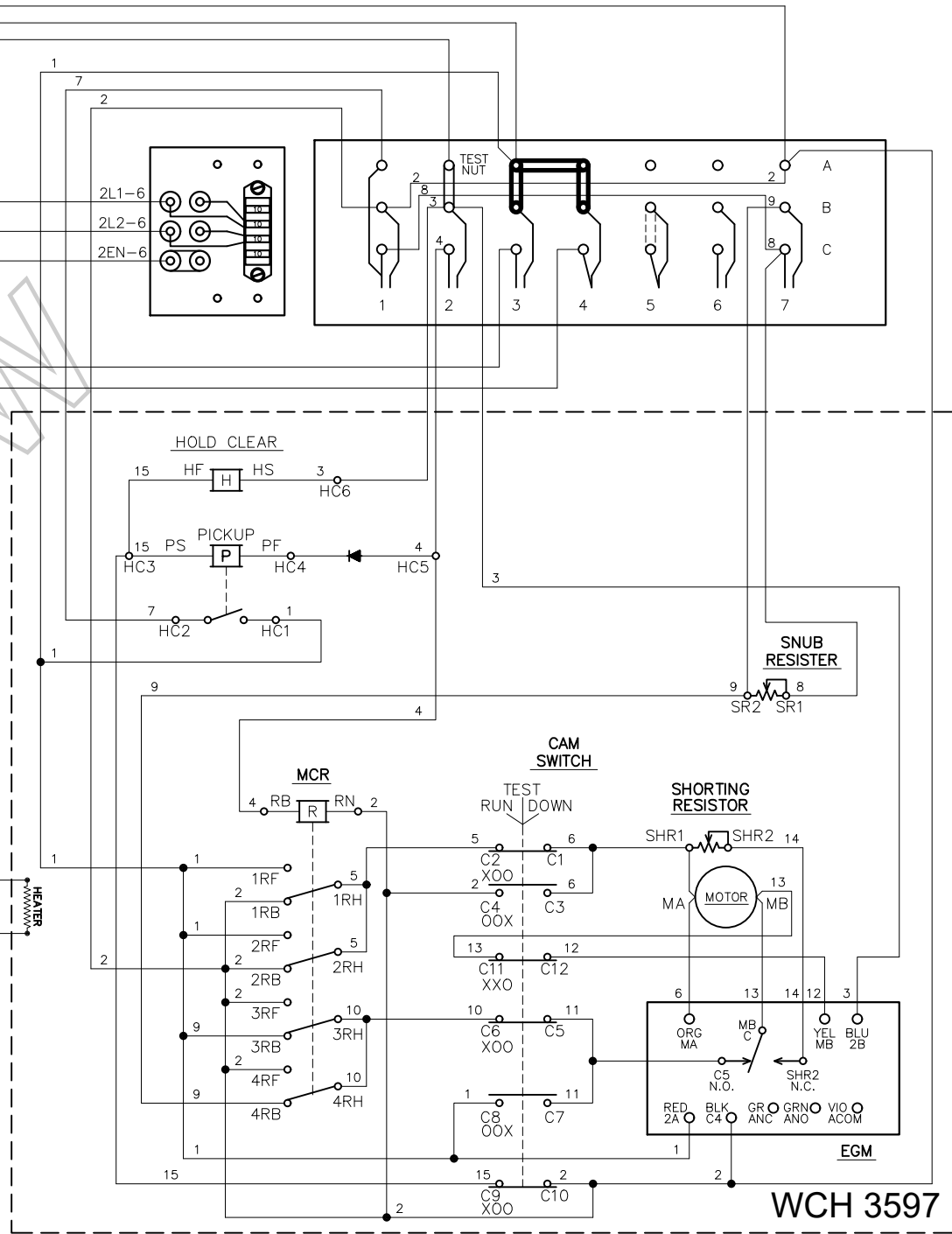
ADD BOLD STRAPS AND JUMPERS AS SHOWN.



WCH Junction box base
PN: 2149-A-139



GATE #2



WCH 3597

PN: 3597-131-P-H-MI

REVISION
BLOCK

CHANGE FROM TYPICAL: Y



RIO GRANDE PACIFIC
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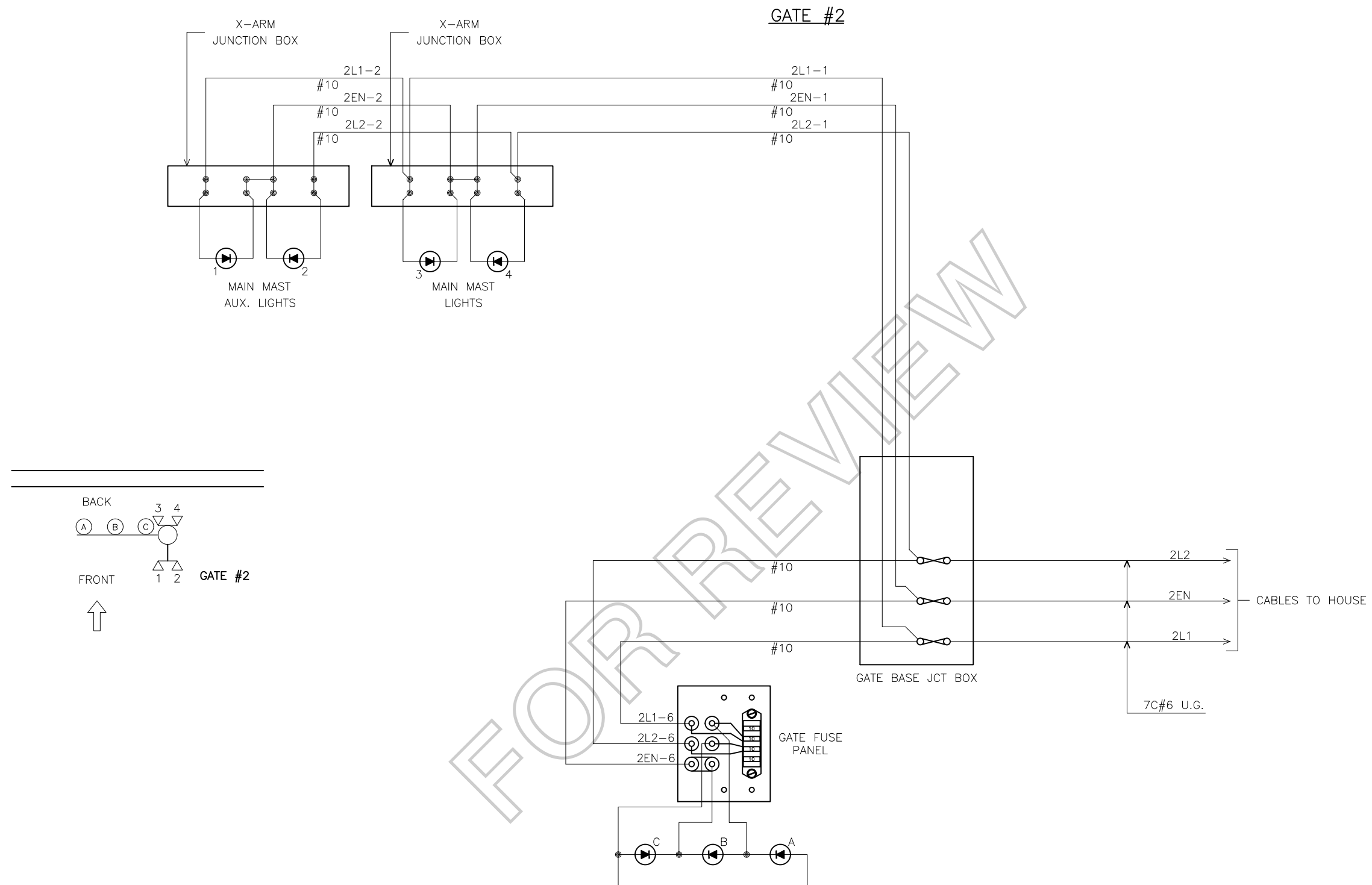
Wheeling & Lake Erie
Railway

LOCATION

RAVENNA ROAD
STREETSBORO, OH

41.2067538,-81.3754562

ORIGINAL DATE	02/22/2022	TITLE	GATE #2 MECHANISM (FAR SIDE)
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 28.35
CHECKER	RGPT	DOT NO.	472 676K
		RGPT NO.	CN22024
		SCALE	N.T.S.
		SHEET	14 of 21



NOTE:

* USE ATC 10 AMP FUSES ONLY

⬡ IS LED SYMBOL ONLY. INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

REVISION
BLOCK

CHANGE FROM TYPICAL: Y



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Railway

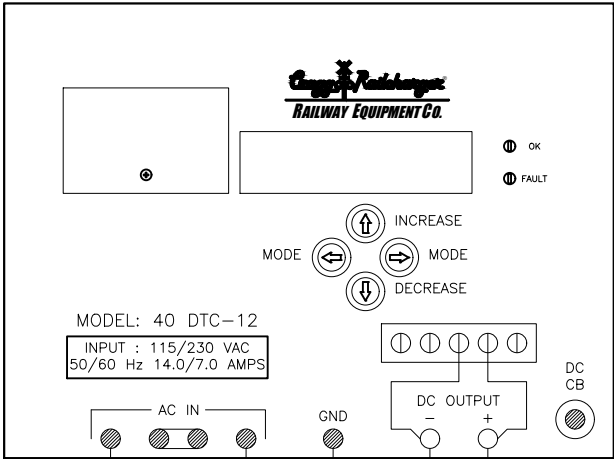
LOCATION

RAVENNA ROAD
STREETSBORO, OH

41.2067538,-81.3754562

ORIGINAL DATE	02/22/2022	TITLE	GATE #2 LIGHTS (FAR SIDE)
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 28.35
CHECKER	RGPT	DOT NO.	472 676K
		RGPT NO.	CN22024
		SCALE	N.T.S.
		SHEET	15 of 21

