

Memo

To: Docketing Division

From: Jill Henry, Rail Chief, Rail Division

Cc: PUCO Legal Department

Date: 5/11/2022

Re: PUCO Case No. 22-263-RR-STP- In the Matter of a Request for the Installation of Active Warning Devices at the Wheeling & Lake Erie Railway Company Grade Crossing, DOT#002-116H, at Schocalog Road in Summit County, Ohio.

On March 24, 2022, the Public Utilities Commission of Ohio Railroad Staff ("PUCO staff"), the Ohio Rail Development Commission ("ORDC"), the Wheeling & Lake Erie Railway Company ("WE"), and Summit County, Ohio ("LHA") entered into a stipulation agreement whereby lights and gates would be installed at Schocalog Road (DOT#002-116H).

On April 20, 2022, the Commission issued a Finding and Order approving the project, requiring plans and estimates by July 20, 2022, and ordering project completion by April 20, 2023.

On April 26, 2022, WE filed with the Rail Division all plans and estimates for the project.

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



Public Utilities Commission

Mike DeWine, Governor
Jenifer French, Chair

Commissioners

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

May 11, 2022

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

Re: WE Grade Crossing,
Schocalog Road/ Summit Cty (DOT#002-116H)

Mr. Andrews:

Wheeling & Lake Erie Railway (WE) is now authorized to proceed with field construction for the above referenced projects. This authorization is contingent upon accepting the following:

- 1) WE will make any adjustments to the plans noted in the field reports dated May 11, 2022 (Attached).
- 2) WE will furnish e-mail, fax, or phone notification five (5) working days prior to the date work will start at the project site. Notification to be made to Jill Henry, PUCO, at E-MAIL jill.henry@puco.ohio.gov, or PHONE 614-466-0435 and Jim Tucker, ORDC, at E-MAIL james.tucker@dot.ohio.gov, or PHONE 614-644-0283.
- 3) WE will arrange for utilities to be relocated and/or dropped (as soon as possible) at the project sites through the applicable utility companies.
- 4) WE will arrange for utilities to be located at the project sites by the Ohio Utilities Protection Service (OUPS) prior to any construction activities at the sites. Utilities that are not participating members of the OUPS service must be contacted directly by WE.
- 5) WE's project foreman will notify the PUCO Railroad Inspector and ORDC Project Manager of any changes in the scope of work, cost overruns, material changes, etc. which are not included in the approved plans and estimates and secure approval of same before the work is performed.
- 6) WE will furnish three (3) copies of each partial bill to the PUCO and ORDC.

- 7) WE will furnish the final-inclusive bill to PUCO and ORDC stating that exact dates of starting and completing work, the initial and final dates of construction and location where the accounts may be audited.
- 8) WE will furnish as-built detailed circuit plans directly to the PUCO and ORDC.
- 9) WE is to schedule and complete the subject projects by April 20, 2023. If any extraordinary circumstances unique to the projects occur, please notify the Commission's rail staff immediately.

Thank you for your cooperation in this matter.

Sincerely,



Jill Henry
Rail Division Chief
Transportation Department

Enclosure

cc: File

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

Date of Assignment: 4/26/2022

Subject: Plans and estimates review for active warning devices at Schocalog (002-116H), Wheeling & Lake Erie Railway, Summit County.

DOT #: 002-116H

FINDINGS

On April 26, 2022, the plans and estimates for the above mentioned crossing were received from Wheeling & Lake Erie Railway (WE). They were reviewed by Jill Henry, PUCO Rail Specialist, Shawn Zurfley, FRA/PUCO Field Investigator, and Jim Tucker, ORDC Project Manager.

Schocalog road is an urban roadway traveling north/south and intersecting a single track of WE traveling east/west. Existing warning devices include pavement markings, advanced warning signs, crossbucks, and flashing lights.

SUMMARY AND CONCLUSIONS

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

Jill Henry
PUCO Rail Chief
Date: May 11, 2022

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 25, 2022

Public Utilities Commission of Ohio
Ms. Jill Henry
180 East Broad Street, 4th Floor
Columbus, OH 43215

Estimate for Case No. 22-263-RR-STP- Railroad Crossing Warning System at Shocalog Rd. –
DOT: 002-116-H

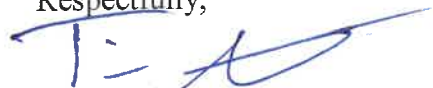
Dear Ms. Henry

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

Engineering Services/Labor, RioTech(breakout attached)	\$217,298.66
Berm Wall (purchase direct by WLE)	\$0.00
Preliminary Installation Services, Crosier (breakout attached)	\$23,041.81
Electric Service	\$7,500.00
WLE Direct Signal Labor	\$7,500.00
Galvanized signal foundations	\$3,400.00
 TOTAL	 \$258,740.47

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.



CONSTRUCTION NOTES

- 1.) INSTALL NEW 6' X 6' BUNGALOW IN SOUTHWEST QUADRANT.
- 2.) INSTALL (2) NEW FLASHING LIGHTS WITH GATES.
- 3.) 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.
- 4.) 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.
- 5.) INSTALL PSO 4000 RECEIVER AND RECEIVER COUPLER AT WHITE POND DRIVE.

PRELIMINARY

REVISION
BLOCK



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**Wheeling & Lake Erie
Railway**

LOCATION

CR 77 (SHOCALOG RD)
in COPLEY, OH

41.1029224,-81.6037764

ORIGINAL DATE	04-05-2022	TITLE	CONSTRUCTION NOTES
DESIGNER	RGPT	SUB	AKRON
DRAFTSMAN	RGPT	RRMP	A - 155.31
CHECKER	RGPT	DOT NO.	002 116H
		RGPT NO.	OP21454
		SCALE	N.T.S.
		SHEET	01A of 21



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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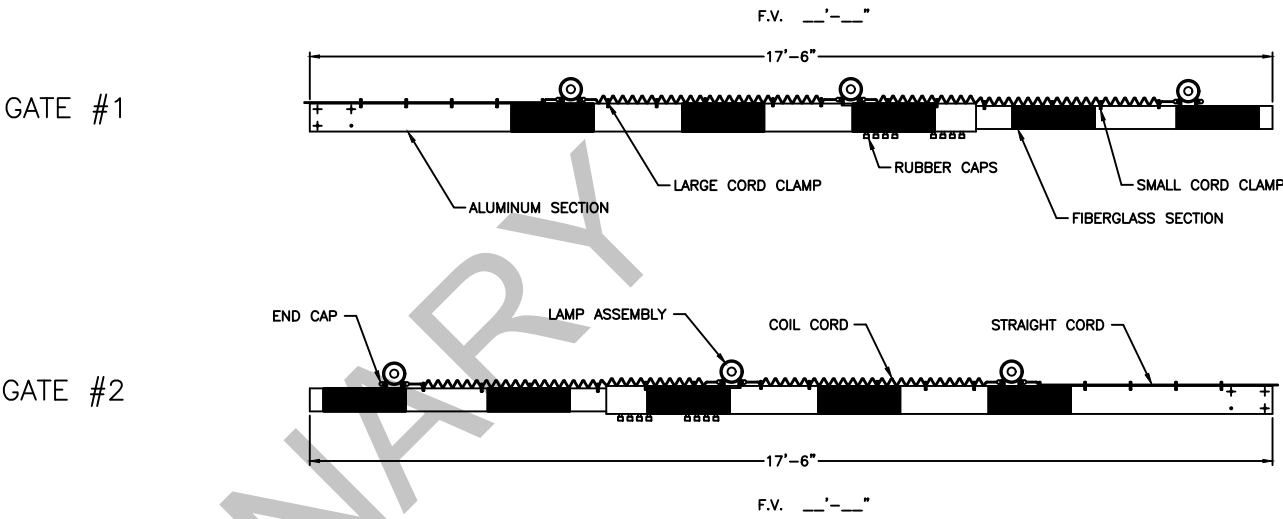
Whooling & Lake Erie
Railway

LOCATION			CR 77 (SHOCALOG RD) in COPLEY, OH		
			41.1029224,-81.6037764		
ORIGINAL DATE	04-05-2022	TITLE	CROSSING SIGNAL ALIGNMENT		
DESIGNER	RGPT	SUB	AKRON	RGPT NO.	OP21454
DRAFTSMAN	RGPT	RRMP	A - 155.31	SCALE	N.T.S.
CHECKER	RGPT	DOT NO.	002 116H	SHEET	02 of 21

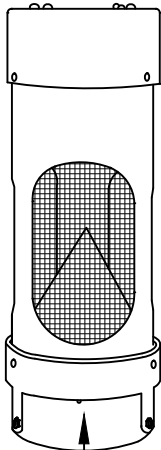
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SITE LAYOUT NOTES

1.) CROSSING IS LOCATED: LATITUDE 41.1029224
LONGITUDE -81.6037764



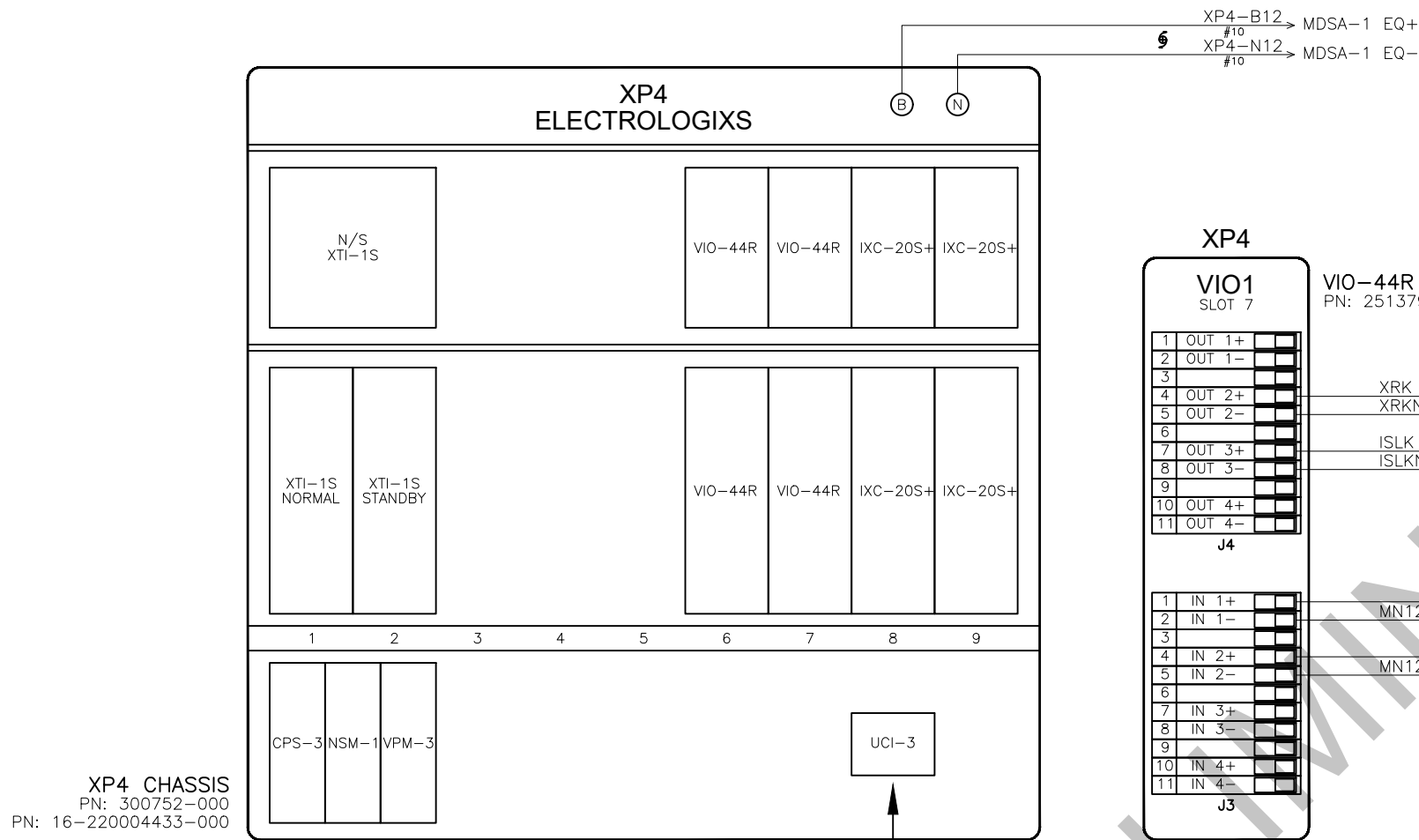
ELECTRONIC CROSSING BELL
GSI MODEL EB-3-360-5