MB-CHARGER
(SIDE "A" WALL)



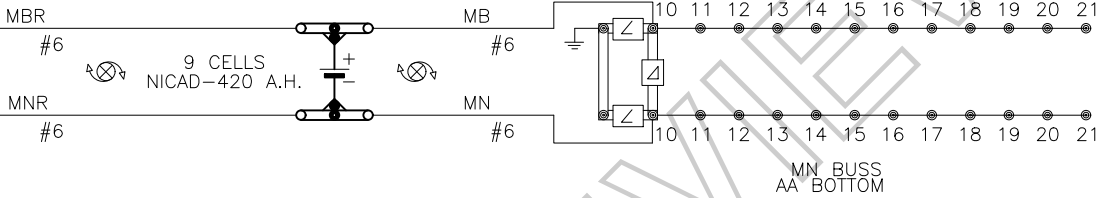
BASIC SETUP			
NO.	ABBREVIATION	DEFAULT SETTING	DESIRED SETTING
1	PASSWORD	5	5
2	USER LEVEL	BASIC	BASIC
3	BATTERY TYPE	LEAD ACID OR NI-CAD	NI-CAD
4	NUMBER OF CELLS	-	9
5	VOLTS PER CELL	-	1.42

BATTERY BUSS DETAILS

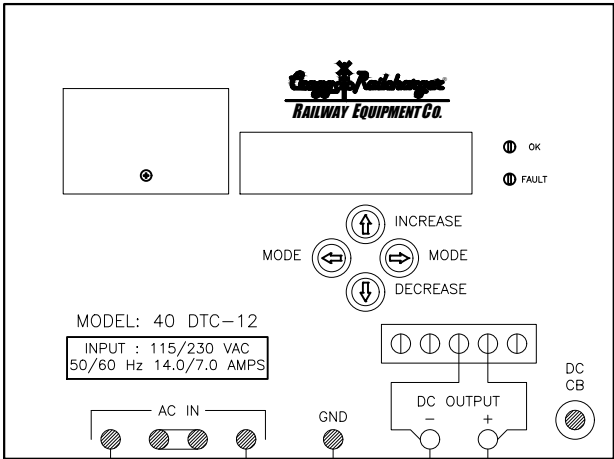
SPARE	21	SPARE
SPARE	20	SPARE
CC50T	19	XP4 S7 IN2-
CC45T	18	XP4 S7 IN1-
DB1T	17	DB3T
SPARE	16	RCDR C1 IN8-
SPARE	15	RCDR C1 IN5-
RCDR C1 IN10+	14	RCDR C1 IN10-
RCDR CPU BATT+	13	RCDR CPU BATT-
DTMF BATT+	12	DTMF BATT-
MDSA-1 B+	11	MDSA-1 B-
MB BATT+	10	MN BATT-

MB BUSS (TOP) AA MN BUSS (BOTTOM)

MB-BATTERY



XB-CHARGER
(SIDE "C" WALL)



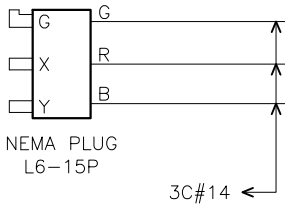
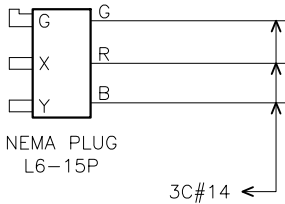
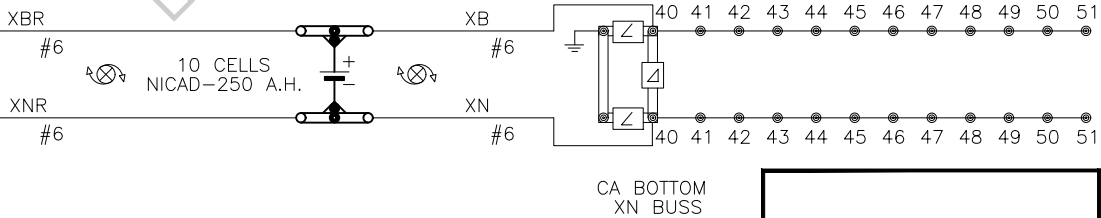
BASIC SETUP			
NO.	ABBREVIATION	DEFAULT SETTING	DESIRED SETTING
1	PASSWORD	5	5
2	USER LEVEL	BASIC	BASIC
3	BATTERY TYPE	LEAD ACID OR NI-CAD	NI-CAD
4	NUMBER OF CELLS	-	10
5	VOLTS PER CELL	-	1.42

BATTERY BUSS DETAILS

RA4T	51	RA5T
RA16T	50	RA15T
XIP-A B	49	XIP-A N
SPARE	48	SPARE
SPARE	47	SPARE
SPARE	46	SPARE
DTMF CH2 H	45	XIP-A G1-
CC58T	44	XP4 S8 IN4-
FD COM	43	RCDR C2 IN9-
RCDR C1 IN9+	42	RCDR C1 IN9-
XIP-A L1B-B	41	XIP-A L1B-N
XB BATT+	40	XN BATT-

XB BUSS (TOP) CA XN BUSS (BOTTOM)

XB-BATTERY



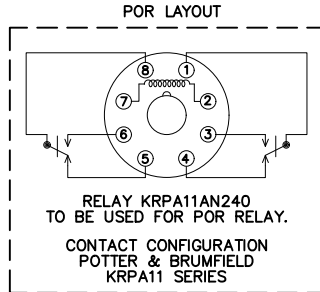
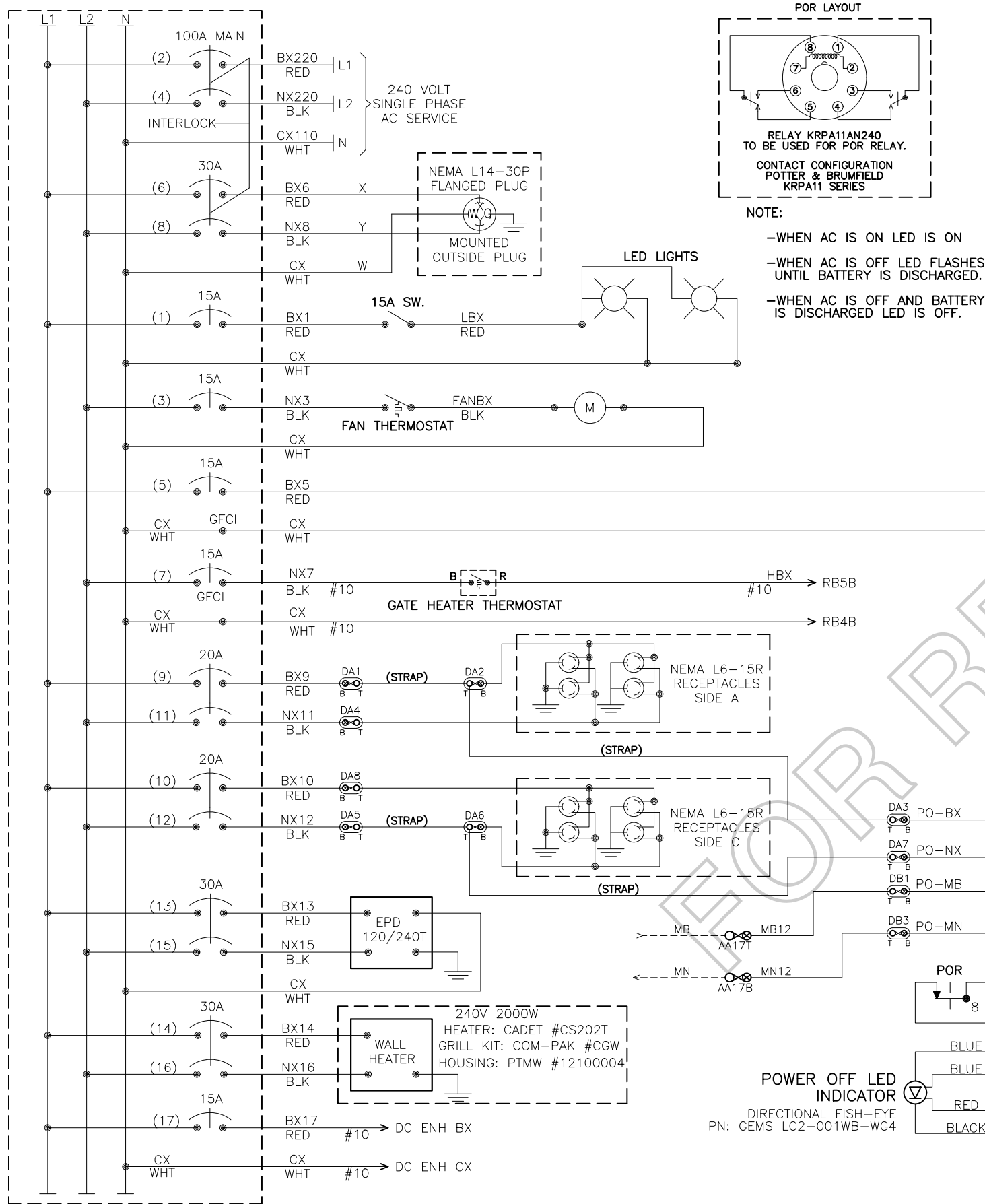
REVISION
BLOCK

CHANGE FROM TYPICAL: Y

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Whooling & Lake Erie
Railway

LOCATION RAVENNA ROAD STREETSBORO, OH 41.2067538,-81.3754562		
ORIGINAL DATE 02/22/2022	TITLE BATTERY CHARGERS	
DESIGNER RGPT	SUB CLEVELAND	RGPT NO. CN22024
DRAFTSMAN RGPT	RRMP Q - 28.35	SCALE 1"=2'
CHECKER RGPT	DOT NO. 472 676K	SHEET 16 of 21



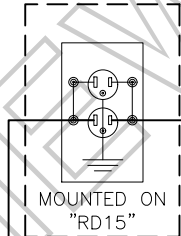
NOTE:

- WHEN AC IS ON LED IS ON
- WHEN AC IS OFF LED FLASHES UNTIL BATTERY IS DISCHARGED.
- WHEN AC IS OFF AND BATTERY IS DISCHARGED LED IS OFF.

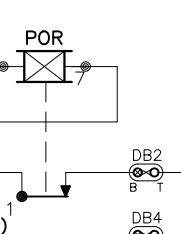
NOTES:

- 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 ARRESTOR UNITS MOUNTED ON THE BREAKER BOX WHICH HAVE TWO BLACK AND ONE WHITE WIRE EACH.
- MINIMUM WIRE SIZE:
10 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 (GFC) MUST BE USE ON ALL CIRCUITS SERVING CONVENIENCE OUTLETS AND ANY EQUIPMENT OUTSIDE THE BUNGALOW. RECEPTACLE MOUNTED GFCI MAY BE USE INSTEAD OF BREAKER TYPE.
- ALL GROUND WIRES RUN TO BREAKER BOX GROUND BUS

DUPLEX RECEPTACLES



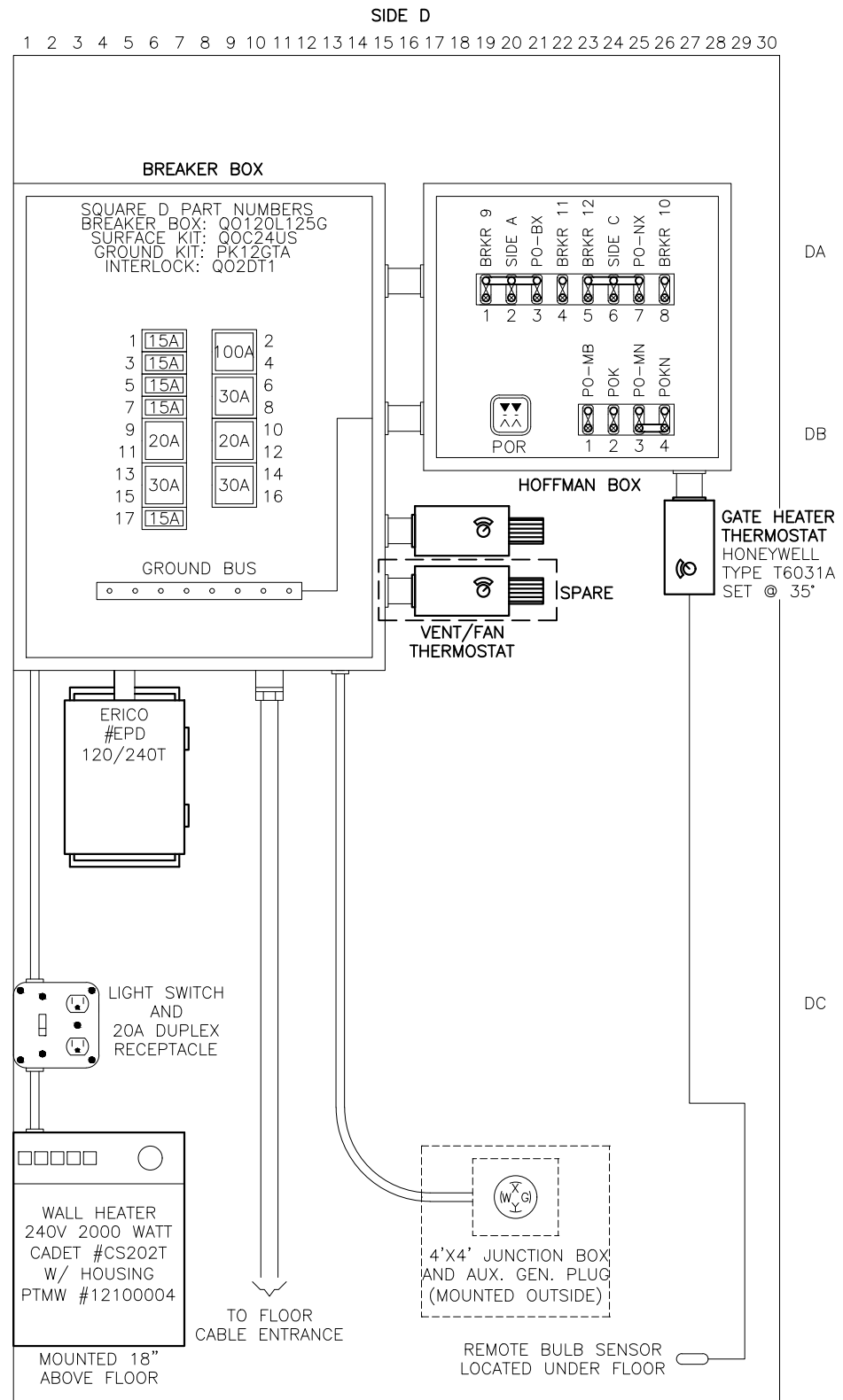
DUPLEX RECEPTACLES



POWER OFF LED INDICATOR

DIRECTIONAL FISH-EYE

PN: GEMS LC2-001WB-WG4



REVISION
BLOCK

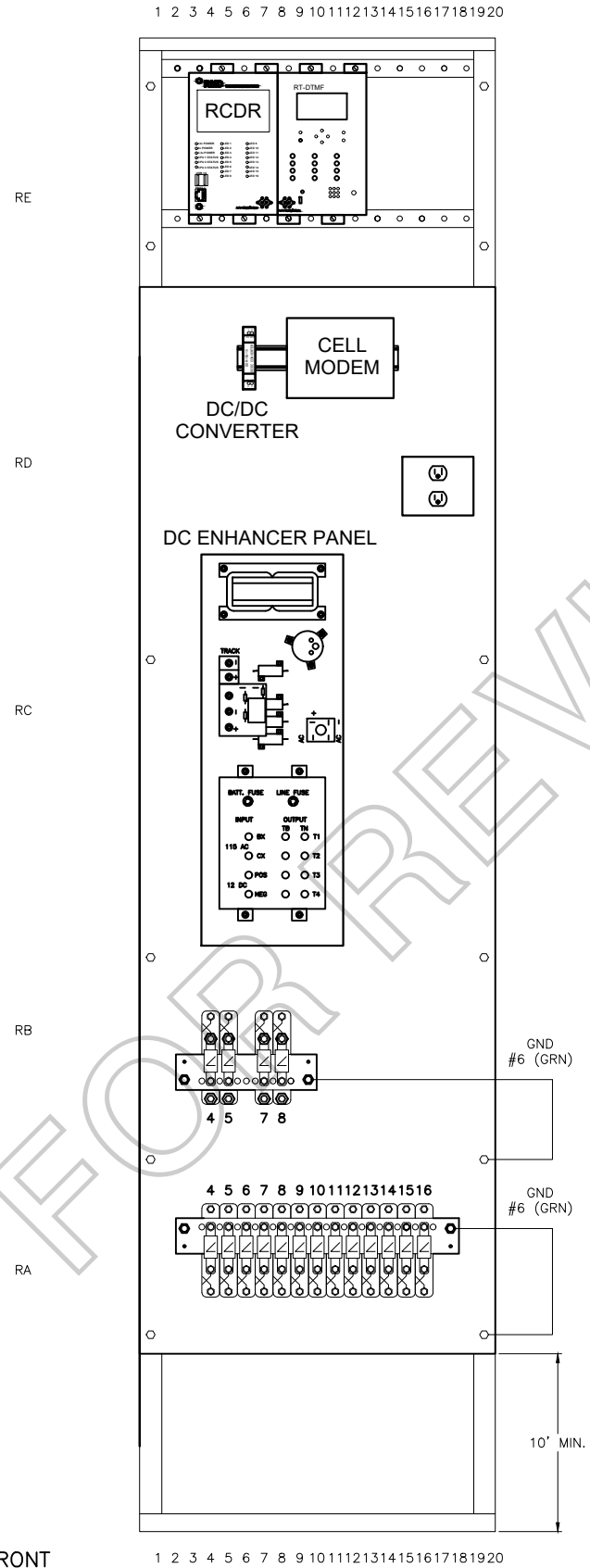
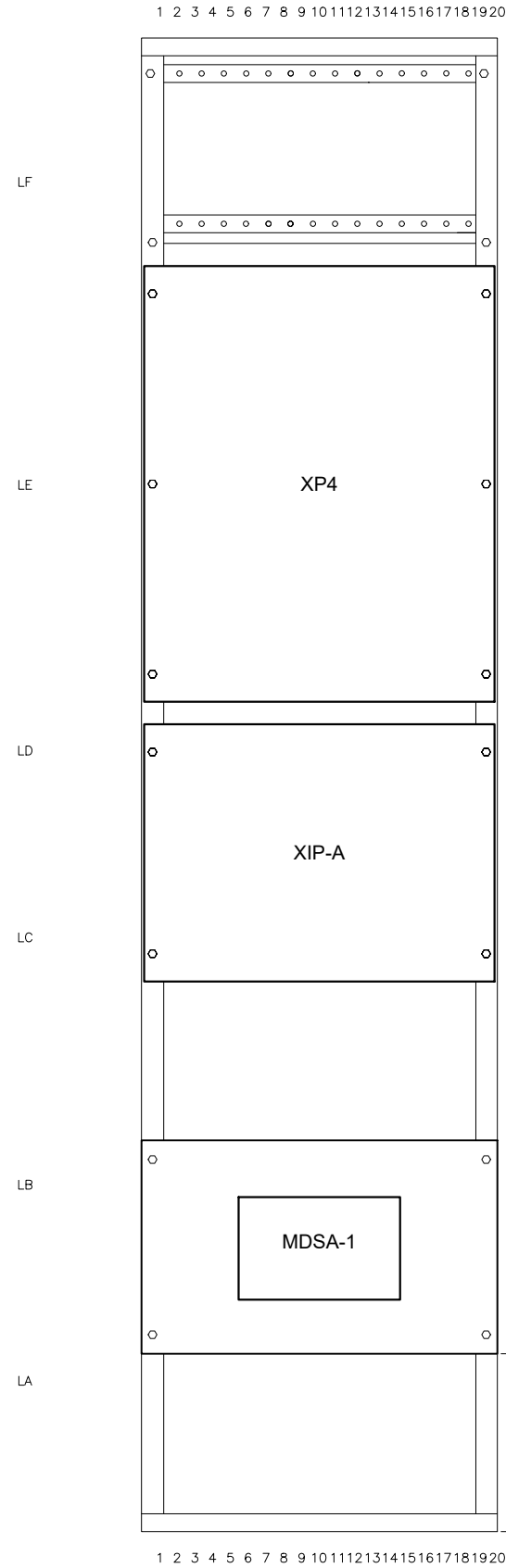
CHANGE FROM TYPICAL: N