THIS SIDE FACING
ROADWAY

PRELIMINARY

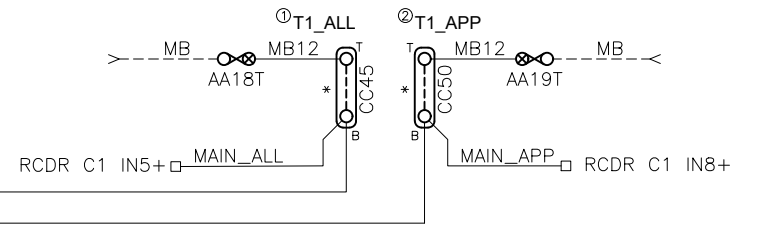
										 RIO GRANDE PACIFIC TECHNOLOGY		Whooling & Lake Erie Railway	
										9601 CAMP BOWIE W BLVD FORT WORTH, TX 76116 (817) 886-8210 WWW.RIO TECHNOLOGY.COM		LOCATION CR 77 (SHOCALOG RD) in COPLEY, OH 41.1029224,-81.6037764	
										ORIGINAL DATE 04-05-2022		TITLE SITE LAYOUT NOTES	
										DESIGNER RGPT		SUB AKRON	
										DRAFTSMAN RGPT		RGPT NO. OP21454	
										CHECKER RGPT		RRMP A - 155.31	
												SCALE N.T.S.	
												DOT NO. 002 116H	
												SHEET 03 of 21	



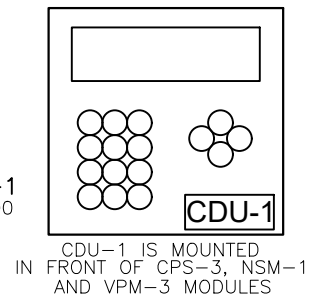
* PLACE JUMPER TO TAKE DESIGNATED FUNCTION OUT OF SERVICE

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



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

CHANGE FROM TYPICAL: N

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Whooling & Lake Erie
Railway

LOCATION CR 77 (SHOCALOG RD) in COPLEY, OH 41.1029224,-81.6037764		
ORIGINAL DATE 04-05-2022	TITLE XP4/VIO CIRCUITS	
DESIGNER RGPT	SUB AKRON	RGPT NO. OP21454
DRAFTSMAN RGPT	RRMP A - 155.31	SCALE N.T.S.
CHECKER RGPT	DOT NO. 002 116H	SHEET 04 of 21

ADJUSTMENT NAME		MDR1				MDR2			
NAME		HIGHWAY CROSSING				HIGHWAY CROSSING			
WARNING TIME		26 SEC				25 SEC			
CW/MD		CW				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	2000 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			

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

CHANGE FROM TYPICAL: Y

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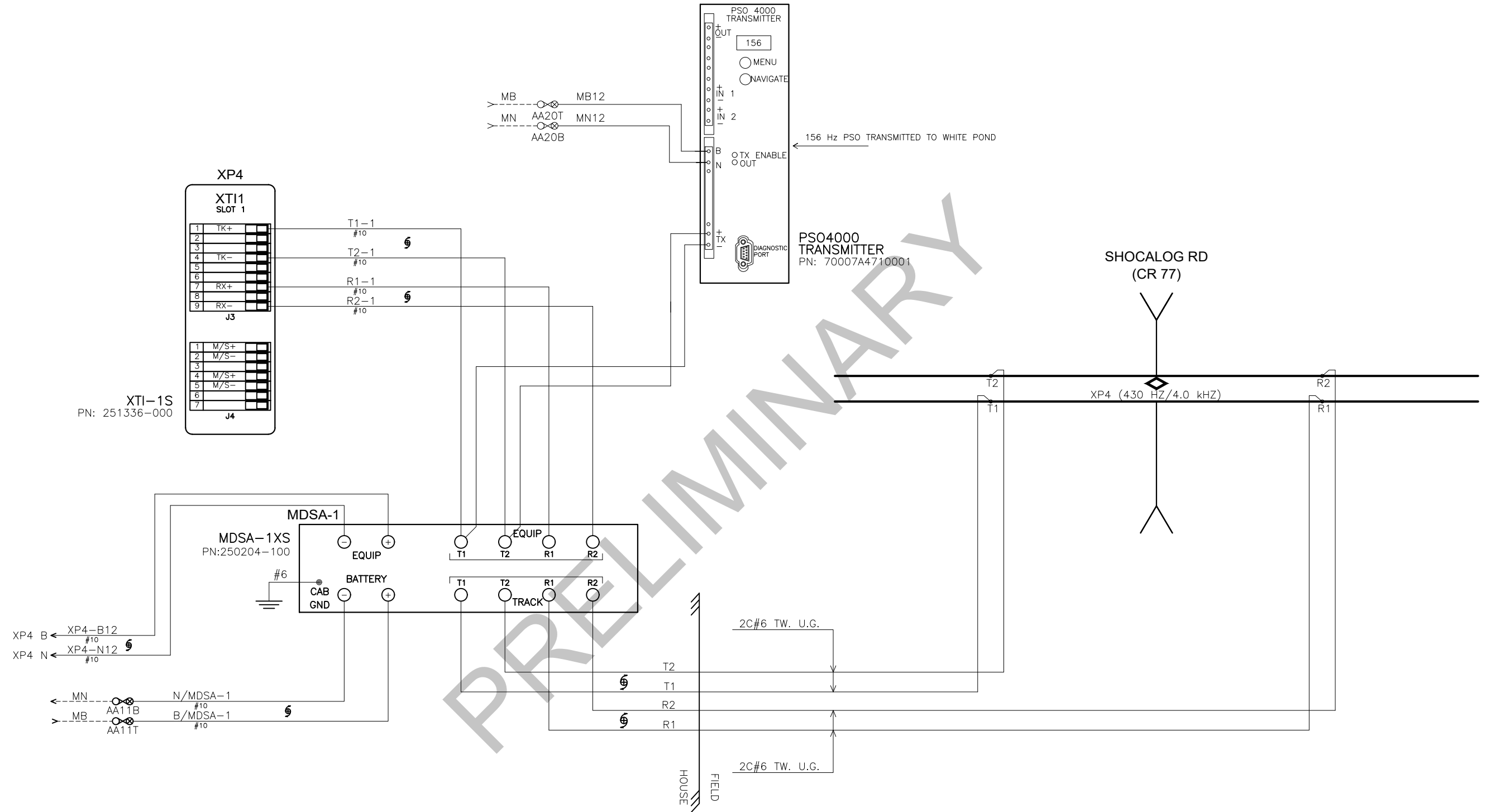


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**Whooling & Lake Erie
Railway**

LOCATION		
CR 77 (SHOCALOG RD) in COPLEY, OH		
41.1029224,-81.6037764		
ORIGINAL DATE	04-05-2022	TITLE
		XP4 SETUP SHEET
DESIGNER	RGPT	SUB
		AKRON
DRAFTSMAN	RGPT	RGPT NO.
		OP21454
CHECKER	RGPT	RRMP
		A - 155.31
		SCALE
		N.T.S.
		SHEET
		05 of 21



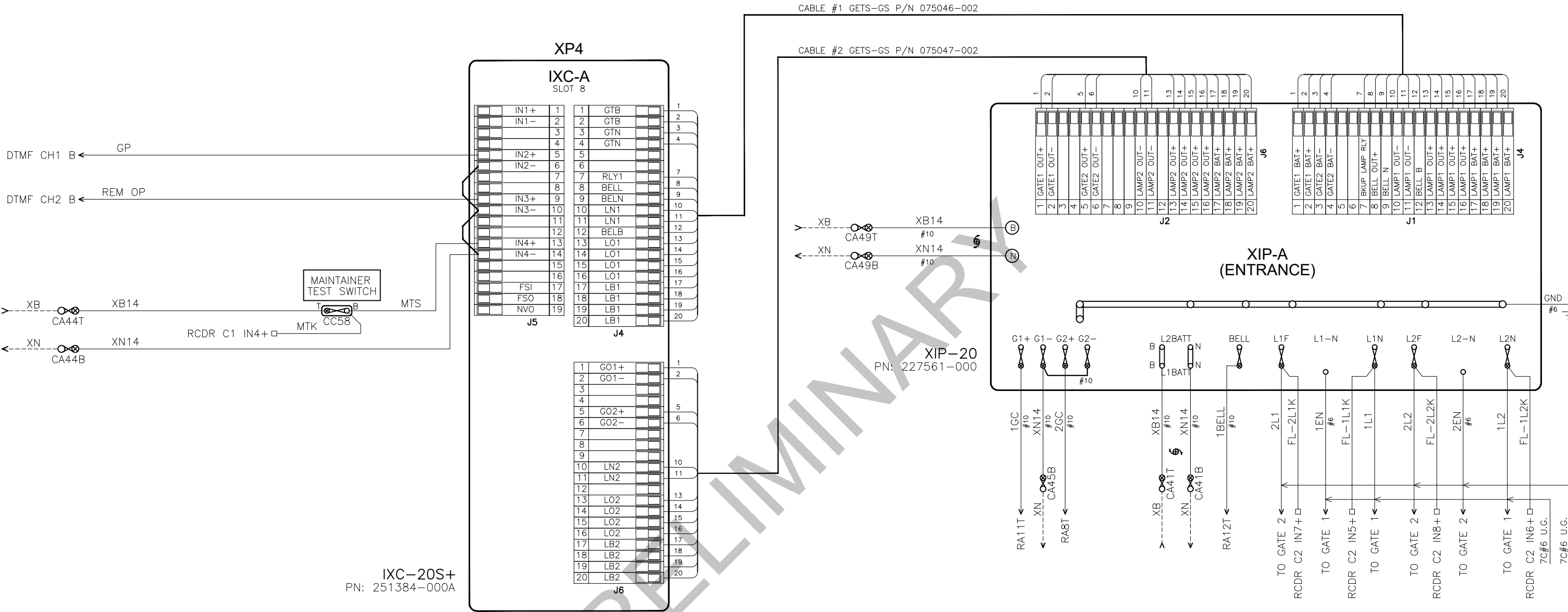
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Railway

LOCATION			CR 77 (SHOCALOG RD) in COPLEY, OH		
ORIGINAL DATE			41.1029224,-81.6037764		
DESIGNER			TRACK CONNECTION CIRCUITS		
DRAFTSMAN			RGPT		
CHECKER			RGPT		
SUB			AKRON		
RRMP			A - 155.31		
DOT NO.			002 116H		
RGPT NO.			OP21454		
SCALE			N.T.S.		
SHEET			06 of 21		



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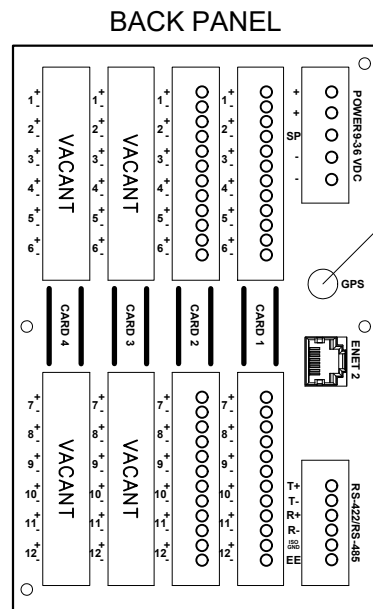
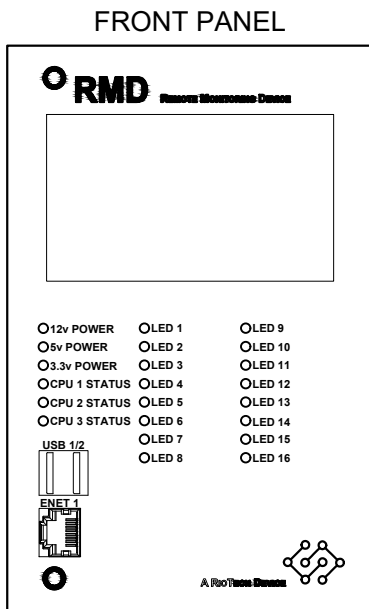
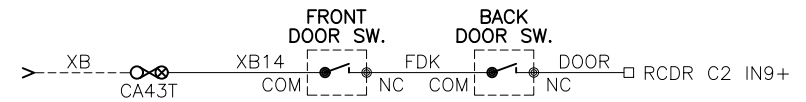
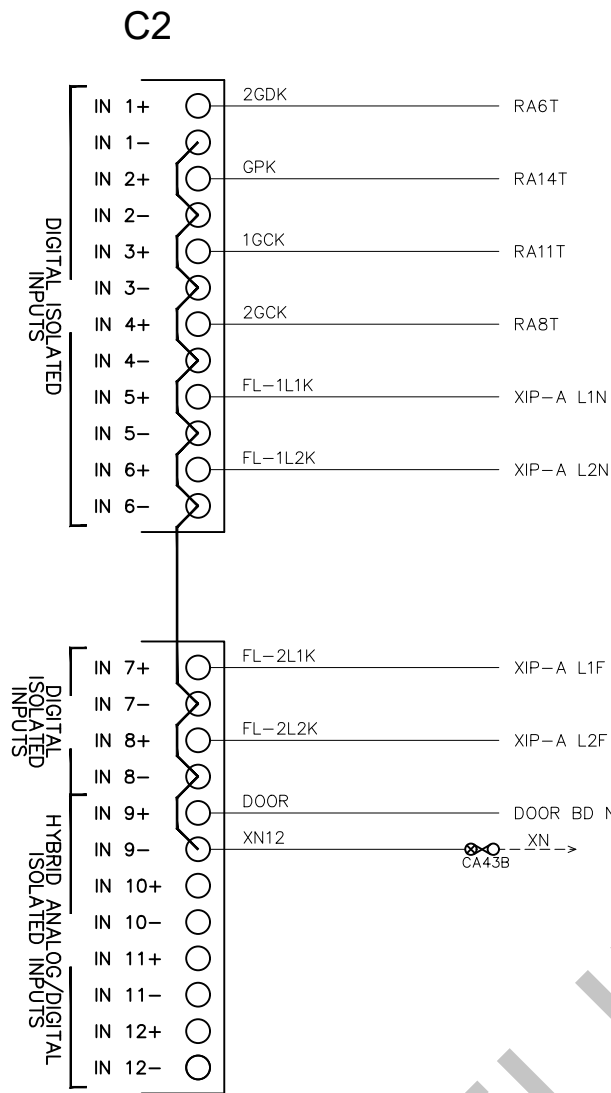
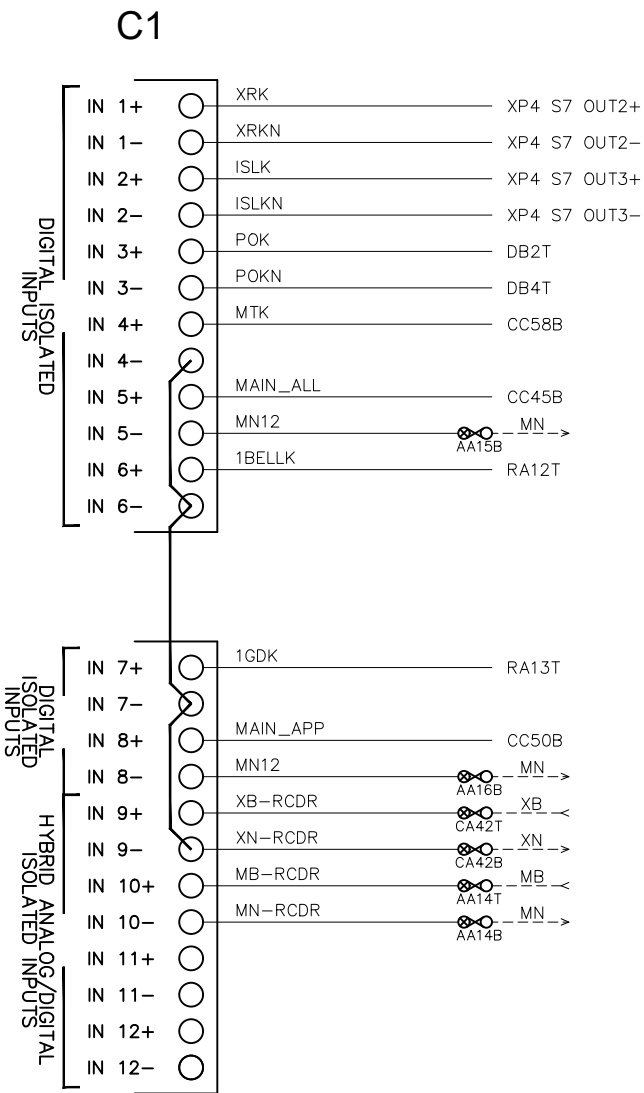
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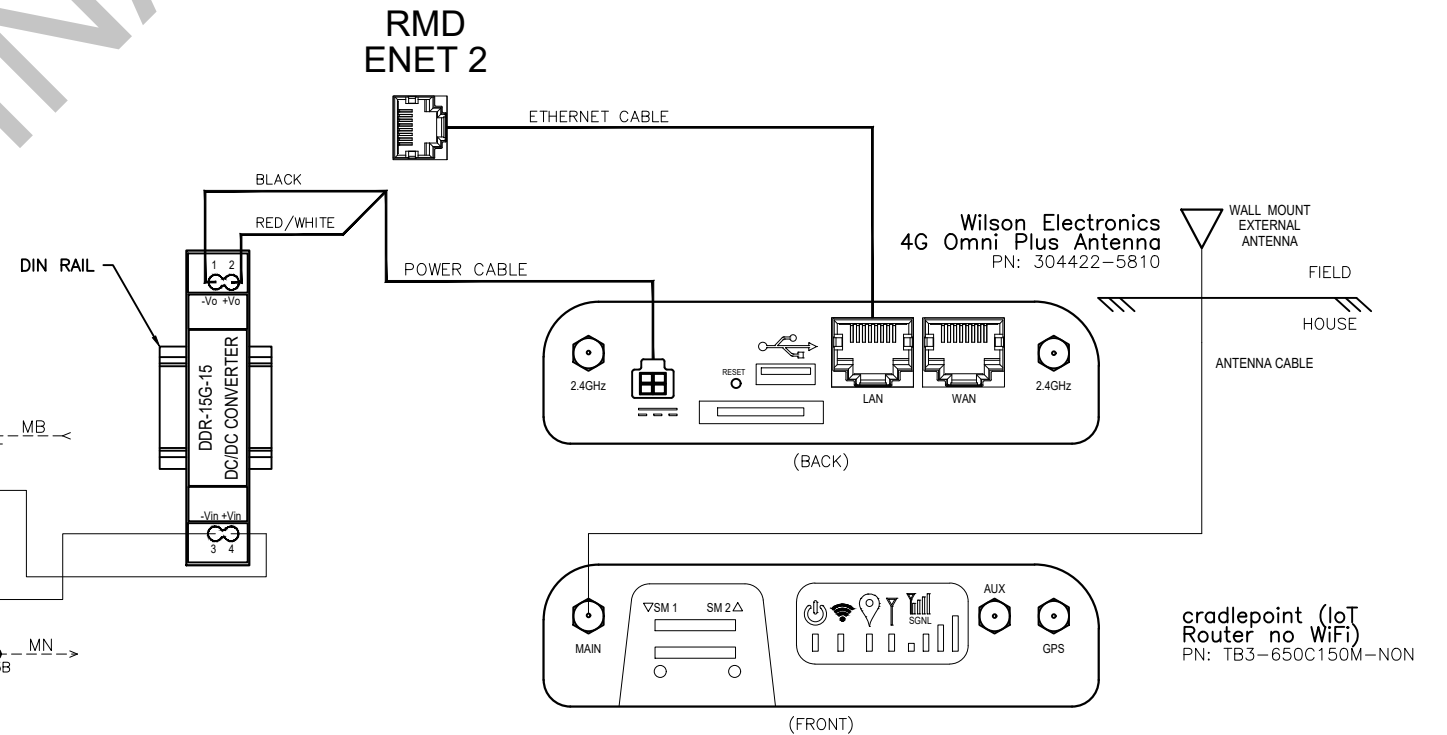
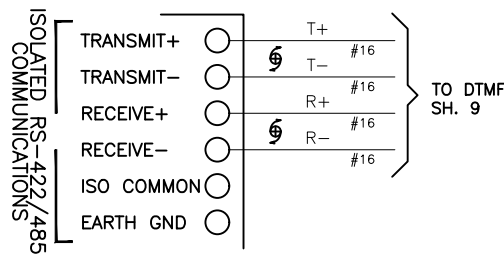
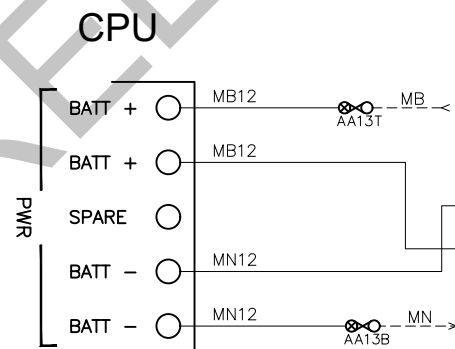
**Whooling & Lake Erie
Railway**

LOCATION		
CR 77 (SHOCALOG RD) in COPLEY, OH		
41.1029224,-81.6037764		
ORIGINAL DATE	04-05-2022	TITLE
DESIGNER	RGPT	ENTRANCE GATE CONTROL CIRCUIT
DRAFTSMAN	RGPT	SUB
CHECKER	RGPT	AKRON
	RRMP	RGPT NO.
	A - 155.31	OP21454
	DOT NO.	SCALE
	002 116H	N.T.S.
		SHEET
		07 of 21



EXTERNAL GPS ANTENNA

ANTENNA CABLE PART NO. GPS RS SMA



PN: RMD-IIXX

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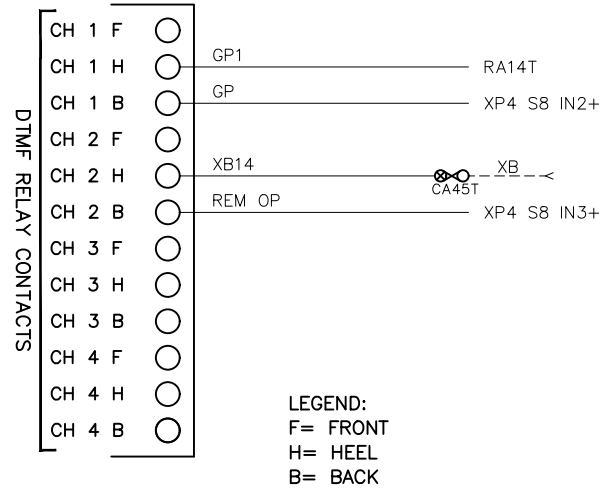
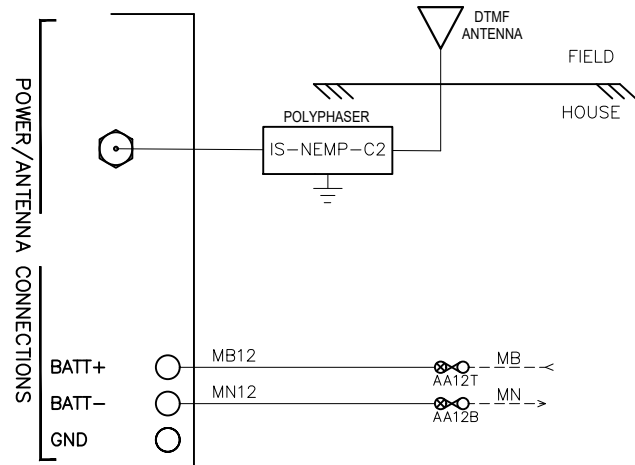
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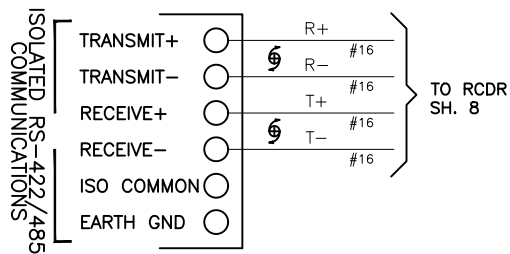
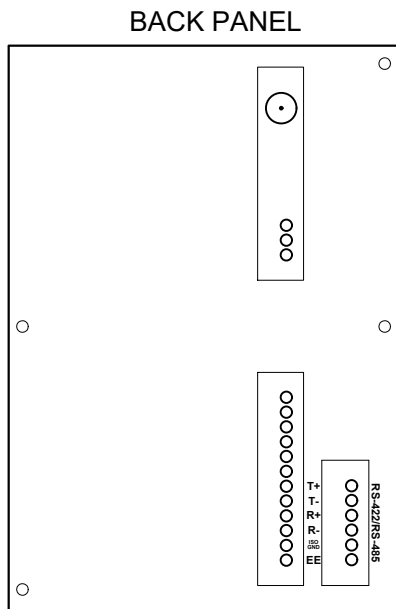
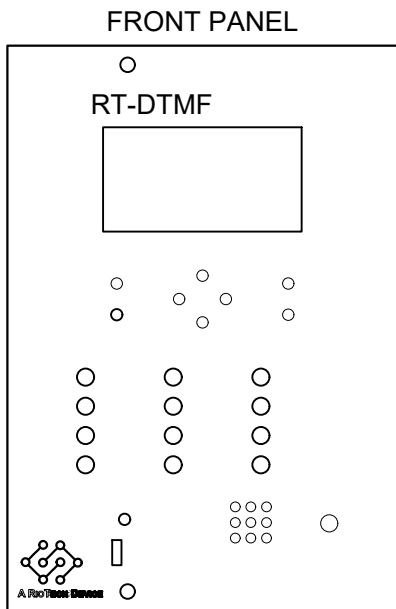
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Whooling & Lake Erie Railway

LOCATION			
CR 77 (SHOCALOG RD) in COPLEY, OH			
41.1029224,-81.6037764			
ORIGINAL DATE	04-05-2022	TITLE	RECORDER
DESIGNER	RGPT	SUB	AKRON
DRAFTSMAN	RGPT	RRMP	A - 155.31
CHECKER	RGPT	DOT NO.	002 116H
		RGPT NO.	OP21454
		SCALE	N.T.S.
		SHEET	08 of 21



LEGEND:
F= FRONT
H= HEEL
B= BACK



DTMF CONTROLS				
	CHANNEL 1	CHANNEL 2	CHANNEL 3	CHANNEL 4
ACTIVATION CODE	1151#	115#		
DEACTIVATION CODE	1151*	115*		
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