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Whooling & Lake Erie
Railway

LOCATION			RAVENNA ROAD STREETSBORO, OH		
ORIGINAL DATE			41.2067538,-81.3754562		
DESIGNER			AC POWER DISTRIBUTION		
DRAFTSMAN			RGPT		
CHECKER			CN22024		
SUB			1"=2'		
RRMP			SHEET		
DOT NO.			17 of 21		
472 676K					



SIDE 'B' FRONT

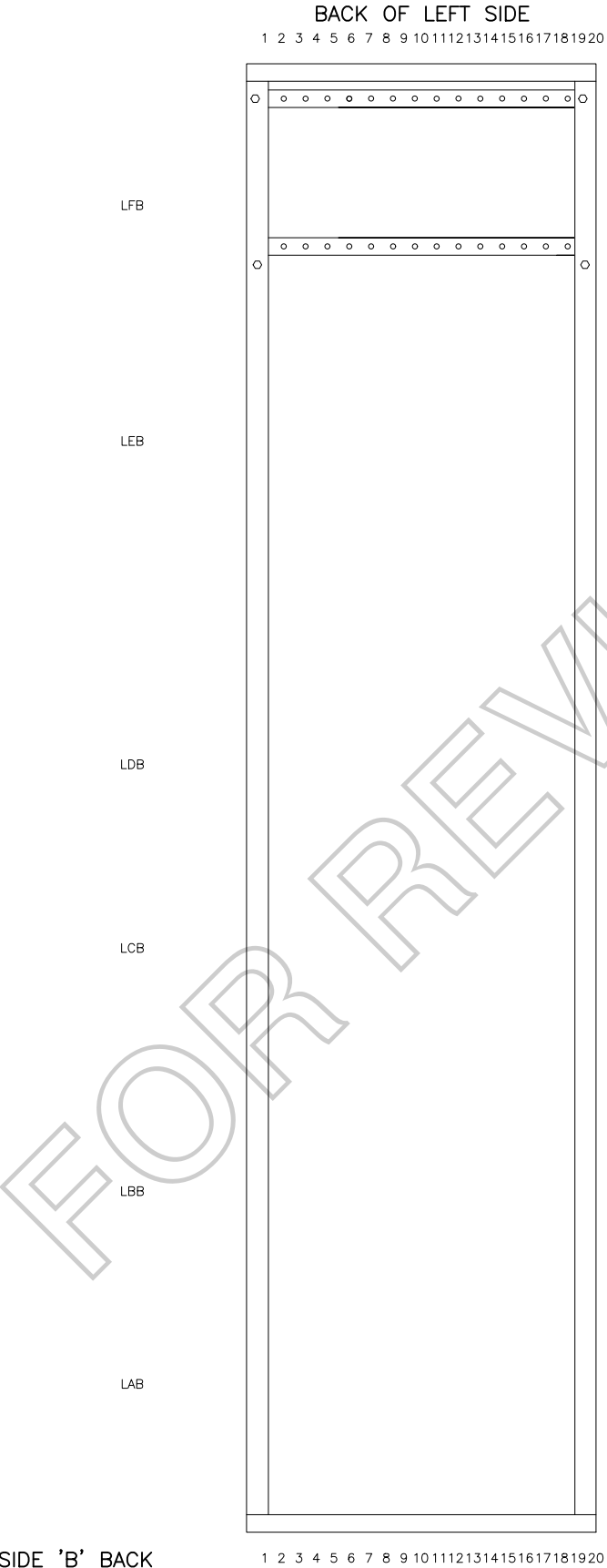
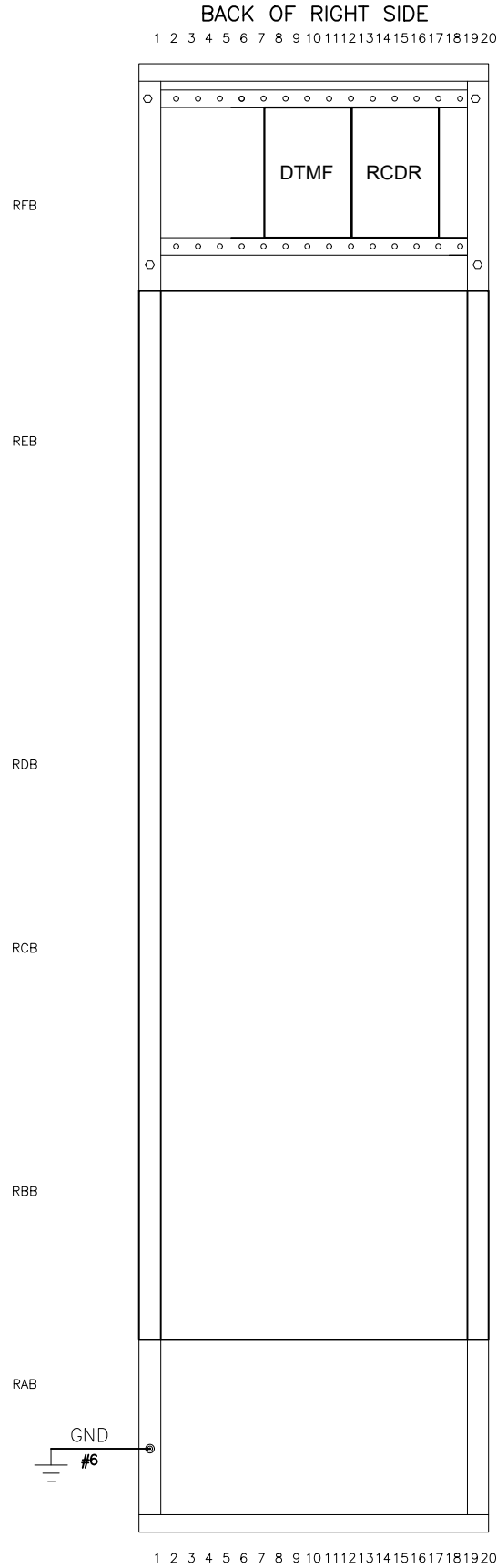
CHANGE FROM TYPICAL: Y

REVISION
BLOCK


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Wheeling & Lake Erie
Railway

LOCATION			RAVENNA ROAD STREETSBORO, OH		
ORIGINAL DATE			41.2067538,-81.3754562		
DESIGNER			RACK FRONT VIEW		
DRAFTSMAN			RGPT		
CHECKER			RGPT		
SUB			CLEVELAND		
RRMP			Q - 28.35		
DOT NO.			472 676K		
RGPT NO.			CN22024		
SCALE			1"=2'		
SHEET			18 of 21		