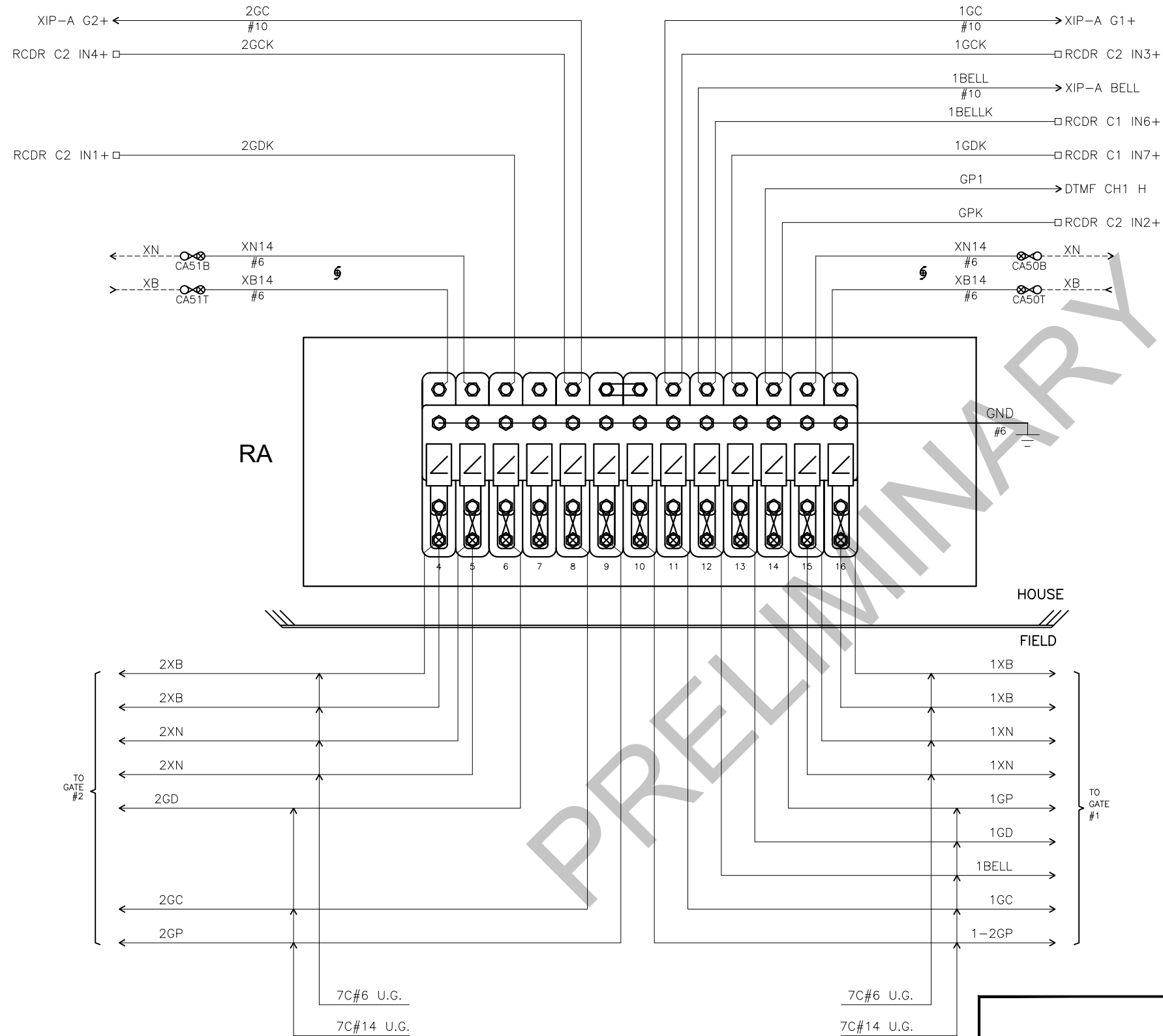
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Whoollng & Lake Erie
Railway

LOCATION CR 77 (SHOCALOG RD) in COPLEY, OH 41.1029224,-81.6037764			
ORIGINAL DATE	04-05-2022	TITLE	DTMF UNIT
DESIGNER	RGPT	SUB	AKRON
DRAFTSMAN	RGPT	RRMP	A - 155.31
CHECKER	RGPT	DOT NO.	002 116H
		RGPT NO.	OP21454
		SCALE	N.T.S.
		SHEET	09 of 21



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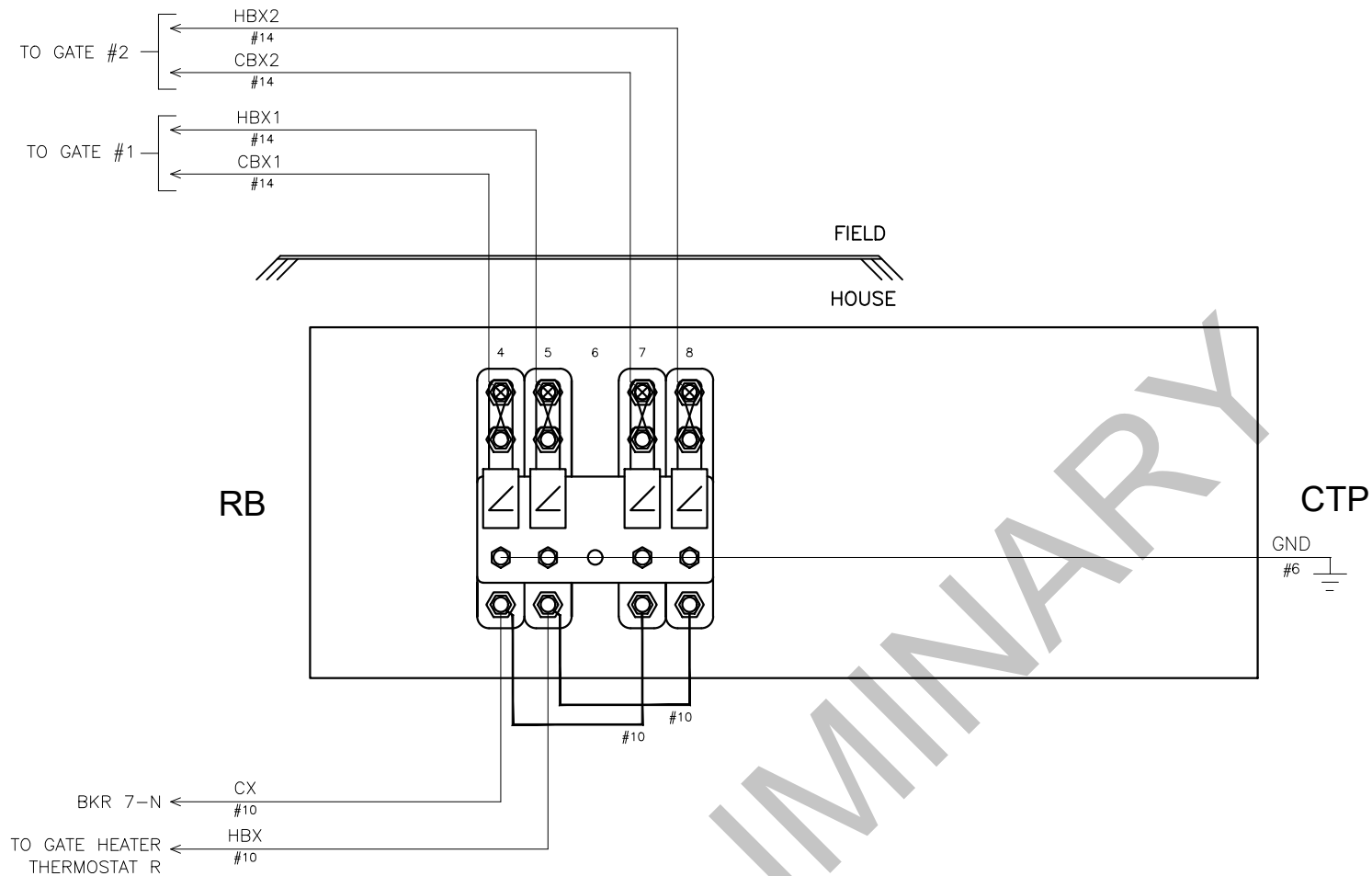
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Railway

LOCATION CR 77 (SHOCALOG RD) in COPLEY, OH 41.1029224,-81.6037764		
ORIGINAL DATE 04-05-2022	TITLE ARRESTOR PANEL	
DESIGNER RGPT	SUB AKRON	RGPT NO. OP21454
DRAFTSMAN RGPT	RRMP A - 155.31	SCALE N.T.S.
CHECKER RGPT	DOT NO. 002 116H	SHEET 10 of 21



LEGEND:
 = INSULATED NUT

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Railway

LOCATION CR 77 (SHOCALOG RD) in COPLEY, OH 41.1029224,-81.6037764			
ORIGINAL DATE	04-05-2022	TITLE CABLE TERMINATION PANEL	
DESIGNER	RGPT	SUB AKRON	RGPT NO. OP21454
DRAFTSMAN	RGPT	RRMP A - 155.31	SCALE N.T.S.
CHECKER	RGPT	DOT NO. 002 116H	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:

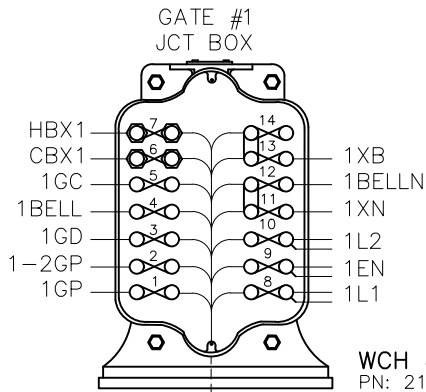
 = INSULATED NUT

NOTES:

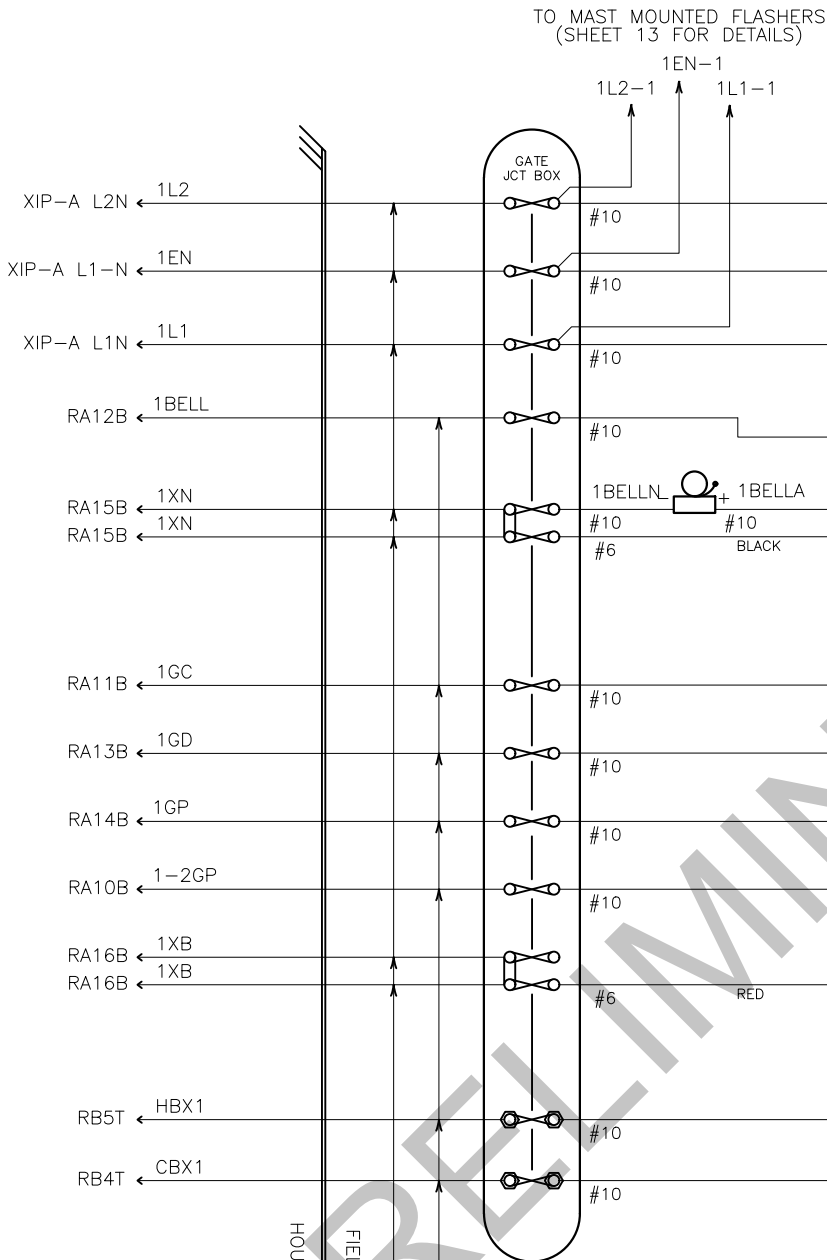
* BELL TO BE ELECTRONIC.
 = INTERNAL GATE WIRES THAT SHARE ELECTRICAL CONNECTIONS WITH OTHER WIRES THAT ARE ASSIGNED THE SAME NUMBER.

REFER TO SHEET 13 FOR GATE ARM LIGHT WIRING

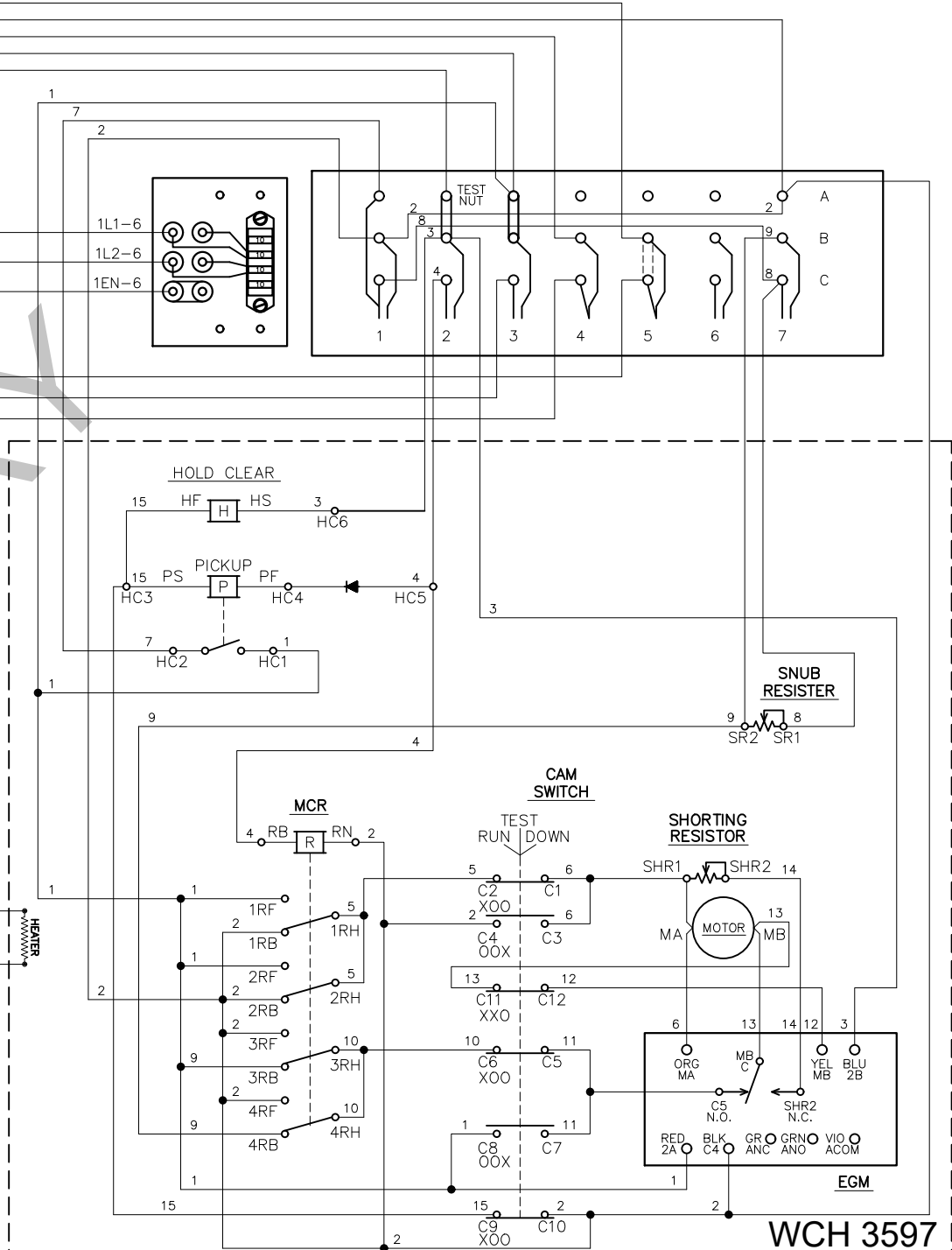
ADD BOLD STRAPS AND JUMPERS AS SHOWN.



CABLES TO HOUSE



GATE #1



PN: 3597-131-P-H-MI

REVISION
BLOCK

CHANGE FROM TYPICAL: N



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Whooling & Lake Erie
Railway

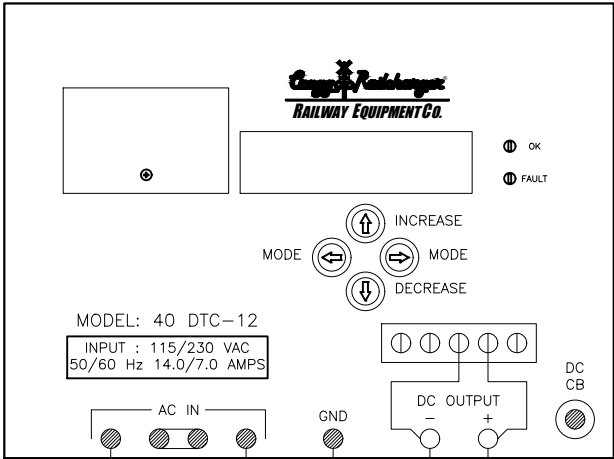
LOCATION

CR 77 (SHOCALOG RD)
in COPLEY, OH

41.1029224,-81.6037764

ORIGINAL DATE	04-05-2022	TITLE	GATE #1 MECHANISM (NEAR SIDE)
DESIGNER	RGPT	SUB	AKRON
DRAFTSMAN	RGPT	RRMP	A - 155.31
CHECKER	RGPT	DOT NO.	002.116H
		RGPT NO.	OP21454
		SCALE	N.T.S.
		SHEET	12 of 21

MB-CHARGER
(SIDE "A" WALL)



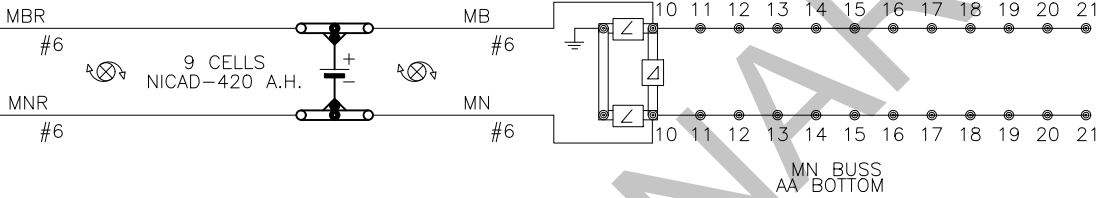
BASIC SETUP			
NO.	ABBREVIATION	DEFAULT SETTING	DESIRED SETTING
1	PASSWORD	5	5
2	USER LEVEL	BASIC	BASIC
3	BATTERY TYPE	LEAD ACID OR NI-CAD	NI-CAD
4	NUMBER OF CELLS	-	9
5	VOLTS PER CELL	-	1.42

BATTERY BUSS DETAILS

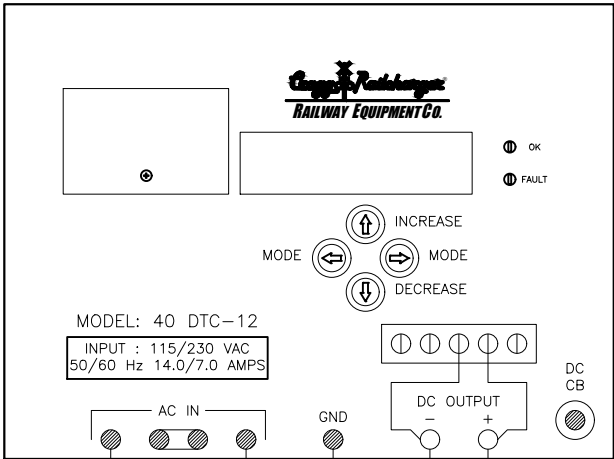
SPARE	21	SPARE
PSO4000 B	20	PSO4000 N
CC50T	19	XP4 S7 IN2-
CC45T	18	XP4 S7 IN1-
DB1T	17	DB3T
SPARE	16	RCDR C1 IN8-
SPARE	15	RCDR C1 IN5-
RCDR C1 IN10+	14	RCDR C1 IN10-
RCDR CPU BATT+	13	RCDR CPU BATT-
DTMF BATT+	12	DTMF BATT-
MDSA-1 B+	11	MDSA-1 B-
MB BATT+	10	MN BATT-

MB BUSS (TOP) AA MN BUSS (BOTTOM)

MB-BATTERY



XB-CHARGER
(SIDE "C" WALL)



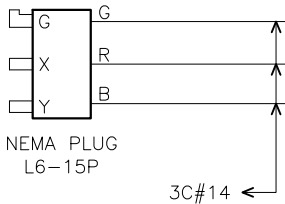
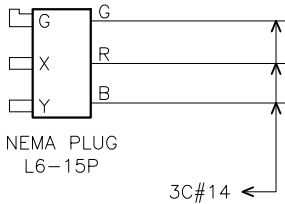
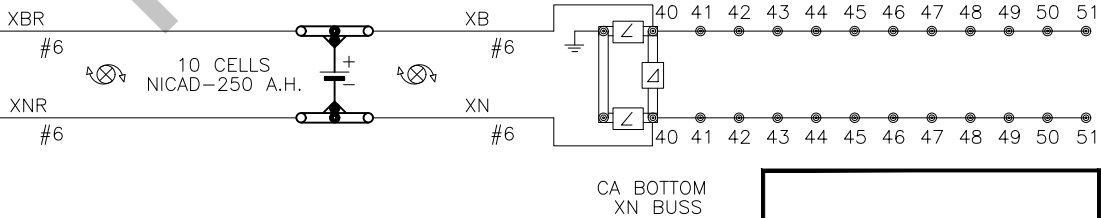
BASIC SETUP			
NO.	ABBREVIATION	DEFAULT SETTING	DESIRED SETTING
1	PASSWORD	5	5
2	USER LEVEL	BASIC	BASIC
3	BATTERY TYPE	LEAD ACID OR NI-CAD	NI-CAD
4	NUMBER OF CELLS	-	10
5	VOLTS PER CELL	-	1.42

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



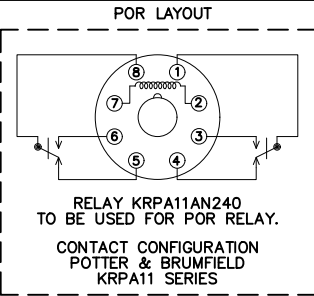
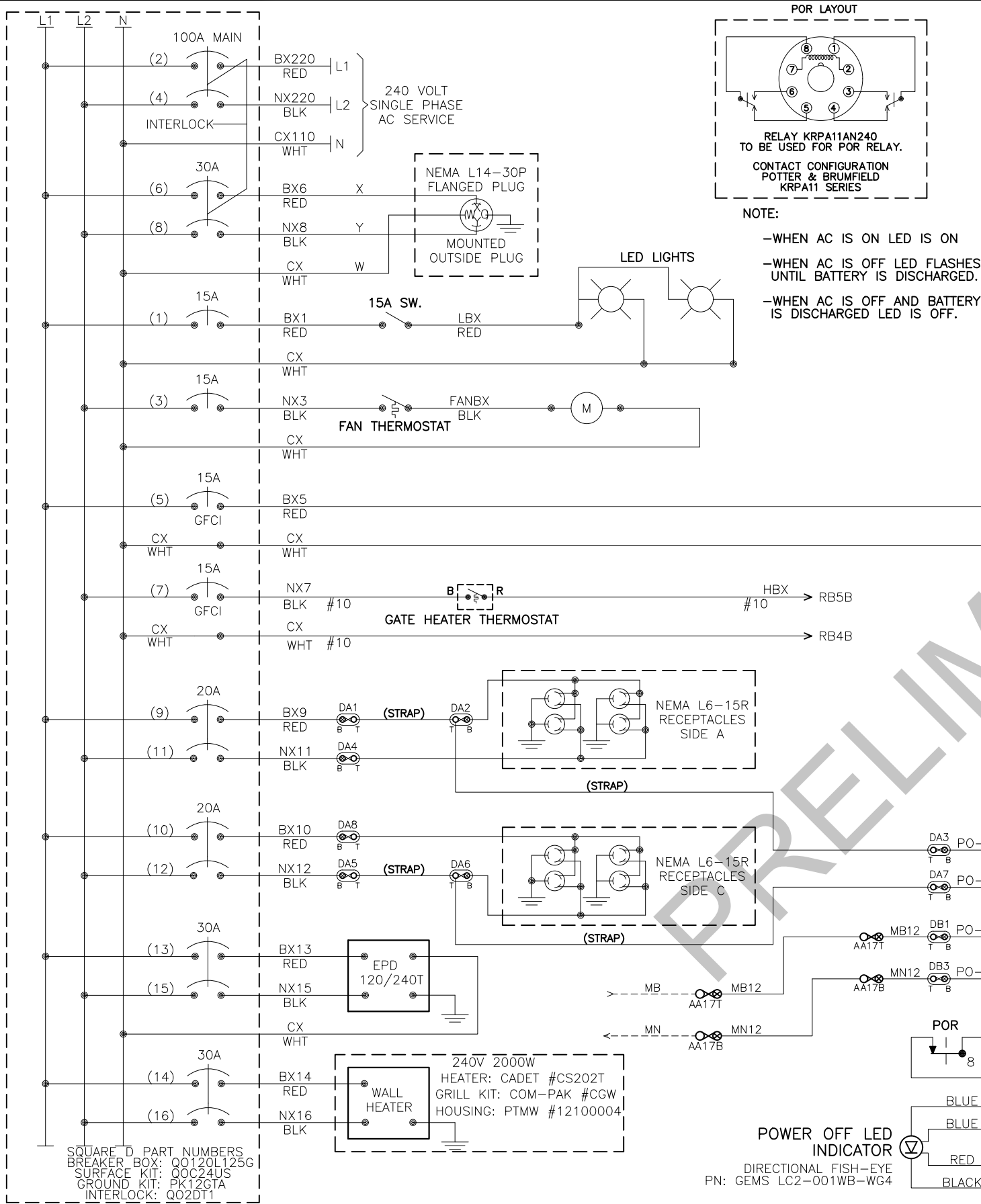
REVISION
BLOCK