SIDE 'B' BACK

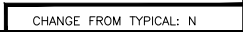
CHANGE FROM TYPICAL: Y

REVISION
BLOCK

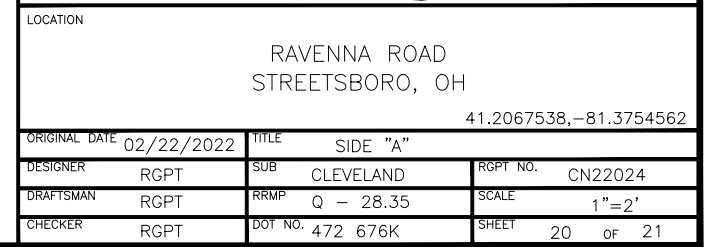

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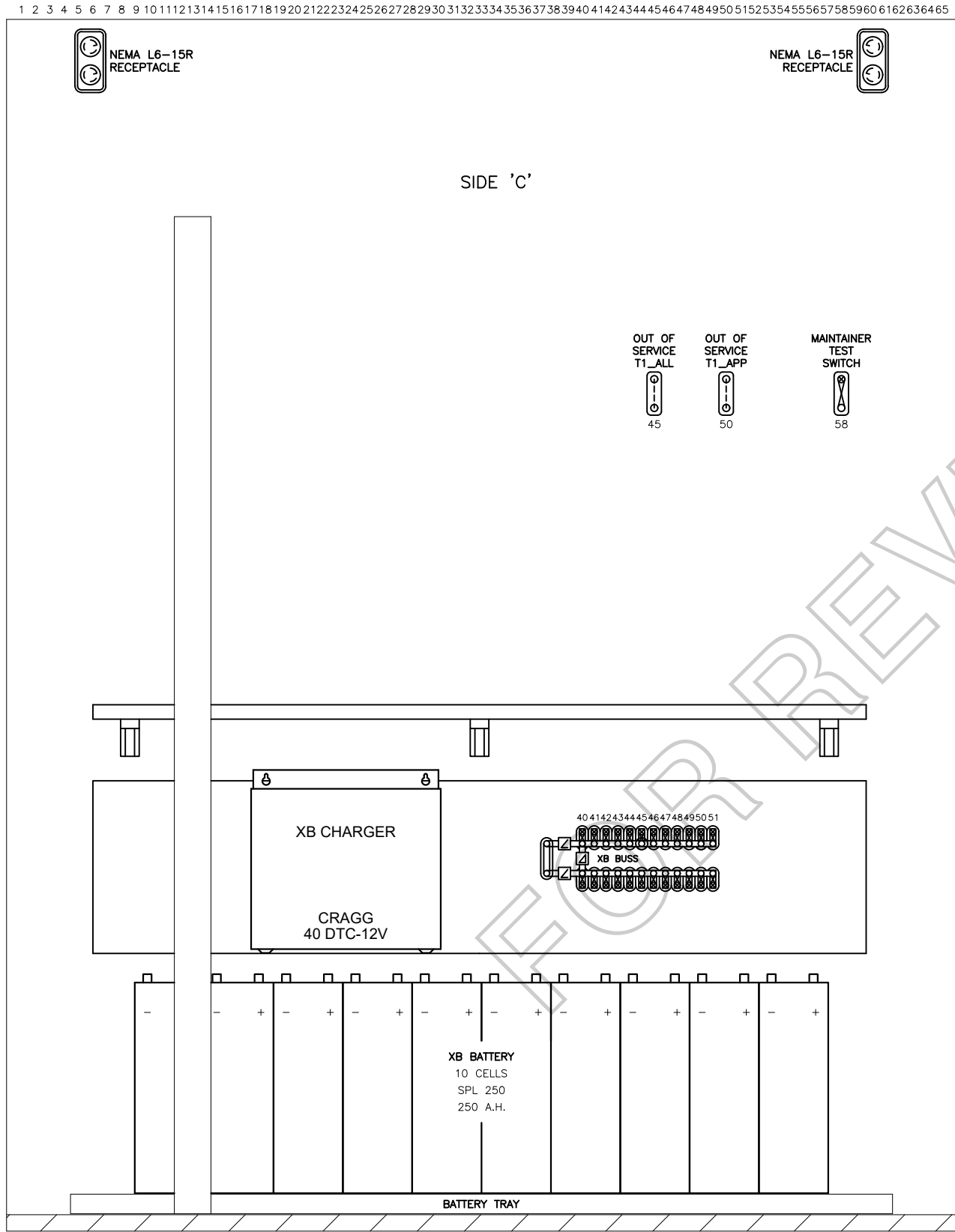
**Wheeling & Lake Erie
Railway**

LOCATION			RAVENNA ROAD STREETSBORO, OH
			41.2067538,-81.3754562
ORIGINAL DATE	02/22/2022	TITLE	RACK BACK VIEW
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 28.35
CHECKER	RGPT	DOT NO.	472 676K
		RGPT NO.	CN22024
		SCALE	1"=2'
		SHEET	19 of 21



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NOTE:
ANTENNA TO BE PLACED IN
AERIAL CABLE ENTRY PROVIDED.

DTMF ANTENNA

THIS SIDE TO TRACKS
SIDE "C"

NOTE:
P.O.I. MOUNTED ON SIDE OF HOUSE
PARALLEL TO TRACK

GPS ANTENNA

GROUND
STUD

6' X 6' ALUMINUM
BUNGALOW
PTMW PN:91000564 D-1

SIDE "B"

SIDE "D"

CELL ANTENNA

SIDE "A"
THIS SIDE TO FIELD

REVISION
BLOCK

CHANGE FROM TYPICAL: N



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**Whoollng & Lake Erie
Railway**

LOCATION RAVENNA ROAD STREETSBORO, OH 41.2067538,-81.3754562			
ORIGINAL DATE	02/22/2022	TITLE	SIDE "C"
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 28.35
CHECKER	RGPT	DOT NO.	472 676K
		RGPT NO.	CN22024
		SCALE	1"=2'
		SHEET	21 of 21

WHEELING & LAKE ERIE RAILWAY COMPANY

Tim Andrews
Signal & Communication Supervisor
Tel. 330-767-7255

tandrews@wlerwy.com

100 East First Street
Brewster, OH 44613
Fax: 330-767-3213

April 8, 2022

Ohio Rail Development Commission
Mr. James Tucker
1980 West Broad Street, Room 2B
Columbus, OH 43223

RE: Estimate for PID: 116026 - Railroad Crossing Warning System at Ravenna Rd. 472-676K

Dear Mr. Tucker,

I am providing this estimate for the crossing package and installation at Ravenna Rd. Installation and ordering of material will be performed under our continuing construction agreement with Rio Tech.

Engineering Services/Labor, RioTech(breakout attached)	\$254,207.30
Preliminary Installation Services, Crosier (breakout attached)	\$34,781.02
Electric Service	\$7,500.00
WLE Direct Signal Labor	\$7,500.00
Galvanized signal foundations	\$3,400.00
TOTAL	\$307,388.32

Please contact me if additional details are required.

Respectfully,



Tim Andrews

Notes

1: Direct purchase from Fabricated Metals, 60' galvanized gate foundation, \$1700.00 ea.

Crosier Industrial Construction Ltd

8938 Peck Rd
Ravenna, Ohio 44266
Ph (330) 592-3082
trailrnbob@hotmail.com

Crosier Industrial Construction, LLC

Date 4-Apr-22

Project COST ESTIMATE

Invoice Number TBD

Project: Ravenna Road

Work Auth: WLE Tim Andrews

LABOR		Rate/Hr	Hours	Total
Equipment Operator (backhoe, excavator)	ST	\$ 28.00	88	\$ 2,464.00
	OT	\$ 40.50		\$ -
Laborer, skilled	ST	\$22.00	88	\$ 1,936.00
	OT	\$31.50		\$ -
Project Manager		\$50.00	88	\$ 4,400.00
Administrative		\$30.00	1	\$ 30.00
Sub-Total				\$ 8,830.00
G&A Burden for Labor				\$ 6,298.00
Total Labor				\$ 14,128.00
EQUIPMENT		Rate/hr	Hours	Total
E-55		\$ 47.50	78	\$ 3,705.00
E-32		\$ 33.90		\$ -
Dump Truck		\$ 43.20	14	\$ 491.20
Directional Drill		\$ 67.50	10	\$ 675.00
Digger Derrick		\$ 58.24	4	\$ 232.96
Truck		\$ 25.60	88	\$ 2,252.80
Trailer		\$ 6.00		\$ -
HydroTammer		\$ 18.00	20	\$ 360.00
Tamper		\$ 5.00	12	\$ 60.00
Traffic cones		\$ 0.15	88	\$ 13.20
Traffic signs		\$ 0.25	88	\$ 22.00
Total Equipment				\$ 8,012.16
MATERIALS		Quantity	Price/Each	Total
5" pvc conduit		100	\$ 14.00	\$ 1,400.00
5" 90 degree		2	\$ 45.00	\$ 90.00
5" coup		4	\$ 7.75	\$ 31.00
4" pvc		100	\$ 10.00	\$ 1,000.00
4" sweeps		4	\$ 49.00	\$ 196.00
4" 45 degree		4	\$ 29.50	\$ 118.00
4" coup		12	\$ 4.75	\$ 57.00
2" pvc conduit		80	\$ 3.79	\$ 303.20
2" sweep		3	\$ 20.00	\$ 60.00
2" 45 degree		4	\$ 4.25	\$ 17.00
30" double wall poly culvert		80	\$ 66.25	\$ 5,300.00
PVC cement		1	\$ 20.00	\$ 20.00
Pull rope		325	\$ 0.15	\$ 48.75
Ground Rods		2	\$ 19.00	\$ 38.00
Pull Box	17 x 30 x 18	2	\$ 400.00	\$ 800.00
Total material				\$ 9,478.95
Job sub-total				\$ 31,619.11
Profit Addition 10%				\$ 3,161.91
TOTAL PROJECT COST				\$ 34,781.02

\$ 14,128.00

\$ 8,012.16

\$ 9,478.95

\$ 31,619.11

Scope of Work:

- Day 1: Install new 30" culvert
- Day 2: Bore road
- Day 3: Far side foundation
- Day 4: Near side foundation and AC pole
- Day 5: Conduit and gravel
- Day 6: Gravel pullboxes
- Day 7: Gravel

Other responsibilities as needed:

- * Coordinate delivery of fill material.
- * Transport foundations, conduit, pull box to site
- * Remove spoils and debris
- * Supply and erect traffic control devices for work zone safety
- * Call Ohio Utility Protection Service as required by Ohio Law
- * Establish Railroad Roadway Worker Protection daily to comply with Federal Regulation

Terms for Invoices are Net 30 days. Thank you.