CHANGE FROM TYPICAL: Y

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Railway

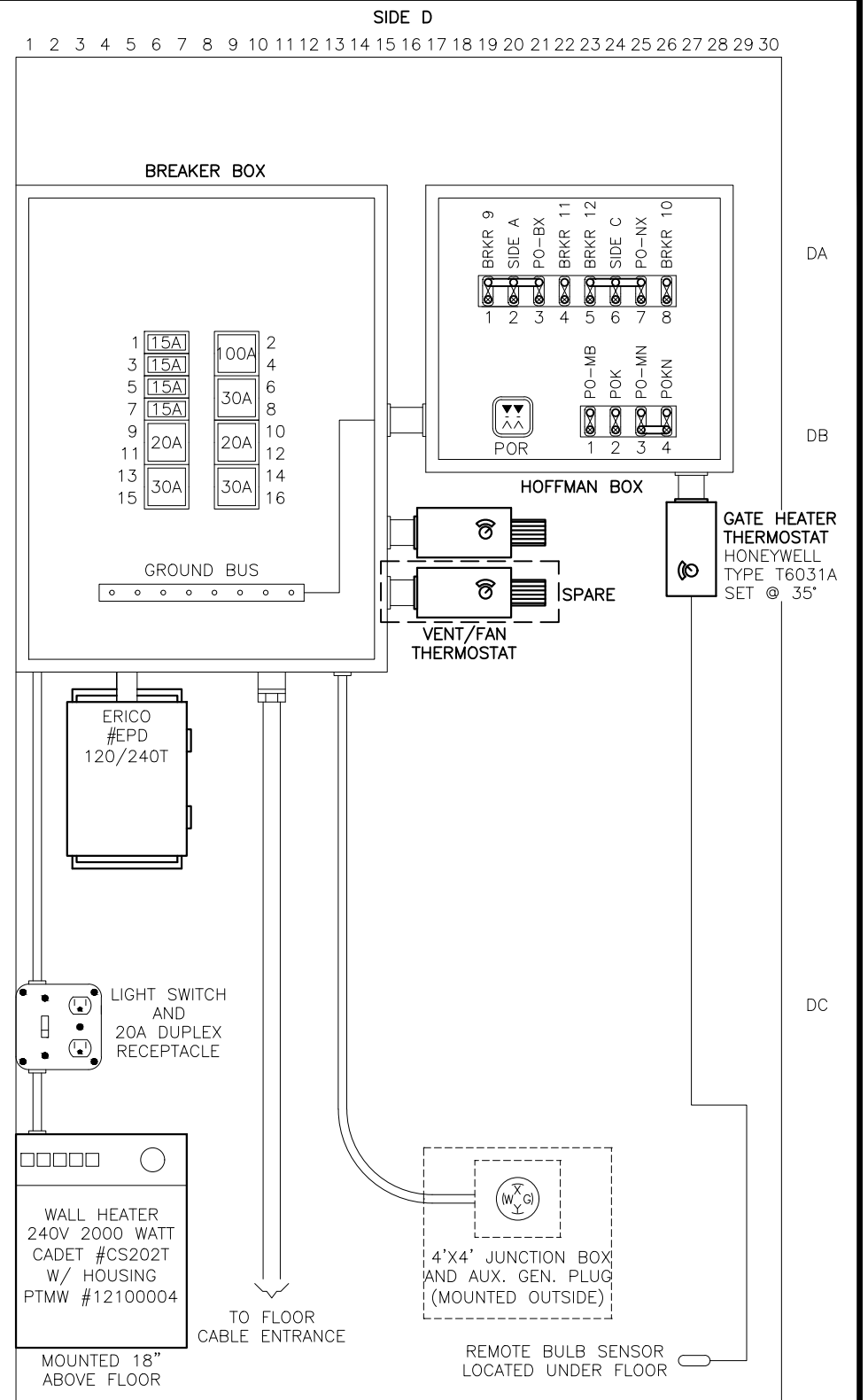
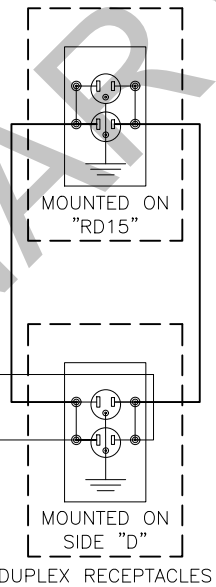
LOCATION CR 77 (SHOCALOG RD) in COPLEY, OH		
41.1029224,-81.6037764		
ORIGINAL DATE 04-05-2022	TITLE BATTERY CHARGERS	
DESIGNER RGPT	SUB AKRON	RGPT NO. OP21454
DRAFTSMAN RGPT	RRMP A - 155.31	SCALE 1"=2'
CHECKER RGPT	DOT NO. 002 116H	SHEET 16 of 21



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



POWER OFF LED INDICATOR
DIRECTIONAL FISH-EYE
PN: GEMS LC2-001WB-WG4

CHANGE FROM TYPICAL: N

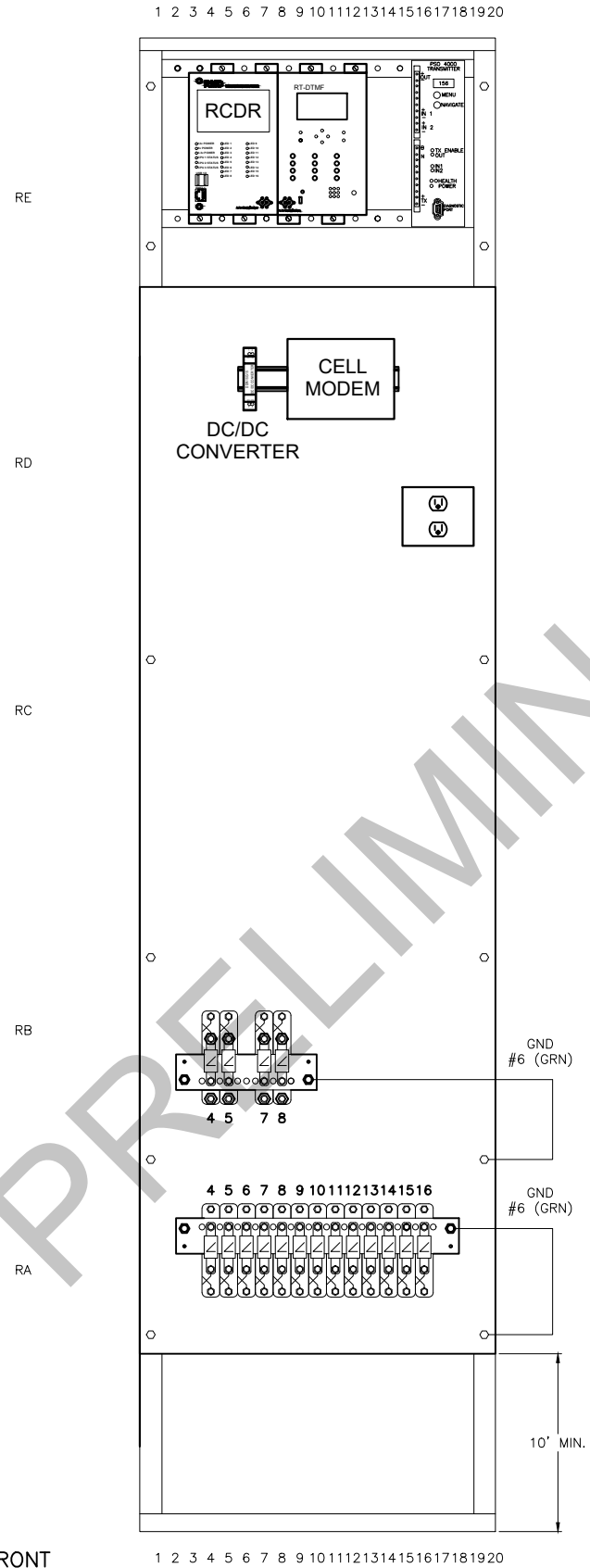
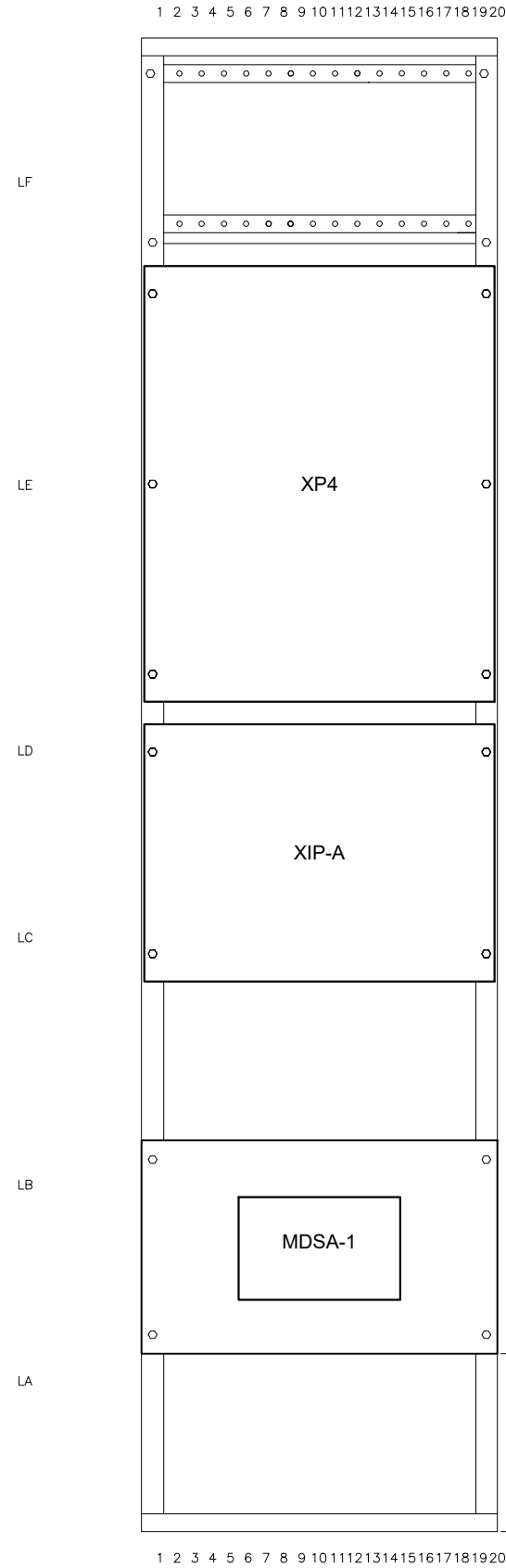
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Railway

LOCATION CR 77 (SHOCALOG RD) in COPLEY, OH			
41.1029224,-81.6037764			
ORIGINAL DATE	04-05-2022	TITLE	AC POWER DISTRIBUTION
DESIGNER	RGPT	SUB	AKRON
DRAFTSMAN	RGPT	RRMP	A - 155.31
CHECKER	RGPT	DOT NO.	002.116H
		RGPT NO.	OP21454
		SCALE	1"=2'
		SHEET	17 of 21



SIDE 'B' FRONT

REVISION
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CHANGE FROM TYPICAL: Y


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**Wheeling & Lake Erie
Railway**

LOCATION			CR 77 (SHOCALOG RD) in COPLEY, OH		
ORIGINAL DATE			41.1029224,-81.6037764		
DESIGNER			RACK FRONT VIEW		
DRAFTSMAN			RGPT		
CHECKER			RGPT		
SUB			AKRON		
RRMP			A - 155.31		
DOT NO.			002 116H		
RGPT NO.			OP21454		
SCALE			1"=2'		
SHEET			18 of 21		