Wheeling & Lake Erie Railway
Streetsboro, OH - Ravenna Rd - DOT#472676K
Riotech Project Estimate



ENGINEERING				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
DIAGNOSTIC TECHNICIAN	16	HR	\$68.53	\$1,096.48
CADD TECHNICIAN	56	HR	\$36.25	\$2,030.00
SIGNAL DESIGNER	40	HR	\$65.67	\$2,626.80
SIGNAL ENGINEER - CHECK	4	HR	\$65.67	\$262.68
SIGNAL ENGINEER - SEAL (IF APPLICABLE)	4	HR	\$66.53	\$266.12
LOGIC PROGRAMMER	8	HR	\$66.53	\$532.24
SUBTOTAL				\$6,814.32
G&A	164%			\$11,175.48
FIXED FEE	10%			\$1,798.98
ENGINEERING TOTAL				\$19,788.79

PROJECT MANAGEMENT				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
PROJECT MANAGER - SIGNAL	24	HR	\$44.57	\$1,069.68
SR. PROJECT MANAGER - SIGNAL	4	HR	\$67.64	\$270.56
PURCHASING MANAGER	24	HR	\$31.22	\$749.28
ACCOUNTING	8	HR	\$40.00	\$320.00
SYSTEMS PROJECT SPECIALIST	4	HR	\$23.76	\$95.04
SUBTOTAL				\$2,504.56
G&A	164%			\$4,107.48
FIXED FEE	10%			\$661.20
PROJECT MANAGEMENT TOTAL				\$7,273.24

EAF LABOR				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
EAF SUPERVISOR	8	HR	\$ 31.48	\$251.84
EAF LEAD FOREMAN	32	HR	\$ 29.57	\$946.24
LEAD WIREMAN	56	HR	\$ 21.37	\$1,196.72
APPLICATION PROGRAMMING	1	HR	\$ 1,500.00	\$1,500.00
TEST	8	HR	\$ 35.00	\$280.00
TEST - SPECIFIC	4	HR	\$ 68.53	\$274.12
QA/QC	10	HR	\$ 35.38	\$353.80
SUBTOTAL				\$4,802.72
G&A	164%			\$7,876.46
FIXED FEE	10%			\$1,267.92
EAF LABOR TOTAL				\$13,947.10

Wheeling & Lake Erie Railway
Streetsboro, OH - Ravenna Rd - DOT#472676K
Riotech Project Estimate



CONSTRUCTION LABOR				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
MANAGER OF FIELD SVCS	8	HR	\$44.57	\$356.56
CONSTRUCTION SUPERVISOR	100	HR	\$36.90	\$3,690.00
CREW FOREMAN	100	HR	\$30.84	\$3,084.00
CREWMAN 3	100	HR	\$22.71	\$2,271.00
CREWMAN 1	100	HR	\$19.54	\$1,954.00
SUBTOTAL				\$11,355.56
G&A	164%			\$18,623.12
FIXED FEE	10%			\$2,997.87
CONSTRUCTION LABOR TOTAL				\$32,976.55

CONSTRUCTION LABOR EXPENSES				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
DIAGNOSTIC EXPENSES	1	EA	\$500.00	\$500.00
CREW MEALS	40	EA	\$56.00	\$2,240.00
CREW LODGING	40	EA	\$100.00	\$4,000.00
MOBILIZATION	1	EA	\$1,500.00	\$1,500.00
SUBTOTAL				\$8,240.00
FIXED FEE	0%			\$0.00
CONSTRUCTION LABOR EXPENSES TOTAL				\$8,240.00

CONSTRUCTION EQUIPMENT				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
TRUCK, PU, 1 TON CREW CAB	100	HR	\$15.71	\$1,571.00
TRAILER, UTILITY (12,000lb SC410)	100	HR	\$7.55	\$755.00
RENTAL EQUIPMENT (BACKHOE W/18" BKT)	1	WK	\$1,600.00	\$1,600.00
RENTAL EQUIPMENT (FORKLIFT - 8K)	2	WK	\$1,600.00	\$3,200.00
EQUIPMENT DELIVERY/PICKUP	6	LS	\$250.00	\$1,500.00
DIESEL FUEL SURCHARGE	40	GAL	\$5.00	\$200.00
SUBTOTAL				\$8,826.00
FIXED FEE	0%			\$0.00
CONSTRUCTION EQUIPMENT TOTAL				\$8,826.00

MATERIAL				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
RAVENNA RD MATERIAL	1	LS	SEE ATTACHED DETAIL	\$108,670.88
SEASONS RD MATERIAL	1	LS	SEE ATTACHED DETAIL	\$38,256.65
MATERIAL INBOUND FREIGHT	1	LS	\$4,000.00	\$4,000.00
FILL DIRT	40	TN	\$25.89	\$1,035.60
COVER ROCK (3/4" CRUSHED - WHITE)	25	TN	\$26.50	\$662.50
PALLET CHARGE - GATES	2	EA	\$100.00	\$200.00
SHIPPING CONTAINER, 40'	4	WK	\$15.00	\$60.00
PVC PACKAGE	1	PKG	\$2,500.00	\$2,500.00
SUBTOTAL				\$155,385.63
TAX (IF APPLICABLE)	-			\$0.00
FIXED FEE	0%			\$0.00

Wheeling & Lake Erie Railway
Streetsboro, OH - Ravenna Rd - DOT#472676K
Riotech Project Estimate



<i>MATERIAL TOTAL</i>				\$155,385.63
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SUBCONTRACTOR				
<i>Descripton</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
SUBCONTRACTOR SVC - CONTAINER DELIVERY	1	LS	\$4,500.00	\$4,500.00
SUBCONTRACTOR SVC - CONTAINER PICKUP	1	LS	\$2,500.00	\$2,500.00
SUBCONTRACTOR SVC - HORIZONTAL BORING (4" HDPE)	0	FT	\$45.00	\$0.00
SUBCONTRACTOR SVC - METER POLE (PERMIT & INSTALL)	0	LS	\$5,000.00	\$0.00
SUBCONTRACTOR SVC - PORTA-POTTY	2	MN	\$200.00	\$400.00
SUBTOTAL				\$7,400.00
FIXED FEE	5%			\$370.00
SUBCONTRACTOR TOTAL				\$7,770.00

TOTAL PROJECT ESTIMATE				\$254,207.30
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Ravenna Rd - Project #