BACK OF RIGHT SIDE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

RFB

REB

RDB

RCB

RBB

RAB



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

BACK OF LEFT SIDE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

LFB

LEB

LDB

LCB

LBB

LAB

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

SIDE 'B' BACK

PRELIMINARY

CHANGE FROM TYPICAL: Y

REVISION
BLOCK

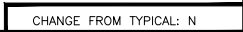


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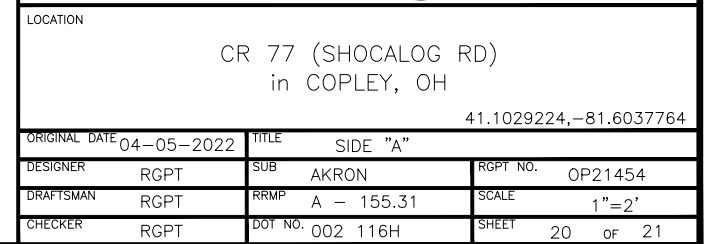
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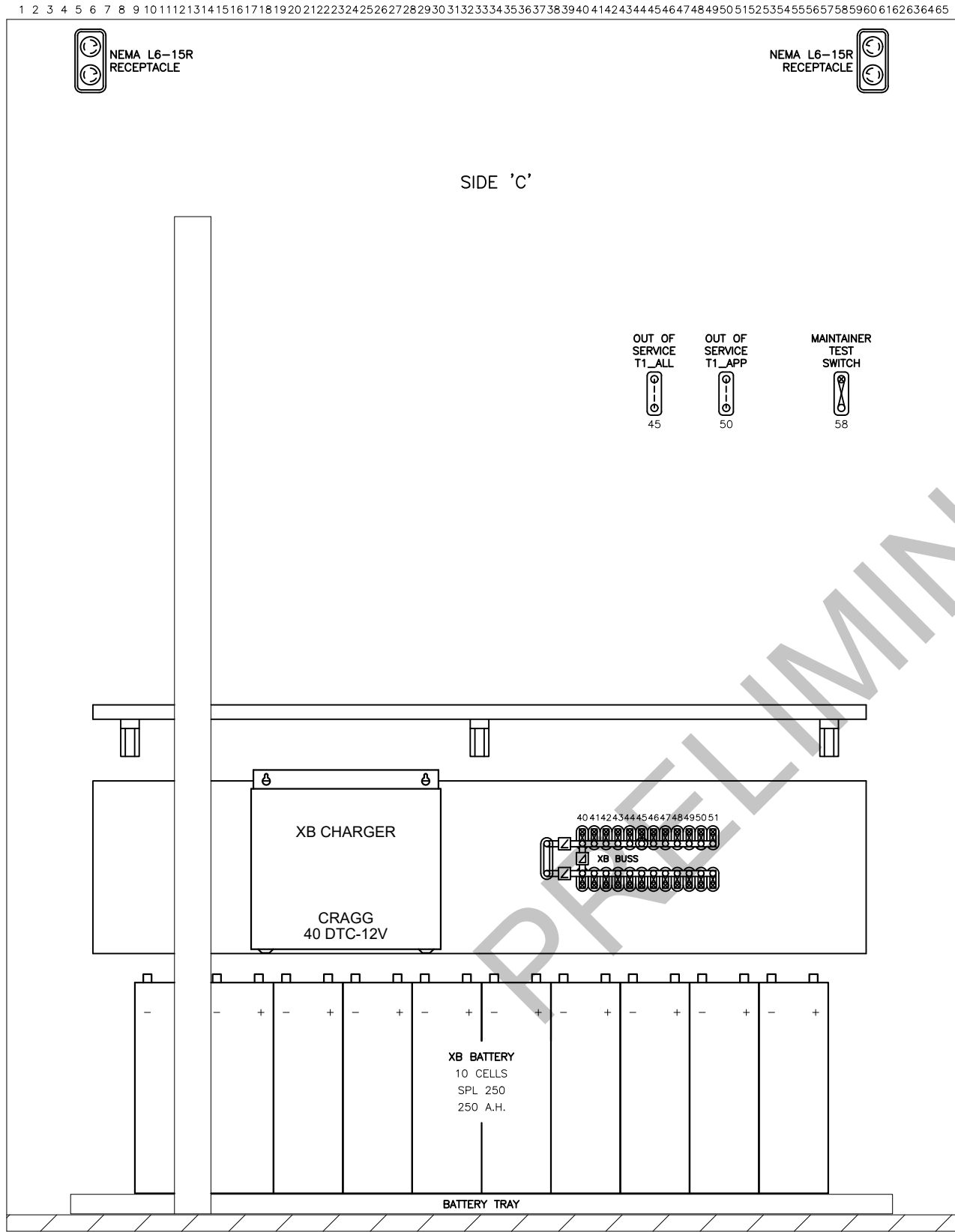
**Wheeling & Lake Erie
Railway**

LOCATION			CR 77 (SHOCALOG RD) in COPLEY, OH		
ORIGINAL DATE			41.1029224,-81.6037764		
DESIGNER			RACK BACK VIEW		
DRAFTSMAN			RGPT		
CHECKER			RGPT		
SUB			AKRON		
RRMP			A - 155.31		
DOT NO.			002 116H		
RGPT NO.			OP21454		
SCALE			1"=2'		
SHEET			19 of 21		



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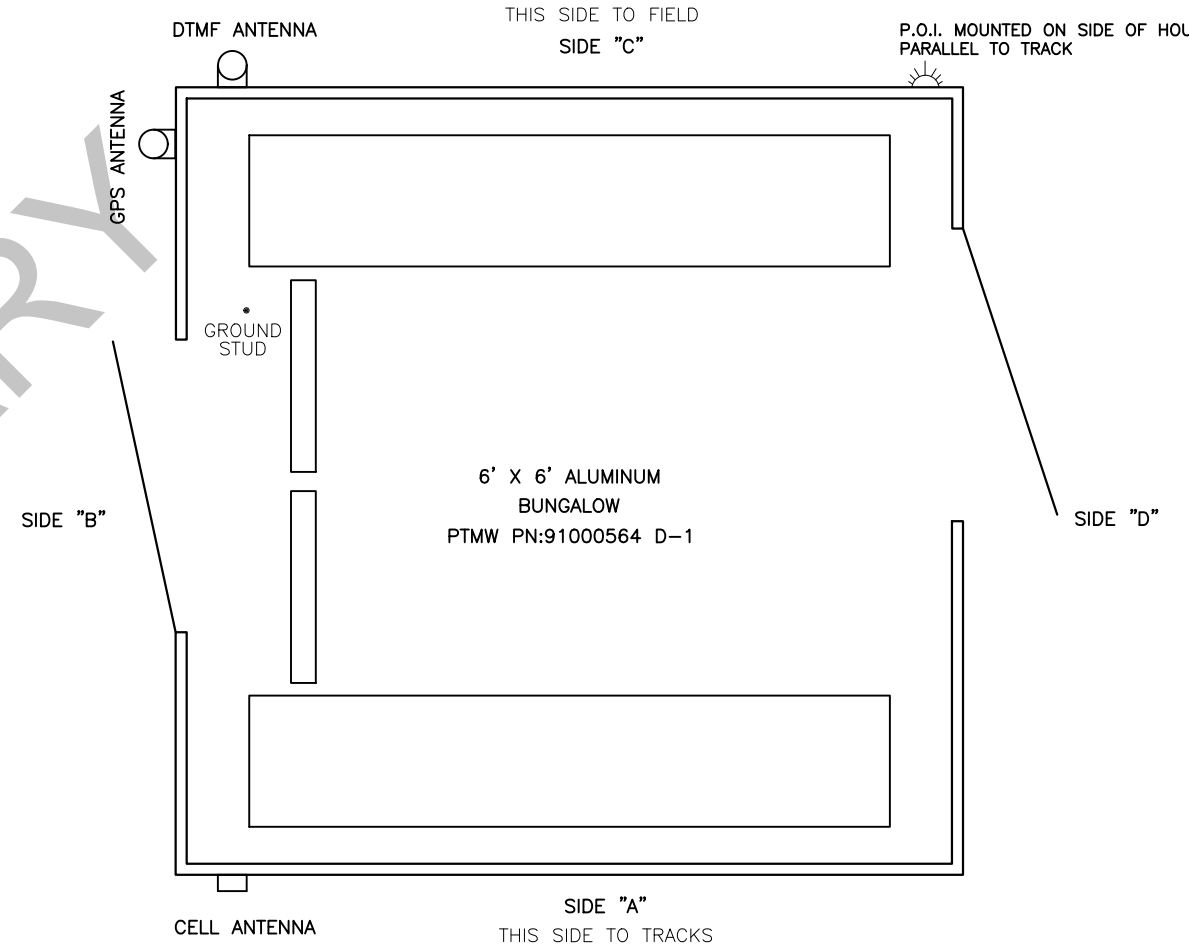


NOTE:

ANTENNA TO BE PLACED IN AERIAL CABLE ENTRY PROVIDED.

NOTE:

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



REVISION
BLOCK

CHANGE FROM TYPICAL: N



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Railway**

LOCATION CR 77 (SHOCALOG RD) in COPLEY, OH 41.1029224,-81.6037764		
ORIGINAL DATE 04-05-2022	TITLE SIDE "C"	
DESIGNER RGPT	SUB AKRON	RGPT NO. OP21454
DRAFTSMAN RGPT	RRMP A - 155.31	SCALE 1"=2'
CHECKER RGPT	DOT NO. 002 116H	SHEET 21 of 21

Wheeling & Lake Erie Railway
Copley, OH - Shocalog Rd - DOT#002116H
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	48	HR	\$36.25	\$1,740.00
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				\$6,524.32
G&A	164%			\$10,699.88
FIXED FEE	10%			\$1,722.42
ENGINEERING TOTAL				\$18,946.63

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
Copley, OH - Shocalog Rd - DOT#002116H
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	80	HR	\$36.90	\$2,952.00
CREW FOREMAN	80	HR	\$30.84	\$2,467.20
CREWMAN 3	80	HR	\$22.71	\$1,816.80
CREWMAN 1	80	HR	\$19.54	\$1,563.20
SUBTOTAL				\$9,155.76
G&A	164%			\$15,015.45
FIXED FEE	10%			\$2,417.12
CONSTRUCTION LABOR TOTAL				\$26,588.33

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	32	EA	\$56.00	\$1,792.00
CREW LODGING	32	EA	\$100.00	\$3,200.00
MOBILIZATION	1	EA	\$1,500.00	\$1,500.00
SUBTOTAL				\$6,992.00
FIXED FEE	0%			\$0.00
CONSTRUCTION LABOR EXPENSES TOTAL				\$6,992.00

CONSTRUCTION EQUIPMENT				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
TRUCK, PU, 1 TON CREW CAB	80	HR	\$15.71	\$1,256.80
TRAILER, UTILITY (12,000lb SC410)	80	HR	\$7.55	\$604.00
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				\$8,360.80
FIXED FEE	0%			\$0.00
CONSTRUCTION EQUIPMENT TOTAL				\$8,360.80

MATERIAL				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
MATERIAL	1	LS	SEE ATTACHED DETAIL	\$119,332.47
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				\$127,790.57
TAX (IF APPLICABLE)	-			\$0.00
FIXED FEE	0%			\$0.00
MATERIAL TOTAL				\$127,790.57

Wheeling & Lake Erie Railway
Copley, OH - Shocalog Rd - DOT#002116H
Riotech Project Estimate



<i>SUBCONTRACTOR</i>				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
SUBCONTRACTOR SVC - CONTAINER DELIVERY	1	LS	\$4,500.00	<i>\$4,500.00</i>
SUBCONTRACTOR SVC - CONTAINER PICKUP	1	LS	\$2,500.00	<i>\$2,500.00</i>
SUBCONTRACTOR SVC - HORIZONTAL BORING (4" HDPE)	0	FT	\$45.00	<i>\$0.00</i>
SUBCONTRACTOR SVC - METER POLE (PERMIT & INSTALL)	0	LS	\$5,000.00	<i>\$0.00</i>
SUBCONTRACTOR SVC - PORTA-POTTY	2	MN	\$200.00	<i>\$400.00</i>
<i>SUBTOTAL</i>				<i>\$7,400.00</i>
<i>FIXED FEE</i>	<i>0%</i>			<i>\$0.00</i>
<i>SUBCONTRACTOR TOTAL</i>				<i>\$7,400.00</i>
<i>TOTAL PROJECT ESTIMATE</i>				<i>\$217,298.66</i>

Shocalog 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	\$630.00	\$630.00
Allied	Relay, 8-pin KRPA style, 10A/240VAC	70198711	1	EA	\$26.59	\$26.59
Allied	Socket, 8-pin KRPA style	70199343	1	EA	\$8.66	\$8.66
Allied	Spring, Hold down for KRPA style relay	70198576	1	EA	\$1.05	\$1.05
Alstom	Controller, ElectroLogIXS XP4	16-220004433	1	EA	\$37,775.85	\$37,775.85
Alstom	MDSA-1X Surge arrestor panel	250204-100	1	EA	\$730.80	\$730.80
Alstom	XIP Panel, 20 Amp	227561-000	1	EA	\$731.85	\$731.85
Alstom	Cable, 12 ft (cable #1) (Need 1 for XIP)	075046-002	1	EA	\$197.40	\$197.40
Alstom	Cable, 12 ft (cable #2) (Need 1 for XIP)	075047-002	1	EA	\$197.40	\$197.40
Alstom	Insulated Nut, 1 3/16"	013986-000	20	EA	\$4.20	\$84.00
Alstom	FSS-1/2C, (630Hz - 979Hz) Tunable Shunts	250849-002	2	EA	\$1,107.75	\$2,215.50
ARMS	Cell Modem, LMU-5541, Vanguard	LMU5541LW-H000-G1000	1	EA	\$525.00	\$525.00
Mouser Electronics	Terminal Ring, HD, 1/4", insulated, #10 - #12 (yellow w/blk stripe)	2-320569-6	100	EA	\$0.99	\$98.70
Digkey	DC-DC Converter, din rail mount	DDR-15G-15	1	EA	\$27.30	\$27.30
Elliott Elect	5/8" X 8' Copper Ground Rod	95082476	6	EA	\$14.07	\$84.42
Erico	Terminal, 4-post, Block Kit, w/ 14-24 AAR Hardware	B2700A2C1WH	17	EA	\$38.41	\$652.95
Erico	RailSurge Plane Strip Busbar (36")	B2700HC36T	2	EA	\$67.99	\$135.98
Erico	Wheel, grinding	SB22122	3	EA	\$57.24	\$171.71
Erico	Mold,Web Signal Bond,3/16	SBB200C	1	EA	\$117.19	\$117.19
Erico	5/8" Ground Rod Weld	SBNT1161G	6	EA	\$18.15	\$108.93
Erico	Cadweld Plus Rail Joint Bond Kit, XS Style (Kit of 60)	SBS24882CWP	180	EA	\$8.83	\$1,589.49
Erico	Arrestor, DC	EPD2050F	17	EA	\$65.94	\$1,120.98
Erico	Arrestor, AC	EPD2170F	4	EA	\$67.90	\$271.61
G&B	Shunt Enclosure, Orange	500-400-100-09-Orange	2	EA	\$570.15	\$1,140.30
Graybar	Panduit, Wire Duct, 2"X3"X6' Gray	95032476	18	FT	\$8.35	\$150.26
Graybar	Panduit, Cover, 6' Gray	88197241	18	FT	\$1.58	\$28.35
Graybar	Wire, Ground, #6AWG, Bare Copper	BARE-CU-SD-6-SOL-315S	60	FT	\$1.09	\$65.52
Graybar	Duct seal, 5lb	31-605	3	EA	\$19.66	\$58.97
Graybar	Cable, SJ Cord 4c/14	BJ11404-14/4-SJ00W-300V	50	FT	\$1.41	\$70.35
Graybar	Nema Plug, Locking, (L6-15P) 15A/240V	HBL4570C	2	EA	\$23.97	\$47.94
Grainger	Decal, Danger 240V (5"x3.5")	3XDU5	1	EA	\$3.15	\$3.15
GSI	Gate Keeper, 2-Way, w/Hardware & Buffer Spring	SK-1000-SW40	2	EA	\$1,359.75	\$2,719.50
GSI	Gate, Alum/Polyglass 19'-32', Hi Intensity tape	SG-1932-FT-HI	2	EA	\$450.45	\$900.90
GSI	Bell, Electronic, 5" Base	EB-3-360-5	1	EA	\$225.75	\$225.75
J&A Industries	Terminal, Battery, 3-PT	225481-000	4	EA	\$33.60	\$134.40
J&A Industries	Battery Tray, 12"x27"	027003-001	4	EA	\$52.92	\$211.68
L&W	Connector, Buss strap (1" - 36 holes)	9A2216-36	4	EA	\$23.25	\$92.99
NEG	Wind Bracket, 36", 5"MTG w/hardware	NEG-191036	2	EA	\$110.25	\$220.50
NEG	Sign, Emergency, ENS, 15X9 Blue	NEG S-I-13-15x9ENS	2	EA	\$15.75	\$31.50
Okonite	Wire, Case, #16AWG 1000' spool, Blue	152-11-3002	2	EA	\$231.00	\$462.00
Okonite	Wire, Case, #10AWG 1000' spool, Blue	152-11-3038	2	EA	\$514.50	\$1,029.00
Okonite	Cable, 7/C#6, Armored	206-11-6247	500	FT	\$10.27	\$5,134.50
Okonite	Cable, 7C#14, Armored	206-11-6887	500	FT	\$3.47	\$1,732.50
Okonite	Cable, 3C#6 w/Ground for A/C power	206-11-6070	300	FT	\$5.31	\$1,593.90
Okonite	Wire, Track, 2C/#6, Twist, Solid	150-12-3933	300	FT	\$2.16	\$648.90
PTMW	Bungalow, Alum. 6 X6 w/Heater	91000564 D-1	1	EA	\$12,231.45	\$12,231.45
PTMW	Door Magnetic Switch Assy	14979 PH	2	EA	\$56.70	\$113.40
PTMW	Kit Antenna Mount, GPS w/ Brkt (Item #41253)	TBD	1	EA	\$107.63	\$107.63
Railway Equip	E-Z gate LED lamp kit	9298-1120	2	EA	\$183.75	\$367.50
Railway Equip	Battery Charger, 40DTC-12V	520940	2	EA	\$882.00	\$1,764.00
Rebel	Terminal, 2X6 W/ Flat nut/washer	220-0101	12	EA	\$15.52	\$186.23
Rebel	Terminal, Block, 2 3/8" center - 2 post w/hardware	220-0301	5	EA	\$5.51	\$27.56
Rebel	Nut, AAR Flat Nut	220-0001	300	EA	\$0.21	\$63.00
Rebel	Nut, AAR Crown Nut	220-0000	300	EA	\$0.26	\$78.75
Rebel	Washer, AAR Flat	220-0003	300	EA	\$0.11	\$31.50
Rebel	Gold Test Nut	220-0008	100	EA	\$0.92	\$92.40
Rebel	Strap, 1" offset test link	220-0506	100	EA	\$0.89	\$89.25
Rebel	Strap, 2 3/8" flat test strap	220-0516	1	EA	\$1.52	\$1.52
Rebel	Strap, 2 3/8" flat strap	220-0507	2	EA	\$0.79	\$1.58
Rebel	Sign, Crossbuck (NO brackets or hardware)	070-0065	2	EA	\$99.75	\$199.50
Rebel	Pinnacle, 5"	010-9034	1	EA	\$22.97	\$22.97
Rebel	5" Sign Kit (Brackets/extensions/Ubolts/hardware)	070-5008	4	EA	\$72.35	\$289.38
Rebel	Lock, Barrel Style	290-0000	4	EA	\$55.91	\$223.65
Reynolds	Wire, Case, #6AWG, Green	N6GNM	100	FT	\$0.84	\$84.00
Reynolds	Wire, Case, #6AWG, Black	N6BM	100	FT	\$0.84	\$84.00
Reynolds	Wire, Case, #6AWG. Red	N6RD	100	FT	\$0.84	\$84.00
Riotech	Recorder, RMD (includes 3' harness & wago strips)	RMD-IIXX	1	EA	\$4,068.75	\$4,068.75
Riotech	Bootleg Kit, Crossing complete, 1 Track		1	EA	\$362.25	\$362.25
Riotech	DTMF Controller		1	EA	\$2,938.95	\$2,938.95

Riotech	DIN Rail, 35mm x 2', Zinc-plated, w/end caps		1	EA	\$26.25	\$26.25
Riotech	Cable, 3' Cat6 Ethernet cable		1	EA	\$15.75	\$15.75
Riotech	DTMF Antenna Kit (Antenna, Polyphaser, Coax, Etc.)		1	EA	\$157.50	\$157.50
Riotech	Field Tag Kit		1	EA	\$262.50	\$262.50
Saft	Battery, SPL 250 Ni-Cad	SPL+250	10	EA	\$236.25	\$2,362.50
Saft	Battery, SPL 420 Ni-Cad	SPL+420	9	EA	\$409.50	\$3,685.50
Siemens	Test Nut wrench, 11"	032619-22X	1	EA	\$71.43	\$71.43
Siemens	Arrestor, Air Gap, With Cover	4000-44615-001X	4	EA	\$29.06	\$116.26
Siemens	Equalizer, Air Gap, with Cover/Hardware	4000-44700-001X	2	EA	\$26.85	\$53.70
Siemens	PSO 4000 Transmitter	70007A4710001	1	EA	\$2,839.20	\$2,839.20
Siemens	PSO 4000 Receiver	70007A4730001	1	EA	\$2,895.90	\$2,895.90
Siemens	PSO Tuned Receiver Coupler	7A355-156	1	EA	\$1,113.00	\$1,113.00
Tessco Technologies	Antenna, 136-512 MHz Base Station Adapter Kit	36522	1	EA	\$49.92	\$49.92
Tessco Technologies	Antenna, 1/4 Wave, 152-162 MHz, Black	35951	1	EA	\$18.07	\$18.07
Tessco Technologies	LMR-240UF UltraFlex	40260	4	FT	\$1.25	\$5.00
Tessco Technologies	UHF Male Crip-RS8X, LMR24	33449	1	EA	\$5.21	\$5.21
Tessco Technologies	N Nale-RG8X, LMR240	36997	1	EA	\$13.14	\$13.14
Tessco Technologies	Dual Fitting-UHF Conn. On RG Cable with Heat Shrink	485797	1	EA	\$19.55	\$19.55
Tessco Technologies	LMR-240UF UltraFlex	40260	5	FT	\$1.25	\$6.25
Tessco Technologies	BNC Male Crimp-RG8X, LMR24	22462	1	EA	\$7.37	\$7.37
Tessco Technologies	N Male-RG8X, LMR 240	36997	1	EA	\$13.14	\$13.14
Tessco Technologies	Dual Fitting-RG Cable with Heat Shrink	434760	1	EA	\$12.69	\$12.69
Tessco Technologies	VHF Combiner Arrestor, N/F to N/F	433721	1	EA	\$147.05	\$147.05
Transportation Solutions	12" Red Led Crossing w/sidelights	RG6-RTFB-01BV3-H7	8	EA	\$157.50	\$1,260.00
Vantex	Tie-wrap, 11 1/2" (100 pk)	LTS11-0	2	EA	\$23.57	\$47.15
Vantex	Terminal, Ring, 1/4", insulated, #14 - #16, Blue (100 pk)	NB14	1	EA	\$33.76	\$33.76
Vantex	Terminal, Ring, 1/4" non-insulated, #6, Battery Lug	T6-14	70	EA	\$0.79	\$55.13
WCH	Mast, Gate, 18'X5" w/pigtail (single-sided Jct Box)	715-324-2-GS	2	EA	\$606.90	\$1,213.80
WCH	Jct box, Gate, 5" single (28 terminals & 1 1/2" flange)	2149-A-143	2	EA	\$485.10	\$970.20
WCH	Mech, Model 3597	3597-131-P-H-MI	2	EA	\$4,644.15	\$9,288.30
WCH	Crossarm Assy, 5" Mtg., 2 Way	975-0804-5	2	EA	\$767.55	\$1,535.10
WCH	Counterweight Pkg, 17'-32', Stud plate, L&R arms	CTWT-AL-32	2	EA	\$1,503.60	\$3,007.20
WCH	Wrench, Torque (KIT)	3590-K-9	1	EA	\$200.55	\$200.55
Wilson Elec	Antenna, 4G Omni Plus Directional Kit	304422-5810	1	EA	\$105.00	\$105.00
					TOTAL	\$119,332.47

Crosier Industrial Construction Ltd

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

Crosier Industrial Construction, LLC

Date 25-Apr-22

Project COST ESTIMATE

Invoice Number TBD

Project: Shocalog

Work Auth: WLE Tim Andrews

		Rate/Hr	Hours	Total	
Equipment Operator (backhoe, excavator)	ST	\$ 27.00	70	\$ 1,890.00	
	OT	\$ 40.50		\$ -	
Laborer, skilled	ST	\$22.00	70	\$ 1,540.00	
	OT	\$31.50		\$ -	
Project Manager		\$50.00	70	\$ 3,500.00	
Administrative		\$30.00		\$ -	
	Sub-Total			\$ 6,930.00	
	G&A Burden for Labor			\$ 4,158.00	
	Total Labor			\$ 11,088.00	
EQUIPMENT					
		Rate/hr	Hours	Total	
E-55		\$ 47.50	60	\$ 2,850.00	
E-32		\$ 33.90		\$ -	
Dump Truck		\$ 43.20	12	\$ 518.40	
Directional Drill		\$ 67.55		\$ -	
Digger Derrick		\$ 58.24		\$ -	
Truck		\$ 25.60	70	\$ 1,792.00	
Trailer		\$ 6.00		\$ -	
HydroTammer		\$ 18.00	6	\$ 108.00	
Tamper		\$ 5.00	10	\$ 50.00	
Traffic cones		\$ 0.15	70	\$ 10.50	
Traffic signs		\$ 0.25	70	\$ 17.50	
	Total Equipment			\$ 5,346.40	
MATERIALS					
		Quantity	Price/Each	Total	
5" pvc conduit		120	\$ 14.00	\$ 1,680.00	
5" 90 degree		2	\$ 45.00	\$ 90.00	
5" coup		4	\$ 7.75	\$ 31.00	
4" pvc		105	\$ 10.00	\$ 1,050.00	
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	
PVC cement		1	\$ 20.00	\$ 20.00	\$ 11,088.00
Pull rope		350	\$ 0.15	\$ 52.50	\$ 5,346.40
Ground Rods		2	\$ 19.00	\$ 38.00	\$ 4,512.70
Pull Box	17 x 30 x 18	2	\$ 400.00	\$ 800.00	\$ 20,947.10
	Total material			\$ 4,512.70	
	Job sub-total			\$ 20,947.10	
	Profit Addition	10%		\$ 2,094.71	
	TOTAL PROJECT COST			23,041.81	

Scope of Work:

Day 1: Bore road

Day 2: Far side foundation and conduit

Day 3: Near side foundation and conduit

Day 4: AC pole and conduit

Day 5: Gravel

Day 6: Pull box and 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.

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

5/11/2022 11:39:30 AM

in

Case No(s). 22-0263-RR-STP

Summary: Memorandum In the Matter of a Request for the Installation of Active Warning Devices at the Wheeling & Lake Erie Railway Company Grade Crossing, DOT#002-116H, at Schocalog Road in Summit County, Ohio. electronically filed by Mrs. Jill A. Henry on behalf of PUCO/Rail Division