VENDOR	DESCRIPTION	PART NUMBER	QTY	UOM	UNIT PRICE	TOTAL
A.C.E.	Labels, wire marker sleeve	HX-375-2-WT-2	1	EA	\$600.00	\$600.00
Allied	Relay, 8-pin KRPA style, 10A/240VAC	70198711	1	EA	\$25.32	\$25.32
Allied	Socket, 8-pin KRPA style	70199343	1	EA	\$8.25	\$8.25
Allied	Spring, Hold down for KRPA style relay	70198576	1	EA	\$1.00	\$1.00
Alstom	Controller, ElectroLogIXS XP4	16-220004433	1	EA	\$35,977.00	\$35,977.00
Alstom	MDSA-1X Surge arrester panel	250204-100	1	EA	\$696.00	\$696.00
Alstom	XIP Panel, 20 Amp	227561-000	1	EA	\$697.00	\$697.00
Alstom	Cable, 12 ft (cable #1) (Need 1 for XIP)	075046-002	1	EA	\$188.00	\$188.00
Alstom	Cable, 12 ft (cable #2) (Need 1 for XIP)	075047-002	1	EA	\$188.00	\$188.00
Alstom	Insulated Nut, 1 3/16"	013986-000	20	EA	\$4.00	\$80.00
Alstom	FSS-1/2F, (430Hz - 970Hz) Tunable Shunts	250849-005	2	EA	\$1,059.00	\$2,118.00
ARMS	Cell Modem, LMU-5541, Vanguard	LMU5541LW-H000-G1000	1	EA	\$850.00	\$850.00
Arrow	Terminal Ring, HD, 1/4", insulated, #10 - #12 (yellow w/blk stripe)	2-320569-6	100	EA	\$0.55	\$55.00
Digikey	DC-DC Converter, din rail mount	DDR-15G-15	1	EA	\$25.00	\$25.00
Elliott Elect	5/8" X 8' Copper Ground Rod	95082476	6	EA	\$13.40	\$80.40
Erico	Terminal, 4-post, Block Kit, w/ 14-24 AAR Hardware	B2700A2C1WH	17	EA	\$33.16	\$563.72
Erico	RailSurge Plane Strip Busbar (36")	B2700HC36T	2	EA	\$58.71	\$117.42
Erico	Wheel, grinding	SB22122	3	EA	\$49.42	\$148.26
Erico	Mold, Web Signal Bond, 3/16	SB2200C	1	EA	\$108.78	\$108.78
Erico	5/8" Ground Rod Weld	SBNT1161G	6	EA	\$15.90	\$95.40
Erico	Cadweld Plus Rail Joint Bond Kit, XS Style (Kit of 60)	SBS24882CWP	180	EA	\$7.73	\$1,391.40
Erico	Arrestor, DC	EPD2050F	17	EA	\$56.68	\$963.56
Erico	Arrestor, AC	EPD2170F	4	EA	\$58.36	\$233.44
G&B	Shunt Enclosure, Orange	500-400-100-09-Orange	2	EA	\$385.00	\$770.00
Graybar	Panduit, Wire Duct, 2"X3"X6' Gray	95032476	2	EA	\$4.86	\$9.72
Graybar	Panduit, Cover, 6' Gray	88197241	2	EA	\$1.18	\$2.36
Graybar	Wire, Ground, #6AWG, Bare Copper	BARE-CU-SD-6-SOL-315S	60	FT	\$0.41	\$24.60
Graybar	Duct seal, 5lb	31-605	3	EA	\$17.50	\$52.50
Graybar	Cable, SJ Cord 4c/14	BJ11404-14/4-SJOOW-300V	50	FT	\$0.85	\$42.50
Graybar	Nema Plug, Locking, (L6-15P) 15A/240V	HBL4570C	2	EA	\$16.80	\$33.60
Grainger	Decal, Danger 240V (5"x3.5")	3XDU5	1	EA	\$3.00	\$3.00
GSI	Gate Keeper, 2-Way, w/Hardware & Buffer Spring	SK-1000-SW40	2	EA	\$1,100.00	\$2,200.00
GSI	Gate, Alum/Polyglass 19'-32', Hi Intensity tape	SG-1932-FT-HI	2	EA	\$349.00	\$698.00
GSI	Bell, Electronic, 5" Base	EB-3-360-5	1	EA	\$215.00	\$215.00
J&A Industries	Terminal, Battery, 3-PT	225481-000	4	EA	\$27.00	\$108.00
J&A Industries	Battery Tray, 12'x27"	027003-001	4	EA	\$48.00	\$192.00
L&W	Connector, Buss strap (1" - 36 holes)	9A2216-36	4	EA	\$20.45	\$81.80
NEG	Wind Bracket, 36", 5" MTG w/hardware	NEG-191036	2	EA	\$105.00	\$210.00
NEG	Sign, Emergency, ENS, 15X9 Blue	NEG S-I-13-15x9ENS	2	EA	\$10.80	\$21.60
Okonite	Wire, Case, #16AWG 1000' spool, Blue	152-11-3002	2	EA	\$220.00	\$440.00
Okonite	Wire, Case, #10AWG 1000' spool, Blue	152-11-3038	2	EA	\$490.00	\$980.00
Okonite	Cable, 7/C#6, Armored	206-11-6247	500	FT	\$7.95	\$3,975.00
Okonite	Cable, 7C#14, Armored	206-11-6887	500	FT	\$3.11	\$1,555.00
Okonite	Cable, 3C#6 w/Ground for A/C power	206-11-6070	300	FT	\$5.06	\$1,518.00
Okonite	Wire, Track, 2C/#6, Twist, Solid	150-12-3933	300	FT	\$2.06	\$618.00
PTMW	Bungalow, Alum. 6 X6 w/Heater	91000564 D-1	1	EA	\$11,649.00	\$11,649.00
PTMW	Door Magnetic Switch Assy	14979 PH	2	EA	\$54.00	\$108.00
PTMW	Kit Antenna Mount, GPS w/ Brkt (Item #41253)	TBD	1	EA	\$102.50	\$102.50
Railway Equip	E-Z gate LED lamp kit	9298-1120	2	EA	\$175.00	\$350.00
Railway Equip	Battery Charger, 40DTC-12V	520940	2	EA	\$840.00	\$1,680.00
Rebel	Terminal, 2X6 W/ Flat nut/washer	220-0101	12	EA	\$11.75	\$141.00
Rebel	Terminal, Block, 2 3/8" center - 2 post w/hardware	220-0301	5	EA	\$4.10	\$20.50
Rebel	Nut, AAR Flat Nut	220-0001	300	EA	\$0.20	\$60.00
Rebel	Nut, AAR Crown Nut	220-0000	300	EA	\$0.25	\$75.00
Rebel	Washer, AAR Flat	220-0003	300	EA	\$0.10	\$30.00
Rebel	Gold Test Nut	220-0008	100	EA	\$0.70	\$70.00
Rebel	Strap, 1" offset test link	220-0506	100	EA	\$0.85	\$85.00
Rebel	Strap, 2 3/8" flat test strap	220-0516	1	EA	\$1.45	\$1.45
Rebel	Strap, 2 3/8" flat strap	220-0507	2	EA	\$0.75	\$1.50
Rebel	Sign, Crossbuck (NO brackets or hardware)	070-0065	2	EA	\$95.00	\$190.00
Rebel	Pinnacle, 5"	010-9034	1	EA	\$21.88	\$21.88
Rebel	5" Sign Kit (Brackets/extensions/Ubolts/hardware)	070-5008	4	EA	\$68.90	\$275.60
Reynolds	Wire, Case, #6AWG, Green	N6GNM	100	FT	\$0.45	\$45.00
Reynolds	Wire, Case, #6AWG, Black	N6BM	100	FT	\$0.45	\$45.00
Reynolds	Wire, Case, #6AWG, Red	N6RD	100	FT	\$0.45	\$45.00

Riotech	Recorder, RMD (includes 3' harness & wago strips)	RMD-IIXX	1	EA	\$3,875.00	\$3,875.00
Riotech	Bootleg Kit, Crossing complete, 1 Track		1	EA	\$250.00	\$250.00
Riotech	DTMF Controller		1	EA	\$2,799.00	\$2,799.00
Riotech	DIN Rail, 35mm x 2', Zinc-plated, w/end caps		1	EA	\$25.00	\$25.00
Riotech	Cable, 3' Cat6 Ethernet cable		1	EA	\$15.00	\$15.00
Riotech	DTMF Antenna Kit (Antenna, Polyphaser, Coax, Etc.)		1	EA	\$150.00	\$150.00
Riotech	Field Tag Kit		1	EA	\$250.00	\$250.00
Saft	Battery, SPL 250 Ni-Cad	SPL+250	10	EA	\$225.00	\$2,250.00
Saft	Battery, SPL 420 Ni-Cad	SPL+420	9	EA	\$390.00	\$3,510.00
Siemens	Test Nut wrench, 11"	032619-22X	1	EA	\$65.15	\$65.15
Siemens	Arrestor, Air Gap, With Cover	4000-44615-001X	4	EA	\$25.75	\$103.00
Siemens	Equalizer, Air Gap, with Cover/Hardware	4000-44700-001X	2	EA	\$24.06	\$48.12
Siemens	Enhancer Panel	80049	1	EA	\$6,042.00	\$6,042.00
Transportation S	12" Red Led Crossing w/sidelights	RG6-RTFB-01BV3-H7	8	EA	\$150.00	\$1,200.00
Vantex	Tie-wrap, 11 1/2" (100 pk)	LTS11-0	2	EA	\$22.45	\$44.90
Vantex	Terminal, Ring, 1/4", insulated, #14 - #16, Blue (100 pk)	NB14	1	EA	\$32.15	\$32.15
Vantex	Terminal, Ring, 1/4" non-insulated, #6, Battery Lug	T6-14	70	EA	\$0.75	\$52.50
WCH	Mast, Gate, 18'X5" w/pigtail (single-sided Jct Box)	715-324-2-GS	2	EA	\$578.00	\$1,156.00
WCH	Jct box, Gate, 5" single (28 terminals & 1 1/2" flange)	2149-A-143	2	EA	\$462.00	\$924.00
WCH	Mech, Model 3597	3597-131-P-H-MI	2	EA	\$3,762.00	\$7,524.00
WCH	Crossarm Assy, 5" Mtg., 2 Way	975-0804-5	2	EA	\$697.00	\$1,394.00
WCH	Counterweight Pkg, 17'-32', Stud plate, L&R arms	CTWT-AL-32	2	EA	\$1,356.00	\$2,712.00
WCH	Wrench, Torque (KIT)	3590-K-9	1	EA	\$191.00	\$191.00
Wilson Elec	Antenna, 4G Omni Plus Directional Kit	304422-5810	1	EA	\$100.00	\$100.00
					TOTAL	\$108,670.88

Seasons Rd - Project #

VENDOR	DESCRIPTION	PART NUMBER	QTY	UOM	UNIT PRICE	TOTAL
A.C.E.	Labels, wire marker sleeve	HX-375-2-WT-2	0.2	EA	\$600.00	\$120.00
Alstom	Controller, ElectroLogIXS XP4 (4 Slot)	16-2244	1	EA	\$25,858.00	\$25,858.00
Alstom	MDSA-1X Surge arrestor panel	250204-100	1	EA	\$696.00	\$696.00
Alstom	Relay, 500 Ohm, 6 Pt, Neutral	A62-0262	2	EA	\$1,080.00	\$2,160.00
Alstom	Plugboard Kit (1E/3E test posts)	59686-019-02	2	EA	\$125.00	\$250.00
Alstom	FSS-1/2F, (430Hz - 970Hz) Tunable Shunts	250849-005	2	EA	\$1,059.00	\$2,118.00
G&B	Shunt Enclosure, Orange	500-400-100-09-Orange	2	EA	\$385.00	\$770.00
Okonite	Wire, Case, #16AWG 1000' spool, Blue	152-11-3002	0.25	EA	\$220.00	\$55.00
Okonite	Wire, Case, #10AWG 1000' spool, Blue	152-11-3038	0.25	EA	\$490.00	\$122.50
Siemens	Test Nut wrench, 11"	032619-22X	1	EA	\$65.15	\$65.15
Siemens	Enhancer Panel	80049	1	EA	\$6,042.00	\$6,042.00
0					TOTAL	\$38,256.65



Public Utilities Commission

Mike DeWine, Governor
Jenifer French, Chair

Commissioners

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

December 13, 2021

Wheeling & Lake Erie Railroad
Mr. Tim Andrews
Signals & Communications Supervisor
100 E. First Street
Brewster, Ohio 44613

Re: Portage County, Ravenna Road,
DOT#472-676K, hereinafter referred to
as the "Project"

Dear Mr. Andrews:

The Public Utilities Commission of Ohio (PUCO) has identified and the Ohio Rail Development Commission (ORDC) surveyed, on August 10, 2021, the above mentioned grade crossing for warning device upgrades. The location has been approved for flashing lights and roadway gates.

The Project shall comply with Master Warning Devices Agreement No. 0001-A, dated September 17, 1990, & Reconstruction Agreement #6781, dated February 10, 1992, and entered into by the State of Ohio and Wheeling & Lake Erie 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.

Page 2 of 2
Ravenna Road
Portage County
Wheeling & Lake Erie Railroad

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, Chief, Rail Division, Public Utilities Commission of Ohio, 180 E. Broad Street, Columbus, Ohio 43215-3793 or by e-mail at jill.henry@puco.ohio.gov.

Sincerely,



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



Matthew Dietrich
Executive Director
Ohio Rail Development Commission

Wheeling & Lake Erie Railroad

By TE AS

Title S&C Supervisor

Date 12-14-21

Date 12/15/2021



Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Scott Corbitt, Chair

March 21, 2022

Mr. Tim Andrews
Wheeling & Lake Erie Railway
100 East First Street
Brewster, Ohio 44613

RE: Grade Crossing Warning Device Improvements
Portage County, Ravenna Road. DOT#472-676K, PID#116026

Dear Mr. Andrews:

A diagnostic review was held at the above grade crossing on August 10, 2021. The crossing has been recommended for the installation of flashing lights and roadway gates.

Wheeling & Lake Erie Railway 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 James Tucker. James can be reached at (614) 398-6897, or james.tucker@dot.ohio.gov, if you have any questions.

Sincerely,

Project Manager

C: John Williams Director, Transportation Department, PUCO
Jill Henry, Rail Division Chief, PUCO
Heather Hamilton, ORDC



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

Ravenna Road (DOT #472676K), City of Streetsboro, Portage County, Wheeling & Lake Erie
8-10-2021

Crossing at a glance: 472676K

ORDC Notes:

Please Sign In

Jim Tucker	Project Manager	ORDC
Name	Title	Organization
614-398-6897	James.tucker@dot.ohio.gov	J. Tucker
Phone Number	Email	Signature
Tim Andrews	WLE	
Name	Title	Organization
330-767-7255	Tandrews@wlerwy.com	x T Andrews
Phone Number	Email	Signature
Bill Miller	Service Director	City of Streetsboro
Name	Title	Organization
		x Bill Miller
Phone Number	Email	Signature
Shawn Zurflay	PUCO	
Name	Title	Organization
	Shawn.Zurflay@PUCO.OHIO.GOV	x L L
Phone Number	Email	Signature
Name	Title	Organization
Phone Number	Email	Signature
Name	Title	Organization
Phone Number	Email	Signature
Name	Title	Organization
Phone Number	Email	Signature
Name	Title	Organization
Phone Number	Email	Signature

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

Date: 8-10-2021

Location Data			
Street or Road Name:		Ravenna Road	
County:	Portage	Township:	US DOT No.: 472676K
City (in or near):	Streetsboro	Railroad Name:	RR Milepost: 28.35
Safety Data (Obtain crash reports, if possible)			
	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:	n/a		
Hazard Ranking:	1330	Date Run:	07/06/2021

Existing Traffic Control Devices			
Type of Warning Devices	Installed?		Quantity/Comments
HIGHWAY			
Advance Warning Signs (condition?)	☒ Yes	☐ No	3 - Good
'Stop' Signs	☒ Yes	☐ No	
'Stop Ahead' Signs	☐ Yes	☒ No	
Pavement Markings (condition?)	☒ Yes	☐ No	2 - Good
Dynamic Envelope Markings (condition?)	☐ Yes	☒ No	
Illumination	☒ Yes	☐ No	1
'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 - fair
Crossbucks – assembly with Stop	☒ Yes	☐ No	2 - fair
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	

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	4
<1 per day? Trains per week		
Day thru trains	1	2
Night thru trains	1	2
Switching		
Total number of tracks	1	
Number of main tracks		
Number of other tracks		
Maximum train speed	35 mph	25
Typical train speed	25-35 mph	25
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 _____		

Roadway Data		
Local Highway Authority: City of Streetsboro		
Roadway Characteristics	Initial Information (from database)	Revised
Average Daily Traffic	2000 (2010)	
Highway Paved	☒ Yes ☐ No	☐ Yes ☐ No
Roadway Surface: ☒ Blacktop ☐ Gravel ☐ Concrete Other _____		
Roadway width (paved/travelled way): <u>20'</u> ft		
Number of Highway Lanes	2	
Urban or Rural	rural	
Vehicle Speed: <u>35</u> MPH		
School Bus Operation: ☐ Yes ☒ No Amount _____		
Location of nearby schools: <u>none close by</u>		
Hazardous Materials Trucks: ☐ Yes ☒ No Amount (from FRA) _____ 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		
Crossing Angle ☐ 0-29° ☐ 30-59° ☒ 60-90° Measured in _____ Quadrant?		
Quadrant <u>NE</u> Curb & Gutter:	Quadrant <u>SW</u> 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 _____		
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 _____		

Pedestrian & Bicycle Data	
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:	TRAIL LAKE PARK
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)	FIRST Energy
Nearest Available Power Source	@ crossing Pole #55BD/1-6
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 600'
Is stopping sight distance adequate? (See Table 2)	☐ Yes ☒ No If no, which quadrant? SW 280'
When considering recommendations for bicycle treatments:	
Bicycle sight distance adequate?	☒ Yes ☐ No If no, which quadrant? 250'
When considering recommendations for pedestrian treatments:	
Pedestrian sight distance adequate?	☒ Yes ☐ No If no, which quadrant? 300'

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:

N/A

Real Estate or ROW:

N/A

Culvert / Drainage / Ballast Conditions:

Roadway and/or Sidewalks:

N/A

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

overlap with Seasons

Environmental:

N/A

Utilities:

Akron Water
overhead power + phone

Other:

Potential Closure

Is it the consensus of the Diagnostic Review Team that this is a potential closure project?

NO

Explain reasons: High ADT

Diagnostic Team Recommendations

☐ No improvements needed

Quadrants Needed

☒ Install/upgrade active devices

☐ Automatic Flashing Lights (AFLS)

☐ AFLS / Cants

☒ AFLS / Gates

NE + SW

☐ AFLS / Gates / Cants

☒ Bells / number

1

☐ Upgrade circuitry / type

☐ Sidelights

☒ LED Upgrades

12" LED

☐ Guardrail Needed

☐ Install/Replace curb

☒ Bungalow placement & offset from rail & highway

SE Quad

☐ Other (define)

Comments: LHA to trim vegetation from the SW Quad to help with visibility issues.

☐ Install/upgrade traffic signal preemption

Other (define):

Diagnostic Team Recommendations (cont.)

PEDESTRIAN/BICYCLE Treatments (additional, not included above)

☐ Crossing Surface (specify)

☐ Sidewalk (specify)

☐ Detectable warning surfaces

☐ LOOK Sign (R15-8)

☐ Stop lines

☐ Illumination

☐ Dynamic envelop markings

☐ Channelization

☐ Path delineation

☐ Fencing/barriers

☐ Other

Comments:

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

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	1,180	670
60	615	1,095	1,195	1,345	1,445	710	580	1,060	700	1,420	810
70	715	1,275	1,395	1,570	1,680	830	680	1,240	810	1,650	940
80	820	1,460	1,590	1,790	1,925	950	780	1,420	930	1,890	1,080
90	920	1,640	1,790	2,015	2,165	1,060	870	1,590	1,040	2,120	1,210

*A single track, 90-degree, level crossing

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

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

**This foregoing document was electronically filed with the Public Utilities
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in

Case No(s). 22-0588-RR-FED

Summary: Application In the Matter of a Request for the Installation of Active Warning Devices at the Wheeling & Lake Erie Railroad Grade Crossing, DOT# 472676K, at Ravenna Road in Portage County, Ohio. electronically filed by Mr. Thomas Persinger on behalf of PUCO/Rail Division